PILKO & ASSOCIATES, INC.
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PHASE II, III, AND IV
PRE-LEASING ENVIRONMENTAL ASSESSMENT

OF

MOBIL FLIGHT OPERATIONS HANGAR

WESTCHESTER COUNTY AIRPORT

Prepared For

TEXACO, INC.

For PILKO & ASSOCIATES, INC.

Ralph J. Carito

John E. Turley

January, 1991
60.1163

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A.

INTRODUCTION

Pilko & Associates, Inc. performed a Pre-Leasing Environmental Assessment of the Mobil Flight Operations Hangar at the Westchester County Airport, located in White Plains, New York, during October, 1990 through January, 1991. The Pre-Leasing Environmental Assessment consisted of four phases:

- Phase I - Site assessment;
- Phase II - First round sub-surface soil sampling;
- Phase III - Second round sub-surface soil sampling;
- Phase IV - Underground storage tank precision integrity test.

This report consists of the findings of Phases II, III, and IV.

Phases II, III, and IV of the Pre-Leasing Environmental Assessment were performed in order to determine the current environmental condition of the facility. The assessment focuses on:

- Identifying and evaluating sub-surface soil contamination from past practices at the facility;

- Evaluating the integrity of the underground No. 2 Fuel Oil storage tank.

Phases II and III sub-surface soil investigations consisted of the collection of soil samples from 17 locations throughout the facility and the associated aircraft operations pad. Phase IV consisted of a precision integrity test performed on the underground No. 2 Fuel Oil storage tank, which is located in the front yard of the Mobil aircraft facility. Laboratory analyses of soil samples consisted of Total Volatile Organics, Total Base/Neutrals, Gas Chromatograph (GC) Fingerprint as Jet Fuel, and Total Petroleum Hydrocarbons. Not all samples were analyzed for all the above-mentioned parameters.

All four phases of this Pre-Leasing Environmental Assessment were performed prior to Texaco, Inc. sub-leasing the Flight Operations Hangar from Mobil Corporation. Texaco wishes to relocate their flight operations to the Mobil facility from its existing flight operations base, which is presently located across the runway. Mobil has a master lease with Westchester County, which is the present owner of the facility. After approximately one year, it is expected that the master lease will be assigned to Texaco.

B.

KEY FINDINGS

The Pre-Leasing Environmental Assessment found the facility to have sub-surface soil contamination beneath both the aircraft pad and the hangar building flooring. The New Jersey Environmental Cleanup Responsibility Act (NJECRA) guidelines were used to compare the analytical data on soil samples, because the New York Department of Conservation (NYDEC) has not adopted similar cleanup guidelines or standards. Based on our Phase II, III, and IV Environmental Assessments, the following are considered the key findings.

- Total Petroleum Hydrocarbons (TPH) and Jet Fuel was found at levels up to 1,100 ppm in the soil beneath the aircraft pad. The contamination appears to be shallow (0-6 inches) and towards the center of the pad.

- TPH, at levels up to 550 ppm, and Total Volatile Organics (TVO), at levels up to 54 ppm, were found in the soil beneath the concrete flooring of the hangar building. The contamination appears to be shallow (0-24 inches) and towards the center of the building and northeast towards the offices.

- Analytical results indicate TPH and TVO to be less than the NJECRA guidelines, beneath the aircraft pad and hangar flooring at depths of 18 inches to 40 inches, excluding B-4A and B-4D. Analytical results indicated TPH and TVO to be less than the NJECRA guidelines at depths of 36 inches to 40 inches.

- At the present time, the NYDEC's position with respect to the necessity of further action at the facility is unknown.

- The results of the precision integrity test performed on the No. 2 Fuel Oil system indicate the underground storage tank and associated piping to be within the USEPA guidelines.

C.

PHASE II, III, and IV
PRE-LEASING ENVIRONMENTAL ASSESSMENT

DESCRIPTION OF FACILITY

The Mobil Flight Operations Hangar is located at the Westchester County Airport, White Plains, New York 10601 (Attachment 1, USGS Topographic Map). The facility consists of Hangar bay 1B in Hangar building D and the associated aircraft operations pad (Attachment 2, Airport Plot Plans).

All buildings, structures, and other infrastructure at the airport are owned by the county. The proposed lease describes the onsite facilities as follows:

- Hangar 1B consists of approximately 18,891 square feet, with 3,812 square feet of office space downstairs and 3,812 square feet upstairs.
- Existing paved aircraft pad of approximately 26,131 square feet.
- Unimproved land area of approximately 26,131 square feet, consisting of the building footprint (hangar plus first floor lean-to) and other area for aircraft.
- Restrictive use area, consisting of exclusive taxiway access for ingress and egress.

Hangar building D was constructed in 1952. In 1982, the Mobil facility was remodelled with upgrades to the interior, including a revamp of the fuel oil heating system.

The hangar space is used by Mobil as a base for corporate flight operations and includes aircraft maintenance facilities consisting of technician labs, an electronics lab, and a small paint booth used only for touch-up painting. Onsite facilities also include administrative offices, a pilots' briefing room, conference room, and executive lounge. The Mobil hangar is heated by a forced hot air system fueled by a 5,000-gallon underground No. 2 Fuel Oil storage tank located in the front yard, which was installed around 1956.

OPERATIONS

For the first 30 years of operation, the airport was managed by Gulf Oil under a long-term lease with the county. The airport is currently managed by Pan Am World Services under contract with the

county. All Mobil flight operations have moved from Westchester County Airport to Dulles International Airport, and only a small Mobil support staff remains onsite. During full operations, approximately 12 mechanics were employed onsite. For the one-year sublease period to Texaco, one Mobil supervisor will remain onsite to supervise Texaco operations.

The facility was used by Mobil as a base for corporate flight operations where routine aircraft maintenance was conducted. Typical chemical storage onsite includes one 55-gallon drum of "LPS Super Degreaser" that contains 1,1,1-trichloroethane, one 55-gallon drum of lubricating oil, de-icing fluid, several five-gallon cans of liquid floor degreaser, and several one-gallon cans of hydraulic oil. Mobil also maintains a contract with Safety-Kleen for an onsite parts cleaner and parts cleaner solvent recovery services. A flammables cabinet contains one-gallon cans of touch-up paint and other small containers of volatile materials. Also stored onsite are several high pressure cylinders containing nitrogen for tire inflation and cylinders of aviators breathing air.

PHASE II ASSESSMENT

The NJECRA guidelines were used to compare the analytical data on soil samples because the NYDEC has not adopted similar cleanup guidelines or standards. Below are the limits set forth in the NJECRA guidelines.

- Total Volatile Organics
  - 1 parts per million (ppm) or less.
- Total Base/Neutrals
  - 10 ppm or less.
- GC Fingerprint as Jet Fuel
  - No guidelines.
- Total Petroleum Hydrocarbons
  - 100 ppm or less.

The Phase II sub-surface soil investigation consisted of collecting and analyzing soil samples, which were collected from five locations throughout the Mobil Aircraft Hangar facility (Attachment 3, Phase II Boring Locations Plot Plan). Soil samples were collected below eight inches of concrete flooring at locations B-1, B-2, B-3, and B-4. A diamond drilling bit was used to bore through the concrete before access to the soil was obtained. All concrete flooring was restored to its original state after the completion of the soil sampling. Soil boring B-5 was collected in an area which was covered with grass.

<u>Hangar Pad Area</u>

Soil boring location B-1 is located on the northwest side of the hangar pad, approximately in the center of the pad between the

hangar and the approach to the runway. At location B-1, soil samples were collected at depths of 0-6 inches and 18-24 inches. All soil samples collected at this location were analyzed for TPH and GC Fingerprint as Jet Fuel. Soil boring location B-2 is located on the southeast side of the hangar pad, approximately in the center of the pad between the hangar and the approach to the runway. At location B-2 a soil sample was collected at a depth of 0-6 inches and was analyzed for TPH and GC Fingerprint as Jet Fuel. Deeper soil samples were not collected at location B-2 because rock was encountered directly below the concrete pad. Soil borings B-1 and B-2 were located in areas used to fuel aircraft in the past.

Hangar Building

Soil boring location B-3 is located within the aircraft hangar building at the center of the northwest hangar dividing wall approximately three feet from the wall. At location B-3, soil samples were collected at depths of 0-6 inches and 18-24 inches. All soil samples collected at this location were analyzed for TPH and TVO. Soil boring location B-4 is located within the aircraft hangar building at the center of the southeast hangar dividing wall approximately three feet from the wall. At location B-4 soil samples were collected at a depth of 0-6 inches and were analyzed for TPH and TVO. Deeper soil samples were not collected at location B-4 because electrical conduit was immediately encountered below the concrete flooring. The locations of soil borings B-3 and B-4 were in areas of past and present cleaning solvent storage and use.

Soil boring location B-5 is located directly to the northwest of the underground No. 2 Fuel Oil storage tank, which is in the front yard of the Mobil aircraft facility. At location B-5 soil samples were collected at depths of 0-6 inches, 60-66 inches, and 126-132 inches. All soil samples collected at this location were analyzed for TPH and at the 126-132 inch depth Total Base/Neutrals were also analyzed.

Phase II Summary

The analytical results gathered from the Phase II sub-surface soil sampling indicated the presence of TPH at levels of 120 ppm to 270 ppm, greater than the NJECRA guidelines of 100 ppm, at boring locations B-1 (0-6 inch depth), B-2 (0-6 inch depth) and B-4 (0-6 inch depth). The analytical results also indicated the presence of TVO at levels of 52 ppm, greater than the NJECRA guidelines of 1 ppm, at boring location B-4. Analytical results further indicate TPH and TVO to be less than the NJECRA guidelines at depths greater than 18 inches.

Based on the Phase II sub-surface soil sampling analytical data, indicate the levels of TPH and TVO to decrease as the depth increases. Due to the limited amount of data collected during

Phase II, it was unclear as to the horizontal or areal extent of the contaminations at the facility (Attachment 4, Analytical Data Summary Table) and (Attachment 5, Analytical Data).

PHASE III ASSESSMENT

Based on the analytical data collected during the Phase II sub-surface soil sampling, Texaco, Inc. requested Pilko & Associates to perform a Phase III sub-surface soil sampling investigation. The Phase III sub-surface soil sampling investigation consisted of borings that expanded in a circular fashion around the three boring locations (B-1, B-2 and B-4), which indicated the presence of contamination.

The Phase III sub-surface soil investigation consisted of collecting and analyzing soil samples which were from 12 locations; four locations surrounding each of the three locations listed above (Attachment 6, Phase II and III Boring Locations Plot Plan). All soil samples were collected below eight inches of concrete flooring. A diamond drilling bit was used to bore through the concrete flooring before access to the soil was obtained. All concrete flooring was restored to its original state after the completion of the soil sampling.

Hangar Pad Area

Soil boring location B-1A is located 10 feet southwest of B-1, soil boring location B-1B is located 10 feet northwest of B-1, soil boring location B-1C is located 10 feet northeast of B-1, and soil boring location B-1D is located 10 feet southeast of B-1. At all of the above-mentioned locations, soil samples were collected at depths of 0-6 inches and 18-24 inches. All soil samples collected at these locations were analyzed for TPH and GC Fingerprint as Jet Fuel.

Soil boring location B-2A is located 10 feet southwest of B-2, soil boring location B-2B is located 10 feet northwest of B-2, soil boring location B-2C is located 10 feet northeast of B-2, and soil boring location B-2D is located 10 feet southeast of B-2. At all of the above-mentioned locations, soil samples were collected at depths of 0-6 inches and 18-24 inches. All soil samples collected at these locations were analyzed for TPH and GC Fingerprint as Jet Fuel.

Hangar Building

Soil boring location B-4A is located five inches west of B-4. The positioning of B-4A was to obtain a deeper soil sample that would closely represent the same findings as B-4, without encountering electrical conduit. Soil boring location B-4B is located eight feet southwest of B-4, soil boring location B-4C is located five

feet northwest of B-4, and soil boring B-4D is located eight feet northeast of B-4. At all of the above-mentioned locations, soil samples were collected at depths of 0-6 inches, 18-24 inches and 36-40 inches. All soil samples collected at these locations were analyzed for TPH and TVO.

Phase III Result Summary

The Phase III sub-surface soil sampling analytical results indicate the presence of TPH at levels ranging from 140 ppm to 1,100 ppm, greater than the NJECRA guidelines of 100 ppm at boring locations B-1D (0-6 inch depth), B-2B (0-6 inch depth), B-2C (0-6 inch depth), B-4A (0-6 and 18-24 inch depths), B-4B (0-6 inch depth), B-4C (0-6 and 18-24 inch depths), and B-4D (0-6 and 18-24 inch depths). The analytical results also indicate the presence of 1,400 ppm of Jet Fuel at boring location B-1D (0-6 inch depth) and the presence of TVO at levels ranging from 3.8 to 51.6 ppm, greater than the NJECRA Guidelines at 1 ppm at boring locations B-4A (0-6 and 18-24 inch depths), B-4C (0-6 and 18-24 inch depths), and B-4D (0-6 and 18-24 inch depths). Analytical results indicate all soil samples collected at depths greater than 24 inches to be below NJECRA guidelines.

The analytical data gathered during the Phase III sub-surface soil sampling continue to indicate the presence of TPH and TVO being greater at the surface and decreasing as the depth increases. Based on the analytical data gathered from boring locations in the Hangar Pad area, the trend of contaminated soil appears to be towards the center of the aircraft pad. Based on the analytical data gathered from boring locations in the hangar building the trend of contaminated soil within the hangar building appears to be towards the center and northeast towards the offices (Attachment 7, Analytical Data Summary Table) and (Attachment 8, Analytical Data).

During Phases II and III, sub-surface soil sampling, no groundwater was encountered. Analytical results indicate TPH and TVO to be less than NJECRA guidelines at depths greater than 36 inches.

PHASE IV ASSESSMENT

Phase IV consisted of a precision integrity test performed on the underground No. 2 Fuel Oil storage tank which is located in the front yard of the Mobil facility. A test was performed using the Leak Computer System. The precision integrity test was performed in accordance with AcuTest protocol and satisfies all requirements for such testing as set forth by NFPA 329-87 and USEPA 40 CFR Part 280.

The results of the precision integrity test indicate, the underground storage tank and associated piping to have a leak rate of .013 gallons per hour (GPH). The EPA leak guidelines state the

loss of product greater than .05 GPH is considered a leak; therefore, the test results indicate the integrity of the underground No. 2 Fuel Oil system to be within the EPA Guidelines (Attachment 9, Precision Integrity Test Certification and Test Results). Also included with the precision integrity test report in Attachment 9 are computer printouts of the data compiled during the last hour of each test. Each printout shows leak rates and the confidence level (three times standard deviation) of each leak rate. This information is stored in a permanent file if future verification of test results are needed.

Photographs of work in progress and work completed for Phases II, III, and IV are included (Attachment 10, Photograph Log).

D.

REPORT LIMITATIONS

The scope of this report is limited to the matters expressly covered. This report is prepared for the sole benefit of **Texaco, Inc.**, and may not be relied upon by any other person or entity without the written authorization of Pilko & Associates, Inc.

In preparing this report, Pilko & Associates, Inc. has relied on information derived from secondary sources and personal interviews. Except as set forth in this report, Pilko & Associates, Inc. has made no independent investigation as to the accuracy or completeness of the information derived from the secondary sources and personal interviews and has assumed that such information was accurate and complete.

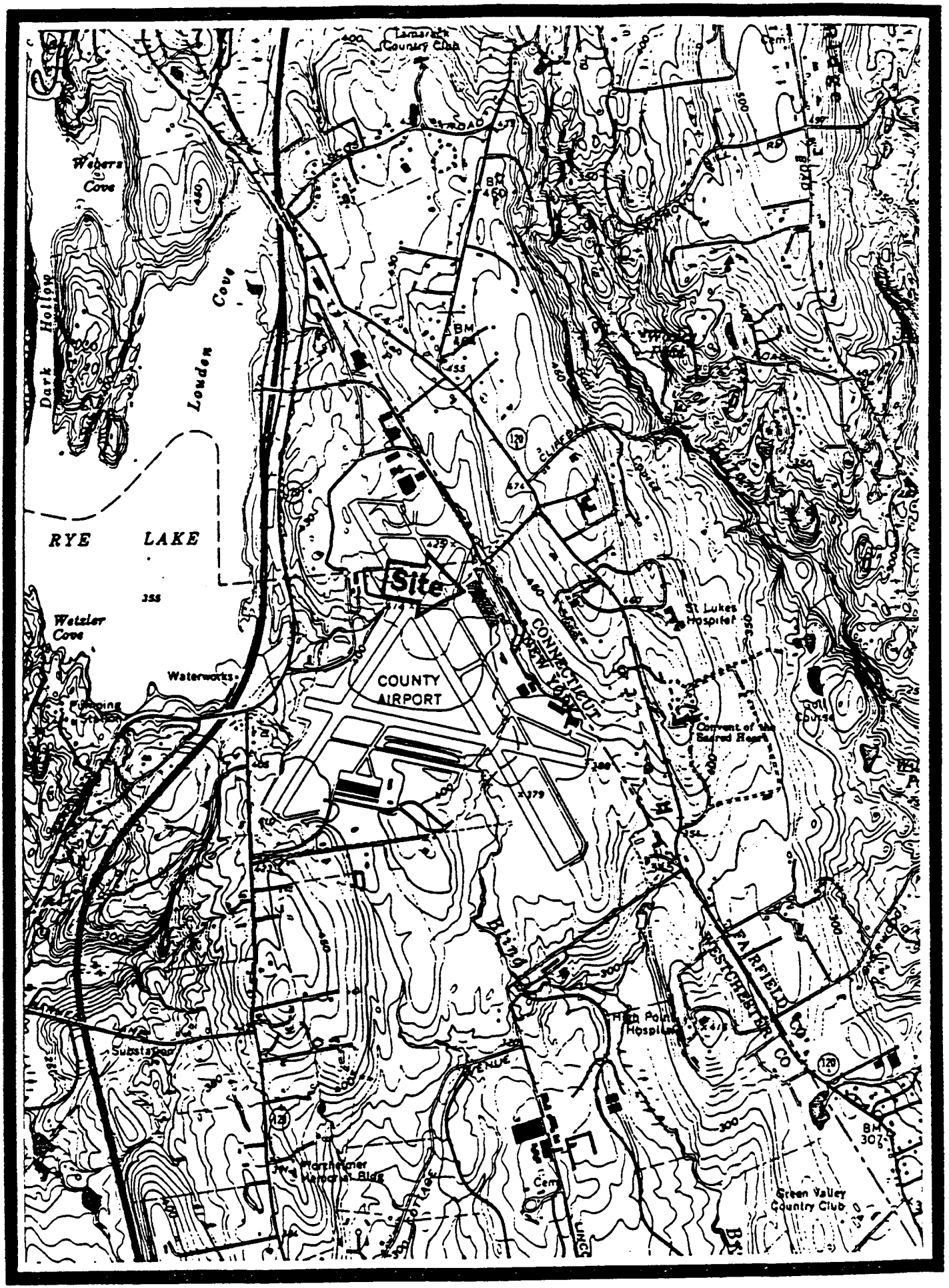
All recommendations, findings, and conclusions stated in this report are based upon facts and circumstances as they existed at the time that this report was prepared (e.g., federal, state and local laws, rules, regulations, market conditions, energy costs, wage rates, political climate, and other matters that Pilko & Associates, Inc. deemed relevant). A change in any fact or circumstance upon which this report is based may adversely affect the recommendations, findings, and conclusions expressed in this report.

NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL APPLY. PILKO & ASSOCIATES, INC. MAKES NO REPRESENTATION OR WARRANTY THAT THE IMPLEMENTATION OR USE OF THE RECOMMENDATIONS, FINDINGS, OR CONCLUSIONS OF THIS REPORT WILL RESULT IN COMPLIANCE WITH APPLICABLE LAW.

E.

ATTACHMENTS

1. USGS Topographic Map
2. Airport Plot Plans
3. Phase II Boring Locations Plot Plan
4. Analytical Data Summary Table
5. Analytical Data
6. Phase II and Phase III Boring Plot Plan Locations
7. Analytical Data Summary Table
8. Analytical Data
9. Precision Integrity Test Certification and Test Results
10. Photograph Log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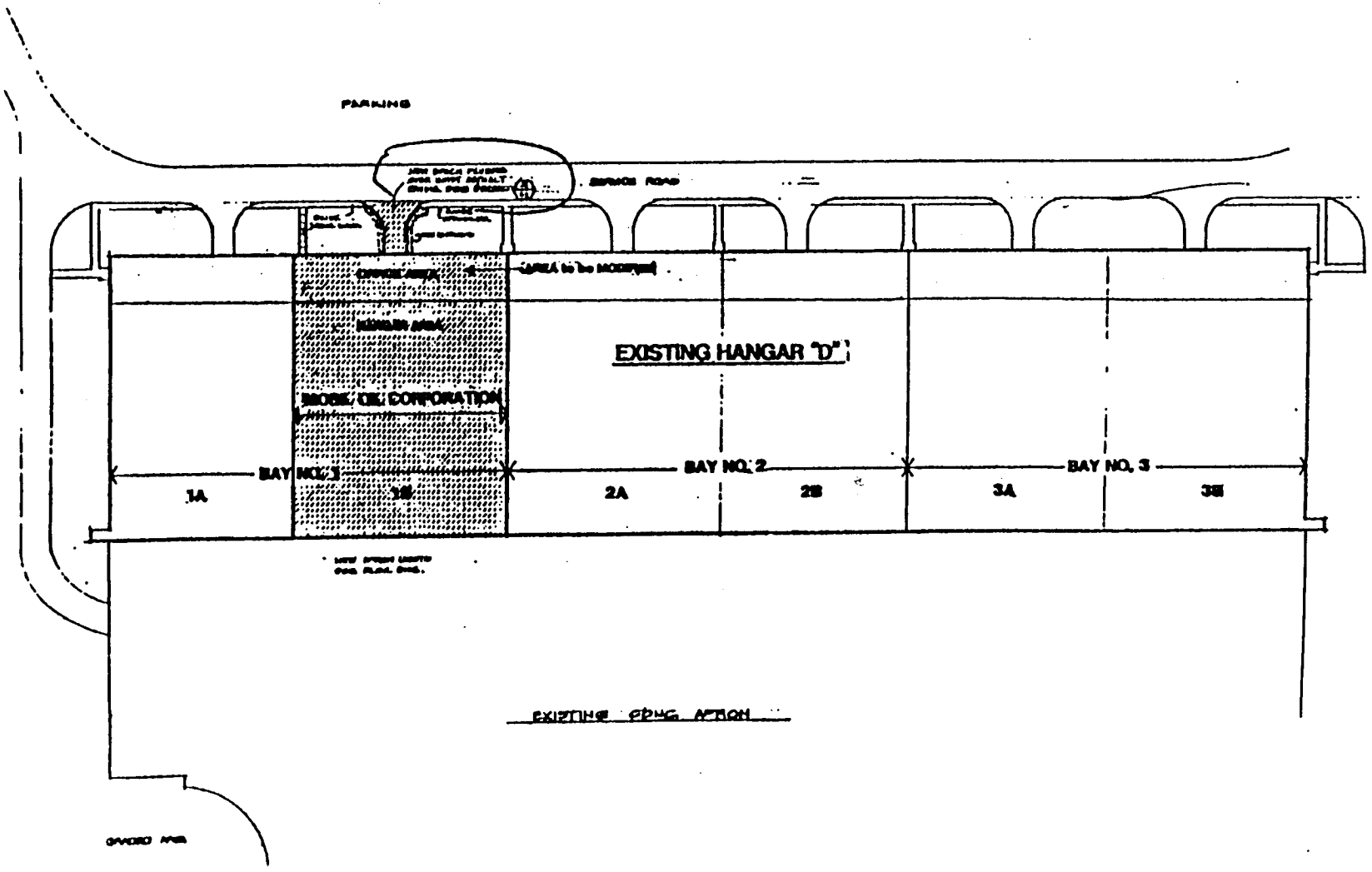
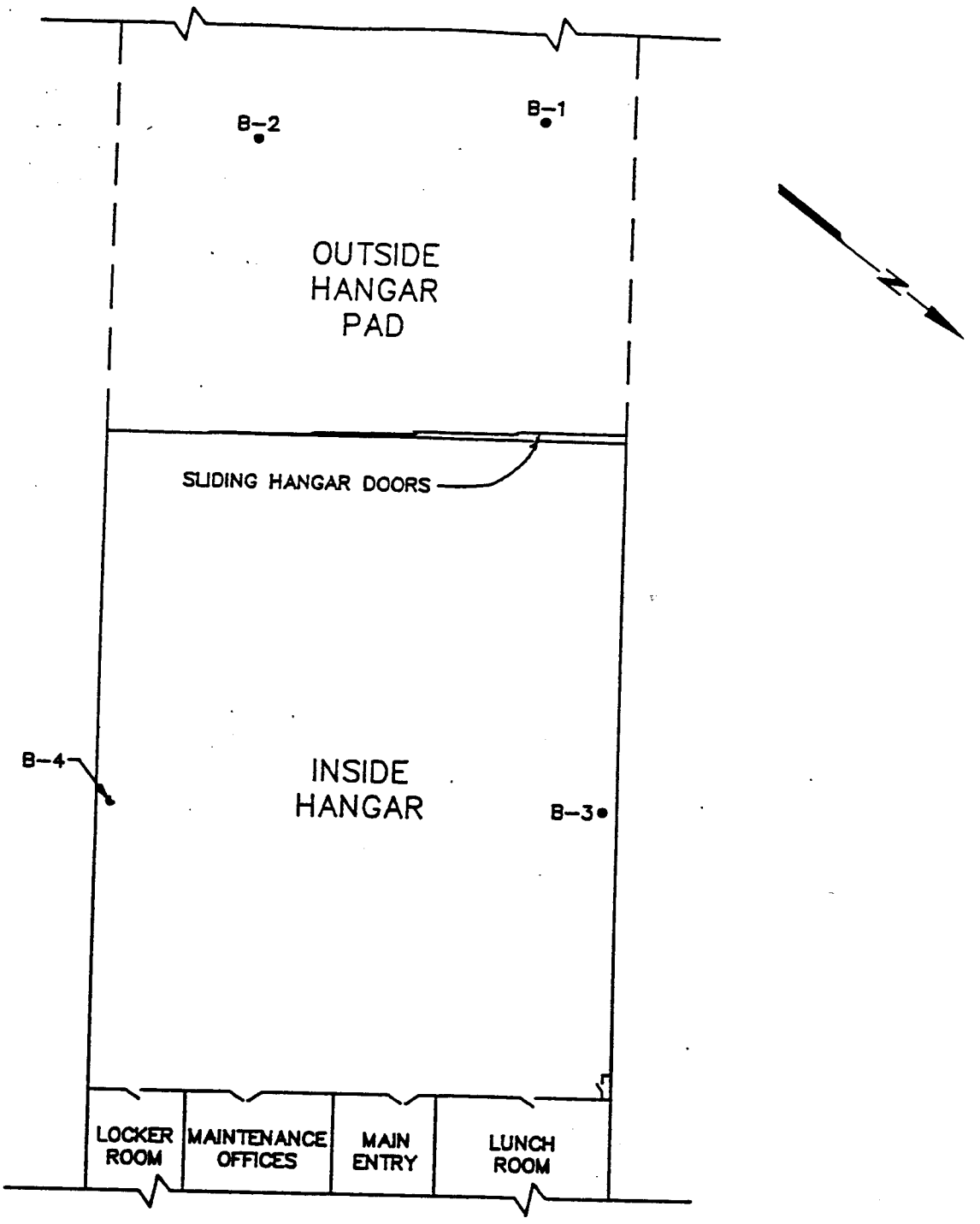
Webers Cove
Dark Hollow
Louden Cove
RYE LAKE
Site
Wetzler Cove
Waterworks
Pumping
COUNTY AIRPORT
CONNECTICUT
St Lukes Hospital
Convent of the Sacred Heart
Bell Buyse
WESTCHESTER CO
FAIRFIELD CO
Substation
Flanagan Memorial Bldg
Cem
Green Valley Country Club
BM 307



EXISTING SPRINKLER ARRANGEMENT

ATTACHMENT 2

12-10-80



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APPROXIMATE SCALE IN FEET

WESTCHESTER COUNTY AIRPORT
MOBIL HANGAR

PILKO & ASSOCIATES, INC.

ATTACHMENT 3

TEXACO, INC.
PHASE II SUB-SURFACE SOIL SAMPLING
ANALYTICAL RESULTS
WESTCHESTER COUNTY AIRPORT
MOBIL HANGER

PARAMETER	PAD-RIGHT B-1 0-6"	PAD-LEFT B-2 0-6"	HANGER-RIGHT B-3 0-6"	HANGER-LEFT B-4 0-6"	UST-NO. 2 OIL B-5 0-6"	ECRA GUIDELINE
TOTAL VOLATILE ORGANICS			ND	7.5 ppm		1 ppm
TOTAL BASE/ NEUTRALS						10 ppm
GC FINGERPRINT AS JET FUEL	68 ppm	<57 ppm				----
TOTAL PETROLEUM HYDROCARBONS	180 ppm	120 ppm	ND	270 ppm	52 ppm	100 ppm

PARAMETER	PAD-RIGHT B-1 18-24"	HANGER-RIGHT B-3 18-24"	UST-NO. 2 OIL B-5 60-66"	ECRA GUIDELINE
TOTAL VOLATILE ORGANICS		ND		1 ppm
TOTAL BASE/ NEUTRALS				10 ppm
GC FINGERPRINT AS JET FUEL	<56 ppm			----
TOTAL PETROLEUM HYDROCARBONS	35 ppm	ND	ND	100 ppm

PARAMETER	UST-NO. 2 OIL B-5 126-132"	ECRA GUIDELINE
TOTAL VOLATILE ORGANICS		1 ppm
TOTAL BASE/ NEUTRALS	2.117 ppm	10 ppm
GC FINGERPRINT AS JET FUEL		----
TOTAL PETROLEUM HYDROCARBONS	ND	100 ppm

ATTACHMENT 4

NOTE: ND = Non Detect.
TEX1A (12/18/90)

NAC Northeastern Analytical Corp.

ANALYTICAL REPORT

for

PILKO & ASSOCIATES, INC.
P.O. Box 4151
Cherry Hill, New Jersey 08034

Attention: Mr. Ralph Carito

TEST REPORT NO. NAC90L-2499

PROJECT: Texaco Airplane Hanger
West Chester, New York

Sample Location	NAC Designation	Date Sampled	Matrix
Hangar Outside: BH-1, 0-6" B. Concrete	90L-2499-1	10-22-90	Solid
Hangar Outside: BH-1, 18-24" B. Concrete	90L-2499-2	10-22-90	Solid
Hangar Outside: BH-2, 0-6" B. Concrete	90L-2499-3	10-22-90	Solid
Hangar Inside: BH-3, 0-6" B. Concrete	90L-2499-4	10-22-90	Solid
Hangar Inside: BH-3, 18-24" B. Concrete	90L-2499-5	10-22-90	Solid
Hangar Inside: BH-4, 0-6" B. Concrete	90L-2499-6	10-22-90	Solid
UST: BH-5, 0-6" B. Grade	90L-2499-7	10-22-90	Solid
UST: BH-5, 5.0-5.5' B. Grade	90L-2499-8	10-22-90	Solid
UST: BH-5, 10.5-11.0' B. Grade	90L-2499-9	10-22-90	Solid
Field Blank	90L-2499-10	10-22-90	Aqueous
Trip Blank	90L-2499-11	10-22-90	Aqueous

Laboratory Name: Northeastern Analytical Corp.

Certification No: 03117 (NJ), 11022 (NY)

Paul P. Painter

Name: Paul P. Painter

Title: Laboratory Director

Date: November 8, 1990

ATTACHMENT 5

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File: 26L\PILKO\90L-2499

I. SAMPLING INFORMATION

To be provided under separate cover.

II. CHAIN OF CUSTODY DOCUMENTATION

NORTHEASTERN ANALYTICAL CORPORATION

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
902-2499	PLAKO ASSOC. / WEST CHESTER AIRPORT

SAMPLERS: G. BLAKE D. NESKO

SAMPLE	DATE	TIME	SOIL	AQ.	SAMPLE LOCATION	NO. OF CONTAINERS	CONTAINER TYPE: 250 ml WHITE	40 ml VIAL UNPRES.	40 ml VIAL HCL	1 LITER HIGHLINE-PRES.	1 LITER H2SO4	REMARKS
-7	10-22-92	12:30	✓		UST: BH-5 0-6" B. GRADE	1	1					TPHC; [redacted]
-8		12:45	✓		UST: BH-5 5.0-5.5' B. GRADE	1	1					TPHC; [redacted]
-9		12:00	✓		UST: BH-5 10.5-11.0' B. GRADE	1	1					TPHC; B/N +15
-1		13:35	✓		HANGAR OUTSIDE: BH-1 0-6" B. GRADE	3	1	2				TPHC; TPH FINGERPRINT
-2		13:45	✓		HANGAR OUTSIDE: BH-1 18-24" B. GRADE	3	1	2				TPHC; TPH FINGERPRINT
-3		14:00	✓		HANGAR OUTSIDE: BH-2 0-6" B. GRADE	3	1	2				TPHC; TPH FINGERPRINT
-4		14:45	✓		HANGAR INSIDE: BH-3 0-6" B. GRADE	3	1	2				VOC (8010/8020); TPHC
-5		14:55	✓		HANGAR INSIDE: BH-3 18-24" B. GRADE	3	1	2				VOC (8010/8020); TPHC
-6		17:10	✓		HANGAR INSIDE: BH-4 0-6" B. GRADE	3	1	2				VOC (8010/8020); TPHC
-10		13:00		✓	FIELD BLANK	7			3	3	1	
-11	↓	14:30		✓	TRIP BLANK	3			3			

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	10-23-92 08:00				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks	

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III. METHOD SUMMARY

- Volatile Halogenated and Volatile Aromatic Organic Compounds

  This is a purge and trap gas chromatography (GC) analysis method used to determine concentrations of various volatile organic compounds in soil. A two to three gram aliquot of sample is added to methanol in a reaction vial. An aliquot of the methanol is added to the purge vessel with surrogate spike and analyzed by GC using a photoionization detector and a halogen specific detector. Reference Methods are EPA Method 5030 and EPA Methods 8010 and 8020 from SW846, Third Edition, November 1986.

- Semivolatiles by GC/MS

  Method 8270 - This is a gas chromatograph/mass spectrometer (GC/MS) method applicable to the determination of a number of organic compounds that are partitioned in an organic solvent and amenable to gas chromatography. Test Methods for Evaluating Solid Waste, SW846, 3rd Edition, November, 1986.

  An HP5890/5970B GC/MS was used with a DB-5 fused silica capillary column.

  Method detection limits are as stated.

  Soil samples were prepared for analysis as prescribed in Method 3550 from SW846.

  Aqueous samples were prepared for analysis as prescribed in Method 3510 from SW846.

- GC Fingerprint

  This method covers the comparison of petroleum oils recovered from aqueous or solids with oils from known sources by means of gas chromatography. The effluent of the packed column is determined by a flame-ionization detector. Reference methods are SW846 3rd Edition and ASTM Method 3328.

III. METHOD SUMMARY (Continued)

- Petroleum Hydrocarbons by IR - Aqueous

  The sample is extracted with freon and an Infrared Spectrophotometer (IR) method is used to determine petroleum hydrocarbon levels in aqueous matrices. The non-petroleum hydrocarbons are removed with silica gel and the extract is analyzed by IR against a series of standard mixtures. Reference method is EPA Method 418.1.

- Petroleum Hydrocarbons by IR - Solid

  This is a soxhlet extraction and Infrared Spectrophotometer (IR) method used to determine petroleum hydrocarbon levels in solid matrices. An aliquot of the sample is soxhlet extracted with freon, the non-petroleum hydrocarbons are removed with silica gel and the extract is analyzed by IR against a series of standard mixtures. Reference methods are EPA Methods 3540 and 418.1.

- Total Solids, Percent

  This is a gravimetric analytical method used to determine the moisture content present in either aqueous or solid matrices. An aliquot of the sample is weighed into a tared beaker and then dried at 103°-105°C. The final weight is subtracted from the initial weight and then the percent total solids present in the sample is calculated. Reference Method 109A, Standard Methods, 15th Edition.

IV. LABORATORY CHRONICLE

A. Date of Sampling: 10-22-90

B. Date of Receipt/Refrigeration: 10-23-90

C. Date of Analysis:

Parameter	Date Extracted	Date Analyzed
Volatile Organics		
. 8010	NA	10-26 & 10-29-90
. 8020	NA	10-30-90
Semivolatile Organics		
. Aqueous	10-25-90	10-30-90
. Solid	10-25-90	11-01-90
GC Fingerprint	10-29-90	10-31-90
Petroleum Hydrocarbons		
. Aqueous	10-29-90	10-29-90
. Solid	10-25-90	10-25-90
Total Solids	NA	10-25-90

NA: Not Applicable

V. NON-COMPLIANCE/QA REPORT

None.

Supervisor Review and Approval: Paul Painter

VI. ANALYTICAL RESULTS

. Volatile Organics

Parameter	Sample Designation 90L-2499-4 Hangar Inside: BH-3, 0-6" B. Concrete*	Detection Limit*
Chloromethane	ND	1,100
Bromomethane	ND	1,100
Vinyl Chloride	ND	1,100
Chloroethane	ND	1,100
Methylene Chloride	ND	1,100
Trichlorofluoromethane	ND	1,100
1,1-Dichloroethene	ND	1,100
1,1-Dichloroethane	ND	1,100
trans-1,2-Dichloroethene	ND	1,100
Chloroform	ND	1,100
1,2-Dichloroethane	ND	1,100
1,1,1-Trichloroethane	ND	1,100
Carbon Tetrachloride	ND	1,100
Bromodichloromethane	ND	1,100
1,2-Dichloropropane	ND	1,100
trans-1,3-Dichloropropene	ND	1,100
Trichloroethene	ND	1,100
Dibromochloromethane	ND	1,100
1,1,2-Trichloroethane	ND	1,100
cis-1,3-Dichloropropene	ND	1,100
2-Chloroethyl Vinyl Ether	ND	1,100
Bromoform	ND	1,100
1,1,2,2-Tetrachloroethane	ND	1,100
Tetrachloroethene	ND	1,100
Chlorobenzene	ND	1,100
1,3-Dichlorobenzene	ND	1,100
1,2-Dichlorobenzene	ND	1,100
1,4-Dichlorobenzene	ND	1,100
Benzene	ND	1,100
Toluene	ND	1,100
Ethylbenzene	ND	1,100
p-Xylene	ND	1,100
m-Xylene	ND	1,100
o-Xylene	ND	1,100
Units	(ug/kg)	(ug/kg)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 90L-2499-5 Hangar Inside: BH-3, 18-24" B. Concrete*	Detection Limit*
Chloromethane	ND	1,100
Bromomethane	ND	1,100
Vinyl Chloride	ND	1,100
Chloroethane	ND	1,100
Methylene Chloride	ND	1,100
Trichlorofluoromethane	ND	1,100
1,1-Dichloroethene	ND	1,100
1,1-Dichloroethane	ND	1,100
trans-1,2-Dichloroethene	ND	1,100
Chloroform	ND	1,100
1,2-Dichloroethane	ND	1,100
1,1,1-Trichloroethane	ND	1,100
Carbon Tetrachloride	ND	1,100
Bromodichloromethane	ND	1,100
1,2-Dichloropropane	ND	1,100
trans-1,3-Dichloropropene	ND	1,100
Trichloroethene	ND	1,100
Dibromochloromethane	ND	1,100
1,1,2-Trichloroethane	ND	1,100
cis-1,3-Dichloropropene	ND	1,100
2-Chloroethyl Vinyl Ether	ND	1,100
Bromoform	ND	1,100
1,1,2,2-Tetrachloroethane	ND	1,100
Tetrachloroethene	ND	1,100
Chlorobenzene	ND	1,100
1,3-Dichlorobenzene	ND	1,100
1,2-Dichlorobenzene	ND	1,100
1,4-Dichlorobenzene	ND	1,100
Benzene	ND	1,100
Toluene	ND	1,100
Ethylbenzene	ND	1,100
p-Xylene	ND	1,100
m-Xylene	ND	1,100
o-Xylene	ND	1,100
Units	(ug/kg)	(ug/kg)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 90L-2499-6 Hangar Inside: BH-4, 0-6" B. Concrete*	Detection Limit*
Chloromethane	ND	1,200
Bromomethane	ND	1,200
Vinyl Chloride	ND	1,200
Chloroethane	ND	1,200
Methylene Chloride	ND	1,200
Trichlorofluoromethane	ND	1,200
1,1-Dichloroethene	ND	1,200
1,1-Dichloroethane	ND	1,200
trans-1,2-Dichloroethene	ND	1,200
Chloroform	ND	1,200
1,2-Dichloroethane	ND	1,200
1,1,1-Trichloroethane	2,700	1,200
Carbon Tetrachloride	ND	1,200
Bromodichloromethane	ND	1,200
1,2-Dichloropropane	ND	1,200
trans-1,3-Dichloropropene	ND	1,200
Trichloroethene	ND	1,200
Dibromochloromethane	ND	1,200
1,1,2-Trichloroethane	ND	1,200
cis-1,3-Dichloropropene	ND	1,200
2-Chloroethyl Vinyl Ether	ND	1,200
Bromoform	ND	1,200
1,1,2,2-Tetrachloroethane	ND	1,200
Tetrachloroethene	4,800	1,200
Chlorobenzene	ND	1,200
1,3-Dichlorobenzene	ND	1,200
1,2-Dichlorobenzene	ND	1,200
1,4-Dichlorobenzene	ND	1,200
Benzene	ND	1,200
Toluene	ND	1,200
Ethylbenzene	ND	1,200
p-Xylene	ND	1,200
m-Xylene	ND	1,200
o-Xylene	ND	1,200
Units	(ug/kg)	(ug/kg)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 90L-2499-10 Field Blank	Detection Limit
Chloromethane	ND	1.0
Bromomethane	ND	1.0
Vinyl Chloride	ND	1.0
Chloroethane	ND	1.0
Methylene Chloride	ND	1.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
Dibromochloromethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
2-Chloroethyl Vinyl Ether	ND	1.0
Bromoform	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
Benzene	ND	1.0
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p-Xylene	ND	1.0
m-Xylene	ND	1.0
o-Xylene	ND	1.0
Units	(ug/l)	(ug/l)

ND: Not Detected.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 90L-2499-11 Trip Blank	Detection Limit
Chloromethane	ND	1.0
Bromomethane	ND	1.0
Vinyl Chloride	ND	1.0
Chloroethane	ND	1.0
Methylene Chloride	ND	1.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
Dibromochloromethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
2-Chloroethyl Vinyl Ether	ND	1.0
Bromoform	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
Benzene	ND	1.0
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p-Xylene	ND	1.0
m-Xylene	ND	1.0
o-Xylene	ND	1.0
Units	(ug/l)	(ug/l)

ND: Not Detected.

VI. ANALYTICAL RESULTS (Continued)

- Volatile Organics (Continued)

Parameter	Sample Designation: Method Blank (10-26-90)	Detection Limit
Chloromethane	ND	1.0
Bromomethane	ND	1.0
Vinyl Chloride	ND	1.0
Chloroethane	ND	1.0
Methylene Chloride	ND	1.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
Dibromochloromethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
2-Chloroethyl Vinyl Ether	ND	1.0
Bromoform	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
Unit	(ug/l)	(ug/l)

ND: Not Detected.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation: Method Blank (10-29-90)	Detection Limit
Chloromethane	ND	1.0
Bromomethane	ND	1.0
Vinyl Chloride	ND	1.0
Chloroethane	ND	1.0
Methylene Chloride	ND	1.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
Dibromochloromethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
2-Chloroethyl Vinyl Ether	ND	1.0
Bromoform	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
Unit	(ug/l)	(ug/l)

ND: Not Detected.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation Method Blank (10-30-90)	Detection Limit
Benzene	ND	1.0
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p-Xylene	ND	1.0
m-Xylene	ND	1.0
o-Xylene	ND	1.0
Units	(ug/l)	(ug/l)

ND: Not Detected.

NORTHEASTERN ANALYTICAL CORPORATION

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

AB SAMPLE ID:90L2499-9

LAB FILE ID:>B4750

DATE EXTRACTED:10/25/90

DATE ANALYZED:901101

AMPLE WT/VOL:30GM/1ML

LEVEL:LOW

DRY WT %:85.60

CAS NO.		MDL	CONC.UG/KG
62-75-9	N-nitrosodimethylamine	390	U
11-44-4	bis(2-Chloroethyl)ether	390	U
41-73-1	1,3-Dichlorobenzene	390	U
106-46-7	1,4-Dichlorobenzene	390	U
95-50-1	1,2-Dichlorobenzene	390	U
9638-32-9	bis(2-Chloroisopropyl)ether	390	U
21-64-7	N-Nitroso-di-n-propylamine	390	U
67-72-1	Hexachloroethane	390	U
98-95-3	Nitrobenzene	390	U
78-59-1	Isophorone	390	U
111-91-1	bis(-2-Chloroethoxy)Methane	390	U
120-82-1	1,2,4-Trichlorobenzene	390	U
91-20-3	Naphthalene	390	U
87-68-3	Hexachlorobutadiene	390	U
77-47-4	Hexachlorocyclopentadiene	390	U
91-58-7	2-Chloronaphthalene	390	U
131-11-3	Dimethylphthalate	390	U
208-96-8	Acenaphthylene	390	U
83-32-9	Acenaphthene	390	U
121-14-2	2,4-Dinitrotoluene	390	U
606-20-2	2,6-Dinitrotoluene	390	U
84-66-2	Diethylphthalate	390	U
7005-72-3	4-Chlorophenyl-phenylether	390	U
86-73-7	Fluorene	390	U
86-30-6	N-Nitrosodiphenylamine (1)	390	U
103-33-3	1,2-diphenylhydrazine	390	U
101-55-3	4-Bromophenyl-phenylether	390	U
118-74-1	Hexachlorobenzene	390	U
85-01-8	Phenanthrene	390	U
120-12-7	Anthracene	390	U
84-74-2	Di-n-Butylphthalate	390	U
206-44-0	Fluoranthene	390	U
92-87-5	Benzidine	1900	U

(1) - Cannot be separated from Diphenylamine

U; Not Detected

NORTHEASTERN ANALYTICAL CORPORATION

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

AB SAMPLE ID:90L2499-9

LAB FILE ID:>B4750

ATE EXTRACTED:10/25/90

DATE ANALYZED:901101

AMPLE WT/VOL:30GM/1ML

LEVEL:LOW

)RY WT %:85.60

:AS NO.		MDL	CONC.UG/KG
129-00-0	Pyrene	390	U
35-68-7	Butylbenzylphthalate	390	U
91-94-1	3,3'-Dichlorobenzidine	780	U
56-55-3	Benzo(a)Anthracene	390	U
117-81-7	Bis(2-Ethylhexyl)Phthalate	390	47 J
218-01-9	Chrysene	390	U
117-84-0	Di-n-octylphthalate	390	U
205-99-2	Benzo(b)fluoranthene	390	U
207-08-9	Benzo(k)Fluoranthene	390	U
50-32-8	Benzo(a)Pyrene	390	U
193-39-5	Indeno(1,2,3-cd)Pyrene	390	U
53-70-3	Dibenzo(a,h)Anthracene	390	U
191-24-2	Benzo(g,h,i)Perylene	390	U

U; Not Detected

J; below the limits of reliable quantitation

VI. ANALYTICAL RESULTS (Continued)

. Semivolatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: 90L-2499-9, UST: BH-5, 10.5-11.0' B. Grade

Tentatively Identified Compounds	Retention Time, Minutes	Estimated Concentration, ug/kg*
1,1,2-trichloroethane	5.34	190J
1,1,2,2-tetrachloroethane	9.13	360J
Unknown Silane	33.23	240J
Unknown Silane	34.69	330J
Unknown Silane	36.06	350J
Unknown Silane	37.34	400J
Unknown Silane	38.57	170J

*: Calculated on a dry weight basis.
J: Estimated concentration.

NORTHEASTERN ANALYTICAL CORPORATION

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:90L2499-10 LAB FILE ID:>D3680

DATE EXTRACTED:10/25/90 DATE ANALYZED:901030

SAMPLE WT/VOL:1000/1ML LEVEL:LOW

CAS NO.		MDL	CONC.UG/L
62-75-9	N-Nitrosodimethylamine	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
39638-32-9	bis(2-Chloroisopropyl)ether	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
111-91-1	bis(-2-Chloroethoxy)Methane	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
87-68-3	Hexachlorobutadiene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
91-58-7	2-Chloronaphthalene	10	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
103-33-3	1,2-Diphenylhydrazine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
92-87-5	Benzidine	50	U

(1) - Cannot be separated from Diphenylamine

U; Not Detected

NORTHEASTERN ANALYTICAL CORPORATION

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:90L2499-10 LAB FILE ID:>D3680

DATE EXTRACTED:10/25/90 DATE ANALYZED:901030

SAMPLE WT/VOL:1000/1ML LEVEL:LOW

CAS NO.		MDL	CONC.UG/L
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
117-81-7	Bis(2-Ethylhexyl)Phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

U; Not Detected

VI. ANALYTICAL RESULTS (Continued)

. Semivolatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: 90L-2499-10, Field Blank

Tentatively Identified Compounds	Retention Time, Minutes	Estimated Concentration, ug/l
No Unknowns	---	---

NORTHEASTERN ANALYTICAL CORPORATION

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:BLANK#3 (RS0186)

LAB FILE ID:>D3664

DATE EXTRACTED:10/25/90 9010291951

DATE ANALYZED:901029

SAMPLE WT/VOL:30G/1ML

LEVEL:LOW

CAS NO.		MDL	CONC.UG/KG
62-75-9	N-Nitrosodimethylamine	330	U
108-95-2	Phenol	330	U
111-44-4	bis(2-Chloroethyl)ether	330	U
95-57-8	2-Chlorophenol	330	U
541-73-1	1,3-Dichlorobenzene	330	U
106-46-7	1,4-Dichlorobenzene	330	U
95-50-1	1,2-Dichlorobenzene	330	U
39638-32-9	bis(2-Chloroisopropyl)ether	330	U
621-64-7	N-Nitroso-di-n-propylamine	330	U
67-72-1	Hexachloroethane	330	U
98-95-3	Nitrobenzene	330	U
78-59-1	Isophorone	330	U
88-75-5	2-Nitrophenol	330	U
105-67-9	2,4-Dimethylphenol	330	U
111-91-1	bis(-2-Chloroethoxy)Methane	330	U
120-83-2	2,4-Dichlorophenol	330	U
120-82-1	1,2,4-Trichlorobenzene	330	U
91-20-3	Naphthalene	330	U
87-68-3	Hexachlorobutadiene	330	U
59-50-7	4-Chloro-3-methylphenol	330	U
77-47-4	Hexachlorocyclopentadiene	330	U
88-06-2	2,4,6-Trichlorophenol	330	U
91-58-7	2-Chloronaphthalene	330	U
131-11-3	Dimethylphthalate	330	U
208-96-8	Acenaphthylene	330	U
83-32-9	Acenaphthene	330	U
51-28-5	2,4-Dinitrophenol	1700	U
100-02-7	4-Nitrophenol	1700	U
121-14-2	2,4-Dinitrotoluene	330	U
606-20-2	2,6-Dinitrotoluene	330	U
84-66-2	Diethylphthalate	330	U
7005-72-3	4-Chlorophenyl-phenylether	330	U
86-73-7	Fluorene	330	U

U; Not Detected

NORTHEASTERN ANALYTICAL CORPORATION

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:BLANK#3 (RS0186)
9010291951

LAB FILE ID:>D3664

DATE EXTRACTED:10/25/90

DATE ANALYZED:901029

SAMPLE WT/VOL:30G/1ML

LEVEL:LOW

CAS NO.		MDL	CONC.UG/KG
534-52-1	4,6-Dinitro-2-methylphenol	1700	U
86-30-6	N-Nitrosodiphenylamine (1)	330	U
103-33-3	1,2-Diphenylhydrazine	330	U
101-55-3	4-Bromophenyl-phenylether	330	U
118-74-1	Hexachlorobenzene	330	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	330	U
120-12-7	Anthracene	330	U
84-74-2	Di-n-Butylphthalate	330	U
206-44-0	Fluoranthene	330	U
92-87-5	Benzidine	1700	U
129-00-0	Pyrene	330	U
85-68-7	Butylbenzylphthalate	330	U
91-94-1	3,3'-Dichlorobenzidine	670	U
56-55-3	Benzo(a)Anthracene	330	U
117-81-7	Bis(2-Ethylhexyl)Phthalate	330	U
218-01-9	Chrysene	330	U
117-84-0	Di-n-octylphthalate	330	U
205-99-2	Benzo(b)fluoranthene	330	U
207-08-9	Benzo(k)Fluoranthene	330	U
50-32-8	Benzo(a)Pyrene	330	U
193-39-5	Indeno(1,2,3-cd)Pyrene	330	U
53-70-3	Dibenzo(a,h)Anthracene	330	U
191-24-2	Benzo(g,h,i)Perylene	330	U

(1) - Cannot be separated from Diphenylamine

U; Not Detected

VI. ANALYTICAL RESULTS (Continued)

. Semivolatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: Method Blank 9010291951 (Ext. 10/25/90)

Tentatively Identified Compounds	Retention Time, Minutes	Estimated Concentration, ug/kg
No Unknowns	---	---

NORTHEASTERN ANALYTICAL CORPORATION

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:BLANK#1 (RS0189)
9010301638

LAB FILE ID:>D3679

DATE EXTRACTED:10/25/90

DATE ANALYZED:901030

SAMPLE WT/VOL:1000/1ML

LEVEL:LOW

CAS NO.		MDL	CONC.UG/L
62-75-9	N-Nitrosodimethylamine	10	U
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
39638-32-9	bis(2-Chloroisopropyl)ether	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
111-91-1	bis(-2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	10	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U

U; Not Detected

NORTHEASTERN ANALYTICAL CORPORATION

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:BLANK#1 (RS0189)

LAB FILE ID:>D3679

DATE EXTRACTED:10/25/90 9010301638

DATE ANALYZED:901030

SAMPLE WT/VOL:1000/1ML

LEVEL:LOW

CAS NO.		MDL	CONC.UG/L
534-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
103-33-3	1,2-Diphenylhydrazine	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
92-87-5	Benzidine	50	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
117-81-7	Bis(2-Ethylhexyl)Phthalate	10	U
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenzo(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

U; Not Detected

VI. ANALYTICAL RESULTS (Continued)

. Semivolatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: Method Blank 9010301638 (Ext. 10-25-90)

Tentatively Identified Compounds	Retention Time, Minutes	Estimated Concentration, ug/l
No Unknowns	---	---

4B
SEMI-VOLATILE METHOD BLANK SUMMARY

Lab Name: NAC

Lab Sample ID: BLANK #3 (BS0196)

Lab File ID: > D36664

Etraction: (Sepf/Cont/Sonc)

Date Analyzed: 10/29/90

Time Analyzed: 19:51

Matrix: (soil/water)

Level: (low/med)

Instrument ID: D

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01		90L-2499-9	>B4750	9211161 14:49
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS: _____

NORTHEASTERN ANALYTICAL CORPORATION

SEMI-VOLATILE METHOD BLANK SUMMARY SHEET

LAB SAMPLE ID:BLANK#1 (RS0189) LAB FILE ID:>B4728

MATRIX:WATER LEVEL:LOW

DATE ANALYZED:10/30/90 TIME ANALYZED:15:02

EXTRACTION METHOD:CONT

This method blank applies to the following Samples, MS and MSD

LAB SAMPLE ID	LAB FILE ID	INJECT DATE AND TIME
90L2499-10	>D3680	10/30/90 17:32

VI. ANALYTICAL RESULTS (Continued)

Sample Designation	Parameter: GC Fingerprint as Jet Fuel*
90L-2499-1, Hangar Outside: BH-1, 0-6" B. Concrete	68
90L-2499-2, Hangar Outside: BH-1, 18-24" B. Concrete	<56
90L-2499-3, Hangar Outside: BH-2, 0-6" B. Concrete	<57
Method Blank	<50
Units	(mg/kg)

Sample Designation	Parameter: GC Fingerprint as Jet Fuel
90L-2499-10, Field Blank	<1
Method Blank	<1
Units	(mg/l)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

Sample Designation	Parameters: Petroleum Hydrocarbons by IR*	Parameters: Detection Limit*	Parameters: Total Solids
90L-2499-1, Hangar Outside: BH-1, 0-6" B. Concrete	180,000	29,000	87
90L-2499-2, Hangar Outside: BH-1, 18-24" B. Concrete	35,000	28,000	90
90L-2499-3, Hangar Outside: BH-2, 0-6" B. Concrete	120,000	28,000	88
90L-2499-4, Hangar Inside: BH-3, 0-6" B. Concrete	ND	26,000	94
90L-2499-5, Hangar Inside: BH-3, 18-24" B. Concrete	ND	28,000	91
90L-2499-6, Hangar Inside: BH-4, 0-6" B. Concrete	270,000	30,000	83
90L-2499-7, UST: BH-5, 0-6" B. Grade	52,000	30,000	82
90L-2499-8, UST: BH-5, 5.0-5.5' B. Grade	ND	29,000	88
90L-2499-9, UST: BH-5, 10.5-11.0' B. Grade	ND	29,000	86
Method Blank	ND	25,000	NA
Units	(ug/kg)	(ug/kg)	(%)

Sample Designation	Parameters: Petroleum Hydrocarbons by IR	Parameters: Detection Limit
90L-2499-10, Field Blank	ND	1,000
Method Blank	ND	1,000
Units	(ug/l)	(ug/l)

NA: Not Applicable.
ND: Not Detected.
*: Calculated on a dry weight basis.

VII. QUALITY ASSURANCE DATA

. Volatile Organic Surrogate Recoveries - Solid

Sample Designation	% Recovery 1-Chloro-2-Bromopropane	Fluorobenzene
90L-2499-4	79	99
90L-2499-5	88	91
90L-2499-6	81	85
Control Limits	(66-112)	(67-126)

. Volatile Organic Surrogate Recoveries - Aqueous

Sample Designation	% Recovery 1-Chloro-2-Bromopropane	Fluorobenzene
90L-2499-10	84	84
90L-2499-11	80	96
Method Blank (10-26-90)	85	NA
Method Blank (10-29-90)	79	NA
Method Blank (10-30-90)	NA	87
90L-2499-4S	94	NA
90L-2499-4SD	98	NA
90L-2586-S	NA	104
90L-2586-SD	NA	102
Control Limits	(59-136)	(65-155)

NA: Not Applicable.

VII. QUALITY ASSURANCE DATA (Continued)

. Semivolatile Organic Surrogate Recoveries - Solid

Sample Designation	% Recovery Nitrobenzene-D5	2-Fluorobiphenyl	Terphenyl-D14
90L-2499-9	72	81	91
Method Blank 9010291951	73	73	88
90L-2430-5S	66	70	70
90L-2430-5SD	68	80	72
Control Limits	(23-120)	(30-115)	(18-137)

Sample Designation	% Recovery Nitrobenzene-D5	2-Fluorobiphenyl	Terphenyl-D14
90L-2499-10	57	56	64
Method Blank 9010301638	47	42*	48
Control Limits	(35-114)	(43-116)	(33-141)

*: Value Outside SW846 Control Limits.

VII. QUALITY ASSURANCE DATA (Continued)

. Matrix Spike and Matrix Spike Duplicate Recoveries

Parameter	Sample Spiked	Amount of Spike, ug	Initial % Recovery	Duplicate % Recovery	Relative % Difference
PHC*	2499-1	4,100	46	52	12
PHC	Control	4,100	81	---	---
TS	2499-1	Duplicate	98	---	---

*:Solid Matrix.

VIII. STATEMENT OF AUTHENTICATION

LABORATORY AUTHENTICATION STATEMENT FOR NJPDES COMPLIANCE MONITORING

I certify under penalty of law, where applicable, this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18, 40 CFR 136 for Water and Wastewater Analyses and SW 846 for Solid Waste Analyses. I have personally examined and am familiar with the information contained in this report, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, complete, and meets the standards specified in N.J.A.C. 7:18, 40 CFR 136, and/or SW 846. I am aware that there are significant Penalties for submitting false information, including the possibility of a fine and imprisonment.

Paul P. Painter
Laboratory Director

Appendix 1:

- Sample Preparation
- Sample Preservation

Sample Preparation — Sample Preparation Chemist

		Name (please print)	Signature	Date
1.	Base/Neutrals	x MICHAEL D. CIARLO		10/29/90
2.	Acids			
3.	Pesticides			
4.	Herbicides			
5.	PCB's			
6.	Metals			
7.	~~Other~~ GC FINGERPRINT	MICHAEL D. CIARLO		10/29/90
8.	Other			
9.	Other			

Sample Preparation — Analyst

		Name (please print)	Signature	Date
1.	Base/Neutrals	x Luella Ross.		10/30 & 11/01/90
2.	Acids			
3.	Pesticides			
4.	Herbicides			
5.	PCB's			
6.	Metals			
7.	Volatiles	x Joann Garrison		10/30, 10/29 & 10/30/90
8.	TOC			
9.	TOX			
10.	Phenols (total)			
11.	Cyanide (total)			
12.	~~Other~~ TPHC	x Diane Leitzel		10/25 & 10/29/90
13.	~~Other~~ GC Fingerprint	x Janice Inokon		10/31/90
14.	~~Other~~ TS	x [illegible]		10/25/90
15.	Other			

NORTHERN ANALYTICAL CORPORATION

INSTRUCTIONS:
1. Place an X in box if okay
2. Record actual pH if outside acceptable range
3. Record corrective action in remarks.
4. Temperature: Record actual temperature

PRESERVATIVE CHECKLIST
ENTER DATA TO INDICATE COMPLIANCE WITH NJDEP REQUIREMENTS

Signature: Kurt Lobs
Date Performed: 10/23/90

pH ≤ 2											pH ≥ 12	TEMP	SAMPLES	
COD	NH3	TKN	TOX	VOA	PHENOL	TOC	PHC/O&G	METALS	HARD	TPO_4	CN	C	NAC #	REMARKS
												NA	2499-1	Soil
													-2	
													-3	
													-4	
													-5	
													-6	
													-7	
													-8	
													-9	
				✓			✓						-10	Aq

SPECIAL INSTRUCTIONS/NONCOMPLIANCE AND QA NOTATIONS

039

INSTRUCTIONS:
1. Place an X in box if okay
2. Record actual pH if outside acceptable range
3. Record corrective action in remarks.
4. Temperature: Record actual temperature

PRESERVATIVE CHECKLIST
ENTER DATA TO INDICATE COMPLIANCE WITH NJDEP REQUIREMENTS

Signature: Kurt Soles
Date Performed: 10/23/90

pH ≤ 2											pH ≥ 12	TEMP	SAMPLES	
COD	NH3	TKN	TOX	VOA	PHENOL	TOC	PHC/O&G	METALS	HARD	TPO_4	CN	C	NAC #	REMARKS
				✓										
												NA	2499-11	Aq

SPECIAL INSTRUCTIONS/NONCOMPLIANCE AND QA NOTATIONS

040

NAC NORTHEASTERN ANALYTICAL CORPORATION

Appendix 2: Semivolatile Organic Compounds Data Package

NAC NORTHEASTERN ANALYTICAL CORPORATION

Sample Identification

NAC Designation	Sample Location
90L-2499-9	UST: BH-5 10.5-11.0' B. Grade
90L-2499-10	Field Blank

NORTHEASTERN ANALYTICAL CORPORATION

90L-2499-9 Sample Data Package

QUANT REPORT

Operator ID: KEN
Output File: ^B4750::D1
Data File: >B4750::D3
Name: 90L2499-9
Misc: 30GM/1ML EXT:10/25/90 (RS0185)

Quant Rev: 6 Quant Time: 901101 15:34
Injected at: 901101 14:49
Dilution Factor: 33.33333

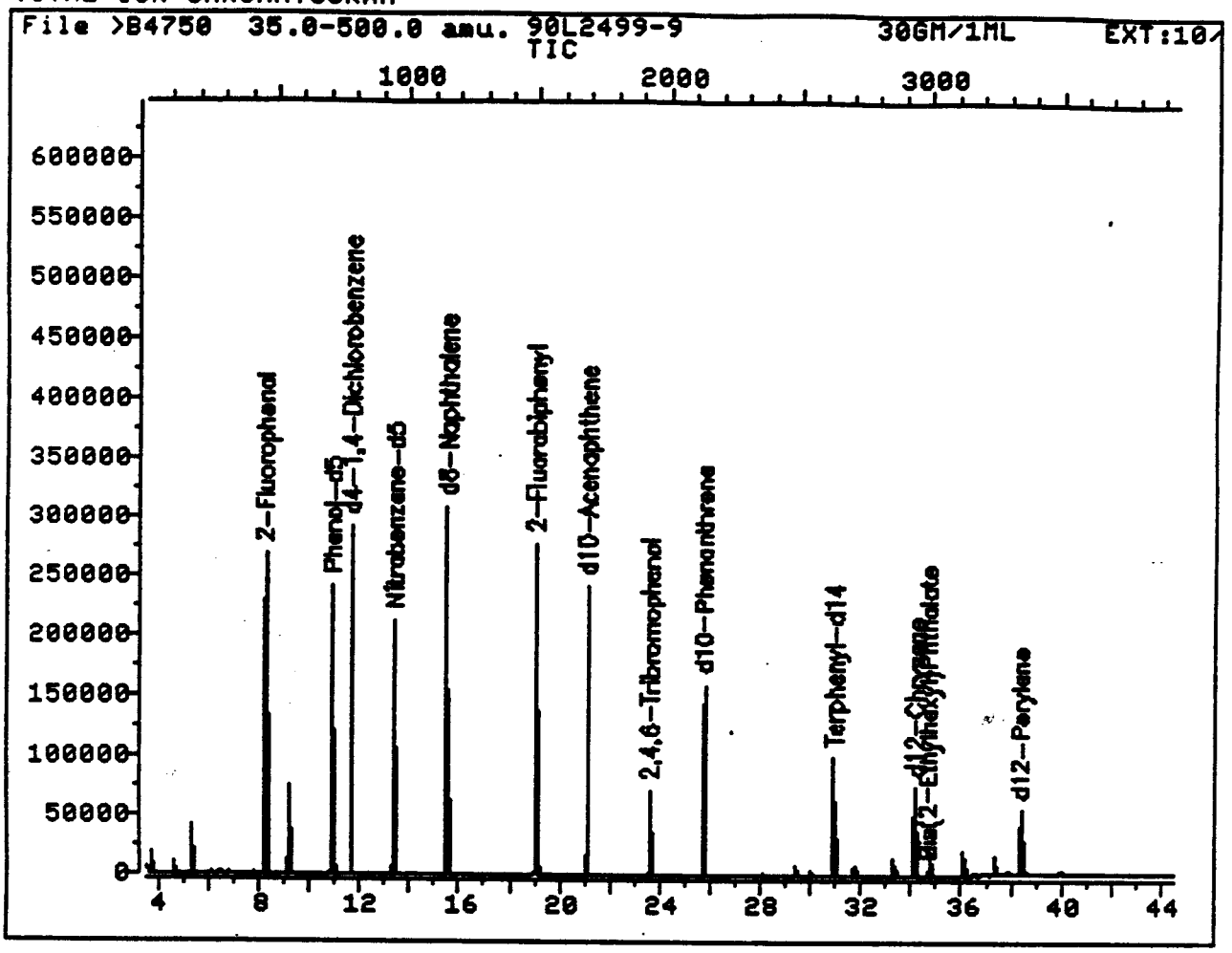
BTL# 1

TD File: ID_BAS::QT
Title: HP BNA Standards for 5 point Calibration Curve Rev. E
Last Calibration: 901024 16:04

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	11.60	780	100224	40.00	UG/KG	98
3)	2-Fluorophenol	8.18	451	145247	1264.80	UG/KG	97
5)	Phenol-d5	10.86	709	192014	1289.64	UG/KG	83
8)	*d8-Naphthalene	15.46	1151	352561	40.00	UG/KG	87
9)	Nitrobenzene-d5	13.36	949	162839	1200.19	UG/KG	97
33)	*d10-Acenaphthene	21.04	1688	145782	40.00	UG/KG	94
38)	2-Fluorobiphenyl	19.00	1492	238055	1351.04	UG/KG	93
3)	*d10-Phenanthrene	25.68	2134	170920	40.00	UG/KG	99
7)	2,4,6-Tribromophenol	23.56	1930	21502	1134.07	UG/KG	92
65)	*d12-Chrysene	34.11	2945	79177	40.00	UG/KG	92
68)	Terphenyl-d14	30.90	2636	95244	1515.46	UG/KG	92
2)	Bis(2-Ethylhexyl)Phthalate	34.64	2995	3436	39.92	UG/KG	81
4)	*d12-Perylene	38.33	3350	65515	40.00	UG/KG	92

* Compound is ISTD

TOTAL ION CHROMATOGRAM

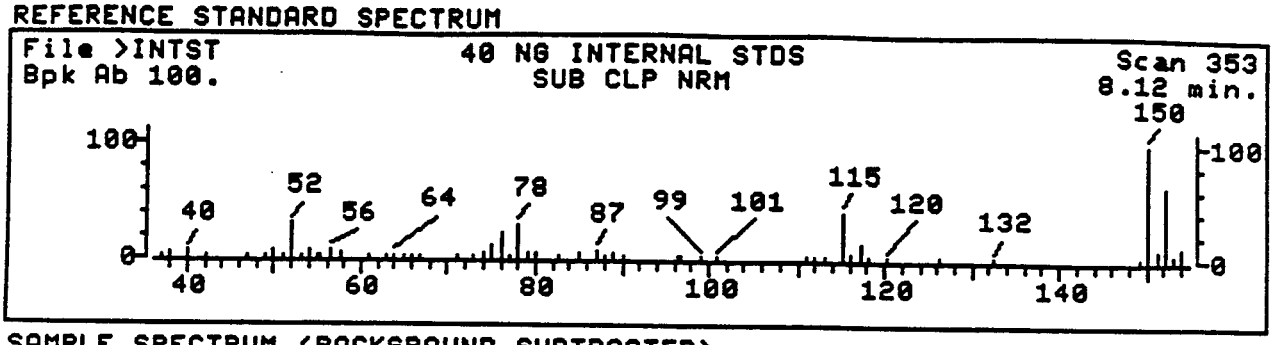


Data File: >B4750::D3 Quant Output File: ^B4750::D1
Name: 90L2499-9
Misc: 30GM/1ML EXT:10/25/90 (RS0185) BTL# 1

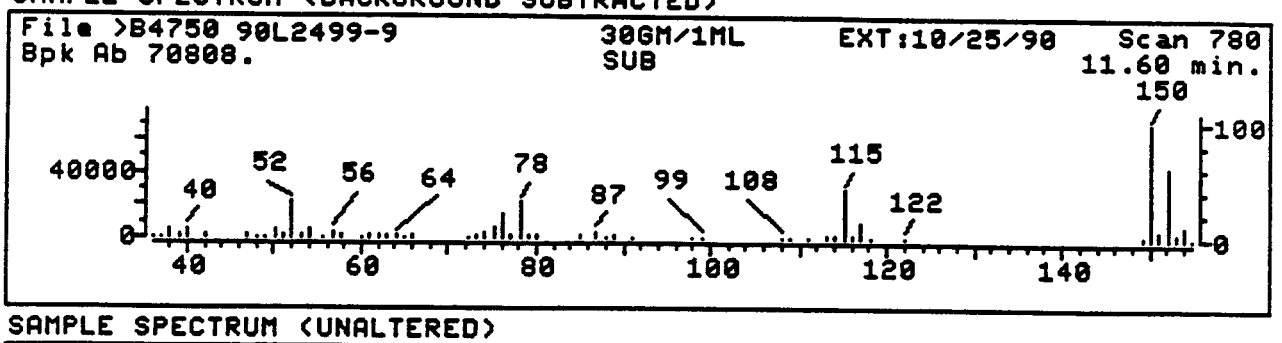
Id File: ID BAS::QT
Title: HP BNA Standards for 5 point Calibration Curve Rev. E
Last Calibration: 901024 16:04

Operator ID: KEN
Quant Time: 901101 15:34
Injected at: 901101 14:49

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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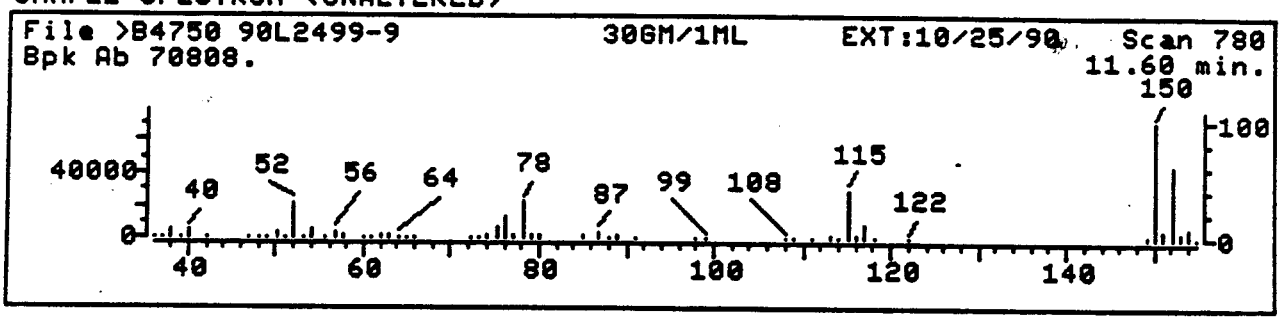
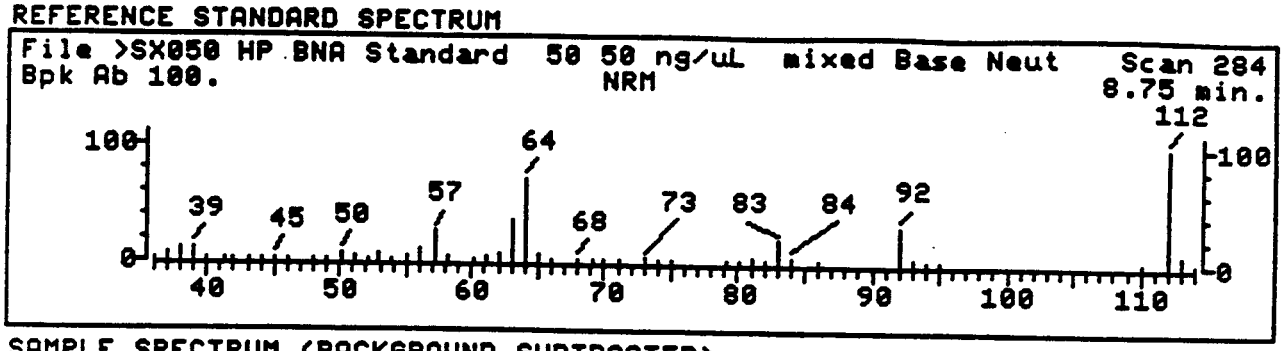


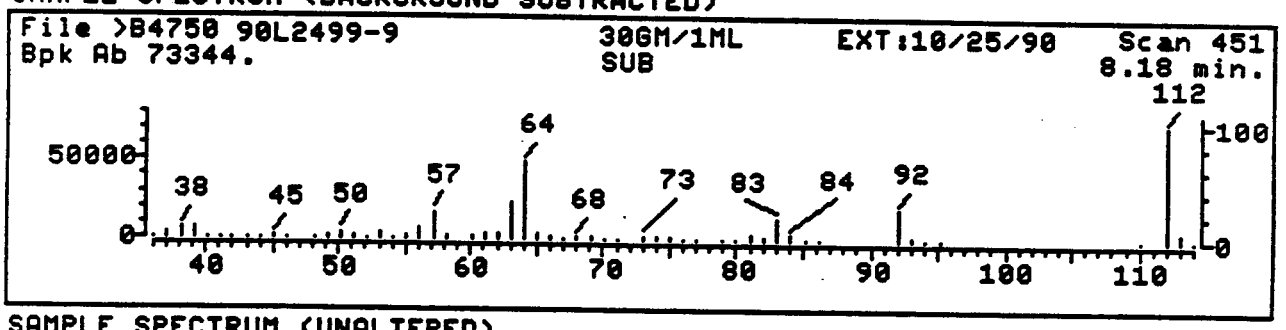
Data File: >B4750::D3 Quant Output File: ^B4750::D1
Name: 90L2499-9
Misc: 30GM/1ML EXT:10/25/90 (RS0185) BTL# 1
Quant Time: 901101 15:34 Quant ID File: ID_BAS::QT
Injected at: 901101 14:49 Last Calibration: 90I024 16:04

Compound No: 1 (ISTD)
Compound Name: d4-1,4-Dichlorobenzene
Scan Number: 780
Retention Time: 11.60 min.
Quant Ion: 152.0
Area: 100224
Concentration: 40.00 UG/KG
q-value: 98

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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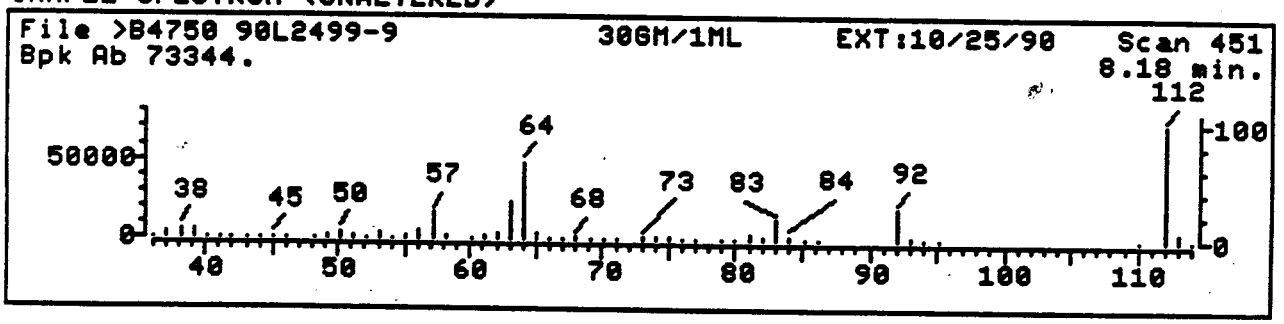
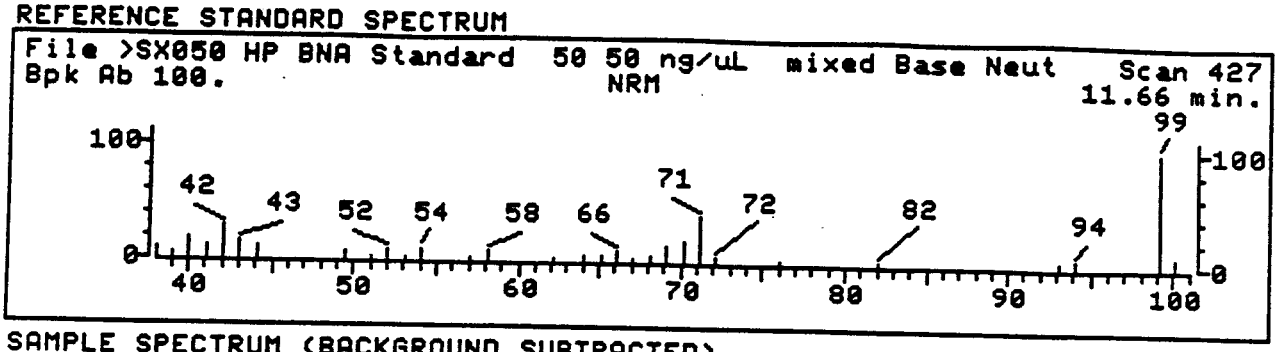


Data File: >B4750::D3
Name: 90L2499-9
Misc: 30GM/1ML EXT:10/25/90 (RS0185)
Quant Time: 901101 15:34
Injected at: 901101 14:49

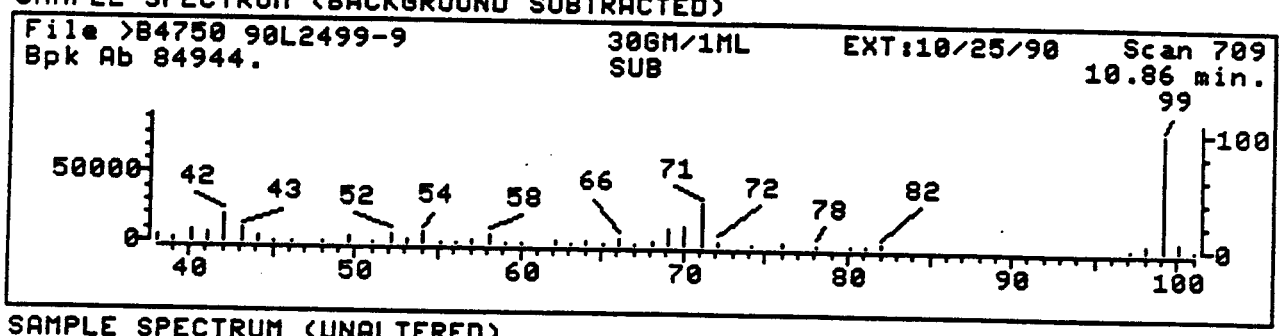
Quant Output File: ^B4750::D1
BTL# 1
Quant ID File: ID_BAS::QT
Last Calibration: 90I024 16:04

Compound No: 3
Compound Name: 2-Fluorophenol
Scan Number: 451
Retention Time: 8.18 min.
Quant Ion: 112.0
Area: 145247
Concentration: 1264.80 UG/KG
q-value: 97

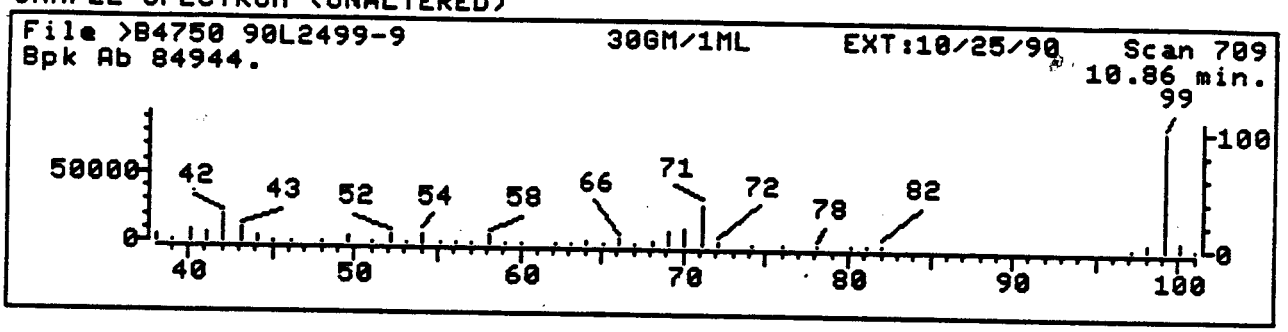
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

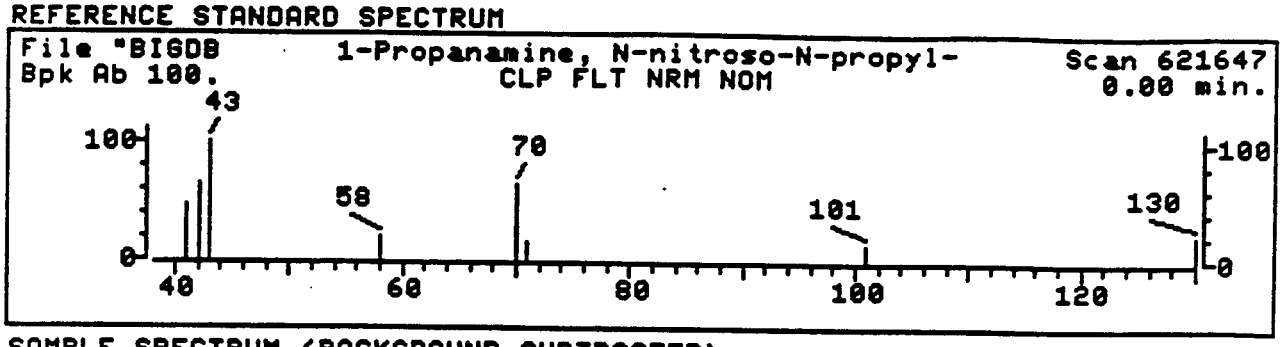


Data File: >B4750::D3
Name: 90L2499-9
Misc: 30GM/1ML EXT:10/25/90 (RS0185)
Quant Time: 901101 15:34
Injected at: 901101 14:49

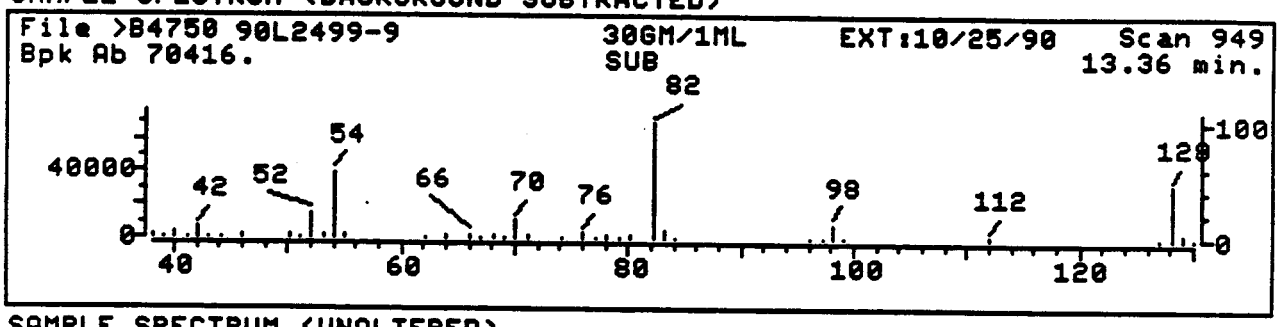
Quant Output File: ^B4750::D1
BTL# 1
Quant ID File: ID_BAS::QT
Last Calibration: 90I024 16:04

Compound No: 5
Compound Name: Phenol-d5
Scan Number: 709
Retention Time: 10.86 min.
Quant Ion: 99.0
Area: 192014
Concentration: 1289.64 UG/KG
q-value: 83

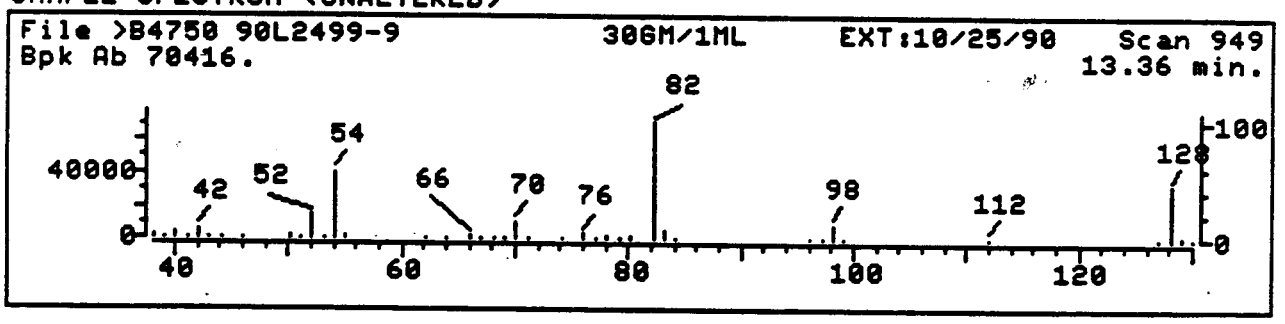
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



