ROY F. WESTON, INC.

UNDERGROUND STORAGE TANK
CLOSURE AND SITE INVESTIGATION REPORT
BUILDING 290
NJDEPE UST REGISTRATION NO. 81533-193

October 28, 1993

W.O. No.: 03886-088-001

Prepared For:

UNITED STATES ARMY, FORT MONMOUTH NEW JERSEY
DIRECTORATE OF PUBLIC WORKS
BUILDING 167
FORT MONMOUTH, NJ 07703

Prepared by:

ROY F. WESTON, INC.
Raritan Plaza I, 4th Floor
Edison, New Jersey 08837

WESTON
MANAGERS DESIGNERS/CONSULTANTS

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

On 17 December 1991, one single wall fiberglass, underground storage tank (UST) was closed at U.S. Army Fort Monmouth, in Fort Monmouth, New Jersey. The UST, New Jersey Department of Environmental Protection and Energy (NJDEPE) Registration No. 81533-193, was located adjacent to Building 290 in the Main Post area of Fort Monmouth. UST No. 81533-193 was a 550-gallon capacity, waste oil tank. The tank was located immediately adjacent to Building 290. Mr. Paul Addisson of the NJDEPE Division of Hazardous Waste Management (NJDEPE-DHWM)was on-site for the duration of the UST closure activities. Fabiano and Son, Inc. performed the tank closure. At the date of closure, contractor certification was not required by the NJDEPE.

Soils surrounding the tank were screened visually and with air monitoring instruments for evidence of contamination. The tank was inspected following removal for cracks and puncture holes for indications of historical leakage from the tank. No holes were noted in UST No. 81533-193 and no potentially contaminated soils were identified surrounding the tank.

Following removal of the tank, four post-excavation soil samples were collected and analyzed for total petroleum hydrocarbons (TPHC) and priority pollutants plus 40 tentatively identified compounds (PP+40). All samples contained either non-detectable concentrations of contaminants or concentrations below proposed NJDEPE subsurface cleanup criteria.

No further action is proposed at this site in reference to UST No. 81533-193 since no soils are present with concentrations of contaminants exceeding proposed NJDEPE subsurface cleanup criteria.

WESTON
MANAGERS DESIGNERS CONSULTANTS

SECTION 1.0

UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 Overview:

One underground storage tank (UST), New Jersey Department of Environmental Protection and Energy (NJDEPE) UST Registration No. 81533-193 (UST No. 85133-193), was closed at Building 290 at U.S. Army Fort Monmouth, New Jersey on 17 December 1991. UST. No. 81533-193 was a single wall fiberglass, 550-gallon capacity waste oil tank. This UST Closure and Site Investigation Report was prepared by Roy F. Weston Inc. (WESTON®), to assist the United State Army Directorate of Public Works (DPW) in complying with the NJDEPE Bureau of Underground Storage Tanks (NJDEPE-BUST) regulations. The applicable NJDEPE-BUST regulations at the date of closure were the "Interim Closure Requirements for Underground Storage Tank Systems" (NJAC 7:14B-1 et seq. September 1990 and revisions dated 1 November 1991). Closure of UST No. 81533-193 proceeded under approval and onsite supervision of Mr. Paul Addisson of the NJDEPE Division of Hazardous Waste Management (NJDEPE-DHWM). This report presents the results of the DPW's implementation of the UST Decommissioning/Closure Plan submitted to the NJDEPE-DHWM on 12 July 1991.

All activities associated with the decommissioning of UST No. 81533-193 complied with all applicable Federal, State and Local laws and ordinances in effect at the date of decommissioning. These laws included but were not limited to: NJAC 7:14B-1 et seq., NJAC 5:23-1 et seq., and Occupational Safety and Health Administration (OSHA) 1910.146 &1910.120. All permits including but not limited to the NJDEPE-approved Decommissioning/Closure Plan were posted onsite for inspection. Fabiano and Sons Inc., the contractors that conducted the decommissioning activities, are currently registered and certified by the NJDEPE for performing UST closure activities. The NJDEPE conditional closure approval letter and the UST Site Assessment Summary Form for UST No. 81533-193 have been included in Appendices A and B, respectively. The UST Site Assessment Summary Form has been signed and sealed by Mr. James Ott, Director of DPW and Professional Engineer.

Section 1 of this UST Closure and Site Investigation Report provides a summary of the tank decommissioning activities. Section 2 of this report describes the site investigation activities. Conclusions and recommendations, including the results of the soil sampling investigation, are presented in the final section of this report.

1.2 Site Description

Building 290 is located off Wilson Avenue in the Main Post area of Fort Monmouth. A site location map is provided in Figure 1-1. Building 290 is an inactive military vehicle repair and maintenance facility. UST No. 81533-193 was located immediately adjacent to the eastern portion of Building 290.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the area surrounding Building 290. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area.

Regional Geology

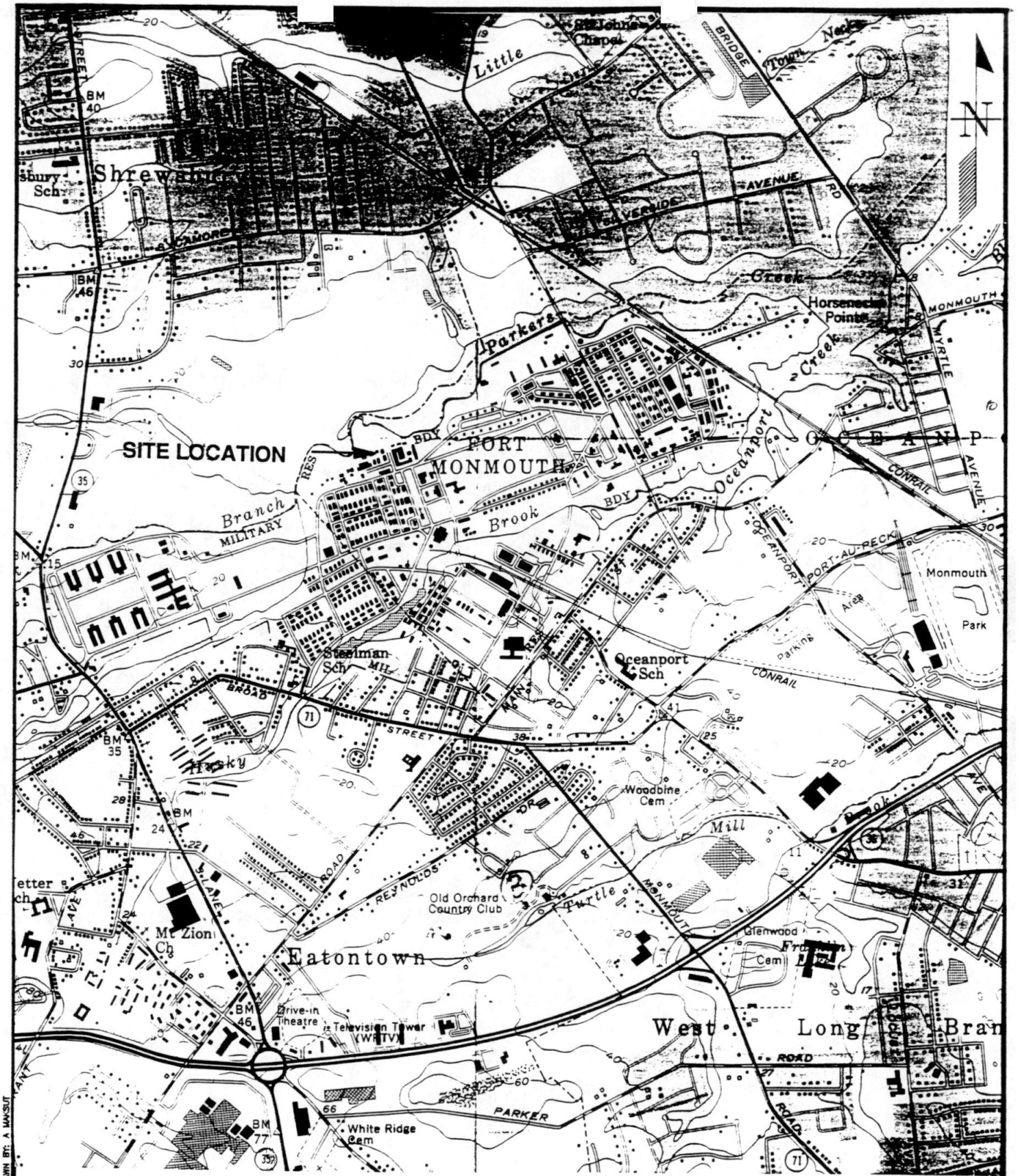
Monmouth County lies within the New Jersey Section of the Atlantic Coastal Plain physiographic province. The Main Post, Charles Wood, and the Evans areas are located in what may be referred to as the Outer Coastal Plain subprovince, or the Outer Lowlands.

In general, New Jersey, Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, sand, and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapecza, 1989). These sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments, date from Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

The formations record several major transgressive/regressive cycles and contain units which are generally thicker to the southeast and reflect a deeper water environment. Over 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward-coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations, and the Cohansey Sand) while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown, and Navesink Formations). The individual thicknesses for these units vary greatly (i.e., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line to greater than 6,500 feet in Cape May County (Brown and Zapecza, 1990).

Local Geology

Based on the regional geologic map (Jablonski, 1968), the Cretaceous age Red Bank and Tinton Sands outcrop at the Main Post area. The Red Bank sand conformably overlies the Navesink Formation and dips to the southeast at 35 feet per mile. The upper member (Shrewsbury) of the Red Bank sand is a yellowish-gray to reddish brown clayey, medium-to-coarse-grained sand



REVISION #: 0000 DATE: 10-19-93 PLOT NAME:
FILE NAME: BLDG-290.DWG DRAWN BY: A MANSUT

WESTON MANAGERS DESIGNERS/CONSULTANTS

PROJECT NAME:
UNDERGROUND STORAGE TANK CLOSURE
AND SITE INVESTIGATION REPORT
BUILDING 290 – TANK NO. 193
FORT MONMOUTH, NEW JERSEY

CLIENT NAME: U.S. ARMY–DEH
FORT MONMOUTH

SITE LOCATION MAP

DATE: 10–22–93

FIGURE #: 1–1

that contains abundant rock fragments, minor mica and glauconite (Jablonski). The lower member (Sandy Hook) is a dark grey to black, medium-to-fine grained sand with abundant clay,mica, and glauconite.

The Tinton sand conformably overlies the Red Bank Sand and ranges from a clayey, medium-to-very coarse grained feldspathic quartz and glauconite sand to a glauconitic coarse sand. The color varies from dark yellowish orange or light brown to moderate brown and from light olive to grayish olive. Glauconite may constitute 60 to 80 percent of the sand fraction in the upper part of the unit (Minard, 1969). The upper part of the Tinton is often highly oxidized and iron-oxide encrusted (Minard).

Over the last 80 years, the natural topography of Fort Monmouth has been altered by excavation and filling activities by the military. Topographic elevations for the Main Post area range from five feet above mean sea level (MSL) to 31 feet above MSL.

Hydrogeology

The water table aquifer at the Main Post area is identified as part of the "composite confining units", or minor aquifers. The minor aquifers include the Navesink formation, Red Bank Sand, Tinton Sand, Hornerstown Sand, Vincentown Formation, Manasquan Formation, Shark River Formation, Piney Point Formation, and the basal clay of the Kirkwood Formation.

Based on records from wells drilled at the Main Post area, around water is typically encountered at depths of two to nine feet below ground surface (BGS). According to Jablonski, wells drilled in the Red Bank and Tinton Sands may produce from 2 to 25 gallons per minute (gpm). Some well owners have reported acidic water that requires treatment to remove iron.

Shallow groundwater is locally influenced within the Main Post area by the following factors:

- tidal influence (based on proximity to the Atlantic Ocean),
- topography,
- nature of the fill material within the Main Post,
- presence of clay and silt lenses in the natural overburden deposits, and
- local groundwater recharge areas (i.e. stream, lakes).

Due to the fluvial nature of the overburden deposits (i.e. sand and clay lenses), shallow groundwater flow direction is best determined on a case-by-case basis. This is consistent with lithologies observed in borings installed within the Main Post area, which primarily consisted of fine-to-medium grained sands, with occasional lenses or laminations of silt and/or clay

1.3 Health and Safety

Before, during, and after all activities, hazards at the work site which may have posed a threat to the health and safety of all personnel who were involved with, or were affected by, the decommissioning of the UST system were minimized. All areas which posed, or may have been suspected to pose a vapor hazard were monitored by a qualified individual utilizing approved equipment. The trained individual ascertained if the area was properly vented to render the area safe, as defined by OSHA.

1.4 Removal of Underground Storage Tank

1.4.1 General Procedures

- All underground obstructions (utilities,... etc.) were marked out by the contractor performing the closure prior to excavation activities.
- All activities were carried out with the greatest regard to safety and health and the safeguarding of the environment.
- All excavated soils were screened visually and with air monitoring instruments for evidence of contamination. No potentially contaminated soils were identified during closure activities.
- Surface materials (i.e, asphalt, concrete, etc...) were excavated and staged separate from all soils. These materials were later recycled in accordance with all applicable laws and regulations.
- A Sub-Surface Evaluator from the DPW was present during all closure activities.

1.4.2 Underground Storage Tank Excavation

Soil was excavated to expose the UST and the associated piping. The piping was not removed/disturbed until all free product was drained into the UST. The UST was rendered vapor free by purging prior to any cutting or access. After the removal of the associated piping, a manway was made in the UST to allow for the proper cleaning of the UST. The UST was completely emptied of all liquids prior to removal of the UST from the ground. Liquids were transported and disposed of by L and L Oil Service, Inc. All of the openings in the tank were plugged except for one hole (manway).

After the UST was removed from the excavation, it was staged on polyethylene sheeting and examined for cracks or punctures holes. The presence or absence of cracks or puncture holes was documented by the Sub-Surface Evaluator. No cracks or puncture holes were observed

upon the inspection of the UST. Soils surrounding the UST were screened visually and with a Flame Ionization Detector (FID) for evidence of contamination. No evidence of contamination was noted in soils surrounding the UST.

1.5 Underground Storage Tank Transportation and Disposal:

The tanks were transported by Fabiano and Sons to Redbank Recycling Inc., for recycling in compliance with all applicable regulations and laws.

The Subsurface Evaluator labelled the UST prior to transport with the following information:

- site of origin,
- contact person,
- NJDEPE UST Facility ID number,
- name of transporter/contact person, and
- destination site/contact person.

1.6 Management of Excavated Soils:

No potentially contaminated soils were excavated as part of the removal of the UST. All soils were free of evidence of contamination and were backfilled into the excavation following removal of the UST.

WESTON
MANAGERS DESIGNERS/CONSULTANTS

SECTION 2.0

SITE INVESTIGATION ACTIVITIES

2.1 Overview:

The Site Investigation was managed and carried out by U.S ARMY DPW personnel. All analyses were performed and reported by Environmental Profile Laboratories, a NJDEPE-certified testing laboratory. All sampling was performed under the direct supervision of a NJDEPE Certified Sub-Surface Evaluator according to the methods described in the NJDEPE Field Sampling Procedures Manual (May 1988). Sampling frequency and parameters analyzed complied with the NJDEPE-BUST document "Interim Closure Requirements for Underground Storage Tank Systems " (September 1990 and revisions dated 1 November 1991) which was the applicable regulation at the date of closure. All records of the Site Investigation activities are maintained by Fort Monmouth DPW: Environmental Office.

The following Parties participated in Closure and
Site Investigation activities.

- Closure Contractor: FABIANO AND SONS.
  Contact Person: Anthony Fabiano
  Phone Number: (908) 571-1004
  NJDEPE Company Certification No.: PLEO1349

- Subsurface Evaluator: Charles Appleby
  Employer: U.S. Army, Fort Monmouth
  Phone Number: (908) 532-6224
  NJDEPE Certification No.: 2056

- Analytical Laboratory: Environmental Profile Laboratories
  Contact Person: DANIEL WRIGHT
  Phone Number: (908) 244-6278
  NJDEPE Company Certification No.: 15526

- NJDEPE On-site Representative: Paul Addisson
  DIVISION OF HAZARDOUS WASTE MANAGEMENT
  Phone Number: (609) 584-4200

2.2 Field Screening/Monitoring

All soils that were excavated as part of the removal of the UST were screened using a FID, for evidence of contamination. Soils were also visually screened for evidence of contamination (staining, free product, etc..). No evidence of contamination was noted during excavation of soils surrounding the UST.

Soils on the sidewalls and base of the excavation were screened with a FID by an individual under the direct supervision of the NJDEPE Certified Sub-Surface Evaluator. No evidence of contamination was noted within soils on the sidewalls or base of the excavation.

2.3 Soil Sampling

Following removal of the UST, four post-excavation soil samples were collected in accordance with NJDEPE procedure and the approved closure plan. A summary of sampling activities including parameters analyzed is provided in Table 2-1. Figure 2-1 depicts the location of the post-excavation samples. The samples were typically collected along the base and sidewalls of the excavation using decontaminated stainless steel scoops. Following soil sampling activities, the samples were chilled and delivered to Environmental Profile Laboratories located in Toms River, New Jersey.

All samples were analyzed for total petroleum hydrocarbons (TPHC) and priority pollutants plus 40 tentatively identified compounds (PP+40). The frequency of sampling and parameters analyzed were approved by the on-site NJDEPE-DHWM Representative and were consistent with the applicable NJDEPE regulations at the date of closure, which were the "Interim Closure Requirements for Underground Storage Tank Systems" (NJAC 7:14B-1 et seq. September 1990 and revisions dated 1 November 1991).

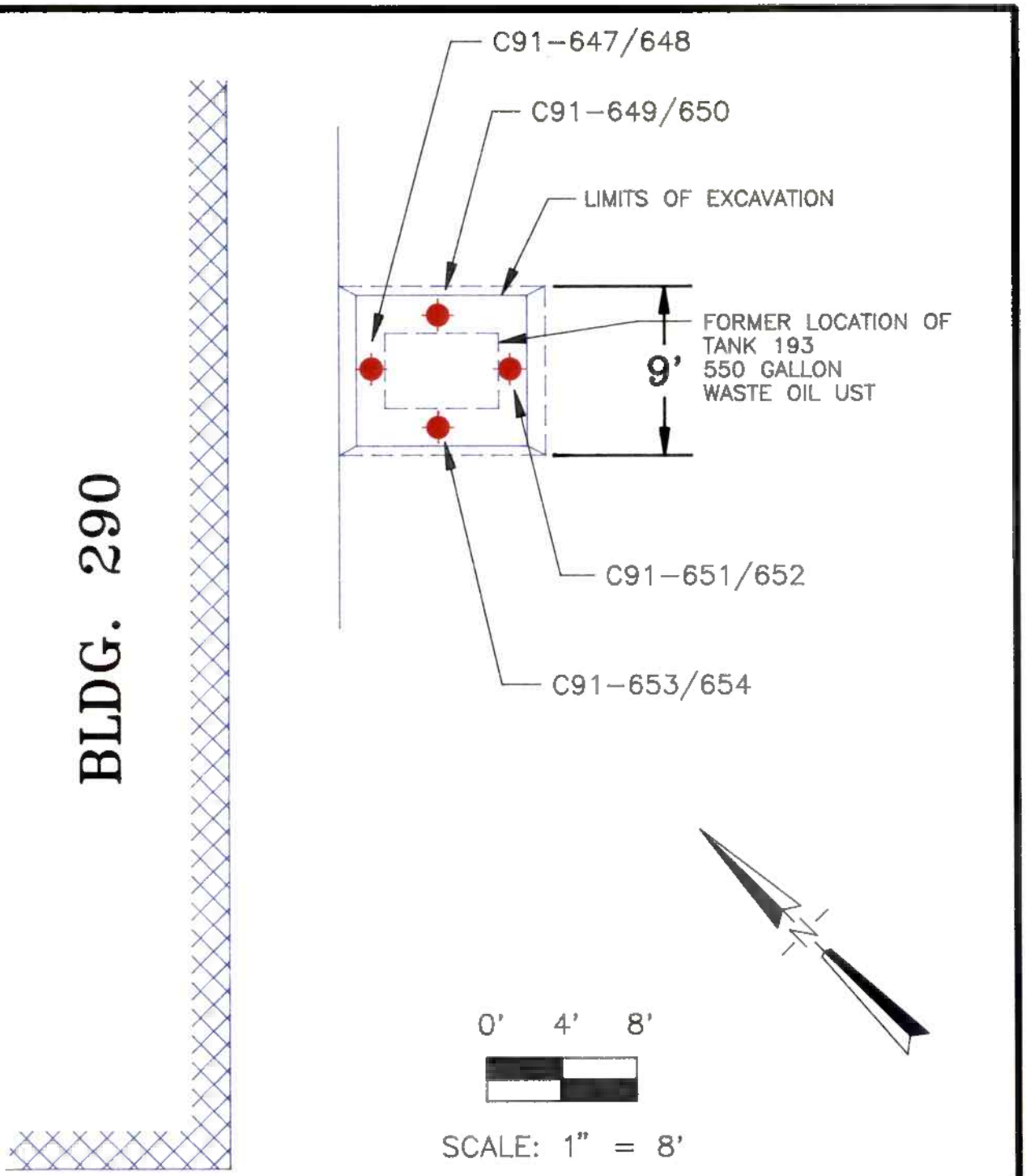
TABLE 2-1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES
UST REGISTRATION NO. 81533-193
BUILDING NO. 290
FORT MONMOUTH, NEW JERSEY

Sample I.D No.	Date of Collection	Matrix	Sample Type	Analytical Parameters	Sampling Method
C91-647/648	12/17/91	Soil	Post-Excavation	TPHC, PP+40	Stainless Steel Scoop
C91-649/650	12/17/91	Soil	Post-Excavation	TPHC, PP+40	Stainless Steel Scoop
C91-651/652	12/17/91	Soil	Post-Excavation	TPHC, PP+40	Stainless Steel Scoop
C91-653/654	12/17/91	Soil	Post-Excavation	TPHC, PP+40	Stainless Steel Scoop

TPHC - Total Petroleum Hydrocarbons.

PP+40 - Priority pollutants list plus 40 non-targeted organic compounds.



DATE: 10-26-93 DRAWN BY: A. MAKSUT
REVISION #: FILE NAME: DEH-290.DWG

WESTON MANAGERS DESIGNERS/CONSULTANTS

PROJECT NAME: UNDERGROUND STORAGE TANK CLOSURE AND SITE INVESTIGATION REPORT BUILDING 290 – TANK 193 FORT MONMOUTH, NEW JERSEY

CLIENT NAME: U.S. ARMY–DEH FORT MONMOUTH

POST–EXCAVATION SAMPLE LOCATIONS

FACILITY REGISTRATION NO's 0081533–193

DATE: 10–07–93

FIGURE #: 2–1

WESTON
MANAGERS DESIGNERS/CONSULTANTS

SECTION 3.0

CONCLUSIONS AND RECOMMENDATIONS

3.1 Soil Sampling Results

To evaluate soils conditions following removal of the UST and associated soils, analytical results from the post-excavation samples were compared to proposed NJDEPE subsurface cleanup criteria (NJAC 7:26D and revisions dated 8 March 1993). A summary of the analytical results and comparison to proposed NJDEPE subsurface cleanup criteria is provided in Table 3-1. A summary of the analytical methods used and quality assurance information is provided in Table 3-2. The analytical data package summary is provided in Appendix C. The full data package, including associated quality control and chromatograph data is on file at U.S. Army Fort Monmouth, DPW.

TPHC were detected in samples C91-649/650 and C91-651/652 at concentrations of 490 mg/kg and 20 mg/kg, respectively. All other samples contained non-detectable concentrations of TPHC. No subsurface cleanup criterion has been proposed for TPHC by NJDEPE, however the proposed NJDEPE subsurface cleanup criterion for total organic compounds is 10,000 mg/kg. The concentrations of total organic compounds detected in all samples was below the proposed NJDEPE subsurface cleanup criterion of 10,000 mg/kg. Di-n-butylphthalate, and bis(2-Ethylhexyl) phthalate were detected in sample C91-649/650; however, at concentrations well below the proposed NJDEPE subsurface cleanup criteria. Bis(2-Ethylhexyl)phthalate was tentatively identified in sample C91-651/652 at a concentration of .61 mg/kg, which is below the proposed NJDEPE subsurface cleanup criterion of 100 mg/kg. Several tentatively identified base neutral compounds were detected in samples C91-647/648 and C-91 649/650; however, at concentrations well below proposed NJDEPE subsurface cleanup criteria. Methylene chloride, a common laboratory contaminant, was detected in all samples, however at concentrations well below the proposed NJDEPE subsurface cleanup criterion of 10 mg/kg. Several metals were detected in the samples, however no subsurface cleanup criteria have been proposed for these analytes by NJDEPE.

3.2 Conclusions and Recommendations:

On 17 December 1991, DPW successfully closed UST No. 81533-193 at Building 290 in the Main Post area of Fort Monmouth. Based on visual inspection of the UST and field screening of the soils adjacent to the UST, it was determined that no discharges had historically occurred from the UST. Analytical results of the post-excavation samples confirm that no soils are present with concentrations of contaminants exceeding proposed NJDEPE subsurface cleanup criteria.

No further action is proposed at Building 290 in reference to UST No. 81533-193.

TABLE 3-1

SUMMARY OF ANALYTICAL RESULTS
UST REGISTRATION NO. 81533-193
BUILDING NO. 290
FORT MONMOUTH, NEW JERSEY

Sample ID No.		C91-647/648	C91-649/650	C91-651/652	C91-653/654	Proposed NJDEPE Subsurface Cleanup Criteria
Lab ID No.		6985.1/2	6985.3/4	6985.5/6	6985.7/8	
Matrix		Soil	Soil	Soil	Soil	
Sample Type		PE	PE	PE	PE	
Date of Collection		12/17/91	12/17/91	12/17/91	12/17/91	
Analytical Parameter	Units					mg/kg
TPHC	mg/kg	ND	490	20	ND	NC*
Base Neutral Compounds	mg/kg					
Di-n-butylphthalate		ND	.15J	ND	ND	100
Bis(2-Ethylhexyl) phthalate		ND	.36J	.61	ND	100
Volatile Organic Compounds						
Methylene Chloride	mg/kg	.067	.087	.083	.099	10

TABLE 3-1

SUMMARY OF ANALYTICAL RESULTS (CONTINUED)
UST REGISTRATION NO. 81533-193
BUILDING NO. 290
FORT MONMOUTH, NEW JERSEY

Sample ID No.		C91-647/648	C91-649/650	C91-651/652	C91-653/654	Proposed NJDEPE Subsurface Cleanup Criteria
Lab ID No.		6985.1/2	6985.3/4	6985.5/6	6985.7/8	
Matrix		Soil	Soil	Soil	Soil	
Sample Type		PE	PE	PE	PE	
Date of Collection		12/17/91	12/17/91	12/17/91	12/17/91	
Priority Pollutant Metals	mg/kg					
Arsenic		3.4	5.0	3.5	3.9	NC
Beryllium		0.63	0.55	0.55	0.38	NC
Cadmium		0.040	0.019	0.012	0.019	NC
Chromium		44.4	69.1	71.2	63.1	NC
Copper		6.88	6.20	5.00	6.30	NC
Lead		2.88	3.30	1.80	2.40	NC
Mercury		0.040	ND	0.038	0.038	NC
Nickel		ND	8.6	8.1	9.4	NC
Silver		ND	ND	ND	10.0	NC
Zinc		28.1	29.0	21.3	25.0	NC

Notes:
TPHC: - Total Petroleum Hydrocarbons.
PE: - Post-Excavation.
NC*: - No cleanup criterion has been proposed for TPHC by NJDEPE; however, the proposed NJDEPE subsurface cleanup criterion for total organic compounds is 10,000 mg/kg.
NC: - No subsurface cleanup criterion has been proposed for this analyte by NJDEPE.
NA: - Not analyzed.
mg/kg: - Milligrams per Kilogram.
J: - Indicates an estimated value.

TABLE 3-2

ANALYTICAL METHODS/QUALITY ASSURANCE SUMMARY TABLE
UST REGISTRATION NO. 81533-193
BUILDING NO. 290
FORT MONMOUTH, NEW JERSEY

Analytical Parameter	No. of Samples Collected	Matrix	Date Collected	Date Analysis Started	Preservation Method	USEPA SW-486 Analytical Method
TPHC	4	S	12/17/91	12/23/91	Cool to 4°	418.1
VOCs	4	S	12/17/91	12/24/91	Cool to 4°	8240
BNA	4	S	12/17/91	12/24/91	Cool to 4°	8270
PCBs	4	S	12/17/91	12/24/91	Cool to 4°	608
PP Metals	4	S	12/17/92	12/20/91	Cool to 4°	6010,7060,7470 7740, 7841

Notes:
PCBs - Poly Chlorinated Biphenyls
PP Metals - Priority Pollutant Metals
VOCs - Volatile Organic Compounds
TPHC - Total Petroleum Hydrocarbons
608 - PCB samples were analyzed using method 608 cited in 40 CFR Part 36

APPENDIX A

NJDEPE-DHWM CONDITIONAL CLOSURE APPROVAL LETTER

State of New Jersey
Department of Environmental Protection and Energy
Office of Enforcement Policy
CENTRAL BUREAU OF WATER AND HAZARDOUS WASTE ENFORCEMENT
FIELD OPERATIONS

Scott A. Weiner
Commissioner

Edward M. Neafsey
Director

September 20,1991

James Ott, Deputy Director
Directorate of Engineering and Housing
U.S. Army Commmunications-Electronic Command
Building 167 SELHI-FE
Fort Monmouth, NJ 07003

Dear Mr. Ott

The Department of Environmental Protection & Energy has completed its review of your submitted closure plans for six underground waste oil tanks. It has been determined that the plan is acceptable conditioned on the following revision/modifications:

1.In addition to the total petroleum hydrocarbon (TPHC) analysis for each sample taken, the total priority pollutant analysis (PP+40 or TCL) should be utilized for an initial screening. These analyses would be helpful for the remediation of tank number 68 which is known to contain 1000 ppm of hydrogenated chlorides.

2.A detailed description of the steps needed to decontaminate the tanks should be included.

3.An indication of whether the tanks will be disposed off-site as hazardous waste. If not the tanks must be decontaminated and a final rinse water sample and a washwater blank sample must be analyzed for total petroleum hydrocarbons (TPHC) concentration to determine the adequacy of decontamination. The decontamination procedure may have to be repeated to achieve a concentration acceptable to the Department or until the TPHC results of two consecutive samples do not show an appreciable change.

Please Respond To:
CN 407
TRENTON, NJ 08625

Tel. # (609) 584-4200

Please submit these changes in an addendum to your submitted closure plans prior to beginning any closure activities. This writer should be notified 2 weeks in advance of initiation of closure activities.

If you have any questions regarding these requirements, please contact me at (609) 584-4200.

Yours truly,

Douglas Greenfield
Sr. Environmental Engineer
Hazardous Waste Enforcement
CBW&HWEFO

APPENDIX B

NJDEPE UST SITE ASSESSMENT SUMMARY FORM

UST-014
2/91

UST # _____
Date Rec'd _____
TMS # _____
Staff _____

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WATER RESOURCES
BUREAU OF UNDERGROUND STORAGE TANKS
TANK MANAGEMENT SECTION

CN 029, 401 EAST STATE STREET
TRENTON, N.J. 08625-0029

UNDERGROUND STORAGE TANK SITE ASSESSMENT SUMMARY

Under the provisions of the Underground Storage of Hazardous Substances Act in accordance with N.J.A.C. 7:14B

This Summary form shall be used by all owners and operators of Underground Storage Tank Systems (USTS) who have either reported a release and are subject to the site assessment requirements of N.J.A.C. 7:14B-8.2 or who have closed USTS pursuant to N.J.A.C. 7:14B-9.1 et seq. and are subject to the site assessment requirements of N.J.A.C. 7:14B-9.2 and 9.3.

INSTRUCTIONS:

- *Please print legibly or type.*
- *Fill in all applicable blanks. This form will require various attachments in order to complete the Summary. The technical guidance document, Interim Closure Requirements for UST's, explains the regulatory (and technical) requirements for closure and the Scope of Work, Investigation and Corrective Action Requirements for Discharges from Underground Storage Tanks and Piping Systems explains the regulatory (and technical) requirements for corrective action.*
- *Return one original of the form and all required attachments to the above address.*
- *Attach a scaled site diagram of the subject facility which shows the information specified in Item IV B of this form.*
- *Explain any "No" or "N/A" response on a separate sheet.*

Date of Submission _____

0081533-193
FACILITY REGISTRATION #

I. FACILITY NAME AND ADDRESS

U.S. Army Fort Monmouth New Jersey
Directorate of Engineering and Housing Building 167
Fort Monmouth, NJ 07703 County Monmouth
Telephone No. 908-532-6224

OWNER'S NAME AND ADDRESS, if different from above

_____
_____
_____

Telephone No. _____

(5)

II. DISCHARGE REPORTING REQUIREMENTS

A. Was contamination found? ___Yes _X_ No If Yes, Case No._____
(Note: All discharges must be reported to the Environmental Action Hotline (609) 292-7172)

B. The substance(s) discharged was(were) N/A

C. Have any vapor hazards been mitigated? ___Yes ___No _X_N/A

III. DECOMMISSIONING OF TANK SYSTEMS

Closure Approval No. N/A

The site assessment requirements associated with tank decommissioning are explained in the Technical Guidance Document, **Interim Closure Requirements for UST's**, Section V. A-D. Attach complete documentation of the methods used and the results obtained for each of the steps of tank decommissioning used. Please include a site map which shows the locations of all samples and borings, the location of all tanks and piping runs at the facility at the beginning of the tank closure operation and annotated to differentiate the status of all tanks and piping (e.g., removed, abandoned, temporarily closed, etc.). The same site map can be used to document other parts of the site assessment requirements, if it is properly and legibly annotated.

IV. SITE ASSESSMENT REQUIREMENTS

A. Excavated Soil

Any evidence of contamination in excavated soil will require that the soil be classified as either Hazardous Waste or Non-Hazardous Waste. Please include all required **documentation** of compliance with the requirements for handling contaminated **excavated** soil (if any was present) as explained in the technical guidance documents for closure and corrective action. Describe amount of soil removed, its classification, and disposal location.

B. Scaled Site Diagrams

1. Scaled site diagrams must be attached which include the following information:

   a. North arrow and scale
   b. The locations of the ground water monitoring wells
   c. Location and depth of each soil sample and boring
   d. All major surface and sub-surface structures and utilities
   e. Approximate property boundaries
   f. All existing or closed underground storage tank systems, including appurtenant piping
   g. A cross-sectional view indicating depth of tank, stratigraphy and location of water table
   h. Locations of surface water bodies

C. Soil samples and borings (check appropriate answer)

1. Were soil samples taken from the excavation as prescribed? _X_ Yes ___ No ___N/A

2. Were soil borings taken at the tank system closure site as prescribed? ___ Yes ___ No _X_ N/A

3. Attach the analytical results in tabular form and include the following information about each sample:
   a. Customer sample number (keyed to the site map)
   b. The depth of the soil sample
   c. Soil boring logs
   d. Method detection limit of the method used
   e. QA/QC Information as required

D. Ground Water Monitoring

1. Number of ground water monitoring wells installed 0

2. Attach the analytical results of the ground water samples in tabular form. Include the following information for each sample from each well:

   a. Site diagram number for each well installed
   b. Depth of ground water surface
   c. Depth of screened interval
   d. Method detection limit of the method used
   e. Well logs
   f. Well permit numbers
   g. QA/QC information as required

V. SOIL CONTAMINATION

A. Was soil contamination found? ___ Yes X No
If "Yes", please answer Question B-E
If "No", please answer Question B

B. The highest soil contamination still remaining in the ground has been determined to be:
1. 0 ppb total BTEX, N/A ppb total non-targeted VOC
2. 610 ppb total B/N, N/A ppb total non-targeted B/N
3. 490 ppm TPHC
4. N/A ppb N/A (for non-petroleum substance)

C. Remediation of free product contaminated soils

1. All free product contaminated soil on the property boundaries and above the water table are believed to have been removed from the subsurface ___ Yes X No
2. Free product contaminated soils are suspected to exist below the water table ___ Yes X No
3. Free product contaminated soils are suspected to exist off the property boundaries. ___ Yes X No

D. Was the vertical and horizontal extent of contamination determined? ___ Yes ___ No X N/A

E. Does soil contamination intersect ground water? ___ Yes ___ No X N/A

VI. GROUND WATER CONTAMINATION

A. Was ground water contamination found? ___ Yes X No
If "Yes", please answer Questions B-G.
If "No", please answer only Question B.

B. The highest ground water contamination at any 1 sampling location and at any 1 sampling event to date has been determined to be:

1. N/A ppb total BTEX, N/A ppb total non-targeted VOC
2. N/A ppb total B/N, N/A ppb total non-targeted B/N
3. N/A ppb total MTBE, N/A ppb total TBA
4. N/A ppb N/A (for non-petroleum substance)
5. greatest thickness of separate phase product found N/A
6. separate phase product has been delineated ___ Yes ___ No X N/A

C. Result(s) of well search

1. A well search (including a review of manual well records) indicates that private, municipal or commercial wells do exist within the distances specified in the Scope of Work. ___ Yes ___ No X N/A

2. The number of these wells identified is N/A .

D. Proximity of wells and contaminant plume.

1. The shallowest depth of any well noted in the well search which may be in the horizontal or vertical potential path(s) of the contaminant plume(s) is N/A feet below grade (consideration has been given for the effects of pumping, subsurface structures, etc. on the direction(s) of contaminant migration). This well is N/A feet from the source and its screening begins at a depth of N/A feet.

2. The shallowest depth to the top of the well screen for any well in the potential path of the plume(s) (as described in D1 above) is N/A feet below grade. This well is located N/A feet from the source.

3. The closest horizontal distance of a private, commercial or municipal well in the potential path of the plume (as determined in D1) is N/A feet from the source. This well is N/A feet deep and screening begins at a depth of N/A feet.

E. A plan for separate phase product recovery has been included. ___Yes ___No N/AN/A

F. A ground water contour map has been submitted which includes the ground water elevations for each well.
___Yes ___No X N/A

G. Delineation of contamination

1. The ground water contaminants have been delineated to MCLs or lower values at the property boundaries. ___Yes ___No N/A

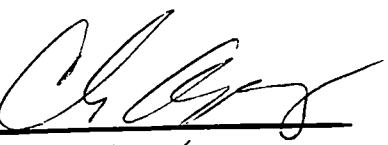
2. The plume is suspected to continue off the property at concentrations greater than MCLs.
___Yes ___No N/A

3. Off property access (circle one): is being sought has been approved has been denied N/A

VII. SITE ASSESSMENT CERTIFICATION [preparer of site assessment plan - N.J.A.C. 7:14B-8.3(b) &9.5(a)3]

The person signing this certification as the "Qualified Ground Water Consultant" (as defined in N.J.A.C.7:14B-1.6) responsible for the design and implementation of the site assessment plan as specified in N.J.A.C. 7:14B-8.3(a) & 9.2(b)2, must supply the name of the certifying organization and certification number.

