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NWS EARLE
5090.3a

SITE INVESTIGATION REPORT FOR THE CLOSURE OF TWO UNDERGROUND STORAGE TANKS R-9 AND R-11 NWS EARLE NJ

12/15/1993

ROY F. WESTON, INC.

ROY F. WESTON, INC.

15 December 1993

Prepared for:

DEPARTMENT OF THE NAVY
Officer in Charge
NAVFAC Contracts
Naval Weapons Station Earle
Building C-23
Colts Neck, New Jersey 07722-5000

WESTON

SITE INVESTIGATION REPORT FOR THE CLOSURE OF TWO UNDERGROUND STORAGE TANKS (R9/R11) NAVAL WEAPONS STATION EARLE COLTS NECK, NEW JERSEY

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W.O. # 10240-001-001

George R. Weiss
Senior Project Manager
NJDEPE UST Registration No. 0002112

Richard M. Leuser, P.E.
New Jersey P.E. Registration No. 23275

Prepared by:
ROY F. WESTON, INC.
One Weston Way
West Chester, Pennsylvania 19380

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SECTION 1
INTRODUCTION

1.1 Project Description

The United States Navy has abandoned one (1) 37-year-old 9,000 gallon and one (1) 27-year-old 5,000 gallon coated steel underground storage tank (UST) that contained No. 2 fuel oil at their Colts Neck, New Jersey facility, Naval Weapons Station Earle (NWS Earle). The facility registration number for NWS Earle is UST-0151003. On behalf of the United States Navy, Roy F. Weston, Inc. (WESTON) performed the closure in accordance with the approved tank closure plan (TMS Nos. C-93-1299 and C-93-1300) dated 29 March 1993. Copies of the closure approvals are located in Appendix A. This report addresses the closure of the tanks located adjacent to Buildings R9 and R11.

WESTON is submitting this Site Investigation Report in accordance with the New Jersey Department of Environmental Protection and Energy (NJDEPE) Bureau of Underground Storage Tanks (BUST) guidelines entitled "Interim Closure Requirements for Underground Storage Tank Systems" dated September 1990 and N.J.A.C. 7:26E, "The Technical Requirements for Site Remediation".

1.2 Site Description and History

The NWS Earle consists of two geographical areas. The main section (referred to as the Inland Area), of NWS Earle is located in Colts Neck, New Jersey and encompasses an area of approximately 9 square miles (Figure 1-1). The other section of NWS Earle is located adjacent to Leonardo, New Jersey and is referred to as the Waterfront Area (Figure 1-2). Both sections of NWS Earle are in Monmouth County and are connected by a government road approximately 13 miles in length. The tanks addressed in this summary (R9 and R11) are located at the Waterfront Area facility.

The tank removals and closures are being conducted as a result of a Navy Program to convert existing fuel oil heating processes to natural gas. This effort is expected to last several years.

1.3 Regional Geology

The NWS Earle sites are located in Monmouth County, New Jersey. Monmouth County lies within the New Jersey Coastal Plain province. The NWS Earle sites are located in what may be referred to as the Outer Coastal Plain subprovince, or the Outer Lowlands.

In general, the sediments of the New Jersey, or "Atlantic" Coastal Plain consist of a seaward-dipping wedge of unconsolidated deposits of sand with some clay, silt and gravel. These sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments, date from Cretaceous through the Quaternary Periods. The formations record several major transgressive/regressive cycles and contain units which are generally thicker to the

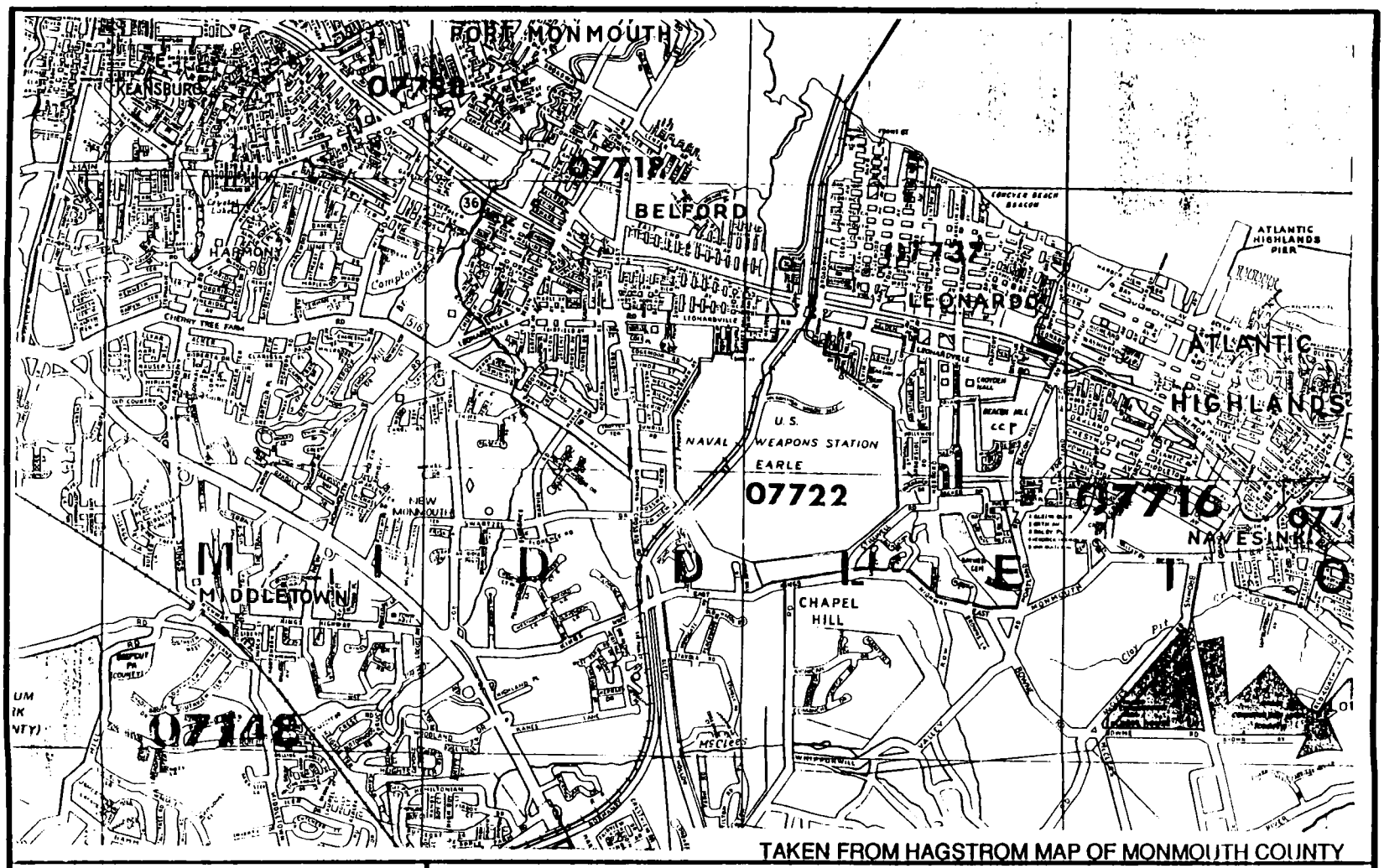


FIGURE 1-2

WESTON
MANAGERS DESIGNERS/CONSULTANTS

SITE LOCATION MAP
WATERFRONT AREA - LEONARDO, NEW JERSEY

NAVAL WEAPONS STATION EARLE

Figure 1-2

SECTION 2
TANK CLOSURE ACTIVITIES

2.1 Tank Closure Activities - General

The activities described in this report represent the closure of USTs adjacent to Buildings R9 and R11; 9,000 gallons and 5,000 gallons , respectively. The tanks were used to store No. 2 heating oil and oriented as illustrated in Figures 2-1 and 2-2. Both buildings are located at the Waterfront Area.

Prior to removal activities, tank liquid measurements were taken. On 26 May 1993 approximately 1850 gallons of virgin No. 2 fuel oil was removed from tank R11. At this time, the occupants of both buildings were notified of the removal activities. Also, underground and overhead utilities were surveyed and marked. On 26 May 1993 approximately 1200 gallons of used oil and 900 gallons of oil and water mixture were pumped from tanks R9 and R11. The following day, 27 May 1993, the remaining oil-water-sludge material was vacuumed from these tanks.

Excavation was started at tank R9 on 3 June 1993. Work had to be stopped when a concrete slab was unexpectedly encountered over the tank. On 16 June excavation was commenced at R11 following verification of utility clearance. The tank was determined to contain approximately 4500 gallons of liquid forcing work to stop temporarily at this tank. Tank R9 was checked at this time and found to be empty.

On 18 August 1993 7200 gallons of wastewater was pumped and transported to the oil/water separator. Upon receipt of the hot work permit, tank R11 was inerted with nitrogen gas, and openings were cut to facilitate cleaning and pumping operations. Approximately 75 cubic yards of visibly contaminated soil was removed from the excavation on 19 August 1993. Groundwater was encountered at a depth of approximately 6 feet, precluding chasing the extent of contamination to its fullest. All contaminated soils were staged on polysheeting and covered to prevent migration of the contaminated material to the surrounding environment. Post excavation samples were collected and sent to the laboratory for analysis. The excavation was backfilled with approximately 90 tons of clean crushed stone.

On 23 August excavation was recommenced at tank R9 with breakup of the concrete slab. A second slab was encountered over the north end of the tank and was also demolished. After receipt of the hot work permit, tank R9 was inerted with nitrogen gas, and openings were cut to facilitate cleaning and pumping operations. Approximately 25 cubic yards of visibly contaminated soil was removed from the excavation. Groundwater was encountered at a depth of approximately 10 feet, precluding chasing the extent of contamination to its fullest. The proximity of adjacent buildings also interfered with tracing the contamination. All contaminated soils were staged on polysheeting and covered to prevent migration of the contaminated material to the surrounding environment. After excavation and cleaning were completed, post excavation samples were collected and sent to the laboratory for analysis.

Building R9 UST Location Map
Naval Weapons Station Earle

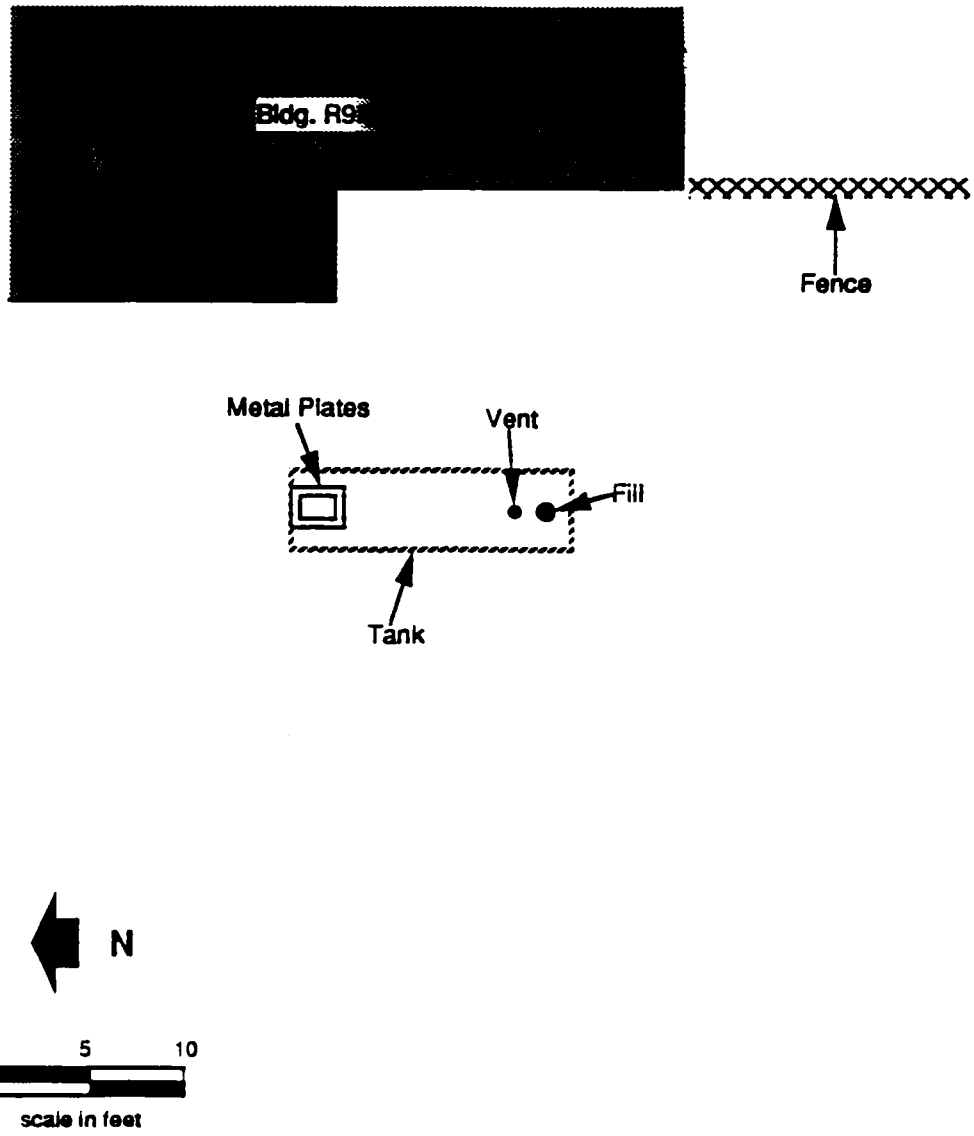


Figure 2-1

Building R11 UST Location Map
Naval Weapons Station Earle

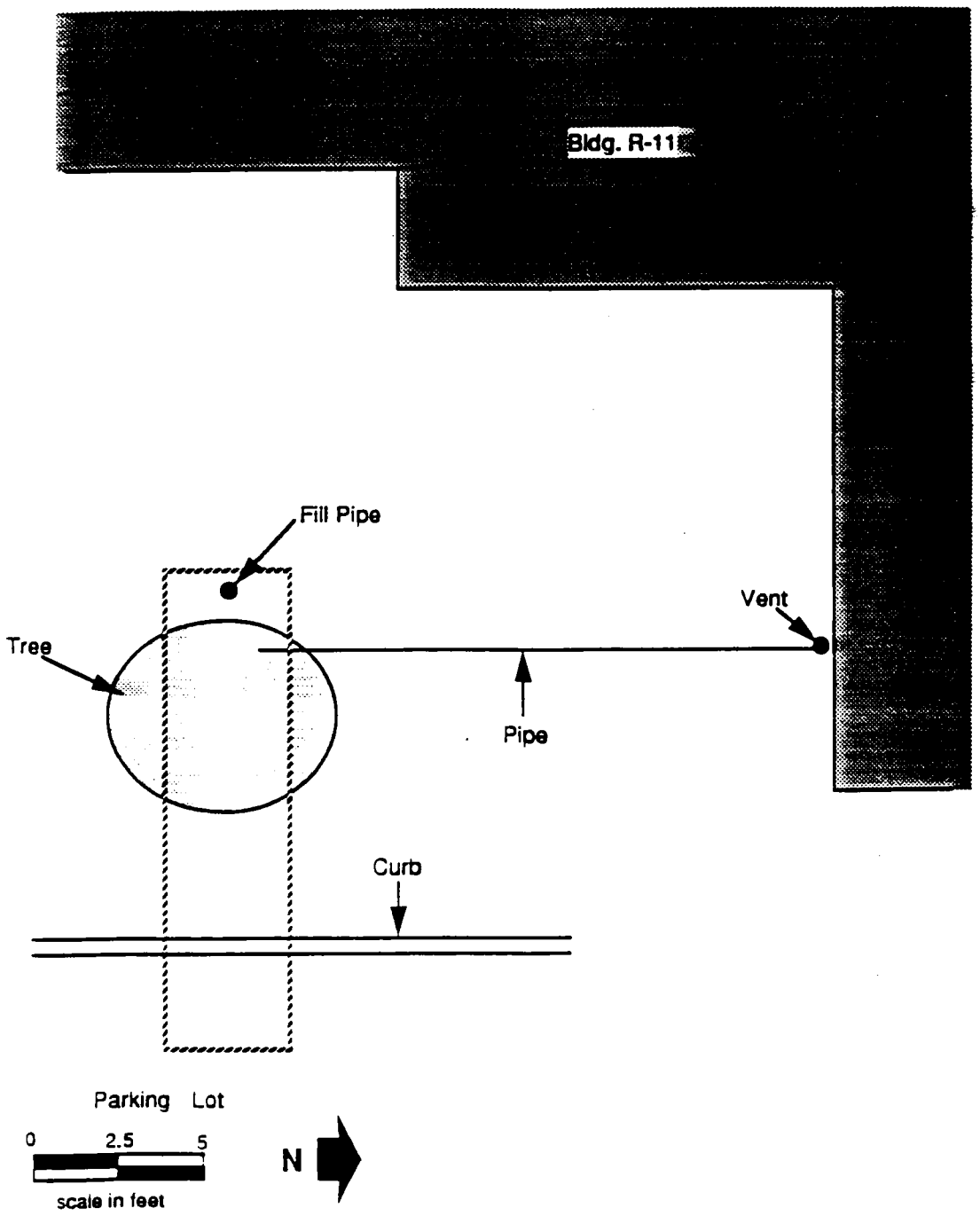


Figure 2-2

The excavation was backfilled with clean 3/4 stone.

Both tanks were disposed of to licensed scrap metal recycler. Clean fill was added to both excavations and compacted in 6" lifts and the paving was replaced at tank R11.

2.2 Excavated Material Management

2.2.1 Tank and Piping

The removed tanks and piping were cleaned by pressure washing, rendered unusable, and disposed of through a licensed scrap metal recycler. The tanks were labeled with the origin, disposal destination, and contents prior to leaving the site. The receipts from the metal recycler are included in Appendix B.

2.2.2 Excavated Soil

During excavation, all overburden soils (that which was removed from above the tank) were considered clean and staged separately for later use as backfill. The soils were screened for volatile organic vapors to confirm the absence of contamination.

All soils removed from the top of the tank level and below were considered contaminated. All contaminated soils were staged on poly-sheeting and covered to await disposal. Contaminated soils were transported to a facility in Mt. Hope, NJ for treatment through a rotary kiln and recycling. The manifests can be found in Appendix B.

2.2.3 Tank Fluids

Prior to cleaning of the tanks, the remaining No. 2 fuel oil was collected by a fuel oil recycler. Approximately 1850 gallons of No. 2 fuel oil was collected from Tank R11. Additionally, approximately 2000 gallons of used oil and 11425 gallons of oil/water mixture (Tanks R9 and R11 combined) were transported to the Naval facility's oil water separator during the tank closure operations.

2.3 Site Assessment

Building R9

The removal activities for the Building R9 underground storage tank occurred on 25 August, 1993. After the tank had been thoroughly cleaned and removed from the excavation, an inspection of the hole was completed. Using field monitoring instruments (HNu 10.2 eV), visual inspection, and the soil/water agitation test, it was determined that there had been a release to the environment, the NJDEPE was notified immediately (Incident #93-9-29-1519-27). The letter reporting the release is included in Appendix C. Visually contaminated soil was removed from the excavation until structural constraints from the adjacent building were

encountered. Groundwater was also starting to enter the excavation from the sidewall at a depth of approximately 10 feet.

Eight (8) soil samples were collected, on 25 August 1993, following the removal activities. The soil samples were collected from the sidewalls of the excavation just above the depth of groundwater incursion(see Figure 2-3 for sample locations). All samples were collected using field decontaminated stainless steel sampling equipment. Two laboratory prepared sample bottles were filled for each sample location. The volatile organics sample bottle was filled and sealed before collection of the Total Petroleum Hydrocarbons sample. A field blank was collected by running laboratory prepared deionized water over the decontaminated sampling equipment.

All samples were analyzed for Total Petroleum Hydrocarbons (TPHC), with 25% to be analyzed for VOA's if any sample exceeded 1,000 ppm for TPHC. The samples were placed on ice and delivered overnight to a NJDEPE-certified laboratory, American Environmental Network, Inc. (Certification Number 60056), located in Columbia, Maryland.

Building R11

The removal activities for the Building R11 underground storage tank occurred on 19 August 1993 after the tank had been thoroughly cleaned and removed from the excavation and inspection of the hole was completed. Using a field monitoring instrument (HNu 10.2 eV), and visual inspection, and it was determined that there had been a release to the environment, the NJDEPE was notified immediately (Incident #93-9-29-1519-27). The letter reporting the release is included in Appendix C. Identifiable contamination was noticed all along the excavation. Visually contaminated soil was removed from the excavation until structural constraints from the adjacent building were encountered. Groundwater was also starting to enter the excavation from the sidewalls at a depth of approximately 5-6 feet.

Six (6) soil samples were collected, on 19 August 1993, following the removal activities. These soil samples were collected from the sidewalls of the excavation just above the depth of groundwater incursion(see Figure2-4 for sample locations). All samples were collected using decontaminated stainless steel sampling equipment. Two (2) laboratory prepared sample bottles were filled for each sample location with the VOA sample bottle being filled prior to mixing for the TPHC sample bottle. A field blank was also collected by running laboratory prepared deionized water over the decontaminated sampling equipment.

All samples were analyzed for Total Petroleum Hydrocarbons (TPHC) with 25% to be analyzed for VO+10 if any sample exceeded 1,000 ppm for TPHC. The samples were placed on ice and delivered overnight to American Environmental Network, Inc.

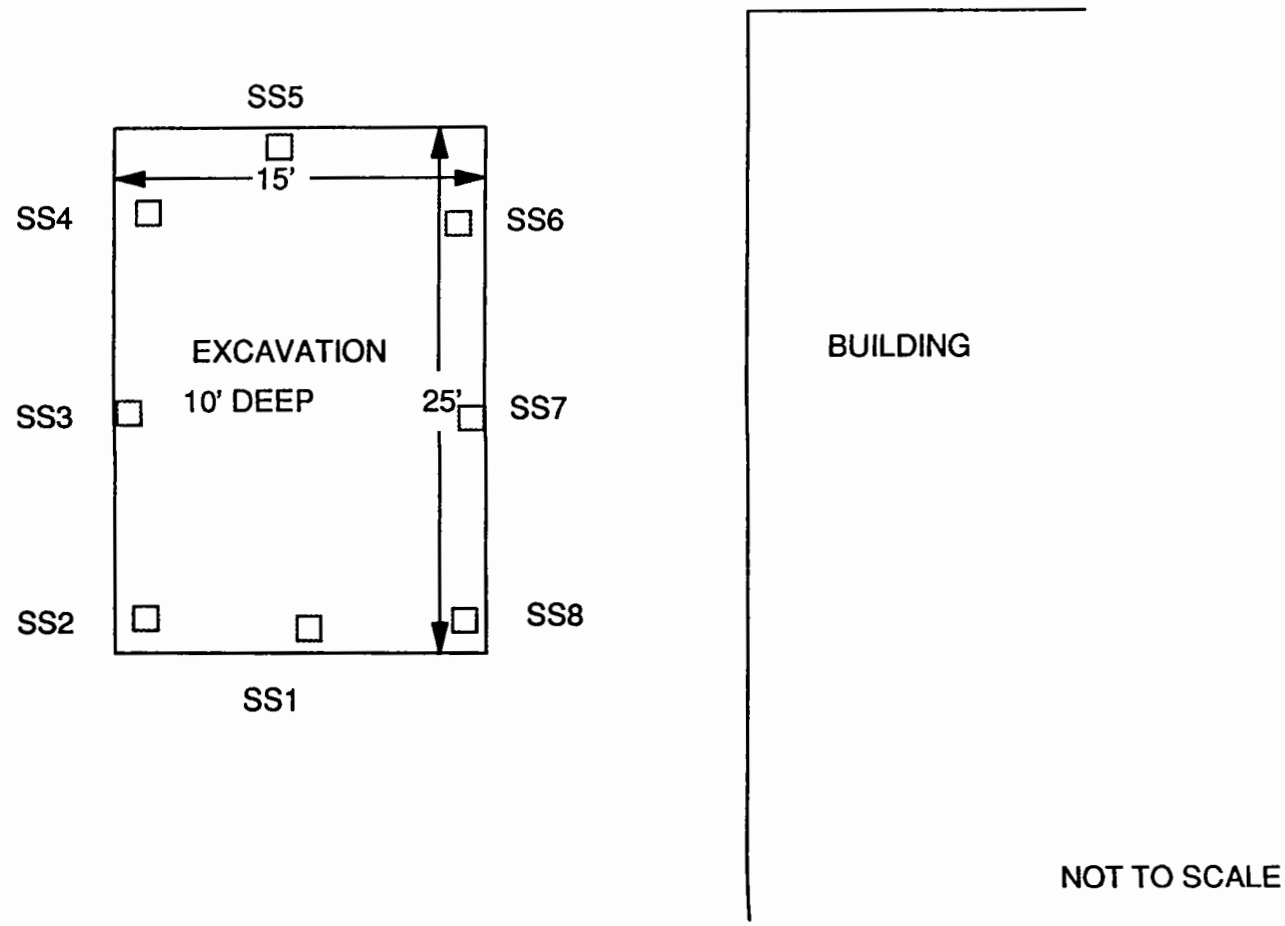


FIGURE 2-3

WESTON
MANAGERS DESIGNERS/CONSULTANTS

R9 UNDERGROUND STORAGE TANK
EARL NAVAL WEAPON STATION

SOIL SAMPLE LOCATIONS

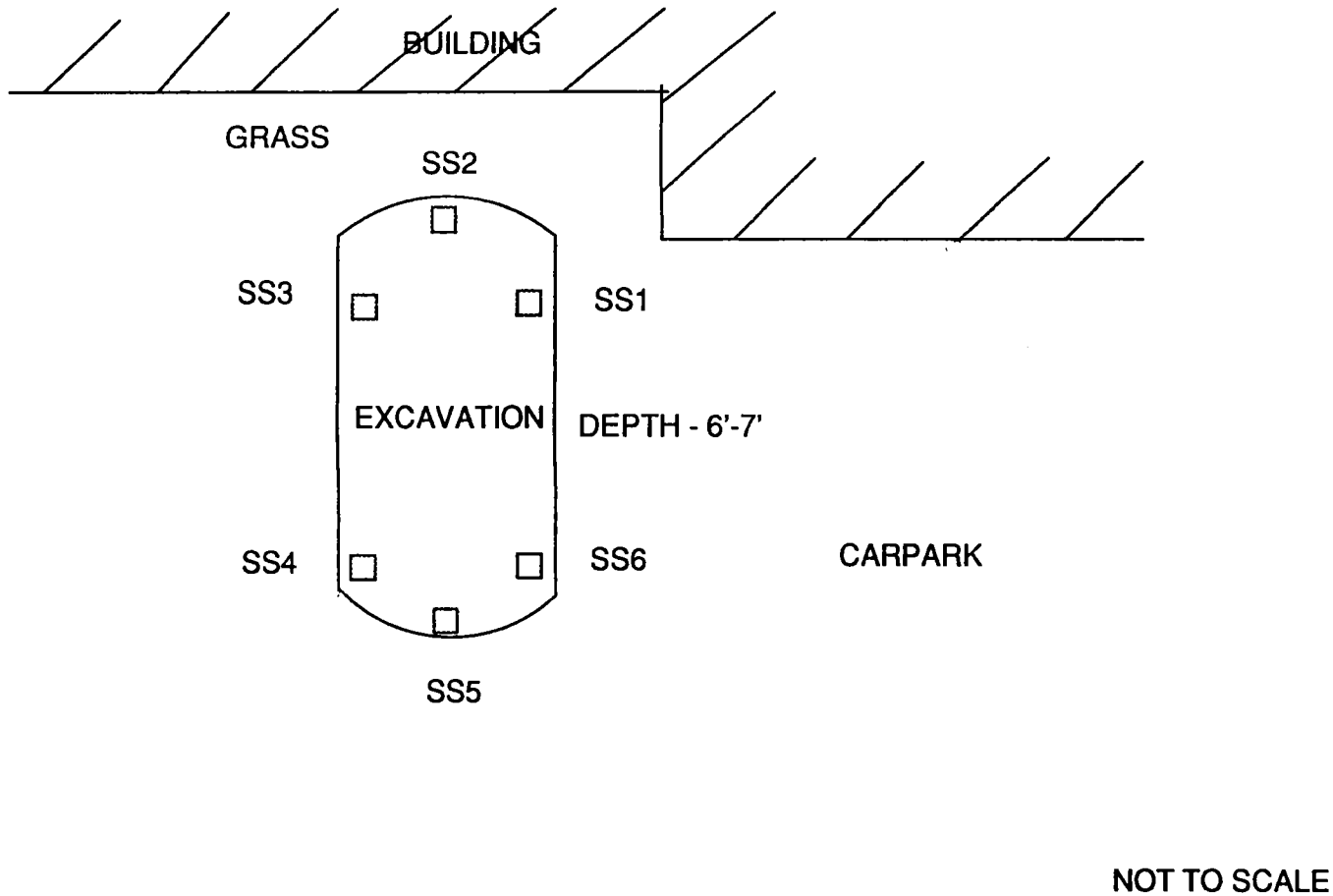


FIGURE 2-4

WESTON
MANAGERS DESIGNERS/CONSULTANTS

R11 UNDERGROUND STORAGE TANK
EARL NAVAL WEAPON STATION

SOIL SAMPLE LOCATIONS

Table 2-1

Summary of Sampling and Analysis

UST System	Size (gal)	Contents	Number of QC Samples	Number of Post Excavation Samples	Analytical Parameter
R9	9000 Coated Steel	No. 2 Fuel Oil	1 Field Blank	8	TPHC*
R11	5000 Coated Steel	No. 2 Fuel Oil	1 Field Blank	6	TPHC*

* Total Petroleum Hydrocarbons analysis of soil using EPA Method 418, modified for soils.

SECTION 3

SAMPLING RESULTS

3.1 Soil Sampling Results

Soil samples for Tanks R9 and R11 were collected on 25 August 1993 and 19 August 1993, respectively and sent, via common carrier, to American Environmental Network, Inc. in Columbia, Maryland. Two disposal samples were collected on 9-21-93. A summary of sample identification, and analyses performed is provided in Table 3-1. Results for verification samples were all received by 31 August 1993 and for the disposal samples on 5 October 1993.

Six samples showed TPHC results above the detection limit with results above 1000 ppm reported for two samples from Tank R9 and three samples from Tank R11(see Table 3-2).

Four samples were further analyzed for volatile organic compounds(VO+10). These results are presented in Table 3-3.

TABLE 3-1

SAMPLE IDENTIFICATION AND ANALYSIS SUMMARY

Sample Name	Date Collected	Matrix	Analysis Performed
Tank R9			
R9-1	8-25-93	SOIL	TPHC
R9-2	8-25-93	SOIL	TPHC
R9-3	8-25-93	SOIL	TPHC
R9-4	8-25-93	SOIL	TPHC
R9-5	8-25-93	SOIL	TPHC
R9-6	8-25-93	SOIL	TPHC
R9-7	8-25-93	SOIL	TPHC
R9-8	8-25-93	SOIL	TPHC VO+10
FB	8-25-93	WATER	TPHC VO+10
TANK R11			
SS01	8-19-93	SOIL	TPHC VO+10
SS02	8-19-93	SOIL	TPHC
SS03	8-19-93	SOIL	TPHC
SS04	8-19-93	SOIL	TPHC
SS05	8-19-93	SOIL	TPHC VO+10
SS06	8-19-93	SOIL	TPHC VO+10
FB	8-19-93	WATER	TPHC VO+10
Disposal samples			
Phase II A Phase II B	9-21-93	SOIL	TPHC VO+10 pH Flash point Reactivity PCB TCLP-metals

TABLE 3-2

TPHC ANALYTICAL RESULTS

Sample Number	Detection Limit	TPHC Concentration
TANK R9		
R9-1	30 mg/Kg	ND
R9-2	30 mg/Kg	1030
R9-3	30 mg/Kg	ND
R9-4	30 mg/Kg	970
R9-5	30 mg/Kg	ND
R9-6	30 mg/Kg	ND
R9-7	30 mg/Kg	ND
R9-8	30 mg/Kg	1390
FB	30 mg/Kg	ND
TANK R11		
SS01	340 mg/Kg	6010
SS02	40 mg/Kg	ND
SS03	40 mg/Kg	ND
SS04	40 mg/Kg	ND
SS05	780 mg/Kg	9100
SS06	670 mg/Kg	7870
FB	30 mg/Kg	ND

TABLE 3-3

VOLATILE ORGANICS ANALYTICAL RESULTS

Volatile Organic Compound	R9-8 (ug/Kg)	R9-8 R (ug/Kg)	FB (ug/L)	FB R (ug/L)
Methylene chloride	38B	19B	8B	10B
Carbon Disulfide	12B	10B		
1,1,1-Trichloroethane				2J
VO+10 TICs	**R9-8**	**R9-8 R**	**FB**	**FB R**
Unknown	390J			
Unknown	12000JB	16000JB		
Hexane	130J	240J		
Unknown		20J		
Hexane			16J	9JB
Unknown		23J		
Unknown	130J			
Unknown	90J			
Unknown	99J	57JB		
Dodecane, 6-methyl	190J			
Unknown		22J		
Unknown	96J			
1H-Indene, 2,3-dihydro-4-met		30JB		
Tridecane, 7-methyl	96J			
Unknown		66JB		
Unknown				
Unknown	89J	47JB		
Unknown				
1,4-Dichlorobenzene d-4				5J

J-indicates an estimated value. B-indicates that the compound is found in the associated blank as well as in the sample, a possible indication of blank contamination.

TABLE 3-3

VOLATILE ORGANICS ANALYTICAL RESULTS (continued)

Volatile Organic Compounds	SS01 (ug/Kg)	SS05 (ug/Kg)	SS06 (ug/Kg)	FB (ug/Kg)
Methylene Chloride	78B	6200B	2400B	9
Acetone	35JB			
Carbon Disulfide	64B			
1,1,1-Trichloroethane		1000	540J	
Benzene		730J		
Toluene		3100	200J	
Chlorobenzene		2800	380J	
Ethylbenzene		11000	2300	
m+p-Xylenes	3J			
Xylene-total			5500	
VO+10 TICs	SS01	SS05	SS06	FB
Unknown	230JB			
Cyclohexane		1900J		
Unknown		250J		
Hexane		1500JB	1200JB	
Cyclopentene, 1,2-dimethyl-		870J		
Cyclododecane				14J
1,4-Dichlorobenzene d-4	15JB			
1,4-Dichlorobenzene d-4	6JB			
Unknown			11000J	
Hexane, 2-methyl-		750J		
Cyclohexane, 1,3-dimethyl-		2200J		
Unknown			1200J	
Unknown		250J		
Unknown			500J	
Unknown			870J	
Cyclohexane, 1,4-dimethyl-		1400J		
Unknown		6500J		
Unknown		4500J		
Octane		1100J		
Unknown		250J		
Unknown		1900J	3500J	

J-indicates an estimated value. B-indicates that the compound is found in the associated blank as well as in the sample, a possible indication of blank contamination.

3.2 Reliability of Analytical Data

In order to generate analytical data of known and defensible quality, adherence to established quality assurance protocols were used. To ensure that the samples obtained in the field represented the particular environment from which they were collected and were of satisfactory quality, field sampling and laboratory analyses were performed in accordance with NJDEPE's Field Sampling Procedure Manual (May 1992) and the Technical Requirements for Site Remediation (N.J.A.C. 7:26E-1 et seq.) The following sections discuss the sampling and handling procedures used.

3.2.1 Sampling Methods

Verification soil samples were obtained in accordance with NJDEPE sampling protocols. Stainless steel bucket augers were decontaminated and used to collect the samples from the excavation. The decontamination steps were as follows:

1. Detergent scrub.
2. Tap water rinse.
3. Distilled water rinse.
4. Methyl alcohol rinse.
5. Distilled water rinse.
6. Air dry.

3.2.2 Sample Handling and Preservation

Soil was removed from the hand auger and place into laboratory cleaned jars. The type and size of the jars were matched to the intended analytical procedure. Soil samples were then labeled and placed into a cooler filled with ice. The samples were maintained at approximately 4°C using ice until being transported to the lab. At the lab, the samples were transferred to a refrigerator until analyses were begun.

The field blank was obtained by pouring analyte-free water, supplied by the lab, through a field decontaminated split spoon sampler.

3.2.3 Sample Handling Times

From a comparison of the sampling and analysis dates, all analyses were performed within the NJDEPE's prescribed sample holding times.

3.2.4 Quality Assurance Samples

Field blanks were collected for the soil samples as required by the NJDEPE's Field Sampling Procedures Manual. Field blanks were collected at a rate of 10% or one per sampling event. The field blanks were analyzed for TPHC and VO+10.

The Field Sampling Procedures Manual does not require trip blanks for soil (non-aqueous) samples. Therefore, no trip blanks were collected with these samples. Duplicate samples were not collected as part of this sampling effort.

3.2.5 Method Detection Limits

All of the analyses performed had method detection limits (MDLs) that were at or below the NJDEPE's proposed Soil Cleanup Criteria levels.

SECTION 4

DISCUSSION AND RECOMMENDATIONS

Soil which appeared to be contaminated was found in the excavations for both Tanks R9 and R11 This soil was removed and transported to a licensed facility for treatment before being recycled. The incursion of groundwater into the excavations precluded further tracing and removal of visibly contaminated material. Several post-excavation samples showed TPHC results above NJDEPE cleanup limits, however, only one sample showed a VO+10 result slightly above these limits for one compound, chlorobenzene(2.8 ppm where the limit is 1 ppm for this compound). No further remedial action is recommended.

APPENDIX A

UNDERGROUND STORAGE TANK SYSTEM
CLOSURE APPROVAL

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY

DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF UNDERGROUND STORAGE TANKS
CN-029, TRENTON, NJ 08625-0029

TMS # C-93-1300 **UST #** 0151003

Naval Weapons Earle

Colts Neck, NJ

Monmouth

THE ABOVE LISTED FACILITY IS HEREBY GRANTED APPROVAL TO PERFORM THE FOLLOWING ACTIVITY IN ACCORDANCE WITH N.J.A.C. 7:14B-1 et. seq.:

Removal: one 5,000 gallon #2 fuel oil UST(s) and appurtenant piping.
SITE ASSESSMENT: Soil samples will be taken every five (5) feet along the center line of each tank and one (1) soil sample for every 15 feet along all associated piping. Two (2) additional samples will be taken from around the tank and biased to the areas of highest field screened readings. Samples will be analyzed for TPHC. If sample results are greater than 1,000ppm than samples will be analyzed for VO+10.

ON-SITE MANAGER: G. Weiss TELEPHONE: 908-577-2515

OWNER: TELEPHONE:

EFFECTIVE DATE: APR 28 1993

THIS FORM MUST BE DISPLAYED AT THE SITE DURING THE APPROVED ACTIVITY AND MUST BE MADE AVAILABLE FOR INSPECTION AT ALL TIMES.

KEVIN F. KRATINA, ACTING BUREAU CHIEF
BUREAU OF UNDERGROUND STORAGE TANKS

UST-011 GREEN- APPLICANT COPY- APPLICANT COPY- LCO COPY- TMS COPY- R&B

APPENDIX B

Thur 9:00

L. & L. OIL SERVICE, INC.

D.E.P. & E.P.A. Approved

RD1 Box 5A
Old Bridge, N.J. 08857
Tel: 908-721-0900 • Fax(908) 721-0231

7980

SOLD TO: U.S. NAVAL Weapons EARLE
Rt 36
Leanardo N.J.

BILL TO: Roy Weston

CONTACT: Dave

ATTN:

ACCT. #	ORDER DATE	DRIVER	JOB SCHEDULED FOR

PHONE #	EPA ID #	CUSTOMER PO #	TERMS

#	TYPE OF WORK	TYPE OF MATERIALS
1	Pump out	Water
2		

SPECIAL INSTRUCTIONS: Couple of hours * Transfered Water from Tank into holding Tank on Site.

PRICE QUOTED:

ESTIMATED GALLONAGE: 1125 GAL

DISPOSAL PER GALLON:

HOURLY RATE:

ENTER & CLEAN TANK:

THIS WORK HAS BEEN INSPECTED AND PERFORMED TO THE CUSTOMER'S SATISFACTION.

SIGNATURE: Rob B. [illegible]

This order has been signed and confirmed by the customer that L.&L. Oil Service has left the grounds in good condition and is not responsible for any spills or soil contamination.

WHITE/OFFICE YELLOW/DRIVER PINK/CUSTOMER

LORCO

LIONETTI OIL RECOVERY CO. INC.

RD1 Box 5A
Old Bridge, N.J. 08857
(908) 721-0800
Fax (908) 721-0831

L&L OIL INC.

TANK CLEANING SERVICES

STANDARD COLLECTION ORDER FORM

30078

OFFICE USE ONLY

GENERATOR/LOCATION

NAME: U.S. Naval Weapons Station
INFORMATION/ATTENTION LINE:
ACCOUNT APPROVAL CODE:
DELIVERY ADDRESS: Rt. 36
CITY: Leonardo
STATE:
ZIP:
PHONE NUMBER:
PURCHASE ORDER NUMBER:
USA EPA ID NO. (IF APPLICABLE):
STATE ID NO.:

BILL TO (IF DIFFERENT FROM LOCATION)

NAME: Roy Leston
INFORMATION/ATTENTION LINE:
ACCOUNT APPROVAL CODE:
DELIVERY ADDRESS:
CITY:
STATE:
ZIP:
PHONE NUMBER:
PURCHASE ORDER NUMBER:

MANIFEST NUMBER: NA

SHIPPING INFORMATION

This is to certify that the below named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

NO.	TYPE	QTY.	UNIT	US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)

SALES REPRESENTATIVE:

SERVICE SECTION

SALES CODE	DESCRIPTION	WASTE CODE	QUANTITY	UNIT OF MEASURE	PRICE	TAX	LINE TOTAL
40500	USED OIL REMOVAL						
40501	OIL WATER DISPOSAL						
40502	SLUDGE DISPOSAL						
41000	NON HAZARDOUS DISPOSAL						
41500	VAC TRUCK & OPERATOR						
41501	DRUM DISPOSAL						
41502	SEPARATOR CLEANING						
41503	ANALYTICAL TESTING						
41504	TANK CLEANING						
41505	CONFINED SPACE ENTRY						
41506	SERVICE CHARGE						
42000	MANIFEST PROCESSING FEE						
42001	DEXSIL TEST KIT						

Transferred water from tank into holding tank on site
3 hrs. 165 Gal

TOTAL

CHARGE MY ACCOUNT FOR THIS TRANSACTION UNLESS OTHERWISE INDICATED IN THE PAYMENT RECEIVED SECTION.
INVOICES REFLECTING CHARGES TO CUSTOMER ARE SUBJECT TO AN INTEREST RATE OF THE LESSER OF 1 1/2% PER MONTH (18% PER ANNUM) OR THE MAXIMUM RATE ALLOWED BY LAW ON ANY INVOICES THAT ARE NOT PAID WITHIN 30 DAYS. IN THE EVENT OF DEFAULT, LORCO SHALL BE ENTITLED TO RECOVER COSTS OF COLLECTION, INCLUDING REASONABLE ATTORNEY'S FEES.
GENERATOR WARRANTS AND REPRESENTS THAT THE MATERIALS PROVIDED LORCO HEREUNDER HAVE NOT BEEN MIXED, COMBINED, OR OTHERWISE BLENDED IN ANY QUANTITY WITH MATERIALS CONTAINING POLYCHLORINATED BIPHENYLS (PCB) OR ANY OTHER MATERIAL DEFINED AS A HAZARDOUS WASTE UNDER APPLICABLE LAWS, INCLUDING BUT NOT LIMITED TO 40 CFR PART 261. GENERATOR AGREES TO INDEMNIFY AND HOLD LORCO HARMLESS FOR ANY DAMAGES, COSTS, ATTORNEY'S FEES, ETC. ARISING OUT OF OR IN ANY WAY RELATED TO A BREACH OF THE ABOVE WARRANTY BY THE GENERATOR.

$

X

GENERATOR/CUSTOMER SIGNATURE

SMALL QUANTITY GENERATOR CERTIFICATION

I certify that my hazardous waste streams total less than 220 pounds (100 kg) for this calendar month and that I am not required to use an EPA identification number.

GENERATOR'S SIGNATURE

PAYMENT RECEIVED SECTION

CASH ☐	TOTAL RECEIVED
CHECK NUMBER	

PAYMENT MADE SECTION

PAYMENT METHOD	PAYMENT AMOUNT
CASH ☐ CHECK ☐	

RECEIVED BY:

CUSTOMER'S SIGNATURE

Generator certifies that the waste is NA. In accordance the N.J.A.C. 7:26-12.1 et seq, LORCO has the required permits to accept the above described waste.
In accordance with 40 CFR 266 § 43(5) LORCO has notified the US EPA of its location and used oil management activities.
EPA ID # NJD084044064

LORCO REPRESENTATIVE (PRINT NAME) Jeff Todd

8/17/93 TODAY'S DATE

GENERATOR/CUSTOMER (PRINT NAME)

John Parker

5/27/93

State of New Jersey
Department of Environmental Protection and Energy
Hazardous Waste Regulation Program
Manifest Section
CN 028, Trenton, NJ 08625-0028

Please type or print in block letters. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. NJD 0 7 9 0 1 2 2 4 1 7 2 — Manifest Document No.

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address

4. Generator's Phone ( )

A. State Manifest Document Number **NJA 1701670**

B. State Generator's ID SAME

5. Transporter 1 Company Name: LAL OIL SERVICES INC.

6. US EPA ID Number

C. State Trans. ID

7. Transporter 2 Company Name

8. US EPA ID Number

D. Transporter's Phone ( )

E. State Trans. ID

9. Designated Facility Name and Site Address: LAMPITT OIL REGENERATION CO., INC. BURNEY & CHESSREDLANE RDS.

10. US EPA ID Number

F. Transporter's Phone ( )

G. State Facility's ID

H. Facility's Phone ( )

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. 7 PETROLEUM OIL, NON-COMPATIBLE, N.O.S. (PETROLEUM OIL, USED)					
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above

a. c.

b. d.

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name | Signature | Month Day Year

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.

Printed/Typed Name | Signature | Month Day Year

GENERATOR — TRANSPORTER — FACILITY

In case of an emergency or spill immediately ... the State ... merg... curr... the pt. of ... men... action ... ergy...

EPA Form 8700-22 (Rev. 9/88) Previous editions are obsolete.

SIGNATURE AND INFORMATION *MUST* BE LEGIBLE ON ALL COPIES

SANITARY DISPOSAL SERVICE
P.O. Box 622
Matawan, N.J. 07747
908-613-0710

PICK UP DATE
DELIVERY DATE 9-2-93
CUSTOMER NO.

SOLD TO ROY F. WESTON
ADDRESS
CITY

SOLD BY	CASH	CHARGE	C.O.D.	ON ACCT.	MDSE. RET'D	PAID OUT

QUANTITY	DESCRIPTION	PRICE	AMOUNT
1	7 YDS BOX		
2	3 YDS CONCRETE		
3			
4			
5			
6			
7			
8			
9			
10			

DO NOT PUT ANY UNACCEPTABLE WASTE IN CONTAINER. Generator is solely responsible.

UNACCEPTABLE WASTE is anything the state or county deems recyclable, hazardous or has determined to be unacceptable.

Containers for wood, concrete, cardboard and other recyclable materials are to have ONLY that material designated by hauler in them.

LOADS ARE SEARCHED AT THE FACILITY.

THIS SLIP MUST BE PRESENTED FOR ANY RETURNS OR ADJUSTMENTS.

RECEIVED BY Richard Gardner

P.O. BOX 246
OAKHURST, N.J. 07755
YARD: TINTON FALLS

2046

Mazza and Sons, Inc.

DEMOLITION - EXCAVATORS
METAL RECYCLERS
922-9292

TRUCK #73

Job KWGS [illegible] Date 8/26 1985

Name Weston & Sen

	Material Used	Tons	Yards		
	FILL DIRT				
1	Tank	9000	GAL	FROM	
	TOP SOIL	BLDG	#9		
	DUMP TRAILER				
	CONTAINER				
	BACKHOE				
	977 CAT LOADER				
	CRANES				
	Equipment Rental		Hours		

Accepted by Adam Bethea

8/26

ROY F. BETON, INC

10/05/1993 07:37 908-577-6921

P.O. BOX 246
OAKHURST, N.J. 07755
YARD: TINTON FALLS

2045

Mazza and Sons, Inc.

DEMOLITION - EXCAVATORS
METAL RECYCLERS
922-9292

TRUCK # 73
XN684U

Job _____ Date 8/24 1993

Name Westar Sell

	Material Used	Tons	Yards	GAL.	
	FILL DIRT				
1-	TEAK			5000	R11
	TOP SOIL				
	DUMP TRAILER				
	CONTAINER				
	BACKHOE				
	977 CAT LOADER				
	CRANES				
1	Equipment Rental		Hours		

Accepted by Adam Bethea

THIS MEMORANDUM is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. _____

Carrier's Name: T.F. TRANSPORTATION CORP., MT. HOPE ROAD WHARTON N.J. Carrier's No.

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of lading,

at _____ (Date) 10-13 1973 FROM _____

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as shown below, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own railroad, water line, highway route, or within the territory of its highway operations, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

(Mail or street address for purposes of notification only.)

Consigned TO MT. HOPE RECYCLING NAVAL WEAPONS STATION EARLE WATCHPORT

(If Collect on Delivery Shipments, the letters "COD" must appear before consignee's name or, as otherwise provided in Item 4-(b), Sec. 7.)

Destination 625 MT. HOPE ROAD Street WHARTON City N.J. 07885

County _____ State _____ Zip _____

Route DEST Delivery Address ★ SAME

★ (To be filled in only when shipper desires and governing tariffs provide for delivery thereat.)

Delivering Carrier _____ Car or Vehicle Initials and No. _____

Collect on Delivery $ _____ And Remit to _____

Street _____ City _____ State _____

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:

The carrier shall not make delivery of this shipment without payment of freight and other lawful charges.

(Signature of consignor.)

C. O. D. Charges to be Paid by ☐ Shipper ☐ Consignee

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Packages	Kind of Package, Description of Articles, Special Marks, and Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column
	CY NON HAZARDOUS, NON REGULATED SOLID, N.O.S.			
	(PETROLEM CONTAMINATED SOIL)			
	FOR RECYCLING			
	TRAILER PLATE T743 NM Arrive Job: 1:30			
	N.Y. DEC# JA-3552 Depart Job:			
	Drivers Lic. # S8232 78565 07386			

Received $ _____ in prepayment of the charges on the property described hereon.

Agent or Cashier

Per _____

(The signature here acknowledges only the amount prepaid.)

Charges Advanced: $ _____

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____

Shipper, Per _____

Permanent post-office address of shipper.

Per _____

3

THIS MEMORANDUM is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. _____

Carrier's Name: T.F. TRANSPORTATION CORP.. MT. HOPE ROAD WHARTON N.J. Carrier's No.

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of lading.

at _____ (Date) _____ 19____ FROM _____

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as shown below, which said company (the word company throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own railroad, water line, or routes, or within the territory of its highway operations, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

(Mail or street address for purposes of notification only.)

Consigned TO MT. HOPE RECYCLING NAVAL WEAPONS STATION EARLE WATERFRONT

(Collect on Delivery Shipments, the letters "COD" must appear before consignee's name, or as otherwise provided in Item 410, Sec. 1)

Destination 625 MT. HOPE ROAD Street WHARTON N.J. 07885 City

County _____ State _____ Zip

Route DEST Delivery Address ★ SAME

(★ To be filled in only when shipper desires and governing tariffs provide for delivery thereat.)

Delivering Carrier _____ Car or Vehicle Initials and No. _____

Collect on Delivery $ _____ And Remit to _____

Street _____ City _____ State

No. Packages	H.M.	Kind of Package, Description of Articles, Special Marks, and Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column
		CY NON HAZARDOUS, NON REGULATED SOLID, N.O.S.			
		(PETROLEM CONTAMINATED SOIL)			
		FOR RECYCLING			
		TRAILER PLATE Arrive Job:			
		N.Y. DEC# JA-352 Depart Job:			
		Drivers Lic.			

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without payment of freight and other lawful charges, the consignor, the carrier shall not make delivery of this shipment without payment of freight and other lawful charges.

(Signature of consignor)

C. O. D. Charges to be Paid by ☐ Shipper ☐ Consignee

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received $ _____ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per _____ (The signature here acknowledges only the amount prepaid.)

Charges Advanced: $ _____

*The fiber containers used for this shipment conform to the specifications set forth in the box maker's certificate thereon, and all provisions of Rule 41 of the Uniform Classification and Rule 5 of the National Freight Classification.

*Shipper's imprint in lieu of stamp; not a part of bill of lading approved by the Interstate Commerce Commission.

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

Shipper, Per _____

Permanent post-office address of shipper.

Per _____

3

THIS MEMORANDUM is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. _____

125

Carrier's Name: T. F. TRANSPORTATION CORP., MT. HOPE ROAD WHARTON N. J. Carrier's No.

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of lading,

at _____ (Date) 10/[illegible] 19[illegible] FROM _____

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as shown below, which said company (the word company being throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own railroad, water line, highway route, or within the territory of its highway operations, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

(Mail or street address for purposes of notification only.)

Consigned TO MT. HOPE RECYCLING NAVAL WEAPONS STATION EARLE WATERFRONT

(To Collect on Delivery Shipments, the letters "COD" must appear before consignee's name or as otherwise provided in Item 430, Sec. 1)

Destination 625 MT. HOPE ROAD Street WHARTON N. J. City 07885

County _____ State _____ Zip _____

Route BEST Delivery Address ★ SAME

★ (To be filled in only when shipper requires, and governing tariffs provide for, delivery thereat.)

Delivering Carrier _____ Car or Vehicle Initials and No. _____

Collect on Delivery $ _____ And Remit to _____

Street _____ City _____ State _____

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
"The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges."

(Signature of consignor.)

C. O. D. Charges to be Paid by ☐ Shipper ☐ Consignee

If charges are to be prepaid, write or stamp here, "To be Prepaid."

No. Packages	HM	Kind of Package, Description of Articles, Special Marks, and Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column
		CY NON HAZARDOUS, NON REGULATED SOLID, N.O.S.			
		(PETROLEM CONTAMINATED SOIL)			
		FOR RECYCLING			
		TRAILER PLATE [illegible] Arrive Job: [illegible]			
		N.Y. DEC# JA-352 Depart Job:			
		Drivers Lic. M D[illegible]			

Received $ _____ in prepayment of the charges on the property described hereon.

Agent or Cashier

Per _____ (The signature here acknowledges only the amount prepaid.)

Charges Advanced: $ _____

*The fiber containers used for this shipment conform to the specifications set forth in the box maker's certificate thereon, and all requirements of Rule 41 of the Uniform Classification and Rule 41 of the Southern Freight Association.

*Shipper's imprint in lieu of stamping on bill of lading approved by The Interstate Commerce Commission.

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____

Shipper, Per _____

Permanent post-office address of shipper.

Agent, Per _____

3

THIS MEMORANDUM is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. _____

Carrier's Name: T. F. TRANSPORTATION CORP,. MT. HOPE ROAD WHARTON, N. J. Carrier's No.

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of lading,

at _____ (Date) _____ 19____ FROM _____

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as shown below, which said company (the word company being throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own railroad, water line, highway routes, or within the territory of its highway operations, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed herein contained, including the conditions on back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

(Mail or street address for purposes of notification only.)

Consigned TO MT. HOPE RECYCLING NAVAL WEAPONS STATION EARLE WATERFRONT

(*Collect on Delivery Shipments, the letters "COD" must appear before consignee's name or as otherwise provided in Item 430, Sec. 1.)

Destination _____ Street 625 MT. HOPE ROAD City WHARTON N. J. 07885

County _____ State _____ Zip _____

Route BEST Delivery Address★ SAME

(★ To be filled in only when shipper desires and governing tariffs provide for delivery thereat.)

Delivering Carrier _____ Car or Vehicle Initials and No. _____

Collect on Delivery $ _____ And Remit to _____

Street _____ City _____ State _____

Subject to Section 7 of conditions, if ment is to be delivered to the consignee, the consignor, the consignee on the reverse hereof, the carrier shall not make delivery shipment without payment of freight other lawful charges.

_____ Signature of Consignor

C. O. D. Charges to be Paid by ☐ Shipper ☐ Carrier

If charges are to be prepaid stamp here, "To be Prepaid."

No. Packages	HM	Kind of Package, Description of Articles, Special Marks, and Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column
		CY NON HAZARDOUS, NON REGULATED SOLID, N. O. I. S.			
		(PETROLEM CONTAMINATED SOIL)			
		FOR RECYCLING			
		TRAILER PLATE T253BY Arrive Jdb:			
		N. Y. DEC# JA-352 Depart Jdb:			
		Drivers Lic. #			
		06TD 12477 D6632			

Received $ _____ to prepay freight charges on the property described hereon.

Agent or Cashier

Per _____ (The signature here acknowledges only the amount prepaid.)

Charges Advanced: $ _____

* The fibre containers used for this shipment conform to the specifications set forth in the box maker's certificate thereon, and all other requirements of Rule 41 of the Uniform Classification and Rule 5 of the Southern Freight Classification.

* Shipper's imprint in lieu of stamp, not a part of bill of lading approved by the Interstate Commerce Commission.

If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is carrier's or shipper's weight.

"Agent" — Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

_____ Shipper, Per _____

(Permanent post-office address of shipper.)

Per _____

3

THIS MEMORANDUM is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. _____

Carrier's Name: T.F. TRANSPORTATION CORP., MT. HOPE ROAD WHARTON, N.J. Carrier's No.

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of lading

at _____ (Date) _____ 19____ FROM _____

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as shown below, which said company (the word company being throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own railroad, water line, highway routes, or within the territory of its highway operations, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether written herein or printed herein contained, including the conditions on back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

(Mail or street address for purposes of notification only.)

Consigned TO MT. HOPE RECYCLING NAVAL WEAPONS STATION EARLE WATERFRONT

On Collect on Delivery Shipments, the letters "COD" must appear before consignee's name or as otherwise provided in Item 430, Sec. 1.

Destination 625 MT. HOPE ROAD Street WHARTON N.J. City 07885

County _____ State _____ Zip _____

Route BEST Delivery Address★ SAME

★ (To be filled in only when shipper desires and governing tariffs provide for delivery thereat.)

Delivering Carrier _____ Car or Vehicle Initials and No. _____

Collect on Delivery $ _____ And Remit to _____

Street _____ City _____ State _____

Subject to Section 7 of conditions, if ment is to be delivered to the consig sign the following statement: The carrier shall not make delive shipment without payment of freig other lawful charges.

(Signature of consignor.)

C. O. D. Charges to be Paid by ☐ Shipper ☐ Cons

If charges are to be prepaid stamp here, "To be Prepaid."

Received $ _____ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per _____

(The signature here acknowledges only the amount prepaid.)

Charges Advanced: _____

No. Packages	HM	Kind of Package, Description of Articles, Special Marks, and Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column
		CY NON HAZARDOUS, NON REGULATED SOLID, N.O.S.			
		(PETROLEM CONTAMINATED SOIL)			
		FOR RECYCLING			
		TRAILER PLATE	Arrive Job:		
		N.Y. DEC# JA-352	Depart Job:		
		Drivers Lic.			

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

The carriers used for the performance hereof (which may be rail, water, highway or any combination of them) shall be subject to all the conditions applicable thereon by the governing classification or tariff which govern the transportation of this class of property, and to the terms hereof, which are agreed to by the shipper and accepted for himself and his assigns.

Shipper, Per _____

Permanent post-office address of shipper

Per _____

3

THIS MEMORANDUM is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

Shipper's No. *

Carrier's Name: T.F. TRANSPORTATION CORP,. MT. HOPE ROAD WHARTON N.J. Carrier's No.

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of lading,

at _____ (Date) 10-13 1993 FROM _____

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as shown below, which said company (the word company throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its own railroad, water line, or routes, or within the territory of its highway operations, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether written, herein contained, including the conditions on back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

(Mail or street address for purposes of notification only.)

Consigned TO MT. HOPE RECYCLING NAVAL WEAPONS STATION EARLE WATERFRONT

(* Collect on Delivery Shipments, the letters "COD" must appear before consignee's name or as otherwise provided in Item 410, Sec. 1.)

Destination 625 MT. HOPE ROAD Street WHARTON N.J. City 07885

County _____ State _____ Zip _____

Route BEST Delivery Address ★ SAME

(★ To be filled in only when shipper desires and governing tariffs provide for delivery thereat.)

Delivering Carrier _____ Car or Vehicle Initials and No. _____

Collect on Delivery $ _____ And Remit to _____

Street _____ City _____ State _____

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:

The carrier shall not make delivery of this shipment without payment of freight and other lawful charges.

(Signature of consignor)

C. O. D. Charges to be Paid by ☐ Shipper ☐ Consignee

If charges are to be prepaid, write or stamp here, "To be Prepaid."

No. Packages	H.M.	Kind of Package, Description of Articles, Special Marks, and Exceptions	Weight (Subject to Correction)	Class or Rate	Check Column
		CY NON HAZARDOUS, NON REGULATED SOLID, N.O.S.			
		(PETROLEM CONTAMINATED SOIL)			
		FOR RECYCLING			
		TRAILER PLATE T743NM Arrive Job: 9130			
		N.Y. DEC# JA-352 Depart Job:			
		Drivers Lic. J 58232 78566 07386			

Received $ _____ in prepayment of the charges on the property described hereon.

Agent or Cashier

Per _____ (The signature here acknowledges the amount prepaid.)

Charges Advanced: $ _____

The flow containers used for this shipment conform to the specifications set forth in the box maker's certificate thereon, and all requirements of Rule 41 of the Uniform Classification and Rule 5 of the Freight Classification.

Shipper's imprint in lieu of stamp on bill of lading approved by Interstate Commerce Commission.

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

Shipper, Per _____

Permanent post-office address of shipper

Per _____

3

MT. Hope Recycling, Inc.

625 Mt. Hope Rd. • Wharton, NJ 07885 • Tel (201) 366-7741 Fax (201) 366-3486

Generator:
U.S. Naval Weapons Station Earle

Generator:
U.S. Naval
Building C1
Colts Neck,

Waste Type: N81

Hauling Company
Transportation
Mount Hope Road

Wharton, NJ 07885

Driver: J.P.

Name: Dean, H.

Location's Name: Scale House

Time:

Time:

Contamination Method

Hauler Permit #:

Tel #: (201) 366-6415

Trailer Plate #:

H.M.E.P.L.
Recycling Permit
1439001167

The undersigned certifies that the information provided on the waste manifest d[illegible] is true, and that all DOT, [illegible] state environmen[illegible] have been complied with [illegible] handling of this no[illegible] petroleum contaminated [illegible] the undersigned further ce[illegible] material delivered [illegible] represented by the laboratory analysis and material profile presented to the recycling facility during the application process.

Driver's Signature:

27.37

MT. Hope Recycling, Inc.

625 Mt. Hope Rd. • Wharton, NJ 07885 • Tel (201) 366-7741 Fax (201) 366-3486

[illegible] #: 109300[illegible] Ticket #: [illegible]

[illegible]:
U.S. Naval Weapons Station Earle

Date: 10/[illegible]

Time: [illegible]

[illegible]:
U.S. Naval Weapons Station Earle [illegible]
[illegible] 34 North [illegible]
Building C[illegible]
Colts Neck, [illegible] Colts Ne[illegible]22

[illegible] Type: N8[illegible] Fuel Type: [illegible] C[illegible]ation Method:

[illegible]ing Compan[illegible] 364 Hau[illegible] Permit #: [illegible]
[illegible] Transpor[illegible]inn
[illegible] Mount [illegible]e Road Tel #: ([illegible]) 366-641[illegible]

Wharton, N[illegible]07885 Trailer Plate #: T743[illegible]

[illegible]tact: J.P.

[illegible]: Name: Stevens, Wil[illegible] License #: [illegible] 70565 [illegible]

[illegible]'s ID: [illegible]COL Gross Weight: [illegible]
[illegible]'s Name: Scale House

Tare Weight: [illegible]

N[illegible] Weight: [illegible]

N.J.D.E.P.E.
Recycling Facility
[illegible]

The unders[illegible] certifies that the information provid[illegible] waste manifest d[illegible]ion is true, and that all DOT, [illegible] environmen[illegible]tions have been complied with [illegible] of this no[illegible] petroleum contaminated [illegible] further co[illegible]material delivered [illegible] by the laboratory analysis and material profile presented to the recycling facility during the application process.

Driver's Signature: [illegible]

27.03

Mt. Hope Recycling, Inc.

625 Mt. Hope Rd. • Wharton, NJ 07885 • Tel (201) 366-7741 Fax (201) 366-3486

[illegible] 209.3000 Ticket #: [illegible]

[illegible]: Date: [illegible]

U.S. Naval Weapons Station Earle Time: [illegible]

[illegible]:

U.S. Naval [illegible]
Mt. 34 Nort[illegible]
Building C1[illegible]
Colts Neck, [illegible] Colts Ne[illegible]22

[illegible] Type: N81[illegible] Fuel Type: [illegible] Concentration Method: [illegible]

[illegible] Company [illegible] 364 Haul[illegible] Permit #: [illegible]
[illegible] Transportation
[illegible] Mount Hope Road Tel #: ([illegible]) 366-[illegible]

Wharton, NJ 07885 Trailer Plate #: 171017

[illegible]: J.P.

[illegible] Noel, S. [illegible] #: NJ M6108 [illegible]364 [illegible]

[illegible] ID: SCOU Gross Weight: [illegible]
[illegible] Name: Scale House

Tare Weight: [illegible]

Net Weight: [illegible]

N.J.D.E.P.E.
Recycling Tracking
1439[illegible]

The undersigned certifies that the information provided [illegible] manifest [illegible] is true, and that all DOT, [illegible] environmental regulations have been complied with [illegible] this no[illegible] petroleum contaminated [illegible] designed [illegible] that the [illegible] delivered is [illegible] by the laboratory analysis and material profile [illegible] to the recycling facility during the application process.

Driver's Signature: [illegible]

24.35

MT. Hope Recycling, Inc.

625 Mt. Hope Rd. • Wharton, NJ 07885 • Tel (201) 366-7741 Fax (201) 366-3486

[illegible]

Manifest #:

Date: [illegible]

Time: [illegible]

Generator:
U.S. Naval Weapons Station Earle
Pt. 34 North
Building C1
Colts Neck, [illegible]

Colts Neck, NJ [illegible]

Waste Type: N81 [illegible]

Fuel Type: [illegible]

Classification Method:

Hauling Company
MT Transportation
625 Mount Hope Road
Wharton, NJ 07885

364 Hauler Permit #: IFT1[illegible]

Tel #: (201) 366-6415

Trailer Plate #: T260RY

Contact: J.P.

Driver's Name: McGlynn, Marvin [illegible]

Driver's License #: NJ M12345197157[illegible]

Generator's ID: [illegible]

Generator's Name: Scale House

N.J.D.E.P.E.
Bureau of Transport
14200117

The undersigned certifies that the information provided [illegible] manifest [illegible] that [illegible] DOT, [illegible] environmental [illegible] been complied with [illegible] of this no[illegible] petroleum contaminated [illegible] designed to other [illegible] material delivered [illegible] by the laboratory analysis and [illegible] profile [illegible] and [illegible] the recycling facility during the [illegible] number.

Driver's Signature

24.39

MT. Hope Recycling, Inc.

625 Mt. Hope Rd. • Wharton, NJ 07885 • Tel (201) 366-7741 Fax (201) 366-3486

Job #: 109.3005 Ticket #:

Generator: Date:

U.S. Naval Weapon Station Earle Time:

Generation:

U.S. Naval Weapons Station Earle Spill Location:

Pl. 34 North Pier 34 South

Building C1

Colts Neck, Colts Neck, NJ 07722

Waste Type: NB1 Fuel Type: Contamination Method:

Hauling Company: 364 Hauler Permit #: TF11

H Transportation

6[illegible] Mount Hope Road Tel #: (201) 366-6415

Wharton, NJ 07885 Trailer Plate #: T407DC

Contact: J.P.

Driver's Name: Rush, L. License #: NJ R94[illegible] 48871 [illegible]

Generator's ID: 3L01 Gross Weight:

Generator's Name: Steele House Tare Weight:

Net Weight:

The undersigned certifies that the information provided on this manifest [illegible] true, and that all DOT, EPA, and state environmental regulations have been complied with in the handling of this non-hazardous petroleum contaminated soil. [illegible] further [illegible] that the material delivered is represented by laboratory analysis and material profile presented to the recycling facility during the application process.

Driver's Signature:

N.J.D.E.P.E.
Approved Recycling Facility
142998117

31.73

MT. Hope Recycling, Inc.

625 Mt. Hope Rd. • Wharton, NJ 07885 • Tel (201) 366-7741 Fax (201) 366-3486

[illegible] #: 109 [illegible]

[illegible] Name:
U.S. Naval Weapon [illegible]

Generator:
U.S. Naval [illegible]
Pt. 34 Nort[illegible]
Building C[illegible]
Colts Neck, [illegible]

[illegible] Type: NA[illegible]

Hauling Compan[illegible]
TF Transpor[illegible]
625 Mount [illegible] Road

Wharton, NJ [illegible]

Contact: J.P.

Driver's Name: Harrison, [illegible]

Generator's ID: [illegible]
Generator's Name: [illegible]

Ticket #:

Date: [illegible]

Time: [illegible]

Colts Ne[illegible]

Contamination Method:

Haul[illegible] Permit #: [illegible]

Tel #: (201) 366-6415

Trailer Plate #: [illegible]

N.J.D.E.P.E.
Recycling Permit
[illegible]

Gross Weight: [illegible]

Tare Weight: [illegible]

Net Weight: [illegible]

The under[illegible] that the information provided on the waste manifest d[illegible] and that all DOT, EPA, and state environmen[illegible] have been complied with [illegible] handling of this no[illegible] petroleum contaminated [illegible] the undersigned further c[illegible] material delivered is represented by the laboratory analysis and meets [illegible] the Recycling facility during the [illegible] process.

Generator Signature

34.88

APPENDIX C

9439

DEPARTMENT OF THE NAVY

NAVAL WEAPONS STATION EARLE
COLTS NECK, NEW JERSEY 07722-5000

IN REPLY REFER TO

5090
096JP
12/10/93

State of New Jersey
Department of Environmental Protection
Bureau of Underground Storage Tanks
CN-028
Trenton, New Jersey 08625
Attn: Kevin Kratina, Bureau Chief

Gentlemen:

Naval Weapons Station Earle reported one (1) discharge incident on the 28th of September 1993 from two #2 fuel oil underground storage tanks. The following is a brief description of the remedial activity that has taken place and future site investigations to following:

- Incident 93-9-29-1519-27 - Sites R-9 (TMS #C-93-1299) and R-11 (TMS #C-93-1300). Approximately seventy-five (75) cubic yards of contaminated soil was excavated from site R-11 and twenty-five cubic yards was excavated from site R-9. Enclosure (1) contains laboratory sampling analytical results from both sites. Further site investigation shall continue under the Navy clean contract.

Should your office request additional information concerning this matter, please contact John Pawlus at (908) 866-2674.

Sincerely,

C. S. Smith

C. S. SMITH
Lieutenant Commander, CEC,
U. S. Navy
Public Works Officer
By direction

ANALYTICAL DATA PACKAGE FOR TANK R9

AMERICAN ENVIRONMENTAL NETWORK, INC.

9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

September 24, 1993

Mr. David Montanari
Roy F. Weston, Inc.
Raritan Plaza I
Edison, NJ 08837

Dear Mr. Montanari:

Enclosed please find sample results of analyses performed on samples received 8/26/93.

The samples were analyzed in accordance with EPA-approved methods.

Please feel free to call me at (410) 730-8525 if you have any questions concerning this report.

Sincerely,

Kristina C. Yamarik
Project Manager

west-93-8-183
Enclosures
kcy

Analytical Results for

Roy F. Weston

NWS Earle

September 29, 1993

Prepared by:

American Environmental Network, Inc.
9151 Rumsey Road, Suite 150
Columbia, MD 21045

Project No:	
AENI Project No:	9308-0183
AENI NJ CERT#:	60056

CONFORMANCE SUMMARY

The laboratory has reviewed the enclosed data for conformance to published methodology for accepted QA\QC practices and requirements. No deviations from the methodologies occurred in the analyses of the samples identified as Professional Service Industries.

Minh Thuy Nguyen
GC/MS Laboratory Manager

Charles Ferrin
GC Laboratory Manager

CLIENT:	Roy F. Weston
PROJECT:	NWS Earle
AENI CASE#:	9308-0183
Samples:	8 Soils and 1 Water Sample (As described below)
Date Collected:	August 25, 1993
Date Received:	August 26, 1993

ANALYSES REQUESTED	METHOD USED FOR ANALYSIS
Total Petroleum Hydrocarbons	EPA 418.1
Volatiles	SW 846 8240

CLIENT ID	AENI #	MATRIX
R9-1	13782	Soil
R9-2	13783	Soil
R9-3	13784	Soil
R9-4	13785	Soil
R9-5	13786	Soil
R9-6	13787	Soil
R9-7	13788	Soil
R9-8	13789	Soil
FB	13790	Water (Requested for VOA)

SAMPLE RECEIPT CONDITIONS:

All samples were maintained at $4 \pm 2°C$ at AENI until the time for extraction/preparation. pH was verified at the time of login and were at appropriate levels.

SAMPLE HOLDING TIMES:

All holding time criteria specified by individual methods were met for all analyses on Roy F. Weston - NWS Earle.

COMMENTS ON SAMPLE QUANTITATION

Volatiles: 1,1-Dichloroethene had a high spike recovery in the MS, but the RPD value was within the advisory limits. Trichloroethene and Chlorobenzene had RPD values above the QC threshold.

The 0909HBLK showed some non-target hydrocarbon contamination. this contamination was also noted in the soil sample analysis associated with this blank. Since this was a sample reanalysis and holding time had expired, no third analysis was performed.

The original analysis of sample FB was performed 2hrs and 44min outside of the 12-hr tune criteria. The sample was reanalyzed on day outside of the method required holding time.

Sample R9-8 was reanalyzed due to low internal standard area recoveries. Both analyses showed the same low recovery pattern.

AMERICAN ENVIRONMENTAL NETWORK, INC.
ANALYTICAL REPORT
TPH (IR) RESULTS

ate Analyzed: 08/27/93
ort Date: 08/27/93
e Received: 08/26/93
lient: WESTON
roject: NWS EARLE
ntract Number: 93080183

REPORT PREPARED BY: RCile

DATA RELEASED BY: CEJ

UNITS: mg/Kg for soil
mg/L for water

CLIENT ID	AEN ID	DATE EXTRACTED	CONC. OF TPH	DETECTION LIMIT	MATRIX	% SOLID
UNK	0826HA	08/26/93	ND	30	SOIL	100
9-1	13782	08/26/93	ND	30	SOIL	80
-2	13783	08/26/93	1030	30	SOIL	81
9-3	13784	08/26/93	ND	30	SOIL	79
-4	13785	08/26/93	970	30	SOIL	87
-5	13786	08/26/93	ND	30	SOIL	79
-6	13787	08/26/93	ND	30	SOIL	79
-7	13788	08/26/93	ND	30	SOIL	86
-8	13789	08/26/93	1390	30	SOIL	92

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

R9-8

Lab Name: AMER.ENV.NTWK. Contract: 93080183

ab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

atrix: SOIL Lab Sample ID: AE#13789

ample (wt/vol): 5 G Lab File ID: >AI117

evel: LOW Date Received: 08/26/93

% Moisture: not dec. 8 Date Analyzed: 9/08/93

olumn: CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	11.	U
74-83-9	Bromomethane	11.	U
75-01-4	Vinyl Chloride	11.	U
75-00-3	Chloroethane	11.	U
75-09-2	Methylene Chloride	38.	B
67-64-1	Acetone	110.	U
75-15-0	Carbon Disulfide	12.	B
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
156-60-5	trans-1,2-Dichloroethene	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	110.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	54.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
110-75-8	2-Chloroethylvinylether	11.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	54.	U
591-78-6	2-Hexanone	54.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	m + p-Xylenes	5.	U
95-47-6	o-Xylene	5.	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

R9-8 R

Lab Name: AMER.ENV.NTWK. Contract: 93080183

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: AE#13789

Sample (wt/vol): 5 G Lab File ID: >AI138

Level: LOW Date Received: 08/25/93

% Moisture: not dec. 8 Date Analyzed: 9/10/93

Column: CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	11.	U
74-83-9	Bromomethane	11.	U
75-01-4	Vinyl Chloride	11.	U
75-00-3	Chloroethane	11.	U
75-09-2	Methylene Chloride	19.	B
67-64-1	Acetone	110.	U
75-15-0	Carbon Disulfide	10.	B
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
156-60-5	trans-1,2-Dichloroethene	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	110.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	54.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
110-75-8	2-Chloroethylvinylether	11.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	54.	U
591-78-6	2-Hexanone	54.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	m + p-Xylenes	5.	U
95-47-6	o-Xylene	5.	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

FB

Lab Name: AMER.ENV.NTWK. Contract: 93080183

b Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

trix: WATER Lab Sample ID: AE#13790

ample (wt/vol): 5 mL Lab File ID: >CI075

vel: LOW Date Received: 08/26/93

% Moisture: not dec. N.A. Date Analyzed: 9/08/93

lumn: PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	8.	B
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (Total)	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
110-75-8	2-Chloroethylvinylether	10.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-pentanone	50.	U
591-78-6	2-Hexanone	50.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	Xylene (Total)	5.	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

FB R

ab Name: AMER.ENV.NTWK. Contract: 93080183

Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

trix: WATER Lab Sample ID: AE#13789

mple (wt/vol): 5 mL Lab File ID: >CI111

el: LOW Date Received: 08/26/93

Moisture: not dec. N.A. Date Analyzed: 9/10/93

umn: PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	10.	B
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (Total)	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	2.	J
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
110-75-8	2-Chloroethylvinylether	10.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-pentanone	50.	U
591-78-6	2-Hexanone	50.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	Xylene (Total)	5.	U

AMERICAN ENVIRONMENTAL NETWORK, INC.

August 27, 1993

Client: Weston

Project: NWS Earle

Case #: 93080183

Analysis: Total Petroleum Hydrocarbons by IR

Client ID	AENI#	Date Sampled	Date Received	Date Analyzed
R9-1	13782	08/25/93	08/26/93	08/27/93
R9-2	13783	08/25/93	08/26/93	08/27/93
R9-3	13784	08/25/93	08/26/93	08/27/93
R9-4	13785	08/25/93	08/26/93	08/27/93
R9-5	13786	08/25/93	08/26/93	08/27/93
R9-6	13787	08/25/93	08/26/93	08/27/93
R9-7	13788	08/25/93	08/26/93	08/27/93
R9-8	13789	08/25/93	08/26/93	08/27/93

Eight soil samples were received for analysis of Total Petroleum Hydrocarbons by EPA method 418.1.

The enclosed package consists specifically of tabulated results (Form I), a matrix spike and matrix spike duplicate recovery form (Form III), a blank summary (Form IV), an initial calibration table (Form VI), a continuing calibration table (Form VII) and the raw data.

Form I (Tabulated Results)

The qualifier "ND" indicates that TPH was not detected above the detection limit. All samples were extracted and analyzed within EPA holding times.

Form III (Spike/Spike Duplicate Recoveries)

A Matrix Spike and Matrix Spike Duplicate were run in place of a Spike and Sample Duplicate as per contract. A batch MS/MSD is reported in lieu of the project MS/MSD. All percent recoveries and RPD (relative percent difference) are within laboratory criteria.

Form IV (Blank Summary)

No Total Petroleum Hydrocarbon (TPH) was detected in the method blanks.

Report Released By CEF

Charles E. Ferrin Jr.
GC/LC Laboratory Manager
8/30/93

AMERICAN ENVIRONMENTAL NETWORK, INC.
ANALYTICAL REPORT
TPH (IR) RESULTS

: Analyzed: 08/27/93
ırt Date: 08/27/93
..: Received: 08/26/93
.ient: WESTON
'ect: NWS EARLE
:ract Number: 93080183

REPORT PREPARED BY: BCole

DATA RELEASED BY: CEJ

UNITS: mg/Kg for soil
mg/L for water

****

⁻⁻NT ID	AEN ID	DATE EXTRACTED	CONC. OF TPH	DETECTION LIMIT	MATRIX	% SOLID
.K	0826HA	08/26/93	ND	30	SOIL	100
	13782	08/26/93	ND	30	SOIL	80
. .2	13783	08/26/93	1030	30	SOIL	81
.	13784	08/26/93	ND	30	SOIL	79
›-4	13785	08/26/93	970	30	SOIL	87
.	13786	08/26/93	ND	30	SOIL	79
›-6	13787	08/26/93	ND	30	SOIL	79
.	13788	08/26/93	ND	30	SOIL	86
›-8	13789	08/26/93	1390	30	SOIL	92

AMERICAN ENVIRONMENTAL NETWORK, INC.
TPH (IR) SOIL
Q.C. FORM 3

CLIENT: WESTON
CONTR.#: 93080183
DATE: 08/27/93

RPD = Relative Percent Difference (< 20%)
QC Range = 75 - 135%

(mg/L) SPIKE CONC.	SAMPLE CLIENT ID	SAMPLE AENI ID	(g) SAMPLE EXTRACTED	(ml) SPIKE ADDED	RECOVERED CONC. (mg/Kg)	SPIKED CONC. (mg/Kg)	% RECOVERY	RPD
4310		12175	19.88		ND			
		MS12175	21.03	1	190	204.95	92.7	
		MSD12175	20.75	1	190	207.71	91.5	0.9

AMERICAN ENVIRONMENTAL NETWORK, INC.
ANALYTICAL REPORT

TPH BY IR
Method EPA 418.1-M
FORM IV (Blank Summary)

Report Date: 08/27/93
Date Received: 08/26/93
Client: Weston
Project: NWS Earle
Contract #: 93080183
Matrix: SOIL

Blank ID: 0826HA

Date Analyzed: 08/27/93

****

CLIENT ID	AENI ID	DATE ANALYZED
R9-1	13782	08/27/93
R9-2	13783	08/27/93
R9-3	13784	08/27/93
R9-4	13785	08/27/93
R9-5	13786	08/27/93
R9-6	13787	08/27/93
R9-7	13788	08/27/93
R9-8	13789	08/27/93

AMERICAN ENVIRONMENTAL NETWORK
TPH IR

FORM VI
INITIAL CALIBRATION

ml stock in 100 ml	mg Oil	Height (mm)	Midpoint (mm)
0.00	0.00	0	0.5
0.13	0.55	1	3
0.25	1.05	6	10
0.50	2.10	14	20
1.00	4.20	26	38
2.00	8.40	50	68
4.00	16.80	86	96
6.00	25.20	107	114
8.00	33.60	121	125
10.00	42.00	130	135

1 ml of reference oil was diluted to 200 ml.
This is the standard stock used to prepare calibration standards.
Oil Weight is 0.84 g.

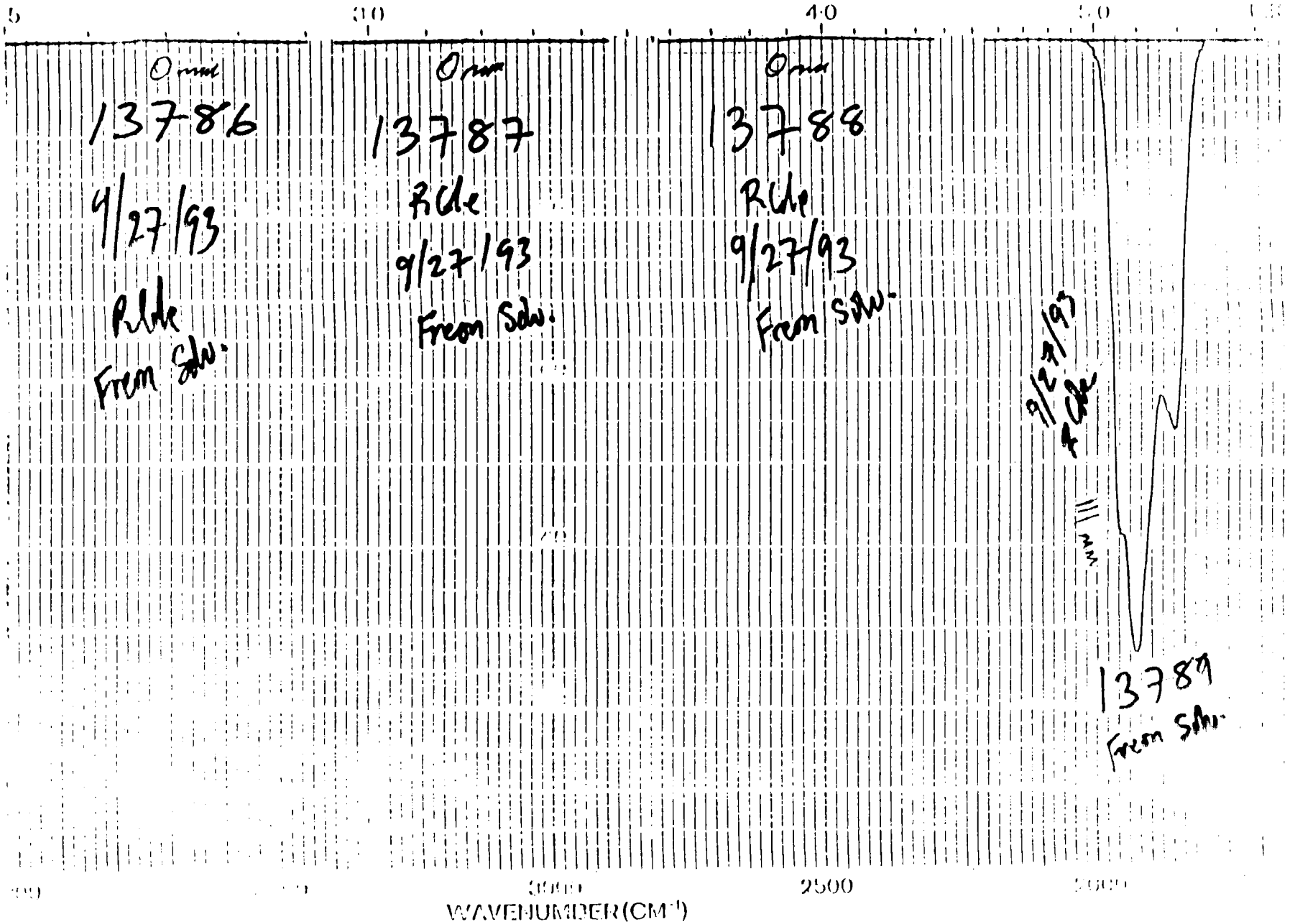
FORM VII
CONTINUING CALIBRATION

Peak Height	mg	Percent Recovery
19	2.10	97

BLK 0826MA
9/27/93
R Cole
from Sdw.

KRAM
IER
NSTANT
ORDINATE

000027



SAMPLE

ORIGIN

SOLVENT

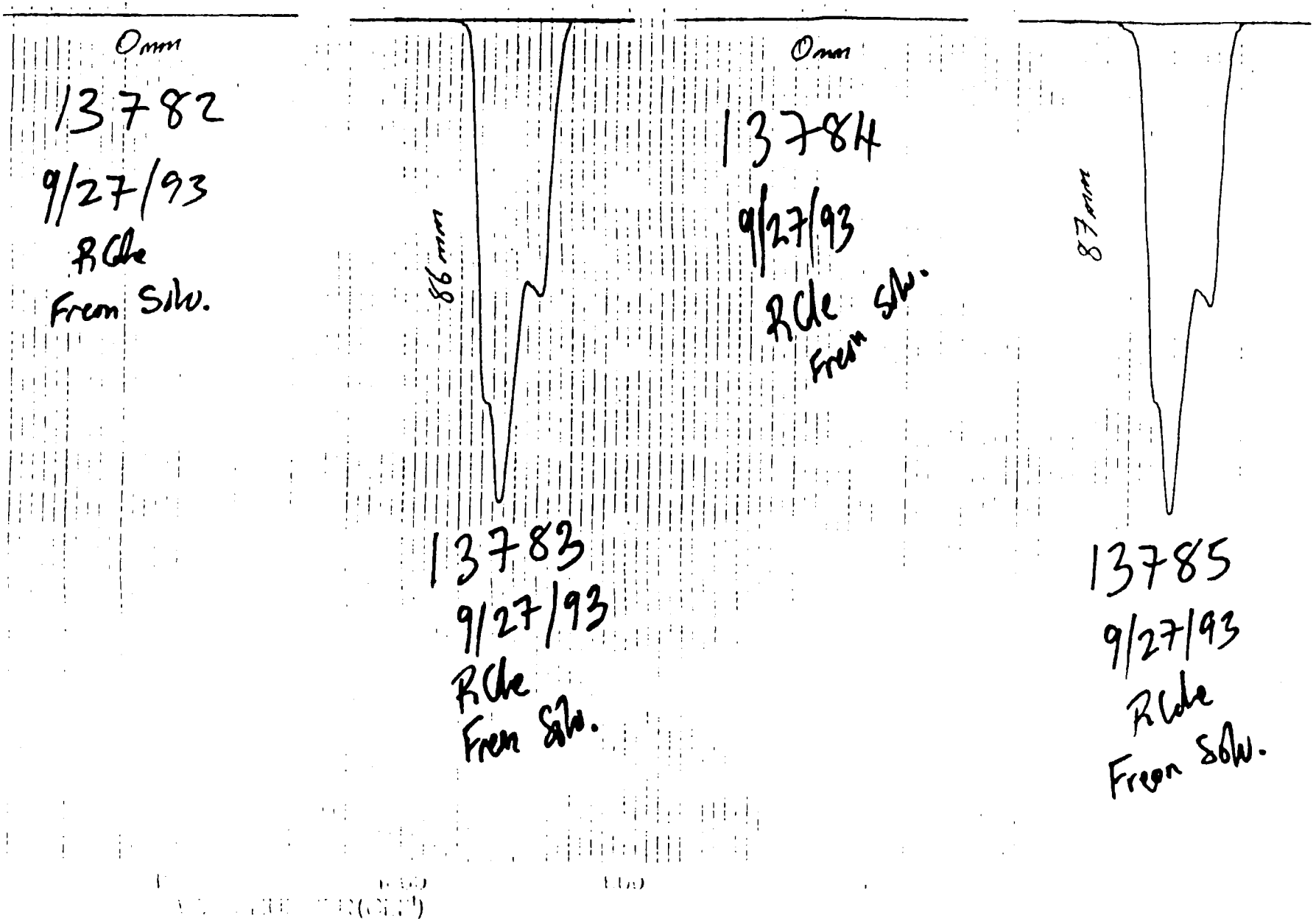
CONCENTRATION

CELL PATH

REFERENCE

REMARKS

000003



ABSCISSA EXP

TIME DRIVE

OPERATOR

DATE

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Section I.

CASE NARRATIVE

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 RUMSEY ROAD
COLUMBIA, MD. 21045
(410) 730-8525

Project Number: 93080183
Client Name: ROY F. WESTON
Project Title: NWS EARLE

One soil and one water sample were analyzed for the volatile organic compounds in the SW846 list. A search against the NBS library of known compounds was performed to tentatively identify the non-target analytes. All analyses followed 8240 methodology.

This package consists of EPA/CLP forms I, I(E), II, III, IV, V, VI, VII, and VIII. The chromatograms and spectra for the samples and method blanks are also included.

Data Released Minh-Thuy L. Nguyen 9/24/93
Minh-Thuy L. Nguyen
Organic Lab Manager

VOLATILES Section:

Client ID	AENI ID	Matrix	Date Sampled	Date Received	Date Analyzed
R9-8	13789	SOIL	08/25/93	08/26/93	09/08/93
FB	13790	WATER	08/25/93	08/26/93	09/08/93

Form I & Tabulated Results

The samples were originally analyzed within the holding time requirements, however the reanalyses were one day outside of holding time.

The soil sample results are reported on the basis of dry weight.

Form II (Surrogate Recoveries)

Recovery criteria is based on lab generated limits for the method blanks and on the method criteria for the samples. Both sets of limits are listed on the form II. The reanalysis of sample R9-8 had two recoveries outside of the method limits. All other sample and method blank analyses were within the required criteria.