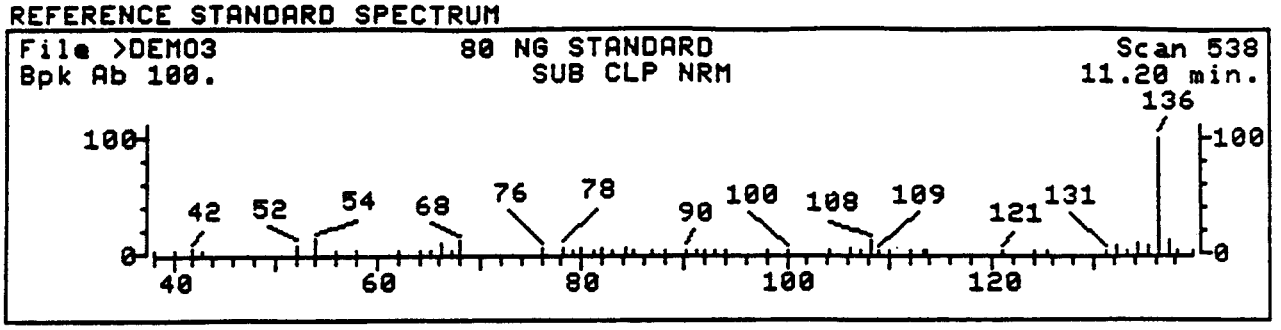
SAMPLE SPECTRUM (UNALTERED)



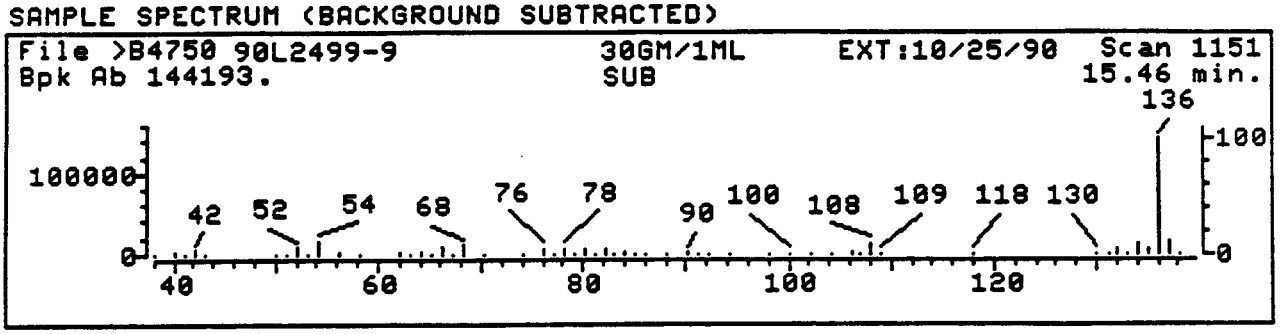
Data File: >B4750::D3 Quant Output File: ^B4750::D1
Name: 90L2499-9
Misc: 30GM/1ML EXT:10/25/90 (RS0185) BTL# 1
Quant Time: 901101 15:34 Quant ID File: ID_BAS::QT
Injected at: 901101 14:49 Last Calibration: 90I024 16:04

Compound No: 16
Compound Name: N-Nitroso-di-n-propylamine
Scan Number: 949
Retention Time: 13.36 min.
Quant Ion: 70.0
Area: 23595
Concentration: 230.97 UG/KG
q-value: 80

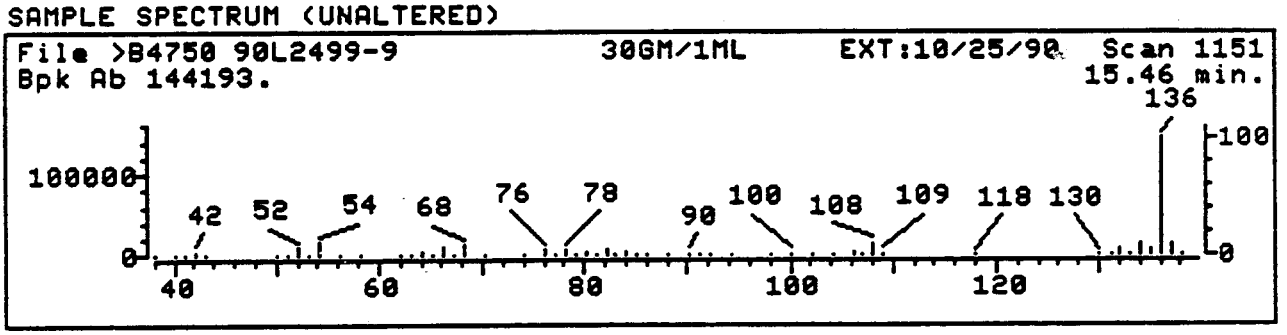
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



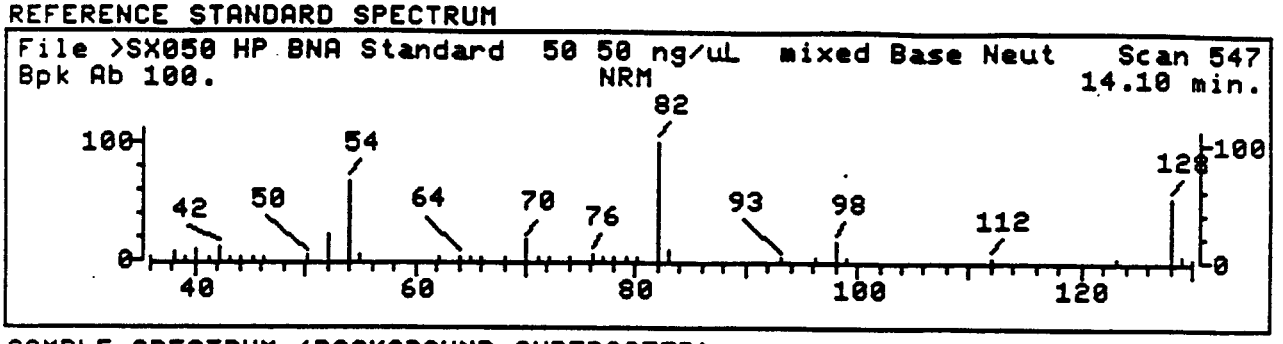
SAMPLE SPECTRUM (UNALTERED)



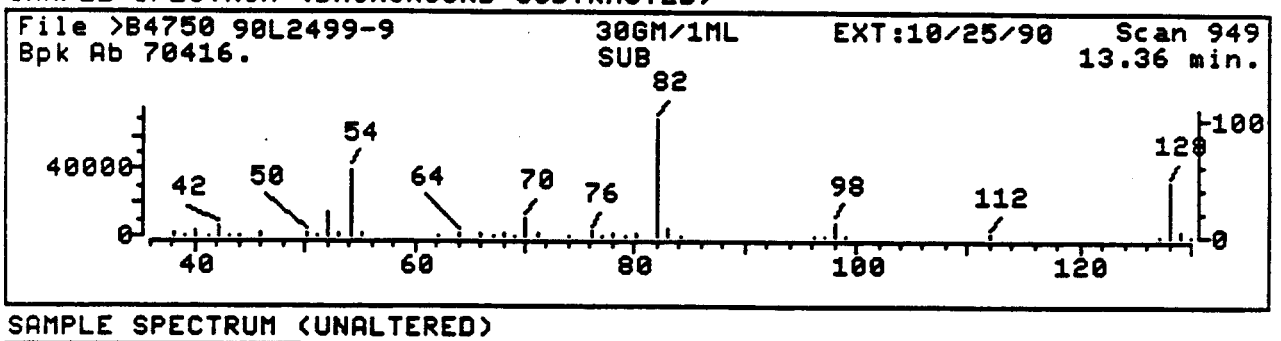
Data File: >B4750::D3 Quant Output File: ^B4750::D1
Name: 90L2499-9
Misc: 30GM/1ML EXT:10/25/90 (RS0185) BTL# 1
Quant Time: 901101 15:34 Quant ID File: ID_BAS::QT
Injected at: 901101 14:49 Last Calibration: 90I024 16:04

Compound No: 18 (ISTD)
Compound Name: d8-Naphthalene
Scan Number: 1151
Retention Time: 15.46 min.
Quant Ion: 136.0
Area: 352561
Concentration: 40.00 UG/KG
q-value: 87

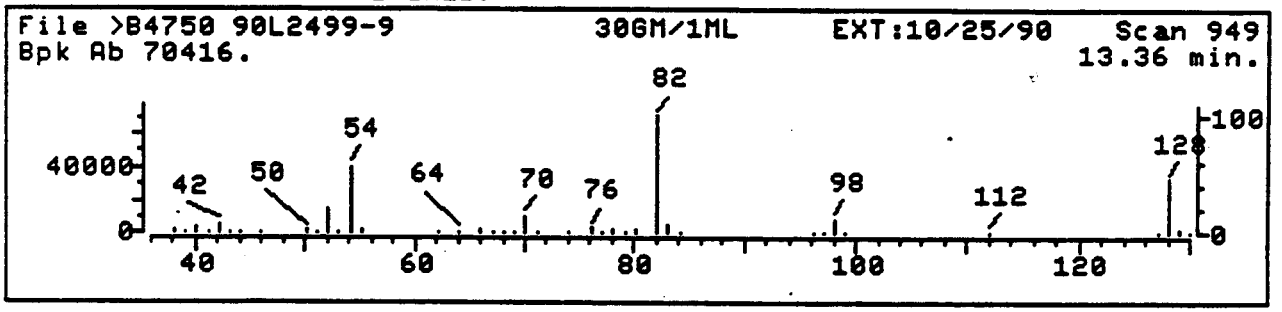
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



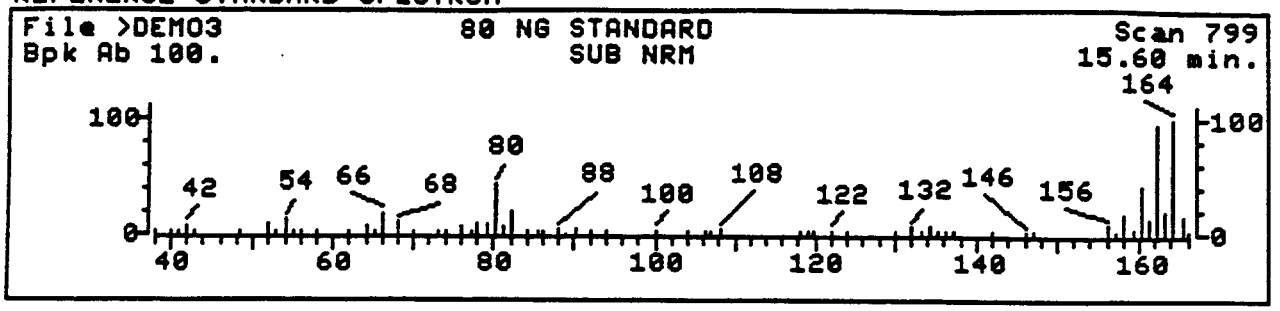
SAMPLE SPECTRUM (UNALTERED)



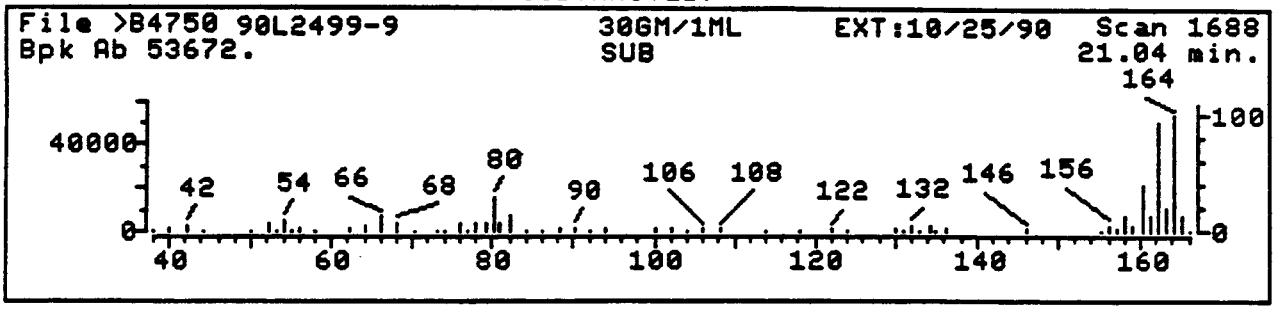
Data File: >B4750::D3 Quant Output File: ^B4750::D1
Name: 90L2499-9
Misc: 30GM/1ML EXT:10/25/90 (RS0185) BTL# 1
Quant Time: 901101 15:34 Quant ID File: ID_BAS::QT
Injected at: 901101 14:49 Last Calibration: 90I024 16:04

Compound No: 19
Compound Name: Nitrobenzene-d5
Scan Number: 949
Retention Time: 13.36 min.
Quant Ion: 82.0
Area: 162839
Concentration: 1200.19 UG/KG
q-value: 97

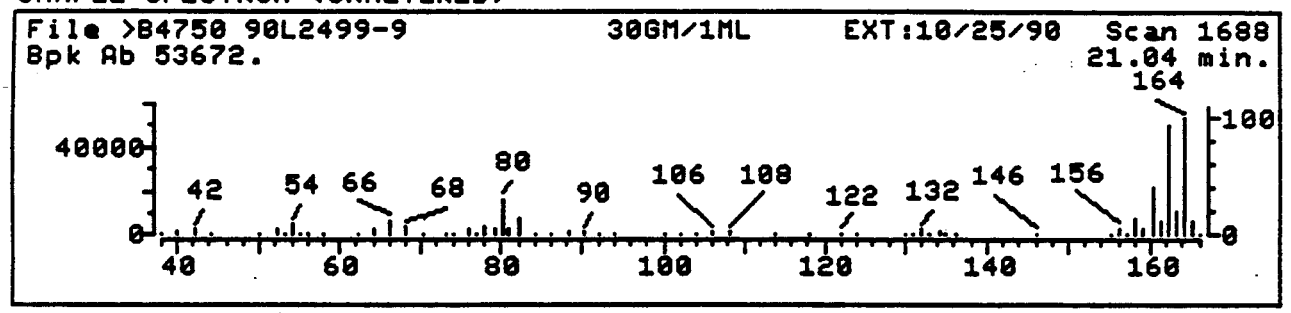
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



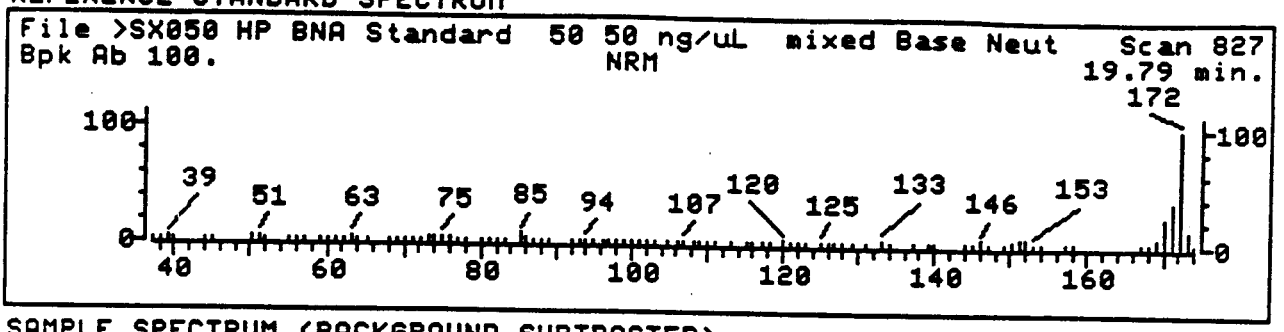
SAMPLE SPECTRUM (UNALTERED)



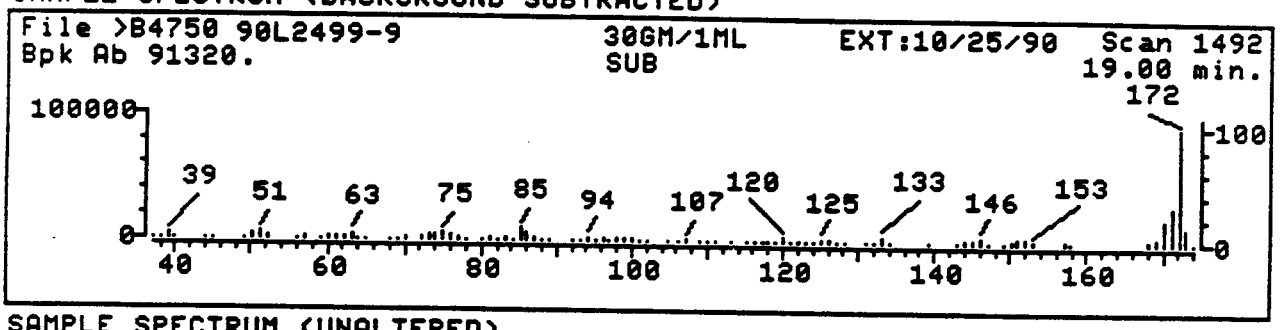
Data File: >B4750::D3 Quant Output File: ^B4750::D1
Name: 90L2499-9
Misc: 30GM/1ML EXT:10/25/90 (RS0185) BTL# 1
Quant Time: 901101 15:34 Quant ID File: ID_BAS::QT
Injected at: 901101 14:49 Last Calibration: 90I024 16:04

Compound No: 33 (ISTD)
Compound Name: d10-Acenaphthene
Scan Number: 1688
Retention Time: 21.04 min.
Quant Ion: 164.0
Area: 145782
Concentration: 40.00 UG/KG
q-value: 94

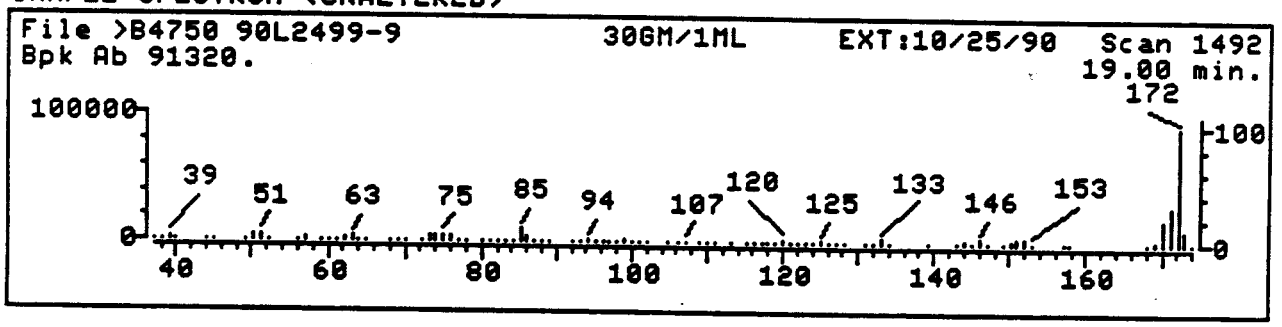
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

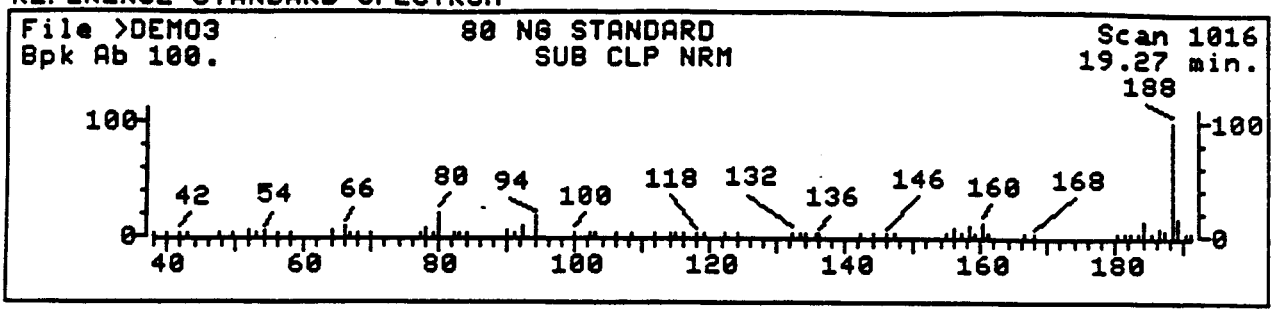


Data File: >B4750::D3
Name: 90L2499-9
Misc: 30GM/1ML EXT:10/25/90
Quant Time: 901101 15:34
Injected at: 901101 14:49

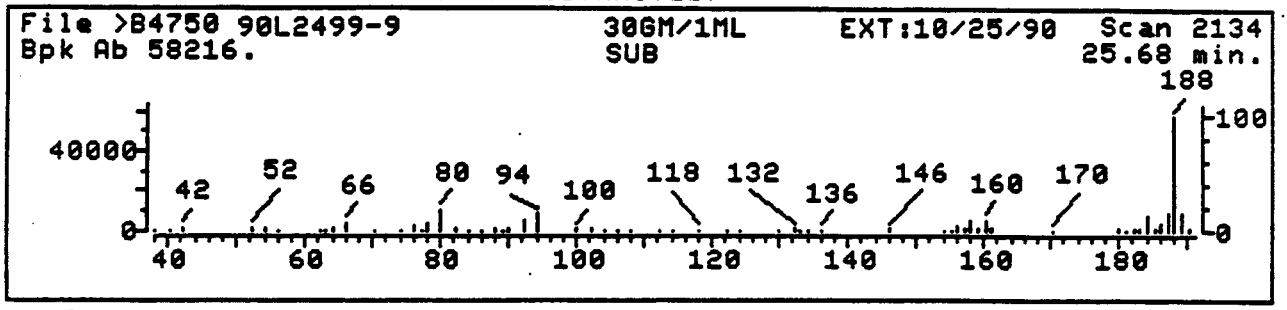
Quant Output File: ^B4750::D1
(RS0135) BTL# 1
Quant ID File: ID_BAS::QT
Last Calibration: 90I024 16:04

Compound No: 38
Compound Name: 2-Fluorobiphenyl
Scan Number: 1492
Retention Time: 19.00 min.
Quant Ion: 172.0
Area: 238055
Concentration: 1351.04 UG/KG
q-value: 93

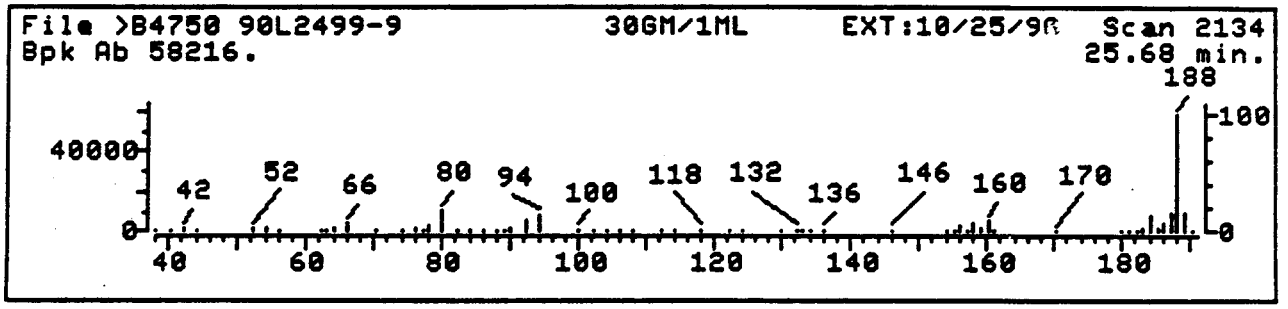
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



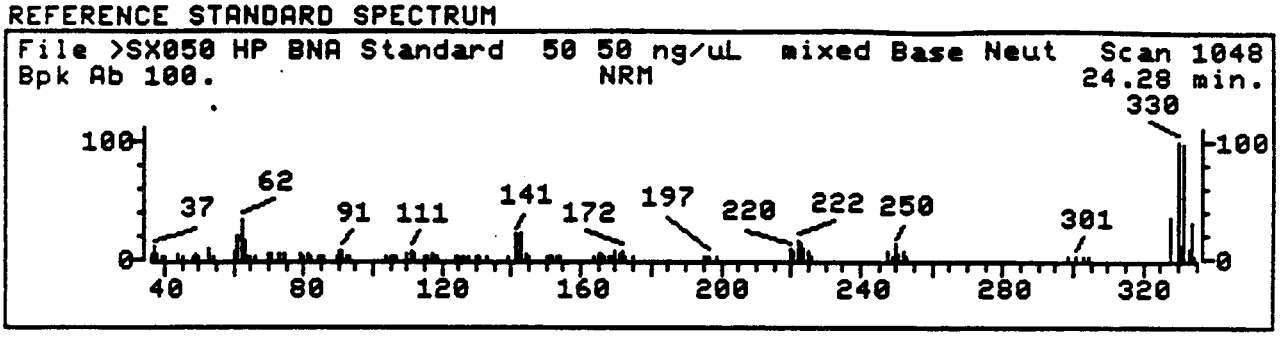
SAMPLE SPECTRUM (UNALTERED)



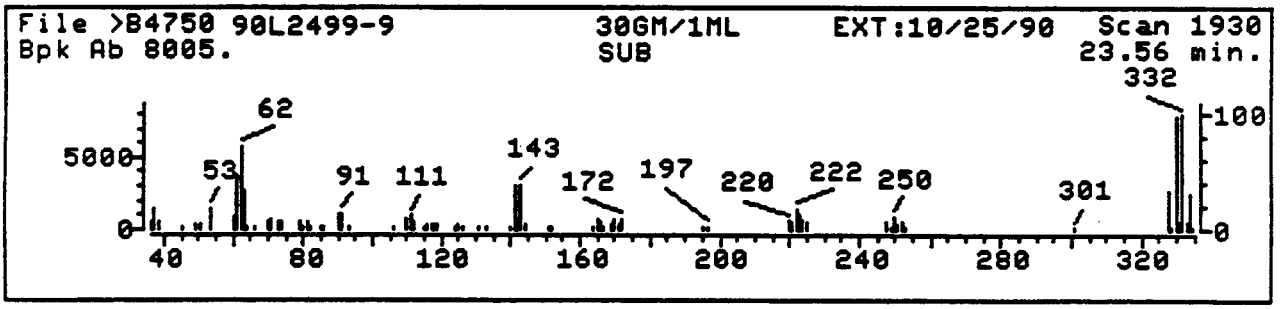
Data File: >B4750::D3 Quant Output File: ^B4750::D1
Name: 90L2499-9
Misc: 30GM/1ML EXT:10/25/90 (RS0185) BTL# 1
Quant Time: 901101 15:34 Quant ID File: ID_BAS::QT
Injected at: 901101 14:49 Last Calibration: 90I024 16:04

Compound No: 53 (ISTD)
Compound Name: d10-Phenanthrene
Scan Number: 2134
Retention Time: 25.68 min.
Quant Ion: 188.0
Area: 170920
Concentration: 40.00 UG/KG
q-value: 99

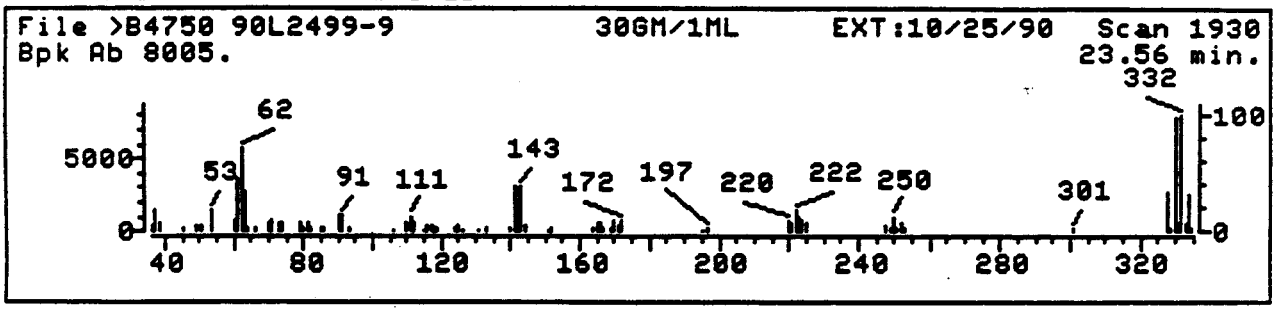
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



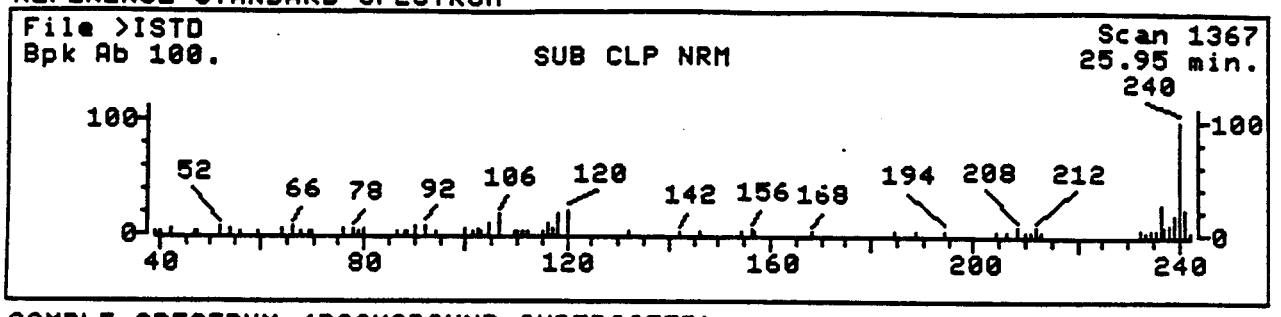
SAMPLE SPECTRUM (UNALTERED)



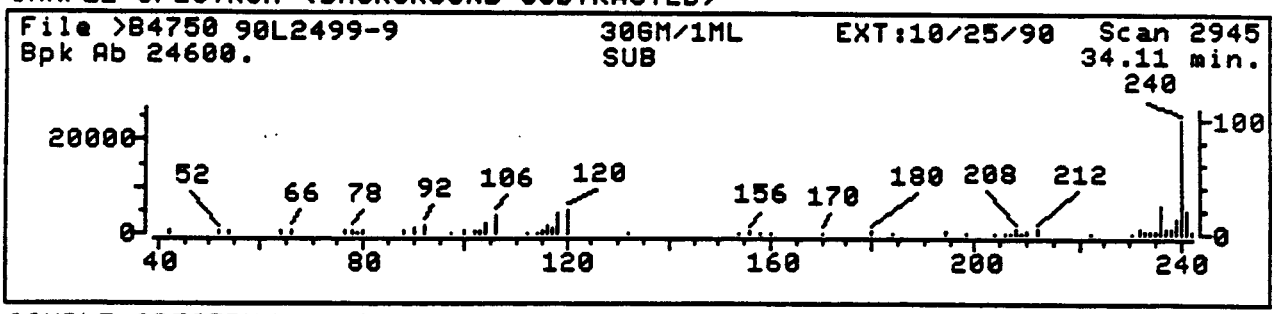
Data File: >B4750::D3 Quant Output File: ^B4750::D1
Name: 90L2499-9
Misc: 30GM/1ML EXT:10/25/90 (RS0185) BTL# 1
Quant Time: 901101 15:34 Quant ID File: ID_BAS::QT
Injected at: 901101 14:49 Last Calibration: 90I024 16:04

Compound No: 57
Compound Name: 2,4,6-Tribromophenol
Scan Number: 1930
Retention Time: 23.56 min.
Quant Ion: 330.0
Area: 21502
Concentration: 1134.07 UG/KG
q-value: 92

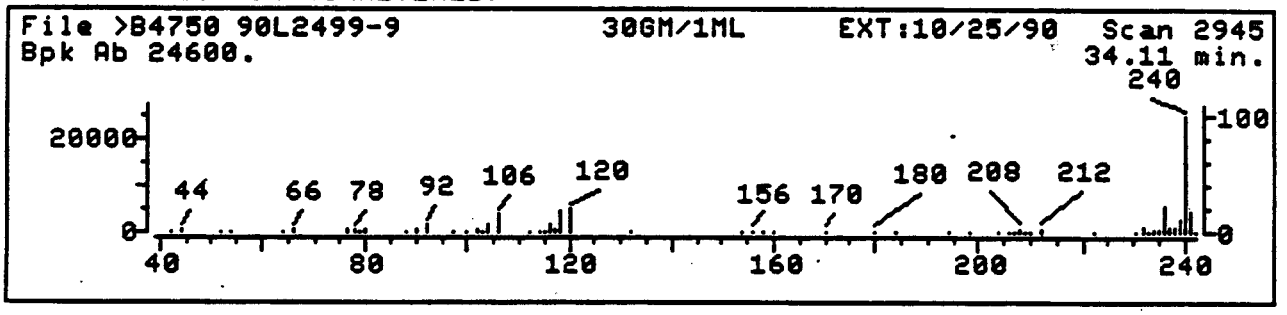
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



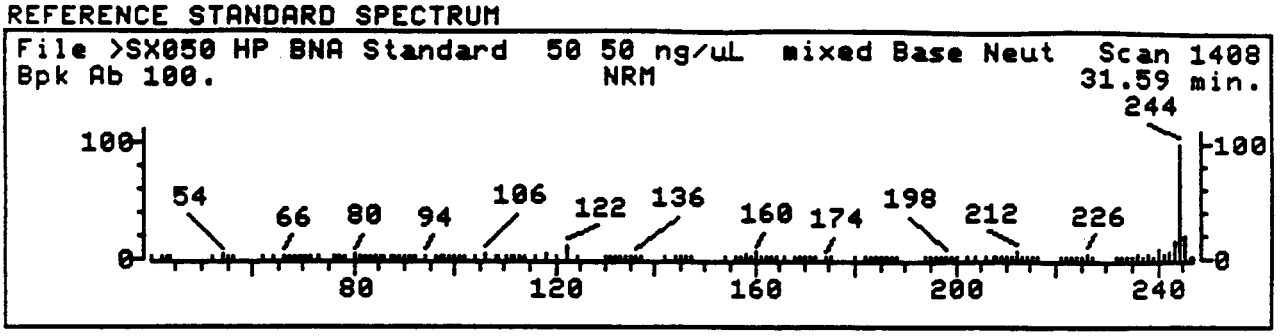
SAMPLE SPECTRUM (UNALTERED)



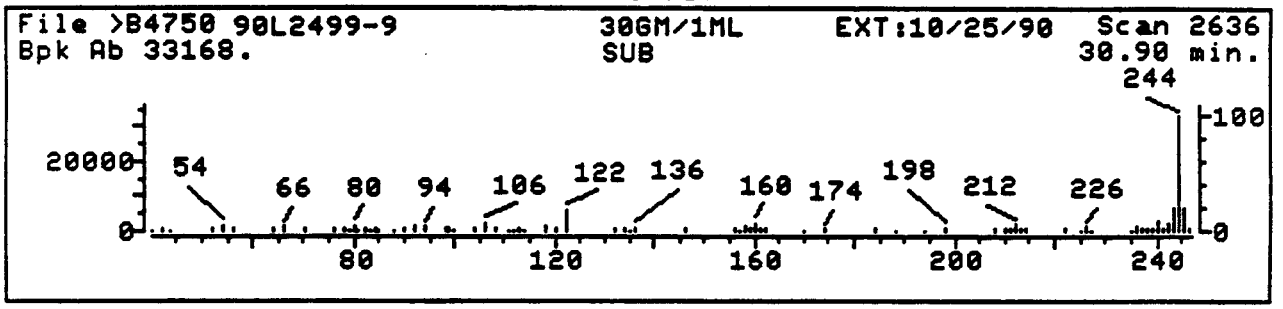
Data File: >B4750::D3 Quant Output File: ^B4750::D1
Name: 90L2499-9
Misc: 30GM/1ML EXT:10/25/90 (RS0185) BTL# 1
Quant Time: 901101 15:34 Quant ID File: ID_BAS::QT
Injected at: 901101 14:49 Last Calibration: 90I024 16:04

Compound No: 65 (ISTD)
Compound Name: d12-Chrysene
Scan Number: 2945
Retention Time: 34.11 min.
Quant Ion: 240.0
Area: 79177
Concentration: 40.00 UG/KG
q-value: 92

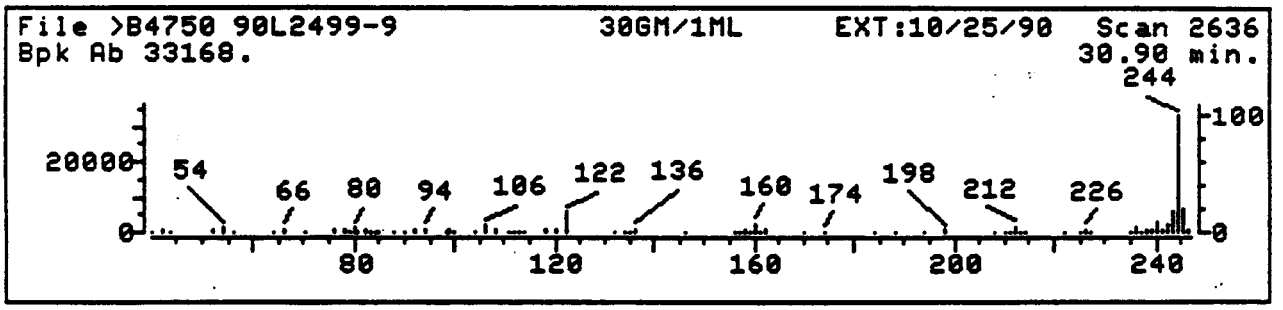
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



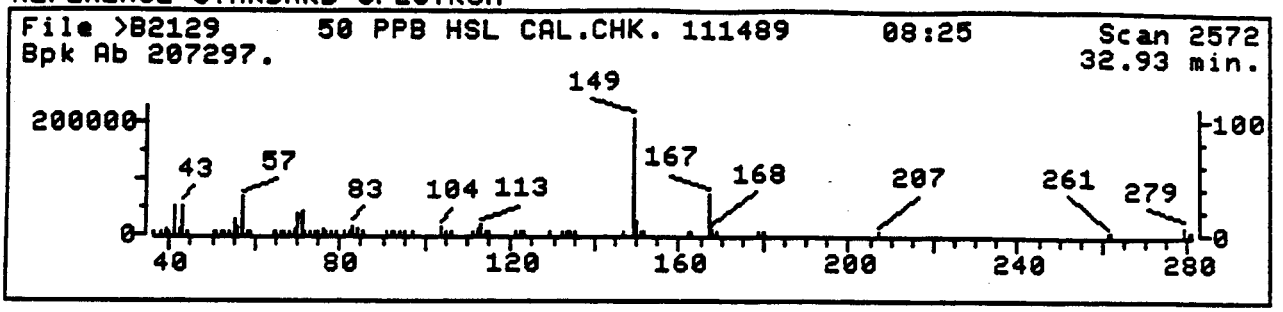
SAMPLE SPECTRUM (UNALTERED)



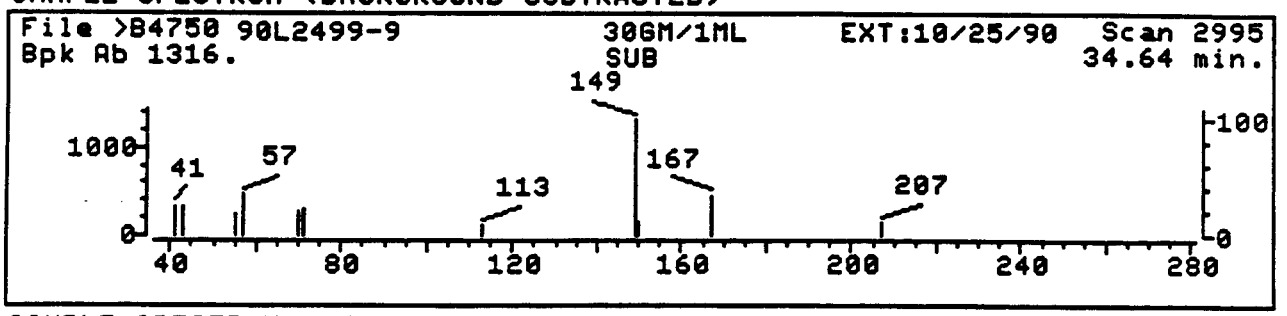
Data File: >B4750::D3 Quant Output File: ^B4750::D1
Name: 90L2499-9
Misc: 30GM/1ML EXT:10/25/90 (RS0185) BTL# 1
Quant Time: 901101 15:34 Quant ID File: ID_BAS::QT
Injected at: 901101 14:49 Last Calibration: 90I024 16:04

Compound No: 68
Compound Name: Terphenyl-d14
Scan Number: 2636
Retention Time: 30.90 min.
Quant Ion: 244.0
Area: 95244
Concentration: 1515.46 UG/KG
q-value: 92

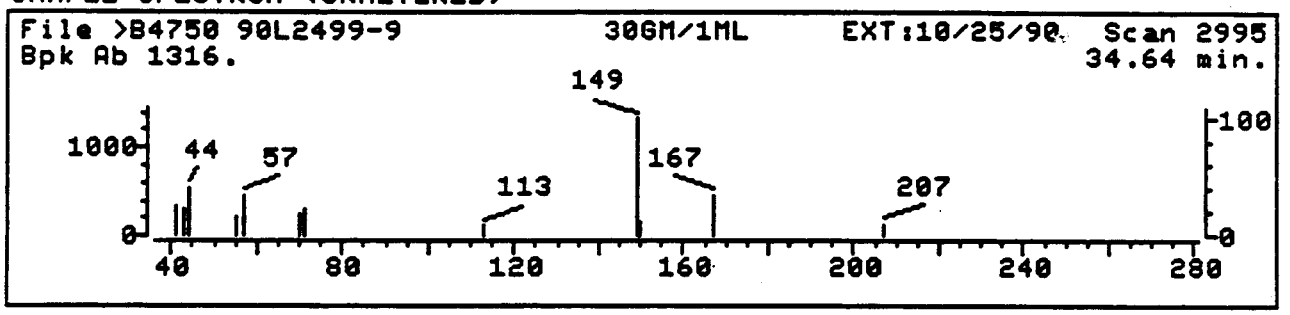
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



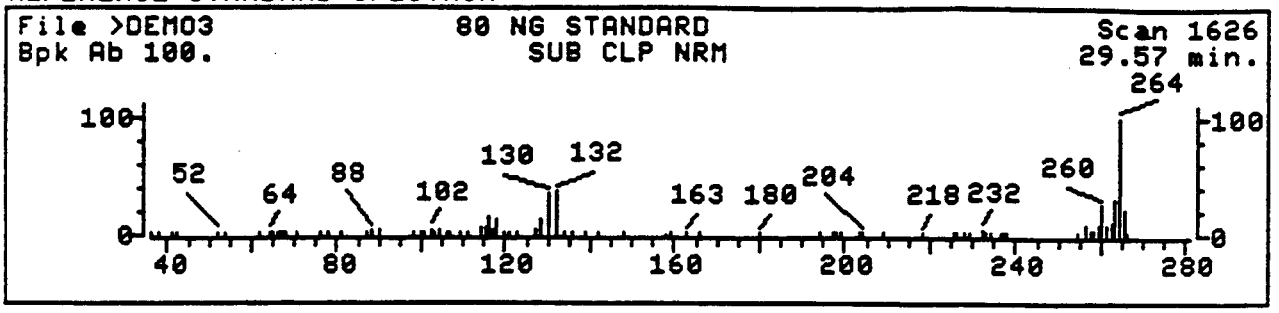
SAMPLE SPECTRUM (UNALTERED)



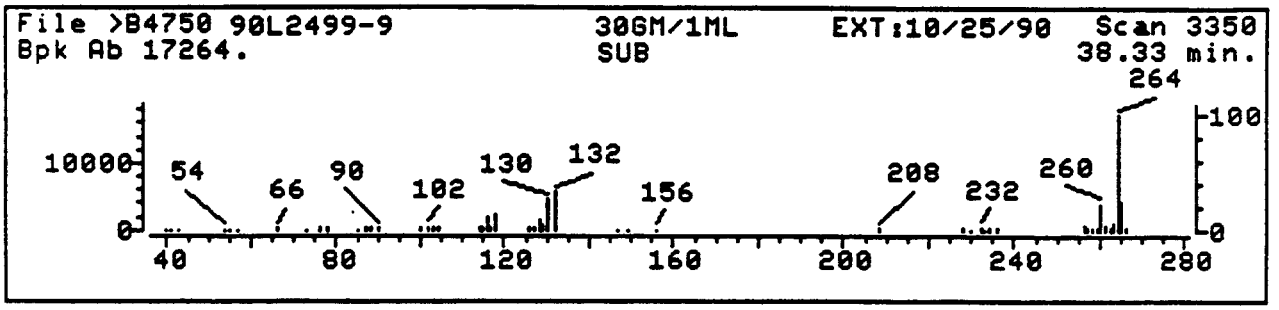
Data File: >B4750::D3 Quant Output File: ^B4750::D1
Name: 90L2499-9
Misc: 30GM/1ML EXT:10/25/90 (RS0185) BTL# 1
Quant Time: 901101 15:34 Quant ID File: ID_BAS::QT
Injected at: 901101 14:49 Last Calibration: 90I024 16:04

Compound No: 72
Compound Name: Bis(2-Ethylhexyl)Phthalate
Scan Number: 2995
Retention Time: 34.64 min.
Quant Ion: 149.0
Area: 3436
Concentration: 39.92 UG/KG
q-value: 81

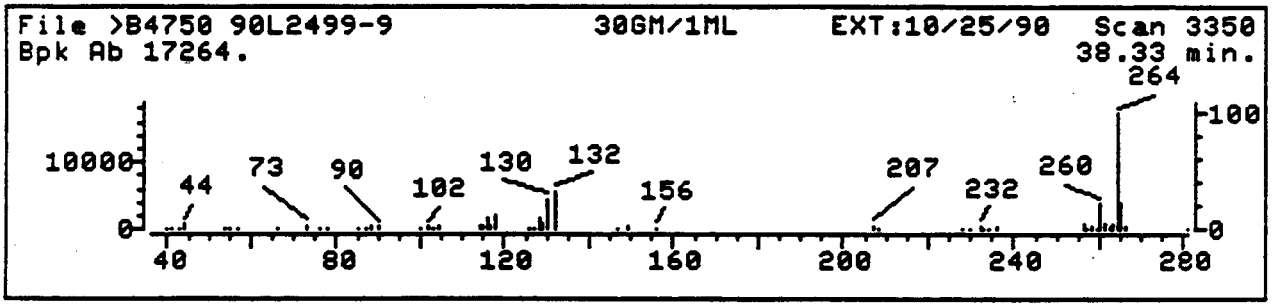
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



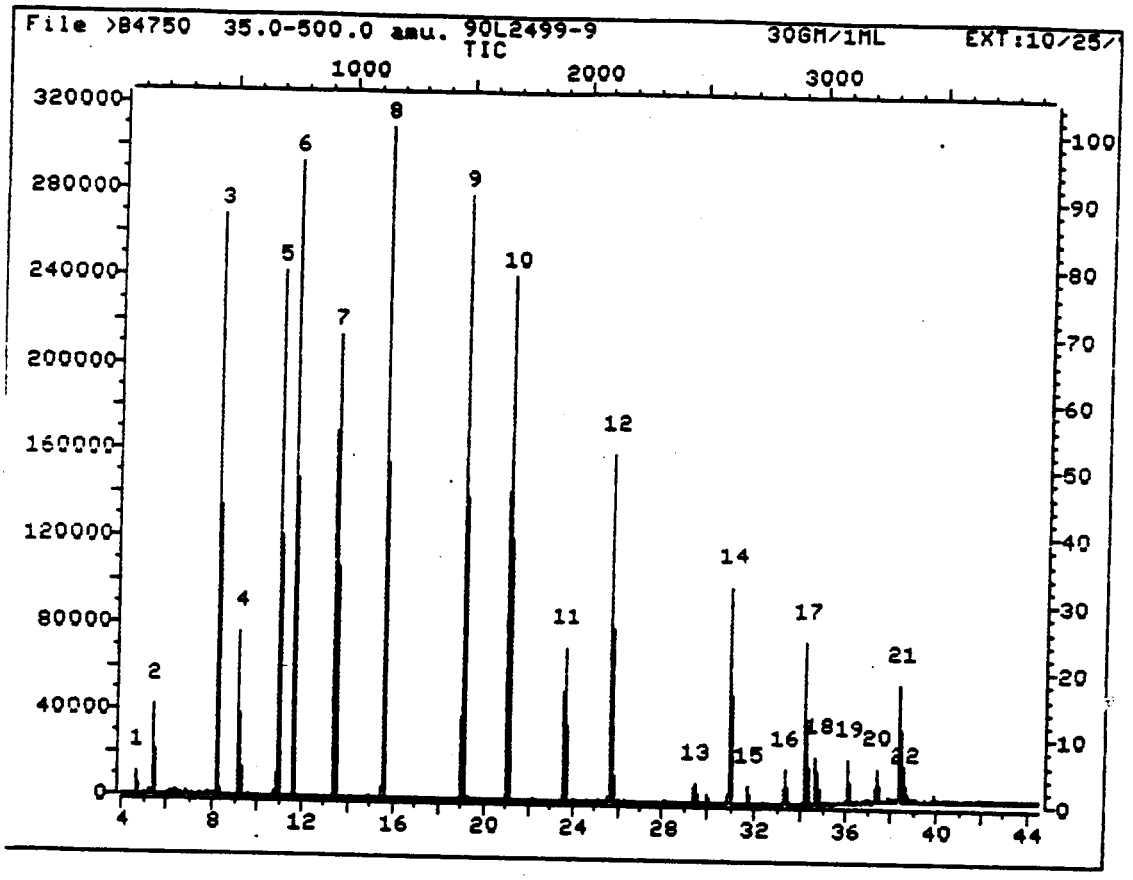
Data File: >B4750::D3 Quant Output File: ^B4750::D1
Name: 90L2499-9
Misc: 30GM/1ML EXT:10/25/90 (RS0185) BTL# 1
Quant Time: 901101 15:34 Quant ID File: ID_BAS::QT
Injected at: 901101 14:49 Last Calibration: 90I024 16:04

Compound No: 74 (ISTD)
Compound Name: d12-Perylene
Scan Number: 3350
Retention Time: 38.33 min.
Quant Ion: 264.0
Area: 65515
Concentration: 40.00 UG/KG
q-value: 92

4750 90L2499-9 30GM/1ML EXT:10/25/90 (RS0185)
35.01 500.0 TIC
pslope: .20 Area Reject: 1.00 % Max Peaks: 22 Bunching: 1
slope: 0.00 Results File IB2332 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	4.59	103	106	113	11134	21314	21314		2.80	.346
2	5.34	174	178	183	41764	76363	76363	(1)	10.04	1.239
3	8.18	446	451	459	268339	531475	530557	SS	69.77	8.611
4	9.13	538	542	547	75940	147057	146416	(2)	19.25	2.376
5	10.86	703	709	718	242066	542917	542917	SS	71.40	8.811
6	11.60	774	780	785	292843	637084	637084	IS	83.78	10.340
7	13.36	942	949	955	213766	495593	495593	SS	65.17	8.043
9	15.46	1144	1151	1157	309055	760412	760412	IS	100.00	12.341
[illegible]	19.00	1480	1492	1497	277833	711406	709885	SS	93.36	11.521
10	21.04	1680	1688	1694	241784	662602	662602	IS	87.14	10.754
[illegible]	23.56	1920	1930	1936	70815	185739	184576	SS	24.27	2.996
[illegible]	25.68	2125	2134	2144	159546	460895	457999	IS	60.23	7.433
13	29.37	2482	2489	2494	8853	30394	25965		3.41	.421
[illegible]	30.90	2628	2636	2643	99680	283492	280503	SS	36.89	4.552
[illegible]	31.67	2705	2710	2714	7403	17170	14784		1.94	.240
14	33.23	2853	2860	2862	15193	39153	35827	(3)	4.71	.581
[illegible]	34.11	2934	2945	2953	74103	234794	228522	IS	30.05	3.709
16	34.69	2996	3000	3011	21357	54724	47968	(4)	6.31	.778
19	36.06	3128	3132	3140	19432	54291	42951	(5)	5.65	.697
[illegible]	37.34	3248	3255	3264	15067	67491	49301	(6)	6.48	.800
21	38.33	3341	3350	3358	52816	221862	189788	IS	24.96	3.080
22	38.57	3368	3373	3379	6948	37342	20312	(7)	2.67	.330

Sum of corrected areas: 6161639.


File >B4750 35.0-500.0 amu. 90L2499-9
TIC
30GM/1ML
EXT:10/25/
1000
2000
3000
320000
280000
240000
200000
160000
120000
80000
40000
0
100
90
80
70
60
50
40
30
20
10
0
4
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36
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44
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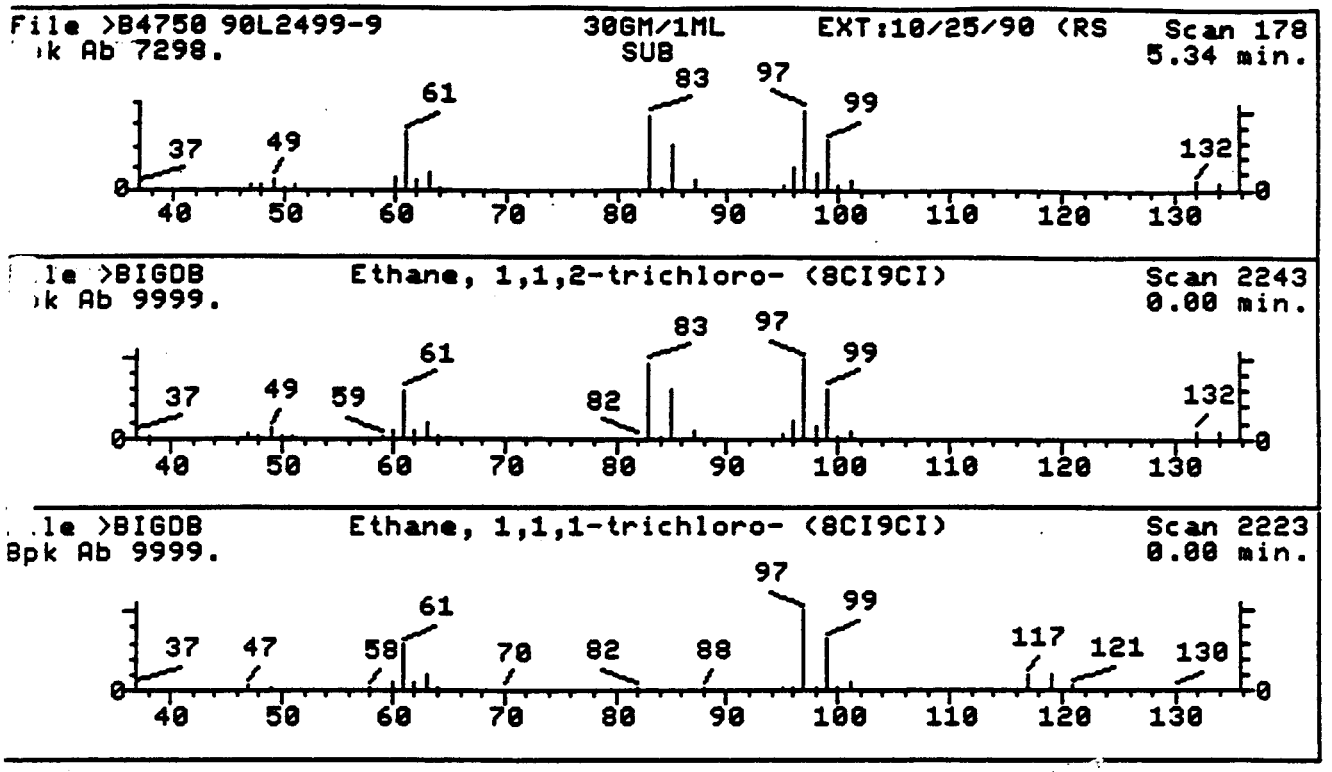
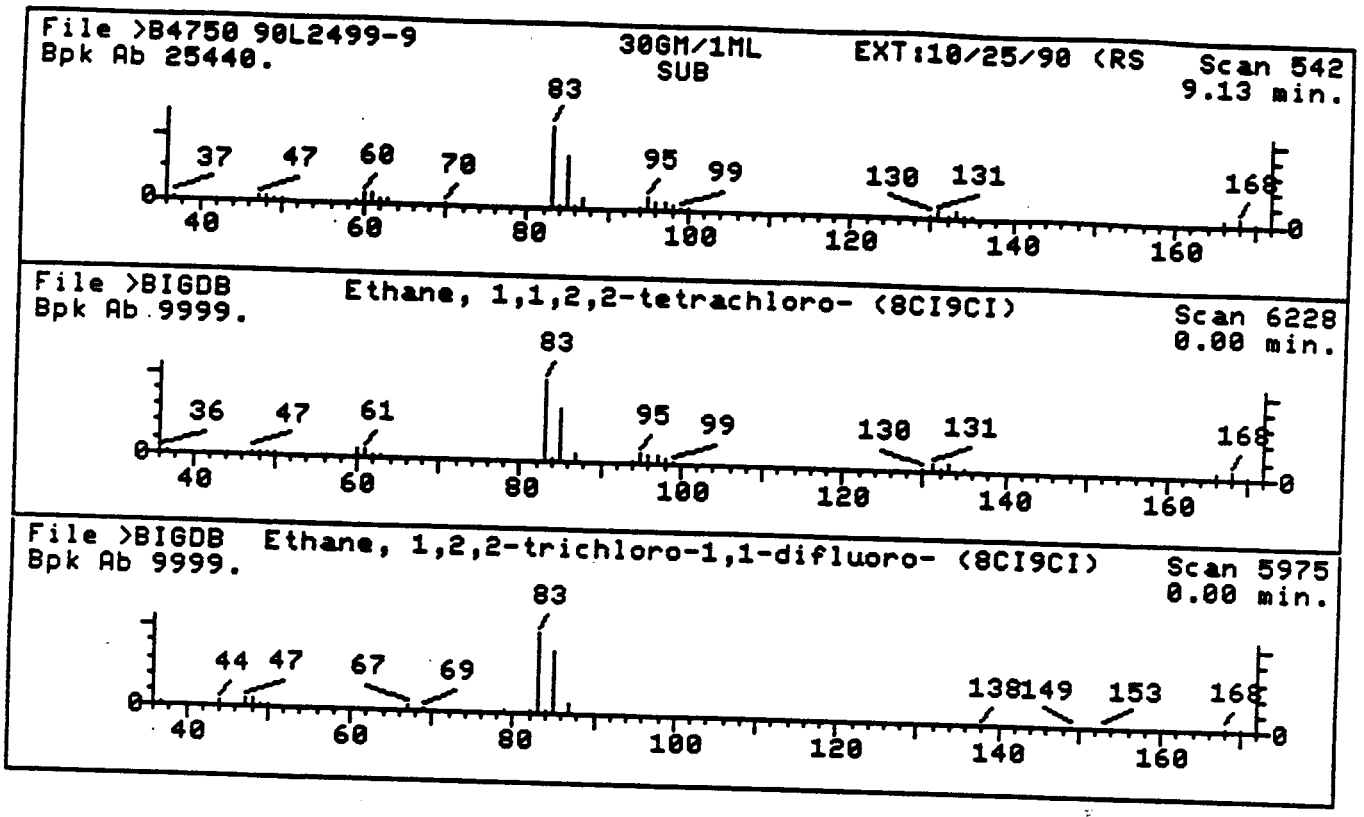


1. Ethane, 1,1,2-trichloro- (8CI9CI) 132 C2H3Cl3
2. Ethane, 1,1,1-trichloro- (8CI9CI) 132 C2H3Cl3

Sample file: >B4750 Spectrum #: 178
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	99*	79005	2243	"BIGDB	121	11	0	0	97	0	72	99
2.	30	71556	2223	"BIGDB	74	46	2	0	97	45	8	18

CORRECTED TOTAL ION AREA OF UNKNOWN = 76363.00
CORRECTED TOTAL ION AREA OF INTERNAL = 637084.0
CONCENTRATION OF INTERNAL STD = 40 NG/ML
SAMPLE WEIGHT = 30. DILUTION FACTOR = 1.000
TOTAL SOLIDS = 85.60 %
SEMI-QUANTITATION OF UNKNOWN (UG/KG)= 190.00

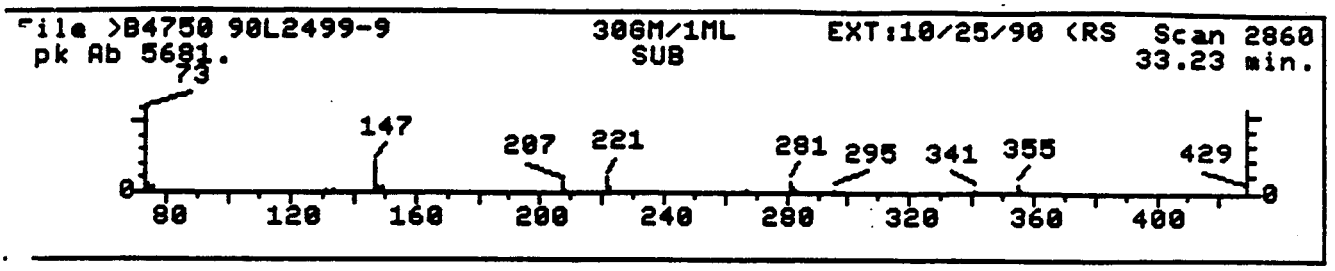


1. Ethane, 1,1,2,2-tetrachloro- (8CI9CI) 166 C2H2Cl4
2. Ethane, 1,2,2-trichloro-1,1-difluoro- (8CI9CI) 168 C2HCl3F2

Sample file: >B4750 Spectrum #: 542
Search speed: 1 Tilting option: S No. of ion ranges searched: 55

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	95*	79345	6228	"BIGDB	94	9	0	0	83	13	64	96
2.	52*	354212	5975	"BIGDB	42	60	2	0	70	16	20	15

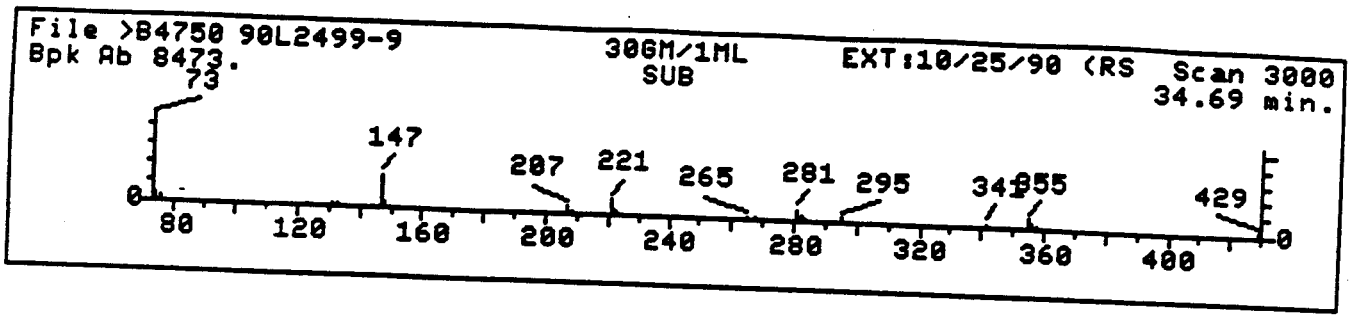
CORRECTED TOTAL ION AREA OF UNKNOWN = 146416.0
CORRECTED TOTAL ION AREA OF INTERNAL = 637084.0
CONCENTRATION OF INTERNAL STD = 40 NG/ML
SAMPLE WEIGHT = 30. DILUTION FACTOR = 1.000
TOTAL SOLIDS = 85.60 %
SEMI-QUANTITATION OF UNKNOWN (UG/KG)= 360.00



Sample file: >B4750 Spectrum #: 2860

No data base entries were retrieved.

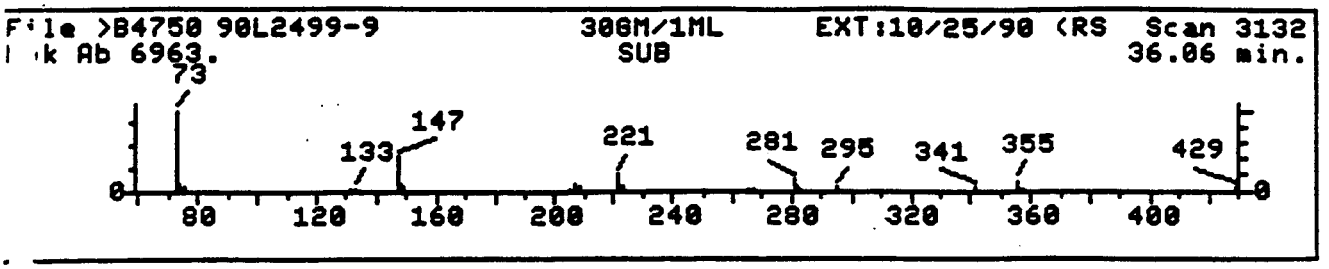
CORRECTED TOTAL ION AREA OF UNKNOWN = 35827.00
CORRECTED TOTAL ION AREA OF INTERNAL = 228522.0
CONCENTRATION OF INTERNAL STD = 40 NG/ML
SAMPLE WEIGHT = 30. DILUTION FACTOR = 1.000
TOTAL SOLIDS = 85.60 %
SEMI-QUANTITATION OF UNKNOWN (UG/KG)= 240.00



Sample file: >B4750 Spectrum #: 3000

No data base entries were retrieved.

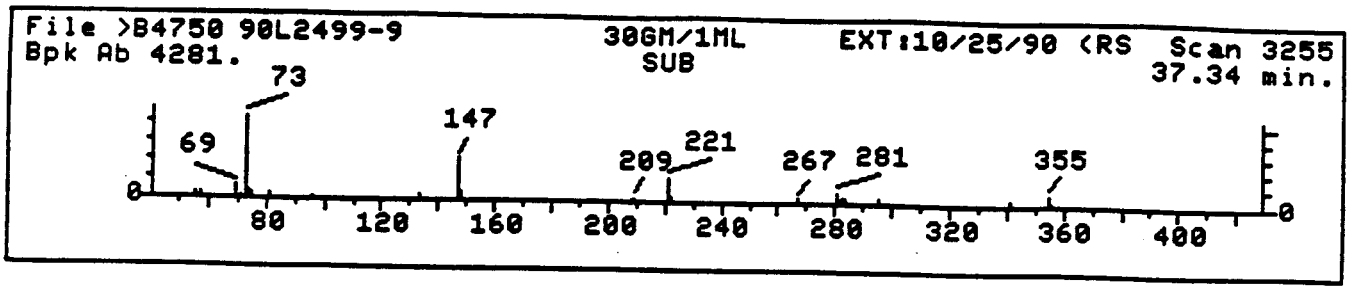
CORRECTED TOTAL ION AREA OF UNKNOWN = 47968.00
CORRECTED TOTAL ION AREA OF INTERNAL = 228522.0
CONCENTRATION OF INTERNAL STD = 40 NG/ML
SAMPLE WEIGHT = 30. DILUTION FACTOR = 1.000
TOTAL SOLIDS = 85.60 %
SEMI-QUANTITATION OF UNKNOWN (UG/KG)= 330.00



Sample file: >B4750 Spectrum #: 3132

No data base entries were retrieved.

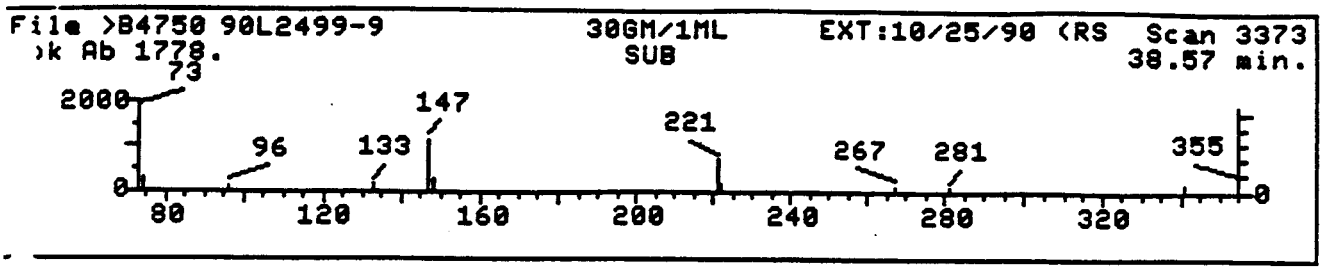
CORRECTED TOTAL ION AREA OF UNKNOWN = 42951.00
CORRECTED TOTAL ION AREA OF INTERNAL = 189788.0
CONCENTRATION OF INTERNAL STD = 40 NG/ML
SAMPLE WEIGHT = 30. DILUTION FACTOR = 1.000
TOTAL SOLIDS = 85.60 %
SEMI-QUANTITATION OF UNKNOWN (UG/KG)= 350.00



Sample file: >B4750 Spectrum #: 3255

No data base entries were retrieved.

CORRECTED TOTAL ION AREA OF UNKNOWN = 49301.00
CORRECTED TOTAL ION AREA OF INTERNAL = 189788.0
CONCENTRATION OF INTERNAL STD = 40 NG/ML
SAMPLE WEIGHT = 30. DILUTION FACTOR = 1.000
TOTAL SOLIDS = 85.60 %
SEMI-QUANTITATION OF UNKNOWN (UG/KG)= 400.00



Sample file: >B4750 Spectrum #: 3373

No data base entries were retrieved.

CORRECTED TOTAL ION AREA OF UNKNOWN = 20312.00
CORRECTED TOTAL ION AREA OF INTERNAL = 189788.0
CONCENTRATION OF INTERNAL STD = 40 NG/ML
SAMPLE WEIGHT = 30. DILUTION FACTOR = 1.000
TOTAL SOLIDS = 85.60 %
SEMI-QUANTITATION OF UNKNOWN (UG/KG)= 170.00

NAC NORTHEASTERN ANALYTICAL CORPORATION

90L-2499-10 Sample Data Package

QUANT REPORT

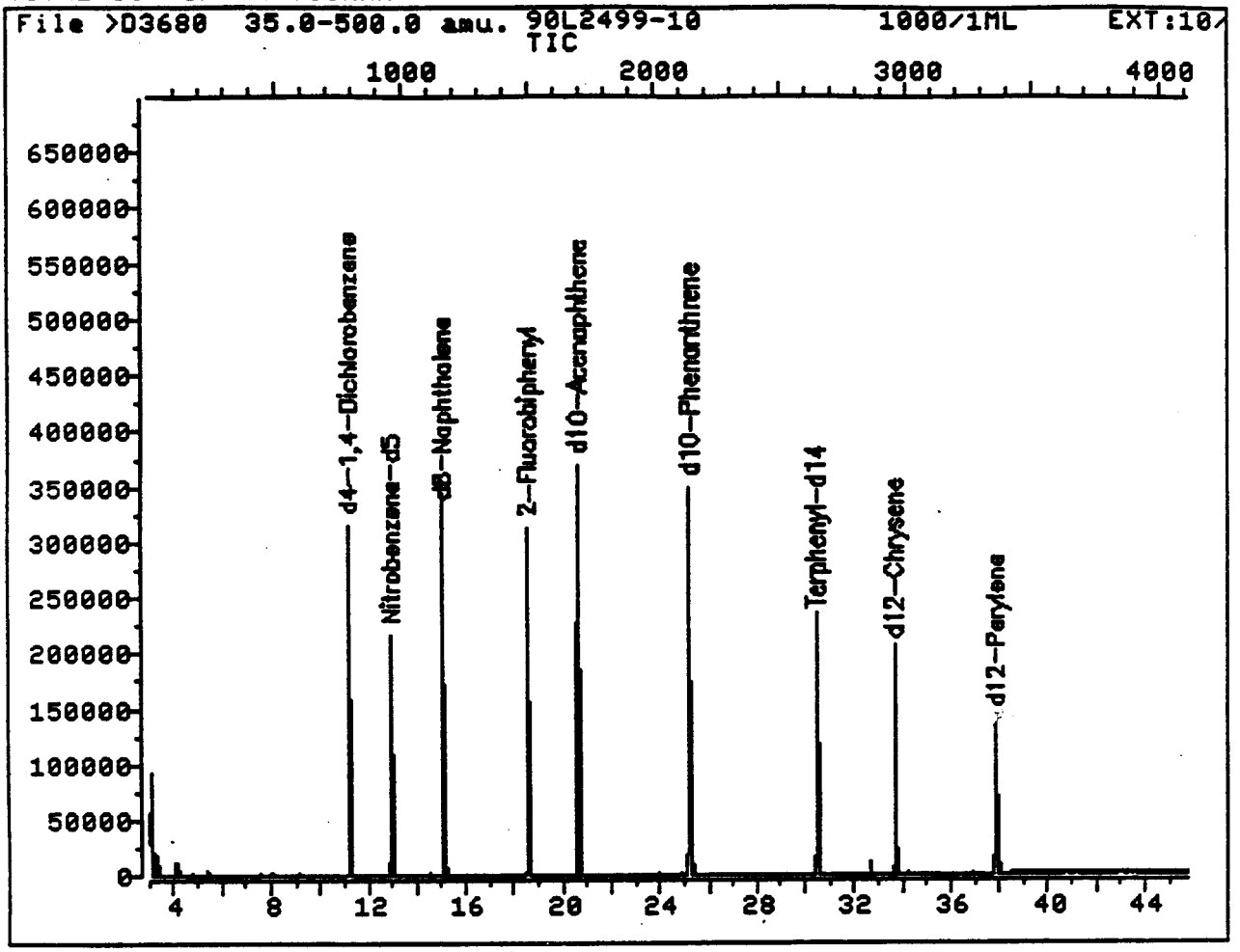
Operator ID: MANAGER Quant Rev: 6 Quant Time: 901030 18:19
Output File: ^D3680::D4 Injected at: 901030 17:32
Data File: >D3680::D2 Dilution Factor: 1.00000
Name: 90L2499-10
Misc: 1000/1ML EXT:10/25/90 (RS0189) BTL# 3

MD File: ID_DAD::QT
Title: HP BNA Standards for 5 point Calibration Curve Rev. E
Last Calibration: 901022 14:31

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	11.18	788	113207	40.00	UG/L	86
18)	*d8-Naphthalene	15.03	1158	385696	40.00	UG/L	95
19)	Nitrobenzene-d5	12.95	958	141651	28.64	UG/L	93
3)	*d10-Acenaphthene	20.60	1694	227809	40.00	UG/L	91
3)	2-Fluorobiphenyl	18.57	1499	252308	28.07	UG/L	91
53)	*d10-Phenanthrene	25.22	2139	418637	40.00	UG/L	98
65)	*d12-Chrysene	33.64	2949	276278	40.00	UG/L	93
3)	Terphenyl-d14	30.44	2641	252065	32.23	UG/L	82
1)	*d12-Perylene	37.85	3353	202097	40.00	UG/L	95

* Compound is ISTD

TOTAL ION CHROMATOGRAM

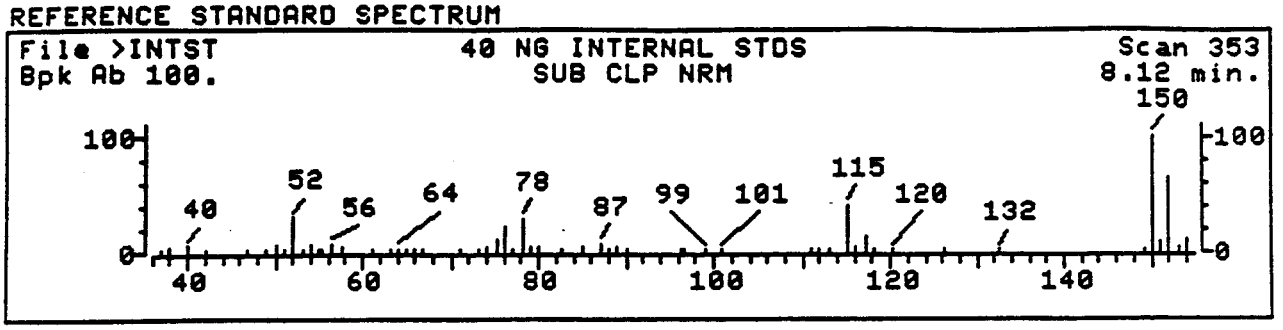


Data File: >D3680::D2 Quant Output File: ^D3680::D4
Name: 90L2499-10
Misc: 1000/1ML EXT:10/25/90 (RS0189) BTL# 3

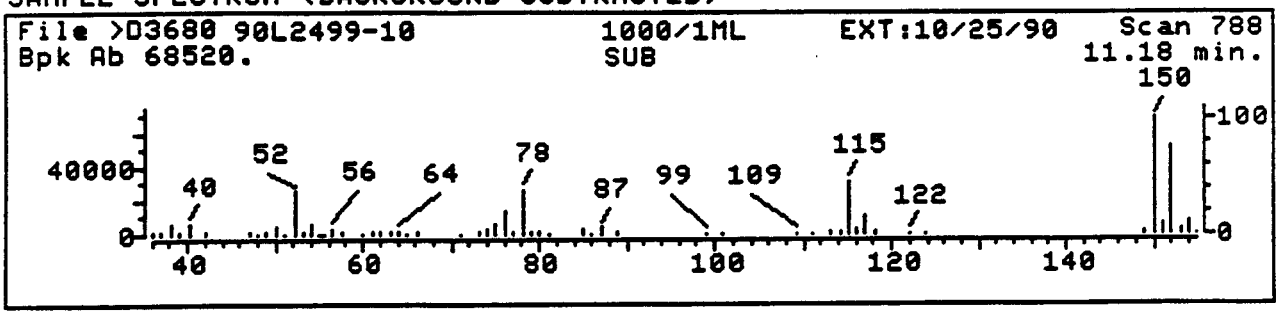
Id File: ID DAD::QT
Title: HP BNA Standards for 5 point Calibration Curve Rev. E
Last Calibration: 901022 14:31

Operator ID: MANAGER
Quant Time: 901030 18:19
Injected at: 901030 17:32

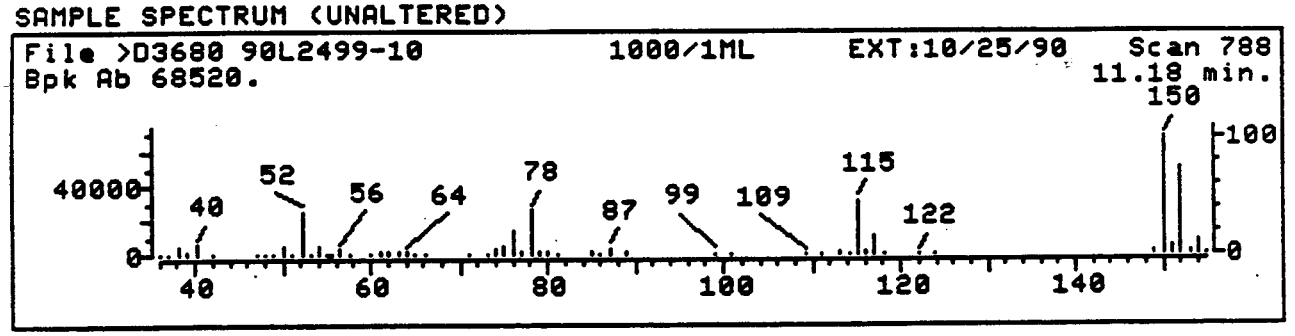
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



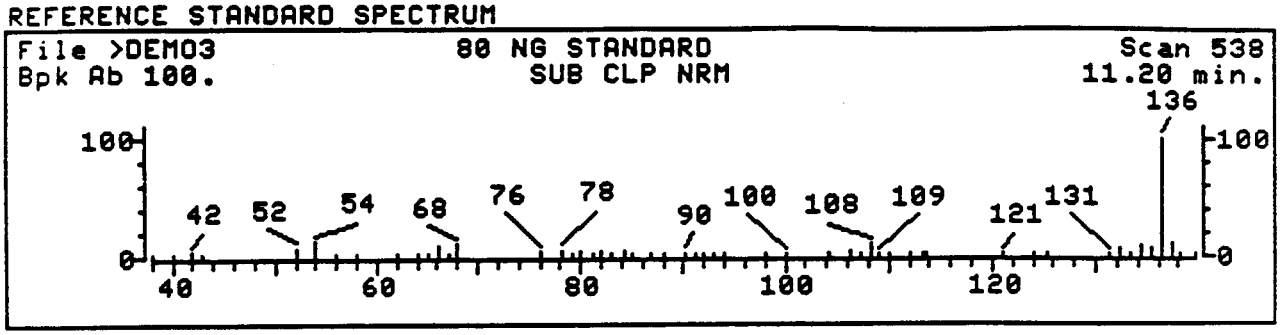
SAMPLE SPECTRUM (UNALTERED)



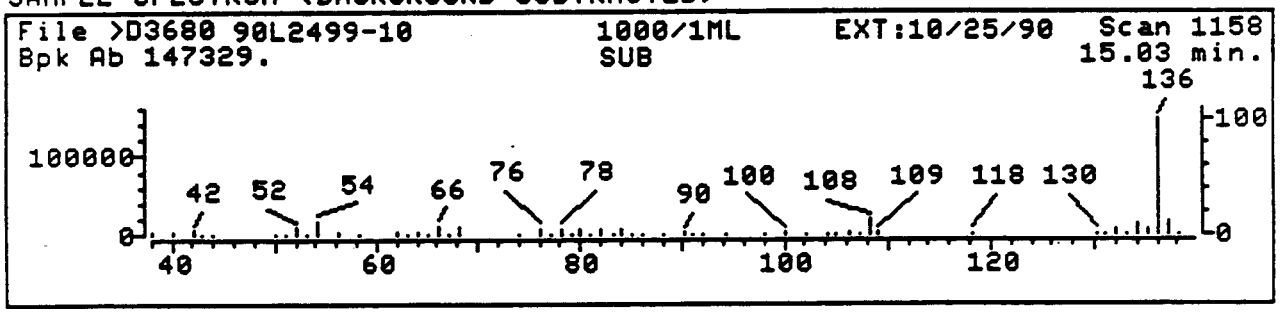
Data File: >D3680::D2 Quant Output File: ^D3680::D4
Name: 90L2499-10
Misc: 1000/1ML EXT:10/25/90 (RS0189) BTL# 3
Quant Time: 901030 18:19 Quant ID File: ID_DAD::QT
Injected at: 901030 17:32 Last Calibration: 90I022 14:31

Compound No: 1 (ISTD)
Compound Name: d4-1,4-Dichlorobenzene
Scan Number: 788
Retention Time: 11.18 min.
Quant Ion: 152.0
Area: 113207
Concentration: 40.00 UG/L
q-value: 86

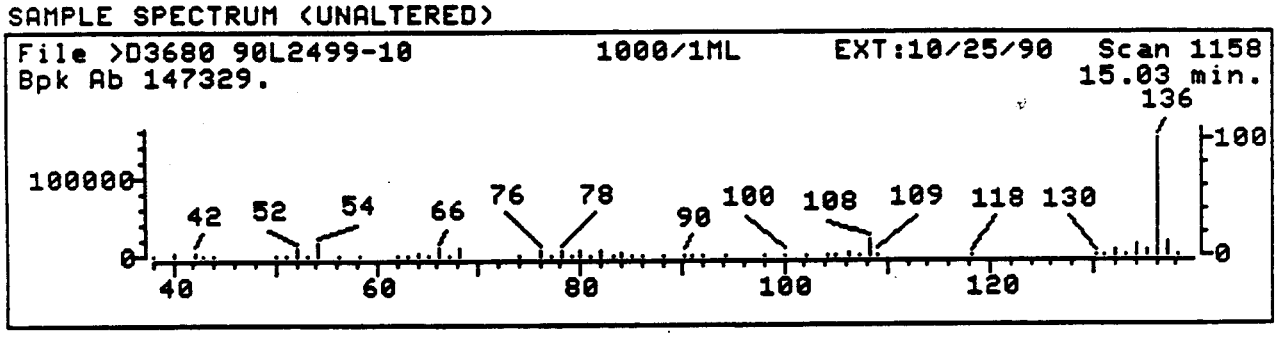
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



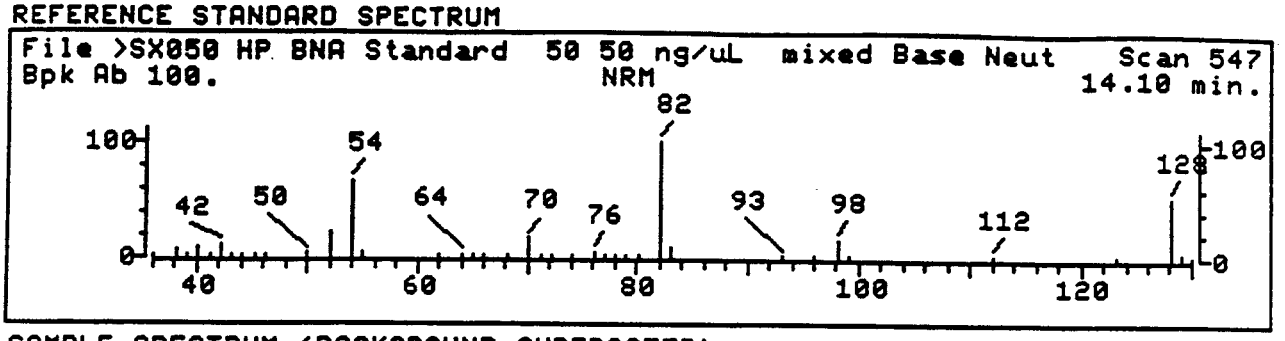
SAMPLE SPECTRUM (UNALTERED)



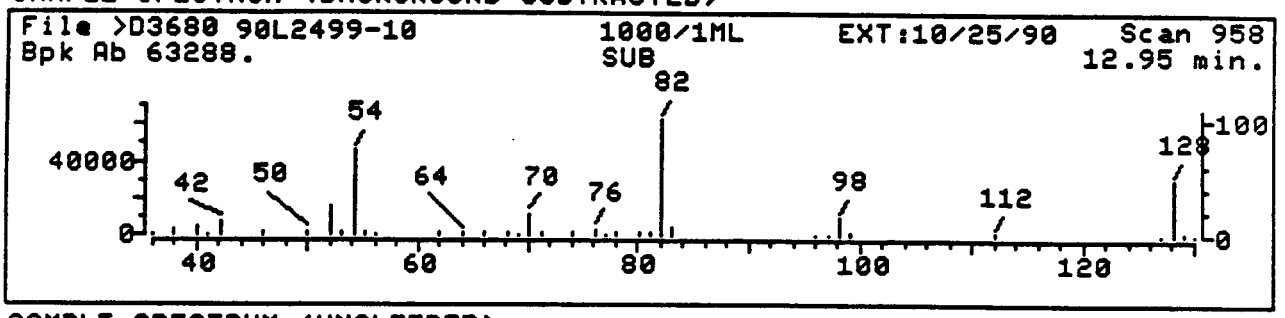
Data File: >D3680::D2
Quant Output File: ^D3680::D4
Name: 90L2499-10
Misc: 1000/1ML EXT:10/25/90 (RS0189) BTL# 3
Quant Time: 901030 18:19
Quant ID File: ID_DAD::QT
Injected at: 901030 17:32
Last Calibration: 90I022 14:31