"I certify under penalty of law that the information provided in this document is true, accurate, and complete and was obtained by procedures in compliance with N.J.A.C. 7:14B-8 and 9. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

NAME (Print or Type) Charles Appleby SIGNATURE 

COMPANY NAME U.S. Army Fort Monmouth DATE 10/29/93
(Preparer of Site Assessment Plan)

CERTIFYING ORGANIZATION NJDEPE CERTIFICATION NUMBER 2056

VIII. **TANK DECOMMISSIONING CERTIFICATION** [person performing tank decommissioning portion of closure plan - N.J.A.C. 7:14B-9.5(a)4]

"I certify under penalty of law that tank decommissioning activities were performed in compliance with N.J.A.C. 7:14B-9.2(b)3. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

NAME (Print or Type) Charles Appleby SIGNATURE _____

COMPANY NAME U.S. Army Fort Monmouth DATE 10/29/93
(Performer of Tank Decommissioning)

IX. **CERTIFICATIONS BY THE RESPONSIBLE PARTY(IES) OF THE FACILITY**

A. The following certification shall be signed by the highest ranking individual with overall responsibility for that facility [N.J.A.C. 7:14B-2.3(c)1i].

"I certify under penalty of law that the information provided in this document is true, accurate, and complete . I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

NAME (Print or Type) James Ott, P.E. SIGNATURE _____

COMPANY NAME U.S. Army FOrt Monmouth DATE 10/29/93

B. The following certification shall be signed as follows (according to the requirements of N.J.A.C. 7:14B-2.3(C)2i]:

1. For a corporation, by a principal executive officer of at least the level of vice president.
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, Federal or other public agency by either the principal executive officer or ranking elected official.
4. In cases where the highest ranking corporate partnership, governmental officer or official at the facility as required in A above is the same person as the official required to certify in B, only the certification in A need to be made. In all other cases, the certifications of A and B shall be made.

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

NAME (Print or Type) _____ SIGNATURE _____

COMPANY NAME _____ DATE _____

ATTACHMENT I

NO/NA RESPONSE EXPLANATION

SAS QUESTION #	RESPONSE	EXPLANATION
IIA.	No	No contaminants were identified in soil samples at concentrations exceeding proposed NJDEPE cleanup criteria.
IIB.	N/A	Same as above.
IIC.	N/A	Same as above.
III.	N/A	Closure of Facility Registration No. 0081533-193 was conducted under verbal approval and on-site supervision of the NJDEPE Division of Hazardous Waste Management.
IV.C.2	N/A	No soil borings were required in the DHWM approval closure plan.
V.A	No	No contaminants were identified in soil samples at concentrations exceeding proposed NJDEPE cleanup criteria.
V.B.1-4	N/A	Same as above.
V.C.1-3	N/A	Same as above.
V.D	N/A	Same as above.
V.E	N/A	Same as above.
VI.A-G	No	No groundwater monitoring wells were installed as part of closure of Facility Registration No. 0081533-193; therefore, no groundwater samples were collected.

ATTACHMENT I

NO/NA RESPONSE EXPLANATION

SAS QUESTION #	RESPONSE	EXPLANATION
VI.B.1-6	N/A	Same as above.
VI.C.1-3	N/A	No release to groundwater has occurred from Facility Registration No. 0081533-193; therefore, no well search was performed as part of the site assessment.
VI.E	N/A	Same as above.
VI.F	N/A	Same as above.
VI.G.1-3	N/A	No groundwater contamination resulting from a release from Facility Registration No. 0081533-193 has been identified.

APPENDIX C

ANALYTICAL DATA PACKAGE

ENVIRONMENTAL PROFILE LABORATORIES

ROUTE 37 BUSINESS PARK
SUITE 13
TOMS RIVER, NJ 08755
OFFICE: (908) 244-6278
FAX: (908) 244-6372

REPORT OF ANALYSIS

SERV-AIR
[illegible] 369 3LDG.490
[illegible] MONMOUTH, NJ 07702

EPL# : 6985.1..2..5..7
SAMPLE RECEIVED: 12/23/91
ANALYSIS START : 12/23/91
ANALYSIS COMPD. : 12/23/91

MATRIX: SOIL

[illegible] PARAMETER: PETROLEUM HYDROCARBONS

These samples were analyzed by Infrared Spectrophotometry.
[illegible] EPA METHOD 418.1 [illegible] mg/kg

IDENT ID	EPL#	RESULTS	MS SPEC.	MSD SPEC.	DET. LIMIT
EXTRACTION BLANK	NA	ND			10 mg/kg
S230 A WEST 791-647	6985.1	ND			"
S230 B NORTH 791-648	6985.3	190	75	86	20 mg/Kg
S230 C EAST 791-651	6985.5	ND			10 mg/Kg
S230 D SOUTH 791-654	6985.7	ND			"

ND= NOT DETECTED

Daniel K. Wright

[illegible] DIRECTOR
[illegible] WRIGHT

ENVIRONMENTAL PROFILE LABORATORIES
ROUTE 37 BUSINESS PARK
SUITE 13
TOMS RIVER, NJ 08755
OFFICE: (908) 244-6278
FAX: (908) 244-6372

LABORATORY ANALYSIS REPORT

CLIENT :Serv-Air

PROJECT: Serv-Air
BNA+25

Report Number: 6985
Date Received: Dec, 23, 1991
Date Released: Dec, 30, 1991
Data Released By:

Daniel K. Wright

Daniel K. Wright
Laboratory Director

CLIENT:Serv-Air

SAMPLE LOCATION AND IDENTIFICATION

LAB ID NUMBER	SAMPLE IDENTIFICATION	MATRIX
6985.2	B290A WEST	Soil
6985.4	B290B NORTH	Soil
6985.6	B290C EAST	Soil
6985.8	B290D SOUTH	Soil

Environmental Profile Laboratories

CUSTOMER PURCHASE ORDER NO:

CHAIN OF CUSTODY RECORD

PROJECT NO.:

SAMPLER (SIGNATURE):

DATE / TIME

ANALYSIS PARAMETERS

CUSTOMER (NAME/ADDRESS)
Serv-Air
P.O. 369 Bldg 490
Ft. Monmouth, NJ 07703

SITE NAME:

PHONE NO: 542 - 4359

FAX NO:

LAB SAMPLE ID NUMBER	DATE/TIME	SAMPLE MATRIX	CUSTOMER SAMPLE LOCATION/ID NUMBER	NUMBER OF CONTAINERS	TPHC ppb 40	PRESERVATIVE METHOD	REMARKS
6985.1	12/17	Soil	B290A west (C91-647)	1	X		
.2			B290A west (C91-648)			X	ICE
.3			B290B North (C91-649)		X		
.4			B290B North (C91-650)			X	
.5			B290C East (C91-651)		X		
.6			B290C East (C91-652)			X	
.7			B290D South (C91-653)		X		
.8			B290D South (C91-654)			X	

Relinquished By (Signature)	DATE / TIME 12/23/91 930	Received By (Signature)	METHOD OF SHIPPING: C.O.V.
Relinquished By (Signature)	DATE / TIME	Received By (Signature)	SHIPPED BY (Signature):
Relinquished By (Signature)	DATE / TIME	Recieved for Lab by (Signature):	DATE / TIME 12/23/91 930

NOTE: A DRAWING DEPICTING SAMPLE LOCATION SHOULD BE ATTACHED OR DRAWN ON THE REVERSE SIDE OF THIS CHAIN OF CUSTODY.

EPL FORM 002/CHAIN OF CUSTODY

LABORATORY CHRONICLE

SAMPLE NUMBER	6985.2	6985.4	6985.6	6985.8			
Received & Refrigerated Date	12/23/91	12/23/91	12/23/91	12/23/91			
Organics Extraction Date							
BN/ABN	12/24/91	12/24/91	12/24/91	12/24/91			
PCB's	NA	NA	NA	NA			
Analysis Date							
BN/ABN	12/26/91	12/26/91	12/26/91	12/26/91			
PCB's	NA	NA	NA	NA			
Volatiles	NA	NA	NA	NA			
TPHC's	NA	NA	NA	NA			
Metals	NA	NA	NA	NA			
Total Solids	12/23/91	12/23/91	12/23/91	12/23/91			
Organic Supervisor Review & Approval	Brian K. McKee B. K. McK						12/31/91
Inorganic Supervisor Review & Approval							

METHOD SUMMARY

- Base Neutrals / Acid Extractables

The semivolatile samples in this report have been analyzed using the method cited in the USEPA-CLP-IFB version 2/88. The CLP semivolatile method is based on USEPA Method 625 and SW-846 method 8270.

Three acid and/or three base/neutral surrogates are added to each sample. Aqueous samples are extracted with methylene chloride; soil samples are extracted with a 1 to 1 solution of methylene chloride and acetone. The extracts are then concentrated and the internal standards are added. An Hewlett Packard 5890 GC coupled to the HP 5970 MSD was used for the analysis and data collection.

GC/MS

ORGANIC NON-CONFORMANCE SUMMARY

GC/MS TUNE FREQUENCY:- All samples,blanks,standards and matrix spikes were analyzed within the respective 12 hour tune periods.

INITIAL CALIBRATION REQUIREMENTS:
No CCC or SPCC compound was outside of QC limits.

CONTINUING CALIBRATION REQUIREMENTS:
No CCC or SPCC compound was outside of QC limits

DETECTION LIMITS:- Detection limits and search results were modified by dilution or percent solid.*

* All values reported on a DRY WEIGHT basis where applicable

MATRIX SPIKE RECOVERY:- No matrix spike compound was outside QC limits

INTERNAL STANDARD AREA:-

CLIENT ID #	NUMBER OF INTERNAL STANDARD AREA(S)
NONE	0

SURROGATE RECOVERY:-

Client ID #	Surrogates outside QC limits
NONE	0

ANALYSIS TIME:- All samples were extracted and analyzed within the prescribed holding times.

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following "results qualifiers" are used:

VALUE - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, "10U". This is not necessarily the instrument detection limit. The figure represents the minimum detection limit attainable for this particular sample based on any concentration or dilution that may have been required.

J - Indicates an estimated value. This flag is used:

1) When estimating a concentration for tentatively identifid compounds (library search hits) where a 1:1 response is assumed.
2) When the mass spectral data indicated the identification criteria, however, the result was less than the specified detection limit but greater than zero. If the detection limit was 10ug/L and a concentration of 3ug/L was calculated, report as "3J".

B - Indicates the analyte was found in the blank as well as the sample; report as "12B".

E - Indicates the analyte concentration exceeds the calibrated range of the GC/MS instrument for that specific analysis.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

Environmental Profile Laboratories
BASE/NEUTRAL/ACID ANALYSIS DATA

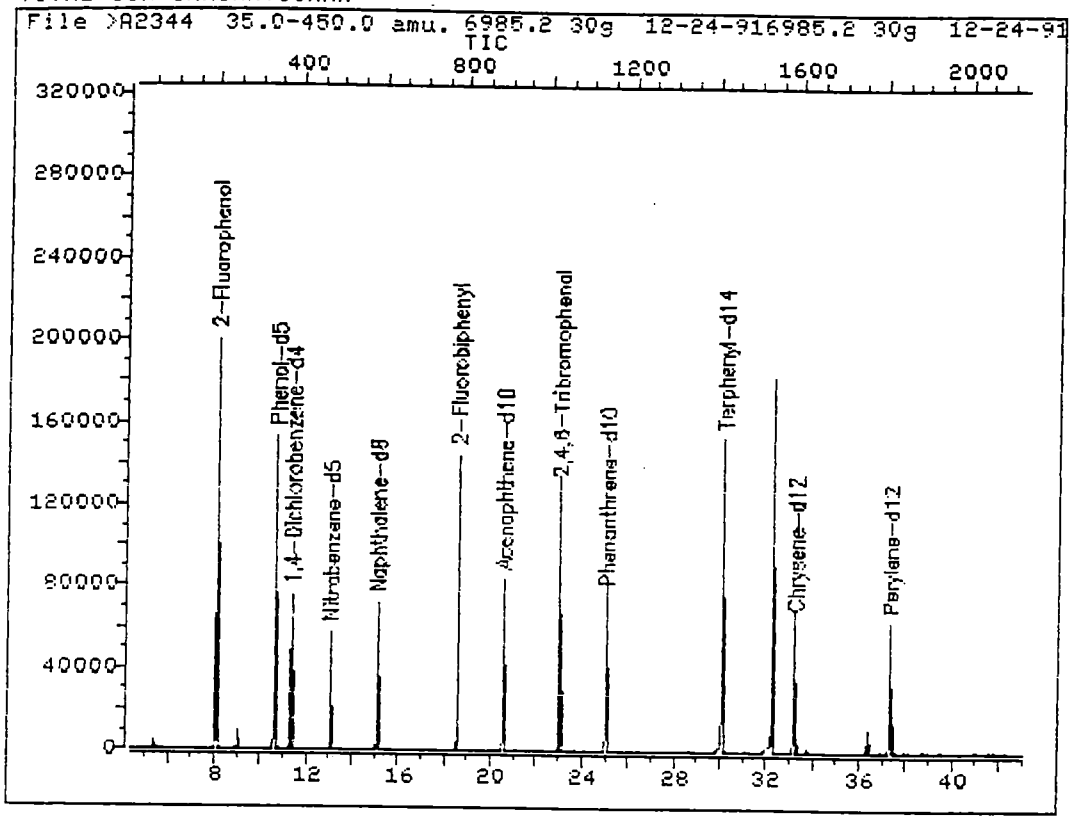
JOB NUMBER		MATRIX	Soil
SAMPLE NAME	6985.2 30g 12-24-91	DILUTION FACTOR	1.00
CLIENT ID		QA BATCH	
DATA FILE	>A2344	DATE ANALYZED	12/26/91

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
N-nitroso-dimethylamine	ND	410	Acenaphthene	ND	410
Phenol	ND	410	2,4-Dinitrophenol	ND	2100
Aniline	ND	410	4-Nitrophenol	ND	410
bis(2-Chloroethyl)Ether	ND	410	Dibenzofuran	ND	410
2-Chlorophenol	ND	410	2,4-Dinitrotoluene	ND	410
1,3-Dichlorobenzene	ND	410	2,6-Dinitrotoluene	ND	410
1,4-Dichlorobenzene	ND	410	Diethylphthalate	ND	410
Benzyl alcohol	ND	410	4-Chlorophenyl-phenylether	ND	410
1,2-Dichlorobenzene	ND	410	Fluorene	ND	410
2-Methylphenol	ND	410	4-Nitroaniline	ND	410
bis(2-chloroisopropyl)ether	ND	410	4,6-Dinitro-2-methylphenol	ND	410
4-Methylphenol	ND	410	N-Nitrosodiphenylamine	ND	410
N-Nitroso-Di-n-propylamine	ND	410	1,2-Diphenylhydrazine	ND	410
Hexachloroethane	ND	410	4-Bromophenyl-phenylether	ND	410
Nitrobenzene	ND	410	Hexachlorobenzene	ND	410
Isophorone	ND	410	Pentachlorophenol	ND	410
2-Nitrophenol	ND	410	Phenanthrene	ND	410
2,4-Dimethylphenol	ND	410	Anthracene	ND	410
Benzoic Acid	ND	410	Di-n-butylphthalate	ND	410
bis(2-Chloroethoxy)methane	ND	410	Fluoranthene	ND	410
2,4-Dichlorophenol	ND	410	Benzidine	ND	410
1,2,4-Trichlorobenzene	ND	410	Pyrene	ND	410
Naphthalene	ND	410	Butylbenzylphthalate	ND	410
4-Chloroaniline	ND	410	3,3'-Dichlorobenzidine	ND	410
Hexachlorobutadiene	ND	410	Benzo(a)anthracene	ND	410
4-Chloro-3-methylphenol	ND	410	bis(2-Ethylhexyl)phthalate	ND	410
2-Methylnaphthalene	ND	410	Chrysene	ND	410
Hexachlorocyclopentadiene	ND	410	Di-n-octylphthalate	ND	410
2,4,6-Trichlorophenol	ND	410	Benzo(b)fluoranthene	ND	410
2,4,5-Trichlorophenol	ND	410	Benzo(k)fluoranthene	ND	410
2-Chloronaphthalene	ND	410	Benzo(a)pyrene	ND	410
2-Nitroaniline	ND	410	Indeno(1,2,3-cd)pyrene	ND	410
Dimethylphthalate	ND	410	Dibenz(a,h)anthracene	ND	410
Acenaphthylene	ND	410	Benzo(g,h,i)perylene	ND	410
3-Nitroaniline	ND	410			0

Percent Solid of 80.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

TOTAL ION CHROMATOGRAM



Data File: >A2344::D3
Name: 6985.2 30g 12-24-91
Misc: 6985.2 30g 12-24-91

Quant Output File: ^A2344::DB

BTL# 4

Id File: IDBNA::D4
Title: Semivolatile Organics (EPA Methods 625/8270) by GC/MS
Last Calibration: 911226 12:14

Operator ID: MARK
Quant Time: 911226 15:43
Injected at: 911226 14:59

Environmental Profile Laboratories
BASE/NEUTRAL/ACID ANALYSIS DATA

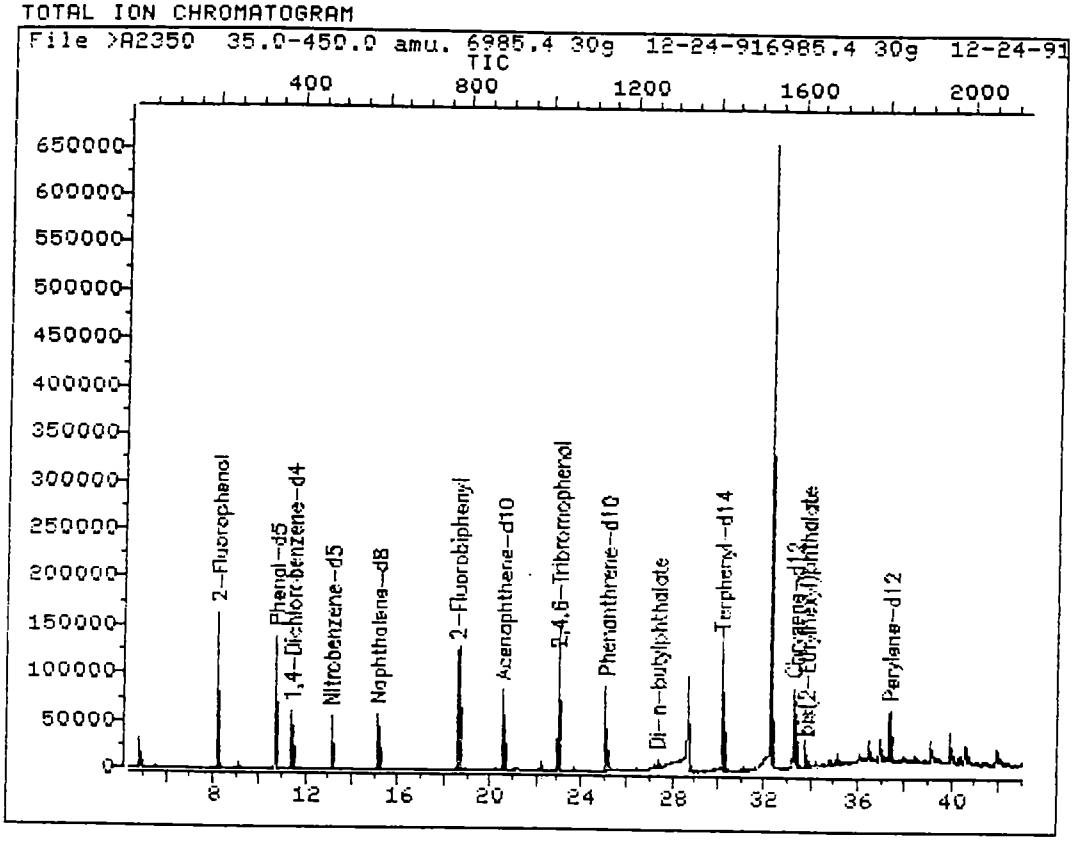
JOB NUMBER		MATRIX	Soil
SAMPLE NAME	6985.4 30g 12-24-91	DILUTION FACTOR	1.00
CLIENT ID		QA BATCH	
DATA FILE	>A2350	DATE ANALYZED	12/26/91

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
N-nitroso-dimethylamine	ND	410	Acenaphthene	ND	410
Phenol	ND	410	2,4-Dinitrophenol	ND	2000
Aniline	ND	410	4-Nitrophenol	ND	410
bis(2-Chloroethyl)Ether	ND	410	Dibenzofuran	ND	410
2-Chlorophenol	ND	410	2,4-Dinitrotoluene	ND	410
1,3-Dichlorobenzene	ND	410	2,6-Dinitrotoluene	ND	410
1,4-Dichlorobenzene	ND	410	Diethylphthalate	ND	410
Benzyl alcohol	ND	410	4-Chlorophenyl-phenylether	ND	410
1,2-Dichlorobenzene	ND	410	Fluorene	ND	410
2-Methylphenol	ND	410	4-Nitroaniline	ND	410
bis(2-chloroisopropyl)ether	ND	410	4,6-Dinitro-2-methylphenol	ND	410
4-Methylphenol	ND	410	N-Nitrosodiphenylamine	ND	410
N-Nitroso-Di-n-propylamine	ND	410	1,2-Diphenylhydrazine	ND	410
Hexachloroethane	ND	410	4-Bromophenyl-phenylether	ND	410
Nitrobenzene	ND	410	Hexachlorobenzene	ND	410
Isophorone	ND	410	Pentachlorophenol	ND	410
2-Nitrophenol	ND	410	Phenanthrene	ND	410
2,4-Dimethylphenol	ND	410	Anthracene	ND	410
Benzoic Acid	ND	410	Di-n-butylphthalate	150 J	410
bis(2-Chloroethoxy)methane	ND	410	Fluoranthene	ND	410
2,4-Dichlorophenol	ND	410	Benzidine	ND	410
1,2,4-Trichlorobenzene	ND	410	Pyrene	ND	410
Naphthalene	ND	410	Butylbenzylphthalate	ND	410
4-Chloroaniline	ND	410	3,3`-Dichlorobenzidine	ND	410
Hexachlorobutadiene	ND	410	Benzo(a)anthracene	ND	410
4-Chloro-3-methylphenol	ND	410	bis(2-Ethylhexyl)phthalate	360 J	410
2-Methylnaphthalene	ND	410	Chrysene	ND	410
Hexachlorocyclopentadiene	ND	410	Di-n-octylphthalate	ND	410
2,4,6-Trichlorophenol	ND	410	Benzo(b)fluoranthene	ND	410
2,4,5-Trichlorophenol	ND	410	Benzo(k)fluoranthene	ND	410
2-Chloronaphthalene	ND	410	Benzo(a)pyrene	ND	410
2-Nitroaniline	ND	410	Indeno(1,2,3-cd)pyrene	ND	410
Dimethylphthalate	ND	410	Dibenz(a,h)anthracene	ND	410
Acenaphthylene	ND	410	Benzo(g,h,i)perylene	ND	410
3-Nitroaniline	ND	410			0

Percent Solid of 81.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

TOTAL ION CHROMATOGRAM



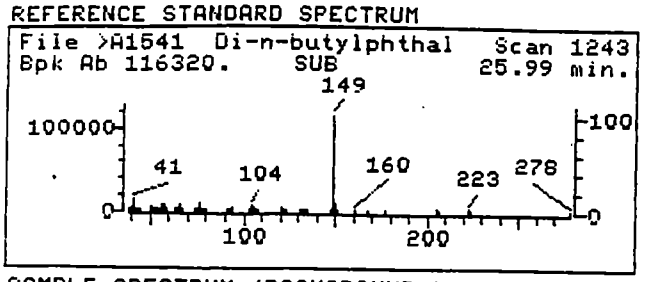
Data File: >A2350::D3 Quant Output File: ^A2350::DB
Name: 6985.4 30g 12-24-91
Misc: 6985.4 30g 12-24-91

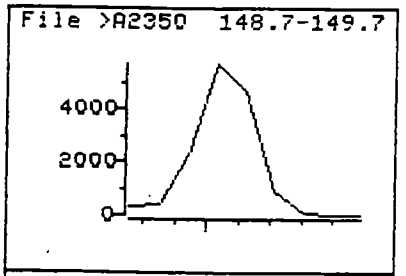
BTL#10

Id File: IDBNA::D4
Title: Semivolatile Organics (EPA Methods 625/8270) by GC/MS
Last Calibration: 911226 12:14

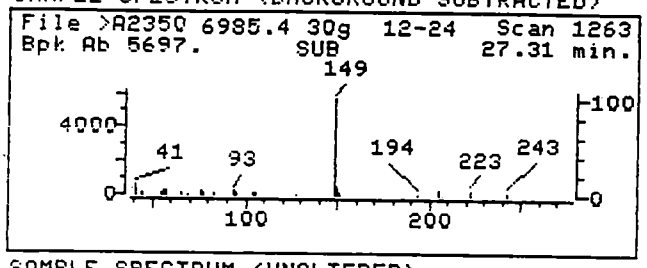
Operator ID: MARK
Quant Time: 911226 20:51
Injected at: 911226 20:07

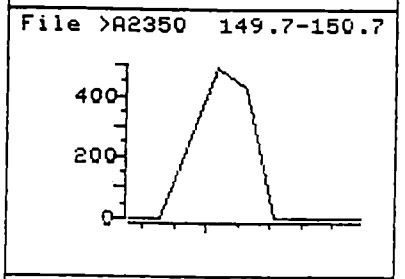
REFERENCE STANDARD SPECTRUM



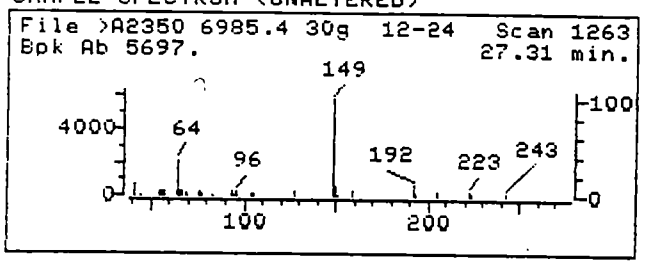


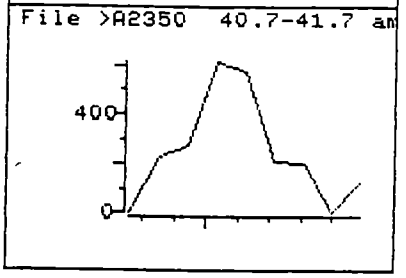
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)





SAMPLE SPECTRUM (UNALTERED)





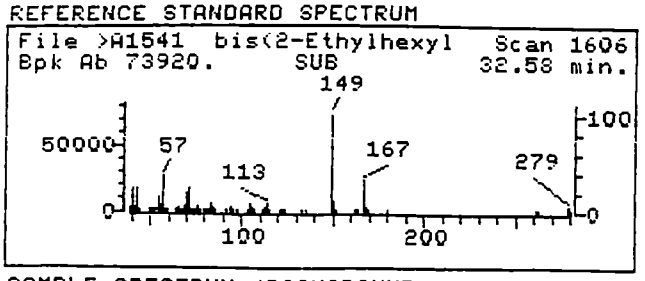
Data File: >A2350::D3
Name: 6985.4 30g 12-24-91
Misc: 6985.4 30g 12-24-91
Quant Time: 911226 20:51
Injected at: 911226 20:07

Quant Output File: ^A2350::DB

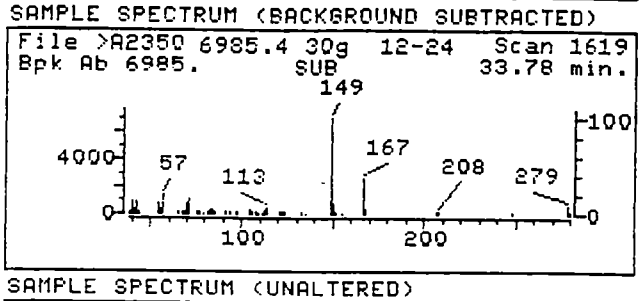
BTL#10
Quant ID File: IDBNA::D4
Last Calibration: 911226 12:14

Compound No: 64
Compound Name: Di-n-butylphthalate
Scan Number: 1263
Retention Time: 27.31 min.
Quant Ion: 149.0
Area: 15426
Concentration: 3.75 ng/uL
q-value: 96

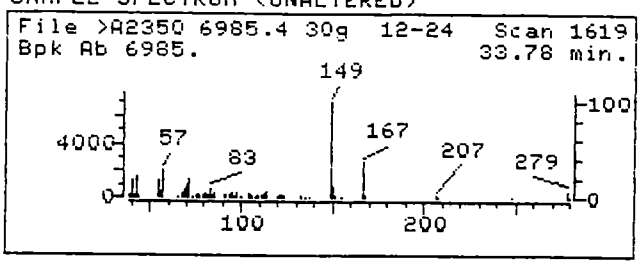
REFERENCE STANDARD SPECTRUM

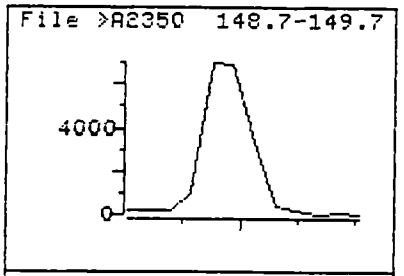


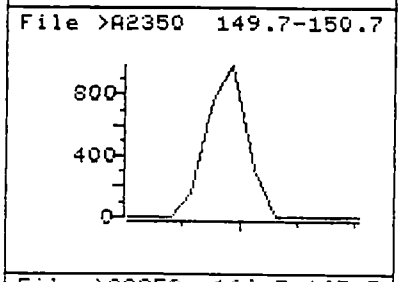
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

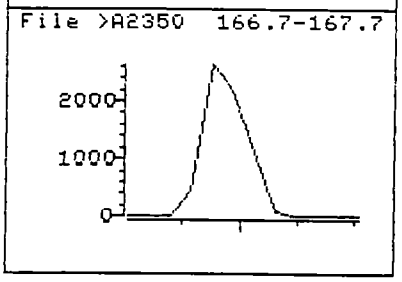


SAMPLE SPECTRUM (UNALTERED)









Data File: >A2350::D3
Name: 6985.4 30g 12-24-91
Misc: 6985.4 30g 12-24-91
Quant Time: 911226 20:51
Injected at: 911226 20:07

Quant Output File: ^A2350::DB

BTL#10

Quant ID File: IDBNA::D4
Last Calibration: 911226 12:14

Compound No: 73
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1619
Retention Time: 33.78 min.
Quant Ion: 149.0
Area: 21294
Concentration: 8.69 ng/uL
q-value: 84

Environmental Profile Laboratories
BASE/NEUTRAL/ACID ANALYSIS DATA

JOB NUMBER		MATRIX	Soil
SAMPLE NAME	6985.6 30g 12-24-91	DILUTION FACTOR	1.00
CLIENT ID		QA BATCH	
DATA FILE	>A2345	DATE ANALYZED	12/26/91

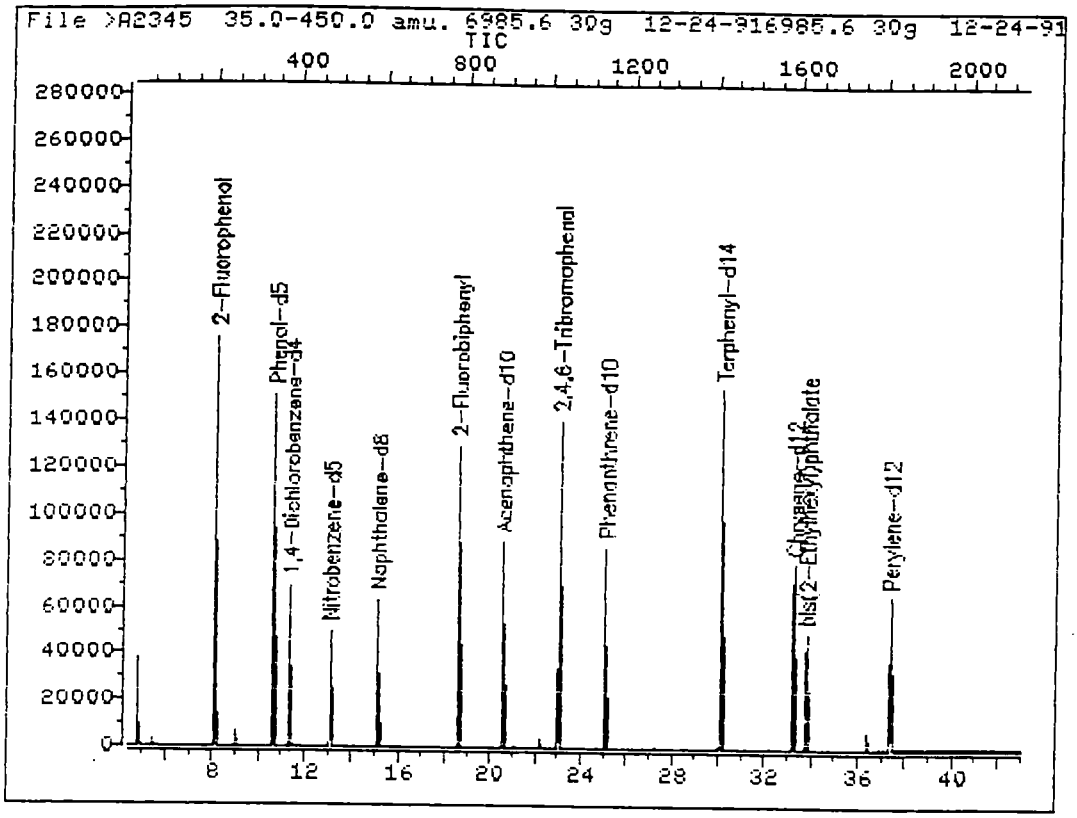
COMPOUND	UG/KG	MDL
N-nitroso-dimethylamine	ND	410
Phenol	ND	410
Aniline	ND	410
bis(2-Chloroethyl)Ether	ND	410
2-Chlorophenol	ND	410
1,3-Dichlorobenzene	ND	410
1,4-Dichlorobenzene	ND	410
Benzyl alcohol	ND	410
1,2-Dichlorobenzene	ND	410
2-Methylphenol	ND	410
bis(2-chloroisopropyl)ether	ND	410
4-Methylphenol	ND	410
N-Nitroso-Di-n-propylamine	ND	410
Hexachloroethane	ND	410
Nitrobenzene	ND	410
Isophorone	ND	410
2-Nitrophenol	ND	410
2,4-Dimethylphenol	ND	410
Benzoic Acid	ND	410
bis(2-Chloroethoxy)methane	ND	410
2,4-Dichlorophenol	ND	410
1,2,4-Trichlorobenzene	ND	410
Naphthalene	ND	410
4-Chloroaniline	ND	410
Hexachlorobutadiene	ND	410
4-Chloro-3-methylphenol	ND	410
2-Methylnaphthalene	ND	410
Hexachlorocyclopentadiene	ND	410
2,4,6-Trichlorophenol	ND	410
2,4,5-Trichlorophenol	ND	410
2-Chloronaphthalene	ND	410
2-Nitroaniline	ND	410
Dimethylphthalate	ND	410
Acenaphthylene	ND	410
3-Nitroaniline	ND	410

COMPOUND	UG/KG	MDL
Acenaphthene	ND	410
2,4-Dinitrophenol	ND	2100
4-Nitrophenol	ND	410
Dibenzofuran	ND	410
2,4-Dinitrotoluene	ND	410
2,6-Dinitrotoluene	ND	410
Diethylphthalate	ND	410
4-Chlorophenyl-phenylether	ND	410
Fluorene	ND	410
4-Nitroaniline	ND	410
4,6-Dinitro-2-methylphenol	ND	410
N-Nitrosodiphenylamine	ND	410
1,2-Diphenylhydrazine	ND	410
4-Bromophenyl-phenylether	ND	410
Hexachlorobenzene	ND	410
Pentachlorophenol	ND	410
Phenanthrene	ND	410
Anthracene	ND	410
Di-n-butylphthalate	ND	410
Fluoranthene	ND	410
Benzidine	ND	410
Pyrene	ND	410
Butylbenzylphthalate	ND	410
3,3'-Dichlorobenzidine	ND	410
Benzo(a)anthracene	ND	410
bis(2-Ethylhexyl)phthalate	610	410
Chrysene	ND	410
Di-n-octylphthalate	ND	410
Benzo(b)fluoranthene	ND	410
Benzo(k)fluoranthene	ND	410
Benzo(a)pyrene	ND	410
Indeno(1,2,3-cd)pyrene	ND	410
Dibenz(a,h)anthracene	ND	410
Benzo(g,h,i)perylene	ND	410
		0

Percent Solid of 80.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

TOTAL ION CHROMATOGRAM



Data File: >A2345::D3
Name: 6985.6 30g 12-24-91
Misc: 6985.6 30g 12-24-91

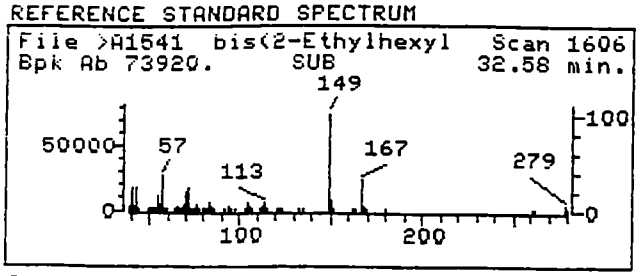
Quant Output File: ^A2345::DB

BTL# 5

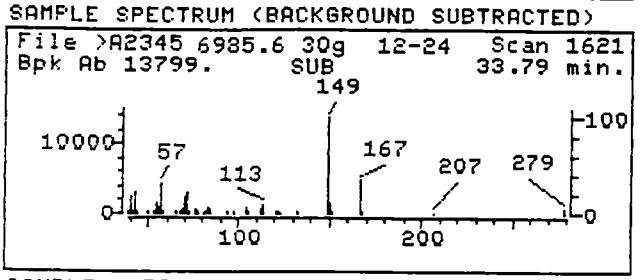
Id File: IDBNA::D4
Title: Semivolatile Organics (EPA Methods 625/8270) by GC/MS
Last Calibration: 911226 12:14