Form III (MS/MSD Analysis)

A batch MS/MSD is included for this sample set. 1,1-Dichloroethene had a high spike recovery value in the MS, but the RPD value is within the advisory limits. Trichloroethene and Chlorobenzene had RPD values above the QC threshold. These limits are advisory and reanalysis is not required.

Form IV (Method Blank Summary)

Methylene chloride, Acetone, and Carbon Disulfide are common laboratory artifacts and should be viewed with suspicion if found around the method blank levels, or the usual lab background of 5-10 ppb (with no dilution factor).

The 0909HBLK showed some non-target hydrocarbon contamination. This contamination was also noted in the soil sample analysis associated with this blank. Since this was a sample reanalysis and holding time had expired, no third analysis was performed.

Form V (Tuning and Mass Calibration)

The original analysis of sample FB (#13790) was performed 2hrs and 44min outside of the 12-hr tune criteria. The sample was reanalyzed one day outside of the method required holding time. Both analyses are included in this data package.

All calibration standard, blank, and other sample analyses were performed within the method specified mass calibration and 12-hr tune criteria.

Form VI (Initial Calibration)

The initial calibration curves met the method specified criteria for the CCC and SPCC compounds.

Form VII (Continuing Calibration)
All CCC and SPCC compounds were within their specified criteria.

Form VIII (Internal Standard Summary)
Sample R9-8 (#13789) was reanalyzed due to low internal standard area recoveries. Both analyses showed the same low recovery pattern. All other sample and method blank analyses were within the method criteria for internal standard area and retention time.

General Comments
Hexane and 1,4-Dichlorobenzene d-4 (an artifact of the internal standard) are common lab artifacts and should not be viewed as TICs. The peak eluting around 4min is an air peak commonly found in purge and trap analyses.

Form VIII (Internal Standard Summary)
Sample R9-8 was reanalyzed due to low internal standard area recoveries. Both analyses are included in this data package. All other sample and method blank analyses were within the method criteria for internal standard areas.

General Comments
Hexane and 1,4-Dichlorobenzene d-4 (an artifact of the internal standard) are also common lab artifacts and should not be viewed as TICs. The peak eluting around 4min is an air peak commonly found in purge and trap analyses.

Section II.

QC SUMMARY

Surrogate Recovery (form II)
MS/MSD Recovery (form III)
Daily Blank Summary (form IV)
GC/MS Tuning and Calibration (form V)
Internal Standard Area Summary (VIII)

2A

WATER VOLATILE SURROGATE RECOVERY

Lab Name: AMER.ENV.NT Contract: 93080183

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

	EPA / CLIENT SAMPLE ID	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	0907VBLK C1	104	105	96		0
02	FB	103	104	97		0
03	0909VBLK C1	98	106	97		0
04	FB R	93	93	87		0
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		QC LIMITS SW846	QC LIMITS LAB
S1 (TOL) =	Toluene-d8	(88-110)	(89-108)
S2 (BFB) =	Bromofluorobenzene	(86-115)	(89-107)
S3 (DCE) =	1,2-Dichloroethane-d4	(76-114)	(84-103)

Column to be used to flag recovery values
* Values outside of LAB QC limits
\+ Values outside of contract required QC limits
D Surrogates diluted out

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: AMER.ENV.NTWK. Contract: 93080183

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Lab File ID: >CI066 Lab Sample ID: 0907VBLK C1

Date Analyzed: 9/07/93 Time Analyzed: 17:36

Matrix: WATER Level: LOW

Instrument ID: HP5970-C

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

	LAB SAMPLE ID.	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	AE#13789	FB	>CI075	9/08/93
02				
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COMMENTS:

FORM IV VOA

SW 846

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2B
SOIL VOLATILE SURROGATE RECOVERY

ɔ Name: AMER.ENV.NTWK. Contract: 93080183

ab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

vel: LOW

	EPA / CLIENT SAMPLE ID	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	0908ABLK	101	100	90		0
02	R9-8	117	89	84		0
03	0909HBLK A1	112	111	95		0
04	R9-8 R	175 +	69 +	89		2
05						
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		QC LIMITS SW846	QC LIMITS LAB
S1 (TOL)	= Toluene-d8	(81-117)	(86-117)
S2 (BFB)	= Bromofluorobenzene	(74-121)	(82-118)
S3 (DCE)	= 1,2-Dichloroethane-d4	(70-121)	(86-109)

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

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

-b Name: AMER.ENV.NTWK. Contract: 93080140

ab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

trix Spike - EPA / CLIENT ID: SS01 Level: LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.00	0.00	97.00	194 *	59-172
Trichloroethene	50.00	0.00	39.00	78	62-137
Benzene	50.00	0.00	49.00	97	66-142
Toluene	50.00	3.20	58.00	110	59-139
Chlorobenzene	50.00	0.00	38.00	75	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.00	86.00	172	12	22	59-172
Trichloroethene	50.00	54.00	107	31 *	24	62-137
Benzene	50.00	59.00	117	18	21	66-142
Toluene	50.00	58.00	109	0	21	59-139
Chlorobenzene	50.00	56.00	111	38 *	21	60-133

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

Values outside of qc limits

RPD: 2 out of 5 outside limits
ike Recovery: 1 out of 10 outside limits

MENTS: _____

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: AMER.ENV.NTWK. Contract: N.A.

Lab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

Lab File ID: >AI111 Lab Sample ID: 0908ABLK

Date Analyzed: 9/08/93 Time Analyzed: 19:51

Matrix: SOIL Level: LOW

Instrument ID: HP5985-A

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

	LAB SAMPLE ID	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	AE#13789	R9-8	>AI117	9/08/93
02				
03				
04				
05				
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COMMENTS: _____

1A

VOLATILE METHOD BLANK SUMMARY

Lab Name: AMER.ENV.NTWK. Contract: 93080183

Lab Code: AEMI Case No: WESTON SAS No: N.A. SDG No: N.A.

Lab File ID: >CI104 Lab Sample ID: 0909VBLK C1

Date Analyzed: 9/09/93 Time Analyzed: 19:35

Matrix: WATER Level: LOW

Instrument ID: HP5970-C

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

	LAB SAMPLE ID.	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	AE#13789	FB R	>CI111	9/10/93
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COMMENTS:

FORM IV VOA SW 846

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4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: AMER.ENV.NTWK. Contract: 93080183

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Lab File ID: >AI135 Lab Sample ID: 0909HBLK A1

Date Analyzed: 9/09/93 Time Analyzed: 22:49

Matrix: SOIL Level: LOW

Instrument ID: HP5985-A

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

	LAB SAMPLE ID	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	AE#13789	R9-8 R	>AI138	9/10/93
02				
03				
04				
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COMMENTS:

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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: AMER.ENV.NTWR. Contract: N.A.

Lab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

Lab File ID: >CI041 BFB Injection Date: 9/06/93

Instrument ID: HP5970-C BFB Injection Time: 15:44

Matrix: WATER Level: LOW Column: PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	27.1
75	30.0 - 60.0% OF MASS 95	49.6
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	5.6
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	63.3
175	5.0 - 9.0% of mass 174	5.1(8.1)1
176	Greater than 95.0%, but less than 101.0% of mass 174	62.3(98.4)1
177	5.0 - 9.0% of mass 176	4.2(6.8)2

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

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

	LAB SAMPLE ID	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0906VSTD20	0906VSTD20	>CI042	9/06/93	16:07
02	0906VSTD50	0906VSTD50	>CI044	9/06/93	18:00
03	0906VSTD100	0906VSTD100	>CI045	9/06/93	18:53
04	0906VSTD150	0906VSTD150	>CI046	9/06/93	19:46
05	0906VSTD200	0906VSTD200	>CI047	9/06/93	20:39
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FORM V VOA

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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: AMER.ENV.NTWK. Contract: 93080183

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Lab File ID: >CI064 BFB Injection Date: 9/07/93

Instrument ID: HP5970-C BFB Injection Time: 16:04

Matrix: WATER Level: LOW Column: PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	23.7
75	30.0 - 60.0% OF MASS 95	47.2
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	8.0
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	60.0
175	5.0 - 9.0% of mass 174	4.7(7.9)1
176	Greater than 95.0%, but less than 101.0% of mass 174	59.0(98.3)1
177	5.0 - 9.0% of mass 176	4.4(7.4)2

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

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

	LAB SAMPLE ID	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0907VSTD50	0907VSTD50 C1	>CI065	9/07/93	16:43
02	0907VBLK C1	0907VBLK C1	>CI066	9/07/93	17:36
03	AE#13789	FB	>CI075	9/08/93	4:48
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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: AMER.ENV.NTWK. Contract: 93080183

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Lab File ID: >CI101 BFB Injection Date: 9/09/93

Instrument ID: HP5970-C BFB Injection Time: 16:30

Matrix: WATER Level: LOW Column: PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	24.7
75	30.0 - 60.0% OF MASS 95	53.5
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	7.9
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	61.7
175	5.0 - 9.0% of mass 174	4.7(7.7)1
176	Greater than 95.0%, but less than 101.0% of mass 174	61.1(99.0)1
177	5.0 - 9.0% of mass 176	4.1(6.7)2

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

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

	LAB SAMPLE ID	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0909VSTD50	0909VSTD50 C1	>CI102	9/09/93	17:20
02	0909VBLK C1	0909VBLK C1	>CI104	9/09/93	19:35
03	AE#13789	FB R	>CI111	9/10/93	1:47
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5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: AMER.ENV.NTWK. Contract: N.A.

Lab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

Lab File ID: >AI090 BFB Injection Date: 9/07/93

Instrument ID: HP5985-A BFB Injection Time: 22:07

Matrix: SOIL Level: LOW Column: CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	15.3
75	30.0 - 60.0% OF MASS 95	38.6
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.4
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	79.6
175	5.0 - 9.0% of mass 174	6.5(8.2)1
176	Greater than 95.0%, but less than 101.0% of mass 174	78.3(98.3)1
177	5.0 - 9.0% of mass 176	4.9(6.2)2

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

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

	LAB SAMPLE ID	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0907HSTD50	0907HSTD50	>AI092	9/07/93	23:14
02	0907HSTD20	0907HSTD20	>AI094	9/08/93	0:36
03	0907HSTD100	0907HSTD100	>AI095	9/08/93	1:17
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FORM V VOA

SW 846

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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: AMER.ENV.NTWK. Contract: N.A.

Lab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

Lab File ID: >AI106 BFB Injection Date: 9/08/93

Instrument ID: HP5985-A BFB Injection Time: 15:27

Matrix: SOIL Level: LOW Column: CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	15.7
75	30.0 - 60.0% OF MASS 95	37.0
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	76.0
175	5.0 - 9.0% of mass 174	6.5(8.6)1
176	Greater than 95.0%, but less than 101.0% of mass 174	74.7(98.3)1
177	5.0 - 9.0% of mass 176	4.8(6.5)2

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

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

	LAB SAMPLE ID	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0908HSTD150	0908HSTD150	>AI107	9/08/93	16:25
02	0908HSTD200	0908HSTD200	>AI108	9/08/93	17:07
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM V VOA

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: AMER.ENV.NTWK. Contract: 93080183

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Lab File ID: >AI133 BFB Injection Date: 9/09/93

Instrument ID: HP5985-A BFB Injection Time: 21:08

Matrix: SOIL Level: LOW Column: CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	17.3
75	30.0 - 60.0% OF MASS 95	40.2
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	80.4
175	5.0 - 9.0% of mass 174	6.4(7.9)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.9(99.3)1
177	5.0 - 9.0% of mass 176	5.2(6.5)2

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

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

	LAB SAMPLE ID	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0909HSTD50	0909HSTD50 A1	>AI134	9/09/93	22:08
02	0909HBLK A1	0909HBLK A1	>AI135	9/09/93	22:49
03	AE#13789	R9-8 R	>AI138	9/10/93	0:52
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: AMER.ENV.NTWK. Contract: 93080186

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Lab File ID (Standard): 9CI065 Date Analyzed: 9/07/93

Instrument ID: HP5970-C Time Analyzed: 16:43

Matrix: WATER Level: LOW Column: PACK

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	22998.	11.17	99952.	21.33	59135.	26.14
	UPPER LIMIT	45996.		199904.		118270.	
	LOWER LIMIT	11499.		49976.		29568.	
	EPA / CLIENT SAMPLE ID						
01	0907VBLK C1	19881.	11.19	86985.	21.34	51238.	26.15
02	FB	17310.	11.22	76841.	21.33	45659.	26.13
03							
04							
05							
06							
07							
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16							
17							
18							
19							
20							
21							
22							

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

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII VOA

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: AMER.ENV.NTWK. Contract: N.A.

Lab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

Lab File ID (Standard): >AI110 Date Analyzed: 9/08/93

Instrument ID: HP5985-A Time Analyzed: 19:10

Matrix: SOIL Level: LOW Column: CAP

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	25656.	10.13	127796.	11.70	44265.	17.41
	UPPER LIMIT	51312.		255592.		88530.	
	LOWER LIMIT	12828.		63898.		22133.	
	EPA / CLIENT SAMPLE ID						
01	0908ABLK	28327.	9.89	131418.	11.50	44968.	17.31
02	R9-8	9330.*	9.88	55955.*	11.45	13842.*	17.30
03							
04							
05							
06							
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17							
18							
19							
20							
21							
22							

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

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk

000033

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: AMER.ENV.NTWK. Contract: 93080186

Lab Code: AEN1 Case No: WESTON SAS No: N.A. SDG No: N.A.

Lab File ID (Standard): CI102 Date Analyzed: 9/09/93

Instrument ID: HP5970-C Time Analyzed: 17:20

Matrix: WATER Level: LOW Column: PACK

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	21425.	11.12	91301.	21.36	53801.	26.13
	UPPER LIMIT	42850.		182602.		107602.	
	LOWER LIMIT	10713.		45650.		26901.	
	EPA / CLIENT SAMPLE ID						
01	0909VBLK C1	15139.	11.18	64463.	21.37	39241.	26.14
02	FB R	18166.	11.22	87620.	21.37	51480.	26.14
03							
04							
05							
06							
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17							
18							
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20							
21							
22							

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

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII VOA

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: AMER.ENV.NTWK. Contract: N.A.

Lab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

Lab File ID (Standard): >AI134 Date Analyzed: 9/09/93

Instrument ID: HP5985-A Time Analyzed: 22:08

Matrix: SOIL Level: LOW Column: CAP

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	23494.	10.17	122103.	11.75	36834.	17.41
	UPPER LIMIT	46988.		244206.		73668.	
	LOWER LIMIT	11747.		61051.		18417.	
	EPA / CLIENT SAMPLE ID						
01	0909HBLK A1	23574.	9.88	129270.	11.49	43120.	17.30
02	R9-8 R	12138.	9.85	58385.*	11.46	8796.*	17.30
03							
04							
05							
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18							
19							
20							
21							
22							

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

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

Section III.

SAMPLE DATA

TCL Results - Organic Analysis Data Sheet
Tentatively Identified Compounds
Sample Raw Data

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

R9-8

b Name: AMER.ENV.NTWK. Contract: 93080183

ab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

trix: SOIL Lab Sample ID: AE#13789

ample (wt/vol): 5 G Lab File ID: >AI117

vel: LOW Date Received: 08/26/93

Moisture: not dec. 8 Date Analyzed: 9/08/93

olumn: CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	11.	U
74-83-9	Bromomethane	11.	U
75-01-4	Vinyl Chloride	11.	U
75-00-3	Chloroethane	11.	U
75-09-2	Methylene Chloride	38.	B
67-64-1	Acetone	110.	U
75-15-0	Carbon Disulfide	12.	B
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
156-60-5	trans-1,2-Dichloroethene	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	110.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	54.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
110-75-8	2-Chloroethylvinylether	11.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	54.	U
591-78-6	2-Hexanone	54.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	m + p-Xylenes	5.	U
95-47-6	o-Xylene	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

R9-8

-b Name: AMER.ENV.NTWK. Contract: 93080183

.ab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

trix: SOIL Lab Sample ID: AE#13789

Sample wt/vol: 5 G Lab File ID: >AI117

vel: LOW Date Received: 08/26/93

Moisture: not dec. 8 Date Analyzed: 9/08/93

.olumn: CAP Dilution Factor: 1.0

Number TICs found: 10

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	3.70	390.	J
2.		Unknown	3.89	12000.	JB
3.	110543	Hexane (DOT)(8CI9CI)	7.72	130.	J
4.		Unknown	22.82	130.	J
5.		Unknown	24.25	90.	J
6.		Unknown	24.47	99.	J
7.	6044719	Dodecane, 6-methyl- (8CI9CI)	24.65	190.	J
8.		Unknown	25.53	96.	J
9.	26730143	Tridecane, 7-methyl- (8CI9CI	25.86	96.	J
10.		Unknown	26.89	89.	J
11.					
12.					
13.					
14.					
15.					
16.					
17.					
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20.					
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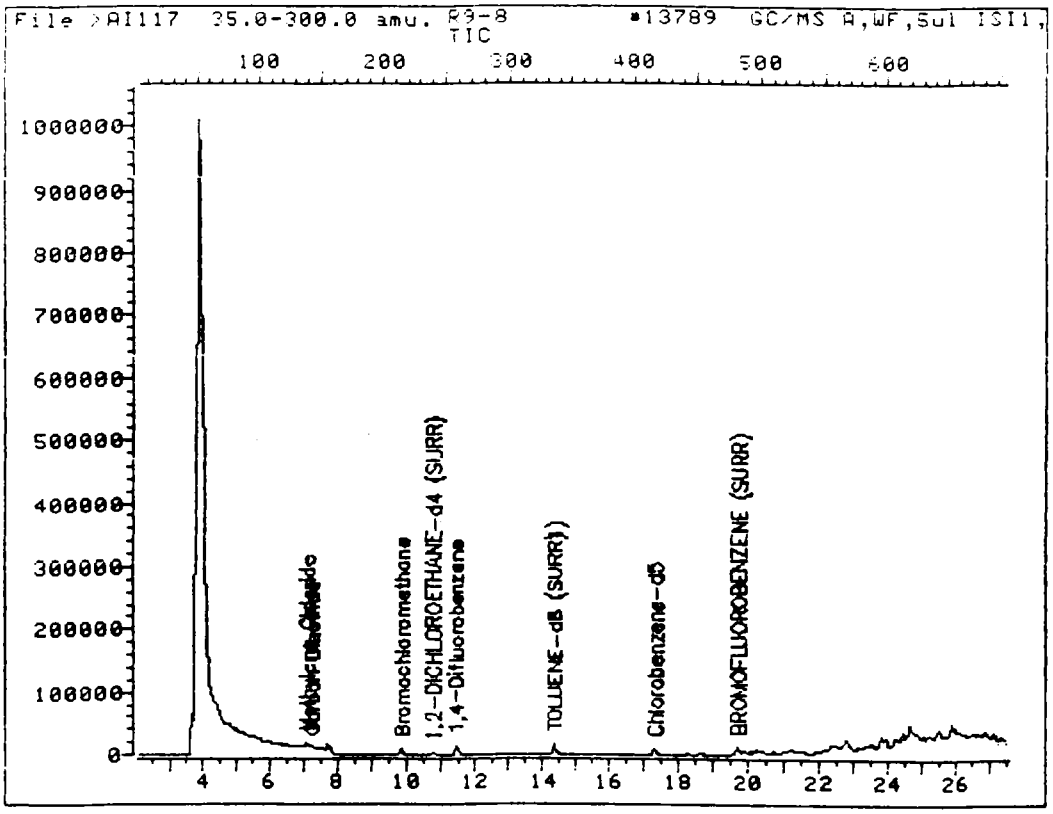
27.					
28.					
29.					
30.					

= Not Reviewed

FORM I VOA-TIC

TOTAL ION CHROMATOGRAM



Data File: >AI117::C1 Quant Output File: ^AI117::OU
Name: R9-8 #13789
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080183 WESTON

Id File: IDHAID::ID
Title: HSL VOLATILES
Last Calibration: 930908 20:28

Operator ID: DAVE
Quant Time: 930909 00:31
Injected at: 930908 23:57

QUANT REPORT

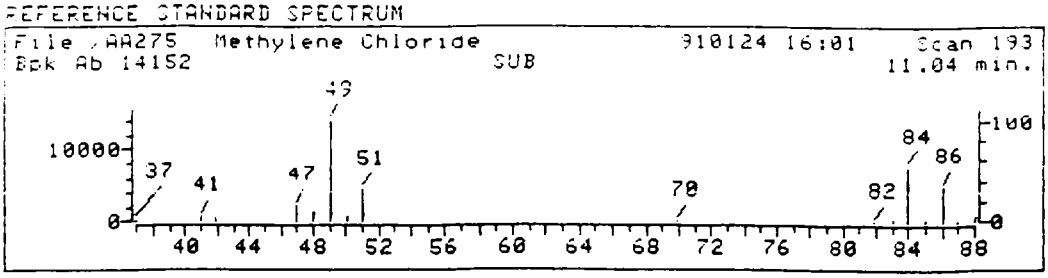
Operator ID: DAVE Quant Rev: 6 Quant Time: 930909 00:31
Output File: ^AI117::OU Injected at: 930908 23:57
Data File: >AI117::C1 Dilution Factor: 1.00000
Name: R9-8 #13789
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080183 WESTON

ID File: IDHAID::ID
Title: HSL VOLATILES
Last Calibration: 930908 20:28

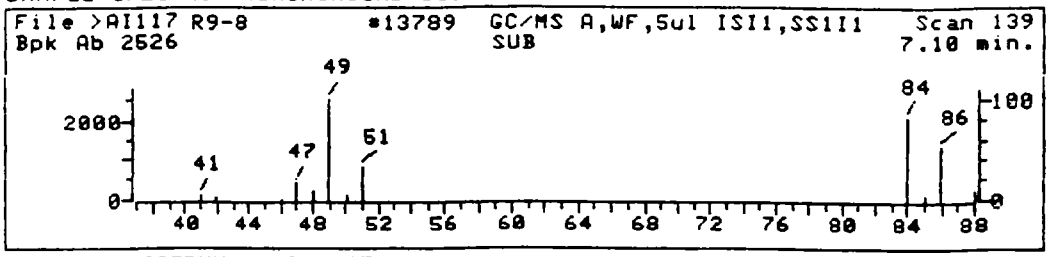
	Compound	Q ion	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	128.0	215	9330	50.00	ng/mL	95
11)	Methylene Chloride	84.0	139	14733	34.81	ng/mL	69
12)	Carbon Disulfide	76.0	143	1879	11.22	ng/mL	100
18)	1,2-DICHLOROETHANE-d4 (SURR)	65.0	240	10470	41.98	ng/mL	100
20)	*1,4-Difluorobenzene	114.0	258	55955	50.00	ng/mL	94
30)	TOLUENE-d8 (SURR1)	98.0	337	51173	41.70	ng/mL	97
35)	*Chlorobenzene-d5	82.0	418	13842	50.00	ng/mL	98
46)	BROMOFLUOROBENZENE (SURR)	95.0	484	20559	44.44	ng/mL	84
50)	TOLUENE-d8 (SURR)	98.0	337	51173	58.39	ng/mL	97

* Compound is ISTD

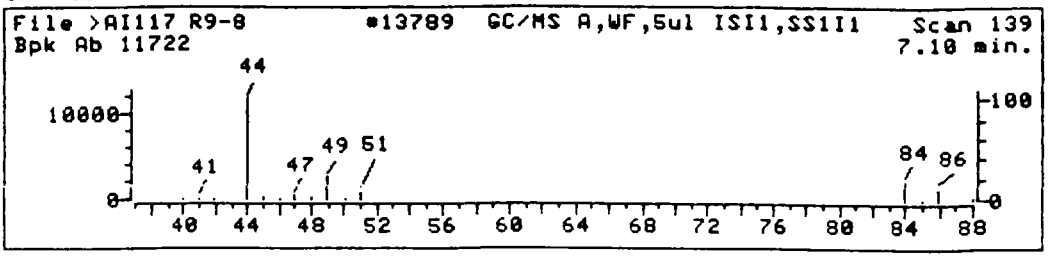
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



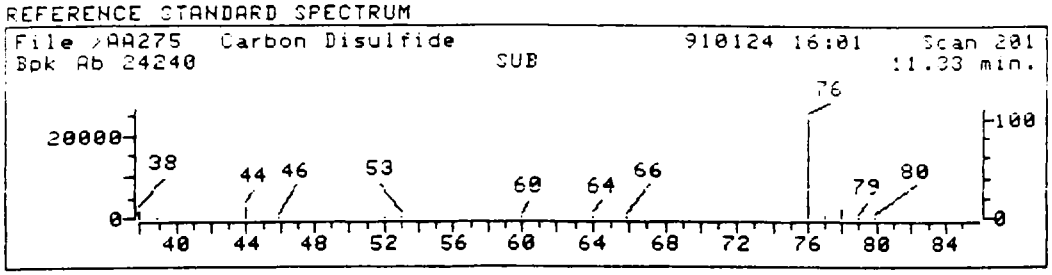
SAMPLE SPECTRUM (UNALTERED)



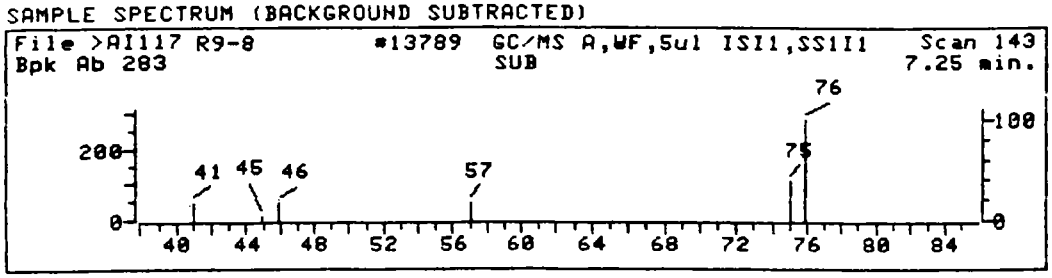
Data File: >AI117::C1 Quant Output File: ^AI117::OU
Name: R9-8 #13789
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080183 WESTON
Quant Time: 930909 00:31 Quant ID File: IDHAID::ID
Injected at: 930908 23:57 Last Calibration: 930908 20:28

Compound No: 11
Compound Name: Methylene Chloride
Scan Number: 139
Retention Time: 7.10 min.
Quant Ion: 84.0
Area: 14733
Concentration: 34.81 ng/mL
q-value: 69

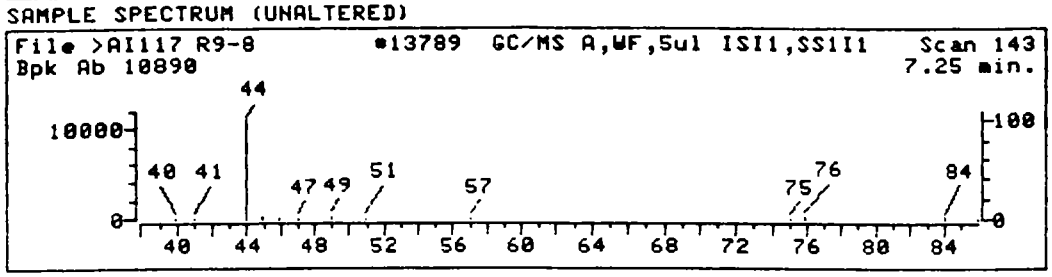
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >AI117::C1 Quant Output File: ^AI117::OU
Name: R9-8 #13789
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080183 WESTON
Quant Time: 930909 00:31 Quant ID File: IDHAID::ID
Injected at: 930908 23:57 Last Calibration: 930908 20:28

Compound No: 12
Compound Name: Carbon Disulfide
Scan Number: 143
Retention Time: 7.25 min.
Quant Ion: 76.0
Area: 1879
Concentration: 11.22 ng/mL
q-value: 100

MS data file header from : >AI117

Sample: R9-8 #13789 Operator: DAVE MS 9/08/93 23:57
Misc : GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080183 WESTON
Sys. #: 1 MS model: 87 SW/HW rev.: IA ALS # : 0
Method file: HE8501 Tuning file: MT8502 No. of extra records: 2
Source temp.: 200 Analyzer temp.: 0 Transfer line temp. : 0

Chromatographic temperatures :	0.	0.	0.	0.	0.
Chromatographic times, min. :	0.0	0.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	0.0	0.0	0.0	0.0	0.0

>AI117 R9-8 #13789 GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080183

35.01 300.0 CLP ADC TIC
Upslope: .20 Area Reject: 6309. Max Peaks: 10 Bunching: 1
Dnslope: 0.00 Results File IAI117 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	3.70	42	46	47	65167	451334	450785	3.20	2.869
2	3.89	47	51	74	1004042	15677282	14088704	100.00	89.658
3	7.72	153	156	169	16823	160274	147995	1.05	.942
4	22.82	563	569	576	13889	482583	166120	1.18	1.057
5	24.25	604	608	611	11694	370862	117704	.84	.749
6	24.47	611	614	616	19142	359158	129216	.92	.822
7	24.65	616	619	623	27452	610648	245310	1.74	1.561
8	25.53	639	643	646	12889	543935	126112	.90	.803
9	25.86	650	652	654	21842	386577	125375	.89	.798
10	26.89	677	680	684	14427	503720	116555	.83	.742

Sum of corrected areas: 15713880.

Summary of Unknowns PBM Library Search and Quantitation

Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	63085.	9.88	2.06 - 10.67
2	50.0	108242.	11.45	10.67 - 14.37
3	50.0	71139.	17.30	14.37 - 27.58

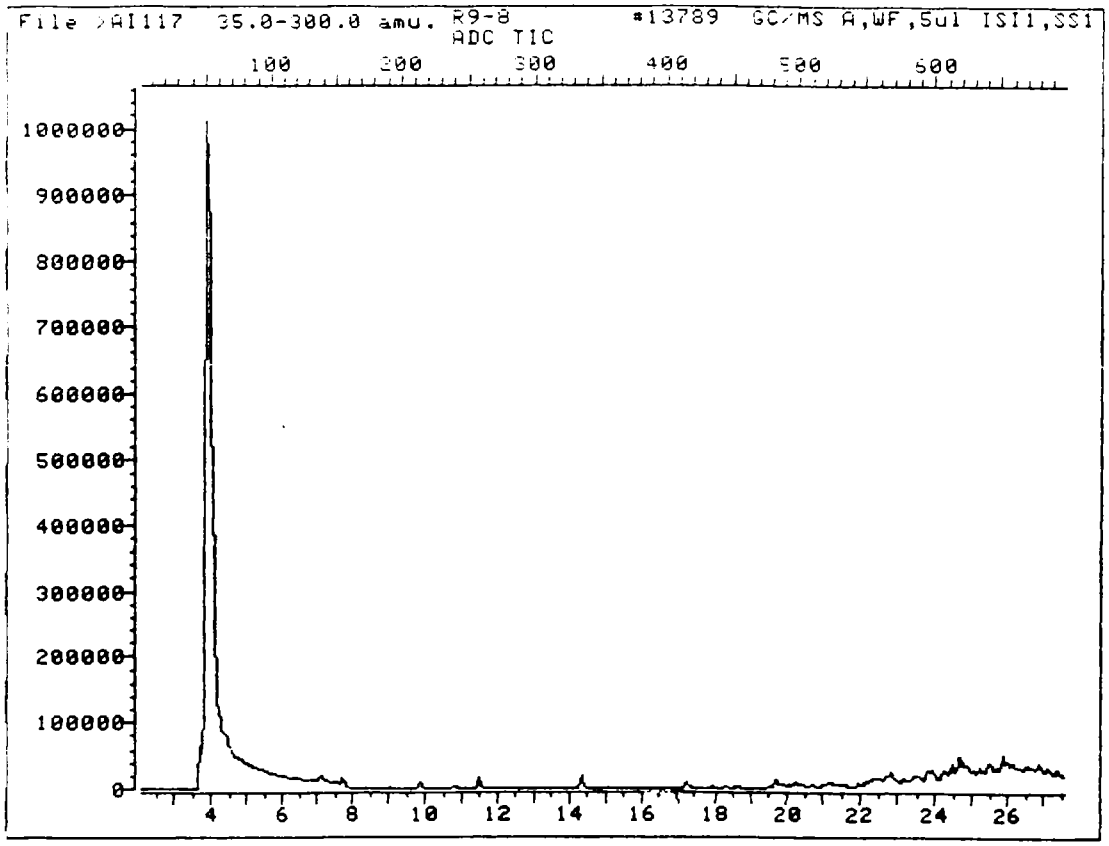
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = .92
Amount Method (AM) = 5.00 Amount Used (AU) = 5.00

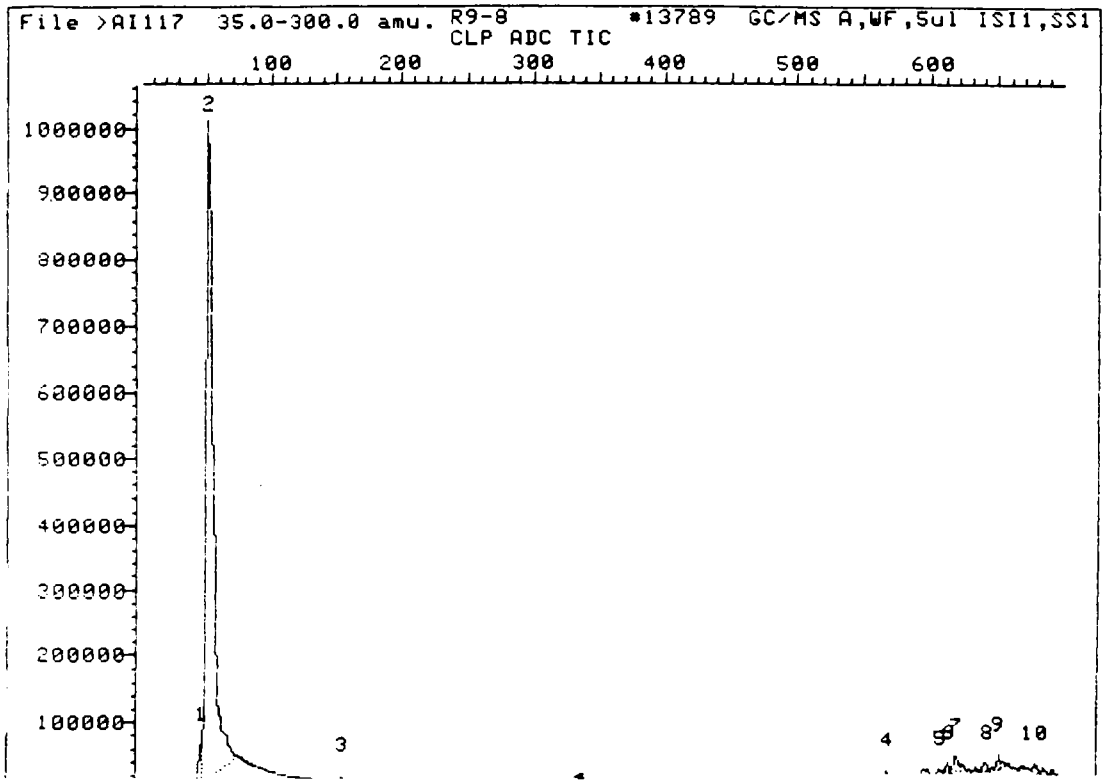
Correction Factor = 1.09 = (AM / AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

000043

10:54 AM FRI., 17 SEPT, 1993


File >AI117 35.0-300.0 amu. R9-8 #13789 GC/MS A,WF,5ul ISI1,SS1
ADC TIC
100 200 300 400 500 600
1000000
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
4 6 8 10 12 14 16 18 20 22 24 26


File >AI117 35.0-300.0 amu. R9-8 #13789 GC/MS A,WF,5ul ISI1,SS1
CLP ADC TIC
100 200 300 400 500 600
1000000
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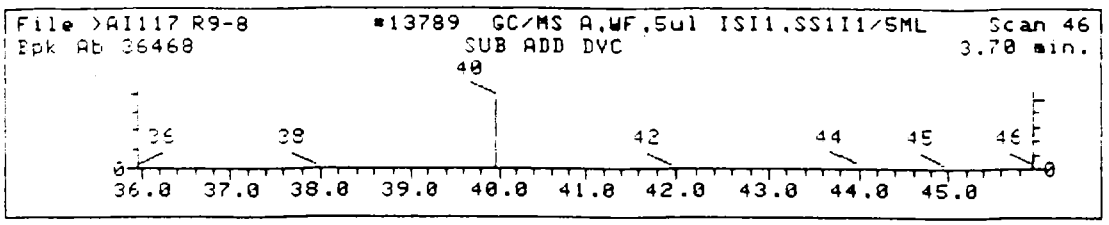
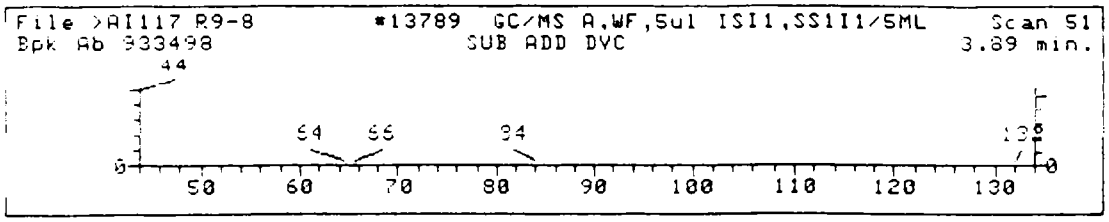
1
2
3
4
7
8
9
10



. Unknown #,1
Area = 450785.0 Tentative Concentration is 390.00

Sample file: >AI117 Spectrum #: 46

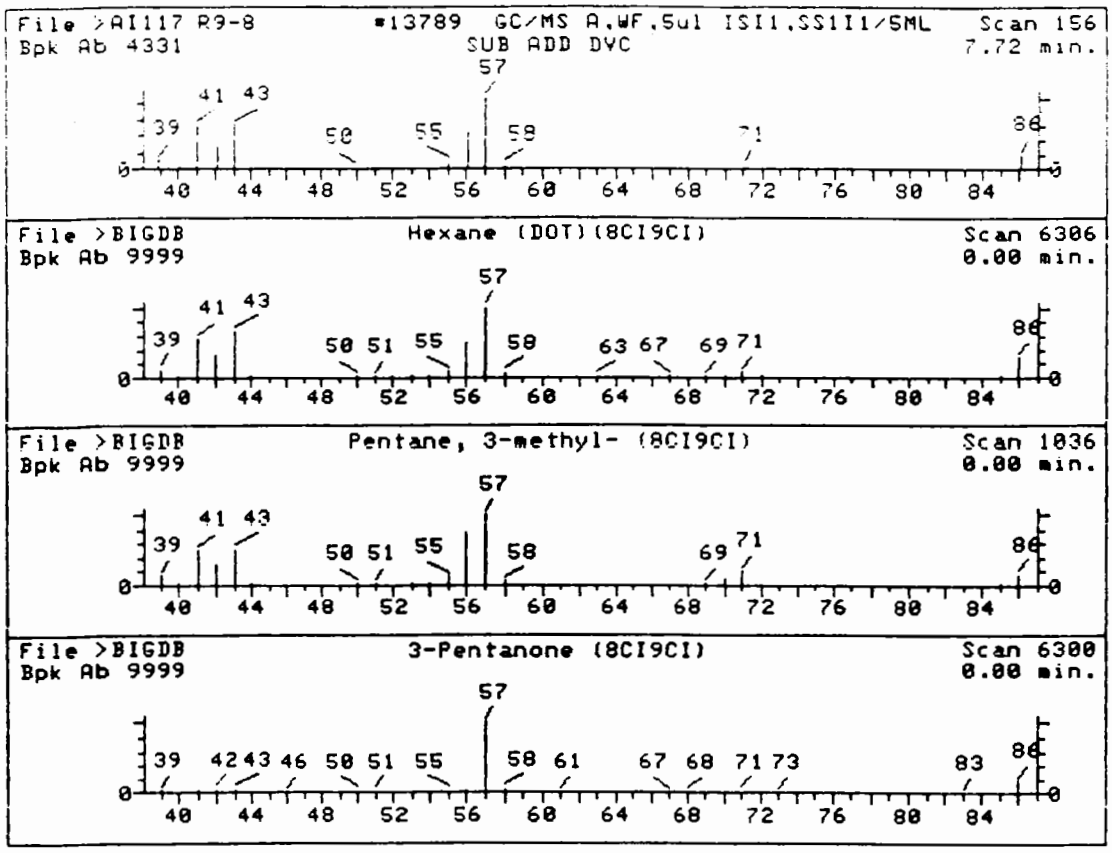
No data base entries were retrieved.



. Unknown #,2
Area = .14E+08 Tentative Concentration is 12000.00

Sample file: >AI117 Spectrum #: 51

No data base entries were retrieved.

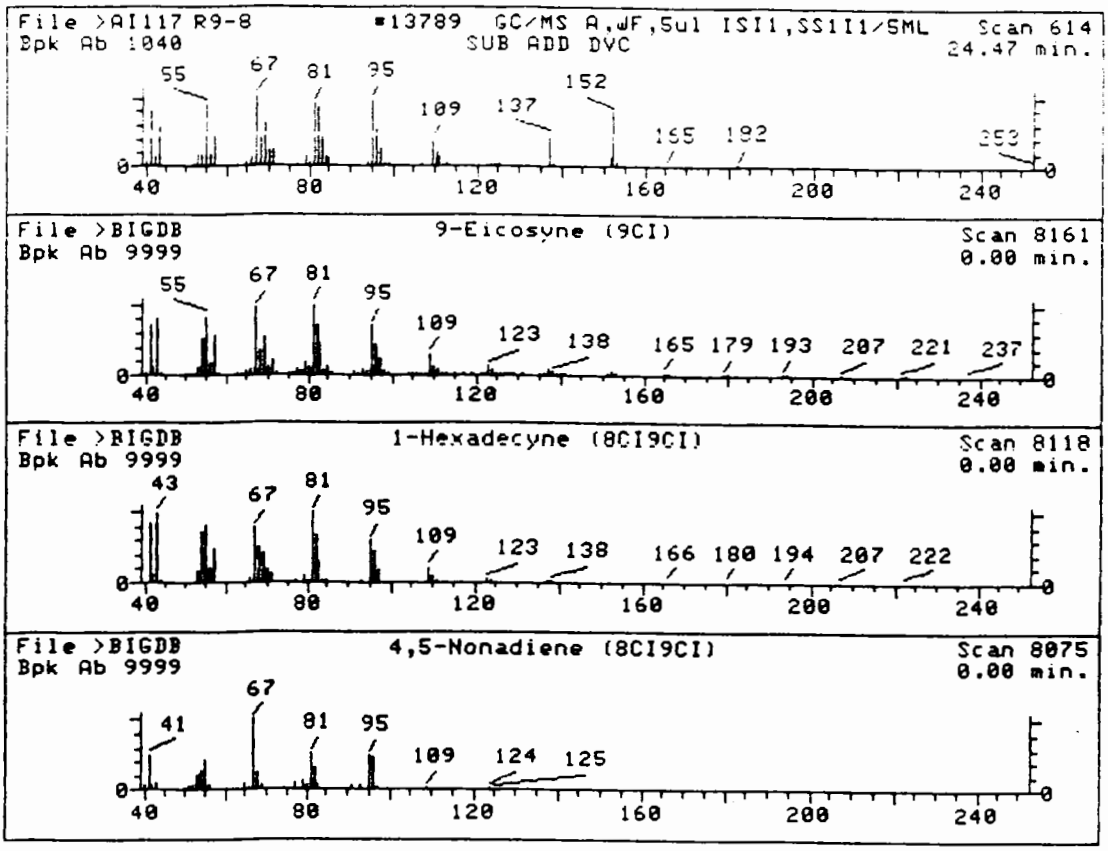


Unknown #,3
Area = 147995.0 Tentative Concentration is 130.00

1.	Hexane (DOT)(8CI9CI)	86	C6H14
2.	Pentane, 3-methyl- (8CI9CI)	86	C6H14
3.	3-Pentanone (8CI9CI)	86	C5H10O
4.	Aziridine, 2-methyl- (8CI9CI)	57	C3H7N
5.	Butanal, 2-methyl- (9CI)	86	C5H10O
6.	Furan, tetrahydro-3-methyl- (8CI9CI)	86	C5H10O
7.	Propanal, 2,2-dimethyl- (9CI)	86	C5H10O

Sample file: >AI117 Spectrum #: 156
Search speed: 1 Tilting option: F No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86*	110543	6306	"BIGDB	63	26	3	4	76	2	60	32
2.	52*	96140	1036	"BIGDB	25	68	2	0	68	16	20	14
3.	25*	96220	6300	"BIGDB	23	59	2	0	100	43	8	13
4.	20*	75558	946	"BIGDB	20	47	2	0	109	51	5	13
5.	20*	96173	1326	"BIGDB	22	68	3	0	74	51	5	12
6.	11*	13423159	6335	"BIGDB	25	47	2	0	51	64	2	14
7.	11*	630193	6315	"BIGDB	23	59	2	0	57	65	2	13

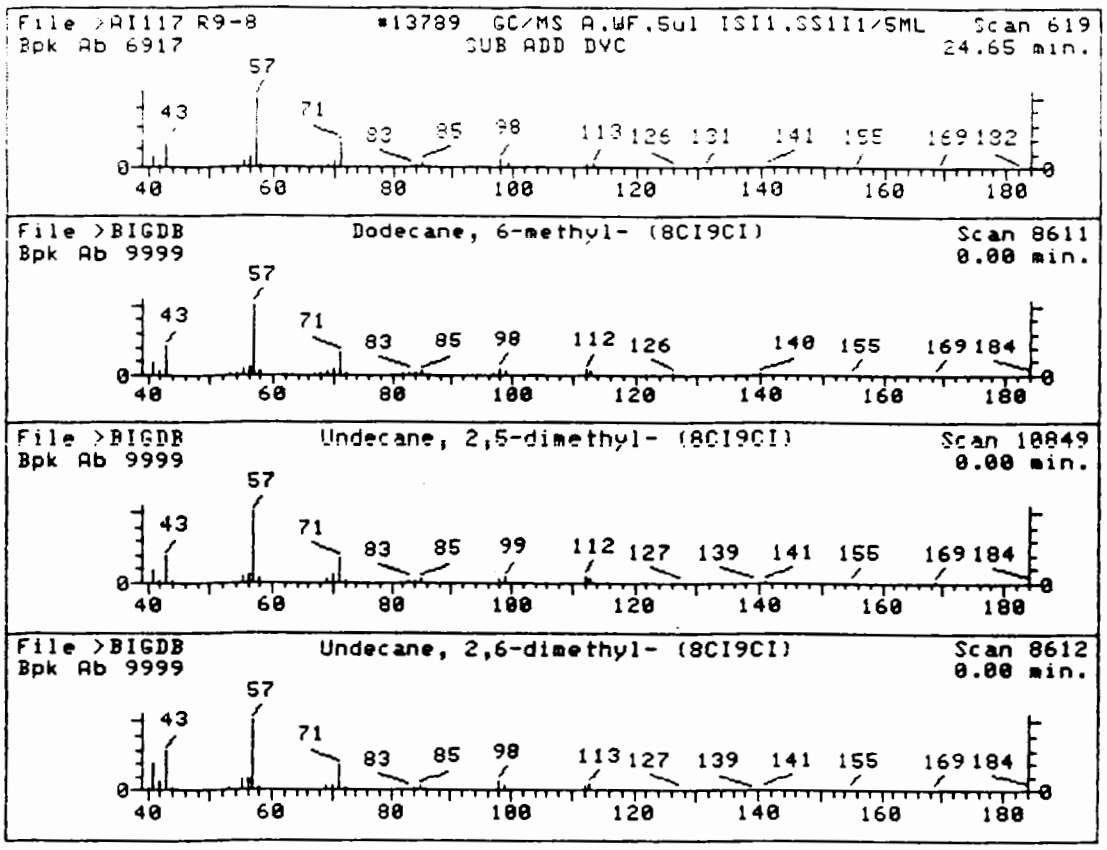


. Unknown #,6
Area = 129216.0 Tentative Concentration is 99.00

1.	9-Eicosyne (9CI)	278	C20H38
2.	1-Hexadecyne (8CI9CI)	222	C16H30
3.	4,5-Nonadiene (8CI9CI)	124	C9H16
4.	2-Cyclohexen-1-one, 5-methyl-2-(1-methylethyl)- (9CI	152	C10H16O
5.	Bicyclo[4.1.0]heptan-3-one, 4,7,7-trimethyl-, [1R-(1 .alpha.,4.alpha.,6.alpha.)]- (9CI)	152	C10H16O
6.	3-Nonyne (8CI9CI)	124	C9H16
7.	Bicyclo[2.2.1]heptane, 2-butyl- (9CI)	152	C11H20

Sample file: >AI117 Spectrum #: 614
Search speed: 1 Tilting option: F No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	60	71899382	8161	"BIGDB	103	65	3	-2	75	15	30	15
2.	58	629743	8118	"BIGDB	96	50	2	-4	67	16	25	22
3.	55*	821749	8075	"BIGDB	56	52	1	-4	65	24	22	27
4.	55*	5113666	17636	"BIGDB	56	56	2	3	107	23	[illegible]	[illegible]
5.	47*	4176049	17634	"BIGDB	55	72	1	0	74	43	16	42
6.	42*	20184898	7986	"BIGDB	58	57	1	-3	66	37	17	31

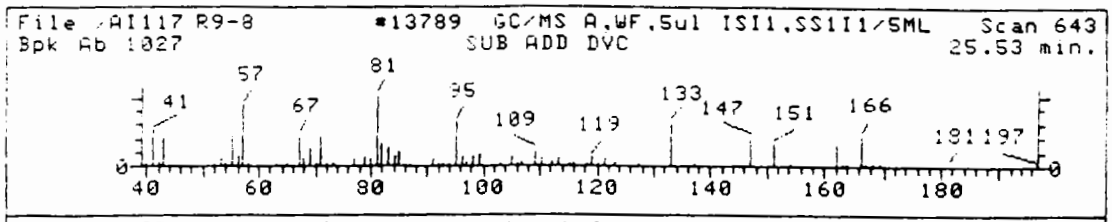


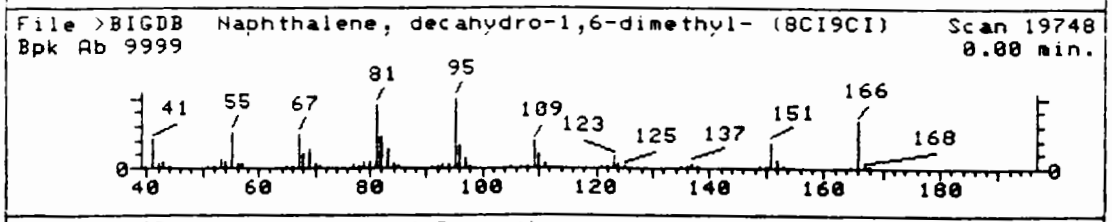
. Unknown #,7
Area = 245310.0 Tentative Concentration is 190.00

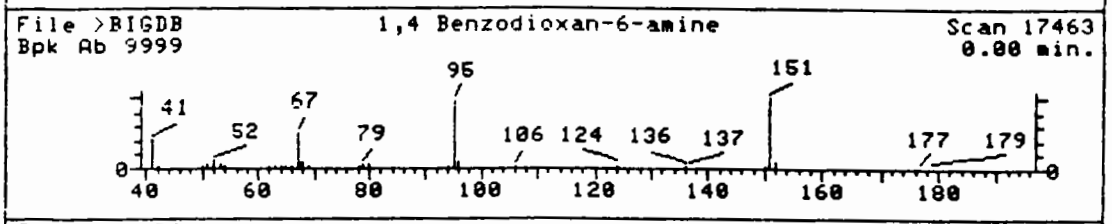
1.	Dodecane, 6-methyl- (8CI9CI)	184 C13H28
2.	Undecane, 2,5-dimethyl- (8CI9CI)	184 C13H28
3.	Undecane, 2,6-dimethyl- (8CI9CI)	184 C13H28
4.	Undecane, 4,6-dimethyl- (8CI)	184 C13H28
5.	Undecane, 3,6-dimethyl- (8CI)	184 C13H28
6.	Decane, 2,5,9-trimethyl- (9CI)	184 C13H28
7.	Decane, 2,6,7-trimethyl- (9CI)	184 C13H28

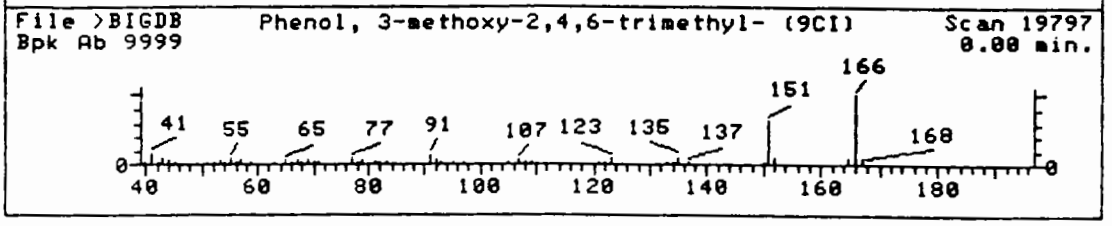
Sample file: >AI117 Spectrum #: 619
Search speed: 1 Tilting option: F No. of ion ranges searched: 52

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	94*	6044719	8611	"BIGDB	73	24	0	0	83	5	72	92
2.	89*	17301223	10849	"BIGDB	61	38	0	0	67	3	66	73
3.	83*	17301234	8612	"BIGDB	71	31	2	0	97	6	54	52
4.	69*	17312822	3957	"BIGDB	61	37	0	4	72	31	26	63
5.	66*	17301289	3955	"BIGDB	61	36	1	3	98	18	31	49
6.	60	62108229	3927	"BIGDB	54	37	2	0	81	12	30	19
7.	60	62108252	3963	"BIGDB	56	42	2	0	76	15	30	16









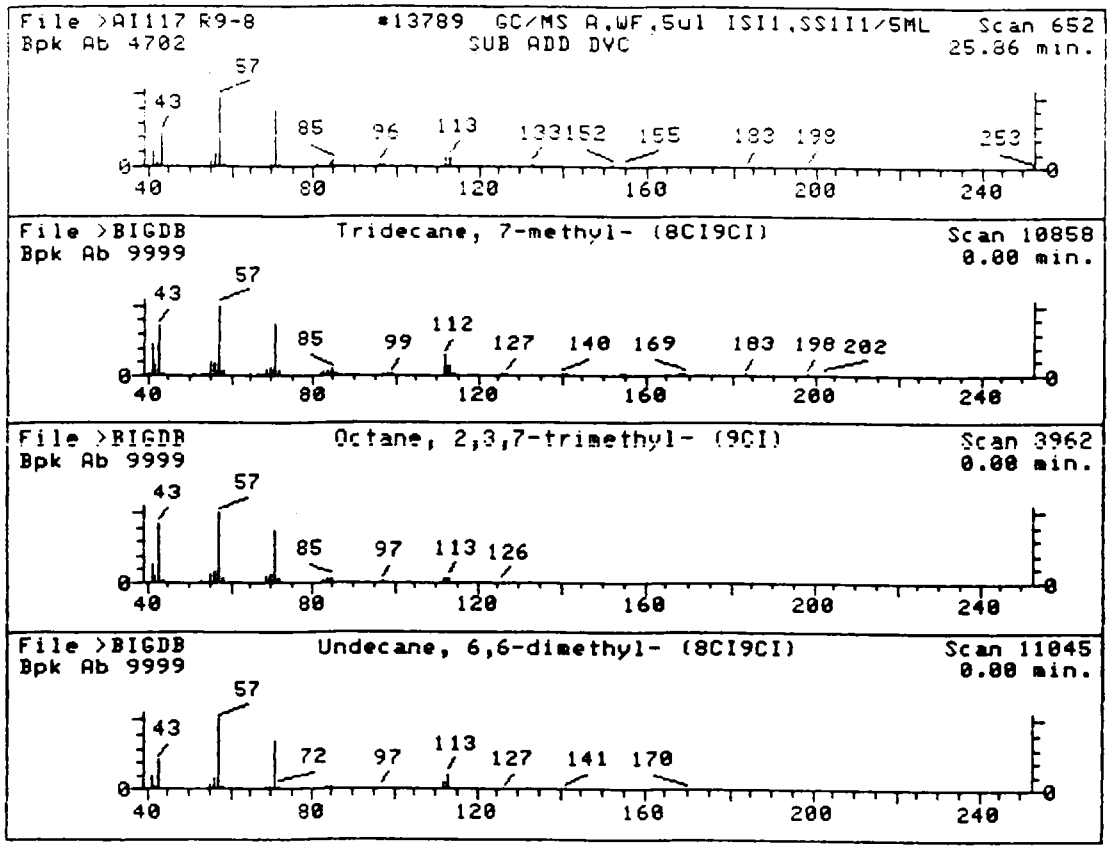
. Unknown #,8
Area = 126112.0 Tentative Concentration is 96.00

1.	Naphthalene, decahydro-1,6-dimethyl- (8CI9CI)	166 C12H22
2.	1,4 Benzodioxan-6-amine	151 C8H9NO2
3.	Phenol, 3-methoxy-2,4,6-trimethyl- (9CI)	166 C10H14O2
4.	1H-Indene, 1-ethyloctahydro-7a-methyl-, (1.alpha.,3a .beta.,7a.alpha.)- (9CI)	166 C12H22
5.	Naphthalene, decahydro-2,3-dimethyl- (8CI)	166 C12H22
6.	2,6-Octadiene (8CI9CI)	110 C8H14
7.	Spiro[5.6]dodecane (8CI9CI)	166 C12H22

Sample file: >AI117 Spectrum #: 643
Search speed: 1 Tilting option: F No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	28*	1750512	19748	"BIGDB	58	57	2	0	44	53	8	35
2.	15*	22013338	17463	"BIGDB	38	59	2	3	62	60	3	12
3.	15*	34883051	19797	"BIGDB	55	46	3	1	57	59	3	15
4.	15*	56324711	19813	"BIGDB	64	61	3	-1	59	56	3	54
5.	13*	1008806	19741	"BIGDB	61	47	2	0	48	62	3	38
6.	11*	4974270	5197	"BIGDB	36	41	3	0	558	62	2	14

000052

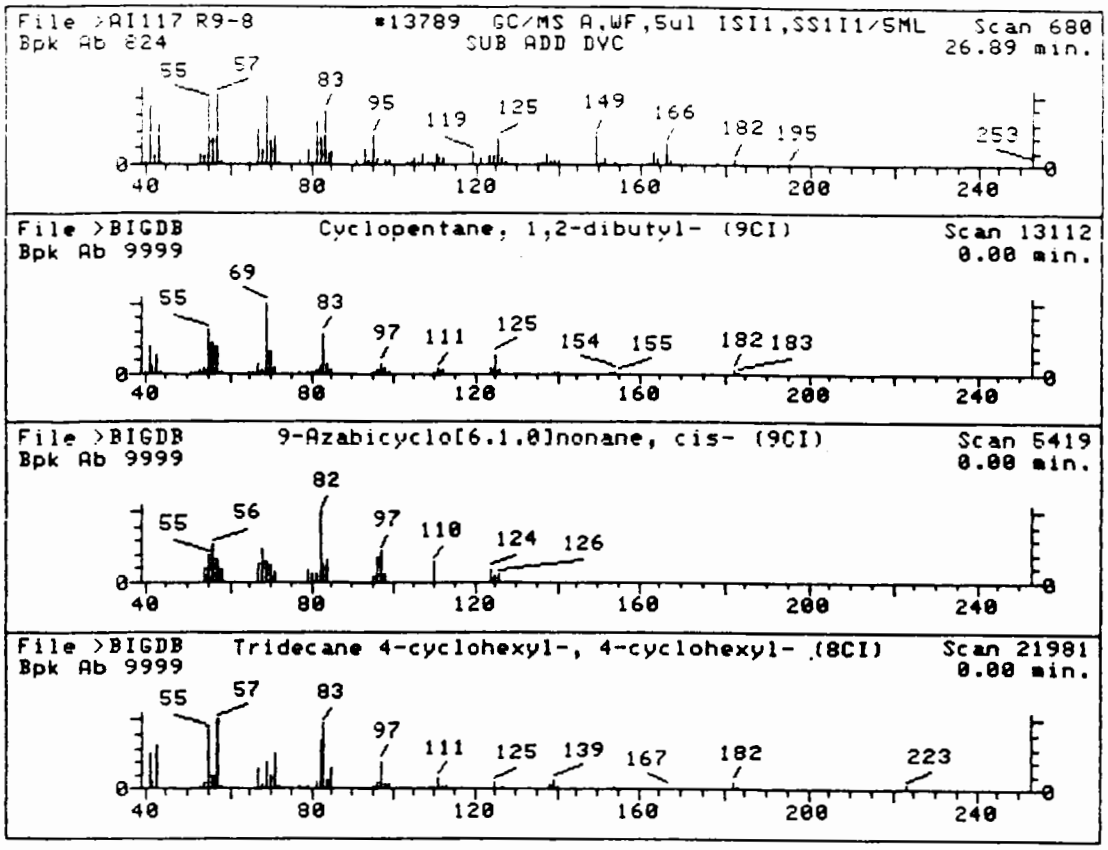


. Unknown #,9
Area = 125375.0 Tentative Concentration is 96.00

1.	Tridecane, 7-methyl- (8CI9CI)	198	C14H30
2.	Octane, 2,3,7-trimethyl- (9CI)	156	C11H24
3.	Undecane, 6,6-dimethyl- (8CI9CI)	184	C13H28
4.	Octane, 3,6-dimethyl- (8CI9CI)	142	C10H22
5.	Nonane, 3-methyl- (8CI9CI)	142	C10H22
6.	Methylamine, N-(1-methylhexylidene)- (8CI)	127	C8H17N
7.	Dodecane, 4,6-dimethyl- (9CI)	198	C14H30

Sample file: >AI117 Spectrum #: 652
Search speed: 1 Tilting option: F No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86*	26730143	10858	"BIGDB	68	43	3	0	100	5	60	35
2.	78	62016346	3962	"BIGDB	57	36	3	0	100	2	55	14
3.	60	17312764	11045	"BIGDB	66	32	2	4	93	11	30	16
4.	52	15869940	11043	"BIGDB	54	35	2	0	95	16	20	19
5.	27	5911046	11159	"BIGDB	39	45	2	0	45	40	10	13
6.	15*	22058715	3945	"BIGDB	27	61	3	0	80	57	3	13
7.	15*	61141728	3960	"BIGDB	28	64	2	0	44	59	3	14



. Unknown #,10
Area = 116555.0 Tentative Concentration is 89.00

1.	Cyclopentane, 1,2-dibutyl- (9CI)	182	C13H26
2.	9-Azabicyclo[6.1.0]nonane, cis- (9CI)	125	C8H15N
3.	Tridecane 4-cyclohexyl-, 4-cyclohexyl- (8CI)	266	C19H38
4.	Tridecane 6-cyclohexyl-, 6-cyclohexyl- (8CI)	266	C19H38
5.	Cyclopentane, undecyl- (9CI)	224	C16H32
6.	Cyclohexane, 2,4-diethyl-1-methyl- (9CI)	154	C11H22
7.	Cyclopentane, 1-methyl-3-(1-methylethyl)- (9CI)	126	C9H18

Sample file: >AI117 Spectrum #: 680
Search speed: 1 Tilting option: F No. of ion ranges searched: 58

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	40*	62199524	13112	"BIGDB	77	43	2	0	99	54	10	59
2.	28*	66387857	5419	"BIGDB	54	54	2	-3	30	40	10	14
3.	25	13151898	21981	"BIGDB	73	77	2	0	57	48	7	18
4.	25	13151912	21953	"BIGDB	73	80	3	0	70	48	7	13
5.	25	6785235	3390	"BIGDB	74	87	3	0	85	48	7	13
6.	25*	61142709	12965	"BIGDB	33	61	0	-1	69	44	8	13
7.	24*	53771883	5383	"BIGDB	38	64	1	0	85	42	5	21

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

R9-8 R

b Name: AMER.ENV.NTWK. Contract: 93080183

ab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

trix: SOIL Lab Sample ID: AE#13789

ample (wt/vol): 5 G Lab File ID: >AI138

vel: LOW Date Received: 08/25/93

Moisture: not dec. 8 Date Analyzed: 9/10/93

olumn: CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	11.	U
74-83-9	Bromomethane	11.	U
75-01-4	Vinyl Chloride	11.	U
75-00-3	Chloroethane	11.	U
75-09-2	Methylene Chloride	19.	B
67-64-1	Acetone	110.	U
75-15-0	Carbon Disulfide	10.	B
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
156-60-5	trans-1,2-Dichloroethene	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	110.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	54.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
110-75-8	2-Chloroethylvinylether	11.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	54.	U
591-78-6	2-Hexanone	54.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	m + p-Xylenes	5.	U
95-47-6	o-Xylene	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

R9-8 R

ıb Name: AMER.ENV.NTWK. Contract: 93080183

ab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

ıtrix: SOIL Lab Sample ID: AE#13789

ample wt/vol: 5 G Lab File ID: >AI138

evel: LOW Date Received: 08/26/93

Moisture: not dec. 8 Date Analyzed: 9/10/93

olumn: CAP Dilution Factor: 1.0

Number TICs found: 10

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	3.96	16000.	JB
2.	110543	Hexane (DOT)(8CI9CI)	7.69	240.	J
3.		Unknown HC	9.04	20.	J
4.		Unknown	22.20	23.	J
5.		Unknown	24.47	57.	JB
6.		Unknown	25.24	22.	J
7.	824226	1H-Indene, 2,3-dihydro-4-met	25.64	30.	JB
8.		Unknown	26.15	66.	JB
9.		Unknown	26.55	31.	J
10.		Unknown	27.17	47.	JB
11.					
12.					
13.					
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16.					
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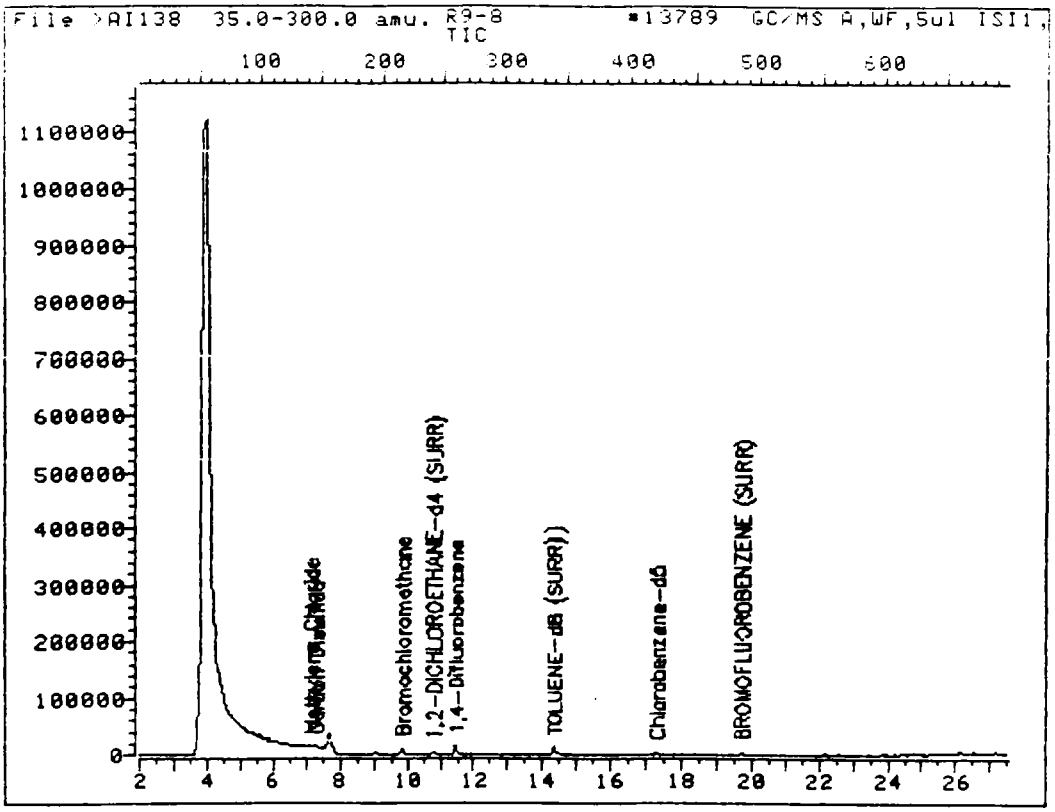
27.					
28.					
29.					
30.					

R = Not Reviewed

FORM I VOA-TIC

TOTAL ION CHROMATOGRAM



Data File: >AI138::C1 Quant Output File: ^AI138::A1
Name: R9-8 #13789 R
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080183 WESTON

Id File: IDHAID::ID
Title: HSL VOLATILES
Last Calibration: 930910 11:52

Operator ID: DAVE
Quant Time: 930910 12:06
Injected at: 930910 00:52

QUANT REPORT

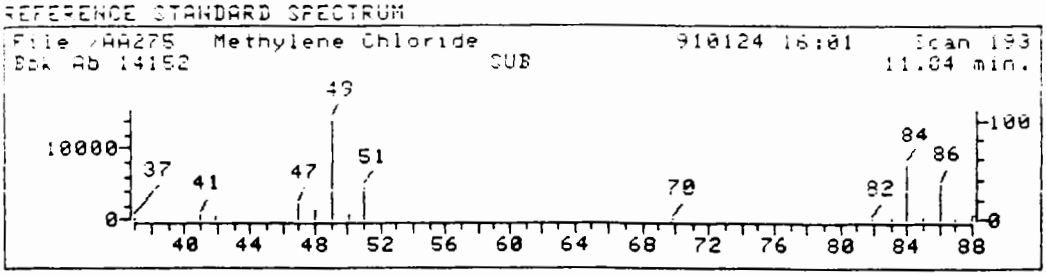
Operator ID: DAVE Quant Rev: 6 Quant Time: 930910 12:06
Output File: ^AI138::A1 Injected at: 930910 00:52
Data File: >AI138::C1 Dilution Factor: 1.00000
Name: R9-8 #13789
Misc: GC/MS A,WF,5ul ISI1,SSI1I1/5ML #93080183 WESTON

ID File: IDHAID::ID
Title: HSL VOLATILES
Last Calibration: 930910 11:52

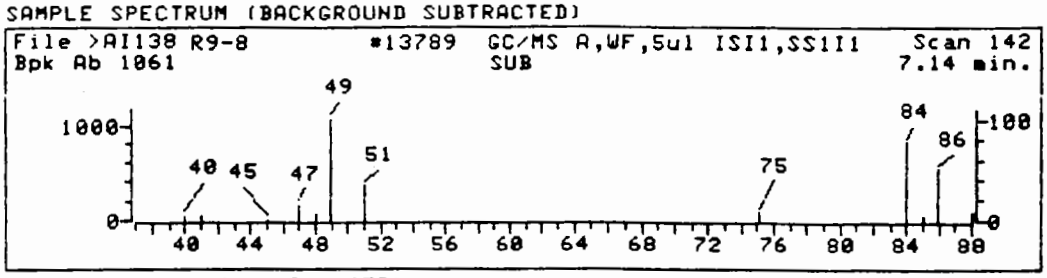
	Compound	Q ion	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	128.0	216	12138	50.00	ng/mL	91
11)	Methylene Chloride	84.0	142	11466	17.89	ng/mL	76
12)	Carbon Disulfide	76.0	146	2085	9.23	ng/mL	100
18)	1,2-DICHLOROETHANE-d4 (SURR)	65.0	242	12643	44.56	ng/mL	100
20)	*1,4-Difluorobenzene	114.0	260	58385	50.00	ng/mL	94
30)	TOLUENE-d8 (SURR1)	98.0	339	43977	43.75	ng/mL	98
35)	*Chlorobenzene-d5	82.0	420	8796	50.00	ng/mL	95
46)	BROMOFLUOROBENZENE (SURR)	95.0	486	8688	34.59	ng/mL	94
50)	TOLUENE-d8 (SURR)	98.0	339	43977	87.61	ng/mL	98

* Compound is ISTD

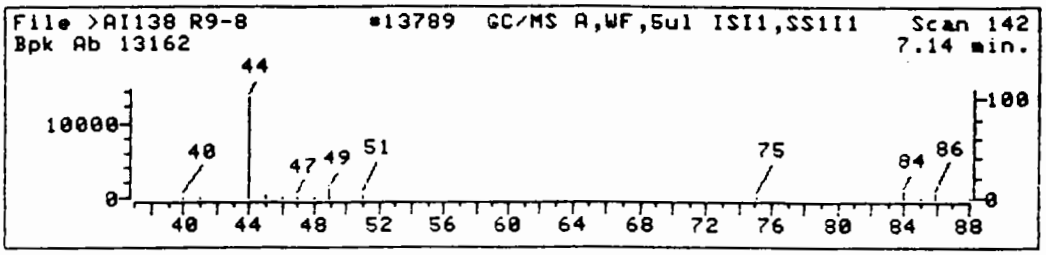
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



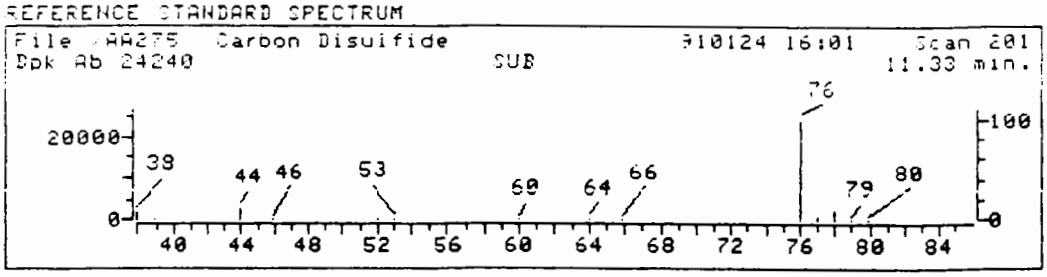
SAMPLE SPECTRUM (UNALTERED)



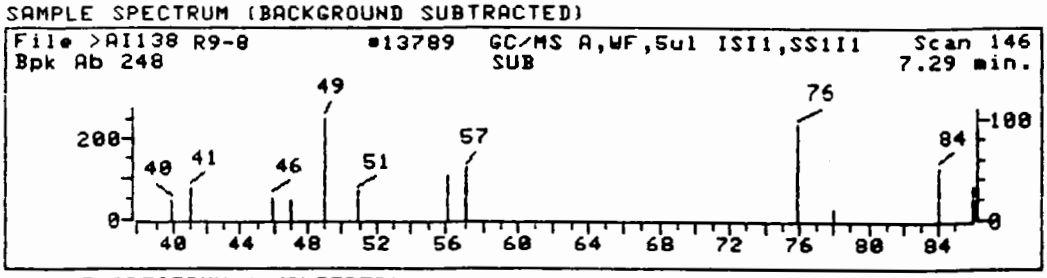
Data File: >AI138::C1 Quant Output File: ^AI138::A1
Name: R9-8 #13789
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080183 WESTON
Quant Time: 930910 12:06 Quant ID File: IDHAID::ID
Injected at: 930910 00:52 Last Calibration: 930910 11:52

Compound No: 11
Compound Name: Methylene Chloride
Scan Number: 142
Retention Time: 7.14 min.
Quant Ion: 84.0
Area: 11466
Concentration: 17.89 ng/mL
q-value: 76

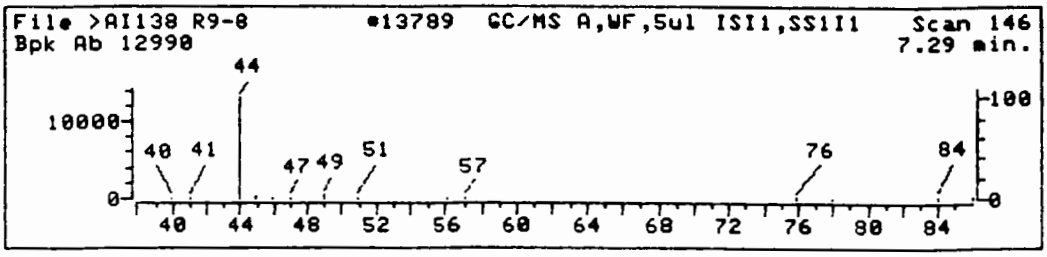
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >AI138::C1 Quant Output File: ^AI138::A1
Name: R9-8 #13789
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080183 WESTON
Quant Time: 930910 12:06 Quant ID File: IDHAID::ID
Injected at: 930910 00:52 Last Calibration: 930910 11:52

Compound No: 12
Compound Name: Carbon Disulfide
Scan Number: 146
Retention Time: 7.29 min.
Quant Ion: 76.0
Area: 2085
Concentration: 9.23 ng/mL
q-value: 100

MS data file header from : >AI138

Sample: R9-8 #13789 Operator: DAVE MS 9/10/93 0:52
Misc : GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080183 WESTON
Sys. #: 1 MS model: 87 SW/HW rev.: IA ALS # : 0
Method file: HE8501 Tuning file: MT8502 No. of extra records: 2
Source temp.: 200 Analyzer temp.: 0 Transfer line temp. : 0

Chromatographic temperatures :	0.	0.	0.	0.	0.
Chromatographic times, min. :	0.0	0.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	0.0	0.0	0.0	0.0	0.0

>AI138 R9-8 #13789 GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080183

35.01 300.0 CLP ADC TIC
Upslope: .20 Area Reject: 3666. Max Peaks: 10 Bunching: 1
Dnslope: 0.00 Results File IAI138 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	3.96	44	55	90	1121338	24084252	24084252	100.00	97.713
2	7.69	153	157	169	34347	374222	348327	1.45	1.413
3	9.04	190	194	202	3143	37199	28806	.12	.117
4	22.20	551	554	556	2428	18030	15738	.07	.064
5	24.47	612	616	620	4796	58912	38618	.16	.157
6	25.24	634	637	639	2659	32958	14666	.06	.060
7	25.64	645	648	653	3028	59388	20271	.08	.082
8	26.15	656	662	667	4358	114694	44756	.19	.182
9	26.55	670	673	676	4054	60954	20713	.09	.084
10	27.17	686	690	694	4034	81488	31902	.13	.129

Sum of corrected areas: 24648060.

Summary of Unknowns PBM Library Search and Quantitation

Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	79867.	9.85	1.99 - 10.65
2	50.0	111400.	11.46	10.65 - 14.38
3	50.0	36662.	17.30	14.38 - 27.54

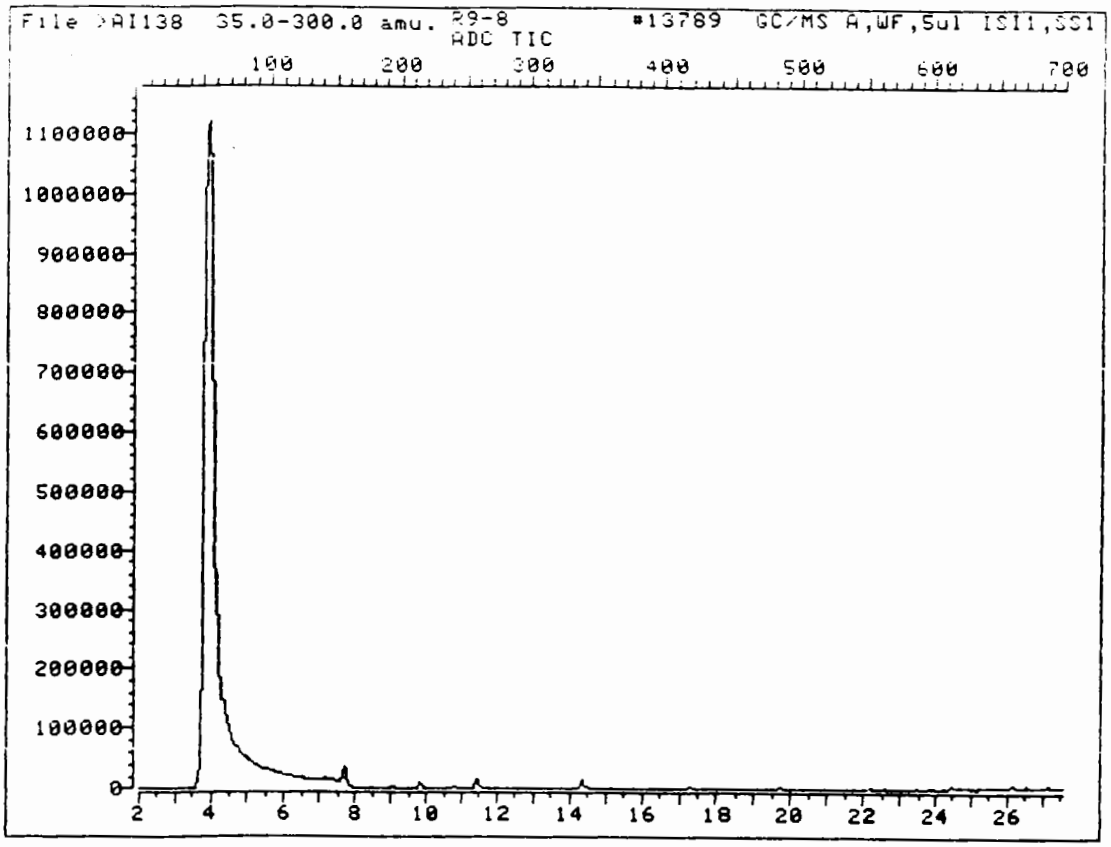
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = .92
Amount Method (AM) = 5.00 Amount Used (AU) = 5.00

Correction Factor = 1.09 = (AM / AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

000061

11:38 AM FRI., 17 SEPT, 1993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ADC TIC
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700000
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200000
100000
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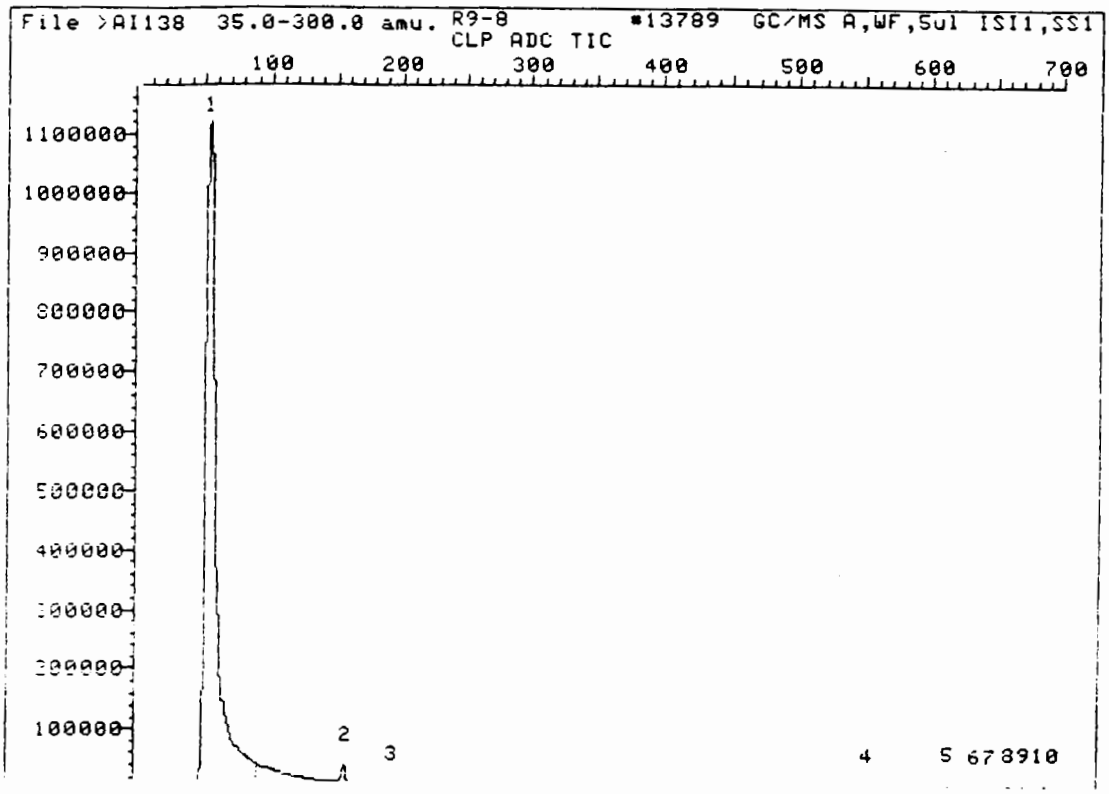
File >AI138 35.0-300.0 amu. R9-8 #13789 GC/MS A,WF,Sul ISI1,SS1
CLP ADC TIC
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1
1100000
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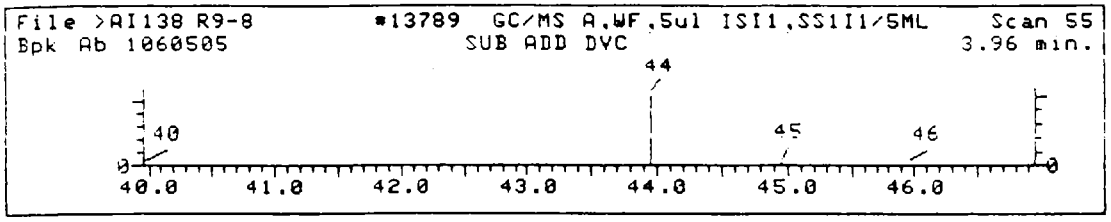
3
4
5 6 7 8 9 10

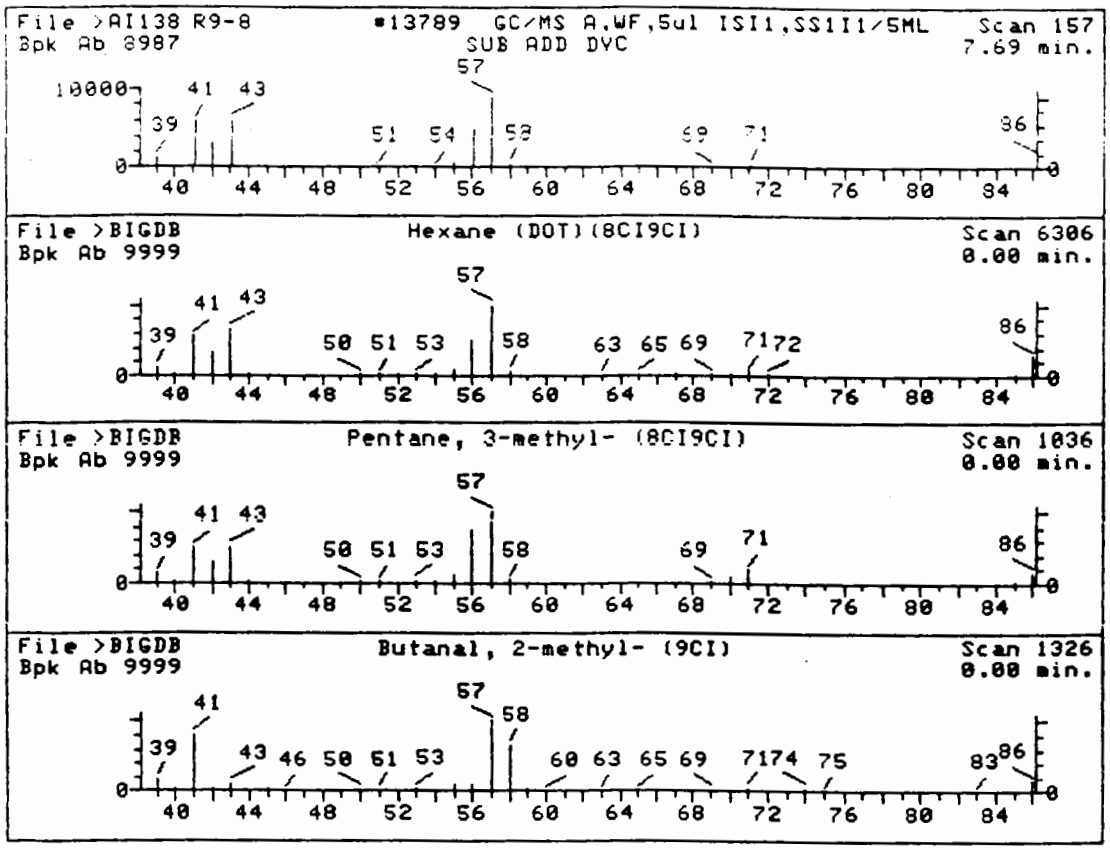
000062



. Unknown #,1
Area = .24E+08 Tentative Concentration is 16000.00

Sample file: >AI138 Spectrum #: 55

No data base entries were retrieved.