Compound No: 18 (ISTD)
Compound Name: d8-Naphthalene
Scan Number: 1158
Retention Time: 15.03 min.
Quant Ion: 136.0
Area: 385696
Concentration: 40.00 UG/L
q-value: 95

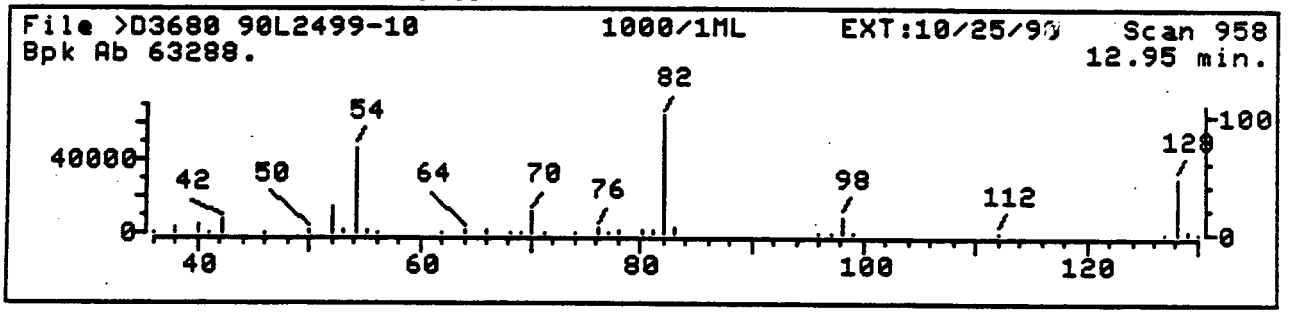
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



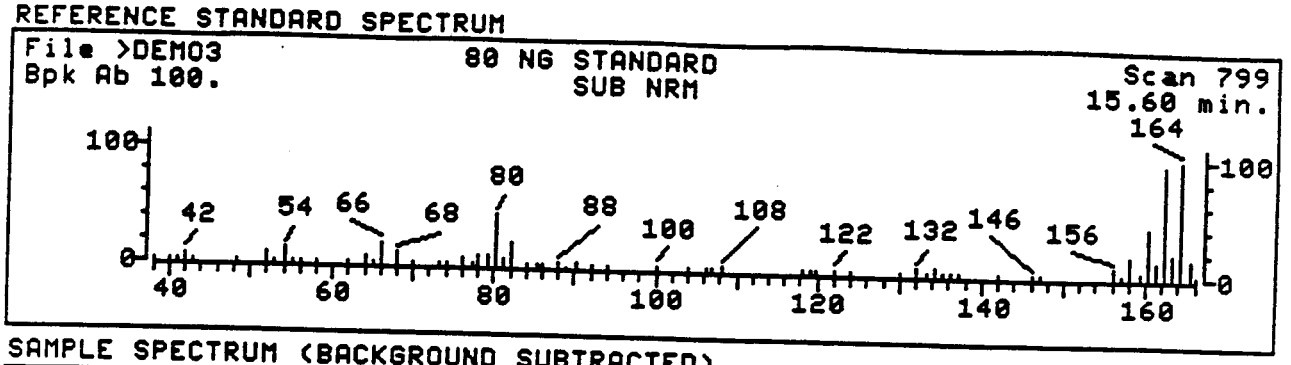
SAMPLE SPECTRUM (UNALTERED)



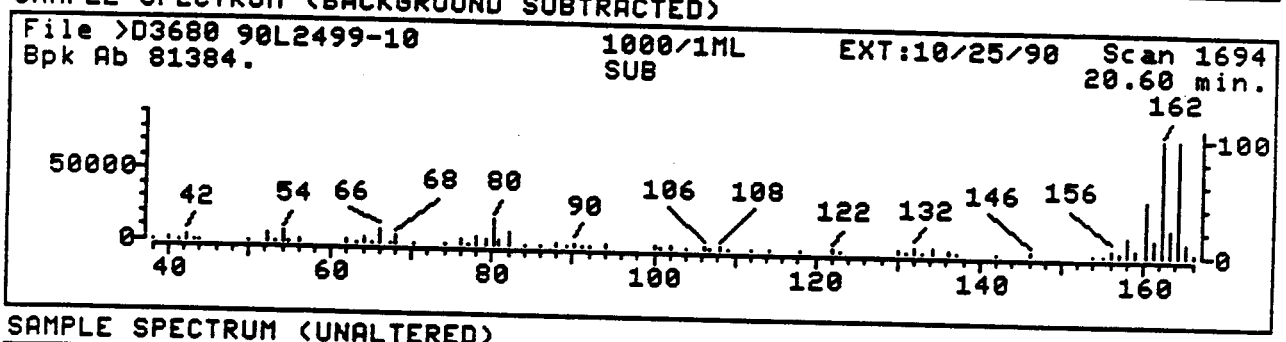
Data File: >D3680::D2 Quant Output File: ^D3680::D4
Name: 90L2499-10
Misc: 1000/1ML EXT:10/25/90 (RS0189) BTL# 3
Quant Time: 901030 18:19 Quant ID File: ID_DAD::QT
Injected at: 901030 17:32 Last Calibration: 90I022 14:31

Compound No: 19
Compound Name: Nitrobenzene-d5
Scan Number: 958
Retention Time: 12.95 min.
Quant Ion: 82.0
Area: 141651
Concentration: 28.64 UG/L
q-value: 93

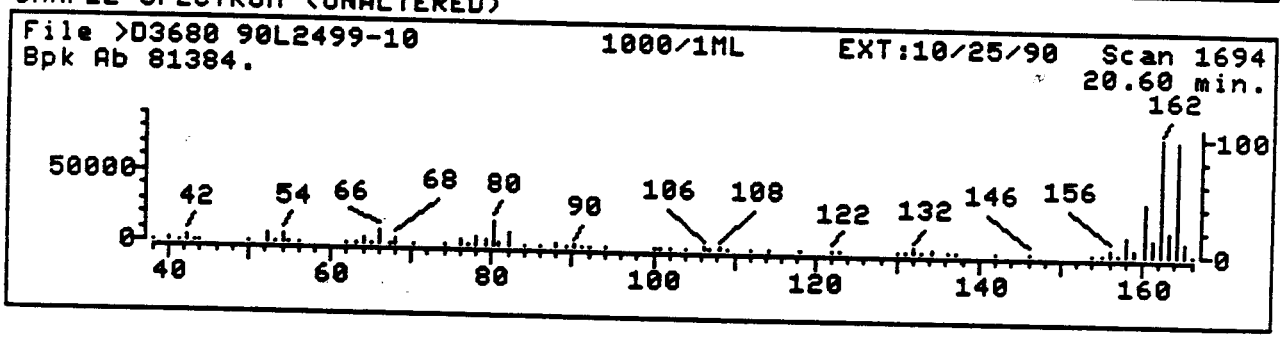
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

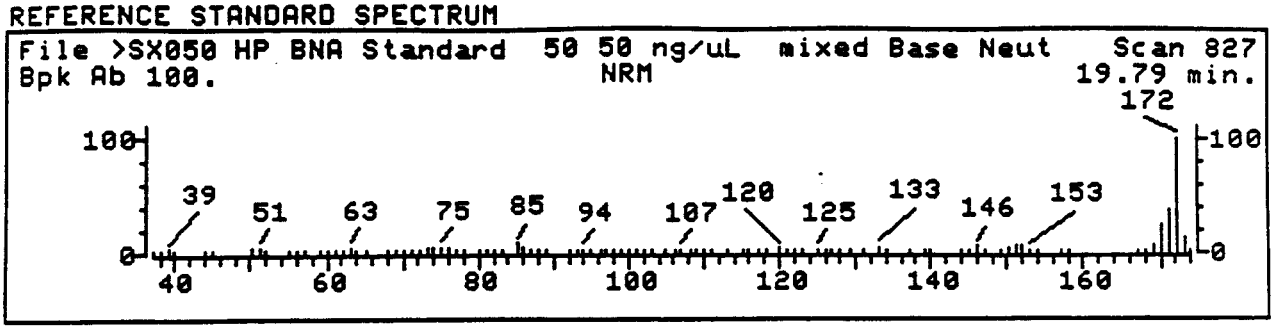


Data File: >D3680::D2
Name: 90L2499-10
Misc: 1000/1ML EXT:10/25/90
Quant Time: 901030 18:19
Injected at: 901030 17:32

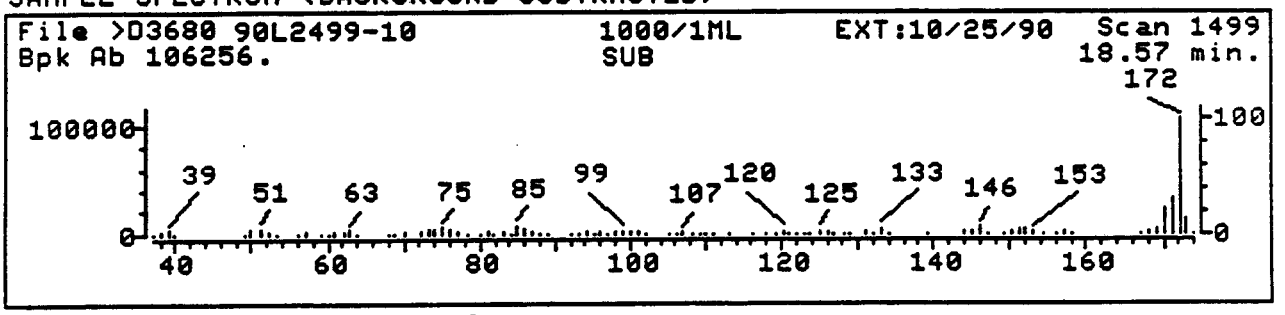
Quant Output File: ^D3680::D4
(RS0189) BTL# 3
Quant ID File: ID_DAD::QT
Last Calibration: 90I022 14:31

Compound No: 33 (ISTD)
Compound Name: d10-Acenaphthene
Scan Number: 1694
Retention Time: 20.60 min.
Quant Ion: 164.0
Area: 227809
Concentration: 40.00 UG/L
q-value: 91

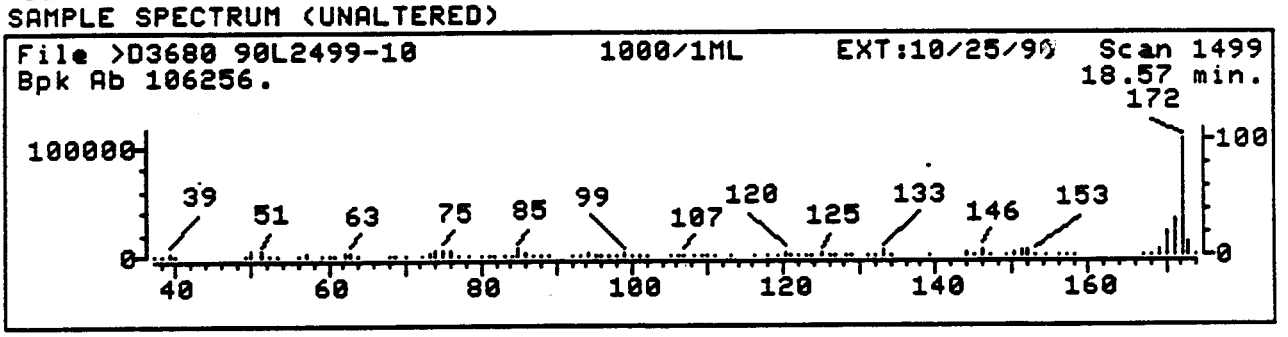
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



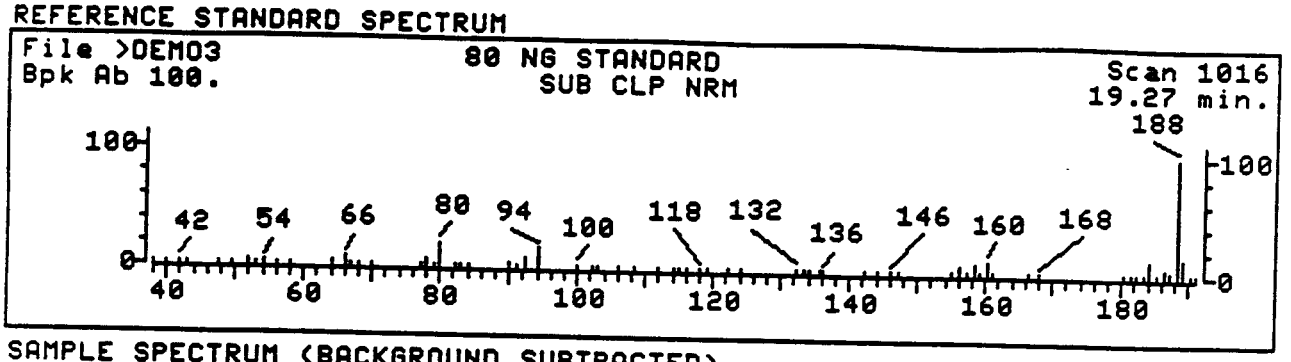
SAMPLE SPECTRUM (UNALTERED)



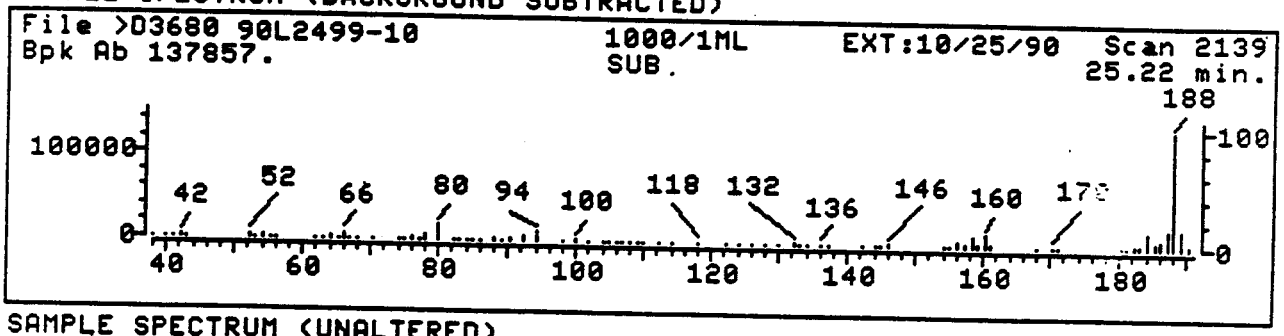
Data File: >D3680::D2 Quant Output File: ^D3680::D4
Name: 90L2499-10
Misc: 1000/1ML EXT:10/25/90 (RS0189) BTL# 3
Quant Time: 901030 18:19 Quant ID File: ID_DAD::QT
Injected at: 901030 17:32 Last Calibration: 90I022 14:31

Compound No: 38
Compound Name: 2-Fluorobiphenyl
Scan Number: 1499
Retention Time: 18.57 min.
Quant Ion: 172.0
Area: 252308
Concentration: 28.07 UG/L
q-value: 91

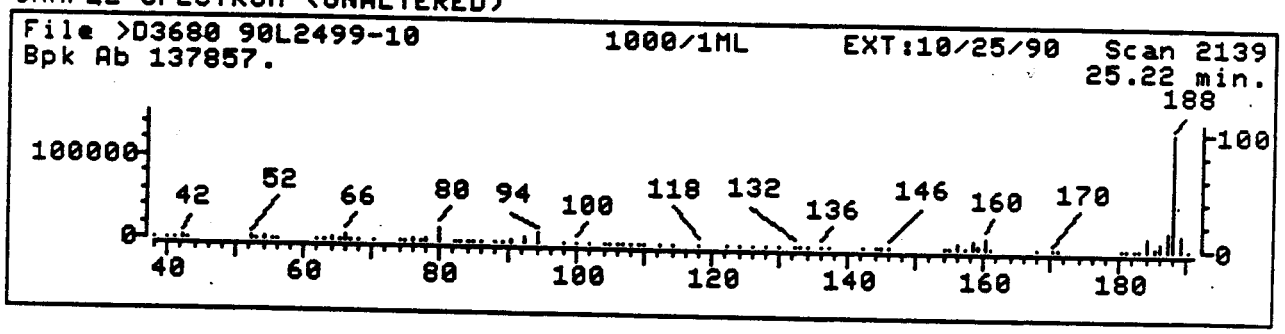
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

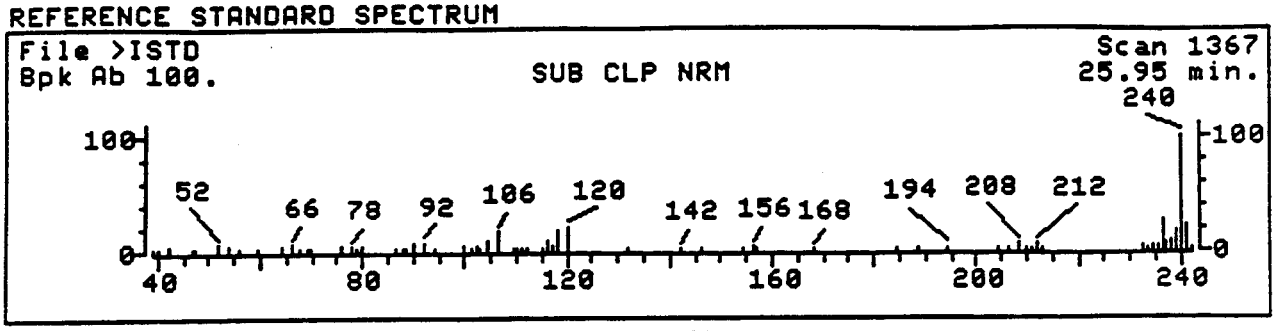


Data File: >D3680::D2
Name: 90L2499-10
Misc: 1000/1ML EXT:10/25/90
Quant Time: 901030 18:19
Injected at: 901030 17:32

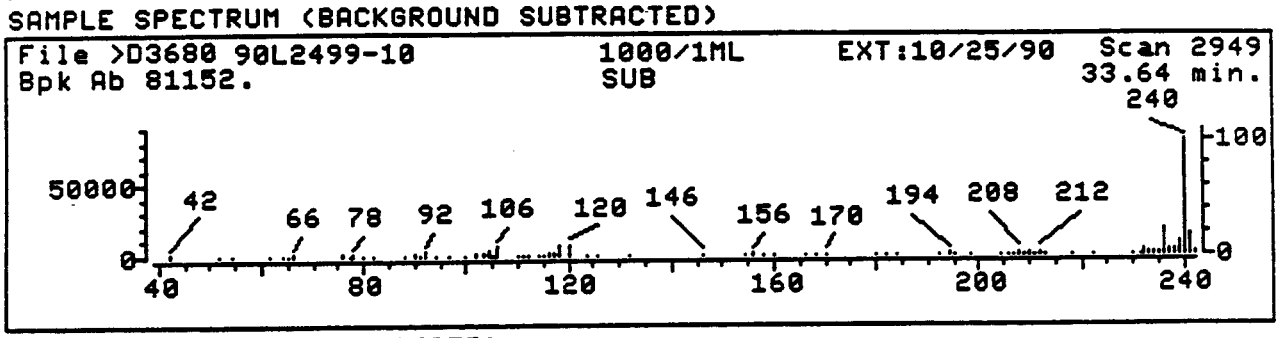
Quant Output File: ^D3680::D4
(RS0189) BTL# 3
Quant ID File: ID DAD::QT
Last Calibration: 90I022 14:31

Compound No: 53 (ISTD)
Compound Name: d10-Phenanthrene
Scan Number: 2139
Retention Time: 25.22 min.
Quant Ion: 188.0
Area: 418637
Concentration: 40.00 UG/L
q-value: 98

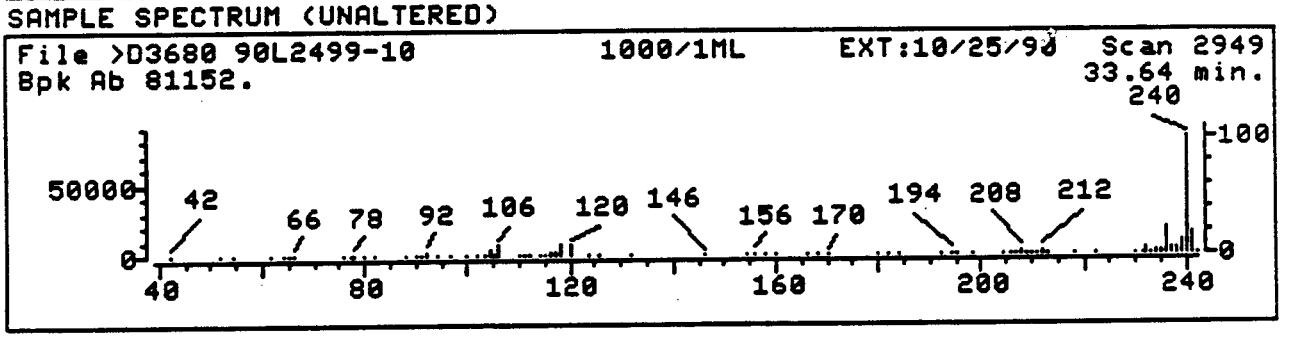
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



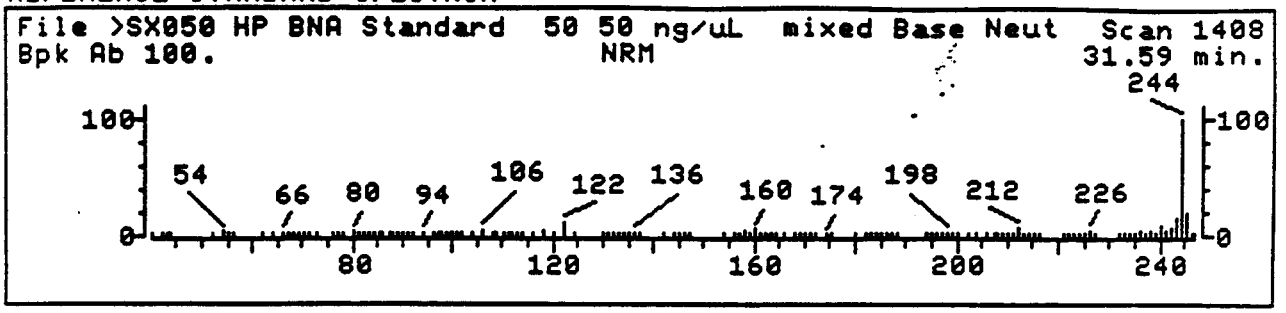
SAMPLE SPECTRUM (UNALTERED)



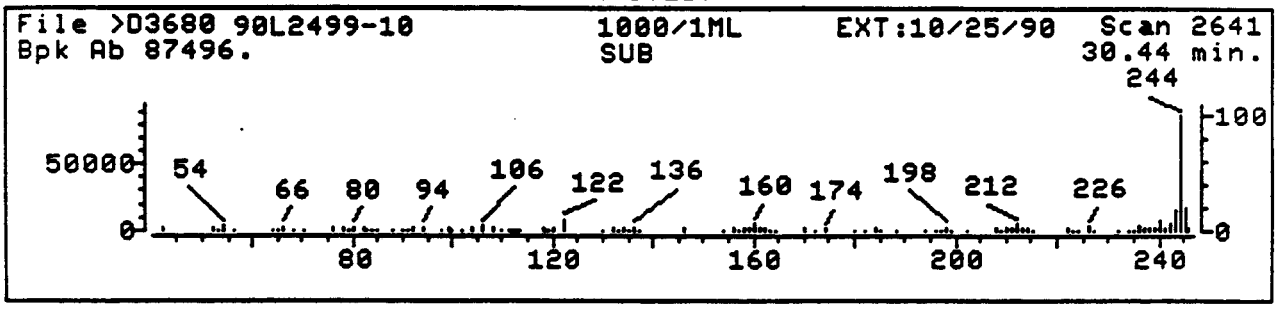
Data File: >D3680::D2 Quant Output File: ^D3680::D4
Name: 90L2499-10
Misc: 1000/1ML EXT:10/25/90 (RS0189) BTL# 3
Quant Time: 901030 18:19 Quant ID File: ID_DAD::QT
Injected at: 901030 17:32 Last Calibration: 90I022 14:31

Compound No: 65 (ISTD)
Compound Name: d12-Chrysene
Scan Number: 2949
Retention Time: 33.64 min.
Quant Ion: 240.0
Area: 276278
Concentration: 40.00 UG/L
q-value: 93

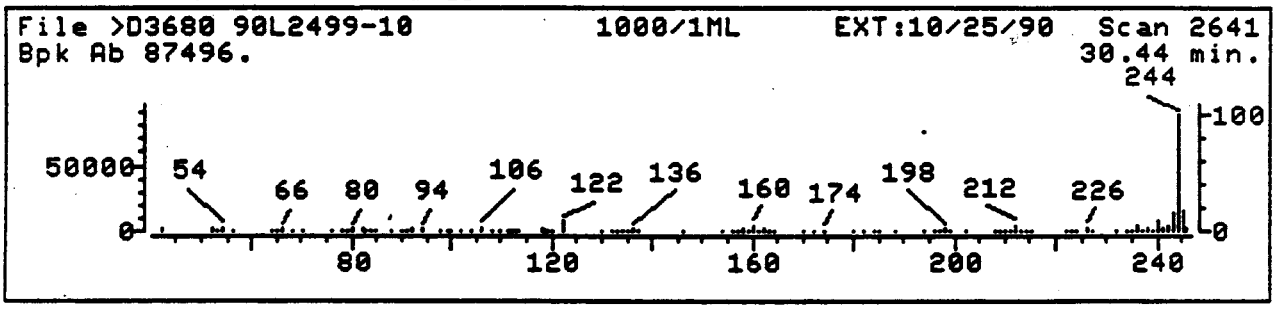
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



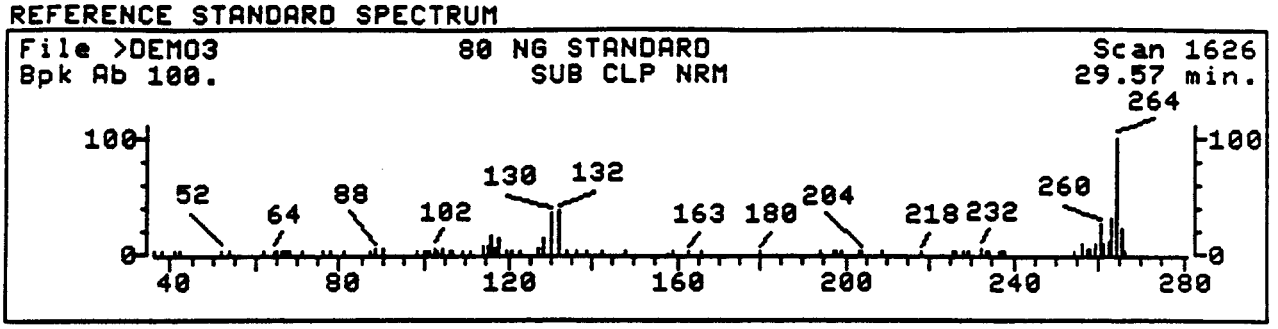
SAMPLE SPECTRUM (UNALTERED)



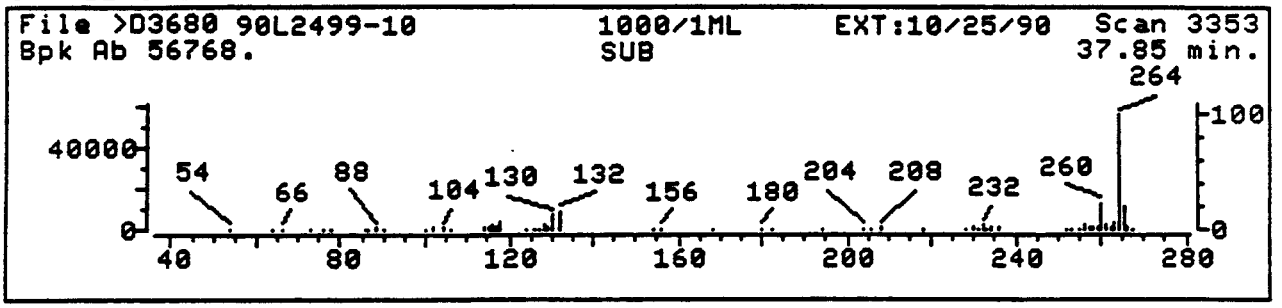
Data File: >D3680::D2 Quant Output File: ^D3680::D4
Name: 90L2499-10
Misc: 1000/1ML EXT:10/25/90 (RS0189) BTL# 3
Quant Time: 901030 18:19 Quant ID File: ID_DAD::QT
Injected at: 901030 17:32 Last Calibration: 90I022 14:31

Compound No: 68
Compound Name: Terphenyl-d14
Scan Number: 2641
Retention Time: 30.44 min.
Quant Ion: 244.0
Area: 252065
Concentration: 32.23 UG/L
q-value: 82

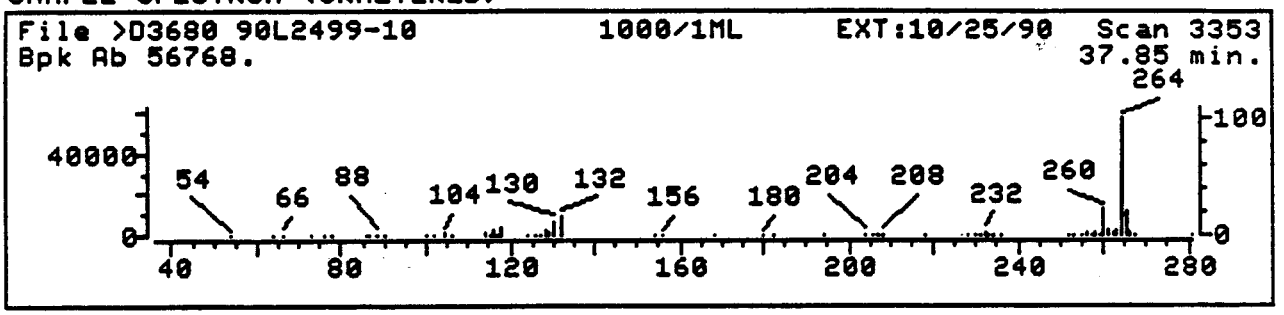
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



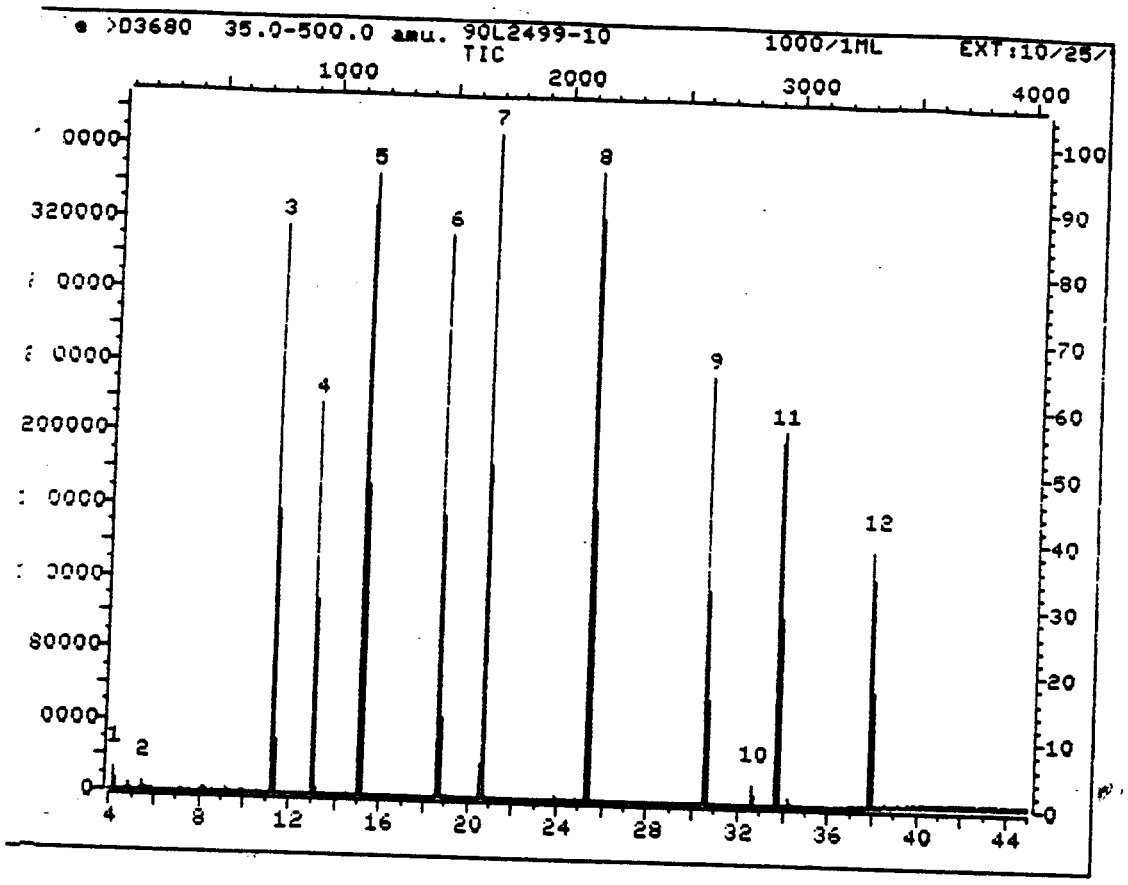
Data File: >D3680::D2 Quant Output File: ^D3680::D4
Name: 90L2499-10
Misc: 1000/1ML EXT:10/25/90 (RS0189) BTL# 3
Quant Time: 901030 18:19 Quant ID File: ID_DAD::QT
Injected at: 901030 17:32 Last Calibration: 90I022 14:31

Compound No: 74 (ISTD)
Compound Name: d12-Perylene
Scan Number: 3353
Retention Time: 37.85 min.
Quant Ion: 264.0
Area: 202097
Concentration: 40.00 UG/L
q-value: 95

>D3680 90L2499-10 1000/1ML EXT:10/25/90 (RS0189)
35.01 500.0 TIC
Upslope: .20 Area Reject: 1.00 % Max Peaks: 12 Bunching: 1
Dnslope: 0.00 Results File IB2332 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	4.11	106	108	115	11998	23041	23041		2.16	.333
2	5.36	224	228	234	5344	12638	12638		1.19	.183
3	11.18	782	788	795	316069	706848	706848	IS	66.37	10.213
4	12.95	952	958	968	216777	497049	496210	SS	46.59	7.169
5	15.04	1152	1159	1164	345270	879623	878482	IS	82.49	12.693
6	18.57	1493	1499	1504	312049	739367	734494	SS	68.97	10.612
7	20.60	1686	1694	1701	369447	1037091	1037091	IS	97.38	14.984
8	25.22	2128	2139	2151	349514	1064990	1064990	IS	100.00	15.387
9	30.45	2633	2642	2651	236916	716410	716410	SS	67.27	10.351
10	32.58	2842	2847	2851	10866	23520	23520		2.21	.340
11	33.65	2940	2950	2964	208135	709420	709420	IS	66.61	10.250
12	37.86	3343	3354	3364	140679	529552	518021	IS	48.64	7.485

Sum of corrected areas: 6921165.


>03680 35.0-500.0 amu. 90L2499-10
TIC
1000/1ML
EXT:10/25/
1000
2000
3000
4000
320000
200000
80000
0000
100
90
80
70
60
50
40
30
20
10
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NAC NORTHEASTERN ANALYTICAL CORPORATION

GC/MS Mass Tune and Calibration Summary

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	47.52	47.52	Ok
68	Less than 2% of mass 69	.69	1.39	Ok
69	(reference only)	49.49	49.49	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	41.33	41.33	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.25	6.25	Ok
275	10-30% of mass 198	17.54	17.54	Ok
365	Greater than 1% of mass 198	1.56	1.56	Ok
441	0-100% of mass 443	7.35	76.16	Ok
442	Greater than 40% of mass 198	50.95	50.95	Ok
443	17-23% of mass 442	9.65	18.94	Ok

Injection Date: 10/29/90
Injection Time: 11:15
Data File: >D3655
Scan: 198

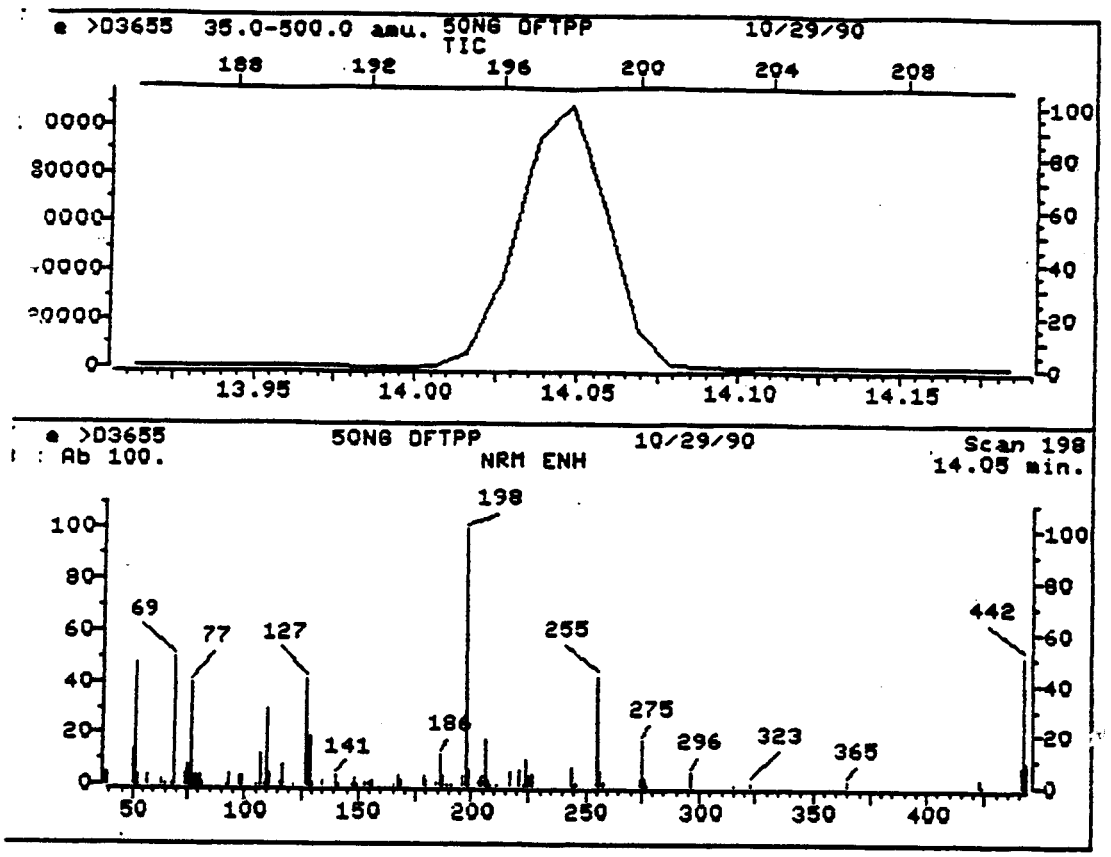
>D3655
198

50NG DFTPP
NRM ENH

10/29/90

File: >D3655 Scan #: 198 Retn. time: 14.05

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
38.90	4.661	91.85	.534	142.00	.332	196.05	3.899	245.90	.716
50.10	13.582	93.05	4.819	146.90	.394	197.95	100.000	255.00	42.568
51.10	47.515	97.95	3.489	148.10	2.506	198.95	6.246	256.00	5.198
52.10	3.408	99.05	3.372	149.00	.363	203.95	2.168	257.90	1.276
57.00	3.875	105.05	.472	153.00	.664	204.95	3.523	273.95	2.760
63.20	1.494	107.05	11.852	154.90	1.248	206.05	17.781	275.05	17.543
65.00	.226	108.95	.306	156.20	1.818	207.15	1.932	275.85	2.355
68.00	.687	110.05	29.653	165.10	.446	208.05	.316	276.95	.423
69.00	49.492	111.05	4.570	167.10	3.901	210.95	.446	295.95	4.871
73.95	4.428	115.95	.804	168.10	2.192	217.05	5.351	314.85	.278
74.95	7.499	116.95	7.745	178.85	3.235	220.90	6.142	322.90	1.463
75.95	2.117	121.85	.449	179.95	1.541	222.80	.355	364.90	1.562
77.05	39.253	127.00	41.331	184.95	.835	224.00	10.640	423.00	2.329
78.05	2.122	128.00	3.746	186.05	11.922	225.00	3.170	423.90	.340
79.05	3.178	129.00	19.055	187.05	3.486	226.90	4.005	441.10	7.351
80.05	2.023	130.00	1.100	188.95	.441	244.00	6.723	442.10	50.949
81.05	3.315	135.00	2.109	190.85	.249	244.90	.249	443.10	9.652
81.95	.869	141.10	3.175						


e >03655 35.0-500.0 amu. 50NG DFTPP 10/29/90
TIC
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192
196
200
204
208
0000
80000
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0
100
80
60
40
20
0
13.95
14.00
14.05
14.10
14.15
e >03655
Ab 100.
50NG DFTPP
10/29/90
NRM ENH
Scan 198
14.05 min.
198
69
77
127
255
442
141
186
275
296
323
365
100
80
60
40
20
0
50
100
150
200
250
300
350
400

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

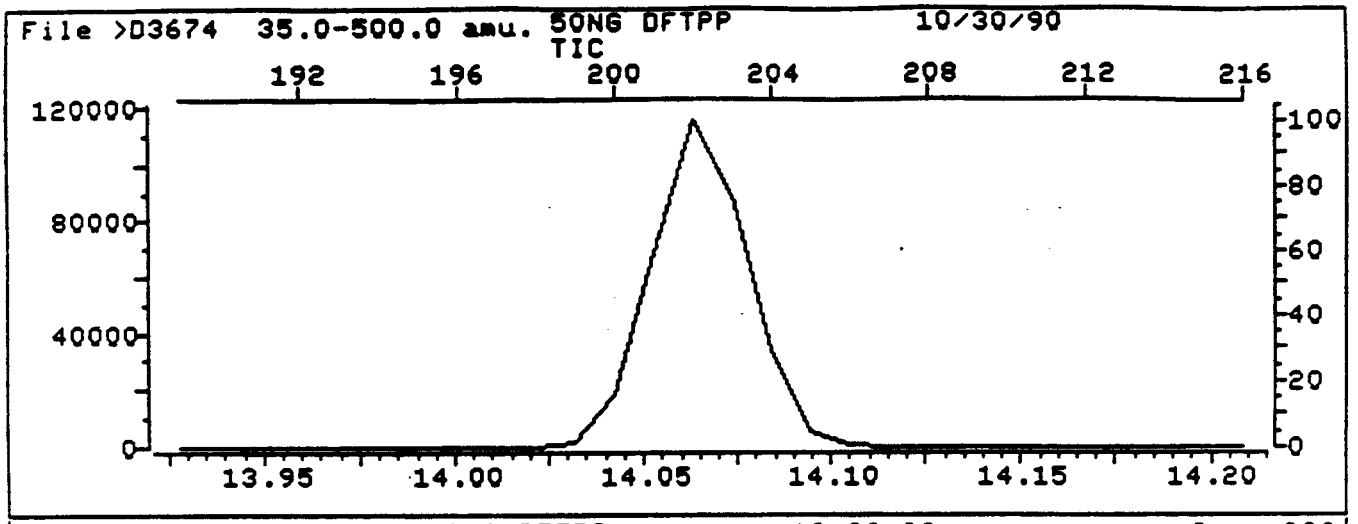
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	38.63	38.63	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	48.88	48.88	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	40.13	40.13	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.80	6.80	Ok
275	10-30% of mass 198	17.21	17.21	Ok
365	Greater than 1% of mass 198	2.05	2.05	Ok
441	0-100% of mass 443	8.08	81.68	Ok
442	Greater than 40% of mass 198	47.66	47.66	Ok
443	17-23% of mass 442	9.90	20.76	Ok

Injection Date: 10/30/90
Injection Time: 12:17
Data File: >D3674
Scan: 202

>D3674 50NG DFTPP 10/30/90
202 NRM ENH

File: >D3674 Scan #: 202 Retn. time: 14.06

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
39.00	4.067	98.05	2.251	140.90	1.926	192.85	.493	256.00	7.750
50.00	11.659	99.05	3.291	141.90	.333	195.95	2.751	257.80	1.376
51.00	38.627	100.85	.703	146.90	1.088	197.95	100.000	258.10	.825
52.10	1.093	103.85	1.310	147.90	2.749	198.95	6.798	265.10	.408
57.00	2.251	105.15	.683	153.00	.223	204.05	3.071	272.85	1.103
63.00	1.158	107.05	11.802	156.00	1.741	204.95	4.602	273.85	3.086
69.00	48.878	107.95	2.163	159.90	.400	205.95	19.972	274.95	17.211
73.30	.465	110.05	29.306	161.00	.773	207.05	2.328	276.05	2.638
73.95	3.961	110.95	3.969	165.80	.365	216.95	5.887	276.95	1.105
74.95	6.592	117.05	8.286	167.00	2.896	220.90	5.032	295.95	4.977
75.95	1.973	118.05	.338	168.00	1.788	224.00	9.971	323.00	1.125
77.05	34.368	123.00	1.583	174.95	.778	224.90	2.536	333.90	1.628
78.05	2.231	127.00	40.132	176.95	.298	226.90	4.174	364.90	2.048
78.95	2.781	128.00	3.151	178.85	2.996	229.10	1.060	422.90	3.369
79.95	2.041	129.00	19.060	180.05	1.986	244.00	8.005	441.00	8.083
80.95	2.881	130.00	2.043	184.95	1.506	244.90	.535	442.00	47.660
81.85	.715	135.10	1.608	186.05	11.469	246.00	1.443	443.10	9.896
90.85	.400	136.80	.385	186.95	3.624	255.00	40.975	444.00	.783
92.95	4.642	137.00	.360	192.05	.530				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80000
40000
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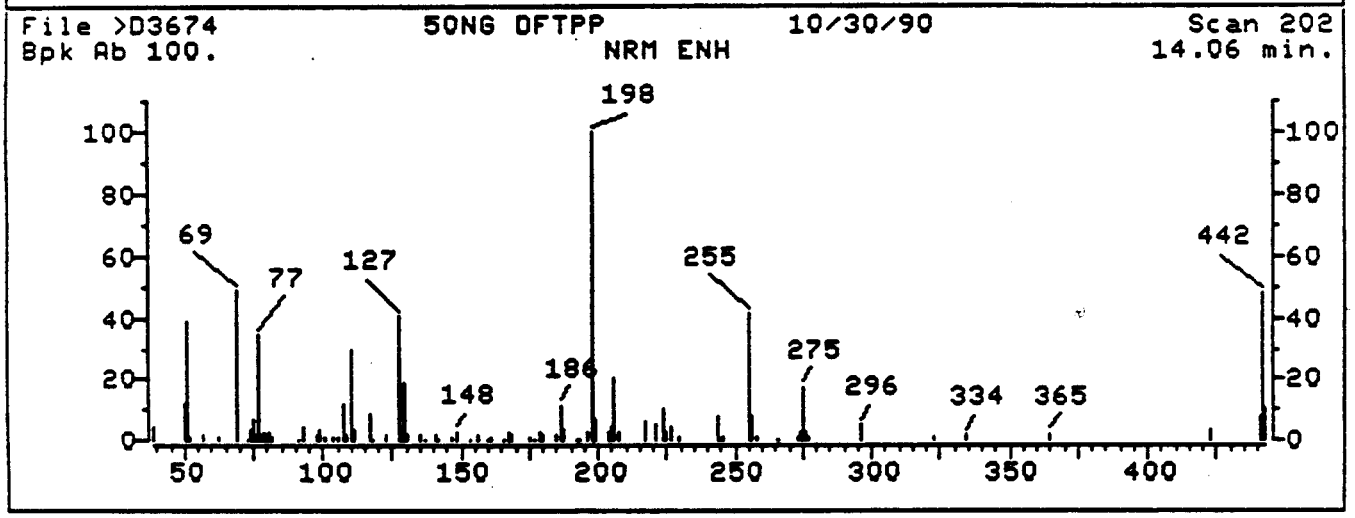
100
80
60
40
20
0
13.95 14.00 14.05 14.10 14.15 14.20


File >D3674 50NG DFTPP 10/30/90 Scan 202
Bpk Ab 100. NRM ENH 14.06 min.
198
69
77
127
148
186
255
275
296
334
365
442
100
80
60
40
20
0
50 100 150 200 250 300 350 400

GC/MS PERFORMANCE STANDARD

Decafluorotriphenylphospine (DFTPP)

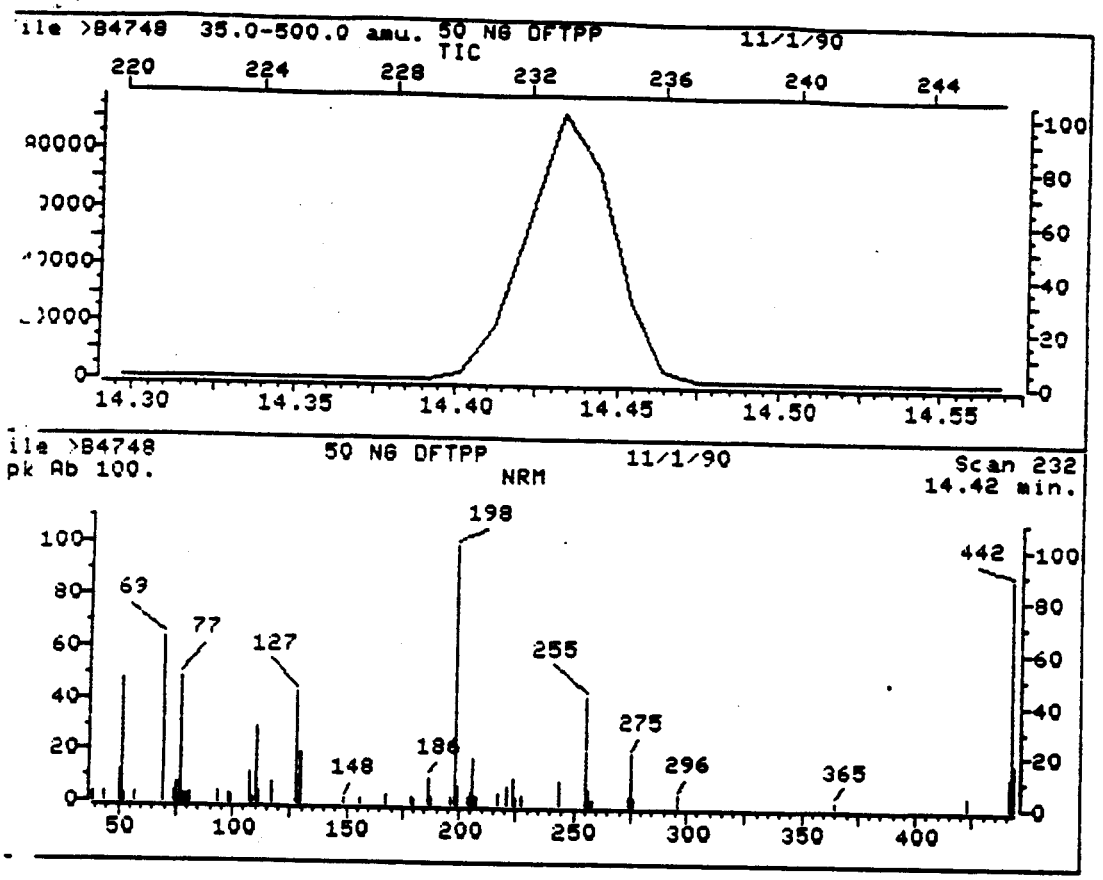
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	47.24	47.24	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	63.39	63.39	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	42.70	42.70	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.65	6.65	Ok
275	10-30% of mass 198	20.19	20.19	Ok
365	Greater than 1% of mass 198	1.96	1.96	Ok
441	0-100% of mass 443	11.67	67.34	Ok
442	Greater than 40% of mass 198	88.13	88.13	Ok
443	17-23% of mass 442	17.33	19.66	Ok

Injection Date: 11/01/90
Injection Time: 13:23
Data File: >84748
Scan: 232

>B4748 50 NG DFTPP 11/1/90
232 NRM

File: >B4748 Scan #: 232 Retn. time: 14.42

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
39.10	3.540	79.00	3.127	128.05	3.178	204.05	2.506	256.05	5.698
44.10	3.695	80.10	2.584	128.95	19.289	205.05	4.483	258.05	2.119
50.10	12.106	81.00	3.450	147.95	1.783	206.05	17.959	274.05	3.398
51.10	47.235	93.10	4.767	155.95	1.550	207.05	2.765	275.05	20.194
52.10	2.726	98.00	3.243	167.05	3.669	217.05	4.638	276.15	2.494
57.00	3.941	99.00	3.101	178.95	2.984	221.05	6.938	296.05	4.367
69.00	63.385	107.10	11.550	180.05	1.809	224.05	10.633	365.00	1.964
74.00	4.341	108.10	2.196	186.05	10.310	225.05	2.364	423.00	4.638
75.10	7.791	110.10	29.341	187.05	2.571	227.05	3.630	441.10	11.667
76.10	2.145	111.05	4.031	196.05	2.623	244.05	9.393	442.10	88.127
77.10	48.385	116.95	7.545	197.95	100.000	255.05	41.822	443.10	17.326
78.10	3.127	127.05	42.700	198.95	6.654				


ile >B4748 35.0-500.0 amu. 50 NG DFTPP 11/1/90
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70000
50000
0
100 80 60 40 20 0
14.30 14.35 14.40 14.45 14.50 14.55
ile >B4748 50 NG DFTPP 11/1/90
pk Ab 100.
NRM
Scan 232
14.42 min.
198
69
77
127
255
275
296
365
442
148
186
100 80 60 40 20 0
50 100 150 200 250 300 350 400

NAC NORTHEASTERN ANALYTICAL CORPORATION

GC/MS Quality Assurance Data

NORTHEASTERN ANALYTICAL CORPORATION
SOIL SEMIVOLATILE MATRIX SPIKE AND MATRIX SPIKE DUPLICATE

SAMPLE NO:90L2430-5 ANALYSIS DATE:10/23/90

BATCH NO: 185

COMPOUND	MS CONC (UG/L)	MSD CONC (UG/L)	SAMPLE CONC (UG/L)	MS % RECOV	MSD % RECOV	RPD	RPD LIMIT
Phenol	67	76	ND	67	76	13	35
2-Chlorophenol	76	84	ND	76	84	10	50
4-Chloro-3-methyl-phenol	52	64	ND	52	64	21	33
4-Nitrophenol	35	37	ND	35	37	6	50
Pentachlorophenol	56	66	ND	56	66	16	47
Concentration of spike compounds added in above is 100UG/L							
1,2-Dichloro-benzene	37	40	ND	74	80	8	27
N-Nitroso-di-n-propylamine	30	33	ND	60	66	10	38
1,2,4-Trichloro-benzene	34	37	ND	68	74	8	23
Acenapthene	29	37	ND	58	74	24*	19
2,4-Dinitrotoluene	20	26	ND	40	52	26	47
Pyrene	44	45	5	78	80	3	36
Concentration of spike compounds added in above is 50UG/L							

RECOVERY LIMITS

Phenol	26-90	1,4-Dichlorobenzene	28-104
2-Chlorophenol	25-102	N-Nitroso-di-n-propylamine	41-126
4-Chloro-3-methylphenol	26-103	1,2,4-Trichlorobenzene	38-107
4-Nitrophenol	11-114	Acenapthene	31-137
Pentachlorophenol	17-100	2,4-Dinitrotoluene	28-89
		Pyrene	35-142

RPD: 1 Out of 11 outside limits.
Spike Recovery: 0 Out of 22 outside limits.

SPIKE SURROGATE RECOVERIES

	NBZ (23-120)	FBP (30-115)	TPH (18-137)	PHL (24-113)	2FP (25-121)	TBP (19-122)
MS	66	70	70	66	74	58
MSD	68	80	72	76	80	77

NBZ = Nitrobenzene-d5 PHL = Phenol-d5

QUANT REPORT

Operator ID: ROSSI
Output File: ^D3603::D4
Data File: >D3603::D3
Name: 90L2430-5S
Misc: 30G/3ML EXT:10/19/90 (RS0185)

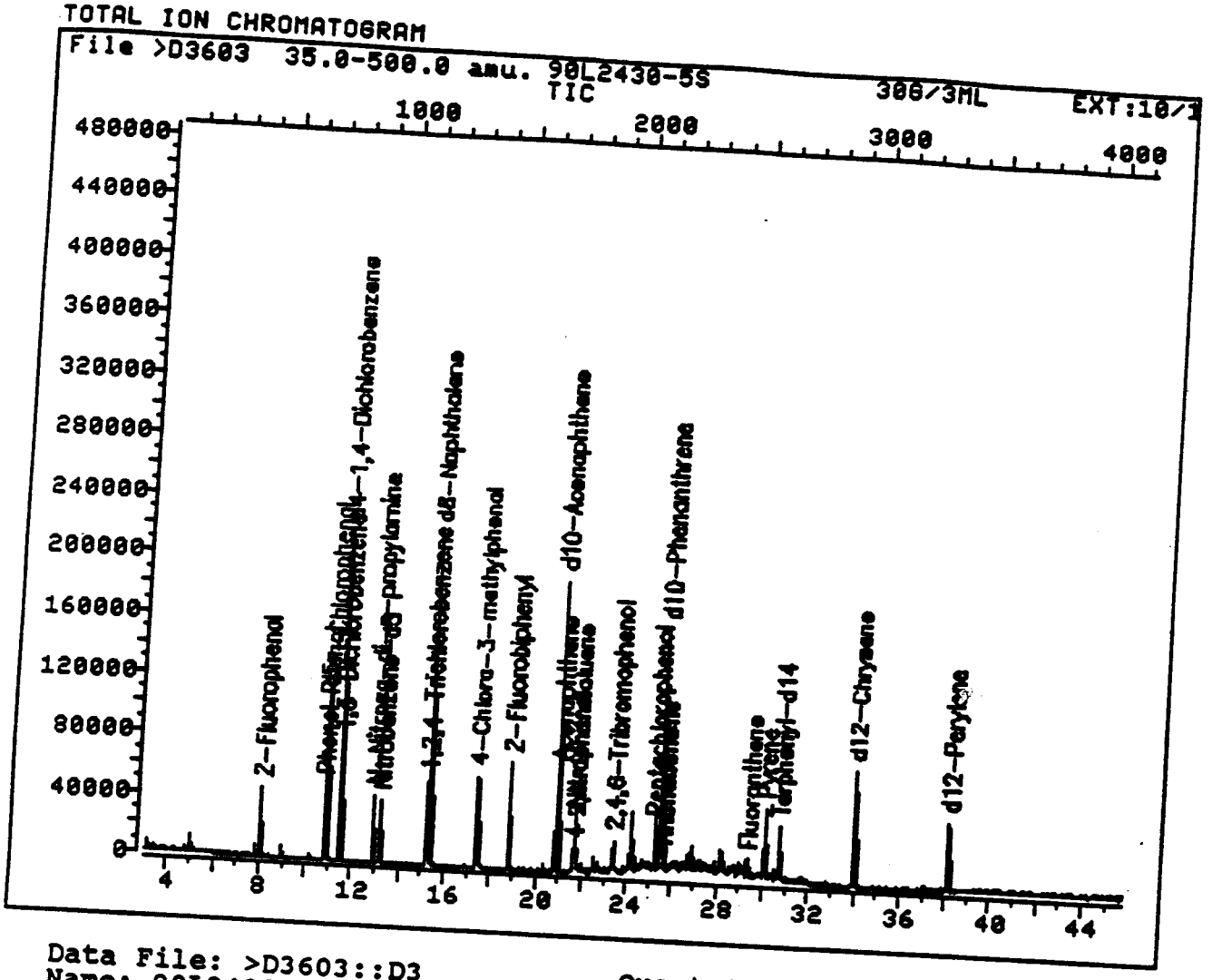
Quant Rev: 6
Quant Time: 901023 17:14
Injected at: 901023 16:27
Dilution Factor: 3.00000
BTL# 7

ID File: ID_DAD::QT
Title: HP BNA Standards for 5 point Calibration Curve Rev. E
Last Calibration: 901022 14:31

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	11.40	807	71203	40.00	UG/L	99
3)	2-Fluorophenol	8.00	481	28284	37.02	UG/L	91
5)	Phenol-d5	10.73	743	32084	33.20	UG/L	89
6)	Phenol	10.77	747	64587	67.30	UG/L	66
8)	2-Chlorophenol	10.91	760	62667	76.19	UG/L	95
9)	1,3-Dichlorobenzene	11.44	811	34433	37.09	UG/L	82
10)	1,4-Dichlorobenzene	11.44	811	34433	37.11	UG/L	88
16)	N-Nitroso-di-n-propylamine	12.87	949	21548	29.59	UG/L	76
18)	*d8-Naphthalene	15.26	1178	225290	40.00	UG/L	96
19)	Nitrobenzene-d5	13.17	977	31585	32.80	UG/L	93
27)	1,2,4-Trichlorobenzene	15.16	1169	24584	33.59	UG/L	90
31)	4-Chloro-3-methylphenol	17.32	1377	41908	51.85	UG/L	82
33)	*d10-Acenaphthene	20.83	1714	116089	40.00	UG/L	88
38)	2-Fluorobiphenyl	18.79	1518	53464	35.01	UG/L	94
43)	Acenaphthene	20.92	1723	36034	29.47	UG/L	97
45)	4-Nitrophenol	21.63	1791	15759M	35.15	UG/L	73
47)	2,4-Dinitrotoluene	21.68	1796	10933	20.24	UG/L	77
53)	*d10-Phenanthrene	25.46	2159	164536	40.00	UG/L	99
57)	2,4,6-Tribromophenol	23.37	1958	5109	28.81	UG/L	83
60)	Pentachlorophenol	25.14	2128	11944	55.94	UG/L	85
61)	Phenanthrene	25.54	2166	8234	5.08	UG/L	91
62)	Anthracene	25.54	2166	8234	5.31	UG/L	91
64)	Fluoranthene	29.32	2529	8293	4.41	UG/L	96
65)	*d12-Chrysene	33.90	2969	102259	40.00	UG/L	99
67)	Pyrene	30.01	2595	59376	43.66	UG/L	94
68)	Terphenyl-d14	30.67	2659	33535	34.76	UG/L	86
74)	*d12-Perylene	38.11	3374	64891	40.00	UG/L	91

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >D3603::D3
Name: 90L2430-5S
Misc: 30G/3ML EXT:10/19/90 (RS0185)

Quant Output File: ^D3603::D4

Id File: ID DAD::QT BTL# 7
Title: HP BNA Standards for 5 point Calibration Curve Rev. E
Last Calibration: 901022 14:31

Operator ID: ROSSI
Quant Time: 901023 17:14
Injected at: 901023 16:27

QUANT REPORT

Operator ID: ROSSI
Output File: ^D3604::D4
Data File: >D3604::D3
Name: 90L2430-5SD
Misc: 30G/3ML EXT:10/19/90 (RS0185)

Quant Rev: 6

Quant Time: 901023 18:08
Injected at: 901023 17:22
Dilution Factor: 3.00000

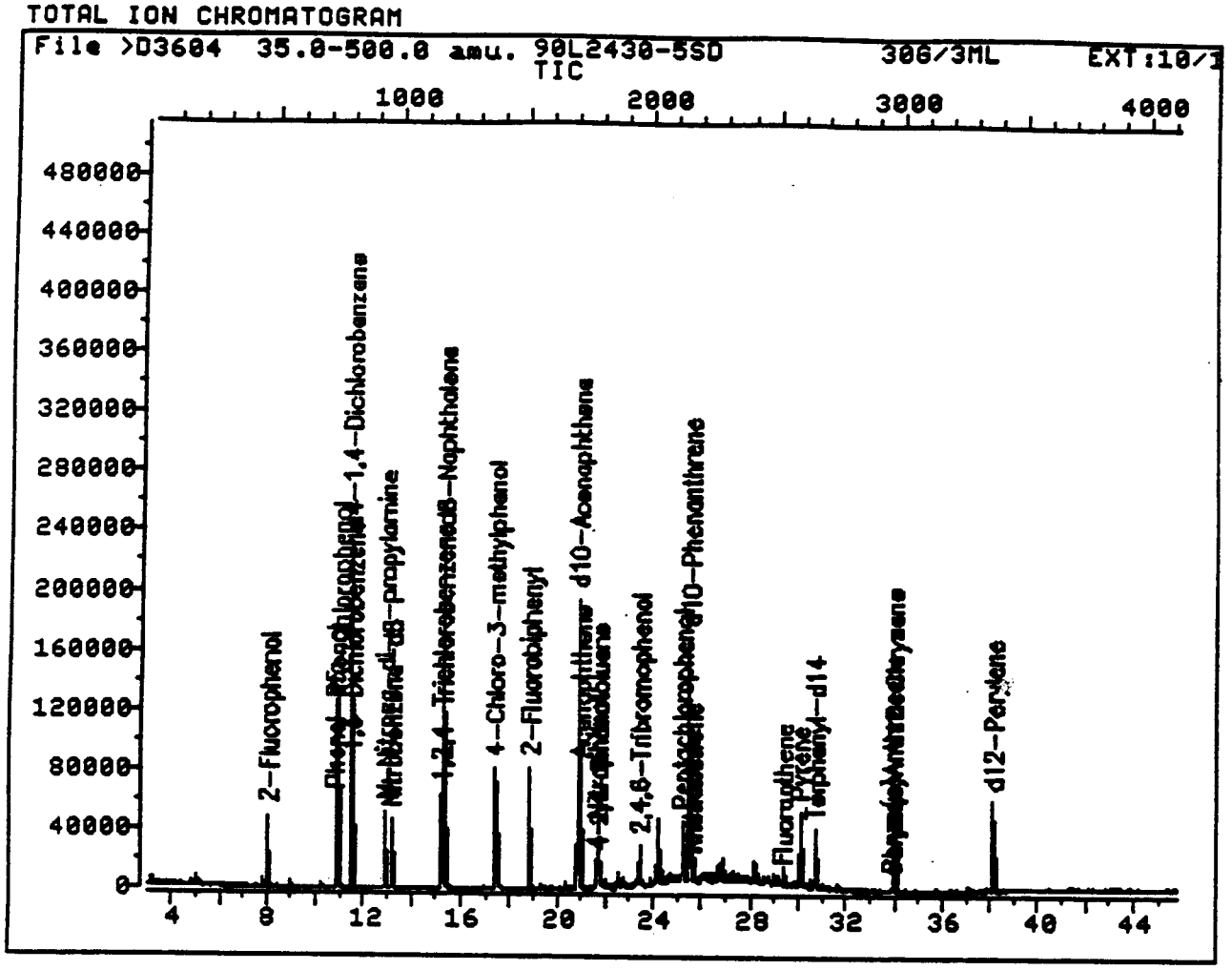
BTL# 8

ID File: ID_DAD::QT
Title: HP BNA Standards for 5 point Calibration Curve Rev. E
Last Calibration: 901022 14:31

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	11.39	806	71340	40.00	UG/L	98
3)	2-Fluorophenol	8.01	481	30520	39.87	UG/L	93
5)	Phenol-d5	10.74	743	36887	38.10	UG/L	78
6)	Phenol	10.77	746	72811	75.72	UG/L	73
8)	2-Chlorophenol	10.91	760	68986	83.71	UG/L	99
9)	1,3-Dichlorobenzene	11.45	811	37063	39.85	UG/L	96
10)	1,4-Dichlorobenzene	11.45	811	37063	39.86	UG/L	96
16)	N-Nitroso-di-n-propylamine	12.88	949	23912	32.77	UG/L	80
18)	*d8-Naphthalene	15.26	1178	241070	40.00	UG/L	94
19)	Nitrobenzene-d5	13.16	976	35012	33.97	UG/L	84
27)	1,2,4-Trichlorobenzene	15.17	1169	29147	37.21	UG/L	97
31)	4-Chloro-3-methylphenol	17.33	1377	55727	64.43	UG/L	79
33)	*d10-Acenaphthene	20.83	1714	116071M	40.00	UG/L	
38)	2-Fluorobiphenyl	18.80	1518	60797	39.82	UG/L	94
43)	Acenaphthene	20.93	1723	45843	37.50	UG/L	95
45)	4-Nitrophenol	21.63	1790	16398	36.58	UG/L	69
47)	2,4-Dinitrotoluene	21.69	1796	14023	25.97	UG/L	85
53)	*d10-Phenanthrene	25.47	2159	171955	40.00	UG/L	92
57)	2,4,6-Tribromophenol	23.37	1958	7160	38.63	UG/L	85
60)	Pentachlorophenol	25.16	2129	14649	65.65	UG/L	97
61)	Phenanthrene	25.53	2165	7915	4.68	UG/L	91
62)	Anthracene	25.53	2165	7915	4.88	UG/L	91
64)	Fluoranthene	29.32	2528	8619	4.38	UG/L	94
65)	*d12-Chrysene	33.91	2969	115758	40.00	UG/L	89
67)	Pyrene	30.01	2595	68939	44.78	UG/L	94
68)	Terphenyl-d14	30.68	2659	39407	36.08	UG/L	84
71)	Benzo(a)Anthracene	33.84	2963	3480	2.84	UG/L	97
73)	Chrysene	33.84	2963	3480	3.14	UG/L	98
74)	*d12-Perylene	38.12	3374	84702	40.00	UG/L	91

* Compound is ISTD

TOTAL ION CHROMATOGRAM



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Name: 90L2430-5SD
Misc: 30G/3ML EXT:10/19/90 (RS0185) BTL# 8

Id File: ID_DAD::QT
Title: HP BNA Standards for 5 point Calibration Curve Rev. E
Last Calibration: 901022 14:31

Operator ID: ROSSI
Quant Time: 901023 18:08
Injected at: 901023 17:22

NAC NORTHEASTERN ANALYTICAL CORPORATION

Method Blank Summary

QUANT REPORT

Operator ID: ROSSI
Output File: ^D3664::D4
Data File: >D3664::D3
Name: BLANK#3 (RS0186)
Misc: 30G/1ML EXT:10/25/90

Quant Rev: 6 Quant Time: 901030 09:07
Injected at: 901029 19:51
Dilution Factor: 33.33333

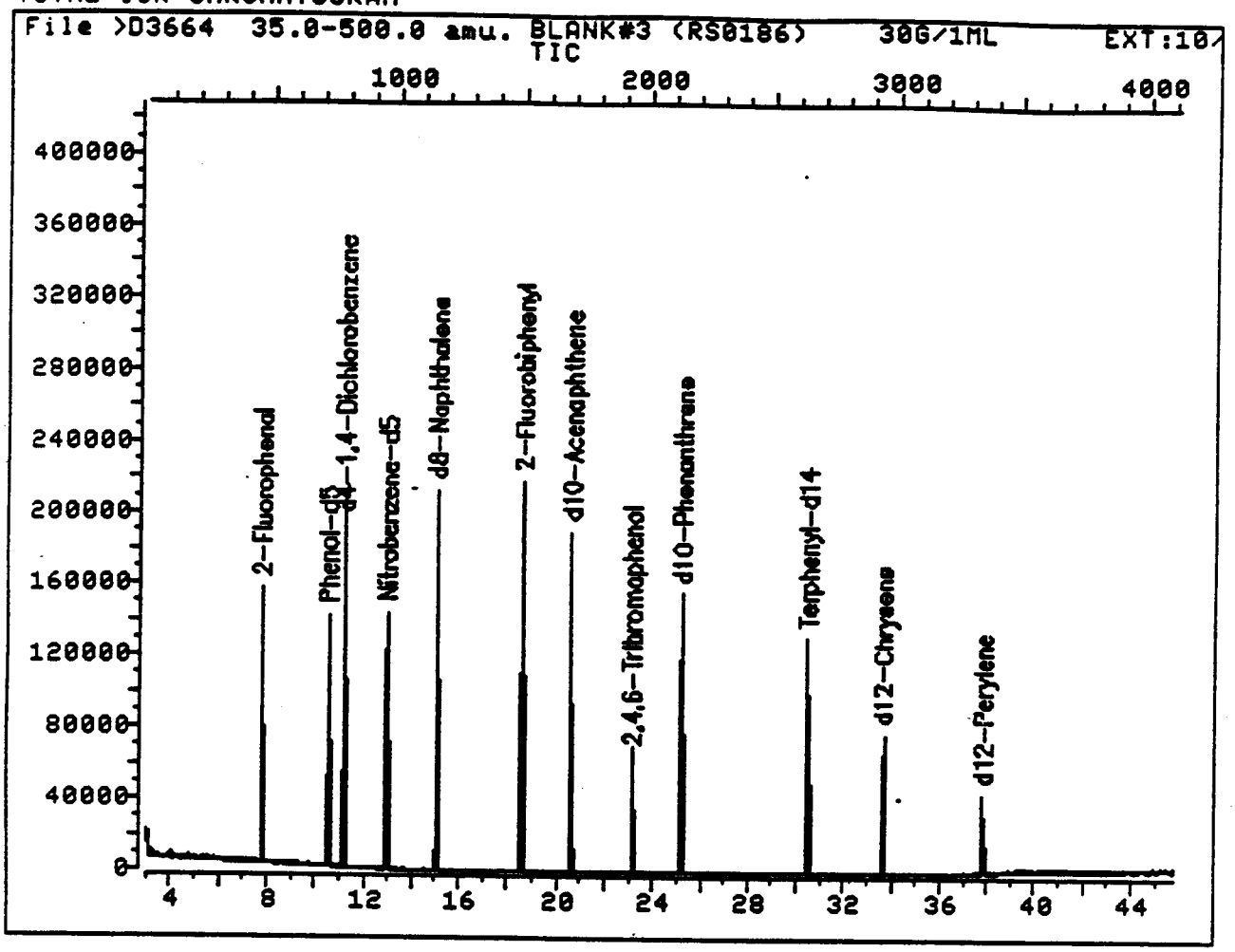
BTL# 5

D File: ID_MAD::QT
Title: HP BNA Standards for 5 point Calibration Curve Rev. E
Last Calibration: 901022 14:31

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	11.16	786	55715	40.00	UG/KG	93
3)	2-Fluorophenol	7.75	458	67147	1247.96	UG/KG	86
5)	Phenol-d5	10.49	722	68706M	1009.61	UG/KG	
8)	*d8-Naphthalene	15.01	1156	188307	40.00	UG/KG	95
19)	Nitrobenzene-d5	12.92	955	87574	1208.75	UG/KG	82
33)	*d10-Acenaphthene	20.56	1690	95720	40.00	UG/KG	90
38)	2-Fluorobiphenyl	18.54	1496	138423	1221.58	UG/KG	93
63)	*d10-Phenanthrene	25.17	2134	158938	40.00	UG/KG	94
67)	2,4,6-Tribromophenol	23.08	1932	14608M	947.38	UG/KG	
65)	*d12-Chrysene	33.59	2944	86034	40.00	UG/KG	87
89)	Terphenyl-d14	30.40	2637	107627	1473.11	UG/KG	86
91)	*d12-Perylene	37.78	3347	59059	40.00	UG/KG	93

* Compound is ISTD

TOTAL ION CHROMATOGRAM

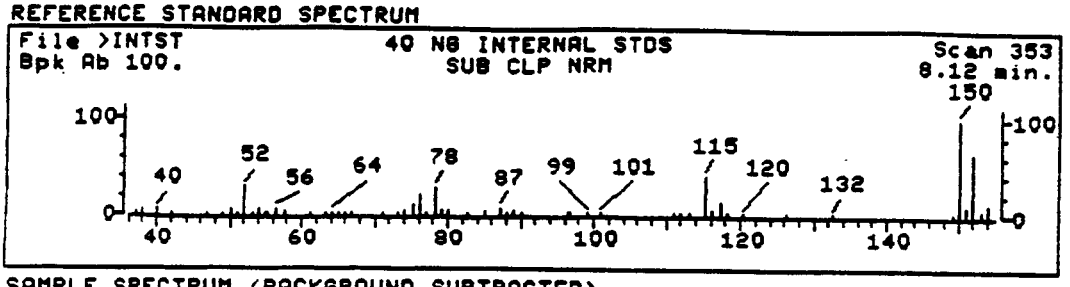


Data File: >D3664::D3 Quant Output File: ^D3664::D4
Name: BLANK#3 (RS0186)
Misc: 30G/1ML EXT:10/25/90 BTL# 5

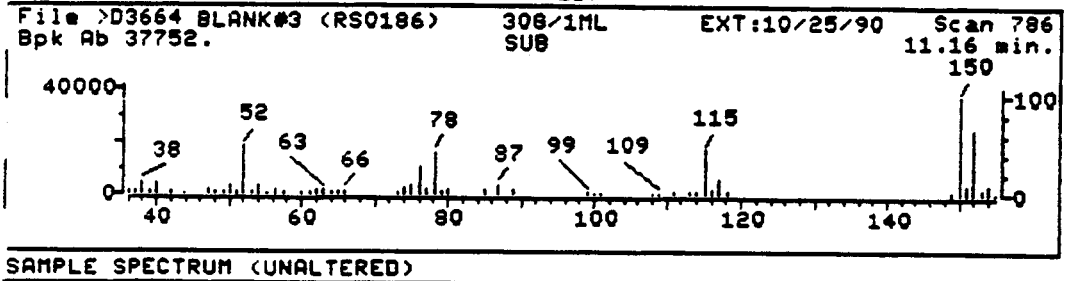
Id File: ID MAD::QT
Title: HP BNA Standards for 5 point Calibration Curve Rev. E
Last Calibration: 901022 14:31

Operator ID: ROSSI
Quant Time: 901030 09:07
Injected at: 901029 19:51

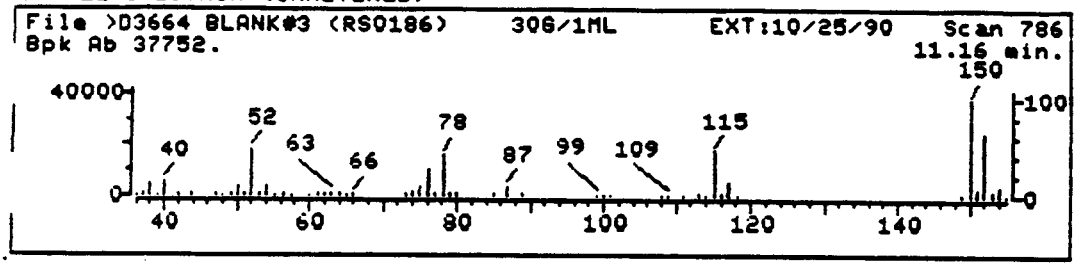
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



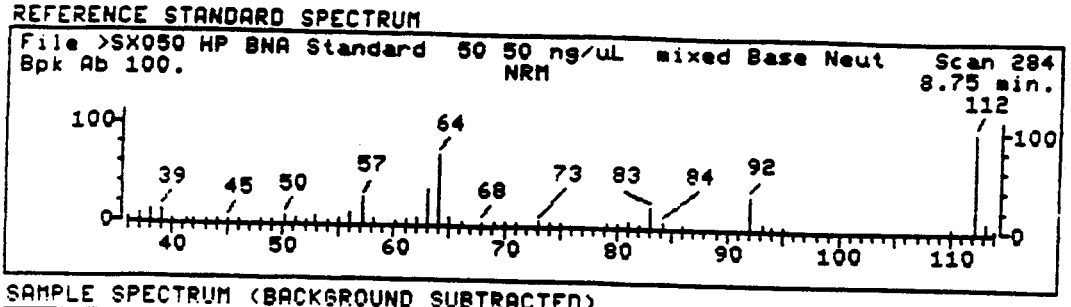
SAMPLE SPECTRUM (UNALTERED)



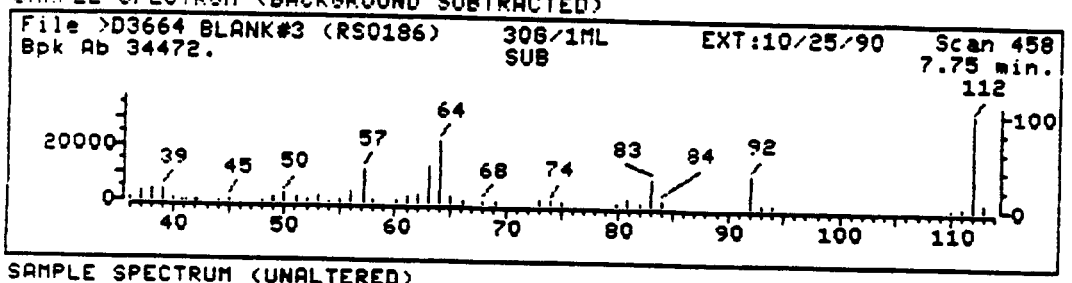
Data File: >D3664::D3 Quant Output File: ^D3664::D4
Name: BLANK#3 (RS0186)
Misc: 30G/1ML EXT:10/25/90 BTL# 5
Quant Time: 901030 09:07 Quant ID File: ID_MAD::QT
Injected at: 901029 19:51 Last Calibration: 901022 14:31

Compound No: 1 (ISTD)
Compound Name: d4-1,4-Dichlorobenzene
Scan Number: 786
Retention Time: 11.16 min.
Quant Ion: 152.0
Area: 55715
Concentration: 40.00 UG/KG
q-value: 93

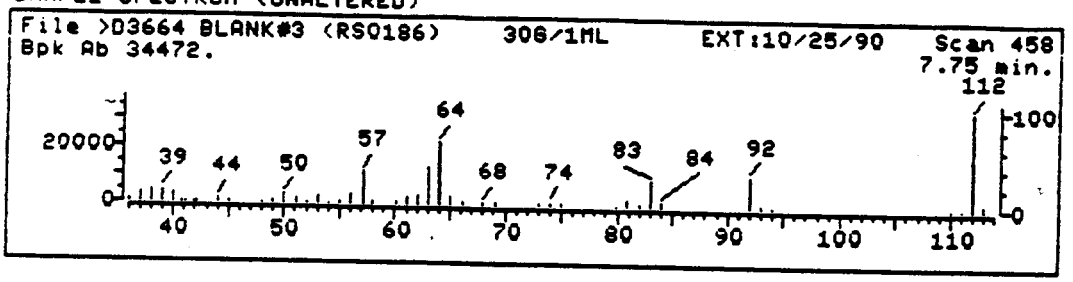
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



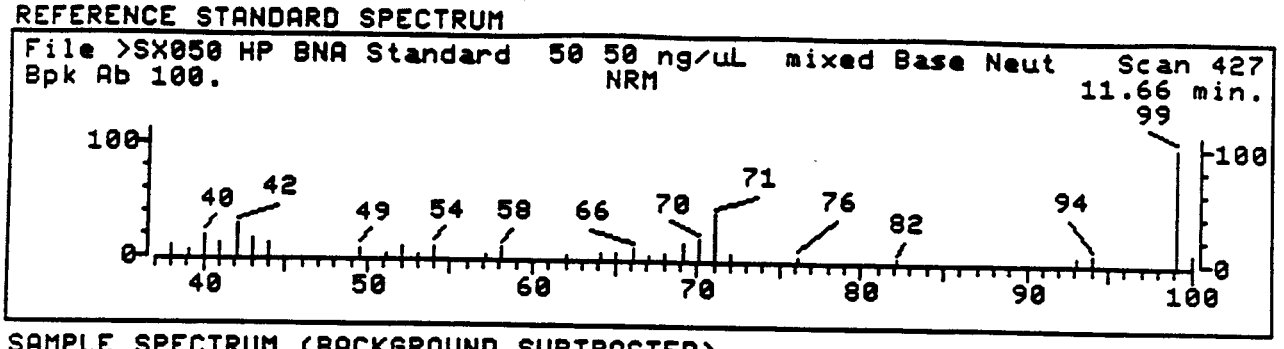
Data File: >D3664::D3
Name: BLANK#3 (RS0186)
Misc: 30G/1ML EXT:10/25/90
Quant Time: 901030 09:07
Injected at: 901029 19:51

Quant Output File: ^D3664::D4

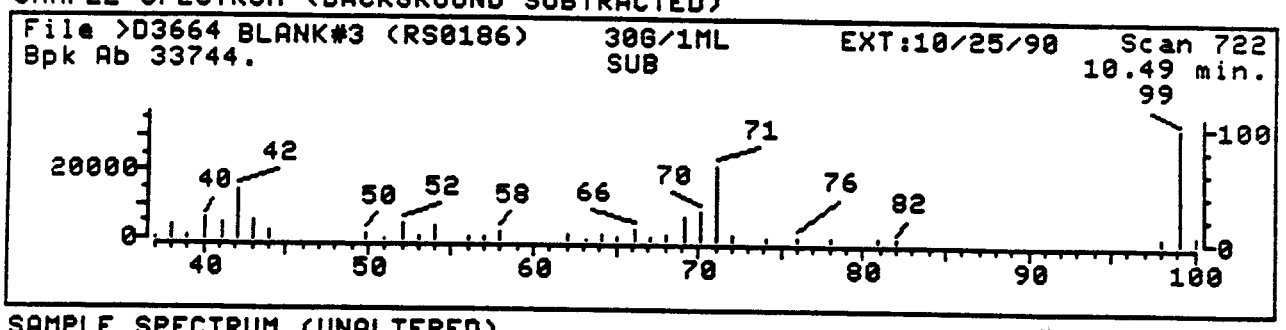
BTL# 5
Quant ID File: ID_MAD::QT
Last Calibration: 901022 14:31

Compound No: 3
Compound Name: 2-Fluorophenol
Scan Number: 458
Retention Time: 7.75 min.
Quant Ion: 112.0
Area: 67147
Concentration: 1247.96 UG/KG
q-value: 86

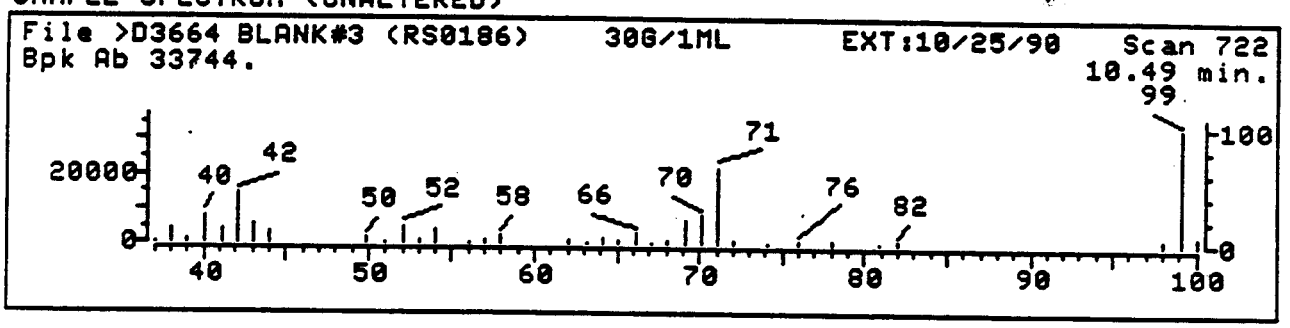
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