Operator ID: MARK
Quant Time: 911226 16:35
Injected at: 911226 15:51

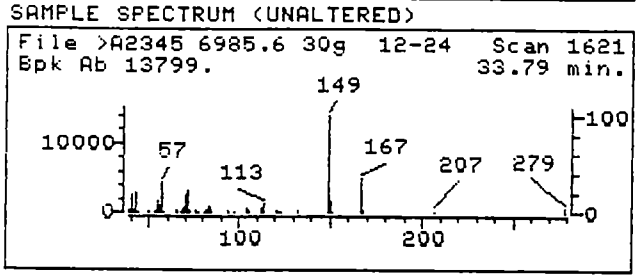
REFERENCE STANDARD SPECTRUM

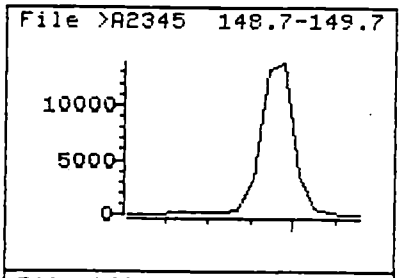


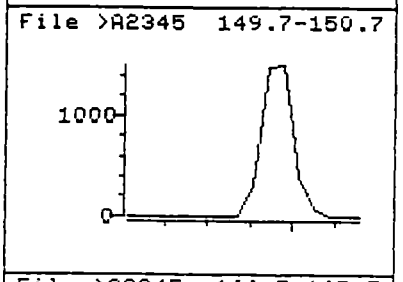
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

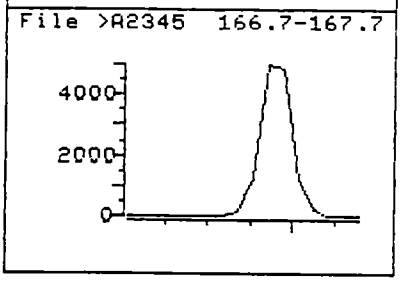


SAMPLE SPECTRUM (UNALTERED)









Data File: >A2345::D3 Quant Output File: ^A2345::DB
Name: 6985.6 30g 12-24-91
Misc: 6985.6 30g 12-24-91 BTL# 5
Quant Time: 911226 16:35 Quant ID File: IDBNA::D4
Injected at: 911226 15:51 Last Calibration: 911226 12:14

Compound No: 73
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1621
Retention Time: 33.79 min.
Quant Ion: 149.0
Area: 39686
Concentration: 14.57 ng/uL
q-value: 87

Environmental Profile Laboratories
BASE/NEUTRAL/ACID ANALYSIS DATA

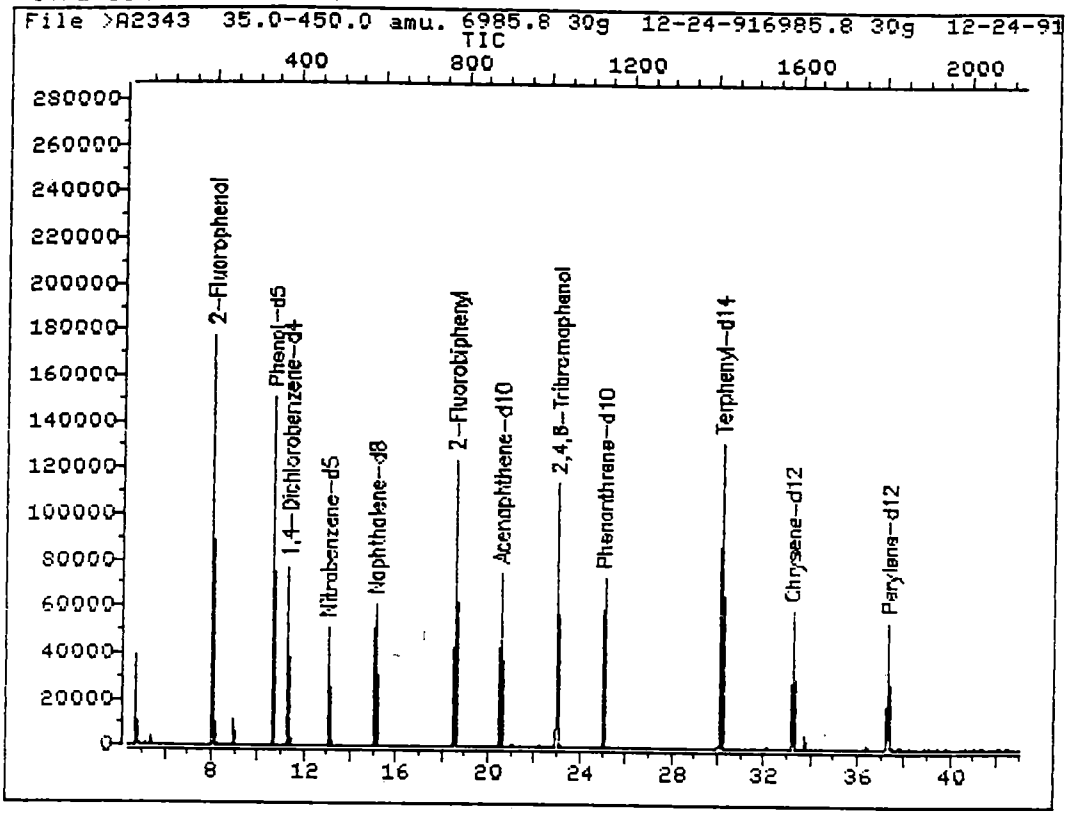
JOB NUMBER		MATRIX	Soil
SAMPLE NAME	6985.8 30g 12-24-91	DILUTION FACTOR	1.00
CLIENT ID		QA BATCH	
DATA FILE	>A2343	DATE ANALYZED	12/26/91

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
N-nitroso-dimethylamine	ND	410	Acenaphthene	ND	410
Phenol	ND	410	2,4-Dinitrophenol	ND	2100
Aniline	ND	410	4-Nitrophenol	ND	410
bis(2-Chloroethyl)Ether	ND	410	Dibenzofuran	ND	410
2-Chlorophenol	ND	410	2,4-Dinitrotoluene	ND	410
1,3-Dichlorobenzene	ND	410	2,6-Dinitrotoluene	ND	410
1,4-Dichlorobenzene	ND	410	Diethylphthalate	ND	410
Benzyl alcohol	ND	410	4-Chlorophenyl-phenylether	ND	410
1,2-Dichlorobenzene	ND	410	Fluorene	ND	410
2-Methylphenol	ND	410	4-Nitroaniline	ND	410
bis(2-chloroisopropyl)ether	ND	410	4,6-Dinitro-2-methylphenol	ND	410
4-Methylphenol	ND	410	N-Nitrosodiphenylamine	ND	410
N-Nitroso-Di-n-propylamine	ND	410	1,2-Diphenylhydrazine	ND	410
Hexachloroethane	ND	410	4-Bromophenyl-phenylether	ND	410
Nitrobenzene	ND	410	Hexachlorobenzene	ND	410
Isophorone	ND	410	Pentachlorophenol	ND	410
2-Nitrophenol	ND	410	Phenanthrene	ND	410
2,4-Dimethylphenol	ND	410	Anthracene	ND	410
Benzoic Acid	ND	410	Di-n-butylphthalate	ND	410
bis(2-Chloroethoxy)methane	ND	410	Fluoranthene	ND	410
2,4-Dichlorophenol	ND	410	Benzidine	ND	410
1,2,4-Trichlorobenzene	ND	410	Pyrene	ND	410
Naphthalene	ND	410	Butylbenzylphthalate	ND	410
4-Chloroaniline	ND	410	3,3'-Dichlorobenzidine	ND	410
Hexachlorobutadiene	ND	410	Benzo(a)anthracene	ND	410
4-Chloro-3-methylphenol	ND	410	bis(2-Ethylhexyl)phthalate	ND	410
2-Methylnaphthalene	ND	410	Chrysene	ND	410
Hexachlorocyclopentadiene	ND	410	Di-n-octylphthalate	ND	410
2,4,6-Trichlorophenol	ND	410	Benzo(b)fluoranthene	ND	410
2,4,5-Trichlorophenol	ND	410	Benzo(k)fluoranthene	ND	410
2-Chloronaphthalene	ND	410	Benzo(a)pyrene	ND	410
2-Nitroaniline	ND	410	Indeno(1,2,3-cd)pyrene	ND	410
Dimethylphthalate	ND	410	Dibenz(a,h)anthracene	ND	410
Acenaphthylene	ND	410	Benzo(g,h,i)perylene	ND	410
3-Nitroaniline	ND	410			0

Percent Solid of 80.8 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

TOTAL ION CHROMATOGRAM



Data File: >A2343::D3 Quant Output File: ^A2343::DB
Name: 6985.8 30g 12-24-91
Misc: 6985.8 30g 12-24-91 BTL# 3

Id File: IDBNA::D4
Title: Semivolatile Organics (EPA Methods 625/8270) by GC/MS
Last Calibration: 911226 12:14

Operator ID: MARK
Quant Time: 911226 14:49
Injected at: 911226 14:05

17

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.: 6985.2 30g

Lab Name: Environmental Profile Lab NJDEP Cert.# 15526

Matrix: Soil

Sample wt/vol: 30 (g/mL) g

Level: (Low/med) Low

Extraction: (Sepf/Cont/Sonc) Sonicator

GPC Cleanup: (Y/N) N

Lab Sample ID: 6985.2 30g

Lab File ID: >A2344

Date Received: 12-23-91

Date Extracted: 12-24-91

Date Analyzed: 12/26/91

Dilution Factor: 30

Number of TICs found: 3

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1	79345	Ethane, 1,1,2,2-tetrachloro-	8.94	150	95
2	4337659-	Hexanedioic Acid	32.18	2340	41
3	36237668	6,10,14-Hexadecatrien-1-ol, Tetramethyl	36.33	120	70

MS data file header from : >A2344

Sample: 6985.2 30g 12-24-91 Operator: MARK SUPER GRP. 12/26/91 14:59
Misc : 6985.2 30g 12-24-91 BTL# 4
Sys. #: 2 MS model: 70 SW/HW rev.: IA ALS # : 0
Method file: BNARUN Tuning file: MTUNE2 No. of extra records: 2
Source temp.: 0 Analyzer temp.: 280 Transfer line temp. : 0

Chromatographic temperatures :	35.	300.	0.	0.	0.
Chromatographic times, min. :	3.0	6.9	0.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	0.0	0.0	.2	0.0

>A2344 6985.2 30g 12-24-916985.2 30g 12-24-91
15.01 450.0 CLP TIC
Upslope: .20 Area Reject: 17738. Max Peaks: 3 Bunching: 1
Dnslope: 0.00 Results File IA2344 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	8.94	248	251	256	9613	21613	21613	4.67	4.238
2	32.18	1529	1532	1541	182516	464100	463040	100.00	90.791
3	36.33	1758	1761	1765	11272	28607	25351	5.47	4.971

Sum of corrected areas: 510004.

Summary of Unknowns PBM Library Search and Quantitation

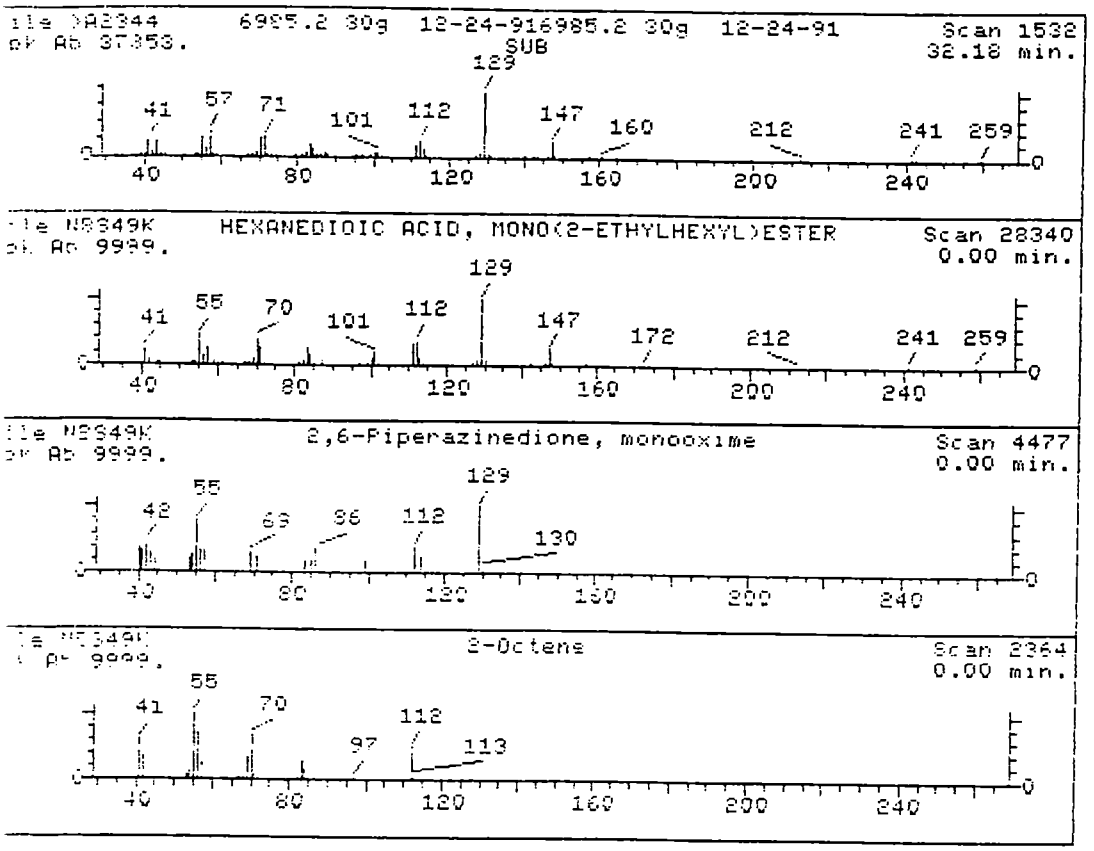
Standard	Concentration	Area	Retention Time	Unknown Window
1	40.0	179214.	11.30	4.41 - 13.17
2	40.0	177376.	15.04	13.17 - 17.76
3	40.0	237542.	20.49	17.76 - 22.75
4	40.0	251187.	25.01	22.75 - 29.10
5	40.0	236165.	33.19	29.10 - 35.24
6	40.0	241494.	37.29	35.24 - 43.05

Dilution Factor = 1.00 U dilf = 1.00
Method called for 1000.000 g or mL This sample was 1000.000 g or mL

Correction Factor = 1.00

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

4:33 PM SUN., 29 DEC., 1991



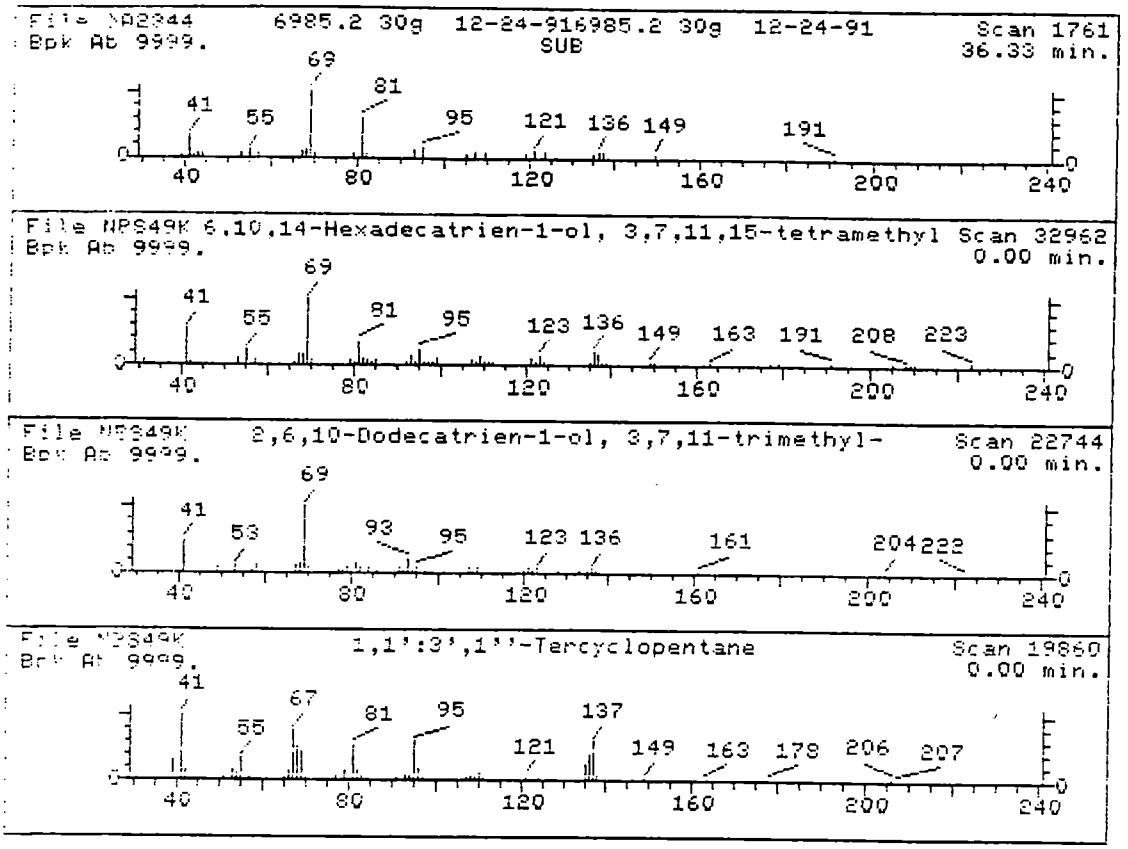
UNKNOWN #,2

REA = 463040.0 TENTATIVE CONCENTRATION IS 78.00

1.	HEXANEDIOIC ACID, MONO(2-ETHYLHEXYL)ESTER	258 C14H2604
2.	2,6-Piperazinedione, monooxime	129 C4H7N302
3.	2-Octene	112 C8H16
4.	Octane, 3,6-dimethyl-	142 C10H22
5.	Hexanedioic acid, dioctyl ester	370 C22H4204

Sample file: >A2344 Spectrum #: 1532
Search speed: 1 Tilting option: F No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IO
.	41	4337659	15463	NBS49K	61	64	0	0	42	40	17	30
.	26*	56700846	15393	NBS49K	23	99	3	0	100	36	10	12
.	25*	111671	12035	NBS49K	35	51	0	-3	31	46	7	19
.	25*	15869940	12333	NBS49K	37	37	1	1	30	48	7	13
.	21	123795	15479	NBS49K	83	62	1	1	37	60	5	30



UNKNOWN #,3

AREA = 25351.00 TENTATIVE CONCENTRATION IS 4.00

1.	6,10,14-Hexadecatrien-1-ol, 3,7,11,15-tetramethyl-, [R-(E,E)]-	292 C20H36O
2.	2,6,10-Dodecatrien-1-ol, 3,7,11-trimethyl-	222 C15H26O
3.	1,1':3',1''-Tercyclopentane	206 C15H26
4.	3,7,11-Tridecatrienenitrile, 4,8,12-trimethyl-	231 C16H25N
5.	Ethanone, 1-(3-hydroxyphenyl)-	136 C8H8O2
6.	Phosphonous dichloride, (1,7,7-trimethylbicyclo[2.2.1]hept-2-yl)-	238 C10H17Cl2P

Sample file: >A2344 Spectrum #: 1761

Search speed: 1 Tilting option: F No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	70	36237668	16885	NBS49K	75	72	2	2	76	9	42	12
2.	63*	4602840	3787	NBS49K	60	57	2	0	100	17	30	37
3.	52*	6051407	17051	NBS49K	47	51	3	2	22	17	20	12
4.	52*	6006015	16861	NBS49K	48	63	2	2	100	17	20	13
5.	47*	121711	16611	NBS49K	43	26	1	1	12	25	17	18
6.	43*	74630163	17088	NBS49K	55	64	2	1	50	33	16	26

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.
6985.4 30g

Lab Name: Environmental Profile Lab NJDEP Cert.# 15526

Matrix: Soil

Sample wt/vol: 30 (g/mL) g

Level: (Low/med) Low

Extraction: (Sepf/Cont/Sonc) Sonicator

GPC Cleanup: (Y/N) N

Lab Sample ID: 6985.4 30g

Lab File ID: >A2350

Date Received: 12-23-91

Date Extracted: 12-24-91

Date Analyzed: 12/26/91

Dilution Factor: 30

Number of TICs found: 22

CONCENTRATION UNITS:
ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1	57556	1,2-Propanediol	4.85	870	60
2	90437	[1,1'-Biphenyl]-2-ol	21.06	90	76
3	4486593	2,6-Octadiene-4,5-diol	22.26	90	68
4	10544500	Sulfur, mol. (S8)	28.67	1860	95
5		Unknown	31.58	90	
6		Unknown	31.76	90	
7		Unknown	32.01	300	
8	123795	Hexanedioic acid, dioctyl es	32.23	7500	72
9		Unknown	34.19	60	
10	17301303	Undecane, 3,8-dimethyl-	35.12	120	60
11		Unknown	36.03	90	
12	286180	7-Azabicyclo[4.1.0]heptane	36.40	330	26
13	629787	Heptadecane	36.94	540	60
14		Unknown	38.44	90	
15	1569502	3-Penten-2-ol	39.07	390	25
16		Unknown	39.89	870	
17		Unknown	40.02	360	
18		Unknown	40.37	150	
19	52474847	Cholestane, 14-methyl-	40.62	600	30
20	51973274	4-BROMOMETHYL-2,2,5,5-TETRAM	41.09	90	27
21		Unknown	41.35	90	
22	5516665	Aspidospermidin-17-ol, 16-me	41.88	720	56

MS data file header from : >A2350

Sample: 6985.4 30g 12-24-91 Operator: MARK SUPER GRP. 12/26/91 20:07
Misc : 6985.4 30g 12-24-91 BTL#10
Sys. #: 2 MS model: 70 SW/HW rev.: IA ALS # : 0
Method file: BNARUN Tuning file: MTUNE2 No. of extra records: 2
Source temp.: 0 Analyzer temp.: 280 Transfer line temp. : 0

Chromatographic temperatures :	35.	300.	0.	0.	0.
Chromatographic times, min. :	3.0	6.9	0.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	0.0	0.0	.2	0.0

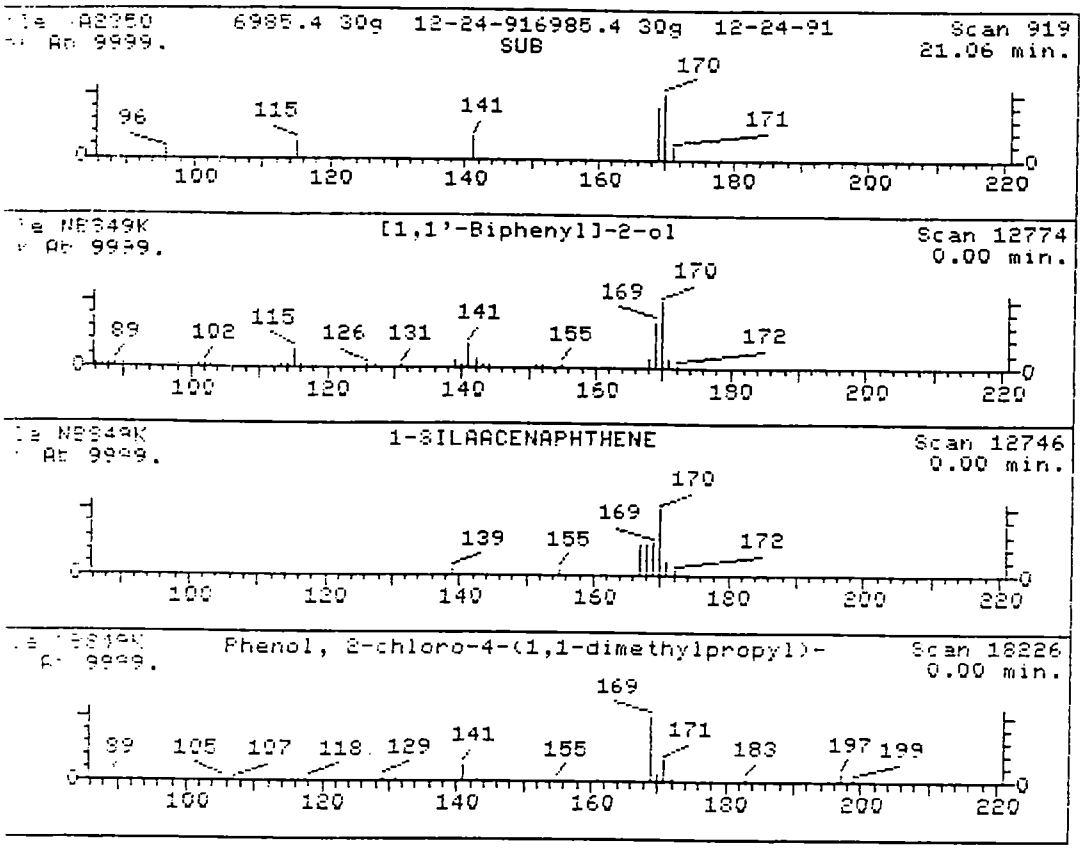
A2350 6985.4 30g 12-24-916985.4 30g 12-24-91
35.01 450.0 CLP TIC
pslope: .20 Area Reject: 14569. Max Peaks: 22 Bunching: 1
mslope: 0.00 Results File IA2350 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	4.85	23	25	37	32222	105552	105552	5.82	3.102
2	21.06	911	919	922	3485	18201	18201	1.00	.535
3	22.26	983	985	990	8399	19914	18191	1.00	.535
4	28.67	1333	1338	1345	98941	468430	431428	23.78	12.681
5	31.58	1489	1498	1500	3058	59256	18647	1.03	.548
6	31.76	1503	1508	1510	4536	54183	22182	1.22	.652
7	32.01	1510	1522	1523	8667	187887	73424	4.05	2.158
8	32.23	1530	1534	1538	644502	1930127	1813988	100.00	53.318
9	34.19	1638	1642	1645	5000	80032	14958	.82	.440
10	35.12	1690	1693	1698	11473	132560	31118	1.72	.915
11	36.03	1740	1743	1748	5648	165080	16630	.92	.489
12	36.40	1759	1763	1767	20542	208106	65058	3.59	1.912
13	36.94	1789	1793	1801	23049	321936	109028	6.01	3.205
14	38.44	1873	1875	1878	5707	99651	18076	1.00	.531
15	39.07	1906	1910	1912	21037	170106	76124	4.20	2.237
16	39.89	1950	1955	1960	31192	321016	173502	9.56	5.100
17	40.02	1960	1962	1972	14314	234457	70111	3.87	2.061
18	40.37	1978	1981	1987	7144	155102	30082	1.66	.884
19	40.62	1988	1995	2003	19918	329300	117398	6.47	3.451
20	41.09	2019	2021	2026	4557	99761	20674	1.14	.608
21	41.35	2032	2035	2038	3085	83690	15686	.86	.461
22	41.88	2058	2064	2073	18091	309236	142144	7.84	4.178

Sum of corrected areas: 3402202.

Summary of Unknowns PBM Library Search and Quantitation

Standard	Concentration	Area	Retention Time	Unknown Window
1	40.0	145687.	11.38	4.41 - 13.24
2	40.0	149403.	15.09	13.24 - 17.82
3	40.0	232215.	20.54	17.82 - 22.80



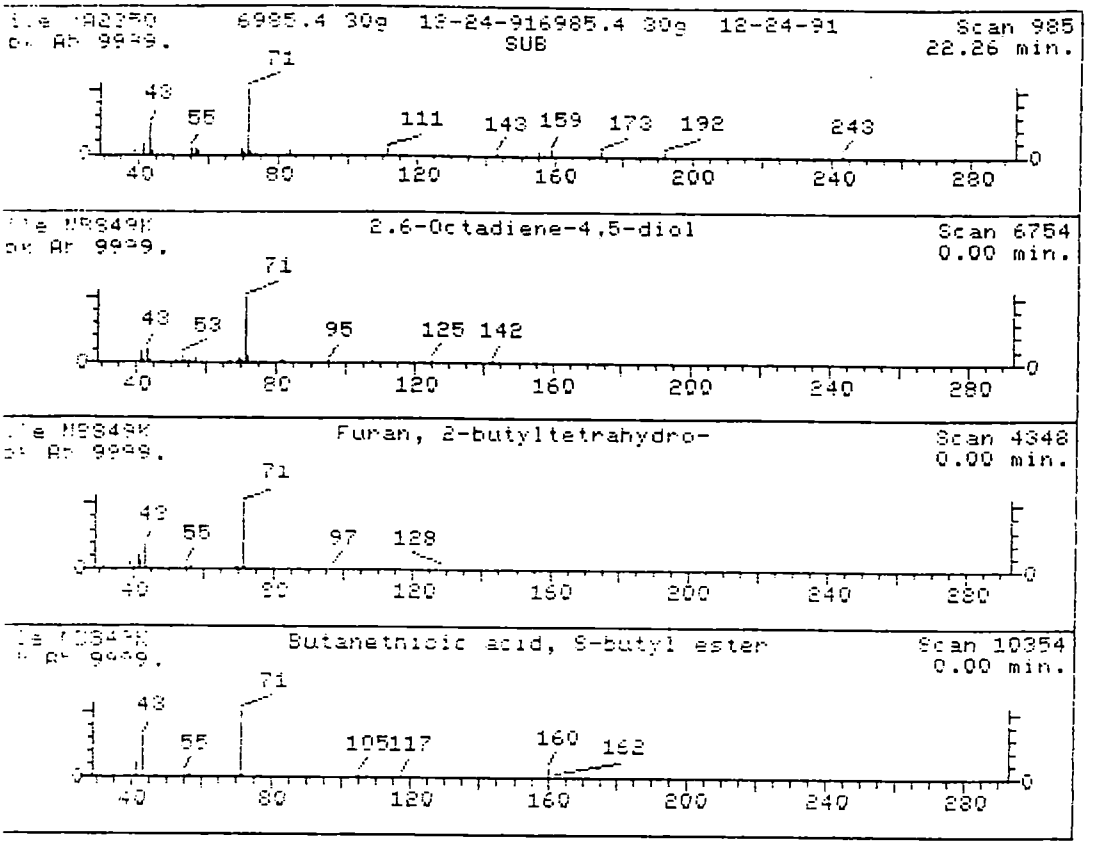
UNKNOWN #,2

EA = 18201.00 TENTATIVE CONCENTRATION IS 3.00

1.	[1,1'-Biphenyl]-2-ol	170 C12H10O
2.	1-SILAACENAPHTHENE	170 C11H10Si
3.	Phenol, 2-chloro-4-(1,1-dimethylpropyl)-	198 C11H15ClO
4.	1H-Dipyrido[2,3-b:3',2'-d]pyrrole	169 C10H7N3

ample file: >A2350 Spectrum #: 919
arch speed: 1 Tilting option: F No. of ion ranges searched: 99

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IO
	76*	90437	22923	NBS49K	50	56	2	0	98	8	45	23
	26*	209121	22920	NBS49K	28	49	2	0	96	43	8	14
	24*	5323659	22780	NBS49K	43	71	1	0	53	54	7	21
	11*	17966006	22751	NBS49K	33	55	1	0	78	64	2	18

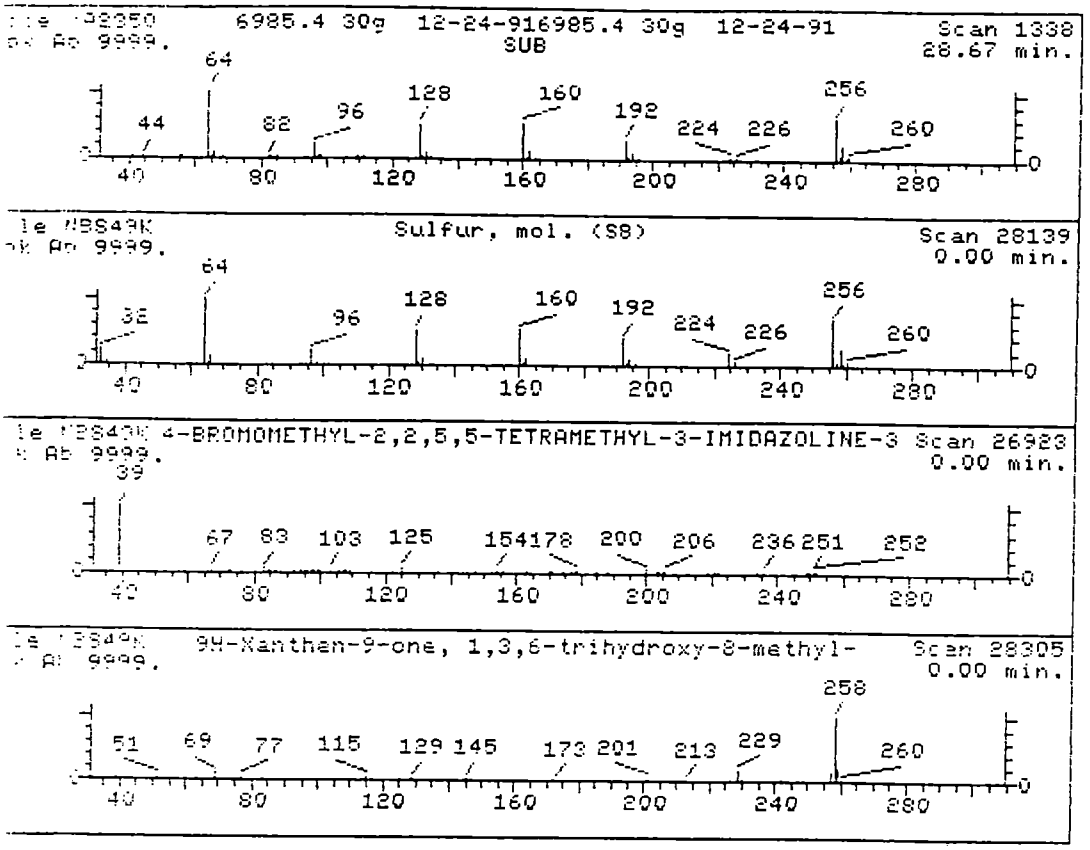


UNKNOWN #,3
REA = 18191.00 TENTATIVE CONCENTRATION IS 3.00

1.	2,6-Octadiene-4,5-diol	142	C8H1402
2.	Furan, 2-butyltetrahydro-	128	C8H16O
3.	Butanethioic acid, S-butyl ester	160	C8H16OS
4.	Furan, tetrahydro-2-(methoxymethyl)-	116	C6H12O2
5.	Ethane, isocyanato-	71	C3H5NO
6.	Azetidine, 2-methyl-	71	C4H9N

Sample file: >A2350 Spectrum #: 985
Search speed: 1 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IO
.	68*	4486593	4321	NBS49K	55	24	1	0	69	25	30	52
.	48*	1004291	4301	NBS49K	36	40	1	0	77	25	17	19
.	43	2432522	4367	NBS49K	40	44	1	0	75	25	17	14
.	43*	19354279	4294	NBS49K	36	44	3	0	82	25	17	14
.	43*	109900	4251	NBS49K	24	48	2	0	129	25	17	14
.	42*	19812498	4253	NBS49K	23	39	2	0	100	25	17	13



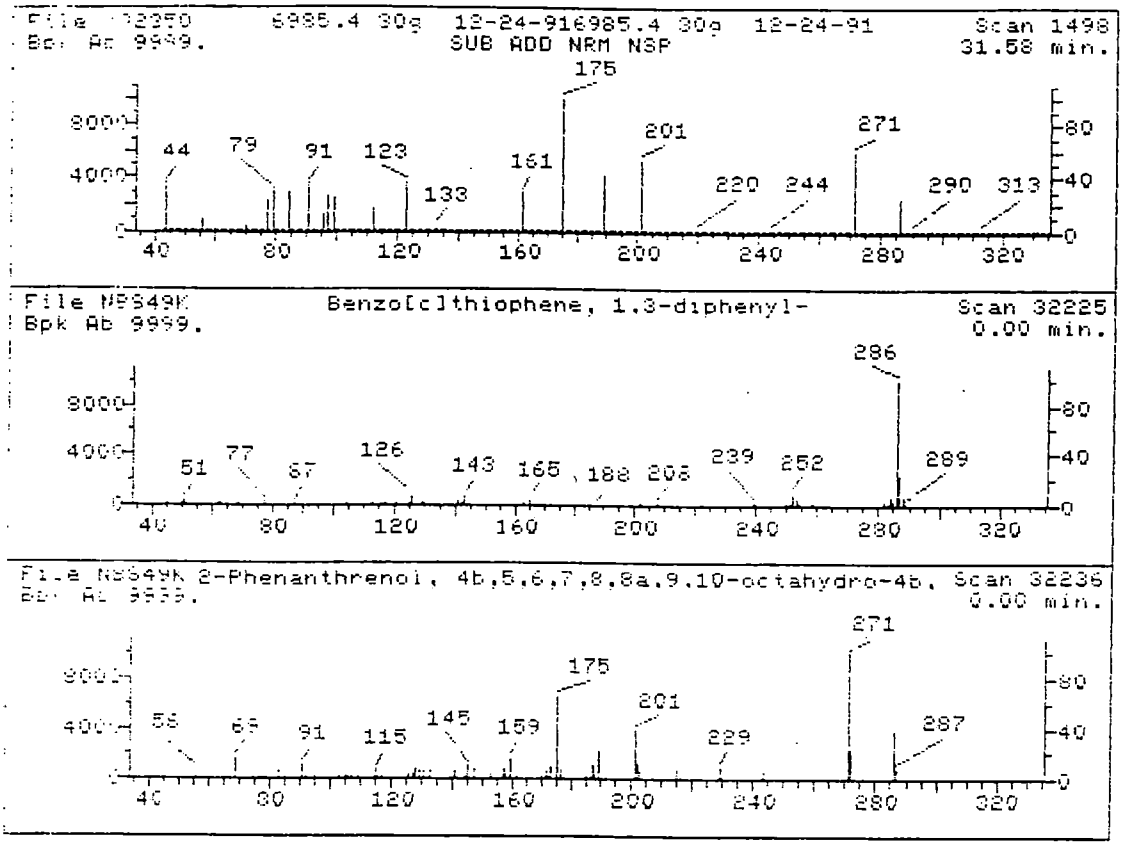
UNKNOWN #,4

AREA = 431428.0 TENTATIVE CONCENTRATION IS 62.00

1.	Sulfur, mol. (S8)	256	S8
2.	4-BROMOMETHYL-2,2,5,5-TETRAMETHYL-3-IMIDAZOLINE-3-OXIDE-1-OXILE	249	C8H14BrN2O2
3.	9H-Xanthen-9-one, 1,3,6-trihydroxy-8-methyl-	258	C14H10O5
4.	6H-Dibenzo[b,d]pyran-6-one, 3,7,9-trihydroxy-1-methy	258	C14H10O5