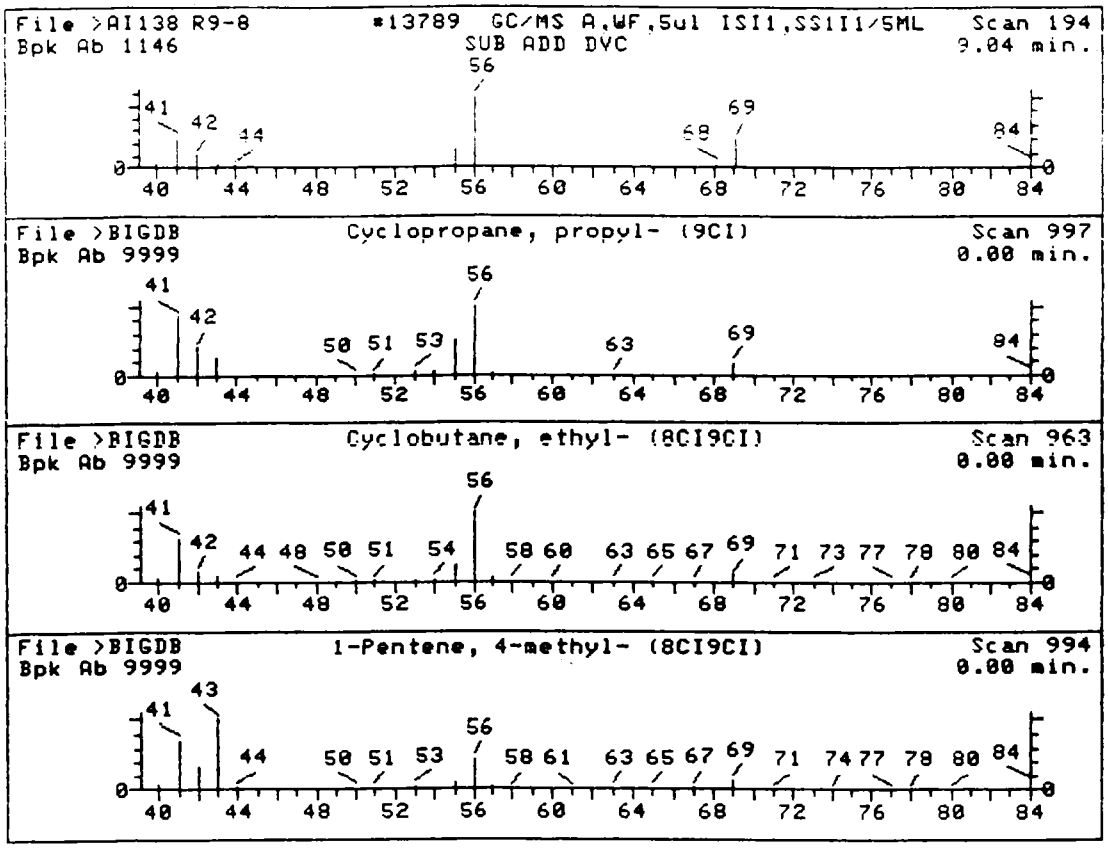
. Unknown #,2
Area = 348327.0 Tentative Concentration is 240.00

1.	Hexane (DOT)(8CI9CI)	86	C6H14
2.	Pentane, 3-methyl- (8CI9CI)	86	C6H14
3.	Butanal, 2-methyl- (9CI)	86	C5H10O
4.	Aziridine, 2-methyl- (8CI9CI)	57	C3H7N
5.	Furan, tetrahydro-3-methyl- (8CI9CI)	86	C5H10O
6.	Propanal, 2,2-dimethyl- (9CI)	86	C5H10O
7.	Pentane, 2-methyl- (8CI9CI)	86	C6H14

Sample file: >AI138 Spectrum #: 157
Search speed: 1 Tilting option: F No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83*	110543	6306	"BIGDB	58	31	3	4	81	1	57	25
2.	42*	96140	1036	"BIGDB	38	55	3	0	100	21	17	13
3.	25*	96173	1326	"BIGDB	22	68	3	0	79	50	7	12
4.	20*	75558	946	"BIGDB	20	47	2	0	116	52	5	13
5.	11*	13423159	6335	"BIGDB	25	47	2	0	52	62	2	14
6.	11*	630193	6315	"BIGDB	27	55	2	0	56	62	2	14
7.	11*	107835	3866	"BIGDB	27	59	2	0	63	62	2	14

000064

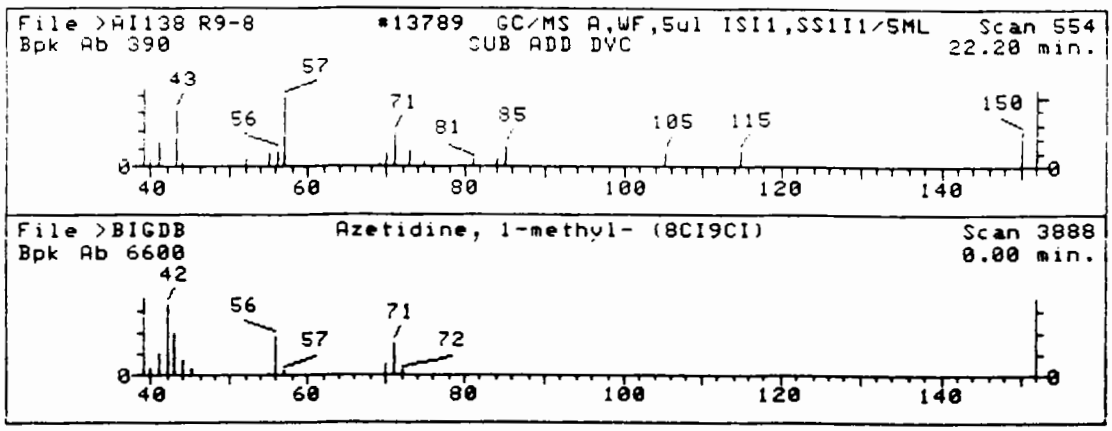


. Unknown #,3
Area = 28806.00 Tentative Concentration is 20.00

1. Cyclopropane, propyl- (9CI) 84 C6H12
2. Cyclobutane, ethyl- (8CI9CI) 84 C6H12
3. 1-Pentene, 4-methyl- (8CI9CI) 84 C6H12

Sample file: >AI138 Spectrum #: 194
Search speed: 1 Tilting option: F No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	27*	2415727	997	"BIGDB	21	52	2	0	38	40	10	13
2.	26*	4806615	963	"BIGDB	24	59	3	0	100	38	10	12
3.	15*	691372	994	"BIGDB	22	63	3	0	57	56	3	12

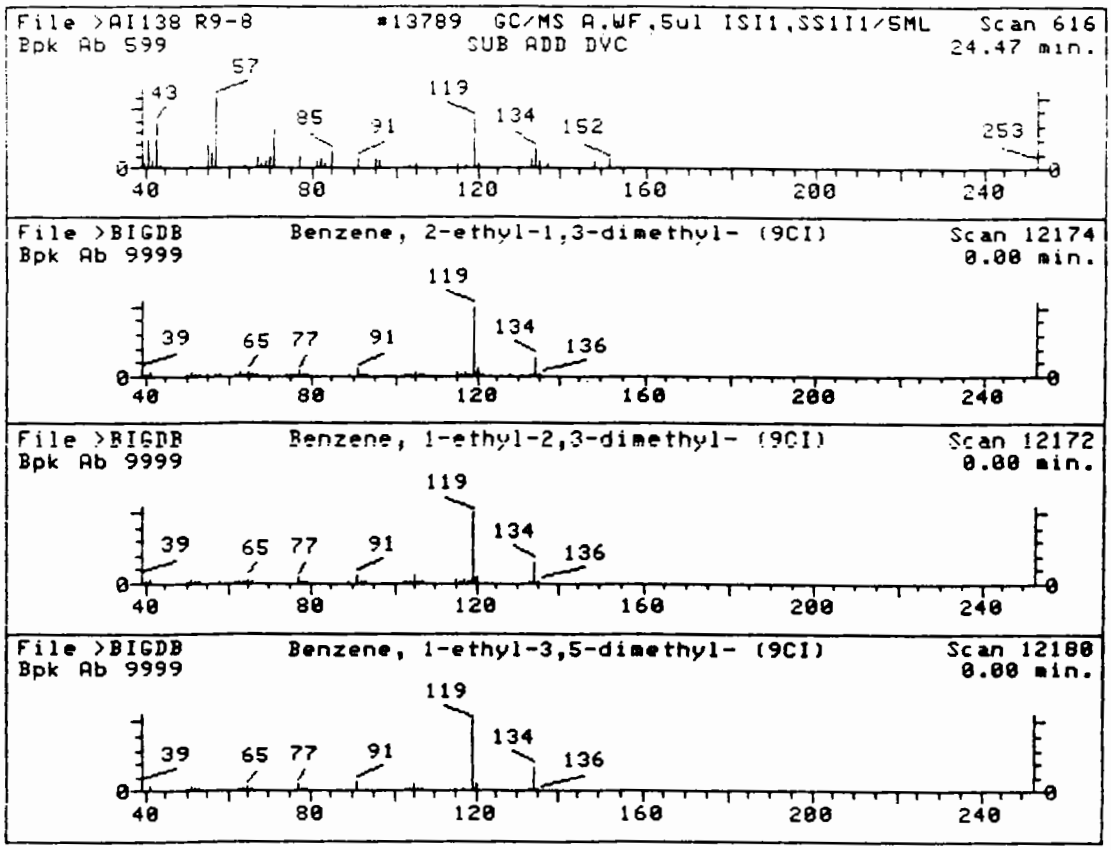


. Unknown #,4
Area = 15738.00 Tentative Concentration is 23.00

1. Azetidine, 1-methyl- (8CI9CI) 71 C4H9N

Sample file: >AI138 Spectrum #: 554
Search speed: 1 Tilting option: F No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	11*	4923799	3888	"BIGDB	24	77	3	0	119	65	2	12

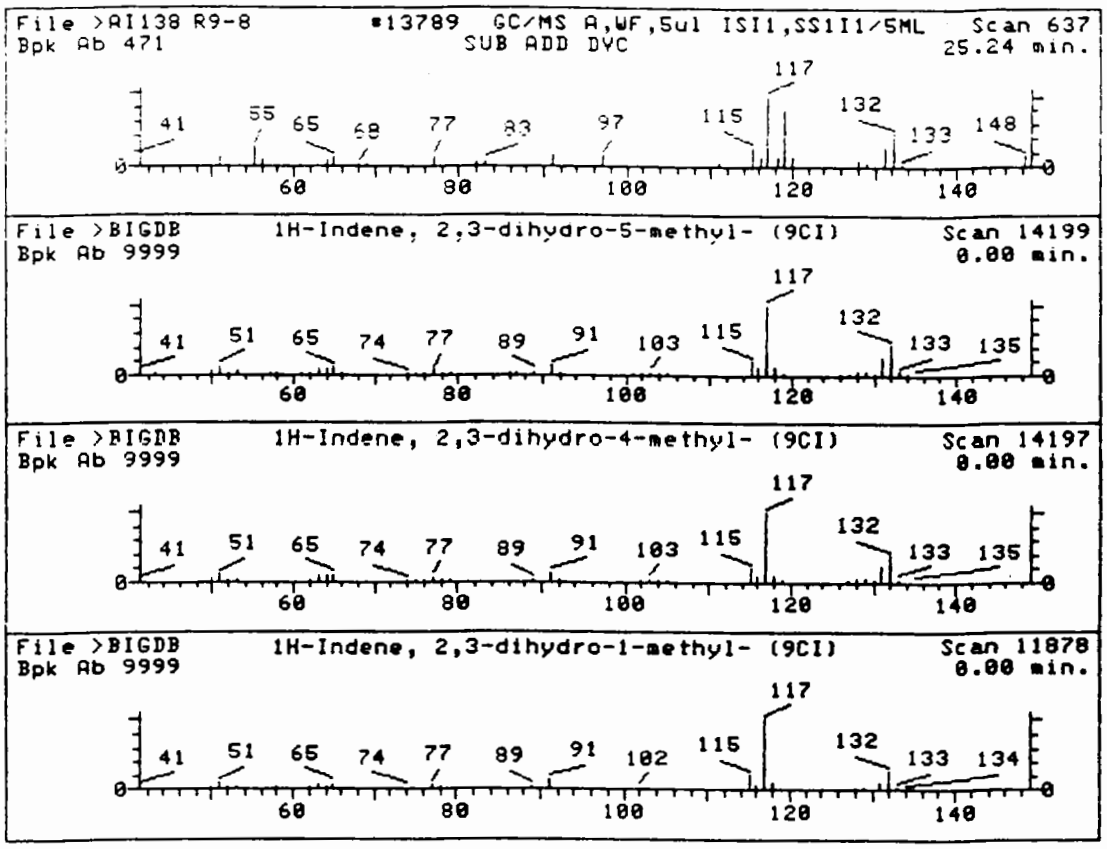


. Unknown #,5
Area = 38618.00 Tentative Concentration is 57.00

1.	Benzene, 2-ethyl-1,3-dimethyl- (9CI)	134 C10H14
2.	Benzene, 1-ethyl-2,3-dimethyl- (9CI)	134 C10H14
3.	Benzene, 1-ethyl-3,5-dimethyl- (9CI)	134 C10H14
4.	Benzene, 4-ethyl-1,2-dimethyl- (9CI)	134 C10H14
5.	Nonane, 3,7-dimethyl- (8CI9CI)	156 C11H24
6.	Benzene, 1,2,4,5-tetramethyl- (8CI9CI)	134 C10H14
7.	Benzene, 1,4-diethyl- (9CI)	134 C10H14

Sample file: >AI138 Spectrum #: 616
Search speed: 1 Tilting option: F No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	12*	2870044	12174	"BIGDB	41	48	2	0	69	64	2	21
2.	12*	933982	12172	"BIGDB	48	43	2	0	69	64	2	28
3.	12*	934747	12180	"BIGDB	48	47	2	0	69	64	2	26
4.	12*	934805	12173	"BIGDB	47	46	2	0	69	64	2	27
5.	11	17302328	6100	"BIGDB	37	49	2	0	75	65	2	12
6.	11*	95932	14475	"BIGDB	43	59	2	0	52	62	2	15
7.	11*	105055	14480	"BIGDB	31	69	2	0	69	64	2	14

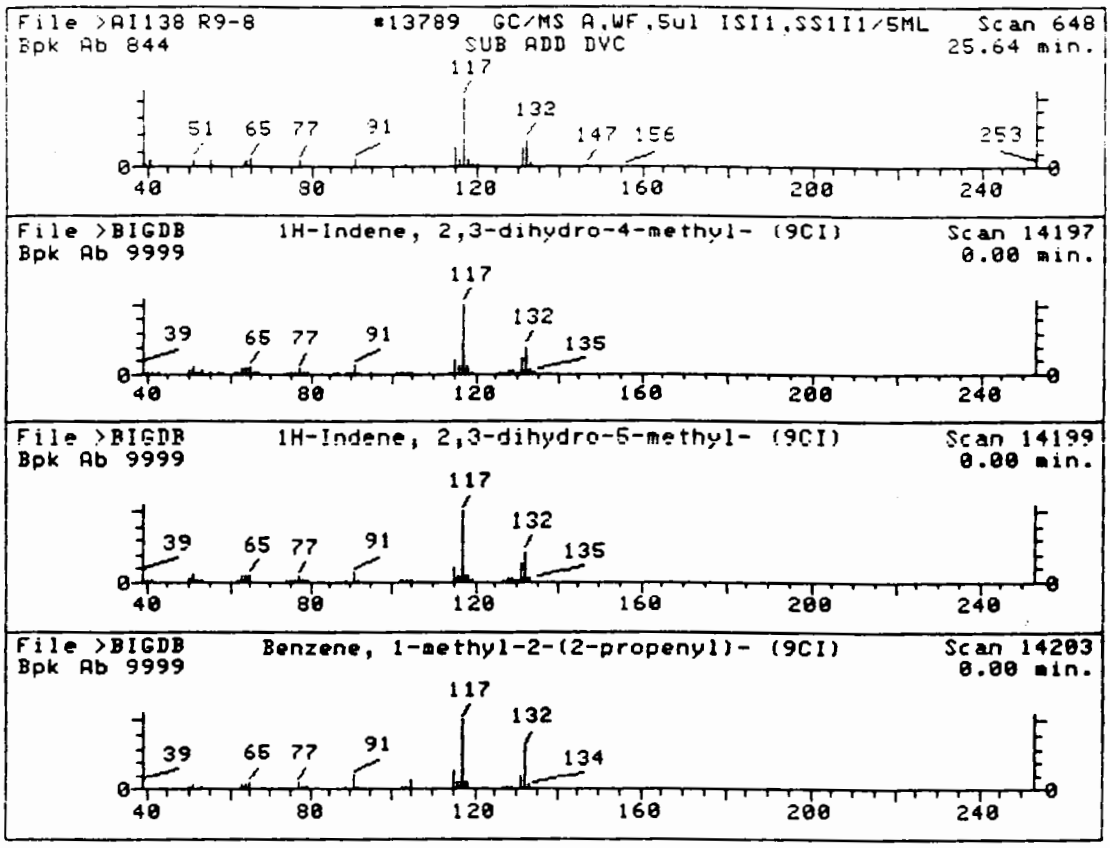


. Unknown #,6
Area = 14666.00 Tentative Concentration is 22.00

1. 1H-Indene, 2,3-dihydro-5-methyl- (9CI) 132 C10H12
2. 1H-Indene, 2,3-dihydro-4-methyl- (9CI) 132 C10H12
3. 1H-Indene, 2,3-dihydro-1-methyl- (9CI) 132 C10H12
4. Benzene, (1-methyl-1-propenyl)-, (Z)- (9CI) 132 C10H12
5. 1H-Indene, 2,3-dihydro-2-methyl- (9CI) 132 C10H12
6. Benzene, (1-methyl-1-propenyl)-, (E)- (9CI) 132 C10H12
7. Benzene, 1-methyl-2-(2-propenyl)- (9CI) 132 C10H12

Sample file: >AI138 Spectrum #: 637
Search speed: 1 Tilting option: F No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	69*	874351	14199	"BIGDB	84	22	2	0	100	32	26	65
2.	69*	824226	14197	"BIGDB	84	23	2	0	100	34	26	65
3.	50*	767588	11878	"BIGDB	55	42	2	1	100	30	24	30
4.	49*	767997	14194	"BIGDB	76	37	2	-2	76	37	17	38
5.	47*	824635	14198	"BIGDB	59	47	2	0	78	37	17	36
6.	46*	768003	14195	"BIGDB	64	42	2	2	81	36	17	35
7.	30*	1587048	14203	"BIGDB	58	49	3	2	83	37	10	16

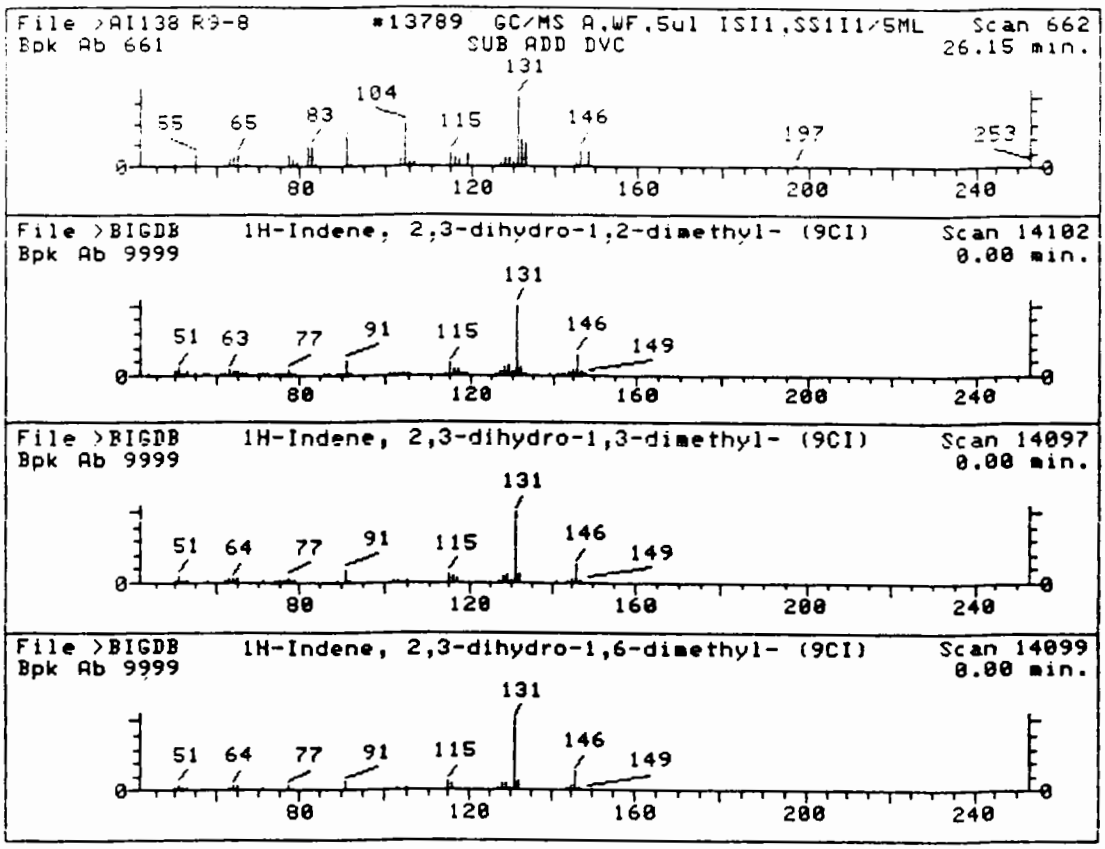


Unknown #,7
Area = 20271.00 Tentative Concentration is 30.00

1. 1H-Indene, 2,3-dihydro-4-methyl- (9CI) 132 C10H12
2. 1H-Indene, 2,3-dihydro-5-methyl- (9CI) 132 C10H12
3. Benzene, 1-methyl-2-(2-propenyl)- (9CI) 132 C10H12
4. 1H-Indene, 2,3-dihydro-2-methyl- (9CI) 132 C10H12
5. 1H-Indene, 2,3-dihydro-1-methyl- (9CI) 132 C10H12
6. Benzene, (1-methyl-1-propenyl)-, (E)- (9CI) 132 C10H12
7. Benzene, (2-methyl-2-propenyl)- (9CI) 132 C10H12

Sample file: >AI138 Spectrum #: 648
Search speed: 1 Tilting option: F No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	824226	14197	"BIGDB	84	23	2	0	95	5	66	65
2.	83*	874351	14199	"BIGDB	74	32	2	0	90	10	54	56
3.	79*	1587048	14203	"BIGDB	70	37	3	2	70	10	48	30
4.	79*	824635	14198	"BIGDB	64	42	2	2	71	10	48	35
5.	71*	767588	11878	"BIGDB	58	39	2	0	99	15	38	36
6.	67*	768003	14195	"BIGDB	58	48	2	2	67	11	34	28
7.	52*	3290537	14209	"BIGDB	43	56	2	0	67	20	20	17

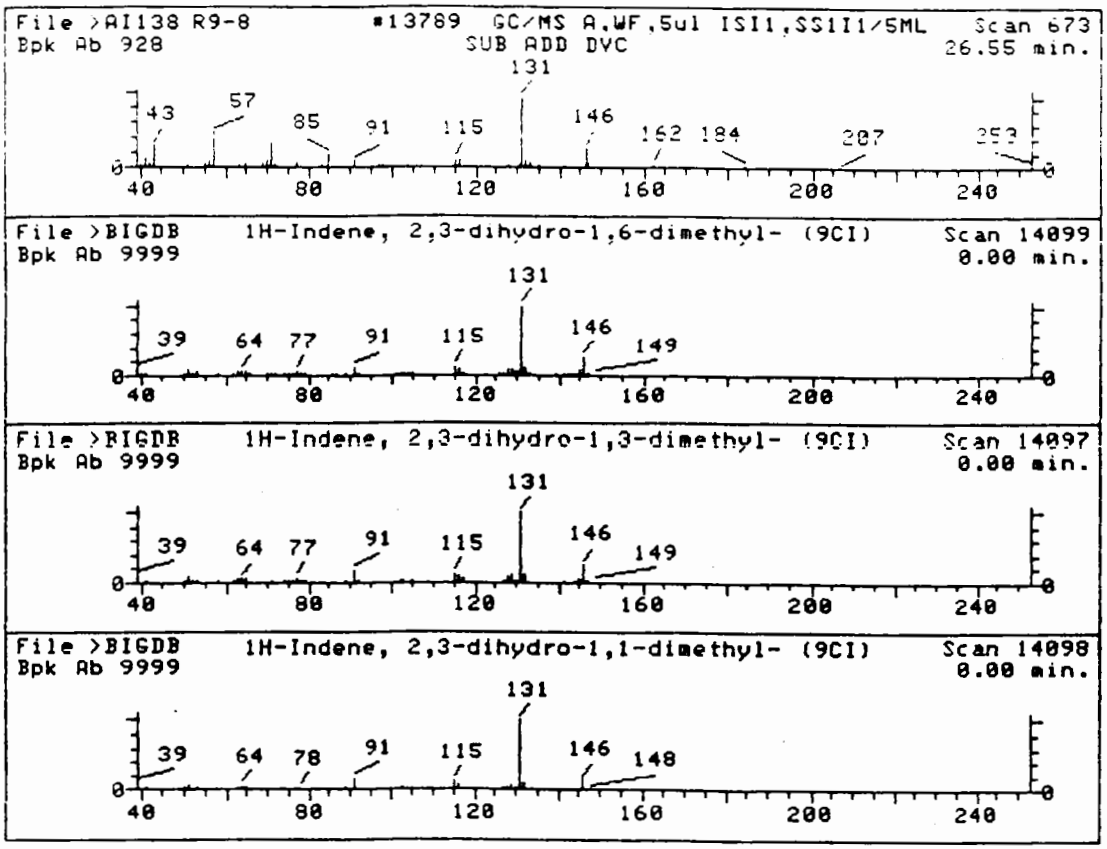


. Unknown #,8
Area = 44756.00 Tentative Concentration is 66.00

1.	1H-Indene, 2,3-dihydro-1,2-dimethyl- (9CI)	146 C11H14
2.	1H-Indene, 2,3-dihydro-1,3-dimethyl- (9CI)	146 C11H14
3.	1H-Indene, 2,3-dihydro-1,6-dimethyl- (9CI)	146 C11H14
4.	1H-Indene, 2,3-dihydro-4,7-dimethyl- (9CI)	146 C11H14
5.	Naphthalene, 1,2,3,4-tetrahydro-1-methyl- (8CI9CI)	146 C11H14
6.	Benzene, (3-methyl-2-butenyl)- (9CI)	146 C11H14
7.	Benzene, (2-chloro-2-butenyl)- (9CI)	166 C10H11Cl

Sample file: >AI138 Spectrum #: 662
Search speed: 1 Tilting option: F No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	64*	17057828	14102	"BIGDB	76	28	1	0	86	48	20	74
2.	55*	4175535	14097	"BIGDB	81	20	2	3	100	44	18	60
3.	49*	17059482	14099	"BIGDB	74	25	2	4	99	44	17	52
4.	47*	6682719	14101	"BIGDB	69	36	2	4	89	44	16	42
5.	32*	1559815	14100	"BIGDB	68	36	2	3	99	54	9	41
6.	31*	4489843	16659	"BIGDB	72	34	1	4	62	60	8	60
7.	26	54411120	14122	"BIGDB	70	36	3	4	67	40	10	12

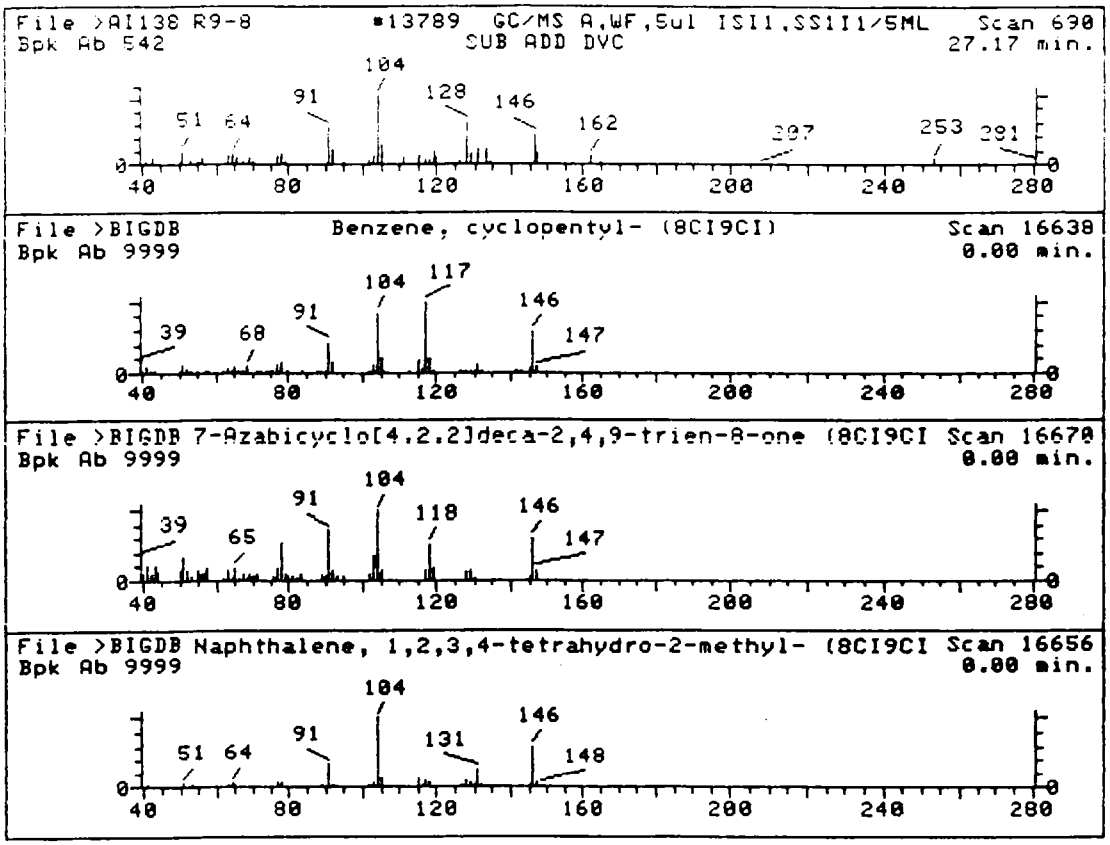


. Unknown #,9
Area = 20713.00 Tentative Concentration is 31.00

1. 1H-Indene, 2,3-dihydro-1,6-dimethyl- (9CI) 146 C11H14
2. 1H-Indene, 2,3-dihydro-1,3-dimethyl- (9CI) 146 C11H14
3. 1H-Indene, 2,3-dihydro-1,1-dimethyl- (9CI) 146 C11H14

Sample file: >AI138 Spectrum #: 673
Search speed: 1 Tilting option: F No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	42*	17059482	14099	"BIGDB	36	63	3	0	100	21	17	13
2.	42*	4175535	14097	"BIGDB	34	67	3	0	100	21	17	13
3.	36*	4912929	14098	"BIGDB	25	67	3	0	100	28	14	13



Unknown #,10
Area = 31902.00 Tentative Concentration is 47.00

1.	Benzene, cyclopentyl- (8CI9CI)	146	C11H14
2.	7-Azabicyclo[4.2.2]deca-2,4,9-trien-8-one (8CI9CI)	147	C9H9NO
3.	Naphthalene, 1,2,3,4-tetrahydro-2-methyl- (8CI9CI)	146	C11H14
4.	2(1H)-Naphthalenone, 3,4-dihydro- (8CI9CI)	146	C10H10O
5.	4-Pyridinecarbonitrile (9CI)	104	C6H4N2
6.	Octanamide, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-N-(2-phenylethyl)- (9CI)	517	C16H10F15NO

Sample file: >AI138 Spectrum #: 690
Search speed: 1 Tilting option: F No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	35*	700889	16638	"BIGDB	61	55	3	1	86	40	14	22
2.	25*	17198060	16670	"BIGDB	35	90	3	0	69	46	7	13
3.	25*	3877198	16656	"BIGDB	52	51	2	4	100	49	7	19
4.	20*	530938	16633	"BIGDB	39	65	2	0	74	51	5	14
5.	11*	100481	9734	"BIGDB	23	79	3	0	100	64	7	12
6.	11	55521090	9776	"BIGDB	32	99	0	0	91	65	2	15

000072

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

FB

Name: AMER.ENV.NTWK. Contract: 93080183

Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

rix: WATER Lab Sample ID: AE#13790

mple (wt/vol): 5 mL Lab File ID: >CI075

el: LOW Date Received: 08/26/93

Moisture: not dec. N.A. Date Analyzed: 9/08/93

umn: PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	8.	B
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (Total)	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
110-75-8	2-Chloroethylvinylether	10.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-pentanone	50.	U
591-78-6	2-Hexanone	50.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	Xylene (Total)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FB

Lab Name: AMER.ENV.NTWK. Contract: 93080183

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Matrix: WATER Lab Sample ID: AE#13790

Sample wt/vol: 5 mL Lab File ID: >CI075

Level: LOW Date Received: 08/26/93

% Moisture: (not dec) N.A. Date Analyzed: 9/08/93

Column: PACK Dilution Factor: 1.0

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110543	Hexane	20.32	16.	J
2.					
3.					
4.					
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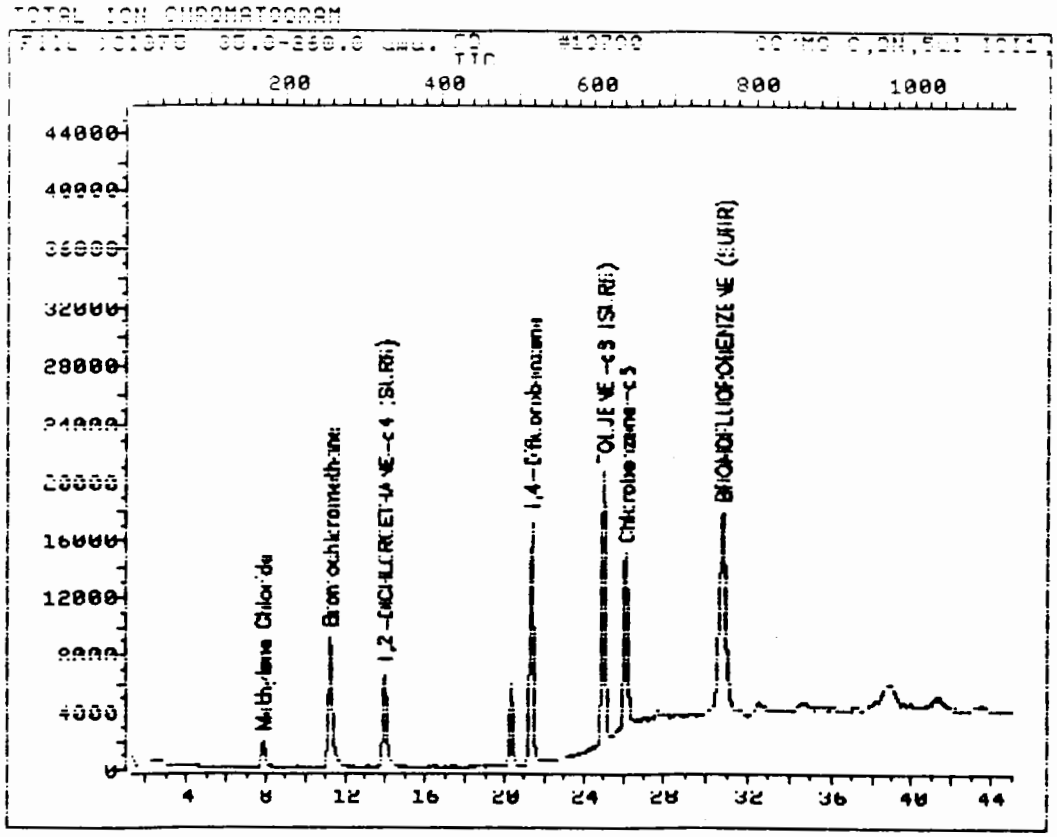
29.					
30.					

= Not Reviewed

FORM I VOA-TIC



Data File: >CI075::C1 Quant Output File: ^CI075::OU
Name: FB #13790
Misc: GC/MS C,DN,5ul ISI1,SS1S1/5mls,WEST

Id File: IDVCID::IC
Title: HSL VOLATILES
Last Calibration: 930908 15:06

Operator ID: DAVE
Quant Time: 930908 15:40
Injected at: 930908 04:48

QUANT REPORT

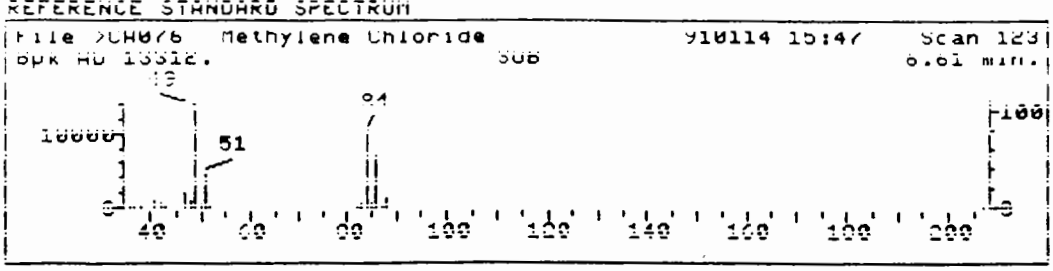
→Operator ID: DAVE Quant Rev: 6 Quant Time: 930908 15:40
Output File: ^CI075::OU Injected at: 930908 04:48
Data File: >CI075::C1 Dilution Factor: 1.00000
Name: FB #13790
Misc: GC/MS C,DN,5ul ISI1,SS1S1/5mls,WEST

ID File: IDVCID::IC
Title: HSL VOLATILES
Last Calibration: 930908 15:06

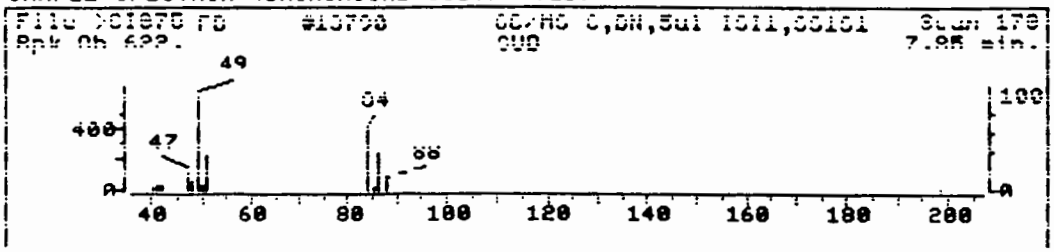
	Compound	Q ion	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	128.0	257	17310	50.00	ug/L	84
6)	Methylene Chloride	84.0	170	6100	8.40	ug/L	92
17)	1,2-DICHLOROETHANE-d4 (SURR)	65.0	327	31434	48.55	ug/L	99
19)	*1,4-Difluorobenzene	114.0	518	76841	50.00	ug/L	100
33)	*Chlorobenzene-d5	117.0	642	45659	50.00	ug/L	99
45)	BROMOFLUOROBENZENE (SURR)	95.0	762	66347	52.03	ug/L	78
46)	TOLUENE-d8 (SURR)	98.0	613	79438	51.36	ug/L	93

* Compound is ISTD

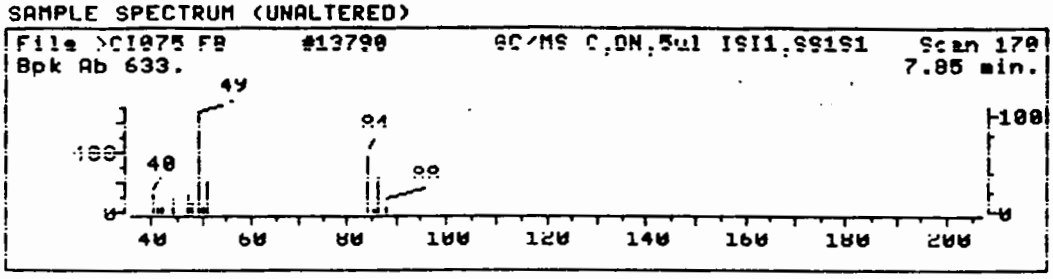
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >CI075::C1 Quant Output File: ^CI075::OU
Name: FB #13790
Misc: GC/MS C,DN,5ul ISI1,SS1S1/5mls,WEST
Quant Time: 930908 15:40 Quant ID File: IDUCID::IC
Injected at: 930908 04:48 Last Calibration: 930908 15:06

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 170
Retention Time: 7.85 min.
Quant Ion: 84.0
Area: 6100
Concentration: 8.40 ug/L
q-value: 92

1S data file header from : >CI075

mple: FB #13790 Operator: DAVE REG. GRP. 9/08/93 4:48
isc : GC/MS C,DN,5ul ISI1,SS1S1/5mls,WEST
s. #: 2 MS model: 70 SW/HW rev.: IA ALS # : 0
Method file: HE7001 Tuning file: MT7001 No. of extra records: 2
Source temp.: 0 Analyzer temp.: 250 Transfer line temp. : 0

Chromatographic temperatures : 45. 220. 0. 0. 0.
Chromatographic times, min. : 4.0 45.0 0.0 0.0 0.0
Chromatographic rate, deg/min: 8.0 0.0 0.0 1.5 0.0

:I075 FB #13790 GC/MS C,DN,5ul ISI1,SS1S1/5mls,WEST
35.0 260.0 CLP ADC TIC
slope: .05 Area Reject: 13945. Max Peaks: 1 Bunching: 1
slope: 0.00 Results File ICI075 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	20.32	485	492	499	5594	68972	65522	100.00	100.000

Sum of corrected areas: 65522.

Summary of Unknowns PBM Library Search and Quantitation

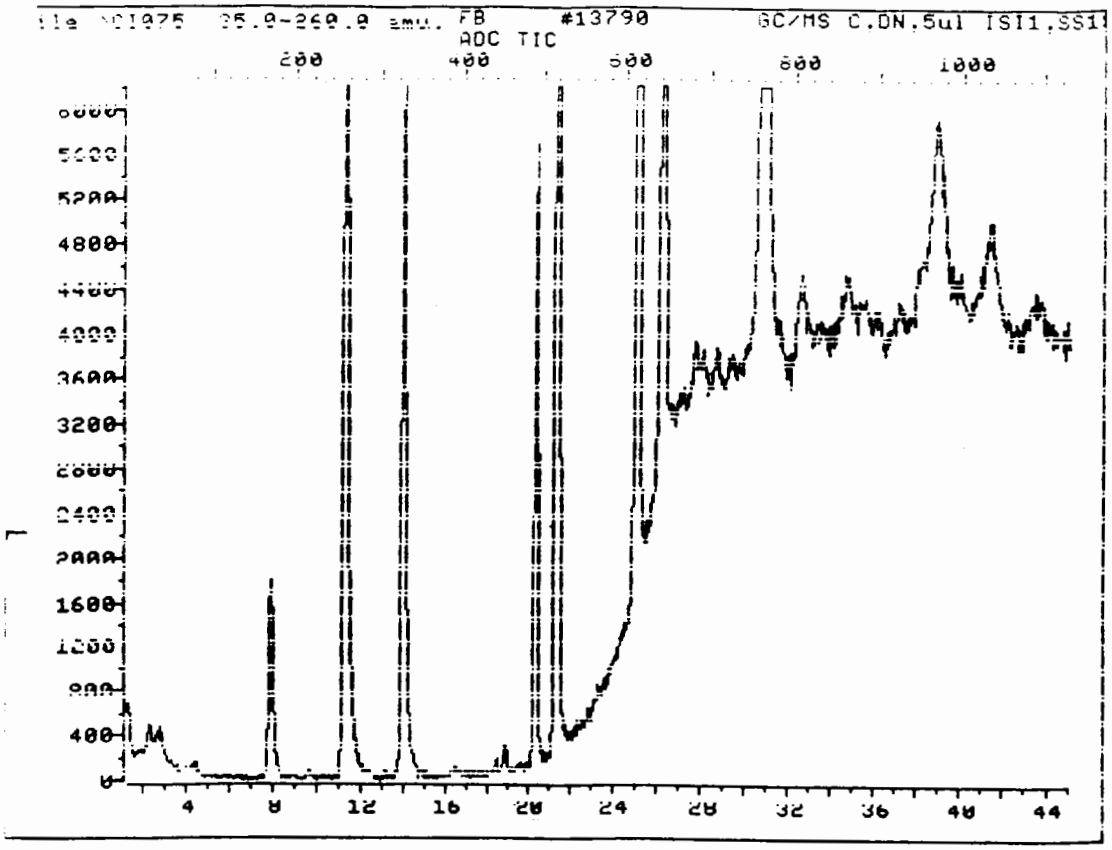
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	139453.	11.22	1.30 - 16.27
2	50.0	200335.	21.33	16.27 - 23.73
3	50.0	158567.	26.13	23.73 - 45.06

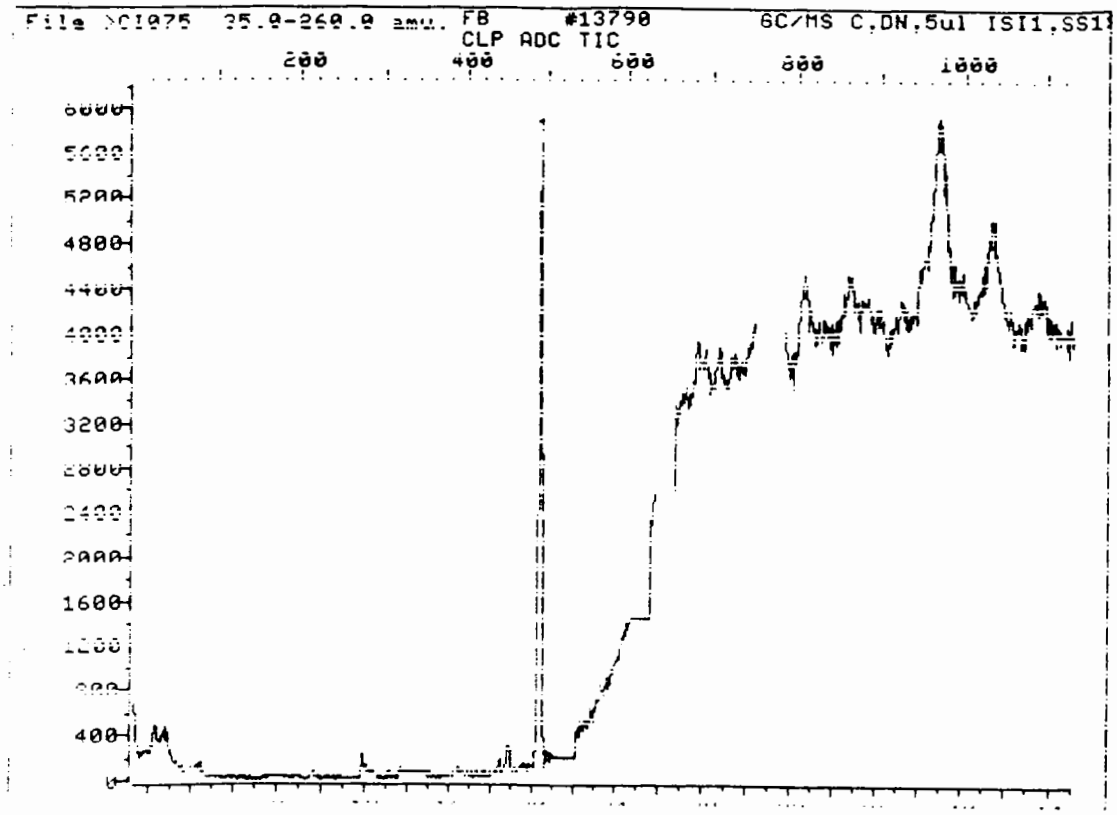
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 5.00 Amount Used (AU) = 5.00

Correction Factor = 1.00 = (AM * DF) / (AU * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

9:55 AM MON., 20 SEPT, 1993


File >CI075 35.0-260.0 amu. FB #13790 GC/MS C.DN.5ul ISI1.SS1
ADC TIC
200
400
600
800
1000
6000
5600
5200
4800
4400
4000
3600
3200
2800
2400
2000
1600
1200
800
400
0
4
8
12
16
20
24
28
32
36
40
44


File >CI075 35.0-260.0 amu. FB #13790 GC/MS C.DN.5ul ISI1.SS1
CLP ADC TIC
200
400
600
800
1000
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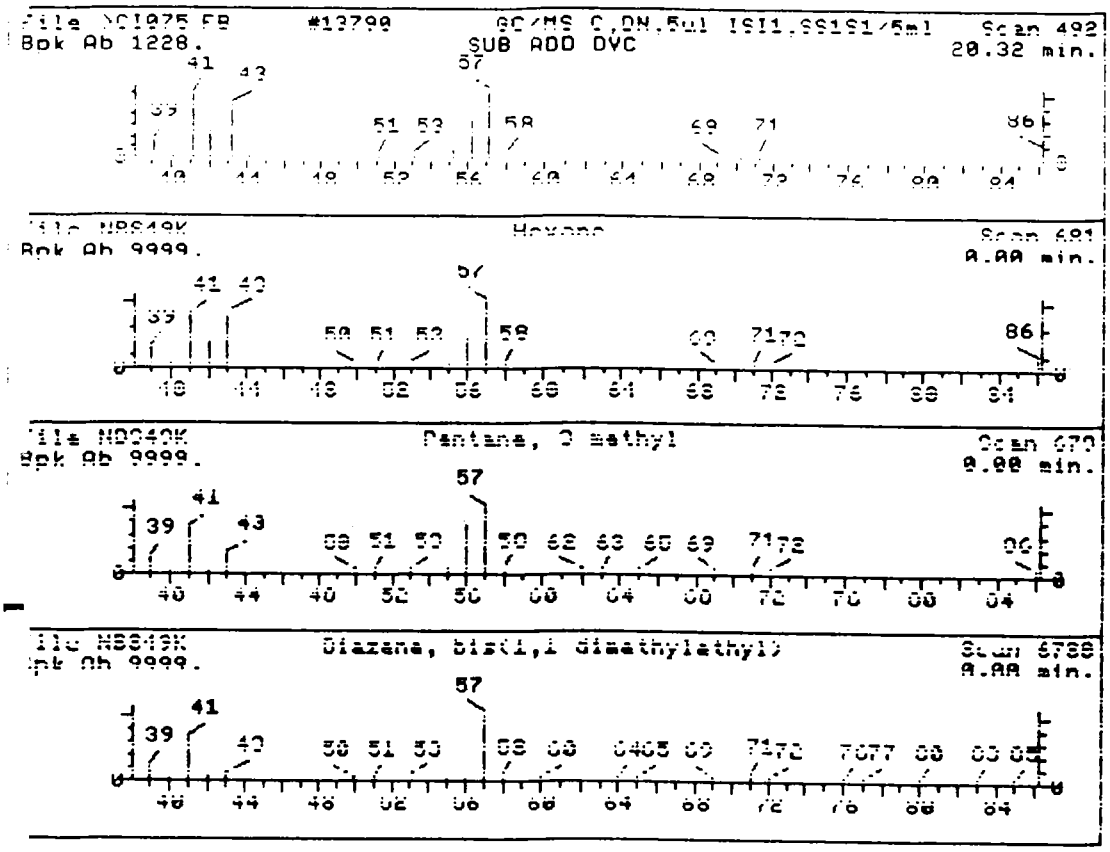
2000
1600
1200
800
400
0



UNKNOWN #.1
AREA = 65522.00 TENTATIVE CONCENTRATION IS 16.00

1.	Hexane	86	C6H14
2.	Pentane, 3-methyl-	86	C6H14
3.	Diazene, bis(1,1-dimethylethyl)-	142	C8H18N2
4.	Ethanamine, N-methylene-	57	C3H7N
5.	Methane, isocyanato-	57	C2H3NO

Sample file: >CI075 Spectrum #: 492
Search speed: 1 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	89*	110543	6971	NBS49K	64	32	0	0	100	2	66	77
2.	40*	96140	1025	NBS49K	38	46	0	0	73	48	12	44
3.	15	927833	1270	NBS49K	27	44	0	0	87	56	3	14
4.	15*	43729971	1002	NBS49K	22	53	3	0	204	58	3	12
5.	11*	624839	1000	NBS49K	27	37	1	0	100	62	2	15

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

FB R

Name: AMER.ENV.NTWK. Contract: 93080183

Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

rix: WATER Lab Sample ID: AE#13789

mple (wt/vol): 5 mL Lab File ID: >CI111

el: LOW Date Received: 08/26/93

Moisture: not dec. N.A. Date Analyzed: 9/10/93

umn: PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	10.	B
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (Total)	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	2.	J
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
110-75-8	2-Chloroethylvinylether	10.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-pentanone	50.	U
591-78-6	2-Hexanone	50.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	Xylene (Total)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FB R

ab Name: AMER.ENV.NTWK. Contract: 93080183

.b Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

trix: WATER Lab Sample ID: AE#13789

ample wt/vol: 5 mL Lab File ID: >CI111

vel: LOW Date Received: 08/26/93

Moisture: (not dec) N.A. Date Analyzed: 9/10/93

.lumn: PACK Dilution Factor: 1.0

Number TICs found: 2

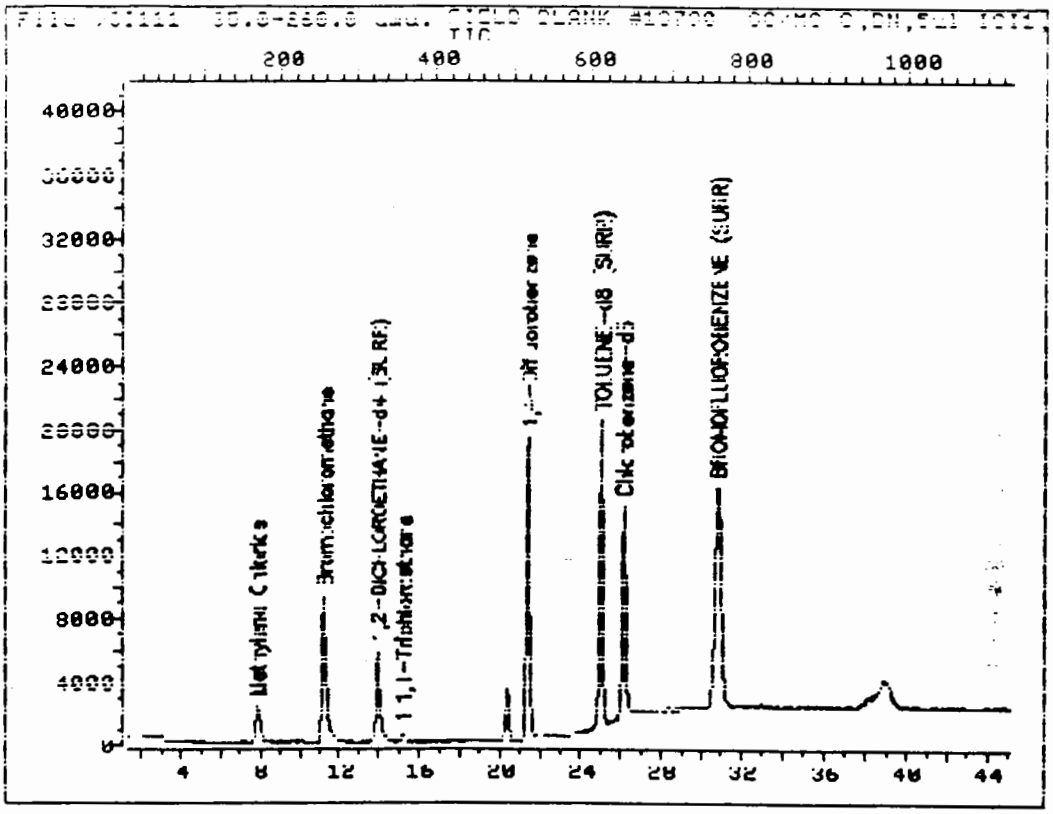
CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110543	Hexane	20.32	9.	JB
2.	439	1,4-Dichlorobenzene d-4	38.85	5.	J
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
1.					
2.					
13.					
14.					
5.					
16.					
17.					
8.					
9.					
20.					
1.					
2.					
23.					
24.					
5.					
26.					
27.					
8.					
9.					
30.					

= Not Reviewed

FORM I VOA-TIC

TOTAL ION CHROMATOGRAM



Data File: >CI111::C1 Quant Output File: ^CI111::OU
Name: FIELD BLANK #13790
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WEST

Id File: IDVCID::IC
Title: HSL VOLATILES
Last Calibration: 930910 15:35

Operator ID: ROY
Quant Time: 930910 15:50
Injected at: 930910 01:47

QUANT REPORT

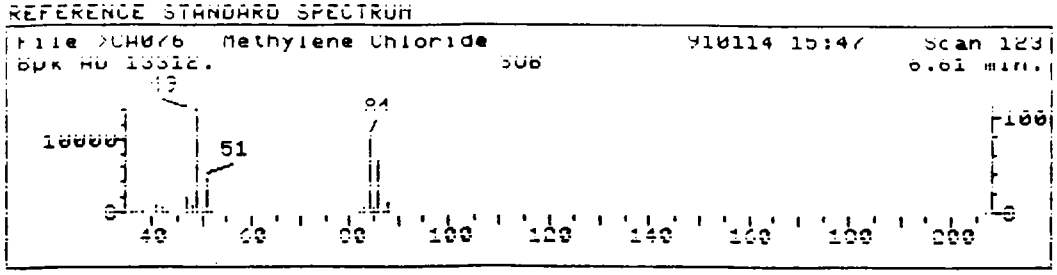
Operator ID: ROY Quant Rev: 6 Quant Time: 930910 15:50
Output File: ^CI111::OU Injected at: 930910 01:47
Data File: >CI111::C1 Dilution Factor: 1.00000
Name: FIELD BLANK #13790
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WEST

ID File: IDUCID::IC
Title: HSL VOLATILES
Last Calibration: 930910 15:35

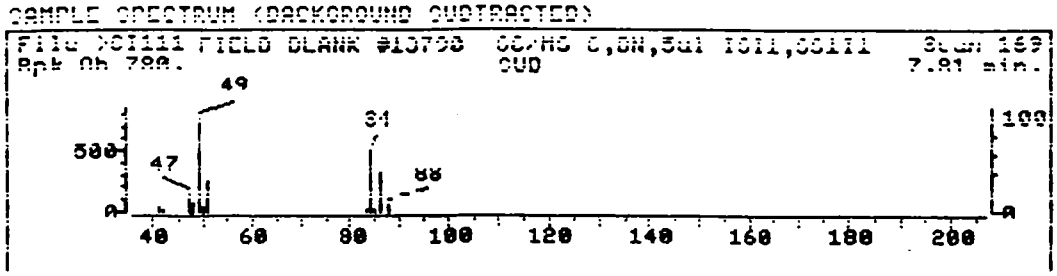
	Compound	Q ion	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	128.0	257	18166	50.00	ug/L	83
6)	Methylene Chloride	84.0	169	7748	9.54	ug/L	94
17)	1,2-DICHLOROETHANE-d4 (SURR)	65.0	327	28011	43.40	ug/L	98
19)	*1,4-Difluorobenzene	114.0	519	87620	50.00	ug/L	100
20)	1,1,1-Trichloroethane	97.0	360	2110	1.52	ug/L	86
33)	*Chlorobenzene-d5	117.0	642	51480	50.00	ug/L	94
45)	BROMOFLUOROBENZENE (SURR)	95.0	762	68470	46.70	ug/L	78
46)	TOLUENE-d8 (SURR)	98.0	613	80781	46.52	ug/L	93

* Compound is ISTD

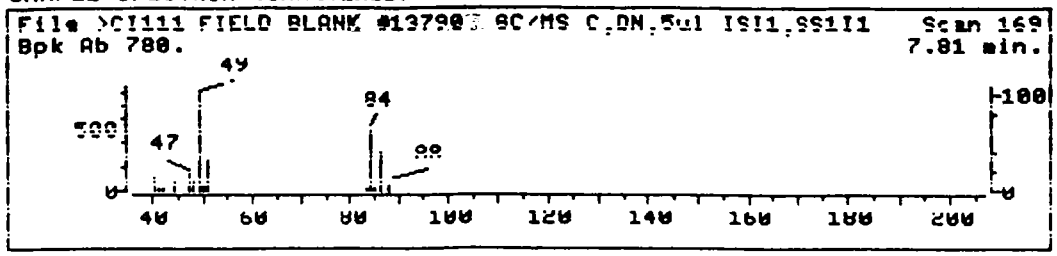
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



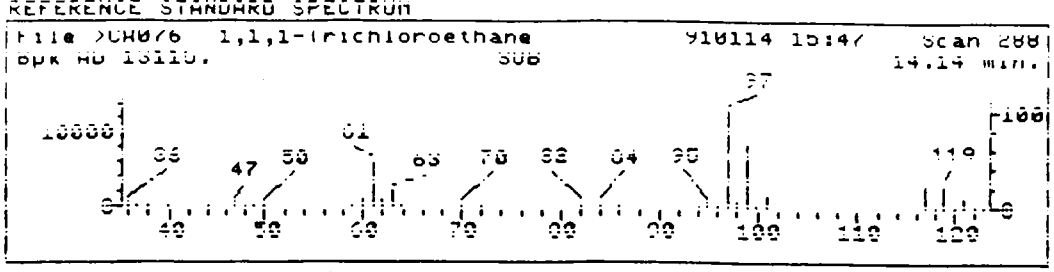
SAMPLE SPECTRUM (UNALTERED)



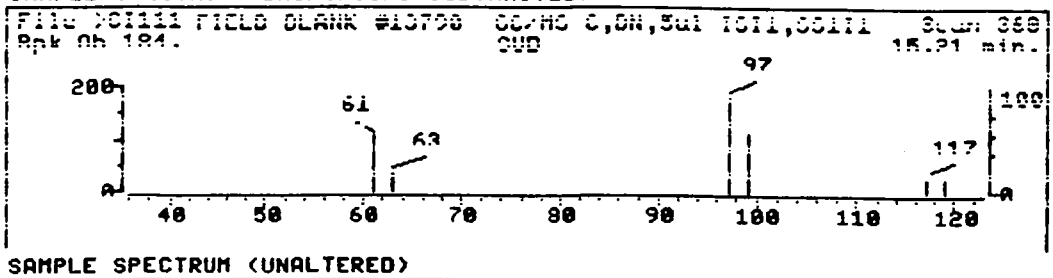
Data File: >CI111::C1 Quant Output File: ^CI111::OU
Name: FIELD BLANK #13790
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WEST
Quant Time: 930910 15:50 Quant ID File: IDUCID::IC
Injected at: 930910 01:47 Last Calibration: 930910 15:35

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 169
Retention Time: 7.81 min.
Quant Ion: 84.0
Area: 7748
Concentration: 9.54 ug/L
q-value: 94

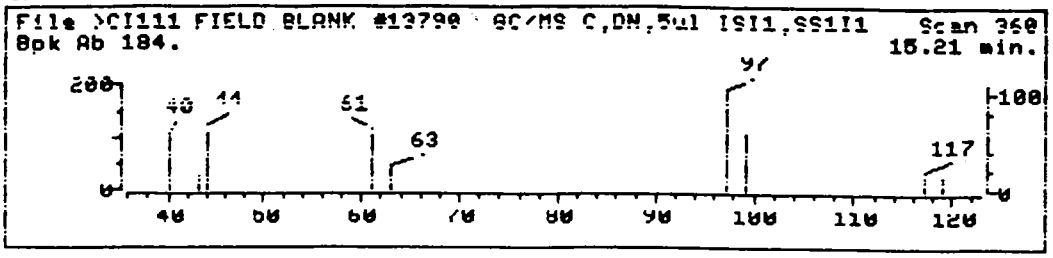
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >CI111::C1 Quant Output File: ^CI111::OU
Name: FIELD BLANK #13790
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WEST
Quant Time: 930910 15:50 Quant ID File: IDUCID::IC
Injected at: 930910 01:47 Last Calibration: 930910 15:35

Compound No: 20
Compound Name: 1,1,1-Trichloroethane
Scan Number: 360
Retention Time: 15.21 min.
Quant Ion: 97.0
Area: 2110
Concentration: 1.52 ug/L
q-value: 86

MS data file header from : >CI111

Sample: FIELD BLANK #13790 Operator: ROY REG. GRP. 9/10/93 1:47
Misc : GC/MS C,DN,5ul ISI1,SS1I1/5mls,WEST
Sys. #: 2 MS model: 70 SW/HW rev.: IA ALS # : 0
Method file: HE7001 Tuning file: MT7001 No. of extra records: 2
Source temp.: 0 Analyzer temp.: 250 Transfer line temp. : 0

Chromatographic temperatures :	45.	220.	0.	0.	0.
Chromatographic times, min. :	4.0	45.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	0.0	0.0	1.5	0.0

CI111 FIELD BLANK #13790 GC/MS C,DN,5ul ISI1,SS1I1/5mls,WEST
35.0| 260.0 CLP ADC TIC
Upslope: .05 Area Reject: 14633. Max Peaks: 2 Bunching: 1
Dnslope: 0.00 Results File ICI111 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	20.32	485	492	499	3290	42737	39320	100.00	68.899
2	38.85	961	970	974	948	111904	17749	45.14	31.101

Sum of corrected areas: 57069.

Summary of Unknowns PBM Library Search and Quantitation

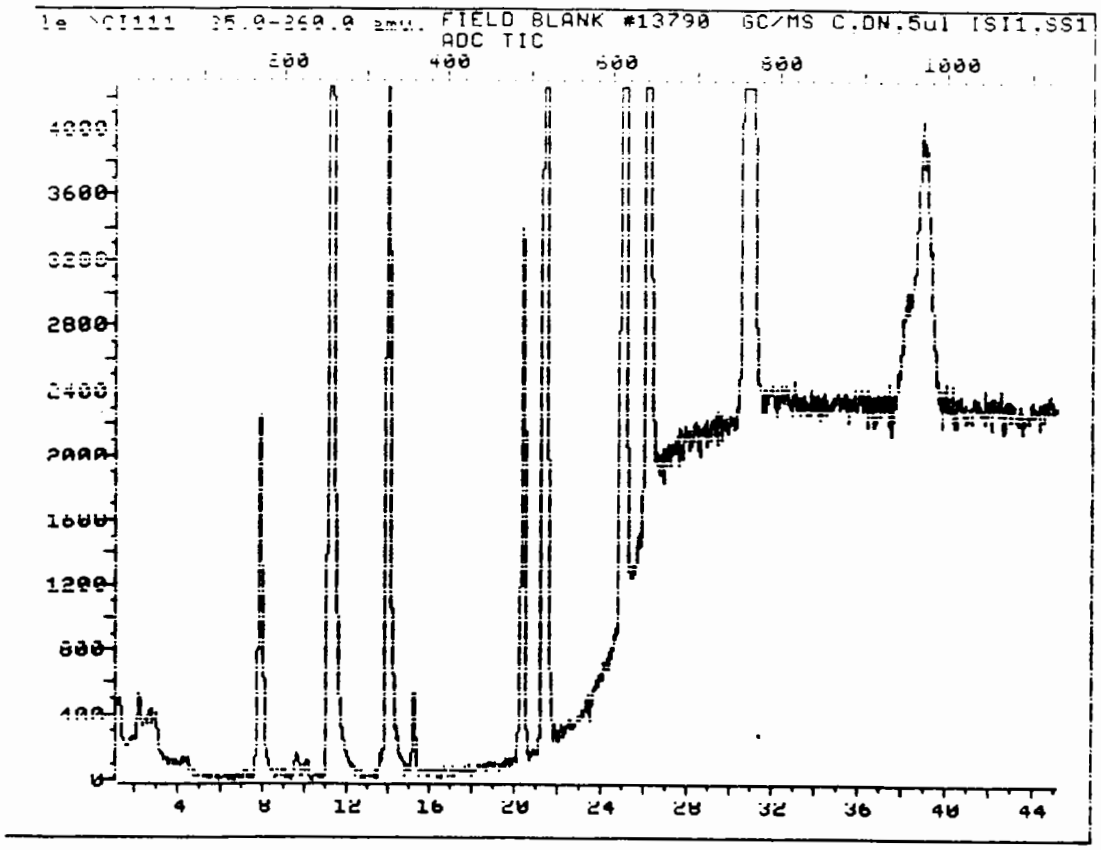
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	146332.	11.22	1.31 - 16.30
2	50.0	228113.	21.37	16.30 - 23.75
3	50.0	182087.	26.14	23.75 - 45.09

Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 5.00 Amount Used (AU) = 5.00

Correction Factor = 1.00 = (AM * DF) / (AU * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

9:36 AM MON., 20 SEPT, 1993


File >CI111 35.0-260.0 amu. FIELD BLANK #13790 GC/MS C,DN,5ul ISI1,SS1
ADC TIC
200
400
600
800
1000
4000
3600
3200
2800
2400
2000
1600
1200
800
400
0
4
8
12
16
20
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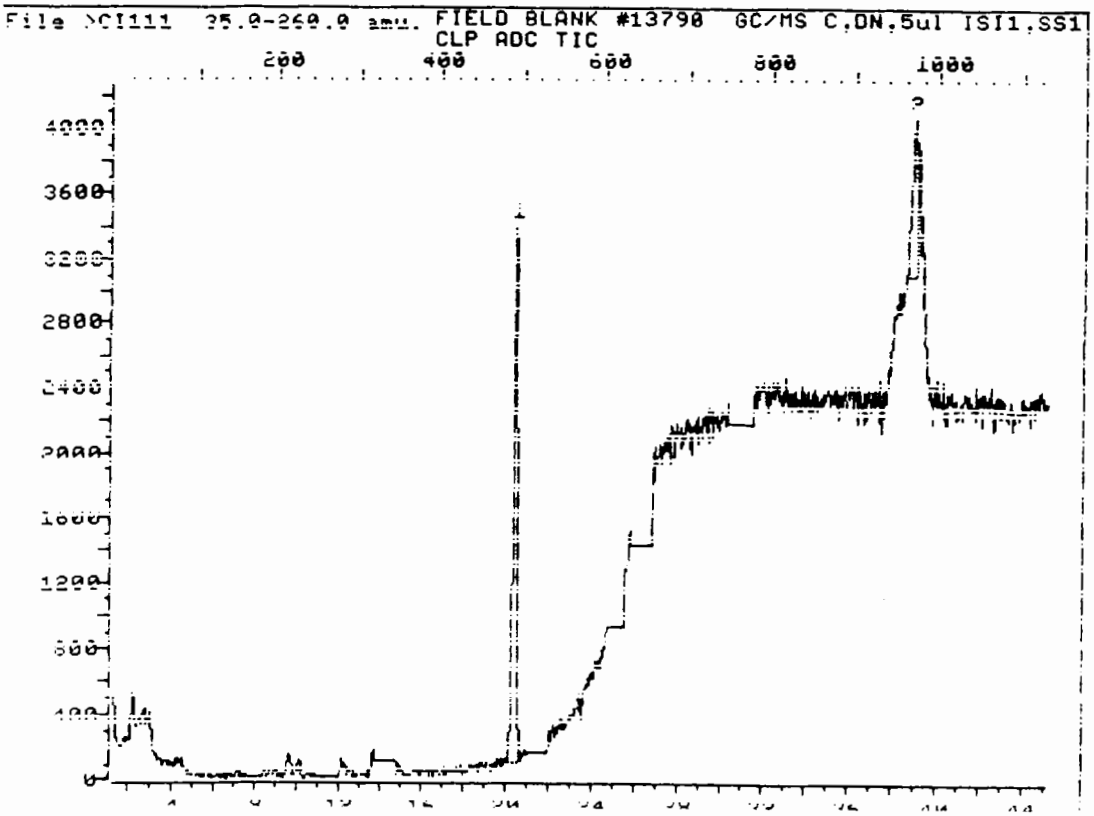
36
40
44


File >CI111 35.0-260.0 amu. FIELD BLANK #13790 GC/MS C,DN,5ul ISI1,SS1
CLP ADC TIC
200
400
600
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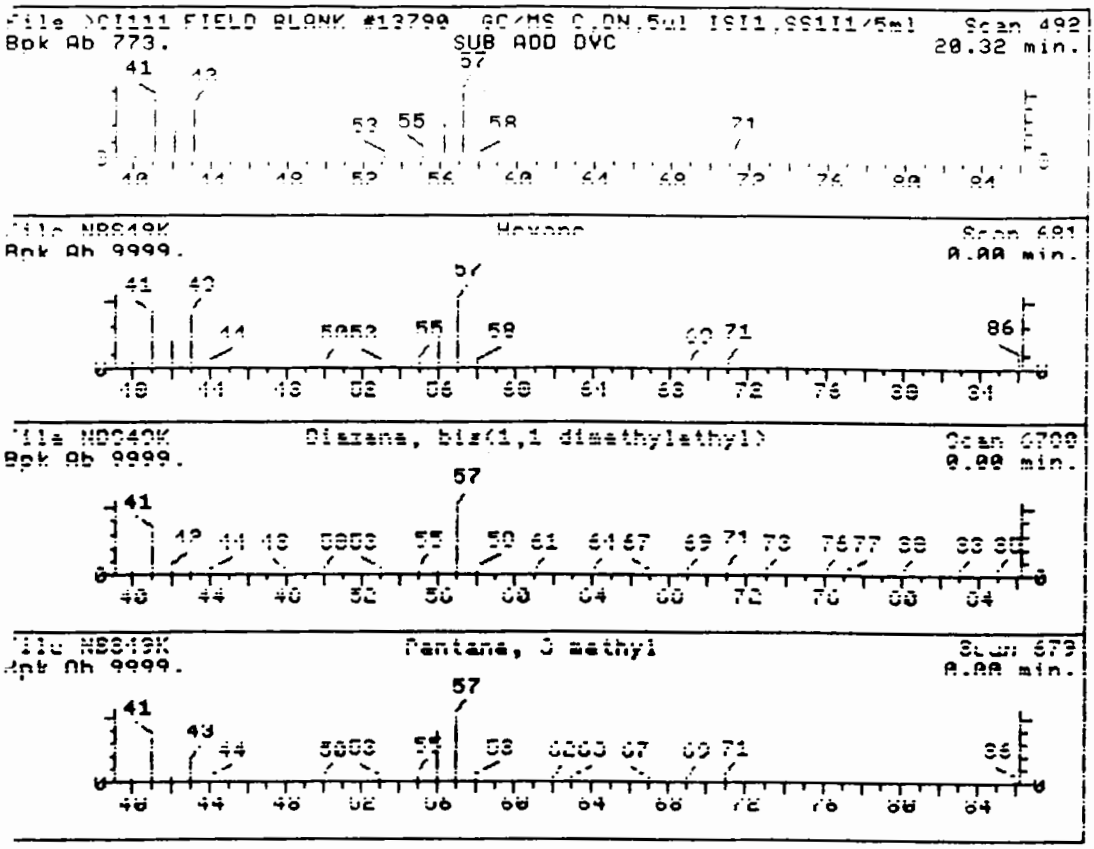
1000
4000
3600
3200
2800
2400
2000
1600
1200
800
400
0



UNKNOWN #.1

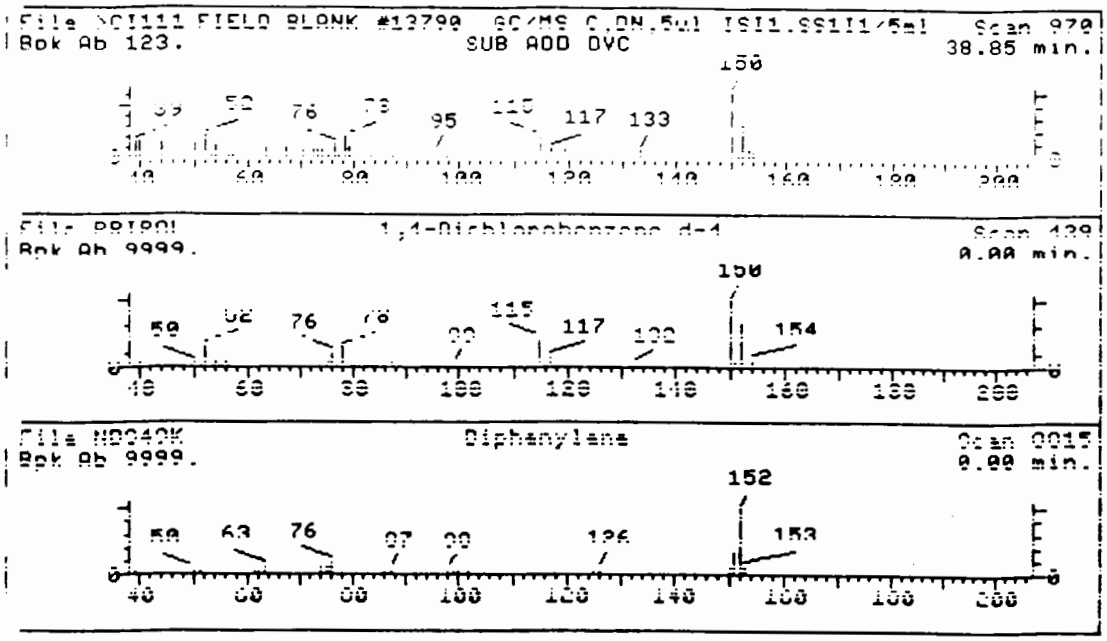
AREA = 39320.00 TENTATIVE CONCENTRATION IS 9.00

1.	Hexane	86	C6H14
2.	Diazene, bis(1,1-dimethylethyl)-	142	C8H18N2
3.	Pentane, 3-methyl-	86	C6H14
4.	Methane, isocyanato-	57	C2H3NO

Sample file: >CI111 Spectrum #: 492

Search speed: 1 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	88*	110543	6971	NBS49K	60	36	1	0	99	2	65	56
2.	15	927833	1270	NBS49K	27	44	0	0	82	56	3	14
3.	15*	96140	1025	NBS49K	26	58	1	0	56	59	3	14
4.	11*	624839	1000	NBS49K	23	41	2	0	100	62	2	13



UNKNOWN # 2
AREA = 17749.00 TENTATIVE CONCENTRATION IS 5.00

1. 1,4-Dichlorobenzene d-4 150 C6.D4.CL2

2. Biphenylene 152 C12H8

Sample file: >CI111 Spectrum #: 970
Search speed: 1 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	63*	439	257	PRIPOL	60	47	2	0	74	20	30	37
2.	15*	259790	19832	NBS49K	40	59	2	2	52	56	3	13

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: AMER.ENV.NTWK. Contract: N.A.

Lab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

Instrument ID: HP5970-C Calibration Date(s):09/06/93 N.A.

Matrix: WATER Level: LOW Column: PACK

Min $\overline{RRF}$ for SPCC(#) = 0.3 (0.25 for Bromoform) Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF20 =>CI042 RRF50 =>CI044
RRF100=>CI045 RRF150=>CI046 RRF200=>CI047

COMPOUND	RRF20	RRF50	RRF100	RRF150	RRF200	$\overline{RRF}$	% RSD
Chloromethane #	1.812	1.596	1.588	1.578	1.651	1.645	5.9#
Bromomethane	1.617	1.763	1.625	1.500	1.458	1.593	7.5
Vinyl_Chloride *	1.632	1.521	1.486	1.485	1.550	1.535	4.0*
Chloroethane	1.280	1.213	1.162	1.170	1.182	1.201	4.0
Methylene_Chloride	2.251	2.095	2.070	2.044	2.028	2.098	4.3
Acetone	.217	.278	.277	.256	.247	.255	9.9
Carbon_Disulfide	.786	.740	.766	.786	.800	.776	3.0
1,1-Dichloroethene *	1.840	1.682	1.688	1.680	1.698	1.718	4.0*
1,1-Dichloroethane #	4.410	4.289	4.155	4.191	4.210	4.251	2.4#
1,2-Dichloroethene_(Total)	2.185	1.989	1.981	1.984	2.009	2.030	4.3
Chloroform *	4.825	4.615	4.470	4.524	4.474	4.582	3.2*
1,2-Dichloroethane	2.693	2.720	2.610	2.657	2.584	2.653	2.1
2-Butanone	.350	.506	.534	.544	.494	.485	16.2
1,1,1-Trichloroethane	.789	.777	.769	.794	.786	.783	1.3
Carbon_Tetrachloride	.661	.667	.673	.692	.700	.679	2.4
Vinyl_Acetate	.407	.733	.783	.798	.808	.706	24.0
Bromodichloromethane	1.011	1.044	1.036	1.058	1.056	1.041	1.8
1,2-Dichloropropane *	.682	.688	.674	.681	.678	.681	.7*
cis-1,3-Dichloropropene	.616	.690	.686	.704	.694	.678	5.2
Trichloroethene	.604	.592	.574	.582	.582	.587	2.0
Dibromochloromethane	.696	.796	.806	.829	.826	.790	6.9
1,1,2-Trichloroethane	.449	.452	.459	.465	.449	.455	1.6
Benzene	1.380	1.349	1.339	1.362	1.359	1.358	1.1
trans-1,3-Dichloropropene	.809	.863	.866	.875	.870	.857	3.1
2-Chloroethylvinylether	.178	.218	.212	.251	.003	.173	56.9
Bromoform #	.332	.434	.454	.467	.468	.431	13.2#
4-Methyl-2-pentanone	.631	.727	.709	.702	.676	.689	5.4
2-Hexanone	.384	.494	.455	.462	.431	.445	9.2
Tetrachloroethene	.862	.795	.799	.803	.816	.815	3.4
1,1,2,2-Tetrachloroethane	.980	1.110	1.126	1.136	1.092	1.089	5.8
Toluene *	1.549	1.422	1.422	1.428	1.424	1.449	3.9*
Chlorobenzene #	2.035	1.903	1.853	1.883	1.866	1.908	3.9#
Ethylbenzene *	.965	.887	.853	.865	.862	.887	5.2*
Styrene	1.988	1.889	1.897	1.918	1.893	1.917	2.2
Xylene_(Total)	1.191	1.097	1.093	1.089	1.072	1.108	4.3
TOLUENE-d8_(SURR)	1.788	1.666	1.672	1.673	1.670	1.694	3.1
BROMOFLUOROBENZENE_(SURR)	1.435	1.385	1.385	1.394	1.382	1.396	1.6
1,2-DICHLOROETHANE-d4_(SURR	1.891	1.917	1.855	1.858	1.831	1.870	1.8

FORM VI VOA

SW 846

OS

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

ıb Name: AMER.ENV.NTWK. Contract: N.A.
ʰ Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.
trument ID: HP5985-A Calibration Date(s):09/07/93 09/08/93
ɹrix: SOIL Level: LOW Column: CAP

RRF for SPCC(#) = 0.300 (0.250 for Bromoform)
%RSD for CCC(*) = 30.0%

.B FILE ID: RRF20 =>AI094 RRF50 =>AI092
:F100=>AI095 RRF150=>AI107 RRF200=>AI108

COMPOUND		RRF20	RRF50	RRF100	RRF150	RRF200	$\overline{RRF}$	% RSD
:hloromethane	#	1.192	.887	.699	.907	.590	.855	26.9#
·omomethane		1.199	1.168	.832	1.150	.885	1.047	16.6
.nyl_Chloride	*	1.022	.937	.631	.710	.483	.757	29.2*
:hloroethane		1.087	1.001	.746	.916	.763	.903	16.4
·thylene_Chloride		2.939	2.358	1.963	2.020	1.851	2.226	19.8
:etone		1.295	1.081	.947	.752	.741	.963	24.2
.arbon_Disulfide		.969	.935	.786	.888	.799	.876	9.3
·1-Dichloroethene	*	1.672	1.619	1.410	1.515	1.381	1.520	8.4*
1-Dichloroethane	#	3.803	3.588	3.372	3.376	3.194	3.467	6.8#
:ans-1,2-Dichloroethene		1.849	1.828	1.678	1.817	1.667	1.768	5.0
:hloroform	*	3.694	3.566	3.410	3.358	3.246	3.455	5.1*
2-Dichloroethane		2.012	1.899	1.881	1.740	1.714	1.849	6.6
·Butanone		.739	.580	.636	.442	.481	.576	20.8
.,1,1-Trichloroethane		.536	.479	.474	.463	.446	.479	7.1
ʰrbon_Tetrachloride		.426	.387	.378	.373	.355	.384	6.8
.nyl_Acetate		.657	.477	.510	.886	.893	.685	29.0
..omodichloromethane		.712	.649	.660	.621	.590	.646	7.0
1,2-Dichloropropane	*	.628	.566	.559	.523	.510	.557	8.3*
.s-1,3-Dichloropropene		.574	.600	.579	.580	.545	.576	3.4
·ichloroethene		.578	.489	.499	.451	.431	.490	11.6
)ibromochloromethane		.628	.597	.603	.553	.517	.579	7.6
1,2-Trichloroethane		.493	.434	.458	.404	.393	.436	9.3
:nzene		1.659	1.444	1.429	1.348	1.314	1.439	9.4
.ɹans-1,3-Dichloropropene		.742	.741	.718	.700	.686	.717	3.4
ʰ-Chloroethylvinylether		.628	.566	.559	.523	.510	.557	8.3
·omoform	#	.503	.503	.525	.441	.416	.477	9.8#
·Methyl-2-Pentanone		3.780	2.708	2.975	2.122	2.323	2.782	23.3
:-Hexanone		2.909	2.080	2.216	1.529	1.666	2.080	26.1
:trachloroethene		1.326	1.262	1.172	1.173	1.120	1.211	6.8
1,2,2-Tetrachloroethane	#	2.736	2.915	2.847	2.551	2.545	2.719	6.2#
:oluene	*	3.081	2.714	2.546	2.516	2.405	2.653	9.9*
ʰlorobenzene	#	3.086	3.211	2.966	2.873	2.741	2.975	6.1#
:hylbenzene	*	4.625	4.537	4.418	4.491	4.228	4.460	3.4*
.cyrene		3.075	3.400	3.168	3.051	2.919	3.123	5.7
+ p-Xylenes		1.884	1.875	1.636	1.574	1.533	1.700	9.9
·Xylene		1.839	1.838	1.684	1.590	1.522	1.694	8.5
:OLUENE-d8_(SURR)		3.649	3.182	2.862	2.749	2.740	3.036	12.7
:OMOFLUOROBENZENE_(SURR)		1.709	1.672	1.542	1.480	1.439	1.569	7.5
2-DICHLOROETHANE-d4_(SURR		1.417	1.340	1.283	1.153	1.164	1.271	8.9

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

ab Name: AMER.ENV.NTWK. Contract: N.A.
h Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.
trument ID: HP5985-A Calibration Date(s):09/09/93 N.A.
rix: SOIL Level: LOW Column: CAP

RRF for SPCC(#) = 0.300 (0.250 for Bromoform)
%RSD for CCC(*) = 30.0%

B FILE ID: RRF20 =>AI131 RRF50 =>AI127
F100=>AI130 RRF150=>AI129 RRF200=>AI128

COMPOUND		RRF20	RRF50	RRF100	RRF150	RRF200	$\overline{RRF}$	% RSD
Chloromethane	#	.954	.990	.736	1.064	1.002	.949	13.2#
omomethane		1.426	1.333	1.115	1.048	1.051	1.194	14.6
nyl_Chloride	*	1.096	1.021	.889	.770	.708	.897	18.2*
Chloroethane		1.034	.986	.835	.793	.811	.892	12.4
thylene_Chloride		3.144	2.325	2.034	2.063	1.937	2.300	21.4
etone		.661	.572	.476	.525	.515	.550	12.8
arbon_Disulfide		1.216	1.054	.845	.881	.841	.967	16.9
1,1-Dichloroethene	*	1.942	1.889	1.612	1.619	1.621	1.737	9.5*
1-Dichloroethane	#	4.009	3.845	3.483	3.472	3.371	3.636	7.6#
ans-1,2-Dichloroethene		2.022	1.977	1.762	1.821	1.825	1.881	5.9
Chloroform	*	4.224	3.727	3.567	3.502	3.381	3.680	8.9*
2-Dichloroethane		2.059	1.900	1.831	1.766	1.703	1.852	7.4
-Butanone		.472	.494	.509	.418	.445	.467	7.9
1,1,1-Trichloroethane		.468	.436	.398	.414	.398	.423	7.0
arbon_Tetrachloride		.461	.424	.399	.391	.386	.412	7.4
nyl_Acetate		.443	.417	.419	.307	.337	.385	15.3
omodichloromethane		.743	.684	.650	.630	.612	.664	7.8
1,2-Dichloropropane	*	.634	.598	.555	.542	.525	.571	7.8*
s-1,3-Dichloropropene		.661	.633	.609	.584	.591	.616	5.2
richloroethene		.584	.510	.481	.458	.451	.497	10.9
Dibromochloromethane		.669	.618	.595	.554	.546	.597	8.4
1,2-Trichloroethane		.494	.455	.441	.397	.391	.436	9.8
enzene		1.696	1.541	1.426	1.382	1.331	1.475	9.9
rans-1,3-Dichloropropene		.816	.779	.758	.733	.701	.758	5.8
2-Chloroethylvinylether		.634	.598	.555	.542	.525	.571	7.8
romoform	#	.537	.493	.489	.419	.425	.473	10.6#
-Methyl-2-Pentanone		2.488	2.359	2.509	2.054	2.145	2.311	8.8
2-Hexanone		1.922	1.704	1.822	1.461	1.539	1.689	11.3
etrachloroethene		1.357	1.297	1.208	1.182	1.165	1.242	6.6
1,2,2-Tetrachloroethane	#	2.777	2.768	2.742	2.482	2.430	2.640	6.4#
Toluene	*	3.054	2.814	2.592	2.582	2.503	2.709	8.3*
Chlorobenzene	#	3.385	3.162	2.962	2.920	2.777	3.041	7.8#
thylbenzene	*	5.527	5.210	4.428	4.517	4.588	4.854	10.0*
tyrene		3.736	3.458	3.228	3.130	2.952	3.301	9.2
m + p-Xylenes		2.056	1.956	1.730	1.622	1.629	1.799	11.0
-Xylene		2.079	1.884	1.730	1.645	1.532	1.774	12.0
TOLUENE-d8_(SURR)		3.366	3.130	2.839	2.903	2.753	2.998	8.3
ROMOFLUOROBENZENE_(SURR)		1.753	1.676	1.569	1.531	1.473	1.601	7.1
2-DICHLOROETHANE-d4_(SURR		1.353	1.254	1.212	1.171	1.127	1.223	7.1

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: AMER.ENV.NTWK. Contract: 93080186

Lab Code: AEN1 Case No: WESTON SAS No: N.A. SDG No: N.A.

Instrument ID: HP5970-C Calibration Date: 9/07/93 16:43

Lab File ID: CI065 Init. Calib. Date(s): 09/06/93 N.A.

Matrix: WATER Level: LOW Column: PACK

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform)
Max %D for CCC(*) = 25.0%

COMPOUND		RRF	RRF50	%D	
Chloromethane	#	1.645	1.530	7.0	#
Bromomethane		1.593	1.801	13.1	
Vinyl Chloride	*	1.535	1.489	3.0	*
Chloroethane		1.201	1.197	.4	
Methylene Chloride		2.098	2.136	1.8	
Acetone		.255	.296	16.0	
Carbon Disulfide		.776	.784	1.1	
1,1-Dichloroethene	*	1.718	1.804	5.0	*
1,1-Dichloroethane	#	4.251	4.279	.7	#
1,2-Dichloroethene (Total)		2.030	2.106	3.7	
Chloroform	*	4.582	4.611	.7	*
1,2-Dichloroethane		2.653	2.620	1.2	
2-Butanone		.485	.536	10.3	
1,1,1-Trichloroethane		.783	.770	1.7	
Carbon Tetrachloride		.679	.672	1.0	
Vinyl Acetate		.706	.734	4.0	
Bromodichloromethane		1.041	1.021	1.9	
1,2-Dichloropropane	*	.681	.659	3.2	*
cis-1,3-Dichloropropene		.678	.666	1.8	
Trichloroethene		.587	.580	1.2	
Dibromochloromethane		.790	.737	6.8	
1,1,2-Trichloroethane		.455	.441	3.2	
Benzene		1.358	1.339	1.4	
trans-1,3-Dichloropropene		.857	.839	2.0	
2-Chloroethylvinylether		.173	.197	14.2	
Bromoform	#	.431	.390	9.5	#
4-Methyl-2-pentanone		.689	.662	3.9	
2-Hexanone		.445	.431	3.1	
Tetrachloroethene		.815	.810	.6	
1,1,2,2-Tetrachloroethane		1.089	1.069	1.8	
Toluene	*	1.449	1.456	.4	*
Chlorobenzene	#	1.908	1.894	.8	#
Ethylbenzene	*	.887	.874	1.4	*
Styrene		1.917	1.917	.0	
Xylene (Total)		1.108	1.071	3.4	
TOLUENE-d8 (SURR)		1.694	1.695	.1	
BROMOFLUOROBENZENE (SURR)		1.396	1.393	.3	
1,2-DICHLOROETHANE-d4 (SURR		1.870	1.830	2.1	

FORM VII VOA

SW 846

000095

OS
OS

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: AMER.ENV.NTWK. Contract: 93080186

Lab Code: AEN1 Case No: WESTON SAS No: N.A. SDG No: N.A.

Instrument ID: HP5970-C Calibration Date: 9/09/93 17:20

Lab File ID: 9C1102 Init. Calib. Date(s): 09/06/93 N.A.

Matrix: WATER Level: LOW Column: PACK

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform)
Max %D for CCC(*) = 25.0%

COMPOUND	RRF	RRF50	%D
Chloromethane #	1.645	1.229	25.3 #
Bromomethane	1.593	1.673	5.1
Vinyl Chloride *	1.535	1.302	15.2 *
Chloroethane	1.201	1.141	5.0
Methylene Chloride	2.098	2.235	6.5
Acetone	.255	.308	21.0
Carbon Disulfide	.776	.776	.1
1,1-Dichloroethene *	1.718	1.735	1.0 *
1,1-Dichloroethane #	4.251	4.321	1.7 #
1,2-Dichloroethene (Total)	2.030	2.065	1.7
Chloroform *	4.582	4.660	1.7 *
1,2-Dichloroethane	2.653	2.651	.1
2-Butanone	.485	.456	6.2
1,1,1-Trichloroethane	.783	.790	.9
Carbon Tetrachloride	.679	.689	1.5
Vinyl Acetate	.706	.749	6.1
Bromodichloromethane	1.041	1.055	1.3
1,2-Dichloropropane *	.681	.681	.1 *
cis-1,3-Dichloropropene	.678	.662	2.4
Trichloroethene	.587	.591	.6
Dibromochloromethane	.790	.768	2.8
1,1,2-Trichloroethane	.455	.451	.9
Benzene	1.358	1.370	.9
trans-1,3-Dichloropropene	.857	.863	.8
2-Chloroethylvinylether	.173	.196	13.9
Bromoform #	.431	.409	5.1 #
4-Methyl-2-pentanone	.689	.693	.6
2-Hexanone	.445	.465	4.4
Tetrachloroethene	.815	.837	2.7
1,1,2,2-Tetrachloroethane	1.089	1.135	4.2
Toluene *	1.449	1.491	2.9 *
Chlorobenzene #	1.908	1.951	2.3 #
Ethylbenzene *	.887	.884	.3 *
Styrene	1.917	1.948	1.6
Xylene (Total)	1.108	1.109	.1
TOLUENE-d8 (SURR)	1.694	1.687	.4
BROMOFLUOROBENZENE (SURR)	1.396	1.424	2.0
1,2-DICHLOROETHANE-d4 (SURR	1.870	1.776	5.0

FORM VII VOA

SW 846

000096

OS
OS

7A

VOLATILE CONTINUING CALIBRATION CHECK

ab Name: AMER.ENV.NTWK. Contract: N.A.

b Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

nstrument ID: HP5985-A Calibration Date: 9/08/93 Time: 19:10

b File ID: >AI110 Init. Calib. Date(s): 09/07/93 09/08/93

trix: SOIL Level: LOW Column: CAP

n RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform)

ax %D for CCC(*) = 25.0%

COMPOUND		$\overline{RRF}$	RRF50	%D	
Chloromethane	#	.855	.919	7.5	#
Bromomethane		1.047	1.044	.2	
Vinyl Chloride	*	.757	.923	22.0	*
Chloroethane		.903	.794	12.0	
Methylene Chloride		2.226	2.268	1.9	
Acetone		.963	.586	39.2	
Carbon Disulfide		.876	.897	2.5	
1,1-Dichloroethene	*	1.520	1.696	11.6	*
1,1-Dichloroethane	#	3.467	3.722	7.4	#
trans-1,2-Dichloroethene		1.768	1.873	6.0	
Chloroform	*	3.455	3.707	7.3	*
1,2-Dichloroethane		1.849	1.945	5.2	
2-Butanone		.576	.530	8.0	
1,1,1-Trichloroethane		.479	.422	12.0	
Carbon Tetrachloride		.384	.417	8.6	
Vinyl Acetate		.685	.450	34.3	
Bromodichloromethane		.646	.688	6.4	
1,2-Dichloropropane	*	.557	.594	6.7	*
cis-1,3-Dichloropropene		.576	.647	12.3	
Trichloroethene		.490	.500	2.1	
Dibromochloromethane		.579	.306	47.1	
1,1,2-Trichloroethane		.436	.458	5.1	
Benzene		1.439	1.526	6.1	
trans-1,3-Dichloropropene		.717	.796	11.0	
2-Chloroethylvinylether		.557	.594	6.7	
Bromoform	#	.477	.504	5.6	#
4-Methyl-2-Pentanone		2.782	2.546	8.5	
2-Hexanone		2.080	1.910	8.2	
Tetrachloroethene		1.211	1.242	2.6	
1,1,2,2-Tetrachloroethane	#	2.719	2.868	5.5	#
Toluene	*	2.653	2.746	3.5	*
Chlorobenzene	#	2.975	3.212	7.9	#
Ethylbenzene	*	4.460	4.853	8.8	*
Styrene		3.123	3.465	11.0	
m + p-Xylenes		1.700	1.843	8.4	
o-Xylene		1.694	1.898	12.0	
TOLUENE-d8 (SURR)		3.036	3.166	4.3	
BROMOFLUOROBENZENE (SURR)		1.569	1.671	6.5	
1,2-DICHLOROETHANE-d4 (SURR		1.271	1.337	5.1	

FORM VII VOA

SW 846

7A

VOLATILE CONTINUING CALIBRATION CHECK

..b Name: AMER.ENV.NTWK. Contract: N.A.

b Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

Instrument ID: HP5985-A Calibration Date: 9/09/93 Time: 22:08

b File ID: >AI134 Init. Calib. Date(s): 09/09/93 N.A.