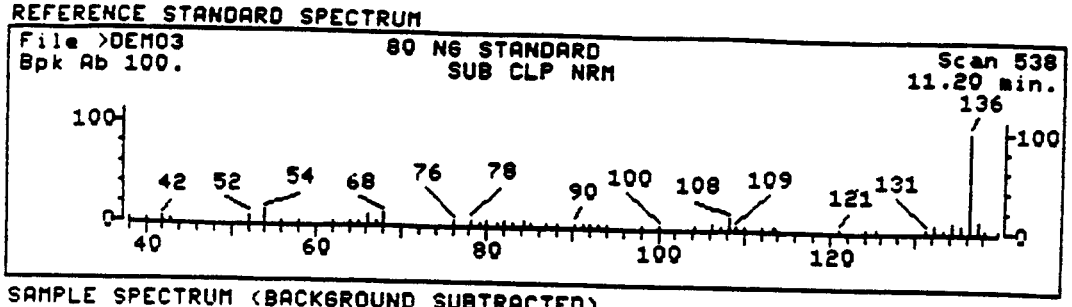
Data File: >D3664::D3
Name: BLANK#3 (RS0186)
Misc: 30G/1ML EXT:10/25/90
Quant Time: 901030 09:07
Injected at: 901029 19:51

Quant Output File: ^D3664::D4

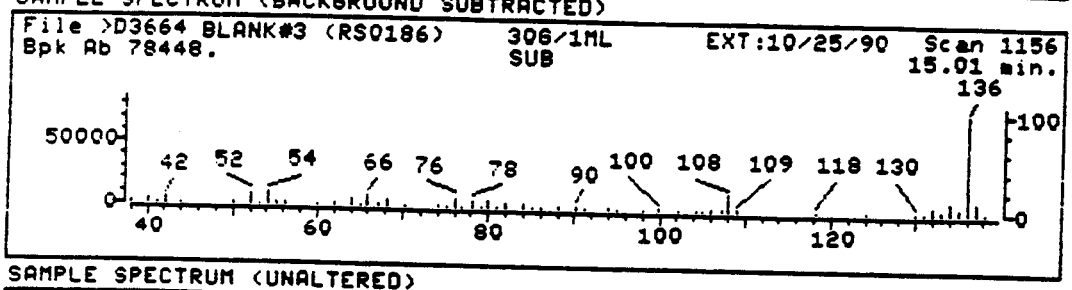
BTL# 5
Quant ID File: ID_MAD::QT
Last Calibration: 90I022 14:31

Compound No: 5
Compound Name: Phenol-d5
Scan Number: 722
Retention Time: 10.49 min.
Quant Ion: 99.0
Area: 68706M
Concentration: 1009.61 UG/KG

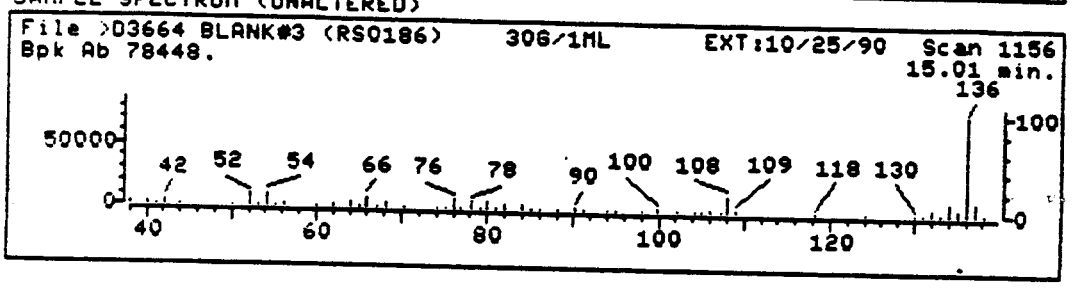
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



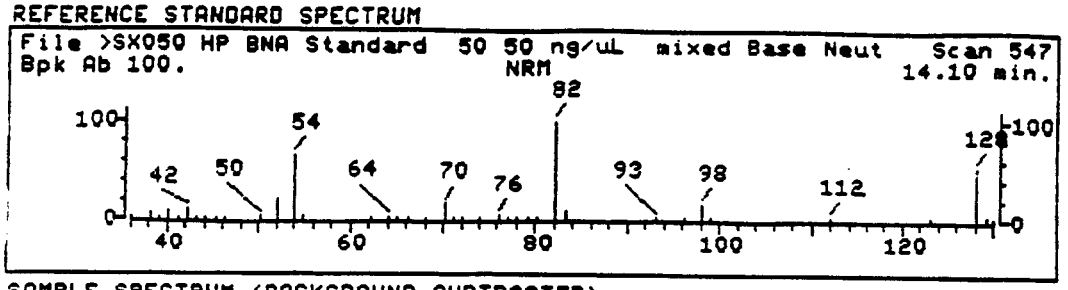
Data File: >D3664::D3
Name: BLANK#3 (RS0186)
Misc: 30G/1ML EXT:10/25/90
Quant Time: 901030 09:07
Injected at: 901029 19:51

Quant Output File: ^D3664::D4

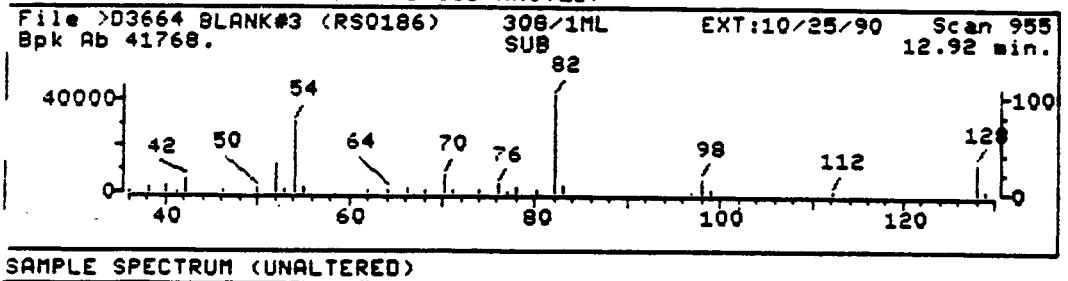
BTL# 5
Quant ID File: ID_MAD::QT
Last Calibration: 901022 14:31

Compound No: 18 (ISTD)
Compound Name: d8-Naphthalene
Scan Number: 1156
Retention Time: 15.01 min.
Quant Ion: 136.0
Area: 188307
Concentration: 40.00 UG/KG
q-value: 95

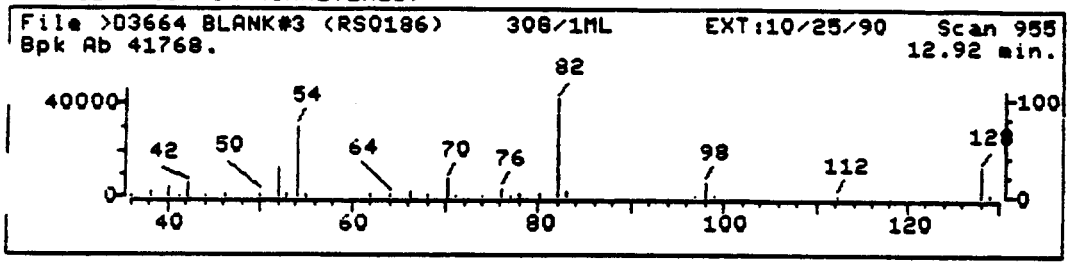
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



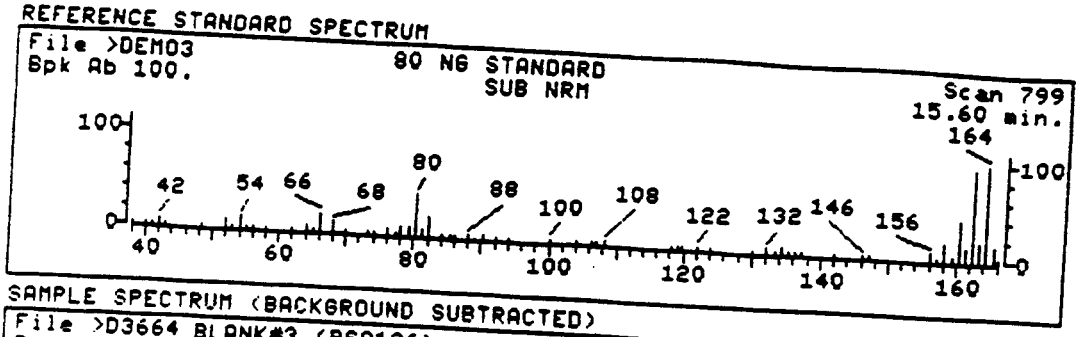
SAMPLE SPECTRUM (UNALTERED)



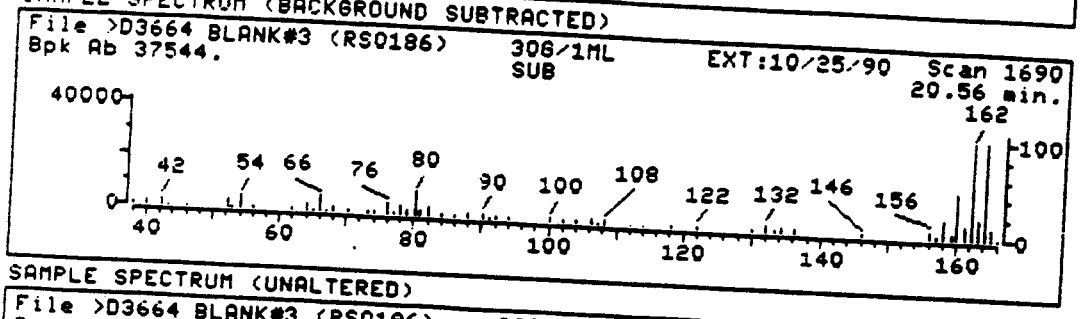
Data File: >D3664::D3 Quant Output File: ^D3664::D4
Name: BLANK#3 (RS0186)
Misc: 30G/1ML EXT:10/25/90 BTL# 5
Quant Time: 901030 09:07 Quant ID File: ID_MAD::QT
Injected at: 901029 19:51 Last Calibration: 901022 14:31

Compound No: 19
Compound Name: Nitrobenzene-d5
Scan Number: 955
Retention Time: 12.92 min.
Quant Ion: 82.0
Area: 87574
Concentration: 1208.75 UG/KG
q-value: 82

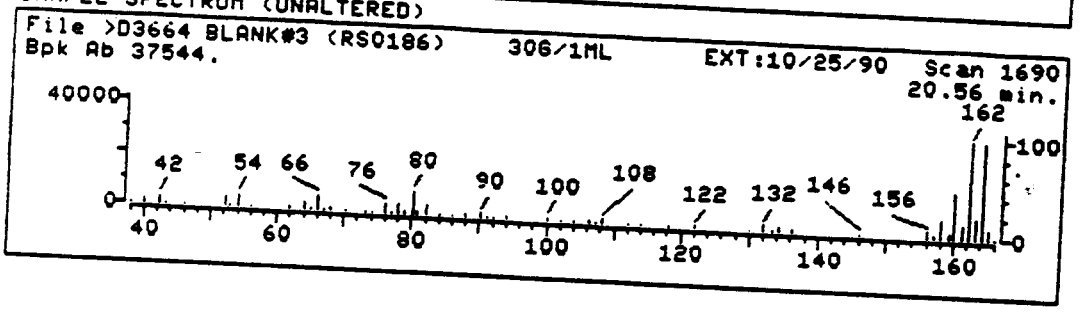
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



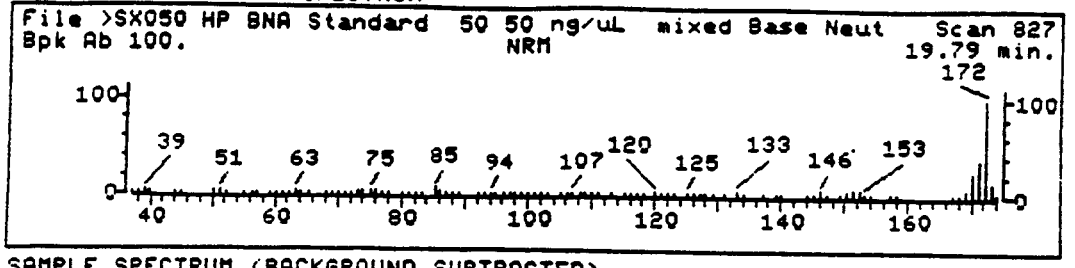
Data File: >D3664::D3
Name: BLANK#3 (RS0186)
Misc: 30G/1ML EXT:10/25/90
Quant Time: 901030 09:07
Injected at: 901029 19:51

Quant Output File: ^D3664::D4

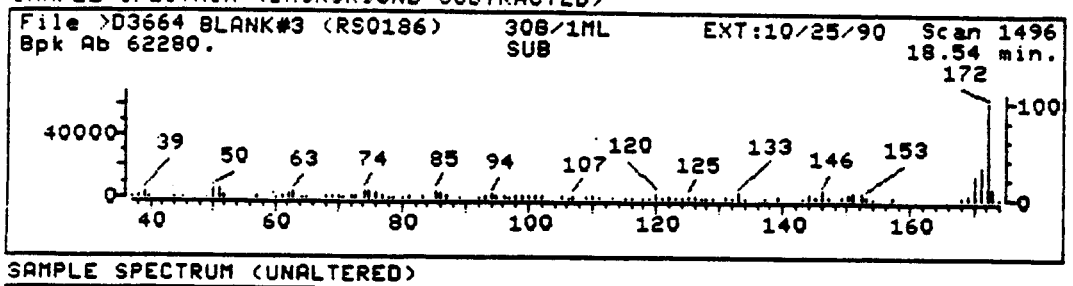
BTL# 5
Quant ID File: ID_MAD::QT
Last Calibration: 901022 14:31

Compound No: 33 (ISTD)
Compound Name: d10-Acenaphthene
Scan Number: 1690
Retention Time: 20.56 min.
Quant Ion: 164.0
Area: 95720
Concentration: 40.00 UG/KG
q-value: 90

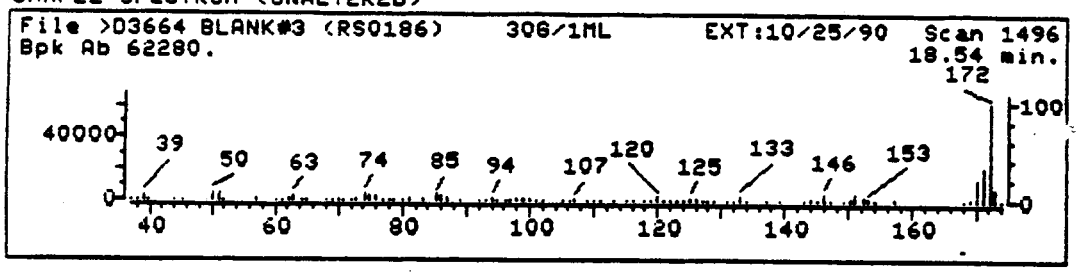
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



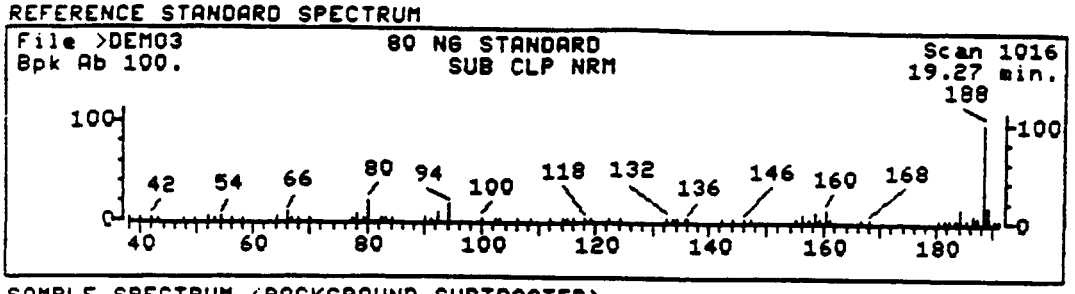
SAMPLE SPECTRUM (UNALTERED)



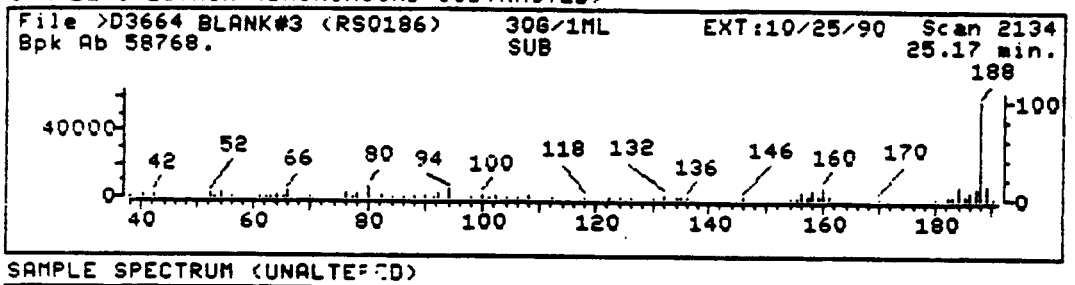
Data File: >D3664::D3 Quant Output File: ^D3664::D4
Name: BLANK#3 (RS0186)
Misc: 30G/1ML EXT:10/25/90 BTL# 5
Quant Time: 901030 09:07 Quant ID File: ID_MAD::QT
Injected at: 901029 19:51 Last Calibration: 901022 14:31

Compound No: 38
Compound Name: 2-Fluorobiphenyl
Scan Number: 1496
Retention Time: 18.54 min.
Quant Ion: 172.0
Area: 138423
Concentration: 1221.58 UG/KG
q-value: 93

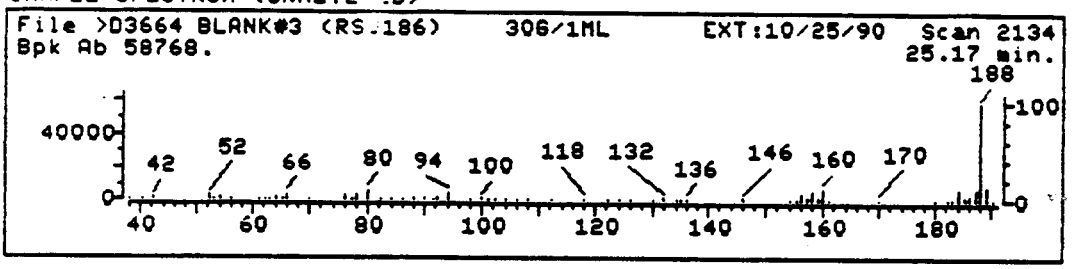
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >D3664::D3
Name: BLANK#3 (RS0186)
Misc: 30G/1ML EXT:10/25/90
Quant Time: 901030 09:07
Injected at: 901029 19:51

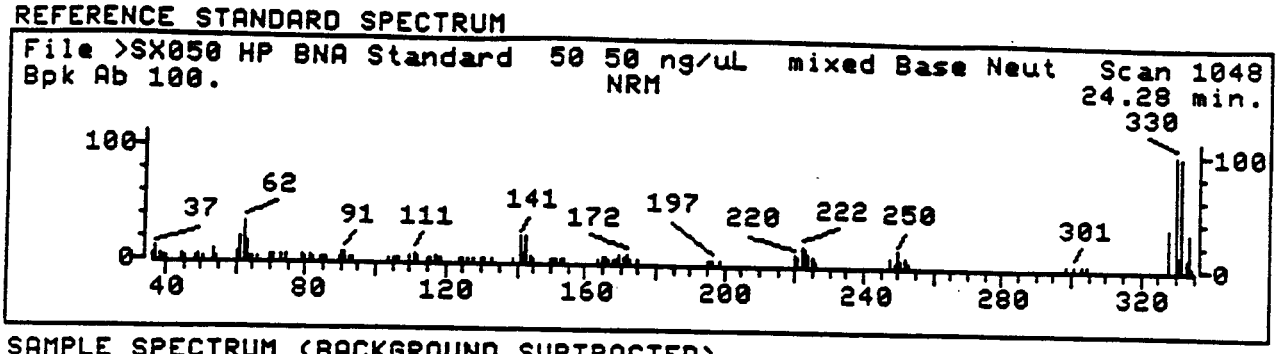
Quant Output File: ^D3664::D4

BTL# 5

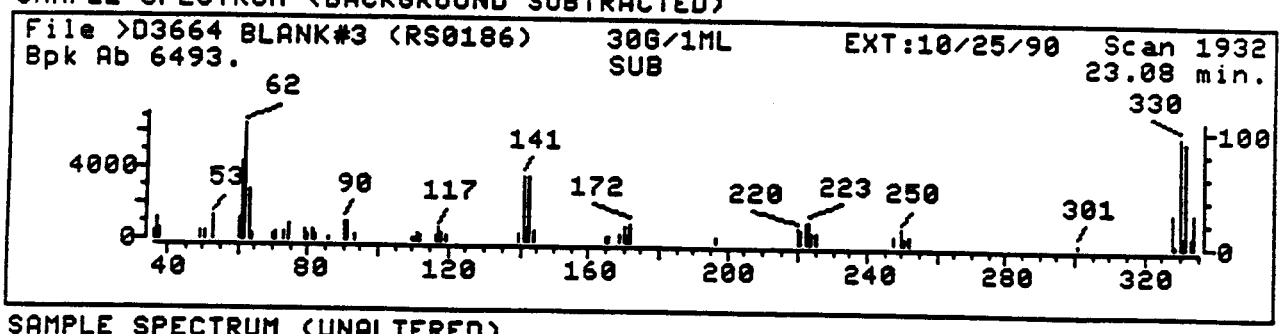
Quant ID File: ID_MAD::QT
Last Calibration: 901022 14:31

Compound No: 53 ISTD)
Compound Name: d_ -Phenanthrene
Scan Number: 2134
Retention Time: 25.17 min.
Quant Ion: 188.0
Area: 158938
Concentration: 40.00 UG/KG
q-value: 94

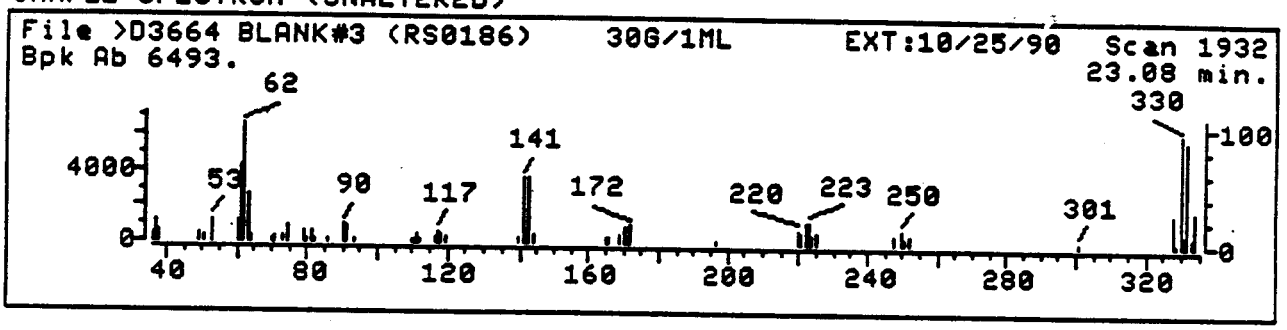
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



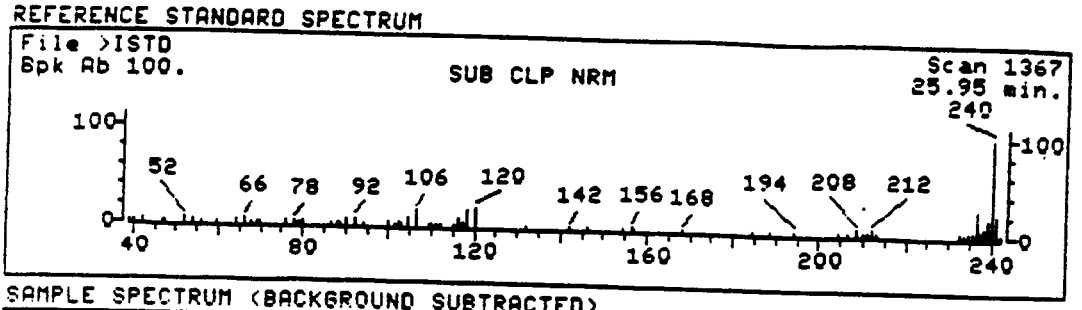
SAMPLE SPECTRUM (UNALTERED)



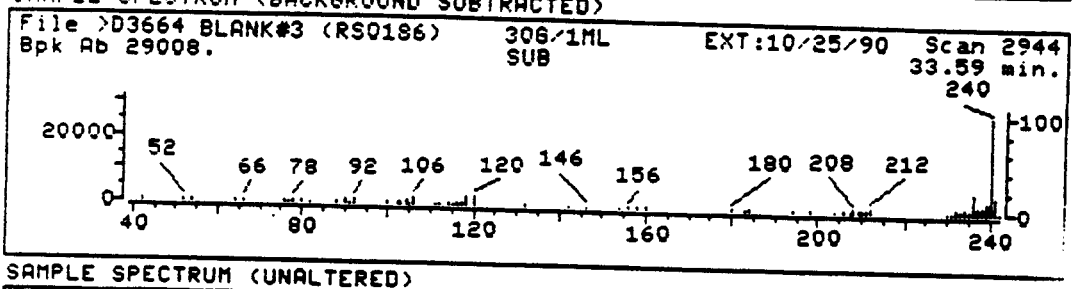
Data File: >D3664::D3 Quant Output File: ^D3664::D4
Name: BLANK#3 (RS0186)
Misc: 30G/1ML EXT:10/25/90 BTL# 5
Quant Time: 901030 09:07 Quant ID File: ID MAD::QT
Injected at: 901029 19:51 Last Calibration: 90I022 14:31

Compound No: 57
Compound Name: 2,4,6-Tribromophenol
Scan Number: 1932
Retention Time: 23.08 min.
Quant Ion: 330.0
Area: 14608M
Concentration: 947.38 UG/KG

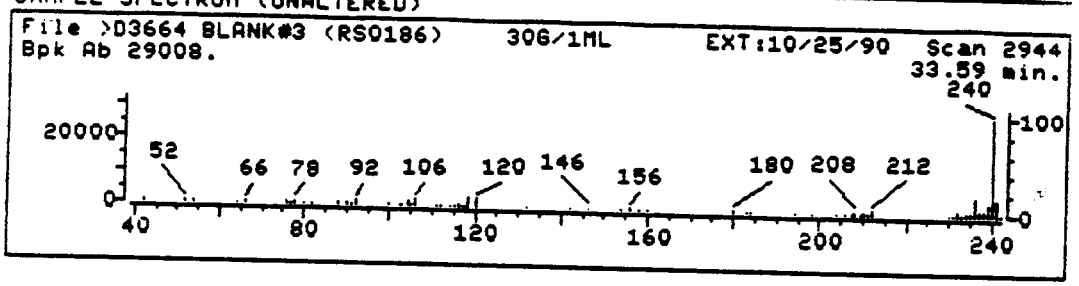
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



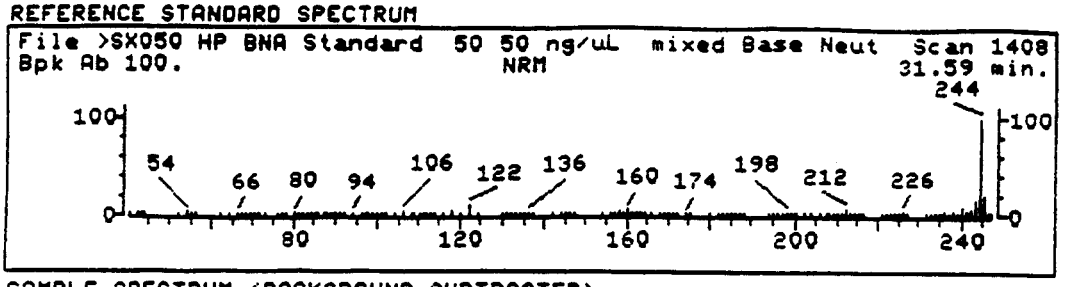
Data File: >D3664::D3
Name: BLANK#3 (RS0186)
Misc: 30G/1ML EXT:10/25/90
Quant Time: 901030 09:07
Injected at: 901029 19:51

Quant Output File: ^D3664::D4

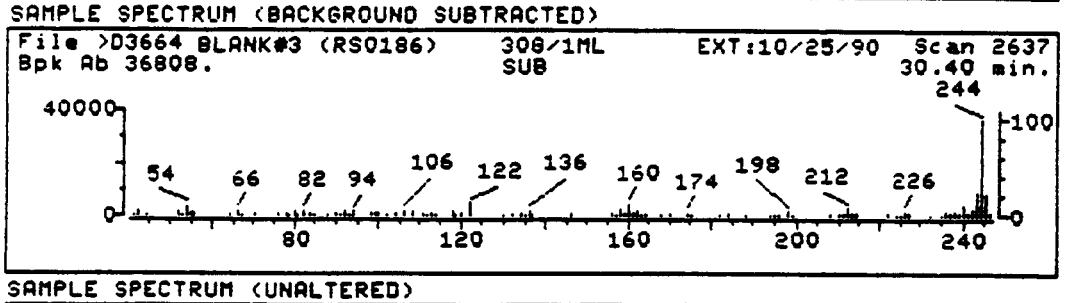
BTL# 5
Quant ID File: ID_MAD::QT
Last Calibration: 901022 14:31

Compound No: 65 (ISTD)
Compound Name: d12-Chrysene
Scan Number: 2944
Retention Time: 33.59 min.
Quant Ion: 240.0
Area: 86034
Concentration: 40.00 UG/KG
q-value: 87

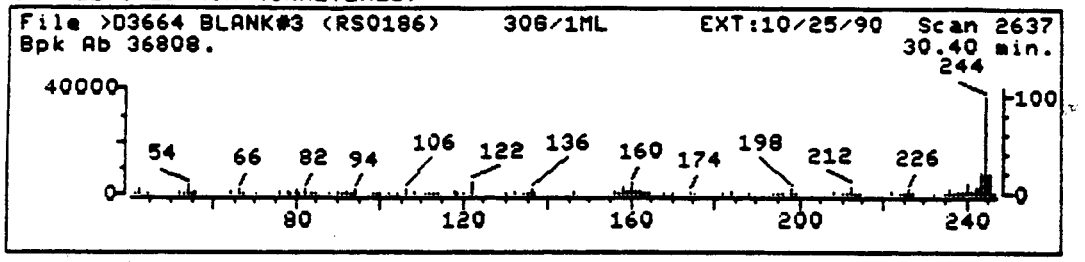
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



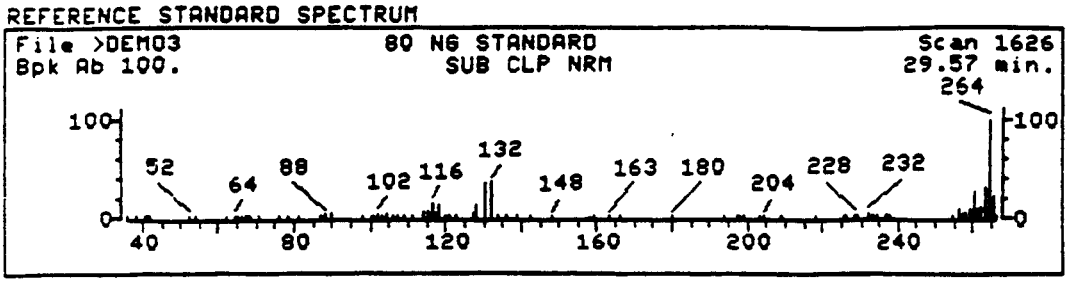
SAMPLE SPECTRUM (UNALTERED)



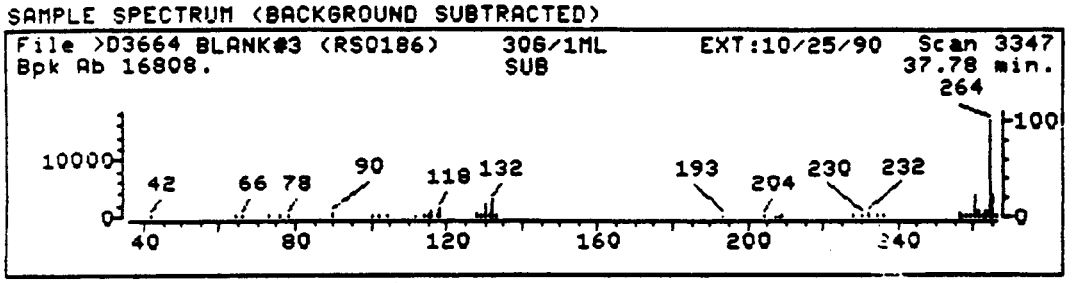
Data File: >D3664::D3 Quant Output File: ^D3664::D4
Name: BLANK#3 (RS0186)
Misc: 30G/1ML EXT:10/25/90 BTL# 5
Quant Time: 901030 09:07 Quant ID File: ID_MAD::QT
Injected at: 901029 19:51 Last Calibration: 901022 14:31

Compound No: 68
Compound Name: Terphenyl-d14
Scan Number: 2637
Retention Time: 30.40 min.
Quant Ion: 244.0
Area: 107627
Concentration: 1473.11 UG/KG
q-value: 86

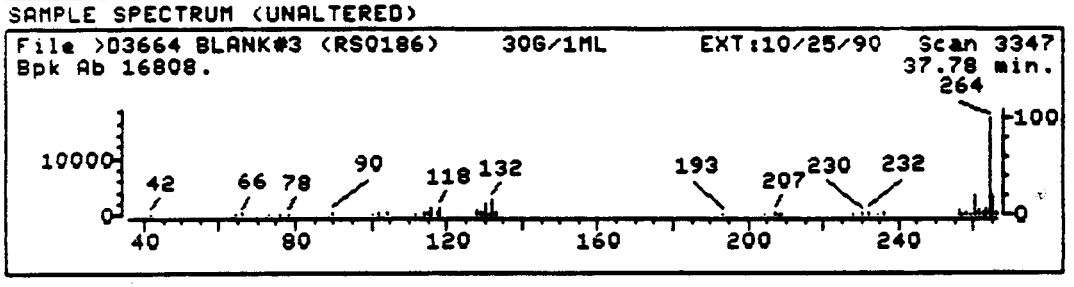
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



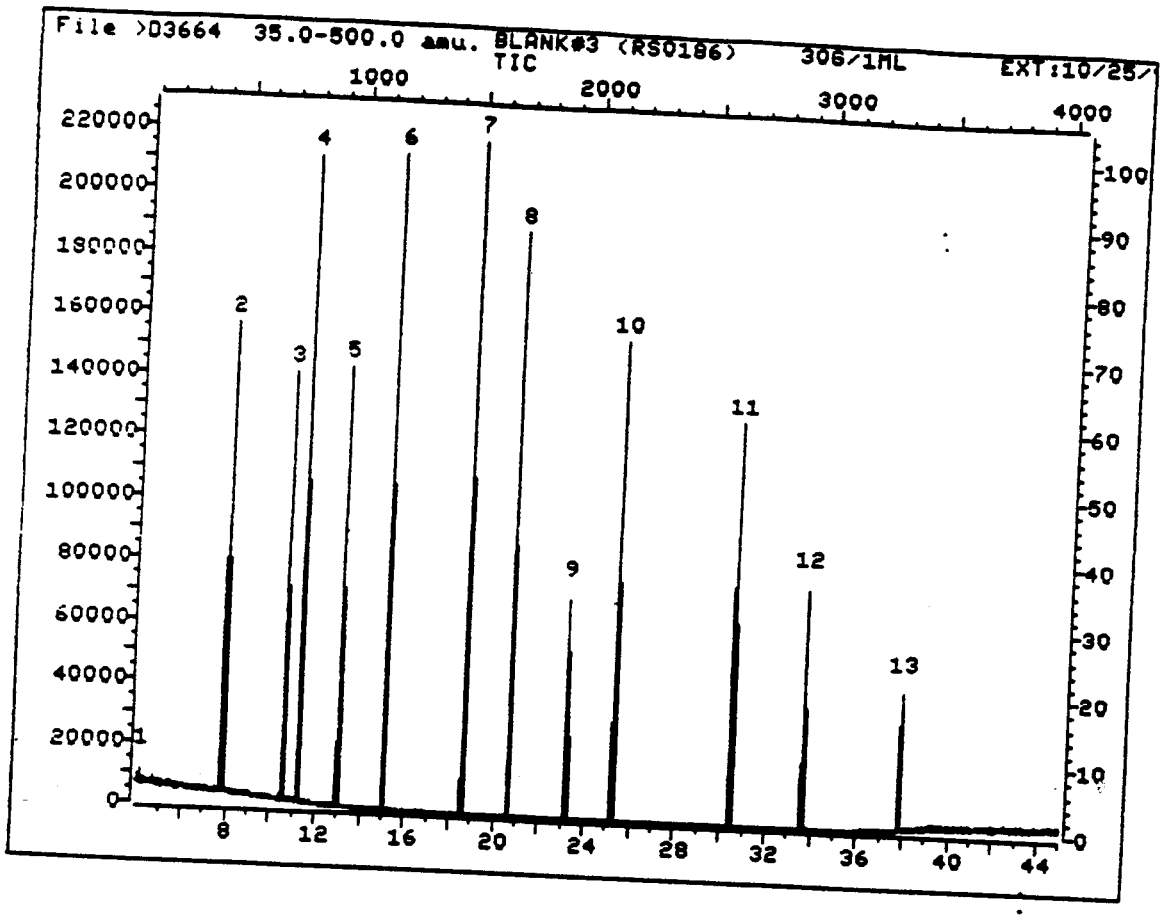
Data File: >D3664::D3 Quant Output File: ^D3664::D4
Name: BLANK#3 (RS0186)
Misc: 30G/1ML EXT:10/25/90 BTL# 5
Quant Time: 901030 09:07 Quant ID File: ID_MAD::QT
Injected at: 901029 19:51 Last Calibration: 901022 14:31

Compound No: 74 (ISTD)
Compound Name: d12-Perylene
Scan Number: 3347
Retention Time: 37.78 min.
Quant Ion: 264.0
Area: 59059
Concentration: 40.00 UG/KG
q-value: 93

>D3664 BLANK#3 (RS0186) 30G/1ML EXT:10/25/90
35.01 500.0 TIC
Upslope: .20 Area Reject: 1.00 % Max Peaks: 13 Bunching: 1
Dnslope: 0.00 Results File IB2332 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	4.10	105	107	113	3947	42234	9620	1.95	.231
2	7.75	454	458	464	152497	330127	303471SS	61.39	7.290
3	10.49	717	722	731	139016	305149	282392SS	57.13	6.784
4	11.15	780	785	790	209329	456723	443579IS	89.73	10.656
5	12.92	949	955	961	142544	317549	311028SS	62.92	7.472
6	15.01	1150	1156	1161	212350	493479	490493IS	99.22	11.783
7	18.54	1490	1496	1501	217051	477045	472628SS	95.61	11.354
8	20.56	1684	1690	1699	189688	494331	494331IS	100.00	11.875
9	23.09	1927	1933	1943	70815	175873	175873SS	35.58	4.225
0	25.19	2127	2135	2142	155395	446337	446337IS	90.29	10.722
11	30.40	2630	2637	2646	130876	349285	349285SS	70.66	8.391
2	33.59	2937	2944	2954	77426	233314	233314IS	47.20	5.605
3	37.78	3339	3347	3364	43981	162601	150298SS	30.40	3.611

Sum of corrected areas: 4162649.


File >D3664 35.0-500.0 amu. BLANK#3 (RS0186) 306/1ML EXT:10/25/
TIC
1000
2000
3000
4000
220000
200000
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
100
90
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
12
13
8
12
16
20
24
28
32
36
40
44

QUANT REPORT

Operator ID: MANAGER
Output File: ^D3679::D4
Data File: >D3679::D2
Name: BLANK#1 (RS0189)
Misc: 1000/1ML EXT:10/25/90

Quant Rev: 6 Quant Time: 901030 17:25
Injected at: 901030 16:38
Dilution Factor: 1.00000

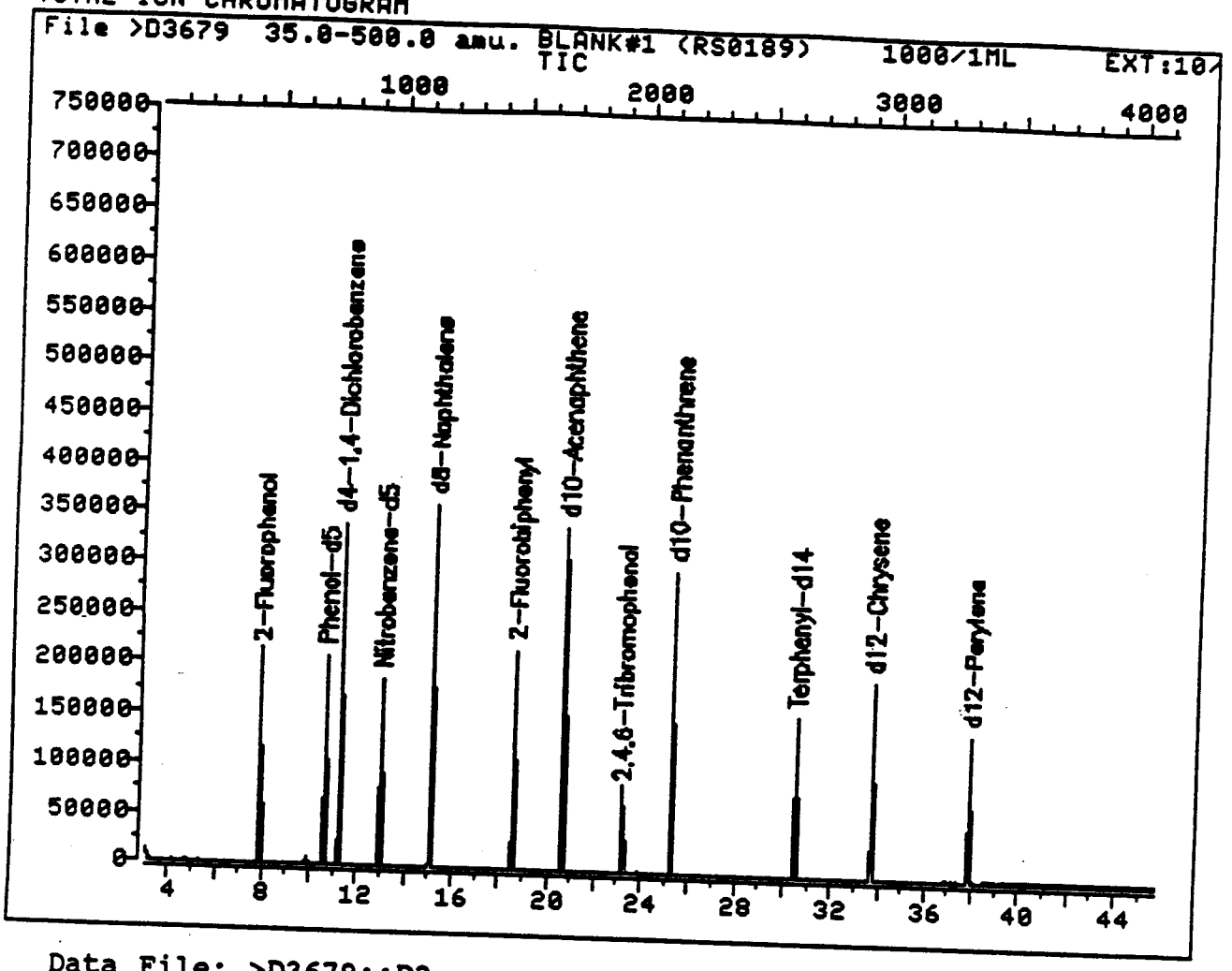
BTL# 2

ID File: ID DAD::QT
Title: HP BNA Standards for 5 point Calibration Curve Rev. E
Last Calibration: 901022 14:31

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	11.19	786	113590	40.00	UG/L	98
3)	2-Fluorophenol	7.78	458	105386	28.82	UG/L	93
5)	Phenol-d5	10.52	722	130109	28.13	UG/L	99
8)	*d8-Naphthalene	15.04	1157	385523	40.00	UG/L	94
19)	Nitrobenzene-d5	12.95	956	115915	23.44	UG/L	94
33)	*d10-Acenaphthene	20.60	1692	206593M	40.00	UG/L	
38)	2-Fluorobiphenyl	18.58	1497	169604	20.80	UG/L	93
3)	*d10-Phenanthrene	25.23	2137	353803	40.00	UG/L	99
57)	2,4,6-Tribromophenol	23.12	1934	30776	26.90	UG/L	89
65)	*d12-Chrysene	33.65	2947	247240	40.00	UG/L	90
68)	Terphenyl-d14	30.45	2639	167456	23.93	UG/L	83
4)	*d12-Perylene	37.85	3351	207296	40.00	UG/L	95

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >D3679::D2
Name: BLANK#1 (RS0189)
Misc: 1000/1ML EXT:10/25/90

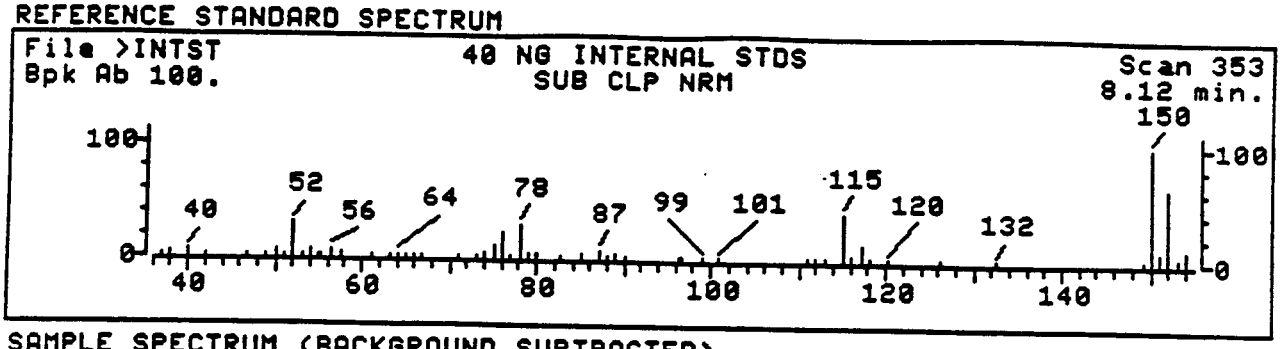
Quant Output File: ^D3679::D4

BTL# 2

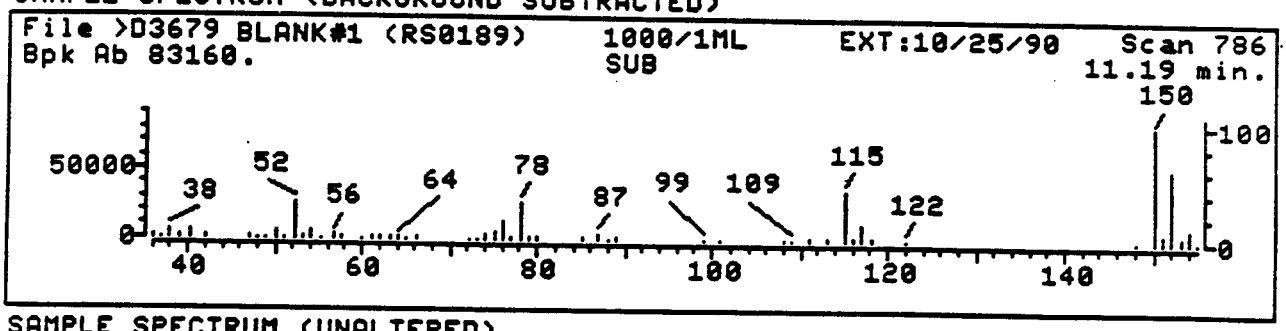
Id File: ID DAD::QT
Title: HP BNA Standards for 5 point Calibration Curve Rev. E
Last Calibration: 901022 14:31

Operator ID: MANAGER
Quant Time: 901030 17:25
Injected at: 901030 16:38

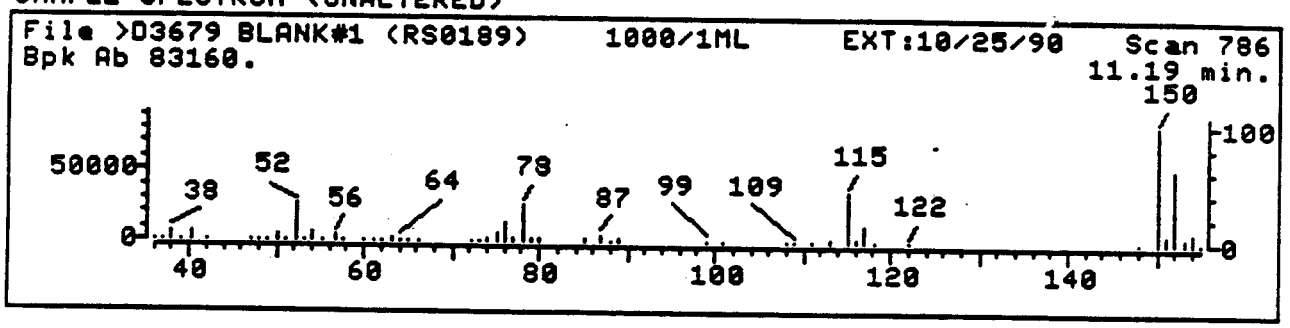
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



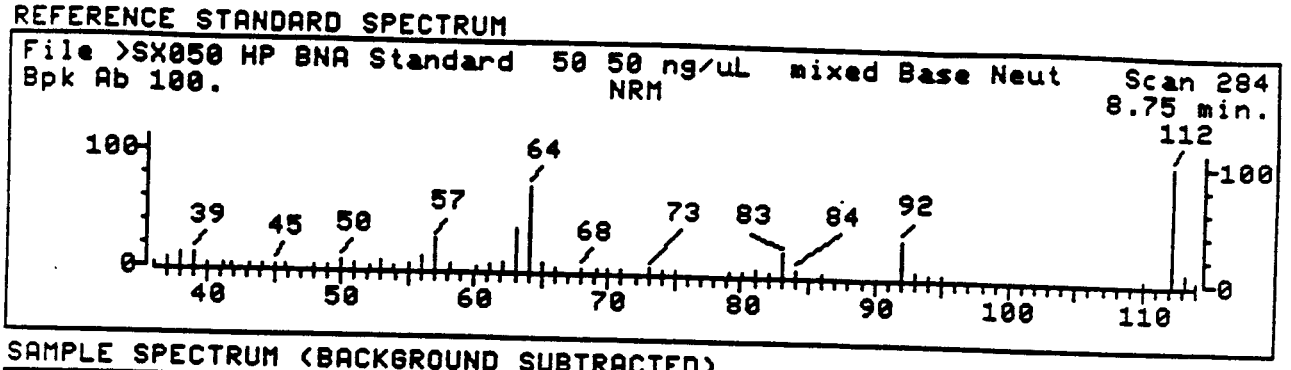
SAMPLE SPECTRUM (UNALTERED)



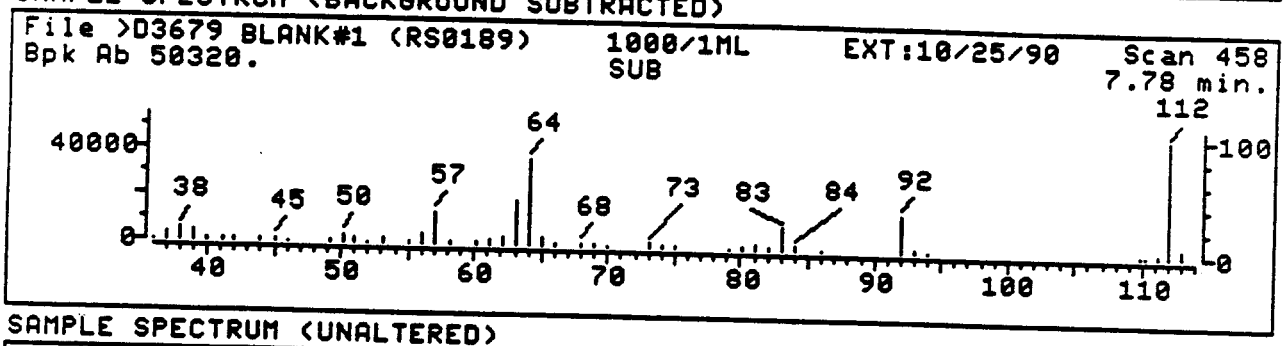
Data File: >D3679::D2 Quant Output File: ^D3679::D4
Name: BLANK#1 (RS0189)
Misc: 1000/1ML EXT:10/25/90 BTL# 2
Quant Time: 901030 17:25 Quant ID File: ID_DAD::QT
Injected at: 901030 16:38 Last Calibration: 90I022 14:31

Compound No: 1 (ISTD)
Compound Name: d4-1,4-Dichlorobenzene
Scan Number: 786
Retention Time: 11.19 min.
Quant Ion: 152.0
Area: 113590
Concentration: 40.00 UG/L
q-value: 98

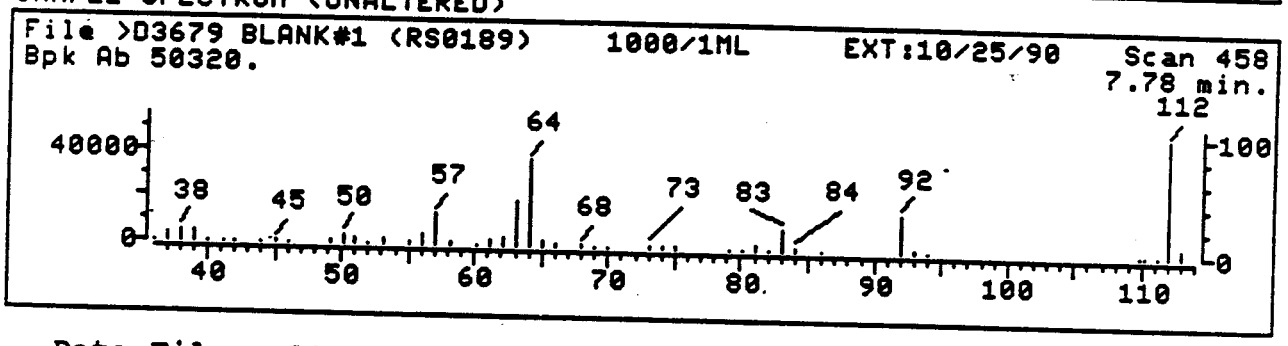
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



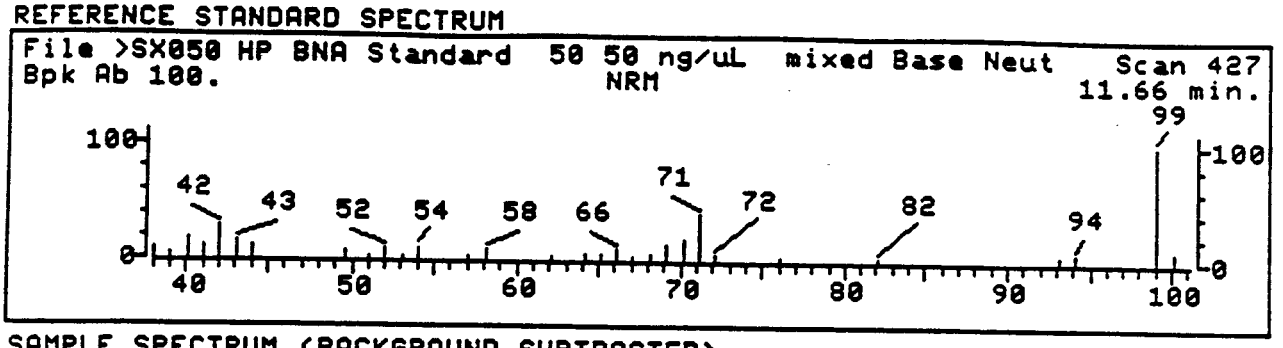
Data File: >D3679::D2
Name: BLANK#1 (RS0189)
Misc: 1000/1ML EXT:10/25/90
Quant Time: 901030 17:25
Injected at: 901030 16:38

Quant Output File: ^D3679::D4

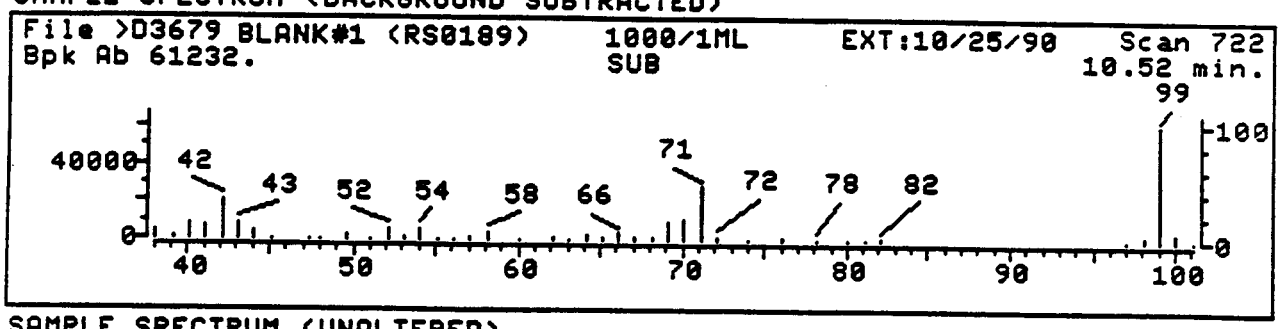
BTL# 2
Quant ID File: ID_DAD::QT
Last Calibration: 90I022 14:31

Compound No: 3
Compound Name: 2-Fluorophenol
Scan Number: 458
Retention Time: 7.78 min.
Quant Ion: 112.0
Area: 105386
Concentration: 28.82 UG/L
q-value: 93

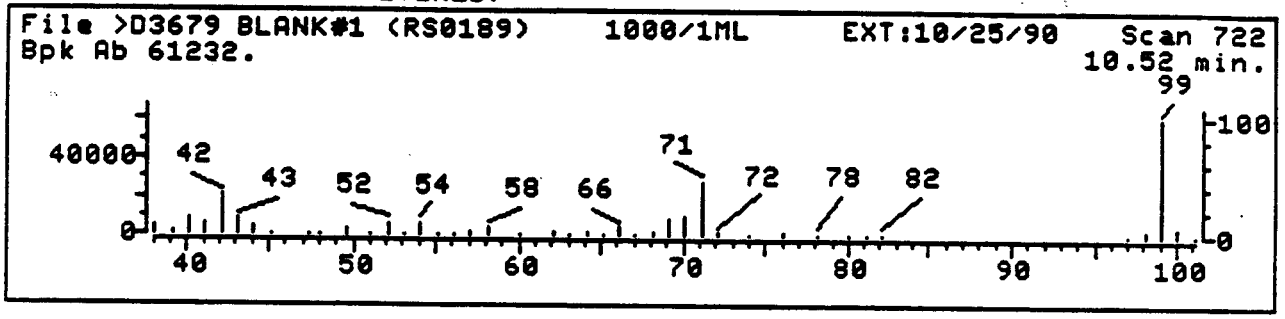
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

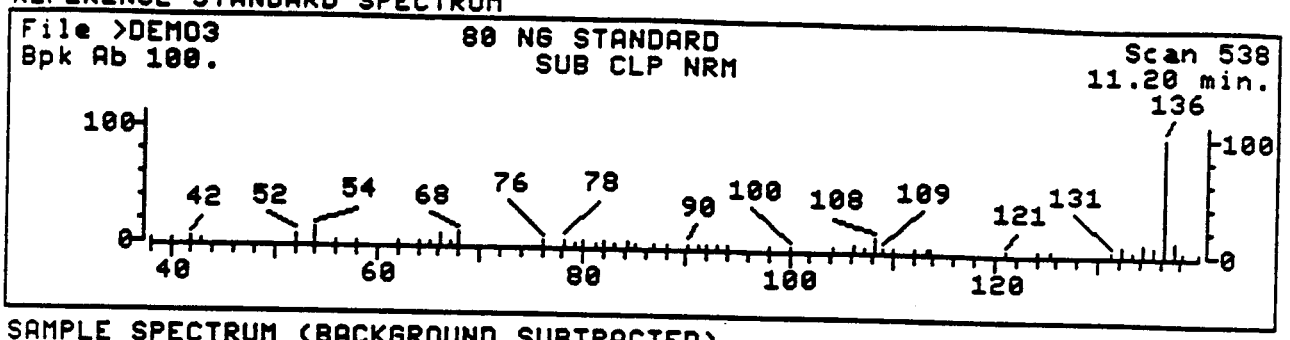


Data File: >D3679::D2
Name: BLANK#1 (RS0189)
Misc: 1000/1ML EXT:10/25/90
Quant Time: 901030 17:25
Injected at: 901030 16:38

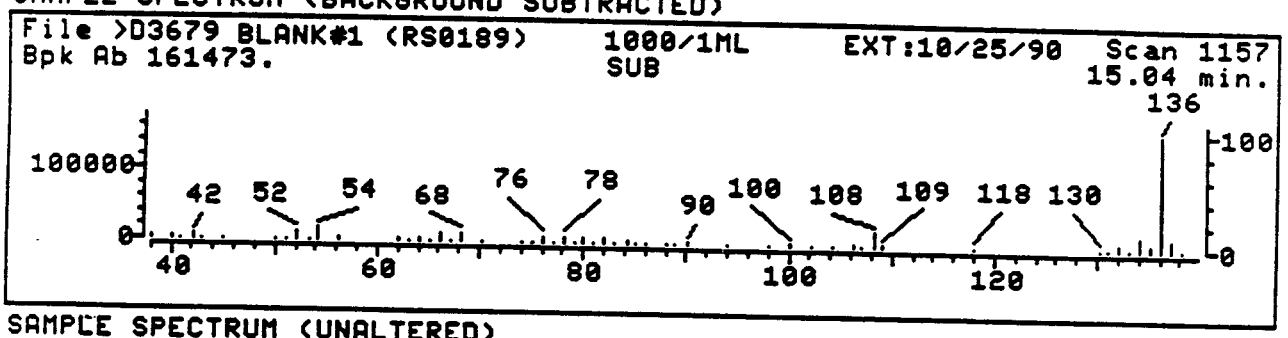
Quant Output File: ^D3679::D4
BTL# 2
Quant ID File: ID_DAD::QT
Last Calibration: 90I022 14:31

Compound No: 5
Compound Name: Phenol-d5
Scan Number: 722
Retention Time: 10.52 min.
Quant Ion: 99.0
Area: 130109
Concentration: 28.13 UG/L
q-value: 99

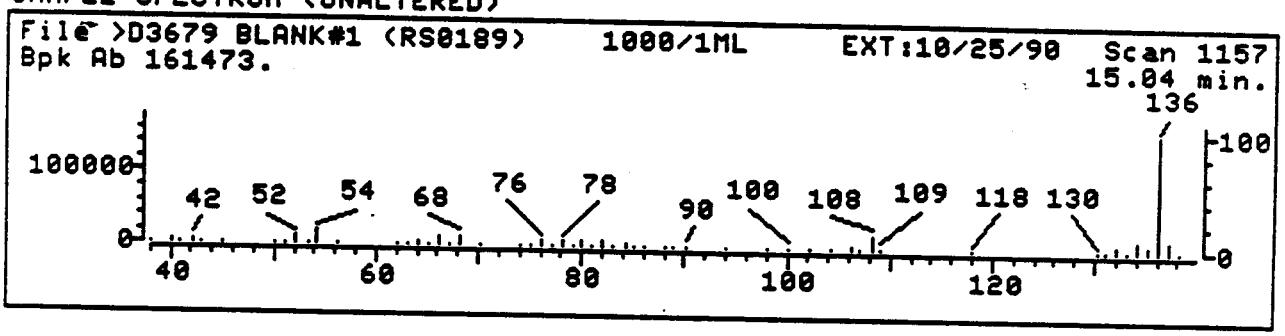
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



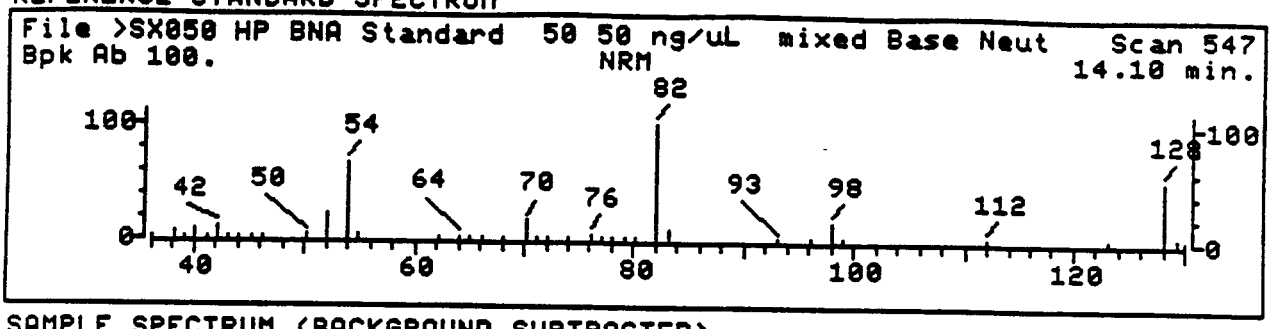
Data File: >D3679::D2
Name: BLANK#1 (RS0189)
Misc: 1000/1ML EXT:10/25/90
Quant Time: 901030 17:25
Injected at: 901030 16:38

Quant Output File: ^D3679::D4

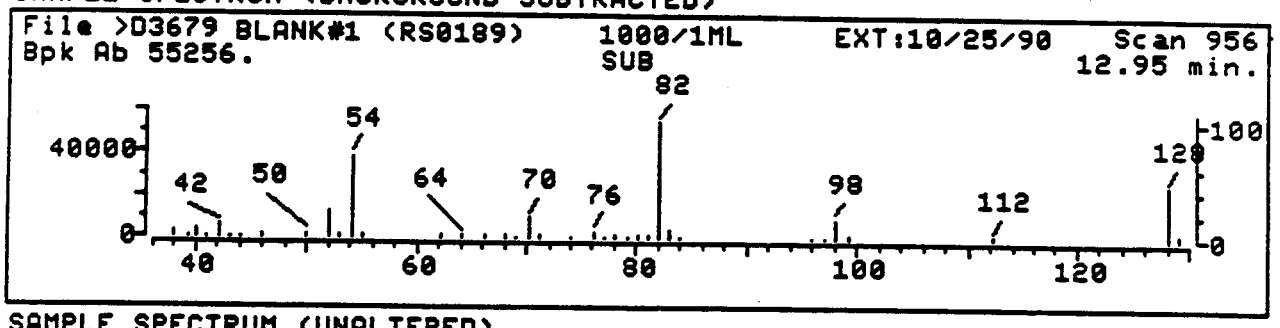
BTL# 2
Quant ID File: ID_DAD::QT
Last Calibration: 90I022 14:31

Compound No: 18 (ISTD)
Compound Name: d8-Naphthalene
Scan Number: 1157
Retention Time: 15.04 min.
Quant Ion: 136.0
Area: 385523
Concentration: 40.00 UG/L
q-value: 94

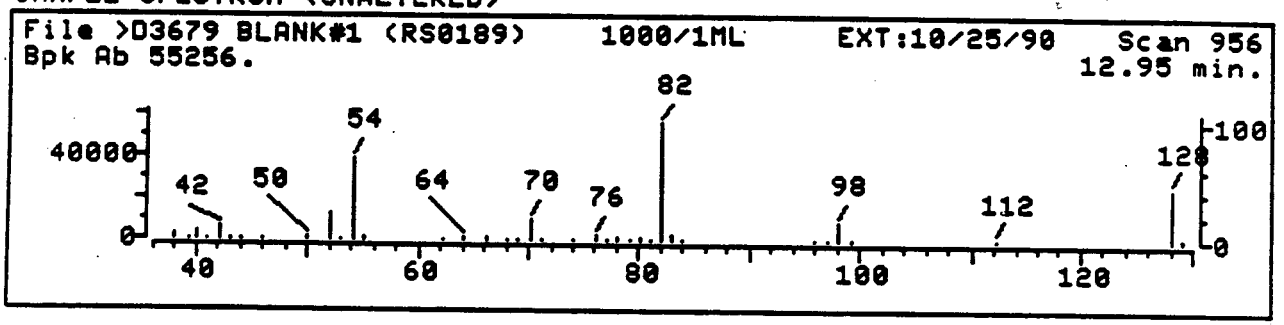
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



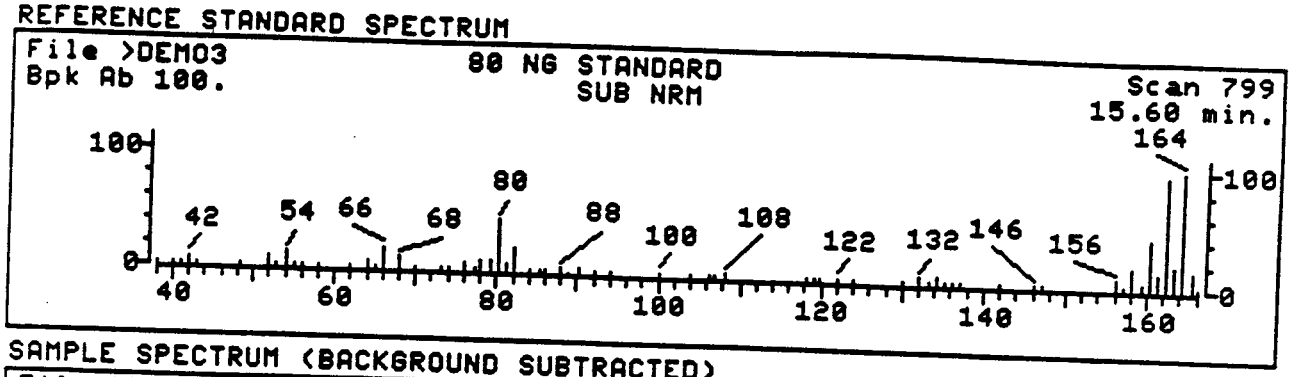
Data File: >D3679::D2
Name: BLANK#1 (RS0189)
Misc: 1000/1ML EXT:10/25/90
Quant Time: 901030 17:25
Injected at: 901030 16:38

Quant Output File: ^D3679::D4

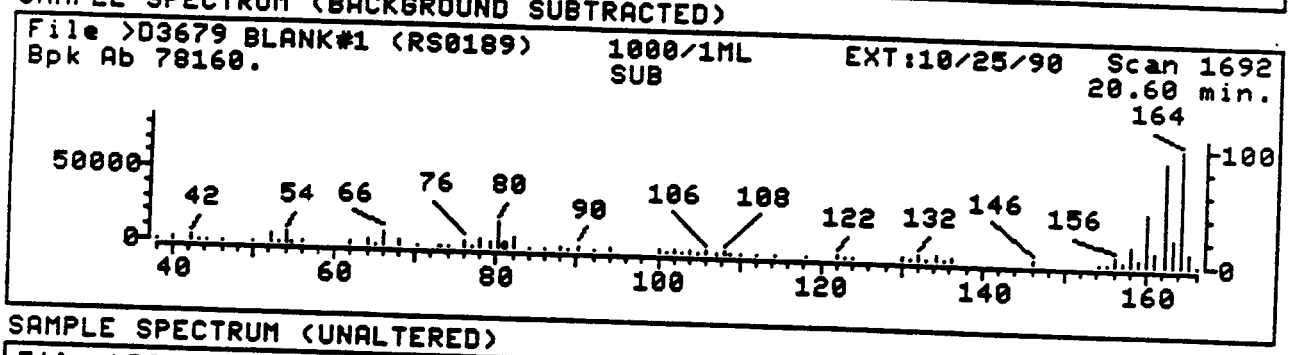
BTL# 2
Quant ID File: ID_DAD::QT
Last Calibration: 90I022 14:31

Compound No: 19
Compound Name: Nitrobenzene-d5
Scan Number: 956
Retention Time: 12.95 min.
Quant Ion: 82.0
Area: 115915
Concentration: 23.44 UG/L
q-value: 94

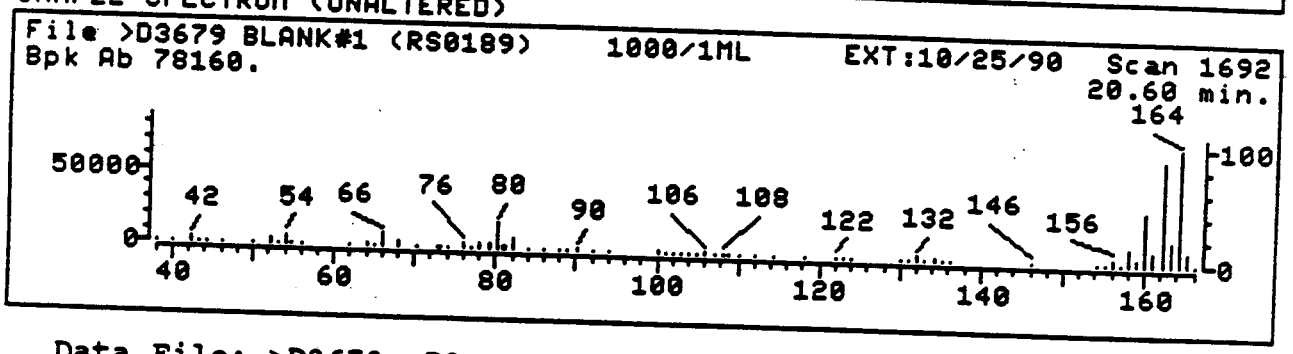
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



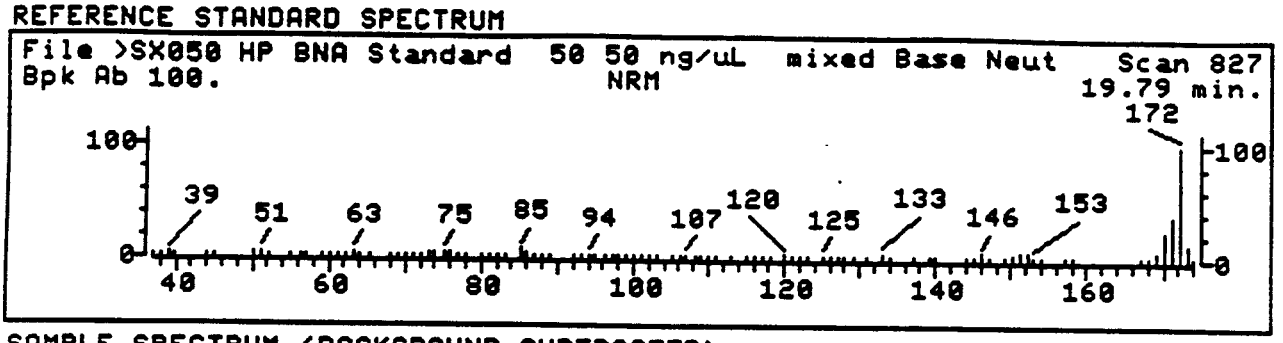
Data File: >D3679::D2
Name: BLANK#1 (RS0189)
Misc: 1000/1ML EXT:10/25/90
Quant Time: 901030 17:25
Injected at: 901030 16:38

Compound No: 33 (ISTD)
Compound Name: d10-Acenaphthene
Scan Number: 1692
Retention Time: 20.60 min.
Quant Ion: 164.0
Area: 206593M
Concentration: 40.00 UG/L

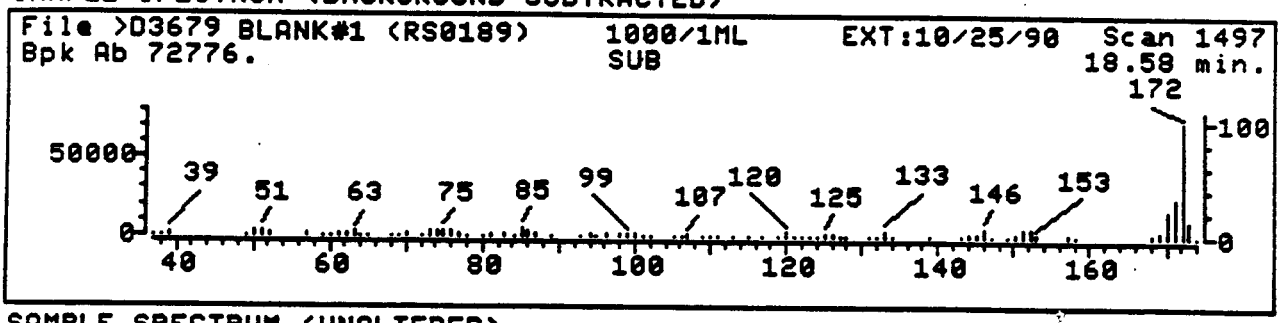
Quant Output File: ^D3679::D4

BTL# 2
Quant ID File: ID_AD::QT
Last Calibration: 901022 14:31

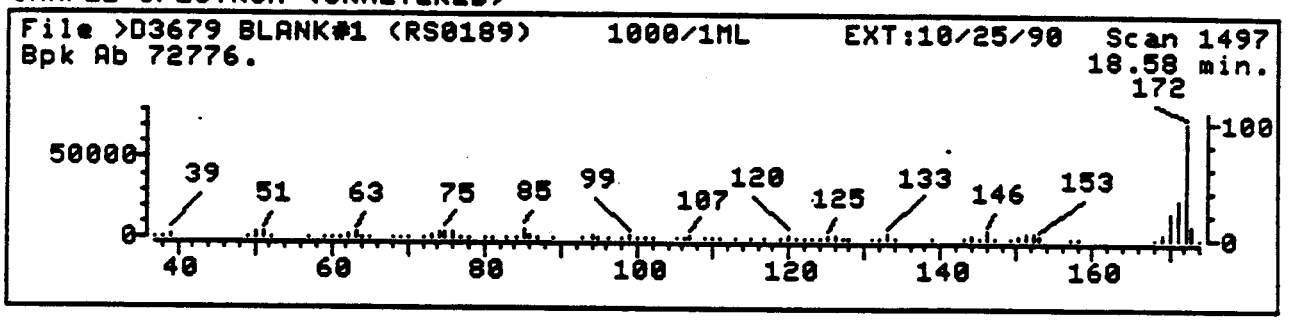
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



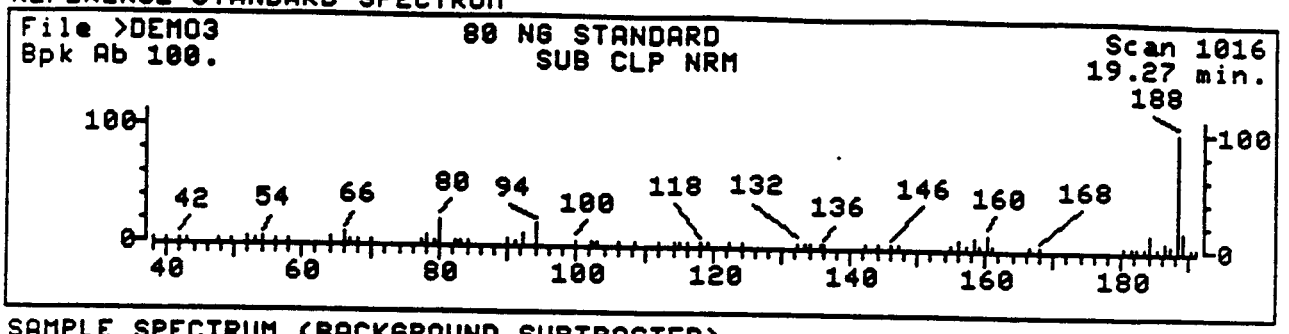
Data File: >D3679::D2
Name: BLANK#1 (RS0189)
Misc: 1000/1ML EXT:10/25/90
Quant Time: 901030 17:25
Injected at: 901030 16:38

Quant Output File: ^D3679::D4

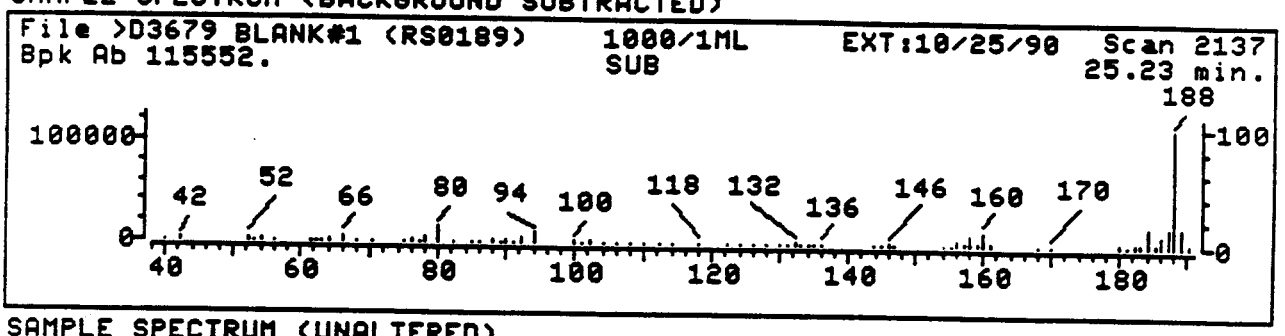
BTL# 2
Quant ID File: ID DAD::QT
Last Calibration: 90I022 14:31

Compound No: 38
Compound Name: 2-Fluorobiphenyl
Scan Number: 1497
Retention Time: 18.58 min.
Quant Ion: 172.0
Area: 169604
Concentration: 20.80 UG/L
q-value: 93

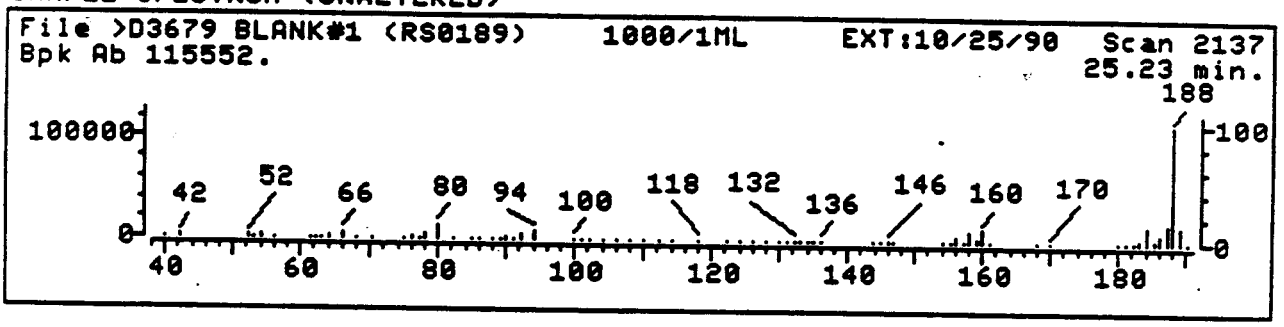
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



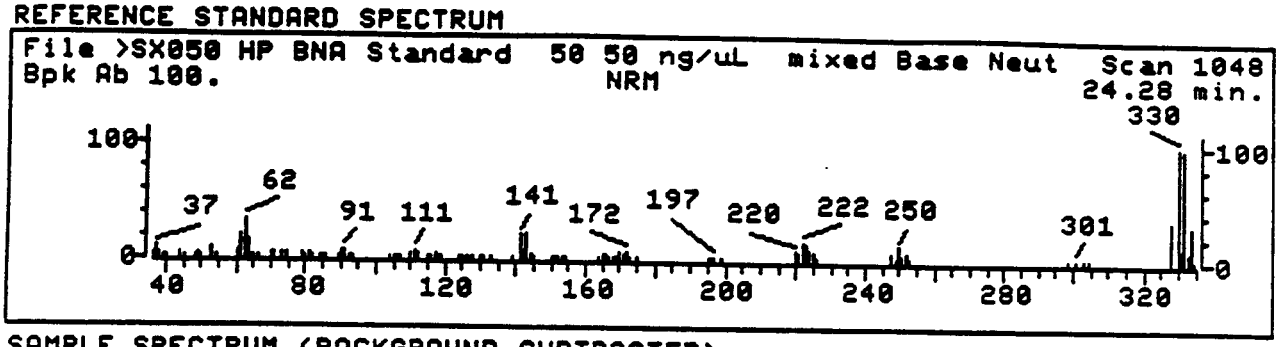
Data File: >D3679::D2
Name: BLANK#1 (RS0189)
Misc: 1000/1ML EXT:10/25/90
Quant Time: 901030 17:25
Injected at: 901030 16:38

Quant Output File: ^D3679::D4

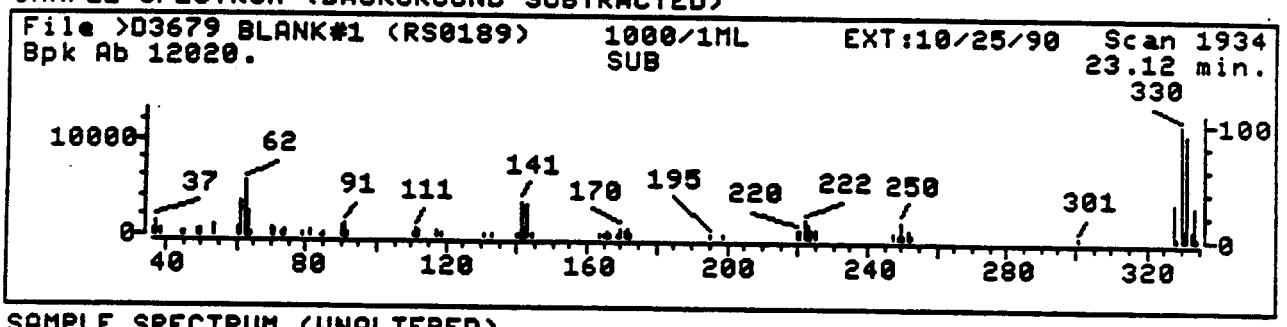
BTL# 2
Quant ID File: ID_DAD::QT
Last Calibration: 90I022 14:31

Compound No: 53 (ISTD)
Compound Name: d10-Phenanthrene
Scan Number: 2137
Retention Time: 25.23 min.
Quant Ion: 188.0
Area: 353803
Concentration: 40.00 UG/L
q-value: 99