Sample file: >A2350 Spectrum #: 1338
Search speed: 1 Tilting option: F No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
.	95*	10544500	2930	NBS49K	115	43	2	0	73	4	72	93
.	40*	51973274	209	NBS49K	78	13	2	-1	13	50	12	49
.	36*	20716987	34708	NBS49K	51	50	2	4	37	31	12	19
.	20*	641383	34705	NBS49K	40	77	1	1	25	52	5	15

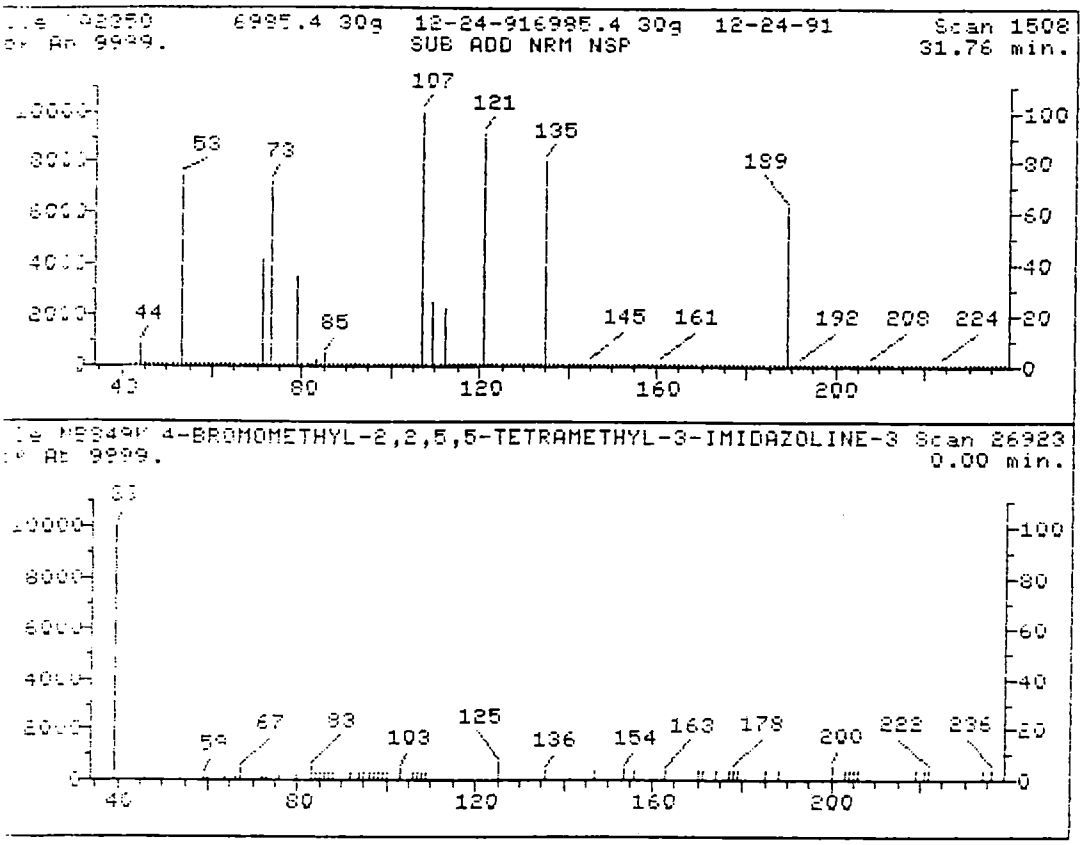


UNKNOWN # 5
AREA = 18647.00 TENTATIVE CONCENTRATION IS 3.00

1.	Benzo[c]thiophene, 1,3-diphenyl-	286	C20H14S
2.	2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octahydro-4b,8,8-trimethyl-1-(1-methylethyl)-, (4bS-trans)-	286	C20H30O

Sample file: >A2350 Spectrum #: 1498
Search speed: 1 Tilting option: F No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	25*	18587396	37993	NBS49K	48	62	2	2	46	45	8	13
2.	20*	511159	36394	NBS49K	37	124	3	0	60	51	5	13



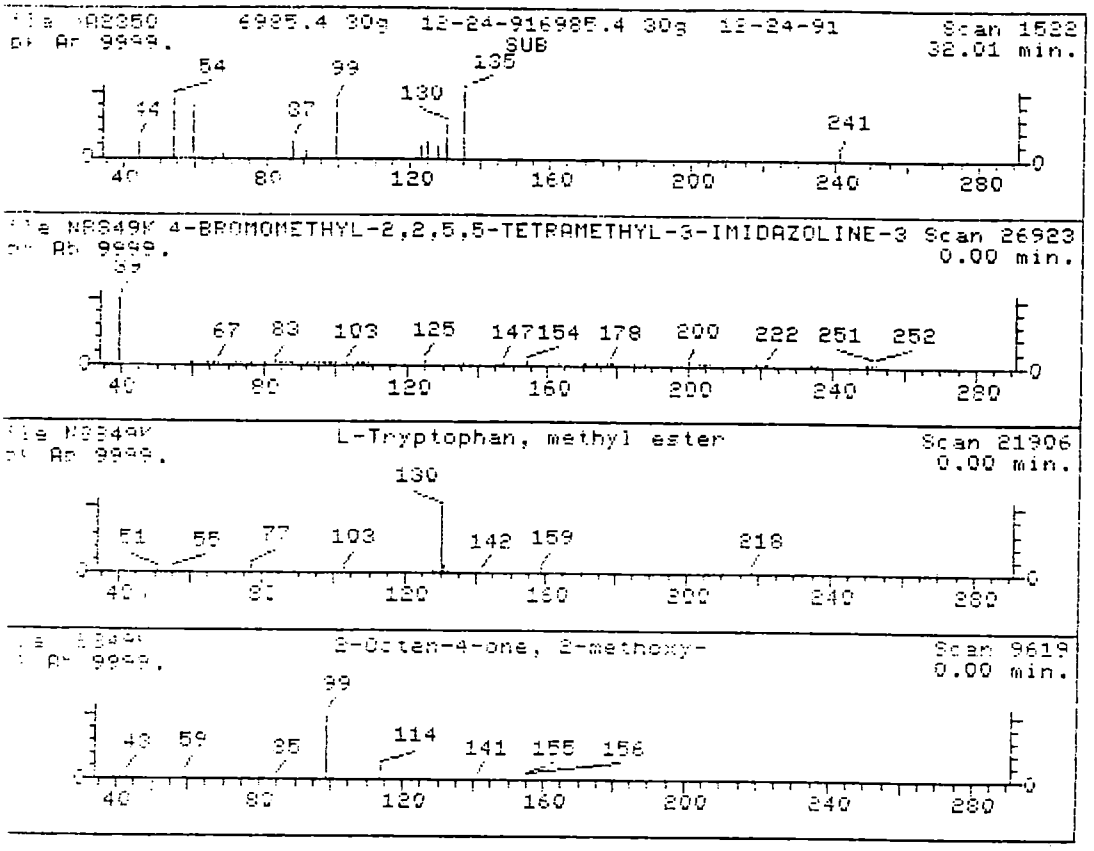
UNKNOWN #,6

AREA = 22182.00 TENTATIVE CONCENTRATION IS 3.00

1. 4-BROMOMETHYL-2,2,5,5-TETRAMETHYL-3-IMIDAZOLINE-3-OX 249 C8H14BrN2O2
IDE-1-OXILE

Sample file: >A2350 Spectrum #: 1508
Search speed: 1 Tilting option: F No. of ion ranges searched: 47

Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
37	51973274	209	NBS49K	77	34	3	3	33	29	14	14

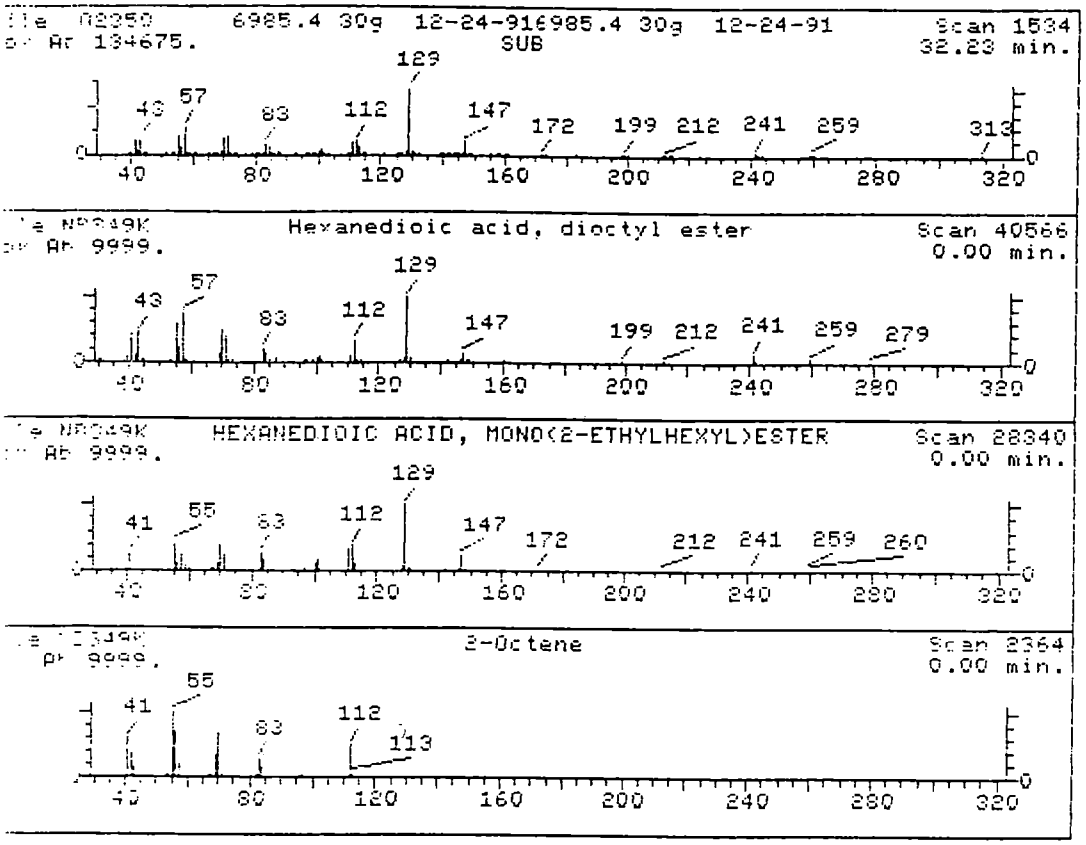


UNKNOWN # 7
=EA = 73424.00 TENTATIVE CONCENTRATION IS 10.00

.	4-BROMOMETHYL-2,2,5,5-TETRAMETHYL-3-IMIDAZOLINE-3-OX IDE-1-OXILE	249	C8H14BrN2O2
2	L-Tryptophan, methyl ester	218	C12H14N2O2
3.	2-Octen-4-one, 2-methoxy-	156	C9H16O2
4.	1,4-Dioxaspiro[4.5]decane, 8-chloro-	176	C8H13ClO2
5.	Mercury, diethyl-	260	C4H10Hg
6.	Tryptophan, 1-(1,1-dimethylallyl)-, L-	272	C16H20N2O2

ample file: >A2350 Spectrum #: 1522
arch speed: 1 Tilting option: F No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IO
.	89*	51973274	209	NBS49K	101	10	1	2	29	34	50	92
.	31*	4299701	15667	NBS49K	44	43	1	3	49	45	8	19
.	29*	24985486	9783	NBS49K	42	44	1	1	76	44	8	17
.	27*	55724033	9836	NBS49K	43	49	2	2	67	44	8	15
.	25*	627441	71	NBS49K	40	60	2	3	33	43	8	13
.	25*	20880686	15702	NBS49K	44	78	2	2	50	47	7	12

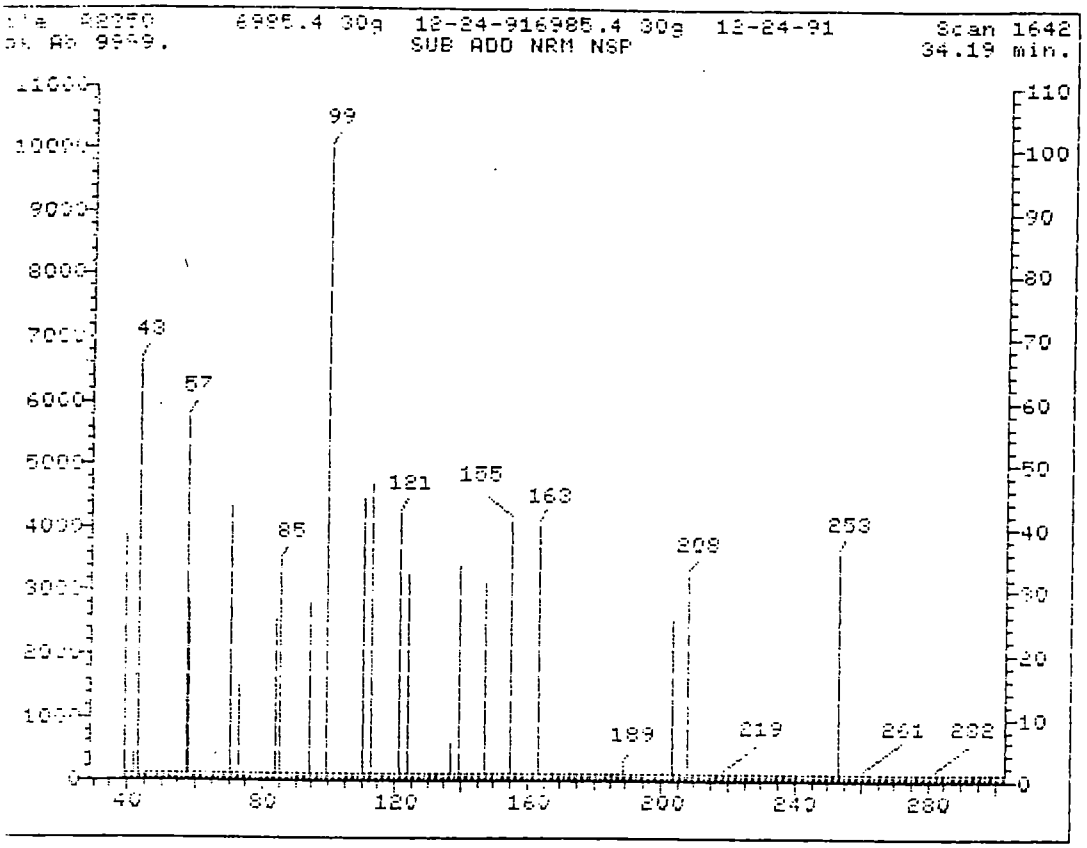


UNKNOWN # 8
REA = 1813988. TENTATIVE CONCENTRATION IS 250.00

1.	Hexanedioic acid, dioctyl ester	370 C22H4204
2.	HEXANEDIOIC ACID, MONO(2-ETHYLHEXYL)ESTER	258 C14H2604
3.	2-Octene	112 C8H16
4.	2,6-Piperazinedione, monooxime	129 C4H7N302

Sample file: >A2350 Spectrum #: 1534
Search speed: 1 Tilting option: F No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	72	123795	15479	NBS49K	107	38	0	0	43	40	28	76
2.	54	4337659	15463	NBS49K	96	49	1	-2	55	38	19	45
3.	49*	111671	12035	NBS49K	44	42	0	-4	33	40	19	40
4.	26*	58700846	15393	NBS49K	23	99	3	0	100	37	10	12

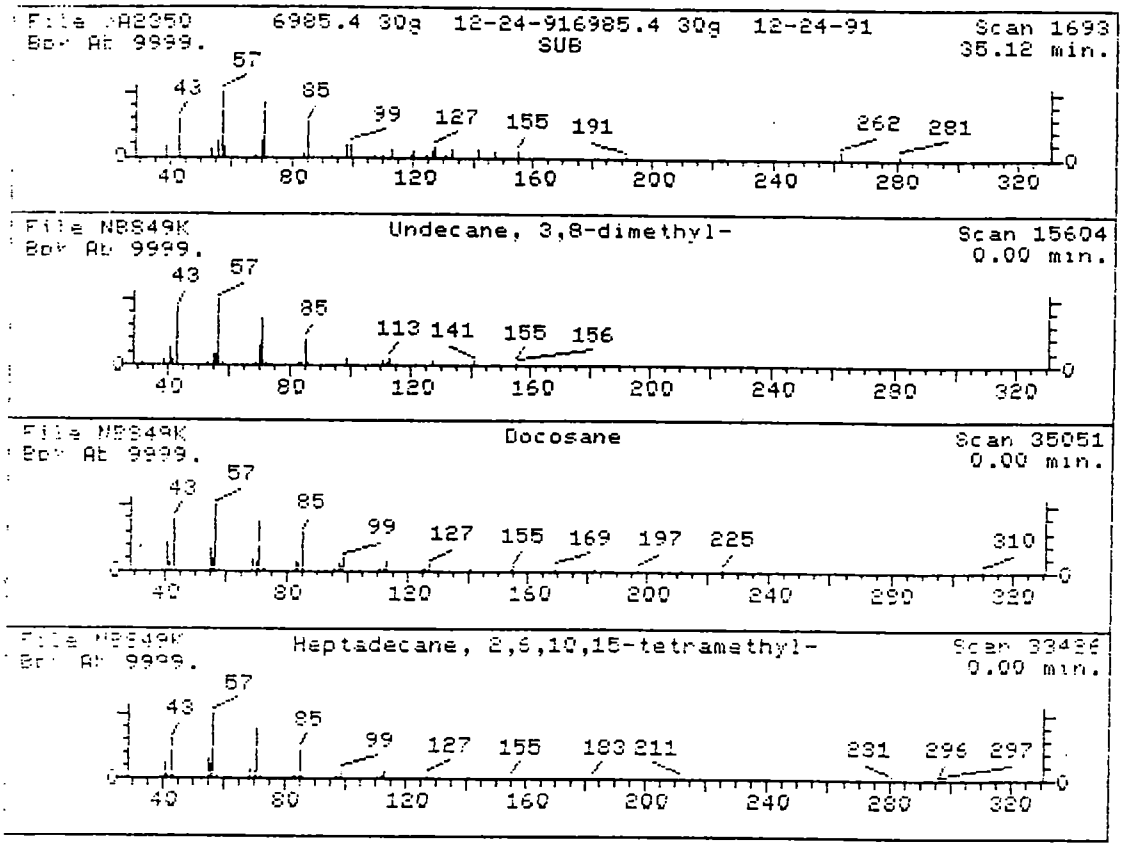


UNKNOWN #.8

EA = 14958.00 TENTATIVE CONCENTRATION IS 2.00

Sample file: >A2350 Spectrum #: 1642

data base entries were retrieved.

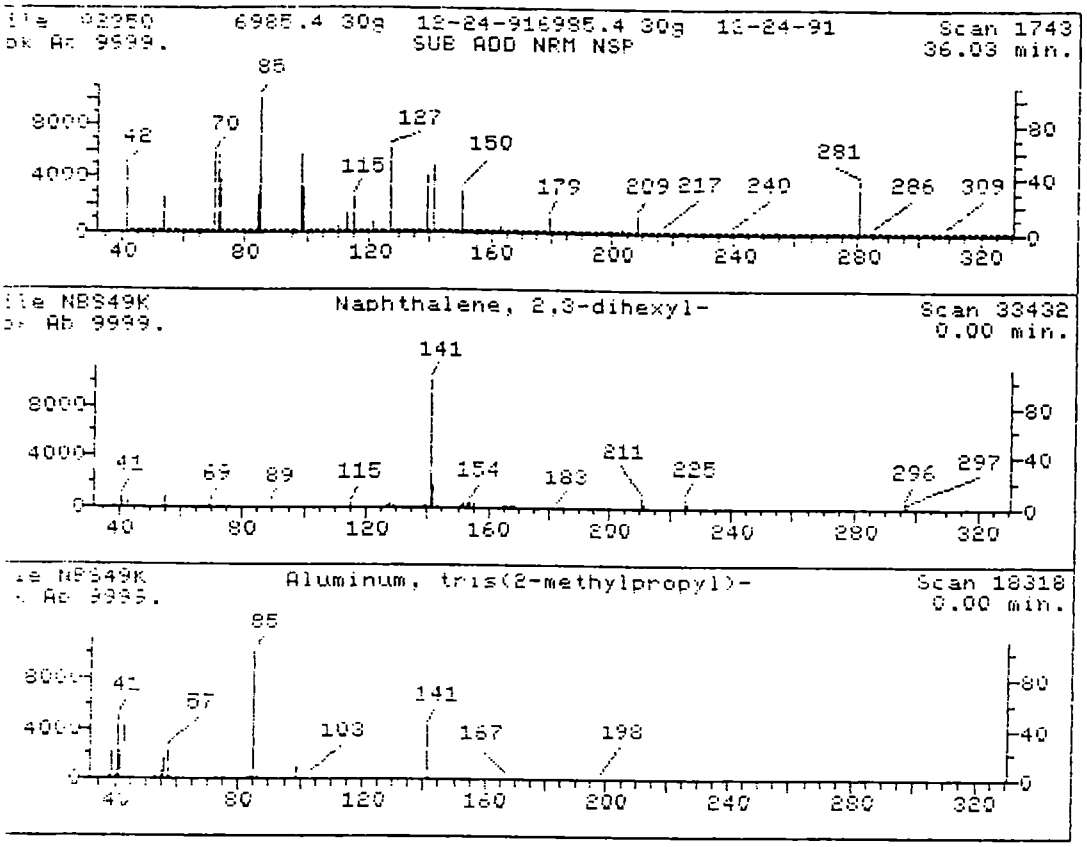


UNKNOWN #,10
AREA = 31118.00 TENTATIVE CONCENTRATION IS 4.00

1.	Undecane, 3,8-dimethyl-	184 C13H28
2.	Docosane	310 C22H46
3.	Heptadecane, 2,6,10,15-tetramethyl-	296 C21H44
4.	Tridecane, 6-propyl-	226 C16H34
5.	Dotriacontane	450 C32H66
6.	Hexadecane, 7-methyl-	240 C17H36

Sample file: >A2350 Spectrum #: 1693
Search speed: 1 Tilting option: F No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	60	17301303	6766	NBS49K	69	39	1	-3	72	11	30	14
2.	59*	629970	6886	NBS49K	60	89	2	1	100	25	27	31
3.	59*	54833486	6878	NBS49K	52	83	1	0	100	22	27	35
4.	43*	55045108	6834	NBS49K	38	91	2	0	76	25	17	14
5.	43	544854	6910	NBS49K	96	69	3	1	100	23	17	14
6.	41*	26730201	4433	NBS49K	55	69	1	1	98	43	14	35



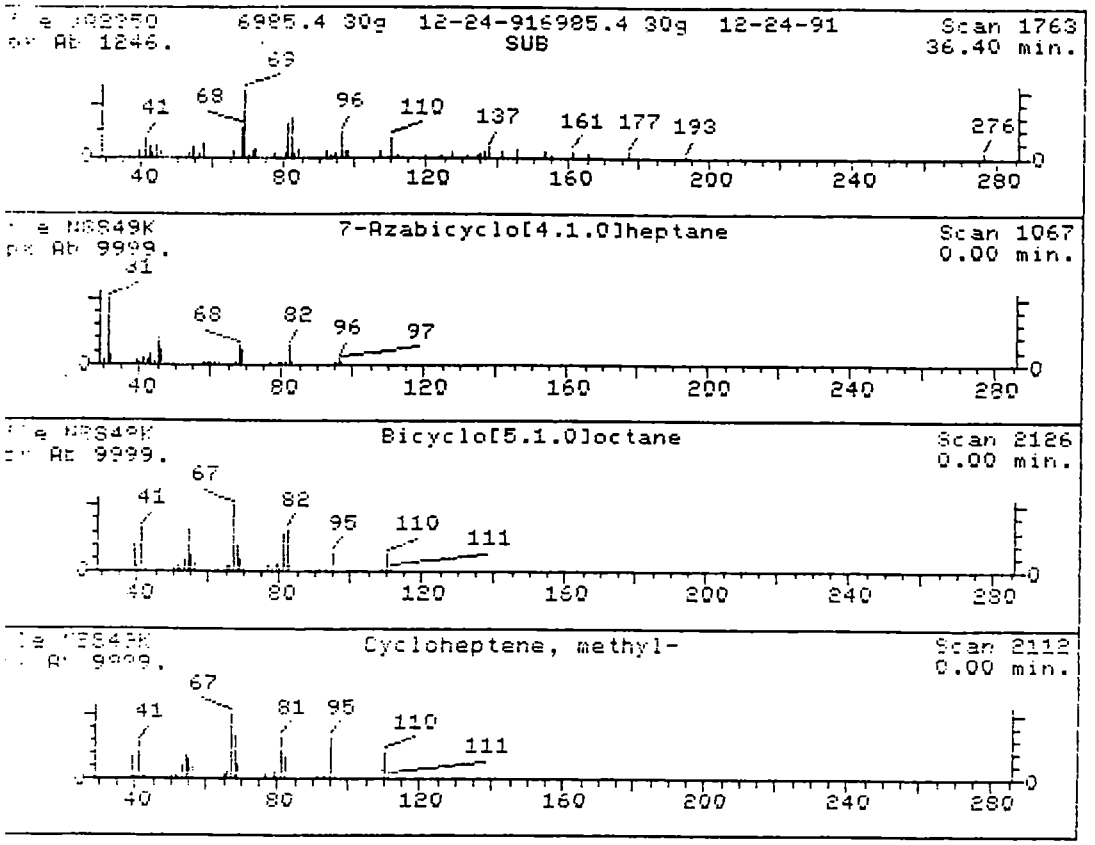
UNKNOWN # 11

AREA = 16830.00 TENTATIVE CONCENTRATION IS 3.00

1.	Naphthalene, 2,3-dihexyl-	296 C22H32
2.	Aluminum, tris(2-methylpropyl)-	198 C12H27Al

Sample file: >A2350 Spectrum #: 1743
Search speed: 1 Tilting option: F No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
.	24*	74646303	17988	NBS49K	38	60	2	3	29	43	8	12
.	11*	100992	17926	NBS49K	28	81	3	0	100	64	2	.13

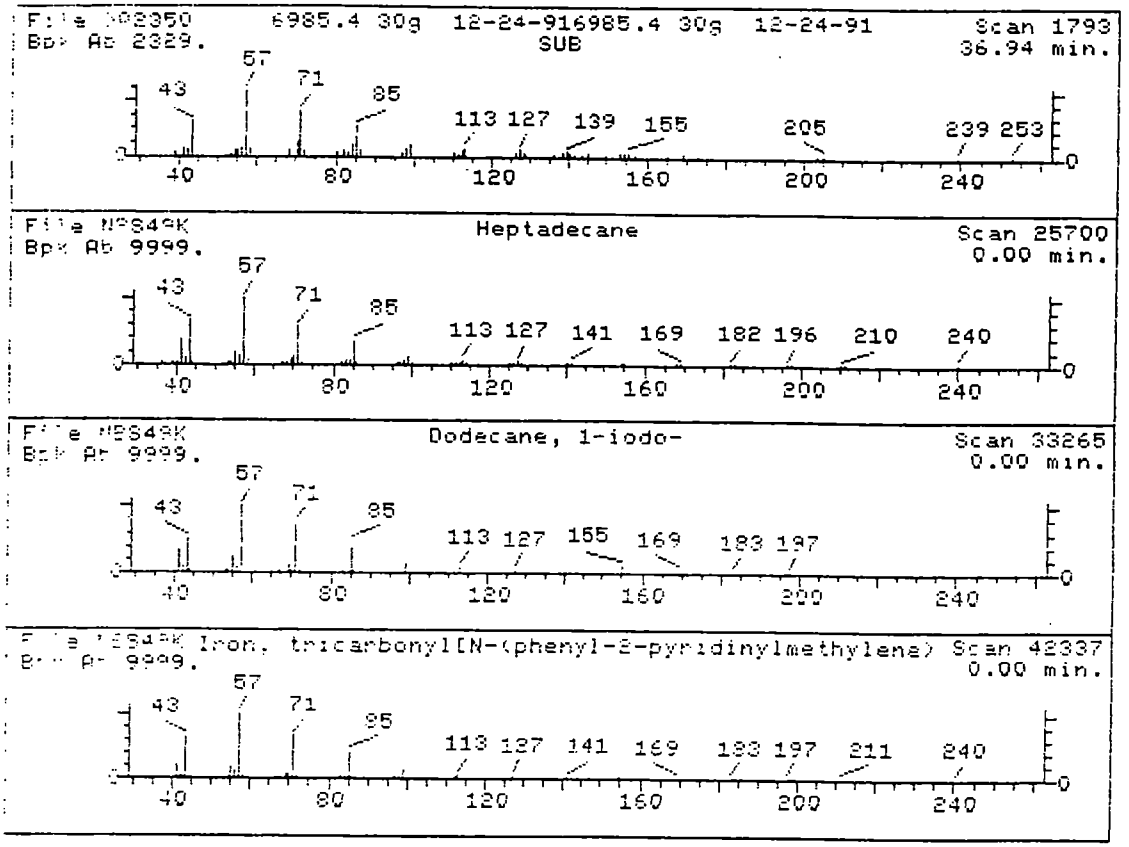


UNKNOWN #,12
REA = 85058.00 TENTATIVE CONCENTRATION IS 11.00

1.	7-Azabicyclo[4.1.0]heptane	97 C6H11N
2.	Bicyclo[5.1.0]octane	110 C8H14
3.	Cycloheptene, methyl-	110 C8H14
4.	Oxazole	69 C3H3NO

Sample file: >A2350 Spectrum #: 1763
Search speed: 1 Tilting option: F No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IO
1.	26*	286180	5861	NBS49K	24	72	2	0	168	45	8	14
2.	20*	286431	5881	NBS49K	37	77	3	0	91	54	5	13
3.	11*	55308208	11691	NBS49K	36	79	3	0	68	65	2	13
4.	11*	288426	3733	NBS49K	23	22	2	0	100	64	2	13

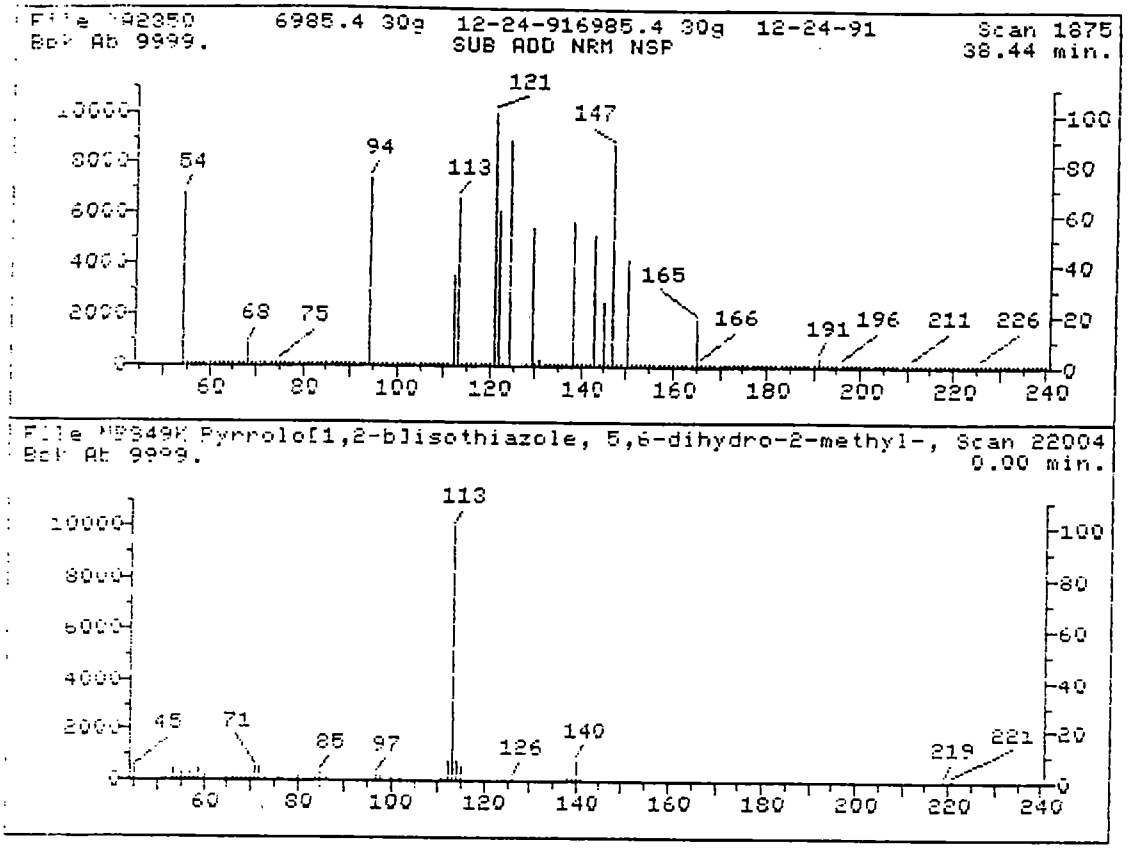


UNKNOWN #.13
AREA = 109028.0 TENTATIVE CONCENTRATION IS 18.00

1.	Heptadecane	240 C17H36
2.	Dodecane, 1-iodo-	296 C12H25I
3.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']-	398 C21H14FeN2O3
4.	Tetracosane	338 C24H50
5.	Hexane, 2,3,4-trimethyl-	128 C9H20
6.	Heptane, 2,4-dimethyl-	128 C9H20

Sample file: >A2350 Spectrum #: 1793
Search speed: 1 Tilting option: F No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	60	629787	6846	NBS49K	69	52	2	0	100	14	30	15
2.	48	4292197	6876	NBS49K	76	53	2	0	95	21	17	19
3.	43	74764117	6907	NBS49K	67	70	2	0	100	21	17	14
4.	41	646311	6891	NBS49K	60	85	2	0	78	21	17	12
5.	29*	921471	6601	NBS49K	34	56	2	0	111	42	8	17
6.	25*	2213232	6599	NBS49K	26	61	3	0	141	42	8	13



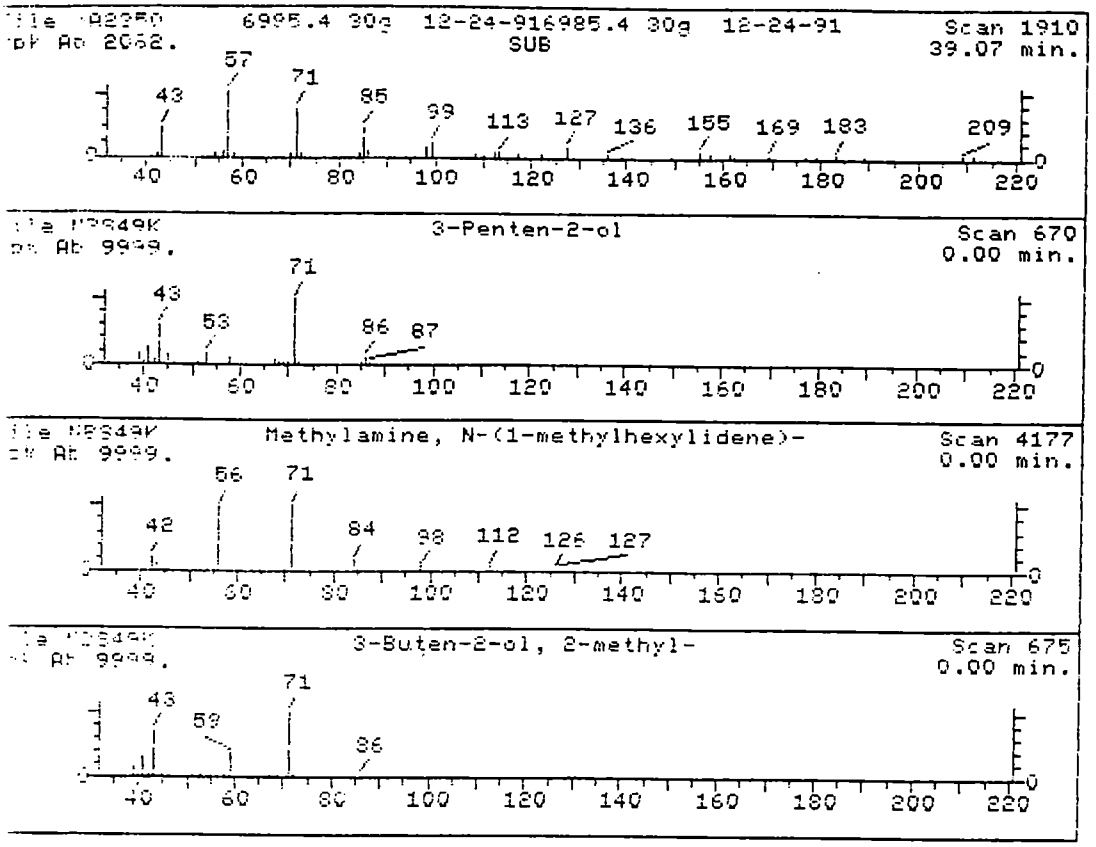
UNKNOWN #.14

AREA = 18076.00 TENTATIVE CONCENTRATION IS 3.00

.. Pyrrolo[1,2-b]isothiazole, 5,6-dihydro-2-methyl-, hy 219 C7H10BrNS
drobromide

Sample file: >A2350 Spectrum #: 1875
Search speed: 1 Tilting option: F No. of ion ranges searched: 61

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	11*	69796072	12476	NBS49K	48	59	1	1	64	64	2	19