Matrix: SOIL Level: LOW Column: CAP

n RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform)

..x %D for CCC(*) = 25.0%

COMPOUND		$\overline{RRF}$	RRF50	%D	
Chloromethane	#	.949	1.044	10.0	#
Bromomethane		1.194	1.360	13.9	
Vinyl Chloride	*	.897	.892	.5	*
Chloroethane		.892	1.013	13.6	
Methylene_Chloride		2.300	2.641	14.8	
Acetone		.550	.328	40.4	
Carbon_Disulfide		.967	.930	3.9	
1,1-Dichloroethene	*	1.737	1.441	17.1	*
1,1-Dichloroethane	#	3.636	3.783	4.0	#
trans-1,2-Dichloroethene		1.881	1.802	4.2	
Chloroform	*	3.680	3.688	.2	*
1,2-Dichloroethane		1.852	1.730	6.6	
2-Butanone		.467	.251	46.3	
1,1,1-Trichloroethane		.423	.401	5.2	
Carbon_Tetrachloride		.412	.330	19.9	
Vinyl Acetate		.385	.211	45.2	
Bromodichloromethane		.664	.602	9.3	
1,2-Dichloropropane	*	.571	.522	8.6	*
cis-1,3-Dichloropropene		.616	.449	27.0	
Trichloroethene		.497	.431	13.3	
Dibromochloromethane		.597	.237	60.3	
1,1,2-Trichloroethane		.436	.367	15.8	
Benzene		1.475	1.390	5.8	
trans-1,3-Dichloropropene		.758	.618	18.4	
2-Chloroethylvinylether		.571	.522	8.6	
Bromoform	#	.473	.319	32.5	#
4-Methyl-2-Pentanone		2.311	1.628	29.5	
2-Hexanone		1.689	1.083	35.9	
Tetrachloroethene		1.242	1.043	16.0	
1,1,2,2-Tetrachloroethane	#	2.640	1.873	29.1	#
Toluene	*	2.709	2.602	4.0	*
Chlorobenzene	#	3.041	2.726	10.4	#
Ethylbenzene	*	4.854	5.270	8.6	*
Styrene		3.301	2.769	16.1	
m + p-Xylenes		1.799	2.264	25.9	
o-Xylene		1.774	1.661	6.3	
TOLUENE-d8_(SURR)		2.998	2.853	4.8	
BROMOFLUOROBENZENE_(SURR)		1.601	1.428	10.8	
1,2-DICHLOROETHANE-d4_(SURR		1.223	1.169	4.5	

FORM VII VOA

Section d).

RAW QC DATA

Method Blank Data

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

0907VBLK C1

-b Name: AMER.ENV.NTWK. Contract: 93080183

.b Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

:rix: WATER Lab Sample ID: 0907VBLK C1

ample (wt/vol): 5 mL Lab File ID: >CI066

/el: LOW Date Received: N.A.

Moisture: not dec. N.A. Date Analyzed: 9/07/93

.umn: PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	2.	J
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (Total)	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
110-75-8	2-Chloroethylvinylether	10.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-pentanone	50.	U
591-78-6	2-Hexanone	50.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	Xylene (Total)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

0907VBLK C1

b Name: AMER.ENV.NTWK. Contract: 93080183

ab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

trix: WATER Lab Sample ID: 0907VBLK C1

ample wt/vol: 5 mL Lab File ID: >CI066

vel: LOW Date Received: N.A.

Moisture: (not dec) N.A. Date Analyzed: 9/07/93

olumn: PACK Dilution Factor: 1.0

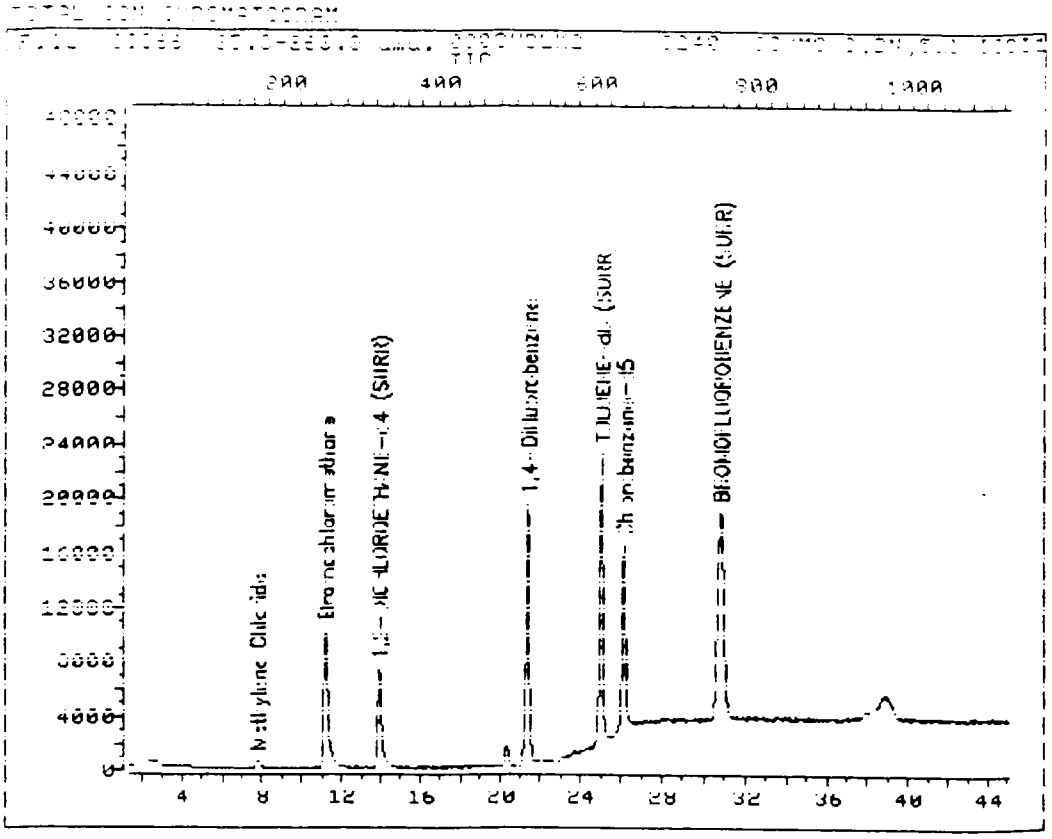
Number TICs found: 0

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

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

. = Not Reviewed

FORM I VOA-TIC



Data File: >CI066::C1 Quant Output File: ^CI066::OU
Name: 0903VBLK2 8240
Misc: GC/MS C.DN.5ul ISSI1.SS1I1 /5mls

Id File: IDVCID::IC
Title: HSL VOLATILES
Last Calibration: 930908 15:06

Operator ID: ROY
Quant Time: 930908 15:10
Injected at: 930907 17:36

QUANT REPORT

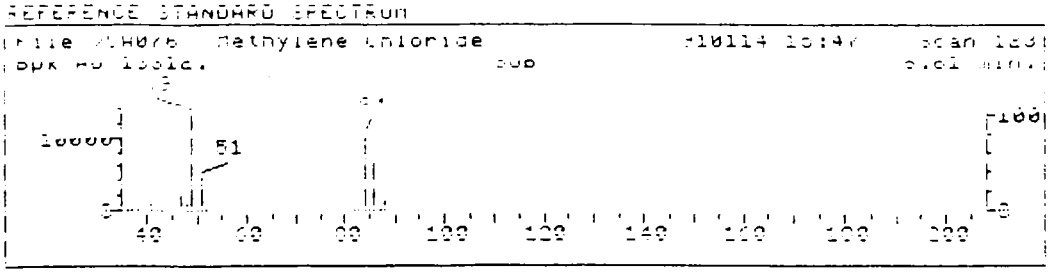
Operator ID: ROY Quant Rev: 5 Quant Time: 930909 15:10
Output File: ^CI066::OU Injected at: 930907 17:36
Data File: ^CI066::C1 Dilution Factor: 1.00000
Name: 0903VBLK2 8240
Misc: GC/MS C.DN.5ul ISSI1.SS1I1 /5mls

ID File: IDVCID::IC
Title: HSL VOLATILES
Last Calibration: 930908 15:06

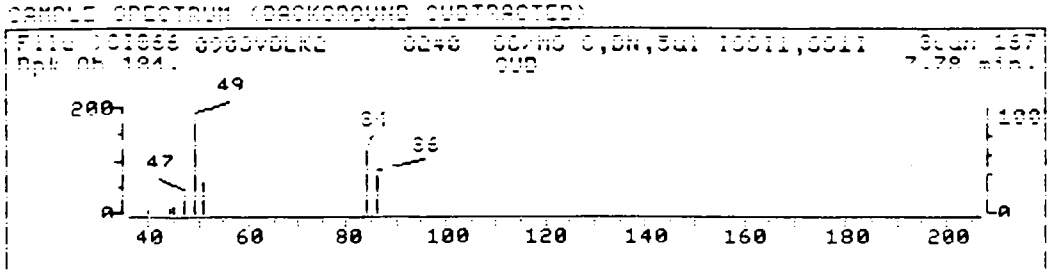
	Compound	Q ion	Scan#	Area	Conc	Units	a
1)	*Bromochloromethane	128.0	255	19881	50.00	ug/L	83
6)	Methylene Chloride	84.0	167	1748	2.10	ug/L	94
7)	1,2-DICHLOROETHANE-d4 (SURR)	65.0	325	35845	48.20	ug/L	99
9)	*1,4-Difluorobenzene	114.0	517	86985	50.00	ug/L	100
33)	*Chlorobenzene-d5	117.0	641	51238	50.00	ug/L	95
45)	BROMOFLUOROBENZENE (SURR)	95.0	760	75443	52.72	ug/L	80
46)	TOLUENE-d8 (SURR)	98.0	611	90338	52.05	ug/L	92

* Compound is ISTD

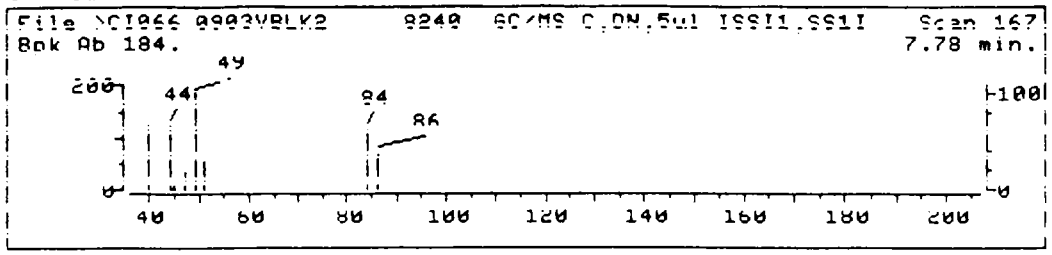
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >CI066::C1 Quant Output File: ^CI066::OU
Name: 0903VBLK2 8240
Misc: GC/MS C,DN,5ul ISSI1,SS1I1 /5mls
Quant Time: 930908 15:10 Quant ID File: IDUCID::IC
Injected at: 930907 17:36 Last Calibration: 930908 15:06

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 167
Retention Time: 7.78 min.
Quant Ion: 84.0
Area: 1748
Concentration: 2.10 ug/L
g-value: 94

MS data file header from ICI066

Sample: 0903VBLK2 8240 Operator: ROY REG. GRP. 9/07/93 17:36
Misc GC/MS C DN.5ul ISSI1 SS1I1 5mls
Ins. #: 2 MS model: 70 SW/HW rev.: 14 ADS # 0
Method file: HE7001 Tuning file: MT7001 No. of extra records: 2
Source temp.: 0 Analyzer temp.: 250 Transfer line temp.: 0

Chromatographic temperatures :	45.	220.	0.	0.	0.
Chromatographic times, min. :	4.0	45.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	0.0	0.0	1.5	0.0

ICI066 0903VBLK2 8240 GC/MS C.DN.5ul ISSI1.SS1I1 /5mls
35.01 260.0 CLP ADC TIC
Wpslope: .05 Area Reject: 16172. Max Peaks: 0 Bunching: 1
nslope: 0.00 Results File ICI066 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
--	------	-----	-----	-----	------	-------	-------	-------	-------

Sum of corrected areas: 0.

Summary of Unknowns PBM Library Search and Quantitation

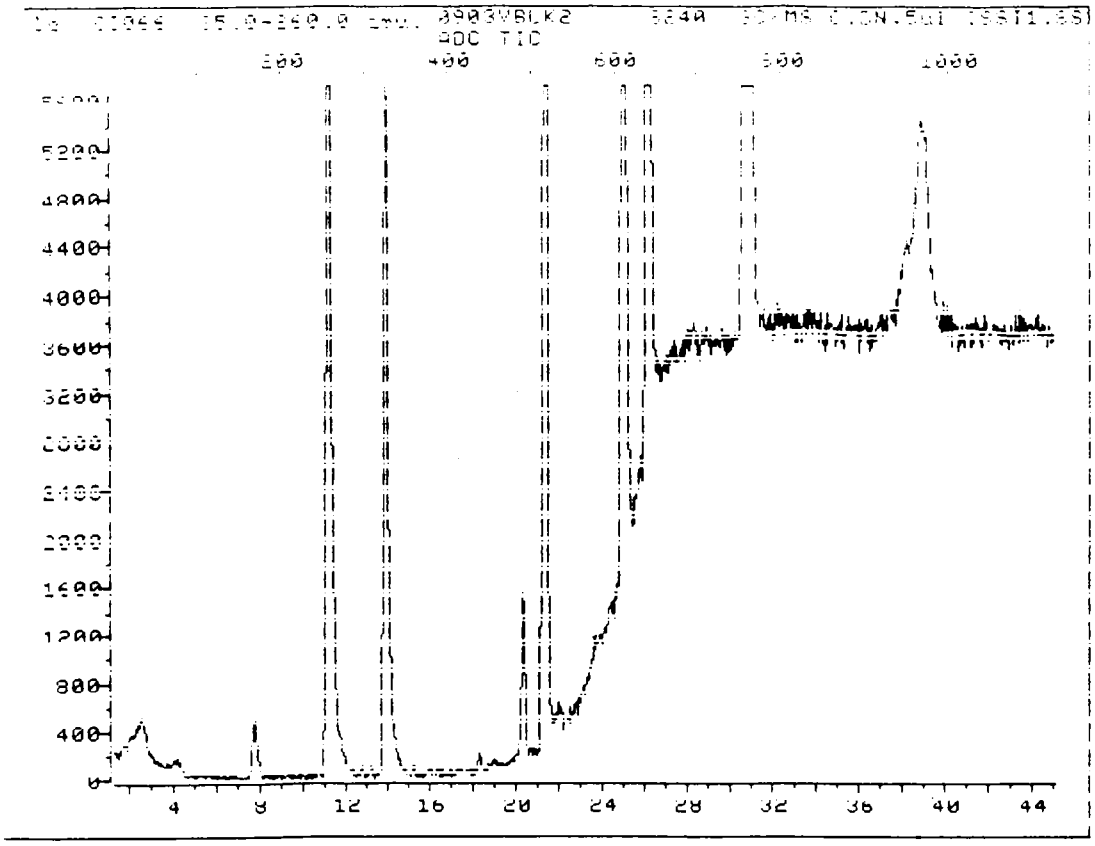
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	161724.	11.19	1.35 - 16.27
2	50.0	228286.	21.34	16.27 - 23.75
3	50.0	190302.	26.15	23.75 - 45.08

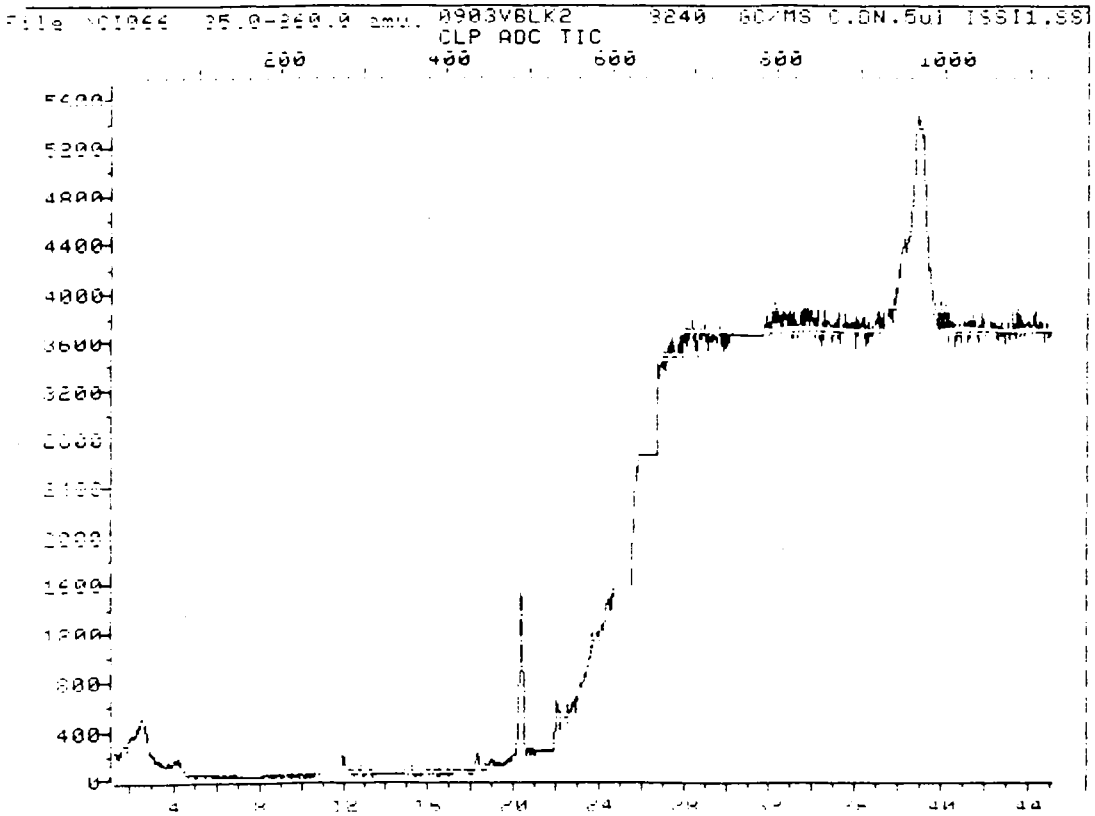
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 5.00 Amount Used (AU) = 5.00

Correction Factor = 1.00 = (AM * DF) / (AU * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

9:48 AM MON., 20 SEPT. 1993


ADC TIC
200
400
600
800
1000
5200
4800
4400
4000
3600
3200
2800
2400
2000
1600
1200
800
400
0
4
8
12
16
20
24
28
32
36
40
44


CLP ADC TIC
200
400
600
800
1000
5200
4800
4400
4000
3600
3200
2800
2400
2000
1600
1200
800
400
0
4
8
12
16
20
24
28
32
36
40
44

000106

```
working...
draw complete...
```

```
working...
.   THERE WERE NO UNKNOWNS
.   CREATING THE .RR FILE
.QN  CI066                                                                  0015EDB
                 70020907931736R   35  260 2.324  9                         0020956
                 Bromochloromethane                                          0036807
                   1 128  255  11.1924  1   19881.ug/L    50.0000           00462BF
                 Methylene Chloride                                          0054FAC
                   2  84  167   7.7827  1    1748.ug/L     2.0957           0063BC2
                 1,2-DICHLOROETHANE-d4 (SURR)                                0073954
                   3  65  325  13.9047  1   35845.ug/L    48.1993           00851E1
                 1,4-Difluorobenzene                                         0093699
                   4 114  517  21.3437  4   86985.ug/L    50.0000           01059D5
                 Chlorobenzene-d5                                            0110555
                   5 117  641  26.1509  5   51238.ug/L    50.0000           01259CA
                 BROMOFLUOROBENZENE (SURR)                                   0136B55
                   6  95  760  30.7670  5   75443.ug/L    52.7248           01454E2
                 TOLUENE-d8 (SURR)                                           0154186
                   7  98  611  24.9873  5   90338.ug/L    52.0509           01646F2
PRM results file is for MS data file >CF249 not >CI066
.NDFILE                                                                     0177BE0

Reduced results file: RCI066 summary
     QUANT data from: ^CI066
```

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

0908BLK A1

b Name: AMER.ENV.NTWK. Contract: N.A.

ab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

trix: SOIL Lab Sample ID: 0908BLK A1

ample (wt/vol): 5 G Lab File ID: >AI111

vel: LOW Date Received: N.A.

Moisture: not dec. N.A. Date Analyzed: 9/08/93

olumn: CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	7.	
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	4.	J
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
156-60-5	trans-1,2-Dichloroethene	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
110-75-8	2-Chloroethylvinylether	10.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	50.	U
591-78-6	2-Hexanone	50.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	m + p-Xylenes	5.	U
95-47-6	o-Xylene	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

0908HBLK A1

ab Name: AMER.ENV.NTWK. Contract: N.A.

ab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

trix: SOIL Lab Sample ID: 0908HBLK A1

ample wt/vol: 5 G Lab File ID: >AI111

vel: LOW Date Received: N.A.

Moisture: not dec. N.A. Date Analyzed: 9/08/93

lumn: CAP Dilution Factor: 1.0

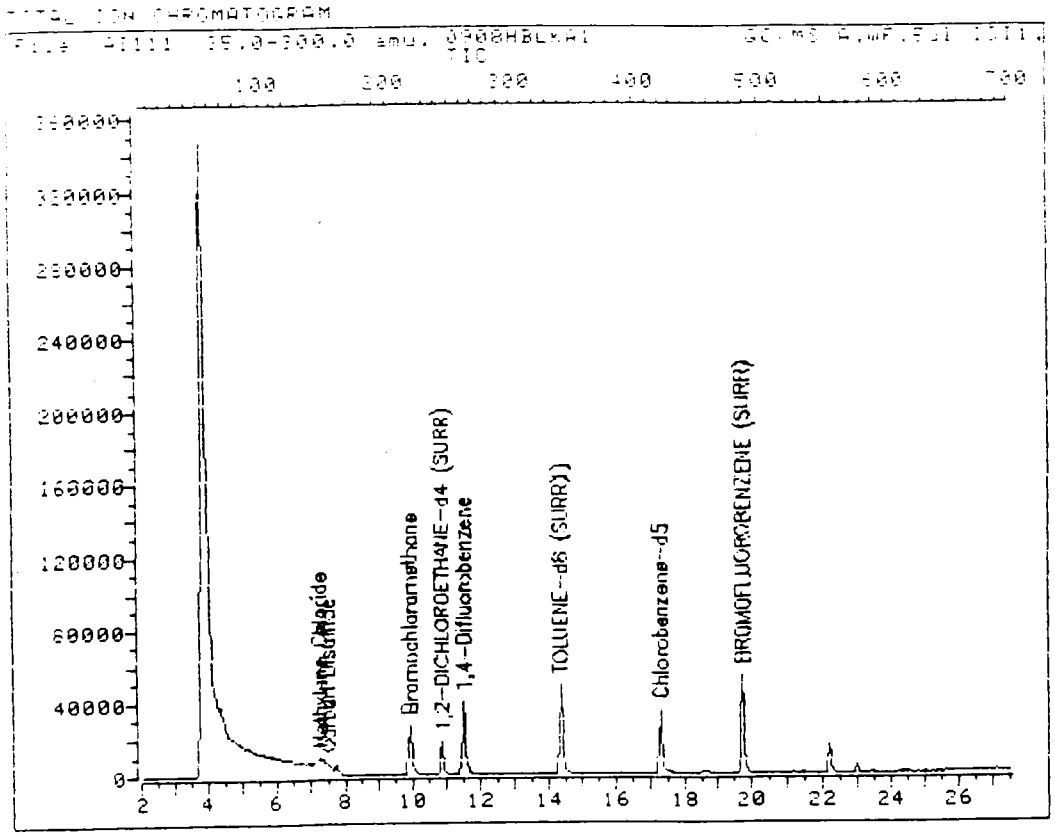
Number TICs found: 4

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	3.86	1300.	J
2.		Unknown	18.59	5.	J
3.	439	1,4-Dichlorobenzene d-4	22.17	19.	J
4.	439	1,4-Dichlorobenzene d-4	22.98	7.	J
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

= Not Reviewed

FORM I VOA-TIC



Data File: >AI111::C1 Quant Output File: ^AI111::OU
Name: 0908HBLKA1
Misc: GC/MS A,WF,5ul ISI1,SSI11/5mls

Id File: IDHAID::ID
Title: HSL VOLATILES
Last Calibration: 930908 19:50

Operator ID: DAVE
Quant Time: 930908 20:23
Injected at: 930908 19:51

QUANT REPORT

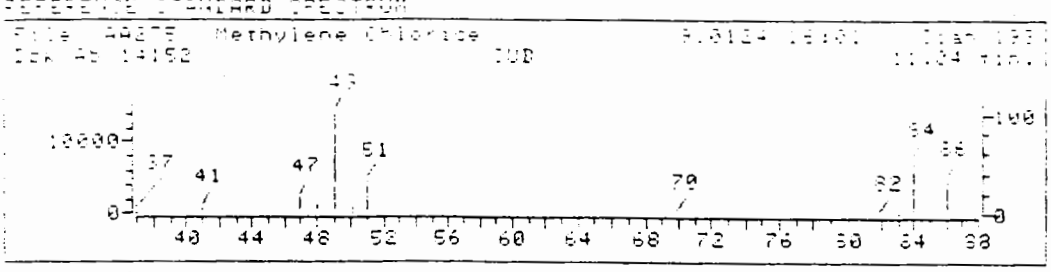
Operator ID: DAVE Quant Method: 5 Quant Time: 930908 20:23
Output File: ?A1111::OU Injected at: 930908 19:51
Data File: /A1111::C1 Dilution Factor: 1.00000
Name: 0908HBLKA1
Misc: GC/MS A,WF,5ul IS11,SS111/5mls

ID File: IDHAID::ID
Title: HSL VOLATILES
Last Calibration: 930908 19:50

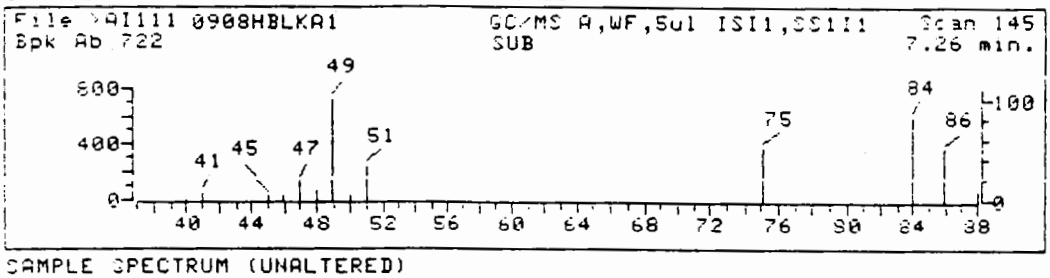
	Compound	Q ion	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	128.0	217	28327	50.00	ng/mL	84
11)	Methylene Chloride	84.0	145	9430	7.34	ng/mL	69
12)	Carbon Disulfide	76.0	151	1973	3.88	ng/mL	100
18)	1,2-DICHLOROETHANE-d4 (SURR)	65.0	243	34128	45.07	ng/mL	100
20)	*1,4-Difluorobenzene	114.0	261	131418	50.00	ng/mL	96
30)	TOLUENE-d8 (SURR1)	98.0	339	144114	50.00	ng/mL	99
35)	*Chlorobenzene-d5	82.0	420	44968	50.00	ng/mL	98
46)	BROMOFLUOROBENZENE (SURR)	95.0	486	74908	49.84	ng/mL	91
50)	TOLUENE-d8 (SURR)	98.0	339	144114	50.62	ng/mL	99

* Compound is ISTD

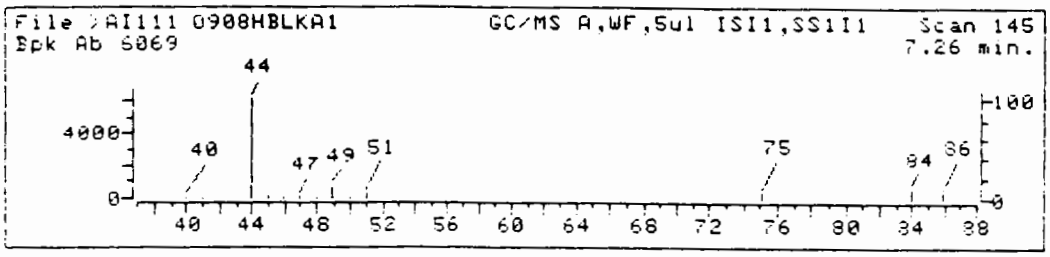
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



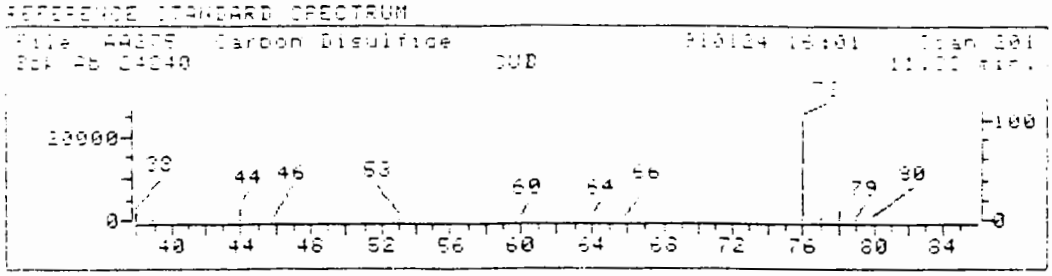
SAMPLE SPECTRUM (UNALTERED)



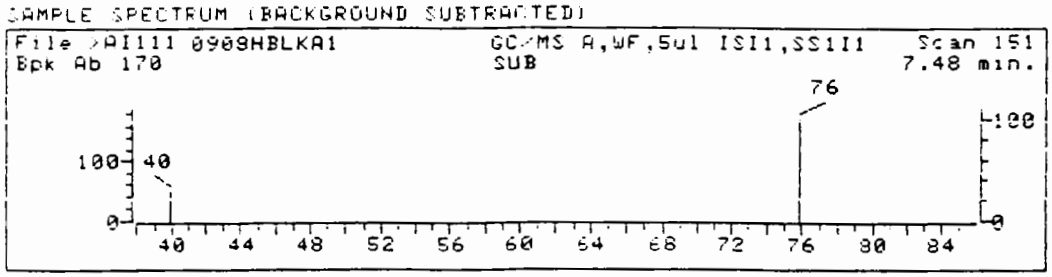
Data File: >AI111::C1 Quant Output File: ^AI111::OU
Name: 0908HBLKA1
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5mls
Quant Time: 930908 20:23 Quant ID File: ICHAID::ID
Injected at: 930908 19:51 Last Calibration: 930908 19:50

Compound No: 11
Compound Name: Methylene Chloride
Scan Number: 145
Retention Time: 7.26 min.
Quant Ion: 84.0
Area: 9430
Concentration: 7.34 ng/mL
c-value: 69

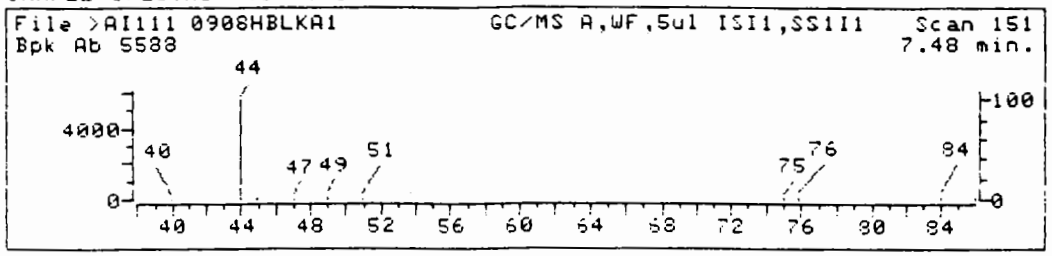
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >AI111::C1 Quant Output File: ^AI111::OU
Name: 0908HBLKA1
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5mls
Quant Time: 930908 20:23 Quant ID File: IDHAID::ID
Injected at: 930908 19:51 Last Calibration: 930908 19:50

Compound No: 12
Compound Name: Carbon Disulfide
Scan Number: 151
Retention Time: 7.48 min.
Quant Ion: 76.0
Area: 1973
Concentration: 3.88 ng/mL
q-value: 100

MS data file header from : >AI111

Sample: 0908HBLKA1 Operator: DAVE MS 9/08/93 19:51
Misc : GC/MS A,WF,5ul ISI1,SS1I1/5mls
Sys. #: 1 MS model: 87 SW/HW rev.: IA ALS # : 0
Method file: HE8501 Tuning file: MT8502 No. of extra records: 2
Source temp.: 200 Analyzer temp.: 0 Transfer line temp. : 0

Chromatographic temperatures :	0.	0.	0.	0.	0.
Chromatographic times, min. :	0.0	0.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	0.0	0.0	0.0	0.0	0.0

>AI111 0908HBLKA1 GC/MS A,WF,5ul ISI1,SS1I1/5mls
35.01 300.0 CLP ADC TIC
Upslope: .20 Area Reject: 19075. Max Peaks: 4 Bunching: 1
Dnslope: 0.00 Results File IAI111 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	3.86	47	52	64	346613	4975905	4929794	100.00	97.534
2	18.59	449	455	464	1173	22383	19488	.40	.386
3	22.17	550	553	559	14596	82830	77855	1.58	1.540
4	22.98	572	575	580	4773	29573	27309	.55	.540

Sum of corrected areas: 5054446.

Summary of Unknowns PBM Library Search and Quantitation

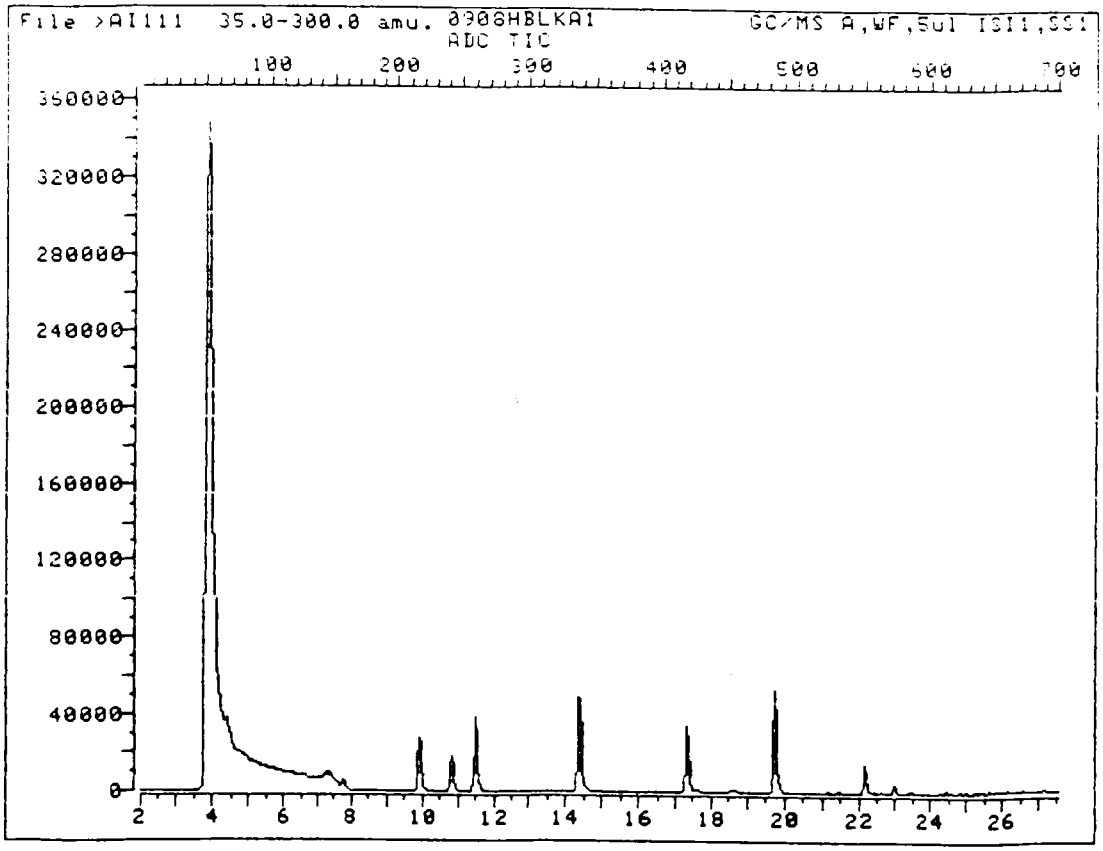
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	190747.	9.89	2.00 - 10.70
2	50.0	269355.	11.50	10.70 - 14.41
3	50.0	207339.	17.31	14.41 - 27.58

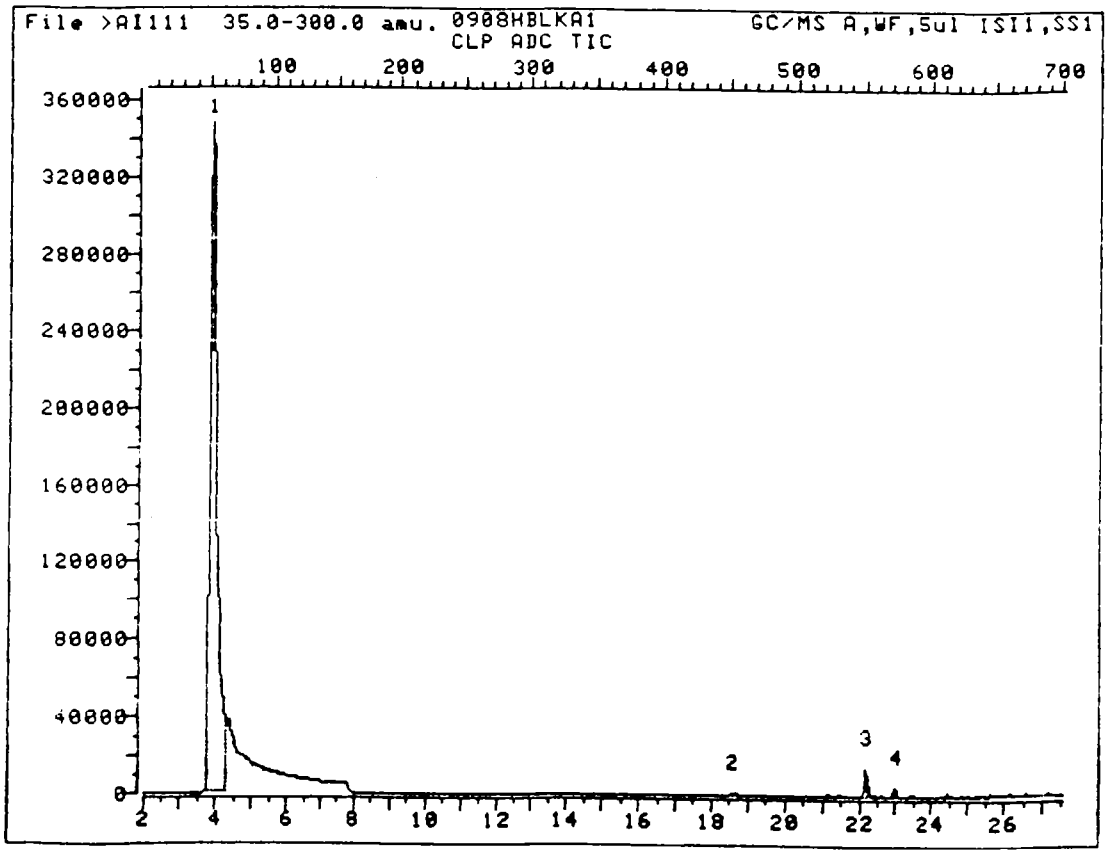
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 5.00 Amount Used (AU) = 5.00

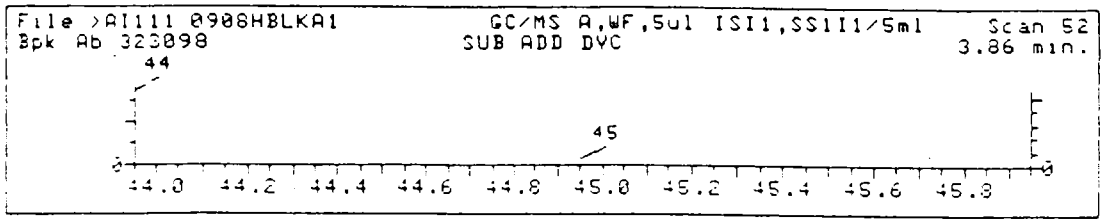
Correction Factor = 1.00 = (AM / AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

8:14 AM WED., 15 SEPT, 1993


File >AI111 35.0-300.0 amu. 0908HBLKA1
ADC TIC
GC/MS A,WF,5ul ISI1,SS1
100 200 300 400 500 600 700
360000
320000
280000
240000
200000
160000
120000
80000
40000
0
2 4 6 8 10 12 14 16 18 20 22 24 26

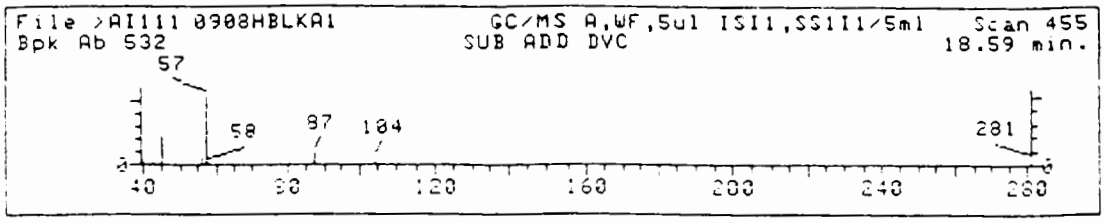

File >AI111 35.0-300.0 amu. 0908HBLKA1
CLP ADC TIC
GC/MS A,WF,5ul ISI1,SS1
100 200 300 400 500 600 700
360000
320000
280000
240000
200000
160000
120000
80000
40000
0
1
2
3
4
2 4 6 8 10 12 14 16 18 20 22 24 26



. Unknown #,1
Area = 4929794. Tentative Concentration is 1300.00

Sample file: >AI111 Spectrum #: 52

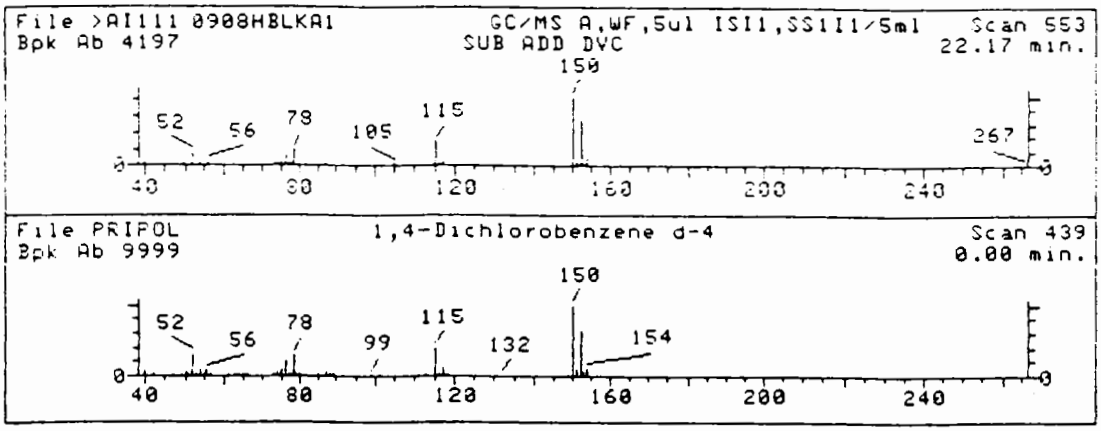
No data base entries were retrieved.



. Unknown #,2
Area = 19488.00 Tentative Concentration is 5.00

Sample file: >AI111 Spectrum #: 455

No data base entries were retrieved.

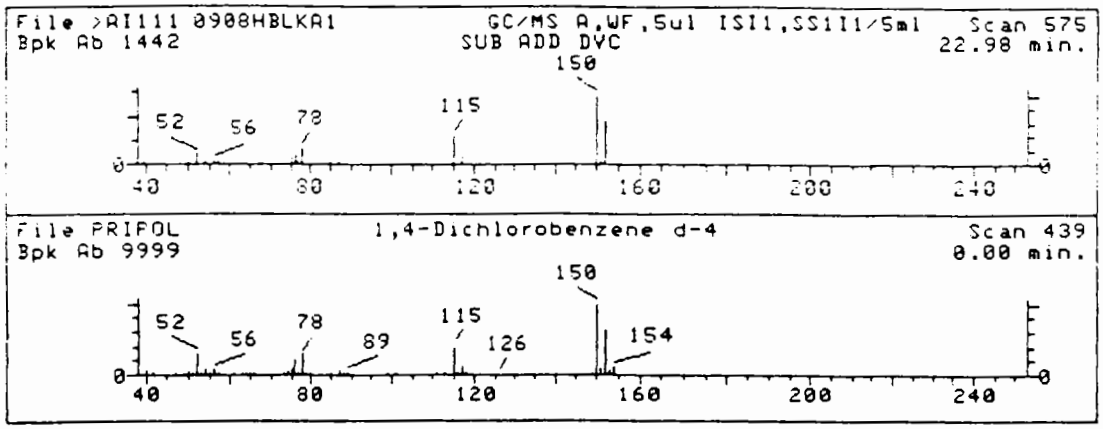


. Unknown #,3
Area = 77855.00 Tentative Concentration is 19.00

1. 1,4-Dichlorobenzene d-4 150 C6.D4.CL2

Sample file: >AI111 Spectrum #: 553
Search speed: 2 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83*	439	257	PRIPOL	85	22	2	-1	80	8	54	54



. Unknown #,4
Area = 27309.00 Tentative Concentration is 7.00

1. 1,4-Dichlorobenzene d-4 150 C6.D4.CL2

Sample file: >AI111 Spectrum #: 575
Search speed: 2 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	87*	439	257	PRIPOL	79	28	2	-2	94	1	63	44

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

0909VBLK C1

ab Name: AMER.ENV.NTWK. Contract: 93080183

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

atrix: WATER Lab Sample ID: 0909VBLK C1

Sample (wt/vol): 5 mL Lab File ID: >CI104

evel: LOW Date Received: N.A.

Moisture: not dec. N.A. Date Analyzed: 9/09/93

olumn: PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	12.	
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (Total)	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
110-75-8	2-Chloroethylvinylether	10.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-pentanone	50.	U
591-78-6	2-Hexanone	50.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	Xylene (Total)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

0909VBLK C1

ıb Name: AMER.ENV.NTWK. Contract: N.A.

.ıb Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

ıtrix: WATER Lab Sample ID: 0909VBLK C1

ample wt/vol: 5 mL Lab File ID: >CI104

vel: LOW Date Received: N.A.

Moisture: (not dec) N.A. Date Analyzed: 9/09/93

ılumn: PACK Dilution Factor: 1.0

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110543	Hexane	20.32	10.	J
2.					
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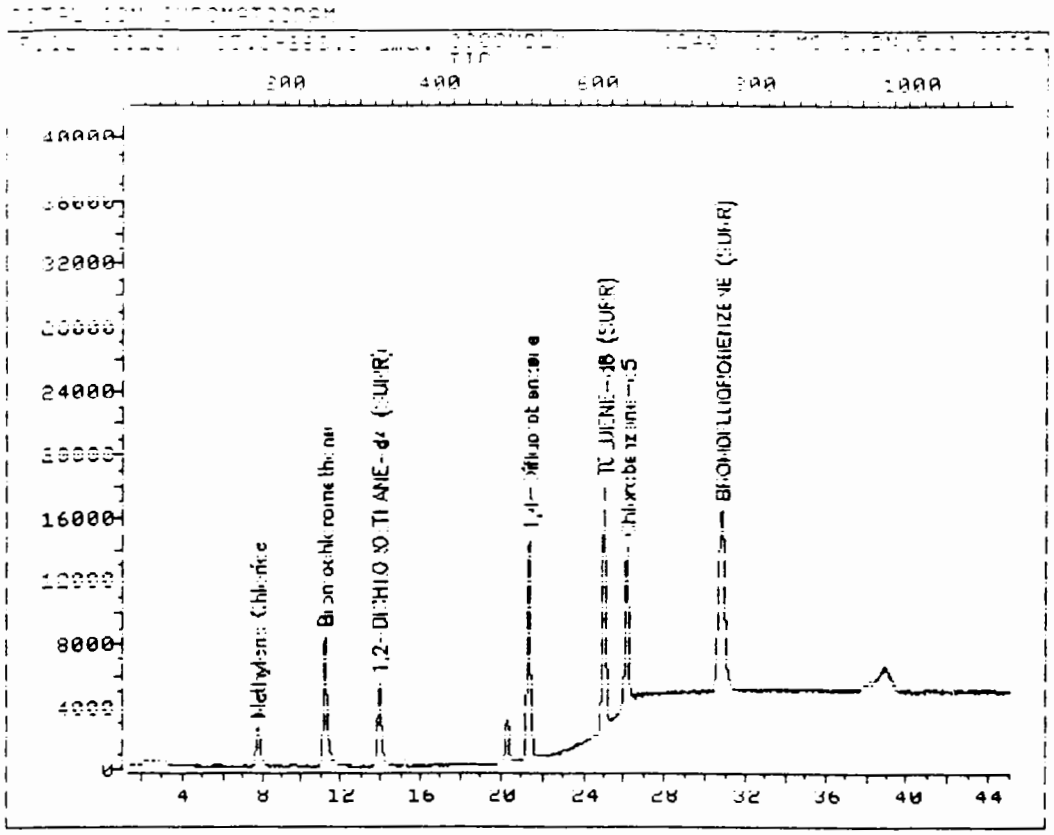
30.					

= Not Reviewed

FORM I VOA-TIC



Data File: >CI104::C1 Quant Output File: ^CI104::OU
Name: 0909VBLK 8240
Misc: GC/MS C.DN.5ul ISI1.SS1I1/5mls

Id File: IDVCID::IC
Title: HSL VOLATILES
Last Calibration: 930910 15:35

Operator ID: ROY
Quant Time: 930910 15:40
Injected at: 930909 19:35

QUANT REPORT

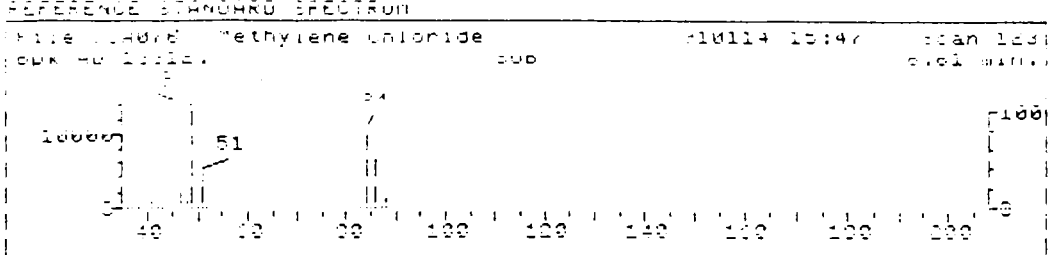
Operator ID: POY Quant Rev: 6 Quant Time: 930910 15:40
Output File: ^CI104::OU Injected at: 930909 19:35
Data File: >CI104::C1 Dilution Factor: 1.00000
Name: 09090BLK 8240
Misc: GC/MS C,DN.5ul ISI1.SS1I1/5mls

ID File: IDVCID::IC
Title: HSL VOLATILES
Last Calibration: 930910 15:35

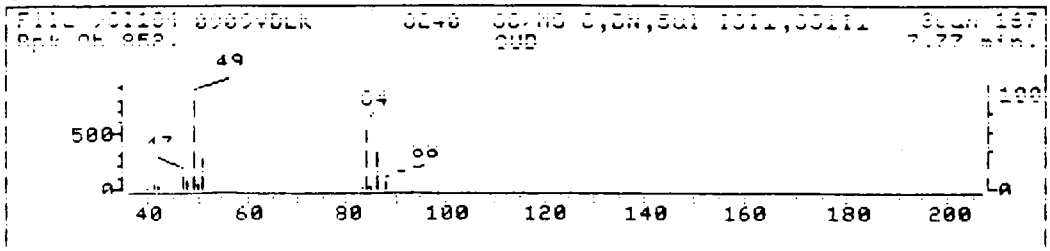
	Compound	Q ion	Scan#	Area	Conc	Units	%
1)	*Bromochloromethane	128.0	255	15139	50.00	ug/L	92
6)	Methylene Chloride	84.0	167	8066	11.92	ug/L	94
17)	1,2-DICHLOROETHANE-d4 (SURR)	65.0	325	26071	48.47	ug/L	95
19)	*1,4-Difluorobenzene	114.0	518	64463	50.00	ug/L	100
33)	*Chlorobenzene-d5	117.0	641	39241	50.00	ug/L	96
45)	BROMOFLUOROBENZENE (SURR)	95.0	762	58966	52.77	ug/L	74
46)	TOLUENE-d8 (SURR)	98.0	612	64932	49.06	ug/L	92

* Compound is ISTD

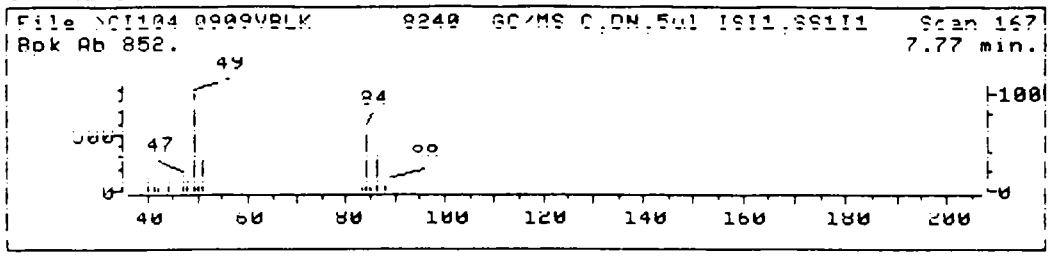
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >CI104::C1 Quant Output File: ^CI104::OU
Name: 0909VBLK 8240
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls
Quant Time: 930910 15:40 Quant ID File: IDVCID::IC
Injected at: 930909 19:35 Last Calibration: 930910 15:35

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 167
Retention Time: 7.77 min.
Quant Ion: 84.0
Area: 8066
Concentration: 11.92 ug/L
q-value: 94.

MS data file header from : ICI104

Name: 0909VBLK 8240 Operator: ROY REG. GRP. F 09/93 19:35
Inst: GC/MS C.DN 5ul ISI1 SS1I1/5mls
Ins #: 1 MS model: 70 SW/HW rev.: IA ALS # : 0
Method file: HE7001 Tuning file: MT7001 No. of extra records: 2
Source temp.: 0 Analyzer temp.: 250 Transfer line temp.: 0

Chromatographic temperatures : 45. 220. 0. 0. 0.
Chromatographic times, min. : 4.0 45.0 0.0 0.0 0.0
Chromatographic rate, deg/min: 8.0 0.0 0.0 1.5 0.0

ICI104 0909VBLK 8240 GC/MS C.DN,5ul ISI1,SS1I1/5mls
35.0 260.0 CLP ADC TIC
Islope: .05 Area Reject: 12168. Max Peaks: 1 Bunching: 1
Islope: 0.00 Results File ICI104 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	20.32	483	491	497	2801	40562	33954	100.00	100.000

Sum of corrected areas: 33954.

Summary of Unknowns PBM Library Search and Quantitation

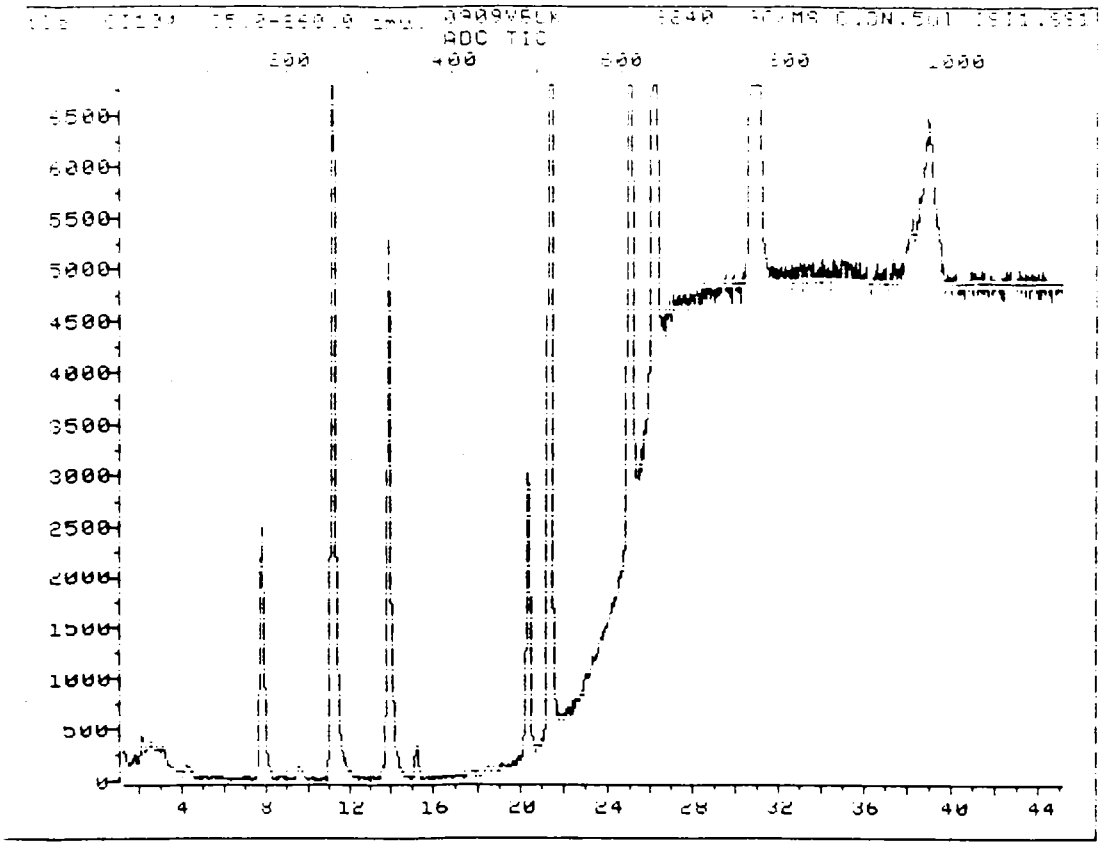
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	121675.	11.18	1.34 - 16.28
2	50.0	170418.	21.37	16.28 - 23.75
3	50.0	136687.	26.14	23.75 - 45.06

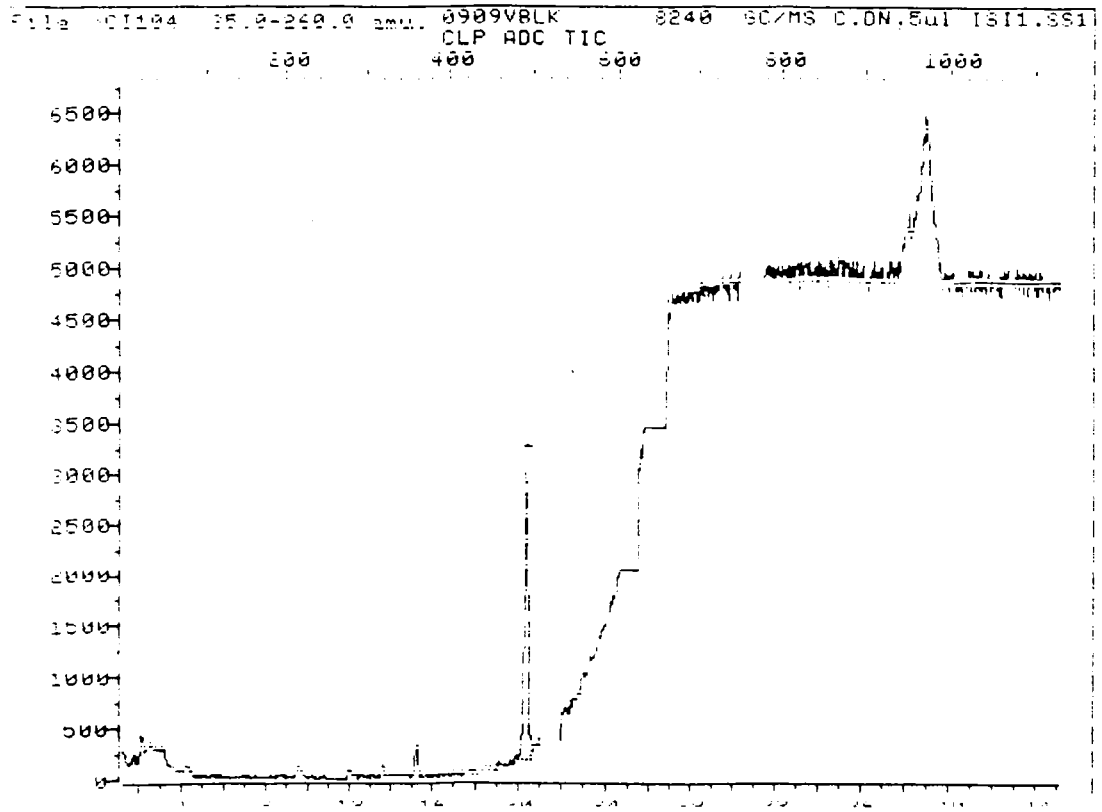
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 5.00 Amount Used (AU) = 5.00

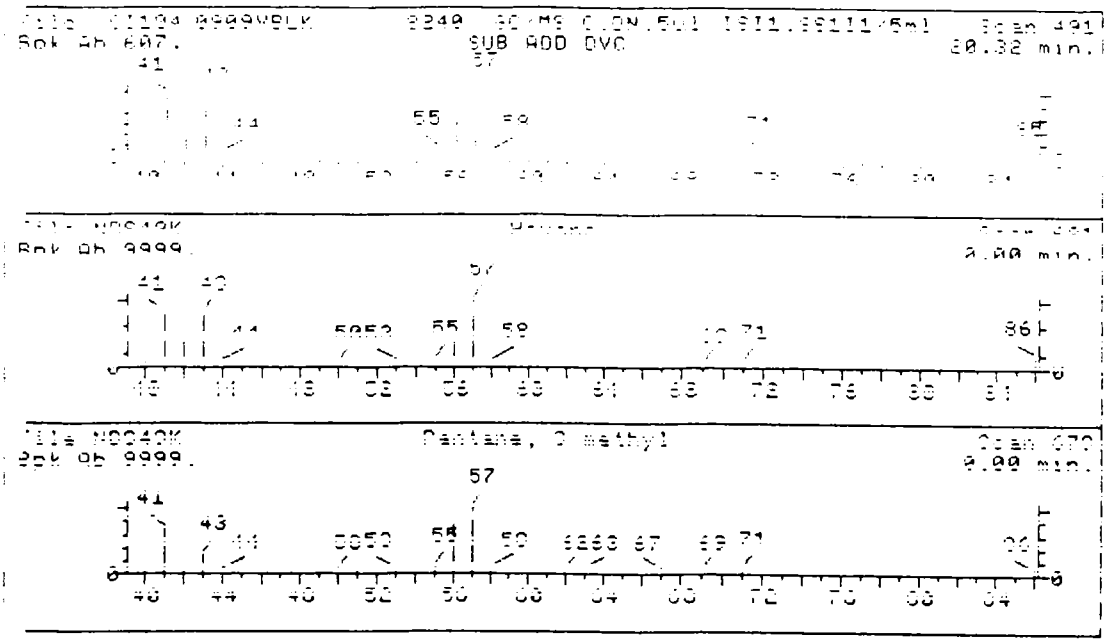
Correction Factor = 1.00 = (AM * DF) / (AU * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

9:27 AM MON., 20 SEPT. 1993


ADC TIC
200
400
600
800
1000
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
4
8
12
16
20
24
28
32
36
40
44


CLP ADC TIC
200
400
600
800
1000
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0



UNKNOWN # 1
AREA = 33954.00 TENTATIVE CONCENTRATION IS 10.00

1. Hexane 86 C6H14
2. Pentane, 3-methyl- 86 C6H14

Sample File: >CI104 Spectrum #: 491
Search speed: 1 Tilting option: 3 No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	38*	110543	6871	NBS49K	60	36	1	0	99	2	65	56
2.	25*	96140	1025	NBS49K	30	54	2	0	72	48	7	15

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

0909VBLKA1

ab Name: AMER.ENV.NTWK. Contract: N.A.

ab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

atrix: SOIL Lab Sample ID: 0909VBLKA1

ample (wt/vol): 5 G Lab File ID: >AI135

evel: LOW Date Received: N.A.

Moisture: not dec. N.A. Date Analyzed: 9/09/93

olumn: CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	3.	J
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	4.	J
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
156-60-5	trans-1,2-Dichloroethene	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
110-75-8	2-Chloroethylvinylether	10.	U
75-25-2	Bromoform	1.	J
108-10-1	4-Methyl-2-Pentanone	50.	U
591-78-6	2-Hexanone	2.	J
127-18-4	Tetrachloroethene	5.	J
79-34-5	1,1,2,2-Tetrachloroethane	2.	J
108-88-3	Toluene	5.	J
108-90-7	Chlorobenzene	1.	J
100-41-4	Ethylbenzene	4.	J
100-42-5	Styrene	2.	J
133-02-7	m + p-Xylenes	6.	
95-47-6	o-Xylene	1.	J

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

0909HBLK A1

ıb Name: AMER.ENV.NTWK. Contract: N.A.

ıab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

ıtrix: SOIL Lab Sample ID: 0909HBLK A1

Sample wt/vol: 5 G Lab File ID: >AI135

ıvel: LOW Date Received: N.A.

% Moisture: not dec. N.A. Date Analyzed: 9/09/93

ıolumn: CAP Dilution Factor: 1.0

Number TICs found: 10

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	3.89	1900.	J
2.	108678	Benzene, 1,3,5-trimethyl- (9	21.14	78.	J
3.	1074437	Benzene, 1-methyl-3-propyl-	22.45	37.	J
4.	1758889	Benzene, 2-ethyl-1,4-dimethy	22.60	50.	J
5.	535773	Benzene, 1-methyl-3-(1-methy	23.44	43.	J
6.	488233	Benzene, 1,2,3,4-tetramethyl	24.25	38.	J
7.	95932	Benzene, 1,2,4,5-tetramethyl	24.43	55.	J
8.	824226	1H-Indene, 2,3-dihydro-4-met	25.64	34.	J
9.	17057828	1H-Indene, 2,3-dihydro-1,2-d	26.15	59.	J
10.	91203	Naphthalene (ACN)(DOT)(8CI9C	27.10	36.	J
11.					
12.					
13.					
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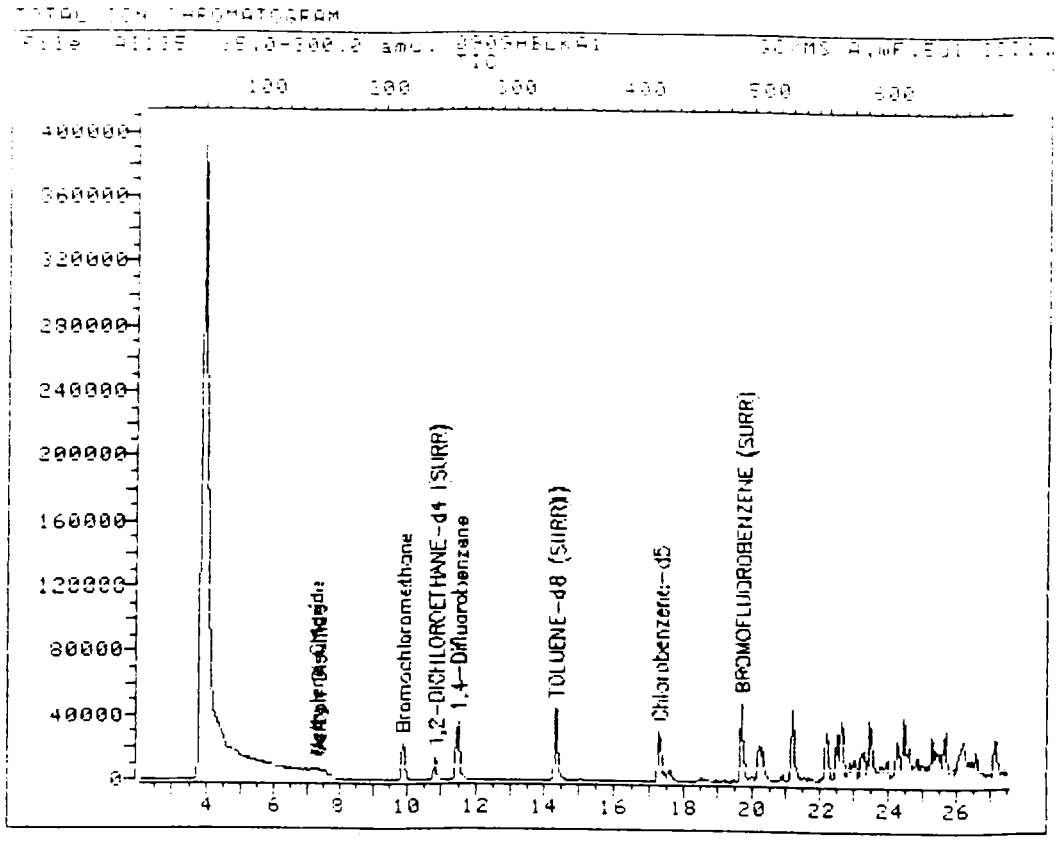
ı = Not Reviewed

FORM I VOA-TIC



Data File: >AI135::C1 Quant Output File: ^AI135::A1
Name: 0909HBLKA1
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML

Id File: IDHAID::ID
Title: HSL VOLATILES
Last Calibration: 930910 11:5C

Operator ID: DAVE
Quant Time: 930910 11:59
Injected at: 930909 22:49

QUANT REPORT

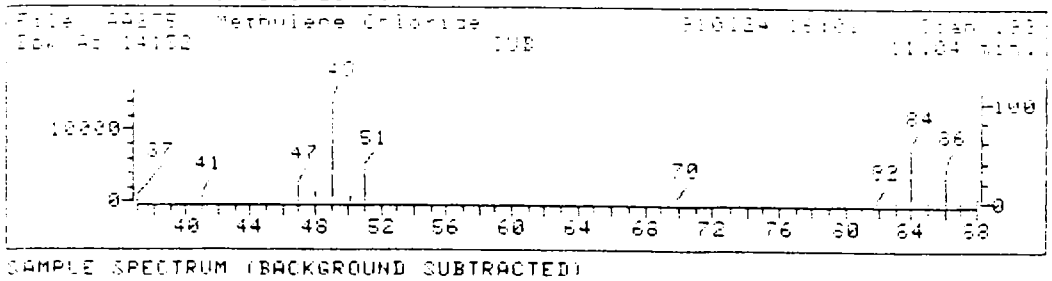
Operator ID: DAVE Quant Rev: 5 Quant Time: 930910 11:59
Output File: MA1135::A1 Injected at: 930909 22:49
Data File: MA1135::C1 Dilution Factor: 1.00000
Name: 0909HBLKA1
Misc: GC/MS A,WF,5ul IS11,SS11 1/5ML

ID File: IDHAID::ID
Title: HSL VOLATILES
Last Calibration: 930910 11:52

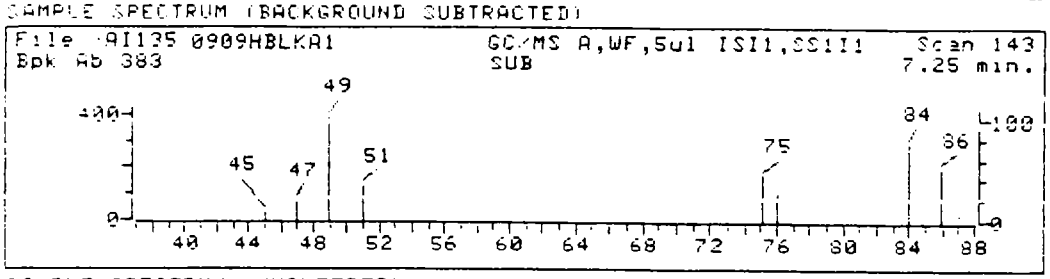
	Compound	Q ion	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	128.0	215	23574	50.00	ng/mL	87
11)	Methylene Chloride	84.0	143	4133	3.32	ng/mL	77
12)	Carbon Disulfide	76.0	145	1936	4.41	ng/mL	100
18)	1,2-DICHLOROETHANE-d4 (SURR)	65.0	241	26049	47.28	ng/mL	100
20)	*1,4-Difluorobenzene	114.0	259	129270	50.00	ng/mL	97
30)	TOLUENE-d8 (SURR1)	98.0	337	138294	62.15	ng/mL	99
35)	*Chlorobenzene-d5	82.0	418	43120	50.00	ng/mL	98
46)	BROMOFLUOROBENZENE (SURR)	95.0	484	68397	55.55	ng/mL	90
50)	TOLUENE-d8 (SURR)	98.0	337	138294	56.20	ng/mL	99

* Compound is ISTD

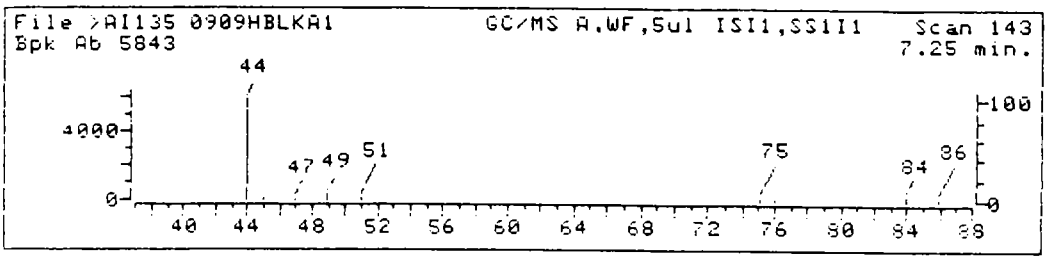
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



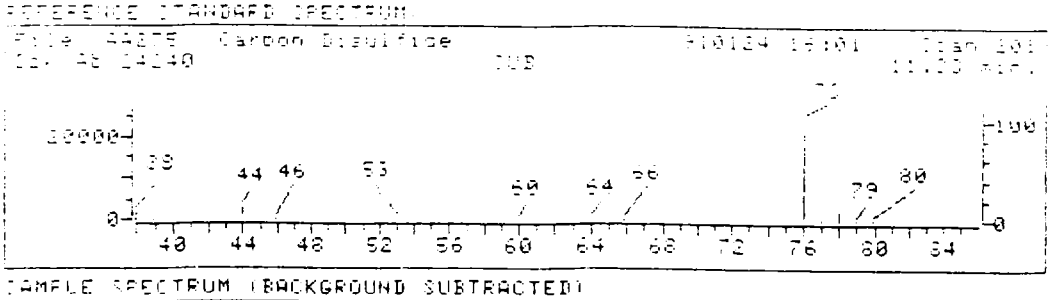
SAMPLE SPECTRUM (UNALTERED)



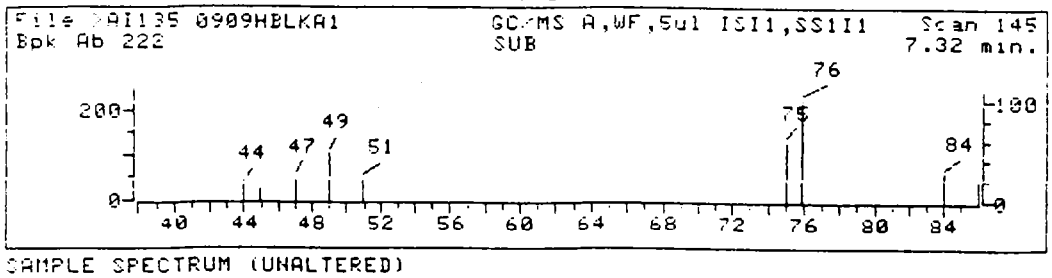
Data File: >AI135::C1 Quant Output File: ^AI135::A1
Name: 0909HBLKA1
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML
Quant Time: 930910 11:59 Quant ID File: IDHAID::ID
Injected at: 930909 22:49 Last Calibration: 930910 11:52

Compound No: 11
Compound Name: Methylene Chloride
Scan Number: 143
Retention Time: 7.25 min.
Quant Ion: 84.0
Area: 4133
Concentration: 3.32 ng/mL
c-value: 77

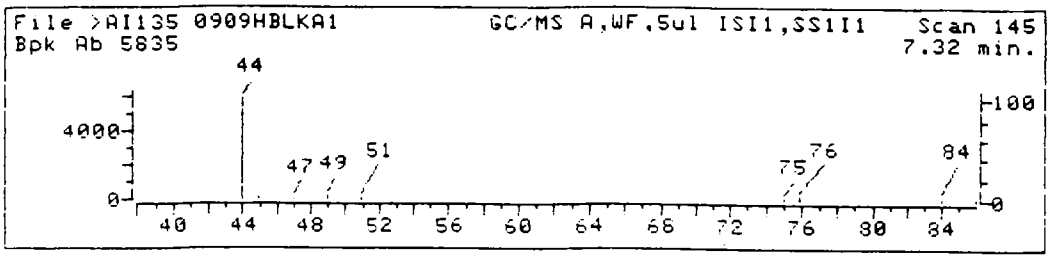
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >AI135::C1 Quant Output File: ^AI135::A1
Name: 0909HBLKA1
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML
Quant Time: 930910 11:59 Quant ID File: IDHAID::ID
Injected at: 930909 22:49 Last Calibration: 930910 11:52

Compound No: 12
Compound Name: Carbon Disulfide
Scan Number: 145
Retention Time: 7.32 min.
Quant Ion: 76.0
Area: 1936
Concentration: 4.41 ng/mL
q-value: 100

MS data file header from : >AI135

Sample: 0909HBLKA1 Operator: DAVE MS 9/09/93 22:49
Misc : GC/MS A,WF,5ul ISI1,SS111/5ML
Sys. #: 1 MS model: 87 SW/HW rev.: IA ALS # : 0
Method file: HE8501 Tuning file: MT8502 No. of extra records: 2
Source temp.: 200 Analyzer temp.: 0 Transfer line temp. : 0

Chromatographic temperatures : 0. 0. 0. 0. 0.
Chromatographic times, min. : 0.0 0.0 0.0 0.0 0.0
Chromatographic rate, deg/min: 0.0 0.0 0.0 0.0 0.0

>AI135 0909HBLKA1 GC/MS A,WF,5ul ISI1,SS111/5ML
35.01 300.0 CLP ADC TIC
Upslope: .20 Area Reject: 15669. Max Peaks: 10 Bunching: 1
Dnslope: 0.00 Results File IAI135 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	3.89	41	51	72	391922	5913909	5913909	100.00	76.739
2	21.14	520	523	531	45112	366336	326349	5.52	4.235
3	22.45	556	559	561	27038	188232	153857	2.60	1.996
4	22.60	561	563	567	33453	271514	206694	3.50	2.682
5	23.44	584	586	592	32443	298057	177716	3.01	2.306
6	24.25	603	608	610	22832	224761	160433	2.71	2.082
7	24.43	610	613	616	33956	323462	228474	3.86	2.965
8	25.64	643	646	651	26102	274135	141014	2.38	1.830
9	26.15	654	660	665	18855	423681	246898	4.17	3.204
10	27.10	684	686	692	21574	254137	151166	2.56	1.962

Sum of corrected areas: 7706510.

Summary of Unknowns PBM Library Search and Quantitation

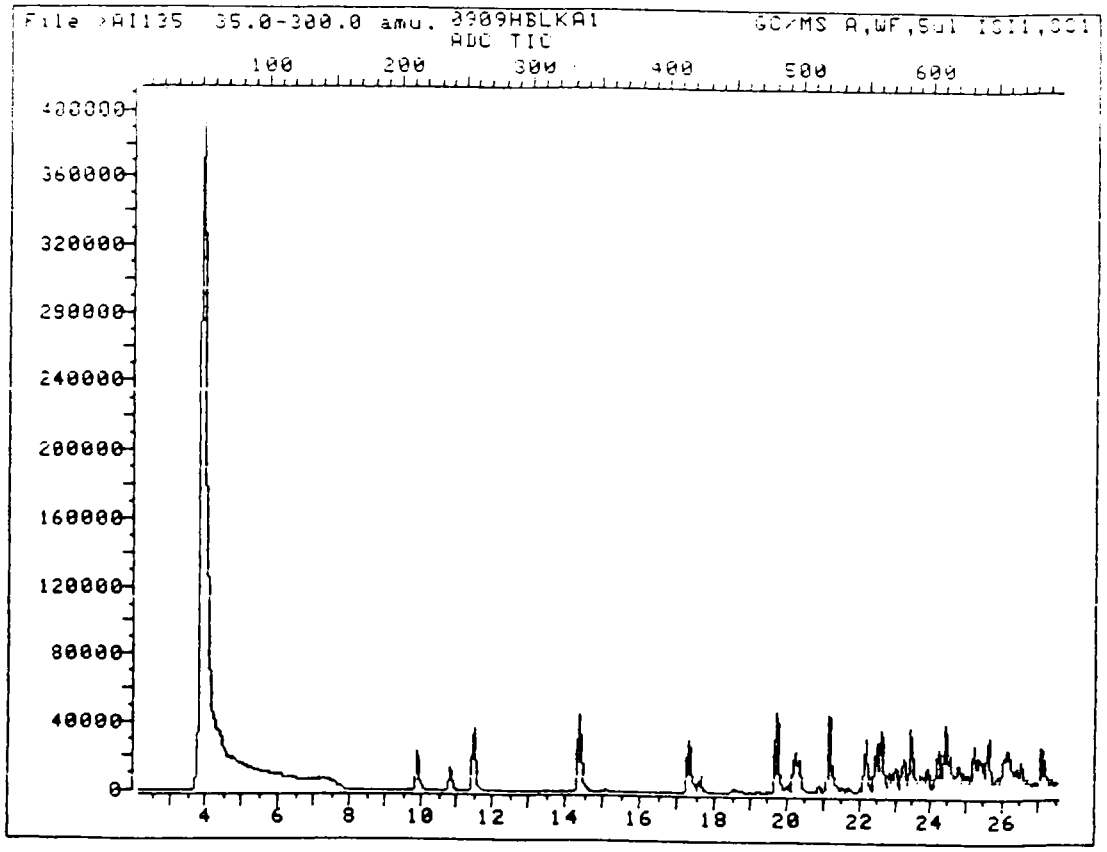
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	156690.	9.88	2.06 - 10.68
2	50.0	262020.	11.49	10.68 - 14.39
3	50.0	208611.	17.30	14.39 - 27.54

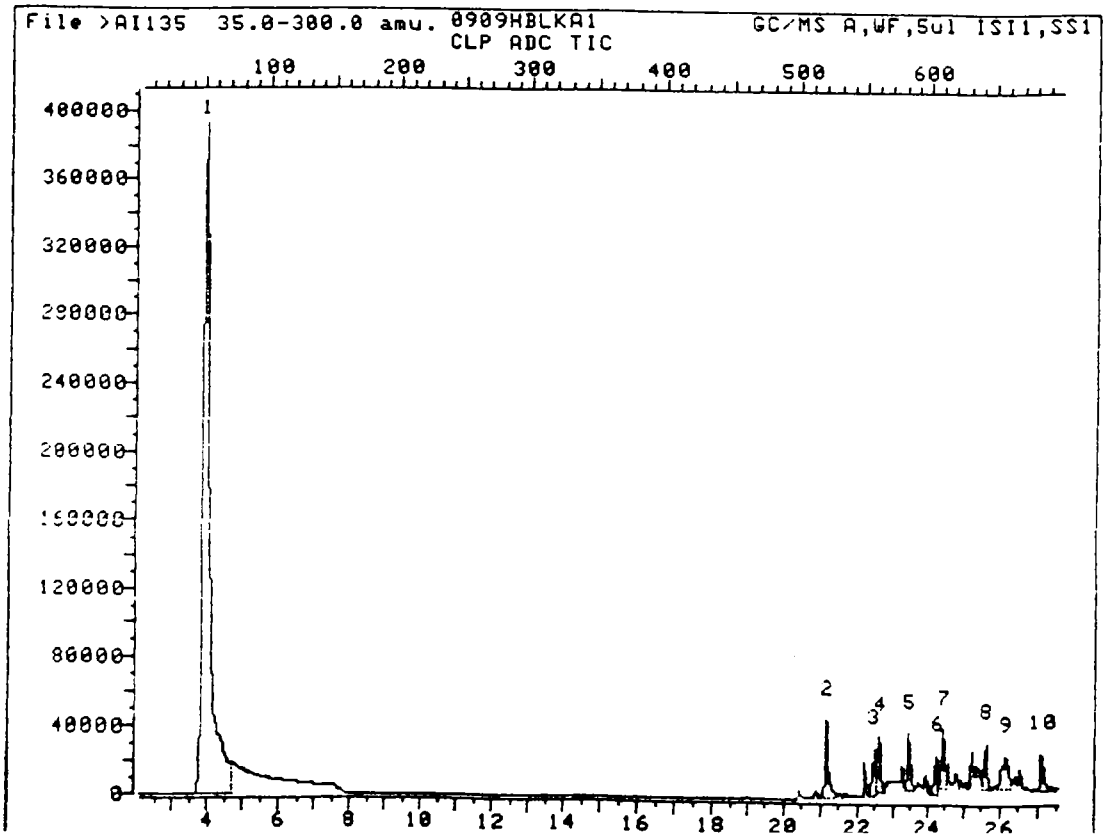
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 5.00 Amount Used (AU) = 5.00

Correction Factor = 1.00 = (AM / AU) / (DF * FS)

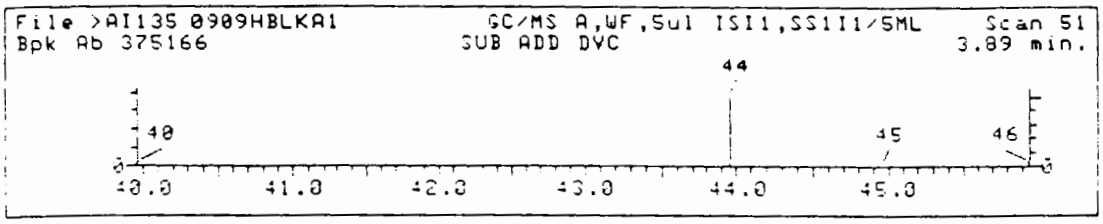
$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

5:31 PM WED., 15 SEPT, 1993


File >AI135 35.0-300.0 amu. 0909HBLKA1
ADC TIC
GC/MS A,WF,Sul ISI1,SS1
100 200 300 400 500 600
400000
360000
320000
280000
240000
200000
160000
120000
80000
40000
0
4 6 8 10 12 14 16 18 20 22 24 26


File >AI135 35.0-300.0 amu. 0909HBLKA1
CLP ADC TIC
GC/MS A,WF,Sul ISI1,SS1
100 200 300 400 500 600
1
2
3 4 5 6 7 8 9 10
400000
360000
320000
280000
240000
200000
160000
120000
80000
40000
0
4 6 8 10 12 14 16 18 20 22 24 26

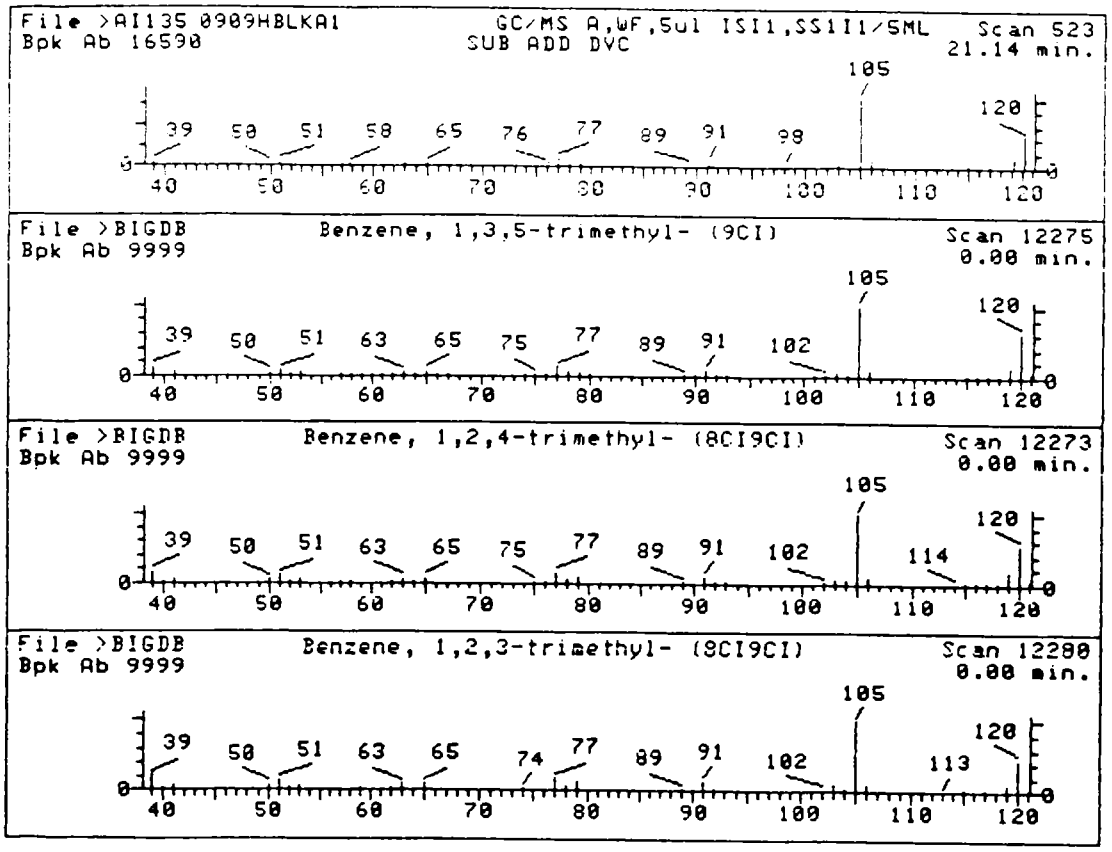
000135



. Unknown #,1
Area = 5913909. Tentative Concentration is 1900.00

Sample file: >AI135 Spectrum #: 51

No data base entries were retrieved.