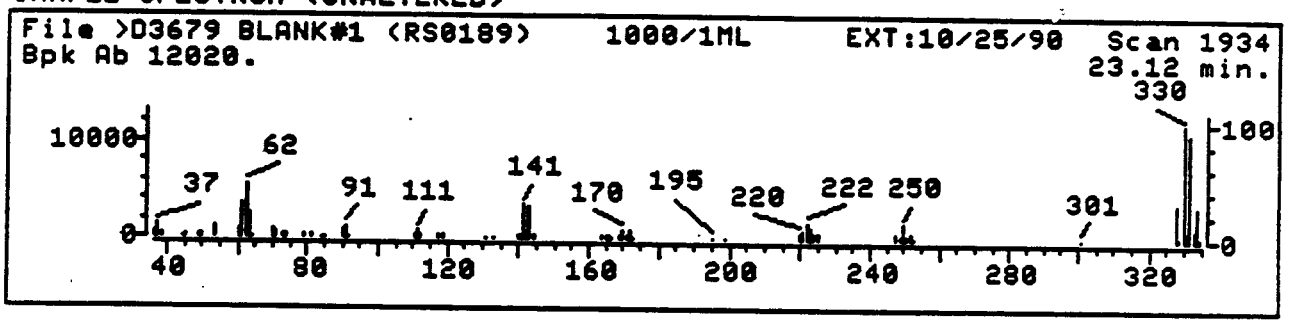
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



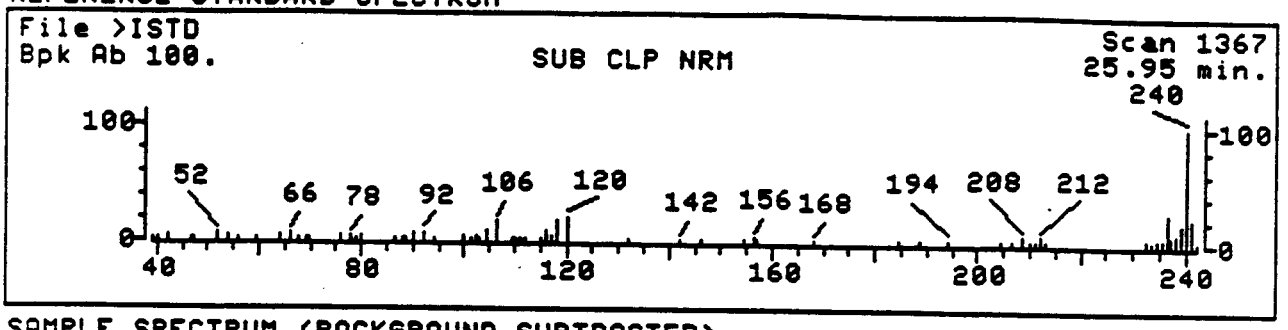
SAMPLE SPECTRUM (UNALTERED)



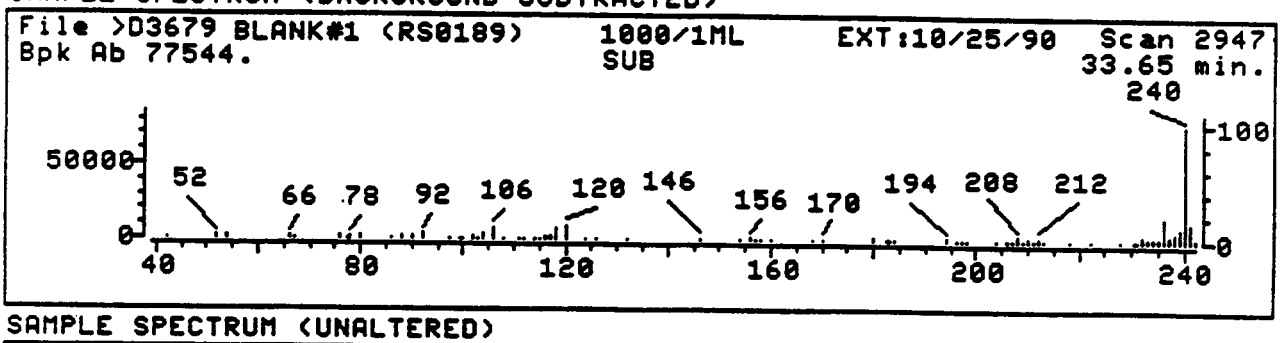
Data File: >D3679::D2 Quant Output File: ^D3679::D4
Name: BLANK#1 (RS0189)
Misc: 1000/1ML EXT:10/25/90 BTL# 2
Quant Time: 901030 17:25 Quant ID File: ID_DAD::QT
Injected at: 901030 16:38 Last Calibration: 90I022 14:31

Compound No: 57
Compound Name: 2,4,6-Tribromophenol
Scan Number: 1934
Retention Time: 23.12 min.
Quant Ion: 330.0
Area: 30776
Concentration: 26.90 UG/L
q-value: 89

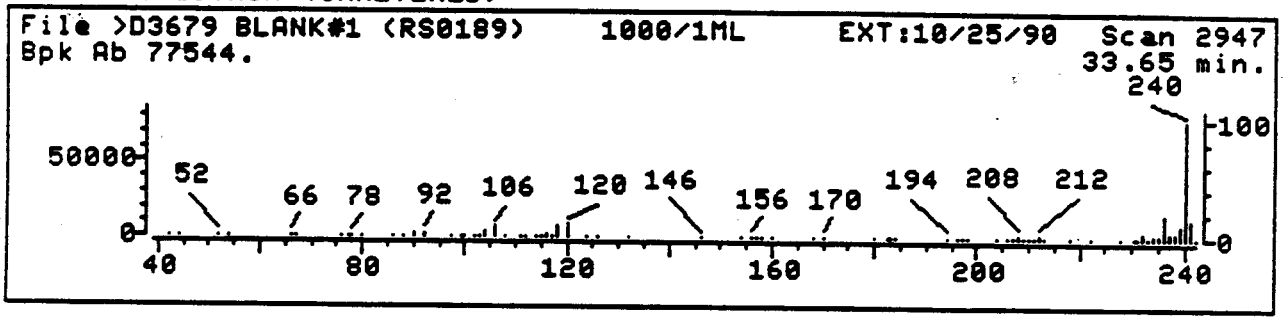
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >D3679::D2
Name: BLANK#1 (RS0189)
Misc: 1000/1ML EXT:10/25/90
Quant Time: 901030 17:25
Injected at: 901030 16:38

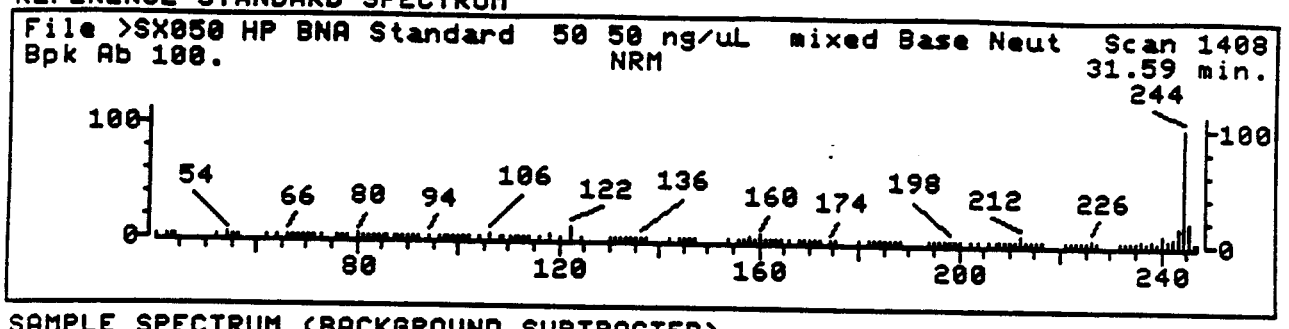
Quant Output File: ^D3679::D4

BTL# 2

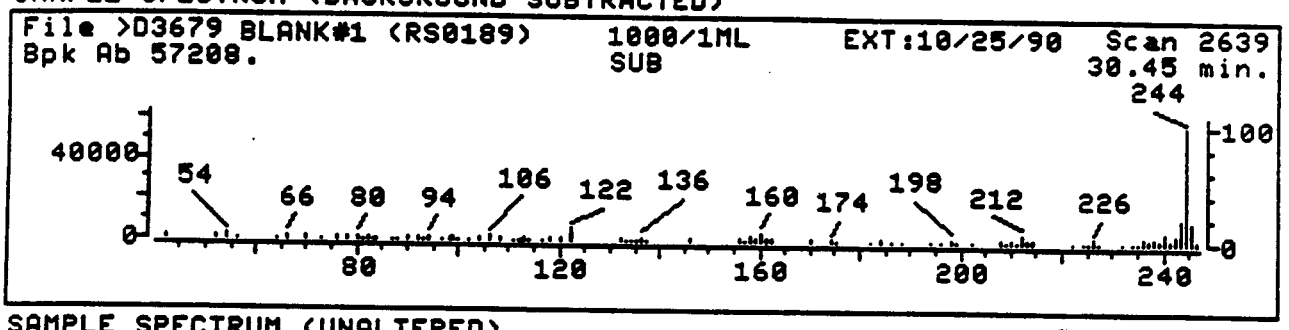
Quant ID File: ID_DAD::QT
Last Calibration: 90I022 14:31

Compound No: 65 (ISTD)
Compound Name: d12-Chrysene
Scan Number: 2947
Retention Time: 33.65 min.
Quant Ion: 240.0
Area: 247240
Concentration: 40.00 UG/L
q-value: 90

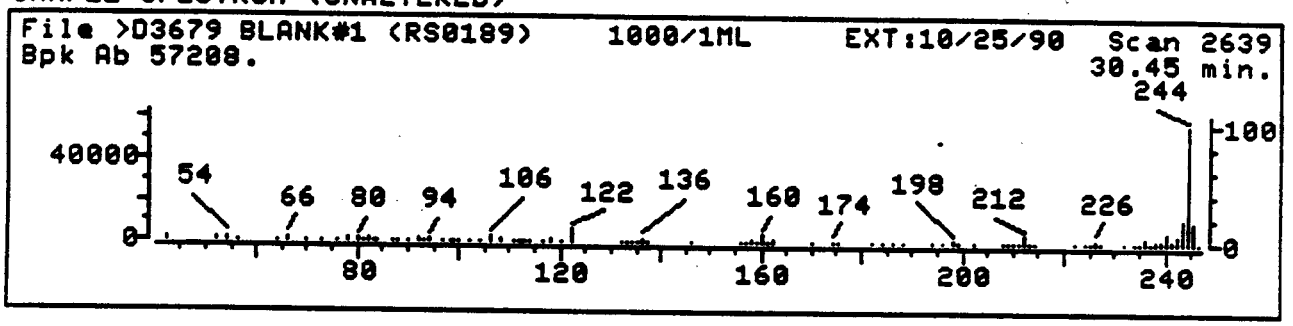
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



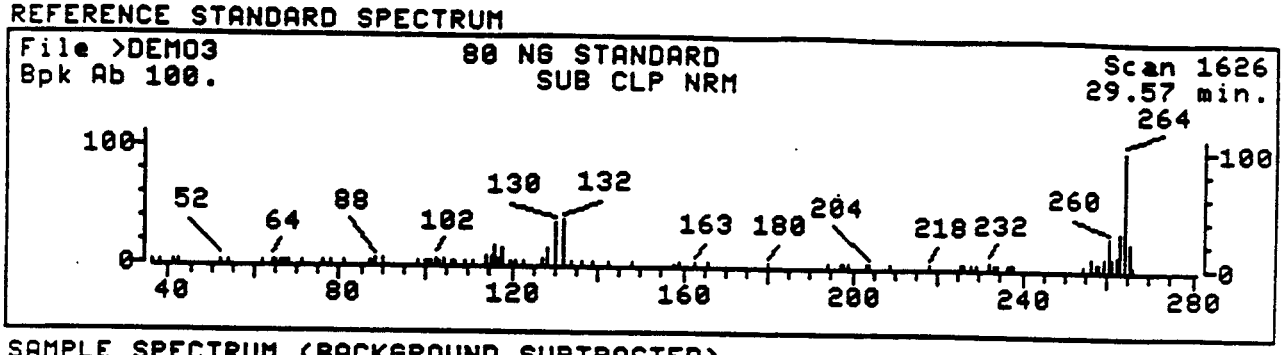
Data File: >D3679::D2
Name: BLANK#1 (RS0189)
Misc: 1000/1ML EXT:10/25/90
Quant Time: 901030 17:25
Injected at: 901030 16:38

Quant Output File: ^D3679::D4

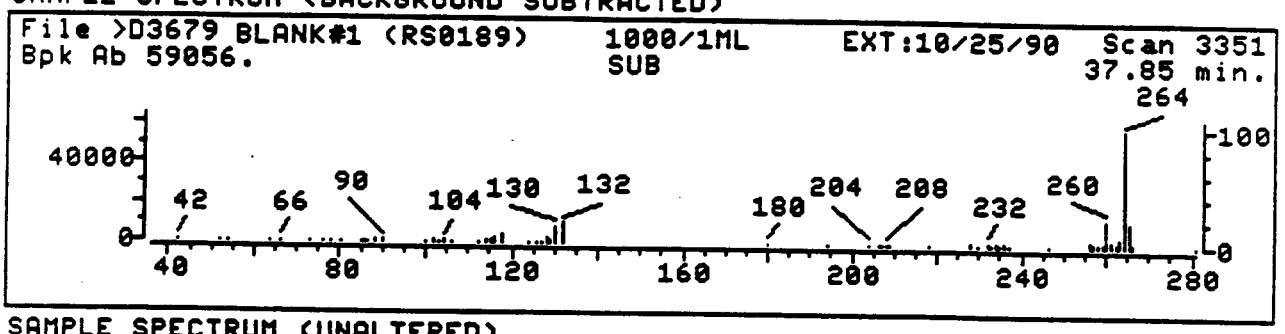
BTL# 2
Quant ID File: ID_DAD::QT
Last Calibration: 90I022 14:31

Compound No: 68
Compound Name: Terphenyl-d14
Scan Number: 2639
Retention Time: 30.45 min.
Quant Ion: 244.0
Area: 167456
Concentration: 23.93 UG/L
q-value: 83

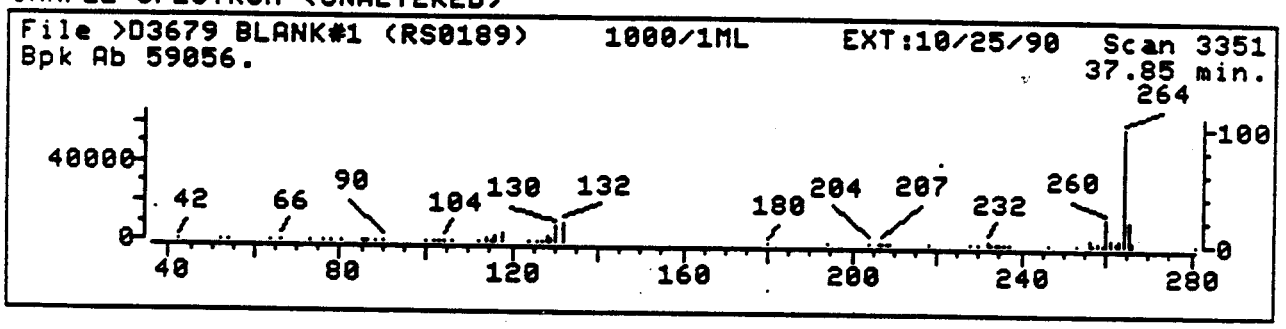
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >D3679::D2
Name: BLANK#1 (RS0189)
Misc: 1000/1ML EXT:10/25/90
Quant Time: 901030 17:25
Injected at: 901030 16:38

Quant Output File: ^D3679::D4

BTL# 2

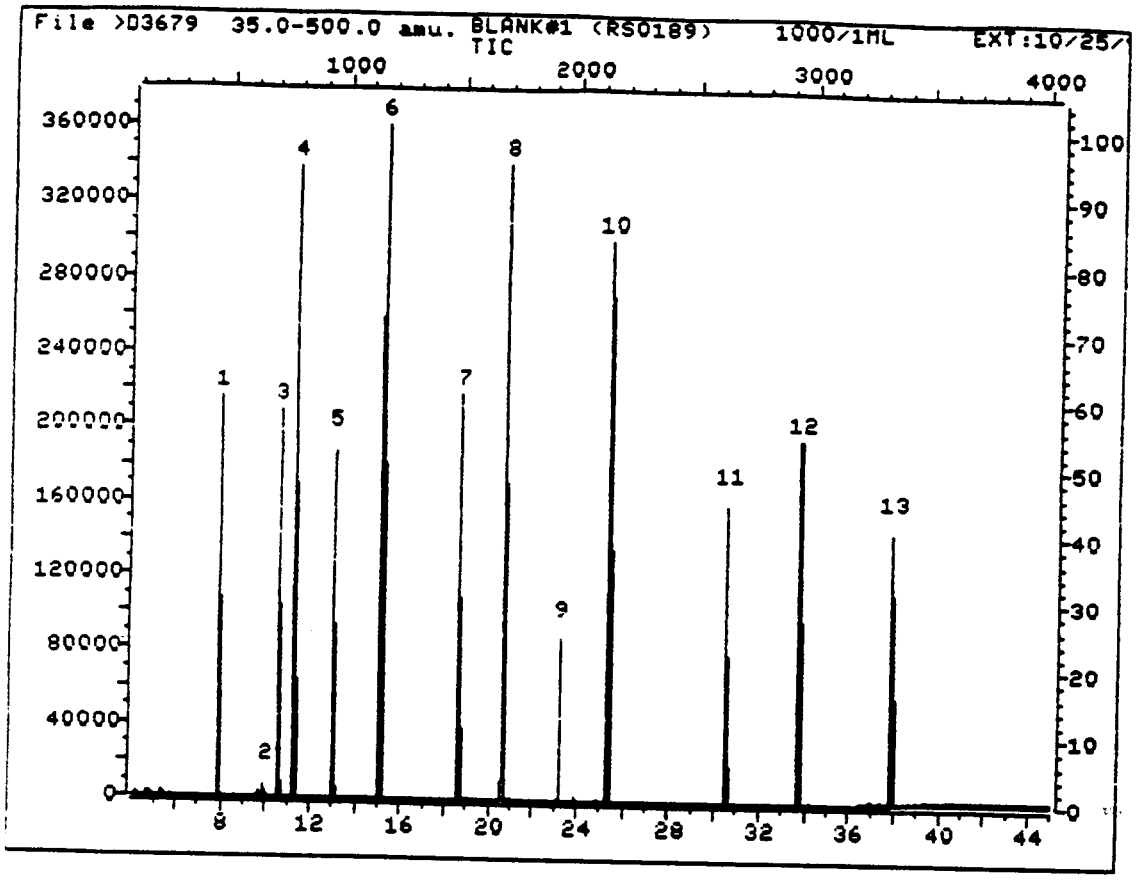
Quant ID File: ID_DAD::QT
Last Calibration: 90I022 14:31

Compound No: 74 (ISTD)
Compound Name: d12-Perylene
Scan Number: 3351
Retention Time: 37.85 min.
Quant Ion: 264.0
Area: 207296
Concentration: 40.00 UG/L
q-value: 95

>D3679 BLANK#1 (RS0189) 1000/1ML EXT:10/25/90
35.01 500.0 TIC
slope: .20 Area Reject: 1.00 % Max Peaks: 13 Bunching: 1
Onslope: 0.00 Results File IB2332 Sorted by Time/Area INT

ak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	7.79	454	459	469	215898	444350	444350 SS	47.35	6.275
2	9.89	658	661	665	6765	10278	10278	1.10	.145
3	10.52	717	722	732	208172	444103	444103 SS	47.32	6.272
4	11.19	781	786	791	339403	726644	726644 IS	77.43	10.261
5	12.95	951	956	967	186307	400676	400676 SS	42.69	5.658
6	15.04	1151	1157	1173	360701	866266	866266 IS	92.31	12.233
7	18.58	1492	1497	1502	216854	494372	490739 SS	52.29	6.930
8	20.60	1685	1692	1704	341315	938472	938472 IS	100.00	13.253
9	23.13	1929	1935	1941	86875	221899	221155 SS	23.57	3.123
0	25.23	2128	2137	2148	301001	912823	912823 IS	97.27	12.891
11	30.45	2631	2639	2649	159583	450226	450226 SS	47.97	6.358
12	33.65	2938	2947	2961	195689	660748	660748 IS	70.41	9.331
3	37.85	3342	3351	3360	145146	520440	514799 IS	54.86	7.270

Sum of corrected areas: 7081279.


File >D3679 35.0-500.0 amu. BLANK#1 (RS0189) 1000/1ML EXT:10/25/
TIC
1000
2000
3000
4000
360000
320000
280000
240000
200000
160000
120000
80000
40000
0
100
90
80
70
60
50
40
30
20
10
0
1
2
3
4
5
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7
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44

NAC NORTHEASTERN ANALYTICAL CORPORATION

Appendix 3: Volatile Organics Chromatograms

******** AREA PERCENT REPORT ********

****************** 11-07-1990 09:13:48 Version 5.1 **********

Sample Name: METHOD BLANK W/SS Data File: A:LSG16

Date: 10-26-1990 22:04:33 Method: BVOL

Interface: 1 Cycle#: 16 Operator JG Channel#: 1 Vial#: N.A.

Starting Peak Width: 20 Threshold: 1 Area Threshold: 5

Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB B

Solvent Description:

Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD

Detector 0: FID Detector 1: HALL

Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C

Starting Delay: 0.00 Run Time: 35.00

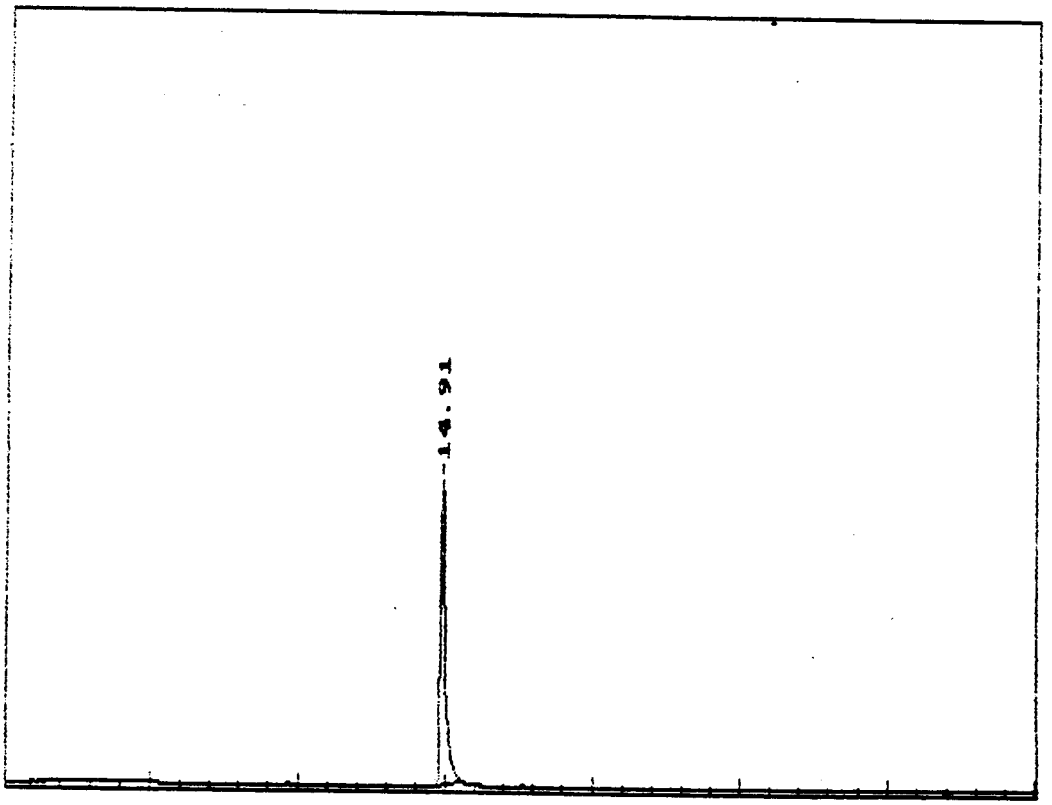
No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	14.715	118296	100.0000	1	9739	100.000	12.1

Total Area: 118296 Area Reject: 100 One sample per 2.002 sec.

Data File = A:LSG16.PTS Printed on 11-07-1990 at 09:14:02

Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.

Full Range: 25 millivolts



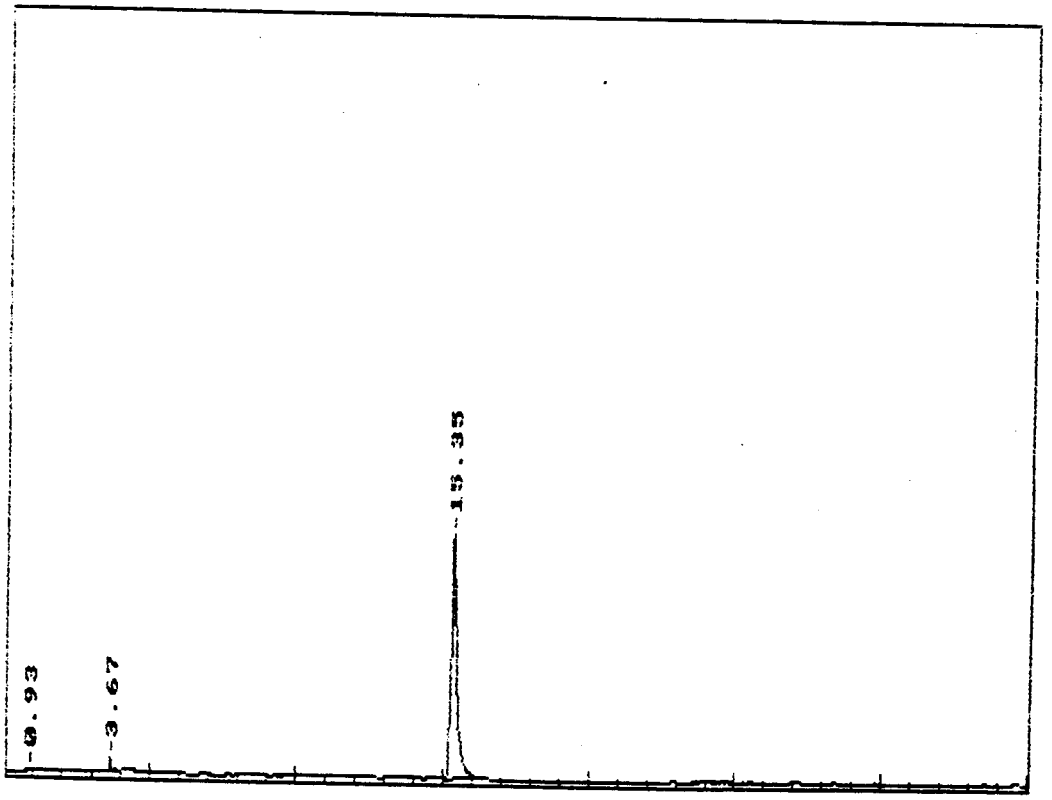
******** AREA PERCENT REPORT ********

```
********** 11-07-1990 09:15:15 Version 5.1 **********
* Sample Name: METHOD BLANK W/SS          Data File: A:MOG2
* Data: 10-29-1990 11:15:36 Method: BVOL
* Interface: 1   Cycle#:  2   Operator JG  Channel#: 1   Vial#: N.A.
* Starting Peak Width:  20   Threshold: 1  Area Threshold: 5
**********************************************************************
* Instrument Type: TRACOR 560          Column Type: 1%SP1000,60/80CARB B
*              Solvent Description:
* Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD
*           Detector 0: PID                Detector 1: HALL
* Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
**********************************************************************
Time Long Delay:   0.00                    Run Time:   35.00
```

Pk #	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	3.934	610	0.5418	1	53	0.551	11.5
2	3.670	1253	1.1130	1	393	1.132	3.2
3	15.349	110663	98.3445	1	7989	100.000	13.9

Total Area: 112525 Area Reject: 100 One sample per 2.002 sec.

Data File = A:MOG2.PTS Printed on 11-07-1990 at 09:15:46
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
Full Range: 25 millivolts



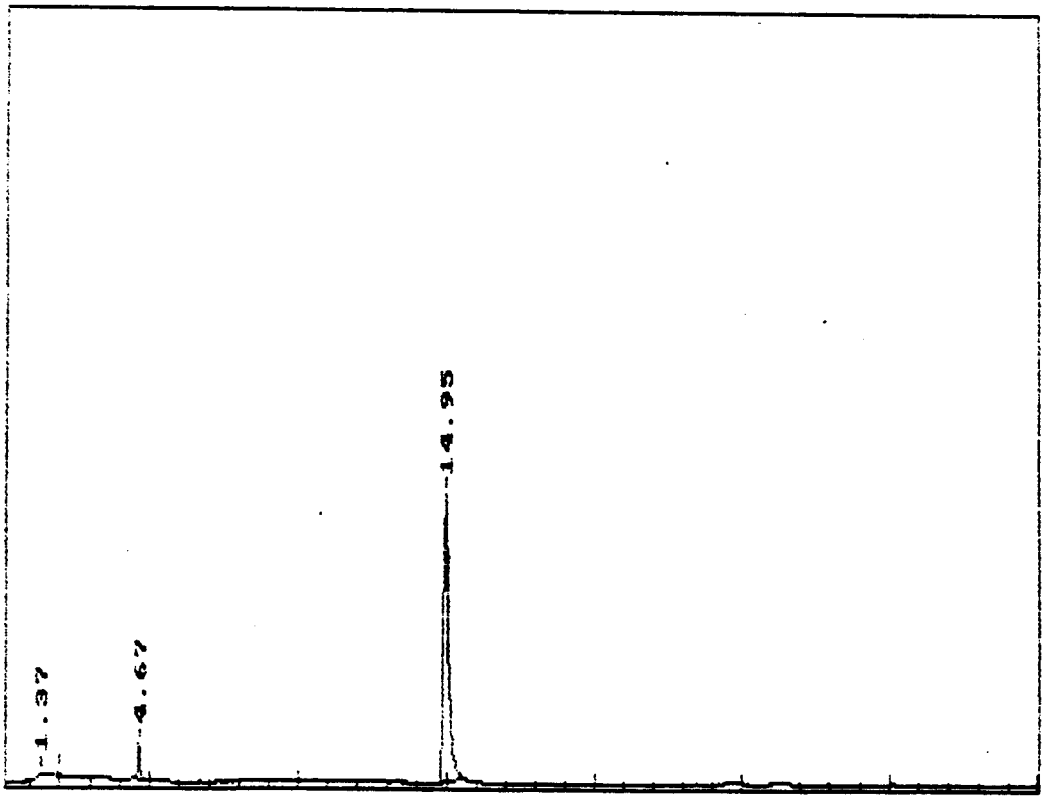
******** AREA PERCENT REPORT ********

********** 11-07-1990 08:58:14 Version 5.1 **********
Sample Name: 90L-2499-4 W/SS SG/10MLMEOH;10UL/5MLDI
Data File: A:LSG7
Date: 10-26-1990 14:32:13 Method: BVOL
Interface: 1 Cycle#: 7 Operator JG Channel#: 1 Vial#: N.A.
Starting Peak Width: 20 Threshold: 1 Area Threshold: 5
Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB S
Solvent Description:
Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD
Detector 0: PID Detector 1: HALL
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
Starting Delay: 0.00 Run Time: 35.00

No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
	1.368	545	0.4646	1	76	0.496	7.1
2	1.969	674	0.5748	1	145	0.613	4.6
3	4.671	6169	5.2638	1	1061	5.618	5.8
	14.948	109812	93.6967	1	9097	100.000	12.1

Total Area: 117199 Area Reject: 100 One sample per 2.002 sec.

Data File = A:LSG7.PTS Printed on 11-07-1990 at 08:58:39
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
1 Range: 25 millivolts



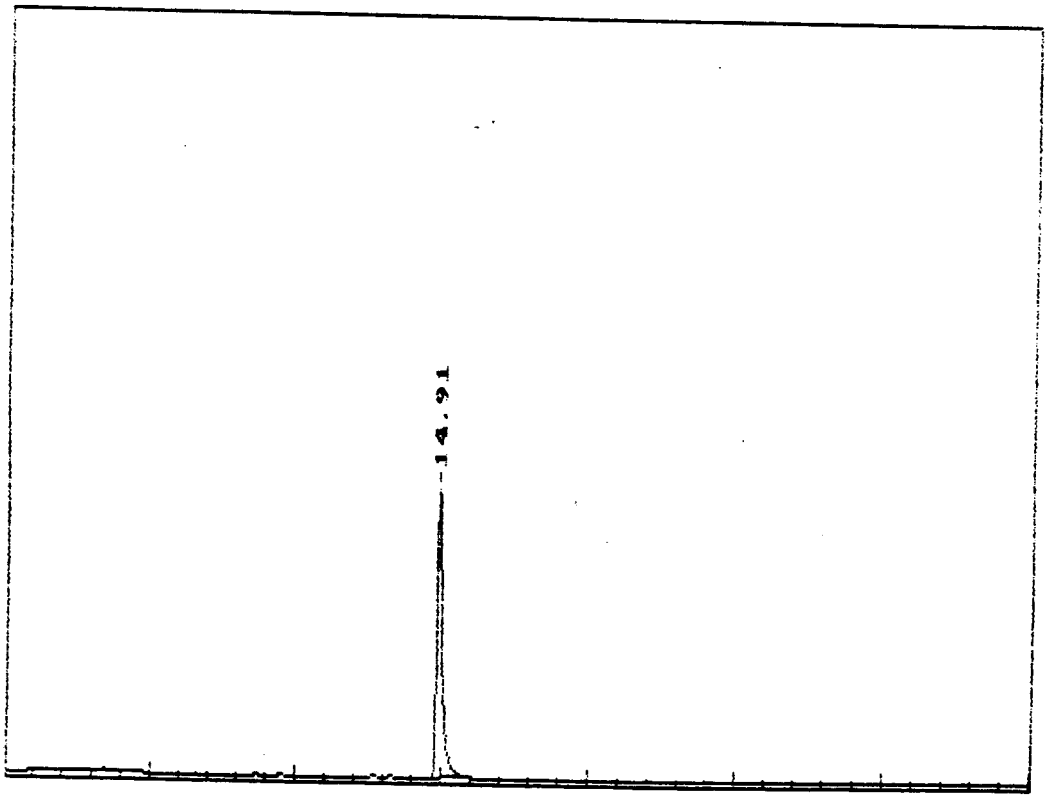
******** AREA PERCENT REPORT ********

```
********** 11-07-1990 09:01:21 Version 5.1 **********
* Sample Name: 90L-2499-5 W/SS 5G/10MLMEOH;10UL/5MLDI
                                          Data File: A:LSG8
* Date: 10-26-1990 15:23:40 Method: BVOL
* Interface: 1   Cycle#:  8   Operator JG  Channel#: 1   Vial#: N.A.
* Starting Peak Width:  20   Threshold: 1  Area Threshold: 5
*****************************************************************
* Instrument Type: TRACOR 560          Column Type: 1%SP1000,60/80CARB B
*              Solvent Description:
* Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD
*            Detector 0: PID                Detector 1: HALL
* Misc. Information: FLOW 33ML/MIN DET TEMP: 225 C; 250C
*****************************************************************
Starting Delay:   0.00                    Run Time:   35.00
```

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	14.915	122180	100.0000	1	9534	100.000	12.8

Total Area: 122180 Area Reject: 100 One sample per 2.002 sec.

Data File = A:LSG8.PTS Printed on 11-07-1990 at 09:01:36
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
Full Range: 25 millivolts



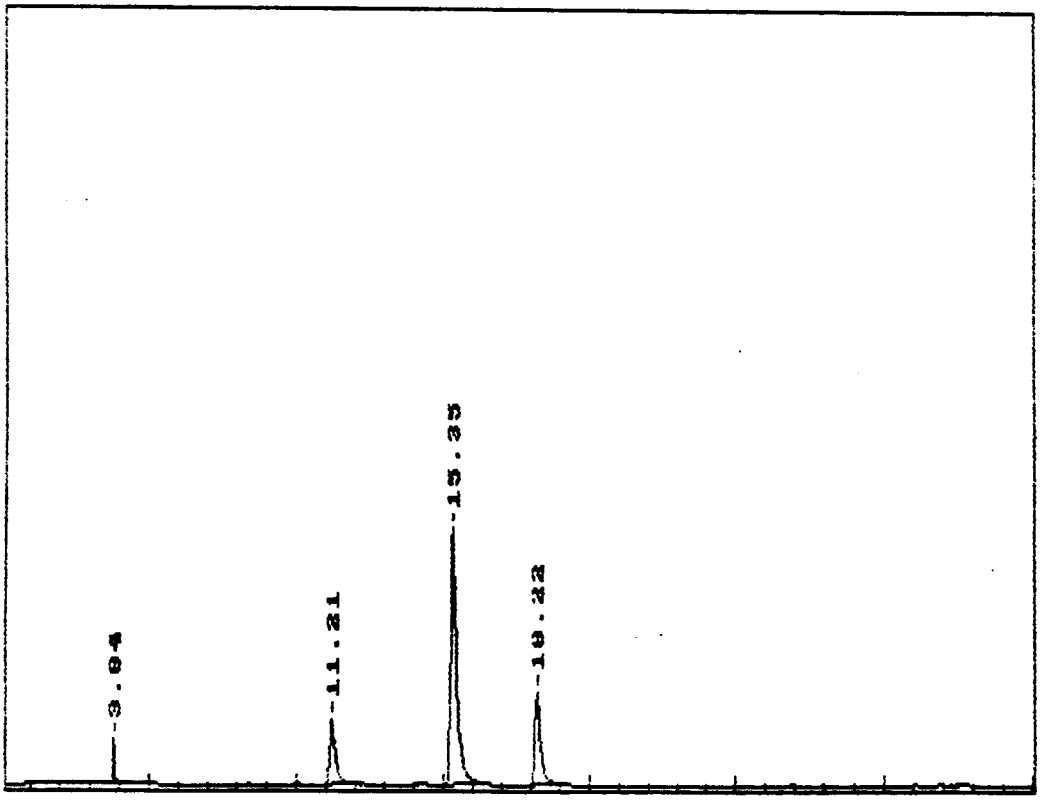
******** AREA PERCENT REPORT ********

********** 11-07-1990 09:17:04 Version 5.1 **********
Sample Name: 90L-2499-6 W/SS 5G/10MLMEOH;10UL/5MLDI
Data File: A:MOG5
Date: 10-29-1990 14:07:44 Method: 8VOL
Interface: 1 Cycle#: 5 Operator JG Channel#: 1 Vial#: N.A.
Starting Peak Width: 20 Threshold: 1 Area Threshold: 5
Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB 3
Solvent Description:
Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD
Detector 0: FID Detector 1: HALL
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
Starting Delay: 0.00 Run Time: 35.00

	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
	3.837	4791	2.6163	1	1370	4.234	3.5
	11.211	27051	14.7731	1	2043	23.908	13.2
3	15.349	113144	61.7902	1	8143	100.000	13.9
4	18.218	38124	20.8203	1	2937	33.695	13.0

Total Area: 183110 Area Reject: 100 One sample per 2.002 sec.

Data File = A:MOG5.PTS Printed on 11-07-1990 at 09:17:28
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
Full Range: 25 millivolts



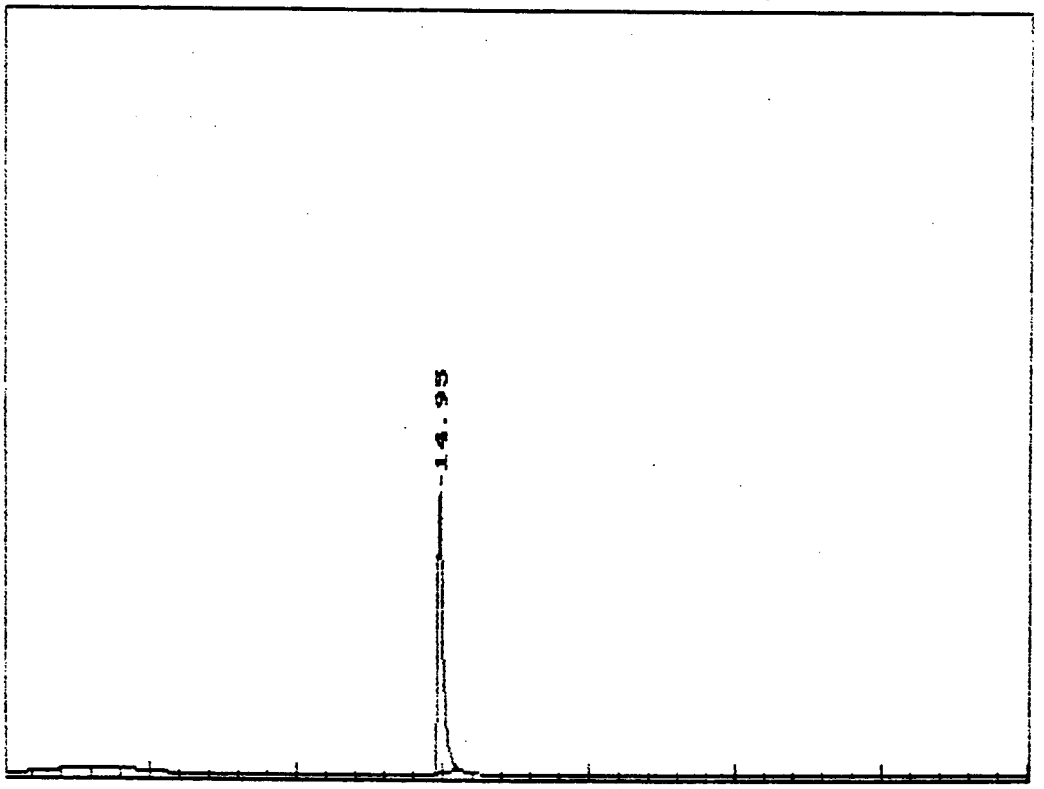
******** AREA PERCENT REPORT ********

```
********** 11-07-1990 08:59:36 Version 5.1 **********
* Sample Name: 90L-2499-10 W/SS NEAT          Data File: A:LSG6      *
* Date: 10-26-1990 13:33:33 Method: BVOL                             *
* Interface: 1   Cycle#:  6   Operator JG  Channel#: 1   Vial#: N.A.  *
* Starting Peak Width:  20   Threshold: 1  Area Threshold: 5          *
**********************************************************************
* Instrument Type: TRACOR 560          Column Type: 1%SP1000,60/80CARB S *
*              Solvent Description:                                  *
* Conditions: 45C-3MIN-8C/MIN-210-15MIN HOLD                         *
*          Detector 0: FID                 Detector 1: HALL          *
* Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C             *
**********************************************************************
Starting Delay:   0.00                        Run Time:   35.00
```

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	14.748	116797	100.0000	1	9220	100.000	12.7

Total Area: 116797 Area Reject: 100 One sample per 2.002 sec.

Data File = A:LSG6.PTS Printed on 11-07-1990 at 08:59:34
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
Full Range: 25 millivolts



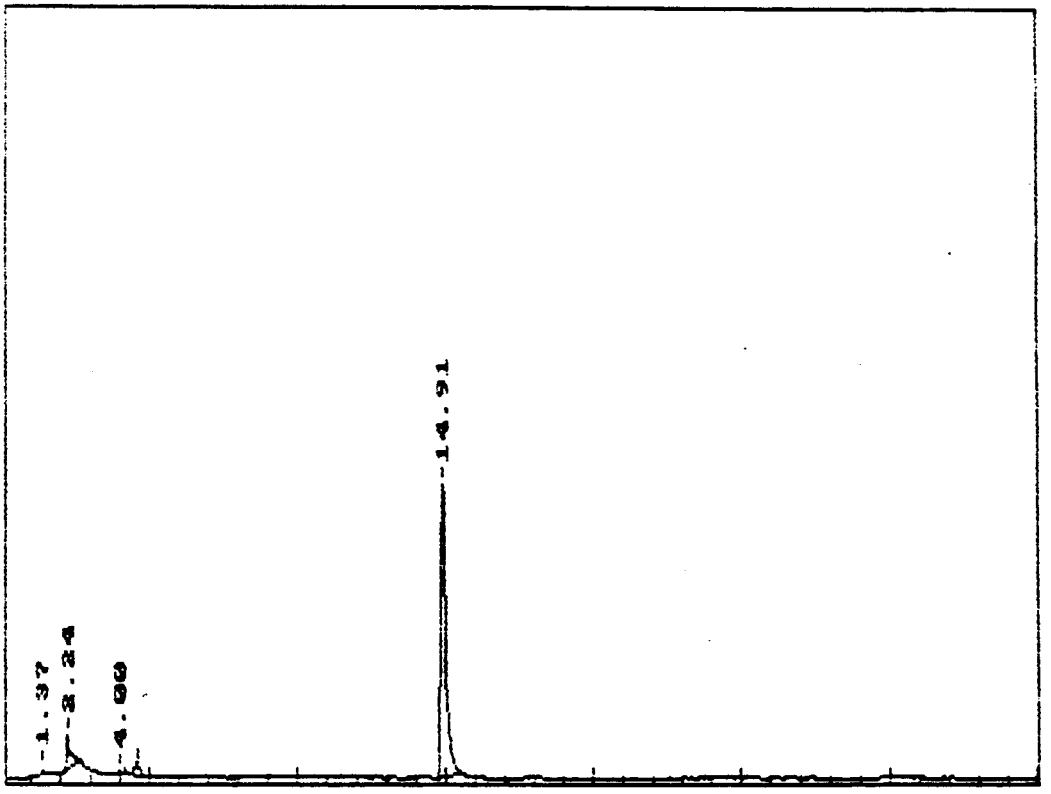
******** AREA PERCENT REPORT ********

********** 11-07-1990 09:03:02 Version 5.1 **********
Sample Name: 90L-2499-11 W/SS NEAT Data File: A:LSG5
Date: 10-26-1990 12:36:06 Method: BVOL
Interface: 1 Cycle#: 5 Operator JG Channel#: 1 Vial#: N.A.
Starting Peak Width: 20 Threshold: 1 Area Threshold: 5
****
Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB B
Solvent Description:
Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD
Detector 0: PID Detector 1: HALL
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
****
Starting Delay: 0.00 Run Time: 35.00

A	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.368	1411	1.0796	1	299	1.261	4.7
2	2.256	11853	9.0665	1	1134	10.591	10.5
3	4.004	567	0.4334	1	130	0.506	4.4
4	4.638	4988	3.8154	1	380	4.457	13.1
5	14.915	111914	85.6051	1	9291	100.000	12.0

Total Area: 130733 Area Reject: 100 One sample per 2.002 sec.

Data File = A:LSG5.PTS Printed on 11-07-1990 at 09:03:19
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
Full Range: 25 millivolts



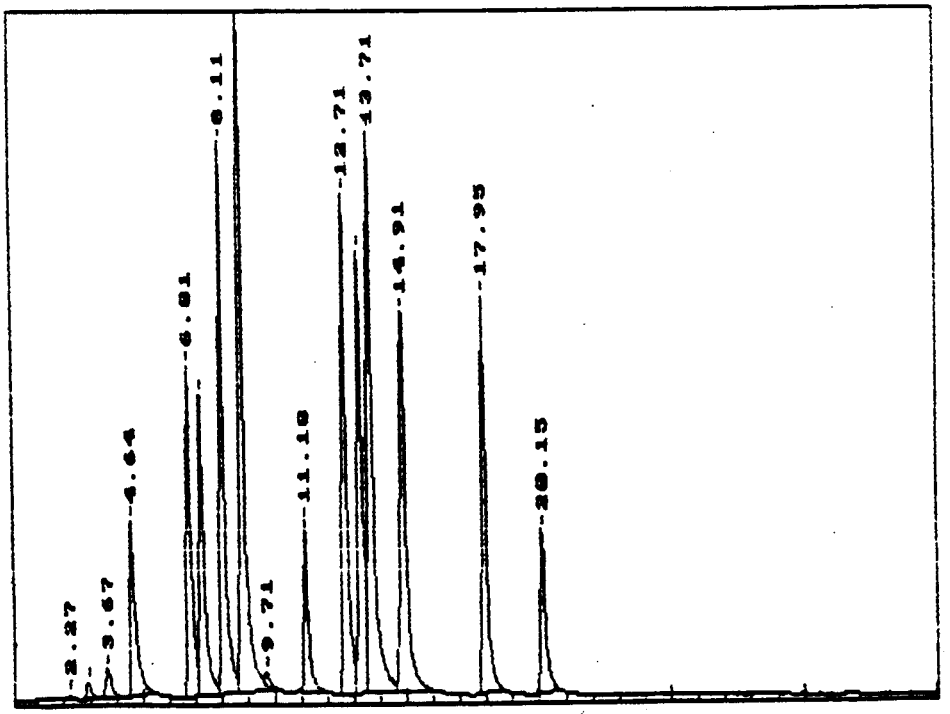
******** AREA PERCENT REPORT ********

********** 11-07-1990 09:04:15 Version 5.1 **********
* Sample Name: 90L-2499-4 W/SS 10UL MS PUR A& GASES 20
Data File: A:LSG12 *
* Date: 10-26-1990 18:48:25 Method: BVOL *
* Interface: 1 Cycle#: 12 Operator JG Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 1 Area Threshold: 5 *
****
* Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB 8 *
* Solvent Description: *
* Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD *
* Detector 0: PID Detector 1: HALL *
* Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
****
Starting Delay: 0.00 Run Time: 35.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	2.269	1373	0.0617	1	149	0.414	9.2
2	2.970	8418	0.3782	1	563	2.537	15.0
3	3.670	16139	0.7251	1	1032	4.865	15.6
4	4.638	92785	4.1684	1	6283	27.967	14.8
5	6.807	139354	6.2606	2	11900	42.004	11.7
6	7.307	146741	6.5925	2	10821	44.231	13.6
7	8.108	230253	10.3443	2	19867	69.403	11.6
8	8.842	331763	14.9047	3	25966	100.000	12.8
9	9.710	7498	0.3368	4	486	2.260	15.4
10	11.178	69845	3.1378	1	6043	21.053	11.6
11	12.713	213814	9.6057	2	17959	64.448	11.9
12	13.280	205775	9.2446	2	15894	62.025	12.9
13	13.714	302079	13.5711	2	20237	91.053	14.9
14	14.915	215626	9.6872	2	13594	64.994	15.9
15	17.951	167654	7.5320	1	14262	50.534	11.8
16	20.153	76777	3.4493	1	5843	23.142	13.1

Total Area: 2225894 Area Reject: 100 One sample per 2.002 sec.

Data File = A:LSG12.PTS Printed on 11-07-1990 at 09:04:32
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
Full Range: 25 millivolts



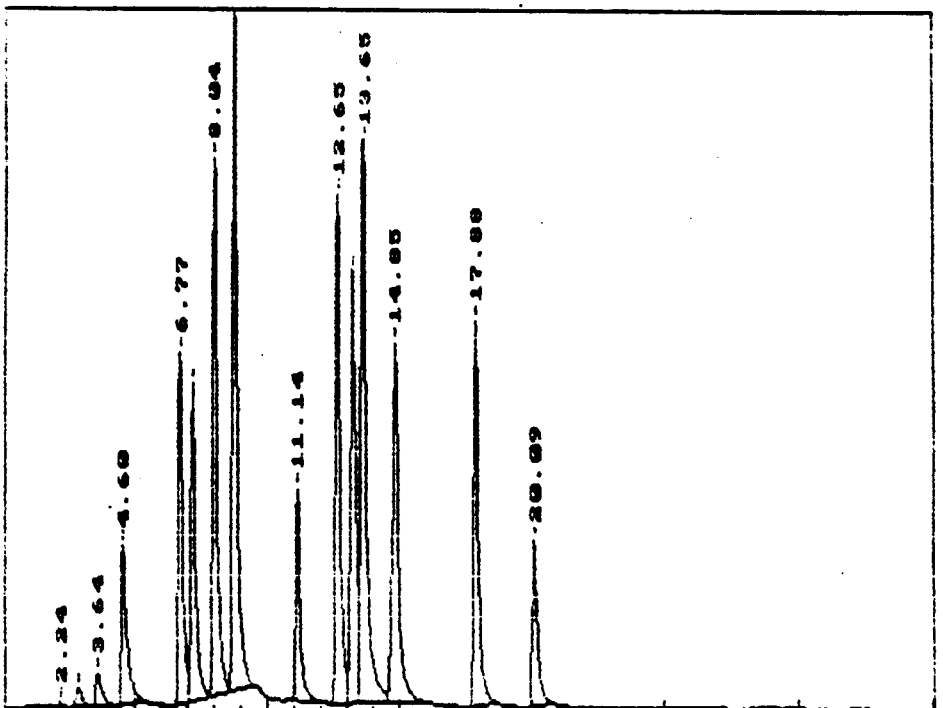
******** AREA PERCENT REPORT ********

********** 11-07-1990 09:05:41 Version 5.1 **********
* Sample Name: 90L-2499-4 W/SS 10UL MSD PUR A & GAS 20
Data File: A:LSG13
* Date: 10-26-1990 19:42:46 Method: BVOL
* Interface: 1 Cycle#: 13 Operator JG Channel#: 1 Vial#: N.A.
* Starting Peak Width: 20 Threshold: 1 Area Threshold: 5
* Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB 8
* Solvent Description:
* Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD
* Detector 0: FID Detector 1: HALL
* Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
Starting Delay: 0.00 Run Time: 35.00

PP No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	2.236	1634	0.0757	1	175	0.631	9.3
2	2.936	10665	0.4940	1	661	3.466	16.1
3	3.637	18134	0.8400	1	1171	5.893	15.5
4	4.603	82497	3.8213	1	5564	26.809	14.8
5	6.773	143292	6.6372	2	12377	46.565	11.6
6	7.241	137947	6.3896	2	11154	44.828	12.4
7	8.041	213088	9.8702	2	19080	69.246	11.2
8	8.775	307726	14.2538	2	26135	100.000	11.8
9	11.144	80530	3.7301	1	7373	26.170	10.9
10	12.646	211827	9.8118	2	17969	68.836	11.8
11	13.213	208375	9.6519	2	15198	67.715	13.7
12	13.647	303087	14.0389	2	19924	98.492	15.2
13	14.848	197993	9.1710	2	12598	64.341	15.7
14	17.885	163982	7.5956	1	13490	53.288	12.2
15	20.087	78134	3.6191	1	5790	25.391	13.5

Total Area: 2158909 Area Reject: 100 One sample per 2.002 sec.

Data File = A:LSG13.PTS Printed on 11-07-1990 at 09:05:56
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
Full Range: 25 millivolts



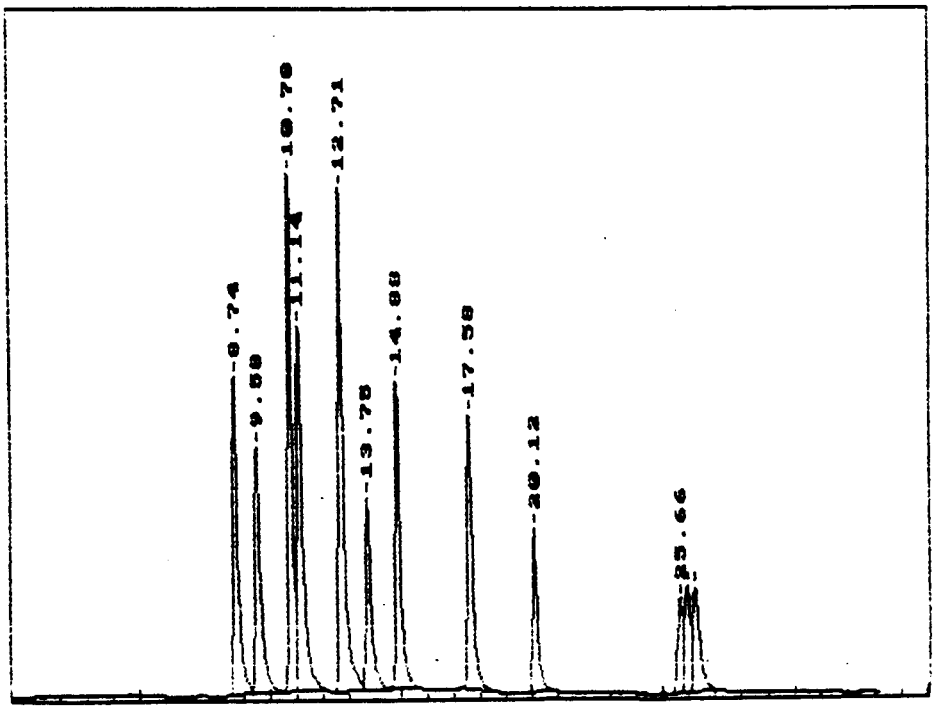
******** AREA PERCENT REPORT ********

********** 11-07-1990 09:07:18 Version 5.1 **********
* Sample Name: 90L-2499-4 W/SS 10UL MS PUR B & ARO 20
Data File: A:LSG14 *
* Date: 10-26-1990 20:35:32 Method: BVOL *
* Interface: 1 Cycle#: 14 Operator JG Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 1 Area Threshold: 5 *
****
* Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB B *
* Solvent Description: *
* Conditions: 45C-3MIN-8C/MIN-210C-15MIN *
* Detector 0: PID Detector 1: HALL *
* Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
****
Starting Delay: 0.00 Run Time: 35.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	8.742	150628	9.5398	2	11519	60.083	13.1
2	9.576	133950	8.4835	2	8881	53.430	15.1
3	10.777	212109	13.4337	2	18736	84.607	11.3
4	11.144	194509	12.3190	2	13188	77.586	14.7
5	12.713	250700	15.8778	2	18211	100.000	13.8
6	13.747	100336	6.3546	2	6962	40.022	14.4
7	14.282	142812	9.0448	2	11061	56.965	12.9
8	17.584	130224	8.2476	1	9841	51.944	13.2
9	20.120	77252	4.8927	1	5944	30.815	13.0
10	25.659	45374	2.8737	2	3385	18.099	13.4
11	25.926	67056	4.2469	2	3813	26.748	17.6
12	26.226	73990	4.6860	2	3716	29.513	19.9

Total Area: 1578939 Area Reject: 100 One sample per 2.002 sec.

Data File = A:LSG14.PTS Printed on 11-07-1990 at 09:07:36
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
Full Range: 25 millivolts



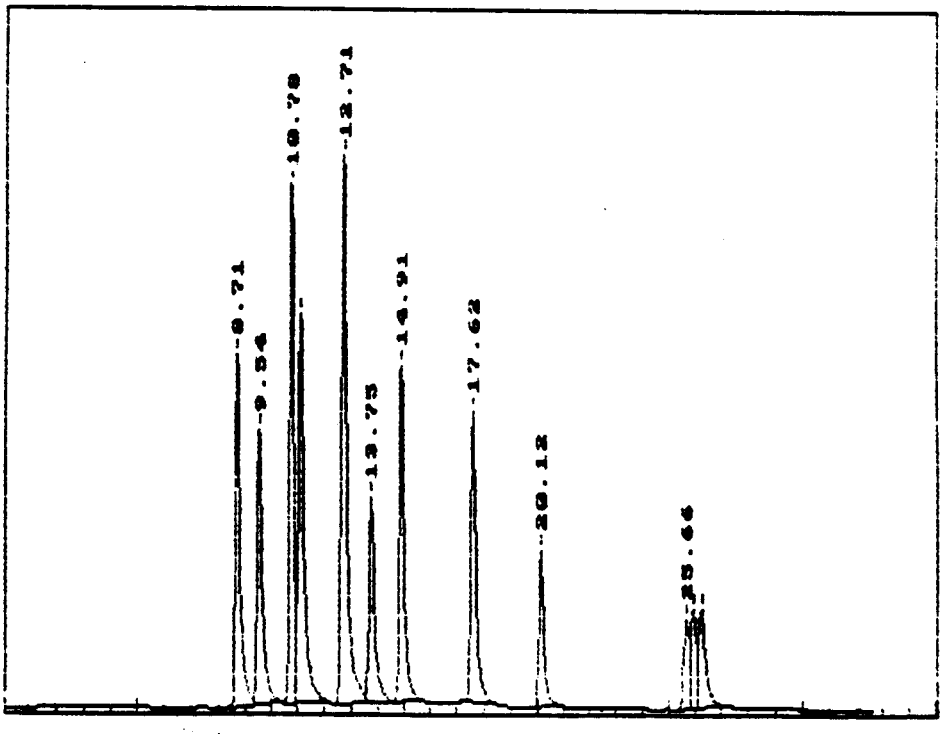
******** AREA PERCENT REPORT ********

********** 11-07-1990 09:09:08 Version 5.1 **********
* Sample Name: 90L-2499-4 W/SS 10UL MSD PUR B & ARO 20
Data File: A:LSG15
* Date: 10-26-1990 21:21:19 Method: BVOL
* Interface: 1 Cycle#: 15 Operator JG Channel#: 1 Vial#: N.A.
* Starting Peak Width: 20 Threshold: 1 Area Threshold: 5
* Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB
* Solvent Description:
* Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD
* Detector 0: PID Detector 1: HALL
* Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
Starting Delay: 0.00 Run Time: 35.00

Pk No.	Ret Time	Peak Area	Area %	S L	Peak Ht.	Normalized %	Area Height
1	8.709	152865	9.6081	2	12350	58.272	12.4
2	9.543	138483	8.7041	2	9645	52.790	14.4
3	10.777	204776	12.8709	2	18407	78.061	11.1
4	11.144	205055	12.8884	2	13713	78.167	15.0
5	12.713	262328	16.4882	2	19468	100.000	13.5
6	13.747	105065	6.6037	2	7174	40.051	14.6
7	14.915	148751	9.3495	1	11772	56.704	12.6
8	17.618	130548	8.2054	1	10165	49.765	12.8
9	20.120	72938	4.5844	1	5498	27.804	13.3
10	25.659	46580	2.9277	2	3109	17.756	15.0
11	25.926	56311	3.5394	2	3433	21.466	16.4
12	26.260	67302	4.2302	2	3393	25.656	19.8

Total Area: 1591001 Area Reject: 100 One sample per 2.002 sec.

Data File = A:LSG15.PTS Printed on 11-07-1990 at 09:09:29
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
Full Range: 25 millivolts



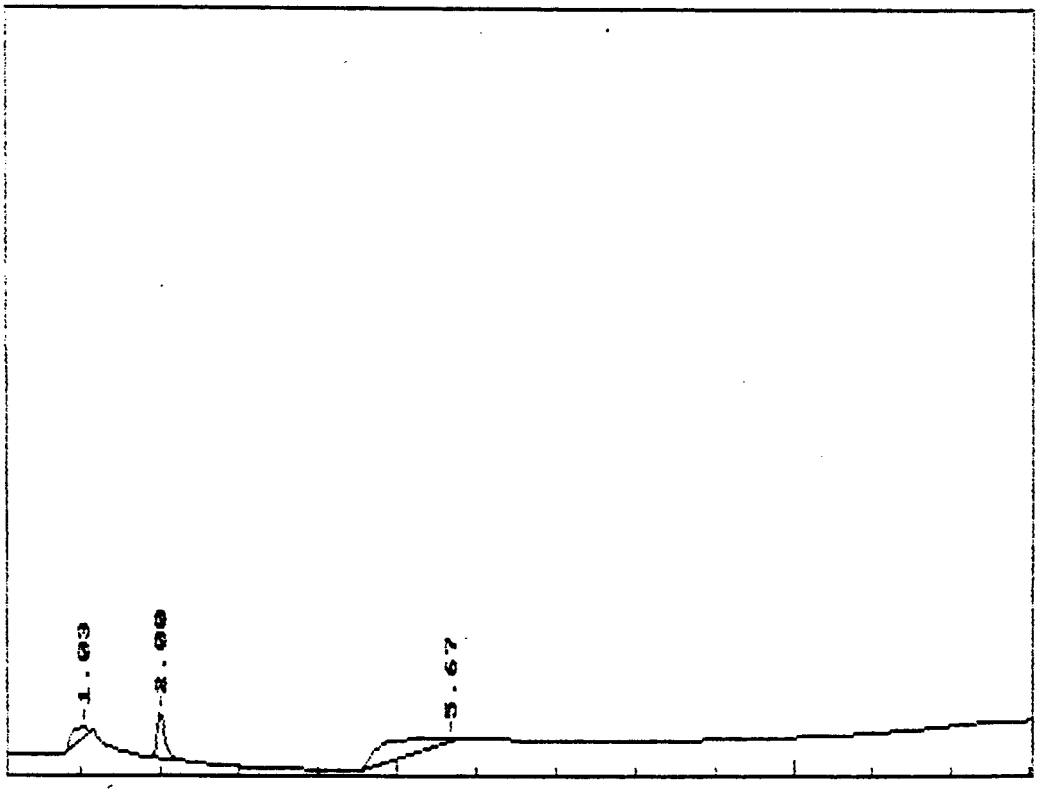
******** AREA PERCENT REPORT ********

********** 11-07-1990 08:36:14 Version 5.1 **********
* Sample Name: BLANK W/SS Data File: A:BBC2 *
* Date: 10-30-1990 09:20:12 Method: VOL3 *
* Interface: 1 Cycle#: 2 Operator JG Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 2 Area Threshold: 5 *
****
* Instrument Type: TRACOR 560 Column Type: 5%SP1200,1.75%BENTON *
* Solvent Description: *
* Conditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD *
* Detector 0: PID Detector 1: HALL *
* Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
****
Starting Delay: 0.00 Run Time: 13.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.033	1838	13.3721	1	125	20.858	14.7
2	2.000	3095	22.5173	1	456	35.123	6.8
3	5.667	8812	64.1106	1	40	100.000	218.2

Total Area: 13745 Area Reject: 10 One Sample per 2.000 sec.

Data File = A:BBC2.PTS Printed on 11-07-1990 at 08:36:20
Start time: 0.00 min. Stop time: 13.00 min. Offset: 0 mv.
Full Range: 6 millivolts



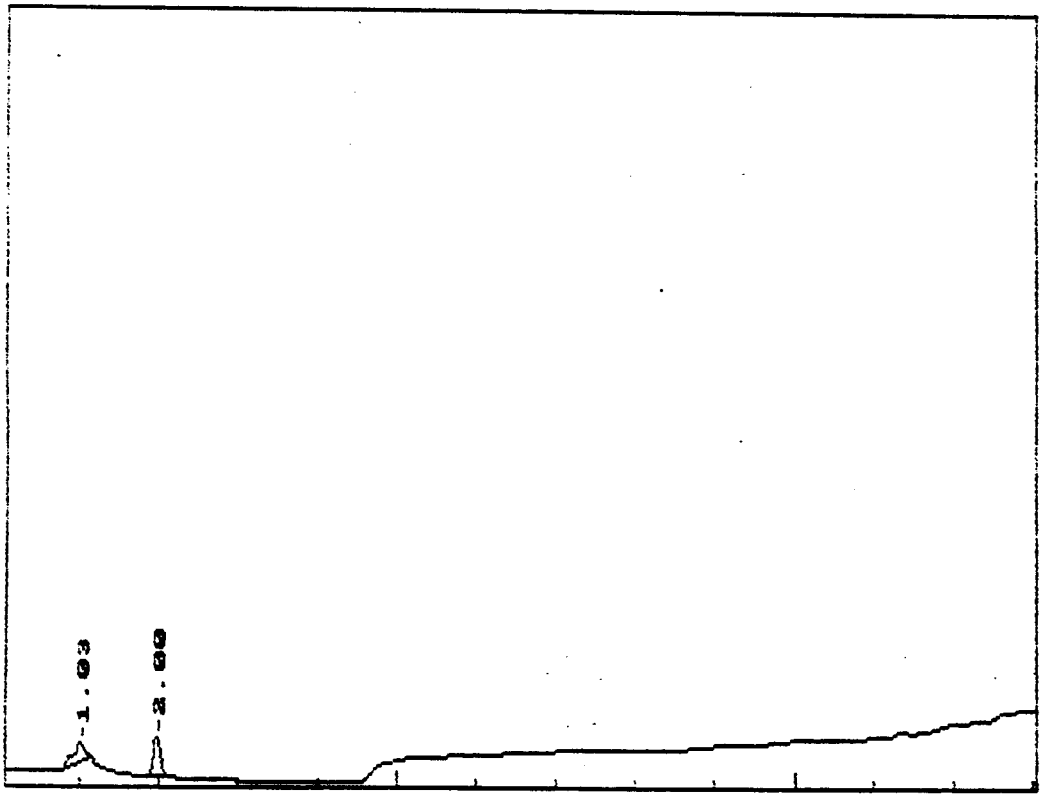
******** AREA PERCENT REPORT ********

********** 11-07-1990 09:20:58 Version 5.1 **********
Sample Name: METHOD BLANK W/SS Data File: A:PAL14
Date: 11-02-1990 17:04:00 Method: VOL3
Interface: 1 Cycle#: 14 Operator JG Channel#: 0 Vial#: N.A.
Starting Peak Width: 20 Threshold: 2 Area Threshold: 5
****
Instrument Type: TRACOR 560 Column Type: 3%SP1200,1.75%BENTON
Solvent Description:
Conditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD
Detector 0: PID Detector 1: HALL
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
****
Carbon Delay: 0.00 Run Time: 13.00

#	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.033	2160	45.8404	1	189	84.639	11.4
2	2.000	2552	54.1596	1	399	100.000	6.4

Total Area: 4712 Area Reject: 10 One sample per 2.000 sec.

Data File = A:PAL14.PTS Printed on 11-07-1990 at 09:21:04
Start time: 0.00 min. Stop time: 13.00 min. Offset: 0 mv.
Full Range: 3 millivolts



******** AREA PERCENT REPORT ********

********** 11-07-1990 08:36:55 Version 5.1 **********
* Sample Name: 90L-2499-4 W/SS 3G/10MLMEOH;10UL/5MLDI

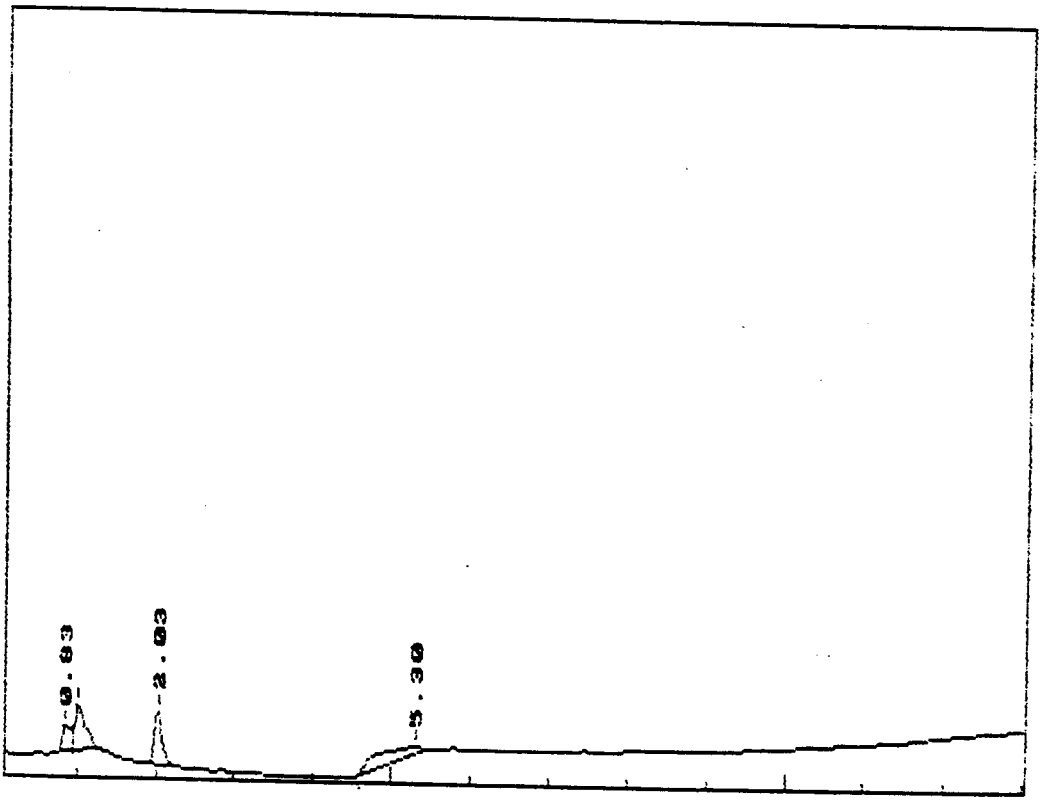
* Date: 10-30-1990 14:58:51 Method: VOL3 Data File: A:BBC11 *
* Interface: 1 Cycle#: 11 Operator JG Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 2 Area Threshold: 5 *
* Instrument Type: TRACOR 560 Column Type: 5%SP1200,1.75%BENTON *
* Solvent Description: *
* Conditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD *
* Detector 0: PID Detector 1: HALL *
* Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *

Starting Delay: 0.00 Run Time: 13.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	0.833	2396	14.8609	2	270	46.074	8.9
2	1.000	5199	32.2541	2	484	100.000	10.7
3	2.033	3527	21.8798	1	549	67.836	6.4
4	5.300	4998	31.0052	1	73	96.128	68.0

Total Area: 16120 Area Reject: 10 One sample per 2.000 sec.

Data File = A:BBC11.PTS Printed on 11-07-1990 at 08:37:01
Start time: 0.00 min. Stop time: 13.00 min. Offset: 0 mv.
Full Range: 8 millivolts



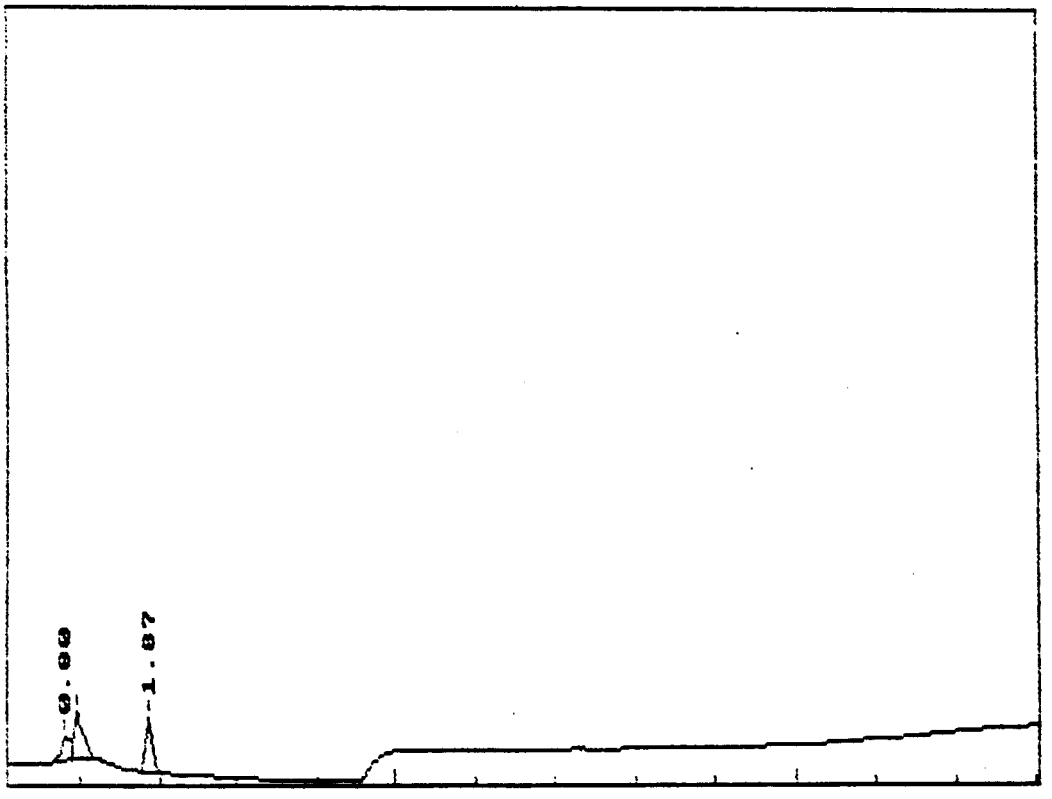
******** AREA PERCENT REPORT ********

********** 11-07-1990 08:37:40 Version 5.1 **********
Sample Name: 90L-2499-5 W/SS 5G/10MLMEOH;10UL/5MLDI
Data File: A:BBC12
Date: 10-30-1990 15:32:57 Method: VOL3
Interface: 1 Cycle#: 12 Operator JG Channel#: 0 Vial#: N.A.
Starting Peak Width: 20 Threshold: 2 Area Threshold: 5
Instrument Type: TRACOR 560 Column Type: 5%SP1200,1.75%BENTON
Solvent Description:
Conditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD
Detector 0: PID Detector 1: HALL
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
Starting Delay: 0.00 Run Time: 13.00

Pk.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	0.800	2390	23.0335	2	259	50.382	9.2
2	0.967	4746	45.7180	2	510	100.000	9.3
3	1.867	3243	31.2484	1	558	68.350	5.8

Total Area: 10378 Area Reject: 10 One sample per 2.000 sec.

Data File = A:BBC12.PTS Printed on 11-07-1990 at 08:37:45
Start time: 0.00 min. Stop time: 13.00 min. Offset: 0 mv.
Full Range: 8 millivolts



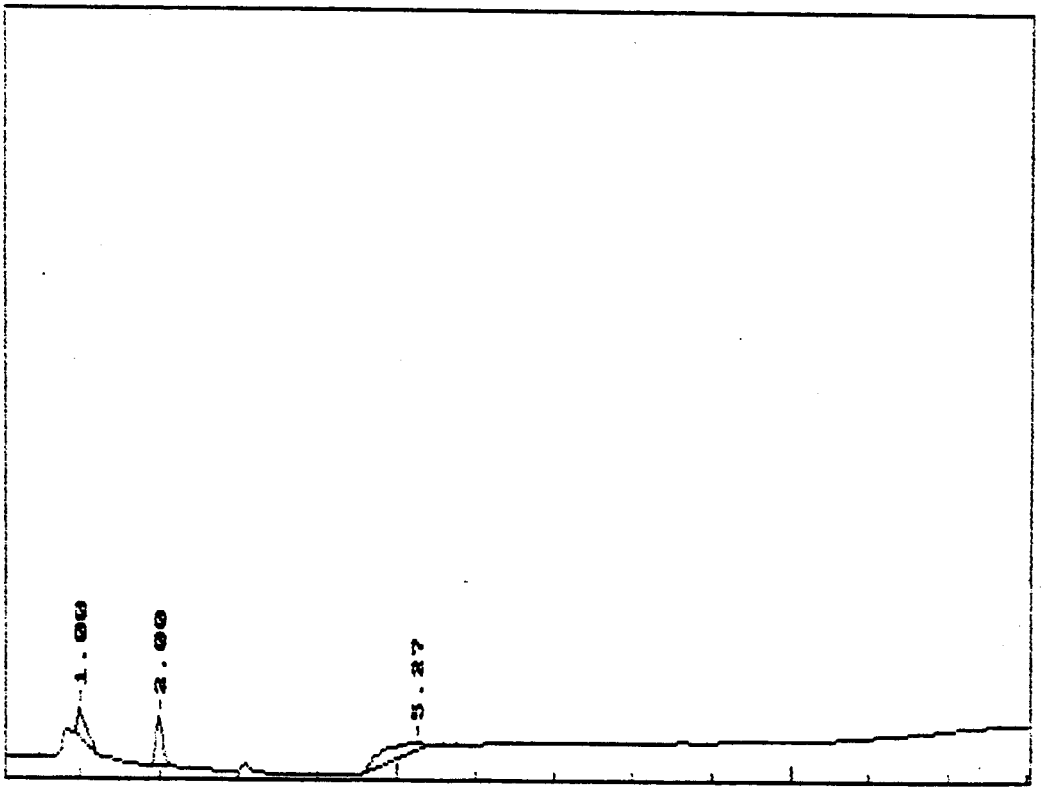
******** AREA PERCENT REPORT ********

********** 11-07-1990 08:38:27 Version 5.1 **********
* Sample Name: 90L-2499-6 W/SS 5G/10MLMEOH;10UL/5MLDI
Data File: A:BBC13 *
* Date: 10-30-1990 16:10:31 Method: VOL3 *
* Interface: 1 Cycle#: 13 Operator JG Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 2 Area Threshold: 5 *
****
* Instrument Type: TRACOR 560 Column Type: 5%SP1200,1.75%BENTON *
* Solvent Description: *
* Conditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD *
* Detector 0: PID Detector 1: HALL *
* Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
****
Starting Delay: 0.00 Run Time: 13.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.000	2315	23.3886	1	320	50.924	7.2
2	2.000	3037	30.6830	1	506	66.806	6.0
3	5.267	4546	45.9285	1	76	100.000	59.9

Total Area: 9898 Area Reject: 10 One sample per 2.000 sec.

Data File = A:BBC13.PTS Printed on 11-07-1990 at 08:38:33
Start time: 0.00 min. Stop time: 13.00 min. Offset: 0 mv.
Full Range: 8 millivolts



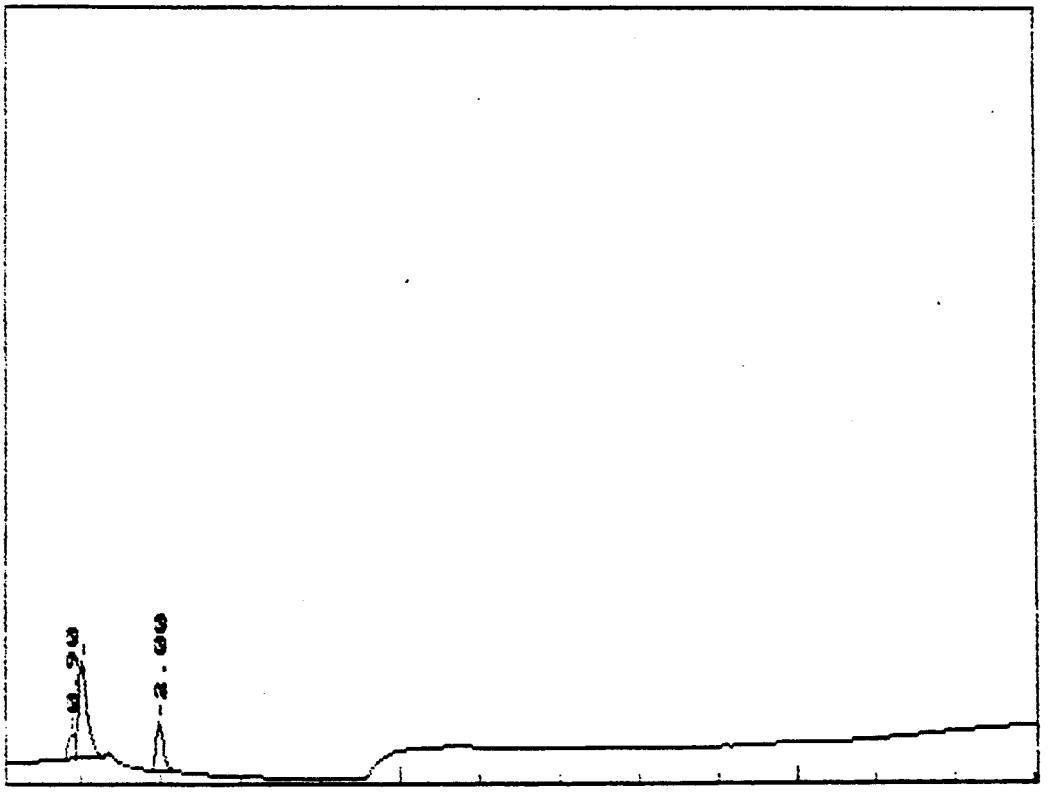
******** AREA PERCENT REPORT ********

```
********** 11-07-1990 08:40:18 Version 5.1 **********
Sample Name: 90L-2499-10 W/SS NEAT          Data File: A:BBC14
Date: 10-30-1990 16:48:15 Method: VOL3
Interface: 1   Cycle#:  14   Operator JG  Channel#: 0   Vial#: N.A.
Starting Peak Width:  20   Threshold: 2  Area Threshold: 5
**********************************************************
Instrument Type: TRACOR 560          Column Type: 5%SP1200,1.75%BENTON
          Solvent Description:
Conditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD
          Detector 0: PID                Detector 1: HALL
Misc. information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
**********************************************************
Warting Delay:   0.00                    Run Time:   13.00
```

	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	0.900	1625	12.7798	2	246	20.092	6.6
2	1.033	8086	63.6067	2	1000	100.000	8.1
3	2.000	3002	23.6135	1	500	37.124	6.0

```
tal Area:        12713   Area Reject:        10  One sample per   2.000 sec.

ta File = A:BBC14.PTS  Printed on 11-07-1990 at 08:40:23
art time:    0.00 min.  Stop time:   13.00 min.     Offset:   0 mv.
ull Range:  8  millivolts
```



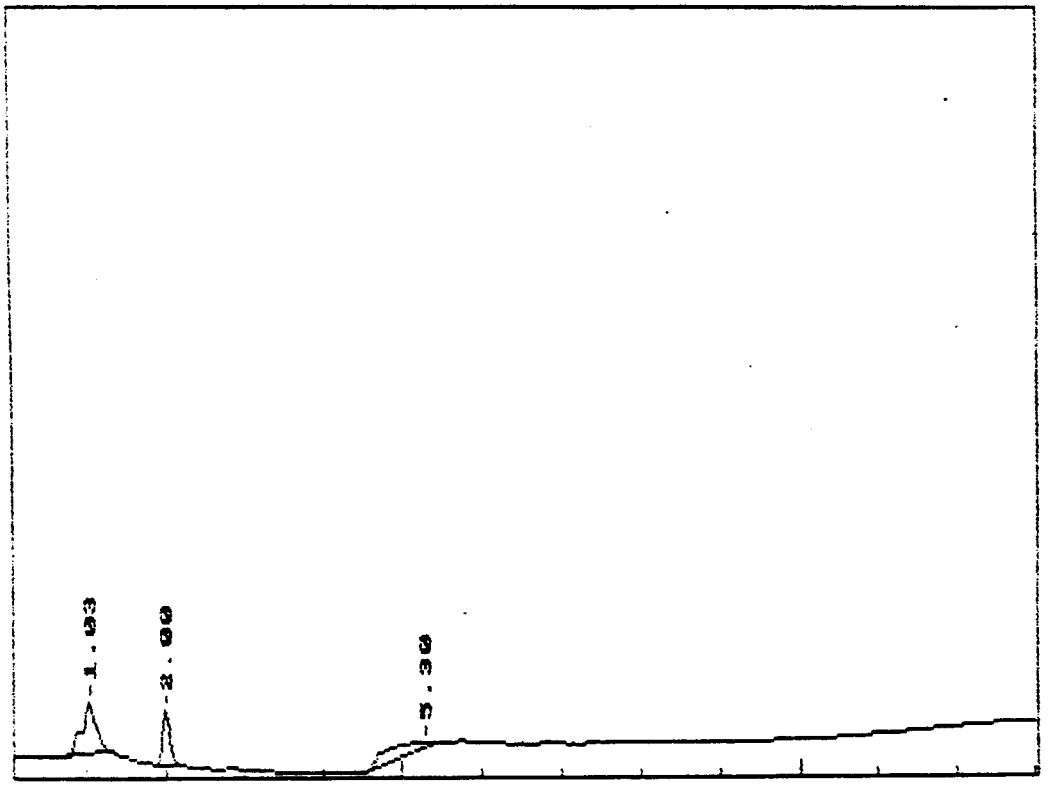
******** AREA PERCENT REPORT ********

```
********** 11-07-1990 08:41:46 Version 5.1 **********
* Sample Name: 90L-2499-11 W/SS NEAT          Data File: A:BBC15   *
* Date: 10-30-1990 17:25:54 Method: VOL3                           *
* Interface: 1   Cycle#:  15   Operator JG  Channel#: 0   Vial#: N.A.  *
* Starting Peak Width:  20   Threshold: 2  Area Threshold: 5        *
*******************************************************************
* Instrument Type: TRACOR 560          Column Type: 5%SP1200,1.75%BENTON *
*              Solvent Description:                                *
* Conditions: 50C-2MIN-6D/MIN-110C-2MIN HOLD                       *
*           Detector 0: PID                 Detector 1: HALL       *
* Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C           *
*******************************************************************
Starting Delay:   0.00                        Run Time:   13.00
```

PK No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.033	6426	43.4160	1	534	100.000	12.0
2	2.000	3423	23.1268	1	346	53.268	6.3
3	5.300	4952	33.4572	1	71	77.062	70.2

Total Area: 14801 Area Reject: 10 One sample per 2.000 sec.