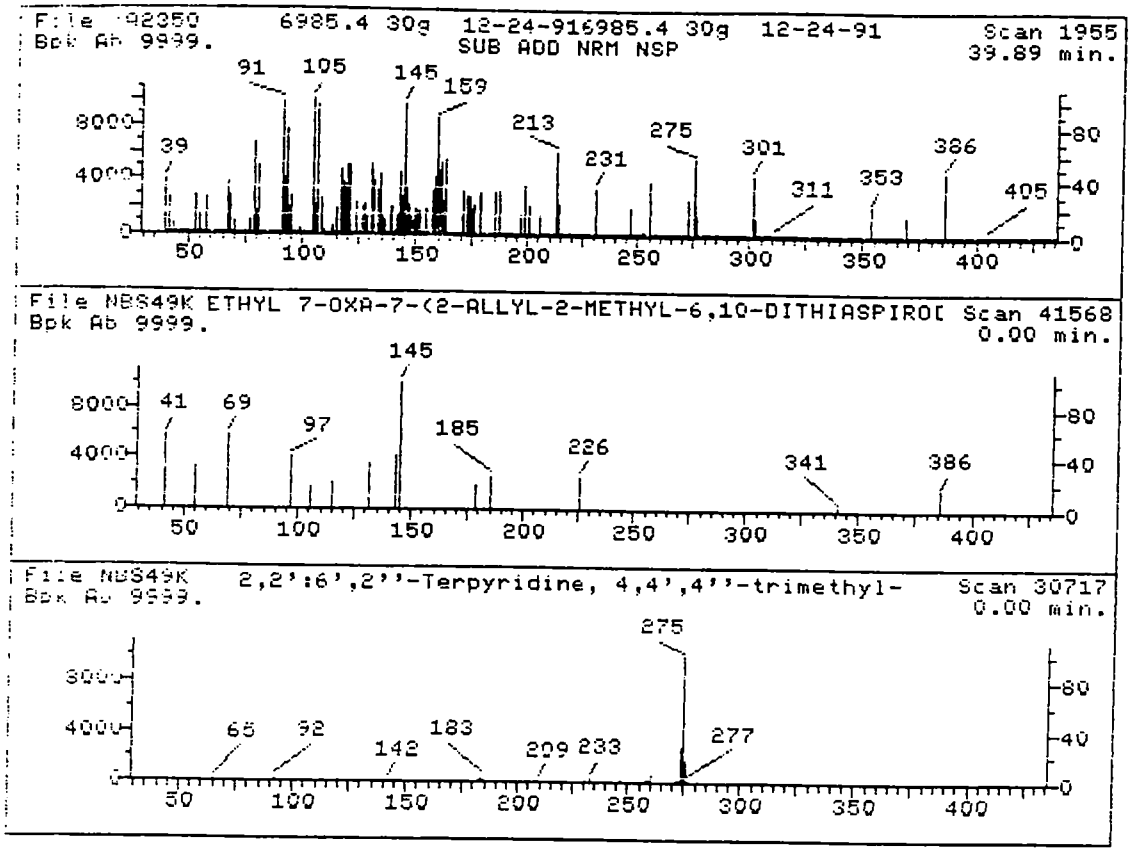


UNKNOWN #.15
REA = 76124.00 TENTATIVE CONCENTRATION IS 13.00

1.	3-Penten-2-ol	86 C5H10O
2.	Methylamine, N-(1-methylhexylidene)-	127 C8H17N
3.	3-Buten-2-ol, 2-methyl-	86 C5H10O
4.	Butanoic acid, 4-nitrophenyl ester	209 C10H11NO4
5.	Butyric acid, ester with p-hydroxybenzonitrile	189 C11H11NO2

Sample file: >A2350 Spectrum #: 1910
Search speed: 1 Tilting option: F No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IO
..	25*	1569502	4257	NBS49K	31	56	3	0	74	50	7	13
.	20*	22058715	4298	NBS49K	23	65	3	0	74	54	5	12
.	15*	115184	4258	NBS49K	29	60	3	0	63	56	3	13
..	15*	2635849	4418	NBS49K	29	69	2	0	62	56	3	14
.	15*	29052106	4405	NBS49K	23	70	3	0	74	57	3	12

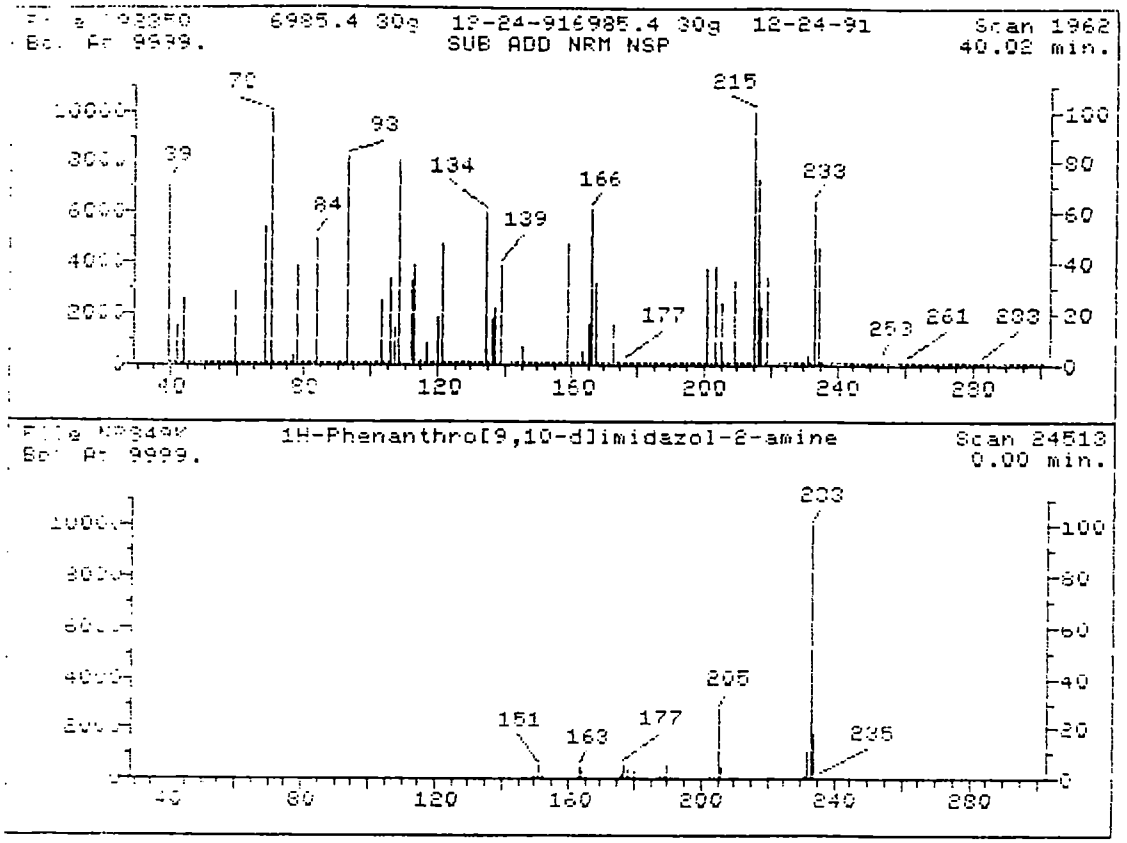


UNKNOWN #,16
AREA = 173502.0 TENTATIVE CONCENTRATION IS 29.00

1. ETHYL 7-OXA-7-(2-ALLYL-2-METHYL-6,10-DITHIASPIRO[4.5]DECAN-1-YL)HEPTANOATE 386 C20H3403S2
2. 2,2':6',2''-Terpyridine, 4,4',4''-trimethyl- 275 C18H17N3

Sample file: >A2350 Spectrum #: 1955
Search speed: 1 Tilting option: F No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IO
1.	31*	92640658	44826	NBS49K	70	44	3	-1	81	45	8	19
2.	25*	33354755	36846	NBS49K	52	57	1	-1	30	49	7	19



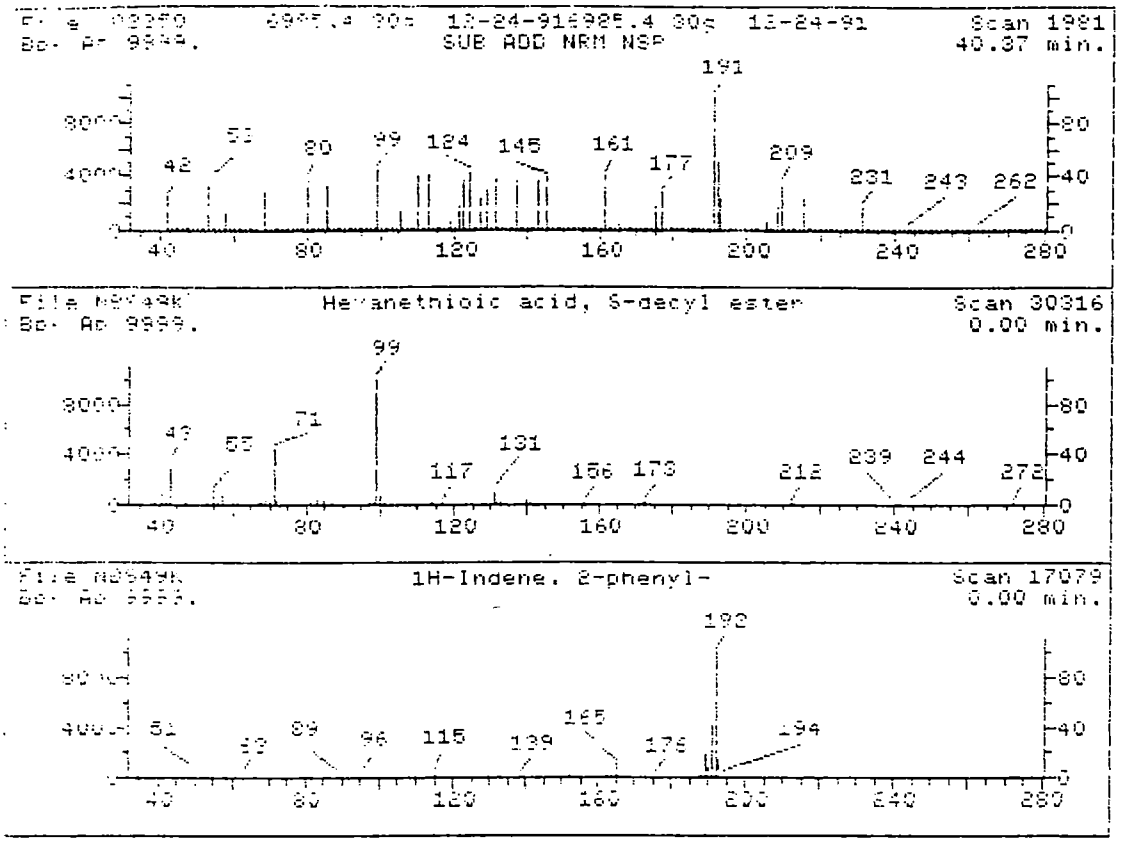
UNKNOWN #.17

AREA = 70111.00 TENTATIVE CONCENTRATION IS 12.00

1. 1H-Phenanthro[9,10-d]imidazol-2-amine 233 C15H11N3

Sample file: >42350 Spectrum #: 1962
Search speed: 1 Tilting option: F No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IO
1.	25*	37052134	32302	NBS49K	46	53	1	-1	37	50	7	12



UNKNOWN # 16

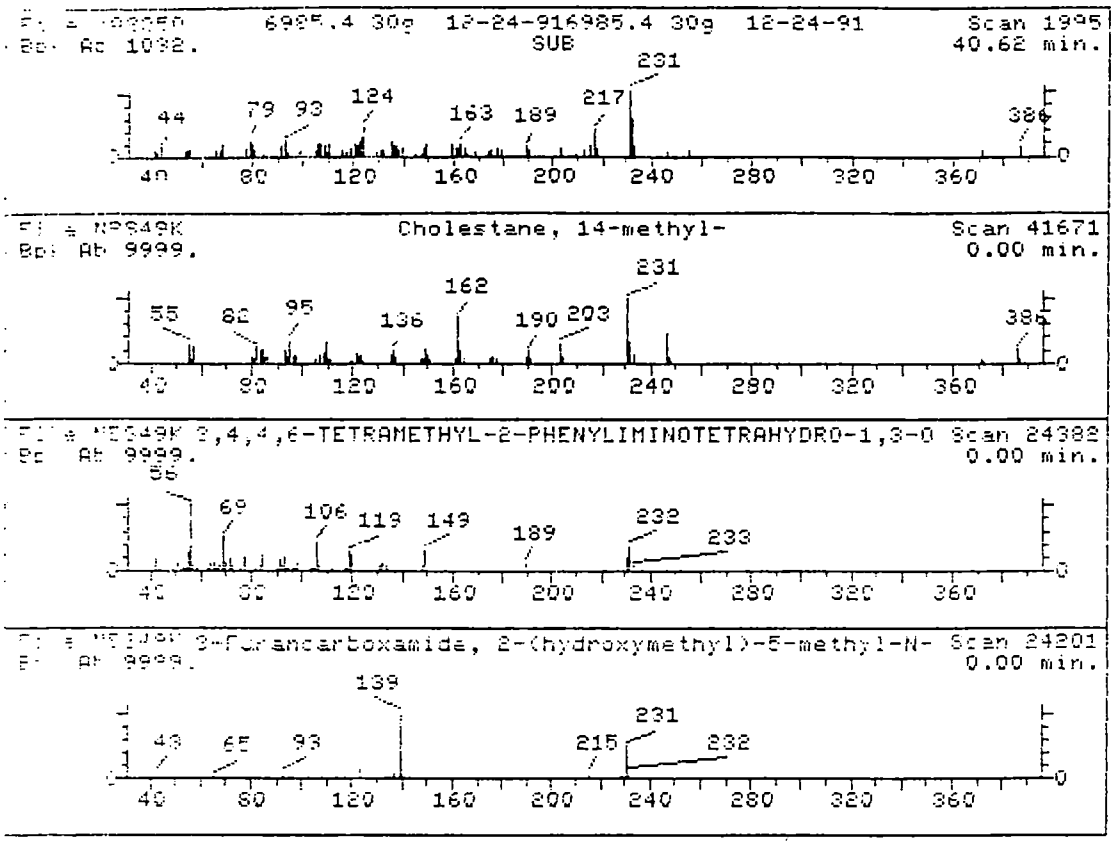
AREA = 30082.00 TENTATIVE CONCENTRATION 18 5.00

1. Hexanethioic acid, S-decyl ester 272 C16H32OS
2. 1H-Indene, 2-phenyl- 192 C15H12

Sample file: A2350 Spectrum #: 1981

Search speed: 1 Tilting option: F No. of ion ranges searched: 50

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IO
1.	15*	2432817	9936	NBS49K	45	52	2	1	32	57	3	17
2.	10*	4505480	26335	NBS49K	48	43	1	1	41	61	2	28

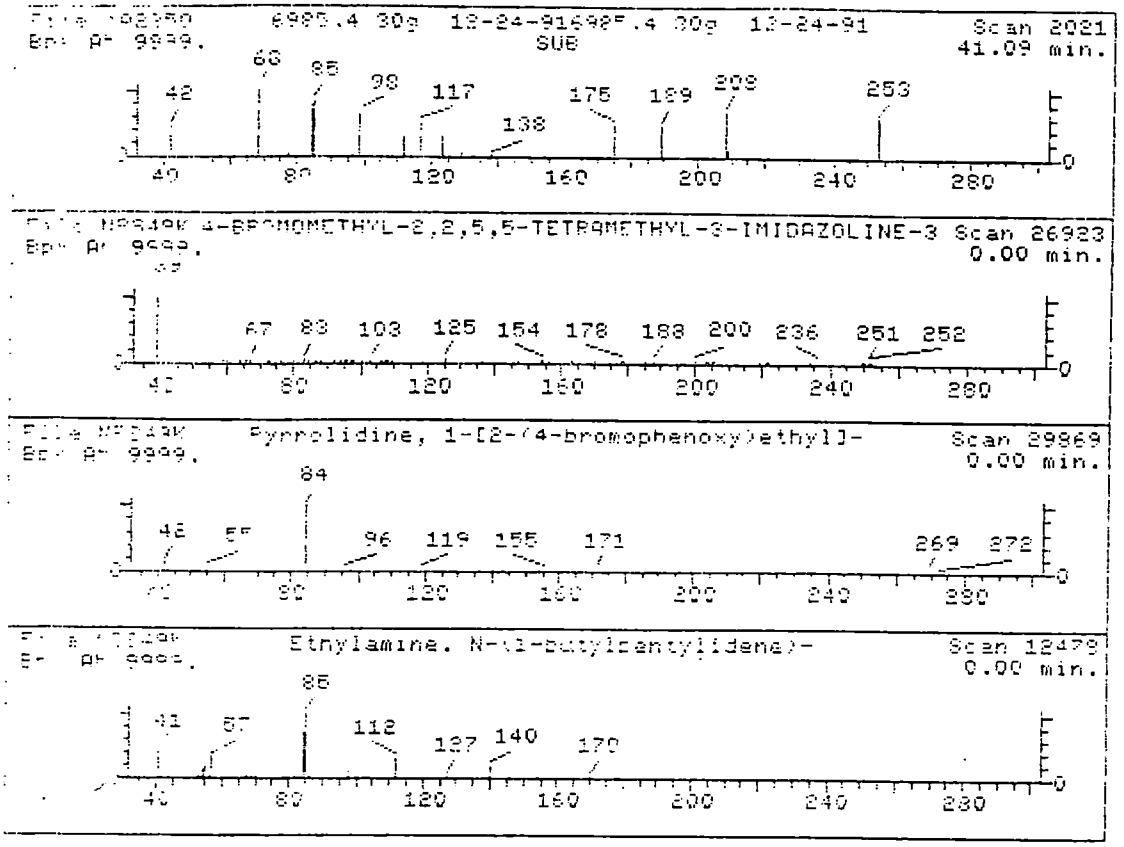


UNKNOWN #,19
AREA = 117398.0 TENTATIVE CONCENTRATION IS 20.00

1.	Cholestane, 14-methyl-	386	C28H50
2.	3,4,4,6-TETRAMETHYL-2-PHENYLIMINOTETRAHYDRO-1,3-OXAZINE	232	C14H20N2O
3.	3-Furancarboxamide, 2-(hydroxymethyl)-5-methyl-N-phenyl-	231	C13H13NO3
4.	Furan, 2-[(2-ethoxy-3,4-dimethyl-2-cyclohexen-1-ylidene)methyl]-	232	C15H20O2

Sample file: >A2350 Spectrum #: 1995
Search speed: 1 Tilting option: F No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	30*	52474847	44871	NBS49K	58	141	3	1	100	39	10	16
2.	20*	53004298	32194	NBS49K	63	86	3	-4	73	55	5	14
3.	15*	34356962	32062	NBS49K	23	90	3	0	204	60	3	12
4.	13*	55162497	32205	NBS49K	64	82	3	0	44	62	3	31

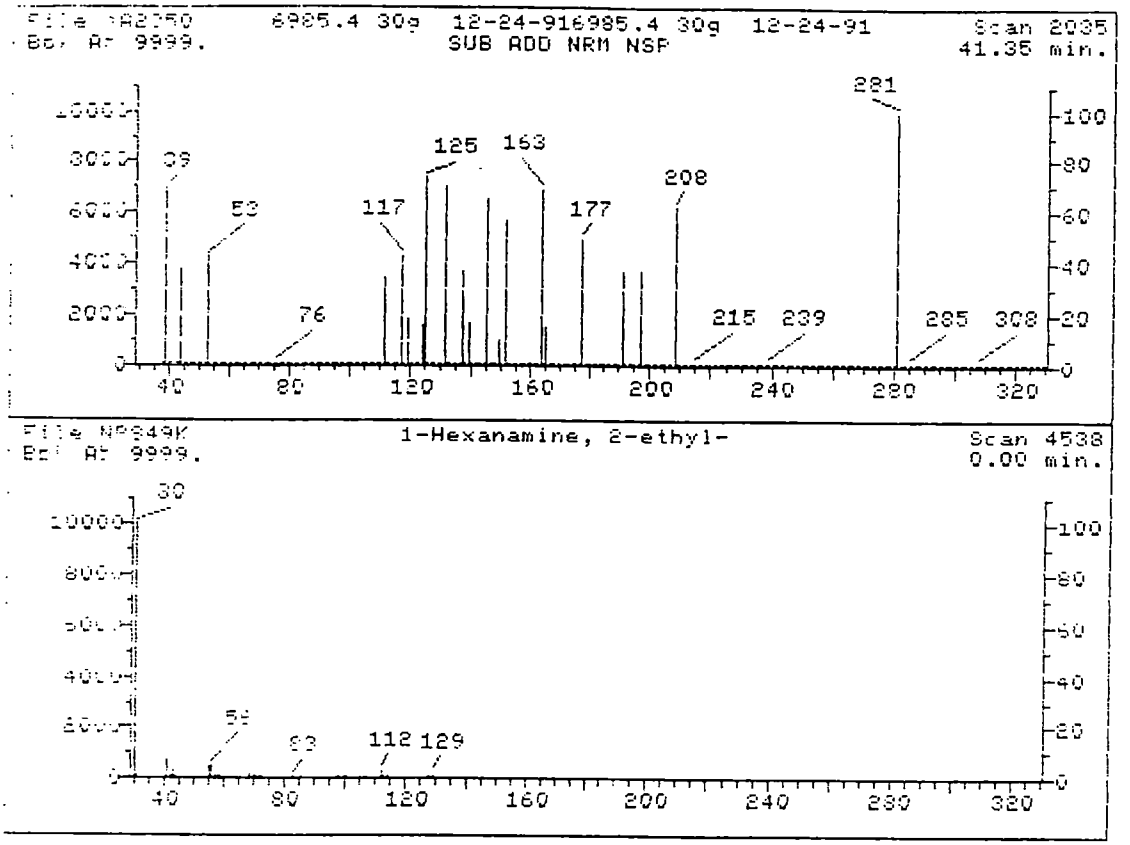


UNKNOWN #,20
AREA = 20674.00 TENTATIVE CONCENTRATION IS 3.00

-	4-BROMOMETHYL-2,2,5,5-TETRAMETHYL-3-IMIDAZOLINE-3-OX IDE-1-OXILE	249	C8H14BrN2O2
2.	Pyrrolidine, 1-[2-(4-bromophenoxy)ethyl]-	269	C12H16BrNO
3.	Ethylamine, N-(1-butylpentylidene)-	169	C11H23N
4	Pyrrolidine, 3-methyl-	85	C5H11N
5.	4-Heptenal, (Z)-	112	C7H12O

Sample file: >A2350 Spectrum #: 2021
Search speed: 1 Tilting option: F No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	27*	51973274	209	NBS49K	101	10	1	1	26	71	6	82
2.	12*	1081738	6478	NBS49K	52	38	1	-1	71	64	2	27
3.	11*	10599823	6722	NBS49K	37	64	2	0	84	61	2	14
4.	11*	34375898	6516	NBS49K	21	59	1	0	368	63	2	14
5.	11*	6728310	3589	NBS49K	23	89	3	0	143	64	2	12

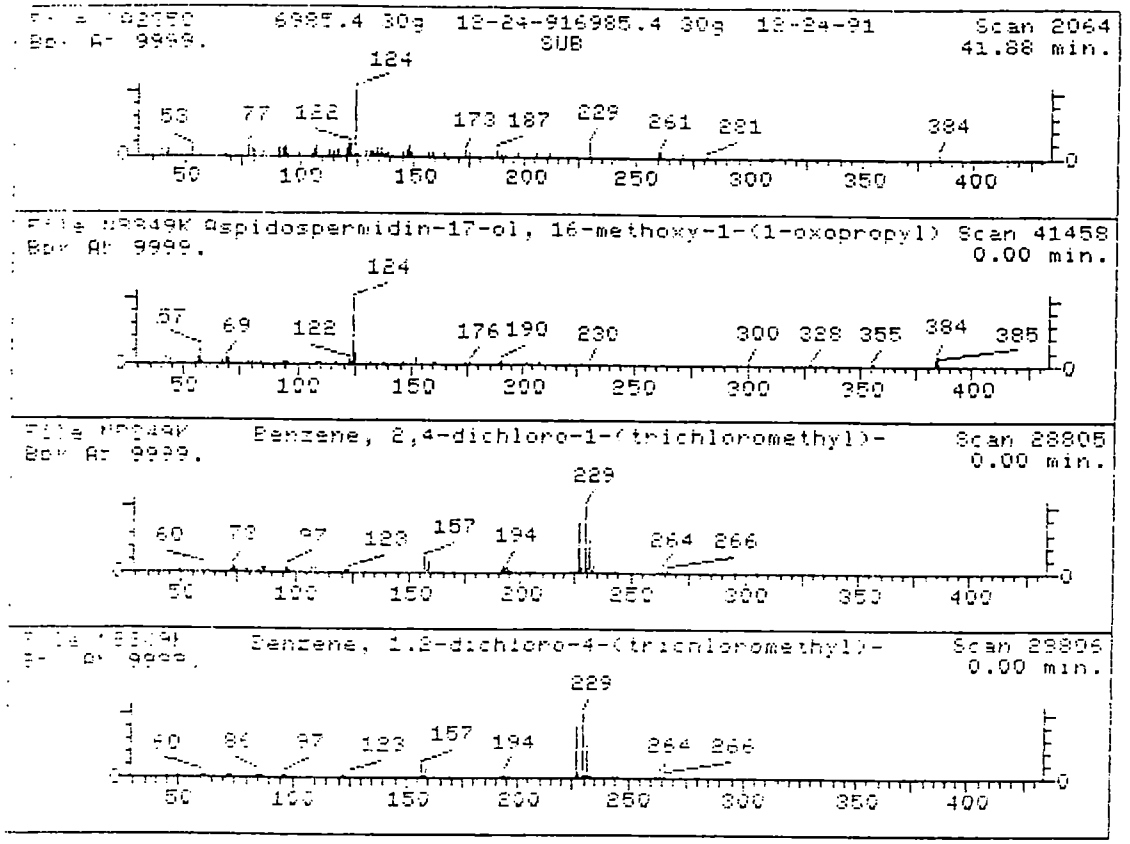


UNKNOWN #.21
AREA = 15686.00 TENTATIVE CONCENTRATION IS 3.00

1. 1-Hexanamine, 2-ethyl- 129 C8H19N

Sample file: >A2350 Spectrum #: 2035
Search speed: 1 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IO
1.	12*	104756	102	NBS49K	50	14	2	1	29	63	2	25



UNKNOWN # 22
AREA = 142144.0 TENTATIVE CONCENTRATION IS 24.00

1.	Aspidospermidin-17-ol, 16-methoxy-1-(1-oxopropyl)-	384	C23H32N2O3
2.	Benzene, 2,4-dichloro-1-(trichloromethyl)-	262	C7H3Cl5
3.	Benzene, 1,2-dichloro-4-(trichloromethyl)-	262	C7H3Cl5
4.	4H-Pyran-4-one, 2,6-dimethyl-	124	C7H8O2
5.	Cyclopropane, 1,1-dimethyl-2-(2-methyl-1-propenyl)-	124	C9H16
6.	2-CYCLOPROPYLTHIOPHENE	124	C7H8S

Sample file: >A2350 Spectrum #: 2064
Search speed: 1 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IO
1.	56*	5516665	44725	NBS49K	78	60	1	1	82	50	14	66
2.	39*	13014181	31912	NBS49K	58	68	3	1	29	28	14	16
3.	30*	13014249	31913	NBS49K	58	69	3	2	42	36	10	16
4.	27*	1004360	14204	NBS49K	29	63	3	0	100	38	10	13
5.	27*	33422321	14250	NBS49K	30	72	3	0	196	38	10	13
6.	27*	29481229	14213	NBS49K	26	75	3	0	100	38	10	13

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

6985.6 30g

Lab Name: Environmental Profile Lab NJDEP Cert.# 15526

Matrix: Soil

Sample wt/vol: 30 (g/mL) g

Level: (Low/med) Low

Extraction: (Sepf/Cont/Sonc) Sonicator

GPC Cleanup: (Y/N) N

Lab Sample ID: 6985.6 30g

Lab File ID: >A2345

Date Received: 12-23-91

Date Extracted: 12-24-91

Date Analyzed: 12/26/91

Dilution Factor: 30

Number of TICs found: 0

CONCENTRATION UNITS:
ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC

1/87 Rev

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO

6985.8 30g

Lab Name: Environmental Profile Lab   NJDEP Cert.# 15526

Matrix: Soil

Sample wt/vol: 30 (g/mL) g

Level: (Low/med) Low

Extraction: (Sepf/Cont/Sonc) Sonicator

GPC Cleanup: (Y/N) N

Lab Sample ID: 6985.8 30g

Lab File ID: >A2343

Date Received: 12-23-91

Date Extracted: 12-24-91

Date Analyzed: 12/26/91

Dilution Factor: 10

Number of TICs found: 0

CONCENTRATION UNITS:
ug/kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC   1/87 Rev

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID: >A2339 DFTPP Injection Date: 12/26/91

Instrument ID: 5970 GC/MS #2 DFTPP Injection Time: 10:57

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	38.9
68	Less than 2.0% of mass 69	.4(.9)1
69	Mass 69 relative abundance	48.
70	Less than 2.0% of mass 69	0.0(0.0)1
127	40.0 - 60.0% of mass 198	44.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 - 9.0% of mass 198	6.5
275	10.0 - 30.0% of mass 198	17.8
365	Greater than 1.00% of mass 198	1.53
441	Present, but less than mass 443	6.7
442	Greater than 40.0% of mass 198	46.8
443	17.0 - 23.0% of mass 442	8.7(18.7)2

1-Value is % mass 69 2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCC/SPCC	CCCSPCC	>A2340	12/26/91	11:23
02	BNA S1 Blk	BNA S1 Blk	>A2341	12/26/91	12:19
03	BNA S1 BMS	BNA S1 BMS	>A2342	12/26/91	13:12
04	6985.8 30g	6985.8 30g	>A2343	12/26/91	14:05
05	6985.2 30g	6985.2 30g	>A2344	12/26/91	14:59
06	6985.6 30g	6985.6 30g	>A2345	12/26/91	15:51
07	6980.4 MS	6980.4 MS	>A2346	12/26/91	16:42
08	6980.4 MSD	6980.4 MSD	>A2347	12/26/91	17:34
09	6985.4 30g	6985.4 30g	>A2350	12/26/91	20:07
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 12/26/91

Contractor: E.P.L. Time: 11:23

Contract No: Laboratory ID: >A2340

Instrument ID: No. 2: Semivolatiles Initial Calibration Date: 12/26/91

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 25.0%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Pyridine	2.05598	1.62012	21.20		
N-nitroso-dimethylamine	.76590	.69974	8.64		
2-Fluorophenol	1.39470	1.28603	7.79		
Phenol-d5	1.52098	1.39248	8.45		
Phenol	2.28368	1.99875	12.48	*	
Aniline	1.96651	1.64773	16.21		
bis(2-Chloroethyl)Ether	1.58567	1.42902	9.88		
2-Chlorophenol	1.63391	1.54225	5.61		
1,3-Dichlorobenzene	1.70442	1.66801	2.14		
1,4-Dichlorobenzene	1.73753	1.73653	.06	*	
Benzyl alcohol	.75533	.64516	14.59		
1,2-Dichlorobenzene	1.82729	1.84726	1.09		
2-Methylphenol	1.23477	1.11629	9.60		
bis(2-chloroisopropyl)ether	2.47525	1.98031	20.00		
4-Methylphenol	1.22976	1.09906	10.63		
N-Nitroso-Di-n-propylamine	1.12185	.92304	17.72		**
Hexachloroethane	.60003	.60850	1.41		
Nitrobenzene-d5	.35212	.33278	5.49		
Nitrobenzene	.34687	.32472	6.39		
Isophorone	.77637	.73349	5.52		
2-Nitrophenol	.24653	.23853	3.25	*	
2,4-Dimethylphenol	.37093	.36951	.38		
Benzoic Acid	.18791	.13185	29.83		
bis(2-Chloroethoxy)methane	.52254	.50341	3.66		
2,4-Dichlorophenol	.40039	.40463	1.06	*	
1,2,4-Trichlorobenzene	.34399	.35510	3.23		
Naphthalene	1.06286	1.09859	3.36		
4-Chloroaniline	.44025	.42791	2.80		
Hexachlorobutadiene	.18606	.19584	5.26	*	
4-Chloro-3-methylphenol	.43475	.42926	1.26	*	
2-Methylnaphthalene	.62337	.63561	1.96		
Hexachlorocyclopentadiene	.26177	.26699	1.99		**

RF - Response Factor from daily standard file at 50.00 ng/uL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 12/26/91

Contractor: E.P.L. Time: 11:23

Contract No: Laboratory ID: >A2340

Instrument ID: No. 2: Semivolatiles Initial Calibration Date: 12/26/91

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % Diff for CCC is 25.0%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2,4,6-Trichlorophenol	.51693	.54134	4.72	*	
2,4,5-Trichlorophenol	.46092	.46531	.95		
2-Chloronaphthalene	1.07551	1.13614	5.64		
2-Fluorobiphenyl	1.29061	1.36694	5.91		
2-Nitroaniline	.36726	.37833	3.01		
Dimethylphthalate	1.37344	1.51495	10.30		
Acenaphthylene	1.85982	2.02271	8.76		
3-Nitroaniline	.33003	.33069	.20		
Acenaphthene	1.20142	1.24614	3.72	*	
2,4-Dinitrophenol	.10880	.08808	19.04		**
4-Nitrophenol	.32770	.34528	5.37		**
Dibenzofuran	1.67389	1.84573	10.27		
2,6-Dinitrotoluene	.27637	.28808	4.24		
2,4-Dinitrotoluene	.41098	.44150	7.43		
Diethylphthalate	1.49753	1.65831	10.74		
4-Chlorophenyl-phenylether	.60486	.65390	8.11		
Fluorene	1.29041	1.43727	11.38		
4-Nitroaniline	.33399	.33445	.14		
4,6-Dinitro-2-methylphenol	.15009	.13608	9.34		
N-Nitrosodiphenylamine	.46396	.46088	.66	*	
1,2-Diphenylhydrazine	.93101	.82596	11.28		
2,4,6-Tribromophenol	.12399	.11203	9.65		
4-Bromophenyl-phenylether	.20424	.19627	3.90		
Hexachlorobenzene	.25548	.24245	5.10		
Pentachlorophenol	.19605	.17449	11.00	*	
Phenanthrene	1.13007	1.12743	.23		
Anthracene	.91920	.94936	3.28		
Di-n-butylphthalate	1.40183	1.39963	.16		
Fluoranthene	1.08826	1.11807	2.74	*	
Benzidine	.86059	.67315	21.78		
Pyrene	1.60003	1.59347	.41		
Terphenyl-d14	1.01304	1.08317	6.92		

RF - Response Factor from daily standard file at 50.00 ng/uL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No:

Calibration Date: 12/26/91

Contractor: E.P.L.