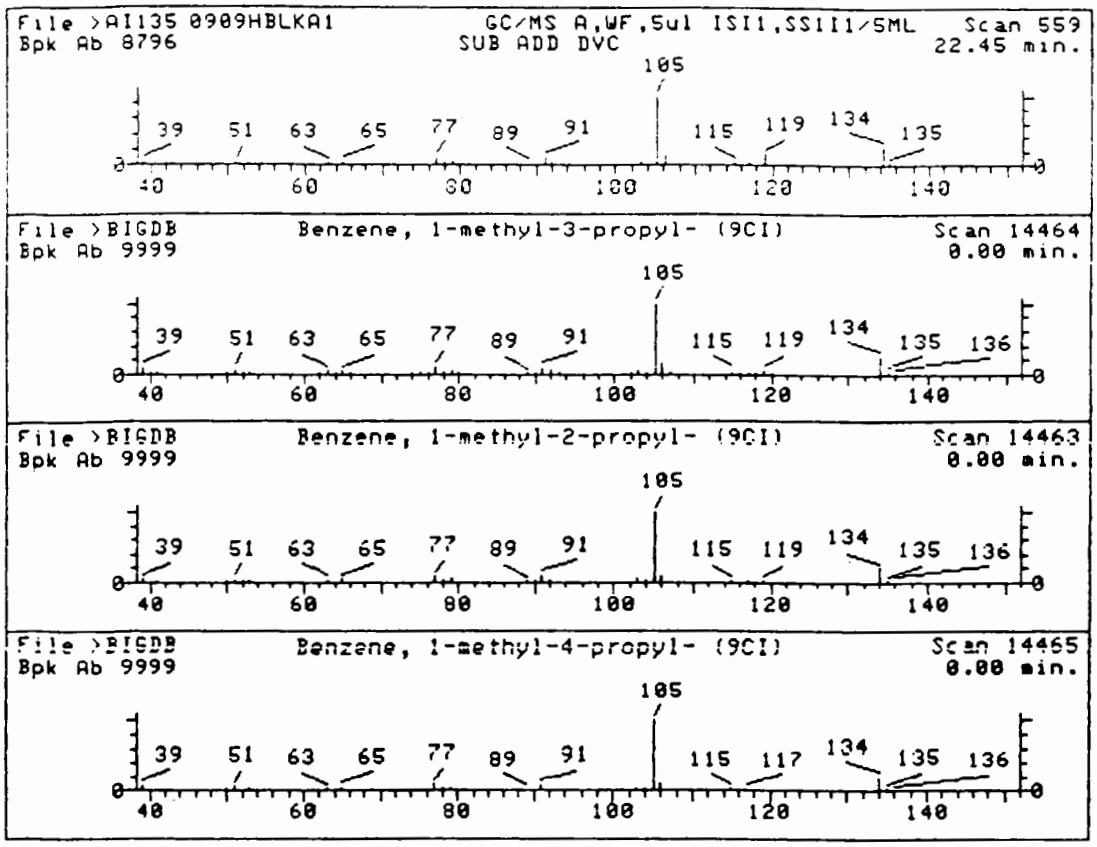


. Unknown #,2
Area = 326349.0 Tentative Concentration is 78.00

1.	Benzene, 1,3,5-trimethyl- (9CI)	120 C9H12
2.	Benzene, 1,2,4-trimethyl- (8CI9CI)	120 C9H12
3.	Benzene, 1,2,3-trimethyl- (8CI9CI)	120 C9H12
4.	Benzene, (1-methylethyl)- (9CI)	120 C9H12
5.	1,3-Cyclopentadiene, 5-(1-methylpropylidene)- (9CI)	120 C9H12
6.	Benzene, 1-ethyl-3-methyl- (9CI)	120 C9H12
7.	Benzene, 1-ethyl-2-methyl- (9CI)	120 C9H12

Sample file: >AI135 Spectrum #: 523
Search speed: 2 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	88*	108678	12275	"BIGDB	73	15	2	2	74	4	65	57
2.	87*	95636	12273	"BIGDB	75	20	2	-2	67	4	63	46
3.	86*	526738	12280	"BIGDB	65	35	2	-4	79	4	60	35
4.	83*	98828	12259	"BIGDB	67	20	1	-4	94	9	54	55
5.	78*	3141024	12286	"BIGDB	34	70	3	0	75	4	55	13
6.	76*	620144	12267	"BIGDB	68	19	1	-3	85	11	40	55
7.	74*	611143	12266	"BIGDB	63	22	1	-4	90	11	39	49

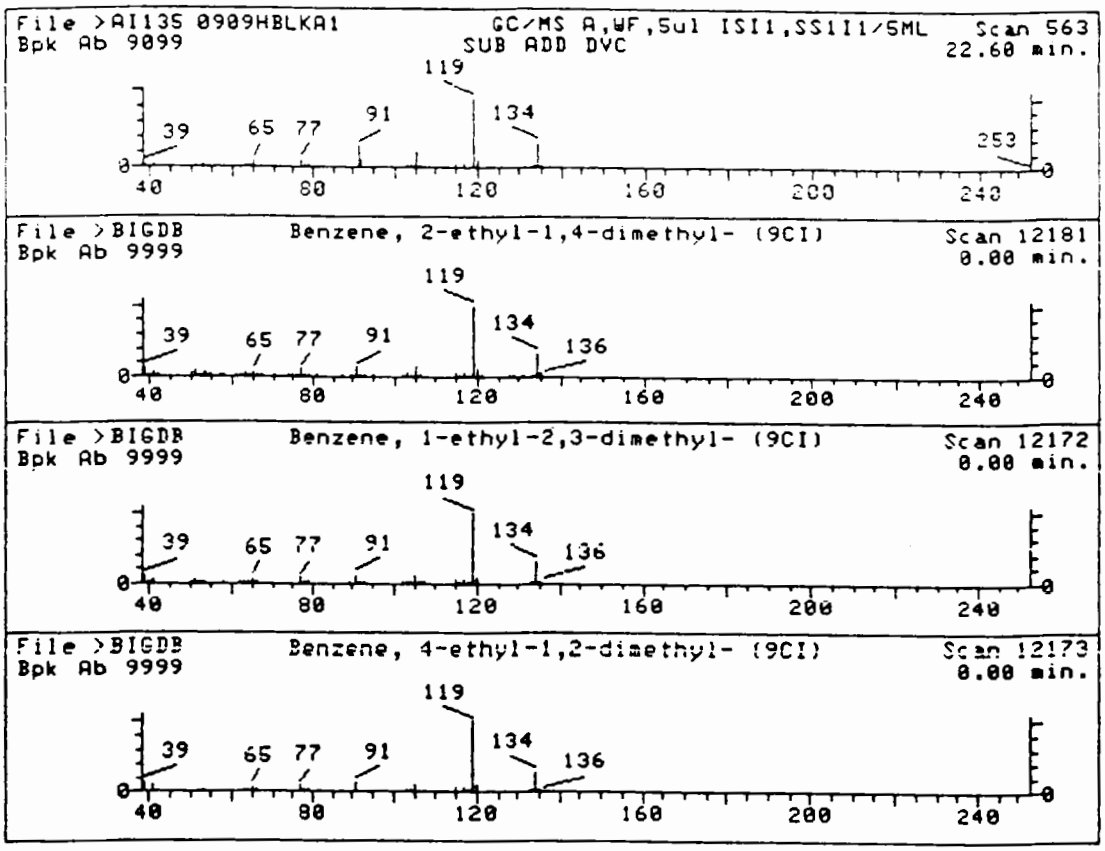


. Unknown #,3
Area = 153857.0 Tentative Concentration is 37.00

1.	Benzene, 1-methyl-3-propyl- (9CI)	134	C10H14
2.	Benzene, 1-methyl-2-propyl- (9CI)	134	C10H14
3.	Benzene, 1-methyl-4-propyl- (9CI)	134	C10H14
4.	Benzene, (1-methylpropyl)- (9CI)	134	C10H14
5.	Benzene, diethyl- (8CI9CI)	134	C10H14
6.	Ethanone, 1-(4-methylphenyl)- (9CI)	134	C9H10O
7.	2,4-Heptadien-6-ynal, (E,E)- (8CI9CI)	106	C7H6O

Sample file: >AI135 Spectrum #: 559
Search speed: 2 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	96*	1074437	14464	"BIGDB	76	11	1	0	100	5	72	94
2.	84*	1074175	14463	"BIGDB	70	15	2	0	100	10	55	61
3.	76*	1074551	14465	"BIGDB	67	16	1	-2	93	11	40	55
4.	58*	135988	14459	"BIGDB	45	41	2	0	86	16	25	24
5.	38*	25340174	14530	"BIGDB	50	45	2	2	60	40	14	25
6.	35*	122009	12168	"BIGDB	38	35	2	1	14	26	14	12
7.	28*	7200046	9911	"BIGDB	29	59	2	0	69	36	10	14

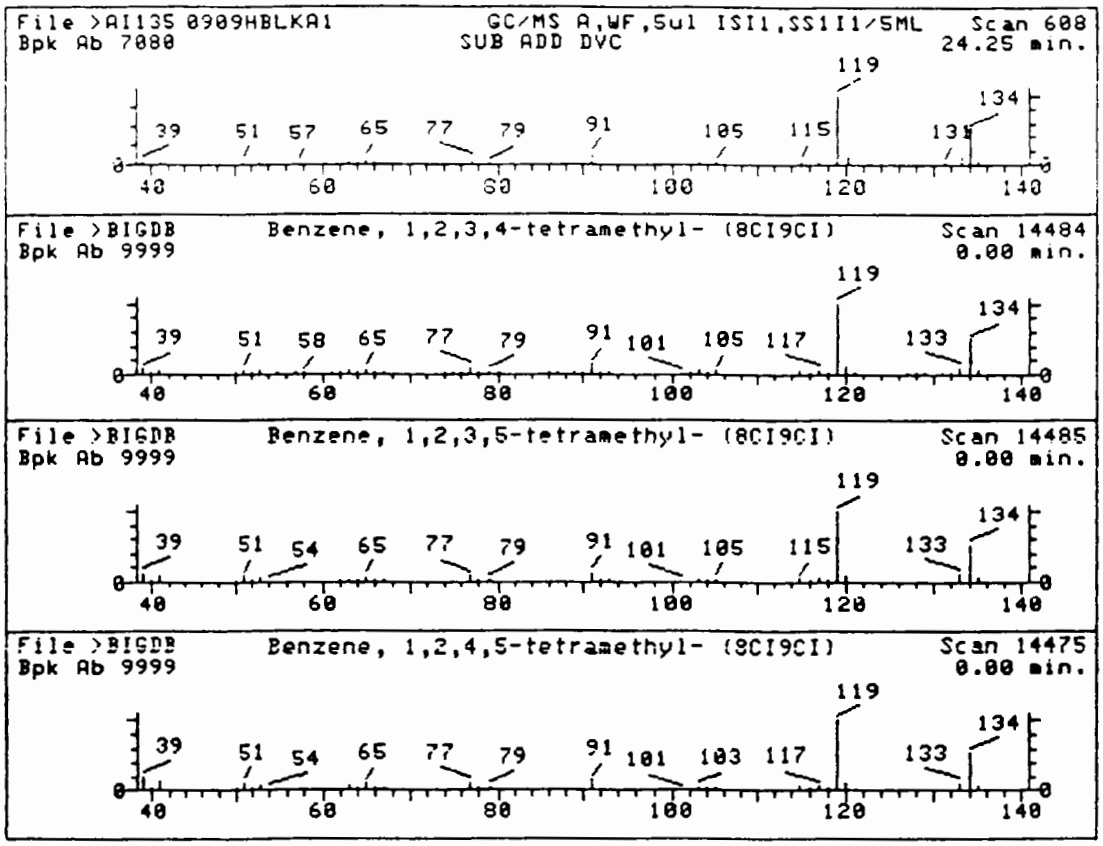


. Unknown #,4
Area = 206694.0 Tentative Concentration is 50.00

1. Benzene, 2-ethyl-1,4-dimethyl- (9CI) 134 C10H14
2. Benzene, 1-ethyl-2,3-dimethyl- (9CI) 134 C10H14
3. Benzene, 4-ethyl-1,2-dimethyl- (9CI) 134 C10H14
4. Benzene, 1-methyl-3-(1-methylethyl)- (9CI) 134 C10H14
5. Benzene, 1-ethyl-3,5-dimethyl- (9CI) 134 C10H14
6. Benzene, 1-ethyl-2,4-dimethyl- (9CI) 134 C10H14
7. Benzene, 1,2,3,5-tetramethyl- (8CI9CI) 134 C10H14

Sample file: >AI135 Spectrum #: 563
Search speed: 2 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83*	1758889	12181	"BIGDB	73	21	1	0	85	15	51	72
2.	79*	933982	12172	"BIGDB	67	24	1	0	100	15	43	66
3.	79*	934805	12173	"BIGDB	62	31	1	0	100	15	43	60
4.	75*	535773	12170	"BIGDB	67	22	1	0	95	20	35	69
5.	75*	934747	12180	"BIGDB	69	26	1	0	87	19	35	67
6.	75*	874419	12171	"BIGDB	61	27	1	0	100	19	35	60
7.	74*	527537	14485	"BIGDB	62	31	2	4	81	15	39	42

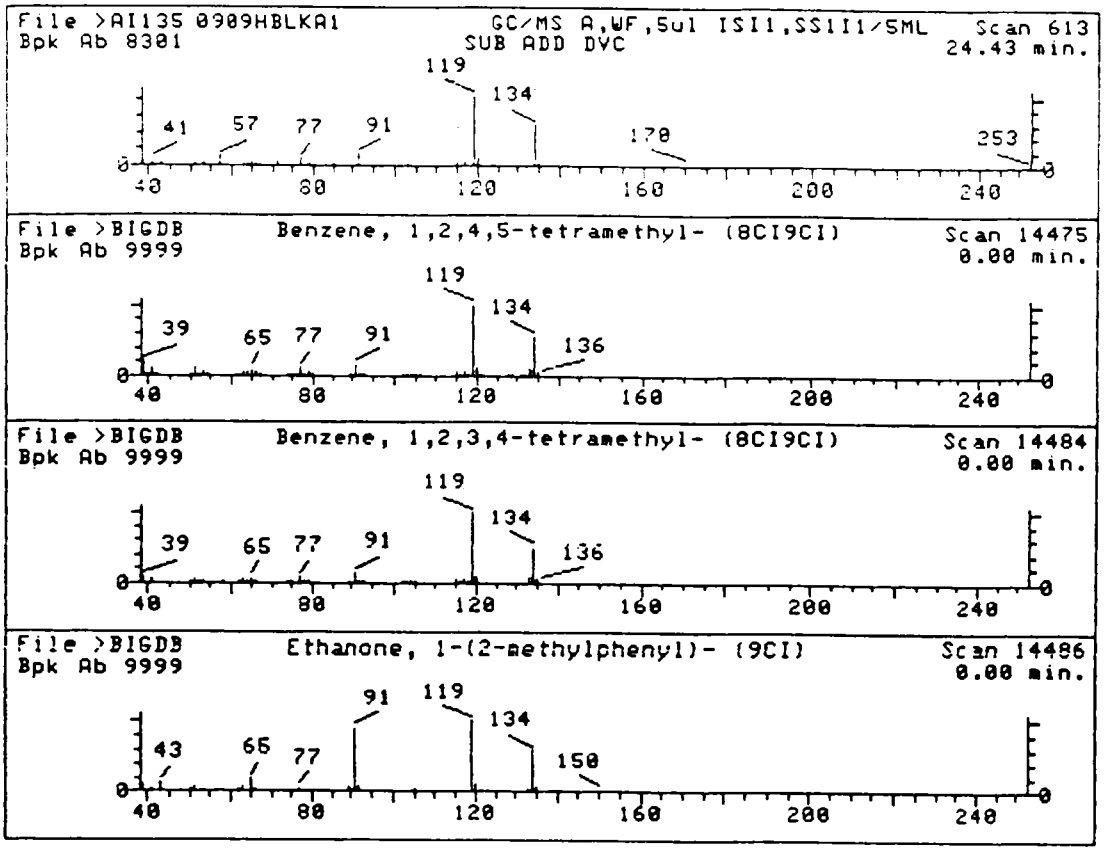


. Unknown #,6
Area = 160433.0 Tentative Concentration is 38.00

1.	Benzene, 1,2,3,4-tetramethyl- (8CI9CI)	134	C10H14
2.	Benzene, 1,2,3,5-tetramethyl- (8CI9CI)	134	C10H14
3.	Benzene, 1,2,4,5-tetramethyl- (8CI9CI)	134	C10H14
4.	Benzene, 1-ethyl-3,5-dimethyl- (9CI)	134	C10H14
5.	Benzene, 1-ethyl-2,3-dimethyl- (9CI)	134	C10H14
6.	Benzene, 2-ethyl-1,4-dimethyl- (9CI)	134	C10H14
7.	Benzene, 1,2-diethyl- (9CI)	134	C10H14

Sample file: >AI135 Spectrum #: 608
Search speed: 2 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	95*	488233	14484	"BIGDB	82	12	1	0	76	0	72	93
2.	95*	527537	14485	"BIGDB	81	12	1	0	85	0	72	93
3.	87*	95932	14475	"BIGDB	73	29	2	-2	87	4	63	43
4.	86*	934747	12180	"BIGDB	66	29	2	-2	100	1	60	36
5.	83*	933982	12172	"BIGDB	59	32	2	-3	100	3	57	28
6.	83*	1758889	12181	"BIGDB	55	39	2	-3	100	3	57	24
7.	78*	135013	14481	"BIGDB	32	74	3	0	102	4	55	13

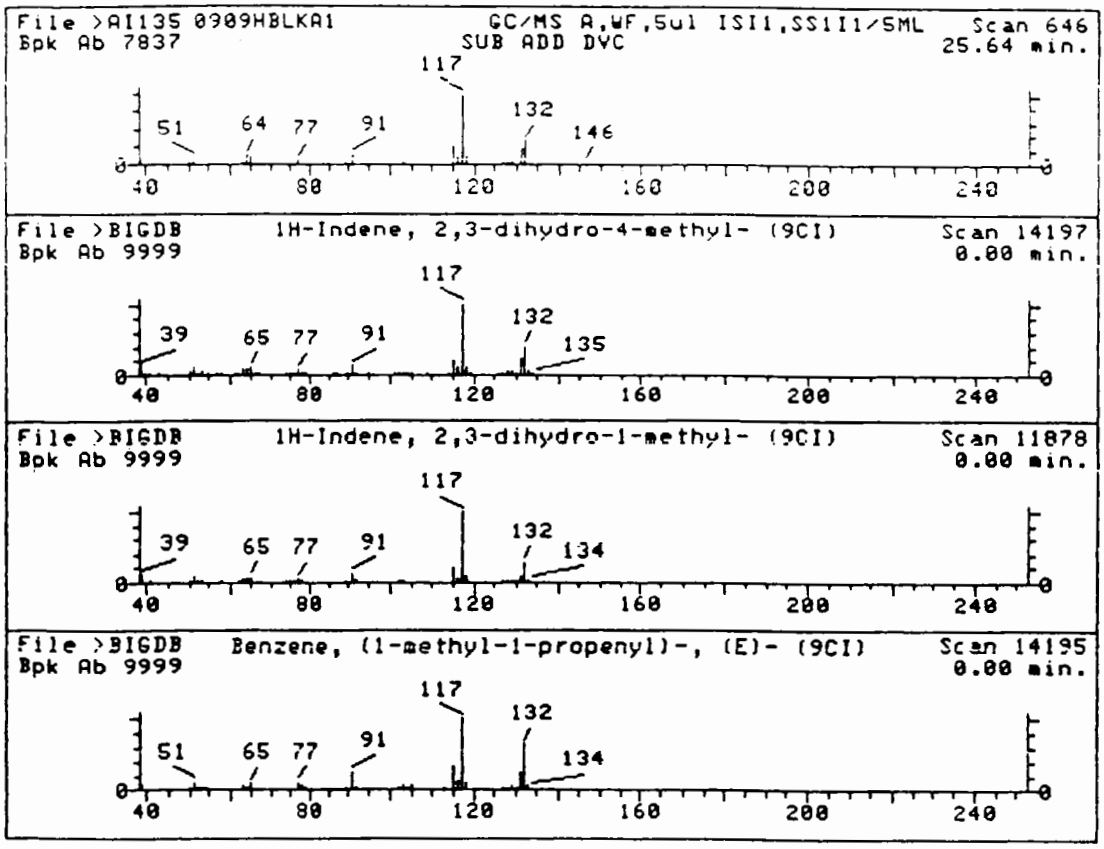


. Unknown #,7
Area = 228474.0 Tentative Concentration is 55.00

1.	Benzene, 1,2,4,5-tetramethyl- (8CI9CI)	134	C10H14
2.	Benzene, 1,2,3,4-tetramethyl- (8CI9CI)	134	C10H14
3.	Ethanone, 1-(2-methylphenyl)- (9CI)	134	C9H10O
4.	Benzene, 1,2,3,5-tetramethyl- (8CI9CI)	134	C10H14
5.	Benzene, 1-methyl-3-(1-methylethyl)- (9CI)	134	C10H14
6.	Benzene, 1,3-diethyl- (9CI)	134	C10H14
7.	Benzene, 1,4-diethyl- (9CI)	134	C10H14

Sample file: >AI135 Spectrum #: 613
Search speed: 2 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86*	95932	14475	"BIGDB	63	39	2	-3	92	5	60	31
2.	76*	488233	14484	"BIGDB	49	45	2	2	89	8	45	23
3.	76*	577162	14486	"BIGDB	47	47	2	4	100	6	45	21
4.	74*	527537	14485	"BIGDB	62	31	2	0	100	11	39	48
5.	71*	535773	12170	"BIGDB	64	25	1	0	76	26	29	63
6.	60*	141935	14482	"BIGDB	40	62	3	0	100	11	30	13
7.	60*	105055	14480	"BIGDB	34	66	3	0	100	11	30	13



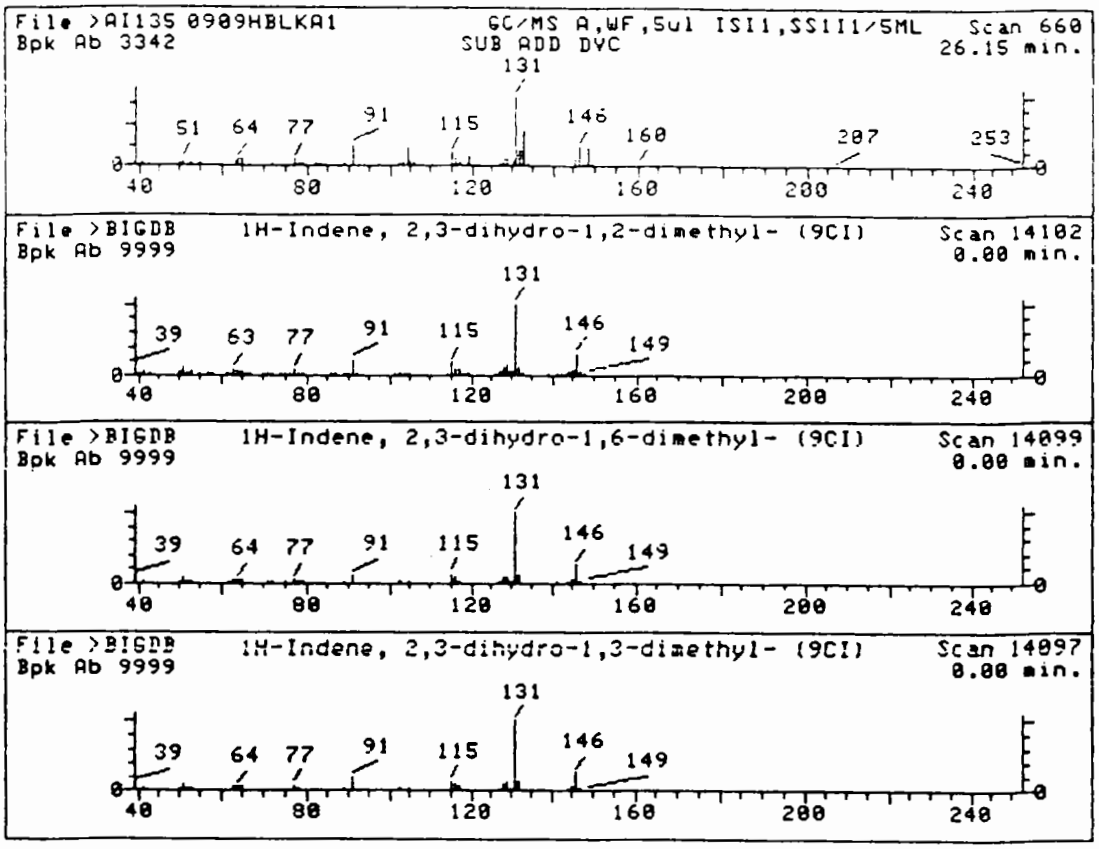
. Unknown #,8
Area = 141014.0 Tentative Concentration is 34.00

1.	1H-Indene, 2,3-dihydro-4-methyl- (9CI)	132	C10H12
2.	1H-Indene, 2,3-dihydro-1-methyl- (9CI)	132	C10H12
3.	Benzene, (1-methyl-1-propenyl)-, (E)- (9CI)	132	C10H12
4.	1H-Indene, 2,3-dihydro-5-methyl- (9CI)	132	C10H12
5.	Benzene, 1-ethenyl-4-ethyl- (9CI)	132	C10H12
6.	Benzofuran, 2-methyl- (8CI9CI)	132	C9H8O
7.	Benzene, 2-ethenyl-1,3-dimethyl- (9CI)	132	C10H12

Sample file: >AI135 Spectrum #: 646
Search speed: 2 Tilting option: F No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	88*	824226	14197	"BIGDB	74	33	2	0	89	5	65	56
2.	71*	767588	11878	"BIGDB	52	45	1	0	84	15	38	35
3.	70*	768003	14195	"BIGDB	52	54	2	4	67	9	42	19
4.	65*	874351	14199	"BIGDB	60	46	1	0	56	34	24	56
5.	42*	3454077	14210	"BIGDB	40	53	2	0	76	27	14	19
6.	41*	4265252	14211	"BIGDB	48	27	1	1	18	38	14	28
7.	33*	2039909	14206	"BIGDB	46	50	2	3	45	37	10	19

000743

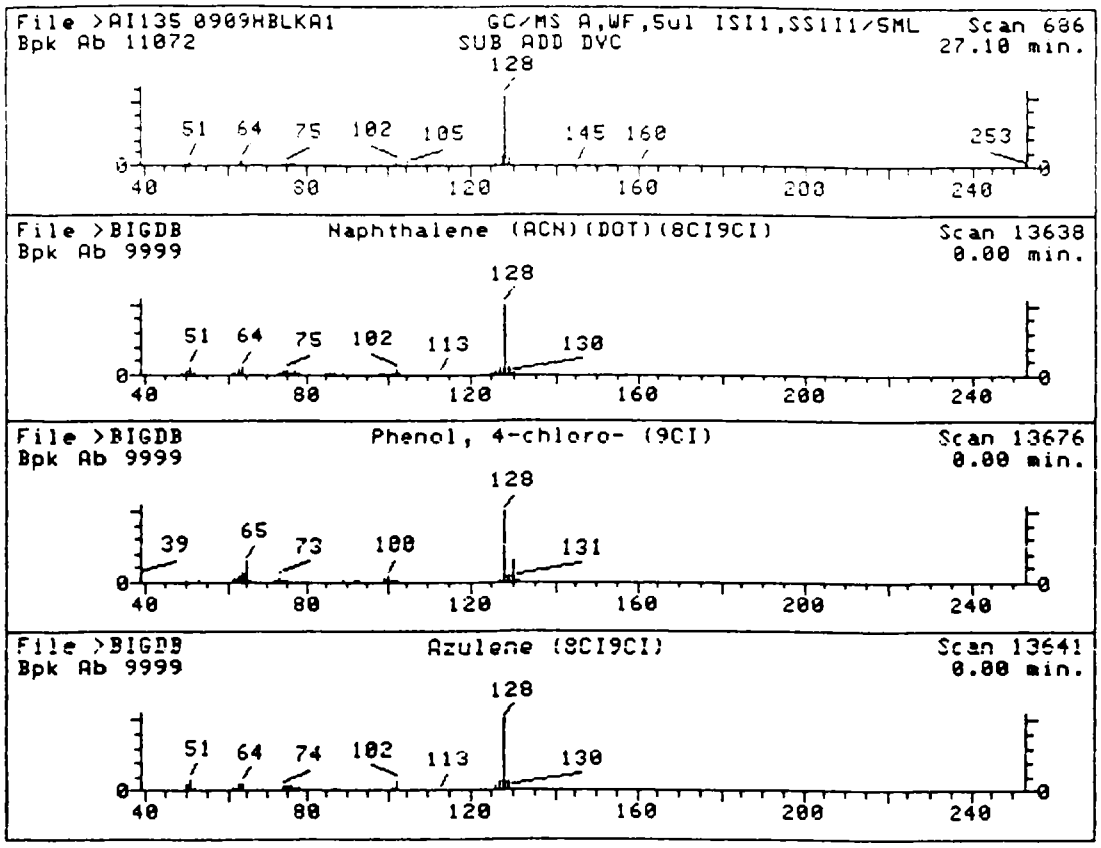


. Unknown #,9
Area = 246898.0 Tentative Concentration is 59.00

1.	1H-Indene, 2,3-dihydro-1,2-dimethyl- (9CI)	146	C11H14
2.	1H-Indene, 2,3-dihydro-1,6-dimethyl- (9CI)	146	C11H14
3.	1H-Indene, 2,3-dihydro-1,3-dimethyl- (9CI)	146	C11H14
4.	1H-Indene, 2,3-dihydro-4,7-dimethyl- (9CI)	146	C11H14
5.	Naphthalene, 1,2,3,4-tetrahydro-1-methyl- (8CI9CI)	146	C11H14
6.	Benzene, (1,1-dimethyl-2-propenyl)- (9CI)	146	C11H14
7.	Benzene, (3-methyl-2-butenyl)- (9CI)	146	C11H14

Sample file: >AI135 Spectrum #: 660
Search speed: 2 Tilting option: F No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	76*	17057828	14102	"BIGDB	88	16	1	2	72	31	32	77
2.	72*	17059482	14099	"BIGDB	79	20	1	0	100	37	28	76
3.	72*	4175535	14097	"BIGDB	79	22	1	0	89	37	28	76
4.	68*	6682719	14101	"BIGDB	83	22	2	4	84	25	30	57
5.	50*	1559815	14100	"BIGDB	68	36	2	2	100	37	19	41
6.	47*	18321363	14103	"BIGDB	62	40	0	-2	72	45	17	50
7.	37*	4489843	16659	"BIGDB	66	40	1	2	56	51	10	56



. Unknown #,10
Area = 151166.0 Tentative Concentration is 36.00

1.	Naphthalene (ACN)(DOT)(8CI9CI)	128	C10H8
2.	Phenol, 4-chloro- (9CI)	128	C6H5ClO
3.	Azulene (8CI9CI)	128	C10H8
4.	1,3-Benzenedicarbonitrile (9CI)	128	C8H4N2
5.	1,2-Benzenedicarbonitrile (9CI)	128	C8H4N2
6.	1,4-Benzenedicarbonitrile (9CI)	128	C8H4N2

Sample file: >AI135 Spectrum #: 686
Search speed: 2 Tilting option: F No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IN
1.	95*	91203	13638	"BIGDB	81	10	1	0	73	6	68	95
2.	60*	106489	13676	"BIGDB	25	69	3	0	100	14	30	13
3.	59*	275514	13641	"BIGDB	70	31	0	-3	52	38	21	59
4.	52*	626175	13644	"BIGDB	37	54	2	0	100	16	20	18
5.	52*	91156	13637	"BIGDB	36	54	2	0	100	18	20	18
6.	52*	623267	13643	"BIGDB	33	62	3	0	100	16	20	13

23C80183 Weston
S 8-26-93 RL 4
D 8-27-93 LOC 32, VR

AMERICAN ENVIRONMENTAL NETWORK, INC.

AMERICAN ENVIRONMENTAL NETWORK, INC
9151 Rumsey Road, Columbia, MD 21045
(410) 730-8525

CHAIN OF CUSTODY RECORD

PROJECT: NWS Earle

SAMPLERS: (Signature) [signature]

SAMPLE NUMBER	DATE	TIME	MATRIX	NO. CONTAINERS	TPH (TR)	VOA									REMARKS OR SAMPLE LOCATION	ICED	SPECIFY CHEMICALS ADDED AND FINAL pH IF KNOWN
R9-1	8/25/93	12:20	Soil	2	✓	✓									13782/1	✓	
R9-2	↓	12:25	↓		✓	✓									13783/2		
R9-3		12:35			✓	✓									13784/3		
R9-4		12:40			✓	✓									13785/4		
R9-5		12:43			✓	✓									13786/5		
R9-6		12:55			✓	✓									13787/6		
R9-7		12:57			✓	✓									13788/7		
R9-8		13:00	↓		✓	✓									13789/8		
FB	↓	11:30	Water	3		✓									13790/9		HCl

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Shipped via:
① [signature]	8/25/93 1100	[signature]	④		
Relinquished by: (Signature) ② [signature]	Date / Time 8/25/93 1700	Received by: (Signature)	Received for Laboratory by: (Signature)	Date / Time	Shipping Ticket No.
Relinquished by: (Signature) ③	Date / Time	Received by: (Signature)	Remarks: Only run VOA Sample if TPH is above 1000 ppm		

ANALYTICAL DATA PACKAGE FOR TANK R11

R 11

AMERICAN ENVIRONMENTAL NETWORK, INC.

9151 Rumsey Road Suite 150, Columbia, MD 21045-1992
(410) 730-8525 Fax (410) 997-2586

August 27, 1993

Mr. David Montanari
Roy F. Weston, Inc.
Raritan Plaza I
Edison, NJ 08837

Dear Mr. Montanari:

Enclosed please find results of the analyses performed on samples received 7/20/93.

The samples were analyzed in accordance with EPA-approved methods.

Please feel free to call me at (410) 730-8525 if you have any questions concerning this report.

Sincerely,

Kristina C. Yamarik
Project Manager

west-93-8-20
Enclosures
kcy

CHECKLIST FOR DELIVERABLES

LEVEL IV
REDUCED DELIVERABLES
PETROLEUM HYDROCARBONS SECTION

REQUIREMENT	FORM NUMBER	DATE/INITIALS
Sample Results		
Blank Results		✓
Spike Results		✓
Duplicate Results		✓
Raw Data:		
IR Spectra for samples, blanks, and standards		✓
GC Chromatograms for samples, blanks, and standards		N/A
Typos/Client ID		✓
Other Information:		
General Information		N/A

Peer Review: _____
Supervisor: _____
Project Manager: _____
QA/GM: _____

admin\marsha\delvrble.lst\level.4\4.93

AMERICAN ENVIRONMENTAL NETWORK, INC.

August 24, 1993

Client: Roy F. Weston

Project: N. W. S. Earle, Colts Neck, NJ

Case #: 93080140

Analysis: Total Petroleum Hydrocarbons by IR

Client ID	AENI#	Date Sampled	Date Received	Date Analyzed
SS01	13354	08/19/93	08/20/93	08/23/93
SS02	13355	08/19/93	08/20/93	08/23/93
SS03	13356	08/19/93	08/20/93	08/23/93
SS04	13357	08/19/93	08/20/93	08/23/93
SS05	13358	08/19/93	08/20/93	08/23/93
SS06	13359	08/19/93	08/20/93	08/23/93

Six soil samples were received for analysis of Total Petroleum Hydrocarbons by EPA method 418.1.

The enclosed package consists specifically of tabulated results (Form I), matrix spike and matrix spike duplicate (Form III) recoveries and finally a (Form IV) blank summary. Initial and continuing calibration data and IR spectra are included in the package.

Form I (Tabulated Results)

The qualifier "< DL" indicates that TPH was not detected above the detection limit. All samples were extracted and analyzed within EPA holding times.

Form III (Spike/Spike Duplicate Recoveries)

A Spike and Spike Duplicate were run in place of a Spike and Sample Duplicate as per contract. Both Matrix Spike/Matrix Spike Duplicate recoveries and RPD (relative percent difference) are within laboratory criteria. A batch MS/MSD is reported in lieu of the project MS/MSD.

Form IV (Blank Summary)

No Total Petroleum Hydrocarbon (TPH) was detected in the method blanks.

Report Released By _____ for MTLN
Minh-Thuy L. Nguyen
Organic Laboratory Manager
5/24/93

VSC

DISTRIBUTION:
THUY, LEE, NOBLE, BUCK, EXTRACTIONS
REMARKS: 24 HR. RUSH!!!!

****
NON - REPORTED SAMPLES
ORGANIC - SPECIFIC CONTRACT REPORT
****

PROJECT: N.W.S.EARLE,COLTS NECK,NJ
COMPANY: ROY F. WESTON
PROJECT MGR: KY

KCY 8/24/93

PROJECT NUMBER	SAMP NUM	REMI ID	CLIENT ID	DATE REC	DATE DUE	DATE SAMPLED	MATRIX	ACD	BN	PST (OCL)	PST (OP)	VOA	PCB	HRB	EXP	TPH IR	TPH GC	PHEN	O&G	GAS	OTH	VOA GC	BTEX	DIMP DMMP	THIO DIGLY	SULFUR CMPDS	CARB ANATES	OTHER	COMMENTS	HOLD LOC	HOLD DATE	DAYS LEFT	REPORT LEVEL
93080140-1	13353	FIELD BLANK		08/20/93	08/23/93	08/19/93	WATER					H																	VOA + TD	35,VR	09/16/93	26	4
93080140-2	13354	SS01		08/20/93	08/23/93	08/19/93	SOIL					H				E														35,VR	09/16/93	26	4
93080140-3	13355	SS02		08/20/93	08/23/93	08/19/93	SOIL					H				E														35,VR	09/16/93	26	4
93080140-4	13356	SS03		08/20/93	08/23/93	08/19/93	SOIL					H				E														35,VR	09/16/93	26	4
93080140-5	13357	SS04		08/20/93	08/23/93	08/19/93	SOIL					H				E														35,VR	09/16/93	26	4
93080140-6	13358	SS05		08/20/93	08/23/93	08/19/93	SOIL					H				E														35,VR	09/16/93	26	4
93080140-7	13359	SS06		08/20/93	08/23/93	08/19/93	SOIL					H				E														35,VR	09/16/93	26	4

7 ORGANIC RECORDS
L = LEACH E = EXTRACT A = ANALYZE

Hold VOA unless TPH-IR is high

0

AMERICAN ENVIRONMENTAL NETWORK, INC

% SOLIDS

NOTEBOOK 2399

PAGE 000011

CHECKED

CLIENT NAME

CONTRACT NUMBER | CASE | DATE | TECH

AENI #	CLIENT #	WEIGHT OF PAN (gm)	WEIGHT OF SAMPLE (gm)	WEIGHT OF DRY SAMPLE (gm)	% SOLID	pH
13347		1.59	5.25	6.33	90	
13348		1.58	5.80	6.53	85	
13349		1.57	5.34	6.43	91	
13350		1.62	5.87	6.94	91	
13351		1.59	5.84	6.75	88	
13352		1.58	5.85	7.18	96	
13354		1.60	5.40	5.86	79	
13355		1.59	5.26	5.25	70	
13356		1.60	5.40	5.42	71	
13357		1.60	5.49	5.78	76	
13358		1.60	5.38	5.39	70	
13359		1.59	5.31	5.90	81	
13226		1.58	5.76	5.69		
13227		1.61	6.91	6.51		

WEIGHT OF SAMPLE DOES NOT INCLUDE WEIGHT OF PAN

% SOLID = (WEIGHT OF DRY SAMPLE - WEIGHT OF PAN / WEIGHT OF SAMPLE) X 100

COMMENTS

NOTEBOOK # 2388

AMERICAN ENVIRONMENTAL NETWORK, INC.

INFRARED INJECTION LOG

ANALYST	RCPe
DATE	8/23/93
CLIENT	
QC LOT #	
QC CONC	
RECOVERY RANGE	
EXTRACTED DATE	8/20/93

Solvent Freon

Scan Range 3200 - 2700 cm⁻¹

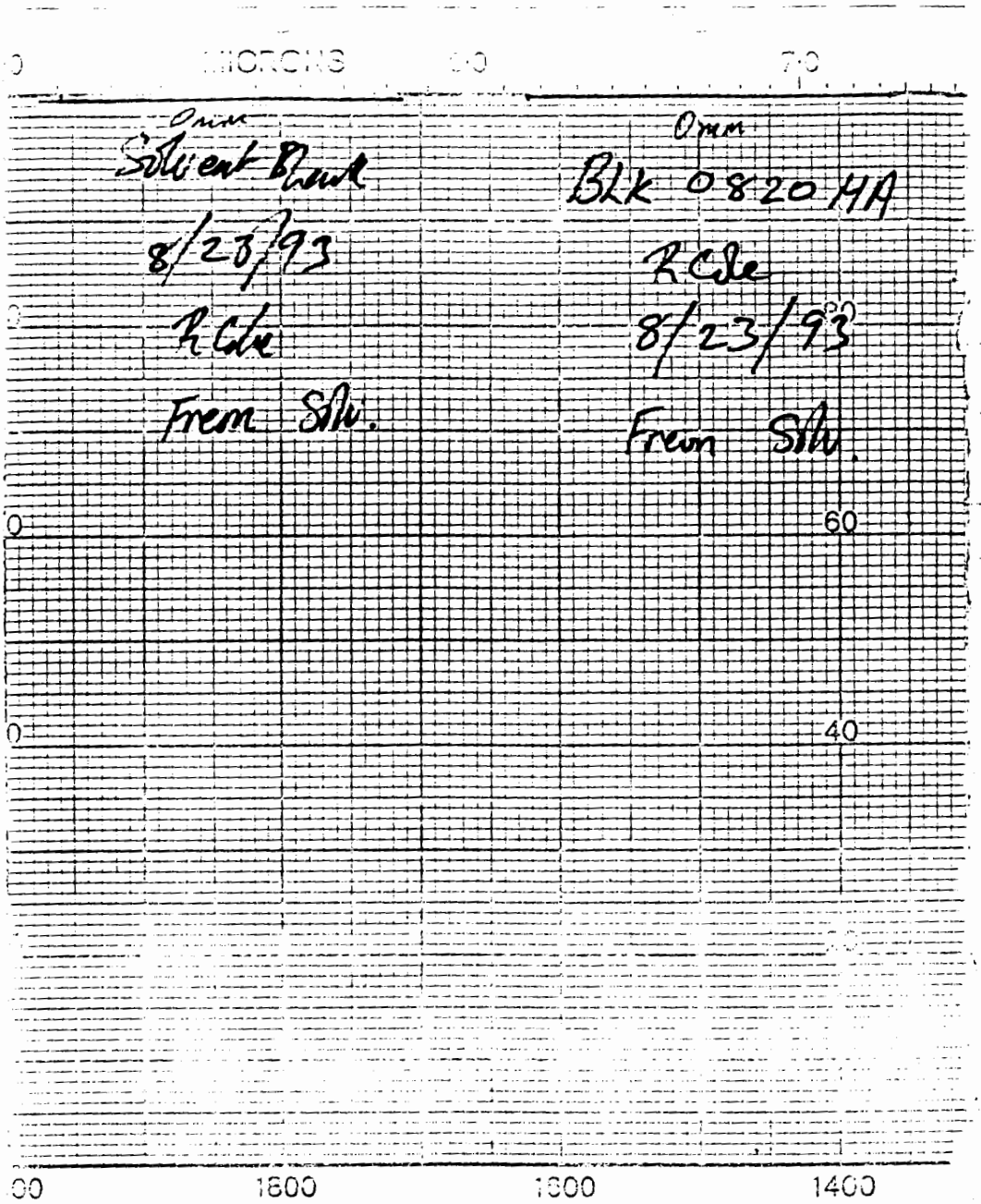
mls of STD./100ml	PEAK(mm)

8/23/93 RCPe

STOCK CONC.of STD. _____/200ml

RUN#	SAMPLE #	PEAK HT. (mm)
1	13344	0
2	13345	0
3	13346	0
4	13347	0
5	13348	0
6	13349	0
7	13350	0
8	13351	0
9	13352	0
10		
11	RCPe	
12	8/23/93	
13		

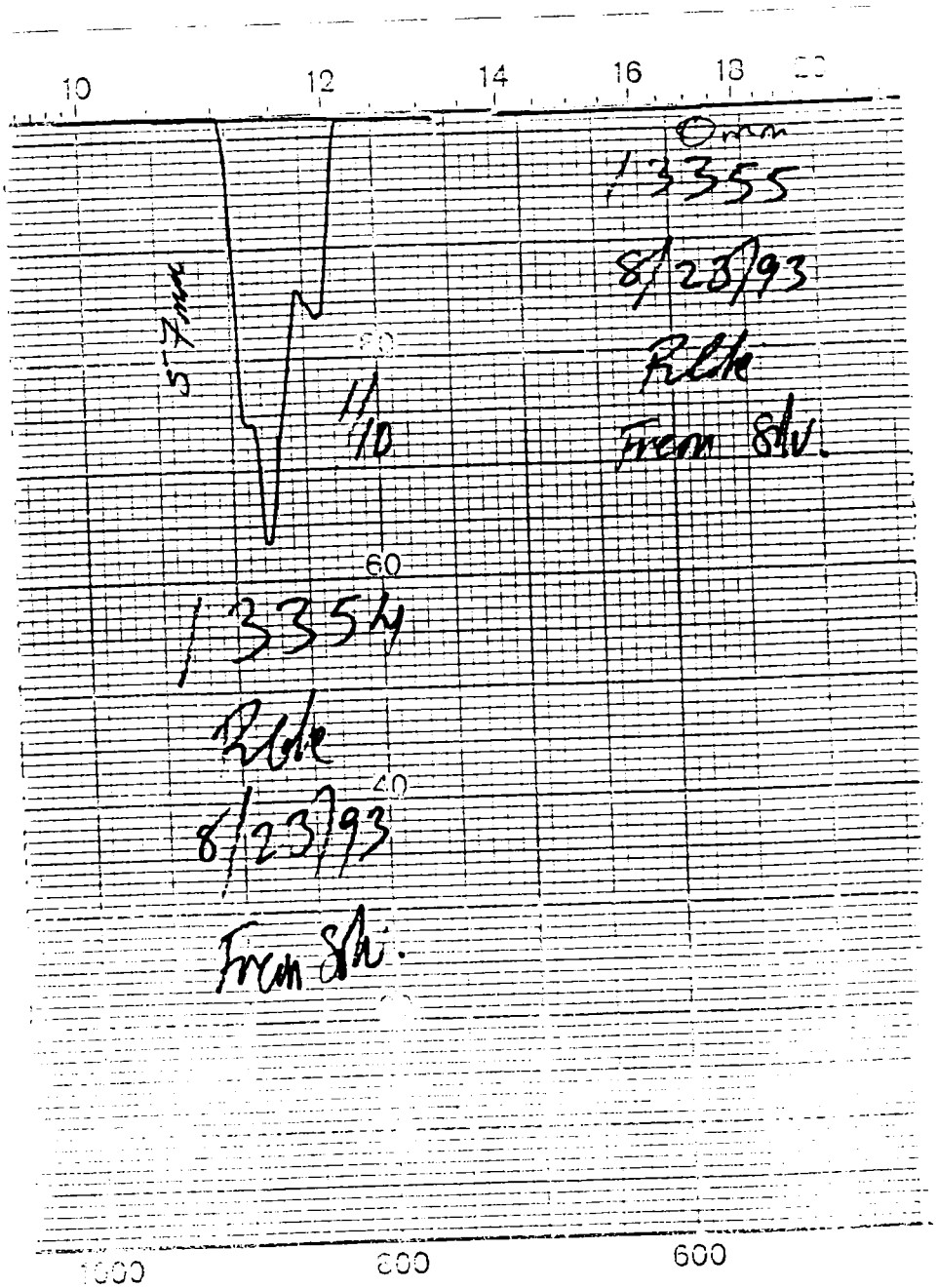
RUN#	SAMPLE #	PEAK HT. (mm)
14	13354	(1/10) 57
15	13355	0
16	13356	0
17	13357	0
18	13358	(1/20) 38
19	13359	(1/20) 38
20	BLK 0820HA	0
21	Solv. BLK	0
22		
23	RCPe	
24	8/23/93	
25		
26		



ARKS

SLIT PROGRAM _____
SCAN TIME _____
MULTIPLIER _____
TIME CONSTANT _____

000019



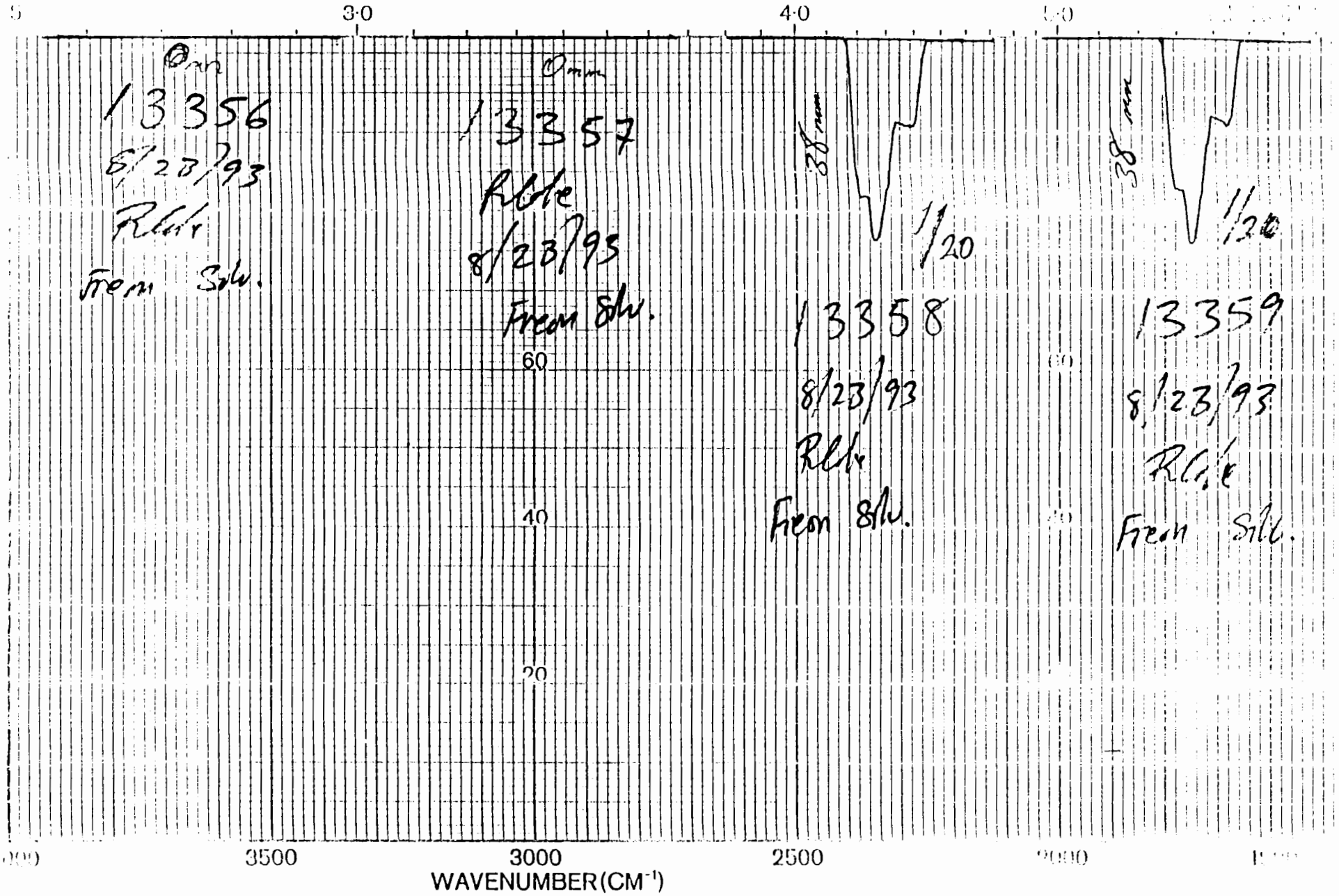
SB

ABSCISSA EXP

TIME DRIVE cm/min

OPERATOR DATE

REF No.



SAMPLE	SOLVENT	REMARKS
	CONCENTRATION	
	CELL PATH	
ORIGIN	REFERENCE	

AMERICAN ENVIRONMENTAL NETWORK, INC.

AMERICAN ENVIRONMENTAL NETWORK, INC.
9151 Rumsey Road, Columbia, MD 21045
(410) 730-8525

CHAIN OF CUSTODY RECORD

PROJECT: N.W. Earle, Colts Neck, NJ

SAMPLERS: (Signature) Gerry Ross.

SAMPLE NUMBER	DATE	TIME	MATRIX	NO. CONTAINERS	TPHC	VOTHD *					REMARKS OR SAMPLE LOCATION	ICED	SPECIFY CHEMICALS ADDED AND FINAL pH IF KNOWN
Field Blank	8/19/93	11 30	W.	1		X				13353/1	R11 Tank Transducer	Y	NA
SS01		11 35	S	1	X					13354/2			
SS01 A		11·36		1		X				⊥			
SS02		11·40		1	X					13355/3			
SS02 A		11·41		1		X				⊥			
SS03		11·45.		1	X					13356/4			
SS03 A		11·46		1		X				⊥			
SS04		12·00		1	X					13357/5			
SS04 A		12·01		1		X				⊥			
SS05		12·05		1	X					13358/6			
SS05 A		12·06		1		X				⊥			
SS06		12·10		1	X					13359/7			
SS06 A		12·11.		1		X				⊥			
				12·06									

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Shipped via:
① [illegible]	8/19/93 1630		④		
Relinquished by: (Signature)	**Date / Time**	**Received by: (Signature)**	**Received for Laboratory by: (Signature)**	**Date / Time**	**Shipping Ticket No.**
②			[illegible]	[illegible] 11 50	
Relinquished by: (Signature)	**Date / Time**	**Received by: (Signature)**	**Remarks:** NJDEP BUST [illegible]		
③			24 TAT ON TAK [illegible] TPHC [illegible] SAMPLE		

Section II.

VOLATILES DATA

Section a).

QC SUMMARY

Surrogate Recovery (form II)
Daily Blank Summary (form IV)
GC/MS Tuning and Calibration (form V)
Initial Calibration (VI)
Continuing Calibration (VII)
Internal Standard Area Summary (VIII)

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: AMER.ENV.NT Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

	EPA / CLIENT SAMPLE ID	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	0827VCBLK	100	100	95		0
02	FIELD BLANK	109	105	106		0
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
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22						
23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS SW846	QC LIMITS LAB
S1 (TOL) = Toluene-d8	(88-110)	(89-108)
S2 (BFB) = Bromofluorobenzene	(86-115)	(89-107)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-114)	(84-103)

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

2B
SOIL VOLATILE SURROGATE RECOVERY

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Level: LOW

	EPA / CLIENT SAMPLE ID	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	0901HBLK A1	99	96	92		0
02	SS01	106	77	89		0
03	SS01 MS	146 +	84	97		1
04	SS01 MSD	99	98	93		0
05						
06						
07						
08						
09						
10						
11						
12						
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30						

	QC LIMITS SW846	QC LIMITS LAB
S1 (TOL) = Toluene-d8	(81-117)	(86-117)
S2 (BFB) = Bromofluorobenzene	(74-121)	(82-118)
S3 (DCE) = 1,2-Dichloroethane-d4	(70-121)	(86-109)

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

2B
SOIL VOLATILE SURROGATE RECOVERY

Lab Name: AMER.ENV.NT Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

	EPA / CLIENT SAMPLE ID	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	0902CBLK	96	98	85 *		1
02	SS05	97	99	91		0
03	SS06	84	104	92		0
04						
05						
06						
07						
08						
09						
10						
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29						
30						

	QC LIMITS SW846	QC LIMITS LAB
S1 (TOL) = Toluene-d8	(81-117)	(86-117)
S2 (BFB) = Bromofluorobenzene	(74-121)	(82-118)
S3 (DCE) = 1,2-Dichloroethane-d4	(70-121)	(86-109)

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

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: AMER.ENV.NTWK. Contract: 93080140

ab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

atrix Spike - EPA / CLIENT ID: SS01 Level: LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.00	0.00	97.00	194 *	59-172
Trichloroethene	50.00	0.00	39.00	78	62-137
Benzene	50.00	0.00	49.00	97	66-142
Toluene	50.00	3.20	58.00	110	59-139
Chlorobenzene	50.00	0.00	38.00	75	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.00	86.00	172	12	22	59-172
Trichloroethene	50.00	54.00	107	31 *	24	62-137
Benzene	50.00	59.00	117	18	21	66-142
Toluene	50.00	58.00	109	0	21	59-139
Chlorobenzene	50.00	56.00	111	38 *	21	60-133

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

Values outside of qc limits

RPD: 2 out of 5 outside limits
pike Recovery: 1 out of 10 outside limits

COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: AMER.ENV.NTWK. Contract:

Lab Code: AENI Case No: SAS No: N.A. SDG No: N.A.

Lab File ID: >CH450 Lab Sample ID: 0827VCBLK

Date Analyzed: 8/27/93 Time Analyzed: 16:03

Matrix: WATER Level: LOW

Instrument ID: HP5970-C

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

	LAB SAMPLE ID.	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	AEN#13354	FIELD BLANK	>CH458	8/28/93
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
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29				
30				

COMMENTS:

FORM IV VOA

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Lab File ID: >AI012 Lab Sample ID: 0901HBLK A1

Date Analyzed: 9/01/93 Time Analyzed: 21:41

Matrix: SOIL Level: LOW

Instrument ID: HP5985-A

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

	LAB SAMPLE ID	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	AEN#13354	SS01	>AI016	9/02/93
02	AEN#13354	SS01 MS	>AI024	9/02/93
03	AEN#13354	SS01 MSD	>AI025	9/02/93
04				
05				
06				
07				
08				
09				
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30				

COMMENTS:

FORM IV VOA 2/88 Rev.

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Lab File ID: >CI004 Lab Sample ID: 0902CBLK

Date Analyzed: 9/02/93 Time Analyzed: 21:26

Matrix: SOIL Level: MED

Instrument ID: HP5970-C

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

	LAB SAMPLE ID.	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	AEN#13358	SS05	>CI013	9/03/93
02	AEN#13359	SS06	>CI014	9/03/93
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
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30				

COMMENTS:

FORM IV VOA 2/88 Rev.

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: AMER.ENV.NTWK. Contract: N.A.

Lab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

Lab File ID: >CH482 BFB Injection Date: 8/30/93

Instrument ID: HP5970-C BFB Injection Time: 15:02

Matrix: WATER Level: LOW Column: PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	23.5
75	30.0 - 60.0% OF MASS 95	47.9
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	7.6
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	59.2
175	5.0 - 9.0% of mass 174	4.4(7.5)1
176	Greater than 95.0%, but less than 101.0% of mass 174	58.9(99.6)1
177	5.0 - 9.0% of mass 176	3.9(6.6)2

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

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

	LAB SAMPLE ID	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0830VSTD20	0830VSTD20	>CH484	8/30/93	16:26
02	0830VSTD50	0830VSTD50	>CH485	8/30/93	17:19
03	0830VSTD100	0830VSTD100	>CH486	8/30/93	18:36
04	0830VSTD150	0830VSTD150	>CH487	8/30/93	19:30
05	0830VSTD200	0830VSTD200	>CH488	8/30/93	20:23
06					
07					
08					
09					
10					
11					
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20					
21					
22					

FORM V VOA SW 846

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Lab File ID: >CH448 BFB Injection Date: 8/27/93

Instrument ID: HP5970-C BFB Injection Time: 14:44

Matrix: WATER Level: LOW Column: PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	27.1
75	30.0 - 60.0% OF MASS 95	52.1
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	7.9
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	60.9
175	5.0 - 9.0% of mass 174	4.5(7.4)1
176	Greater than 95.0%, but less than 101.0% of mass 174	59.2(97.3)1
177	5.0 - 9.0% of mass 176	4.3(7.3)2

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

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

	LAB SAMPLE ID	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0827CSTD 50	0827CSTD 50	>CH449	8/27/93	15:10
02	0827VCBLK	0827VCBLK	>CH450	8/27/93	16:03
03	AEN#13354	FIELD BLANK	>CH458	8/28/93	0:21
04					
05					
06					
07					
08					
09					
10					
11					
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18					
19					
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21					
22					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: AMER.ENV.NTWK. Contract: N.A.

Lab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

Lab File ID: >AH260 BFB Injection Date: 8/30/93

Instrument ID: HP5985-A BFB Injection Time: 16:11

Matrix: SOIL Level: LOW Column: CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	18.9
75	30.0 - 60.0% OF MASS 95	46.1
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	79.1
175	5.0 - 9.0% of mass 174	7.1(9.0)1
176	Greater than 95.0%, but less than 101.0% of mass 174	77.0(97.4)1
177	5.0 - 9.0% of mass 176	5.1(6.6)2

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

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

	LAB SAMPLE ID	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0830HSTD50	0830HSTD50	>AH263	8/30/93	18:11
02	0830HSTD100	0830HSTD100	>AH264	8/30/93	18:52
03	0830HSTD150	0830HSTD150	>AH266	8/30/93	21:38
04	0830HSTD20	0830HSTD20	>AH268	8/30/93	23:09
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5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: AMER.ENV.NTWK. Contract: N.A.

Lab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

Lab File ID: >AH278 BFB Injection Date: 8/31/93

Instrument ID: HP5985-A BFB Injection Time: 14:40

Matrix: SOIL Level: LOW Column: CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	17.8
75	30.0 - 60.0% OF MASS 95	43.3
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	79.5
175	5.0 - 9.0% of mass 174	6.7(8.4)1
176	Greater than 95.0%, but less than 101.0% of mass 174	77.4(97.4)1
177	5.0 - 9.0% of mass 176	5.2(6.7)2

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

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

	LAB SAMPLE ID	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0831HSTD200	0831HSTD200	>AH279	8/31/93	15:35
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FORM V VOA SW 846

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

Lab File ID: >AI010 BFB Injection Date: 9/01/93

Instrument ID: HP5985-A BFB Injection Time: 20:36

Matrix: SOIL Level: LOW Column: CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	20.0
75	30.0 - 60.0% OF MASS 95	53.6
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	8.3
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	75.4
175	5.0 - 9.0% of mass 174	5.8(7.7)1
176	Greater than 95.0%, but less than 101.0% of mass 174	74.6(98.9)1
177	5.0 - 9.0% of mass 176	5.4(7.2)2

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

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

	LAB SAMPLE ID	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0901HSTD50	0901HSTD50 A1	>AI011	9/01/93	21:01
02	0901HBLK A1	0901HBLK A1	>AI012	9/01/93	21:41
03	AEN#13354	SS01	>AI016	9/02/93	0:22
04	AEN#13354	SS01 MS	>AI024	9/02/93	5:43
05	AEN#13354	SS01 MSD	>AI025	9/02/93	7:08
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FORM V VOA 2/88 Rev.

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: AMER.ENV.NTWK. Contract: N.A.

Lab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

Lab File ID: >CH163 BFB Injection Date: 8/12/93

Instrument ID: HP5970-C BFB Injection Time: 11:00

Matrix: WATER Level: LOW Column: PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF MASS 95	25.0
75	30.0 - 60.0% OF MASS 95	50.0
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	61.6
175	5.0 - 9.0% of mass 174	4.6(7.5)1
176	Greater than 95.0%, but less than 101.0% of mass 174	59.5(96.7)1
177	5.0 - 9.0% of mass 176	3.9(6.6)2

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

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

	LAB SAMPLE ID	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0812VSTD20	0812VSTD20	>CH165	8/12/93	12:25
02	0812VSTD50	0812VSTD50	>CH166	8/12/93	13:14
03	0812VSTD100	0812VSTD100	>CH167	8/12/93	14:03
04	0812VSTD150	0812VSTD150	>CH168	8/12/93	14:53
05	0812VSTD200	0812VSTD200	>CH169	8/12/93	15:42
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FORM V VOA SW 846

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Lab File ID: >CI001 BFB Injection Date: 9/02/93

Instrument ID: HP5970-C BFB Injection Time: 9/02/93 17:55

Matrix: SOIL Level: MED Column: PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% OF MASS 95	25.6	
75	30.0 - 60.0% OF MASS 95	50.4	
95	Base peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	7.6	
173	Less than 2.0% of mass 174	0.0	0.0)1
174	Greater than 50.0% of mass 95	59.2	
175	5.0 - 9.0% of mass 174	4.4	7.5)1
176	Greater than 95.0%, but less than 101.0% of mass 174	58.2	98.4)1
177	5.0 - 9.0% of mass 176	3.8	6.6)2

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

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

	LAB SAMPLE ID	EPA / CLIENT SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	0902CSTD 50	0902CSTD 50	>CI002	9/02/93	18:23
02	0902CBLK	0902CBLK	>CI004	9/02/93	21:26
03	AEN#13358	SS05	>CI013	9/03/93	5:48
04	AEN#13359	SS06	>CI014	9/03/93	6:42
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FORM V VOA 2/88 Rev.

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: AMER.ENV.NTWK. Contract: N.A.

Lab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

Instrument ID: HP5970-C Calibration Date(s):08/12/93 N.A.

Matrix: WATER Level: LOW Column: PACK

Min $\overline{RRF}$ for SPCC(#) = 0.3 (0.25 for Bromoform) Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF20 =>CH165 RRF50 =>CH166
RRF100=>CH167 RRF150=>CH168 RRF200=>CH169

COMPOUND		RRF20	RRF50	RRF100	RRF150	RRF200	$\overline{RRF}$	% RSD
Chloromethane	#	1.224	1.178	1.225	1.158	1.114	1.180	4.0#
Bromomethane		1.756	1.647	1.743	1.583	1.440	1.634	8.0
Vinyl Chloride	*	1.261	1.217	1.326	1.253	1.197	1.251	4.0*
Chloroethane		1.111	1.077	1.151	1.091	1.073	1.101	2.9
Methylene Chloride		2.121	2.410	2.349	2.182	2.121	2.237	6.0
Acetone		.266	.359	.285	.308	.288	.301	11.8
Carbon Disulfide		.567	.814	.752	.736	.715	.717	12.8
1,1-Dichloroethene	*	1.665	1.767	1.805	1.738	1.693	1.734	3.2*
1,1-Dichloroethane	#	4.241	4.636	4.703	4.454	4.438	4.494	4.1#
1,2-Dichloroethene (Total)		1.946	2.177	2.185	2.092	2.060	2.092	4.7
Chloroform	*	4.382	4.892	5.016	4.766	4.758	4.763	5.0*
1,2-Dichloroethane		2.618	2.919	2.974	2.814	2.816	2.828	4.8
2-Butanone		.028	.085	.098	.089	.104	.081	37.5
1,1,1-Trichloroethane		.680	.778	.826	.803	.799	.777	7.3
Carbon Tetrachloride		.592	.676	.710	.711	.710	.680	7.5
Vinyl Acetate		.627	.829	.569	.852	.867	.749	18.7
Bromodichloromethane		.870	1.030	1.111	1.080	1.075	1.033	9.3
1,2-Dichloropropane	*	.612	.709	.724	.713	.715	.694	6.7*
cis-1,3-Dichloropropene		.571	.701	.742	.745	.739	.700	10.6
Trichloroethene		.532	.592	.647	.597	.589	.591	6.9
Dibromochloromethane		.588	.735	.794	.804	.804	.745	12.4
1,1,2-Trichloroethane		.405	.476	.496	.483	.466	.465	7.6
Benzene		1.283	1.432	1.494	1.447	1.419	1.415	5.6
trans-1,3-Dichloropropene		.740	.882	.933	.912	.916	.877	8.9
2-Chloroethylvinylether		.106	.149	.183	.190	.204	.166	23.7
Bromoform	#	.272	.372	.413	.415	.425	.380	16.7#
4-Methyl-2-pentanone		.715	.809	.846	.812	.796	.796	6.1
2-Hexanone		.480	.501	.551	.514	.505	.510	5.1
Tetrachloroethene		.760	.829	.856	.822	.806	.815	4.3
1,1,2,2-Tetrachloroethane		.963	1.174	1.153	1.191	1.178	1.132	8.4
Toluene	*	1.418	1.626	1.639	1.556	1.530	1.554	5.7*
Chlorobenzene	#	1.792	1.982	2.023	1.989	1.943	1.946	4.7#
Ethylbenzene	*	.842	.962	.965	.933	.915	.923	5.4*
Styrene		1.696	2.017	2.047	1.986	1.960	1.941	7.3
Xylene (Total)		1.046	1.191	1.194	1.153	1.141	1.145	5.3
TOLUENE-d8 (SURR)		2.159	2.104	2.041	1.965	2.006	2.055	3.8
BROMOFLUOROBENZENE (SURR)		1.564	1.519	1.498	1.465	1.482	1.506	2.5
1,2-DICHLOROETHANE-d4 (SURR		2.455	2.402	2.345	2.235	2.305	2.348	3.6

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: AMER.ENV.NTWK. Contract: N.A.
Lab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.
Instrument ID: HP5985-A Calibration Date(s):08/30/93 08/31/93
Matrix: SOIL Level: LOW Column: CAP

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform)
Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 =>AH268 RRF50 =>AH263
RRF100=>AH264 RRF150=>AH266 RRF200=>AH279

COMPOUND		RRF20	RRF50	RRF100	RRF150	RRF200	$\overline{RRF}$	% RSD	
Chloromethane	#	.590	.534	.436	.463	.515	.508	12.0	#
Bromomethane		.859	.828	.630	.495	.936	.750	24.3	
Vinyl_Chloride	*	.583	.557	.403	.323	.449	.463	23.3	*
Chloroethane		.872	.776	.619	.520	.848	.727	20.9	
Methylene_Chloride		2.505	2.038	1.729	1.411	1.629	1.863	22.8	
Acetone		1.427	1.323	.921	.991	.658	1.064	29.3	
Carbon_Disulfide		.681	.387	.358	.448	.460	.467	27.2	
1,1-Dichloroethene	*	1.070	.923	.868	.902	1.036	.959	9.2	*
1,1-Dichloroethane	#	3.426	2.957	2.851	3.005	3.013	3.050	7.2	#
trans-1,2-Dichloroethene		1.611	1.319	1.332	1.406	1.467	1.427	8.3	
Chloroform	*	3.179	2.803	2.624	2.773	2.912	2.858	7.2	*
1,2-Dichloroethane		1.830	1.677	1.501	1.540	1.564	1.623	8.2	
2-Butanone		.583	.574	.547	.592	.334	.526	20.7	
1,1,1-Trichloroethane		.499	.396	.414	.430	.418	.431	9.2	
Carbon_Tetrachloride		.336	.256	.275	.295	.304	.294	10.3	
Vinyl_Acetate		1.155	1.076	1.033	1.015	.817	1.019	12.3	
Bromodichloromethane		.659	.589	.608	.585	.554	.599	6.4	
1,2-Dichloropropane	*	.644	.550	.557	.537	.513	.560	8.9	*
cis-1,3-Dichloropropene		.725	.615	.611	.625	.578	.631	8.8	
Trichloroethene		.522	.387	.424	.429	.415	.435	11.7	
Dibromochloromethane		.597	.517	.524	.492	.466	.519	9.5	
1,1,2-Trichloroethane		.515	.462	.450	.418	.395	.448	10.2	
Benzene		1.347	1.106	1.133	1.128	1.074	1.158	9.3	
trans-1,3-Dichloropropene		.885	.728	.720	.750	.713	.759	9.4	
2-Chloroethylvinylether		.615	.550	.557	.088	.507	.464	46.1	
Bromoform	#	.549	.483	.466	.454	.384	.467	12.7	#
4-Methyl-2-Pentanone		3.153	2.935	3.004	2.824	1.894	2.762	18.1	
2-Hexanone		2.625	2.211	2.285	2.234	1.300	2.131	23.2	
Tetrachloroethene		1.069	.737	.813	.889	.870	.875	14.1	
1,1,2,2-Tetrachloroethane	#	3.093	2.752	2.642	2.636	2.123	2.649	13.1	#
Toluene	*	2.453	1.931	1.893	2.151	2.017	2.089	10.8	*
Chlorobenzene	#	2.829	2.198	2.174	2.395	2.230	2.365	11.6	#
Ethylbenzene	*	4.909	3.628	3.775	5.254	3.961	4.306	16.9	*
Styrene		3.416	2.521	2.354	2.763	2.596	2.730	15.0	
m + p-Xylenes		1.803	1.330	1.289	1.411	1.315	1.430	14.9	
o-Xylene		1.937	1.435	1.351	1.517	1.438	1.536	15.1	
TOLUENE-d8_(SURR)		3.824	3.076	2.945	3.259	3.051	3.231	10.8	
BROMOFLUOROBENZENE_(SURR)		1.910	1.370	1.256	1.535	1.413	1.497	16.8	
1,2-DICHLOROETHANE-d4_(SURR		1.644	1.530	1.383	1.419	1.382	1.472	7.7	

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: AMER.ENV.NTWK. Contract: N.A.

Lab Code: AENI Case No: N.A. SAS No: N.A. SDG No: N.A.

Instrument ID: HP5970-C Calibration Date(s):08/30/93 N.A.

Matrix: WATER Level: LOW Column: PACK

Min $\overline{RRF}$ for SPCC(#) = 0.3 (0.25 for Bromoform) Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF20 =>CH484 RRF50 =>CH485
RRF100=>CH486 RRF150=>CH487 RRF200=>CH488

COMPOUND		RRF20	RRF50	RRF100	RRF150	RRF200	$\overline{RRF}$	% RSD
Chloromethane	#	.816	.908	1.021	.843	.904	.898	8.8#
Bromomethane		1.232	1.434	1.341	1.216	1.212	1.287	7.6
Vinyl Chloride	*	.890	1.044	1.098	.978	1.041	1.010	7.9*
Chloroethane		.802	.923	1.023	.887	.941	.915	8.8
Methylene Chloride		1.915	1.824	1.852	1.654	1.634	1.776	7.0
Acetone		.275	.256	.290	.290	.275	.277	5.1
Carbon Disulfide		.355	.368	.402	.371	.393	.378	5.1
1,1-Dichloroethene	*	.923	1.028	1.170	1.026	1.132	1.056	9.3*
1,1-Dichloroethane	#	2.936	3.274	3.740	3.338	3.582	3.374	9.1#
1,2-Dichloroethene (Total)		1.345	1.510	1.718	1.526	1.634	1.546	9.1
Chloroform	*	3.284	3.762	4.246	3.863	4.078	3.847	9.5*
1,2-Dichloroethane		2.040	2.356	2.646	2.333	2.462	2.367	9.3
2-Butanone		.400	.422	.586	.088	.559	.411	48.2
1,1,1-Trichloroethane		.546	.631	.726	.678	.696	.656	10.7
Carbon Tetrachloride		.473	.546	.643	.585	.604	.570	11.3
Vinyl Acetate		.477	.555	.675	.092	.079	.376	73.0
Bromodichloromethane		.740	.896	1.054	.947	.983	.924	12.8
1,2-Dichloropropane	*	.494	.562	.642	.590	.612	.580	9.7*
cis-1,3-Dichloropropene		.486	.600	.695	.645	.674	.620	13.4
Trichloroethene		.416	.474	.538	.547	.612	.517	14.4
Dibromochloromethane		.530	.668	.813	.745	.785	.708	16.0
1,1,2-Trichloroethane		.344	.412	.458	.424	.437	.415	10.4
Benzene		.965	1.088	1.243	1.128	1.182	1.121	9.4
trans-1,3-Dichloropropene		.609	.727	.847	.784	.808	.755	12.3
2-Chloroethylvinylether		.122	.161	.153	.202	.213	.170	21.9
Bromoform	#	.272	.361	.450	.424	.444	.390	19.2#
4-Methyl-2-pentanone		.560	.685	.786	.728	.751	.702	12.4
2-Hexanone		.355	.464	.517	.494	.519	.470	14.4
Tetrachloroethene		.614	.683	.790	.717	.784	.718	10.2
1,1,2,2-Tetrachloroethane		.864	1.065	1.223	.993	.941	1.017	13.4
Toluene	*	1.117	1.267	1.418	1.299	1.397	1.300	9.3*
Chlorobenzene	#	1.534	1.707	1.922	1.751	1.872	1.757	8.7#
Ethylbenzene	*	.697	.786	.887	.811	.872	.811	9.4*
Styrene		1.421	1.674	1.874	1.749	1.629	1.669	10.0
Xylene (Total)		.863	.982	1.100	1.007	1.078	1.006	9.3
TOLUENE-d8 (SURR)		1.813	1.885	1.911	1.811	1.999	1.884	4.1
BROMOFLUOROBENZENE (SURR)		1.521	1.512	1.527	1.437	1.576	1.515	3.3
1,2-DICHLOROETHANE-d4 (SURR		1.999	2.146	2.193	2.005	2.167	2.102	4.4

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Instrument ID: HP5970-C Calibration Date: 8/27/93 15:10

Lab File ID: >CH449 Init. Calib. Date(s): 08/12/93 N.A.

Matrix: WATER Level: LOW Column: PACK

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform)
Max %D for CCC(*) = 25.0%

COMPOUND		$\overline{RRF}$	RRF50	%D	
Chloromethane	#	1.180	1.070	9.3	#
Bromomethane		1.634	2.035	24.6	
Vinyl Chloride	*	1.251	1.278	2.2	*
Chloroethane		1.101	1.355	23.1	
Methylene Chloride		2.237	2.424	8.4	
Acetone		.301	.386	28.3	
Carbon Disulfide		.717	.575	19.8	
1,1-Dichloroethene	*	1.734	1.663	4.1	*
1,1-Dichloroethane	#	4.494	5.006	11.4	#
1,2-Dichloroethene (Total)		2.092	2.369	13.2	
Chloroform	*	4.763	5.584	17.3	*
1,2-Dichloroethane		2.828	3.379	19.5	
2-Butanone		.081	.113	39.7	
1,1,1-Trichloroethane		.777	.765	1.6	
Carbon Tetrachloride		.680	.665	2.1	
Vinyl Acetate		.749	.777	3.8	
Bromodichloromethane		1.033	1.088	5.3	
1,2-Dichloropropane	*	.694	.698	.5	*
cis-1,3-Dichloropropene		.700	.735	5.0	
Trichloroethene		.591	.590	.3	
Dibromochloromethane		.745	.829	11.3	
1,1,2-Trichloroethane		.465	.489	5.0	
Benzene		1.415	1.346	4.9	
trans-1,3-Dichloropropene		.877	.895	2.0	
2-Chloroethylvinylether		.166	.223	34.1	
Bromoform	#	.380	.429	12.9	#
4-Methyl-2-pentanone		.796	.656	17.6	
2-Hexanone		.510	.426	16.4	
Tetrachloroethene		.815	.668	18.0	
1,1,2,2-Tetrachloroethane		1.132	1.045	7.7	
Toluene	*	1.554	1.215	21.8	*
Chlorobenzene	#	1.946	1.649	15.2	#
Ethylbenzene	*	.923	.747	19.1	*
Styrene		1.941	1.619	16.6	
Xylene (Total)		1.145	.925	19.2	
TOLUENE-d8 (SURR)		2.055	1.656	19.4	
BROMOFLUOROBENZENE (SURR)		1.506	1.557	3.4	
1,2-DICHLOROETHANE-d4 (SURR		2.348	2.686	14.4	

FORM VII VOA

SW 846

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: AMER.ENV.NTWK. Contract: 93080175

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Instrument ID: HP5985-A Calibration Date: 9/01/93 Time: 21:01

Lab File ID: >AI011 Init. Calib. Date(s): 08/30/93 08/31/93

Matrix: SOIL Level: LOW Column: CAP

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform)

Max %D for CCC(*) = 25.0%

COMPOUND		$\overline{RRF}$	RRF50	%D	
Chloromethane	#	.508	.578	13.9	#
Bromomethane		.750	.922	23.0	
Vinyl Chloride	*	.463	.570	23.2	*
Chloroethane		.727	.892	22.8	
Methylene_Chloride		1.863	2.076	11.5	
Acetone		1.064	.989	7.1	
Carbon_Disulfide		.467	.714	52.9	
1,1-Dichloroethene	*	.959	.996	3.8	*
1,1-Dichloroethane	#	3.050	3.212	5.3	#
trans-1,2-Dichloroethene		1.427	1.546	8.3	
cis-1,2-Dichloroethene		1.704	1.779	4.4	
Chloroform	*	2.858	2.986	4.5	*
1,2-Dichloroethane		1.623	1.724	6.3	
2-Butanone		.526	.498	5.4	
1,1,1-Trichloroethane		.431	.470	8.9	
Carbon_Tetrachloride		.294	.332	13.1	
Vinyl Acetate		1.019	.946	7.2	
Bromodichloromethane		.599	.633	5.7	
1,2-Dichloropropane	*	.560	.580	3.6	*
cis-1,3-Dichloropropene		.631	.632	.3	
Trichloroethene		.435	.476	9.3	
Dibromochloromethane		.519	.268	48.5	
1,1,2-Trichloroethane		.448	.478	6.8	
Benzene		1.158	1.258	8.7	
trans-1,3-Dichloropropene		.759	.782	3.1	
Bromoform	#	.467	.491	5.1	#
4-Methyl-2-Pentanone		2.762	2.758	.2	
2-Hexanone		2.131	1.980	7.1	
Tetrachloroethene		.875	1.014	15.8	
1,1,2,2-Tetrachloroethane	#	2.649	2.756	4.0	#
Toluene	*	2.089	2.304	10.3	*
Chlorobenzene	#	2.365	2.626	11.0	#
Ethylbenzene	*	4.306	4.762	10.6	*
Styrene		2.730	3.005	10.1	
m + p-Xylenes		1.430	1.640	14.7	
o-Xylene		1.536	1.777	15.8	
TOLUENE-d8_(SURR)		3.231	3.642	12.7	
BROMOFLUOROBENZENE_(SURR)		1.497	1.651	10.3	
1,2-DICHLOROETHANE-d4_(SURR		1.472	1.543	4.9	

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Instrument ID: HP5970-C Calibration Date: 9/02/93 18:23

GC File ID: C1002 Init. Calib. Date(s): 08/30/93 08/31/93

Matrix: SOIL Level: MED Column: PACK

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform)
Max %D for CCC(*) = 25.0%

COMPOUND		RRF	RRF50	%D	
Chloromethane	#	.898	.613	31.7	#
Bromomethane		1.287	1.252	2.7	
Vinyl Chloride	*	1.010	.774	23.4	*
Chloroethane		.915	.844	7.8	
Methylene Chloride		1.774	1.617	8.9	
Acetone		.277	.322	16.2	
Carbon Disulfide		.378	.276	26.9	
1,1-Dichloroethene	*	1.056	.934	11.6	*
1,1-Dichloroethane	#	3.374	3.364	.3	#
1,2-Dichloroethene (Total)		1.545	1.531	.9	
Chloroform	*	3.843	3.969	3.3	*
1,2-Dichloroethane		2.366	2.444	3.3	
2-Butanone		.498	.073	85.3	
1,1,1-Trichloroethane		.656	.627	4.3	
Carbon Tetrachloride		.570	.526	7.7	
Vinyl Acetate		.447	.669	49.8	
Bromodichloromethane		.924	.951	2.9	
1,2-Dichloropropane	*	.580	.594	2.4	*
cis-1,3-Dichloropropene		.620	.639	3.0	
Trichloroethene		.517	.486	6.0	
Dibromochloromethane		.708	.731	3.3	
1,1,2-Trichloroethane		.415	.452	9.0	
Benzene		1.121	1.106	1.3	
trans-1,3-Dichloropropene		.755	.772	2.2	
2-Chloroethylvinylether		.170	.144	15.5	
Bromoform	#	.390	.404	3.5	#
4-Methyl-2-pentanone		.702	.783	11.6	
2-Hexanone		.470	.519	10.5	
Tetrachloroethene		.718	.702	2.2	
1,1,2,2-Tetrachloroethane		1.017	1.188	16.8	
Toluene	*	1.300	1.295	.3	*
Chlorobenzene	#	1.757	1.751	.4	#
Ethylbenzene	*	.811	.806	.6	*
Styrene		1.669	1.736	4.0	
Xylene (Total)		1.007	.995	1.2	
TOLUENE-d8 (SURR)		1.884	1.837	2.5	
BROMOFLUOROBENZENE (SURR)		1.514	1.493	1.4	
1,2-DICHLOROETHANE-d4 (SURR		2.102	2.098	.2	

FORM VII VOA SW 846

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: AMER.ENV.NTWK. Contract: 93080175

Lab Code: AENI Case No: PSI SAS No: N.A. SDG No: N.A.

Lab File ID (Standard): >AI011 Date Analyzed: 9/01/93

Instrument ID: HP5985-A Time Analyzed: 21:01

Matrix: SOIL Level: LOW Column: CAP

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	43067.	10.32	196638.	11.86	70190.	17.30
	UPPER LIMIT	86134.		393276.		140380.	
	LOWER LIMIT	21534.		98319.		35095.	
	EPA / CLIENT SAMPLE ID						
01	0901HBLK A1	47144.	10.27	200519.	11.81	73639.	17.29
02	SS01	34212.	10.25	136752.	11.78	40715.	17.30
03	SS01 MS	31629.	10.28	151213.	11.81	36812.	17.29
04	SS01 MSD	35889.	10.29	158557.	11.79	57561.	17.27
05							
06							
07							
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17							
18							
19							
20							
21							
22							

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

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII VOA 2/88 Rev.

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Lab File ID (Standard): >CI002 Date Analyzed: 9/02/93

Instrument ID: HP5970-C Time Analyzed: 18:23

Matrix: SOIL Level: MED Column: PACK

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	20275.	11.20	86408.	21.35	50349.	26.12
	UPPER LIMIT	40550.		172816.		100698.	
	LOWER LIMIT	10138.		43204.		25174.	
	EPA / CLIENT SAMPLE ID						
01	0902CBLK	19469.	11.18	80700.	21.33	46499.	26.13
02	SS05	16850.	11.18	69490.	21.33	40802.	26.14
03	SS06	19035.	11.18	80278.	21.33	62861.	26.15
04							
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07							
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17							
18							
19							
20							
21							
22							

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

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII VOA 2/88 Rev.

Section b).

SAMPLE DATA

TCL Results - Organic Analysis Data Sheet
Tentatively Identified Compounds
Sample Raw Data

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

FIELD BLANK

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Matrix: WATER Lab Sample ID: AEN#13353

Sample (wt/vol): 5 ML Lab File ID: >CH458

Level: LOW Date Received: 08/20/93

% Moisture: not dec. N.A. Date Analyzed: 8/28/93

Column: PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	9.	
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (Total)	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
110-75-8	2-Chloroethylvinylether	10.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-pentanone	50.	U
591-78-6	2-Hexanone	50.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	Xylene (Total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FIELD BLANK

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Matrix: WATER Lab Sample ID: AEN#13353

Sample wt/vol: 5 ML Lab File ID: >CH458

Level: LOW Date Received: 08/20/93

% Moisture: (not dec) 15 Date Analyzed: 8/28/93

Column: PACK Dilution Factor: 1.0

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1501822	Cyclododecene	21.88	14.	J
2.					
3.					
4.					
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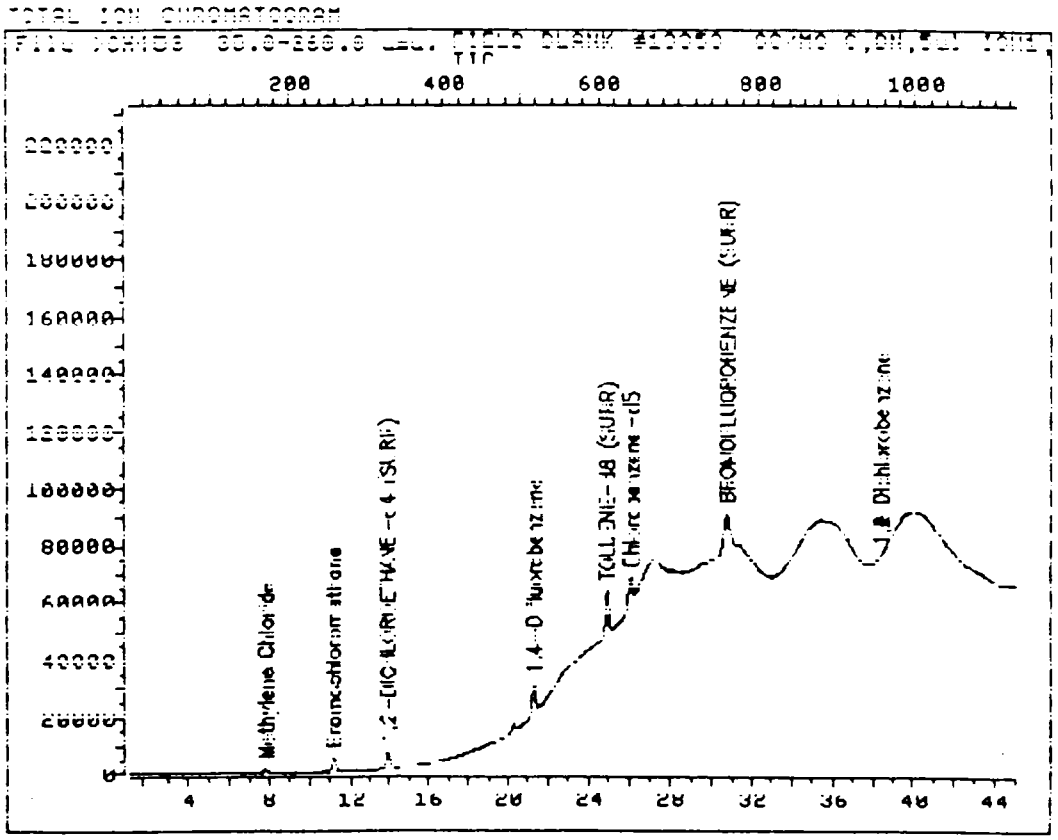
28.					
29.					
30.					