Data File = A:BBC15.PTS Printed on 11-07-1990 at 08:41:52
Start time: 0.00 min. Stop time: 13.00 min. Offset: 0 mv.
Full Range: 8 millivolts



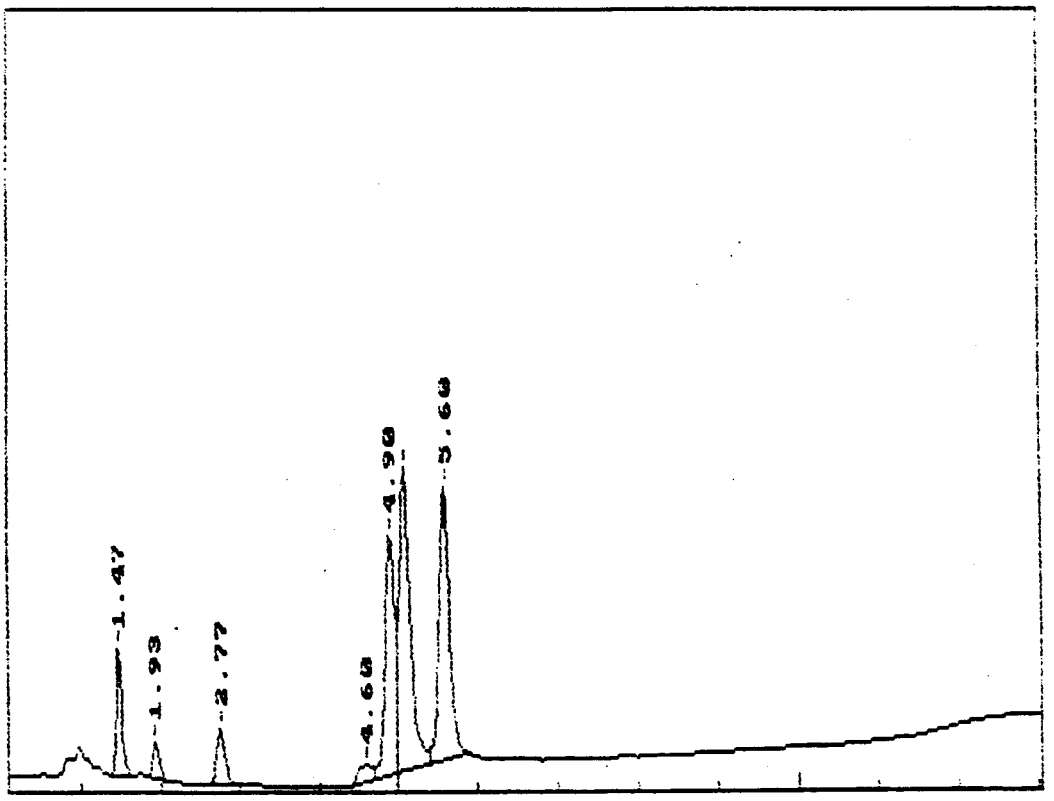
******** AREA PERCENT REPORT ********

********** 11-07-1990 09:19:47 Version 5.1 **********
Sample Name: 90L-2586-8 W/SS 10UL MS US BTEX MIX 20
Data File: A:PAL15
Date: 11-02-1990 17:39:54 Method: VOL3
Interface: 1 Cycle#: 15 Operator JG Channel#: 0 Vial#: N.A.
Starting Peak Width: 20 Threshold: 2 Area Threshold: 5
Instrument Type: TRACOR 560 Column Type: 5%SP1200,1.75%BENTON
Solvent Description:
Conditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD
Detector 0: PID Detector 1: HALL
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
Starting Delay: 0.00 Run Time: 13.00

	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.467	6460	6.8350	1	1286	20.716	5.0
2	1.933	1980	2.0949	1	351	6.349	5.6
3	2.767	4033	4.2724	1	563	12.949	7.2
4	4.600	2176	2.3023	2	166	6.978	13.1
5	4.900	22610	23.9225	2	2441	72.506	9.3
6	5.100	31184	32.9938	2	3096	100.000	10.1
7	5.600	26066	27.5791	2	2782	83.589	9.4

Total Area: 94514 Area Reject: 10 One sample per 2.000 sec.

Data File = A:PAL15.PTS Printed on 11-07-1990 at 09:19:53
Start time: 0.00 min. Stop time: 13.00 min. Offset: 0 mv.
Full Range: 8 millivolts



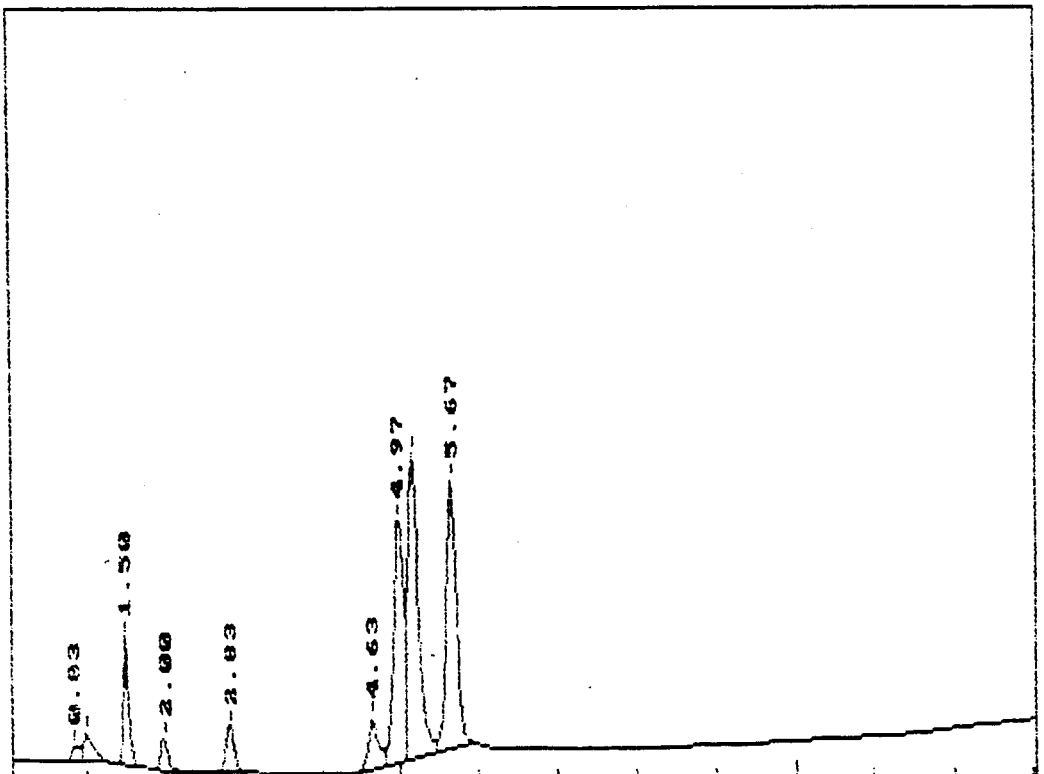
******** AREA PERCENT REPORT ********

```
********************* 11-07-1990 09:18:29 Version 5.1 **********************
* Sample Name: 90L-2586-8 W/SS 10UL MSD US BTEX MIX 20
                                                  Data File: A:PAL8          *
* Date: 11-02-1990 13:11:59 Method: VOL3                                      *
* Interface: 1   Cycle#:  8    Operator JG  Channel#: 0    Vial#: N.A.       *
* Starting Peak Width:  20   Threshold: 2  Area Threshold: 5                  *
*****************************************************************************
* Instrument Type: TRACOR 560          Column Type: 5%SP1200,1.75%BENTON      *
*              Solvent Description:                                           *
* Conditions: 30C-2MIN-6C/MIN-110C-2MIN HOLD                                  *
*            Detector 0: PID                  Detector 1: HALL                *
* Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C                      *
*****************************************************************************
Starting Delay:   0.00                          Run Time:   13.00
```

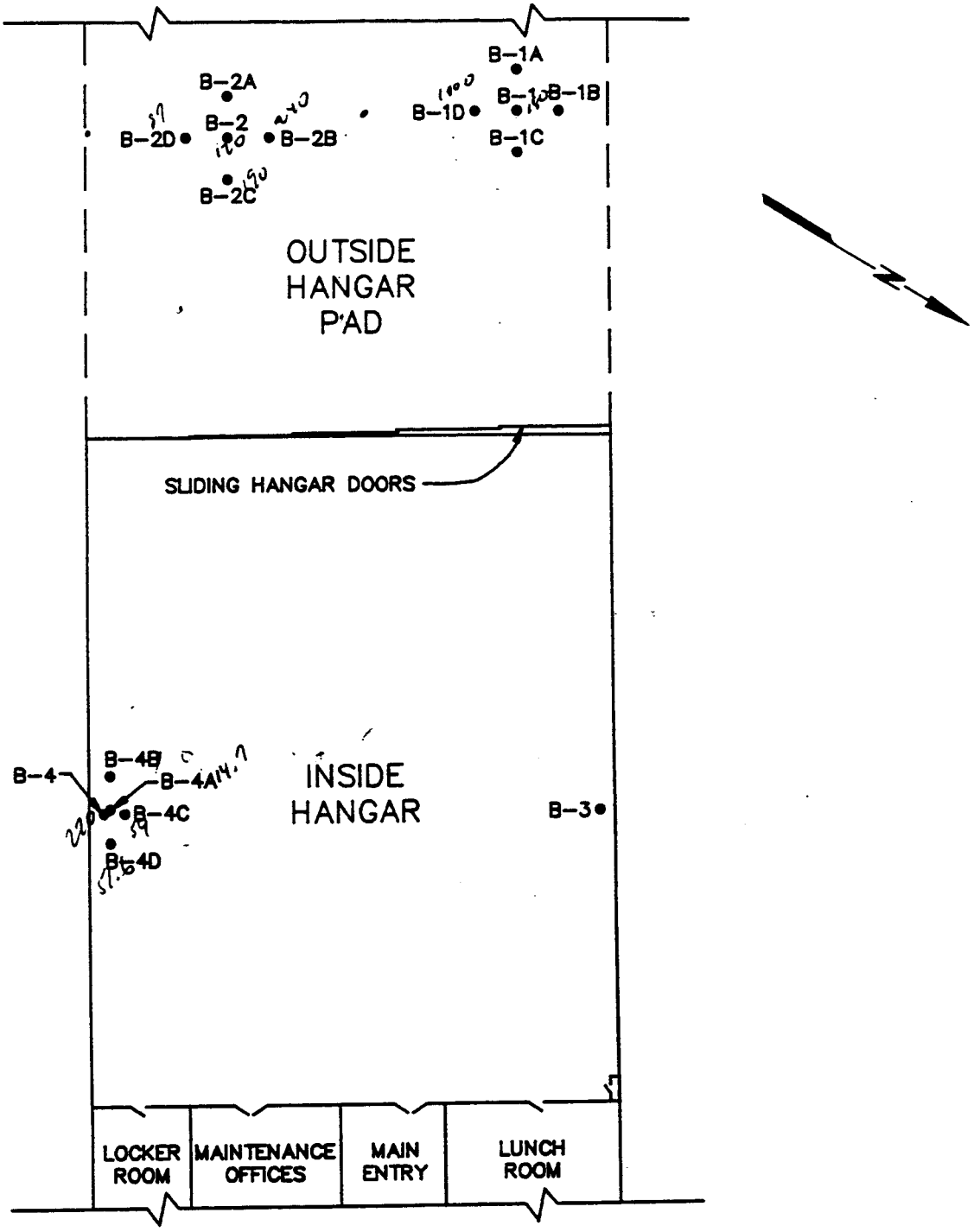
Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	0.833	1472	1.4535	2	160	4.621	9.2
2	1.000	2846	2.8089	2	294	8.930	9.7
3	1.500	6291	6.2098	1	1322	19.742	4.8
4	2.000	1958	1.9327	1	323	6.144	6.1
5	2.833	3470	3.4252	1	470	10.889	7.4
6	4.633	4880	4.8175	2	516	15.315	9.5
7	4.767	23104	22.8060	2	2494	72.502	9.3
8	5.167	31867	31.4556	2	3148	100.000	10.1
9	5.667	25419	25.0907	2	2775	79.766	9.2

Total Area: 101307 Area Reject: 10 One sample per 2.000 sec.

Data File = A:PAL8.PTS Printed on 11-07-1990 at 09:18:35
Start time: 0.00 min. Stop time: 13.00 min. Offset: 0 mv.
Full Range: 8 millivolts



12-10-90



WESTCHESTER COUNTY AIRPORT
MOBIL HANGAR

PILKO & ASSOCIATES, INC.

ATTACHMENT 6

TEXACO, INC.
PHASE III SUB-SURFACE SOIL SAMPLING
ANALYTICAL RESULTS
WEST CHESTER COUNTY AIRPORT
MOBIL HANGER

PARAMETER	--- PAD - RIGHT SIDE --- B-1A 0-6"	B-1B 0-6"	B-1C 0-6"	B-1D 0-6"	--- PAD - LEFT SIDE --- B-2A 0-6"	B-2B 0-6"	B-2C 0-6"	B-2D 0-6"	ECRA GUIDELINE
GC FINGERPRINT AS JET FUEL	<56	<57	<51	1,400 ppm	<54	<55	<56	<57	----
TOTAL PETROLEUM HYDROCARBONS	ND	ND	ND	1,100 ppm	ND	240 ppm	190 ppm	87 ppm	100 ppm

PARAMETER	--- PAD - RIGHT SIDE --- B-1A 18-24"	B-1B 18-24"	B-1C 18-24"	B-1D 18-24"	--- PAD - LEFT SIDE --- B-2A 18-24"	B-2B 18-24"	B-2C 18-24"	B-2D 18-24"	ECRA GUIDELINE
GC FINGERPRINT AS JET FUEL	<54	<55	<56	<54	<56	<54	<54	<55	----
TOTAL PETROLEUM HYDROCARBONS	ND	ND	ND	ND	ND	34 ppm	72 ppm	ND	100 ppm

TEX1B (12/18/90)

ATTACHMENT 7

TEXACO, INC.
PHASE III SUB-SURFACE SOIL SAMPLING
ANALYTICAL RESULTS
WESTCHESTER COUNTY AIRPORT
MOBIL HANGER

PARAMETER	B-4A 0-6"	B-4B 0-6"	B-4C 0-6"	B-4D 0-6"	ECRA GUIDELINE
TOTAL VOLATILE ORGANICS	14.7 ppm	ND	54 ppm	51.6 ppm	1 ppm
TOTAL PETROLEUM HYDROCARBONS	550 ppm	210 ppm	200 ppm	480 ppm	100 ppm

PARAMETER	B-4A 18-24"	B-4B 18-24"	B-4C 18-24"	B-4D 18-24"	ECRA GUIDELINE
TOTAL VOLATILE ORGANICS	3.8 ppm	ND	3.8 ppm	6.0 ppm	1 ppm
TOTAL PETROLEUM HYDROCARBONS	330 ppm	ND	140 ppm	210 ppm	100 ppm

PARAMETER	B-4A 36-40"	B-4B 36-40"	B-4D 36-40"	ECRA GUIDELINE
TOTAL VOLATILE ORGANICS	ND	ND	ND	1 ppm
TOTAL PETROLEUM HYDROCARBONS	58 ppm	ND	49 ppm	100 ppm

NOTE: ND = Non Detect.
TEX1C (12/3/90)

SWIECH ELECTRICAL CO., INC.

Master Licensed Electrician

548 Volney Street Phoenix, New York 13135

Tel. 315-695-6240

Member of:
International Association of Electrical Inspectors
"OMECA" Association of Electrical Contractors

Totally Insured & Bonded
Industrial — Commercial
Installations Only
Electrical Contractors
for Major Oil Companies

Pilko and Associates Inc
PO Box 4151
Cherry Hill, NJ 08034-0629

November 30, 1990

Attn: Mr. Ralph Carito

RE: Westchester County Airp
Test #901112
Dtd 11/12/90

A precision test was performed on tanks at the above location using the LEAK COMPUTER System. We have reviewed the data produced in conjuction with this test for purposes of verifying the results and certifying the tank systems. The testing was performed in accordance with AcuTest protocol and therefore satisfies all requirements for such testing as set forth by NFPA 329-87 and USEPA 40 CFR part 280.

The results of testing are shown on the following page and indicate whether the full systems, including the tank and associated piping, or just the individual tanks passed or failed. Included with the report are computer printouts of the data compiled during the last hour of each test. Each printout shows leak rate and the confidence level (three times standard deviation) of that leak rate. This information is stored in a permanent file if future verification of test results are needed.

Test Certified By:

Douglas Swiech
A/P #098

Master Licensed Electrician #_____

License expires December 31, 19____

ATTACHMENT 9

Test No. : 901112
Test Date : November 12, 1990
Location : Weschester County Airport

TEST RESULTS

Product	Volume (gal)	Water In Tank (inches)	High Level Leak Rate (GPH)	Low Level Leak Rate (GPH)	Full System	Tank Only
Heating Oil	5,000	0	.013 @ 45"	-------	PASS	PASS

Client Designation	NAC Designation	Date Received	Matrix
B-2B, 0 to 6"	90L-2825-11	11-21-90	Solid
B-2B, 18 to 24"	90L-2825-12	11-21-90	Solid
B-2C, 0 to 6"	90L-2825-13	11-21-90	Solid
B-2C, 18 to 24"	90L-2825-14	11-21-90	Solid
B-2D, 0 to 6"	90L-2825-15	11-21-90	Solid
B-2D, 18 to 24"	90L-2825-16	11-21-90	Solid
B-4A, 0 to 6"	90L-2825-17	11-21-90	Solid
B-4A, 18 to 24"	90L-2825-18	11-21-90	Solid
B-4A, 36 to 40"	90L-2825-19	11-21-90	Solid
B-4B, 0 to 6"	90L-2825-20	11-21-90	Solid
B-4B, 18 to 24"	90L-2825-21	11-21-90	Solid
B-4B, 36"	90L-2825-22	11-21-90	Solid
B-4C, 0 to 6"	90L-2825-23	11-21-90	Solid
B-4C, 18 to 24"	90L-2825-24	11-21-90	Solid
B-4D, 0 to 6"	90L-2825-25	11-21-90	Solid
B-4D, 18 to 24"	90L-2825-26	11-21-90	Solid
B-4D, 36"	90L-2825-27	11-21-90	Solid
FB1, FB2, FB3	90L-2825-28	11-21-90	Aqueous

Northeastern Analytical Corp.

ANALYTICAL REPORT
for
PILKO & ASSOCIATES, INC.
P.O. Box 4151
Cherry Hill, New Jersey 08034-0629

Attention: Mr. Ralph Carito

TEST REPORT NO. NAC90L-2825

PROJECT: West Chester Airport
West Chester, New York

Client Designation	NAC Designation	Date Received	Matrix
B-1A, 0 to 6"	90L-2825-1	11-21-90	Solid
B-1A, 18 to 24"	90L-2825-2	11-21-90	Solid
B-1B, 0 to 6"	90L-2825-3	11-21-90	Solid
B-1B, 18 to 24"	90L-2825-4	11-21-90	Solid
B-1C, 0 to 6"	90L-2825-5	11-21-90	Solid
B-1C, 18 to 24"	90L-2825-6	11-21-90	Solid
B-1D, 0 to 6"	90L-2825-7	11-21-90	Solid
B-1D, 18 to 24"	90L-2825-8	11-21-90	Solid
B-2A, 0 to 6"	90L-2825-9	11-21-90	Solid
B-2A, 18 to 24"	90L-2825-10	11-21-90	Solid

- Continued on Page 2 -

Laboratory Name: Northeastern Analytical Corp.

Certification No: 03117 (NJ), 11022 (NY)

Paul P. Painter

Name: Paul P. Painter

Title: Laboratory Director

Date: December 17, 1990

ATTACHMENT 8

I. SAMPLING INFORMATION

Not provided.

II. CHAIN OF CUSTODY DOCUMENTATION

NAC NORTHEASTERN ANALYTICAL CORPORATION

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
90-1064	Pilko Associates / West Chester Airport NY

SAMPLERS: D. Wilder (CBS)
R. Corito (Pilko)

	SAMPLE	DATE	TIME	SOIL	AQ.	SAMPLE LOCATION	NO. OF CONTAINERS	CONTAINER TYPE: 250 ml.	1000 ml.	(2)40 ml. Vials				REMARKS
✓	B2A	11.20.90	0927	✓		-10 18 to 24"	1	✓						PHC + Fingerprint Jet
✓	B2C	11.20.90	1300	✓		-14 18 to 24"	1	✓						PHC + Jet Fingerprint
✓	B2D	11.20.90	1315	✓		-15 0 to 6"	1	✓						PHC + Jet Fingerprint
✓	B2D	11.20.90	1320	✓		-16 18 to 24"	1	✓						PHC + Jet Fingerprint
✓ (color 27)	B4A	11.20.90	1500	✓		-17 0 to 6"	3	✓		✓				(250 ml PHC) (40 ml. vials VOA)
✓	B4A	11.20.90	1515	✓		-18 18 to 24"	3	✓		✓				(250 ml. PHC) (40 ml. vials VOA)
✓	B4A	11.20.90	1535	✓		-19 36" - 40"	3	✓		✓				(250 ml. PHC) (40 ml. vials VOA)
✓ R	B4B	11.20.90	1550	✓		-20 0 to 6"	3	✓		✓				(250 ml. PHC) (40 ml. Vials VOA) Broken in transit
✓	B4B	11.20.90	1615	✓		-21 18 to 24"	3	✓		✓				(250 ml. PHC) (40 ml. Vials VOA)
✓	B4B	11.20.90	1650	✓		-22 36"	3	✓		✓				(250 ml. PHC) (40 ml. Vials VOA)
✓	B4C	11.20.90	1630	✓		-23 0 to 6"	3	✓		✓				(250 ml. PHC) (40 ml. Vials VOA)
✓	B4D	11.20.90	1640	✓		-25 0 to 6"	3	✓		✓				(250 ml. PHC) (40 ml. Vials VOA)
✓	B4C	11.20.90	1655	✓		-24 18 to 24"	3	✓		✓				(250 ml. PHC) (40 ml. Vials VOA)
✓	B4D	11.20.90	1730	✓		-27 36"	3	✓		✓				(250 ml. PHC) (40 ml. Vials VOA)
✓	B4D	11.20.90	1715	✓		-26 18 to 24"	3	✓		✓				(250 ml. PHC) (40 ml. Vials VOA)

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
[signature]	11.20.90 1845	David Wilder	David Wilder	11-21-90 1215	[signature]

Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks

* There is no SAMPLE B4C at 36" Depth. The Sample was unattainable Due to Excessive Rock.

III. METHOD SUMMARY

- Volatile Halogenated and Volatile Aromatic Organic Compounds

  This is a purge and trap gas chromatography (GC) analysis method used to determine concentrations of various volatile organic compounds in soil. A two to three gram aliquot of sample is added to methanol in a reaction vial. An aliquot of the methanol is added to the purge vessel with surrogate spike and analyzed by GC using a photoionization detector and a halogen specific detector. Reference Methods are EPA Method 5030 and EPA Methods 8010 and 8020 from SW846, Third Edition, November 1986.

- GC Fingerprint

  This method covers the comparison of petroleum oils recovered from aqueous or solids with oils from known sources by means of gas chromatography. The effluent of the packed column is determined by a flame-ionization detector. Reference methods are SW846 3rd Edition and ASTM Method 3328.

III. METHOD SUMMARY (Continued)

- Petroleum Hydrocarbons by IR - Solid

This is a soxhlet extraction and Infrared Spectrophotometer (IR) method used to determine petroleum hydrocarbon levels in solid matrices. An aliquot of the sample is soxhlet extracted with freon, the non-petroleum hydrocarbons are removed with silica gel and the extract is analyzed by IR against a series of standard mixtures. Reference methods are EPA Methods 3540 and 418.1.

- Petroleum Hydrocarbons by IR - Aqueous

The sample is extracted with freon and an Infrared Spectrophotometer (IR) method is used to determine petroleum hydrocarbon levels in aqueous matrices. The non-petroleum hydrocarbons are removed with silica gel and the extract is analyzed by IR against a series of standard mixtures. Reference method is EPA Method 418.1.

- Total Solids, Percent

This is a gravimetric analytical method used to determine the moisture content present in either aqueous or solid matrices. An aliquot of the sample is weighed into a tared beaker and then dried at 103°-105°C. The final weight is subtracted from the initial weight and then the percent total solids present in the sample is calculated. Reference Method 109A, Standard Methods, 15th Edition.

IV. LABORATORY CHRONICLE

A. Date of Sampling: 11-20-90

B. Date of Receipt/Refrigeration: 11-21-90

C. Date of Analysis:

Parameter	Date Extracted	Date Analyzed
Volatile Organics		
. 8010	NA	11-28-90
. 8020	NA	11-30-90
GC Fingerprint		
. Solid	11-27-90	11-30 & 12-02-90
. Aqueous	11-27-90	11-30-90
Petroleum Hydrocarbons		
. Aqueous	11-26-90	11-26-90
. Solid	11-26 & 11-27-90	11-26 & 11-27-90
Total Solids	NA	11-27-90

NA: Not Applicable

V. NON-COMPLIANCE/QA REPORT

Sample 90L-2825-28 was received unpreserved for PHC analysis.

Supervisor Review and Approval: Paul Painter

VI. ANALYTICAL RESULTS

. Volatile Organics

Parameter	Sample Designation 90L-2825-17 B-4A, 0 to 6"*	Detection Limit*
Chloromethane	ND	1,100
Bromomethane	ND	1,100
Vinyl Chloride	ND	1,100
Chloroethane	ND	1,100
Methylene Chloride	ND	1,100
Trichlorofluoromethane	ND	1,100
1,1-Dichloroethene	ND	1,100
1,1-Dichloroethane	ND	1,100
trans-1,2-Dichloroethene	ND	1,100
Chloroform	ND	1,100
1,2-Dichloroethane	ND	1,100
1,1,1-Trichloroethane	4,700	1,100
Carbon Tetrachloride	ND	1,100
Bromodichloromethane	ND	1,100
1,2-Dichloropropane	ND	1,100
trans-1,3-Dichloropropene	ND	1,100
Trichloroethene	ND	1,100
Dibromochloromethane	ND	1,100
1,1,2-Trichloroethane	ND	1,100
cis-1,3-Dichloropropene	ND	1,100
2-Chloroethyl Vinyl Ether	ND	1,100
Bromoform	ND	1,100
1,1,2,2-Tetrachloroethane	ND	1,100
Tetrachloroethene	10,000	1,100
Chlorobenzene	ND	1,100
1,3-Dichlorobenzene	ND	1,100
1,2-Dichlorobenzene	ND	1,100
1,4-Dichlorobenzene	ND	1,100
Benzene	ND	1,100
Toluene	ND	1,100
Ethylbenzene	ND	1,100
p-Xylene	ND	1,100
m-Xylene	ND	1,100
o-Xylene	ND	1,100
Units	(ug/kg)	(ug/kg)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 90L-2825-18 B-4A, 18 to 24"*	Detection Limit*
Chloromethane	ND	1,100
Bromomethane	ND	1,100
Vinyl Chloride	ND	1,100
Chloroethane	ND	1,100
Methylene Chloride	ND	1,100
Trichlorofluoromethane	ND	1,100
1,1-Dichloroethene	ND	1,100
1,1-Dichloroethane	ND	1,100
trans-1,2-Dichloroethene	ND	1,100
Chloroform	ND	1,100
1,2-Dichloroethane	ND	1,100
1,1,1-Trichloroethane	ND	1,100
Carbon Tetrachloride	ND	1,100
Bromodichloromethane	ND	1,100
1,2-Dichloropropane	ND	1,100
trans-1,3-Dichloropropene	ND	1,100
Trichloroethene	ND	1,100
Dibromochloromethane	ND	1,100
1,1,2-Trichloroethane	ND	1,100
cis-1,3-Dichloropropene	ND	1,100
2-Chloroethyl Vinyl Ether	ND	1,100
Bromoform	ND	1,100
1,1,2,2-Tetrachloroethane	ND	1,100
Tetrachloroethene	3,800	1,100
Chlorobenzene	ND	1,100
1,3-Dichlorobenzene	ND	1,100
1,2-Dichlorobenzene	ND	1,100
1,4-Dichlorobenzene	ND	1,100
Benzene	ND	1,100
Toluene	ND	1,100
Ethylbenzene	ND	1,100
p-Xylene	ND	1,100
m-Xylene	ND	1,100
o-Xylene	ND	1,100
Units	(ug/kg)	(ug/kg)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 90L-2825-19 B-4A, 36 to 40"*	Detection Limit*
Chloromethane	ND	1,100
Bromomethane	ND	1,100
Vinyl Chloride	ND	1,100
Chloroethane	ND	1,100
Methylene Chloride	ND	1,100
Trichlorofluoromethane	ND	1,100
1,1-Dichloroethene	ND	1,100
1,1-Dichloroethane	ND	1,100
trans-1,2-Dichloroethene	ND	1,100
Chloroform	ND	1,100
1,2-Dichloroethane	ND	1,100
1,1,1-Trichloroethane	ND	1,100
Carbon Tetrachloride	ND	1,100
Bromodichloromethane	ND	1,100
1,2-Dichloropropane	ND	1,100
trans-1,3-Dichloropropene	ND	1,100
Trichloroethene	ND	1,100
Dibromochloromethane	ND	1,100
1,1,2-Trichloroethane	ND	1,100
cis-1,3-Dichloropropene	ND	1,100
2-Chloroethyl Vinyl Ether	ND	1,100
Bromoform	ND	1,100
1,1,2,2-Tetrachloroethane	ND	1,100
Tetrachloroethene	ND	1,100
Chlorobenzene	ND	1,100
1,3-Dichlorobenzene	ND	1,100
1,2-Dichlorobenzene	ND	1,100
1,4-Dichlorobenzene	ND	1,100
Benzene	ND	1,100
Toluene	ND	1,100
Ethylbenzene	ND	1,100
p-Xylene	ND	1,100
m-Xylene	ND	1,100
o-Xylene	ND	1,100
Units	(ug/kg)	(ug/kg)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 90L-2825-20 B-4B, 0 to 6"*	Detection Limit*
Chloromethane	ND	1,200
Bromomethane	ND	1,200
Vinyl Chloride	ND	1,200
Chloroethane	ND	1,200
Methylene Chloride	ND	1,200
Trichlorofluoromethane	ND	1,200
1,1-Dichloroethene	ND	1,200
1,1-Dichloroethane	ND	1,200
trans-1,2-Dichloroethene	ND	1,200
Chloroform	ND	1,200
1,2-Dichloroethane	ND	1,200
1,1,1-Trichloroethane	ND	1,200
Carbon Tetrachloride	ND	1,200
Bromodichloromethane	ND	1,200
1,2-Dichloropropane	ND	1,200
trans-1,3-Dichloropropene	ND	1,200
Trichloroethene	ND	1,200
Dibromochloromethane	ND	1,200
1,1,2-Trichloroethane	ND	1,200
cis-1,3-Dichloropropene	ND	1,200
2-Chloroethyl Vinyl Ether	ND	1,200
Bromoform	ND	1,200
1,1,2,2-Tetrachloroethane	ND	1,200
Tetrachloroethene	ND	1,200
Chlorobenzene	ND	1,200
1,3-Dichlorobenzene	ND	1,200
1,2-Dichlorobenzene	ND	1,200
1,4-Dichlorobenzene	ND	1,200
Benzene	ND	1,200
Toluene	ND	1,200
Ethylbenzene	ND	1,200
p-Xylene	ND	1,200
m-Xylene	ND	1,200
o-Xylene	ND	1,200
Units	(ug/kg)	(ug/kg)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 90L-2825-21 B-4B, 18 to 24"*	Detection Limit*
Chloromethane	ND	1,100
Bromomethane	ND	1,100
Vinyl Chloride	ND	1,100
Chloroethane	ND	1,100
Methylene Chloride	ND	1,100
Trichlorofluoromethane	ND	1,100
1,1-Dichloroethene	ND	1,100
1,1-Dichloroethane	ND	1,100
trans-1,2-Dichloroethene	ND	1,100
Chloroform	ND	1,100
1,2-Dichloroethane	ND	1,100
1,1,1-Trichloroethane	ND	1,100
Carbon Tetrachloride	ND	1,100
Bromodichloromethane	ND	1,100
1,2-Dichloropropane	ND	1,100
trans-1,3-Dichloropropene	ND	1,100
Trichloroethene	ND	1,100
Dibromochloromethane	ND	1,100
1,1,2-Trichloroethane	ND	1,100
cis-1,3-Dichloropropene	ND	1,100
2-Chloroethyl Vinyl Ether	ND	1,100
Bromoform	ND	1,100
1,1,2,2-Tetrachloroethane	ND	1,100
Tetrachloroethene	ND	1,100
Chlorobenzene	ND	1,100
1,3-Dichlorobenzene	ND	1,100
1,2-Dichlorobenzene	ND	1,100
1,4-Dichlorobenzene	ND	1,100
Benzene	ND	1,100
Toluene	ND	1,100
Ethylbenzene	ND	1,100
p-Xylene	ND	1,100
m-Xylene	ND	1,100
o-Xylene	ND	1,100
Units	(ug/kg)	(ug/kg)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 90L-2825-22 B-4B, 36"*	Detection Limit*
Chloromethane	ND	1,100
Bromomethane	ND	1,100
Vinyl Chloride	ND	1,100
Chloroethane	ND	1,100
Methylene Chloride	ND	1,100
Trichlorofluoromethane	ND	1,100
1,1-Dichloroethene	ND	1,100
1,1-Dichloroethane	ND	1,100
trans-1,2-Dichloroethene	ND	1,100
Chloroform	ND	1,100
1,2-Dichloroethane	ND	1,100
1,1,1-Trichloroethane	ND	1,100
Carbon Tetrachloride	ND	1,100
Bromodichloromethane	ND	1,100
1,2-Dichloropropane	ND	1,100
trans-1,3-Dichloropropene	ND	1,100
Trichloroethene	ND	1,100
Dibromochloromethane	ND	1,100
1,1,2-Trichloroethane	ND	1,100
cis-1,3-Dichloropropene	ND	1,100
2-Chloroethyl Vinyl Ether	ND	1,100
Bromoform	ND	1,100
1,1,2,2-Tetrachloroethane	ND	1,100
Tetrachloroethene	ND	1,100
Chlorobenzene	ND	1,100
1,3-Dichlorobenzene	ND	1,100
1,2-Dichlorobenzene	ND	1,100
1,4-Dichlorobenzene	ND	1,100
Benzene	ND	1,100
Toluene	ND	1,100
Ethylbenzene	ND	1,100
p-Xylene	ND	1,100
m-Xylene	ND	1,100
o-Xylene	ND	1,100
Units	(ug/kg)	(ug/kg)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

- Volatile Organics (Continued)

Parameter	Sample Designation 90L-2825-23 B-4C, 0 to 6"*	Detection Limit*
Chloromethane	ND	1,100
Bromomethane	ND	1,100
Vinyl Chloride	ND	1,100
Chloroethane	ND	1,100
Methylene Chloride	ND	1,100
Trichlorofluoromethane	ND	1,100
1,1-Dichloroethene	ND	1,100
1,1-Dichloroethane	ND	1,100
trans-1,2-Dichloroethene	ND	1,100
Chloroform	ND	1,100
1,2-Dichloroethane	ND	1,100
1,1,1-Trichloroethane	ND	1,100
Carbon Tetrachloride	30,000	1,100
Bromodichloromethane	ND	1,100
1,2-Dichloropropane	ND	1,100
trans-1,3-Dichloropropene	ND	1,100
Trichloroethene	ND	1,100
Dibromochloromethane	ND	1,100
1,1,2-Trichloroethane	ND	1,100
cis-1,3-Dichloropropene	ND	1,100
2-Chloroethyl Vinyl Ether	ND	1,100
Bromoform	ND	1,100
1,1,2,2-Tetrachloroethane	ND	1,100
Tetrachloroethene	24,000	1,100
Chlorobenzene	ND	1,100
1,3-Dichlorobenzene	ND	1,100
1,2-Dichlorobenzene	ND	1,100
1,4-Dichlorobenzene	ND	1,100
Benzene	ND	1,100
Toluene	ND	1,100
Ethylbenzene	ND	1,100
p-Xylene	ND	1,100
m-Xylene	ND	1,100
o-Xylene	ND	1,100
Units	(ug/kg)	(ug/kg)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 90L-2825-24 B-4C, 18 to 24"*	Detection Limit*
Chloromethane	ND	1,100
Bromomethane	ND	1,100
Vinyl Chloride	ND	1,100
Chloroethane	ND	1,100
Methylene Chloride	1,700	1,100
Trichlorofluoromethane	ND	1,100
1,1-Dichloroethene	ND	1,100
1,1-Dichloroethane	ND	1,100
trans-1,2-Dichloroethene	ND	1,100
Chloroform	ND	1,100
1,2-Dichloroethane	ND	1,100
1,1,1-Trichloroethane	ND	1,100
Carbon Tetrachloride	ND	1,100
Bromodichloromethane	ND	1,100
1,2-Dichloropropane	ND	1,100
trans-1,3-Dichloropropene	ND	1,100
Trichloroethene	ND	1,100
Dibromochloromethane	ND	1,100
1,1,2-Trichloroethane	ND	1,100
cis-1,3-Dichloropropene	ND	1,100
2-Chloroethyl Vinyl Ether	ND	1,100
Bromoform	ND	1,100
1,1,2,2-Tetrachloroethane	ND	1,100
Tetrachloroethene	2,100	1,100
Chlorobenzene	ND	1,100
1,3-Dichlorobenzene	ND	1,100
1,2-Dichlorobenzene	ND	1,100
1,4-Dichlorobenzene	ND	1,100
Benzene	ND	1,100
Toluene	ND	1,100
Ethylbenzene	ND	1,100
p-Xylene	ND	1,100
m-Xylene	ND	1,100
o-Xylene	ND	1,100
Units	(ug/kg)	(ug/kg)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 90L-2825-25 B-4D, 0 to 6"*	Detection Limit*
Chloromethane	ND	1,100
Bromomethane	ND	1,100
Vinyl Chloride	ND	1,100
Chloroethane	ND	1,100
Methylene Chloride	ND	1,100
Trichlorofluoromethane	ND	1,100
1,1-Dichloroethene	1,600	1,100
1,1-Dichloroethane	ND	1,100
trans-1,2-Dichloroethene	ND	1,100
Chloroform	ND	1,100
1,2-Dichloroethane	ND	1,100
1,1,1-Trichloroethane	33,000	1,100
Carbon Tetrachloride	ND	1,100
Bromodichloromethane	ND	1,100
1,2-Dichloropropane	ND	1,100
trans-1,3-Dichloropropene	ND	1,100
Trichloroethene	ND	1,100
Dibromochloromethane	ND	1,100
1,1,2-Trichloroethane	ND	1,100
cis-1,3-Dichloropropene	ND	1,100
2-Chloroethyl Vinyl Ether	ND	1,100
Bromoform	ND	1,100
1,1,2,2-Tetrachloroethane	ND	1,100
Tetrachloroethene	17,000	1,100
Chlorobenzene	ND	1,100
1,3-Dichlorobenzene	ND	1,100
1,2-Dichlorobenzene	ND	1,100
1,4-Dichlorobenzene	ND	1,100
Benzene	ND	1,100
Toluene	ND	1,100
Ethylbenzene	ND	1,100
p-Xylene	ND	1,100
m-Xylene	ND	1,100
o-Xylene	ND	1,100
Units	(ug/kg)	(ug/kg)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 90L-2825-26 B-4D, 18 to 24"*	Detection Limit*
Chloromethane	ND	1,100
Bromomethane	ND	1,100
Vinyl Chloride	ND	1,100
Chloroethane	ND	1,100
Methylene Chloride	ND	1,100
Trichlorofluoromethane	ND	1,100
1,1-Dichloroethene	ND	1,100
1,1-Dichloroethane	ND	1,100
trans-1,2-Dichloroethene	ND	1,100
Chloroform	ND	1,100
1,2-Dichloroethane	ND	1,100
1,1,1-Trichloroethane	1,300	1,100
Carbon Tetrachloride	ND	1,100
Bromodichloromethane	ND	1,100
1,2-Dichloropropane	ND	1,100
trans-1,3-Dichloropropene	ND	1,100
Trichloroethene	ND	1,100
Dibromochloromethane	ND	1,100
1,1,2-Trichloroethane	ND	1,100
cis-1,3-Dichloropropene	ND	1,100
2-Chloroethyl Vinyl Ether	ND	1,100
Bromoform	ND	1,100
1,1,2,2-Tetrachloroethane	ND	1,100
Tetrachloroethene	4,700	1,100
Chlorobenzene	ND	1,100
1,3-Dichlorobenzene	ND	1,100
1,2-Dichlorobenzene	ND	1,100
1,4-Dichlorobenzene	ND	1,100
Benzene	ND	1,100
Toluene	ND	1,100
Ethylbenzene	ND	1,100
p-Xylene	ND	1,100
m-Xylene	ND	1,100
o-Xylene	ND	1,100
Units	(ug/kg)	(ug/kg)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 90L-2825-27 B-4D, 36"*	Detection Limit*
Chloromethane	ND	1,100
Bromomethane	ND	1,100
Vinyl Chloride	ND	1,100
Chloroethane	ND	1,100
Methylene Chloride	ND	1,100
Trichlorofluoromethane	ND	1,100
1,1-Dichloroethene	ND	1,100
1,1-Dichloroethane	ND	1,100
trans-1,2-Dichloroethene	ND	1,100
Chloroform	ND	1,100
1,2-Dichloroethane	ND	1,100
1,1,1-Trichloroethane	ND	1,100
Carbon Tetrachloride	ND	1,100
Bromodichloromethane	ND	1,100
1,2-Dichloropropane	ND	1,100
trans-1,3-Dichloropropene	ND	1,100
Trichloroethene	ND	1,100
Dibromochloromethane	ND	1,100
1,1,2-Trichloroethane	ND	1,100
cis-1,3-Dichloropropene	ND	1,100
2-Chloroethyl Vinyl Ether	ND	1,100
Bromoform	ND	1,100
1,1,2,2-Tetrachloroethane	ND	1,100
Tetrachloroethene	ND	1,100
Chlorobenzene	ND	1,100
1,3-Dichlorobenzene	ND	1,100
1,2-Dichlorobenzene	ND	1,100
1,4-Dichlorobenzene	ND	1,100
Benzene	ND	1,100
Toluene	ND	1,100
Ethylbenzene	ND	1,100
p-Xylene	ND	1,100
m-Xylene	ND	1,100
o-Xylene	ND	1,100
Units	(ug/kg)	(ug/kg)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 90L-2825-28 FB1, FB2, FB3	Detection Limit
Chloromethane	ND	1.0
Bromomethane	ND	1.0
Vinyl Chloride	ND	1.0
Chloroethane	ND	1.0
Methylene Chloride	ND	1.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
Dibromochloromethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
2-Chloroethyl Vinyl Ether	ND	1.0
Bromoform	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
Benzene	ND	1.0
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p-Xylene	ND	1.0
m-Xylene	ND	1.0
o-Xylene	ND	1.0
Units	(ug/l)	(ug/l)

ND: Not Detected.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation: Method Blank (11-28-90)	Detection Limit
Chloromethane	ND	1.0
Bromomethane	ND	1.0
Vinyl Chloride	ND	1.0
Chloroethane	ND	1.0
Methylene Chloride	ND	1.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
Dibromochloromethane	ND	1.0
1,1,2-Trichloroethane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
2-Chloroethyl Vinyl Ether	ND	1.0
Bromoform	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Tetrachloroethene	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
Units	(ug/l)	(ug/l)

ND: Not Detected.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation: Method Blank (11-30-90)	Detection Limit
Benzene	ND	1.0
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p-Xylene	ND	1.0
m-Xylene	ND	1.0
o-Xylene	ND	1.0
Units	(ug/l)	(ug/l)

ND: Not Detected.

VI. ANALYTICAL RESULTS (Continued)

Sample Designation	Parameter GC Fingerprint as Jet Fuel*
90L-2825-1, B-1A, 0 to 6"	<56
90L-2825-2, B-1A, 18 to 24"	<54
90L-2825-3, B-1B, 0 to 6"	<57
90L-2825-4, B-1B, 18 to 24"	<55
90L-2825-5, B-1C, 0 to 6"	<51
90L-2825-6, B-1C, 18 to 24"	<56
90L-2825-7, B-1D, 0 to 6"	1,400
90L-2825-8, B-1D, 18 to 24"	<54
90L-2825-9, B-2A, 0 to 6"	<54
90L-2825-10, B-2A, 18 to 24"	<56
90L-2825-11, B-2B, 0 to 6"	<55
90L-2825-12, B-2B, 18 to 24"	<54
90L-2825-13, B-2C, 0 to 6"	<56
90L-2825-14, B-2C, 18 to 24"	<54
90L-2825-15, B-2D, 0 to 6"	<57
90L-2825-16, B-2D, 18 to 24"	<55
Method Blank	<50
Units	(mg/kg)

Sample Designation	Parameter GC Fingerprint as Jet Fuel
90L-2825-28, FB-1, FB-2, FB-3	<1
Method Blank	<1
Units	(mg/l)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

	Parameter		
Sample Designation	Petroleum Hydrocarbons by IR*	Detection Limit*	Total Solids
90L-2825-1, B-1A, 0 to 6"	ND	28,000	90
90L-2825-2, B-1A, 18 to 24"	ND	27,000	93
90L-2825-3, B-1B, 0 to 6"	ND	29,000	87
90L-2825-4, B-1B, 18 to 24"	ND	27,000	91
90L-2825-5, B-1C, 0 to 6"	ND	26,000	97
90L-2825-6, B-1C, 18 to 24"	ND	28,000	89
90L-2825-7, B-1D, 0 to 6"	1,100,000	29,000	87
90L-2825-8, B-1D, 18 to 24"	ND	27,000	92
90L-2825-9, B-2A, 0 to 6"	ND	27,000	92
90L-2825-10, B-2A, 18 to 24"	ND	28,000	89
90L-2825-11, B-2B, 0 to 6"	240,000	28,000	91
90L-2825-12, B-2B, 18 to 24"	34,000	27,000	93
90L-2825-13, B-2C, 0 to 6"	190,000	28,000	89
90L-2825-14, B-2C, 18 to 24"	72,000	27,000	92
90L-2825-15, B-2D, 0 to 6"	87,000	29,000	88
90L-2825-16, B-2D, 18 to 24"	ND	28,000	91
90L-2825-17, B-4A, 0 to 6"	550,000	28,000	88
Units	(ug/kg)	(ug/kg)	(%)

ND: Not Detected.
*: Calculated on a dry weight basis.

VI. ANALYTICAL RESULTS (Continued)

	Parameter		
Sample Designation	Petroleum Hydrocarbons by IR*	Detection Limit*	Total Solids
90L-2825-18, B-4A, 18 to 24"	330,000	28,000	89
90L-2825-19, B-4A, 36 to 40"	58,000	28,000	89
90L-2825-20, B-4B, 0 to 6"	210,000	30,000	83
90L-2825-21, B-4B, 18 to 24"	ND	28,000	90
90L-2825-22, B-4B, 36"	ND	28,000	90
90L-2825-23, B-4C, 0 to 6"	200,000	27,000	92
90L-2825-24, B-4C, 18 to 24"	140,000	27,000	92
90L-2825-25, B-4D, 0 to 6"	480,000	27,000	92
90L-2825-26, B-4D, 18 to 24"	210,000	27,000	91
90L-2825-27, B-4D, 36"	49,000	27,000	91
Method Blank	ND	25,000	NA
Units	(ug/kg)	(ug/kg)	(%)

	Parameter	
Sample Designation	Petroleum Hydrocarbons by IR	Detection Limit
90L-2825-28, FB1, FB2, FB3	ND	1,000
Method Blank	ND	1,000
Units	(ug/l)	(ug/l)

NA: Not Applicable.
ND: Not Detected.
*: Calculated on a dry weight basis.

. Volatile Organic Surrogate Recoveries - Solid

Sample Designation	% Recovery 1-Chloro-2-Bromopropane	Fluorobenzene
90L-2825-17	71	73
90L-2825-18	88	100
90L-2825-19	83	83
90L-2825-20	103	94
90L-2825-21	116	86
90L-2825-22	87	79
90L-2825-23	93	96
90L-2825-24	85	98
90L-2825-25	88	94
90L-2825-26	81	99
90L-2825-27	114	102
90L-2825-20S	94	81
90L-2825-20SD	90	72
Control Limits	(66-112)	(67-126)

. Volatile Organic Surrogate Recoveries - Aqueous

Sample Designation	% Recovery 1-Chloro-2-Bromopropane	Fluorobenzene
90L-2825-28	102	92
Method Blank (11-28-90)	72	NA
Method Blank (11-30-90)	NA	100
Control Limits	(59-136)	(67-133)

NA: Not Applicable.

VII. QUALITY ASSURANCE DATA (Continued)

. Matrix Spike and Matrix Spike Duplicate Recoveries

Parameter	Sample Spiked	Amount of Spike, ug	Initial % Recovery	Duplicate % Recovery	Relative % Difference
PHC*	2825-1	4,100	82	86	4.8
PHC*	2825-19	4,100	58	63	8.3
PHC	Control	4,100	77	---	---
TS	2825-1	Duplicate	96	---	---
TS	2825-21	Duplicate	98	---	---

*:Solid Matrix.

III. STATEMENT OF AUTHENTICATION

LABORATORY AUTHENTICATION STATEMENT FOR NJPDES COMPLIANCE MONITORING

I certify under penalty of law, where applicable, this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18, 40 CFR 136 for Water and Wastewater Analyses and SW 846 for Solid Waste Analyses. I have personally examined and am familiar with the information contained in this report, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, complete, and meets the standards specified in N.J.A.C. 7:18, 40 CFR 136, and/or SW 846. I am aware that there are significant Penalties for submitting false information, including the possibility of a fine and imprisonment.

Paul P. Painter
Laboratory Director

Appendix 1:

- Sample Preparation
- Sample Preservation

Sample Preparation — **Sample Preparation Chemist**

		Name (please print)	Signature	Date
1.	Base/Neutrals			
2.	Acids			
3.	Pesticides			
4.	Herbicides			
5.	PCB's			
6.	Metals			
7.	~~Other~~ FINGERPRINT	X RICH BLAND	Richard Bland	11-27-90
8.	Other			
9.	Other			

Sample Preparation — **Analyst**

		Name (please print)	Signature	Date
1.	Base/Neutrals			
2.	Acids			
3.	Pesticides			
4.	Herbicides			
5.	PCB's			
6.	Metals			
7.	Volatiles	X JOANN GARRISON	Joann Garrison	11-28 & 11-30-90
8.	TOC			
9.	TOX			
10.	Phenols (total)			
11.	Cyanide (total)			
12.	~~Other~~ FINGERPRINT	x Janice Inokon	Janice M. Inokon	11-30 & 12-2-90
13.	~~Other~~ PHC	x Duane Leitzel		11-26 & 11-27-90
14.	~~Other~~ TS	x DAYUAN Corbin		11-27-90
15.	Other			

INSTRUCTIONS:
1. Place an X in box if okay
2. Record actual pH if outside acceptable range
3. Record corrective action in remarks.
4. Temperature: Record actual temperature

PRESERVATIVE CHECKLIST
ENTER DATA TO INDICATE COMPLIANCE WITH NJDEP REQUIREMENTS

Signature: C. Clydetta
Date Performed: 11/21/90

pH ≤ 2											pH ≥ 12	TEMP	SAMPLES	
COD	NH3	TKN	TOX	VOA	PHENOL	TOC	PHC/O&G	METALS	HARD	TPO_4	CN	C	NAC #	REMARKS
				–									2885-1	Thru 27 All Soils
				X			7.0						-28	Only 1 liter unpreserved
														provided for Fingerprint
														Analysis (2 Say liter broke
														in transit) Split sample
														for PHC pH<2
														preserved w/ H_2SO_4
														Authorized by client
														on 11/21/90

SPECIAL INSTRUCTIONS/NONCOMPLIANCE AND QA NOTATIONS

3B

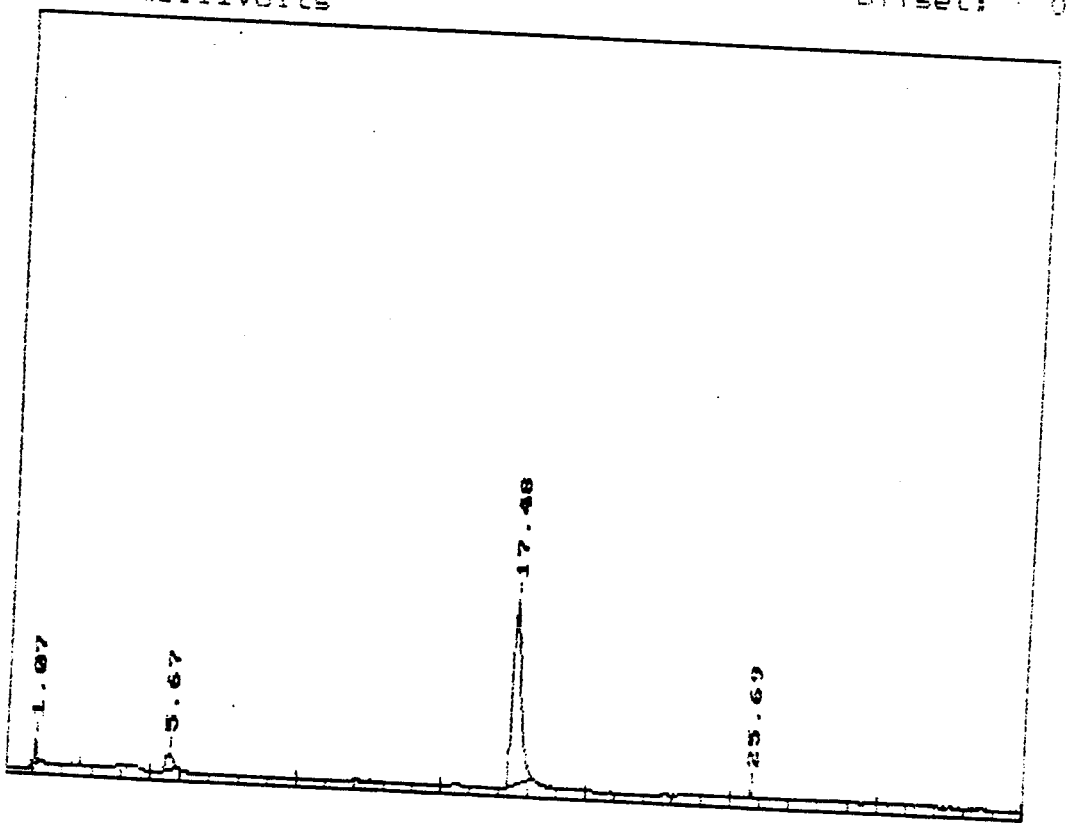
Appendix 2: Volatile Organics Chromatograms

******* AREA PERCENT REPORT *******

********** 12-03-1990 08:32:45 Version 5.1 **********
Sample Name: METHOD BLANK W/SS 10UL/10MLMEOH Data File: A:WIP21
Date: 11-28-1990 04:59:08 Method: BVOL
Interface: 1 Cycle#: 21 Operator JB Channel#: 1 Vial#: N.A.
Starting Peak Width: 20 Threshold: 1 Area Threshold: 5
****
Instrument Type: TRACOR 560 Column Type: 5%SP1200,1.75%BENTON
Solvent Description:
Oper. Instructions: 50C-2MIN-6C/MIN-110C-2MIN HOLD
Detector 0: FID
Inst. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C Detector 1: HALL
****
Starting Delay: 0.00 Run Time: 35.00

Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1.068	2218	4.0507	1	333	4.629	6.7
5.672	4183	7.6390	1	221	8.730	18.9
17.484	47918	87.5041	1	2451	100.000	19.5
25.692	441	0.8061	1	112	0.921	4.0
al Area:	54761	Area Reject:		100	One sample per	2.002 sec.

a File = A:WIP21.PTS Printed on 12-03-1990 at 08:33:05
rt time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
.l Range: 10 millivolts



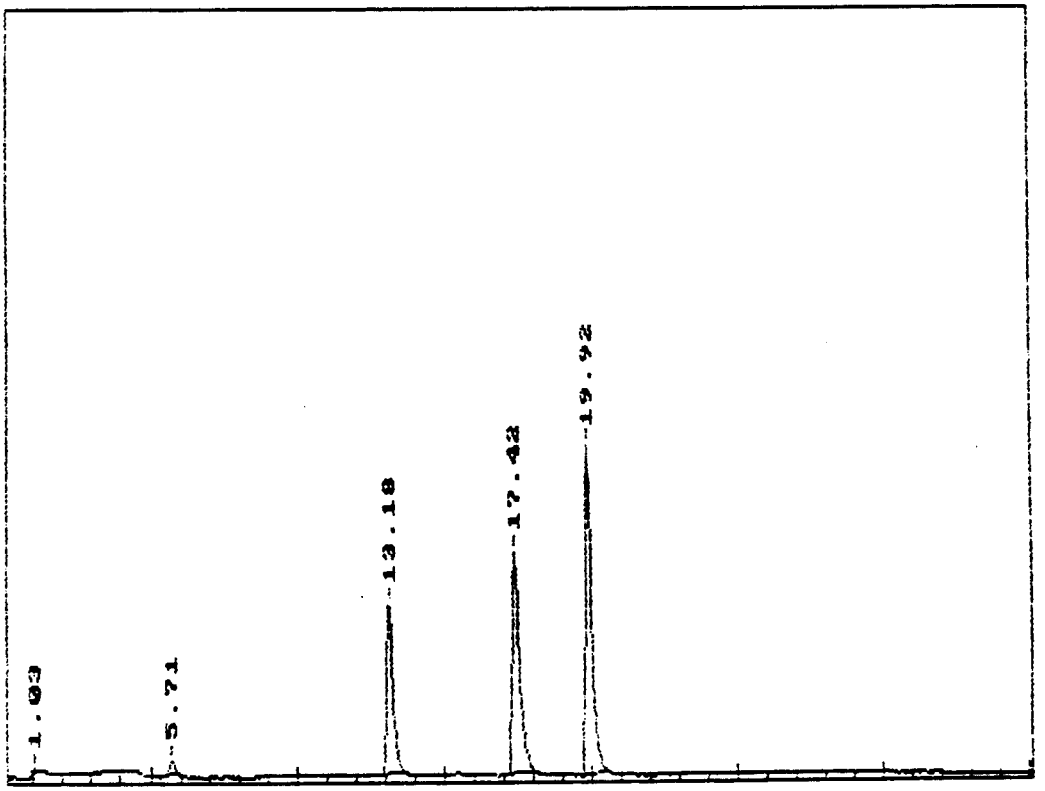
******** AREA PERCENT REPORT ********

****************** 12-03-1990 08:30:54 Version 5.1 **********
Sample Name: 90L-2825-17 W/SS 5G/5ML MEOH;10UL/5ML DI
Data File: A:WIP23 *
Date: 11-28-1990 07:11:32 Method: BVOL *
Interface: 1 Cycle#: 23 Operator JG Channel#: 1 Vial#: N.A. *
Starting Peak Width: 20 Threshold: 1 Area Threshold: 5 *
****
Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB B *
Solvent Description: *
Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD *
Detector 0: PID Detector 1: HALL *
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C: 250C *
****
arting Delay: 0.00 Run Time: 35.00

	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.034	722	0.5013	1	62	1.201	11.6
2	5.706	2325	1.6152	1	166	3.869	14.0
3	13.180	32066	22.2729	1	2163	53.348	14.8
4	17.417	48749	33.8606	1	2834	81.103	17.2
5	19.920	60107	41.7500	1	4194	100.000	14.3

tal Area: 143969 Area Reject: 100 One sample per 2.002 sec.

pt of data file: A:WIP23.PTS
e: 12-03-1990 Time: 08:31:47
mple Name: 90L-2825-17 W/SS 5G/5M
art Time= 0.03 Stop Time = 35.10 Min. Scale= 5025 Max. Scale= 15025



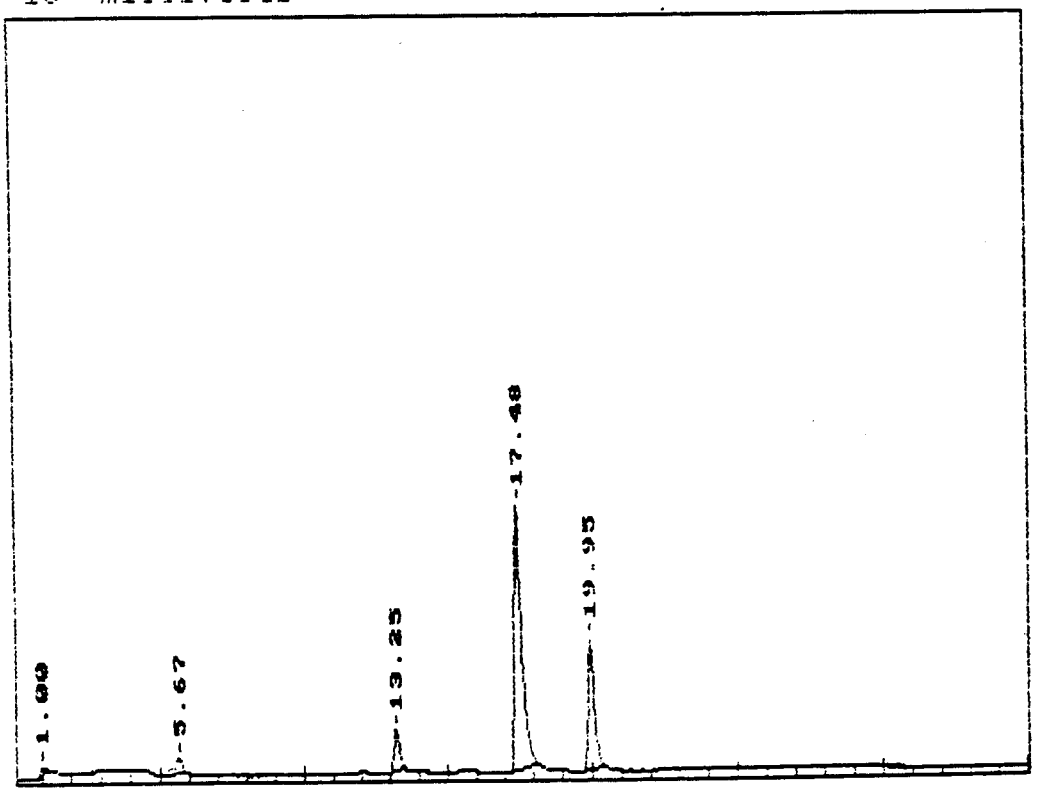
******** AREA PERCENT REPORT ********

********** 12-03-1990 08:35:47 Version 5.1 **********
Sample Name: 90L-2825-18 W/SS 5G/5ML MEOH;10UL/5ML DI
Data File: A:WIP24
Date: 11-28-1990 08:15:29 Method: BVOL
Interface: 1 Cycle#: 24 Operator JG Channel#: 1 Vial#: N.A.
Starting Peak Width: 20 Threshold: 1 Area Threshold: 5
Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB B
Solvent Description:
Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD
Detector 0: PID Detector 1: HALL
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
Starting Delay: 0.00 Run Time: 35.00

Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1.001	896	0.9389	1	80	1.480	11.3
5.672	3305	3.4638	1	205	5.459	16.1
13.247	7025	7.3620	1	517	11.602	13.6
17.484	60552	63.4567	1	3460	100.000	17.5
19.953	23645	24.7787	1	1692	39.048	14.0

Total Area: 95423 Area Reject: 100 One sample per 2.002 sec.

Data File = A:WIP24.PTS Printed on 12-03-1990 at 08:36:07
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
Full Range: 10 millivolts



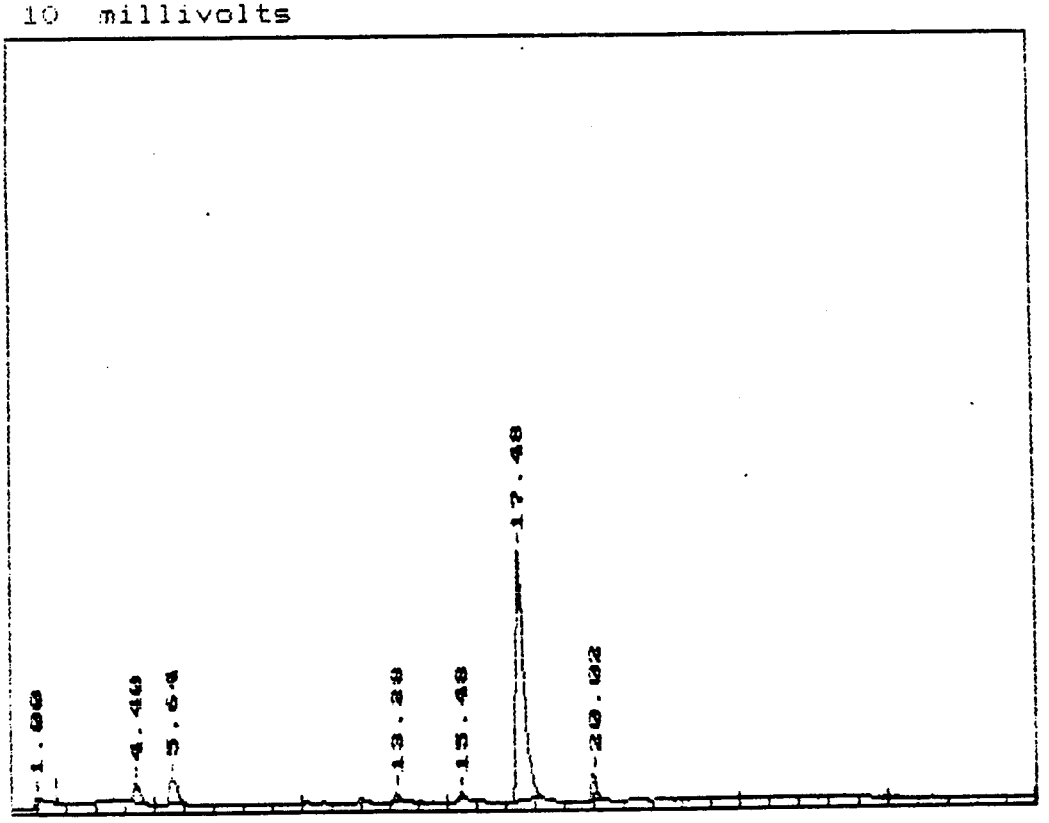
******** AREA PERCENT REPORT ********

(****************** 12-03-1990 08:37:09 Version 5.1 **********************
Sample Name: 90L-2825-19 W/SS 5G/5MLMEOH;10UL/5MLDI
Data File: A:WIP25 *
Date: 11-28-1990 09:18:22 Method: BVOL *
Interface: 1 Cycle#: 25 Operator JG Channel#: 1 Vial#: N.A. *
Starting Peak Width: 20 Threshold: 1 Area Threshold: 5 *
(**********
Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB S *
Solvent Description: *
Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD *
Detector 0: PID Detector 1: HALL *
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
(**********
Starting Delay: 0.00 Run Time: 35.00

	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
	1.001	940	1.2635	1	84	1.640	11.3
	1.668	354	0.4764	1	100	0.618	3.5
	4.404	3351	4.5051	1	236	5.846	14.2
	5.639	6285	8.4492	1	344	10.964	18.2
	13.280	1057	1.4210	1	103	1.844	10.3
	15.482	965	1.2972	1	92	1.683	10.4
	17.484	57325	77.0612	1	3185	100.000	18.0
	20.020	4111	5.5265	1	339	7.172	12.1

Total Area: 74389 Area Reject: 100 One sample per 2.002 sec.

Data File = A:WIP25.PTS Printed on 12-03-1990 at 08:37:34
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
Det 1 Range: 10 millivolts



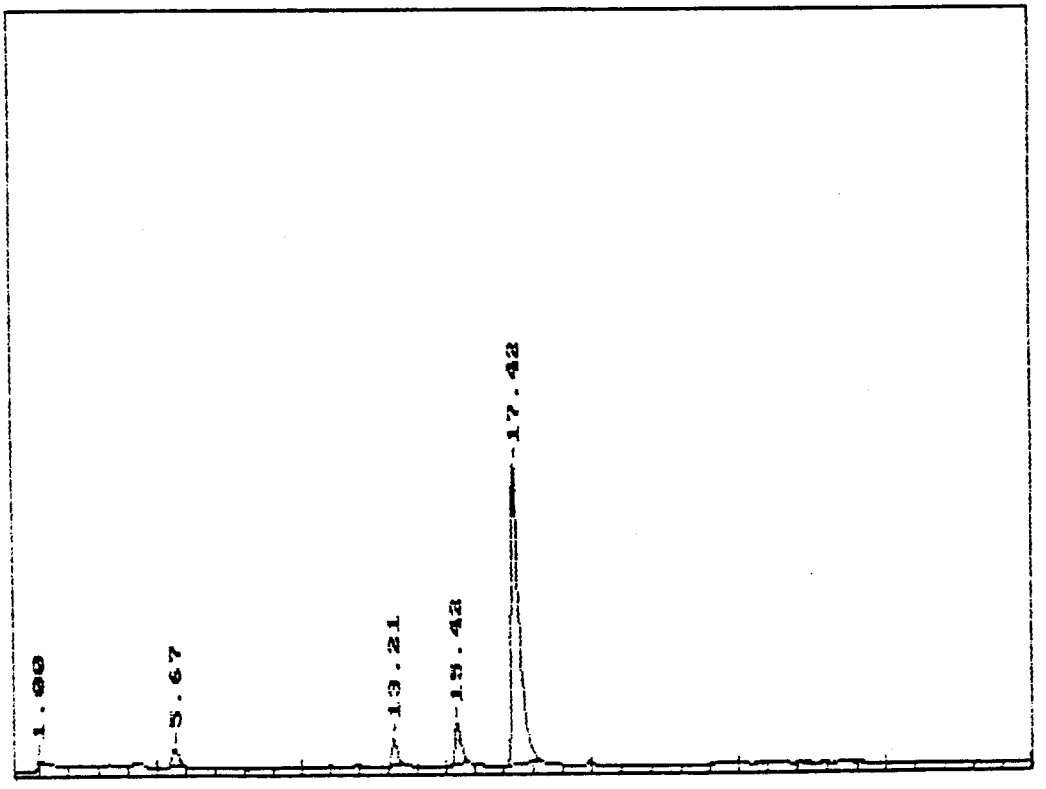
******** AREA PERCENT REPORT ********

********** 12-03-1990 08:43:53 Version 5.1 **********
ample Name: 90L-2825-20 W/SS 5G/5MLMEOH;10UL/5MLDI
Data File: A:WIP26 *
ate: 11-28-1990 10:19:42 Method: BVOL *
nterval#: 1 Cycle#: 26 Operator JG Channel#: 1 Vial#: N.A. *
tarting Peak Width: 20 Threshold: 1 Area Threshold: 5 *
****
nstrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB B *
Solvent Description: *
onditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD *
Detector 0: PID Detector 1: HALL *
ec. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
****
rting Delay: 0.00 Run Time: 35.00

Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1.001	1027	1.1589	1	93	1.450	11.1
5.672	4614	5.2061	1	250	6.514	18.5
13.213	4458	5.0310	1	349	6.295	12.8
15.415	7700	8.6885	1	531	10.872	14.5
17.417	70821	79.9155	1	3930	100.000	18.0

al Area: 88620 Area Reject: 100 One sample per 2.002 sec.

a File = A:WIP26.PTS Printed on 12-03-1990 at 08:44:10
rt time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
l Range: 10 millivolts



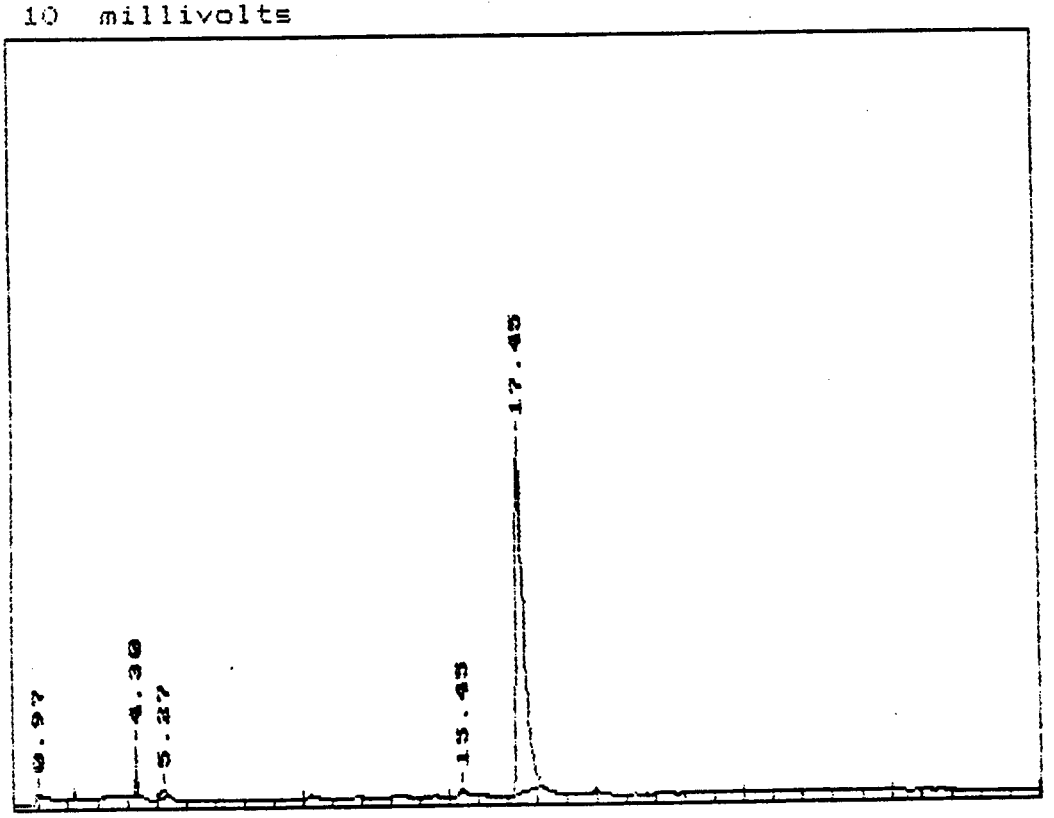
******** AREA PERCENT REPORT ********

(********** 12-03-1990 08:42:40 Version 5.1 **********
Sample Name: 90L-2825-21 W/SS 5G/5MLMEOH;10UL/5MLDI
Data File: A:WIP29 *
Date: 11-28-1990 13:17:38 Method: BVOL *
Interface: 1 Cycle#: 29 Operator JG Channel#: 1 Vial#: N.A. *
Starting Peak Width: 20 Threshold: 1 Area Threshold: 5 *
(**********
Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB B *
Solvent Description: *
Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD *
Detector 0: PID Detector 1: HALL *
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
(**********
Starting Delay: 0.00 Run Time: 35.00

	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	0.968	921	1.0799	1	85	1.152	10.8
2	4.304	2114	2.4790	1	641	2.644	3.3
3	5.272	1584	1.8569	1	99	1.980	16.0
4	15.449	689	0.8075	1	68	0.861	10.1
5	17.451	79974	93.7767	1	4583	100.000	17.4

Total Area: 85281 Area Reject: 100 One sample per 2.002 sec.

Data File = A:WIP29.PTS Printed on 12-03-1990 at 08:42:56
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
Full Range: 10 millivolts



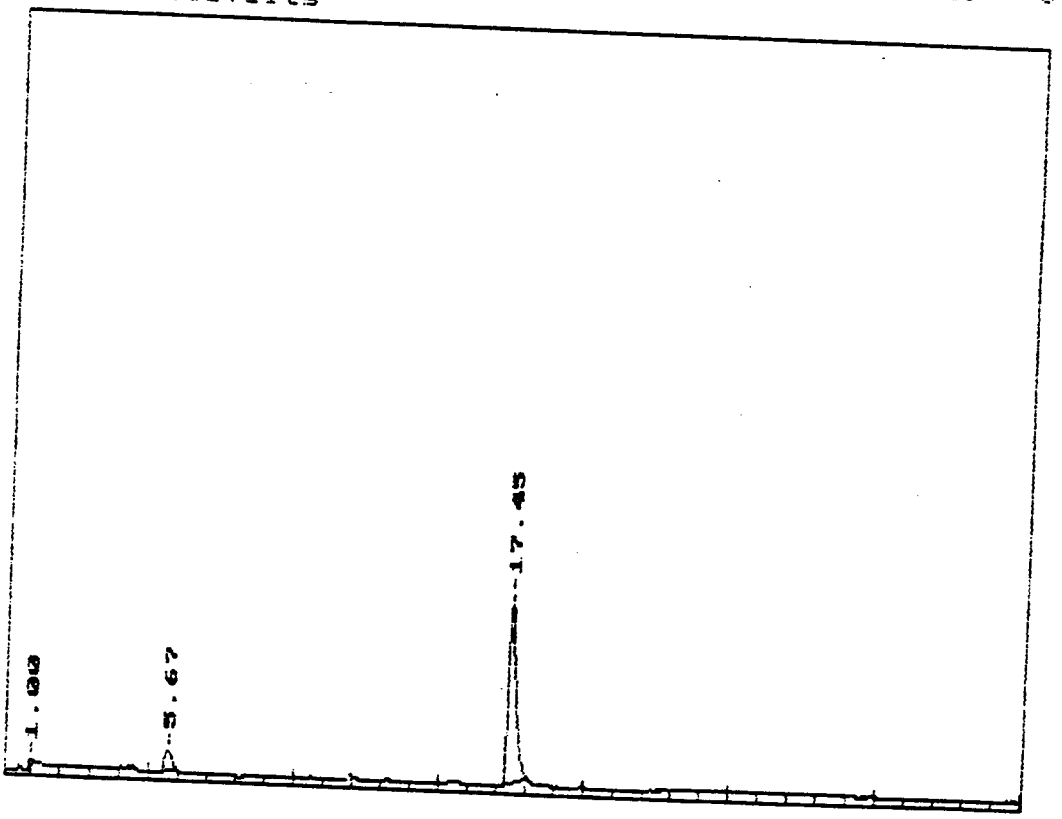
******** AREA PERCENT REPORT ********

********** 12-03-1990 08:41:09 Version 5.1 **********
Sample Name: 90L-2825-22 W/SS 5G/5MLMEOH;10UL/5MLDI

Date: 11-26-1990 14:20:17 Method: BVOL Data File: A:WIP30
Interface: 1 Cycle#: 30 Operator JG Channel#: 1 Vial#: N.A.
Starting Peak Width: 20 Threshold: 1 Area Threshold: 5
Instrument Type: TRACOR 560 Column Type: 1%SP1000.60/80CARB B
Solvent Description:
Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD
Detector 0: PID
Misc Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C Detector 1: HALL
Starting Delay: 0.00 Run Time: 35.00

	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.001	802	1.6883	1	82	1.928	9.8
2	5.672	5109	10.7579	1	290	12.287	17.6
3	17.451	41581	87.5537	1	2452	100.000	17.0
Total Area:		47491	Area Reject:		100	One sample per	2.002 sec.

Data File = A:WIP30.PTS Printed on 12-03-1990 at 08:41:25
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
Full Range: 10 millivolts



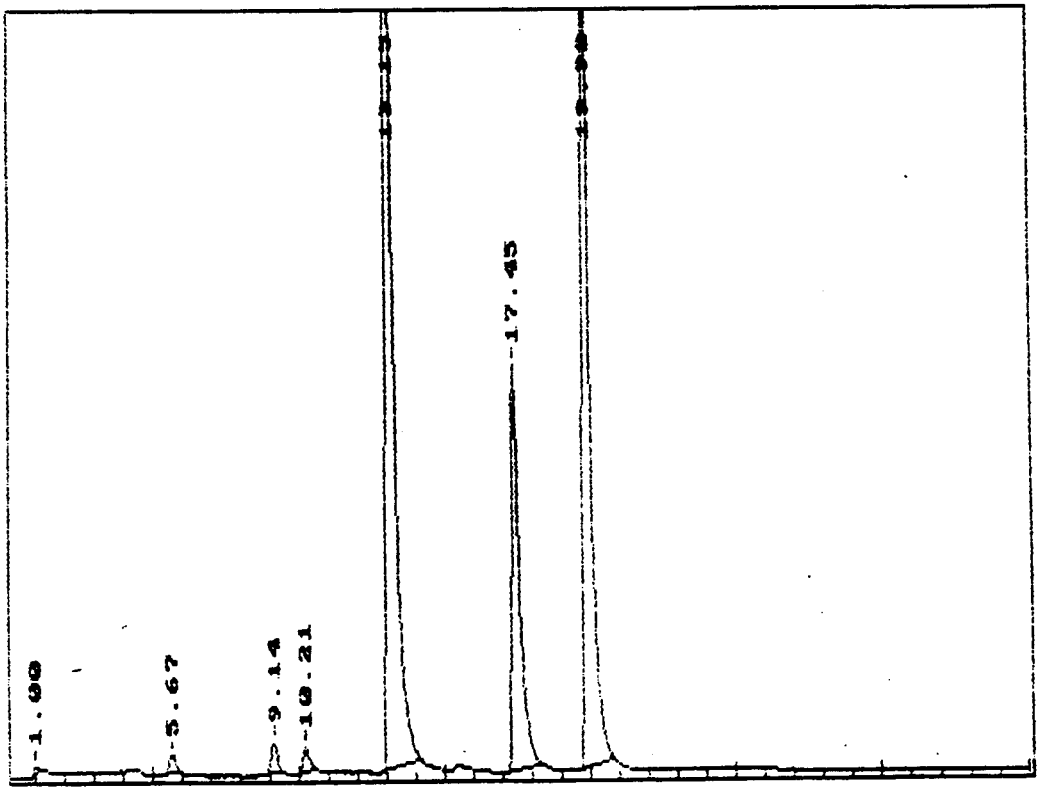
******** AREA PERCENT REPORT ********

```
(****************** 12-03-1990 08:45:22 Version 5.1 **********************
Sample Name: 90L-2825-23 W/SS 5G/5MLMEOH;10UL/5MLDI
                                                    Data File: A:WIP31        *
Date: 11-28-1990 15:21:28 Method: BVOL                                        *
Interface: 1   Cycle#:  31   Operator JG  Channel#: 1     Vial#: N.A.         *
Starting Peak Width:  20   Threshold: 1  Area Threshold: 5                    *
(*****************************************************************************
Instrument Type: TRACOR 560            Column Type: 1%SP1000,60/80CARB 3      *
            Solvent Description:                                              *
Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD                                   *
          Detector 0: PID                    Detector 1: HALL                 *
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C                        *
(*****************************************************************************
arting Delay:   0.00                          Run Time:   35.00
```

	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.001	995	0.1582	1	87	0.333	11.4
2	5.672	4132	0.6572	1	232	1.384	17.8
3	9.142	6475	1.0298	1	408	2.169	15.9
4	10.210	4457	0.7089	1	314	1.493	14.2
5	13.146	298603	47.4893	1	18382	100.000	16.2
6	17.451	93920	14.9368	1	5250	31.453	17.9
7	19.920	220197	35.0197	1	14973	73.742	14.7

```
tal Area:       628780   Area Reject:        100  One sample per   2.00E sec.

ta File = A:WIP31.PTS  Printed on 12-03-1990 at 08:46:46
art Time:    0.00 min.  Stop time:   35.14 min.     Offset:    0 mv.
ll Range:  10  millivolts
```



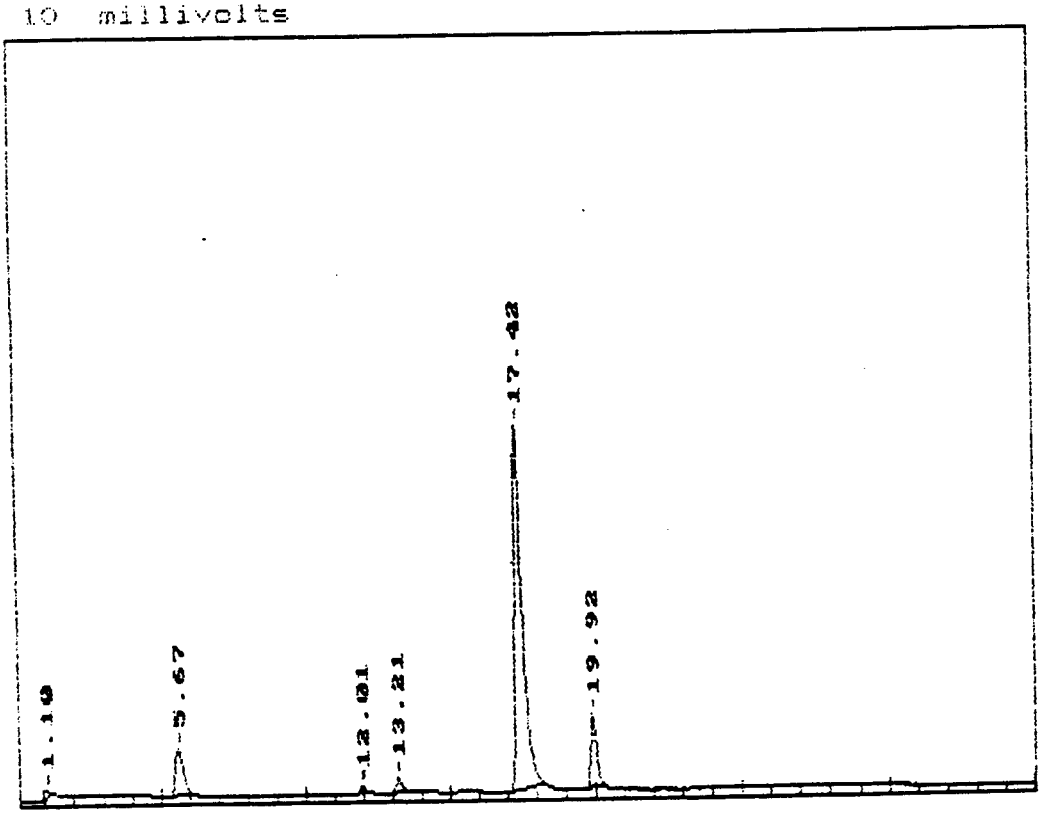
******** AREA PERCENT REPORT ********

(********** 12-03-1990 09:36:05 Version 5.1 **********
Sample Name: 90L-2825-24 W/SS 50/5MLMEOH;10UL/5MLDI
Data File: A:WIP32 *
Date: 11-28-1990 16:20:46 Method: BVOL *
Interface: 1 Cycle#: 32 Operator JG Channel#: 1 Vial#: N.A. *
Starting Peak Width: 20 Threshold: 1 Area Threshold: 5 *
Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB P *
Solvent Description: *
Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD *
Detector 0: PID Detector 1: HALL *
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
Starting Delay: 0.00 Run Time: 35.00

	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.101	1097	0.9460	1	82	1.274	13.4
2	5.672	12498	10.7774	1	624	14.508	20.0
3	12.012	708	0.6103	1	72	0.822	9.8
4	13.213	2378	2.0509	1	193	2.761	12.3
5	17.417	86147	74.2840	1	4771	100.000	18.1
6	19.920	13141	11.3315	1	972	15.254	13.5

Total Area: 115970 Area Reject: 100 One sample per 2.002 sec.