Time: 11:23

Contract No:

Laboratory ID: >A2340

Instrument ID: No. 2: Semivolatiles

Initial Calibration Date: 12/26/91

- Minimum $\overline{RF}$ for SPCC is 0.05

Maximum % Diff for CCC is 25.0%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Butylbenzylphthalate	.75718	.70233	7.24		
3,3`-Dichlorobenzidine	.51441	.38179	25.78		
Benzo(a)anthracene	1.39069	1.34090	3.58		
bis(2-Ethylhexyl)phthalate	1.07257	1.07844	.55		
Chrysene	1.17091	1.15540	1.33		
Di-n-octylphthalate	2.13358	2.13055	.14	*	
Benzo(b)fluoranthene	1.51763	1.45646	4.03		
Benzo(k)fluoranthene	1.16262	1.31063	12.73		
Benzo(a)pyrene	1.27593	1.32883	4.15	*	
Indeno(1,2,3-cd)pyrene	1.50379	1.53534	2.10		
Dibenz(a,h)anthracene	1.11397	1.12957	1.40		
Benzo(g,h,i)perylene	1.24787	1.27202	1.93		

RF - Response Factor from daily standard file at 50.00 ng/uL

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: No. 2: Semivolatiles

Contractor: E.P.L. Calibration Date: 12/26/91

Contract No: _____

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30.0%

Laboratory ID:	>A2330	>A2329	>A2331	>A2332	>A2333					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
yridine	1.80270	1.96184	2.09003	2.10240	2.32290	.431	2.05598	9.342		
l-nitroso-dimethylamine	.74597	.81704	.71825	.77746	.77078	.433	.76590	4.815		
-Fluorophenol	1.32056	1.46848	1.37243	1.42028	1.39175	.718	1.39470	3.943		
henol-d5	1.31900	1.43056	1.52126	1.65294	1.68112	.939	1.52098	9.973		
henol	2.12704	2.20983	2.32951	2.37689	2.37511	.942	2.28368	4.853	*	
niline	1.70411	1.83613	1.95816	2.13948	2.19467	.935	1.96651	10.418		
is(2-Chloroethyl)Ether	1.41986	1.49745	1.57428	1.72360	1.71315	.955	1.58567	8.383		
-Chlorophenol	1.54124	1.59264	1.60521	1.71055	1.71990	.959	1.63391	4.778		
,3-Dichlorobenzene	1.69290	1.71434	1.66299	1.75160	1.70024	.990	1.70442	1.899		
,4-Dichlorobenzene	1.70373	1.73098	1.70928	1.78770	1.75596	1.004	1.73753	2.002	*	
enzyl alcohol	.56700	.63354	.78429	.89247	.89936	1.048	.75533	19.935		
,2-Dichlorobenzene	1.83562	1.73370	1.84392	1.88888	1.83435	1.049	1.82729	3.114		
-Methylphenol	1.01185	1.07362	1.25961	1.37997	1.44882	1.086	1.23477	15.322		
is(2-chloroisopropyl)ether	2.04504	2.27323	2.45610	2.83466	2.76724	1.090	2.47525	13.410		
-Methylphenol	1.03588	1.06806	1.24414	1.39987	1.40084	1.124	1.22976	14.210		
-Nitroso-Di-n-propylamine	.89860	.97379	1.15797	1.28738	1.29149	1.126	1.12185	16.023		**
exachloroethane	.59523	.63411	.58630	.61091	.57360	1.125	.60003	3.900		
itrobenzene-d5	.31155	.35974	.34923	.37268	.36742	.866	.35212	6.912		
itrobenzene	.31964	.36414	.34004	.36043	.35010	.870	.34687	5.159		
sophorone	.72335	.79024	.76924	.81746	.78157	.917	.77637	4.448		
-Nitrophenol	.20870	.25432	.23747	.27823	.25393	.932	.24653	10.408	*	
.4-Dimethylphenol	.36954	.36799	.36958	.39314	.35442	.949	.37093	3.760		
nzoic Acid	.10687	.17301	.19398	.22893	.23676	.976	.18791	27.775		
.s(2-Chloroethoxy)methane	.47213	.51953	.52337	.56003	.53761	.968	.52254	6.189		
4-Dichlorophenol	.40055	.38412	.39505	.41757	.40467	.980	.40039	3.076	*	
2,4-Trichlorobenzene	.35434	.34898	.33075	.34938	.33649	.994	.34399	2.880		
phthalene	1.06690	1.04566	1.04426	1.09164	1.06585	1.004	1.06286	1.819		
Chloroaniline	.40042	.43996	.44295	.46823	.44968	1.026	.44025	5.640		
xachlorobutadiene	.18164	.18302	.18334	.19465	.18763	1.045	.18606	2.849	*	
Chloro-3-methylphenol	.46571	.43939	.40542	.44187	.42136	1.130	.43475	5.233	*	

- Response Factor (Subscript is amount in ng/uL)

$\overline{T}$ - Average Relative Retention Time (RT Std/RT Istd)

- Average Response Factor

SD - Percent Relative Standard Deviation

- Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: No. 2: Semivolatiles

Contractor: E.P.L. Calibration Date: 12/26/91

Contract No: _____

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30.0%

Laboratory ID:	>A2330	>A2329	>A2331	>A2332	>A2333					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
-Methylnaphthalene	.63606	.60946	.58485	.67094	.61555	1.145	.62337	5.175		
exachlorocyclopentadiene	.16888	.22493	.26833	.31896	.32777	.877	.26177	25.379		**
,4,6-Trichlorophenol	.49368	.49426	.49963	.54572	.55138	.891	.51693	5.615	*	
,4,5-Trichlorophenol	.42795	.44278	.42974	.45275	.55138	.895	.46092	11.189		
-Chloronaphthalene	1.01438	1.04924	1.06623	1.12635	1.12136	.914	1.07551	4.459		
-Fluorobiphenyl	1.23210	1.22908	1.26946	1.36496	1.35742	.904	1.29061	5.147		
-Nitroaniline	.29079	.36883	.37991	.39724	.39952	.939	.36726	12.139		
imethylphthalate	1.34907	1.43295	1.37539	1.37860	1.33121	.975	1.37344	2.808		
cenaphthylene	1.77554	1.87388	1.85015	1.92903	1.87052	.976	1.85982	2.982		
-Nitroaniline	.29563	.34699	.32846	.34287	.33618	1.002	.33003	6.203		
cenaphthene	1.20587	1.21558	1.15118	1.23573	1.19875	1.005	1.20142	2.608	*	
,4-Dinitrophenol	.05061	.08618	.11313	.13962	.15444	1.018	.10880	38.312		**
-Nitrophenol	.30190	.35757	.31027	.33995	.32879	1.033	.32770	6.846		**
benzofuran	1.63596	1.68678	1.66054	1.73862	1.64755	1.029	1.67389	2.439		
6-Dinitrotoluene	.22316	.28648	.28027	.29944	.29250	.983	.27637	11.065		
4-Dinitrotoluene	.36009	.43089	.41823	.43480	.41087	1.041	.41098	7.306		
ethylphthalate	1.52976	1.60316	1.48183	1.46459	1.40829	1.083	1.49753	4.895		
Chlorophenyl-phenylether	.59704	.62791	.59924	.60546	.59463	1.086	.60486	2.232		
uorene	1.27936	1.33627	1.28563	1.30610	1.24467	1.081	1.29041	2.624		
Nitroaniline	.29319	.35801	.34744	.33112	.34020	1.095	.33399	7.440		
6-Dinitro-2-methylphenol	.10081	.13312	.15760	.17099	.18795	.902	.15009	22.699		
Nitrosodiphenylamine	.39914	.46500	.47659	.48098	.49811	.906	.46396	8.220	*	
2-Diphenylhydrazine	.80112	.89531	.95151	.99003	1.01706	.908	.93101	9.217		
4,6-Tribromophenol	.10671	.11104	.12850	.13570	.13802	.918	.12399	11.552		
Bromophenyl-phenylether	.17623	.19405	.20781	.22007	.22303	.949	.20424	9.496		
xachlorobenzene	.24357	.23413	.25657	.27066	.27250	.963	.25548	6.547		
ntachlorophenol	.16334	.17676	.20158	.21512	.22343	.987	.19605	12.971	*	
enanthrene	1.05243	1.10537	1.16843	1.19212	1.13203	1.003	1.13007	4.839		
thracene	.95108	.95933	.88747	.90793	.89021	1.008	.91920	3.690		
-n-butylphthalate	1.37718	1.47320	1.44217	1.24705	1.46953	1.089	1.40183	6.755		

- Response Factor (Subscript is amount in ng/uL)

- Average Relative Retention Time (RT Std/RT Istd)

- Average Response Factor

D - Percent Relative Standard Deviation

- Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: No. 2: Semivolatiles

Contractor: E.P.L. Calibration Date: 12/26/91

Contract No: _____

Minimum $\overline{RF}$ for SPCC is 0.05 Maximum % RSD for CCC is 30.0%

Laboratory ID:	>A2330	>A2329	>A2331	>A2332	>A2333					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
Fluoranthene	1.13434	1.11456	1.03501	1.09914	1.05825	1.150	1.08826	3.752	*	
Benzidine	.65602	.86354	.87332	.95086	.95921	.883	.86059	14.219		
Pyrene	1.54142	1.55653	1.63432	1.63724	1.63065	.887	1.60003	2.936		
Terphenyl-d14	1.00723	.91779	.96242	1.01020	1.16755	.907	1.01304	9.306		
Butylbenzylphthalate	.69278	.76163	.73092	.80643	.79413	.959	.75718	6.141		
3,3`-Dichlorobenzidine	.37531	.43494	.52353	.61057	.62772	1.001	.51441	21.258		
Benzo(a)anthracene	1.36315	1.35305	1.40466	1.40367	1.42891	.999	1.39069	2.274		
bis(2-Ethylhexyl)phthalate	.94734	1.04789	1.05289	1.12955	1.18518	1.016	1.07257	8.418		
Chrysene	1.07950	1.12519	1.13245	1.28740	1.23003	1.002	1.17091	7.271		
Di-n-octylphthalate	1.79661	2.28831	1.94154	2.33970	2.30177	.952	2.13358	11.603	*	
Benzo(b)fluoranthene	1.29025	1.60939	1.56682	1.70413	1.41757	.972	1.51763	10.794		
Benzo(k)fluoranthene	1.22396	1.16112	1.01752	1.06722	1.34330	.974	1.16262	11.096		
Benzo(a)pyrene	1.18857	1.27596	1.24695	1.33152	1.33664	.996	1.27593	4.839	*	
Indeno(1,2,3-cd)pyrene	1.33097	1.48820	1.47234	1.60441	1.62301	1.097	1.50379	7.829		
Dibenz(a,h)anthracene	1.02346	1.13013	1.09777	1.16886	1.14963	1.100	1.11397	5.117		
Benzo(g,h,i)perylene	1.13301	1.25978	1.20801	1.31423	1.32433	1.125	1.24787	6.357		

$\overline{RF}$ - Response Factor (Subscript is amount in ng/uL)

$\overline{RT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

RSD - Percent Relative Standard Deviation

CC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

ab Name: Environmental Profile Lab

ab Code: 15526

atrix Spike - EPL Sample No.: 6980.4 30g

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	200.00	0.00	81.20	40	26- 90
2-Chlorophenol	200.00	0.00	106.00	52	25-102
1,4-Dichlorobenzene	100.00	0.00	64.50	64	28-104
N-Nitroso-di-n-prop.(1)	100.00	0.00	74.70	74	41-126
1,2,4-Trichlorobenzene	100.00	0.00	87.00	86	38-107
4-Chloro-3-methylphenol	200.00	0.00	129.00	64	26-103
Acenaphthene	100.00	0.00	80.70	80	31-137
4-Nitrophenol	200.00	0.00	132.00	65	11-114
2,4-Dinitrotoluene	100.00	0.00	84.60	84	28- 89
Pentachlorophenol	200.00	0.00	85.00	42	17-109
Pyrene	100.00	0.00	98.20	98	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	200.00	104.00	52	26	35	26- 90
2-Chlorophenol	200.00	138.00	68	26	50	25-102
1,4-Dichlorobenzene	100.00	84.30	84	27	27	28-104
N-Nitroso-di-n-prop.(1)	100.00	94.20	94	23	38	41-126
1,2,4-Trichlorobenzene	100.00	104.00	104	18	23	38-107
4-Chloro-3-methylphenol	200.00	152.00	75	15	33	26-103
Acenaphthene	100.00	95.60	95	17	19	31-137
4-Nitrophenol	200.00	166.00	82	23	50	11-114
2,4-Dinitrotoluene	100.00	116.00	115 *	30	47	28- 89
Pentachlorophenol	200.00	147.00	73	53 *	47	17-109
Pyrene	100.00	102.00	101	3	36	35-142

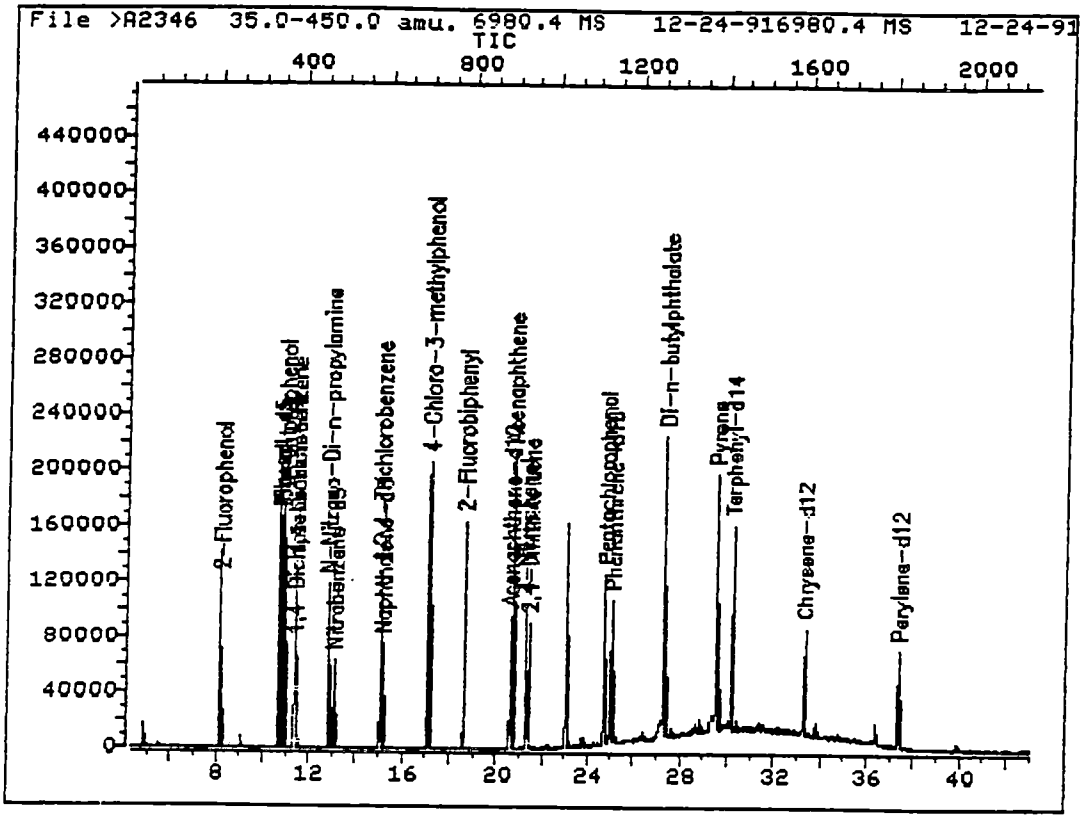
N-Nitroso-di-n-propylamine

olumn to be used to flag recovery and RPD values with an asterisk
alues outside of qc limits

RPD: 1 out of 11 outside limits
ke Recovery: 1 out of 22 outside limits

MENTS: _____

TOTAL ION CHROMATOGRAM

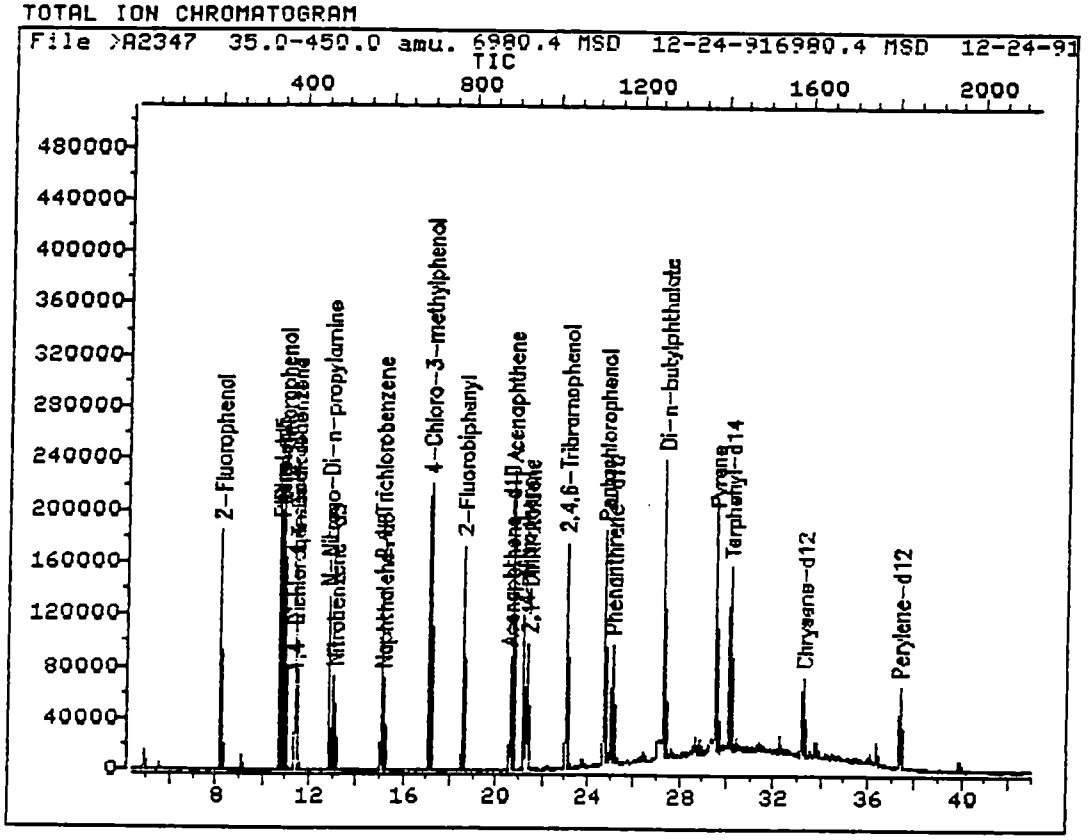


Data File: >A2346::D3 Quant Output File: ^A2346::DB
Name: 6980.4 MS 12-24-91
Misc: 6980.4 MS 12-24-91 BTL# 6

Id File: IDBNA::D4
Title: Semivolatile Organics (EPA Methods 625/8270) by GC/MS
Last Calibration: 911226 12:14

Operator ID: MARK
Quant Time: 911226 17:26
Injected at: 911226 16:42

TOTAL ION CHROMATOGRAM



Data File: >A2347::D3 Quant Output File: ^A2347::DB
Name: 6980.4 MSD 12-24-91
Misc: 6980.4 MSD 12-24-91 BTL# 7

Id File: IDBNA::D4
Title: Semivolatile Organics (EPA Methods 625/8270) by GC/MS
Last Calibration: 911226 12:14

Operator ID: MARK
Quant Time: 911226 18:17
Injected at: 911226 17:34

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

ab Name: Environmental Profile Lab

ab Code: 15526

atrix Spike - EPL Sample No.: BNA S1 Blk

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	200.00	0.00	111.00	55	26- 90
2-Chlorophenol	200.00	0.00	144.00	72	25-102
1,4-Dichlorobenzene	100.00	0.00	85.40	85	28-104
N-Nitroso-di-n-prop.(1)	100.00	0.00	71.60	71	41-126
1,2,4-Trichlorobenzene	100.00	0.00	105.00	104	38-107
4-Chloro-3-methylphenol	200.00	0.00	172.00	85	26-103
Acenaphthene	100.00	0.00	93.20	93	31-137
4-Nitrophenol	200.00	0.00	170.00	84	11-114
2,4-Dinitrotoluene	100.00	0.00	84.00	84	28- 89
Pentachlorophenol	200.00	0.00	174.00	87	17-109
Pyrene	100.00	0.00	98.40	98	35-142

) N-Nitroso-di-n-propylamine

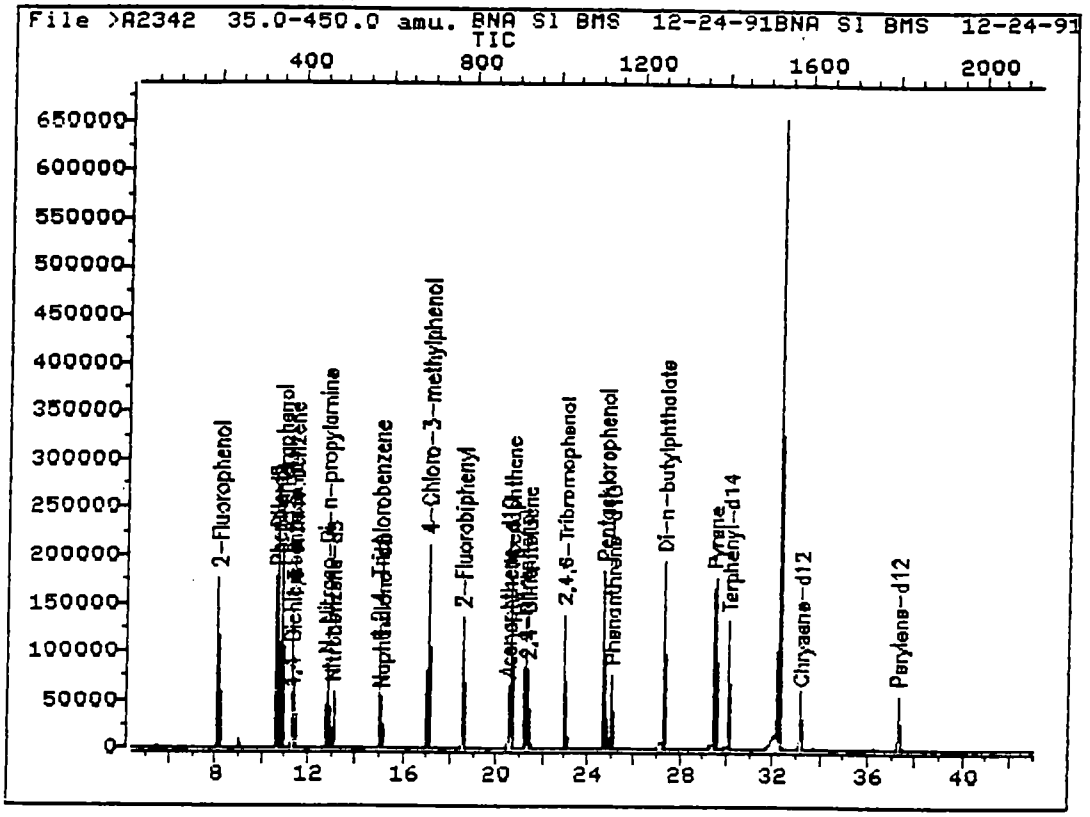
Column to be used to flag recovery and RPD values with an asterisk
Values outside of qc limits

ike Recovery: 0 out of 11 outside limits

MMENTS: _____

FORM III SV-2 1/87 Rev.

TOTAL ION CHROMATOGRAM



Data File: >A2342::D3 Quant Output File: ^A2342::DB
Name: BNA S1 BMS 12-24-91
Misc: BNA S1 BMS 12-24-91 BTL# 2

Id File: IDBNA::D4
Title: Semivolatile Organics (EPA Methods 625/8270) by GC/MS
Last Calibration: 911226 12:14

Operator ID: MARK
Quant Time: 911226 13:56
Injected at: 911226 13:12

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID: >A2341 Lab Sample ID: BNA S1 Blk

Date Extracted: 12/24/91 Extraction: Sonc

Date Analyzed: 12/26/91 Time Analyzed: 12:19

Matrix: Soil

Instrument ID: GC/MSD 5970 #2

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

	EPL SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	CCC/SPCC	CCCSPCC	>A2340	12/26/91
02	BNA S1 BMS	BNA S1 BMS	>A2342	12/26/91
03	6985.8 30g	6985.8 30g	>A2343	12/26/91
04	6985.2 30g	6985.2 30g	>A2344	12/26/91
05	6985.6 30g	6985.6 30g	>A2345	12/26/91
06	6980.4 MS	6980.4 MS	>A2346	12/26/91
07	6980.4 MSD	6980.4 MSD	>A2347	12/26/91
08	6985.4 30g	6985.4 30g	>A2350	12/26/91
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS: _____

Environmental Profile Laboratories
BASE/NEUTRAL/ACID ANALYSIS DATA

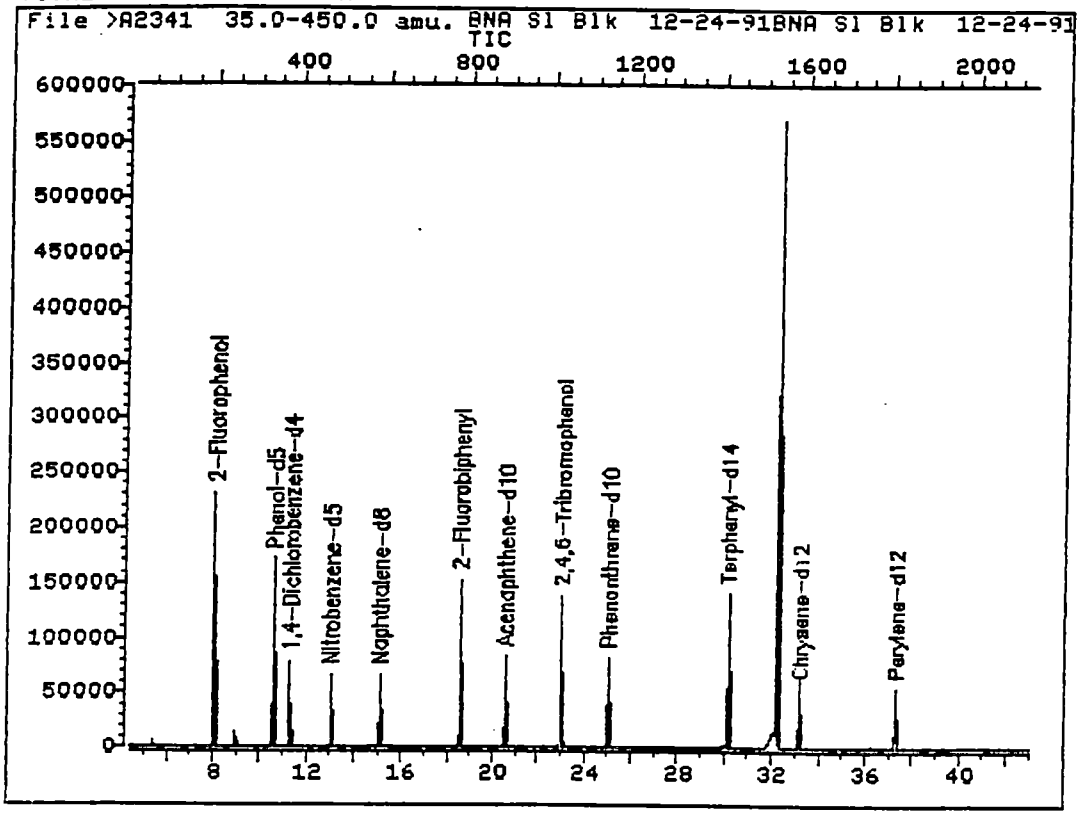
JOB NUMBER		MATRIX	Soil
SAMPLE NAME	BNA S1 Blk 12-24-91	DILUTION FACTOR	1.00
CLIENT ID		QA BATCH	
DATA FILE	>A2341	DATE ANALYZED	12/26/91

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
N-nitroso-dimethylamine	ND	330	Acenaphthene	ND	330
Phenol	ND	330	2,4-Dinitrophenol	ND	1600
Aniline	ND	330	4-Nitrophenol	ND	330
bis(2-Chloroethyl)Ether	ND	330	Dibenzofuran	ND	330
2-Chlorophenol	ND	330	2,4-Dinitrotoluene	ND	330
1,3-Dichlorobenzene	ND	330	2,6-Dinitrotoluene	ND	330
1,4-Dichlorobenzene	ND	330	Diethylphthalate	ND	330
Benzyl alcohol	ND	330	4-Chlorophenyl-phenylether	ND	330
1,2-Dichlorobenzene	ND	330	Fluorene	ND	330
2-Methylphenol	ND	330	4-Nitroaniline	ND	330
bis(2-chloroisopropyl)ether	ND	330	4,6-Dinitro-2-methylphenol	ND	330
4-Methylphenol	ND	330	N-Nitrosodiphenylamine	ND	330
N-Nitroso-Di-n-propylamine	ND	330	1,2-Diphenylhydrazine	ND	330
Hexachloroethane	ND	330	4-Bromophenyl-phenylether	ND	330
Nitrobenzene	ND	330	Hexachlorobenzene	ND	330
Isophorone	ND	330	Pentachlorophenol	ND	330
2-Nitrophenol	ND	330	Phenanthrene	ND	330
2,4-Dimethylphenol	ND	330	Anthracene	ND	330
Benzoic Acid	ND	330	Di-n-butylphthalate	ND	330
bis(2-Chloroethoxy)methane	ND	330	Fluoranthene	ND	330
2,4-Dichlorophenol	ND	330	Benzidine	ND	330
1,2,4-Trichlorobenzene	ND	330	Pyrene	ND	330
Naphthalene	ND	330	Butylbenzylphthalate	ND	330
4-Chloroaniline	ND	330	3,3`-Dichlorobenzidine	ND	330
Hexachlorobutadiene	ND	330	Benzo(a)anthracene	ND	330
4-Chloro-3-methylphenol	ND	330	bis(2-Ethylhexyl)phthalate	ND	330
2-Methylnaphthalene	ND	330	Chrysene	ND	330
Hexachlorocyclopentadiene	ND	330	Di-n-octylphthalate	ND	330
2,4,6-Trichlorophenol	ND	330	Benzo(b)fluoranthene	ND	330
2,4,5-Trichlorophenol	ND	330	Benzo(k)fluoranthene	ND	330
2-Chloronaphthalene	ND	330	Benzo(a)pyrene	ND	330
2-Nitroaniline	ND	330	Indeno(1,2,3-cd)pyrene	ND	330
Dimethylphthalate	ND	330	Dibenz(a,h)anthracene	ND	330
Acenaphthylene	ND	330	Benzo(g,h,i)perylene	ND	330
3-Nitroaniline	ND	330			0

Percent Solid of 100. is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

TOTAL ION CHROMATOGRAM



Data File: >A2341::D3 Quant Output File: ^A2341::DB
Name: BNA S1 Blk 12-24-91
Misc: BNA S1 Blk 12-24-91 BTL# 1

Id File: IDBNA::D4
Title: Semivolatile Organics (EPA Methods 625/8270) by GC/MS
Last Calibration: 911226 12:14

Operator ID: MARK
Quant Time: 911226 13:03
Injected at: 911226 12:19

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.: BNA S1 Blk

Lab Name: Environmental Profile Lab NJDEP Cert.# 15526

Matrix: Soil

Sample wt/vol: 30 (g/mL) g

Level: (Low/med) Low

Extraction: (Sepf/Cont/Sonc) Sonicator

GPC Cleanup: (Y/N) N

Lab Sample ID: BNA S1 Blk

Lab File ID: >A2341

Date Received: NA

Date Extracted: 12-24-91

Date Analyzed: 12/26/91

Dilution Factor: 30

Number of TICs found: 3

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1	79345	Ethane, 1,1,2,2-tetrachloro-	8.93	210	81
2	10557821	Isoxazole, trimethyl-	32.05	1260	25
3	123795	Hexanedioic acid, dioctyl es	32.18	7800	59

MS data file header from : >A2341

Sample: BNA S1 Blk 12-24-91 Operator: MARK SUPER GRP. 12/26/91 12:19
Misc : BNA S1 Blk 12-24-91 BTL# 1
Sys. #: 2 MS model: 70 SW/HW rev.: IA ALS # : 0
Method file: BNARUN Tuning file: MTUNE2 No. of extra records: 2
Source temp.: 0 Analyzer temp.: 280 Transfer line temp. : 0

Chromatographic temperatures :	35.	300.	0.	0.	0.
Chromatographic times, min. :	3.0	6.9	0.0	0.0	0.0
Chromatographic rate, deg/min:	8.0	0.0	0.0	.2	0.0

>A2341 BNA S1 Blk 12-24-91BNA S1 Blk 12-24-91
35.0 450.0 CLP TIC
Upslope: .20 Area Reject: 17311. Max Peaks: 3 Bunching: 1
Dnslope: 0.00 Results File IA2341 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	8.93	248	250	254	14513	31774	31774	2.25	1.900
2	32.05	1498	1524	1527	16076	230525	227365	16.09	13.598
3	32.18	1527	1531	1534	564332	1476320	1412927	100.00	84.502

Sum of corrected areas: 1672066.

Summary of Unknowns PBM Library Search and Quantitation

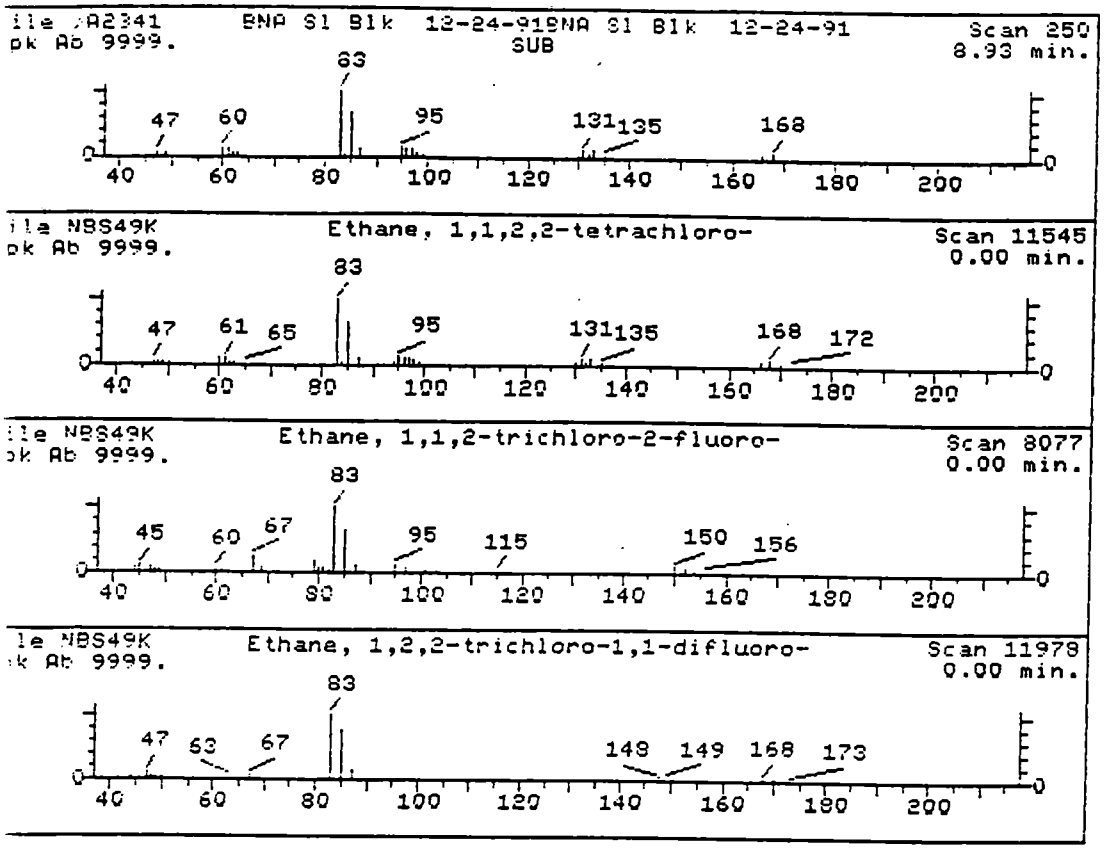
Standard	Concentration	Area	Retention Time	Unknown Window
1	40.0	186302.	11.29	4.42 - 13.16
2	40.0	173108.	15.03	13.16 - 17.76
3	40.0	228632.	20.49	17.76 - 22.75
4	40.0	244867.	25.01	22.75 - 29.09
5	40.0	218548.	33.17	29.09 - 35.23
6	40.0	213675.	37.29	35.23 - 43.05

Dilution Factor = 1.00 U dilf = 1.00
Method called for 1000.000 g or mL This sample was 1000.000 g or mL

Correction Factor = 1.00

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

4:22 PM SUN., 29 DEC., 1991



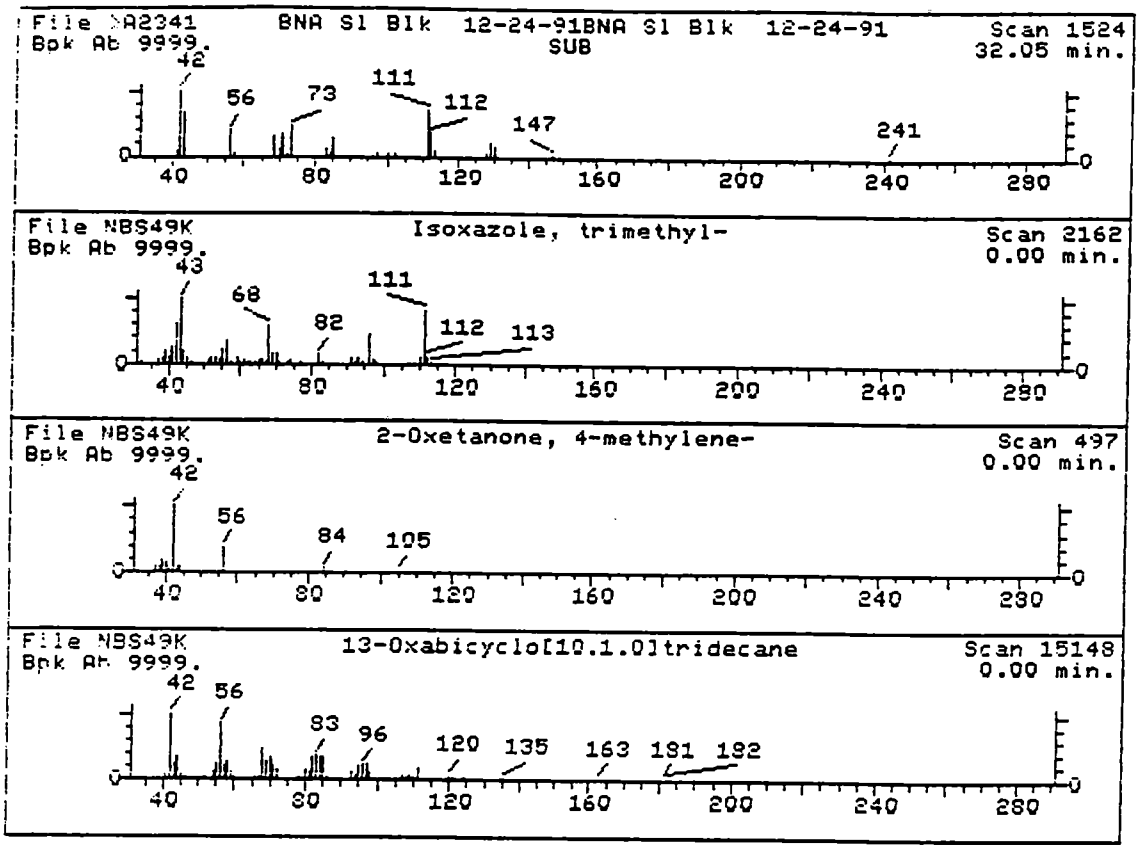
UNKNOWN #,1

REA = 31774.00 TENTATIVE CONCENTRATION IS 7.00

1.	Ethane, 1,1,2,2-tetrachloro-	166 C2H2Cl4
2.	Ethane, 1,1,2-trichloro-2-fluoro-	150 C2H2Cl3F
3.	Ethane, 1,2,2-trichloro-1,1-difluoro-	168 C2HCl3F2
4.	Acetic acid, trichloro-	162 C2HCl3O2
5.	Methane, bromodichloro-	162 CHBrCl2
6.	Indeno[3a,4-b]oxiren-2-ol, octahydro-4a-methyl-5-[(tetrahydro-2H-pyran-2-yl)oxy]-, (1a.alpha.,2.beta.,4a.beta.,5.beta.,7aS*)- (9CI)	268 C15H24O4

ample file: >A2341 Spectrum #: 250
arch speed: 1 Tilting option: F No. of ion ranges searched: 52

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
.	81*	79345	6716	NBS49K	76	27	1	0	100	20	45	74
.	44	359284	6659	NBS49K	57	48	1	0	100	22	17	15
.	43	354212	6717	NBS49K	50	52	1	0	68	21	17	14
.	43*	76039	6705	NBS49K	27	79	2	0	137	22	17	14
.	42*	75274	6704	NBS49K	30	79	3	0	100	22	17	13
	30	67920654	6862	NBS49K	58	48	1	2	67	35	12	13



UNKNOWN #,2

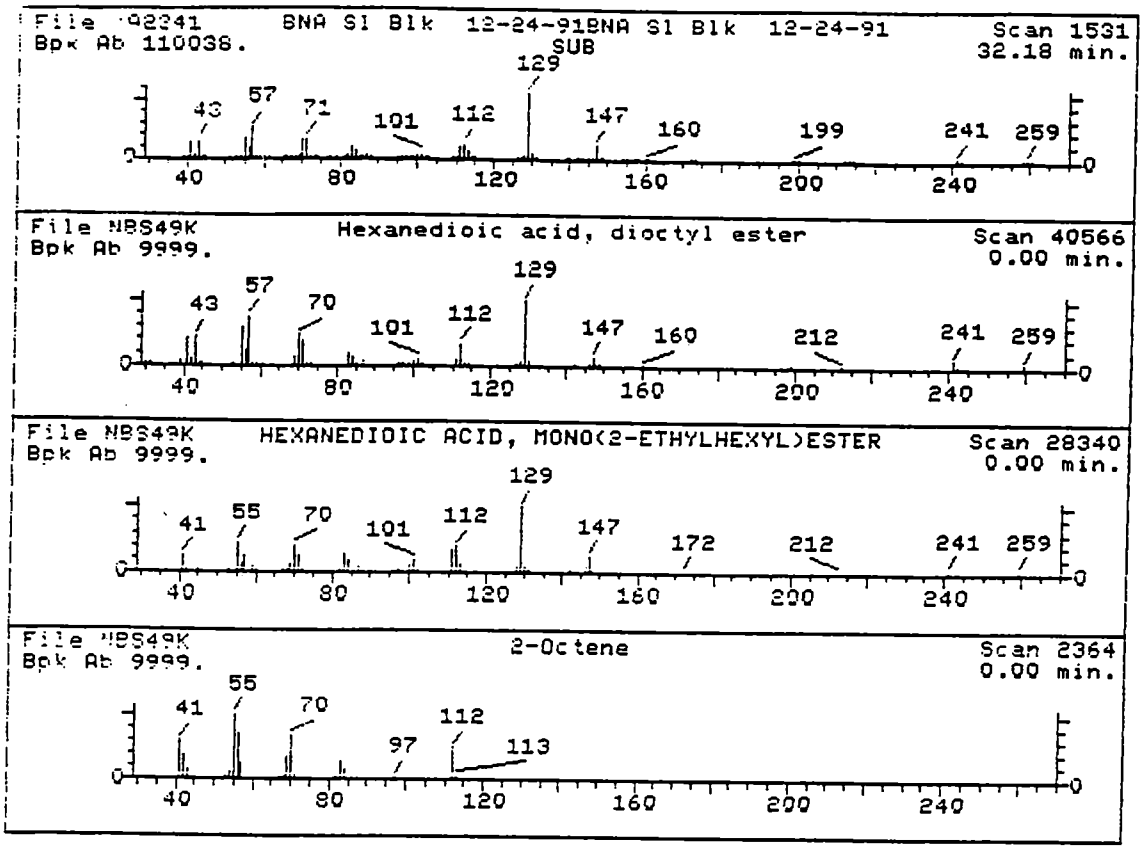
AREA = 227365.0 TENTATIVE CONCENTRATION IS 42.00