NR = Not Reviewed

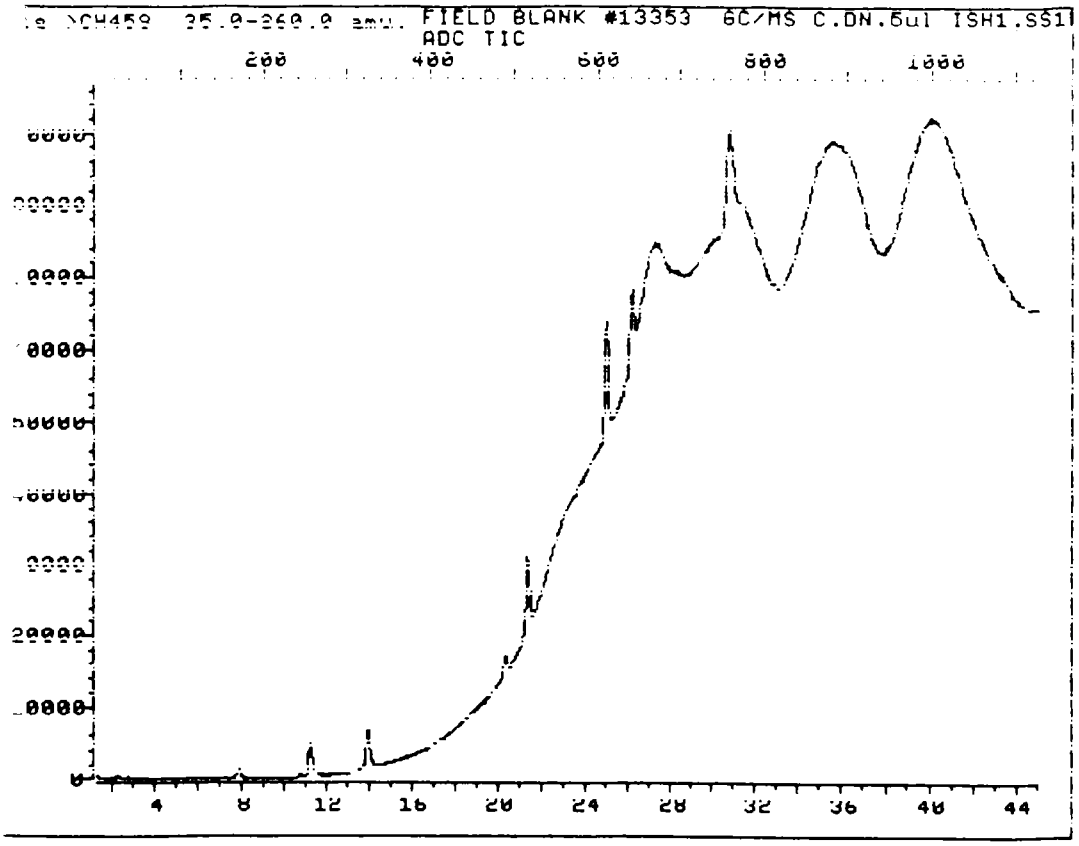
FORM I VOA-TIC



Data File: >CH458::C1 Quant Output File: ^CH458::OU
Name: FIELD BLANK #13353
Misc: GC/MS C,DN,5ul ISH1,SS1H2/5mls,93080140,WESTON

Id File: IDVCHD::IC
Title: HSL VOLATILES
Last Calibration: 930827 16:14

Operator ID: DAVE
Quant Time: 930828 01:07
Injected at: 930828 00:21


FIELD BLANK #13353 GC/MS C.DN.5ul ISH1.SS1
ADC TIC
200
400
600
800
1000
4
8
12
16
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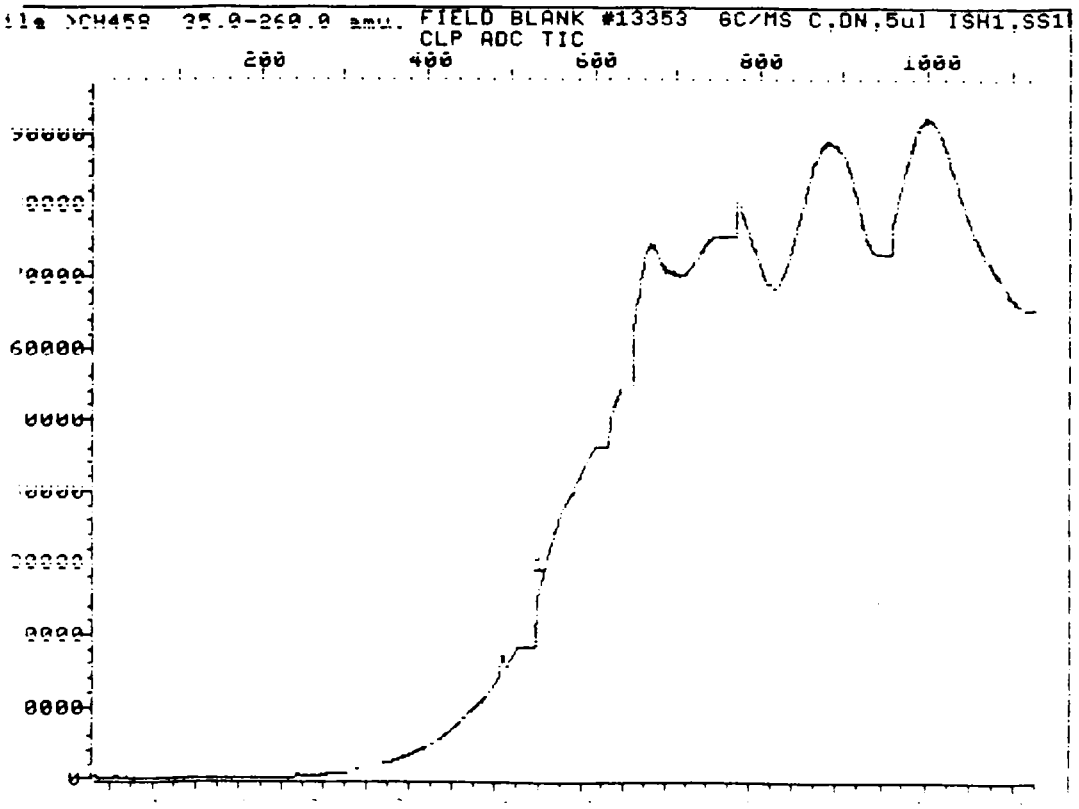
24
28
32
36
40
44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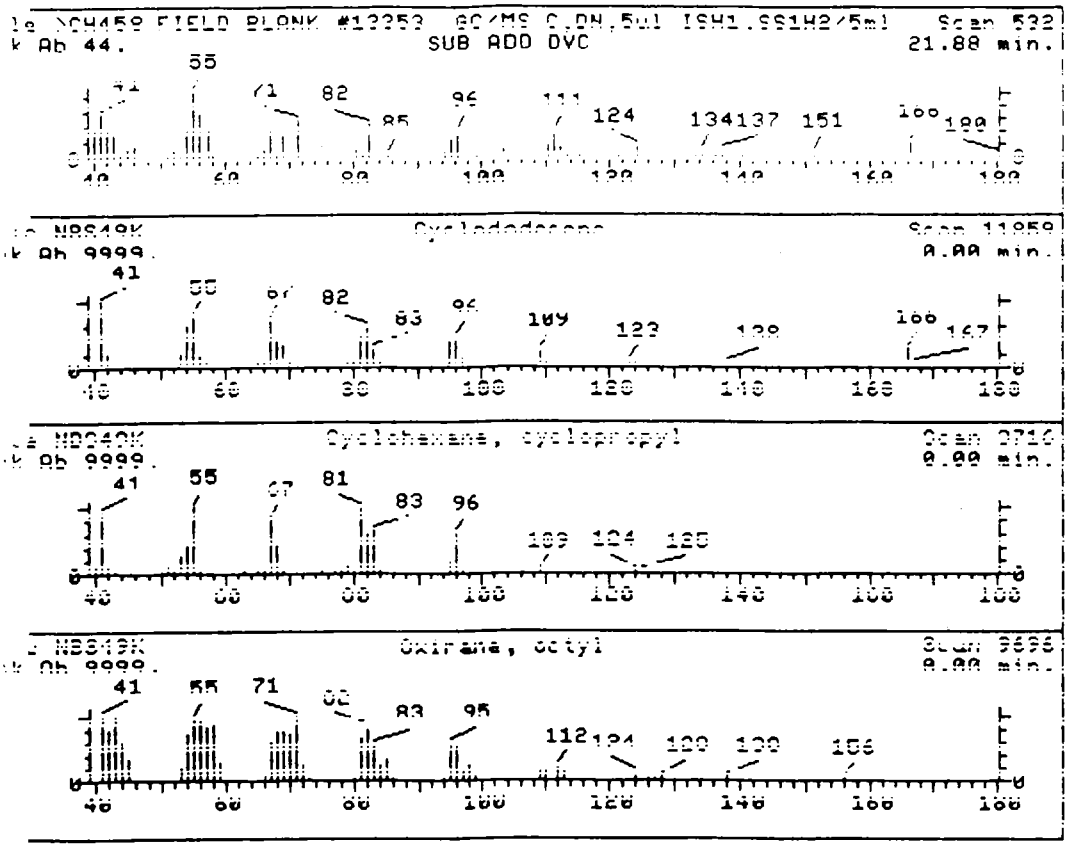
CLP ADC TIC
200
400
600
800
1000



UNKNOWN #.1

REA = 32039.00 TENTATIVE CONCENTRATION IS 14.00

1.	Cyclododecene	166	C12H22
2.	Cyclohexane, cyclopropyl-	124	C9H16
3.	Oxirane, octyl-	156	C10H20O
4.	Pentalene, octahydro-2-methyl-	124	C9H16
5.	2H-Azepin-2-one, 1,5,6,7-tetrahydro-	111	C6H9NO
6.	1,12-Tridecadiene	180	C13H24
7.	Ethanamine, N-cyclopentylidene-	111	C7H13N

00033

ample file: >CH458 Spectrum #: 532

earch speed: 1 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
.	25*	1501822	22315	NBS49K	50	75	3	0	57	50	7	14
.	25*	32669866	8959	NBS49K	41	80	3	0	67	48	7	13
3.	25	2404446	919	NBS49K	85	55	3	0	53	50	7	16
4.	20*	3868642	8960	NBS49K	38	73	3	0	98	54	5	13
.	20*	2228797	828	NBS49K	27	89	2	0	49	54	5	14
.	15*	21964487	6022	NBS49K	52	69	3	0	75	58	3	15
7.	15*	54966051	829	NBS49K	32	77	2	0	74	58	3	14

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

SS01

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: AEN#13354

Sample (wt/vol): 5 G Lab File ID: >AI016

Level: LOW Date Received: 08/20/93

% Moisture: not dec. 21 Date Analyzed: 9/02/93

Column: CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	13.	U
74-83-9	Bromomethane	13.	U
75-01-4	Vinyl Chloride	13.	U
75-00-3	Chloroethane	13.	U
75-09-2	Methylene Chloride	78.	B
67-64-1	Acetone	35.	JB
75-15-0	Carbon Disulfide	64.	B
75-35-4	1,1-Dichloroethene	6.	U
75-34-3	1,1-Dichloroethane	6.	U
156-60-5	trans-1,2-Dichloroethene	6.	U
67-66-3	Chloroform	6.	U
107-02-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	1300.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	63.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene	6.	U
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	6.	U
10061-02-6	trans-1,3-Dichloropropene	6.	U
110-75-8	2-Chloroethylvinylether	13.	U
75-25-2	Bromoform	6.	U
108-10-1	4-Methyl-2-Pentanone	63.	U
591-78-6	2-Hexanone	63.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	4.	J
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
133-02-7	m + p-Xylenes	3.	J
95-47-6	o-Xylene	6.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SS01

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: AEN#13354

Sample wt/vol: 5 G Lab File ID: >AI016

Level: LOW Date Received: 08/20/93

% Moisture: not dec. 21 Date Analyzed: 9/02/93

Column: CAP Dilution Factor: 1.0

Number TICs found: 3

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	3.71	230.	JB
2.	439	1,4-Dichlorobenzene d-4	21.94	15.	JB
3.	439	1,4-Dichlorobenzene d-4	22.71	6.	JB
4.					
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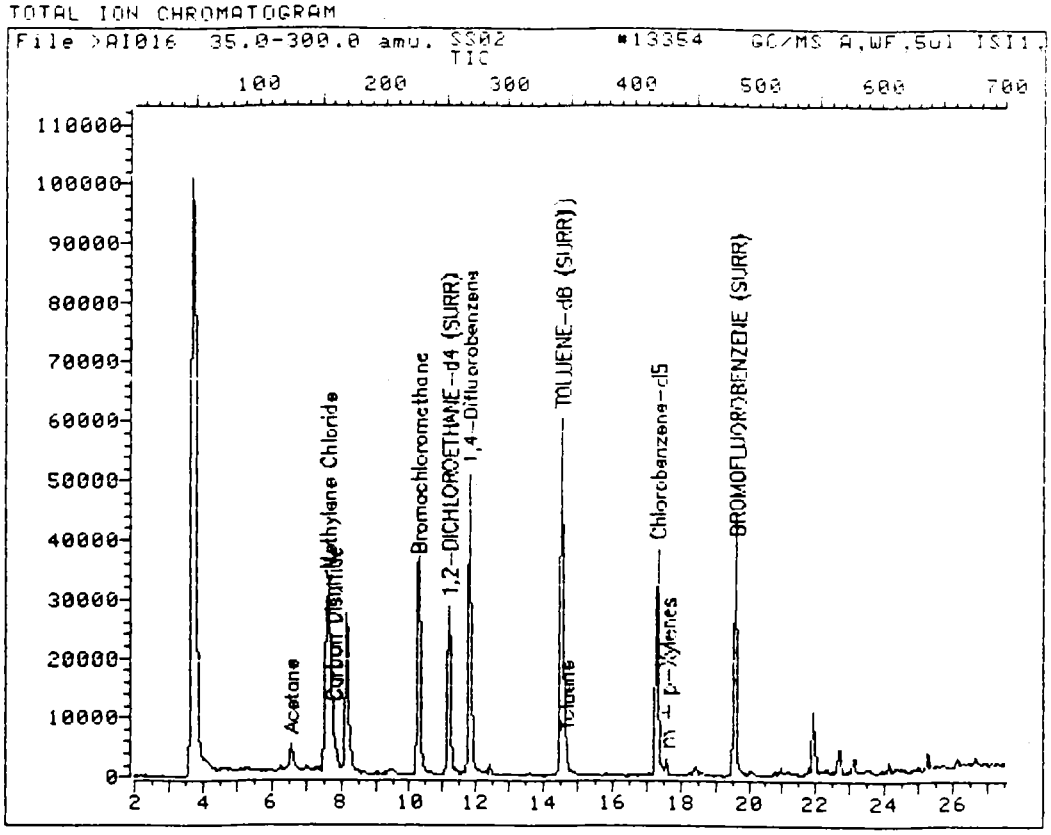
NR = Not Reviewed

FORM I VOA-TIC

TOTAL ION CHROMATOGRAM



Data File: >AI016::C1 Quant Output File: ^AI016::DU
Name: SS02 #13354
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080140 WESTON

Id File: IDHAHD::ID
Title: HSL VOLATILES
Last Calibration: 930901 21:43

Operator ID: DAVE
Quant Time: 930902 00:55
Injected at: 930902 00:22

QUANT REPORT

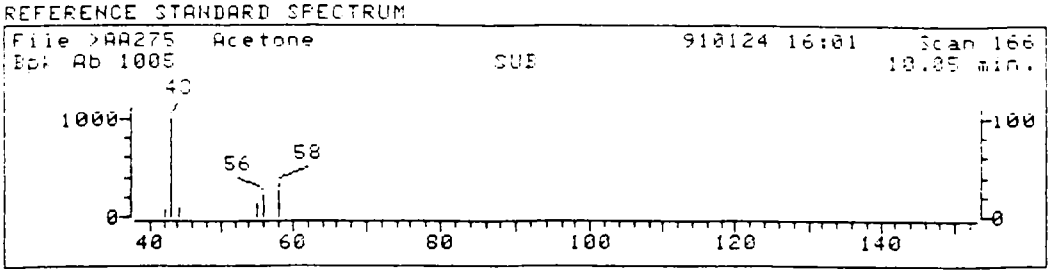
Operator ID: DAVE Quant Rev: 6 Quant Time: 930902 00:55
Output File: ^AI016::OU Injected at: 930902 00:22
Data File: >AI016::C1 Dilution Factor: 1.00000
Name: SS02 #13354
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080140 WESTON

ID File: IDHAHD::ID
Title: HSL VOLATILES
Last Calibration: 930901 21:43

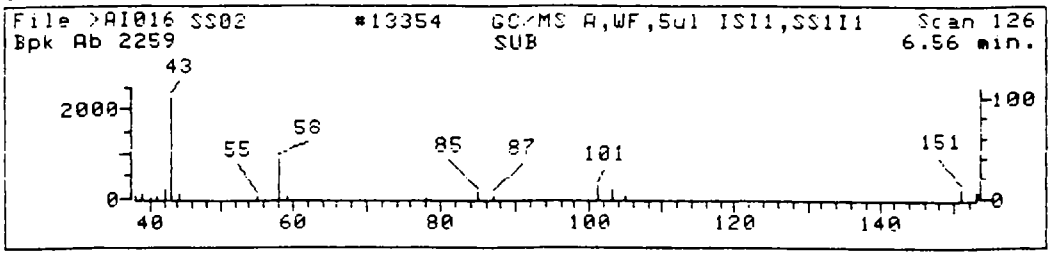
	Compound	Q ion	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	128.0	227	34212	50.00	ng/mL	74
7)	Acetone	43.0	126	18879	27.91	ng/mL	85
11)	Methylene Chloride	84.0	155	88036	61.97	ng/mL	83
12)	Carbon Disulfide	76.0	159	24683	50.55	ng/mL	100
18)	1,2-DICHLOROETHANE-d4 (SURR)	65.0	252	46793	44.31	ng/mL	100
20)	*1,4-Difluorobenzene	114.0	269	136752	50.00	ng/mL	95
30)	TOLUENE-d8 (SURR1)	98.0	344	157709	44.35	ng/mL	97
35)	*Chlorobenzene-d5	82.0	420	40715	50.00	ng/mL	97
37)	Toluene	92.0	348	6053	3.23	ng/mL	89
42)	m + p-Xylenes	106.0	428	3675	2.75	ng/mL	89
46)	BROMOFLUOROBENZENE (SURR)	95.0	483	52046	38.71	ng/mL	72
50)	TOLUENE-d8 (SURR)	98.0	344	157789	53.20	ng/mL	97

* Compound is ISTD

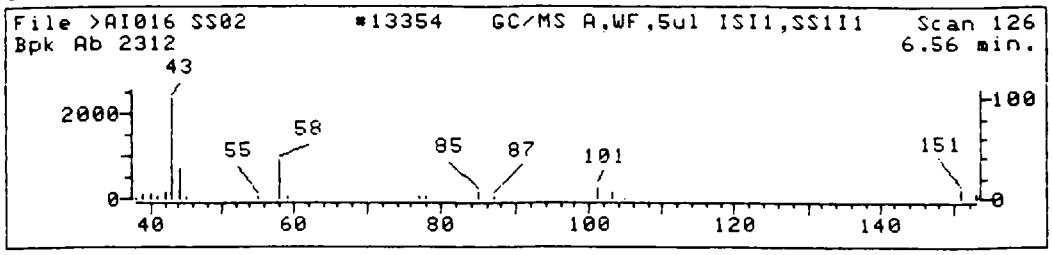
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



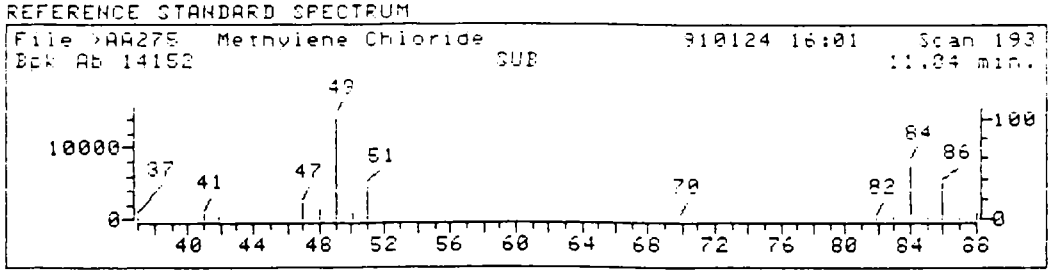
SAMPLE SPECTRUM (UNALTERED)



Data File: >AI016::C1 Quant Output File: ^AI016::OU
Name: SS02 #13354
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080140 WESTON
Quant Time: 930902 00:55 Quant ID File: IDHAHD::ID
Injected at: 930902 00:22 Last Calibration: 930901 21:43

Compound No: 7
Compound Name: Acetone
Scan Number: 126
Retention Time: 6.56 min.
Quant Ion: 43.0
Area: 18879
Concentration: 27.91 ng/mL
q-value: 85

REFERENCE STANDARD SPECTRUM



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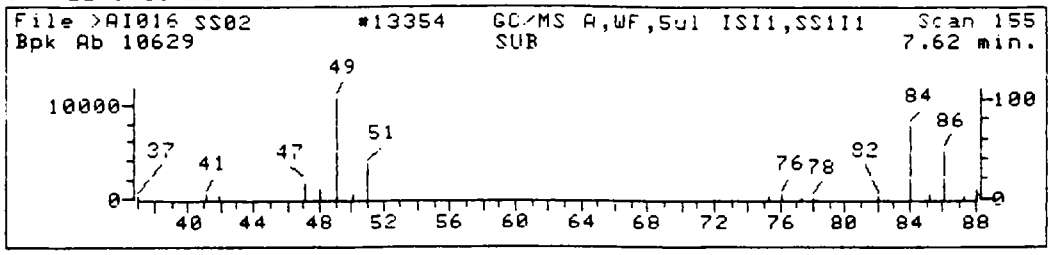

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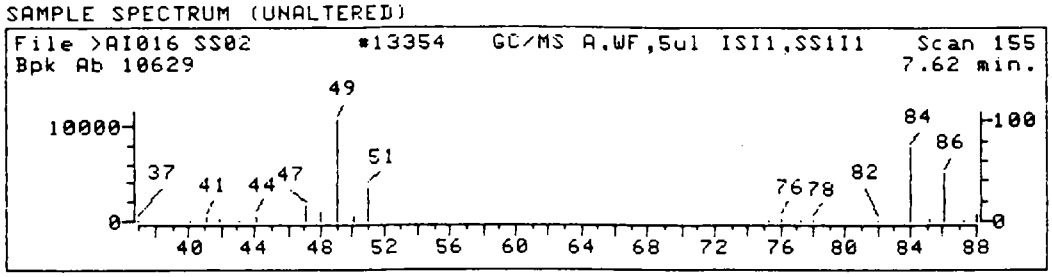
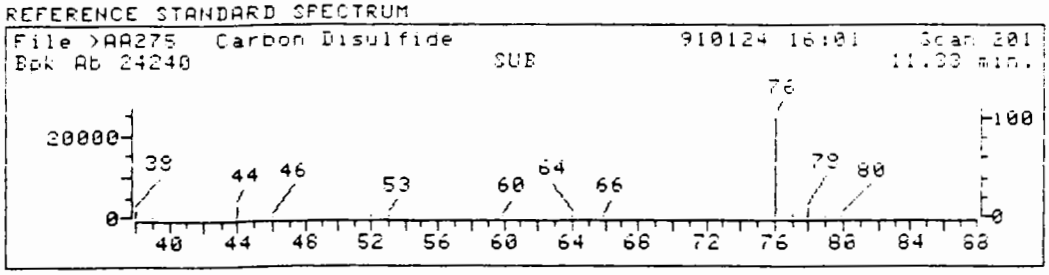


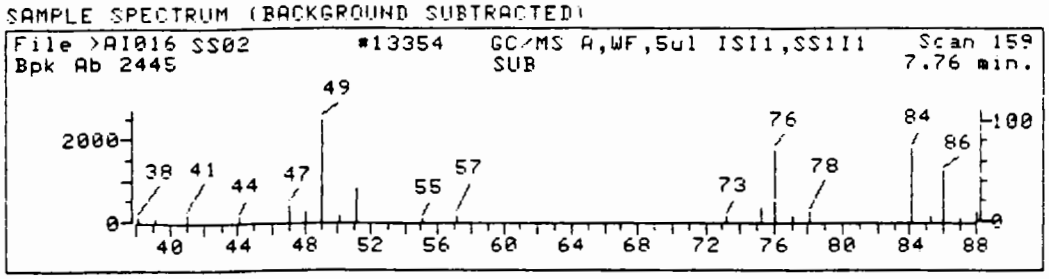
Data File: >AI016::C1 Quant Output File: ^AI016::OU
Name: SS02 #13354
Misc: GC/MS A,WF,5ul ISI1,SSI11/5ML #93080140 WESTON
Quant Time: 930902 00:55 Quant ID File: IDHAHD::ID
Injected at: 930902 00:22 Last Calibration: 930901 21:43

Compound No: 11
Compound Name: Methylene Chloride
Scan Number: 155
Retention Time: 7.62 min.
Quant Ion: 84.0
Area: 88036
Concentration: 61.97 ng/mL
q-value: 83

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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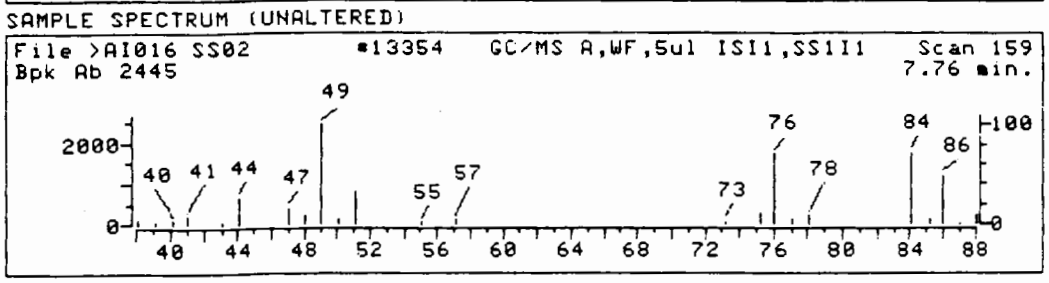
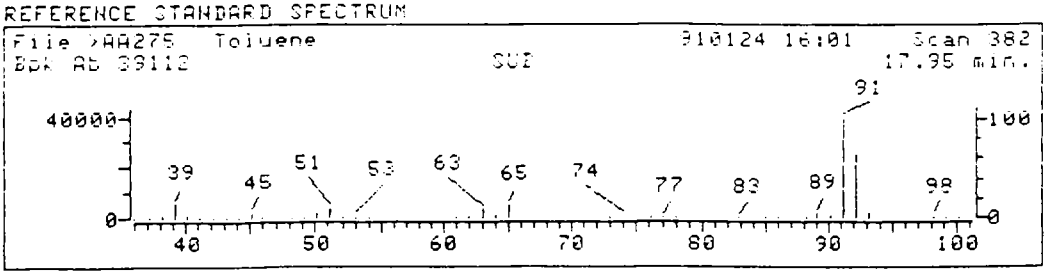


Data File: >AI016::C1 Quant Output File: ^AI016::OU
Name: SS02 #13354
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080140 WESTON
Quant Time: 930902 00:55 Quant ID File: IDHAHD::ID
Injected at: 930902 00:22 Last Calibration: 930901 21:43

Compound No: 12
Compound Name: Carbon Disulfide
Scan Number: 159
Retention Time: 7.76 min.
Quant Ion: 76.0
Area: 24683
Concentration: 50.55 ng/mL
q-value: 100

REFERENCE STANDARD SPECTRUM



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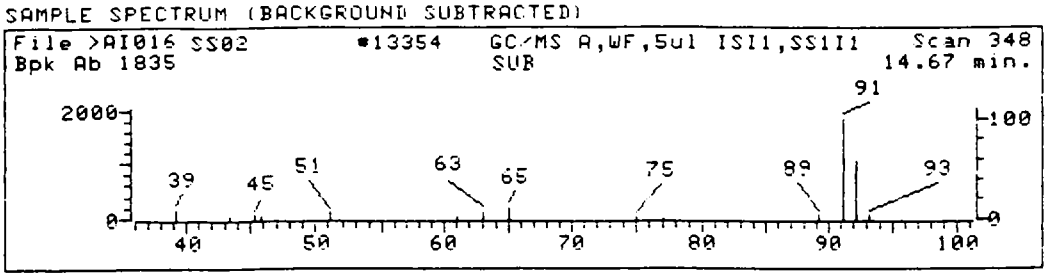

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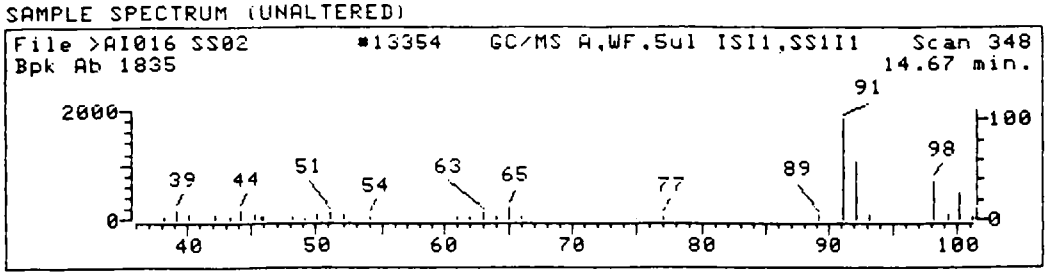
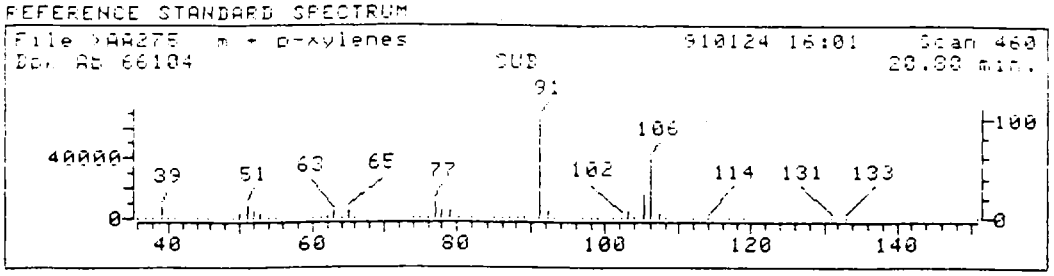


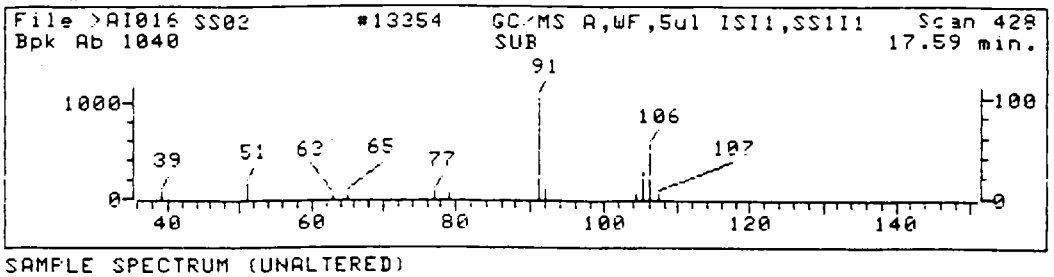
Data File: >AI016::C1 Quant Output File: ^AI016::OU
Name: SS02 #13354
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080140 WESTON
Quant Time: 930902 00:55 Quant ID File: IDHAHD::ID
Injected at: 930902 00:22 Last Calibration: 930901 21:43

Compound No: 37
Compound Name: Toluene
Scan Number: 348
Retention Time: 14.67 min.
Quant Ion: 92.0
Area: 6053
Concentration: 3.23 ng/mL
q-value: 89

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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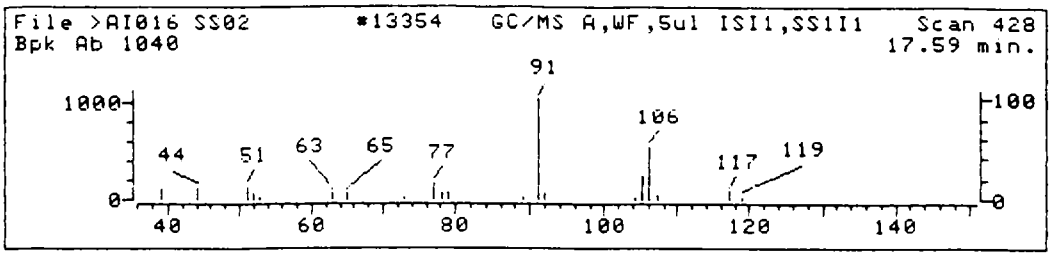


Data File: >AI016::C1 Quant Output File: ^AI016::OU
Name: SS02 #13354
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML #93080140 WESTON
Quant Time: 930902 00:55 Quant ID File: IDHAHD::ID
Injected at: 930902 00:22 Last Calibration: 930901 21:43

Compound No: 42
Compound Name: m + p-Xylenes
Scan Number: 428
Retention Time: 17.59 min.
Quant Ion: 106.0
Area: 3675
Concentration: 2.75 ng/mL
q-value: 89

MS data file header from : >AI016

Sample: SS02 #13354 Operator: DAVE MS 9/02/93 0:22
Misc : GC/MS A,WF,5ul IS11,SS111/5ML #93080140 WESTON
Sys. #: 1 MS model: 87 SW/HW rev.: IA ALS # : 0
Method file: HE8501 Tuning file: MT8501 No. of extra records: 2
Source temp.: 200 Analyzer temp.: 0 Transfer line temp. : 0

Chromatographic temperatures :	0.	0.	0.	0.	0.
Chromatographic times, min. :	0.0	0.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	0.0	0.0	0.0	0.0	0.0

>AI016 SS02 #13354 GC/MS A,WF,5ul IS11,SS111/5ML #93080140

35.01 300.0 CLP ADC TIC
Upslope: .20 Area Reject: 20707. Max Peaks: 3 Bunching: 1
Dnslope: 0.00 Results File IAI016 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	3.71	42	48	63	101203	1066345	1061282	100.00	92.316
2	21.94	544	547	552	10326	76748	63234	5.96	5.500
3	22.71	565	568	572	3953	35928	25104	2.37	2.184

Sum of corrected areas: 1149620.

Summary of Unknowns PBM Library Search and Quantitation

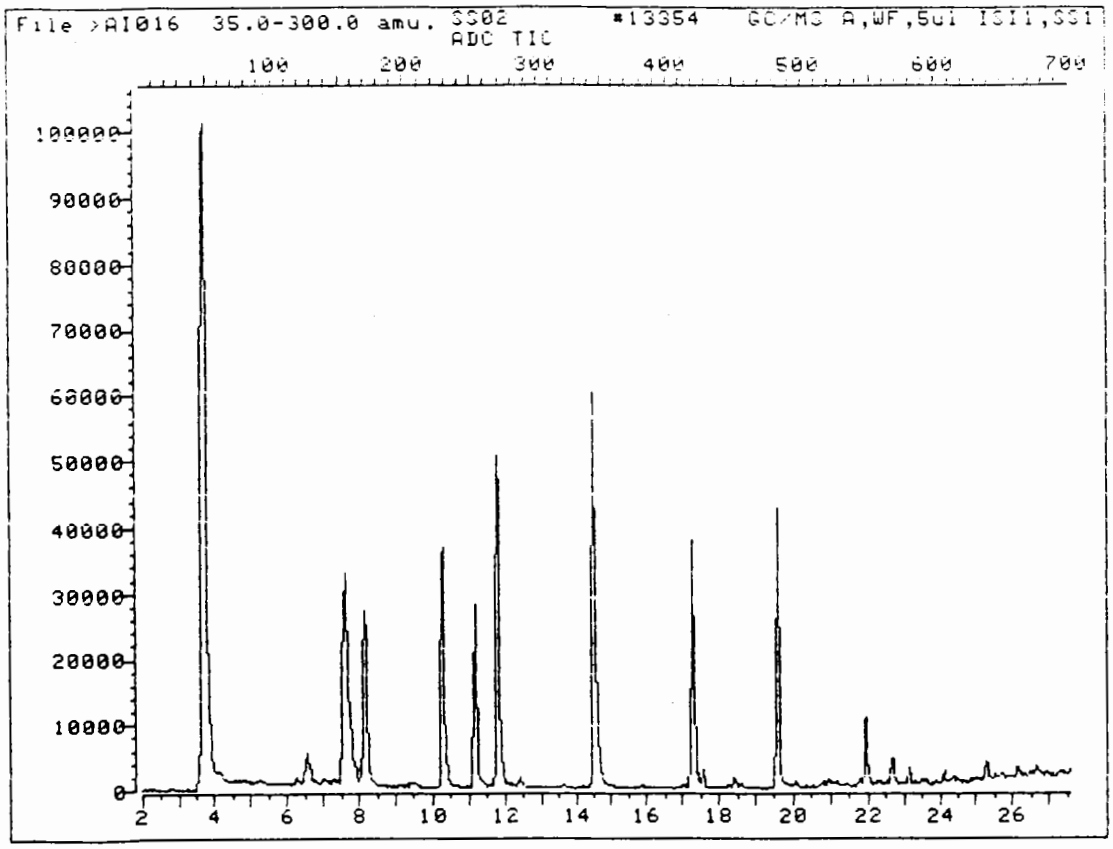
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	234496.	10.25	1.99 - 11.02
2	50.0	317255.	11.78	11.02 - 14.54
3	50.0	207074.	17.30	14.54 - 27.57

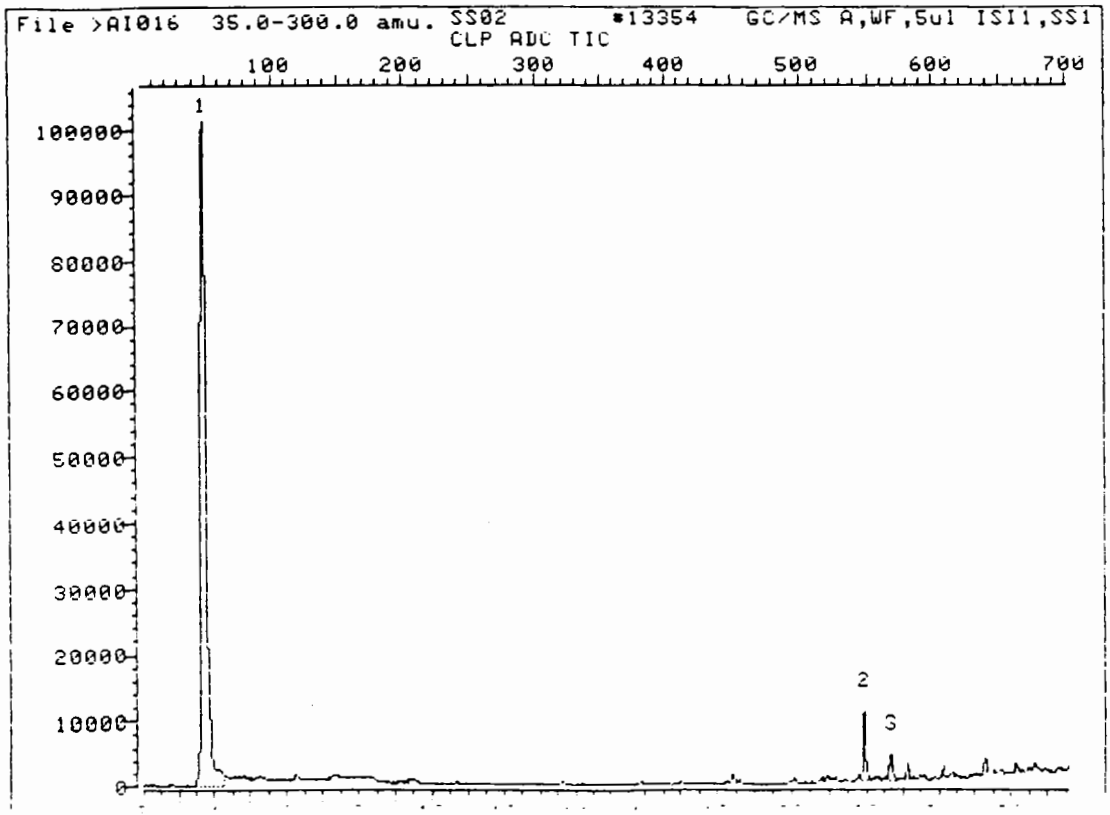
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 5.00 Amount Used (AU) = 5.00

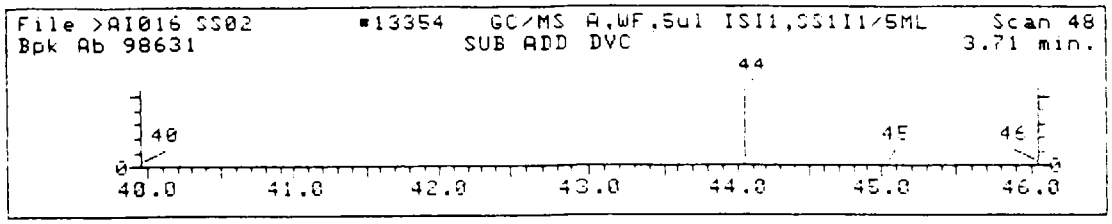
Correction Factor = 1.00 = (AM / AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

12:28 PM TUE., 7 SEPT, 1993


File >AI016 35.0-300.0 amu. SS02 *13354 GC/MS A,WF,5ul ISI1,SS1
ADC TIC
100 200 300 400 500 600 700
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
2 4 6 8 10 12 14 16 18 20 22 24 26

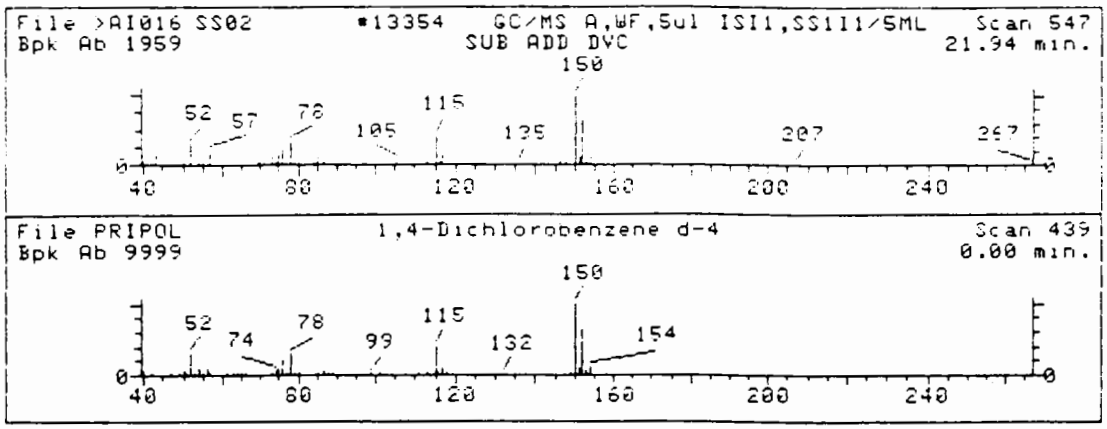

File >AI016 35.0-300.0 amu. SS02 *13354 GC/MS A,WF,5ul ISI1,SS1
CLP ADC TIC
100 200 300 400 500 600 700
1
2
S
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0



. Unknown #,1
Area = 1061282. Tentative Concentration is 230.00

Sample file: >AI016 Spectrum #: 48

No data base entries were retrieved.

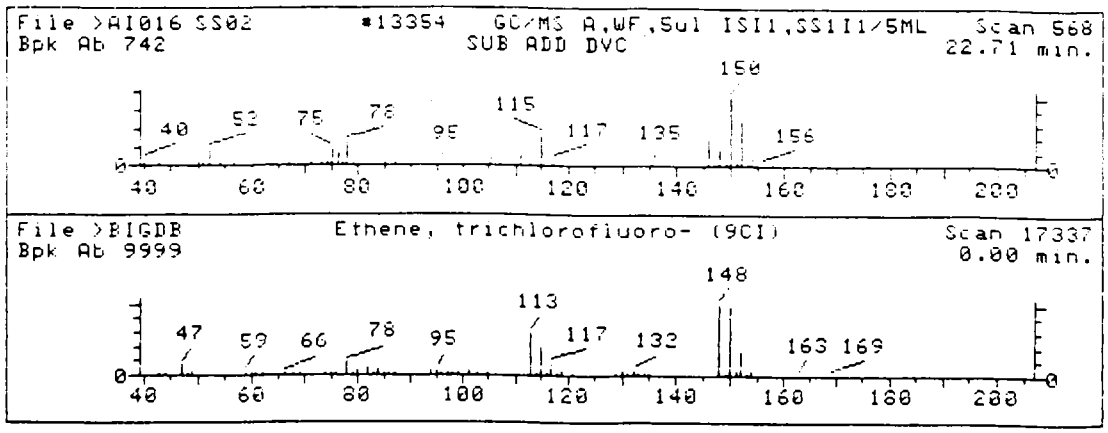


. Unknown #,2
Area = 63234.00 Tentative Concentration is 15.00

1. 1,4-Dichlorobenzene d-4 150 C6.D4.CL2

Sample file: >AI016 Spectrum #: 547
Search speed: 2 Tilting option: F No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86*	439	257	PRIPOL	95	12	2	1	74	6	59	76



. Unknown #,3
Area = 25104.00 Tentative Concentration is 6.00

1. Ethene, trichlorofluoro- (9CI) 148 C2Cl3F

Sample file: >AI016 Spectrum #: 568
Search speed: 2 Tilting option: F No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IC
1.	24*	359295	17337	"BIGDB	23	91	3	0	102	41	8	12

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

SS05

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: AEN#13358

Sample (wt/vol): 4 G Lab File ID: >CI013

Level: MED Date Received: 08/20/93

% Moisture: not dec. 30 Date Analyzed: 9/03/93

Column: PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	1800.	U
74-83-9	Bromomethane	1800.	U
75-01-4	Vinyl Chloride	1800.	U
75-00-3	Chloroethane	1800.	U
75-09-2	Methylene Chloride	6200.	B
67-64-1	Acetone	18000.	U
75-15-0	Carbon Disulfide	890.	U
75-35-4	1,1-Dichloroethene	890.	U
75-34-3	1,1-Dichloroethane	890.	U
540-59-0	1,2-Dichloroethene (Total)	890.	U
67-66-3	Chloroform	890.	U
107-02-2	1,2-Dichloroethane	890.	U
78-93-3	2-Butanone	18000.	U
71-55-6	1,1,1-Trichloroethane	1000.	
56-23-5	Carbon Tetrachloride	890.	U
108-05-4	Vinyl Acetate	8900.	U
75-27-4	Bromodichloromethane	890.	U
78-87-5	1,2-Dichloropropane	890.	U
10061-02-6	trans-1,3-Dichloropropene	890.	U
79-01-6	Trichloroethene	890.	U
124-48-1	Dibromochloromethane	890.	U
79-00-5	1,1,2-Trichloroethane	890.	U
71-43-2	Benzene	730.	J
10061-01-5	cis-1,3-Dichloropropene	890.	U
110-75-8	2-Chloroethylvinylether	1800.	U
75-25-2	Bromoform	890.	U
108-10-1	4-Methyl-2-pentanone	8900.	U
591-78-6	2-Hexanone	8900.	U
127-18-4	Tetrachloroethene	890.	U
79-34-5	1,1,2,2-Tetrachloroethane	890.	U
108-88-3	Toluene	3100.	
108-90-7	Chlorobenzene	2800.	
100-41-4	Ethylbenzene	11000.	
100-42-5	Styrene	890.	U
133-02-7	Xylene (Total)	890.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SS05

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: AEN#13358

Sample wt/vol: 4 G Lab File ID: >CI013

Level: MED Date Received: 08/20/93

% Moisture: (not dec) 30 Date Analyzed: 9/03/93

Column: PACK Dilution Factor: 1.0

Number TICs found: 13

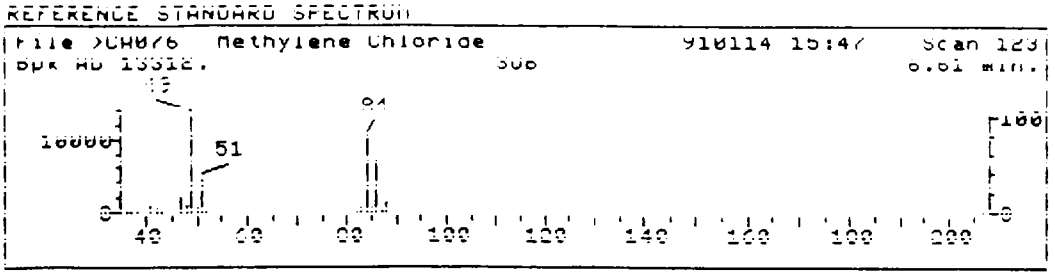
CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110827	Cyclohexane	15.68	1900.	J
2.		Unknown	16.45	250.	J
3.	110543	Hexane	20.33	1500.	JB
4.		Cyclopentane, 1,2-dimethyl-,	21.02	870.	J
5.	591764	Hexane, 2-methyl-	23.81	750.	J
6.	2207036	Cyclohexane, 1,3-dimethyl-,	24.67	2200.	J
7.		Unknown	25.64	250.	J
8.	624293	Cyclohexane, 1,4-dimethyl-,	27.11	1400.	J
9.		Unknown	27.69	6900.	J
10.		Unknown	29.32	4500.	J
11.	111659	Octane	30.37	1100.	J
12.		Unknown	32.16	250.	J
13.		Unknown	34.64	1900.	J
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

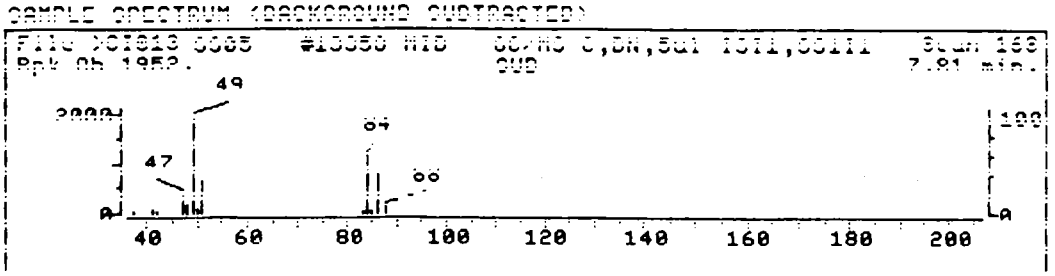
NR = Not Reviewed

FORM I VOA-TIC

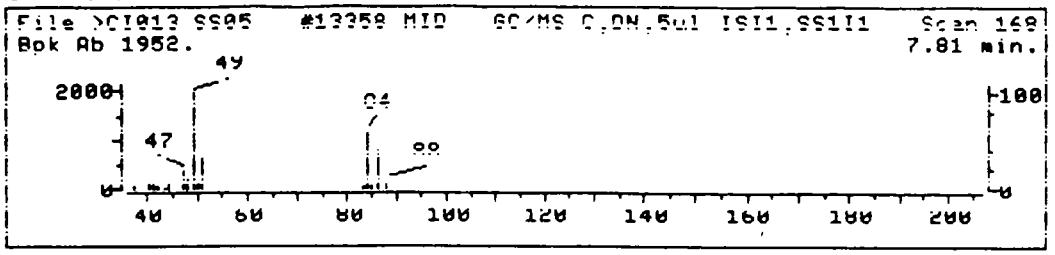
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



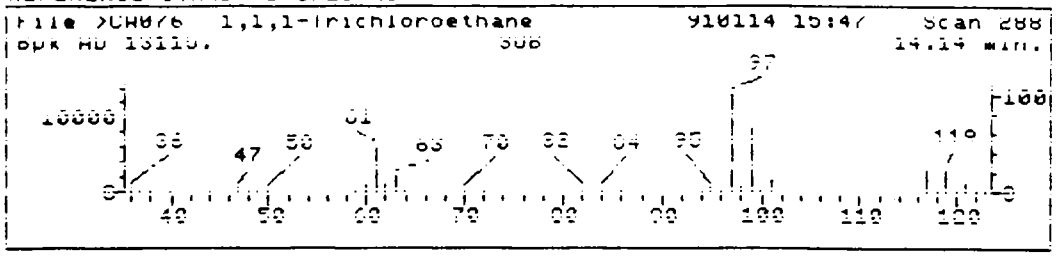
SAMPLE SPECTRUM (UNALTERED)



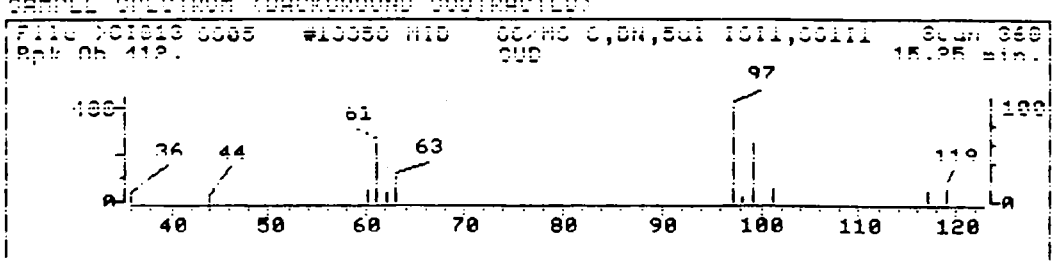
Data File: >CI013::C1 Quant Output File: ^CI013::OU
Name: SS05 #13358 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 06:34 Quant ID File: IDUCID::IC
Injected at: 930903 05:48 Last Calibration: 930902 20:05

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 168
Retention Time: 7.81 min.
Quant Ion: 84.0
Area: 18802
Concentration: 34.91 ug/L
q-value: 91

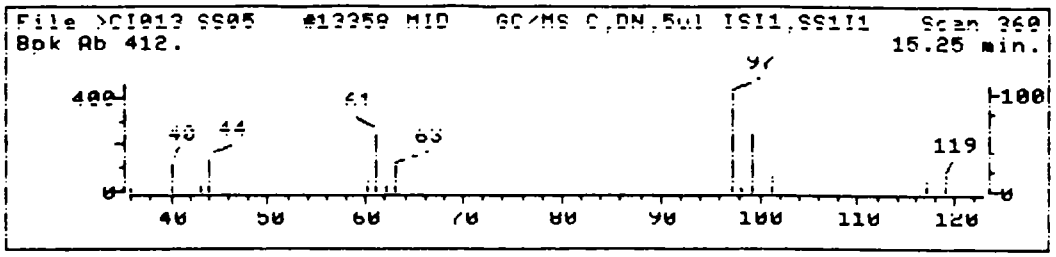
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



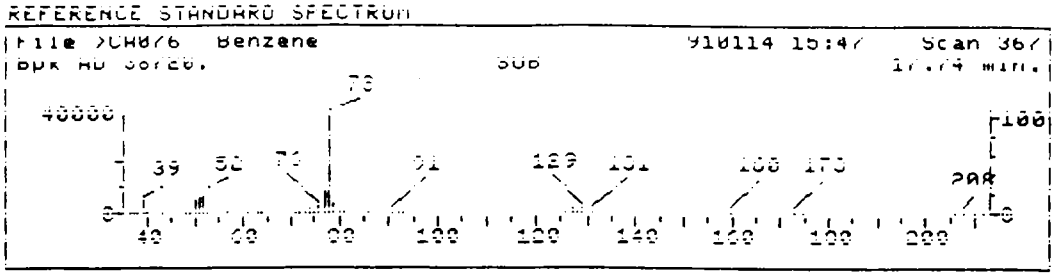
SAMPLE SPECTRUM (UNALTERED)



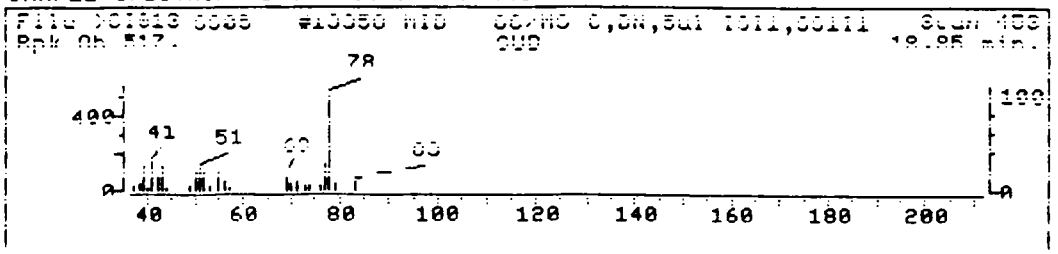
Data File: >CI013::C1 Quant Output File: ^CI013::OU
Name: SS05 #13358 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 06:34 Quant ID File: IDUCID::IC
Injected at: 930903 05:48 Last Calibration: 930902 20:05

Compound No: 20
Compound Name: 1,1,1-Trichloroethane
Scan Number: 360
Retention Time: 15.25 min.
Quant Ion: 97.0
Area: 4870
Concentration: 5.59 ug/L
q-value: 84

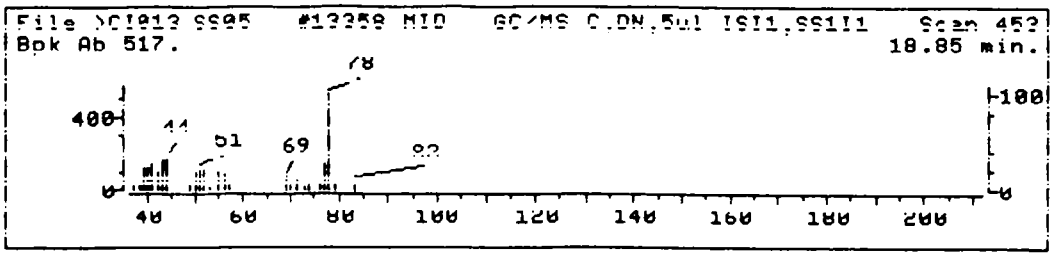
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



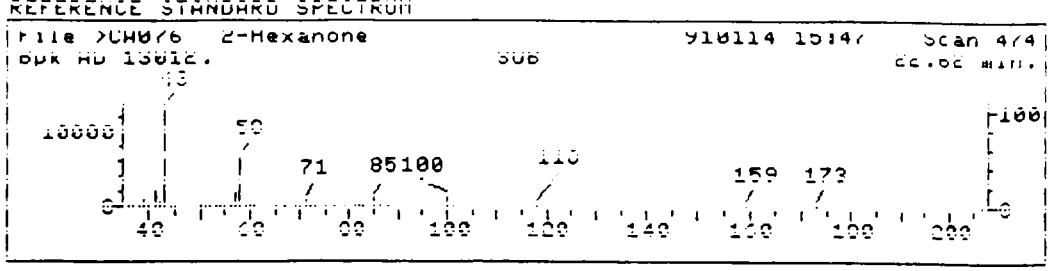
SAMPLE SPECTRUM (UNALTERED)



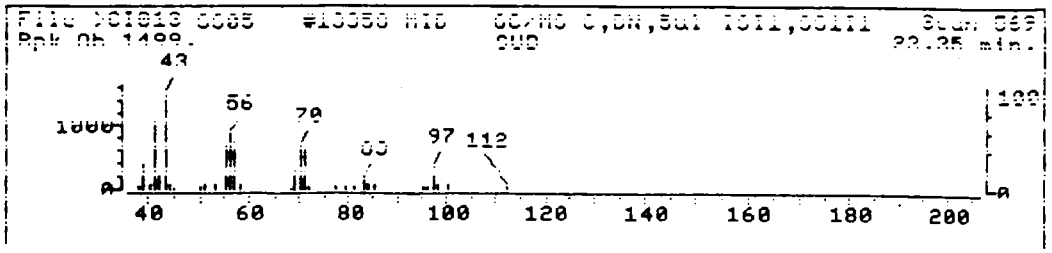
Data File: >CI013::C1 Quant Output File: ^CI013::OU
Name: SS05 #13358 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 06:34 Quant ID File: IDUCID::IC
Injected at: 930903 05:48 Last Calibration: 930902 20:05

Compound No: 29
Compound Name: Benzene
Scan Number: 453
Retention Time: 18.85 min.
Quant Ion: 78.0
Area: 6253
Concentration: 4.07 ug/L
q-value: 100

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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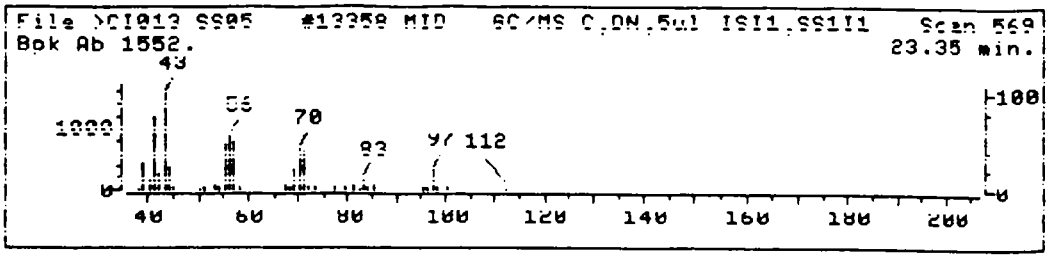
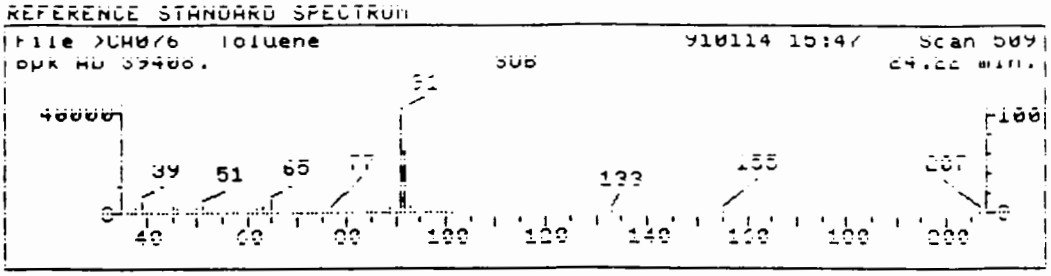


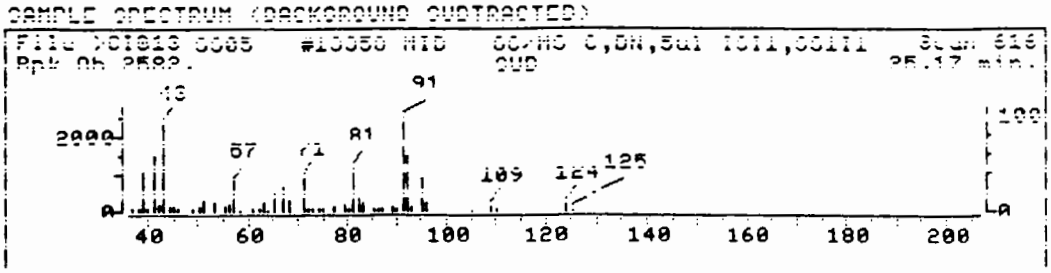
Data File: >CI013::C1 Quant Output File: ^CI013::OU
Name: SS05 #13358 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 06:34 Quant ID File: IDUCID::IC
Injected at: 930903 05:48 Last Calibration: 930902 20:05

Compound No: 35
Compound Name: 2-Hexanone
Scan Number: 569
Retention Time: 23.35 min.
Quant Ion: 43.0
Area: 19906
Concentration: 46.96 ug/L
q-value: 40

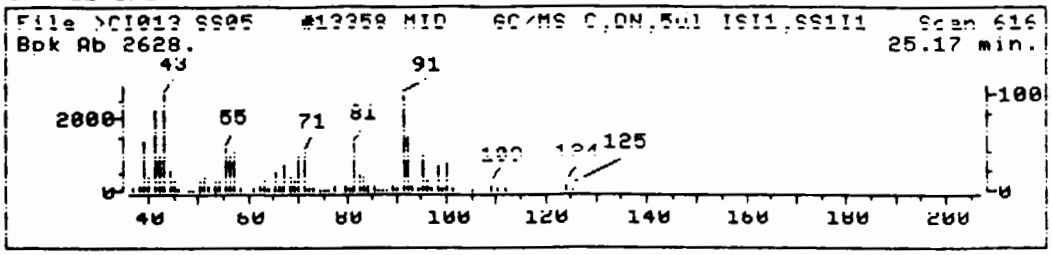
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



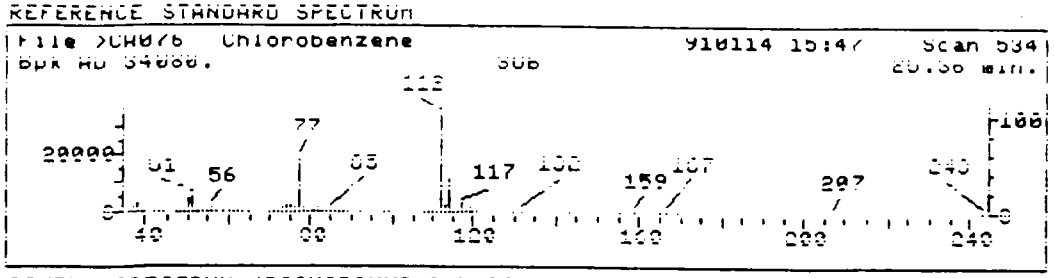
SAMPLE SPECTRUM (UNALTERED)



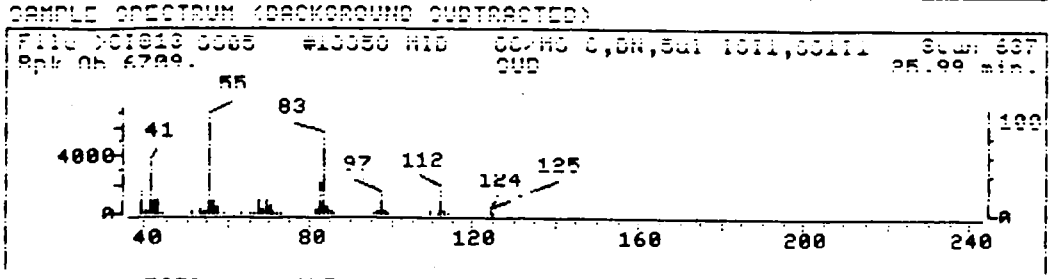
Data File: >CI013::C1 Quant Output File: ^CI013::OU
Name: SS05 #13358 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 06:34 Quant ID File: IDUCID::IC
Injected at: 930903 05:48 Last Calibration: 930902 20:05

Compound No: 38
Compound Name: Toluene
Scan Number: 616
Retention Time: 25.17 min.
Quant Ion: 92.0
Area: 18178
Concentration: 17.20 ug/L
q-value: 96

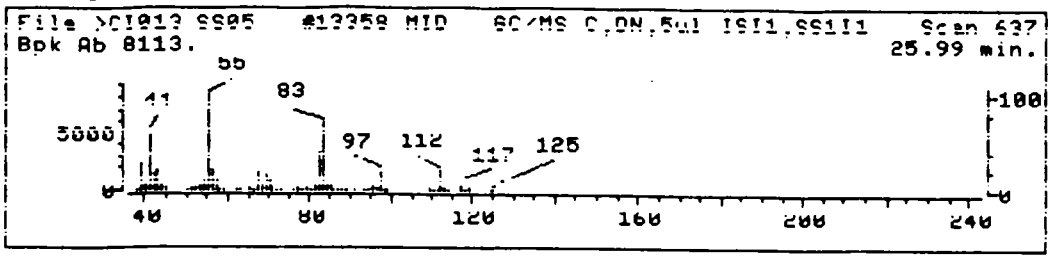
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



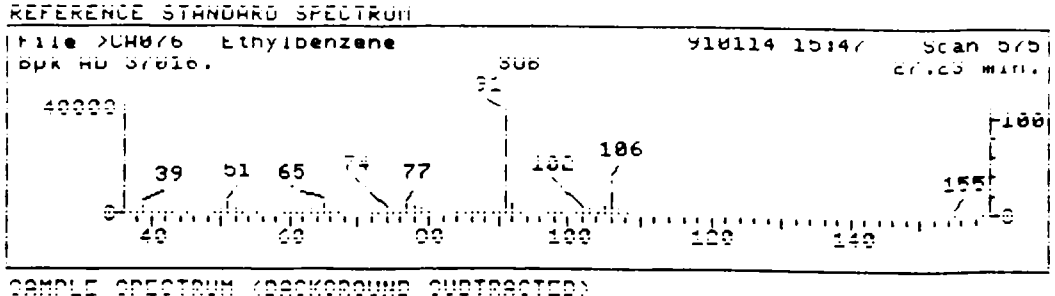
SAMPLE SPECTRUM (UNALTERED)



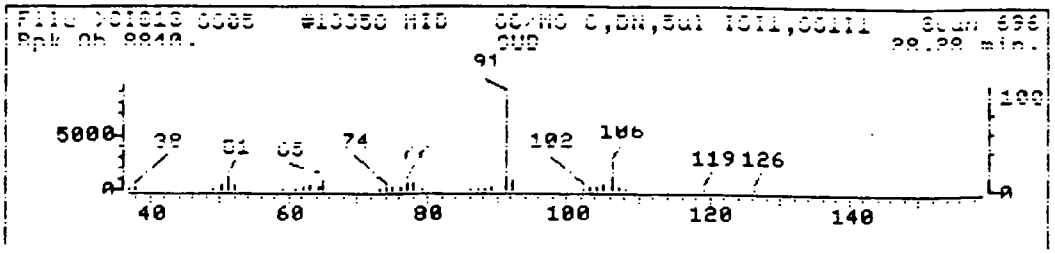
Data File: >CI013::C1 Quant Output File: ^CI013::OU
Name: SS05 #13358 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 06:34 Quant ID File: IDVCID::IC
Injected at: 930903 05:48 Last Calibration: 930902 20:05

Compound No: 39
Compound Name: Chlorobenzene
Scan Number: 637
Retention Time: 25.99 min.
Quant Ion: 112.0
Area: 22405
Concentration: 15.68 ug/L
q-value: 41

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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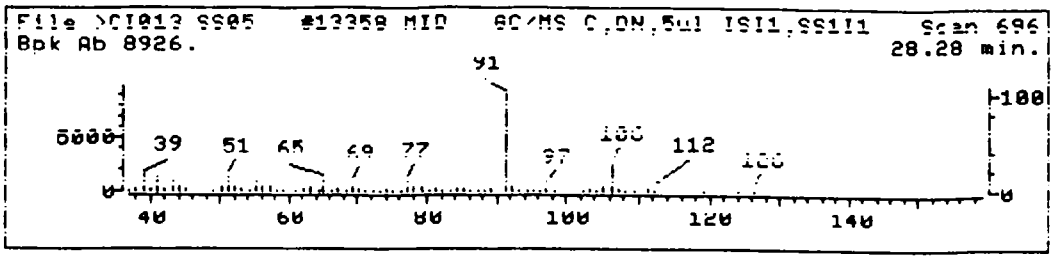
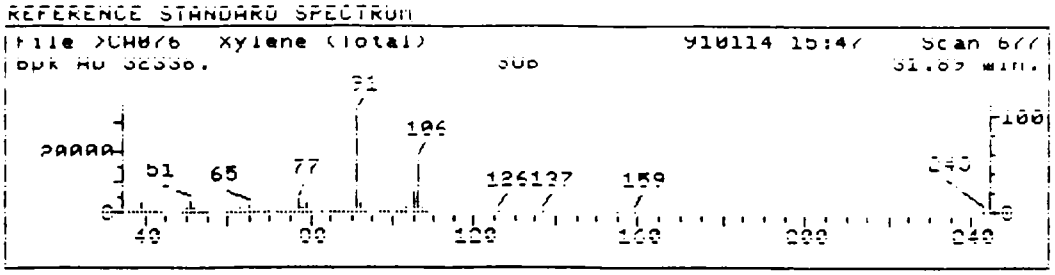


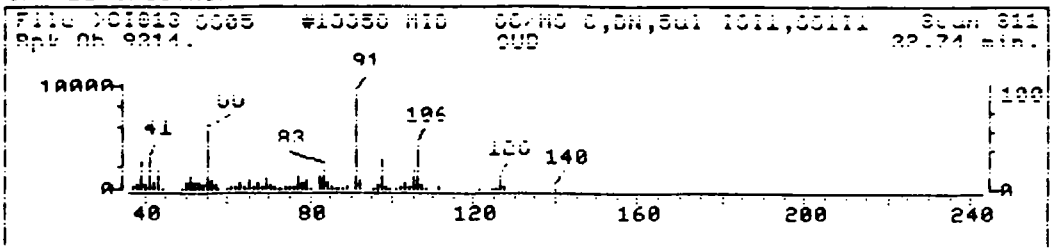
Data File: >CI013::C1 Quant Output File: ^CI013::OU
Name: SS05 #13358 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 06:34 Quant ID File: IDUCID::IC
Injected at: 930903 05:48 Last Calibration: 930902 20:05

Compound No: 40
Compound Name: Ethylbenzene
Scan Number: 696
Retention Time: 28.28 min.
Quant Ion: 106.0
Area: 39555
Concentration: 60.17 ug/L
q-value: 98

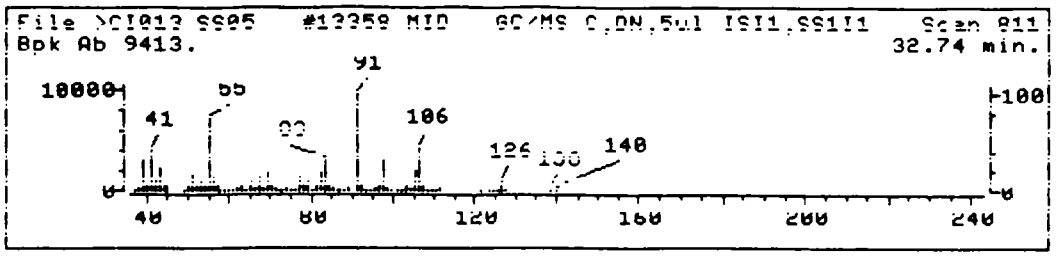
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



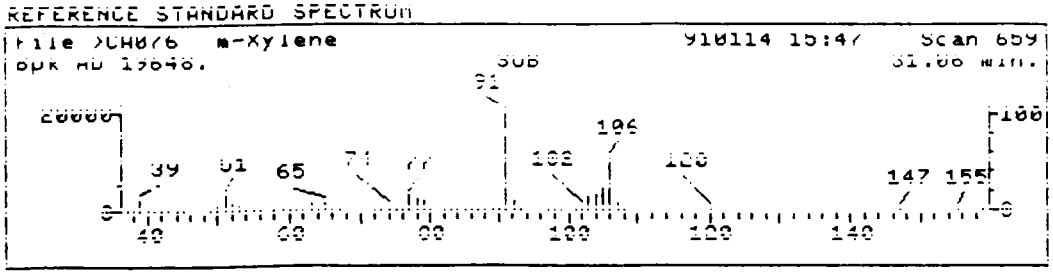
SAMPLE SPECTRUM (UNALTERED)



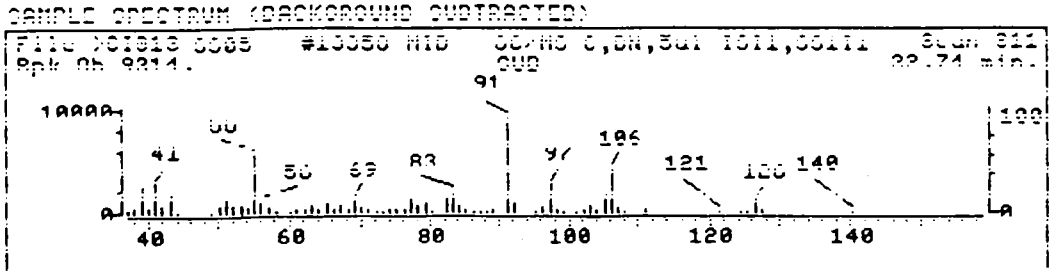
Data File: >CI013::C1 Quant Output File: ^CI013::OU
Name: SS05 #13358 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 06:34 Quant ID File: IDUCID::IC
Injected at: 930903 05:48 Last Calibration: 930902 20:05

Compound No: 42
Compound Name: Xylene (Total)
Scan Number: 811
Retention Time: 32.74 min.
Quant Ion: 106.0
Area: 219285M
Concentration: 270.45 ug/L
g-value: 98

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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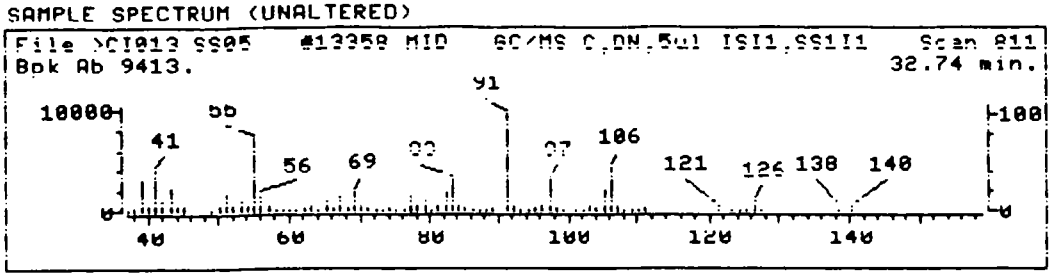
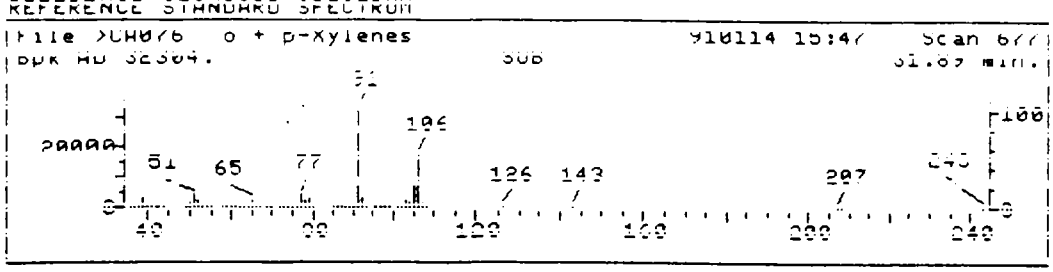


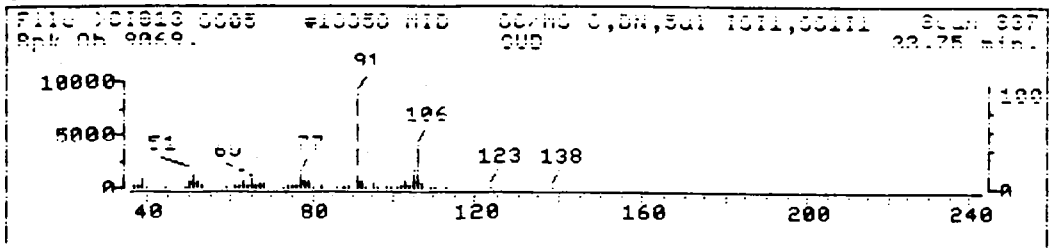
Data File: >CI013::C1 Quant Output File: ^CI013::OU
Name: SS05 #13358 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 06:34 Quant ID File: IDUCID::IC
Injected at: 930903 05:48 Last Calibration: 930902 20:05

Compound No: 43
Compound Name: m-Xylene
Scan Number: 811
Retention Time: 32.74 min.
Quant Ion: 106.0
Area: 106099
Concentration: 127.87 ug/L
q-value: 100

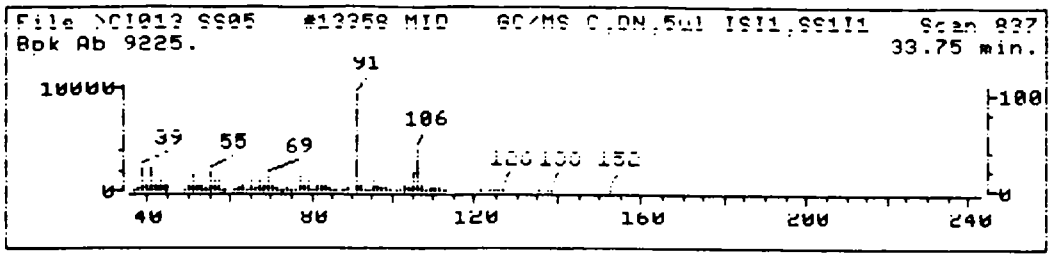
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >CI013::C1 Quant Output File: ^CI013::OU
Name: SS05 #13358 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 06:34 Quant ID File: IDUCID::IC
Injected at: 930903 05:48 Last Calibration: 930902 20:05

Compound No: 44
Compound Name: o + p-Xylenes
Scan Number: 837
Retention Time: 33.75 min.
Quant Ion: 106.0
Area: 112119
Concentration: 139.55 ug/L
q-value: 100

: data file header from : >CI013

ple: SS05 #13358 MID Operator: DAVE REG. GRP. 9/03/93 5:48
sc : GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
. #: 2 MS model: 70 SW/HW rev.: IA ALS # : 0
ethod file: HE7001 Tuning file: MT7001 No. of extra records: 2
ource temp.: 0 Analyzer temp.: 250 Transfer line temp. : 0

Chromatographic temperatures : 45. 220. 0. 0. 0.
Chromatographic times, min. : 4.0 45.0 0.0 0.0 0.0
Chromatographic rate, deg/min: 8.0 0.0 0.0 1.5 0.0

013 SS05 #13358 MID GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
35.01 260.0 CLP ADC TIC
lope: .20 Area Reject: 13973. Max Peaks: 13 Bunching: 1
lope: 0.00 Results File ICI013 Sorted by Time/Area INT

k	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	15.68	366	371	379	2693	31564	30053	5.43	1.727
	16.45	383	391	397	1620	19821	18617	3.36	1.070
	20.33	483	491	499	7882	104462	99848	18.04	5.739
4	21.02	499	509	510	4808	64094	56855	10.27	3.268
	23.81	575	581	588	4262	89539	61326	11.08	3.525
6	24.67	588	603	604	8557	212131	177390	32.04	10.196
7	25.64	626	628	629	2503	82156	15860	2.86	.912
	27.11	661	666	671	7884	308962	113211	20.45	6.507
	27.69	674	681	687	30977	976311	553604	100.00	31.819
0	29.32	714	723	731	16138	653474	360106	65.05	20.697
	30.37	748	750	751	20391	251560	86337	15.60	4.962
2	32.16	793	796	797	3355	97997	21377	3.86	1.229
3	34.64	858	860	860	31857	199242	145271	26.24	8.350

Sum of corrected areas: 1739855.