Data File = A:WIP32.PTS Printed on 12-03-1990 at 09:36:34
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
Full Range: 10 millivolts



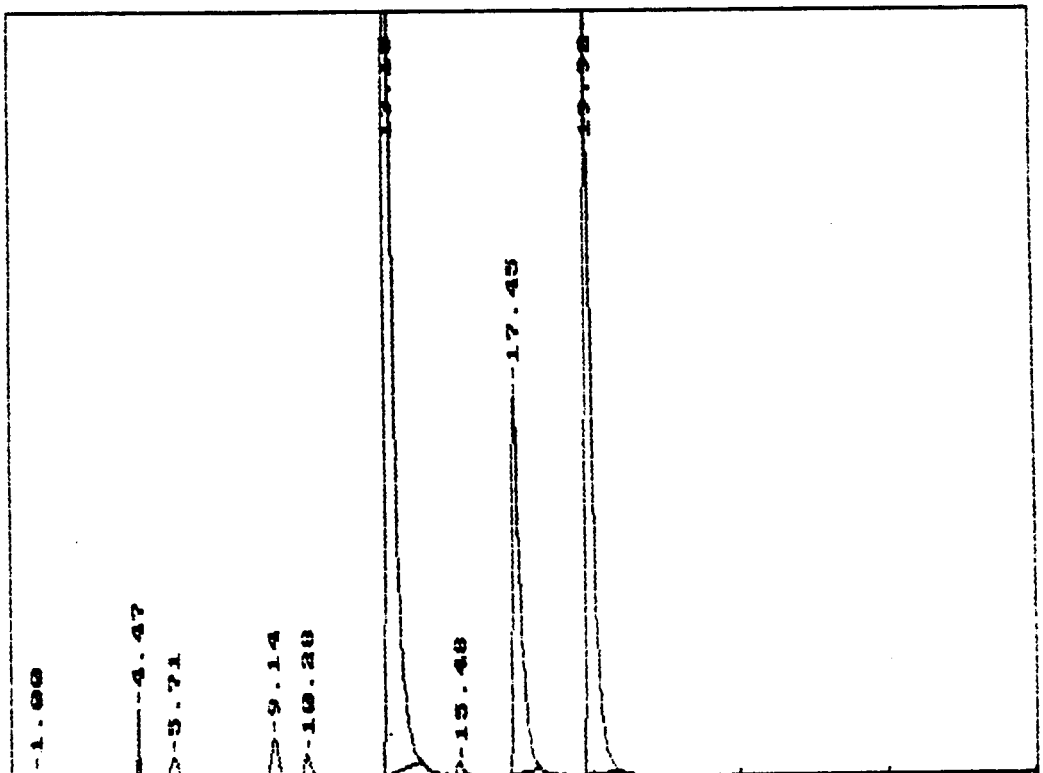
******** AREA PERCENT REPORT ********

(********** 12-03-1990 08:49:03 Version 5.1 **********
Sample Name: 90L-2825-25 W/SS 5G/5MLMEOH;10UL/5MLDI
Data File: A:WIP33 *
Date: 11-28-1990 17:21:01 Method: BVOL *
Interface: 1 Cycle#: 33 Operator JG Channel#: 1 Vial#: N.A. *
Starting Peak Width: 20 Threshold: 1 Area Threshold: 5 *
(**********
Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB B *
Solvent Description: *
Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD *
Detector 0: PID Detector 1: HALL *
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
(**********
arting Delay: 0.00 Run Time: 35.00

	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.001	854	0.1419	1	85	0.263	10.0
2	4.471	2979	0.4950	1	920	0.919	3.2
3	5.706	5783	0.9608	1	307	1.784	18.8
4	9.142	9429	1.5667	1	558	2.909	16.9
5	10.277	4529	0.7524	1	303	1.397	15.0
6	13.146	324152	53.8580	1	20100	100.000	16.1
7	15.482	2105	0.3498	1	162	0.649	13.0
8	17.451	88188	14.6525	1	4982	27.206	17.7
9	19.920	163846	27.2230	1	11261	50.546	14.6

tal Area: 601864 Area Reject: 100 One sample per 2.002 sec.

ta File = A:WIP33.PTS Printed on 12-03-1990 at 08:49:22
art time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
l Range: 10 millivolts



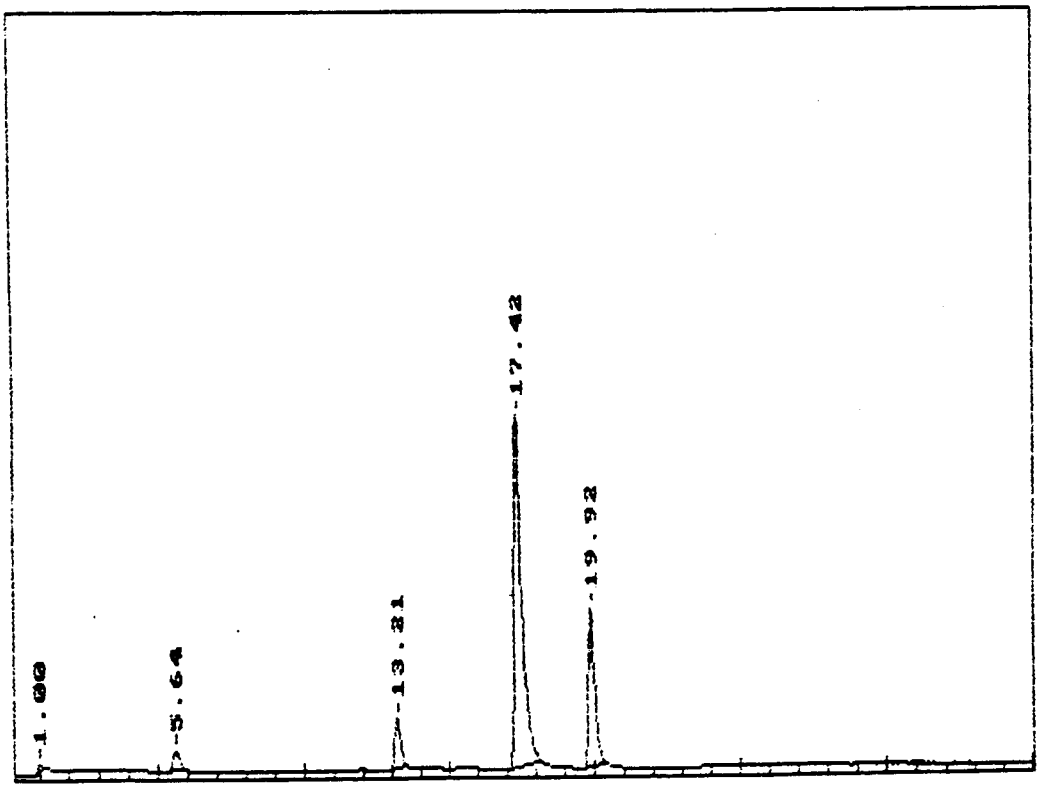
******** AREA PERCENT REPORT ********

(****************** 12-03-1990 08:51:22 Version 5.1 **********************
)ample Name: 90L-2825-26 W/SS 5G/5MLMECH;10UL/5MLDI
Data File: A:WIP34 *
)ate: 11-28-1990 18:20:20 Method: BVOL *
Interface: 1 Cycle#: 34 Operator JG Channel#: 1 Vial#: N.A. *
Starting Peak Width: 20 Threshold: 1 Area Threshold: 5 *
(**
Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB 8 *
Solvent Description: *
Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD *
Detector 0: PID Detector 1: HALL *
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
(**
arting Delay: 0.00 Run Time: 35.00

.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
.	1.001	709	0.5622	1	77	0.866	9.2
2	5.639	4567	3.6228	1	265	5.580	17.2
3	13.213	9246	7.3353	1	655	11.297	14.1
4	17.417	81844	64.9291	1	4602	100.000	17.8
5	19.920	29686	23.5505	1	2058	36.271	14.4

tal Area: 126051 Area Reject: 100 One sample per 2.002 sec.

ta File = A:WIP34.PTS Printed on 12-03-1990 at 08:51:44
art time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
l Range: 10 millivolts



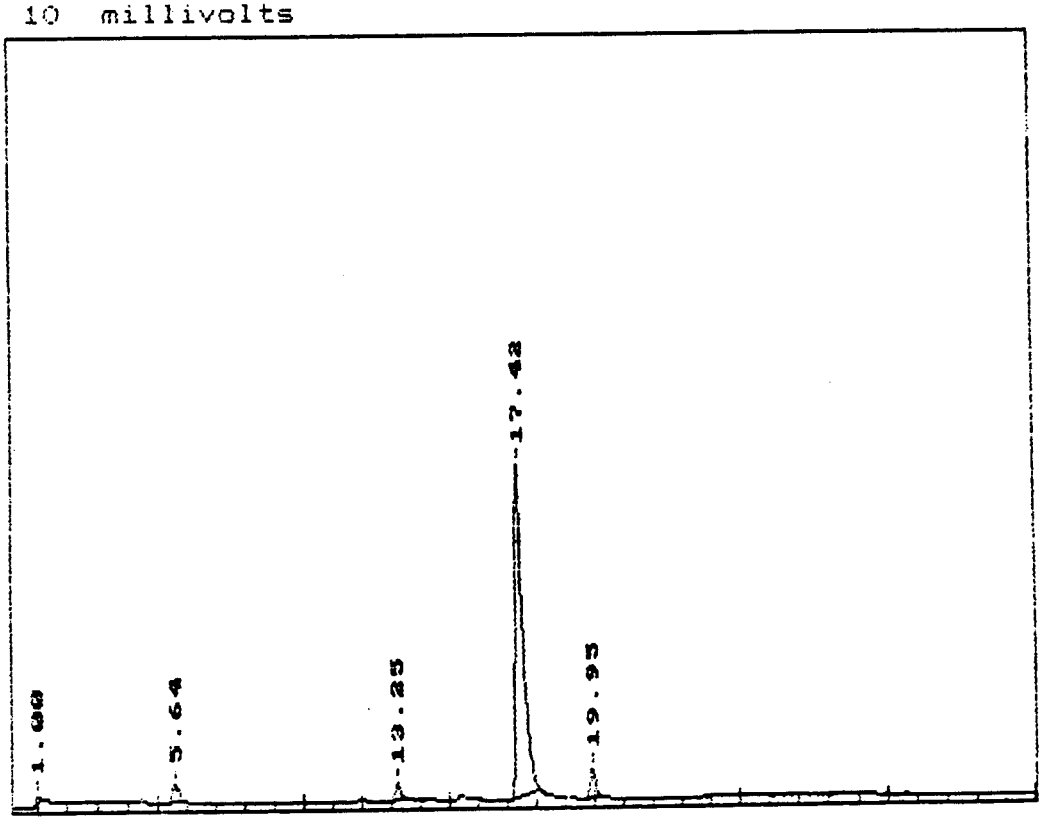
******** AREA PERCENT REPORT ********

:****************** 12-03-1990 08:52:54 Version 5.1 **********
lample Name: 90L-2825-27 W/SS 5G/5ML MECH;10UL/5ML DI
Data File: A:WIP35 *
:ate: 11-28-1990 19:19:56 Method: BVOL *
:nterface: 1 Cycle#: 35 Operator JG Channel#: 1 Vial#: N.A. *
:tarting Peak Width: 20 Threshold: 1 Area Threshold: 5 *
:nstrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB B *
Solvent Description: *
:onditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD *
Detector 0: PID Detector 1: HALL *
lisc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
:rting Delay: 0.00 Run Time: 35.00

	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
.	1.001	768	0.8698	1	80	1.010	9.7
2	5.639	4232	4.7945	1	237	5.567	17.8
3	13.247	2563	2.9030	1	207	3.370	12.4
4	17.417	76030	86.1313	1	4275	100.000	17.8
5	19.953	4680	5.3014	1	374	6.155	12.5

:al Area: 88272 Area Reject: 100 One sample per 2.002 sec.

:a File = A:WIP35.PTS Printed on 12-03-1990 at 08:53:41
:rt time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
:l Range: 10 millivolts



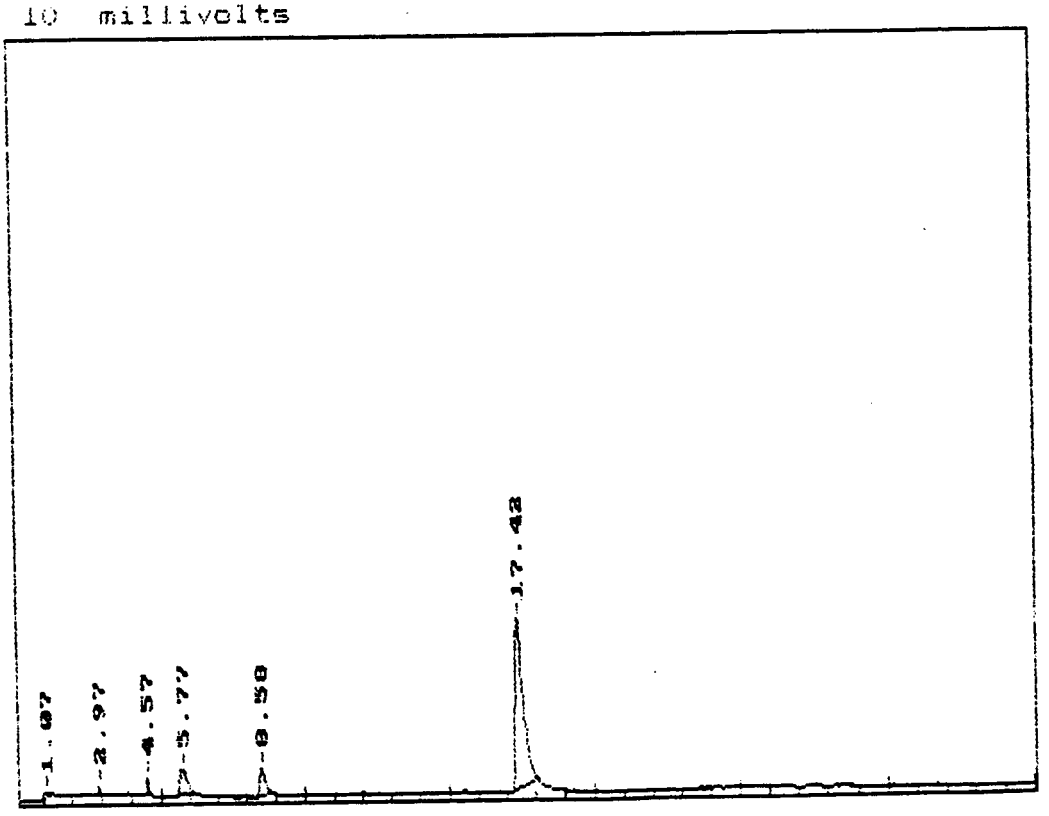
******** AREA PERCENT REPORT ********

```
****************** 12-03-1990 08:34:25 Version 5.1 ************************
ample Name: 90L-2825-28 W/SS NEAT                Data File: A:WIP22          *
ate: 11-28-1990 06:01:45 Method: BVOL                                        *
nterface: 1   Cycle#:  22   Operator JG  Channel#: 1     Vial#: N.A.         *
tarting Peak Width:  20   Threshold: 1  Area Threshold: 5                    *
*******************************************************************************
nstrument Type: TRACOR 560              Column Type: 5%SP1200,1.75%BENTON    *
           Solvent Description:                                              *
onditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD                                    *
          Detector 0: PID                    Detector 1: HALL                *
ISC. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C                        *
*******************************************************************************
rting Delay:    0.00                              Run Time:    35.00
```

Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1.068	931	1.6481	1	61	2.169	15.2
2.970	349	0.6185	1	114	0.814	3.1
4.571	856	1.5152	1	206	1.994	4.1
5.772	6709	11.8767	1	363	15.630	18.5
8.575	4719	8.3537	1	350	10.993	13.5
17.417	42923	75.9880	1	2223	100.000	19.3

```
al Area:        56486   Area Reject:        100  One sample per   2.002 sec.

a File = A:WIP22.PTS  Printed on 12-03-1990 at 08:34:47
rt time:    0.00 min.  Stop time:   35.04 min.     Offset:   0 mv.
l Range:  10  millivolts
```



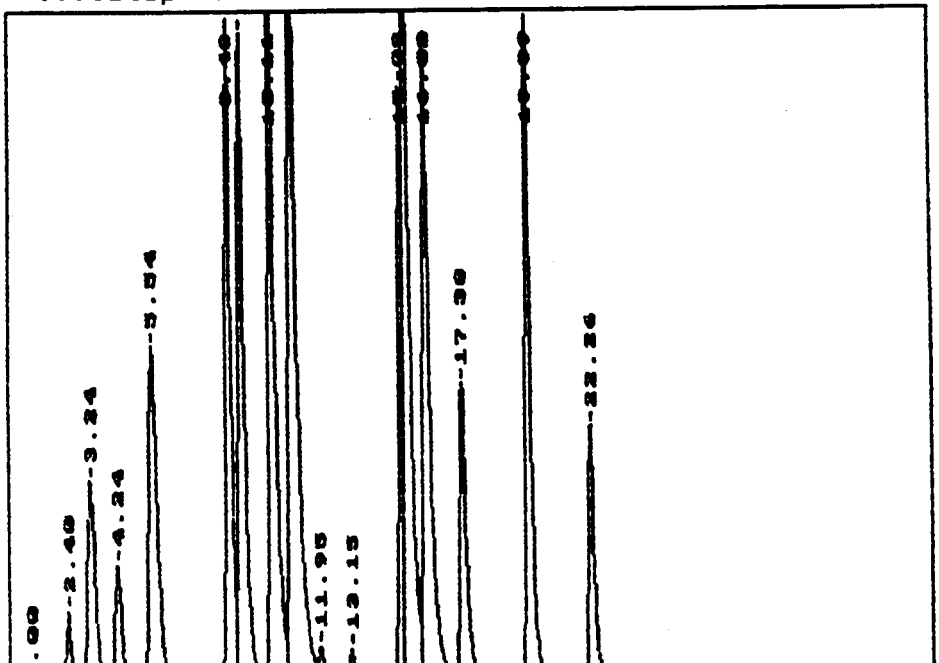
******** AREA PERCENT REPORT ********

********** 12-03-1990 08:54:38 Version 5.1 **********
* Sample Name: 90L-2825-20 MS W/SS PURGE A/GASES 20PPB
Data File: A:WIP41 *
* Date: 11-28-1990 25:17:18 Method: BVOL *
* Interface: 1 Cycle#: 41 Operator JG Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 1 Area Threshold: 5 *
****
* Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB B *
* Solvent Description: *
* Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD *
* Detector 0: PID Detector 1: HALL *
* Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
****
Starting Delay: 0.00 Run Time: 35.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.001	927	0.0345	1	87	0.243	10.6
2	2.402	29143	1.0849	2	1994	7.629	14.6
3	3.237	99261	3.6952	2	4776	25.984	20.8
4	4.238	57005	2.1221	2	2955	14.923	19.3
5	5.539	180721	6.7277	1	7651	47.308	23.6
6	8.475	202395	7.5346	2	14741	52.982	13.7
7	8.976	243199	9.0536	2	14332	63.663	17.0
8	10.110	280508	10.4425	2	15995	73.430	17.5
9	10.878	382009	14.2210	3	18494	100.000	20.7
10	11.945	9668	0.3599	4	635	2.531	15.2
11	13.146	11892	0.4427	1	746	3.113	16.0
12	15.082	140313	5.2234	2	13085	36.730	10.7
13	15.315	346203	12.8881	2	18668	90.627	18.5
14	16.016	274656	10.2246	2	13956	71.898	19.7
15	17.384	121030	4.5056	2	6592	31.682	18.4
16	19.887	211145	7.8603	1	14700	55.272	14.4
17	22.256	96150	3.5794	1	5839	25.170	16.5

Total Area: 2686226 Area Reject: 100 One sample per 2.002 sec.

Plot of data file: A:WIP41.PTS
Date: 12-03-1990 Time: 08:55:28
Sample Name: 90L-2825-20 MS W/SS P
Start Time= 0.03Stop Time = 35.14Min. Scale= 4939Max. Scale= 19939



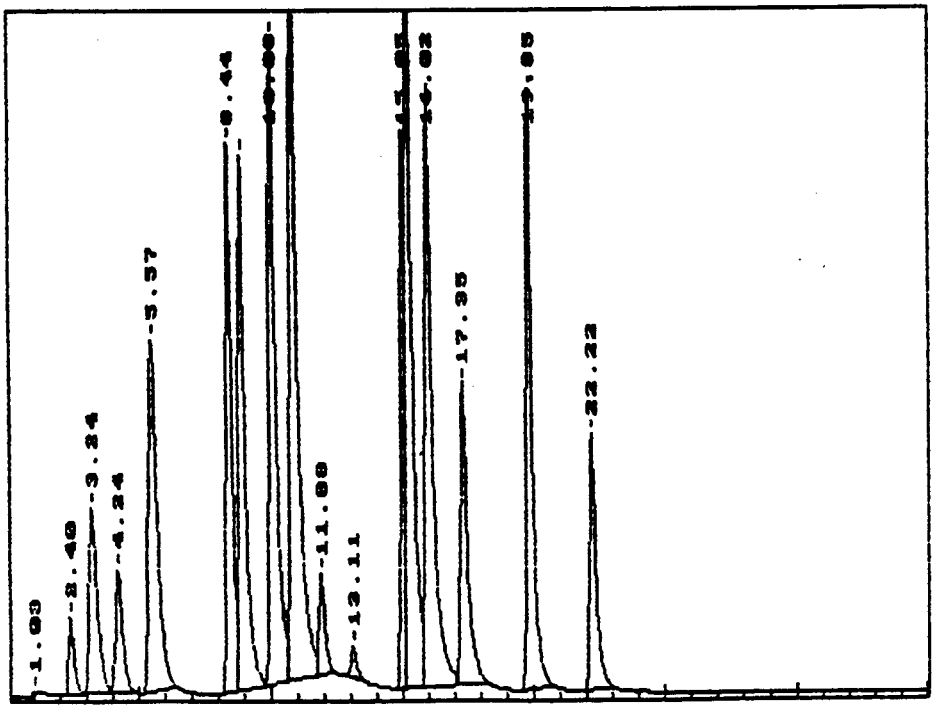
******** AREA PERCENT REPORT ********

********** 12-03-1990 08:56:28 Version 5.1 **********
* Sample Name: 90L-2825-20 MSD W/SS PURGE A/GASES 20PPB
Data File: A:WIP42 *
* Date: 11-28-1990 26:15:09 Method: BVOL *
* Interface: 1 Cycle#: 42 Operator JG Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 1 Area Threshold: 5 *
****
* Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB B *
* Solvent Description: *
* Conditions: 45C-3MIN-8C/MIN-210C-15 MIN HOLD *
* Detector 0: PID Detector 1: HALL *
* Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
****
Starting Delay: 0.00 Run Time: 35.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.034	771	0.0314	1	68	0.227	11.3
2	2.402	24767	1.0092	2	1667	7.298	14.9
3	3.237	84274	3.4342	2	4015	24.831	21.0
4	4.238	50210	2.0461	2	2700	14.795	18.6
5	5.572	179710	7.3232	1	7671	52.952	23.4
6	8.442	172224	7.0182	2	11984	50.746	14.4
7	8.942	204610	8.3379	2	11676	60.288	17.5
8	10.077	244032	9.9444	2	14121	71.904	17.3
9	10.844	339385	13.8300	2	16661	100.000	20.4
10	11.879	36198	1.4751	2	2209	10.666	16.4
11	13.113	10905	0.4444	1	692	3.213	15.8
12	15.048	127504	5.1958	2	12132	37.569	10.5
13	15.282	318185	12.9661	2	16273	93.753	19.6
14	16.016	257909	10.5099	2	12818	75.993	20.1
15	17.351	120276	4.9013	2	6549	35.439	18.4
16	19.853	190019	7.7433	1	13064	55.989	14.5
17	22.222	92999	3.7897	1	5547	27.402	16.8

Total Area: 2453977 Area Reject: 100 One sample per 2.002 sec.

Data File = A:WIP42.PTS Printed on 12-03-1990 at 08:56:48
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
Full Range: 15 millivolts



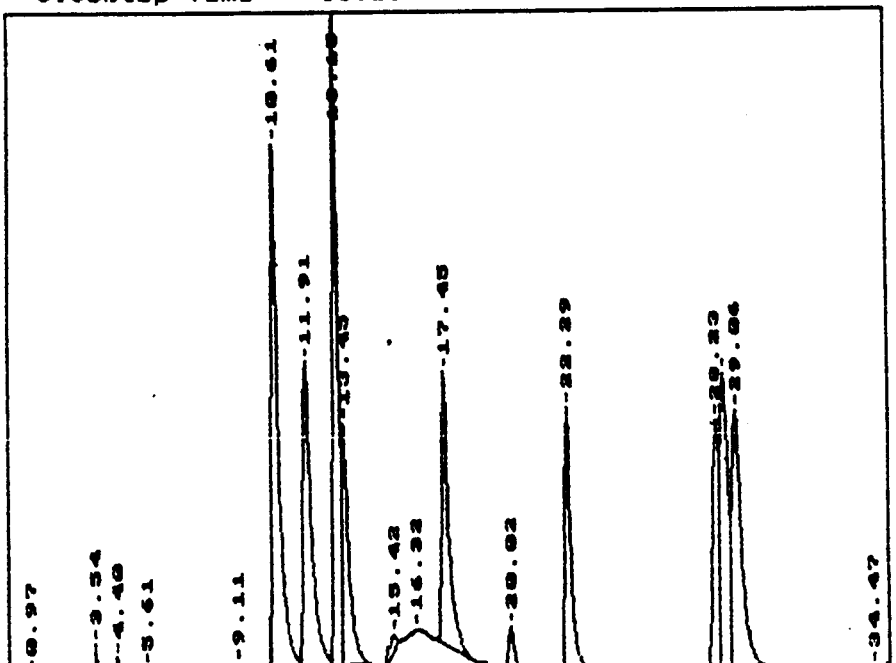
******** AREA PERCENT REPORT ********

```
********** 12-03-1990 08:57:50 Version 5.1 **********
* Sample Name: 90L-2825-20 MS  W/SS PURGE B/AROMA 20PPB
                                          Data File: A:WIP43        *
* Date: 11-28-1990 27:15:55 Method: BVOL                            *
* Interface: 1   Cycle#:  43   Operator JG  Channel#: 1    Vial#: N.A.   *
* Starting Peak Width:  20   Threshold: 1  Area Threshold: 5         *
*****************************************************************
* Instrument Type: TRACOR 560          Column Type: 1%SP1000,60/80CARB B *
*            Solvent Description:                                   *
* Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD                       *
*          Detector 0: PID                Detector 1: HALL          *
* Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C            *
*****************************************************************
Starting Delay:   0.00                        Run Time:   35.00
```

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	0.968	813	0.0596	1	80	0.353	10.2
2	3.537	2865	0.2102	1	717	1.245	4.0
3	4.404	4561	0.3345	1	415	1.982	11.0
4	5.606	3399	0.2494	1	202	1.477	16.8
5	9.109	4393	0.3223	1	287	1.909	15.3
6	10.611	230147	16.8829	2	11815	100.000	19.5
7	11.912	167290	12.2719	2	6842	72.688	24.5
8	13.146	207701	15.2363	2	15164	90.247	13.7
9	13.447	110054	8.0732	2	5372	47.819	20.5
10	15.415	6893	0.5056	1	315	2.995	21.9
11	16.316	747	0.0548	1	34	0.324	21.9
12	17.451	113443	8.3219	1	6022	49.292	18.8
13	20.020	13509	0.9910	1	903	5.870	15.0
14	22.289	95364	6.9956	1	5854	41.436	16.3
15	28.228	98430	7.2205	2	5531	42.768	17.8
16	28.562	144533	10.6025	2	6558	62.800	22.0
17	29.062	158734	11.6443	2	5699	68.971	27.9
18	34.468	320	0.0235	1	79	0.139	4.1

Total Area: 1363198 Area Reject: 100 One sample per 2.002 sec.

```
Plot of data file:  A:WIP43.PTS
Date:  12-03-1990    Time:  08:58:38
Sample Name:  90L-2825-20 MS  W/SS P
Start Time=   0.03Stop Time =  35.10Min. Scale=   4947Max. Scale=  19947
```



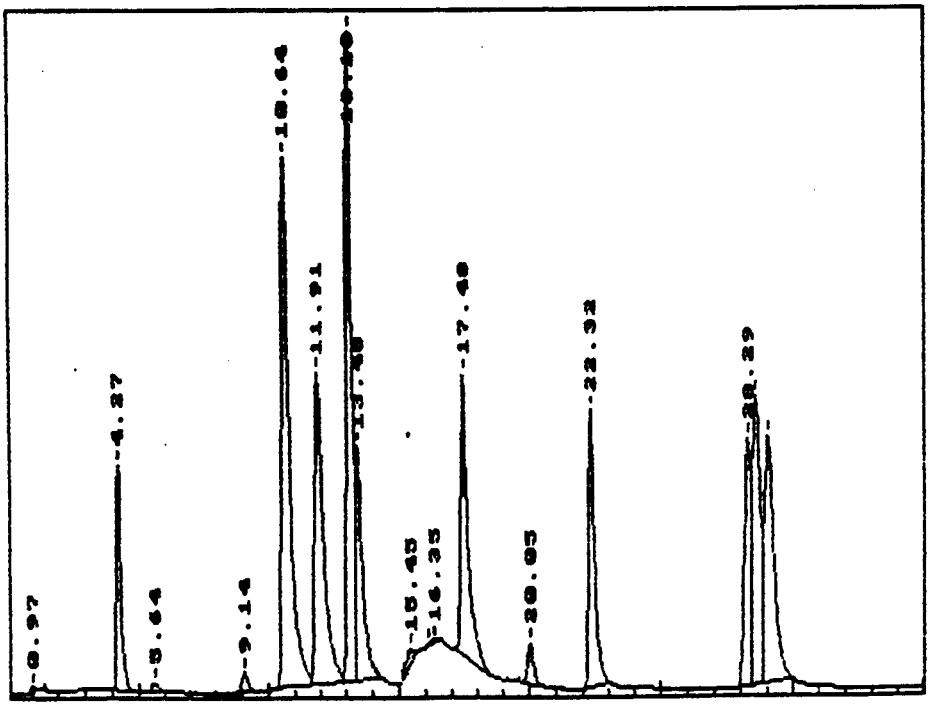
******** AREA PERCENT REPORT ********

********** 12-03-1990 08:59:37 Version 5.1 **********
* Sample Name: 90L-2825-20 MSD W/SS PURGE B/AROMA 20PPB
Data File: A:WIP44 *
* Date: 11-28-1990 28:17:25 Method: BVOL *
* Interface: 1 Cycle#: 44 Operator JG Channel#: 1 Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 1 Area Threshold: 5 *
* Instrument Type: TRACOR 560 Column Type: 1%SP1000,60/80CARB B *
* Solvent Description: *
* Conditions: 45C-3MIN-8C/MIN-210C-15MIN HOLD *
* Detector 0: PID Detector 1: HALL *
* Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
Starting Delay: 0.00 Run Time: 35.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	0.968	878	0.0640	1	87	0.381	10.1
2	4.271	56085	4.0882	1	4859	24.338	11.5
3	5.639	2652	0.1933	1	161	1.151	16.5
4	9.142	6653	0.4849	1	405	2.887	16.4
5	10.644	230444	16.7978	2	11582	100.000	19.9
6	11.912	167783	12.2303	2	6791	72.809	24.7
7	13.180	207255	15.1076	2	14234	89.937	14.6
8	13.480	93284	6.7998	2	5075	40.480	18.4
9	15.449	5889	0.4293	1	275	2.555	21.4
10	16.116	263	0.0192	2	40	0.114	6.6
11	16.350	432	0.0315	2	21	0.188	21.1
12	17.484	108857	7.9350	1	6110	47.238	17.8
13	20.053	13063	0.9522	1	886	5.669	14.7
14	22.322	95664	6.9733	1	6020	41.513	15.9
15	28.295	95915	6.9916	2	5378	41.622	17.8
16	28.595	138900	10.1249	2	6270	60.275	22.2
17	29.062	147848	10.7771	2	5339	64.158	27.7

Total Area: 1371864 Area Reject: 100 One sample per 2.002 sec.

Data File = A:WIP44.PTS Printed on 12-03-1990 at 08:59:58
Start time: 0.00 min. Stop time: 35.04 min. Offset: 0 mv.
Full Range: 15 millivolts



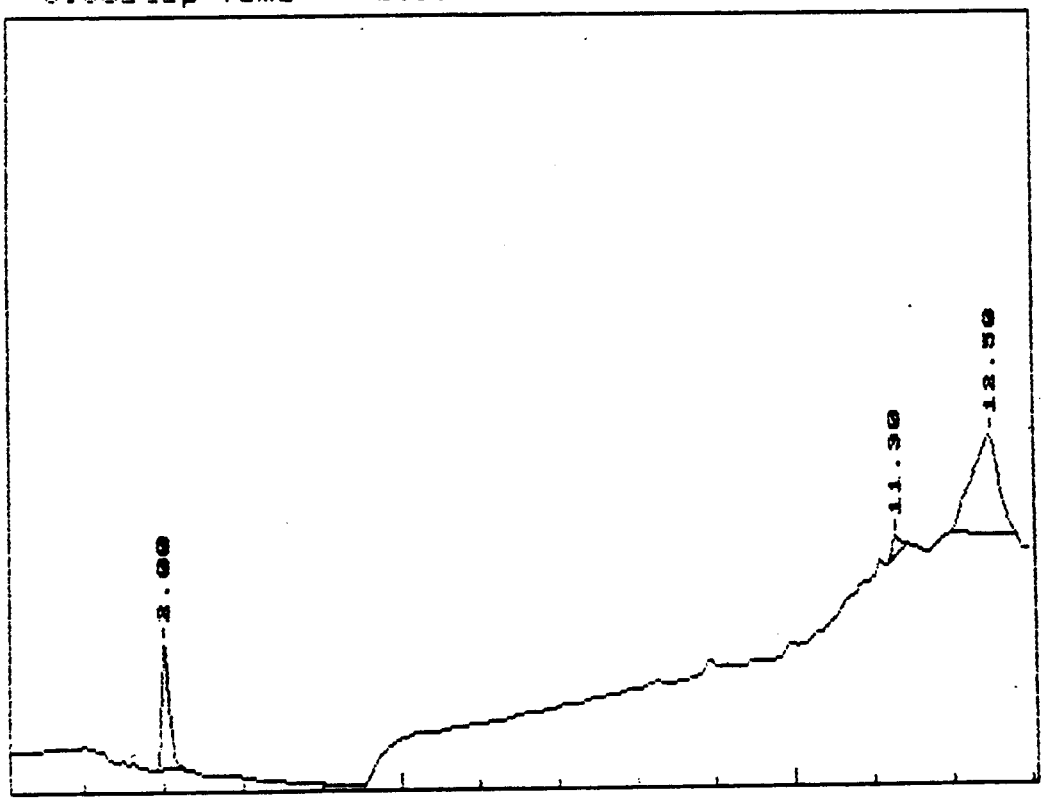
******** AREA PERCENT REPORT ********

********** 12-03-1990 09:06:21 Version 5.1 **********
Sample Name: METHOD BLANK W/SS 10UL/10MLMEOH Data File: A:BTX8
Date: 11-30-1990 00:50:22 Method: VOL3
Interface: 1 Cycle#: 8 Operator JI Channel#: 0 Vial#: N.A.
Starting Peak Width: 20 Threshold: 2 Area Threshold: 5
****
Instrument Type: TRACOR 560 Column Type: 5%SP1200,1.75%BENTON
Solvent Description:
Conditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD
Detector 0: PID Detector 1: HALL
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
****
arting Delay: 0.00 Run Time: 13.00

	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	2.000	4157	23.7801	1	639	33.208	6.5
2	11.300	806	4.6107	1	104	6.439	7.8
3	12.500	12518	71.6092	1	516	100.000	24.3

tal Area: 17481 Area Reject: 10 One sample per. 2.000 sec.

ot of data file: A:BTX8.PTS
te: 12-03-1990 Time: 09:06:39
mple Name: METHOD BLANK W/SS 10UL
art Time= 0.03Stop Time = 13.07Min. Scale= 4651Max. Scale= 8651



******** AREA PERCENT REPORT ********

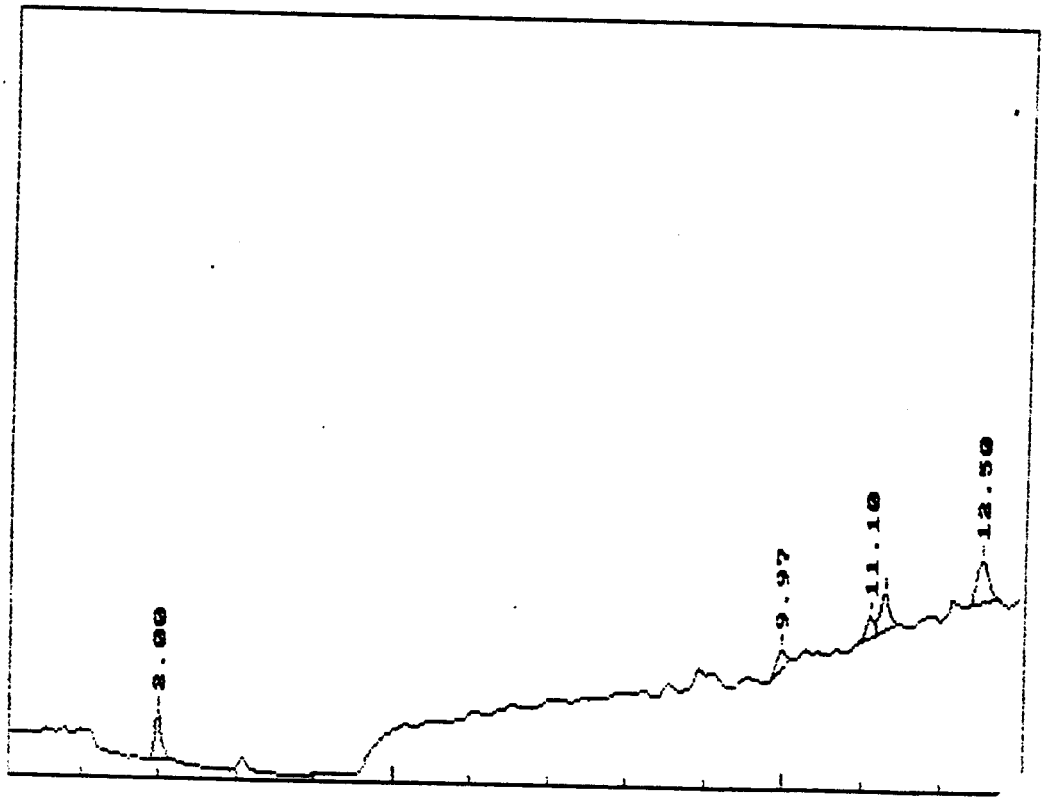
********** 12-03-1990 09:31:33 Version 5.1 **********
ample Name: 90L-2825-17 W/SS 5G/5MLMEOH;10UL/5MLDI

ate: 11-30-1990 02:02:51 Method: VOL3 Data File: A:BTX10
nterface: 1 Cycle#: 10 Operator JI Channel#: 0 Vial#: N.A.
tarting Peak Width: 20 Threshold: 2 Area Threshold: 5
nstrument Type: TRACOR 560 Column Type: 5%SP1200,1.75%BENTON
Solvent Description:
onditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD
Detector 0: PID Detector 1: HALL
isc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
rting Delay: 0.00 Run Time: 13.00

Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
2.000	1542	20.8111	1	247	65.146	6.2
9.967	828	11.1748	1	102	34.981	8.1
11.100	890	12.0116	2	116	37.600	7.7
11.300	1783	24.0570	2	188	75.306	9.5
12.500	2367	31.9455	1	221	100.000	10.7

al Area: 7410 Area Reject: 10 One sample per 2.000 sec.

a File = A:BTX10.PTS Printed on 12-03-1990 at 09:31:48
rt time: 0.00 min. Stop time: 13.03 min. Offset: 0 mv.
l Range: 4 millivolts



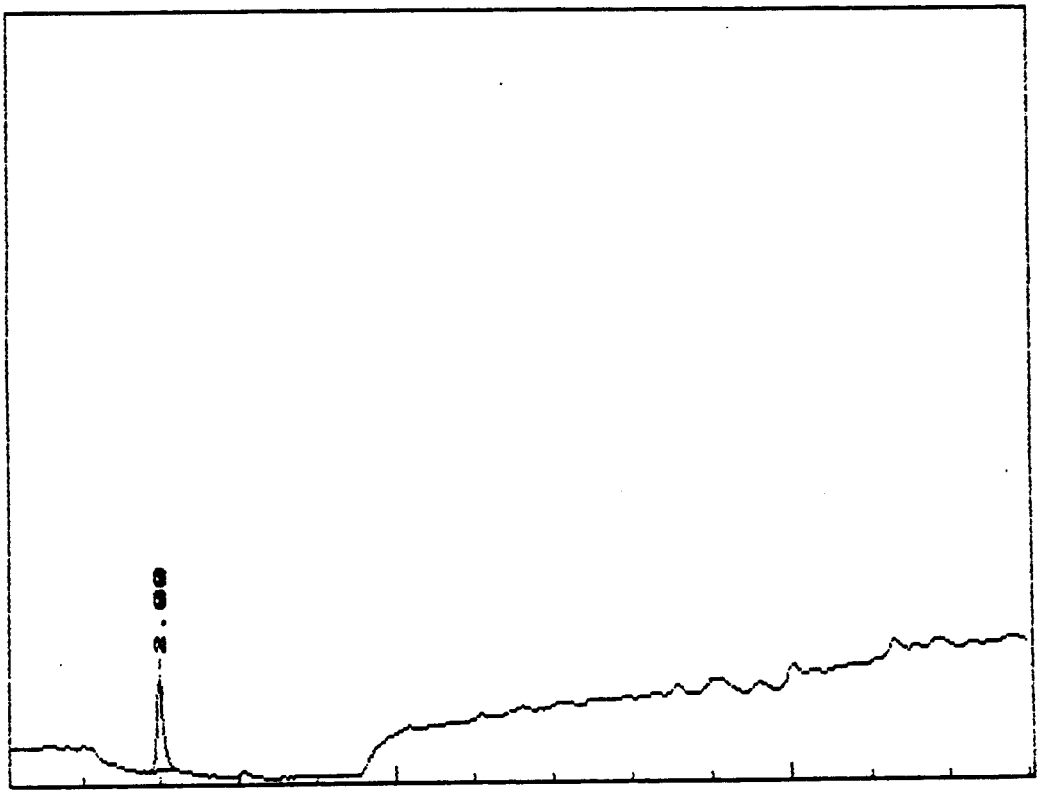
******** AREA PERCENT REPORT ********

********** 12-03-1990 09:30:13 Version 5.1 **********
Sample Name: 90L-2825-18 W/SS 5G/5MLMEOH;10UL/5MLDI
Data File: A:BTX11 *
Date: 11-30-1990 02:39:32 Method: VOLS *
Interface: 1 Cycle#: 11 Operator JI Channel#: 0 Vial#: N.A. *
Starting Peak Width: 20 Threshold: 2 Area Threshold: 5 *
****
Instrument Type: TRACOR 560 Column Type: 3%SP1200,1.75%BENTON *
Solvent Description: *
Conditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD *
Detector 0: PID Detector 1: HALL *
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
****
arting Delay: 0.00 Run Time: 13.00

	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	2.000	2869	100.0000	1	487	100.000	5.9

tal Area: 2869 Area Reject: 10 One sample per 2.000 sec.

ta File = A:BTX11.PTS Printed on 12-03-1990 at 09:30:26
art time: 0.00 min. Stop time: 13.03 min. Offset: 0 mv.
11 Range: 4 millivolts



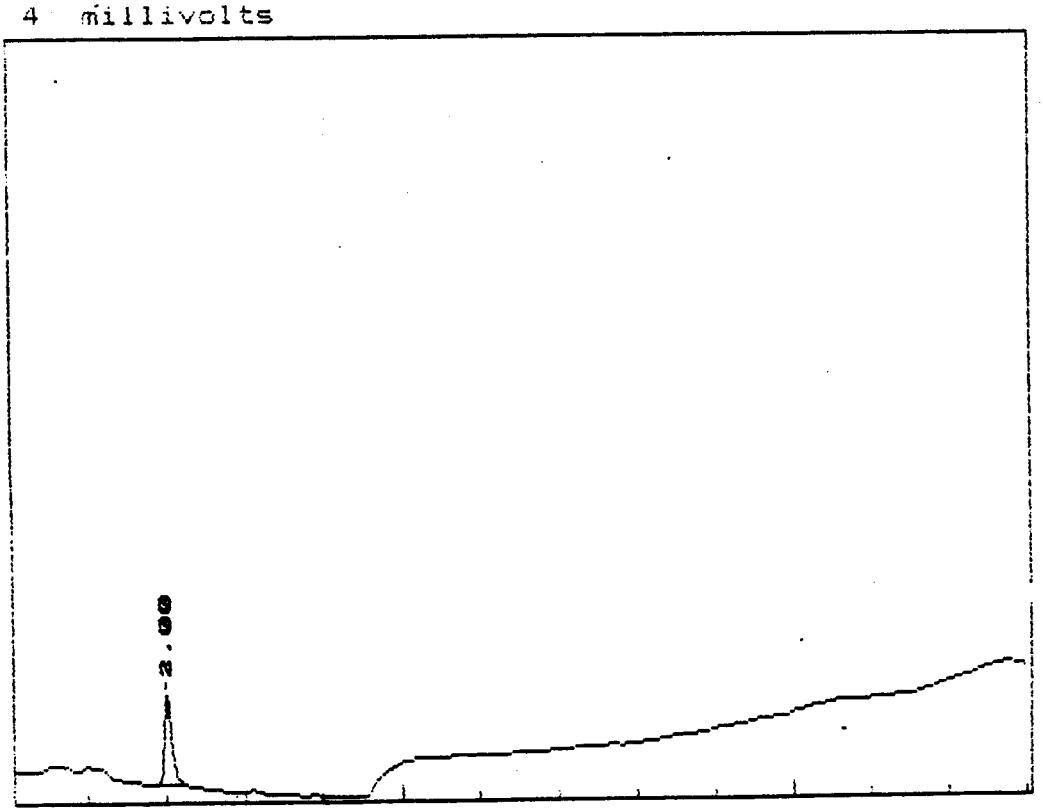
******** AREA PERCENT REPORT ********

********** 12-03-1990 09:29:01 Version 5.1 **********
ample Name: 90L-2825-19 W/SS 5G/5MLMEOH:10UL/5MLDI
Data File: A:BTX12 *
ata: 11-30-1990 03:15:30 Method: VOLI *
Interface: 1 Cycle#: 12 Operator JI Channel#: 0 Vial#: N.A. *
tarting Peak Width: 20 Threshold: 2 Area Threshold: 5 *
****
nstrument Type: TRACOR 560 Column Type: 5%SP1200,1.75%BENTON *
Solvent Description: *
onditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD *
Detector 0: PID Detector 1: HALL *
iec. Information: FLOW 35ML/MIN DET TEMP: 225 C: 250C *
****
rting Delay: 0.00 Run Time: 13.00

Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
2.000	3002	100.0000	1	458	100.000	6.6

al Area: 3002 Area Reject: 10 One sample per 2.000 sec.

a File = A:BTX12.PTS Printed on 12-03-1990 at 09:29:16
rt time: 0.00 min. Stop time: 13.03 min. Offset: 0 mv.
1 Range: 4 millivolts



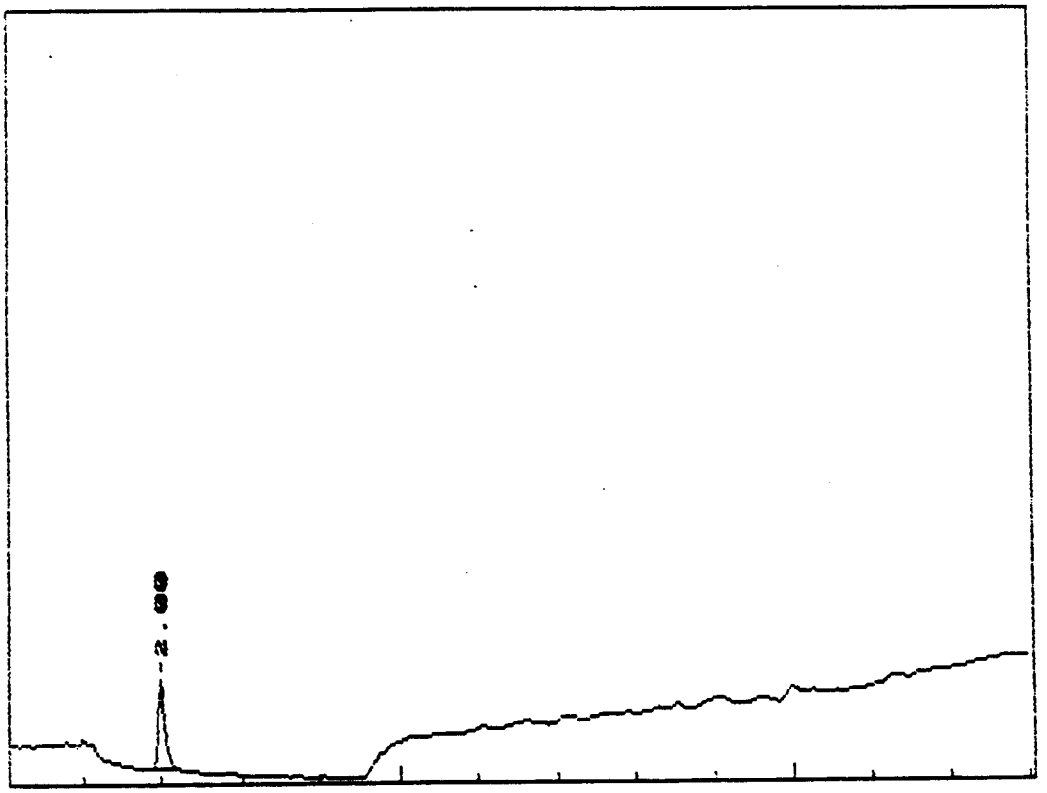
******** AREA PERCENT REPORT ********

********** 12-03-1990 09:32:52 Version 5.1 **********
Sample Name: 90L-2825-20 W/SS 5G/5MLMEOH;10UL/5MLDI
Data File: A:BTX13 *
Date: 11-30-1990 03:51:51 Method: VOL3 *
Interface: 1 Cycle#: 13 Operator JI Channel#: 0 Vial#: N.A. *
Starting Peak Width: 20 Threshold: 2 Area Threshold: 5 *
****
Instrument Type: TRACOR 560 Column Type: 5%SP1200,1.75%BENTON *
Solvent Description: *
Conditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD *
Detector 0: PID Detector 1: HALL *
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
****
arting Delay: 0.00 Run Time: 13.00

.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	2.000	2683	100.0000	1	467	100.000	5.7

tal Area: 2683 Area Reject: 10 One sample per 2.000 sec.

ta File = A:BTX13.PTS Printed on 12-03-1990 at 09:33:04
art time: 0.00 min. Stop time: 13.03 min. Offset: 0 mv.
l1 Range: 4 millivolts



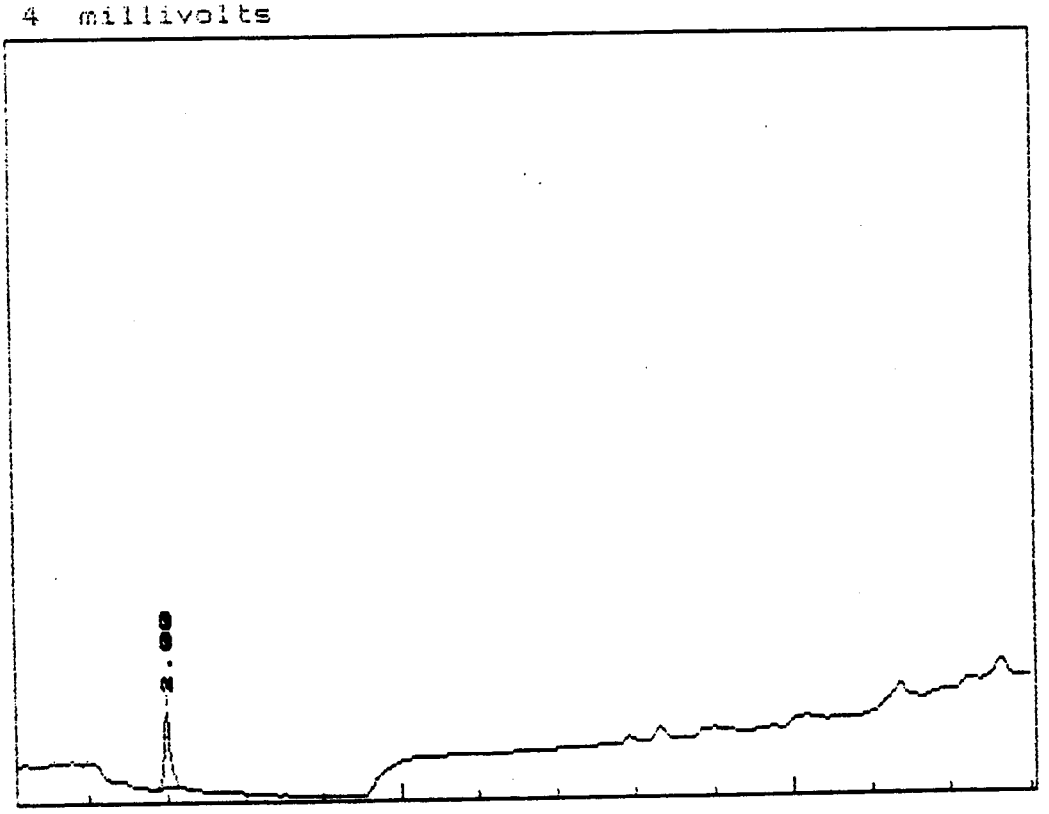
******** AREA PERCENT REPORT ********

********** 12-03-1990 09:17:01 Version 5.1 **********
Sample Name: 90L-2825-21 W/SS 50/5MLMEOH;10UL/5MLDI
Data File: A:BTX14
Date: 11-30-1990 04:28:23 Method: VOL3
Interface: 1 Cycle#: 14 Operator JI Channel#: 0 Vial#: N.A.
Starting Peak Width: 20 Threshold: 2 Area Threshold: 5
Instrument Type: TRACOR 560 Column Type: 3%SP1200,1.75%BENTON
Solvent Description:
Conditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD
Detector 0: PID Detector 1: HALL
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
Starting Delay: 0.00 Run Time: 13.00

	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
	2.000	2454	100.0000	1	398	100.000	6.2

Total Area: 2454 Area Reject: 10 One sample per 2.000 sec.

Data File = A:BTX14.PTS Printed on 12-03-1990 at 09:17:14
Start time: 0.00 min. Stop time: 13.03 min. Offset: 0 mv.
Full Range: 4 millivolts



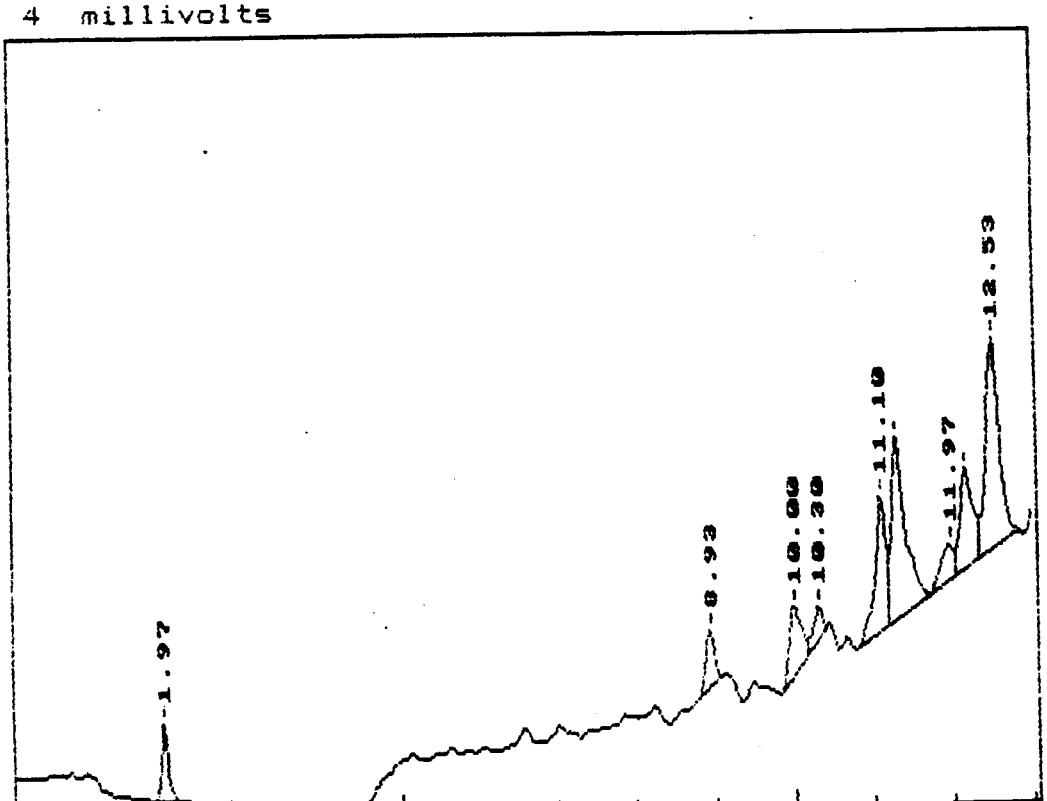
******** AREA PERCENT REPORT ********

********** 12-03-1990 09:14:59 Version 5.1 **********
Sample Name: 90L-2825-22 W/SS 5G/5MLMEOH;10UL/5MLDI
Data File: A:BTX15
Date: 11-30-1990 05:04:59 Method: VOL3
Interface: 1 Cycle#: 15 Operator JI Channel#: 0 Vial#: N.A.
Starting Peak Width: 20 Threshold: 2 Area Threshold: 5
Instrument Type: TRACOR 560 Column Type: 5%SP1200,1.75%BENTON
Solvent Description:
Conditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD
Detector 0: PID Detector 1: HALL
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
arting Delay: 0.00 Run Time: 13.00

.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.967	2258	4.5431	1	400	17.294	5.6
2	8.933	2252	4.5310	1	294	17.248	7.7
3	10.000	3776	7.5980	2	343	28.922	11.0
4	10.300	1400	2.8159	2	164	10.719	8.5
5	11.100	6957	13.9969	2	696	53.280	10.0
6	11.300	11643	23.4265	2	938	89.175	12.4
7	11.967	2258	4.5424	2	185	17.291	12.2
8	12.167	6101	12.2758	2	515	46.729	11.8
9	12.533	13057	26.2703	2	1079	100.000	12.1

tal Area: 49702 Area Reject: 10 One sample per 2.000 sec.

ta File = A:BTX15.PTS Printed on 12-03-1990 at 09:15:11
art time: 0.00 min. Stop time: 13.03 min. Offset: 0 mv.
11 Range: 4 millivolts



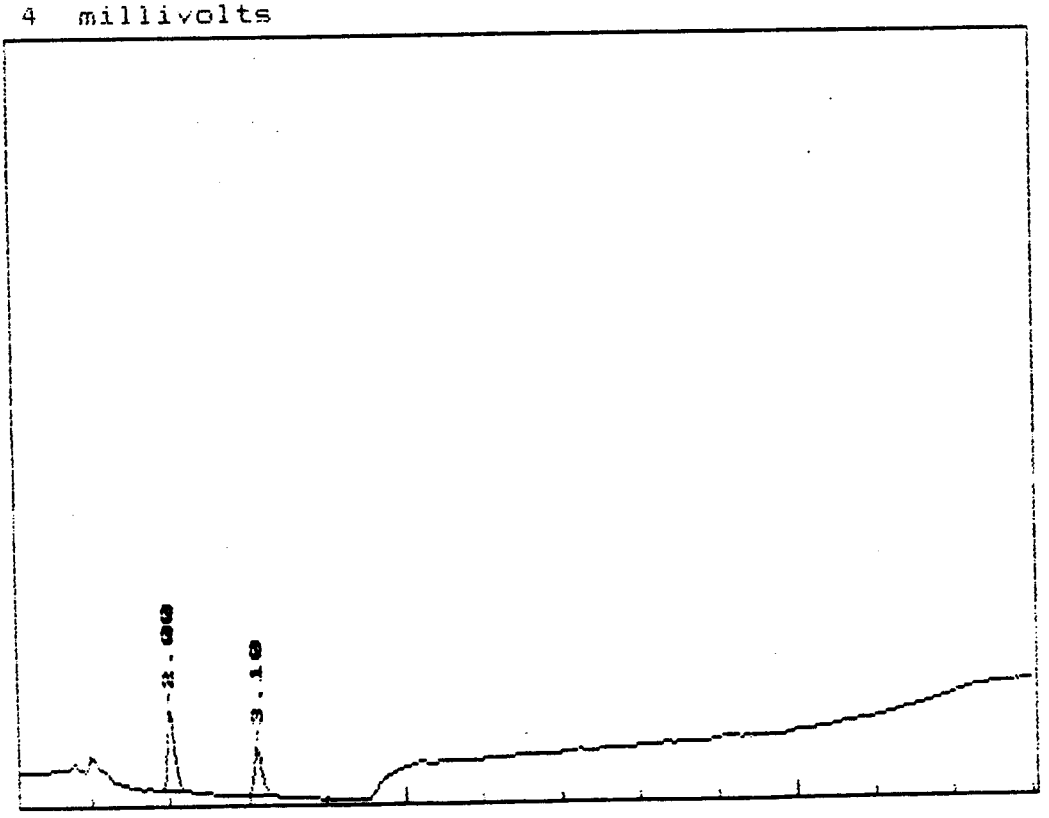
******** AREA PERCENT REPORT ********

********** 12-03-1990 09:34:01 Version 5.1 **********
ample Name: 90L-2825-23 W/SS 5G/10MLMEOH/10UL/5MLDI
Data File: A:BTX33
ate: 11-30-1990 16:34:18 Method: VOL3
nterface: 1 Cycle#: 33 Operator JG Channel#: 0 Vial#: N.A.
tarting Peak Width: 20 Threshold: 2 Area Threshold: 5
****
nstrument Type: TRACOR 560 Column Type: 5%SP1200,1.75%BENTON
Solvent Description:
onditions: 90C-2MIN-6C/MIN-110C-2MIN HOLD
Detector 0: PID Detector 1: HALL
ec. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
****
rting Delay: 0.00 Run Time: 13.00

Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
2.000	2720	59.5316	1	423	100.000	6.4
3.100	1849	40.4684	1	258	67.978	7.2

al Area: 4569 Area Reject: 10 One sample per 2.000 sec.

a File = A:BTX33.PTS Printed on 12-03-1990 at 09:34:14
rt time: 0.00 min. Stop time: 13.03 min. Offset: 0 mv.
l Range: 4 millivolts



******** AREA PERCENT REPORT ********

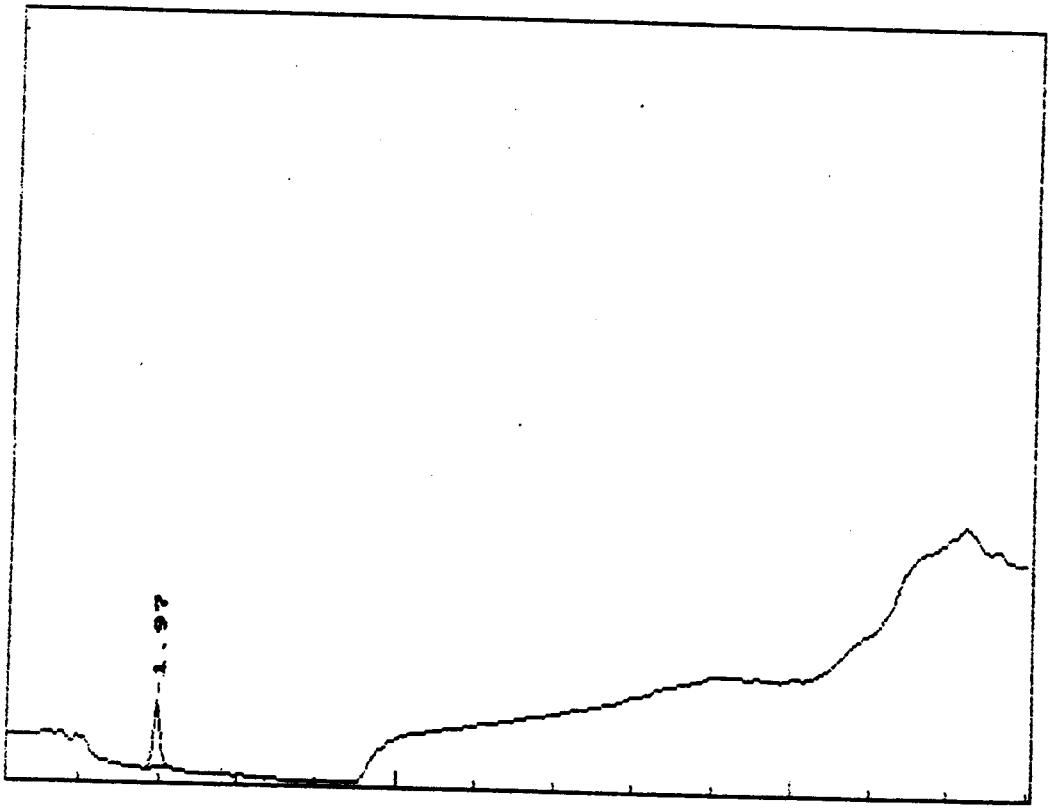
(********** 12-03-1990 09:12:37 Version 5.1 **********
Sample Name: 90L-2825-24 W/SS 5G/5MLMEOH;10UL/5MLDI

Date: 11-30-1990 06:55:01 Method: VOL3 Data File: A:BTX18
Interface: 1 Cycle#: 18 Operator JI Channel#: 0 Vial#: N.A.
Starting Peak Width: 20 Threshold: 2 Area Threshold: 5
Instrument Type: TRACOR 560 Column Type: 5%SP1200,1.75%BENTON
Solvent Description:
Conditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD
Detector 0: PID Detector 1: HALL
Misc. information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
arting Delay: 0.00 Run Time: 13.00

	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
.	1.967	2086	100.0000	1	349	100.000	6.0

tal Area: 2086 Area Reject: 10 One sample per 2.000 sec.

ta File = A:BTX18.PTS Printed on 12-03-1990 at 09:12:51
art time: 0.00 min. Stop time: 13.03 min. Offset: 0 mv.
ll Range: 4 millivolts



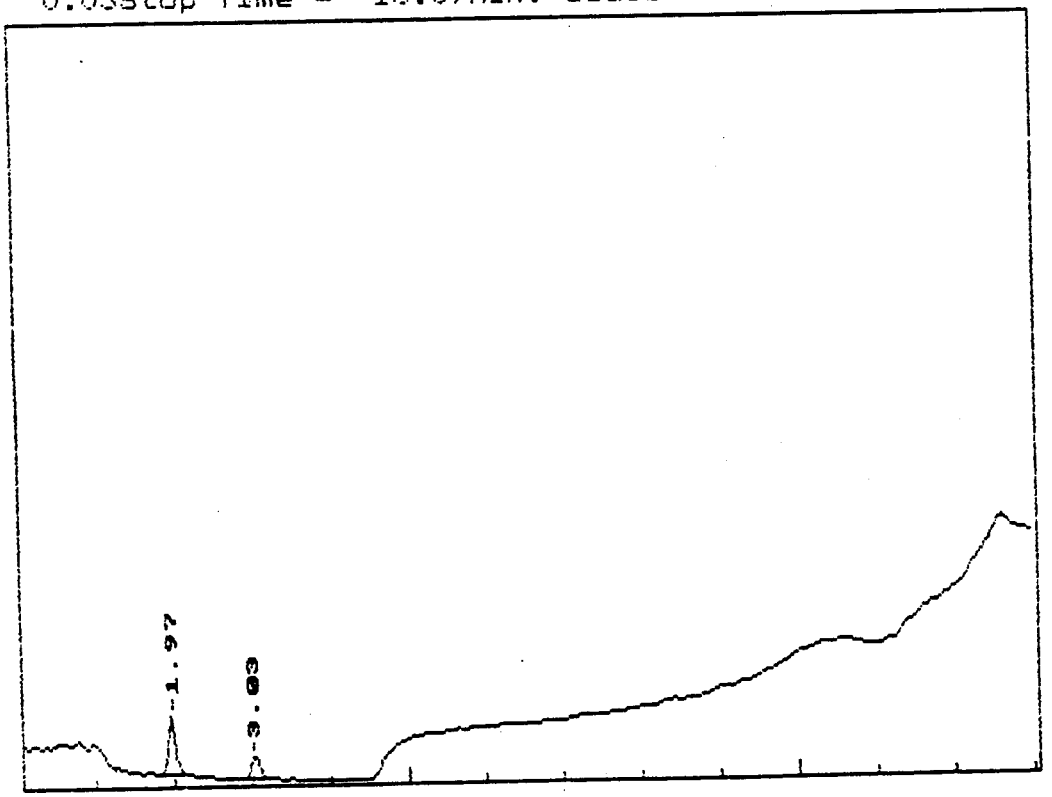
******** AREA PERCENT REPORT ********

********** 12-03-1990 09:11:17 Version 5.1 **********
ample Name: 90L-2825-25 W/SS 5G/5MLMEOH;10UL/5MLDI
Data File: A:BTX19 *
ate: 11-30-1990 07:31:49 Method: VOL3 *
nterface: 1 Cycle#: 19 Operator JI Channel#: 0 Vial#: N.A. *
tarting Peak Width: 20 Threshold: 2 Area Threshold: 5 *
****
nstrument Type: TRACOR 560 Column Type: 5%SP1200,1.75%BENTON *
Solvent Description: *
onditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD *
Detector 0: PID Detector 1: HALL *
ec. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
****
rting Delay: 0.00 Run Time: 13.00

Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1.967	1989	70.5069	1	314	100.000	6.3
3.033	832	29.4931	1	108	41.830	7.7

al Area: 2821 Area Reject: 10 One sample per 2.000 sec.

t of data file: A:BTX19.PTS
e: 12-03-1990 Time: 09:11:40
ple Name: 90L-2825-25 W/SS 5G/5M
rt Time= 0.03Stop Time = 13.07Min. Scale= 4622Max. Scale= 8622



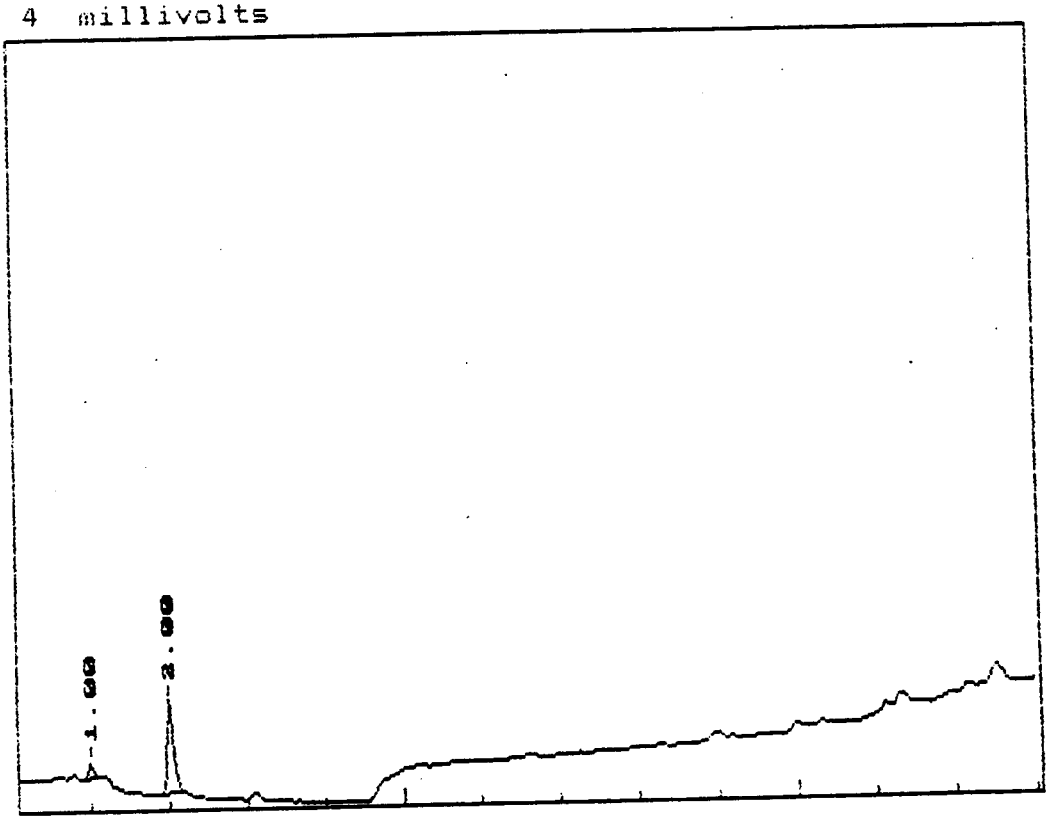
******** AREA PERCENT REPORT ********

********** 12-03-1990 09:10:06 Version 5.1 **********
ample Name: 90L-2825-26 W/SS 5G/10MLMEOH/10UL/5MLDI
Data File: A:BTX35
ate: 11-30-1990 17:46:35 Method: VOL3
nterface: 1 Cycle#: 35 Operator JG Channel#: 0 Vial#: N.A.
tarting Peak Width: 20 Threshold: 2 Area Threshold: 5
****
nstrument Type: TRACOR 560 Column Type: 3%SP1200,1.75%BENTON
Solvent Description:
onditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD
Detector 1: HALL
Detector 0: PID
isc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
****
rting Delay: 0.00 Run Time: 13.00

Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1.000	412	12.7633	1	84	14.631	4.9
2.000	2816	87.2367	1	484	100.000	5.8

al Area: 3228 Area Reject: 10 One sample per 2.000 sec.

a File = A:BTX35.PTS Printed on 12-03-1990 at 09:10:19
rt time: 0.00 min. Stop time: 13.03 min. Offset: 0 mv.
l Range: 4 millivolts



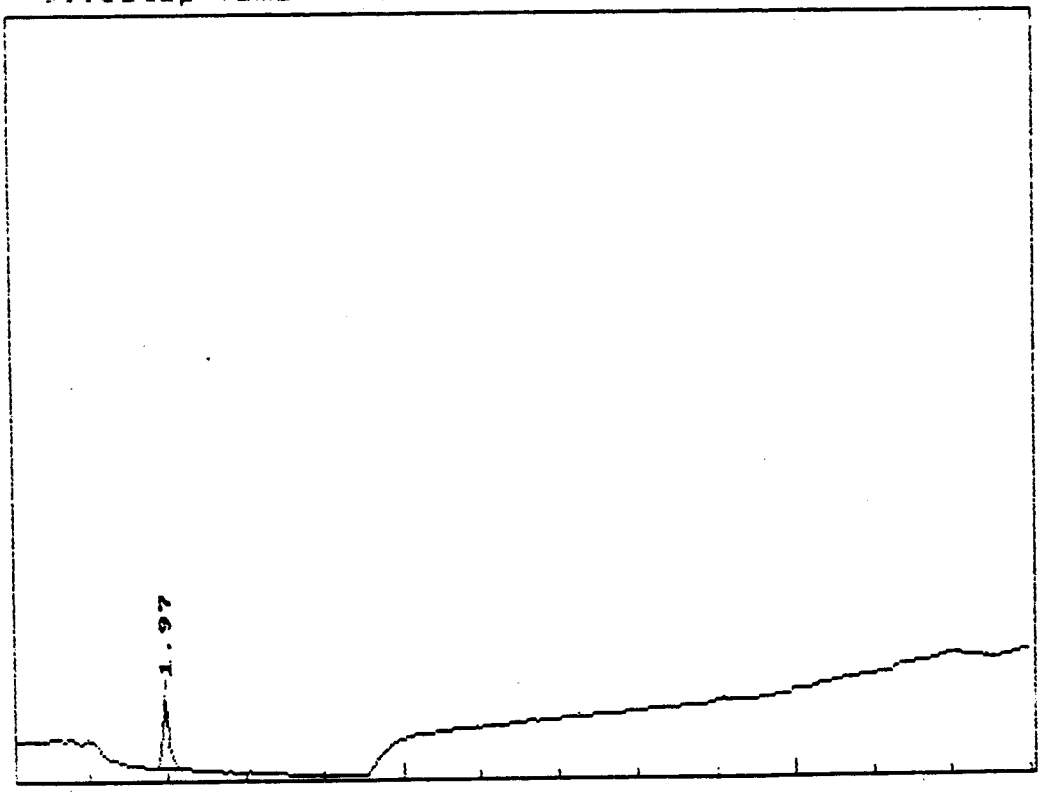
******** AREA PERCENT REPORT ********

********** 12-03-1990 09:08:54 Version 5.1 **********
ample Name: 90L-2825-27 W/SS 5G/5MLMEOH;10UL/5MLDI
Data File: A:BTX21 *
ate: 11-30-1990 08:45:26 Method: VOL3 *
nterface: 1 Cycle#: 21 Operator JI Channel#: 0 Vial#: N.A. *
tarting Peak Width: 20 Threshold: 2 Area Threshold: 5 *
****
nstrument Type: TRACOR 560 Column Type: 5%SP1200,1.75%BENTON *
Solvent Description: *
onditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD *
Detector 0: PID Detector 1: HALL *
isc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C *
****
rting Delay: 0.00 Run Time: 13.00

Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1.967	2159	100.0000	1	375	100.000	5.8

al Area: 2159 Area Reject: 10 One sample per 2.000 sec.

t of data file: A:BTX21.PTS
e: 12-03-1990 Time: 09:09:10
ple Name: 90L-2825-27 W/SS 5G/5M
rt Time= 0.038top Time = 13.07Min. Scale= 4633Max. Scale= 8633



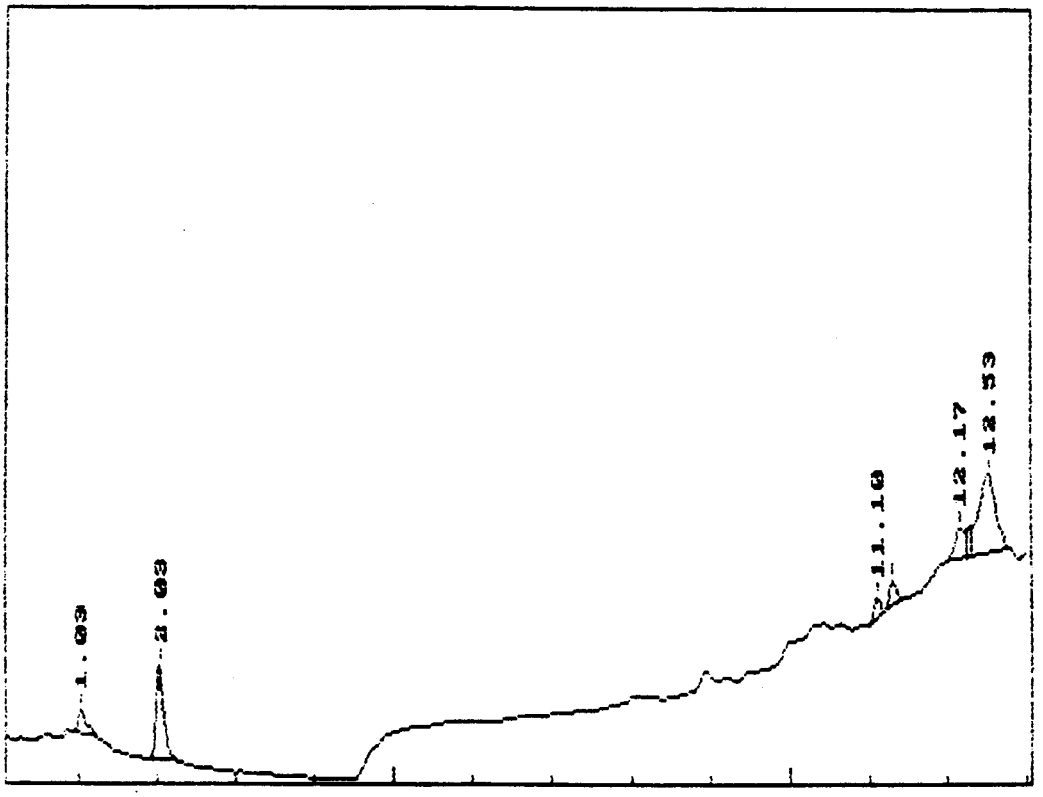
******** AREA PERCENT REPORT ********

(********** 12-03-1990 09:07:38 Version 5.1 **********
Sample Name: 90L-2825-28 W/SS NEAT Data File: A:BTX9
Date: 11-30-1990 01:26:30 Method: VOL3
Interface: 1 Cycle#: 9 Operator JI Channel#: 0 Vial#: N.A.
Starting Peak Width: 20 Threshold: 2 Area Threshold: 5
(**********
Instrument Type: TRACOR 560 Column Type: 5%SP1200.1.75%BENTON
Solvent Description:
Conditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD
Detector 0: PID Detector 1: HALL
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
(**********
Starting Delay: 0.00 Run Time: 13.00

	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.033	784	5.8442	1	110	12.148	7.1
2	2.033	3314	24.7037	1	485	51.351	6.8
3	11.100	589	4.3906	1	102	9.127	5.8
4	11.300	922	6.8729	1	132	14.286	7.0
5	12.167	1352	10.0808	2	160	20.955	8.5
6	12.533	6454	48.1078	2	398	100.000	16.2

Total Area: 13415 Area Reject: 10 One sample per 2.000 sec.

Path of data file: A:BTX9.PTS
Date: 12-03-1990 Time: 09:07:55
Sample Name: 90L-2825-28 W/SS NEAT
Start Time= 0.03Stop Time = 13.07Min. Scale= 4623Max. Scale= 8623



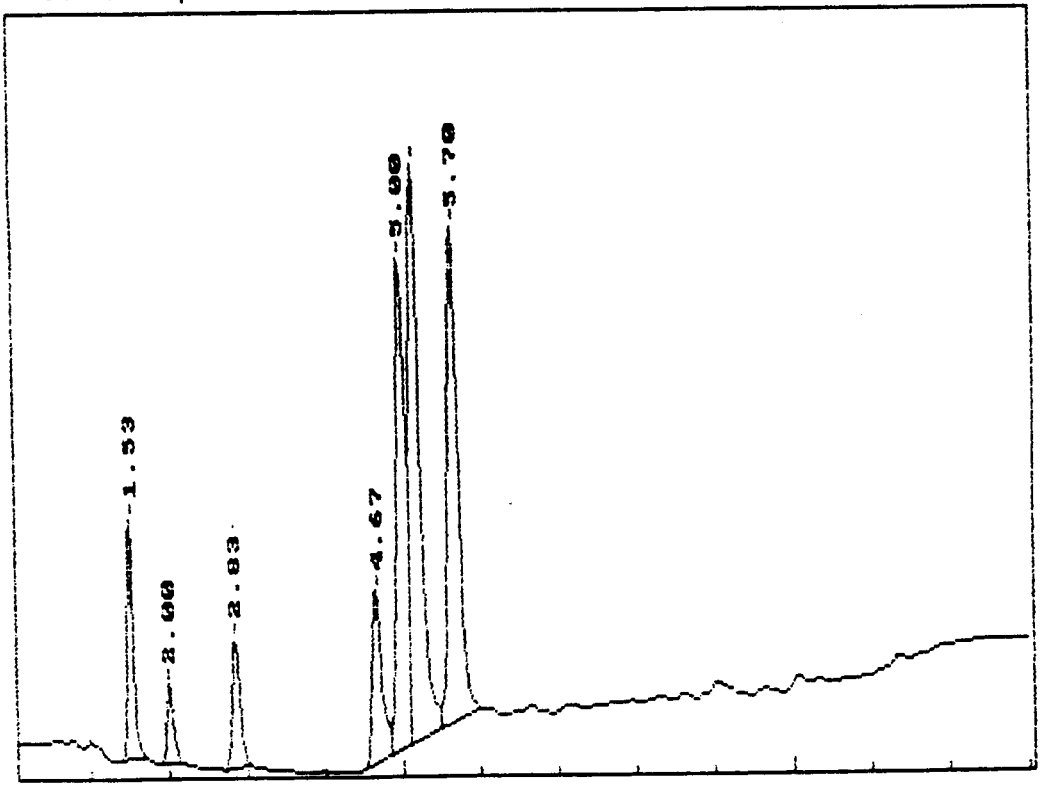
******** AREA PERCENT REPORT ********

********** 12-03-1990 09:05:01 Version 5.1 **********
Sample Name: 90L-2825-20 W/SS 10UL MS US BTEX MIX 20
Data File: A:BUX23
Date: 11-30-1990 10:28:20 Method: VOL3
Interface: 1 Cycle#: 23 Operator JG Channel#: 0 Vial#: N.A.
Starting Peak Width: 20 Threshold: 2 Area Threshold: 5
Instrument Type: TRACOR 560 Column Type: 5%SP1200,1.75%BENTON
Solvent Description:
Conditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD
Detector 0: PID Detector 1: HALL
Misc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C
Starting Delay: 0.00 Run Time: 13.00

Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1.533	6857	6.8610	1	1261	22.511	5.4
2.000	2320	2.3213	1	416	7.616	5.6
2.833	4832	4.8348	1	680	15.863	7.1
4.667	8052	8.0564	2	901	26.433	8.9
5.000	23490	23.5036	2	2585	77.116	9.1
5.200	30461	30.4783	2	3044	100.000	10.0
5.700	23931	23.9445	2	2602	78.563	9.2

Total Area: 99942 Area Reject: 10 One sample per 2.000 sec.