1.	Isoxazole, trimethyl-	111	C6H9NO
2.	2-Oxetanone, 4-methylene-	84	C4H4O2
3.	13-Oxabicyclo[10.1.0]tridecane	182	C12H22O
4.	Cyclopenta[c]pyran-4-carboxylic acid, 1,4a,5,6,7,7a-hexahydro-6-hydroxy-1-methoxy-7-methyl-, methyl ester, [1R-(1.alpha.,4a.alpha.,6.alpha.,7.al	242	C12H18O5
5.	1,3-Cyclohexanedione	112	C6H8O2
6.	2-Propanol, 1-(cyclohexylamino)-	157	C9H19NO

Sample file: >A2341 Spectrum #: 1524

Search speed: 1 Tilting option: F No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	25*	10557821	11817	NBS49K	28	88	3	0	66	50	7	13
2.	20*	674828	1010	NBS49K	21	56	1	0	97	52	5	14
3.	20*	286997	3696	NBS49K	22	98	3	0	47	54	5	12
4.	18*	68736834	6848	NBS49K	34	16	0	2	27	58	4	27
5.	15*	504029	11992	NBS49K	32	51	2	0	85	57	3	16
6.	15*	103004	12135	NBS49K	38	61	2	4	52	57	3	12



UNKNOWN #,3
AREA = 1412927. TENTATIVE CONCENTRATION IS 260.00

1.	Hexanedioic acid, dioctyl ester	370 C22H4204
2.	HEXANEDIOIC ACID, MONO(2-ETHYLHEXYL)ESTER	258 C14H2604
3.	2-Octene	112 C8H16
4.	2,6-Piperazinedione, monooxime	129 C4H7N302

Sample file: >A2341 Spectrum #: 1531
Search speed: 1 Tilting option: F No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	59	123795	15479	NBS49K	110	35	1	1	43	39	21	59
2.	51	4337659	15463	NBS49K	87	58	1	-1	53	32	20	35
3.	47*	111671	12035	NBS49K	44	42	0	-4	34	41	16	40
4.	26*	56700846	15393	NBS49K	23	99	3	0	100	38	10	12

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
01	BNA S1 Blk	70	74	93	69	68	85		0
02	BNA S1 BMS	68	80	89	66	70	87		0
03	6985.8 30g	58	73	79	54	58	78		0
04	6985.2 30g	56	71	87	56	57	84		0
05	6985.6 30g	48	63	72	52	52	86		0
06	6980.4 MS	58	70	77	52	50	85		0
07	6980.4 MSD	72	81	86	64	66	107		0
08	6985.4 30g	67	75	90	56	61	94		0
09									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									

	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	(23-120)
S2 (FBP) = 2-Fluorobiphenyl	(30-115)
S3 (TPH) = Terphenyl-d14	(18-137)
S4 (PHL) = Phenol-d5	(24-113)
S5 (2FP) = 2-Fluorophenol	(25-121)
S6 (TBP) = 2,4,6-Tribromophenol	(19-122)

\# Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID (Standard): >A2340 Date Analyzed: 12/26/91

Instrument ID: GC/MSD 5970 #2 Time Analyzed: 11:23

	EPA SAMPLE NO.	IS1(DCB) AREA	#	RT	IS2(NPT) AREA	#	RT	IS3(ANT) AREA	#	RT
	12 HOUR STD	26515.		11.32	90552.		15.04	53587.		20.49
	UPPER LIMIT	53030.			181104.			107174.		
	LOWER LIMIT	13258.			45276.			26794.		
01	BNA S1 Blk	32991.		11.29	88893.		15.03	58150.		20.49
02	BNA S1 BMS	24764.		11.31	72445.		15.05	48434.		20.48
03	6985.8 30g	32999.		11.29	85043.		15.04	52705.		20.49
04	6985.2 30g	33791.		11.30	93297.		15.03	60445.		20.49
05	6985.6 30g	33023.		11.33	93586.		15.09	61532.		20.53
06	6980.4 MS	30610.		11.38	98354.		15.09	67953.		20.54
07	6980.4 MSD	27699.		11.38	89735.		15.10	63402.		20.54
08	6985.4 30g	27947.		11.38	78359.		15.09	58843.		20.54
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d8

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

Column used to flag internal standard area values with an asterisk

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID (Standard): >A2340 Date Analyzed: 12/26/91

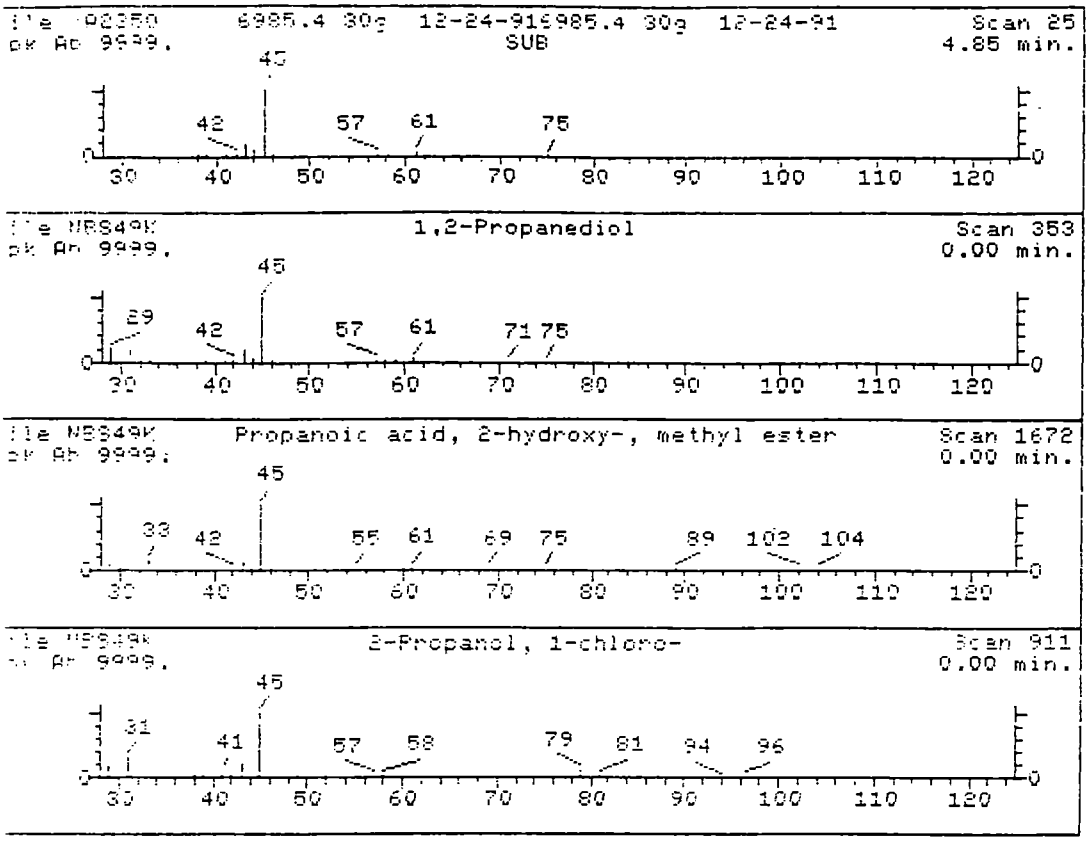
Instrument ID: GC/MSD 5970 #2 Time Analyzed: 11:23

		IS4(PHN)			IS5(CRY)			IS3(PRY)	
		AREA	#	RT	AREA	#	RT	AREA	#	RT
	12 HOUR STD	109973.		25.01	78718.		33.20	70321.		37.28
	UPPER LIMIT	219946.			157436.			140642.		
	LOWER LIMIT	54986.			39359.			35160.		
	EPA SAMPLE NO.									
01	BNA S1 Blk	107242.		25.01	81030.		33.17	77570.		37.29
02	BNA S1 BMS	98751.		25.01	75490.		33.18	75389.		37.28
03	6985.8 30g	98309.		25.02	79741.		33.18	75536.		37.28
04	6985.2 30g	111685.		25.01	88072.		33.19	90246.		37.29
05	6985.6 30g	116409.		25.06	101585.		33.24	99075.		37.33
06	6980.4 MS	132862.		25.06	78999.		33.24	92558.		37.35
07	6980.4 MSD	122492.		25.06	67996.		33.25	83031.		37.34
08	6985.4 30g	117227.		25.07	91344.		33.25	69745.		37.36
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

Column used to flag internal standard area values with an asterisk



UNKNOWN #,1
REA = 105552.0 TENTATIVE CONCENTRATION IS 29.00

1.	1,2-Propanediol	76	C3H8O2
2.	Propanoic acid, 2-hydroxy-, methyl ester	104	C4H8O3
3.	2-Propanol, 1-chloro-	94	C3H7ClO
4.	Propanenitrile, 3-methoxy-	85	C4H7NO
5.	Propanamide, 2-hydroxy-	89	C3H7NO2
6.	Propanoic acid, 2-hydroxy-, methyl ester, (.+-.)-	104	C4H8O3

Sample file: >A2350 Spectrum #: 25
Search speed: 1 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	60	57556	336	NBS49K	37	46	1	0	80	13	30	14
2.	60*	547648	157	NBS49K	26	52	1	0	100	11	30	14
3.	60*	127004	347	NBS49K	28	61	2	0	100	13	30	14
4.	52*	110678	338	NBS49K	25	46	1	0	100	20	20	14
5.	52*	2043438	2198	NBS49K	21	42	2	0	91	20	20	13
6.	52*	2155308	156	NBS49K	27	51	1	0	100	16	20	15

ENVIRONMENTAL PROFILE LABORATORIES

ROUTE 37 BUSINESS PARK
SUITE 13
TOMS RIVER, NJ 08755
OFFICE: (908) 244-6278
FAX: (908) 244-6372

LABORATORY ANALYSIS REPORT

CLIENT :Serv-Air

PROJECT: Serv-Air
VOA+15

Report Number: 6985
Date Received: Dec, 23, 1991
Date Released: Dec, 26, 1991
Data Released By:

Daniel K. Wright
Laboratory Director

TABLE OF CONTENTS

CLIENT:Serv-Air

SAMPLE LOCATION AND IDENTIFICATION

LAB ID NUMBER	SAMPLE IDENTIFICATION	MATRIX
6985.2	B290A WEST	SOIL
6985.4	B290B NORTH	SOIL
6985.6	B290C EAST	SOIL
6985.8	B290D SOUTH	SOIL

Environmental Profile Laboratories

CUSTOMER PURCHASE ORDER NO:

CHAIN OF CUSTODY RECORD

PROJECT NO.:

SAMPLER (SIGNATURE):

DATE / TIME

ANALYSIS PARAMETERS

CUSTOMER (NAME/ADDRESS)
Serv-Air
P.O. 369 Bldg 490
Ft. Monmouth, NJ 07703

SITE NAME:

PHONE NO: 542 - 4359

FAX NO:

LAB SAMPLE ID NUMBER	DATE/TIME	SAMPLE MATRIX	CUSTOMER SAMPLE LOCATION/ID NUMBER	NUMBER OF CONTAINERS	TPHC	PP+40	PRESERVATION METHOD	REMARKS
6985.1	12/17	Soil	B290A west (91-647)	1	X			
.2			B290A west (91-648)			X		ice
.3			B290B North (91-649)		X			
.4			B290B North (91-650)			X		
.5			B290C East (91-651)		X			
.6			B290C East (91-652)			X		
.7			B290D South (91-653)		X			
.8			B290D South (91-654)			X		

Relinquished By (Signature)	DATE / TIME 12/23/91 930	Received By (Signature)	METHOD OF SHIPPING: C.O.V.
Relinquished By (Signature)	DATE / TIME	Received By (Signature)	SHIPPED BY (Signature):
Relinquished By (Signature)	DATE / TIME	Recieved for Lab by (Signature):	DATE / TIME 12/23/91 930

NOTE: A DRAWING DEPICTING SAMPLE LOCATION SHOULD BE ATTACHED OR DRAWN ON THE REVERSE SIDE OF THIS CHAIN OF CUSTODY.

LABORATORY CHRONICLE

SAMPLE NUMBER	6985.2	6985.4	6985.6	6985.8			
Received & Refrigerated Date	12/23/91	12/23/91	12/23/91	12/23/91			
Organics Extraction Date							
BN/ABN	NA	NA	NA	NA			
PCB's	NA	NA	NA	NA			
Analysis Date							
BN/ABN	NA	NA	NA	NA			
PCB's	NA	NA	NA	NA			
Volatiles	12/24/91	12/24/91	12/24/91	12/24/91			
TPHC's	NA	NA	NA	NA			
Metals	NA	NA	NA	NA			
Total Solids	NA	NA	NA	NA			
Organic Supervisor Review & Approval	Brian K. McKee B. K. McK						12/30/91
Inorganic Supervisor Review & Approval							

METHOD SUMMARY

Volatiles

The volatile samples in this report have been analyzed using the method cited in the USEPA-CLP-IFB version 2/88. The CLP volatile method is based on USEPA Method 624 and SW-846.

The method is based on 5 milliliters of an aqueous, or 5 grams of a non-aqueous sample spiked with a known concentration of surrogate and internal standard. The samples and standards are the purged onto a trap using a Tekmar LSC 2 and desorbed onto a packed glass column installed in a Hewlett Packard 5890 GC coupled via a jet separator a the HP 5970 MSD. The data was then collected and reduced via a HP 1000 RTE data system.

GC/MS

ORGANIC NON-CONFORMANCE SUMMARY

GC/MS TUNE FREQUENCY:- All samples.blanks.standards and matrix spikes were analyzed within the respective 12 hour tune periods.

INITIAL CALIBRATION REQUIREMENTS:
No CCC or SPCC compound was outside of QC limits.

CONTINUING CALIBRATION REQUIREMENTS.
No CCC or SPCC compound was outside of QC limits

DETECTION LIMITS:- Detection limits and search results were modified by dilution or percent solid.*

* All values reported on a DRY WEIGHT basis where applicable

MATRIX SPIKE RECOVERY:- No matrix spike compound was outside QC limits

INTERNAL STANDARD AREA:-

CLIENT ID #	NUMBER OF INTERNAL STANDARD AREA(S)
NONE	0

SURROGATE RECOVERY:-

Client ID #	Surrogates outside QC limits
NONE	0

ANALYSIS TIME:- All samples were extracted and analyzed within the prescribed holding times.

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following "results qualifiers" are used:

VALUE - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, "10U". This is not necessarily the instrument detection limit. The figure represents the minimum detection limit attainable for this particular sample based on any concentration or dilution that may have been required.

J - Indicates an estimated value. This flag is used:

1) When estimating a concentration for tentatively identifid compounds (library search hits) where a 1:1 response is assumed.
2) When the mass spectral data indicated the identification criteria, however, the result was less than the specified detection limit but greater than zero. If the detection limit was 10ug/L and a concentration of 3ug/L was calculated, report as "3J".

B - Indicates the analyte was found in the blank as well as the sample; report as "12B".

E - Indicates the analyte concentration exceeds the calibrated range of the GC/MS instrument for that specific analysis.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

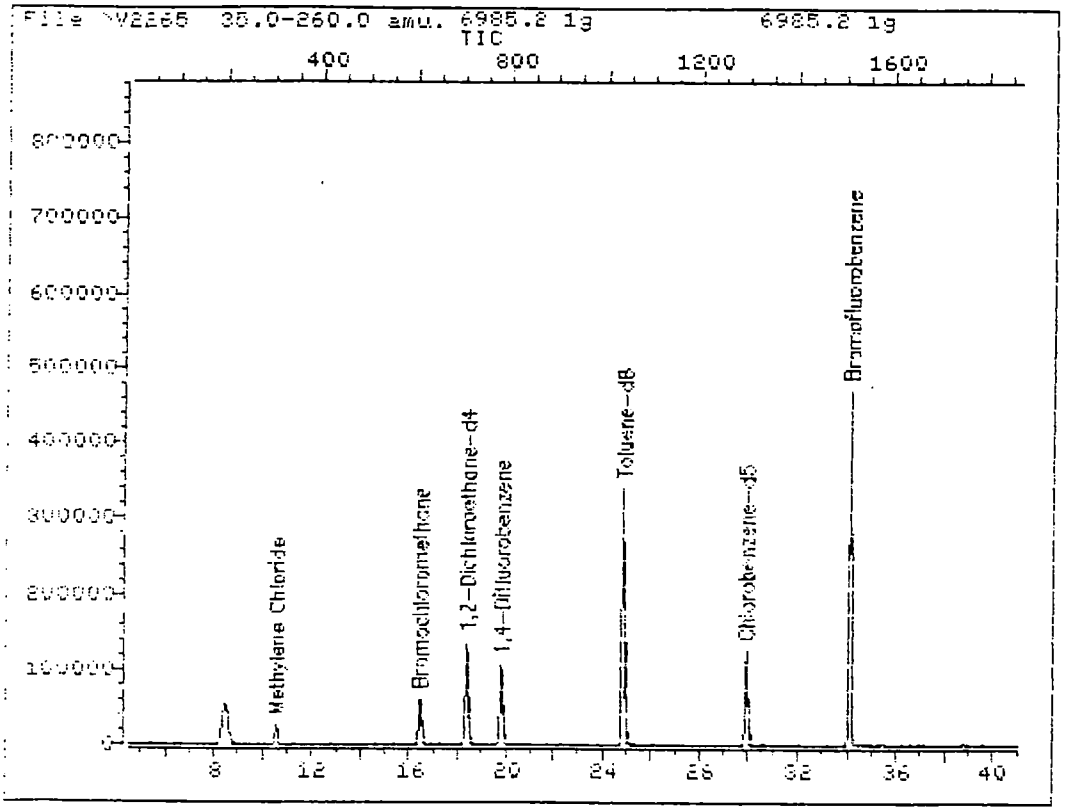
JOB NUMBER		MATRIX	Soil
SAMPLE NAME	6985.2 1g	DILUTION FACTOR	5.00
CLIENT ID		QA BATCH	
DATA FILE	>V2265	DATE ANALYZED	12/24/91

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	63	Trichloroethene	ND	31
Bromomethane	ND	63	Dibromochloromethane	ND	31
Vinyl Chloride	ND	63	1,1,2-Trichloroethane	ND	31
Chloroethane	ND	63	Benzene	ND	31
Methylene Chloride	67	31	trans-1,3-Dichloropropene	ND	31
Acrolein	ND	310	2-Chloroethylvinyl ether	ND	31
Acrylonitrile	ND	310	Bromoform	ND	31
Acetone	ND	31	2-Hexanone	ND	31
Carbon Disulfide	ND	31	4-Methyl-2-Pentanone	ND	31
1,1-Dichloroethene	ND	31	Tetrachloroethene	ND	31
1,1-Dichloroethane	ND	31	1,1,2,2-Tetrachloroethane	ND	31
trans-1,2-Dichloroethene	ND	31	Toluene	ND	31
Trichlorofluoromethane	ND	31	Chlorobenzene	ND	31
Chloroform	ND	31	Ethylbenzene	ND	31
1,2-Dichloroethane	ND	31	Styrene	ND	31
2-Butanone	ND	31	o-Xylene	ND	31
1,1,1-Trichloroethane	ND	31	m + p-Xylenes	ND	31
Carbon Tetrachloride	ND	31	1,3-Dichlorobenzene	ND	31
Bromodichloromethane	ND	31	1,2-Dichlorobenzene	ND	31
Vinyl Acetate	ND	31	1,4-Dichlorobenzene	ND	31
1,2-Dichloropropane	ND	31	tert-Butyl Alcohol	ND	310
cis-1,3-Dichloropropene	ND	31	Methyl tert-Butyl Ether	ND	31

Percent Solid of 80.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

TOTAL ION CHROMATOGRAM



Data File: >V2265::D1
Name: 6985.2 1g
Misc: 6985.2 1g

Quant Output File: ^V2265::DB

Id File: IDV0A::D4
Title: HSL VOLATILE ORGANICS
Last Calibration: 911224 13:28

Operator ID: MARK
Quant Time: 911224 18:34
Injected at: 911224 17:52

Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER		MATRIX	Soil
SAMPLE NAME	6985.4 1g	DILUTION FACTOR	5.00
CLIENT ID		QA BATCH	
DATA FILE	>V2266	DATE ANALYZED	12/24/91

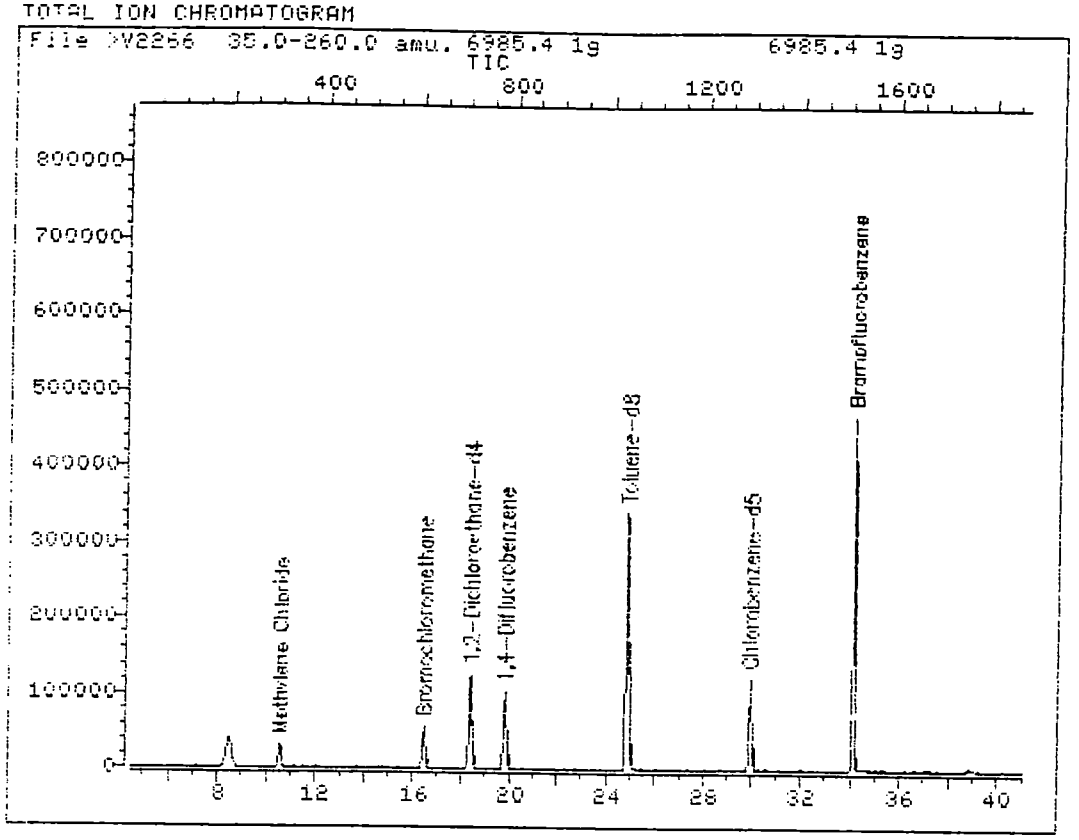
COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	62	Trichloroethene	ND	31
Bromomethane	ND	62	Dibromochloromethane	ND	31
Vinyl Chloride	ND	62	1,1,2-Trichloroethane	ND	31
Chloroethane	ND	62	Benzene	ND	31
Methylene Chloride	87	31	trans-1,3-Dichloropropene	ND	31
Acrolein	ND	310	2-Chloroethylvinyl ether	ND	31
Acrylonitrile	ND	310	Bromoform	ND	31
Acetone	ND	31	2-Hexanone	ND	31
Carbon Disulfide	ND	31	4-Methyl-2-Pentanone	ND	31
1,1-Dichloroethene	ND	31	Tetrachloroethene	ND	31
1,1-Dichloroethane	ND	31	1,1,2,2-Tetrachloroethane	ND	31
trans-1,2-Dichloroethene	ND	31	Toluene	ND	31
Trichlorofluoromethane	ND	31	Chlorobenzene	ND	31
Chloroform	ND	31	Ethylbenzene	ND	31
1,2-Dichloroethane	ND	31	Styrene	ND	31
2-Butanone	ND	31	o-Xylene	ND	31
1,1,1-Trichloroethane	ND	31	m + p-Xylenes	ND	31
Carbon Tetrachloride	ND	31	1,3-Dichlorobenzene	ND	31
Bromodichloromethane	ND	31	1,2-Dichlorobenzene	ND	31
Vinyl Acetate	ND	31	1,4-Dichlorobenzene	ND	31
1,2-Dichloropropane	ND	31	tert-Butyl Alcohol	ND	310
cis-1,3-Dichloropropene	ND	31	Methyl tert-Butyl Ether	ND	31

Percent Solid of 81.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

10

TOTAL ION CHROMATOGRAM



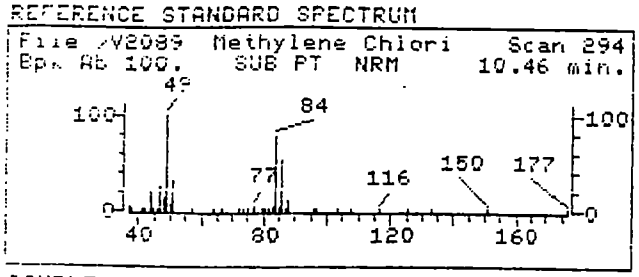
Data File: >V2266::D1
Name: 6985.4 1g
Misc: 6985.4 1g

Quant Output File: ^V2266::DB

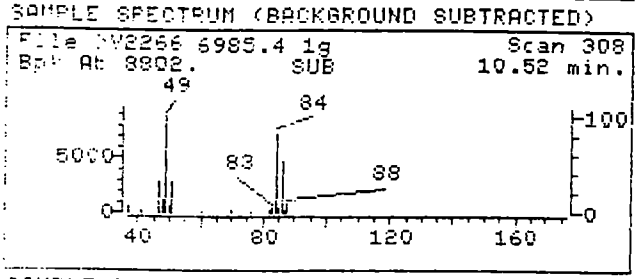
Id File: IDV0A::D4
Title: HSL VOLATILE ORGANICS
Last Calibration: 911224 13:28

Operator ID: MARK
Quant Time: 911224 19:20
Injected at: 911224 18:38

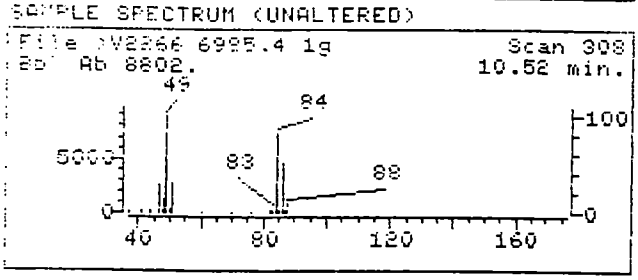
REFERENCE STANDARD SPECTRUM

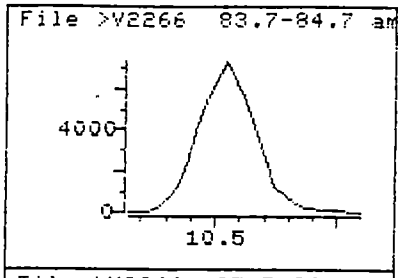


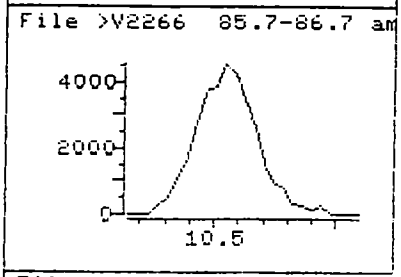
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

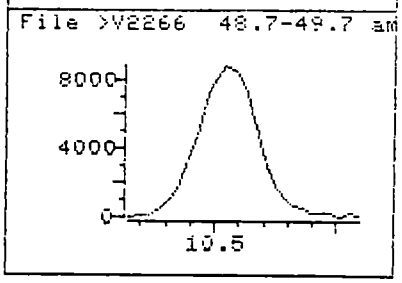


SAMPLE SPECTRUM (UNALTERED)









Data File: >V2266::D1
Name: 6985.4 1g
Misc: 6985.4 1g
Quant Time: 911224 19:20
Injected at: 911224 18:38

Quant Output File: ^V2266::DB

Quant ID File: IDV0A::D4
Last Calibration: 911224 13:28

Compound No: 7
Compound Name: Methylene Chloride
Scan Number: 308
Retention Time: 10.52 min.
Quant Ion: 84.0
Area: 58827
Concentration: 14.15 ppb
q-value: 98

Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

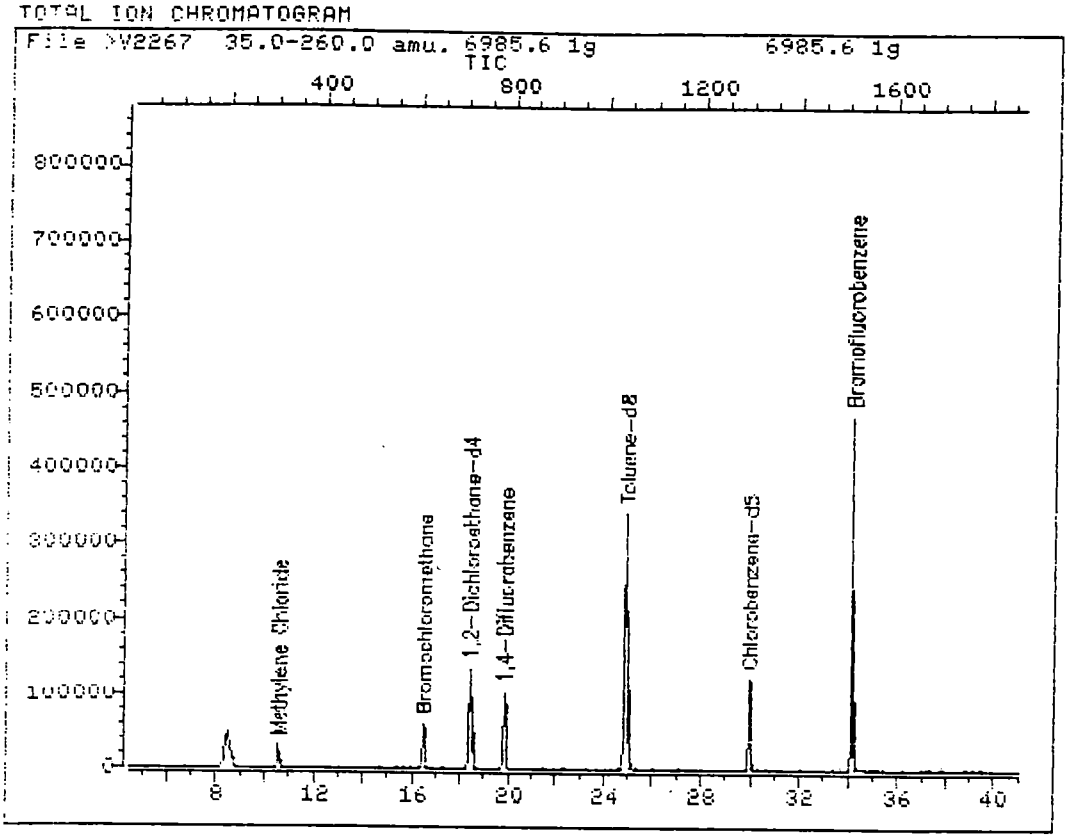
JOB NUMBER		MATRIX	Soil
SAMPLE NAME	6985.6 1g	DILUTION FACTOR	5.00
CLIENT ID		QA BATCH	
DATA FILE	>V2267	DATE ANALYZED	12/24/91

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	63	Trichloroethene	ND	31
Bromomethane	ND	63	Dibromochloromethane	ND	31
Vinyl Chloride	ND	63	1,1,2-Trichloroethane	ND	31
Chloroethane	ND	63	Benzene	ND	31
Methylene Chloride	83	31	trans-1,3-Dichloropropene	ND	31
Acrolein	ND	310	2-Chloroethylvinyl ether	ND	31
Acrylonitrile	ND	310	Bromoform	ND	31
Acetone	ND	31	2-Hexanone	ND	31
Carbon Disulfide	ND	31	4-Methyl-2-Pentanone	ND	31
1,1-Dichloroethene	ND	31	Tetrachloroethene	ND	31
1,1-Dichloroethane	ND	31	1,1,2,2-Tetrachloroethane	ND	31
trans-1,2-Dichloroethene	ND	31	Toluene	ND	31
Trichlorofluoromethane	ND	31	Chlorobenzene	ND	31
Chloroform	ND	31	Ethylbenzene	ND	31
1,2-Dichloroethane	ND	31	Styrene	ND	31
2-Butanone	ND	31	o-Xylene	ND	31
1,1,1-Trichloroethane	ND	31	m + p-Xylenes	ND	31
Carbon Tetrachloride	ND	31	1,3-Dichlorobenzene	ND	31
Bromodichloromethane	ND	31	1,2-Dichlorobenzene	ND	31
Vinyl Acetate	ND	31	1,4-Dichlorobenzene	ND	31
1,2-Dichloropropane	ND	31	tert-Butyl Alcohol	ND	310
cis-1,3-Dichloropropene	ND	31	Methyl tert-Butyl Ether	ND	31

Percent Solid of 80.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

TOTAL ION CHROMATOGRAM



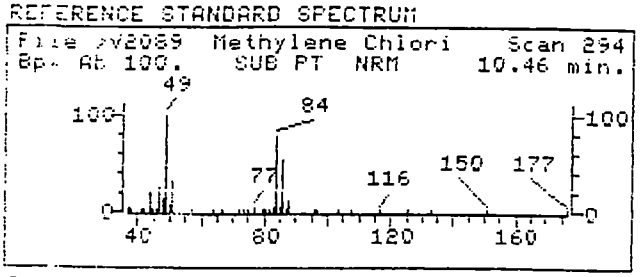
Data File: >V2267::D1
Name: 6585.6 1g
Misc: 6985.6 1g

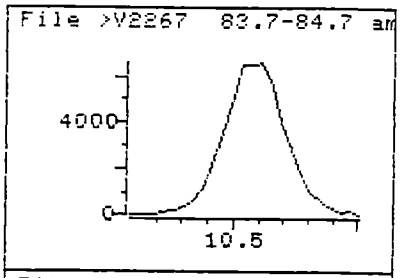
Quant Output File: ^V2267::DB

Id File: IDV0A::D4
Title: HSL VOLATILE ORGANICS
Last Calibration: 911224 13:28

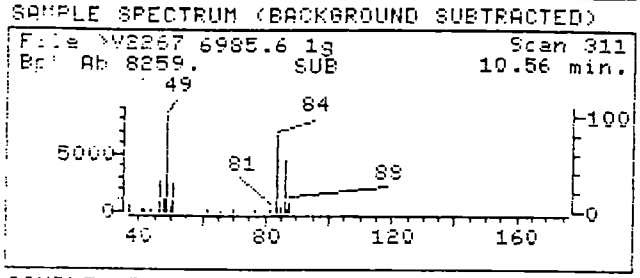
Operator ID: MARK
Quant Time: 911224 20:05
Injected at: 911224 19:24

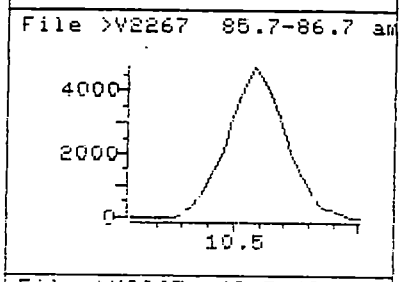
REFERENCE STANDARD SPECTRUM



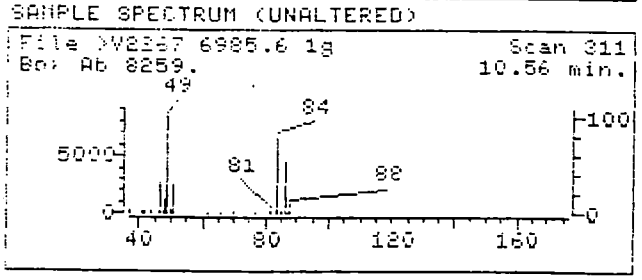


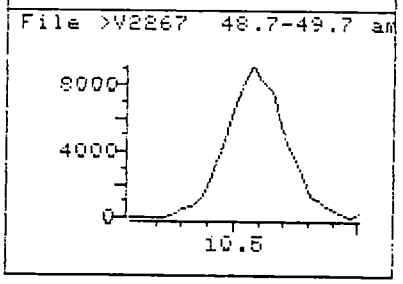
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)





SAMPLE SPECTRUM (UNALTERED)





Data File: >V2267::D1
Name: 6985.6 1g
Misc: 6985.6 1g
Quant Time: 911224 20:05
Injected at: 911224 19:24

Quant Output File: ^V2267::DB
Quant ID File: IDV0A::D4
Last Calibration: 911224 13:28

Compound No: 7
Compound Name: Methylene Chloride
Scan Number: 311
Retention Time: 10.56 min.
Quant Ion: 84.0
Area: 57157
Concentration: 13.23 ppb
q-value: 93

Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

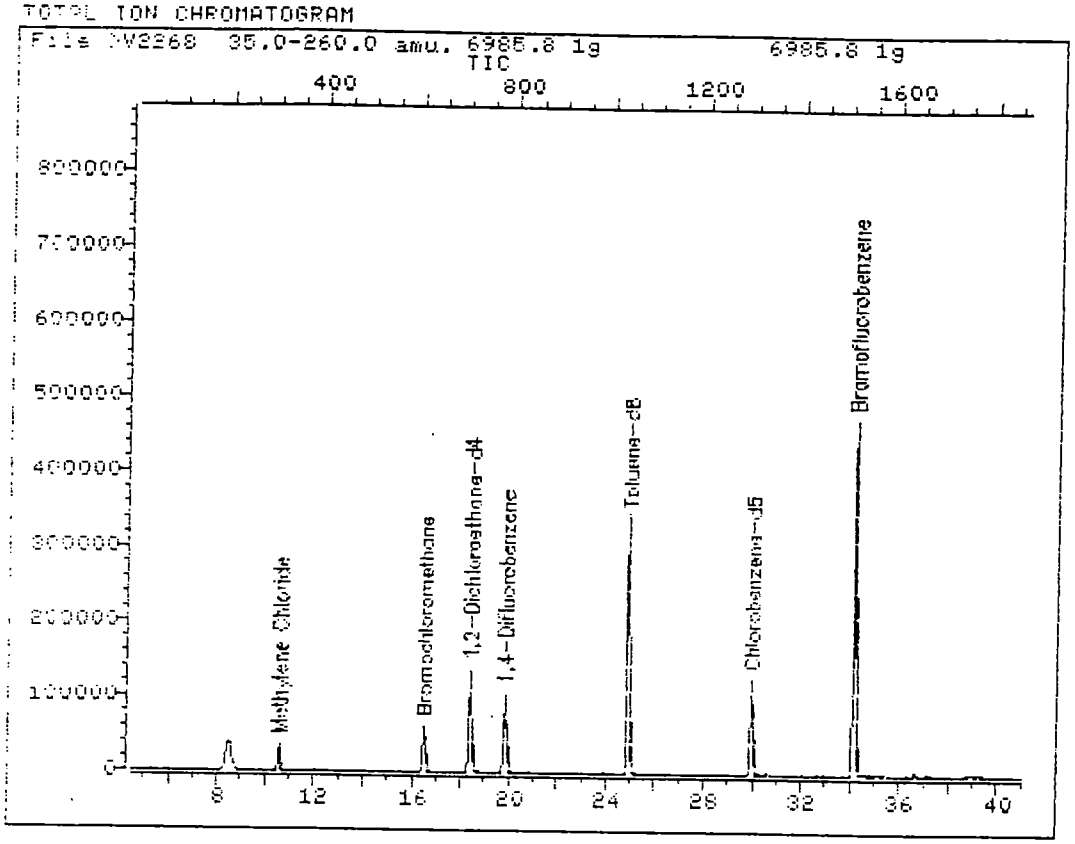
JOB NUMBER		MATRIX	Soil
SAMPLE NAME	6985.8 1g	DILUTION FACTOR	5.00
CLIENT ID		QA BATCH	
DATA FILE	>V2268	DATE ANALYZED	12/24/91

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	63	Trichloroethene	ND	31
Bromomethane	ND	63	Dibromochloromethane	ND	31
Vinyl Chloride	ND	63	1,1,2-Trichloroethane	ND	31
Chloroethane	ND	63	Benzene	ND	31
Methylene Chloride	99	31	trans-1,3-Dichloropropene	ND	31
Acrolein	ND	310	2-Chloroethylvinyl ether	ND	31
Acrylonitrile	ND	310	Bromoform	ND	31
Acetone	ND	31	2-Hexanone	ND	31
Carbon Disulfide	ND	31	4-Methyl-2-Pentanone	ND	31
1,1-Dichloroethene	ND	31	Tetrachloroethene	ND	31
1,1-Dichloroethane	ND	31	1,1,2,2-Tetrachloroethane	ND	31
trans-1,2-Dichloroethene	ND	31	Toluene	ND	31
Trichlorofluoromethane	ND	31	Chlorobenzene	ND	31
Chloroform	ND	31	Ethylbenzene	ND	31
1,2-Dichloroethane	ND	31	Styrene	ND	31
2-Butanone	ND	31	o-Xylene	ND	31
1,1,1-Trichloroethane	ND	31	m + p-Xylenes	ND	31
Carbon Tetrachloride	ND	31	1,3-Dichlorobenzene	ND	31
Bromodichloromethane	ND	31	1,2-Dichlorobenzene	ND	31
Vinyl Acetate	ND	31	1,4-Dichlorobenzene	ND	31
1,2-Dichloropropane	ND	31	tert-Butyl Alcohol	ND	310
cis-1,3-Dichloropropene	ND	31	Methyl tert-Butyl Ether	ND	31

Percent Solid of 80.0 is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

TOTAL ION CHROMATOGRAM



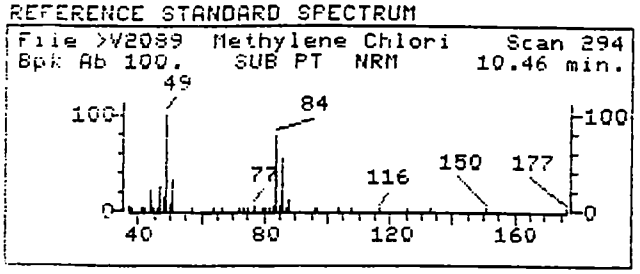
Data File: >V2268::D1
Name: 6985.8 1g
Misc: 6985.8 1g

Quant Output File: ^V2268::DB

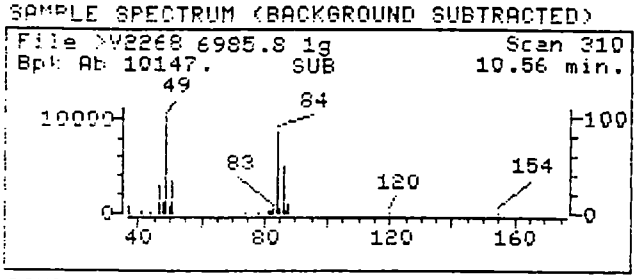
Id File: IDVOA::D4
Title: HSL VOLATILE ORGANICS
Last Calibration: 911224 13:28

Operator ID: MARK
Quant Time: 911224 20:52
Injected at: 911224 20:09

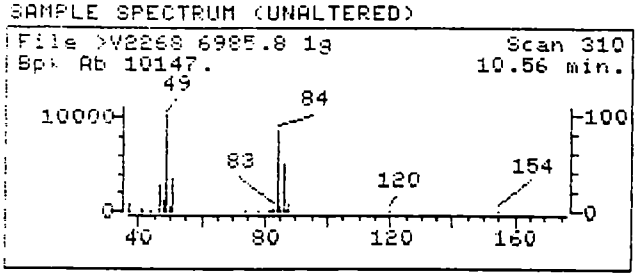
REFERENCE STANDARD SPECTRUM

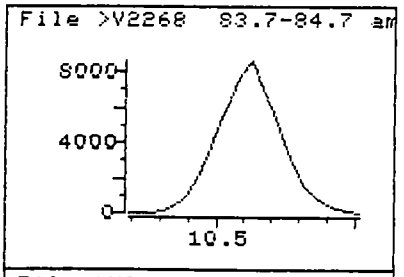


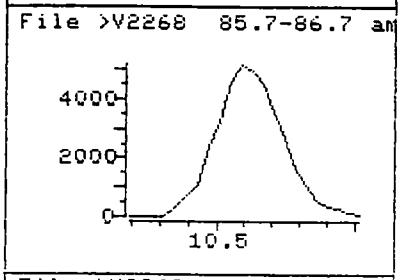
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

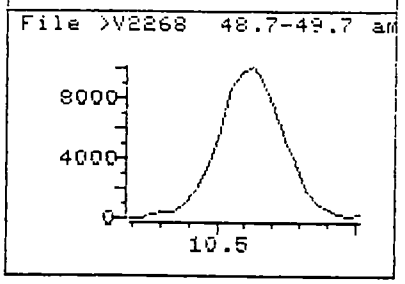


SAMPLE SPECTRUM (UNALTERED)









Data File: >V2268::D1
Name: 6985.8 1g
Misc: 6985.8 1g
Quant Time: 911224 20:52
Injected at: 911224 20:09

Quant Output File: ^V2268::DB
Quant ID File: IDV0A::D4
Last Calibration: 911224 13:28

Compound No: 7
Compound Name: Methylene Chloride
Scan Number: 310
Retention Time: 10.56 min.
Quant Ion: 84.0
Area: 67593
Concentration: 15.77 ppb
q-value: 97

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.: 6985.2 1g

Lab Name: Environmental Profile Lab NJDEP Cert.# 15526

Matrix: Soil

Sample wt/vol: 1.0 (g/mL) g

Level: (Low/med) Low

Column: Capillary

Lab Sample ID: 6985.2 1g

Lab File ID: >V2265

Date Received: 12-23-91

Date Analyzed: 12/24/91

Dilution Factor: 5

Number of TICs found: 0

CONCENTRATION UNITS: ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

6985.4 1g

Lab Name: Environmental Profile Lab   NJDEP Cert.# 15526

Matrix: Soil

Sample wt/vol: 1.0 (g/mL) g

Level: (Low/med) Low

Column: Capillary

Lab Sample ID: 6985.4 1g

Lab File ID: >V2266

Date Received: 12-23-91

Date Analyzed: 12/24/91

Dilution Factor: 5

Number of TICs found: 0

CONCENTRATION UNITS:
ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

1/87 Rev

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.: 6985.6 lg

Lab Name: Environmental Profile Lab NJDEP Cert.# 15526

Matrix: Soil

Sample wt/vol: 1.0 (g/mL) g

Level: (Low/med) Low

Column: Capillary

Lab Sample ID: 6985.6 lg

Lab File ID: >02267

Date Received: 12-23-91

Date Analyzed: 12/24/91

Dilution Factor: 5

Number of TICs found: 0

CONCENTRATION UNITS: ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

6985.8 1g

Lab Name: Environmental Profile Lab   NJDEP Cert.# 15526

Matrix: Soil

Lab Sample ID: 6985.8 1g

Sample wt/vol: 1.0 (g/mL) g

Lab File ID: >V2268

Level: (Low/med) Low

Date Received: 12-23-91

Date Analyzed: 12/24/91

Column: Capillary

Dilution Factor: 5

Number of TICs found: 0

CONCENTRATION UNITS: ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

5H

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

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID: >V2257 BFB Injection Date: 12/24/91

Instrument ID: GC/MSD 5970 #1 BFB Injection Time: 11:02

Matrix: Soil Column: Capillary

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	25.4
75	30.0 - 60.0% of mass 95	52.9
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	.9(1.1)1
174	Greater than 50.0% of mass 95	78.7
175	5.0 - 9.0% of mass 174	5.4(6.9)1
176	Greater than 95.0%, but less than 101.0% of mass 174	76.9(97.8)1
177	5.0 - 9.0% of mass 176	5.4(7.0)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCC/SPCC	CCC/SPCC	>V2258	12/24/91	11:26
02	VOA Blank	VOA Blank	>V2259	12/24/91	12:39
03	6968.1 MS	6968.1 MS	>V2260	12/24/91	13:51
04	6968.1 MSD	6968.1 MSD	>V2261	12/24/91	14:40
05	6985.2 1g	6985.2 1g	>V2265	12/24/91	17:52
06	6985.4 1g	6985.4 1g	>V2266	12/24/91	18:38
07	6985.6 1g	6985.6 1g	>V2267	12/24/91	19:24
08	6985.8 1g	6985.8 1g	>V2268	12/24/91	20:09
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 12/24/91

Contractor: E.P.L. Time: 11:26

Contract No: _____ Laboratory ID: >V2258

Instrument ID: No. 1: Volatiles Initial Calibration Date: 12/23/91

Minimum $\overline{RF}$ for SPCC is 0.30 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Chloromethane	1.62187	1.21350	25.18		**	
Bromomethane	3.80896	3.69473	3.00			
Vinyl Chloride	2.50057	2.09665	16.15	*		
Chloroethane	1.91228	2.09776	9.70			
Methyl tert-Butyl Ether	4.76083	5.21459	9.53			
Methylene Chloride	3.29217	3.17088	3.68			
Acrolein	.14627	.15307	4.65			(Conc=500.00)
Acrylonitrile	.28616	.30329	5.99			(Conc=500.00)
Acetone	.39947	.45424	13.71			
Carbon Disulfide	7.79831	7.29710	6.43			
1,1-Dichloroethene	2.65708	2.44458	8.00	*		
1,1-Dichloroethane	5.99511	6.04724	.87		**	
tert-Butyl Alcohol	.10506	.09162	12.79			(Conc=500.00)
trans-1,2-Dichloroethene	4.57581	4.84823	5.95			
Trichlorofluoromethane	7.92001	6.60976	16.54			
Chloroform	7.65483	7.70239	.62	*		
1,2-Dichloroethane-d4	3.14570	3.59472	14.27			(Conc=100.00)
1,2-Dichloroethane	4.43801	4.90515	10.53			
2-Butanone	.11846	.13428	13.35			
1,1,1-Trichloroethane	1.36447	1.33489	2.17			
Carbon Tetrachloride	1.40979	1.24478	11.70			
Bromodichloromethane	1.21508	1.28195	5.50			
Vinyl Acetate	.13598	.14462	6.35			
1,2-Dichloropropane	.57414	.58261	1.47	*		
cis-1,3-Dichloropropene	1.54009	1.57876	2.51			
Trichloroethene	.86175	.77457	10.12			
Dibromochloromethane	1.09193	.95873	12.20			
1,1,2-Trichloroethane	.45562	.43102	5.40			
Benzene	1.32840	1.39042	4.67			
trans-1,3-Dichloropropene	.30534	.31489	3.13			
2-Chloroethylvinyl ether	.24275	.24410	.56			
Bromoform	.69093	.61377	11.17		**	

RF - Response Factor from daily standard file at 50.00 ppb

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 12/24/91

Contractor: E.P.L. Time: 11:26

Contract No: _____ Laboratory ID: >V2258

Instrument ID: No. 1: Volatiles Initial Calibration Date: 12/23/91

Minimum $\overline{RF}$ for SPCC is 0.30 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
4-Methyl-2-Pentanone	.67541	.73578	8.94			
2-Hexanone	.25558	.27103	6.05			
Tetrachloroethene	1.50563	1.21968	18.99			
1,1,2,2-Tetrachloroethane	.56254	.65027	15.60		**	
Toluene	2.37846	2.30949	2.90	*		
Chlorobenzene	1.92824	1.71113	11.26		**	
Ethylbenzene	3.01377	3.03784	.80	*		
Styrene	1.84573	1.84713	.08			
m + p-Xylenes	2.39476	2.81712	17.64			(Conc=100.00)
o-Xylene	2.65110	2.70396	1.99			
1,3-Dichlorobenzene	1.47034	1.44756	1.55			
1,4-Dichlorobenzene	1.34284	1.34586	.22			
1,2-Dichlorobenzene	.96086	1.16106	20.83			
Toluene-d8	1.92676	1.97637	2.57			(Conc=100.00)
Bromofluorobenzene	1.12556	1.26089	12.02			(Conc=100.00)

RF - Response Factor from daily standard file at 50.00 ppb

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: No. 1: Volatiles

Contractor: E.P.L. Calibration Date: 12/23/91

Contract No: _____

Minimum $\overline{RF}$ for SPCC is 0.30 Maximum % RSD for CCC is 30%

Laboratory ID:	>V2243	>V2244	>V2245	>V2246	>V2247					
Compound	RF 20.00	RF 50.00	RF 100.00	RF 150.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
Chloromethane	1.48857	1.54149	1.55138	1.70984	1.81809	.311	1.62187	8.467		**
Bromomethane	3.35799	3.80244	3.88337	3.90142	4.09958	.382	3.80896	7.213		
Vinyl Chloride	2.22779	2.50506	2.56993	2.56849	2.63156	.325	2.50057	6.355	*	
Chloroethane	1.70894	1.91662	1.94070	1.93637	2.05879	.391	1.91228	6.626		
Methyl tert-Butyl Ether	4.77604	4.80627	4.72818	4.63867	4.85497	.678	4.76083	1.730		
Methylene Chloride	3.64075	2.81809	3.06329	3.12488	3.81385	.637	3.29217	12.696		
Acrolein	.15508	.13689	.14086	.14588	.15264	.499	.14627	5.246		(Conc=200.0,500.0,1000
Acrylonitrile	.30241	.26442	.27766	.28957	.29673	.666	.28616	5.335		(Conc=200.0,500.0,1000
Acetone	.50667	.36572	.36559	.36725	.39215	.511	.39947	15.263		
Carbon Disulfide	8.33274	7.38034	7.81889	7.49824	7.96135	.634	7.79831	4.872		
1,1-Dichloroethene	2.99184	2.61024	2.59985	2.47485	2.60864	.537	2.65708	7.363	*	
1,1-Dichloroethane	6.81015	5.79459	5.83838	5.61930	5.91314	.801	5.99511	7.810		**
tert-Butyl Alcohol	.11666	.09990	.09505	.10426	.10942	.553	.10506	7.977		(Conc=200.0,500.0,1000
trans-1,2-Dichloroethene	5.25474	4.39670	4.46188	4.25592	4.50982	.705	4.57581	8.553		
Trichlorofluoromethane	8.76626	7.80264	7.77178	7.43384	7.82554	.430	7.92001	6.304		
Chloroform	8.70836	7.41899	7.46782	7.16870	7.51028	.967	7.65483	7.886	*	
1,2-Dichloroethane-d4	3.31253	3.24922	3.07875	2.98908	3.09893	1.119	3.14570	4.198		(Conc=100.0,100.0,100.(
1,2-Dichloroethane	4.99883	4.39285	4.28110	4.16572	4.35152	1.139	4.43801	7.326		
2-Butanone	.14772	.10604	.10825	.11445	.11587	.742	.11846	14.234		
1,1,1-Trichloroethane	1.50102	1.30131	1.34511	1.31842	1.35648	.874	1.36447	5.816		
Carbon Tetrachloride	1.52908	1.32385	1.39769	1.37993	1.41841	.917	1.40979	5.347		
Bromodichloromethane	1.30321	1.12394	1.18807	1.21417	1.24600	1.121	1.21508	5.484		
Vinyl Acetate	.14036	.12809	.12910	.13653	.14582	.669	.13598	5.527		
1,2-Dichloropropane	.62628	.54239	.56258	.56456	.57488	1.084	.57414	5.475	*	
cis-1,3-Dichloropropene	1.65407	1.43300	1.49176	1.54677	1.57484	1.218	1.54009	5.437		
Trichloroethene	.94582	.82794	.84957	.83827	.84717	1.052	.86175	5.542		
Dibromochloromethane	1.16319	1.03937	1.05203	1.10404	1.10103	1.413	1.09193	4.501		
1,1,2-Trichloroethane	.51757	.43056	.43005	.44683	.45307	1.330	.45562	7.916		
Benzene	1.42798	1.25287	1.30403	1.31209	1.34505	.946	1.32840	4.873		
trans-1,3-Dichloropropene	.32205	.28227	.29431	.30939	.31868	1.306	.30534	5.499		

RF - Response Factor (Subscript is amount in ppb)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Initial Calibration Data
HSL Compounds

Case No: _____ Instrument ID: No. 1: Volatiles

Contractor: E.P.L. Calibration Date: 12/23/91

Contract No: _____

Minimum $\overline{RF}$ for SPCC is 0.30 Maximum % RSD for CCC is 30%

Laboratory ID:	>V2243	>V2244	>V2245	>V2246	>V2247					
Compound	RF 20.00	RF 50.00	RF 100.00	RF 150.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
2-Chloroethylvinyl ether	.26997	.22500	.22915	.24103	.24860	1.183	.24275	7.364		
Bromoform	.77963	.68554	.66084	.70029	.62835	1.681	.69093	8.190		**
4-Methyl-2-Pentanone	.74759	.60278	.63584	.68893	.70190	.782	.67541	8.420		
2-Hexanone	.30655	.23048	.23683	.25268	.25134	.883	.25558	11.748		
Tetrachloroethene	1.66613	1.42152	1.49218	1.46382	1.48452	.912	1.50563	6.231		
1,1,2,2-Tetrachloroethane	.73570	.57567	.52325	.50471	.47337	1.133	.56254	18.430		**
Toluene	2.53970	2.17093	2.34858	2.36548	2.46761	.839	2.37846	5.874	*	
Chlorobenzene	2.11676	1.79517	1.87617	1.90594	1.94714	1.004	1.92824	6.181		**
Ethylbenzene	3.42271	2.88690	3.07003	2.84256	2.84665	1.013	3.01377	8.191	*	
Styrene	2.03664	1.76921	1.81113	1.82021	1.79146	1.075	1.84573	5.879		
m + p-Xylenes	3.17746	2.69483	2.43000	1.83850	1.83299	1.022	2.39476	24.069		(Conc=40.0,100.0,200.0
o-Xylene	3.04073	2.56831	2.64729	2.52003	2.47915	1.071	2.65110	8.548		
1,3-Dichlorobenzene	2.05368	1.61288	1.31250	1.29627	1.07636	1.269	1.47034	25.697		
1,4-Dichlorobenzene	1.89795	1.47830	1.16466	1.19533	.97795	1.282	1.34284	26.673		
1,2-Dichlorobenzene	1.17622	1.18710	.80572	.82605	.80923	1.324	.96086	20.996		
Toluene-d8	1.91575	1.90690	1.92284	1.92654	1.96177	.830	1.92676	1.088		(Conc=100.0,100.0,100..
Bromofluorobenzene	1.20530	1.17122	1.12064	1.10991	1.02072	1.141	1.12556	6.236		(Conc=100.0,100.0,100.(

RF - Response Factor (Subscript is amount in ppb)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Environmental Profile Lab

Lab Code: 15526

Matrix Spike for EPL Sample Number: 6968.1 1g

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	100.00	0.00	75.80	75	59-172
Trichloroethene	100.00	0.00	102.00	102	62-137
Benzene	100.00	0.00	111.00	111	66-142
Toluene	100.00	0.00	108.00	108	59-139
Chlorobenzene	100.00	0.00	106.00	106	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	100.00	79.30	79	5	22	59-172
Trichloroethene	100.00	97.60	97	5	24	62-137
Benzene	100.00	122.00	121	8	21	66-142
Toluene	100.00	107.00	106	1	21	59-139
Chlorobenzene	100.00	105.00	104	1	21	60-133

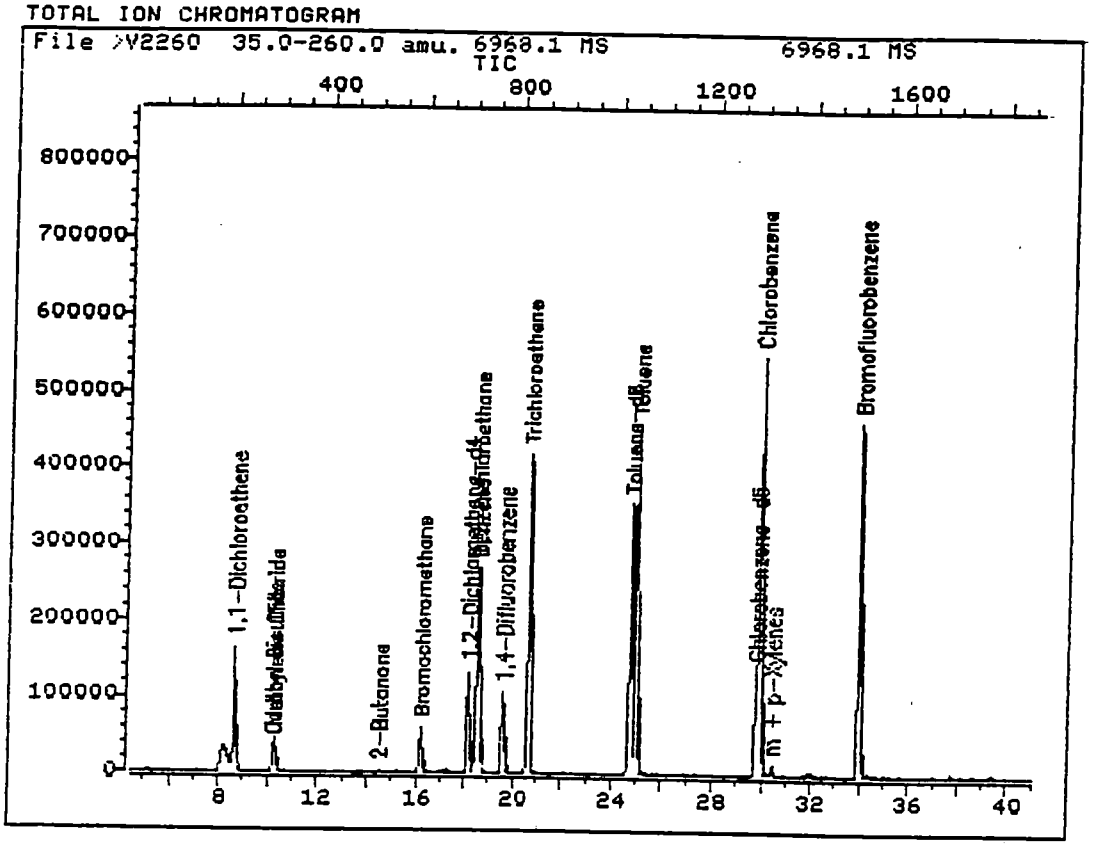
Column to be used to flag recovery and RPD values with an asterisk

* Values outside of qc limits

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

COMMENTS: _____

TOTAL ION CHROMATOGRAM



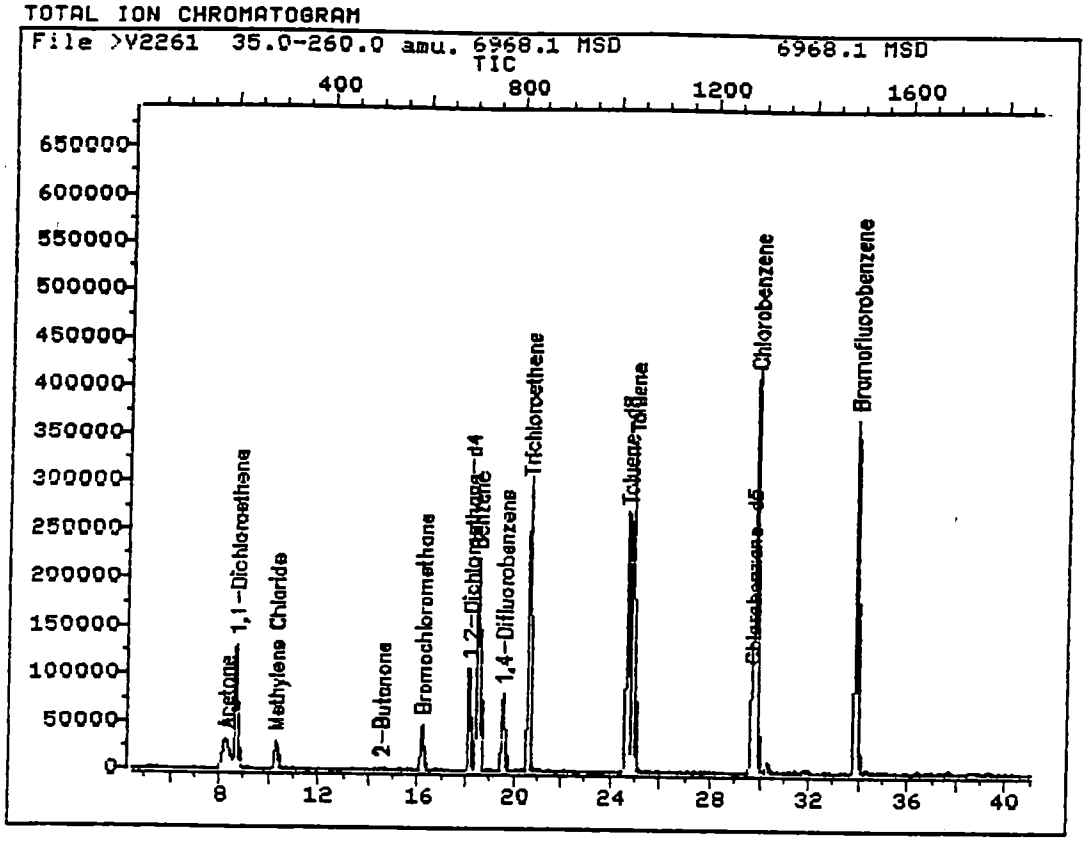
Data File: >V2260::D1
Name: 6968.1 MS
Misc: 6968.1 MS

Quant Output File: ^V2260::DB

Id File: IDVOA::D4
Title: HSL VOLATILE ORGANICS
Last Calibration: 911224 13:28

Operator ID: MARK
Quant Time: 911224 14:33
Injected at: 911224 13:51

TOTAL ION CHROMATOGRAM



Data File: >V2261::D1
Name: 6968.1 MSD
Misc: 6968.1 MSD

Quant Output File: ^V2261::DB

Id File: IDVOA::D4
Title: HSL VOLATILE ORGANICS
Last Calibration: 911224 13:28

Operator ID: MARK
Quant Time: 911224 15:22
Injected at: 911224 14:40

4A

VOLATILE METHOD BLANK SUMMARY

ab Name: Environmental Profile Lab Contract: Serv-Air

ab Code: 15526

ab File ID: >V2259 Lab Sample ID: VOA Blank

ate Analyzed: 12/24/91 Time Analyzed: 12:39

atrix: Soil

nstrument ID: GC/MSD 5970 #1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	CCC/SPCC	CCC/SPCC	>V2258	11:26
02	6968.1 MS	6968.1 MS	>V2260	13:51
03	6968.1 MSD	6968.1 MSD	>V2261	14:40
04	6985.2 1g	6985.2 1g	>V2265	17:52
05	6985.4 1g	6985.4 1g	>V2266	18:38
06	6985.6 1g	6985.6 1g	>V2267	19:24
07	6985.8 1g	6985.8 1g	>V2268	20:09
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

IMENTS: _____

Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER		MATRIX	Soil
SAMPLE NAME	VOA Blank	DILUTION FACTOR	5.00
CLIENT ID		QA BATCH	
DATA FILE	>V2259	DATE ANALYZED	12/24/91

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	50	Trichloroethene	ND	25
Bromomethane	ND	50	Dibromochloromethane	ND	25
Vinyl Chloride	ND	50	1,1,2-Trichloroethane	ND	25
Chloroethane	ND	50	Benzene	ND	25
Methylene Chloride	ND	25	trans-1,3-Dichloropropene	ND	25
Acrolein	ND	250	2-Chloroethylvinyl ether	ND	25
Acrylonitrile	ND	250	Bromoform	ND	25
Acetone	ND	25	2-Hexanone	ND	25
Carbon Disulfide	ND	25	4-Methyl-2-Pentanone	ND	25
1,1-Dichloroethene	ND	25	Tetrachloroethene	ND	25
1,1-Dichloroethane	ND	25	1,1,2,2-Tetrachloroethane	ND	25
trans-1,2-Dichloroethene	ND	25	Toluene	ND	25
Trichlorofluoromethane	ND	25	Chlorobenzene	ND	25
Chloroform	ND	25	Ethylbenzene	ND	25
1,2-Dichloroethane	ND	25	Styrene	ND	25
2-Butanone	ND	25	o-Xylene	ND	25
1,1,1-Trichloroethane	ND	25	m + p-Xylenes	ND	25
Carbon Tetrachloride	ND	25	1,3-Dichlorobenzene	ND	25
Bromodichloromethane	ND	25	1,2-Dichlorobenzene	ND	25
Vinyl Acetate	ND	25	1,4-Dichlorobenzene	ND	25
1,2-Dichloropropane	ND	25	tert-Butyl Alcohol	ND	250
cis-1,3-Dichloropropene	ND	25	Methyl tert-Butyl Ether	ND	25

Percent Solid of 100. is used for all Target compounds.

(J) Indicates detected below MDL
(B) Indicates also present in blank
(ND) Indicates compound not detected

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

VOA Blank

Lab Name: Environmental Profile Lab   NJDEP Cert.# 15526

Matrix: SOIL

Sample wt/vol: 1.0 (g/mL) g

Column: Capillary

Lab Sample ID: VOA Blank

Lab File ID: >V2259

Date Analyzed: 12/24/91

Dilution Factor: 5

Number of TICs found: 0

CONCENTRATION UNITS:
ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

2B
SOIL VOLATILE SURROGATE RECOVERY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	CCC/SPCC	103	112	114		0
02	VOA Blank	104	115	114		0
03	6968.1 MS	95	93	92		0
04	6968.1 MSD	96	101	104		0
05	6985.2 lg	93	93	90		0
06	6985.4 lg	93	90	87		0
07	6985.6 lg	93	90	89		0
08	6985.8 lg	92	89	90		0
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS
S1 (TOL) = Toluene-d8	(70-137)
S2 (BFB) = Bromofluorobenzene	(74-120)
S3 (DCE) = 1,2-Dichloroethane-d4	(70-115)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

ENVIRONMENTAL PROFILE LABORATORIES

ROUTE 37 BUSINESS PARK
SUITE 13
TOMS RIVER, NJ 08755
OFFICE: (908) 244-6278
FAX: (908) 244-6372

REPORT OF ANALYSIS

SERV-AIR
PO BOX 369, BLDG. 490
FT. MONMOUTH, NJ 07703

SAMPLE ID NO : 6985.2.4.5.
SAMPLE RCD : 12/23/91
ANALYSIS START : 12/30/91
MATRIX : SOIL

THIS ANALYSES ON SOIL WAS PERFORMED BY GAS CHROMATOGRAPHY (EPA METHOD 608)
THIS SYSTEM IS EQUIPPED WITH AN ELECTRON CAPTURE DETECTOR.
RESULTS AND DETECTION LIMITS ARE EXPRESSED IN ug/Kg ppb)

LAB ID #	EXT.	6985.2	6985.4	6985.6	6985.8	
CLIENT ID	BLANK	C91-648	C91-650	C91-652	C91-654	
PARAMETERS:						DET. LIM
CHLORDANE	ND	ND	ND	ND	ND	0.07
ALPHA-BHC	ND	ND	ND	ND	ND	0.07
BETA-BHC	ND	ND	ND	ND	ND	0.07
DELTA-BHC	ND	ND	ND	ND	ND	0.07
GAMMA-BHC (LINDANE)	ND	ND	ND	ND	ND	0.07
HEPTACHLOR	ND	ND	ND	ND	ND	0.07
ALDRIN	ND	ND	ND	ND	ND	0.07
HEPTACHLOR EPOXIDE	ND	ND	ND	ND	ND	0.07
ENDOSULFAN I	ND	ND	ND	ND	ND	0.07
DIELDRIN	ND	ND	ND	ND	ND	0.07
4,4-DDE	ND	ND	ND	ND	ND	0.07
ENDRIN	ND	ND	ND	ND	ND	0.07
ENDOSULFAN II	ND	ND	ND	ND	ND	0.07
4,4-DDD	ND	ND	ND	ND	ND	0.07
ENDOSULFAN SULFATE	ND	ND	ND	ND	ND	0.07
4,4-DDT	ND	ND	ND	ND	ND	0.07
METHOXYCHLOR	ND	ND	ND	ND	ND	0.7
ENDRIN ALDEHYDE	ND	ND	ND	ND	ND	0.07
TOXAPHENE	ND	ND	ND	ND	ND	0.7
PCB-1016	ND	ND	ND	ND	ND	2.6
PCB-1221	ND	ND	ND	ND	ND	2.6
PCB-1232	ND	ND	ND	ND	ND	2.6
PCB-1242	ND	ND	ND	ND	ND	2.6
PCB-1248	ND	ND	ND	ND	ND	2.6
PCB-1254	ND	ND	ND	ND	ND	2.6
PCB-1260	ND	ND	ND	ND	ND	2.6

ND= NONE DETECTED

Daniel K. Dwight

DANIEL K. DWIGHT
LABORATORY DIRECTOR

ENVIRONMENTAL PROFILE LABORATORIES

ROUTE 37 BUSINESS PARK
SUITE 13
TOMS RIVER, NJ 08755
OFFICE: (908) 244-6278
FAX: (908) 244-6372

REPORT OF ANALYSIS

SERV-AIR
PO BOX 365 BLDG. 490
FT. MONMOUTH, NJ 07703

SAMPLE RECEIVED: 12/23/91
SAMPLE MATRIX: WATER
EPL SAMPLE ID: 6985

QUALITY CONTROL DATA

PRIORITY POLLUTANT METALS

Results expressed in mg/L (ppm)

	MATRIX SPIKE (%REC.)	MATRIX SPIKE DUP (%REC.)	EXTRACTION BLANK	DETECTION LIMIT
Arsenic (As)	88	90	ND	0.012
Antimony (Sb)	96	96	ND	0.01
Beryllium (Be)	94	105	ND	0.0005
Cadmium (Cd)	109	108	ND	0.0002
Chromium (Cr)	102	98	ND	0.2
Copper (Cu)	94	96	ND	0.03
Lead (Pb)	96	96	ND	0.004
Mercury (Hg)	120	120	ND	0.0005
Nickel (Ni)	104	108	ND	0.06
Selenium (Se)	96	96	ND	0.01
Silver (Ag)	104	106	ND	0.03
Zinc (Zn)	102	102	ND	0.03
Thallium (Tl)	104	106	ND	0.002

ND= NOT DETECTED

Daniel K. Wright

DANIEL K. WRIGHT
LABORATORY DIRECTOR

Will be Fixed.

ENVIRONMENTAL PROFILE LABORATORIES

ROUTE 37 BUSINESS PARK
SUITE 13
TOMS RIVER, NJ 08755
OFFICE: (908) 244-6278
FAX: (908) 244-6372

REPORT OF ANALYSIS

SERV-AIR
PO BOX 369, BLDG. 490
FT. MONMOUTH, NJ 07703

SAMPLE RECEIVED: 10/08/91
SAMPLE MATRIX: WATER
EPL SAMPLE ID: 6985.2..4,.6...

INORGANICS: PRIORITY POLLUTANT METALS

EPL # :	:6985.2	:6985.4	:6985.6	:6750.8	:	
CLIENT ID:	:C91-648	:C91-650	:C91-652	:C91-654	:	DETECTION
	:RESULTS	:RESULTS	:RESULTS	:RESULTS	:	LIMITS
Arsenic (As)	: 3.40	: 5.0	: 3.5	: 3.9	:	2.6
Antimony (Sb)	: ND	: ND	: ND	: ND	:	0.5
Beryllium (Be)	: 0.63	: 0.55	: 0.55	: 0.38	:	0.025
Cadmium (Cd)	: 0.040	: 0.019	: 0.012	: 0.019	:	0.01
Chromium (Cr)	: 44.4	: 68.1	: 71.2	: 63.1	:	12.5
Copper (Cu)	: 6.88	: 8.2	: 5.0	: 6.3	:	1.5
Lead (Pb)	: 2.88	: 3.3	: 1.8	: 2.4	:	0.2
Mercury (Hg)	: 0.040	: ND	: 0.038	: 0.038	:	0.025
Nickel (Ni)	: ND	: 8.6	: 8.1	: 9.4	:	3.0
Selenium (Se)	: ND	: ND	: ND	: ND	:	0.5
Silver (Ag)	: ND	: ND	: ND	: 10.0	:	1.5
Zinc (Zn)	: 28.1	: 29.0	: 21.3	: 25.0	:	0.4
Thallium (Tl)	: ND	: ND	: ND	: ND	:	0.15

DETECTION LIMITS AND RESULTS EXPRESSED IN mg/Kg
ND= NONE DETECTED

Daniel K. Wright

DANIEL K. WRIGHT
LABORATORY DIRECTOR

All < Cat. 3
all OK
CA