Summary of Unknowns PBM Library Search and Quantitation

Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	139735.	11.18	1.34 - 16.26
2	50.0	593895.	21.33	16.26 - 23.74
3	50.0	714740.	26.14	23.74 - 45.09

Dilution Factor (DF) = 1.00 Fractional Solids (FS) = .70
Amount Method (AM) = 5.00 Amount Used (AU) = 5.00

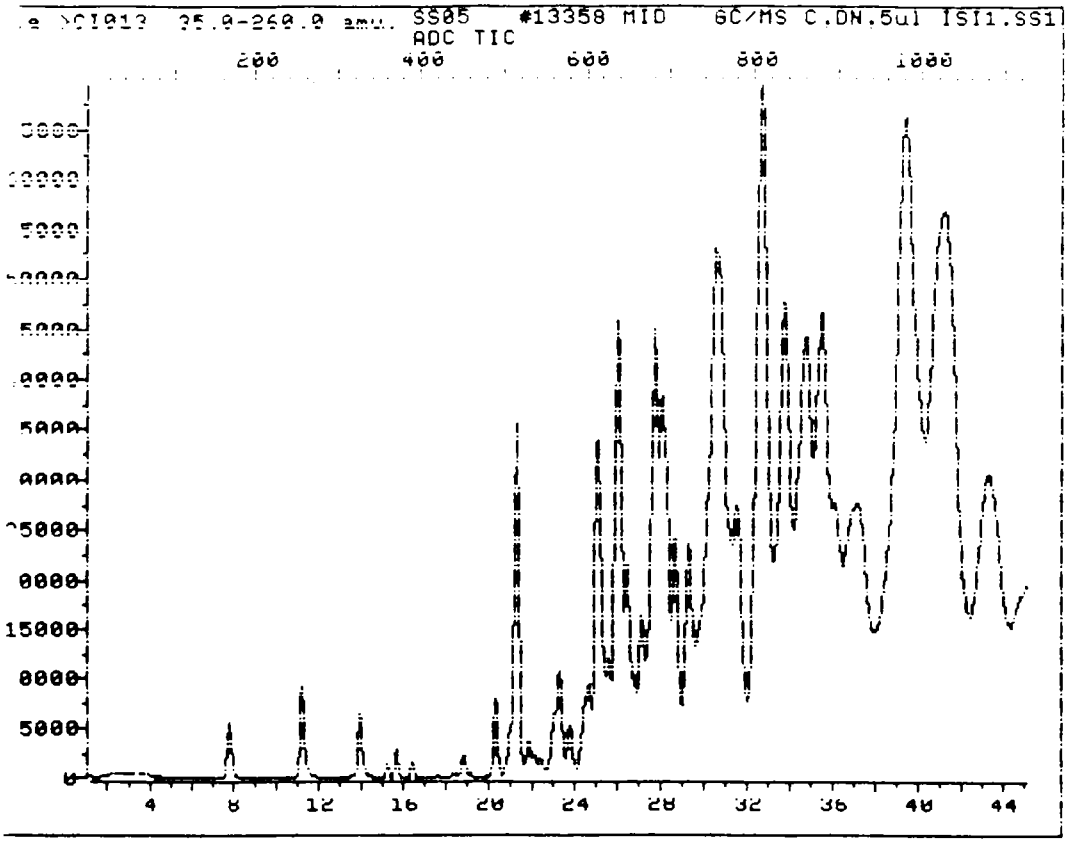
Correction Factor = 1.43 = (AM * DF) / (AU * FS) (2.125) for all concentrations

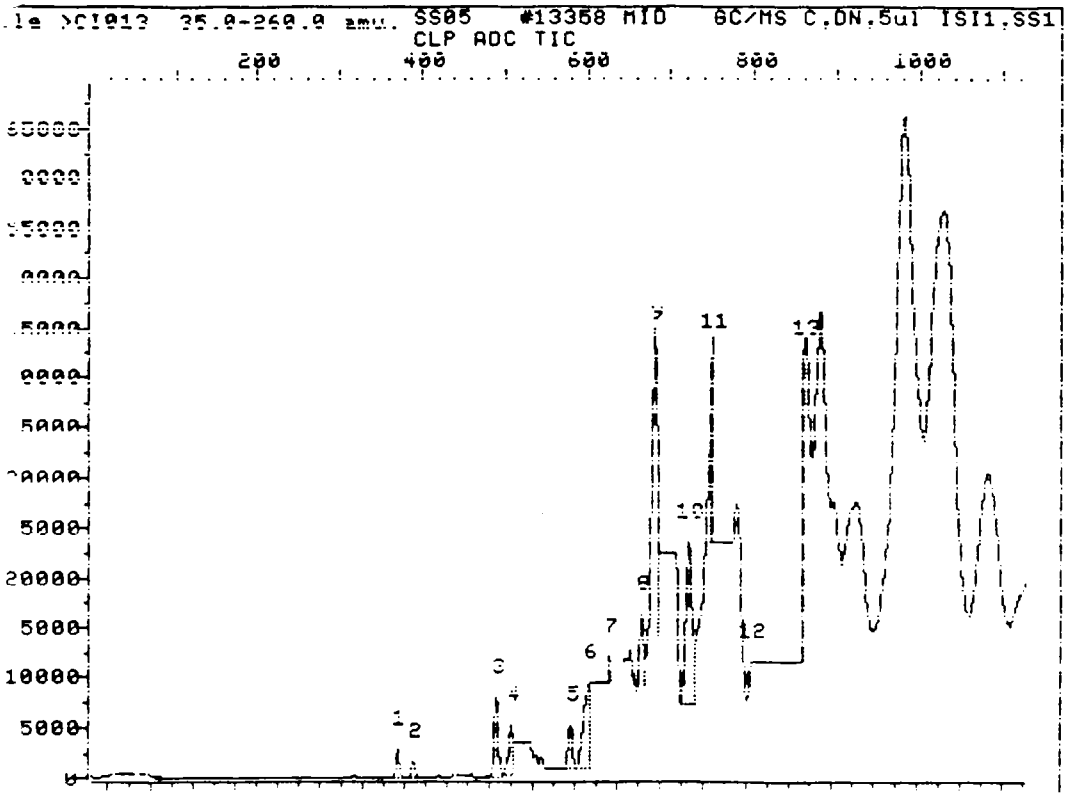
nknown Concentration = $\frac{\text{Conc Int Std}}{\text{Area Int Std}}$ * Area Unk * Correction Factor

9/10/93

7:41 PM TUE., 7 SEPT, 1993

00087


35.0-260.0 amu. SS05 #13358 MID GC/MS C.DN.5ul ISI1.SS1
ADC TIC
200
400
600
800
1000
15000
8000
5000
4
8
12
16
20
24
28
32
36
40
44


35.0-260.0 amu. SS05 #13358 MID GC/MS C.DN.5ul ISI1.SS1
CLP ADC TIC
200
400
600
800
1000
20000
5000
10000
5000
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2
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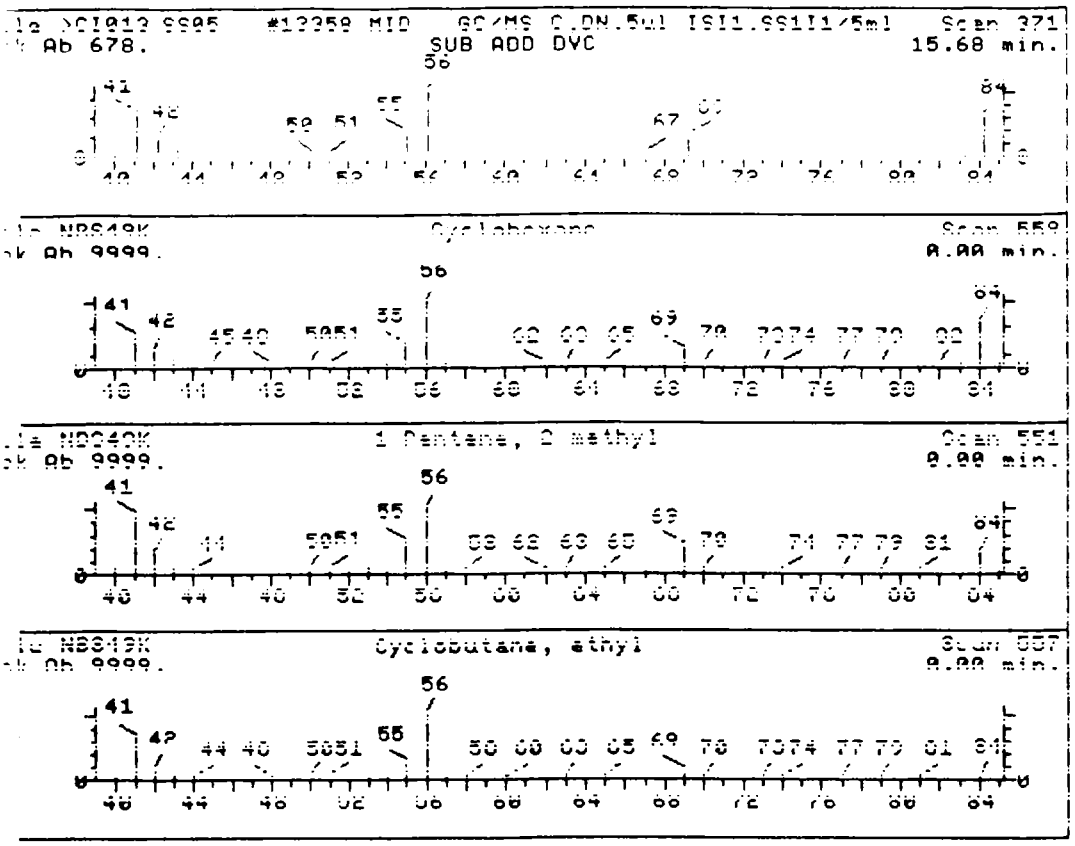
6
7
8
9
10
11
12

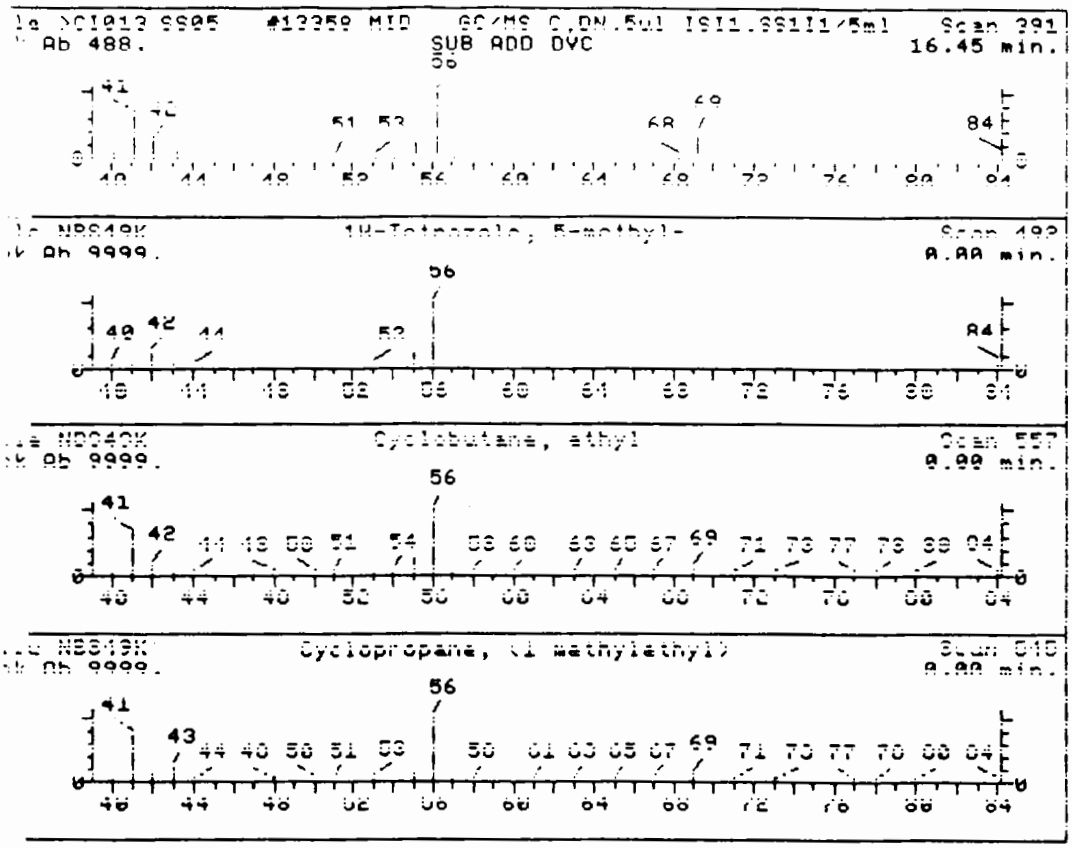


UNKNOWN #,1
AREA = 30053.00 TENTATIVE CONCENTRATION IS 15.00

1.	Cyclohexane	84	C6H12
2.	1-Pentene, 2-methyl-	84	C6H12
3.	Cyclobutane, ethyl-	84	C6H12
4.	Cyclopentane, methyl-	84	C6H12
5.	1H-Tetrazole, 5-methyl-	84	C2H4N4
6.	Cyclopentanone	84	C5H8O
7.	Cyclopropane, (1-methylethyl)-	84	C6H12

Sample file: >CI013 Spectrum #: 371
Search speed: 1 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	110827	6301	NBS49K	72	15	2	0	92	4	66	66
2.	59*	763291	1016	NBS49K	56	45	2	0	71	23	27	33
3.	53*	4806615	1018	NBS49K	38	45	0	0	98	39	19	44
4.	52*	96377	1015	NBS49K	47	43	1	0	85	28	24	32
5.	39*	4076362	1009	NBS49K	29	55	1	0	100	30	14	16
6.	37*	120923	6275	NBS49K	27	57	2	0	145	30	14	14
7.	31*	3638355	1013	NBS49K	24	59	0	0	86	40	10	17



UNKNOWN #.2

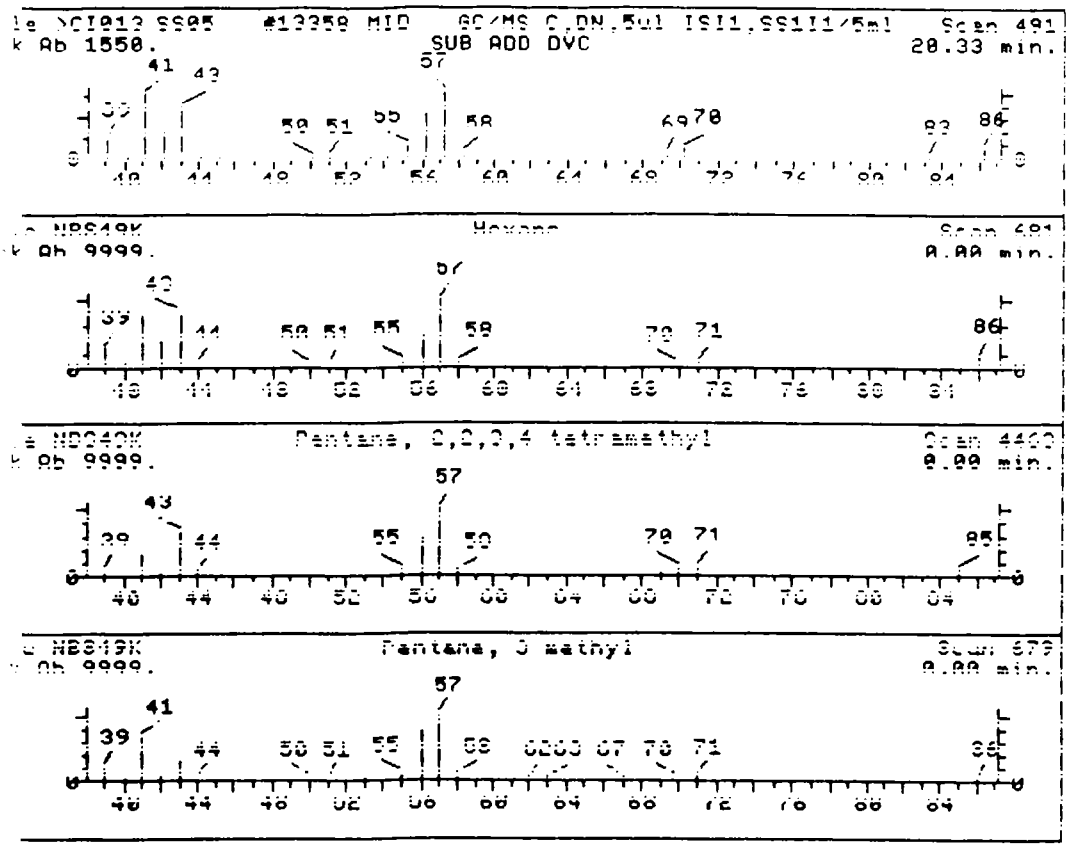
AREA = 18617.00 TENTATIVE CONCENTRATION IS 2.00

1.	1H-Tetrazole, 5-methyl-	84	C2H4N4
2.	Cyclobutane, ethyl-	84	C6H12
3.	Cyclopropane, (1-methylethyl)-	84	C6H12
4.	Cyclopentane, methyl-	84	C6H12
5.	Cyclopropane, propyl-	84	C6H12
6.	1-Hexene	84	C6H12
7.	1-Butene, 2,3-dimethyl-	84	C6H12

Sample file: >CI013 Spectrum #: 391

Search speed: 1 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	52*	4076362	1009	NBS49K	47	37	1	0	94	30	24	32
2.	41*	4806615	1018	NBS49K	42	41	1	0	97	31	16	24
3.	32*	3638355	1013	NBS49K	28	55	1	0	86	33	12	15
4.	31*	96377	1015	NBS49K	39	51	2	0	63	41	8	19
5.	20*	2415727	1014	NBS49K	28	60	2	0	64	51	5	14
6.	18*	592416	1012	NBS49K	38	49	1	0	38	59	4	21
7.	11*	563780	6291	NBS49K	24	52	2	0	52	63	2	14



UNKNOWN #.3

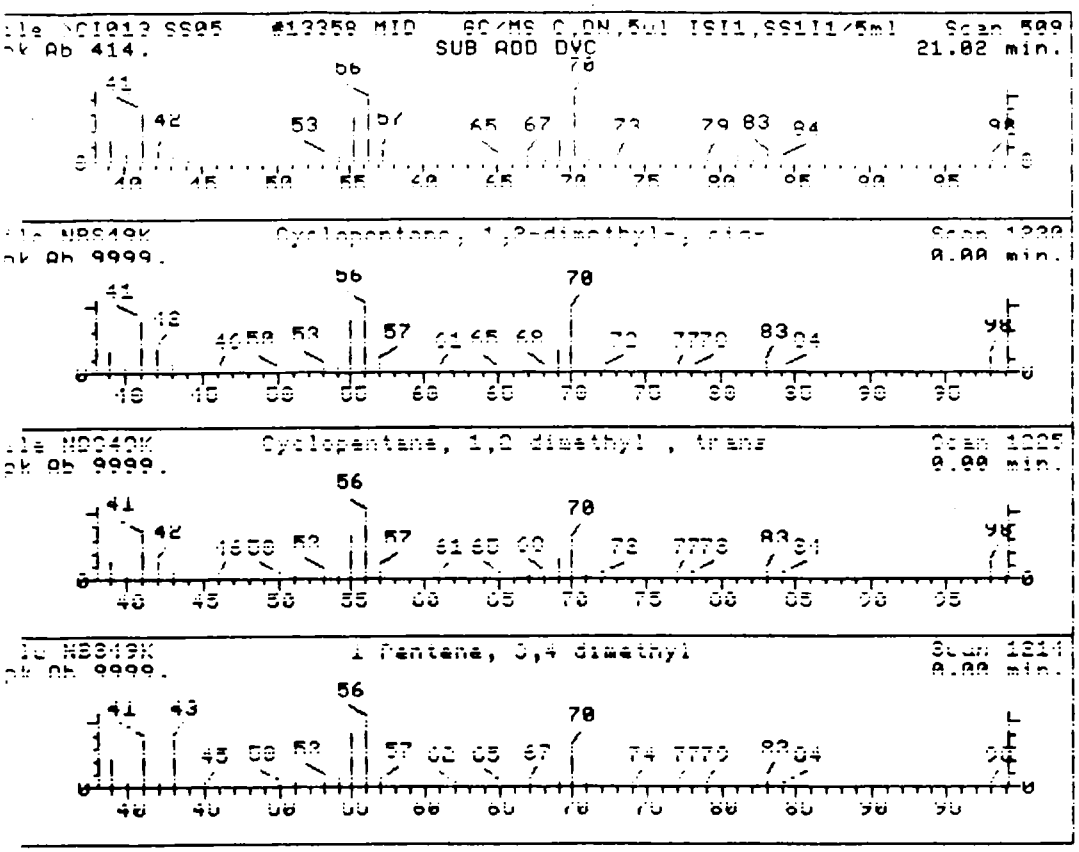
REA = 99848.00 TENTATIVE CONCENTRATION IS 12.00

1.	Hexane	86	C6H14
2.	Pentane, 2,2,3,4-tetramethyl-	128	C9H20
3.	Pentane, 3-methyl-	86	C6H14
4.	Diazene, bis(1,1-dimethylethyl)-	142	C8H18N2
5.	2-Pentanone	86	C5H10O
6.	2-Butanone, 3-methyl-	86	C5H10O

Sample file: >CI013 Spectrum #: 491

arch speed: 1 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86*	110543	6971	NBS49K	59	37	0	0	100	6	59	72
2.	52	1186534	1121	NBS49K	35	48	2	0	100	18	20	12
.	30*	96140	1025	NBS49K	29	55	0	0	86	49	10	21
4.	15	927833	1270	NBS49K	27	44	0	0	99	60	3	14
5.	15*	107879	6962	NBS49K	25	49	1	0	72	60	3	14
.	11*	563804	6960	NBS49K	22	51	2	0	79	62	2	13



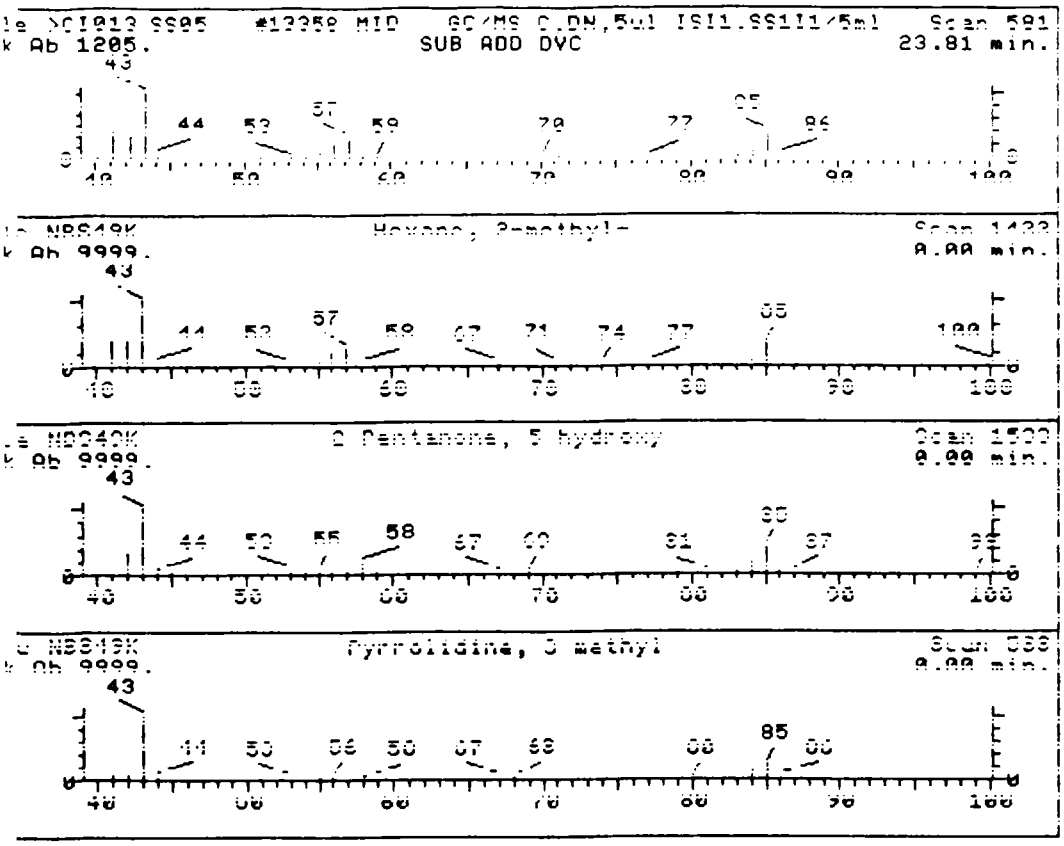
UNKNOWN #,4
AREA = 56855.00 TENTATIVE CONCENTRATION IS 7.00

1.	Cyclopentane, 1,2-dimethyl-, cis-	98	C7H14
2.	Cyclopentane, 1,2-dimethyl-, trans-	98	C7H14
3.	1-Pentene, 3,4-dimethyl-	98	C7H14
4.	Cyclopentane, 1,2-dimethyl-	98	C7H14
5.	Cyclopropane, (1-methylethyl)-	84	C6H12
6.	Cyclobutane, 1,1,2,3,3-pentamethyl-	126	C9H18
7.	2-Nonene, 3-methyl-, (E)-	140	C10H20

0072

Sample file: >CI013 Spectrum #: 509
Search speed: 1 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	58	1192183	3858	NBS49K	65	37	2	0	78	17	25	21
2.	41	822504	3857	NBS49K	44	55	1	0	70	25	17	12
3.	34*	7385786	3854	NBS49K	41	63	1	0	71	36	14	21
4.	34	2452995	3847	NBS49K	55	41	2	0	85	35	12	17
5.	28*	3638355	1013	NBS49K	33	50	0	0	95	55	8	30
6.	25	57905869	3953	NBS49K	26	46	0	0	100	50	7	13
7.	25	17003995	4010	NBS49K	55	39	2	0	80	46	7	19

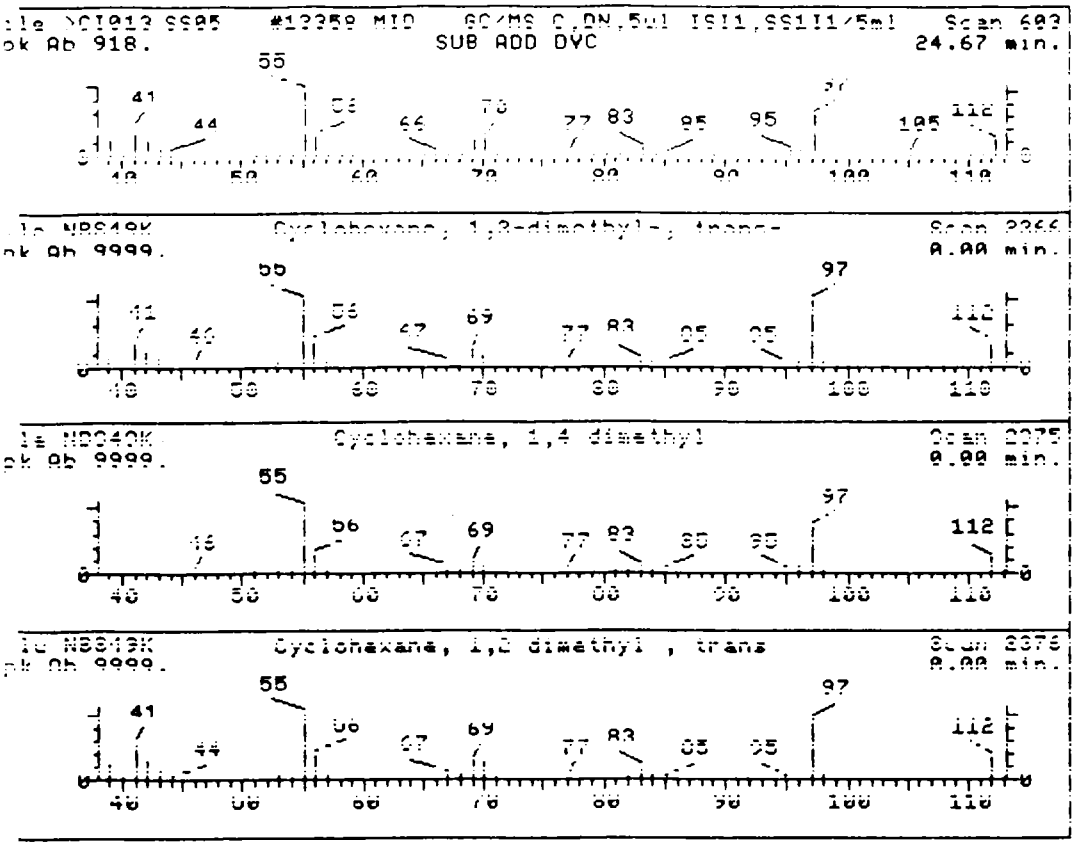


UNKNOWN #,5
REA = 61326.00 TENTATIVE CONCENTRATION IS 6.00

1.	Hexane, 2-methyl-	100	C7H16
2.	2-Pentanone, 5-hydroxy-	102	C5H10O2
3.	Pyrrolidine, 3-methyl-	85	C5H11N
4.	Pentane, 2,4-dimethyl-	100	C7H16
5.	Pentane, 3-ethyl-2,4-dimethyl-	128	C9H20
6.	Azetidine, 1,3-dimethyl-	85	C5H11N
7.	1H-Tetrazol-5-amine	85	CH3N5

ample file: >CI013 Spectrum #: 581
earch speed: 1 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
.	93*	591764	6537	NBS49K	70	17	1	0	93	4	68	80
.	60	1071734	6541	NBS49K	36	47	2	0	86	15	30	12
3.	39*	34375898	6516	NBS49K	32	48	2	0	100	30	14	16
4.	36*	108087	1063	NBS49K	26	58	3	0	100	26	14	13
.	31	1068877	6597	NBS49K	42	41	2	0	79	34	12	14
.	26*	55683380	6514	NBS49K	24	66	3	0	132	39	10	12
7.	20*	4418615	4	NBS49K	23	102	2	0	50	54	5	13

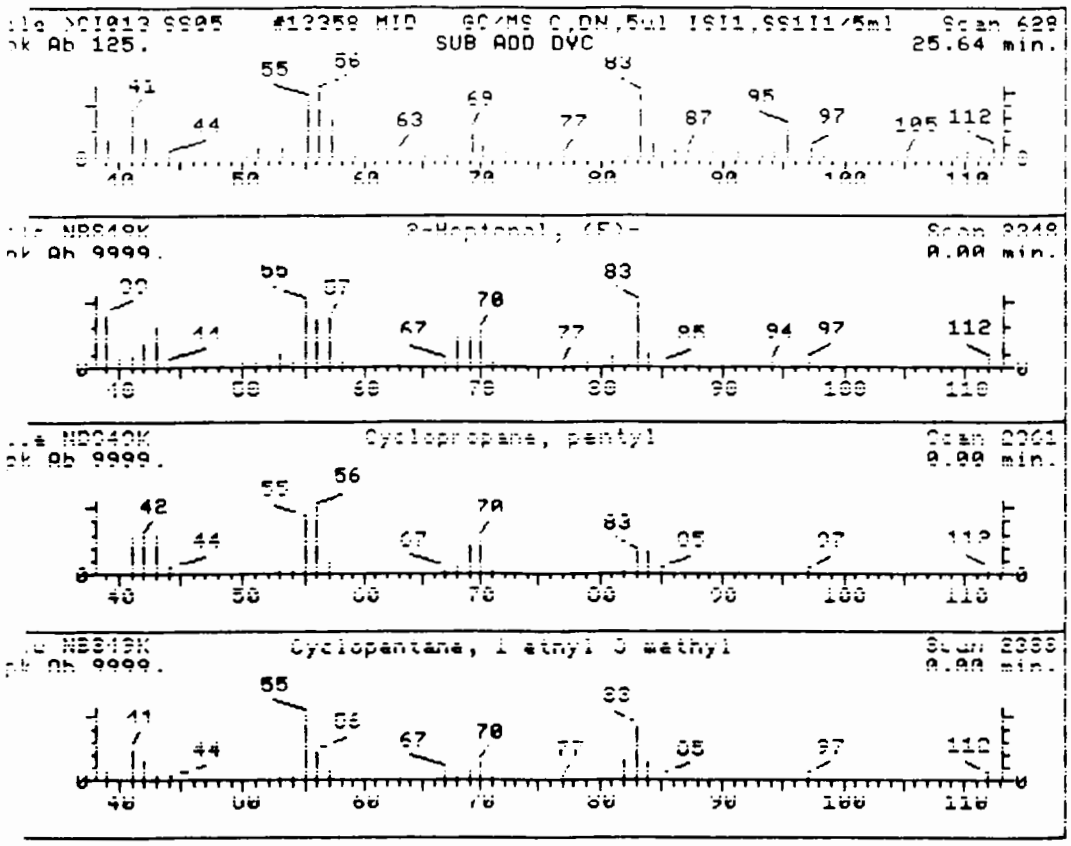


UNKNOWN #.6
AREA = 177390.0 TENTATIVE CONCENTRATION IS 18.00

1.	Cyclohexane, 1,3-dimethyl-, trans-	112	C8H16
2.	Cyclohexane, 1,4-dimethyl-	112	C8H16
3.	Cyclohexane, 1,2-dimethyl-, trans-	112	C8H16
4.	Cyclohexane, 1,4-dimethyl-, cis-	112	C8H16
5.	Cyclohexane, 1,2-dimethyl-, cis-	112	C8H16
6.	Cyclohexane, 1,4-dimethyl-, trans-	112	C8H16
7.	Cyclohexane, 1,1-dimethyl-	112	C8H16

Sample file: >CI013 Spectrum #: 603
Search speed: 1 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86*	2207036	9103	NBS49K	80	19	1	2	87	9	59	72
2.	83*	589902	12036	NBS49K	68	28	0	0	70	21	47	83
3.	79*	6876239	9108	NBS49K	64	43	1	0	60	11	43	63
4.	76*	624293	9112	NBS49K	59	43	0	0	70	21	41	72
5.	74*	2207014	12031	NBS49K	66	43	2	0	69	11	39	45
6.	73*	2207047	9106	NBS49K	51	51	0	0	63	21	32	61
7.	52*	590669	9107	NBS49K	41	57	0	0	50	40	19	43



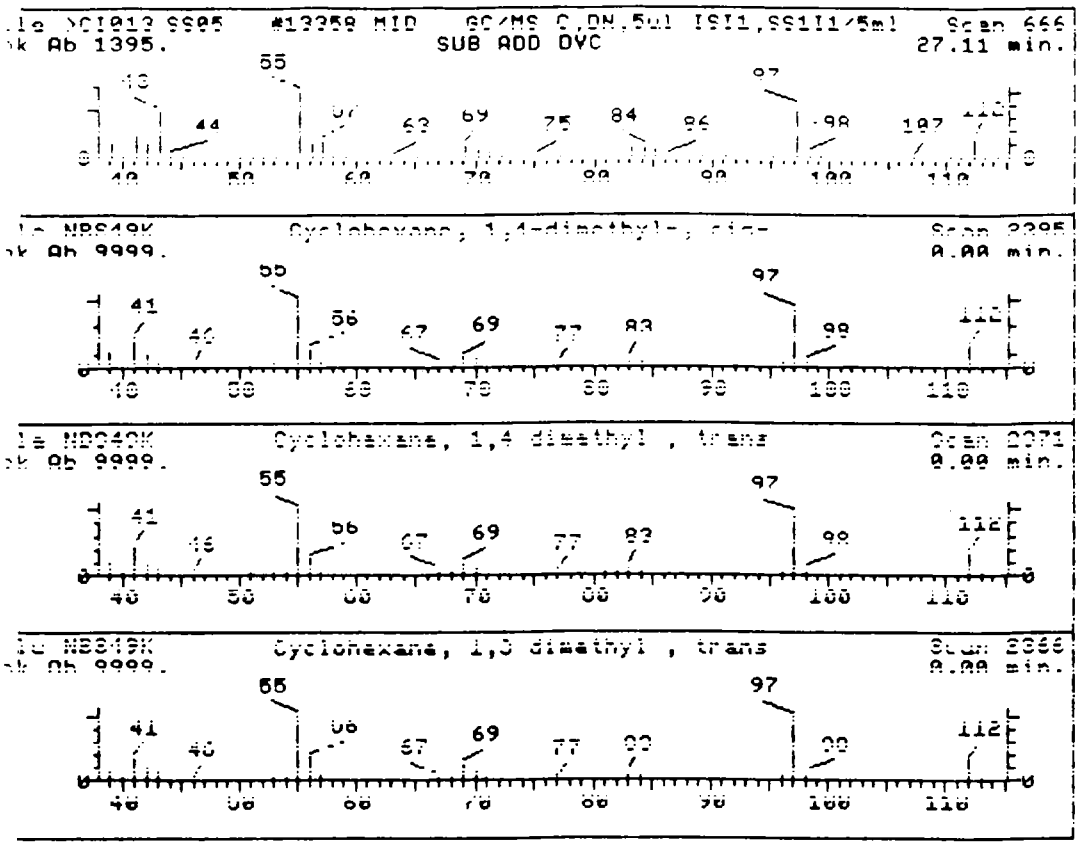
UNKNOWN #.7
AREA = 15860.00 TENTATIVE CONCENTRATION IS 2.00

1.	2-Heptenal, (E)-	112	C7H120
2.	Cyclopropane, pentyl-	112	C8H16
3.	Cyclopentane, 1-ethyl-3-methyl-	112	C8H16
4.	Cyclopentane, 1-ethyl-3-methyl-, cis-	112	C8H16
5.	Heptane, 4-methylene-	112	C8H16
6.	Cyclopentane, 1,2,3-trimethyl-, (1.alpha.,2.alpha.,3.beta.)-	112	C8H16
7.	1-Hexene, 3,4-dimethyl-	112	C8H16

00075

Sample file: >CI013 Spectrum #: 628
Search speed: 1 Tilting option: S No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	25*	18829555	6159	NBS49K	51	73	3	0	74	50	7	14
2.	25*	2511913	3887	NBS49K	22	80	3	0	87	48	7	12
3.	25*	3726474	6162	NBS49K	23	84	3	0	86	49	7	12
4.	24*	2613663	6164	NBS49K	23	85	3	0	86	42	8	12
5.	24*	15918088	12030	NBS49K	49	38	2	1	78	55	7	23
6.	20*	15890401	3898	NBS49K	52	50	3	1	89	52	5	13



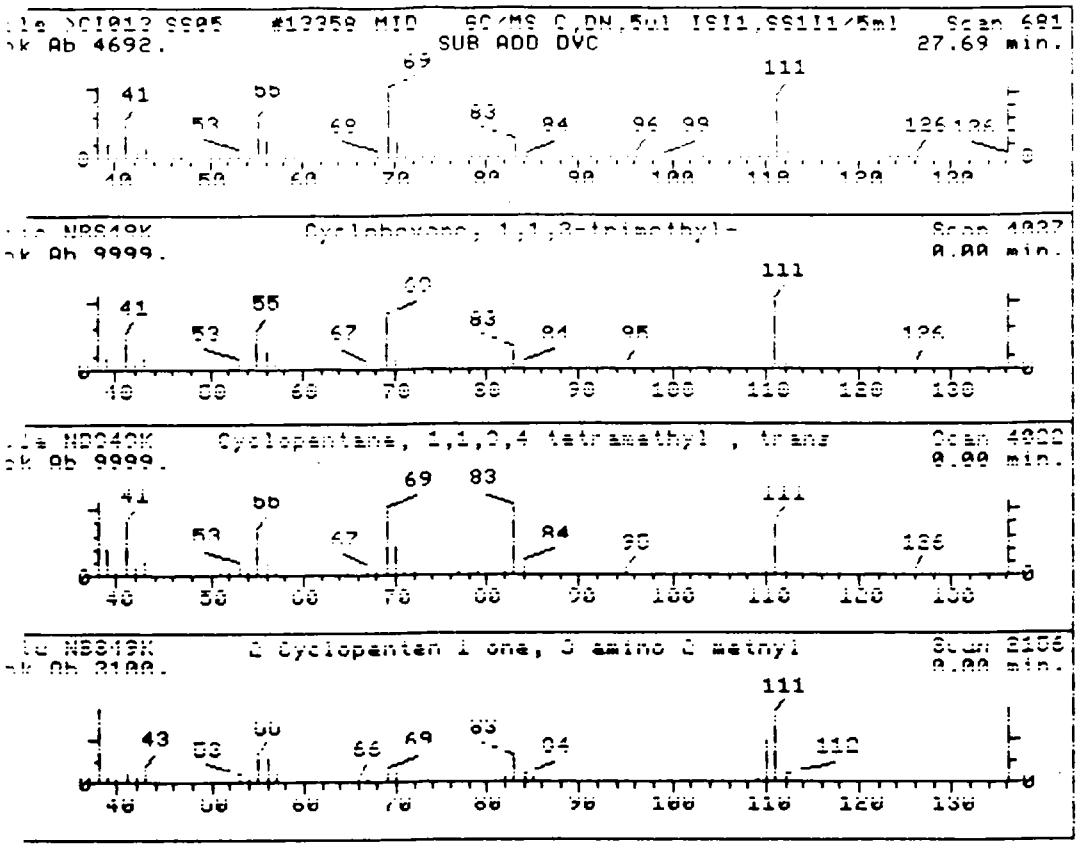
UNKNOWN #.8
AREA = 113211.0 TENTATIVE CONCENTRATION IS 11.00

1.	Cyclohexane, 1,4-dimethyl-, cis-	112	C8H16
2.	Cyclohexane, 1,4-dimethyl-, trans-	112	C8H16
3.	Cyclohexane, 1,3-dimethyl-, trans-	112	C8H16
4.	Cyclohexane, 1,3-dimethyl-, cis-	112	C8H16
5.	Cyclohexane, 1,4-dimethyl-	112	C8H16
6.	Cyclohexane, 1,2-dimethyl-, trans-	112	C8H16
7.	Cyclohexene, 1-(1,1-dimethylethoxy)-3-methyl-	168	C11H20O

00076

Sample file: >CI013 Spectrum #: 666
Search speed: 1 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	76*	624293	9112	NBS49K	71	31	2	0	85	15	40	52
2.	74*	2207047	9106	NBS49K	65	37	2	0	85	15	39	44
3.	71*	2207036	9103	NBS49K	56	43	2	0	61	15	38	33
4.	63*	638040	9110	NBS49K	55	39	1	1	89	18	30	37
5.	60*	589902	12036	NBS49K	47	49	3	0	100	15	30	16
6.	53*	6876239	9108	NBS49K	51	56	2	0	58	21	22	25
7.	48	40648246	9232	NBS49K	55	40	1	0	66	22	17	19



UNKNOWN #.9

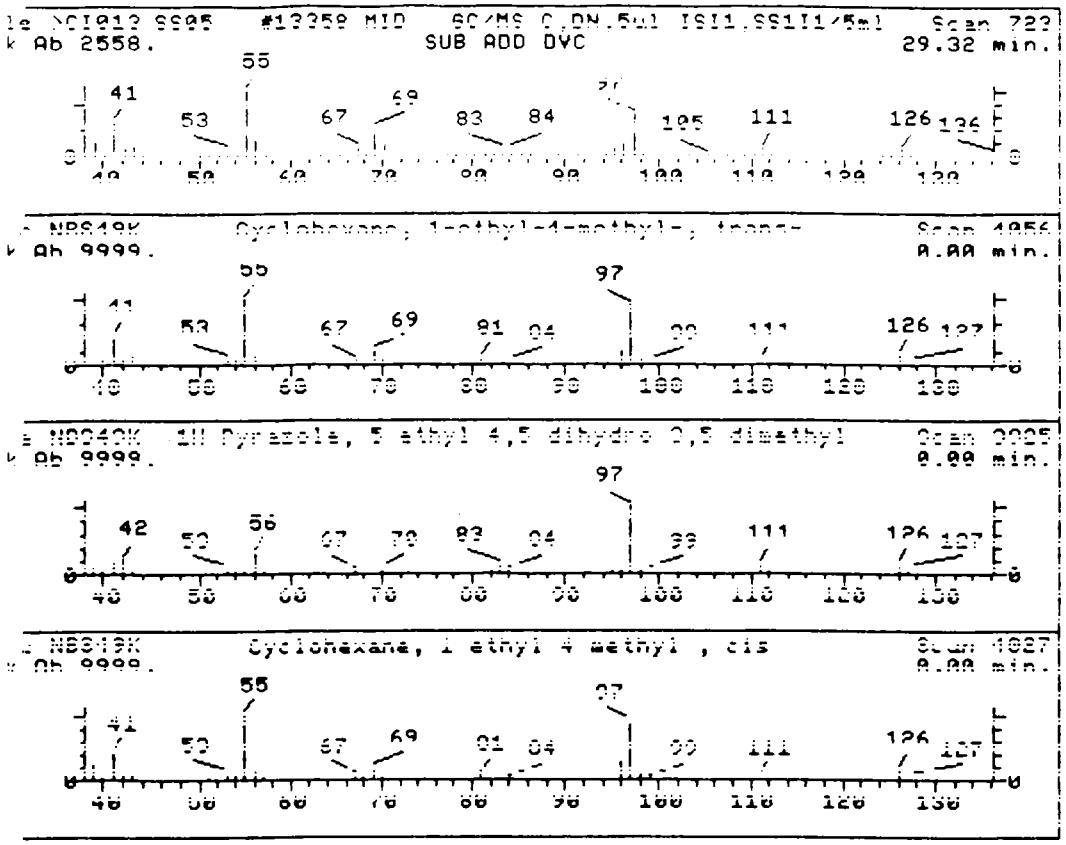
AREA = 553604.0 TENTATIVE CONCENTRATION IS 55.00

1.	Cyclohexane, 1,1,3-trimethyl-	126	C9H18
2.	Cyclopentane, 1,1,3,4-tetramethyl-, trans-	126	C9H18
3.	2-Cyclopenten-1-one, 3-amino-2-methyl-	111	C6H9NO
4.	1-Hexene, 3,3,5-trimethyl-	126	C9H18
5.	Cyclohexane, 1,1,2-trimethyl-	126	C9H18
6.	2-Fluoroaniline	111	C6H6FN
7.	2(1H)-Pyridinone, 3-hydroxy-	111	C5H5NO2

00077

Sample file: >CI013 Spectrum #: 681
Search speed: 1 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	50*	3073663	11838	NBS49K	47	51	2	0	84	23	22	22
2.	36*	20309777	11837	NBS49K	27	84	3	0	70	26	14	13
3.	28*	69687850	11815	NBS49K	25	69	2	0	204	39	10	14
4.	20*	13427435	3954	NBS49K	24	69	3	0	100	52	5	12
5.	15*	7094260	11844	NBS49K	30	63	2	0	49	57	3	14
6.	15*	441	171	PRIPOL	22	77	3	0	89	56	3	12
7.	15*	16867042	11809	NBS49K	22	78	3	0	88	56	3	12



UNKNOWN #.10

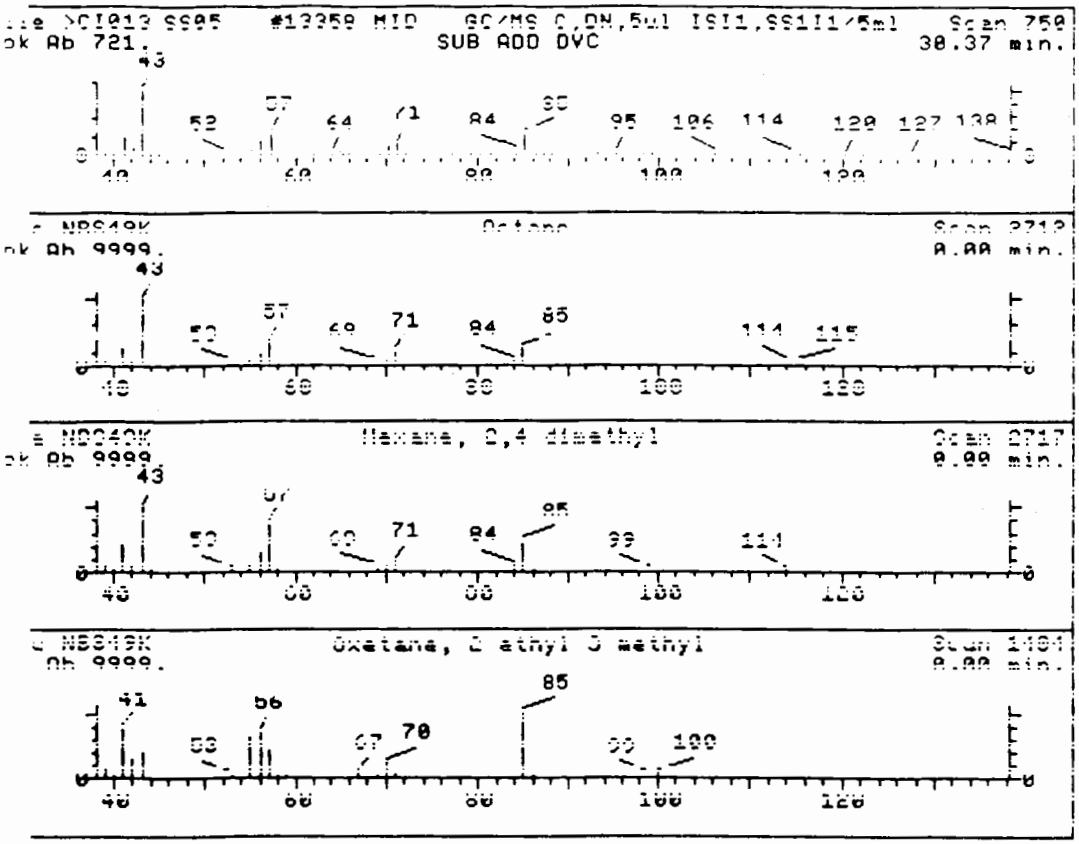
REA = 360106.0 TENTATIVE CONCENTRATION IS 36.00

1.	Cyclohexane, 1-ethyl-4-methyl-, trans-	126	C9H18
2.	1H-Pyrazole, 5-ethyl-4,5-dihydro-3,5-dimethyl-	126	C7H14N2
3.	Cyclohexane, 1-ethyl-4-methyl-, cis-	126	C9H18
4.	Cyclohexane, 1,4-dimethyl-, cis-	112	C8H16
5.	3-Heptanone, 5-methylene-	126	C8H14O
6.	Cyclohexane, 1,2,3-trimethyl-	126	C9H18
7.	2-Pyrazoline, 5-ethyl-1,4-dimethyl-	126	C7H14N2

ample file: >CI013 Spectrum #: 723

earch speed: 1 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
.	59*	6236880	9137	NBS49K	60	34	1	0	70	39	21	56
.	48*	21981226	9120	NBS49K	50	47	2	0	60	29	19	26
3.	41*	4926787	9131	NBS49K	54	42	2	1	73	43	14	30
4.	36	624293	9112	NBS49K	55	47	2	0	73	29	14	13
.	34*	20690704	9122	NBS49K	35	39	2	0	605	33	12	17
.	34*	1678973	14775	NBS49K	59	45	1	0	33	52	10	53
7.	31*	14339232	9121	NBS49K	37	45	1	0	63	45	8	19



UNKNOWN #.11

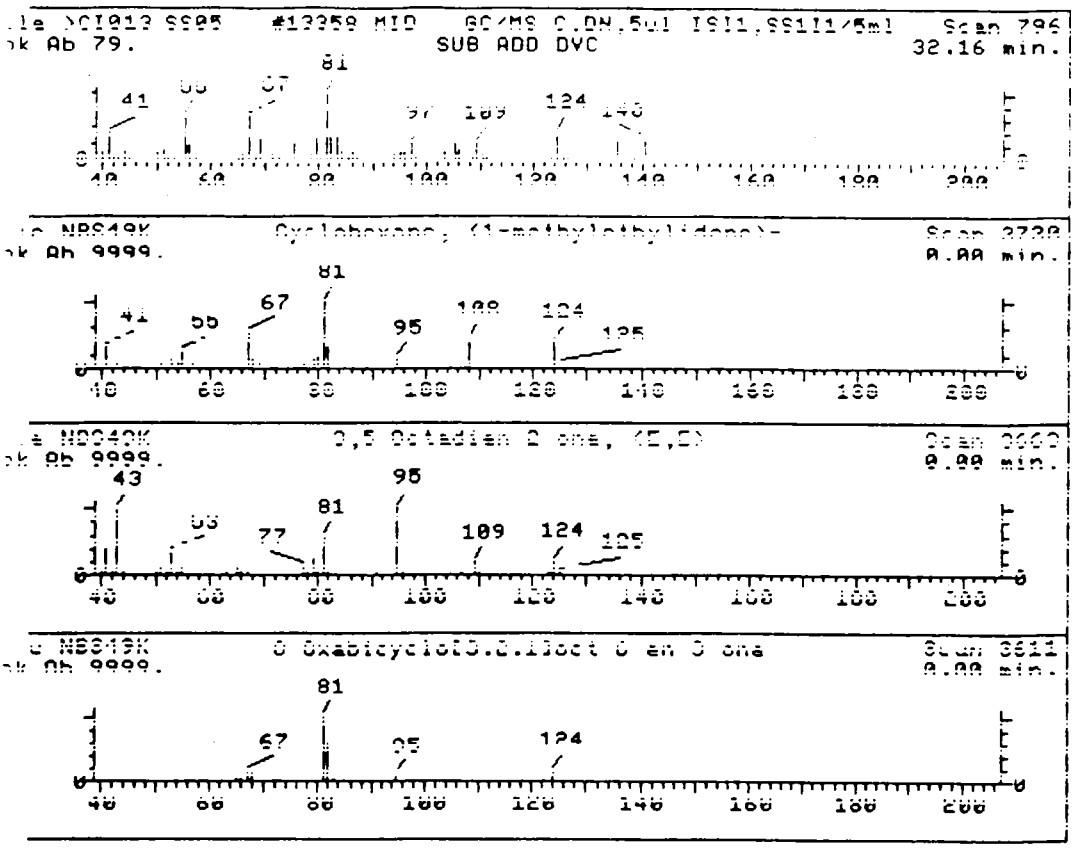
AREA = 86337.00 TENTATIVE CONCENTRATION IS 9.00

1.	Octane	114	C8H18
2.	Hexane, 2,4-dimethyl-	114	C8H18
3.	Oxetane, 2-ethyl-3-methyl-	100	C6H12O
4.	Hexane, 3-ethyl-	114	C8H18
5.	Azetidine, 1,2-dimethyl-	85	C5H11N
6.	Aziridine, 2-hexyl-	127	C8H17N
7.	Heptane, 2,4-dimethyl-	128	C9H20

00070

ample file: >CI013 Spectrum #: 750
arch speed: 1 Tilting option: S No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	69*	111659	6555	NBS49K	66	23	1	0	92	33	26	67
.	45*	589435	6558	NBS49K	50	48	2	1	60	30	19	23
.	30	53778624	6534	NBS49K	39	44	2	0	32	33	12	13
4.	30*	619998	6559	NBS49K	46	44	2	0	100	50	10	26
.	26*	51764320	6515	NBS49K	23	68	3	0	160	40	10	12
.	25*	13906893	3958	NBS49K	24	49	2	0	15	46	7	14
7.	20	2213232	6599	NBS49K	52	35	2	0	84	53	5	18



UNKNOWN #,12

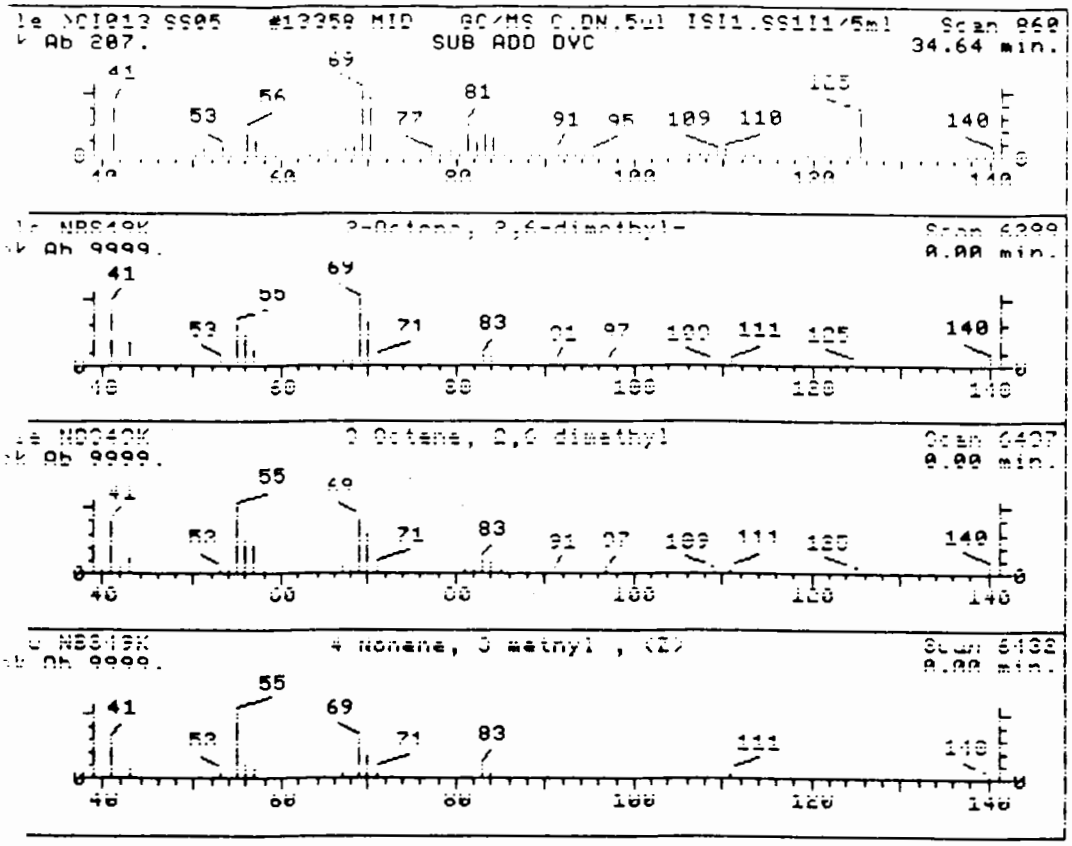
AREA = 21377.00 TENTATIVE CONCENTRATION IS 2.00

1.	Cyclohexane, (1-methylethylidene)-	124	C9H16
2.	3,5-Octadien-2-one, (E,E)-	124	C8H12O
3.	8-Oxabicyclo[3.2.1]oct-6-en-3-one	124	C7H8O2
4.	4,5-DIMETHYL-2-PYRIMIDONE	124	C6H8N2O
5.	3-Heptyne, 5,5-dimethyl-	124	C9H16
6.	CIS-HEXAHYDROPHTHALIDE	140	C8H12O2
7.	2,4-Dodecadienal	180	C12H20O

ample file: >CI013 Spectrum #: 796

earch speed: 1 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	25*	5749724	14249	NBS49K	29	80	2	0	81	48	7	14
.	25*	30086023	14234	NBS49K	26	83	3	0	178	49	7	13
3.	20*	40458773	5896	NBS49K	27	33	1	0	79	52	5	15
4.	20*	34939178	14192	NBS49K	43	54	2	1	37	55	5	15
.	20*	23097985	14247	NBS49K	39	11	1	1	141	51	5	14
.	15*	6939715	17690	NBS49K	43	67	2	0	96	60	3	14
7.	11	13162475	5817	NBS49K	33	65	0	0	96	65	2	15



UNKNOWN #.13

REA = 145271.0 TENTATIVE CONCENTRATION IS 15.00

1.	2-Octene, 2,6-dimethyl-	140	C10H20
2.	3-Octene, 2,6-dimethyl-	140	C10H20
3.	4-Nonene, 3-methyl-, (Z)-	140	C10H20
4.	2,6-Nonadienal, (E,E)-	138	C9H14O
5.	1-Octene, 3,3-dimethyl-	140	C10H20
6.	2-Octene, 4-ethyl-, (E)-	140	C10H20
7.	2-Cyclohexen-1-ol, 3,5,5-trimethyl-	140	C9H16O

ample file: >CI013 Spectrum #: 860

earch speed: 1 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
.	25*	4057425	3989	NBS49K	36	68	3	0	86	44	8	13
.	25*	6874288	4001	NBS49K	30	78	3	0	82	44	8	13
3.	25*	63830693	3999	NBS49K	24	77	3	0	134	50	7	12
4.	20*	17587336	3974	NBS49K	48	59	2	0	87	52	5	19
.	20*	74511516	3998	NBS49K	42	64	2	0	95	52	5	14
.	20*	74630094	4008	NBS49K	25	64	3	0	136	52	5	13
7.	15*	470995	14480	NBS49K	54	56	3	0	66	56	3	17

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

SS06

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: AEN#13359

Sample (wt/vol): 4 G Lab File ID: >CI014

Level: MED Date Received: 08/20/93

% Moisture: not dec. 19 Date Analyzed: 9/03/93

Column: PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	1500.	U
74-83-9	Bromomethane	1500.	U
75-01-4	Vinyl Chloride	1500.	U
75-00-3	Chloroethane	1500.	U
75-09-2	Methylene Chloride	2400.	B
67-64-1	Acetone	15000.	U
75-15-0	Carbon Disulfide	770.	U
75-35-4	1,1-Dichloroethene	770.	U
75-34-3	1,1-Dichloroethane	770.	U
540-59-0	1,2-Dichloroethene (Total)	770.	U
67-66-3	Chloroform	770.	U
107-02-2	1,2-Dichloroethane	770.	U
78-93-3	2-Butanone	15000.	U
71-55-6	1,1,1-Trichloroethane	540.	J
56-23-5	Carbon Tetrachloride	770.	U
108-05-4	Vinyl Acetate	7700.	U
75-27-4	Bromodichloromethane	770.	U
78-87-5	1,2-Dichloropropane	770.	U
10061-02-6	trans-1,3-Dichloropropene	770.	U
79-01-6	Trichloroethene	770.	U
124-48-1	Dibromochloromethane	770.	U
79-00-5	1,1,2-Trichloroethane	770.	U
71-43-2	Benzene	770.	U
10061-01-5	cis-1,3-Dichloropropene	770.	U
110-75-8	2-Chloroethylvinylether	1500.	U
75-25-2	Bromoform	770.	U
108-10-1	4-Methyl-2-pentanone	7700.	U
591-78-6	2-Hexanone	7700.	U
127-18-4	Tetrachloroethene	770.	U
79-34-5	1,1,2,2-Tetrachloroethane	770.	U
108-88-3	Toluene	200.	J
108-90-7	Chlorobenzene	380.	J
100-41-4	Ethylbenzene	2300.	
100-42-5	Styrene	770.	U
133-02-7	Xylene (Total)	5500.	

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SS06

Lab Name: AMER.ENV.NTWK. Contract: 93080140

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: AEN#13359

Sample wt/vol: 4 G Lab File ID: >CI014

Level: MED Date Received: 08/20/93

% Moisture: (not dec) 19 Date Analyzed: 9/03/93

Column: PACK Dilution Factor: 1.0

Number TICs found: 6

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110543	Hexane	20.33	1200.	JB
2.		Unknown	23.04	11000.	J
3.		Unknown	25.57	1200.	J
4.		Unknown	25.84	500.	J
5.		Unknown	26.81	870.	J
6.		Unknown	34.69	35000.	J
7.					
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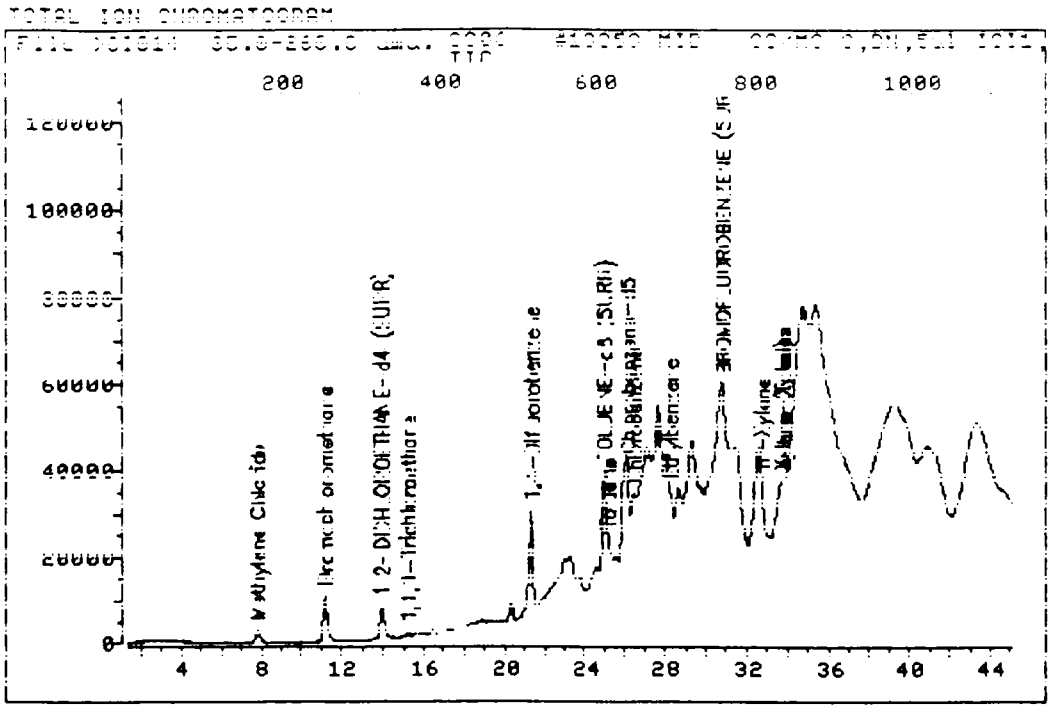
30.					

NR = Not Reviewed

FORM I VOA-TIC



Data File: >CI014::C1 Quant Output File: ^CI014::OU
Name: SS06 #13359 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON

Id File: IDUCID::IC
Title: HSL VOLATILES
Last Calibration: 930902 20:05

Operator ID: DAVE
Quant Time: 930903 07:29
Injected at: 930903 06:42

QUANT REPORT

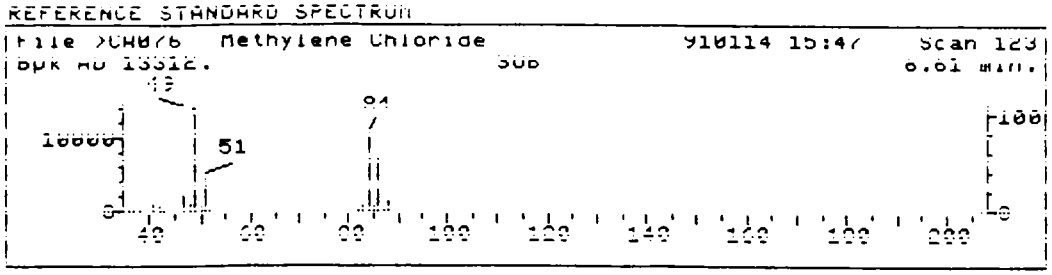
Operator ID: DAVE Quant Rev: 6 Quant Time: 930909 17:30
Output File: ^CI014::OU Injected at: 930903 06:42
Data File: >CI014::C1 Dilution Factor: 1.00000
Name: SS06 #13359 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON

ID File: IDVCID::IC
Title: HSL VOLATILES
Last Calibration: 930909 17:26

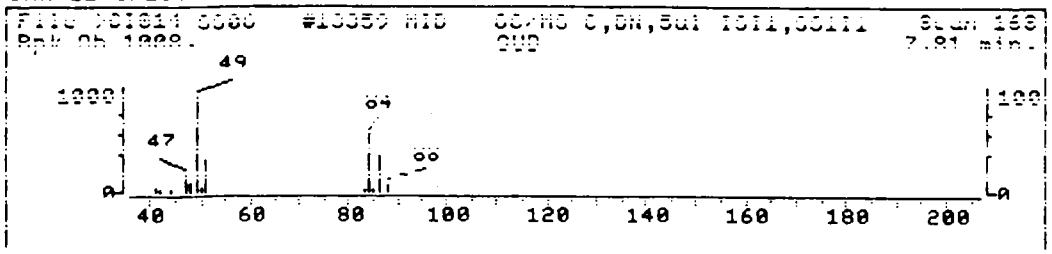
	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	11.18	255	19035	50.00	ug/L	83
6)	Methylene Chloride	7.81	168	9456	15.36	ug/L	91
17)	1,2-DICHLOROETHANE-d4 (SURR)	13.93	326	36737	46.00	ug/L	98
19)	*1,4-Difluorobenzene	21.34	517	80278	50.00	ug/L	100
20)	1,1,1-Trichloroethane	15.25	360	3499	3.47	ug/L	69
33)	*Chlorobenzene-d5	26.15	641	62861M	50.00	ug/L	83
38)	Toluene	25.18	616	2127	1.31	ug/L	85
39)	Chlorobenzene	26.46	649	5434	2.47	ug/L	47
40)	Ethylbenzene	28.25	695	15370	15.18	ug/L	92
42)	Xylene (Total)	33.76	837	44567M	35.62	ug/L	87
43)	m-Xylene	32.71	810	4942	3.87	ug/L	100
44)	o + p-Xylenes	33.76	837	37882	30.60	ug/L	100
45)	BROMOFLUOROBENZENE (SURR)	30.81	761	97682	52.04	ug/L	68
46)	TOLUENE-d8 (SURR)	24.98	611	97228M	42.10	ug/L	89

* Compound is ISTD

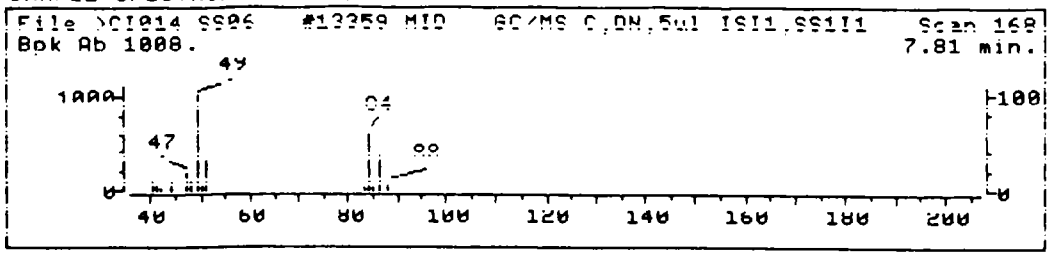
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



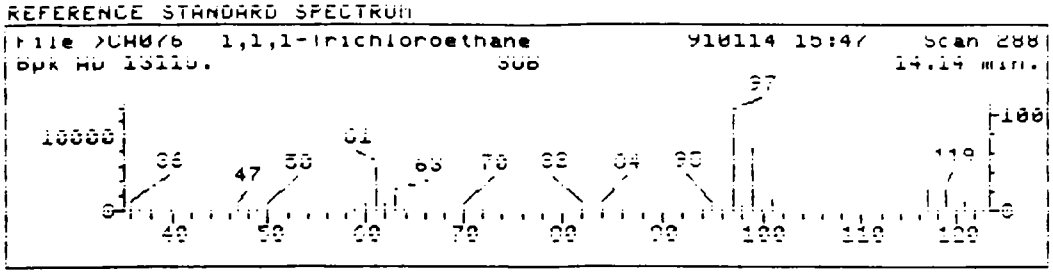
SAMPLE SPECTRUM (UNALTERED)



Data File: >CI014::C1 Quant Output File: ^CI014::OU
Name: SS06 #13359 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 07:29 Quant ID File: IDVCID::IC
Injected at: 930903 06:42 Last Calibration: 930902 20:05

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 168
Retention Time: 7.81 min.
Quant Ion: 84.0
Area: 9456
Concentration: 15.54 ug/L
q-value: 91

REFERENCE STANDARD SPECTRUM



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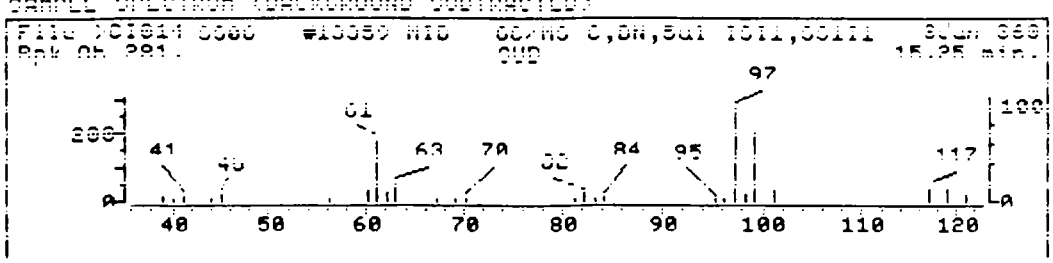

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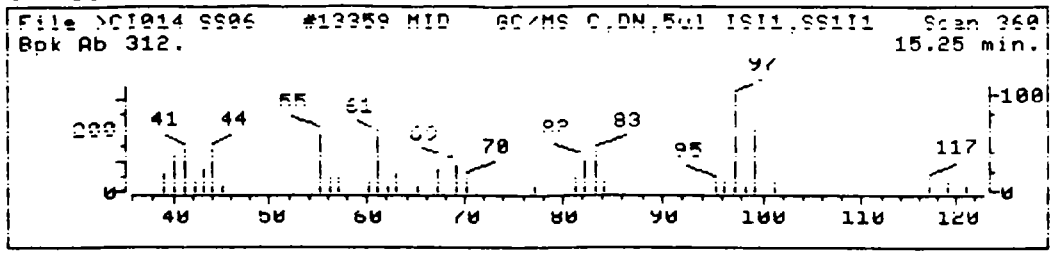
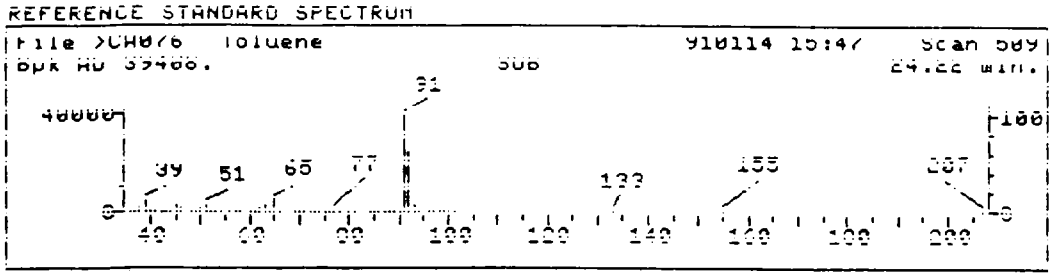


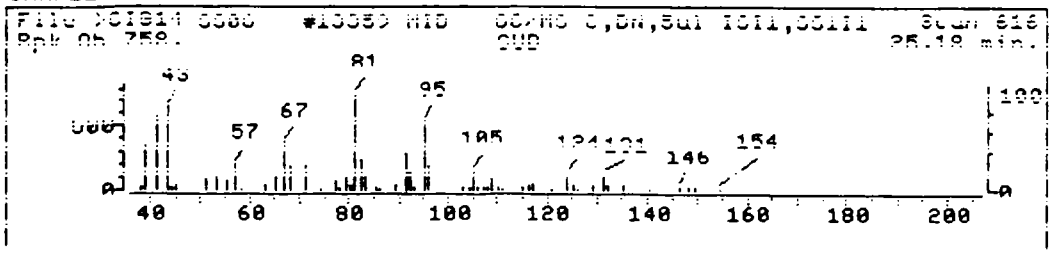
Data File: >CI014::C1 Quant Output File: ^CI014::OU
Name: SS06 #13359 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 07:29 Quant ID File: IDUCID::IC
Injected at: 930903 06:42 Last Calibration: 930902 20:05

Compound No: 20
Compound Name: 1,1,1-Trichloroethane
Scan Number: 360
Retention Time: 15.25 min.
Quant Ion: 97.0
Area: 3499
Concentration: 3.47 ug/L
q-value: 69

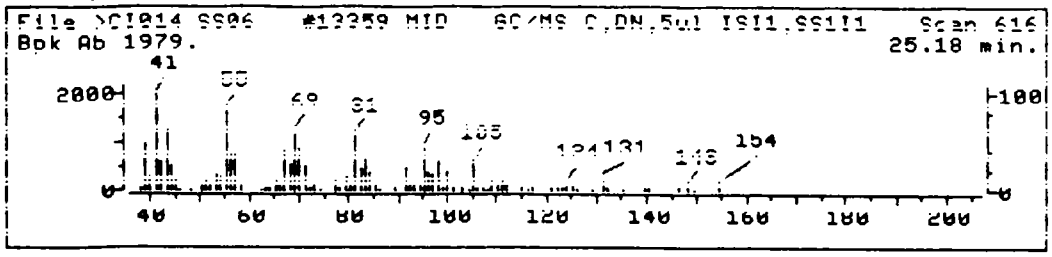
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



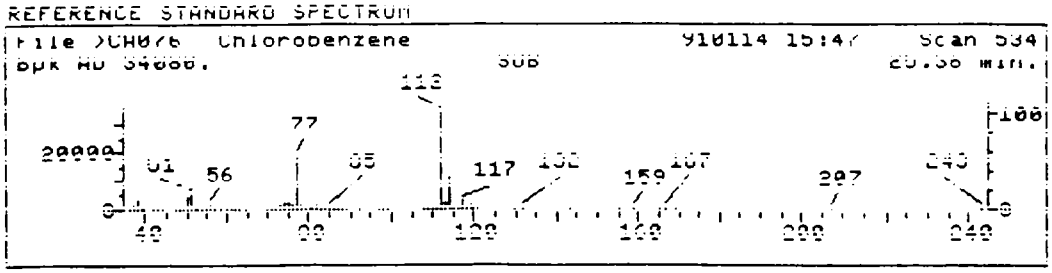
SAMPLE SPECTRUM (UNALTERED)



Data File: >CI014::C1 Quant Output File: ^CI014::OU
Name: SS06 #13359 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 07:29 Quant ID File: IDUCID::IC
Injected at: 930903 06:42 Last Calibration: 930902 20:05

Compound No: 38
Compound Name: Toluene
Scan Number: 616
Retention Time: 25.18 min.
Quant Ion: 92.0
Area: 2127
Concentration: 1.35 ug/L
q-value: 85

REFERENCE STANDARD SPECTRUM



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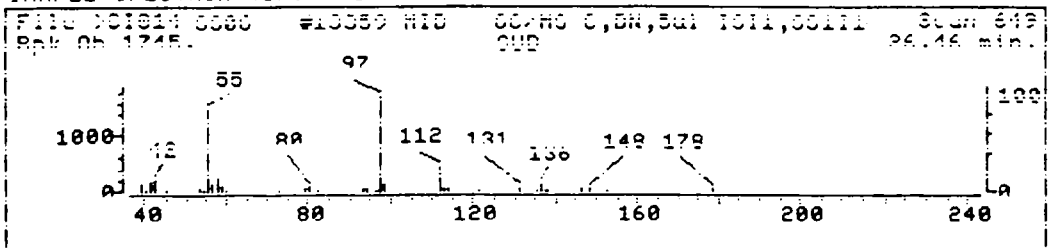

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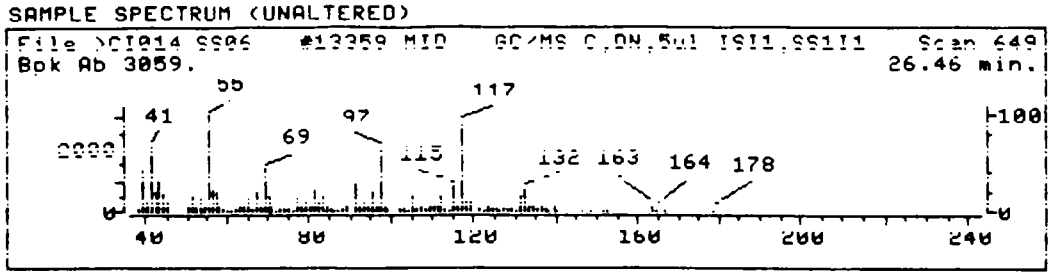
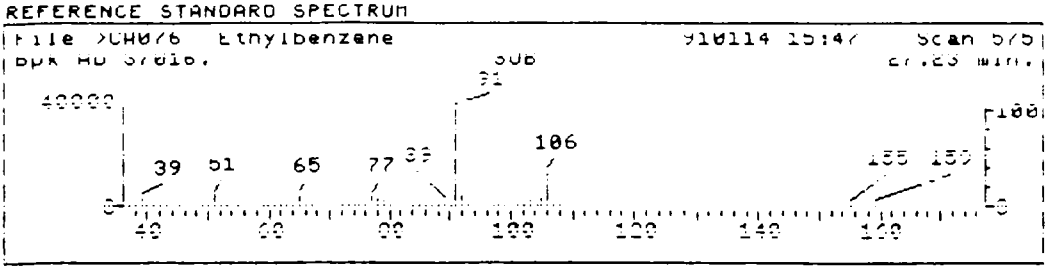


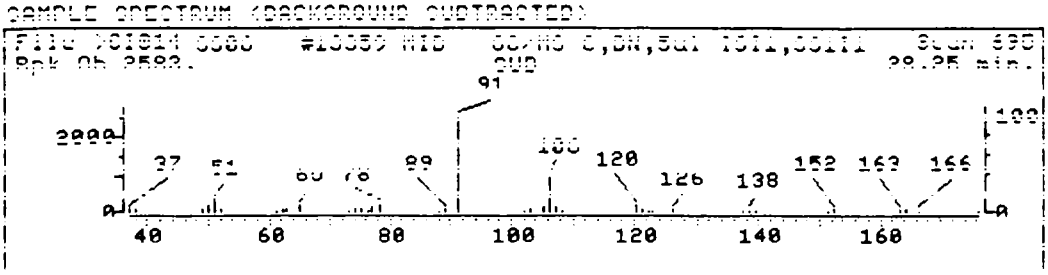
Data File: >CI014::C1 Quant Output File: ^CI014::OU
Name: SS06 #13359 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 07:29 Quant ID File: IDUCID::IC
Injected at: 930903 06:42 Last Calibration: 930902 20:05

Compound No: 39
Compound Name: Chlorobenzene
Scan Number: 649
Retention Time: 26.46 min.
Quant Ion: 112.0
Area: 5434
Concentration: 2.56 ug/L
q-value: 47

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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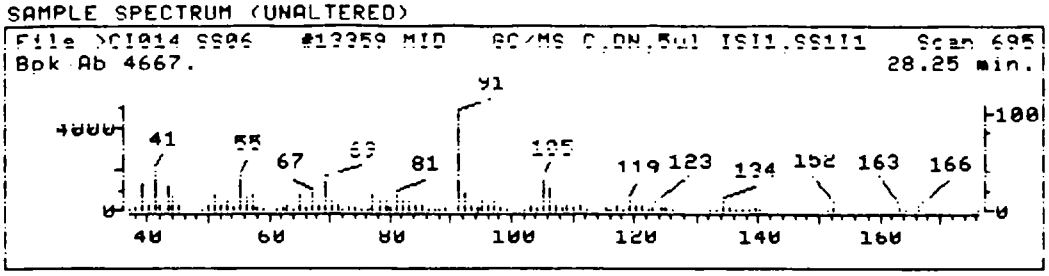
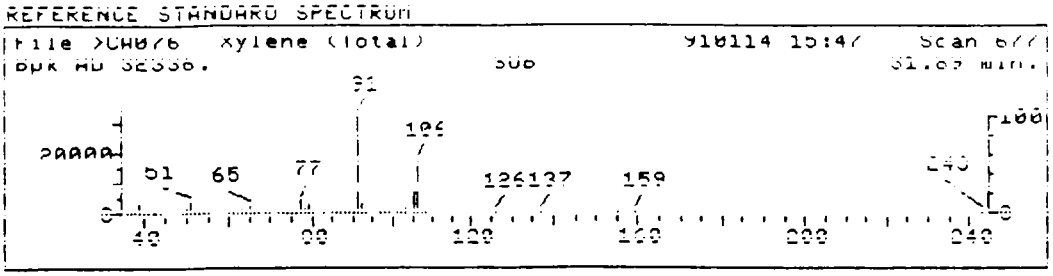


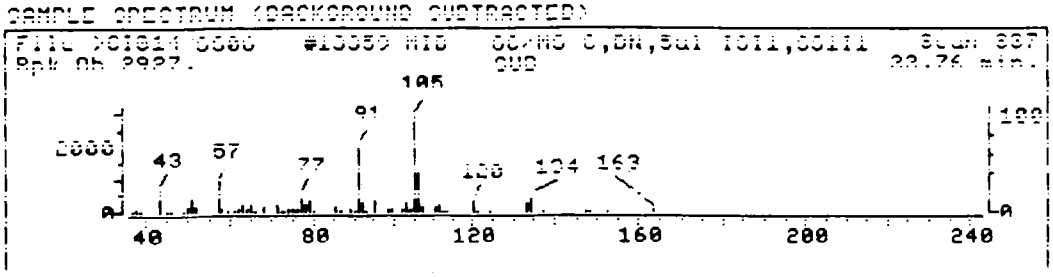
Data File: >CI014::C1 Quant Output File: ^CI014::OU
Name: SS06 #13359 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 07:29 Quant ID File: IDUCID::IC
Injected at: 930903 06:42 Last Calibration: 930902 20:05

Compound No: 40
Compound Name: Ethylbenzene
Scan Number: 695
Retention Time: 28.25 min.
Quant Ion: 106.0
Area: 15370
Concentration: 15.73 ug/L
q-value: 92

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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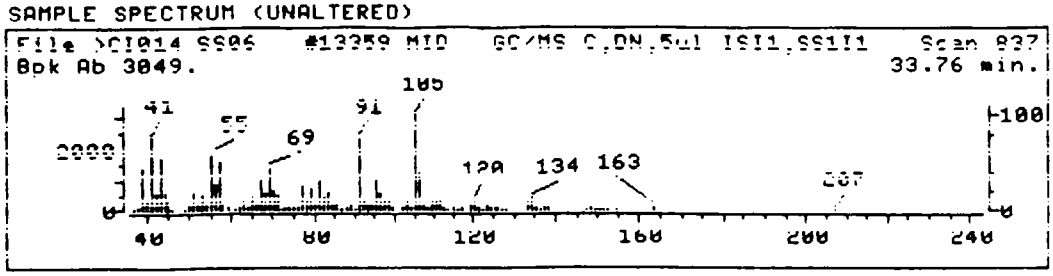
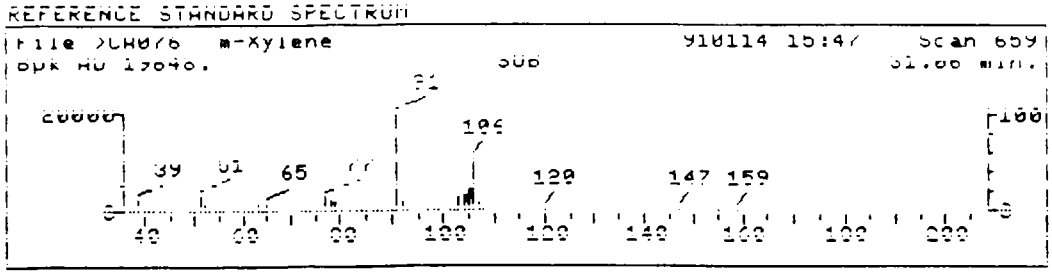


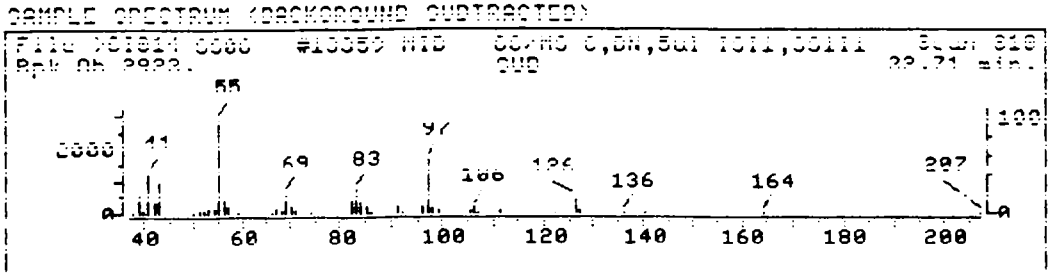
Data File: >CI014::C1 Quant Output File: ^CI014::OU
Name: SS06 #13359 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 07:29 Quant ID File: IDUCID::IC
Injected at: 930903 06:42 Last Calibration: 930902 20:05

Compound No: 42
Compound Name: Xylene (Total)
Scan Number: 837
Retention Time: 33.76 min.
Quant Ion: 106.0
Area: 44532M
Concentration: 36.94 ug/L
q-value: 87

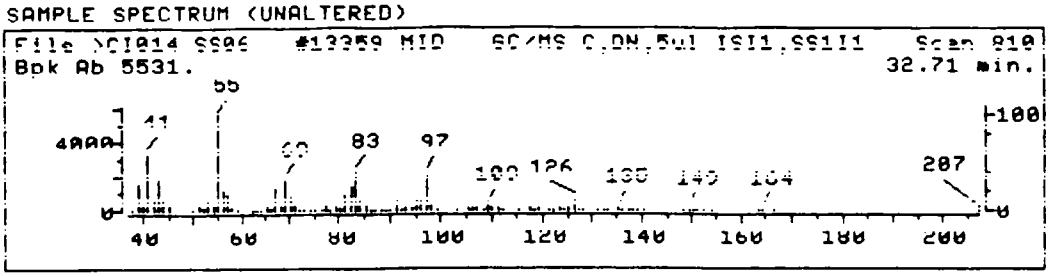
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



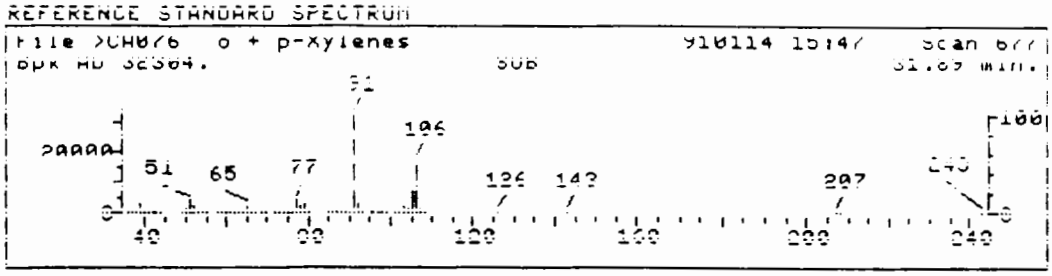
SAMPLE SPECTRUM (UNALTERED)



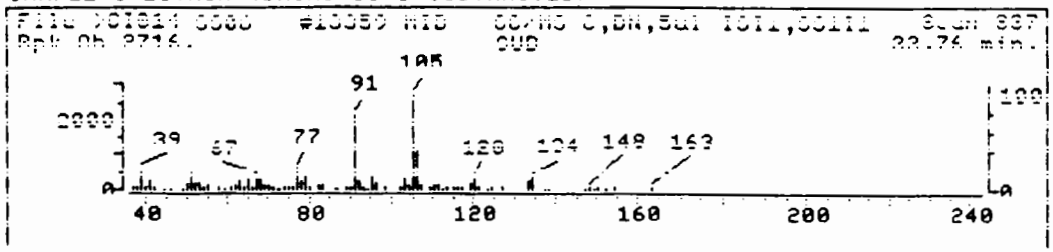
Data File: >CI014::C1 Quant Output File: ^CI014::OU
Name: SS06 #13359 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 07:29 Quant ID File: IDUCID::IC
Injected at: 930903 06:42 Last Calibration: 930902 20:05

Compound No: 43
Compound Name: m-Xylene
Scan Number: 810
Retention Time: 32.71 min.
Quant Ion: 106.0
Area: 4942
Concentration: 4.01 ug/L
q-value: 100

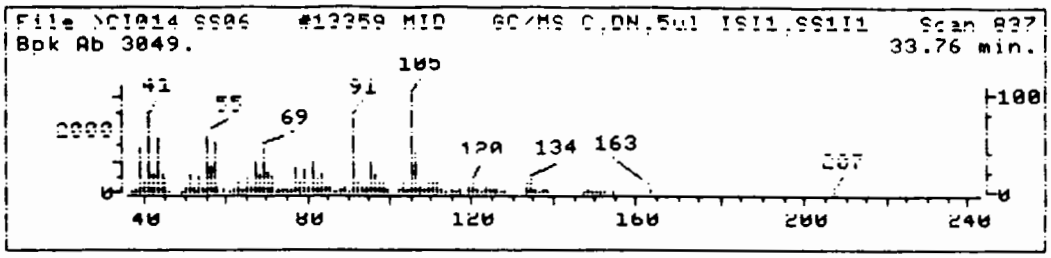
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >CI014::C1 Quant Output File: ^CI014::OU
Name: SS06 #13359 MID
Misc: GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
Quant Time: 930903 07:29 Quant ID File: IDUCID::IC
Injected at: 930903 06:42 Last Calibration: 930902 20:05

Compound No: 44
Compound Name: o + p-Xylenes
Scan Number: 837
Retention Time: 33.76 min.
Quant Ion: 106.0
Area: 37882
Concentration: 31.72 ug/L
q-value: 100

data file header from : >CI014

..ple: SS06 #13359 MID Operator: DAVE REG. GRP. 9/03/93 6:42
sc : GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
. #: 2 MS model: 70 SW/HW rev.: IA ALS # : 0
ethod file: HE7001 Tuning file: MT7001 No. of extra records: 2
ource temp.: 0 Analyzer temp.: 250 Transfer line temp. : 0

Chromatographic temperatures :	45.	220.	0.	0.	0.
Chromatographic times, min. :	4.0	45.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	0.0	0.0	1.5	0.0

.014 SS06 #13359 MID GC/MS C,DN,5ul ISI1,SS1I1/5mls,WESTON
35.01 260.0 CLP ADC TIC
lope: .20 Area Reject: 15967. Max Peaks: 6 Bunching: 1
lope: 0.00 Results File ICI014 Sorted by Time/Area INT

k	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	20.33	486	491	498	4089	189153	47838	2.00	1.574
	23.04	533	561	562	11122	950300	421387	17.61	13.867
	25.57	623	626	630	6170	312951	89078	3.72	2.931
4	25.84	631	633	634	5686	162849	31475	1.32	1.036
	26.81	656	658	658	12497	170857	56716	2.37	1.866
6	34.69	846	861	870	53332	3764708	2392329	100.00	78.726

Sum of corrected areas: 3038823.