Plot of data file: A:BUX23.PTS
Date: 12-03-1990 Time: 09:05:19
Sample Name: 90L-2825-20 W/SS 10UL
Start Time= 0.03Stop Time = 13.07Min. Scale= 4640Max. Scale= 8640



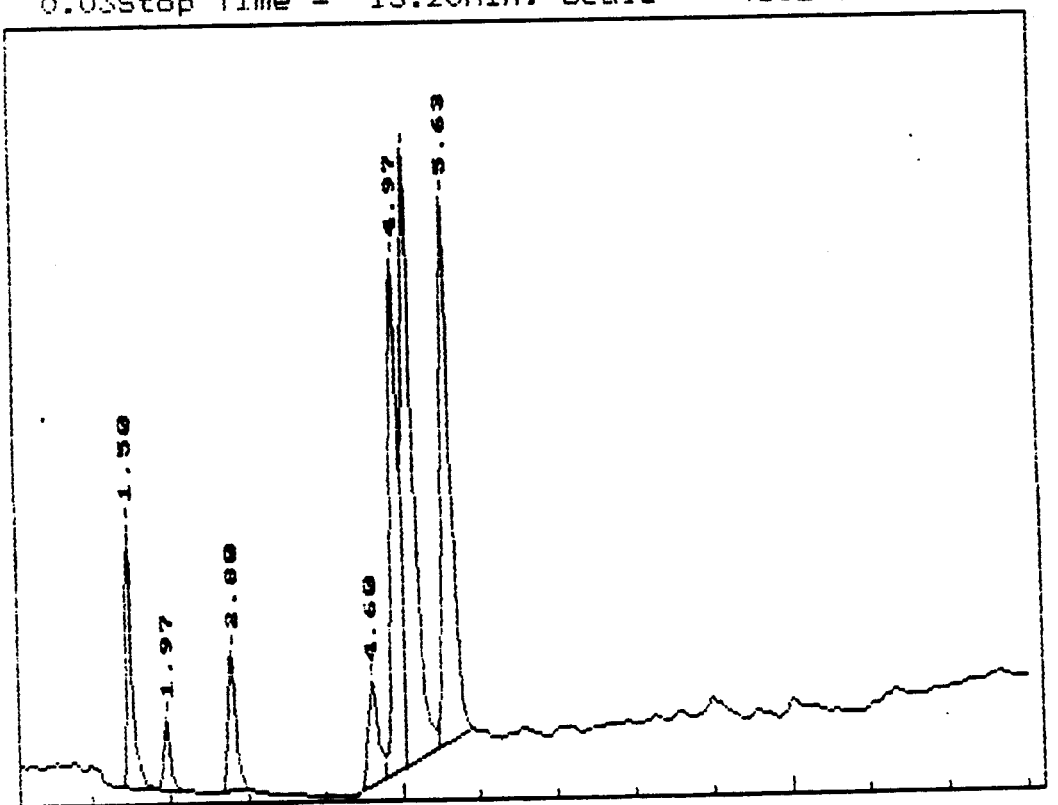
******** AREA PERCENT REPORT ********

```
**************** 12-03-1990 09:02:24 Version 5.1 **********************
ample Name: 90L-2825-20 W/SS 10UL MSD US BTEX MIX 20
                                        Data File: A:BTX24          *
ata: 11-30-1990 11:05:03 Method: VOL3                               *
nterface: 1   Cycle#:  24  Operator JG  Channel#: 0    Vial#: N.A.  *
tarting Peak Width:  20   Threshold: 2  Area Threshold: 5           *
**********************************************************************
nstrument Type: TRACOR 560          Column Type: 5%SP1200,1.75%BENTON *
                                                                    *
           Solvent Description:                                     *
onditions: 50C-2MIN-6C/MIN-110C-2MIN HOLD                           *
           Detector 0: PID                  Detector 1: HALL        *
isc. Information: FLOW 35ML/MIN DET TEMP: 225 C; 250C               *
**********************************************************************
rting Delay:   0.00                      Run Time:   13.00
```

Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1.500	7192	7.1673	2	1351	21.898	5.3
1.967	2069	2.0615	2	365	6.299	5.7
2.800	5308	5.2897	1	731	16.162	7.3
4.600	5105	5.0871	2	542	15.543	9.4
4.967	22941	22.8619	2	2633	69.850	8.7
5.133	32843	32.7301	2	3168	100.000	10.4
5.633	24888	24.8024	2	2812	75.779	8.8

```
al Area:      100345   Area Reject:        10  One sample per   2.000 sec.

t of data file:  A:BTX24.PTS
e:  12-03-1990    Time:  09:03:24
ple Name:  90L-2825-20 W/SS 10UL
rt Time=   0.03Stop Time =  13.20Min. Scale=   4632Max. Scale=   8632
```



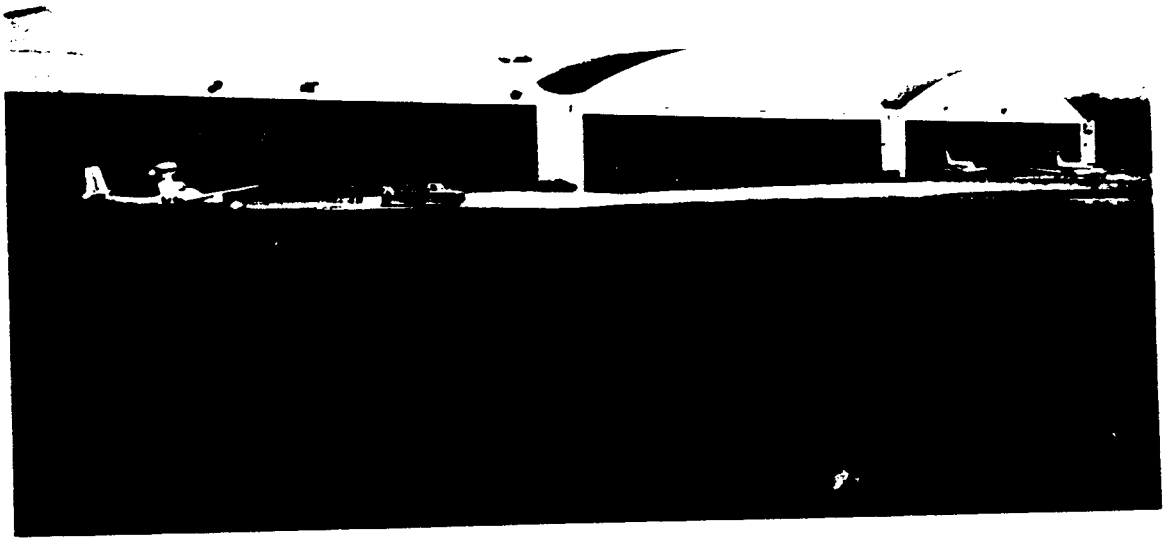
Location: Mobil Oil Co/ Wreschester Airport Tester: C.P.W.
Test #: 94112

Vapor Recovery
- Stage 1 — One Point — Coaxial — Below Grd. Manifold — None
- Stage 2 — Multi Point — Other — Above Grd. Manifold
(If "Other" checked, explain on schematic)

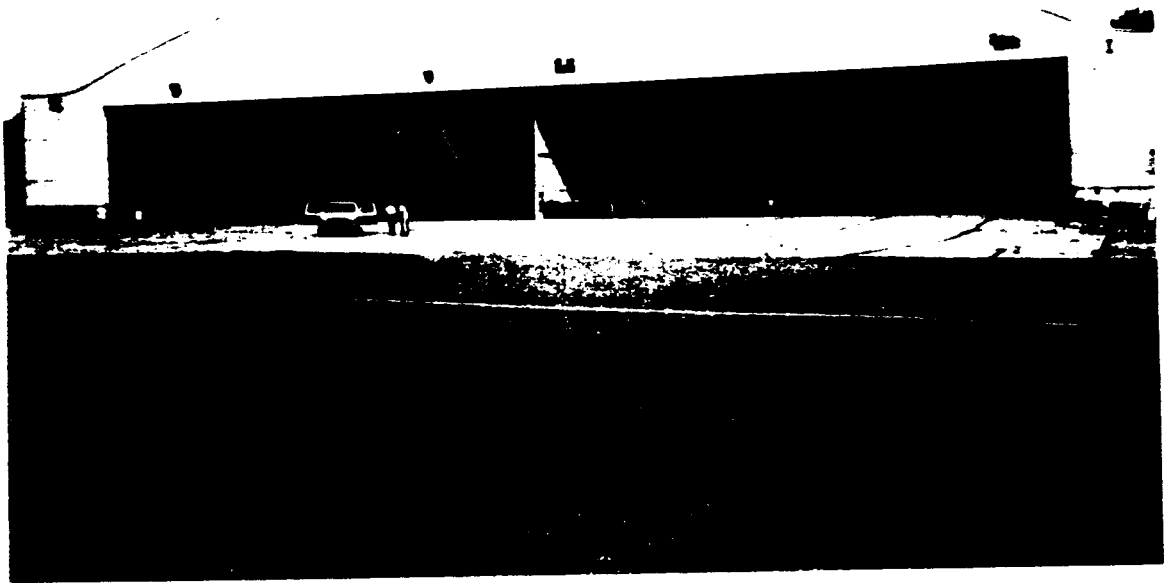
water table is below tank.

FILL IN ALL DATA

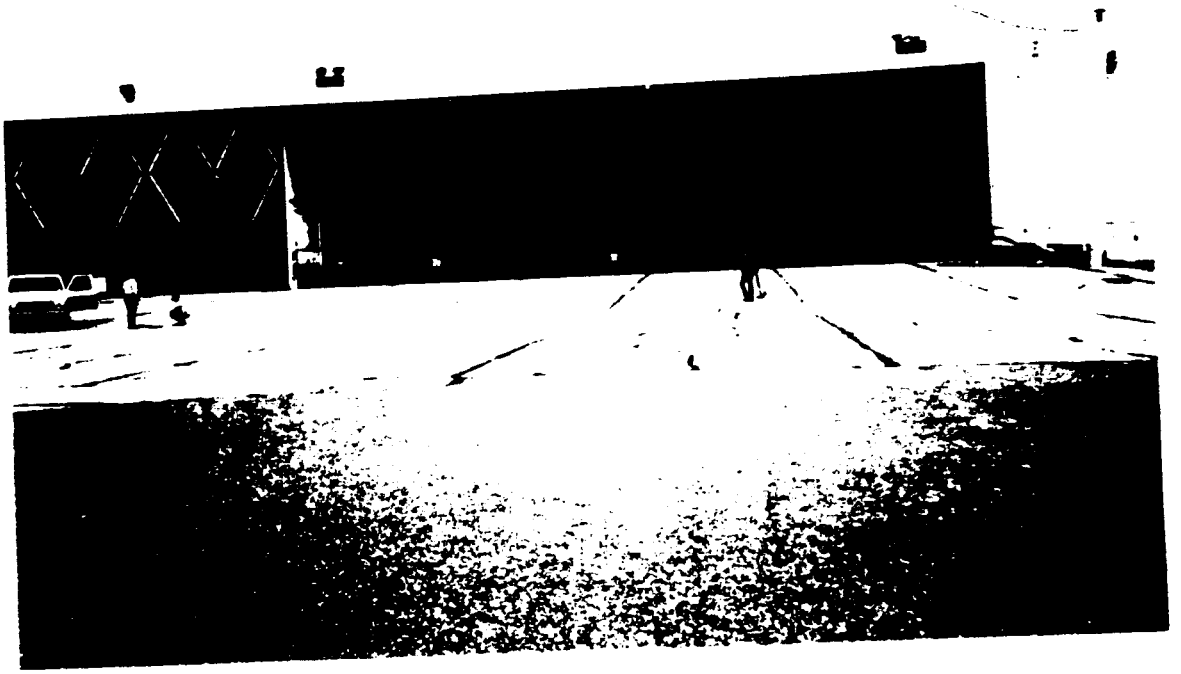
Channel	A	B	B45			
Product	Heating Oil	Nothing	Heating Oil			
Tank Material	steel		steel			
Tank Size (gal/in)	5,000 82"		5,000 gl- 82"			
Initial Level (gal/in)	80"		80"			
Difference(gal/in)	50"		50"			
Deformation Time	/		/			
Super Elev. Time: High Level	/		/			
Super Elev. Time: Low Level	/		/			
Bottom Depth	132		132			
Riser Depth	50		50			
Measured Diameter	82		82			
Vapor Sweep (Y/N)	N		N			
Water in Tank (ins.)	0		0			
Pump Type	Suction		Suction			
Test Height, High Level	48"		45			
Label, High	48		B45			
Test Height, Low Level	/		/			
Label, Low						
3rd Test Height	/		/			
3rd Label						
Product Density-L.C.	.89		.89			
Product Denisty-Tank			.87			
Product Temp. F.	65.3°		65.0°			
COE .000	429		327			



Overview of Mobil Hanger and Neighboring Hangers
2



Overview of Mobil Hanger and Pad - Right Half of Hanger



Overview of Mobil Hanger and Pad - Right Half of Hanger

4

Boring Location B1

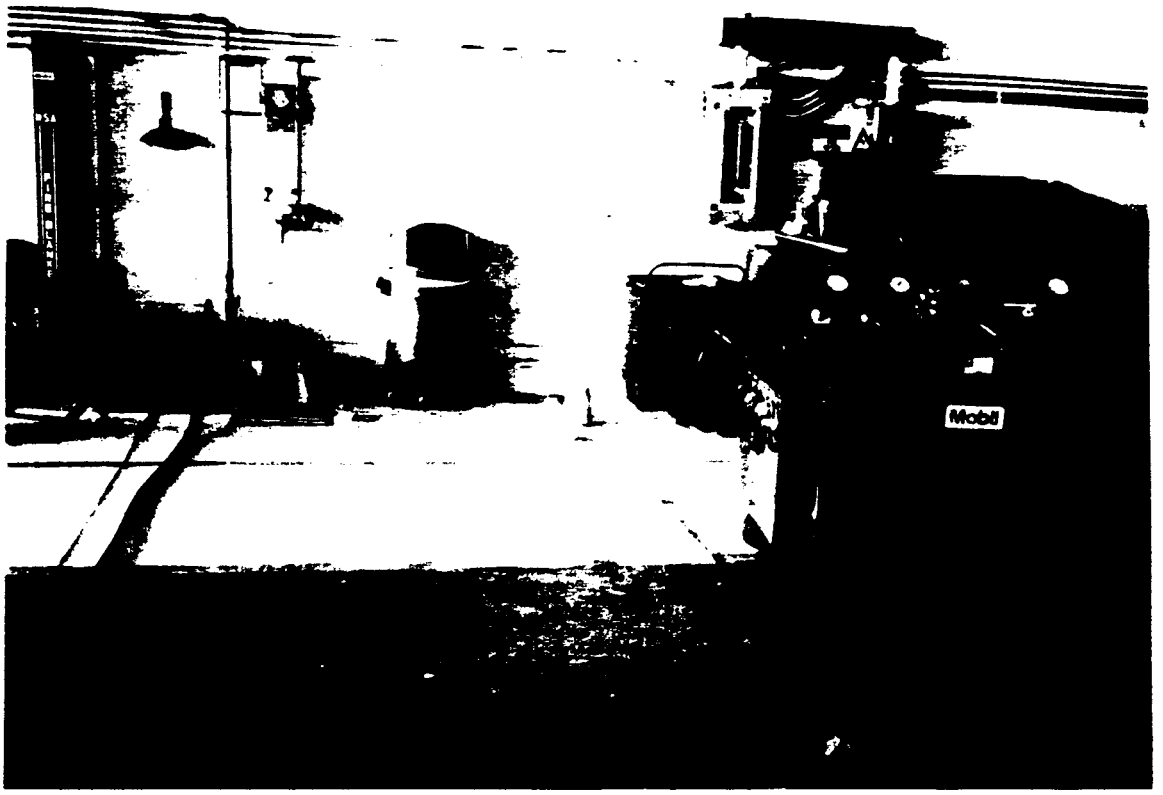
5

Boring Location B2

6

Boring Location B2-A

7



Boring Location B3

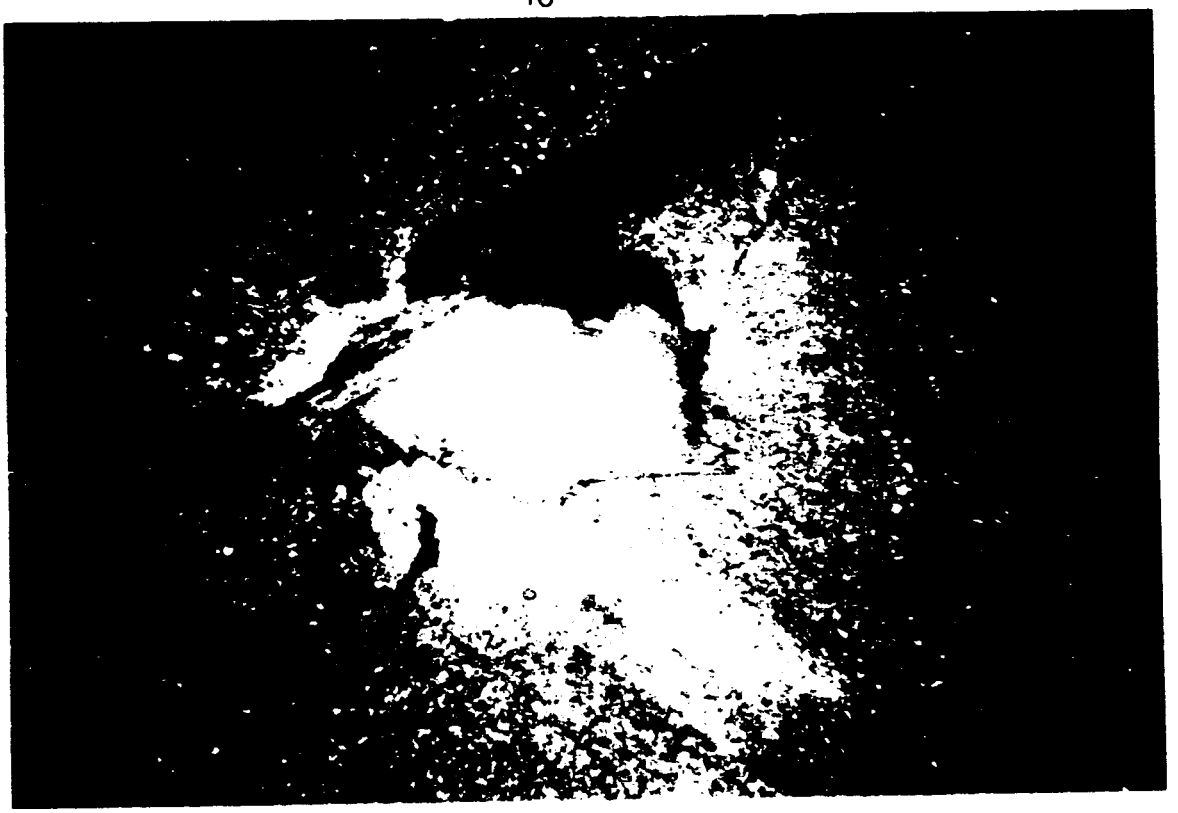
8

Boring Location B4

9

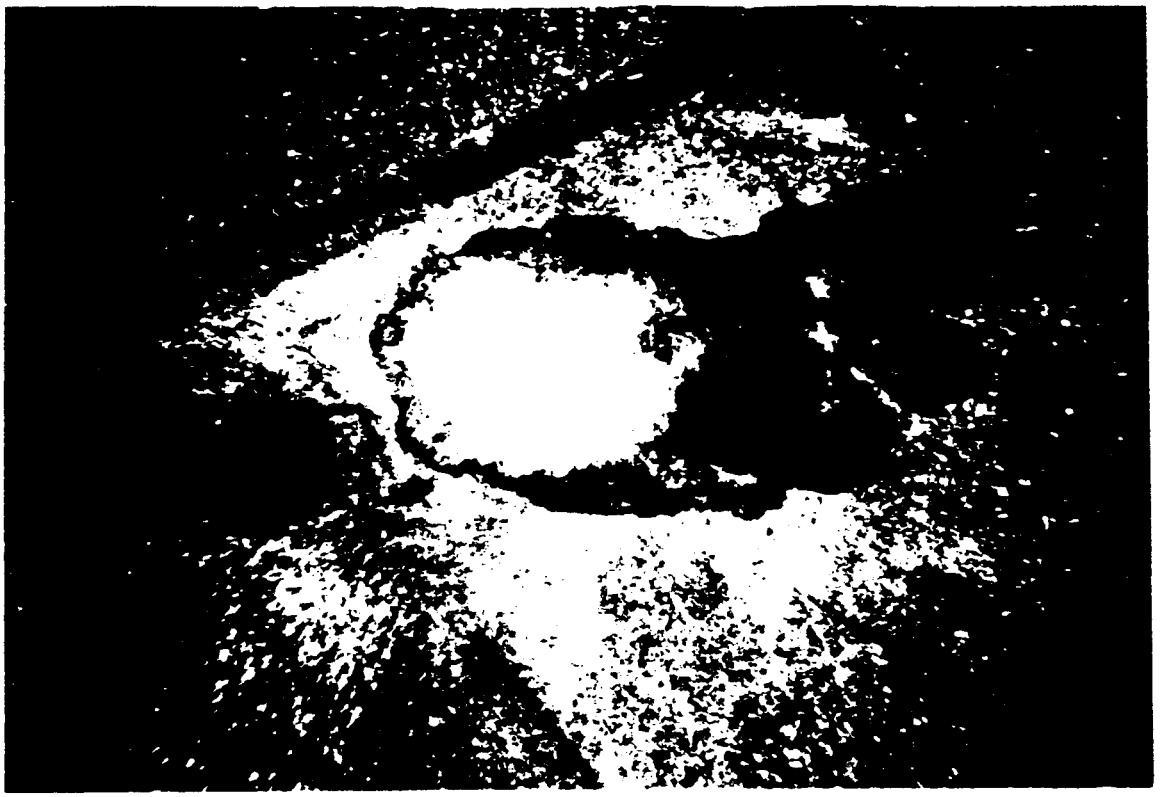
Boring Location B5

10



B1 Location - After Repair of Floor

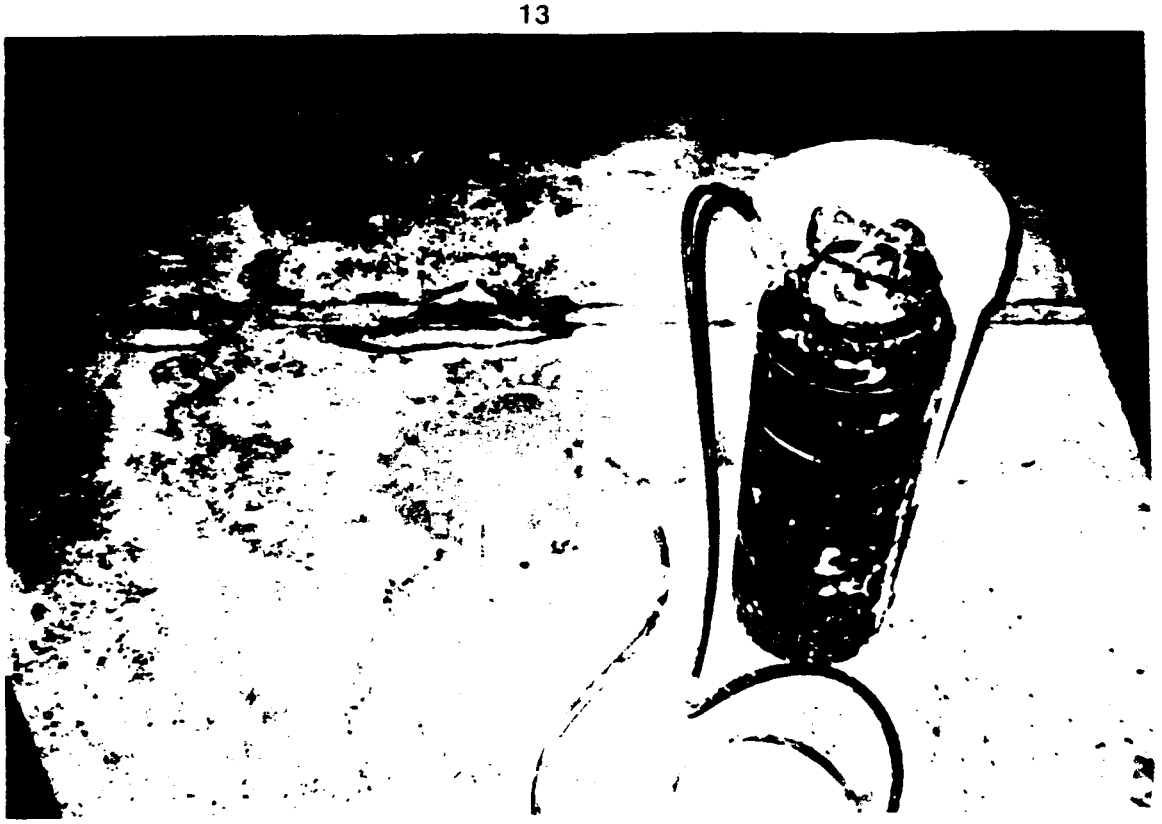
11



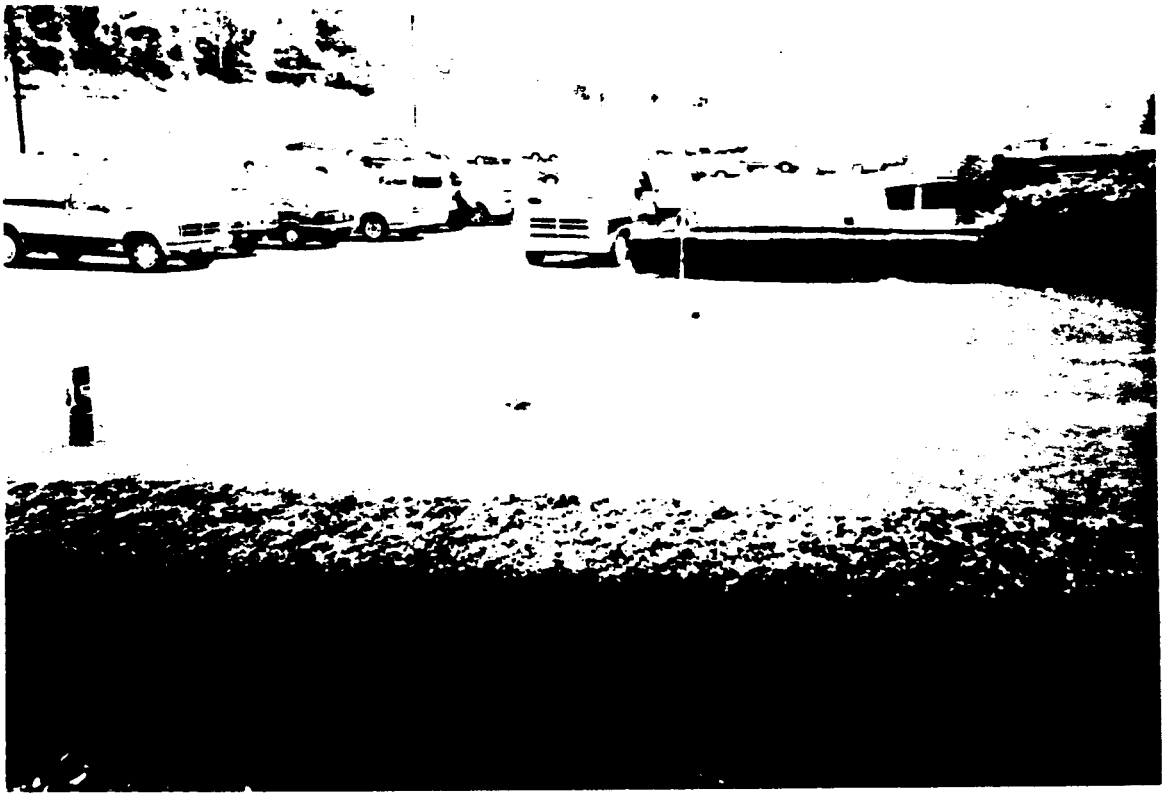
B2 Location - After Repair of Floor

12

B2-A Location - After Repair of Floor



B3 Location - After Repair of Floor



B5 Location - After Boring Hole was Filled

15

B4 Location - After Electrical and Flooring was Repaired

16

UST Tightness Testing in Progress

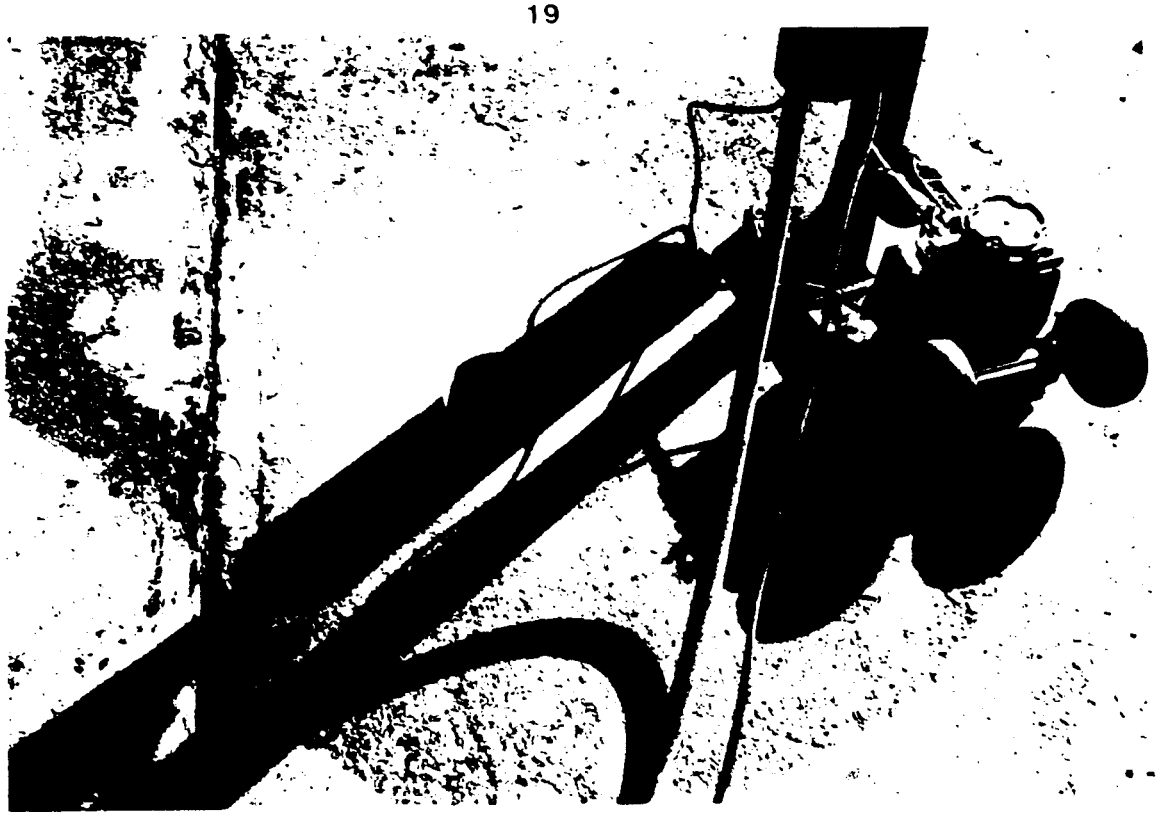
17

Boring Location B1-A

18

Boring Location B1-B

19

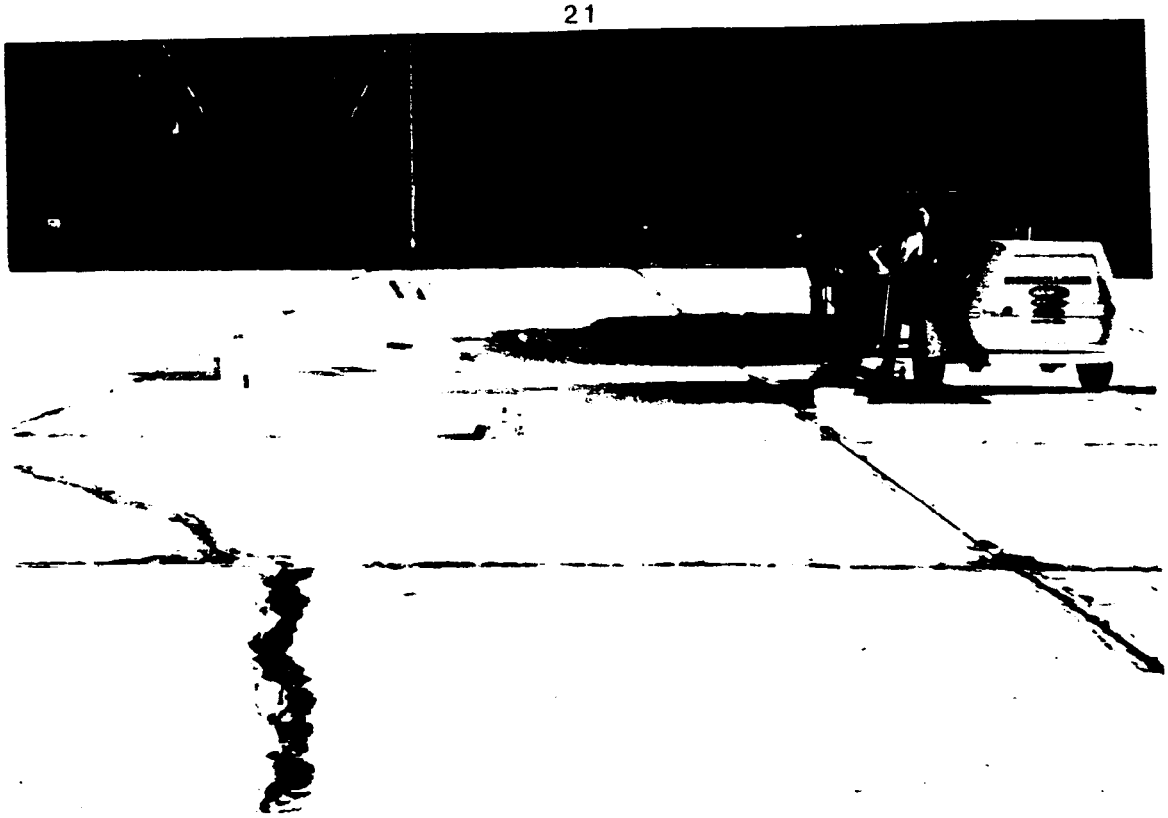


Boring Location B1-C

20

Boring Location B1-D

21

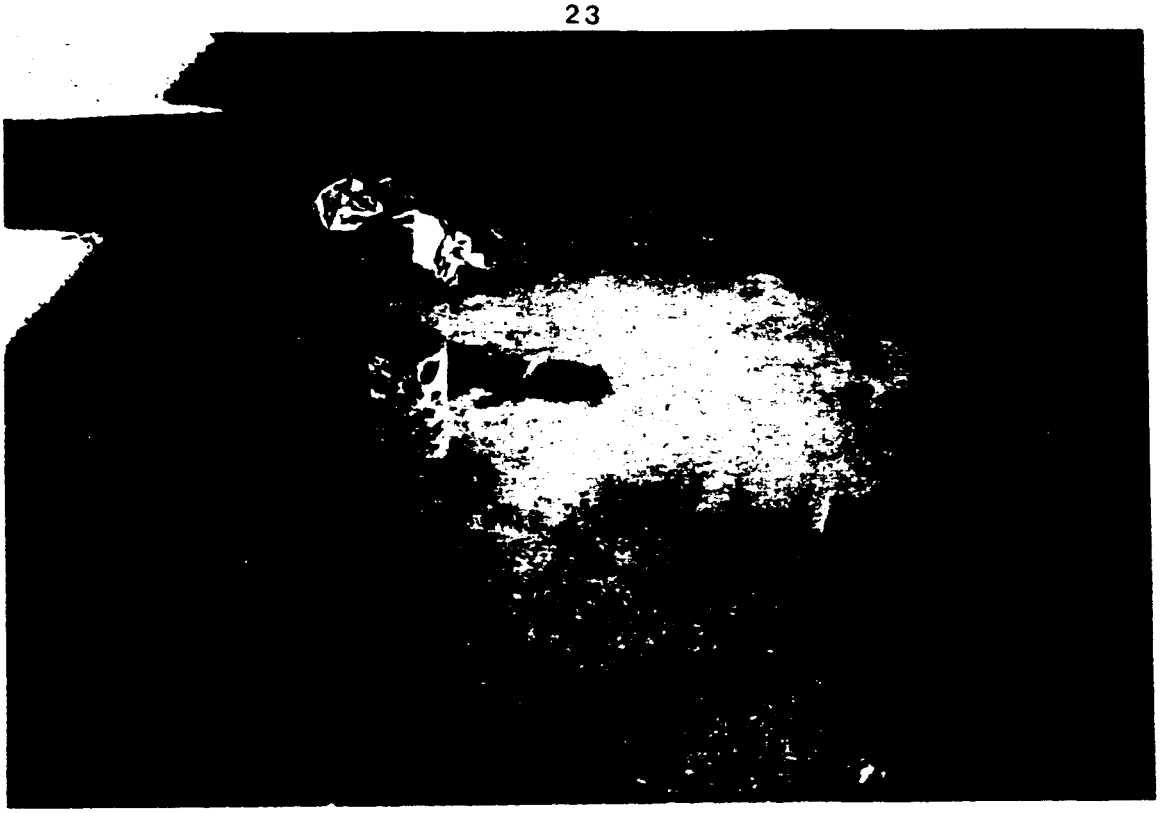


Overall of Boring Locations B1-A, B1-B, B1-C and B1-D

22

Boring Location B2-A

23



Boring Location B2-B

24

Boring Location B2-C

25

Boring Location B2-D

26

Overall of Boring Locations B2-A, B2-B, B2-C and B2-D

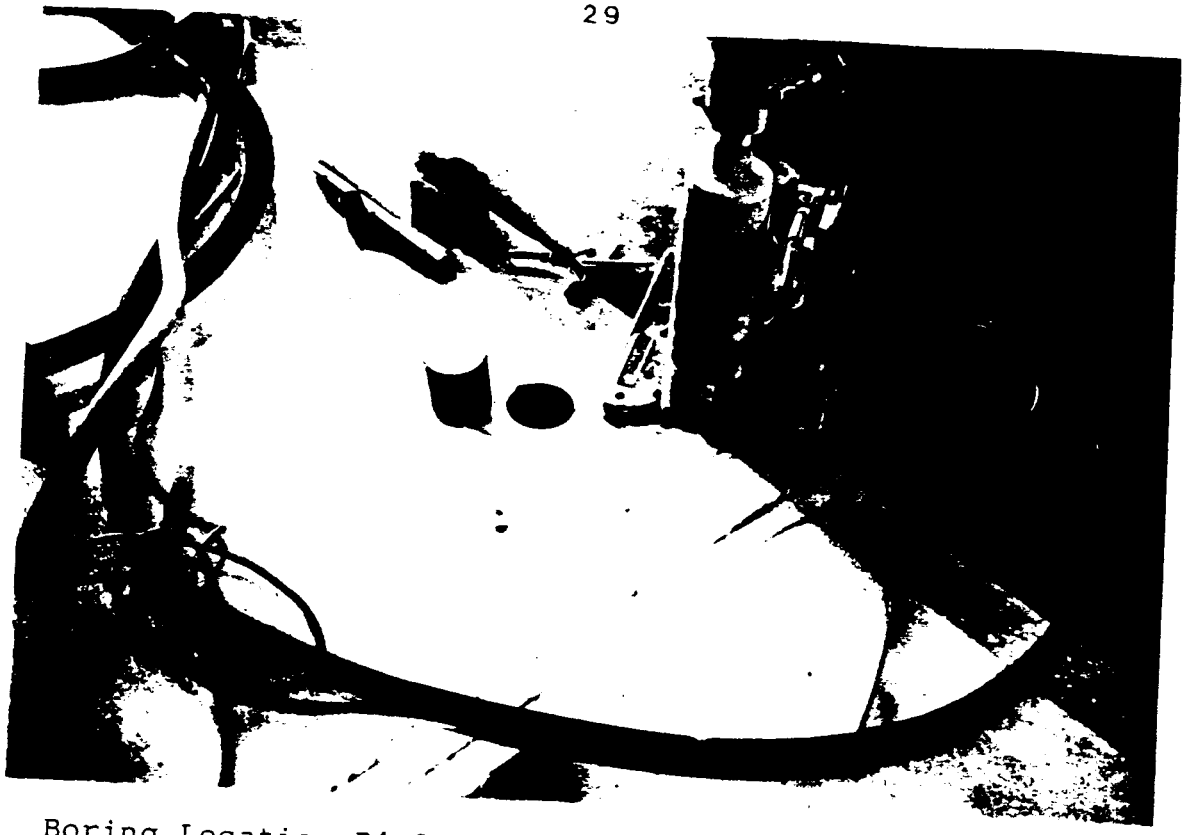
27

Boring Location B4-A

28

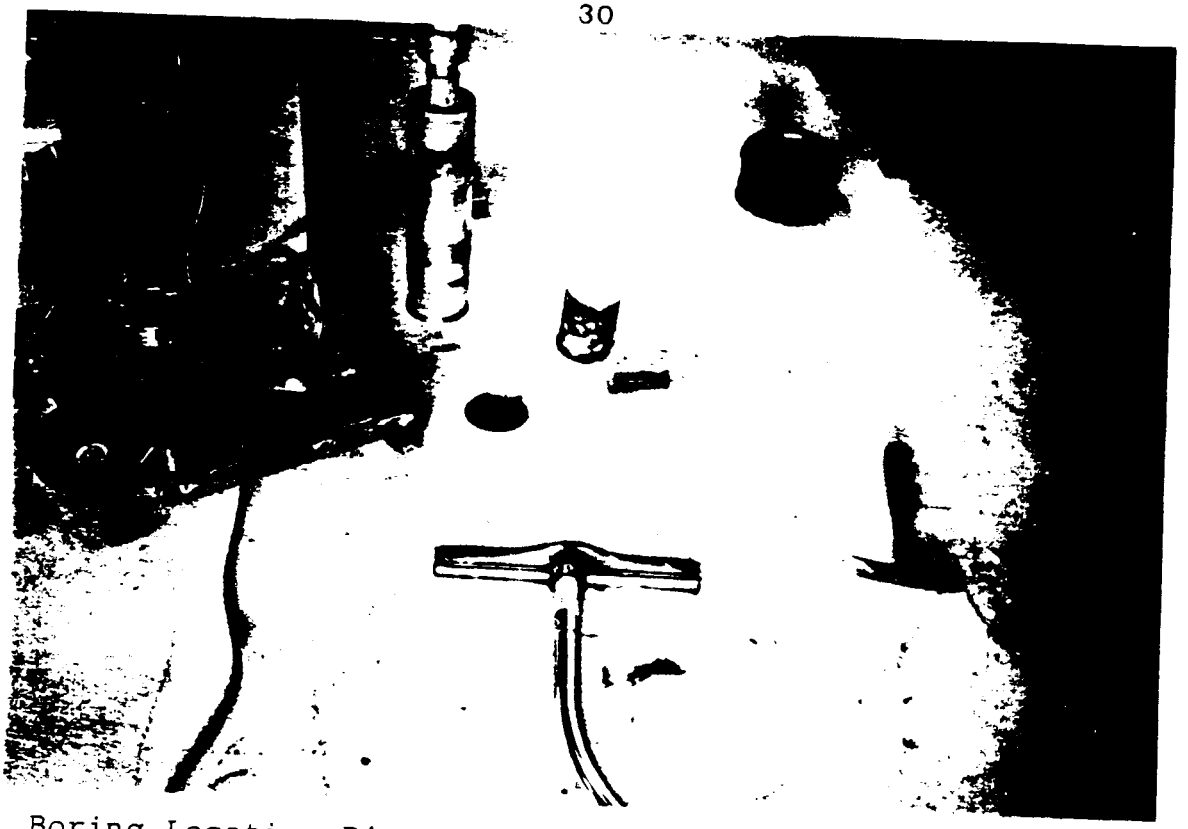
Boring Location B4-B

29



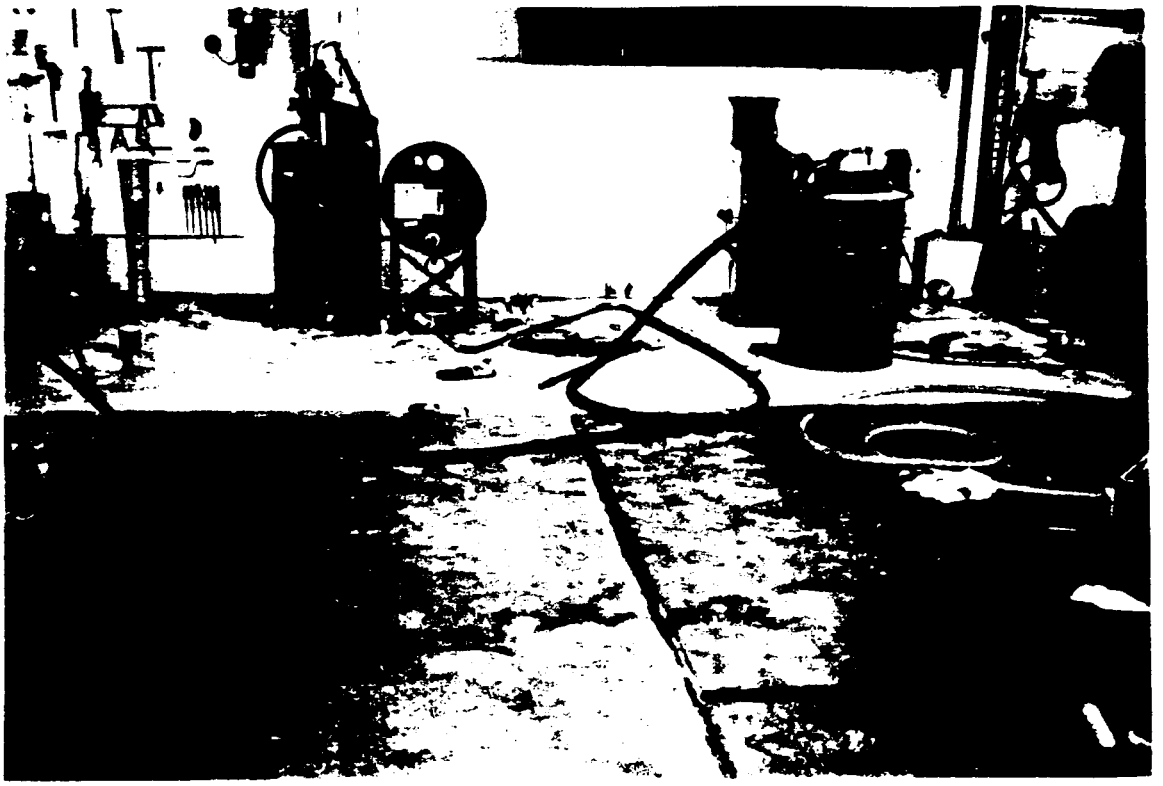
Boring Location B4-C

30



Boring Location B4-D

31

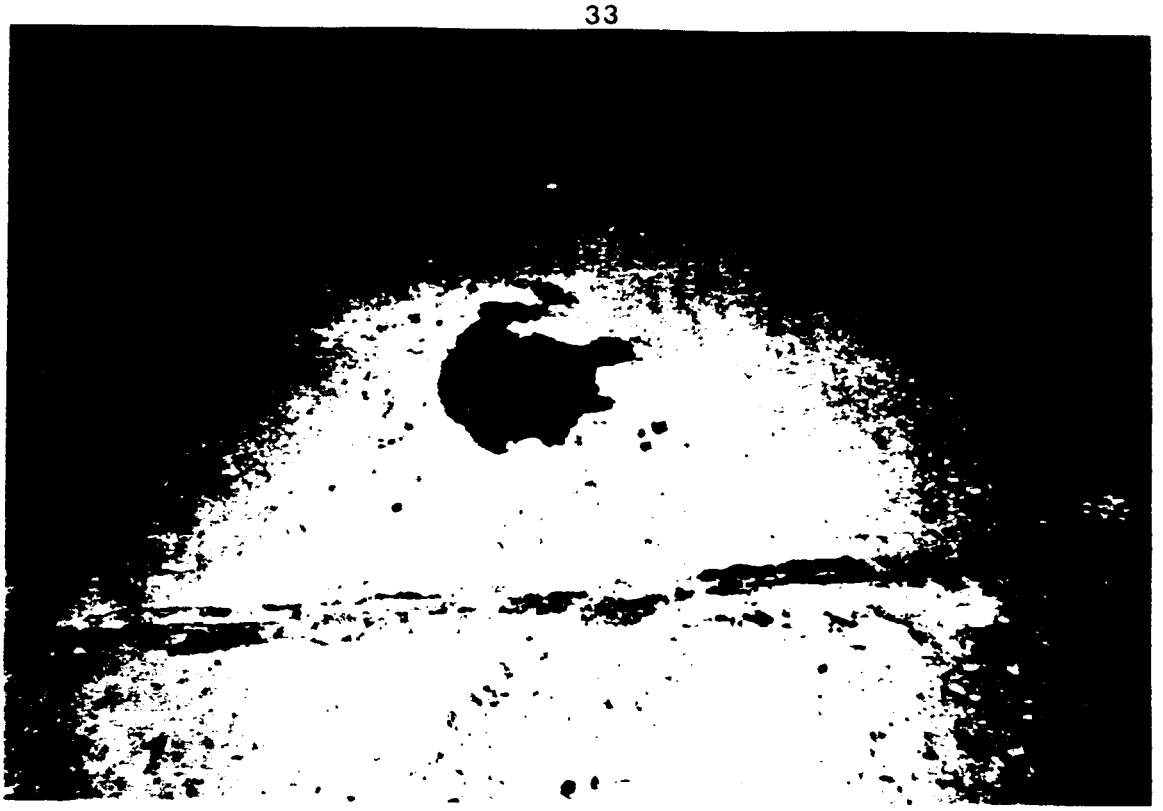


Overall of Boring Locations B4-A, B4-B, B4-C and B4-D

32

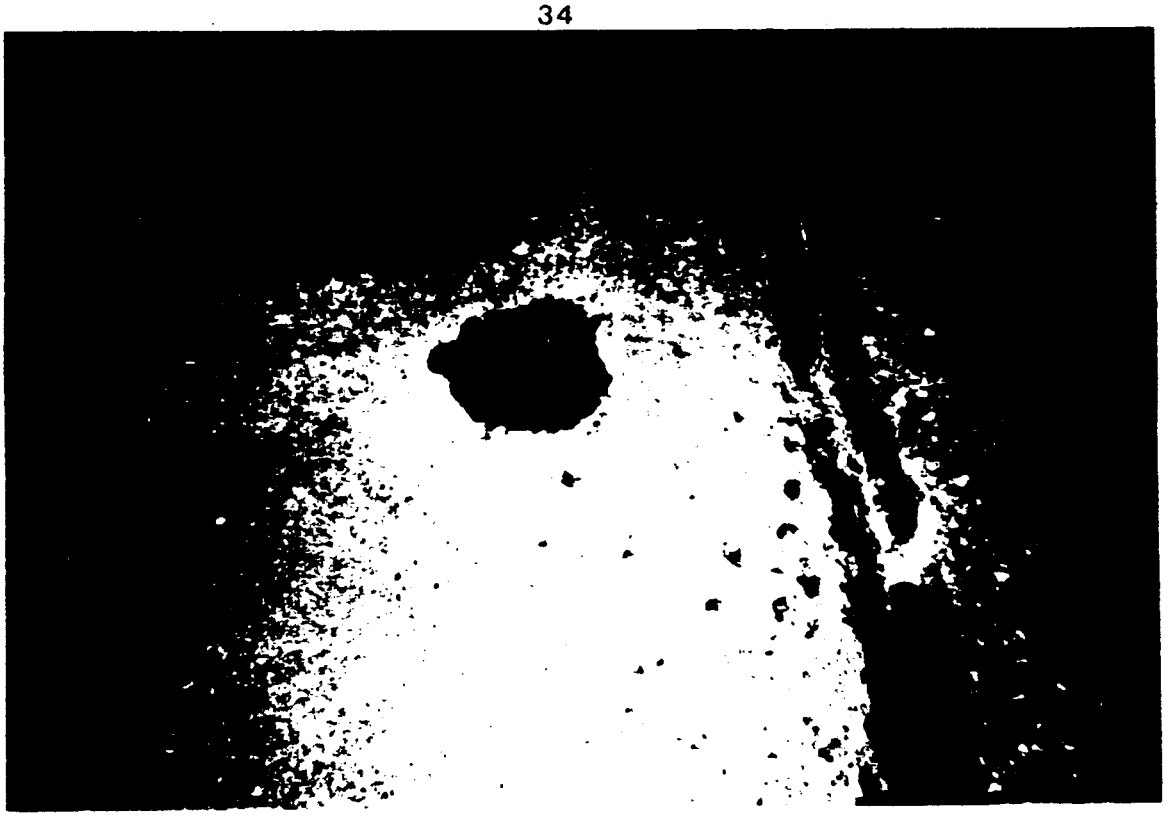
B2-A Location - After Repair of Floor

33



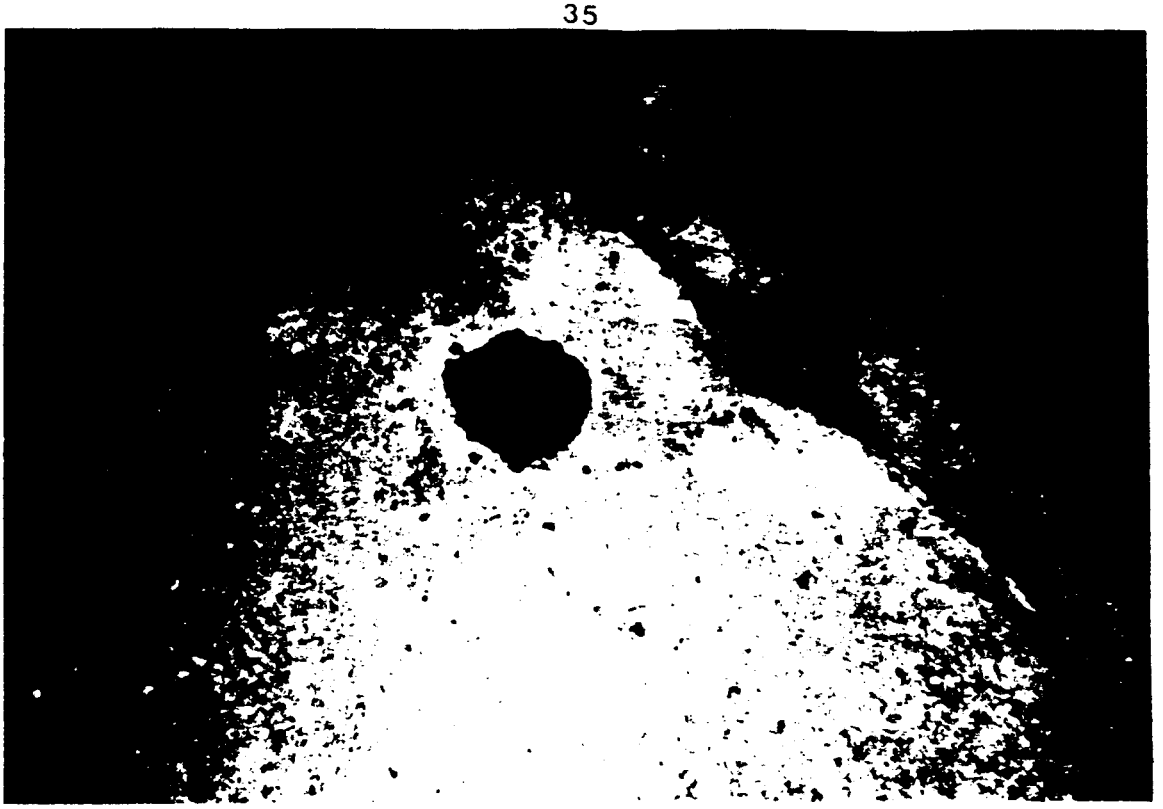
B2-B Location - After Repair of Floor

34



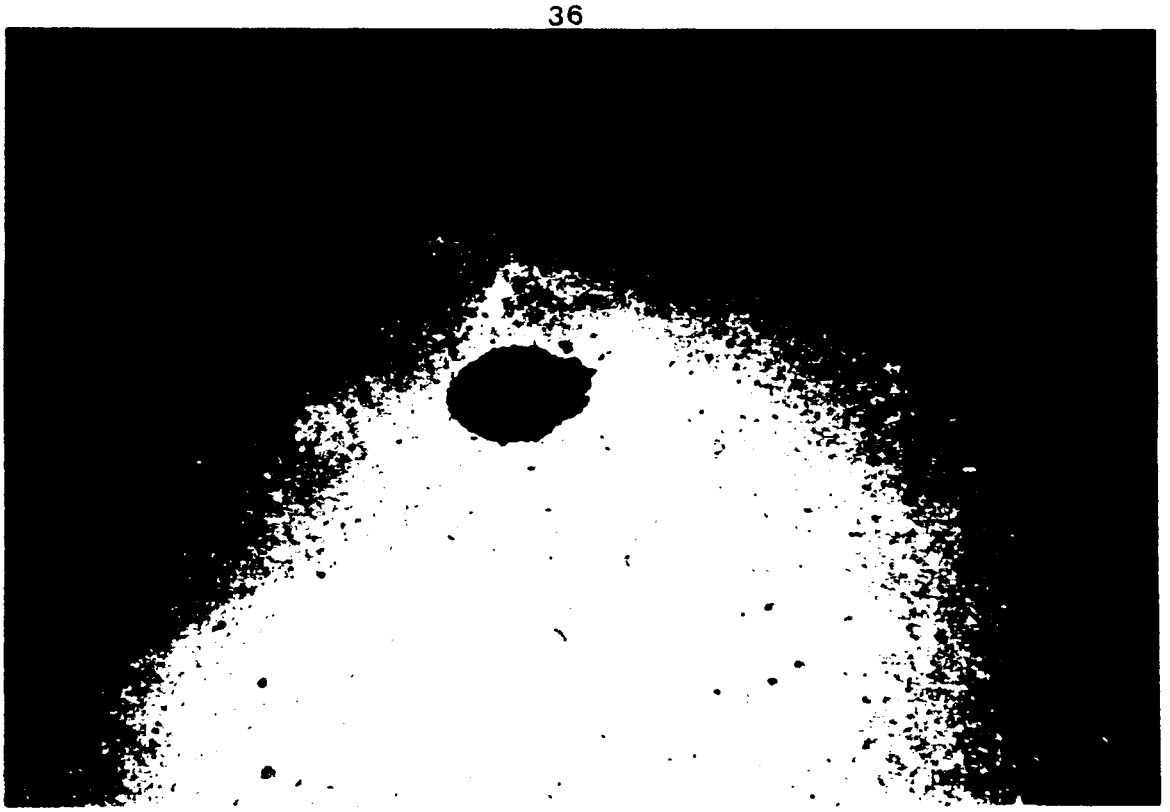
B2-C Location - After Repair of Floor

35



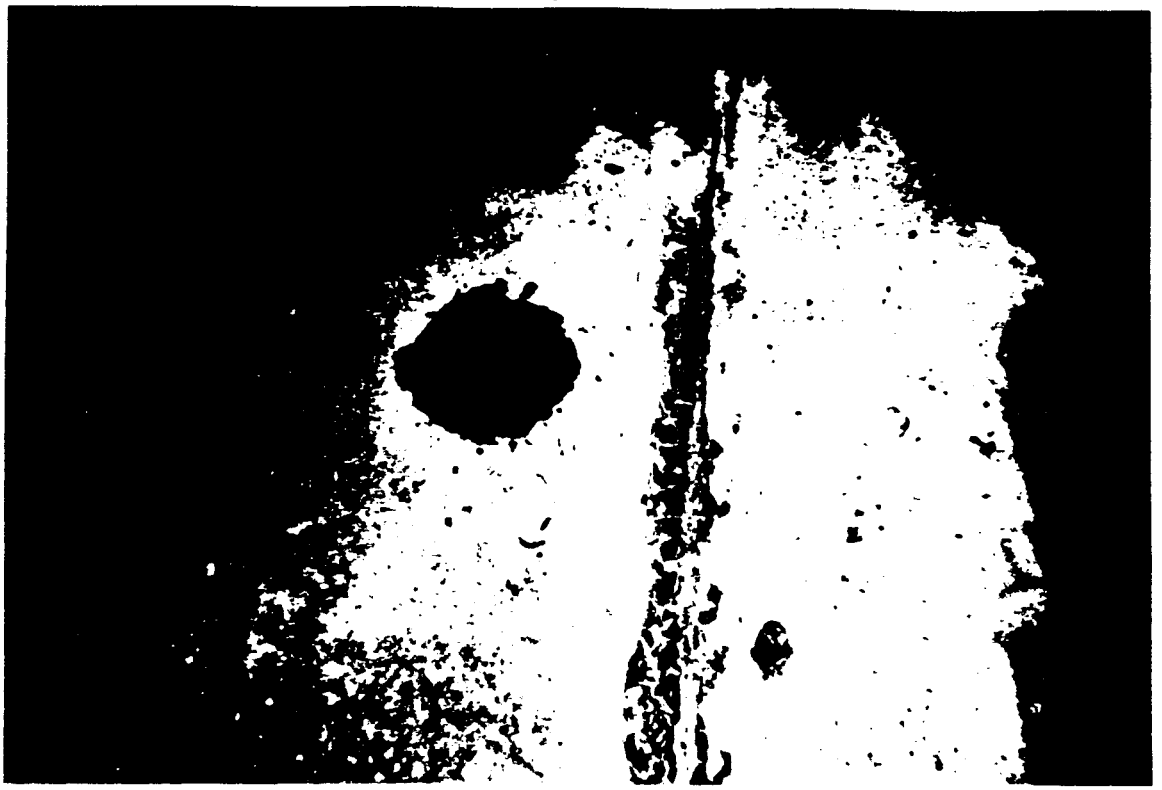
B2-D Location - After Repair of Floor

36



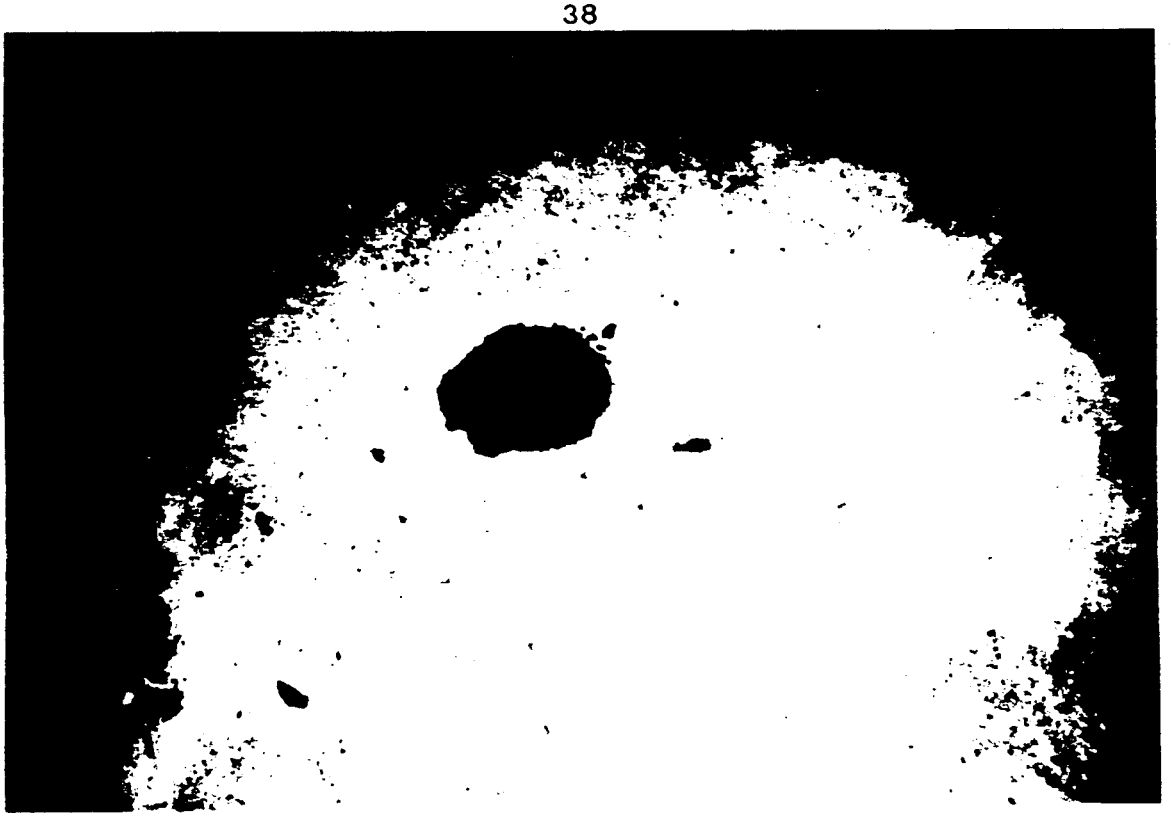
B1-A Location - After Repair of Floor

37



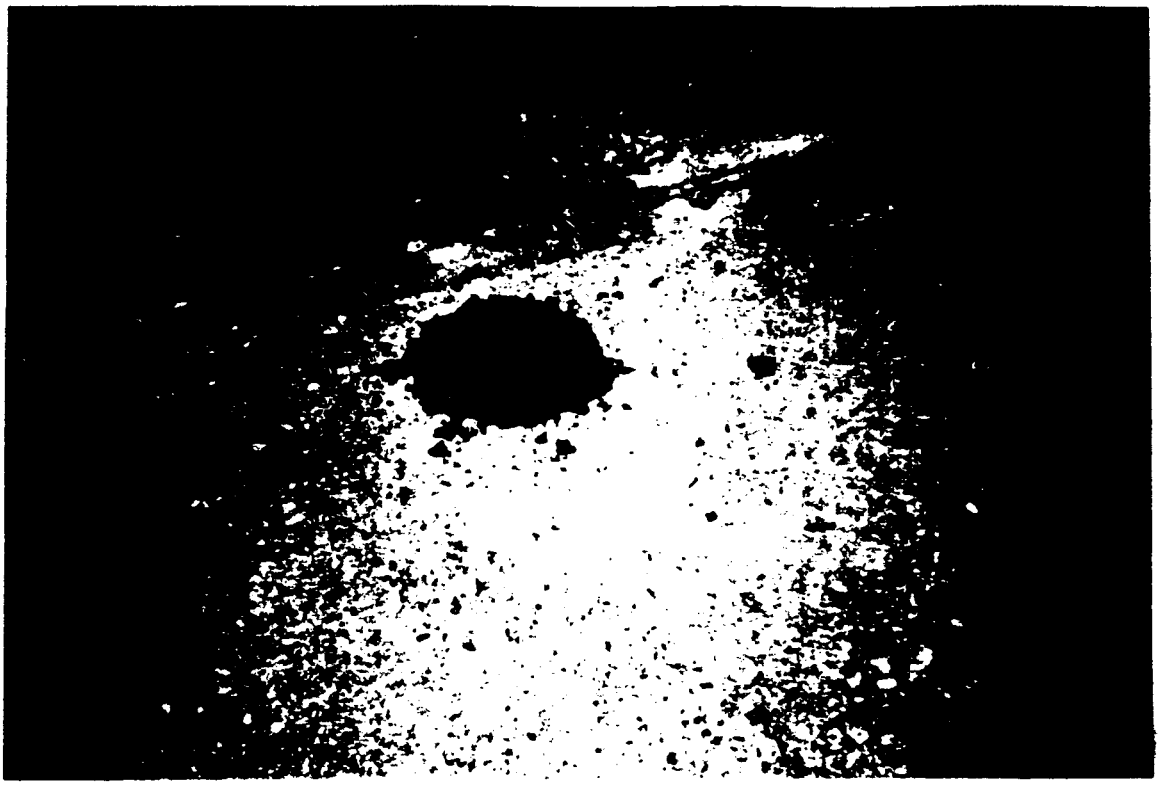
B1-B Location - After Repair of Floor

38



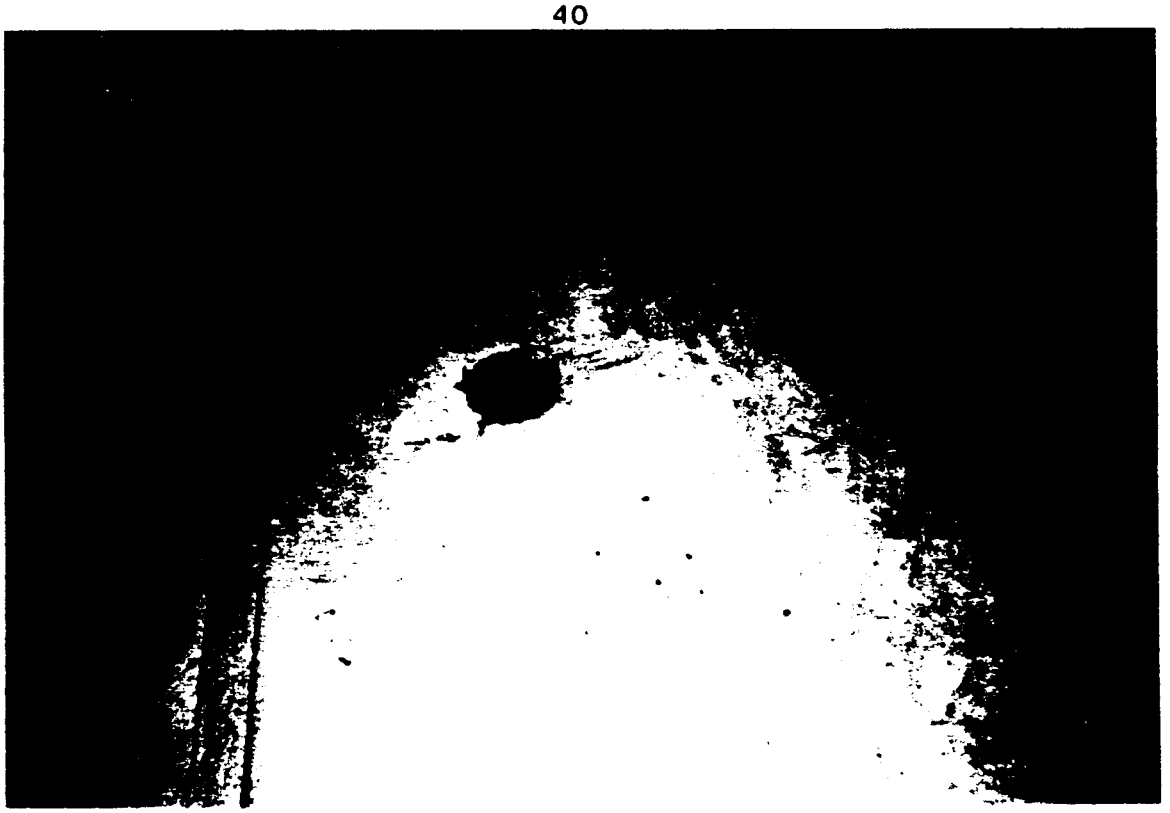
B1-C Location - After Repair of Floor

39



B1-D Location - After Repair of Floor

40



B4-A Location - After Repair of Floor

HOW TO READ AN ACUTEST STRIP CHART

NOTE: The example which follows is a record of an actual test performed in Austin, Texas on December 15, 1988. (The customer's name and location have been changed) The tank was found to be leaking at 3" above tank top and was subsequently repaired by replacement of a pipe fitting and returned to service. Two different leak rates were obtained with two levels of fluid in the riser which permitted identification of the leak source at tank top. While each test was run for a period of several hours, only the last hour of data is recorded in each final report, with each line showing a calculated leak rate based on an average of 250 readings of temperature and volume change during a period of approximately one minute.

DATA RECORD. This line identifies an individual test with a number representing the date (YYMMDD) followed by a two-digit serial number, the alphabetic channel designation and a number representing the height of fluid in the riser in inches. The Tank Volume and Product in the tank are also shown on this line.

LOCATION. Site location is shown on the second line, together with operator name.

LEAK RATE AVERAGE. The number of cycles (minutes) of data used to calculate average leak rate and standard deviation is shown. This number is selected based on the variability of data values, and can be as high as 60 cycles (1 hour of data).

LINE FEED. This is the travel in inches/hour of the strip chart (e.g. 7.5 vertical inches - 1 hour on the chart). Time (in minutes since midnight) is recorded along the left-hand margin of the strip chart.

DATA CONSTANTS. Coefficient of expansion for the product tested and its measured density are shown on the fourth line.

@ = MID-TANK TEMPERATURE. The initial value is shown in degrees Farenheit in the heading. Subsequent values are recorded on the strip chart according to the scale given in the heading. This variable is plotted for information purpose only, and is not used in calculation of leak rate. Mid-tank temperature increases toward the right.

t = AVERAGE TANK TEMPERATURE. These symbols record the change in average liquid temperature. Each chart division represents 0.01 degrees F, and positive change is toward the right.

V = LIQUID VOLUME. This is the volume of liquid in the measuring cylinder. The amount at the end of each cycle is given under the column titled GAL, and is also plotted on the strip chart with each division line representing a change of 0.01 gallons. Movement to the left means liquid added to the underground tank in order to maintain a constant level (i.e., underground liquid volume is decreasing).

L = LEAK RATE. The leak rate is the average value of leak rate for the number of cycles shown in the heading. Each cycle is, in turn, an average of 150 actual measurements and is printed out as one line on the strip chart. The leak rate value is printed out in gal/hr near the right edge of the chart.

Zero for the plotted value of leak rate is the center of the strip chart. Each division line represents 0.2, 2, or 20 gal/hr depending upon the calculated value of average leak rate. A positive leak rate value is a leak out of the tank, and will plot toward the right of the center line. A negative leak rate value is an "in-leak" (e.g. drain-back from a pipe or the effect of a vapor pocket), and will plot toward the left of the center line.

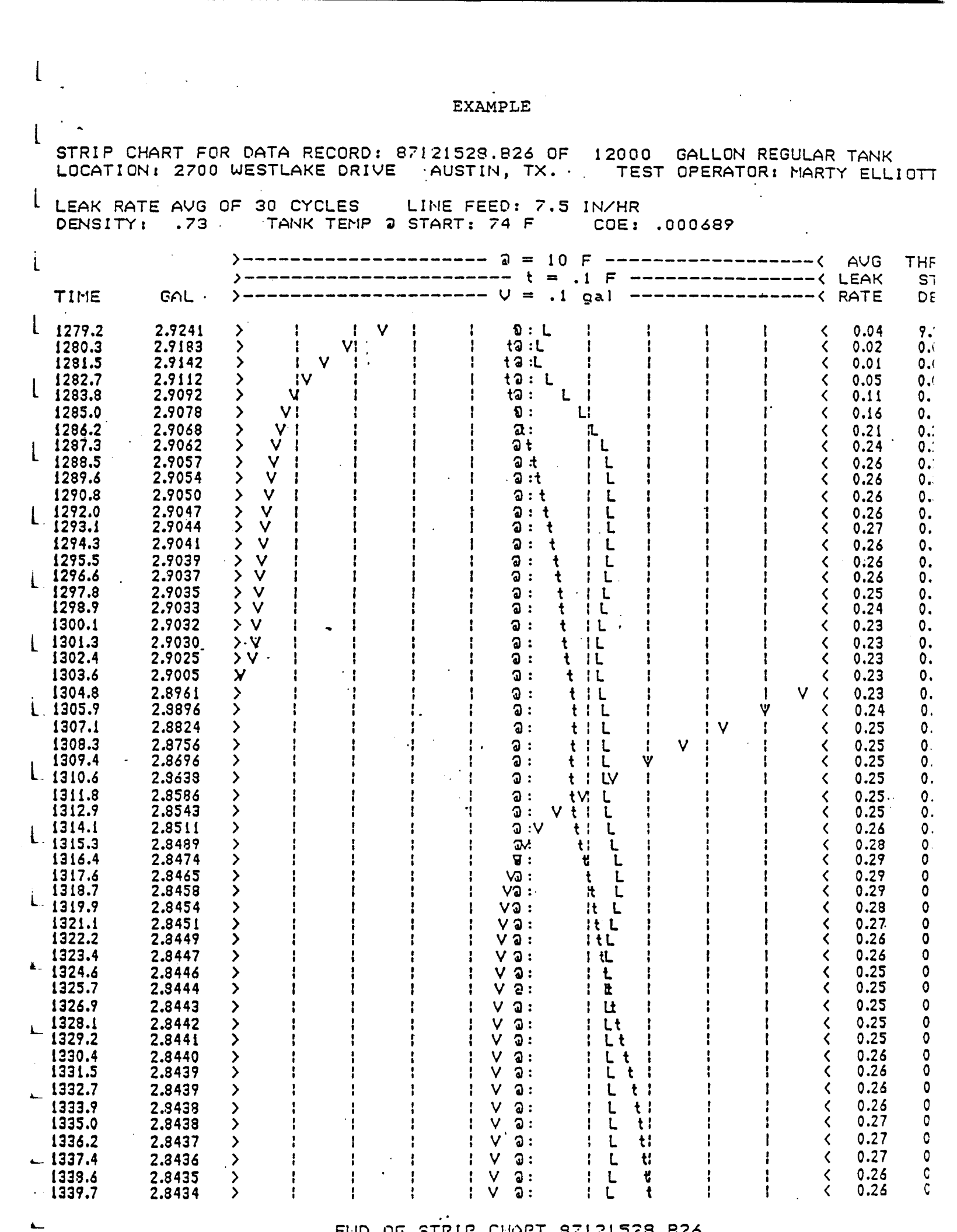
NOTE: The starting point for plotting of each variable except leak rate is arbitrary, and has no significance regarding absolute value since only change is being plotted.

THREE TIMES STANDARD DEVIATION. THE STANDARD DEVIATION (a statistical measure) of leak rate for the number of cycles used to calculate the average leak rate (usually 30) is calculated once per cycle and multiplied by 3. The smaller this number becomes, the less random variation there is in the sampled data and the greater confidence that the leak rate has stabilized and is accurate. For example, a leak rate of .20 with a THREE TIMES STANDARD DEVIATION of .04 means we are 99% sure that the true value of leak rate will lie in the range .20 ± .04, or between .24 and .16 gal/hr. Conversely, there is only a 1% chance it will fall outside that range, and the MOST LIKELY VALUE is the calculated leak rate of .20 gal/hr.

EXAMPLE

STRIP CHART FOR DATA RECORD: 87121528.826 OF 12000 GALLON REGULAR TANK
LOCATION: 2700 WESTLAKE DRIVE AUSTIN, TX. TEST OPERATOR: MARTY ELLIOTT

LEAK RATE AVG OF 30 CYCLES LINE FEED: 7.5 IN/HR
DENSITY: .73 TANK TEMP @ START: 74 F COE: .000689



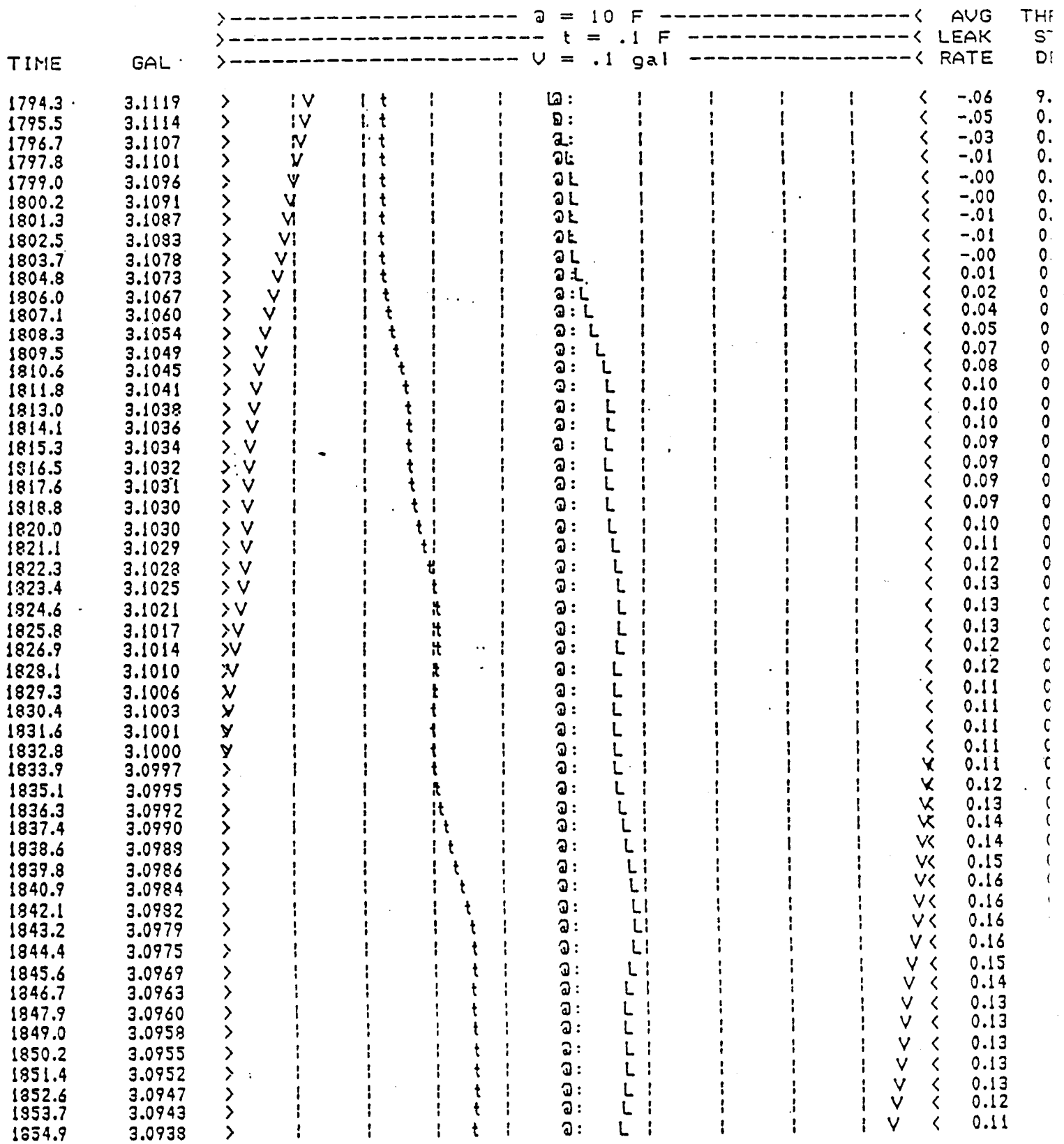
TIME	GAL	AVG LEAK RATE	THF ST DE
1279.2	2.9241	0.04	9.
1280.3	2.9183	0.02	0.
1281.5	2.9142	0.01	0.
1282.7	2.9112	0.05	0.
1283.8	2.9092	0.11	0.
1285.0	2.9078	0.16	0.
1286.2	2.9068	0.21	0.
1287.3	2.9062	0.24	0.
1288.5	2.9057	0.26	0.
1289.6	2.9054	0.26	0.
1290.8	2.9050	0.26	0.
1292.0	2.9047	0.26	0.
1293.1	2.9044	0.27	0.
1294.3	2.9041	0.26	0.
1295.5	2.9039	0.26	0.
1296.6	2.9037	0.26	0.
1297.8	2.9035	0.25	0.
1298.9	2.9033	0.24	0.
1300.1	2.9032	0.23	0.
1301.3	2.9030	0.23	0.
1302.4	2.9025	0.23	0.
1303.6	2.9005	0.23	0.
1304.8	2.8961	0.23	0.
1305.9	2.8896	0.24	0.
1307.1	2.8824	0.25	0.
1308.3	2.8756	0.25	0.
1309.4	2.8696	0.25	0.
1310.6	2.8638	0.25	0.
1311.8	2.8586	0.25	0.
1312.9	2.8543	0.25	0.
1314.1	2.8511	0.26	0.
1315.3	2.8489	0.28	0
1316.4	2.8474	0.29	0
1317.6	2.8465	0.29	0
1318.7	2.8458	0.29	0
1319.9	2.8454	0.28	0
1321.1	2.8451	0.27	0
1322.2	2.8449	0.26	0
1323.4	2.8447	0.26	0
1324.6	2.8446	0.25	0
1325.7	2.8444	0.25	0
1326.9	2.8443	0.25	0
1328.1	2.8442	0.25	0
1329.2	2.8441	0.25	0
1330.4	2.8440	0.26	0
1331.5	2.8439	0.26	0
1332.7	2.8439	0.26	0
1333.9	2.8438	0.26	0
1335.0	2.8438	0.27	0
1336.2	2.8437	0.27	0
1337.4	2.8436	0.27	0
1338.6	2.8435	0.26	0
1339.7	2.8434	0.26	0

END OF STRIP CHART 87121528.826

EXAMPLE

STRIP CHART FOR DATA RECORD: 8712152?.B05 OF 12000 GALLON REGULAR TANK
LOCATION: 2700 WESTLAKE DRIVE AUSTIN, TX. TEST OPERATOR: MARTY ELLIOT

LEAK RATE AVG OF 30 CYCLES LINE FEED: 7.5 IN/HR
DENSITY: .72 TANK TEMP @ START: 74 F COE: .000689



TIME	GAL	AVG LEAK RATE
1794.3	3.1119	-.06
1795.5	3.1114	-.05
1796.7	3.1107	-.03
1797.8	3.1101	-.01
1799.0	3.1096	-.00
1800.2	3.1091	-.00
1801.3	3.1087	-.01
1802.5	3.1083	-.01
1803.7	3.1078	-.00
1804.8	3.1073	0.01
1806.0	3.1067	0.02
1807.1	3.1060	0.04
1808.3	3.1054	0.05
1809.5	3.1049	0.07
1810.6	3.1045	0.08
1811.8	3.1041	0.10
1813.0	3.1038	0.10
1814.1	3.1036	0.10
1815.3	3.1034	0.09
1816.5	3.1032	0.09
1817.6	3.1031	0.09
1818.8	3.1030	0.09
1820.0	3.1030	0.10
1821.1	3.1029	0.11
1822.3	3.1028	0.12
1823.4	3.1025	0.13
1824.6	3.1021	0.13
1825.8	3.1017	0.13
1826.9	3.1014	0.12
1828.1	3.1010	0.12
1829.3	3.1006	0.11
1830.4	3.1003	0.11
1831.6	3.1001	0.11
1832.8	3.1000	0.11
1833.9	3.0997	0.11
1835.1	3.0995	0.12
1836.3	3.0992	0.13
1837.4	3.0990	0.14
1838.6	3.0989	0.14
1839.8	3.0986	0.15
1840.9	3.0984	0.16
1842.1	3.0982	0.16
1843.2	3.0979	0.16
1844.4	3.0975	0.16
1845.6	3.0969	0.15
1846.7	3.0963	0.14
1847.9	3.0960	0.13
1849.0	3.0958	0.13
1850.2	3.0955	0.13
1851.4	3.0952	0.13
1852.6	3.0947	0.13
1853.7	3.0943	0.12
1854.9	3.0938	0.11

END OF STRIP CHART 8712152?.B05