Summary of Unknowns PBM Library Search and Quantitation

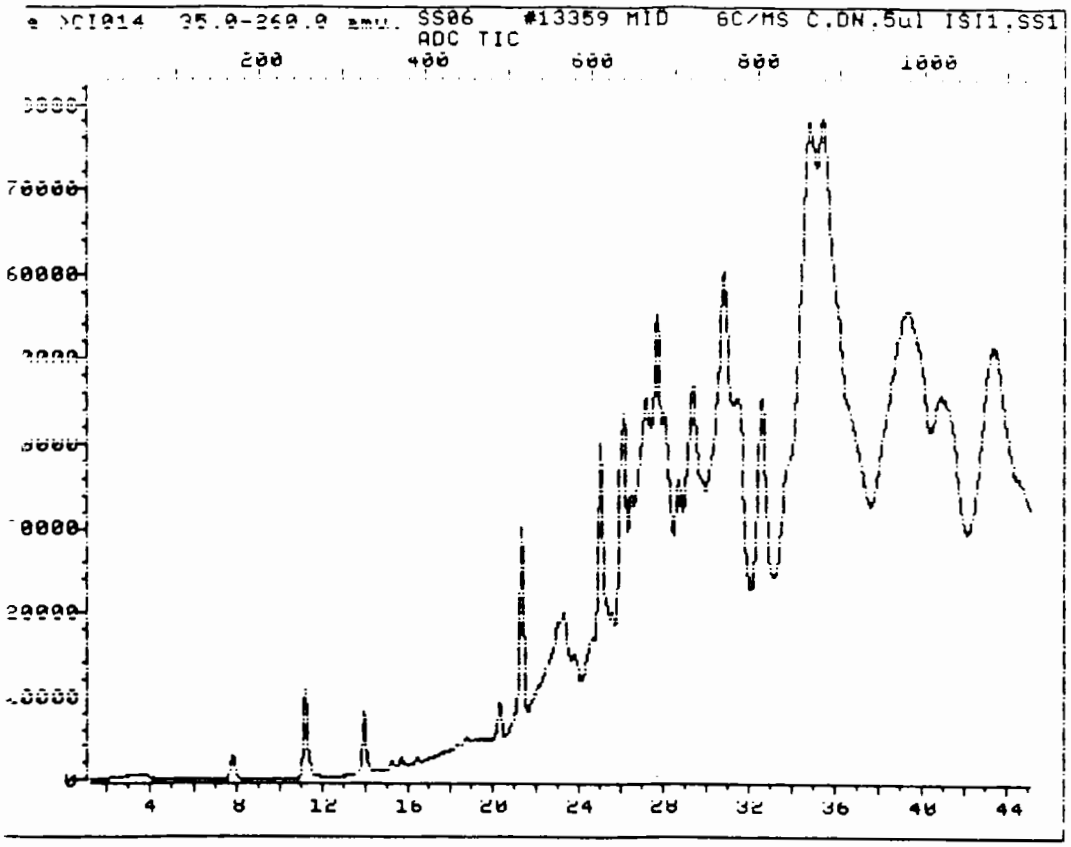
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	159665.	11.18	1.34 - 16.26
2	50.0	293682.	21.33	16.26 - 23.74
3	50.0	533657.	26.15	23.74 - 45.07

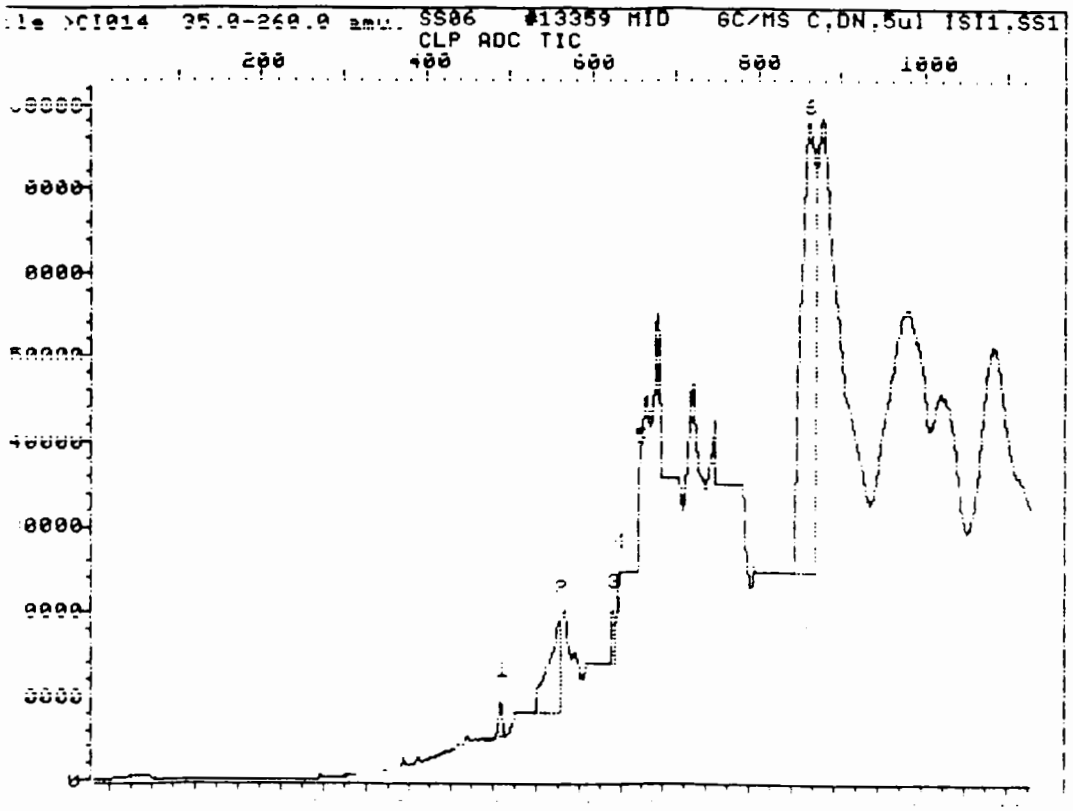
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = .81
Amount Method (AM) = 5.00 Amount Used (AU) = 5.00

Correction Factor = 1.23 = (AM * DF) / (AU * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

8:39 PM TUE., 7 SEPT, 1993


e >CI014 35.0-260.0 amu. SS06 #13359 MID 6C/MS C,DN,5ul ISI1,SS1
ADC TIC
200
400
600
800
1000
70000
60000
20000
4
8
12
16
20
24
28
32
36
40
44


le >CI014 35.0-260.0 amu. SS06 #13359 MID 6C/MS C,DN,5ul ISI1,SS1
CLP ADC TIC
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400
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800
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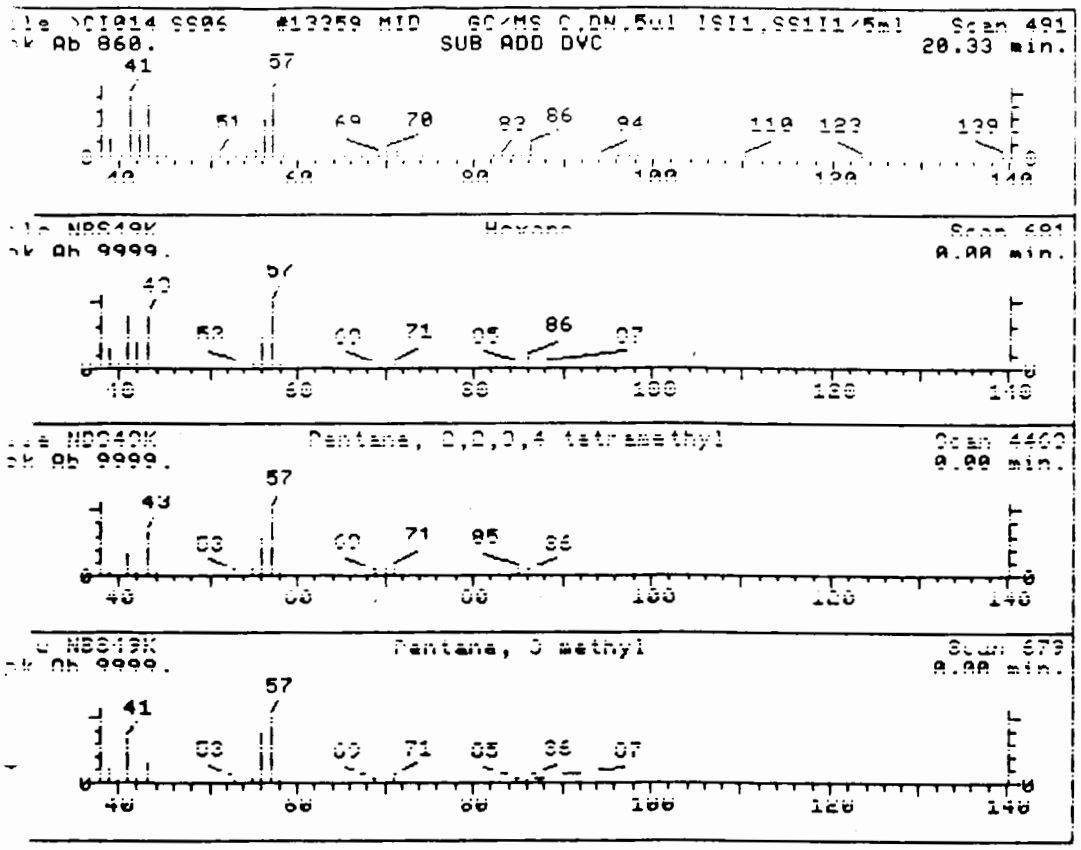
50000
40000
9000
5
3



UNKNOWN #,1

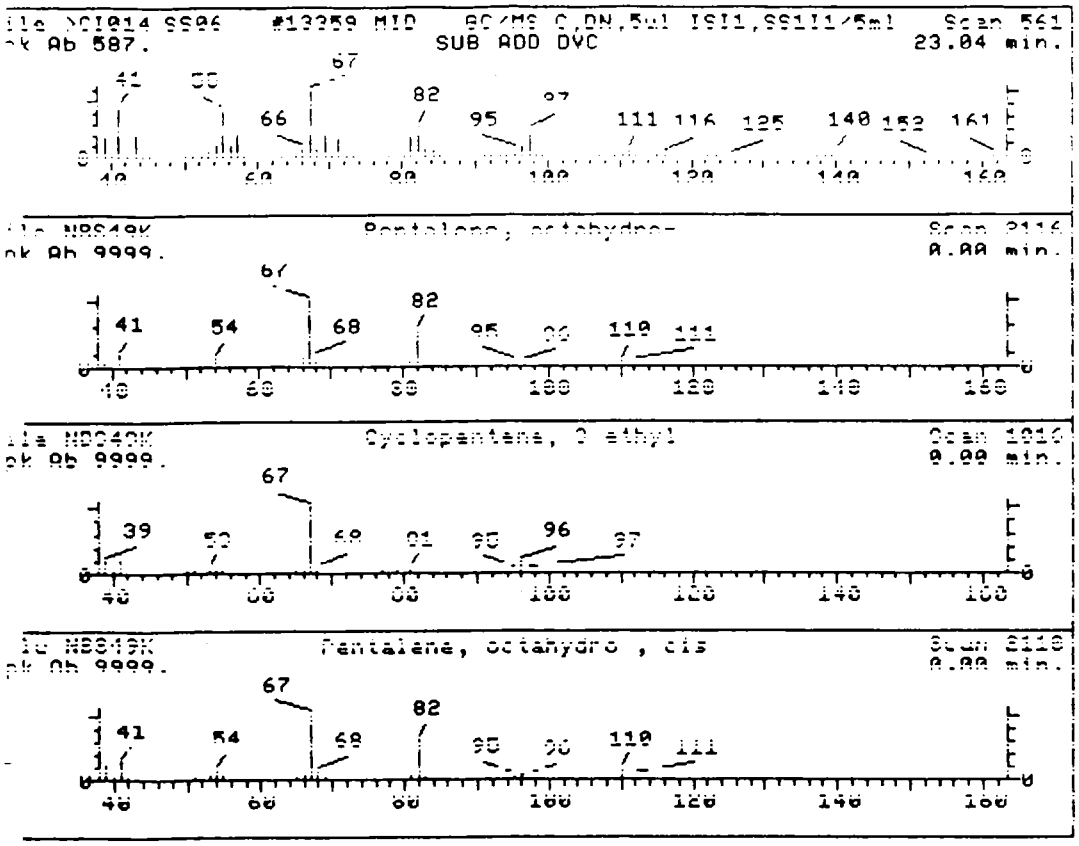
AREA = 47838.00 TENTATIVE CONCENTRATION IS 10.00

1.	Hexane	86	C6H14
2.	Pentane, 2,2,3,4-tetramethyl-	128	C9H20
3.	Pentane, 3-methyl-	86	C6H14
4.	Pentane, 3-ethyl-2,2-dimethyl-	128	C9H20
5.	Hexane, 2,2,3-trimethyl-	128	C9H20
6.	Decane, 2,2,3-trimethyl-	184	C13H28
7.	Methane, isocyanato-	57	C2H3NO

Sample file: >CI014 Spectrum #: 491

Search speed: 1 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	110543	6971	NBS49K	64	32	0	0	98	5	66	77
2.	52	1186534	1121	NBS49K	37	46	2	0	100	20	20	12
3.	35*	96140	1025	NBS49K	34	50	0	0	76	50	11	33
4.	25	16747323	1119	NBS49K	39	40	1	0	68	47	7	14
5.	24	16747254	1122	NBS49K	37	43	2	0	85	43	8	12
6.	20	62338094	1206	NBS49K	38	47	2	0	75	51	5	13
7.	20*	624839	1000	NBS49K	27	37	1	0	100	51	5	15



UNKNOWN #.2

AREA = 421387.0 TENTATIVE CONCENTRATION IS 89.00

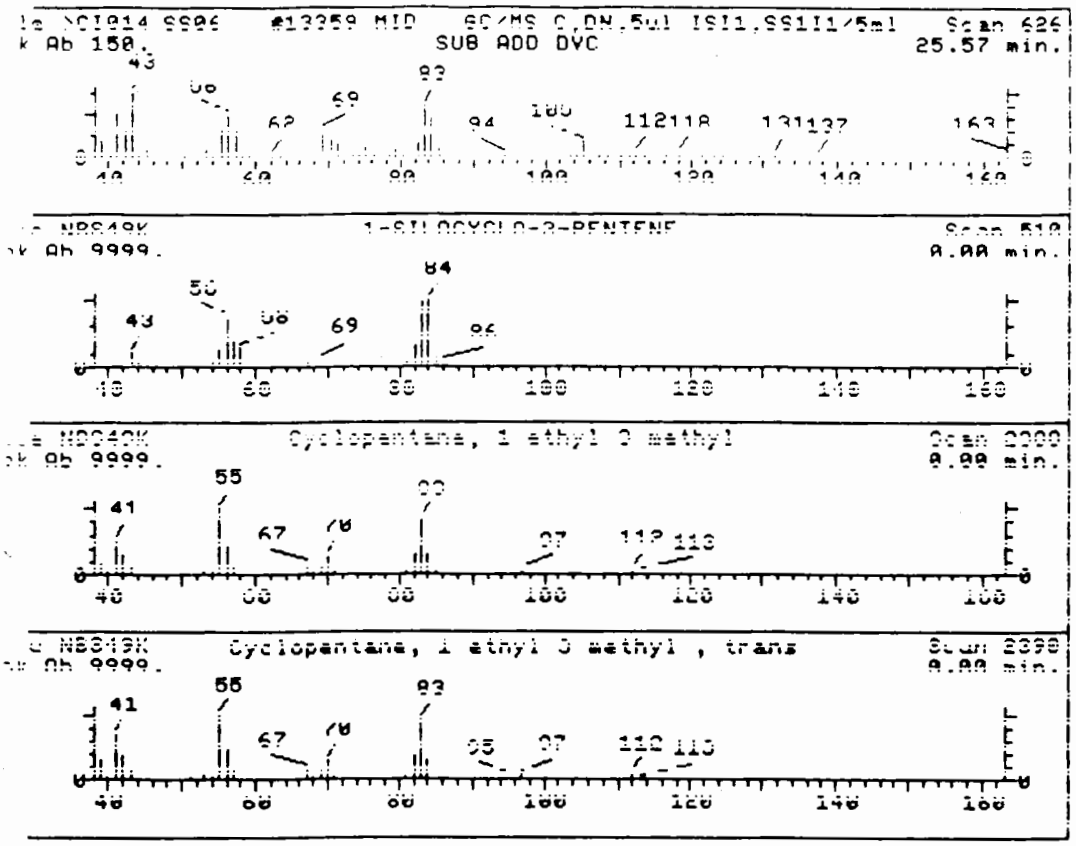
1.	Pentalene, octahydro-	110	C8H14
2.	Cyclopentene, 3-ethyl-	96	C7H12
3.	Pentalene, octahydro-, cis-	110	C8H14
4.	Cyclopentene, 3-methyl-	82	C6H10
5.	1,4-Pentadiene, 2-methyl-	82	C6H10
6.	Cyclohexene	82	C6H10
7.	1,3-Pentadiene, 2-methyl-	82	C6H10

0097

Sample file: >CI014 Spectrum #: 561

Search speed: 1 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	63*	694724	5880	NBS49K	41	47	0	0	87	35	22	48
2.	43*	694359	3464	NBS49K	48	32	0	0	100	53	11	65
3.	30	1755051	5879	NBS49K	42	54	1	0	73	35	12	13
4.	30*	1120623	3448	NBS49K	30	47	0	0	92	48	10	22
5.	30*	763304	5856	NBS49K	33	54	2	0	88	40	10	16
6.	30*	110838	3459	NBS49K	32	58	2	0	83	38	10	16
7.	26*	1118587	5854	NBS49K	23	83	3	0	97	37	10	12



UNKNOWN #.3

AREA = 89078.00 TENTATIVE CONCENTRATION IS 10.00

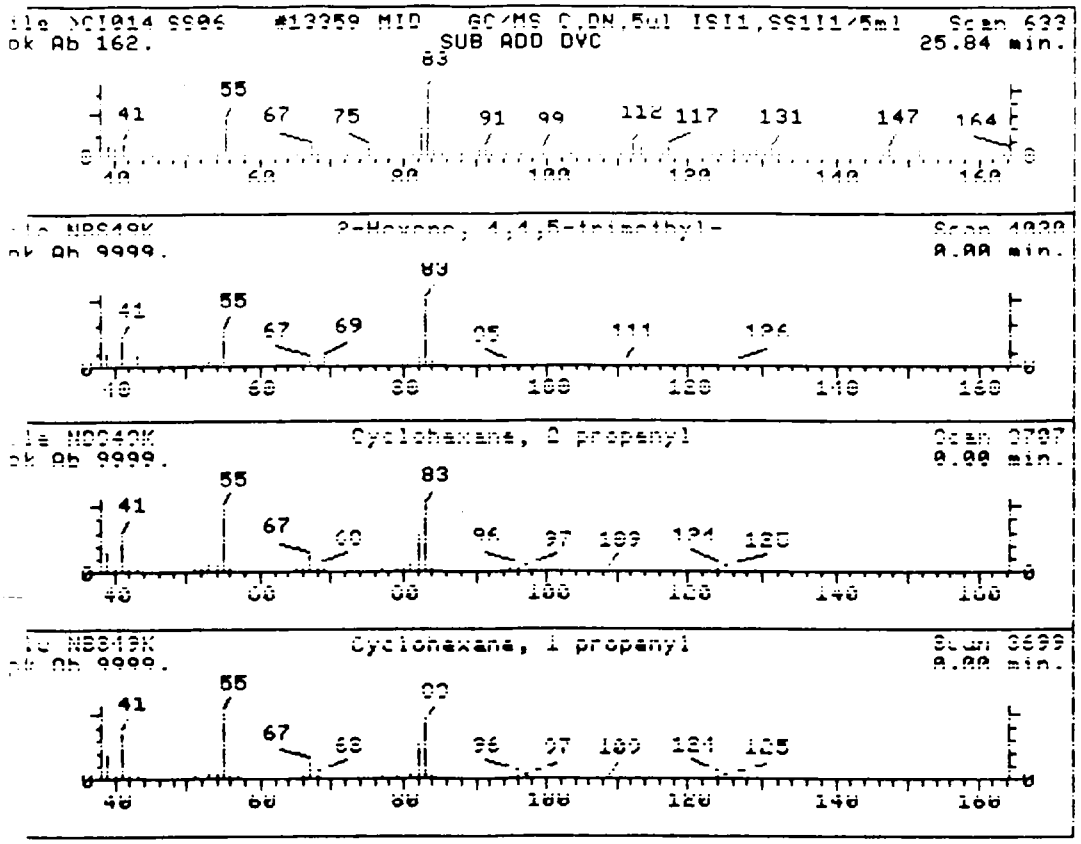
1.	1-SILACYCLO-3-PENTENE	84	C4H8Si
2.	Cyclopentane, 1-ethyl-3-methyl-	112	C8H16
3.	Cyclopentane, 1-ethyl-3-methyl-, trans-	112	C8H16
4.	Cyclopentane, 1-ethyl-3-methyl-, cis-	112	C8H16
5.	1,3-Diazabicyclo[3.1.0]hexane	84	C4H8N2
6.	1H-Pyrazole, 4,5-dihydro-3-methyl-	84	C4H8N2
7.	1-Pentene, 3-ethyl-2-methyl-	112	C8H16

00098

Sample file: >CI014 Spectrum #: 626

Search speed: 1 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	52*	7049254	6270	NBS49K	52	50	2	1	69	20	20	19
2.	37*	3726474	6162	NBS49K	29	78	2	0	72	26	14	14
3.	37*	2613652	6163	NBS49K	29	79	2	0	62	26	14	14
4.	37*	2613663	6164	NBS49K	29	79	2	0	68	26	14	14
5.	36*	17038287	6268	NBS49K	21	73	2	0	188	26	14	13
6.	29*	1911304	6262	NBS49K	27	67	1	0	71	36	10	15
7.	25*	19780666	6323	NBS49K	24	61	1	0	111	50	7	14



UNKNOWN #.4

AREA = 31475.00 TENTATIVE CONCENTRATION IS 4.00

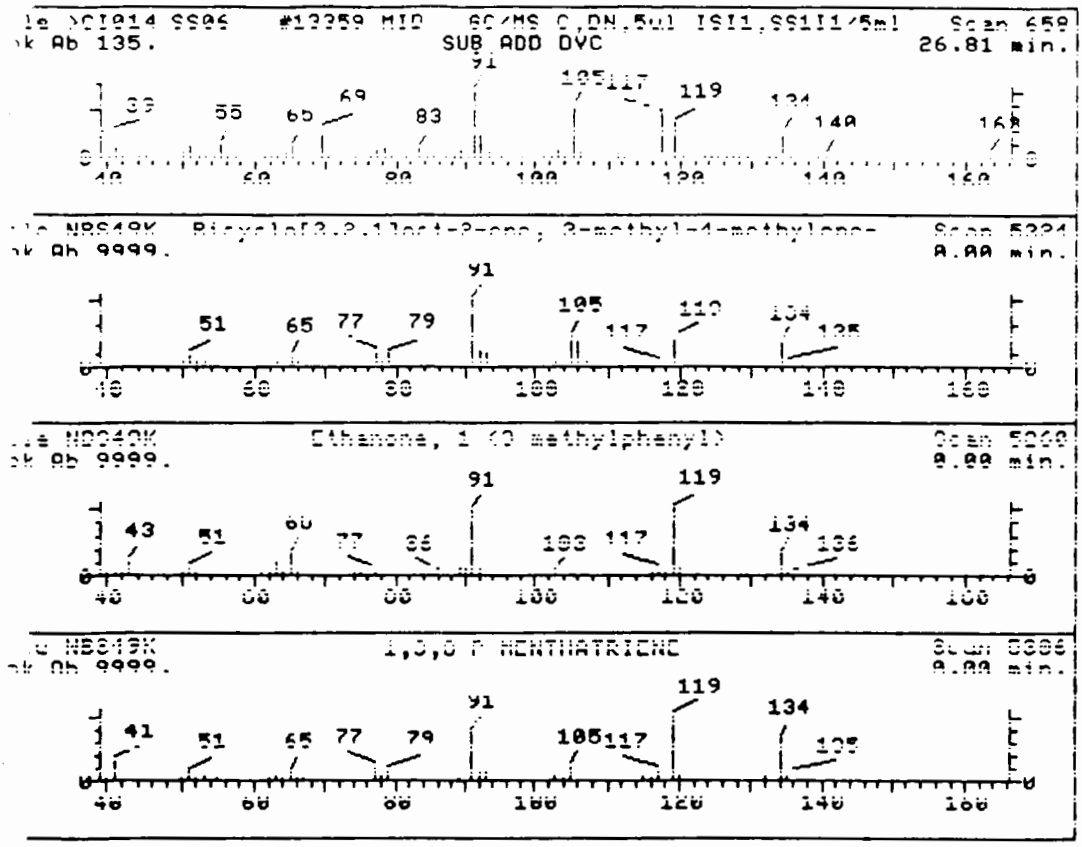
1.	2-Hexene, 4,4,5-trimethyl-	126	C9H18
2.	Cyclohexane, 2-propenyl-	124	C9H16
3.	Cyclohexane, 1-propenyl-	124	C9H16
4.	Propanedinitrile, dicyclohexyl-	230	C15H22N2

00090

Sample file: >CI014 Spectrum #: 633

Search speed: 1 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	55702619	6180	NBS49K	25	58	3	0	100	51	5	13
2.	15*	2114423	6172	NBS49K	40	59	2	0	55	56	3	15
3.	15*	5364830	6171	NBS49K	40	59	2	0	52	56	3	15
4.	15	74764286	6240	NBS49K	29	62	0	0	89	56	3	15



UNKNOWN #.5

AREA = 56716.00 TENTATIVE CONCENTRATION IS 7.00

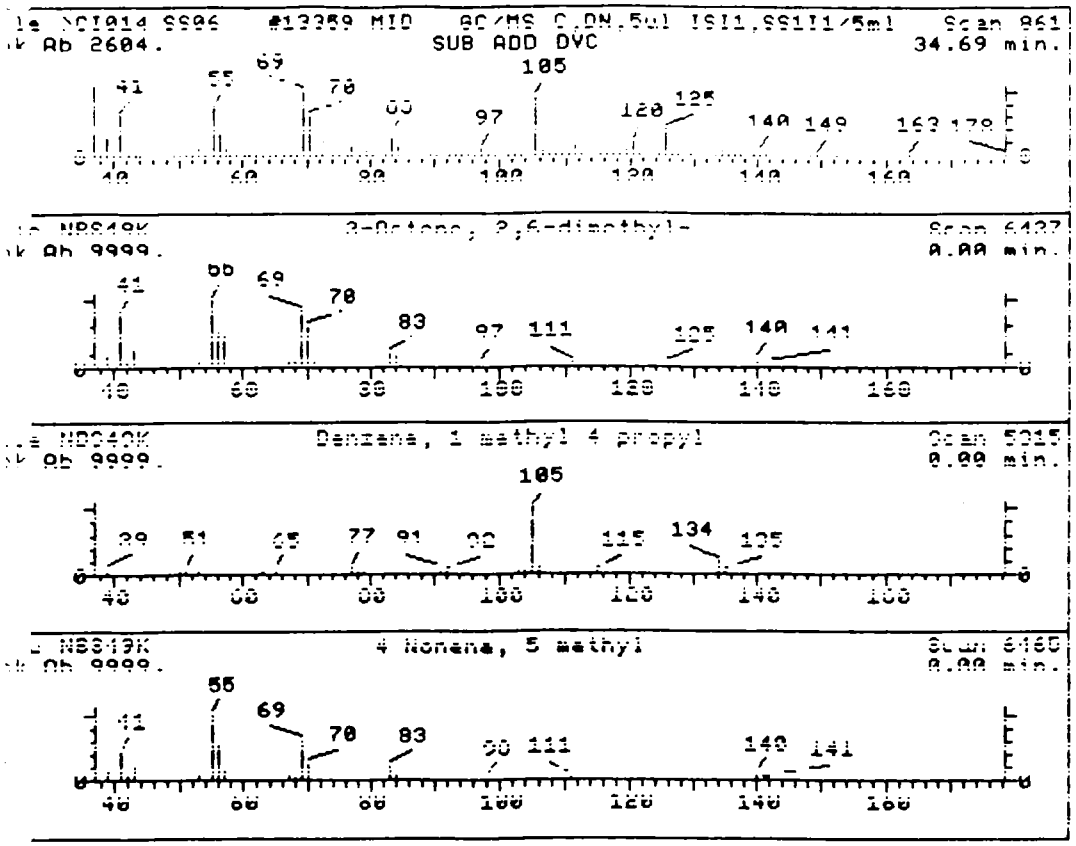
1.	Bicyclo[3.2.1]oct-2-ene, 3-methyl-4-methylene-	134	C10H14
2.	Ethanone, 1-(3-methylphenyl)-	134	C9H10O
3.	1,3,8-P-MENTHATRIENE	134	C10H14
4.	1,4-Cyclohexadiene, 3-ethenyl-1,2-dimethyl-	134	C10H14
5.	Benzene, 1,2-diethyl-	134	C10H14
6.	4-AZABENZIMIDAZOLE	119	C6H5N3
7.	2,1-Benzisoxazole	119	C7H5NO

00100

Sample file: >CI014 Spectrum #: 658

Search speed: 1 Tilting option: S No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	25*	49826531	16263	NBS49K	30	79	3	0	100	46	7	13
2.	20*	585740	13524	NBS49K	29	78	2	0	53	51	5	14
3.	20*	21195595	16255	NBS49K	26	85	2	0	53	53	5	14
4.	20*	62338572	13527	NBS49K	20	89	2	0	53	53	5	13
5.	15*	135013	16258	NBS49K	47	59	2	0	54	59	3	19
6.	15*	273212	13509	NBS49K	31	53	1	0	53	56	3	17
7.	15*	271589	2842	NBS49K	33	64	2	0	42	59	3	14



UNKNOWN #,6

REA = 2392329. TENTATIVE CONCENTRATION IS 280.00

1.	3-Octene, 2,6-dimethyl-	140	C10H20
2.	Benzene, 1-methyl-4-propyl-	134	C10H14
3.	4-Nonene, 5-methyl-	140	C10H20
4.	Cyanamide, dimethyl-	70	C3H6N2
5.	1-Hexene, 3,3,5-trimethyl-	126	C9H18
6.	1-Decene	140	C10H20
7.	Cyclohexane, 1,1,2,3-tetramethyl-	140	C10H20

00101

ample file: >CI014 Spectrum #: 861

earch speed: 1 Tilting option: S No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
.	25*	6874288	4001	NBS49K	47	61	2	1	65	43	8	13
.	15*	1074551	16260	NBS49K	38	45	2	1	58	57	3	12
3.	15*	15918077	4017	NBS49K	37	57	1	1	62	60	3	13
4.	15*	1467794	3798	NBS49K	31	52	2	0	100	60	3	15
.	15*	13427435	3954	NBS49K	36	57	2	0	100	58	3	17
.	15*	872059	3992	NBS49K	40	61	2	1	41	60	3	13
7.	12*	6783922	4002	NBS49K	51	64	2	0	62	65	2	25

Section c).

RAW QC DATA

Method Blank Data

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

0827VCBLK

Lab Name: AMER.ENV.NTWK. Contract: 93080173

Lab Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

Matrix: WATER Lab Sample ID: 0827VCBLK

Sample (wt/vol): 5 ML Lab File ID: >CH450

Level: LOW Date Received: N.A.

% Moisture: not dec. N.A. Date Analyzed: 8/27/93

Column: PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (Total)	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
110-75-8	2-Chloroethylvinylether	10.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-pentanone	50.	U
591-78-6	2-Hexanone	50.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	Xylene (Total)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

0827VCBLK

Lab Name: AMER.ENV.NTWK. Contract: 93080152

ab Code: AENI Case No: REPUBLIC SAS No: N.A. SDG No: N.A.

atrix: WATER Lab Sample ID: 0827VCBLK

Sample wt/vol: 5 mL Lab File ID: >CH450

evel: LOW Date Received: N.A.

% Moisture: (not dec) N.A. Date Analyzed: 8/27/93

olumn: PACK Dilution Factor: 1.0

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
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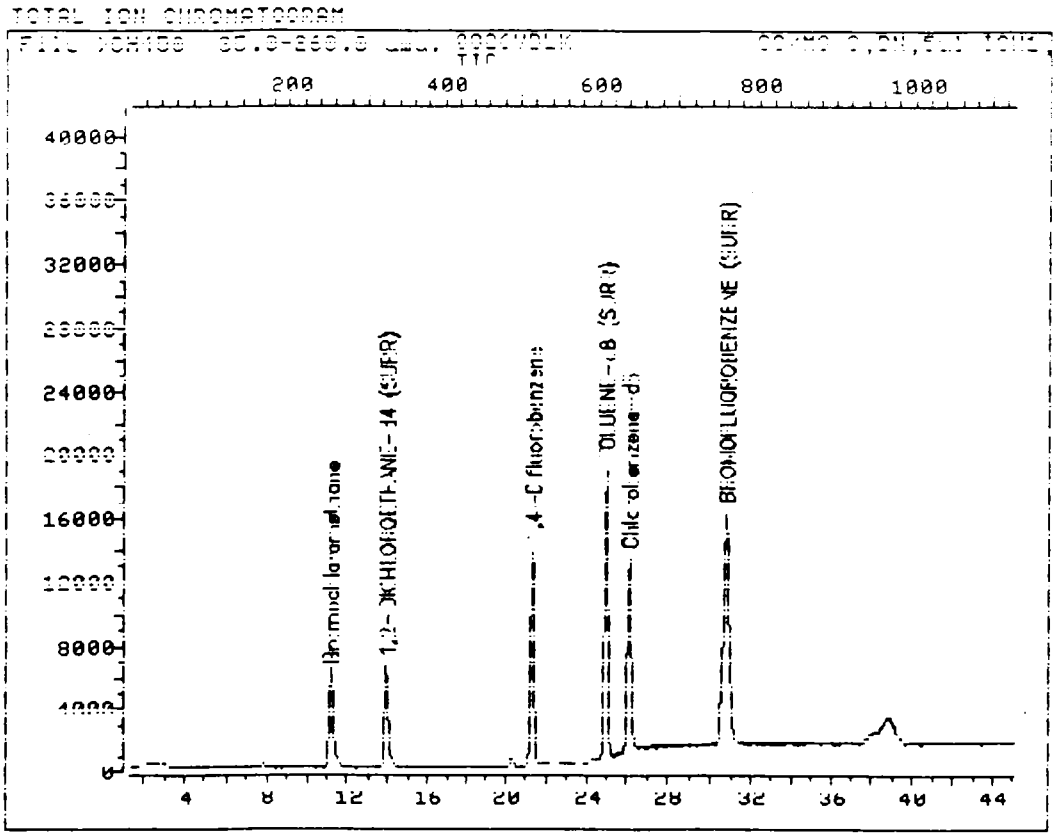
30.					

R = Not Reviewed

FORM I VOA-TIC



Data File: >CH450::C1 Quant Output File: ^CH450::OU
Name: 0826VBLK
Misc: GC/MS C,DN,5ul ISH1, SS1H2/5mls

Id File: IDVCHD::IC
Title: HSL VOLATILES
Last Calibration: 930827 16:14

Operator ID: DAVE
Quant Time: 930827 16:50
Injected at: 930827 16:03

QUANT REPORT

Operator ID: DAVE Quant Rev: 6 Quant Time: 930827 16:50
Output File: ^CH450::OU Injected at: 930827 16:03
Data File: >CH450::C1 Dilution Factor: 1.00000
Name: 0826VBLK
Misc: GC/MS C.DN,5ul ISH1, SS1H2/5mls

ID File: IDVCHD::IC
Title: HSL VOLATILES
Last Calibration: 930827 16:14

	Compound	Q ion	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	128.0	255	11973	50.00	ug/L	88
17)	1,2-DICHLOROETHANE-d4 (SURR)	65.0	326	30442	47.33	ug/L	99
19)	*1,4-Difluorobenzene	114.0	517	62018	50.00	ug/L	100
33)	*Chlorobenzene-d5	117.0	641	45273	50.00	ug/L	95
45)	BROMOFLUOROBENZENE (SURR)	95.0	760	70284	49.85	ug/L	78
46)	TOLUENE-d8 (SURR)	98.0	611	74783	49.88	ug/L	90

* Compound is ISTD

data file header from : >CH450

nple: 0826UBLK Operator: DAVE REG. GRP. 8/27/93 16:03
sc : GC/MS C.DN.5ul ISH1. SS1H2/5mls
s. #: 2 MS model: 70 SW/HW rev.: IA ALS # : 0
Method file: HE7001 Tuning file: MT7001 No. of extra records: 2
ource temp.: 0 Analyzer temp.: 250 Transfer line temp. : 0

Chromatographic temperatures :	45.	220.	0.	0.	0.
Chromatographic times, min. :	4.0	45.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	0.0	0.0	1.5	0.0

No peaks found.

Summary of Unknowns PBM Library Search and Quantitation

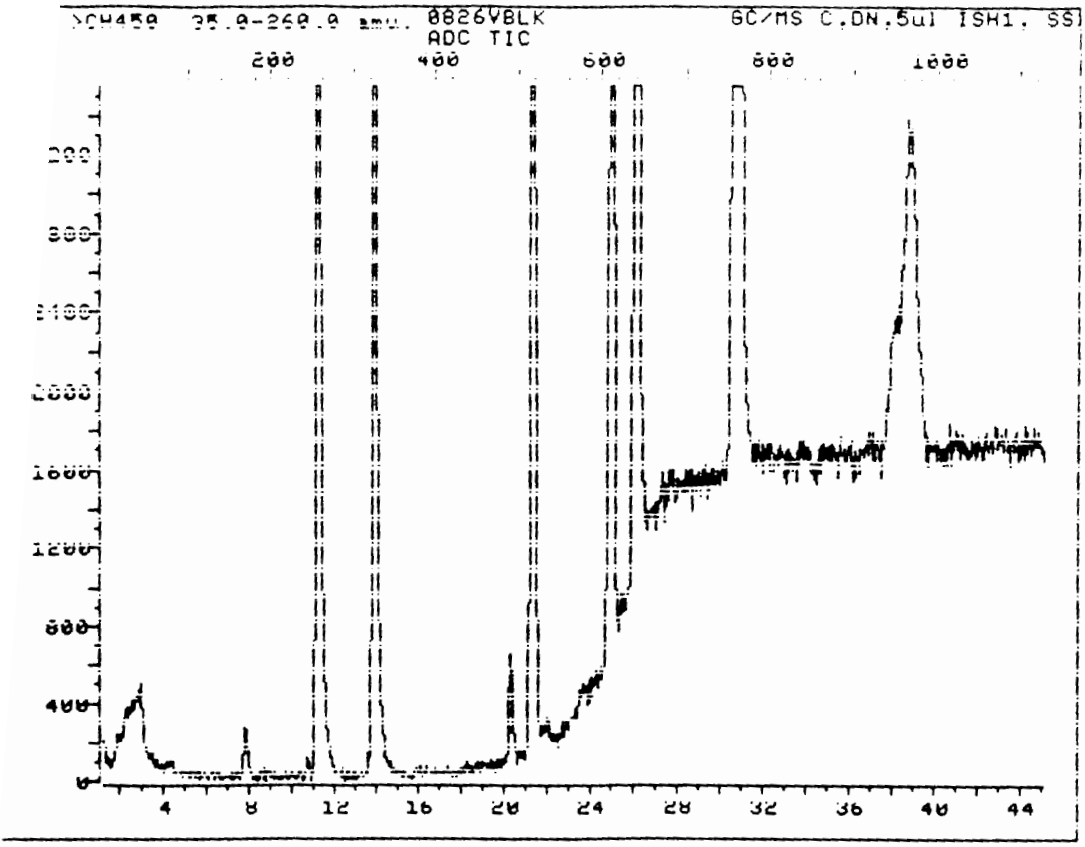
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	98557.	11.16	1.32 - 16.24
2	50.0	160567.	21.31	16.24 - 23.72
3	50.0	160045.	26.12	23.72 - 45.07

Dilution Factor (DF) = 1.00 Fractional Solids (FS) = .85
Amount Method (AM) = 5.00 Amount Used (AU) = 5.00

Correction Factor = 1.18 = (AM * DF) / (AU * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

6:37 PM TUE., 7 SEPT, 1993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1000
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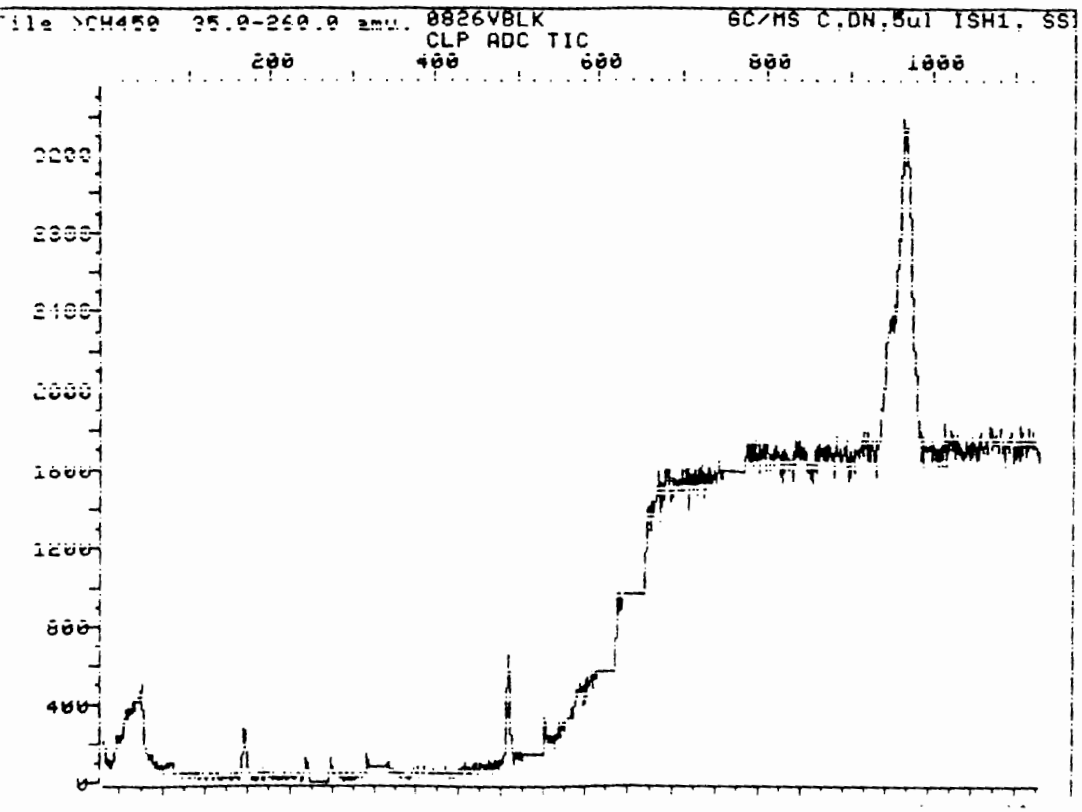
CLP ADC TIC
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```
   king...
   w complete...
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working...
   THERE WERE NO UNKNOWNS
   CREATING THE .RR FILE
ON  CH450                                                                0015CD9
                 70020827931603R   35  260 2.323  9                      0020751
                 Bromochloromethane                                       0036807
                   1 128  255  11.1636  1   11973.ug/L    50.0000        00458C3
                 1,2-DICHLOROETHANE-d4 (SURR)                             0053954
                   2  65  326  13.9143  1   30442.ug/L    47.3343        00644D5
                 1,4-Difluorobenzene                                      0073699
                   3 114  517  21.3142  3   62018.ug/L    50.0000        00845CD
                 Chlorobenzene-d5                                         0090555
                   4 117  641  26.1194  4   45273.ug/L    50.0000        01057CC
                 BROMOFLUOROBENZENE (SURR)                                0116B55
                   5  95  760  30.7321  4   70284.ug/L    49.8537        01257DC
                 TOLUENE-d8 (SURR)                                        0134186
                   6  98  611  24.9565  4   74783.ug/L    49.8829        0145EEF
'BM results file is for MS data file >CF249 not >CH450
 FILE                                                                     0157BE0

'educed results file: RCH450 summary
    QUANT data from: ^CH450
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

0901HBLK A1

Lab Name: AMER.ENV.NTWK. Contract: 93080175

Lab Code: AENI Case No: PSI SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 0901HBLK A1

Sample (wt/vol): 5 G Lab File ID: >AI012

Level: LOW Date Received: N.A.

% Moisture: not dec. N.A. Date Analyzed: 9/01/93

Column: CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	14.	
67-64-1	Acetone	9.	J
75-15-0	Carbon Disulfide	20.	
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
156-60-5	trans-1,2-Dichloroethene	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
110-75-8	2-Chloroethylvinylether	10.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	50.	U
591-78-6	2-Hexanone	50.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	m + p-Xylenes	5.	U
95-47-6	o-Xylene	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

0901HBLK A1

ab Name: AMER.ENV.NTWK. Contract: 93080175

ab Code: AENI Case No: PSI SAS No: N.A. SDG No: N.A.

Matrix: SOIL Lab Sample ID: 0901HBLK A1

Sample wt/vol: 5 G Lab File ID: >AI012

Level: LOW Date Received: N.A.

% Moisture: not dec. N.A. Date Analyzed: 9/01/93

Column: CAP Dilution Factor: 1.0

Number TICs found: 4

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	3.66	52.	J
2.	110543	Hexane (DOT)(8CI9CI)	8.19	11.	J
3.	439	1,4-Dichlorobenzene d-4	21.93	20.	J
4.	439	1,4-Dichlorobenzene d-4	22.69	7.	J
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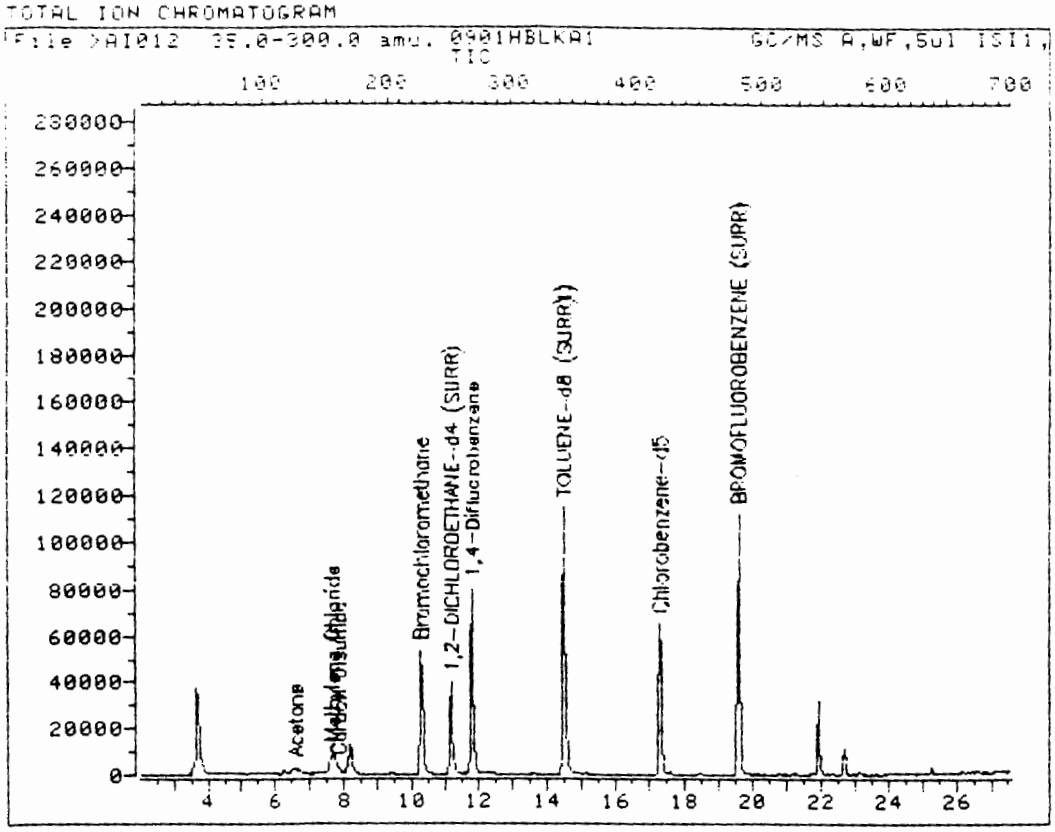
NR = Not Reviewed

FORM I VOA-TIC

TOTAL ION CHROMATOGRAM



Data File: >AI012::C1 Quant Output File: ^AI012::OU
Name: 0901HBLKA1
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML

Id File: IDHAHD::ID
Title: HSL VOLATILES
Last Calibration: 930901 21:43

Operator ID: DAVE
Quant Time: 930901 22:17
Injected at: 930901 21:41

QUANT REPORT

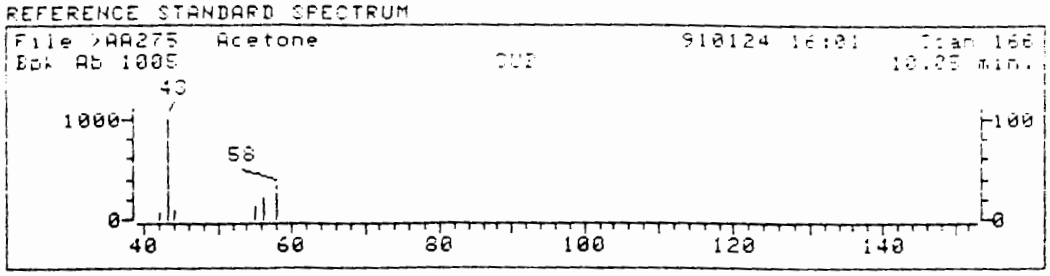
Operator ID: DAVE Quant Rev: 6 Quant Time: 930901 22:1[illegible]
Output File: ^AI012::OU Injected at: 930901 21:4[illegible]
Data File: >AI012::C1 Dilution Factor: 1.0000[illegible]
Name: 0901HBLKA1
Misc: GC/MS A,WF,5ul ISI1,SSI1I1/5ML

ID File: IDHAHD::ID
Title: HSL VOLATILES
Last Calibration: 930901 21:43

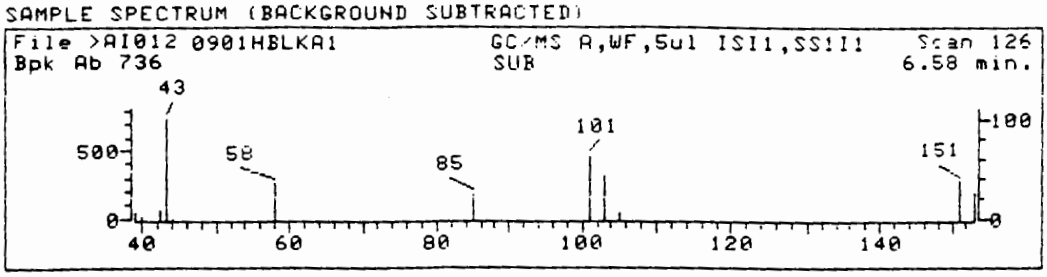
	Compound	Q ion	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	128.0	227	47144	50.00	ng/mL	8[illegible]
7)	Acetone	43.0	126	8448	9.06	ng/mL	9[illegible]
11)	Methylene Chloride	84.0	155	27205	13.90	ng/mL	6[illegible]
12)	Carbon Disulfide	76.0	160	13634	20.26	ng/mL	10[illegible]
18)	1,2-DICHLOROETHANE-d4 (SURR)	65.0	252	67172	46.16	ng/mL	10[illegible]
20)	*1,4-Difluorobenzene	114.0	269	200519	50.00	ng/mL	9[illegible]
30)	TOLUENE-d8 (SURR1)	98.0	343	266431	51.10	ng/mL	9[illegible]
35)	*Chlorobenzene-d5	82.0	419	73639	50.00	ng/mL	9[illegible]
46)	BROMOFLUOROBENZENE (SURR)	95.0	482	117103	48.15	ng/mL	9[illegible]
50)	TOLUENE-d8 (SURR)	98.0	343	266431	49.67	ng/mL	9[illegible]

* Compound is ISTD

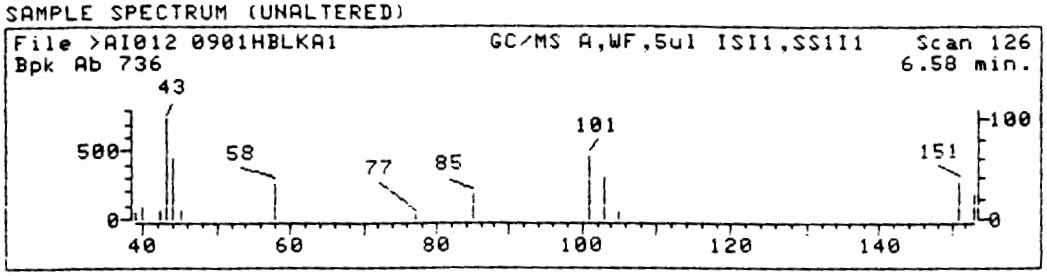
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



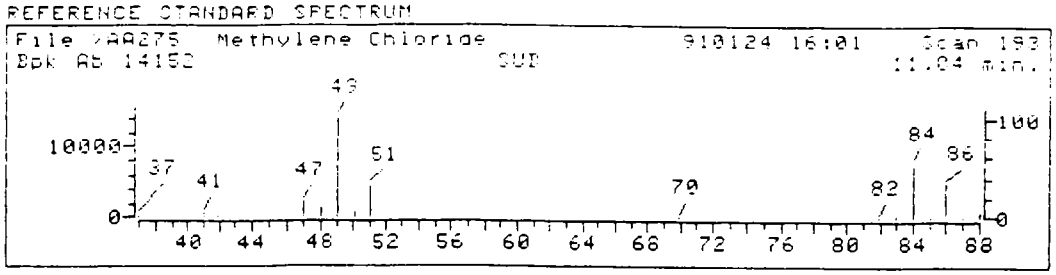
SAMPLE SPECTRUM (UNALTERED)



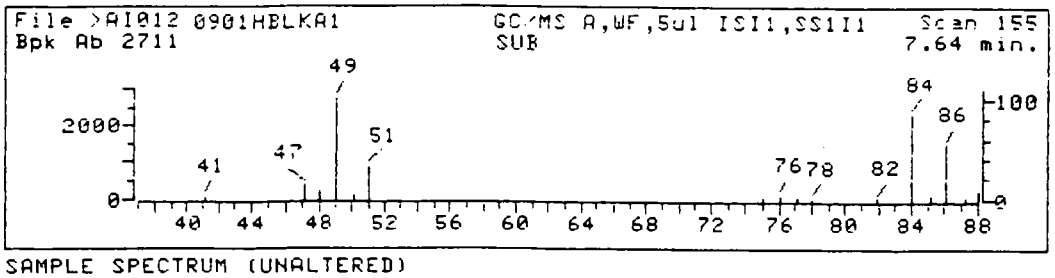
Data File: >AI012::C1 Quant Output File: ^AI012::OU
Name: 0901HBLKA1
Misc: GC/MS A,WF,5ul ISI1,SSII1/5ML
Quant Time: 930901 22:17 Quant ID File: IDHAHD::ID
Injected at: 930901 21:41 Last Calibration: 930901 21:43

Compound No: 7
Compound Name: Acetone
Scan Number: 126
Retention Time: 6.58 min.
Quant Ion: 43.0
Area: 8448
Concentration: 9.06 ng/mL
q-value: 91

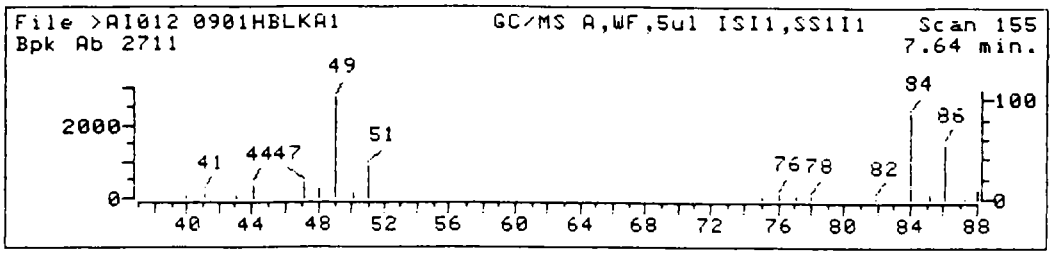
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



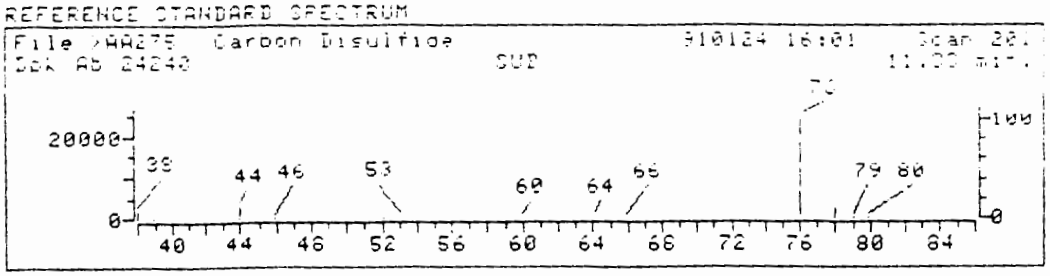
SAMPLE SPECTRUM (UNALTERED)



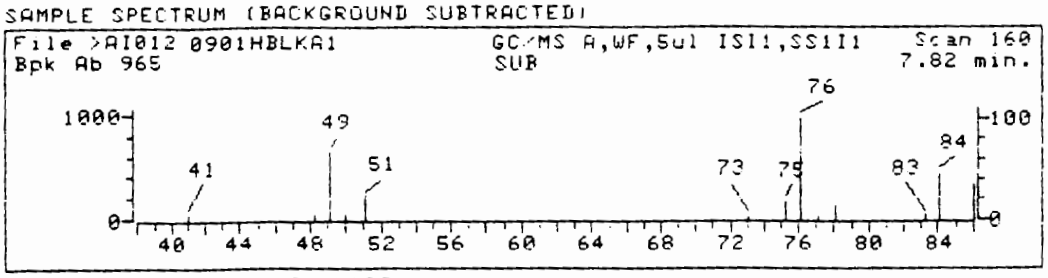
Data File: >AI012::C1 Quant Output File: ^AI012::OU
Name: 0901HBLKA1
Misc: GC/MS A,WF,5ul ISI1,SS1I1/5ML
Quant Time: 930901 22:17 Quant ID File: IDHAHD::ID
Injected at: 930901 21:41 Last Calibration: 930901 21:43

Compound No: 11
Compound Name: Methylene Chloride
Scan Number: 155
Retention Time: 7.64 min.
Quant Ion: 84.0
Area: 27205
Concentration: 13.90 ng/mL
q-value: 66

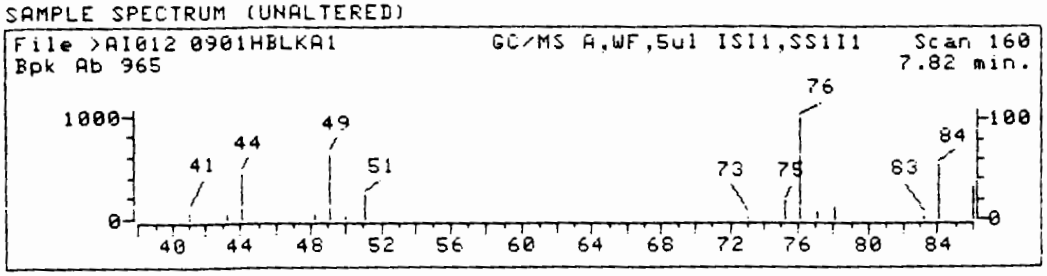
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >AI012::C1 Quant Output File: ^AI012::OU
Name: 0901HBLKA1
Misc: GC/MS A,WF,5ul ISI1,SSIII/5ML
Quant Time: 930901 22:17 Quant ID File: IDHAHD::ID
Injected at: 930901 21:41 Last Calibration: 930901 21:43

Compound No: 12
Compound Name: Carbon Disulfide
Scan Number: 160
Retention Time: 7.82 min.
Quant Ion: 76.0
Area: 13634
Concentration: 20.26 ng/mL
q-value: 100

data file header from : >AI012

ımple: 0901HBLKA1 Operator: DAVE MS 9/01/93 21:41
.sc : GC/MS A,WF,5ul ISI1,SS1I1/5ML
/s. #: 1 MS model: 87 SW/HW rev.: IA ALS # : 0
Method file: HE8501 Tuning file: MT8501 No. of extra records: 2
Source temp.: 200 Analyzer temp.: 0 Transfer line temp. : 0

Chromatographic temperatures :	0.	0.	0.	0.	0.
Chromatographic times, min. :	0.0	0.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	0.0	0.0	0.0	0.0	0.0

·AI012 0901HBLKA1 GC/MS A,WF,5ul ISI1,SS1I1/5ML
35.0| 300.0 CLP ADC TIC
Jpslope: .20 Area Reject: 31476. Max Peaks: 4 Bunching: 1
Onslope: 0.00 Results File IAI012 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	3.66	42	46	55	37912	326676	326676	100.00	55.913
2	8.19	169	170	181	12945	75648	68125	20.85	11.660
3	21.93	543	546	551	32090	143381	138679	42.45	23.736
4	22.69	564	567	572	10879	56694	50782	15.55	8.692

Sum of corrected areas: 584262.

Summary of Unknowns PBM Library Search and Quantitation

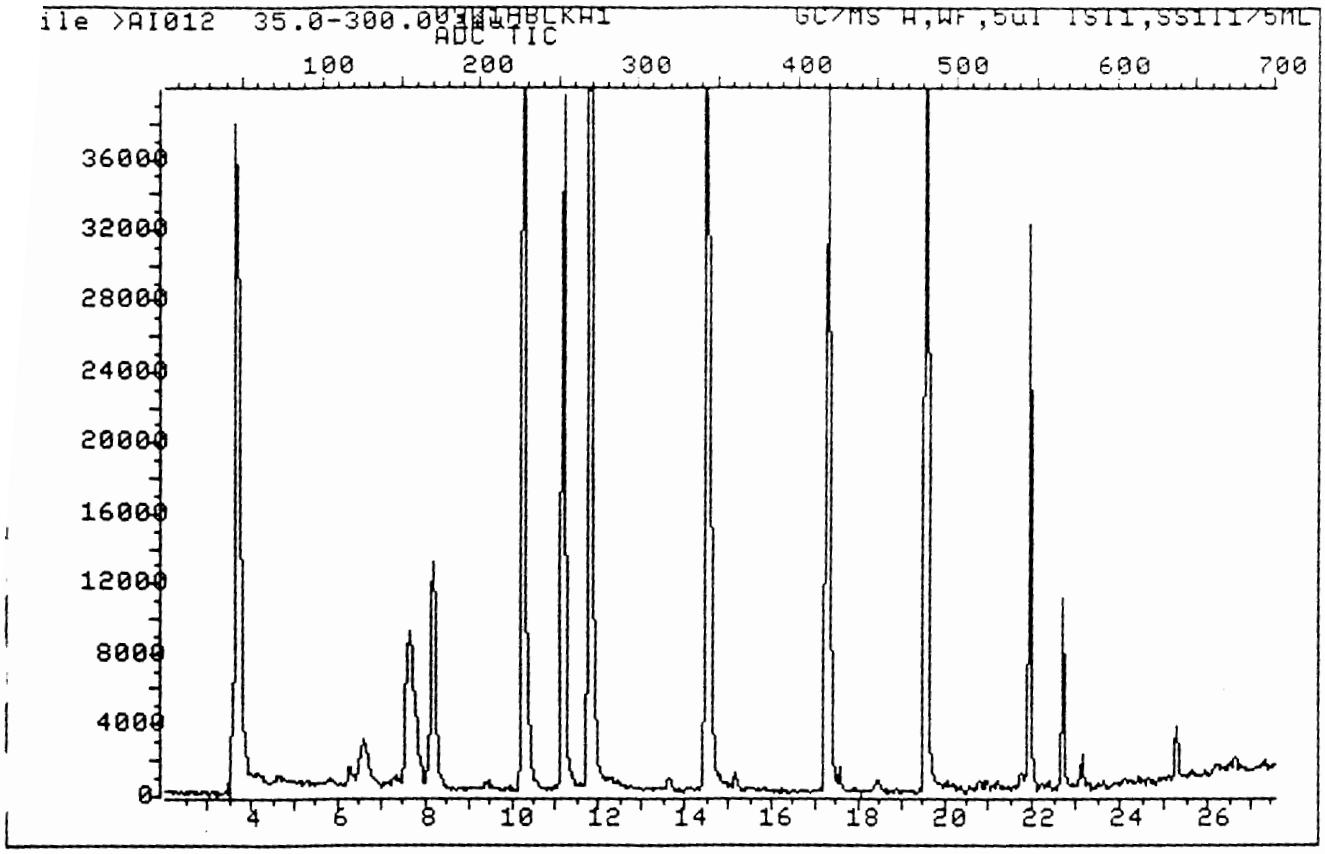
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	314758.	10.27	2.02 - 11.04
2	50.0	465603.	11.81	11.04 - 14.55
3	50.0	349163.	17.29	14.55 - 27.59

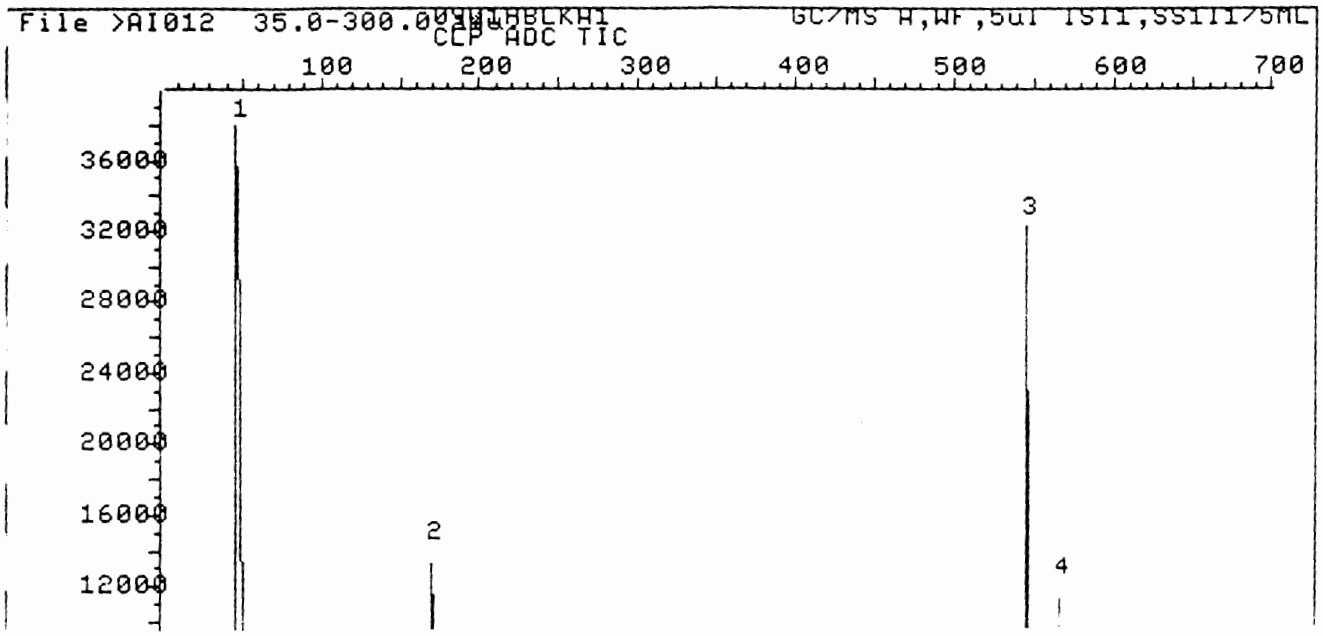
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 1.00
Amount Method (AM) = 5.00 Amount Used (AU) = 5.00

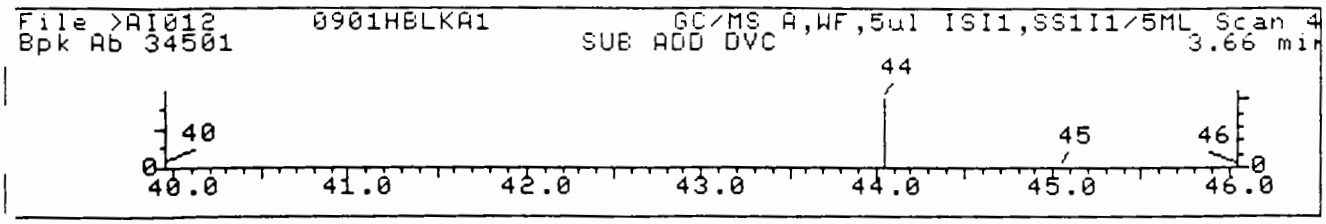
Correction Factor = 1.00 = (AM / AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

12:12 PM TUE., 7 SEPT, 1993


ile >AI012 35.0-300.0
ADC TIC
GC/MS H,WF,5ul
100
200
300
400
500
600
700
36000
32000
28000
24000
20000
16000
12000
8000
4000
0
4
6
8
10
12
14
16
18
20
22
24
26

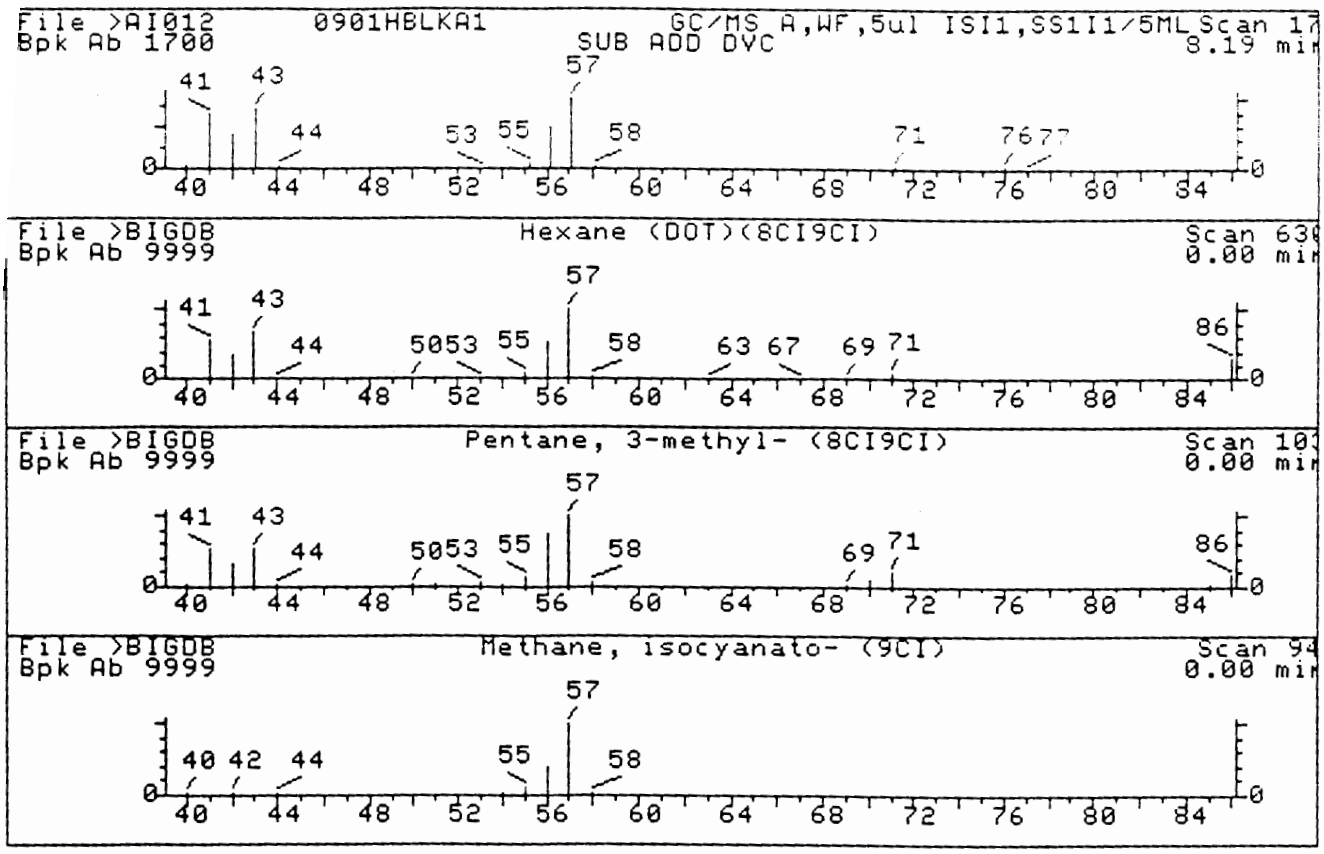

File >AI012 35.0-300.0
CCP ADC TIC
GC/MS H,WF,5ul
100
200
300
400
500
600
700
1
2
3
4
36000
32000
28000
24000
20000
16000
12000



. Unknown #,1
Area = 326676.0 Tentative Concentration is 52.00

Sample file: >AI012 Spectrum #: 46

No data base entries were retrieved.

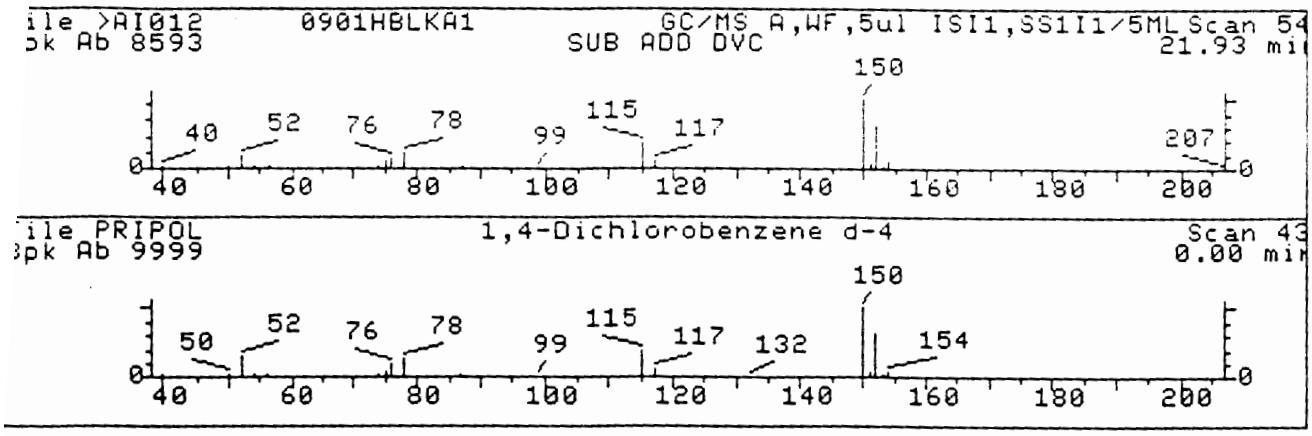


. Unknown #,2
Area = 68125.00 Tentative Concentration is 11.00

1.	Hexane (DOT)(8CI9CI)	86	C6H14
2.	Pentane, 3-methyl- (8CI9CI)	86	C6H14
3.	Methane, isocyanato- (9CI)	57	C2H3NO
4.	Ethanamine, N-methylene- (9CI)	57	C3H7N
5.	3-Pentanone (8CI9CI)	86	C5H10O

Sample file: >AI012 Spectrum #: 170
Search speed: 2 Tilting option: S No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	43*	110543	6306	"BIGDB	24	65	2	0	75	25	17	14
2.	36*	96140	1036	"BIGDB	20	73	2	0	79	29	14	13
3.	20*	624839	948	"BIGDB	23	41	1	0	100	53	5	14
4.	20*	43729971	954	"BIGDB	22	53	3	0	219	53	5	12
5.	15*	96220	6300	"BIGDB	22	60	1	0	100	56	3	14

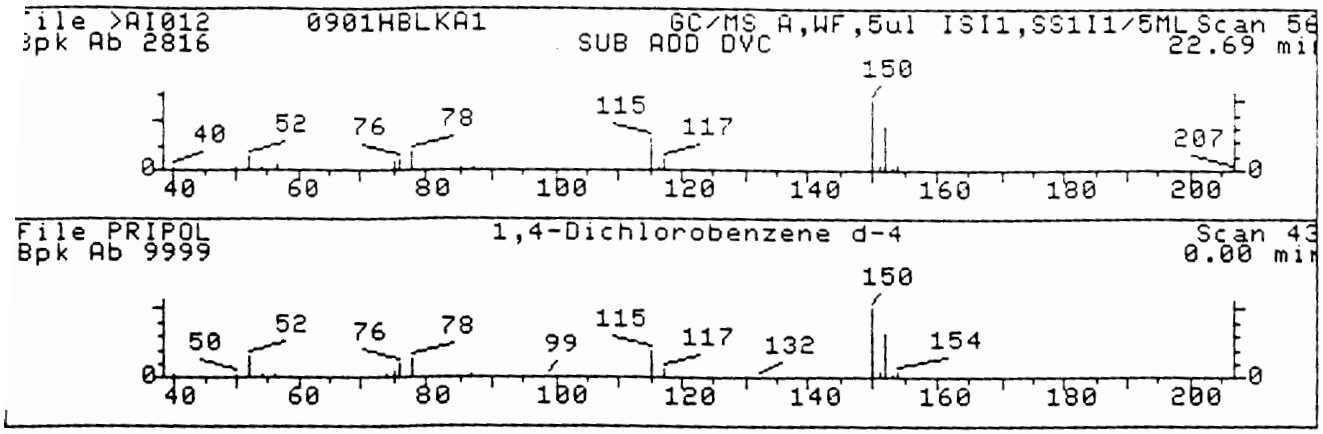


. Unknown #,3
Area = 138679.0 Tentative Concentration is 20.00

1. 1,4-Dichlorobenzene d-4 150 C6.D4.CL2

Sample file: >AI012 Spectrum #: 546
Search speed: 2 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	91*	439	257	PRIPOL	73	34	0	0	64	25	53	92



. Unknown #,4
Area = 50782.00 Tentative Concentration is 7.00

1. 1,4-Dichlorobenzene d-4 150 C6.D4.CL2

Sample file: >AI012 Spectrum #: 567
Search speed: 2 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86*	439	257	PRIPOL	95	12	2	-1	88	7	59	71

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA / CLIENT ID

0902CBLK

b Name: AMER.ENV.NTWK. Contract: 93080140

.b Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

ıtrix: SOIL Lab Sample ID: 0902CBLK

ample (wt/vol): 4 G Lab File ID: >CI004

evel: MED Date Received: N.A.

Moisture: not dec. N.A. Date Analyzed: 9/02/93

olumn: PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	Q
74-87-3	Chloromethane	1300.	U
74-83-9	Bromomethane	1300.	U
75-01-4	Vinyl Chloride	1300.	U
75-00-3	Chloroethane	1300.	U
75-09-2	Methylene Chloride	4600.	
67-64-1	Acetone	13000.	U
75-15-0	Carbon Disulfide	630.	U
75-35-4	1,1-Dichloroethene	630.	U
75-34-3	1,1-Dichloroethane	630.	U
540-59-0	1,2-Dichloroethene (Total)	630.	U
67-66-3	Chloroform	630.	U
107-02-2	1,2-Dichloroethane	630.	U
78-93-3	2-Butanone	13000.	U
71-55-6	1,1,1-Trichloroethane	630.	U
56-23-5	Carbon Tetrachloride	630.	U
108-05-4	Vinyl Acetate	6300.	U
75-27-4	Bromodichloromethane	630.	U
78-87-5	1,2-Dichloropropane	630.	U
10061-02-6	trans-1,3-Dichloropropene	630.	U
79-01-6	Trichloroethene	630.	U
124-48-1	Dibromochloromethane	630.	U
79-00-5	1,1,2-Trichloroethane	630.	U
71-43-2	Benzene	630.	U
10061-01-5	cis-1,3-Dichloropropene	630.	U
110-75-8	2-Chloroethylvinylether	1300.	U
75-25-2	Bromoform	630.	U
108-10-1	4-Methyl-2-pentanone	6300.	U
591-78-6	2-Hexanone	6300.	U
127-18-4	Tetrachloroethene	630.	U
79-34-5	1,1,2,2-Tetrachloroethane	630.	U
108-88-3	Toluene	630.	U
108-90-7	Chlorobenzene	630.	U
100-41-4	Ethylbenzene	630.	U
100-42-5	Styrene	630.	U
133-02-7	Xylene (Total)	630.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

0902CBLK

ɔ Name: AMER.ENV.NTWK. Contract: 93080140

b Code: AENI Case No: WESTON SAS No: N.A. SDG No: N.A.

trix: SOIL Lab Sample ID: 0902CBLK

ımple wt/vol: 4 G Lab File ID: >CI004

evel: MED Date Received: N.A.

Moisture: (not dec) .1 Date Analyzed: 9/02/93

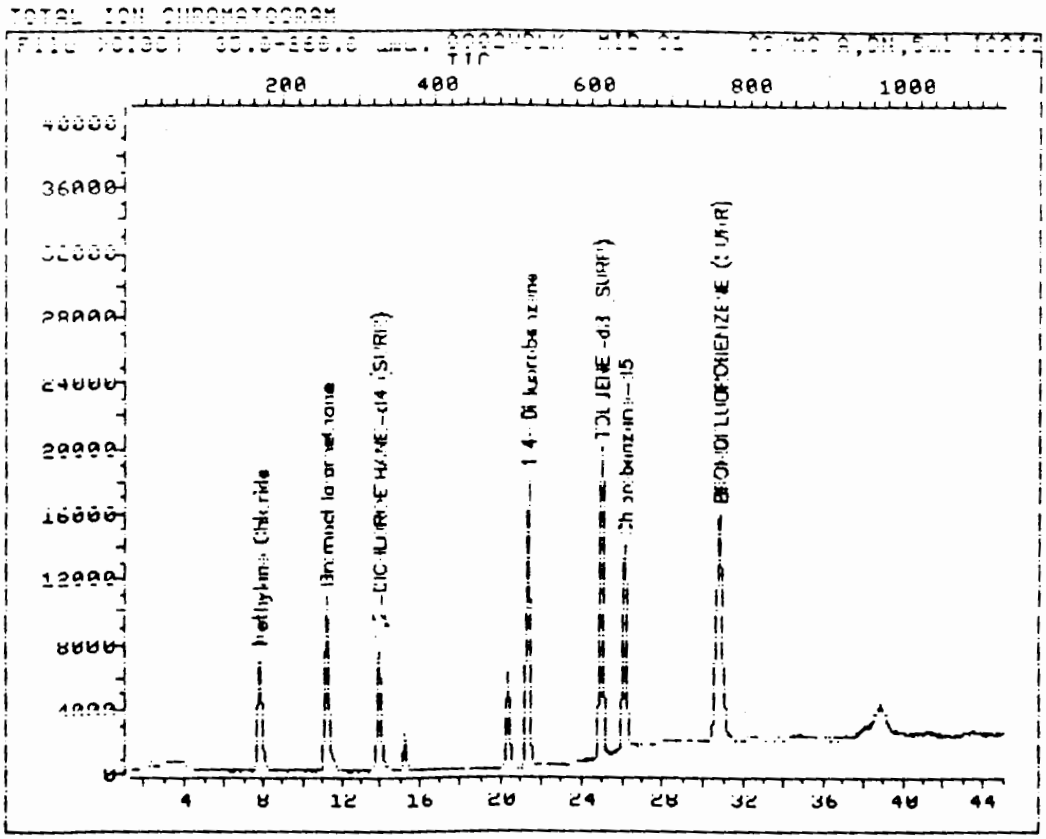
olumn: PACK Dilution Factor: 1.0

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110543	Hexane	20.32	2400.	J
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

FORM I VOA-TIC



Data File: >CI004::C1 Quant Output File: ^CI004::OU
Name: 0902VBLK MID C1
Misc: GC/MS A,DN,5ul ISSI1,SS1I1/5mls

Id File: IDUCID::IC
Title: HSL VOLATILES
Last Calibration: 930902 20:05

Operator ID: DAVE
Quant Time: 930902 22:12
Injected at: 930902 21:26

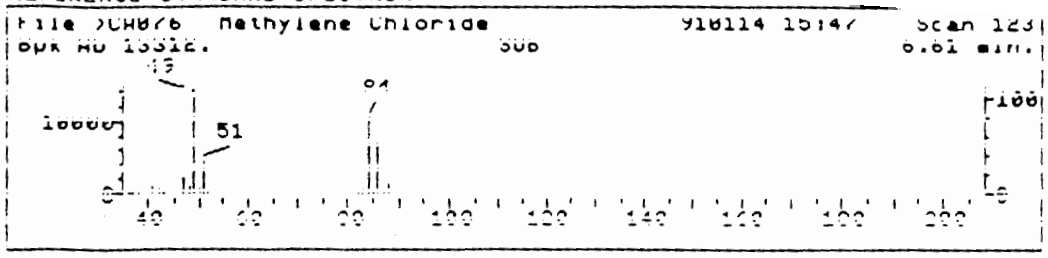
QUANT REPORT

perator ID: DAVE Quant Rev: 6 Quant Time: 930909 17:26
utput File: ^CI004::OU Injected at: 930902 21:26
ata File: >CI004::C1 Dilution Factor: 1.00000
ame: 0902VBLK MID C1
isc: GC/MS A,DN,5ul ISSI1,SS1I1/5mls

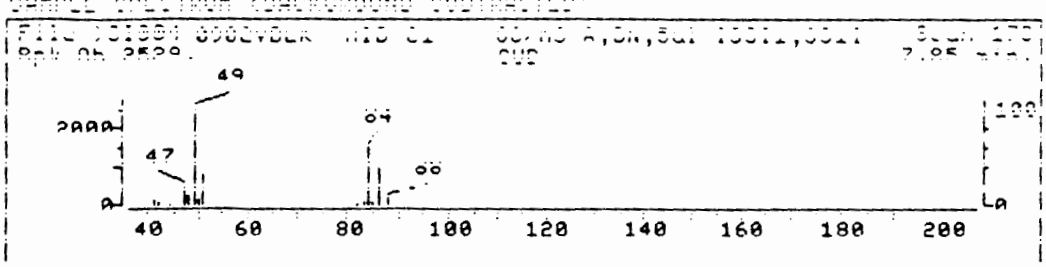
ID File: IDVCID::IC
Title: HSL VOLATILES
Last Calibration: 930909 17:26

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	11.18	256	19469	50.00	ug/L	81
6)	Methylene Chloride	7.85	170	22913	36.40	ug/L	90
17)	1,2-DICHLOROETHANE-d4 (SURR)	13.93	327	34918	42.74	ug/L	98
19)	*1,4-Difluorobenzene	21.33	518	80700	50.00	ug/L	100
33)	*Chlorobenzene-d5	26.13	642	46499	50.00	ug/L	98
45)	BROMOFLUOROBENZENE (SURR)	30.78	762	68110	49.06	ug/L	79
46)	TOLUENE-d8 (SURR)	24.97	612	81692	47.82	ug/L	90

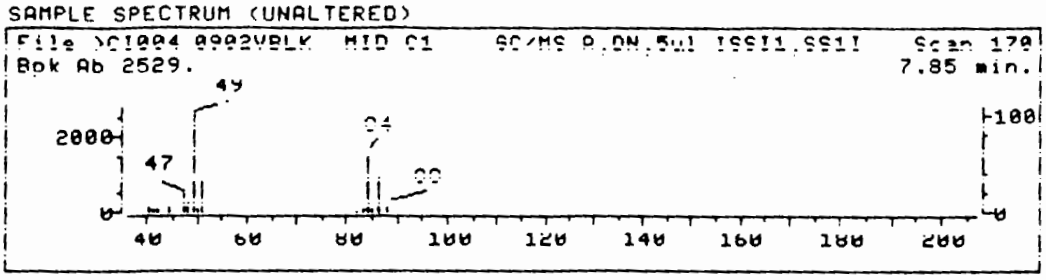
* Compound is ISTD



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >CI004::C1 Quant Output File: ^CI004::OU
Name: 0902VBLK MID C1
Misc: GC/MS A,DN,5ul ISSI1,SS1I1/5mls
Quant Time: 930902 22:12 Quant ID File: IDUCID::IC
Injected at: 930902 21:26 Last Calibration: 930902 20:05

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 170
Retention Time: 7.85 min.
Quant Ion: 84.0
Area: 22913
Concentration: 36.82 ug/L
q-value: 90

.ata file header from : >CI004

ɔle: 0902VBLK MID C1 Operator: DAVE REG. GRP. 9/02/93 21:26
: GC/MS A.DN.5ul ISSI1.SS1I1/5mls
. #: 2 MS model: 70 SW/HW rev.: IA ALS # : 0
ethod file: HE7001 Tuning file: MT7001 No. of extra records: 2
ɔrce temp.: 0 Analyzer temp.: 250 Transfer line temp. : 0

Chromatographic temperatures :	45.	220.	0.	0.	0.
Chromatographic times, min. :	4.0	45.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	0.0	0.0	1.5	0.0

004 0902VBLK MID C1 GC/MS A.DN.5ul ISSI1.SS1I1/5mls
35.01 260.0 CLP ADC TIC
lope: .20 Area Reject: 15891. Max Peaks: 2 Bunching: 1
.lope: 0.00 Results File ICI004 Sorted by Time/Area INT

Target analyte Dave 9/8/93

ak	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	~~15.25~~	~~355~~	~~361~~	~~370~~	~~2252~~	~~26870~~	~~25694~~	~~36.89~~	~~26.949~~
	20.32	483	492	502	5877	73756	69649	100.00	73.051

Sum of corrected areas: 95343.

Summary of Unknowns PBM Library Search and Quantitation

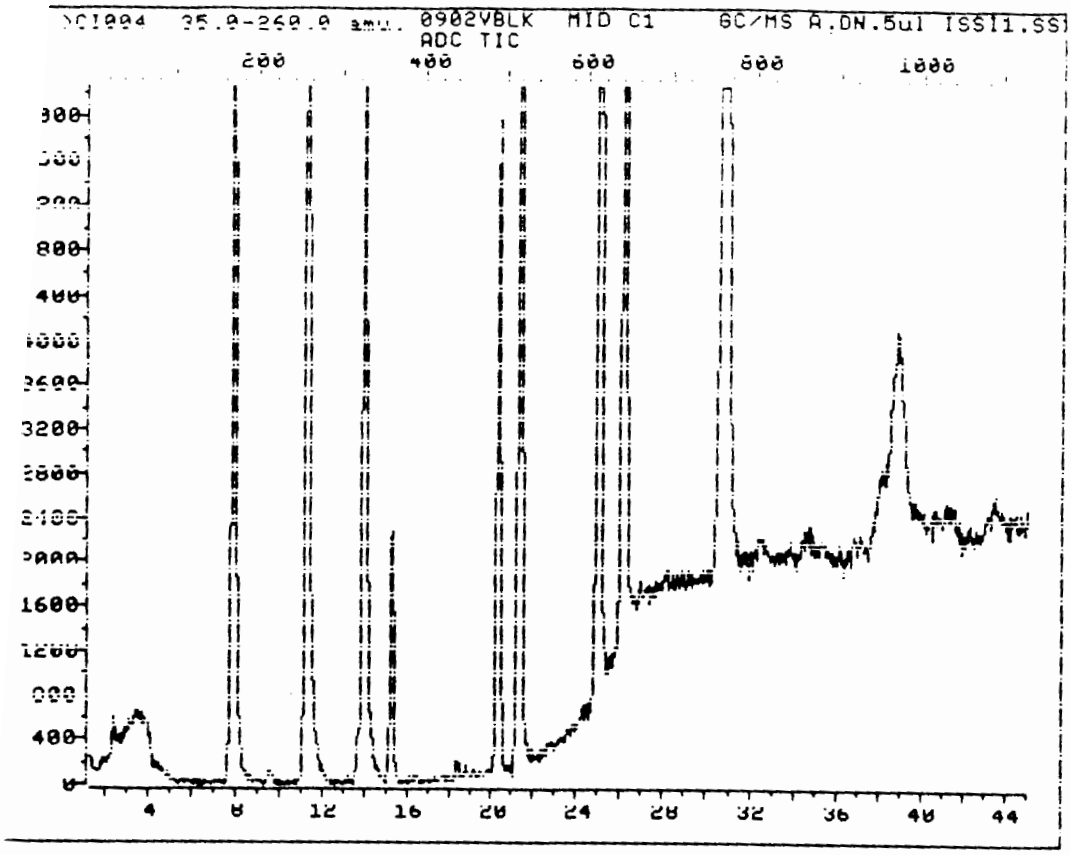
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	158905.	11.18	1.30 - 16.25
2	50.0	216720.	21.33	16.25 - 23.73
3	50.0	163810.	26.13	23.73 - 45.05

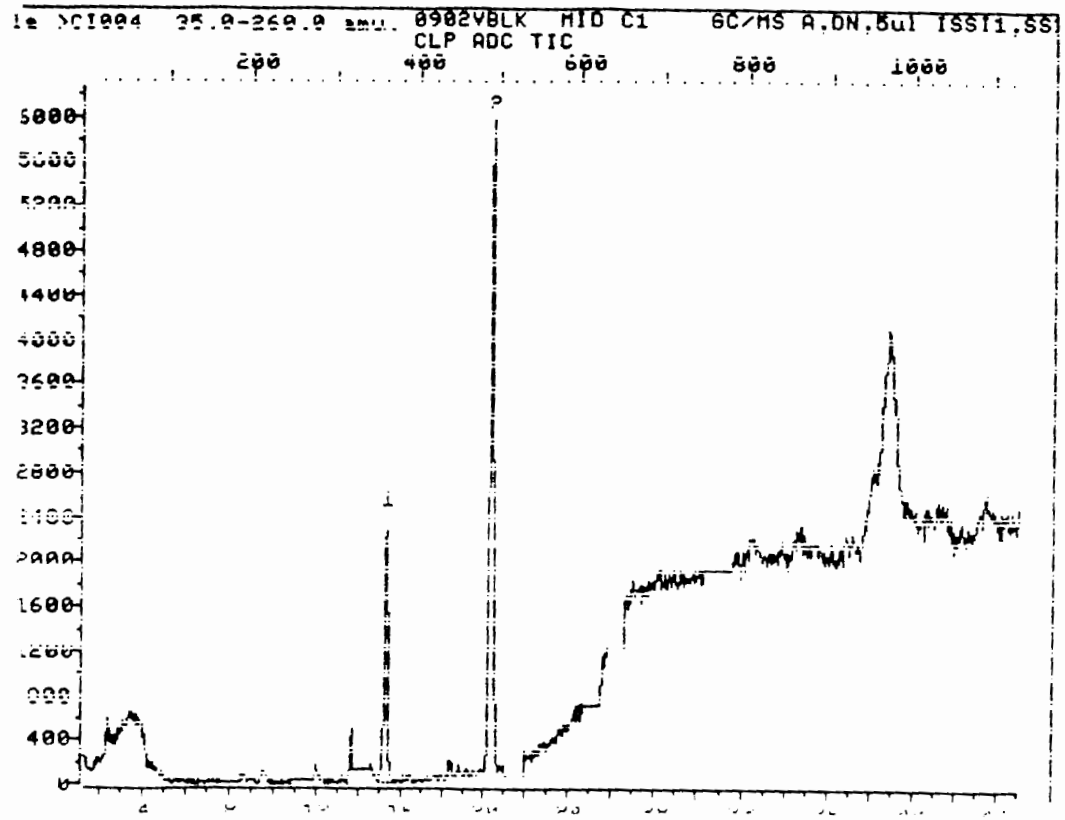
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = .85
Amount Method (AM) = 5.00 Amount Used (AU) = 5.00

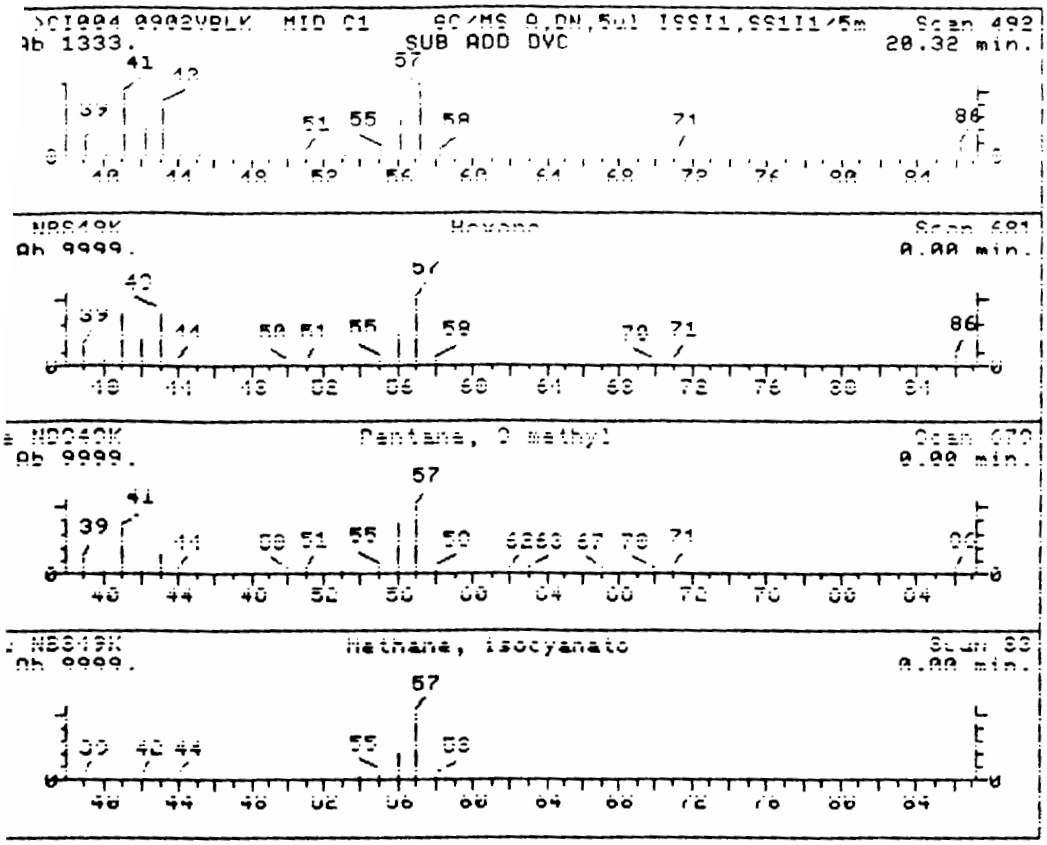
Correction Factor = 1.18 = (AM * DF) / (AU * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

7:19 PM TUE., 7 SEPT. 1993


ADC TIC
200
400
600
800
1000
4
8
12
16
20
24
28
32
36
40
44


CLP ADC TIC
200
400
600
800
1000



UNKNOWN #.2
REA = 69649.00 TENTATIVE CONCENTRATION IS 19.00

1. Hexane	86	C6H14
2. Pentane, 3-methyl-	86	C6H14
3. Methane, isocyanato-	57	C2H3NO
4. Acetic acid ethenyl ester	86	C4H6O2

ample file: >CI004 Spectrum #: 492
earch speed: 1 Tilting option: S No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
.	89*	110543	6971	NBS49K	64	32	0	0	96	1	66	77
.	25*	96140	1025	NBS49K	34	50	1	0	70	48	7	18
3.	11*	624839	1000	NBS49K	31	33	1	0	100	62	2	17
.	11*	108054	6933	NBS49K	25	34	1	0	76	65	2	14

8/19/10 AFW.4.
8-20-93 AL4
8-23-93 LOC 35, VR

AMERICAN ENVIRONMENTAL NETWORK, INC.

AMERICAN ENVIRONMENTAL NETWORK, INC
9151 Rumsey Road, Columbia, MD 21045
(410) 730-8525

CHAIN OF CUSTODY RECORD

PROJECT: N.W.S. Earle, Colts Neck, NJ

SAMPLERS: (Signature) Gerry Ross.

SAMPLE NUMBER	DATE	TIME	MATRIX	NO. CONTAINERS	TPHC	VOLATILE *					REMARKS OR SAMPLE LOCATION	ICED	SPECIFY CHEMICALS ADDED AND FINAL pH IF KNOWN
Field Blank	8/19/93	11:30	W	1		X				13353/1	R11 Tank Excavation	Y	No
SS01		11:35	S	1	X					13354/2			None
SS01 A		11:36		1		X				⊥			
SS02		11:40		1	X					13355/3			
SS02 A		11:41		1		X				⊥			
SS03		11:45		1	X					13356/4			
SS03 A		11:46		1		X				⊥			
SS04		12:00		1	X					13357/5			
SS04 A		12:01		1		X				⊥			
SS05		12:05		1	X					13358/6			
SS05 A		12:06		1		X				⊥			
SS06		12:10		1	X					13359/7			
SS06 A		12:11		1		X				⊥			
				12						12			

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Shipped via:
① [signature]	8/19/93 1630				
Relinquished by: (Signature) ②	Date / Time	Received by: (Signature)	Received for Laboratory by: (Signature)	Date / Time	Shipping Ticket No.
			[signature]	8-20-93 11 30	
Relinquished by: (Signature) ③	Date / Time	Received by: (Signature)	Remarks: NJDERE BUST FORMAT		

24 TAT ON TPHC *IF TPHC > 1000 RUN VOLATILE ON THAT SAMPLE