UNDERGROUND STORAGE TANK CLOSURE AND SITE INVESTIGATION REPORT BUILDING T-65 NJDEPE FACILITY UST NO. 0090010 UST NO. 5 SPILL CASE NO. 90-06-16-1303

31 May 1994

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

Prepared For:

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

Prepared by:

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WESTON
MANAGERS DESIGNERS/CONSULTANTS

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EXECUTIVE SUMMARY

On 16 June 1990, one underground storage tank (UST) was closed at U.S. Army Fort Monmouth, in Fort Monmouth, New Jersey. The UST was registered with the New Jersey Department of Environmental Protection and Energy (NJDEPE) and assigned Facility UST No. 0090010. UST No. 5 was a single wall steel, 1000-gallon capacity, No. 2 fuel oil tank and was located adjacent to Building T-65 in the Main Post area of Fort Monmouth. No closure approval was required due to the size and contents of the tank.

UST No. 5 was inspected following removal for cracks, corrosion and puncture holes as indicators of historical leakage. Several corrosion holes of approximately 1/16-inch diameter were noted. Additionally, a sheen was noted on the groundwater within the excavation surrounding UST No. 5, indicating that a discharge may have occurred from the UST. A discharge was reported to the NJDEPE by the Directorate of Public Works (DPW) on 16 June 1990 (Case # 90-06-16-1303). Groundwater was present in the excavation at approximately four feet below ground surface (BGS).

On 8 October 1991, a groundwater monitoring well was placed downgradient and within 10 feet of the UST No. 5 excavation site. The downgradient direction is based on water level elevations from three wells at Building 108, approximately 300 ft. north of Building T-65.

On 10 December 1991, one groundwater sample was collected from the monitoring well placed at the UST No. 5 excavation site and analyzed by Environmental Profile Laboratories for base neutral compounds plus 15 tentatively identified compounds (BN+15) and volatile organic compounds plus 15 tentatively identified compounds (VO+15). Chlordane was also analyzed for in the 10 December 1991 sampling event. Methylene chloride was detected in the sample at a concentration exceeding the NJDEPE Class II-A Ground Water Quality Criteria. Methylene chloride was detected in the laboratory's quality assurance method blank. The presence of methylene chloride in the method blank indicates that methylene chloride in samples was the result of laboratory induced contamination. All other parameters were either non-detectable or present at concentrations below NJDEPE Class II-A Ground Water Quality Criteria.

On 26 October 1992, one groundwater sample was collected and analyzed for BN+15, VO+15 and lead by Environmental Profile Laboratories. As in the 10 December 1991 sample, methylene chloride was found at a level above the cleanup criteria. The method blank analyzed along with this sample indicated the presence of methylene chloride. Presence of methylene chloride in the method blank indicates that methylene chloride presence in samples are attributable to laboratory induced contamination rather than operation of the UST at this site. Detected amounts of BN+15 and VO+15 compounds present in both samples were noted to be at lower concentrations during this analysis.

On 28 April 1993, one groundwater sample was collected and analyzed by 21st Century Environmental Laboratory for BN+15 and VO+15. All samples contained either non-detectable concentrations of contaminants or concentrations of contaminants below NJDEPE Class II-A Ground Water Quality Criteria. Methylene chloride detected in the sample attributable to laboratory induced contamination based on review of the method blank. Detected levels of VO+15 and BN+15 compounds were noted to be lower in the third round than in either of the two previous samples.

After the removal of UST No. 5 approximately ten tons of potentially contaminated soil was excavated, analyzed and submitted to Soil Safe Testing, Inc. of Baltimore, Maryland for recycling/reuse. Based on the remedial efforts taken and the insignificant contaminant levels found in Monitoring Well No. MW-1, no further action is recommended for this site.

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SECTION 1.0

UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST) identified as UST No. 5, was closed at Building T-65 at U.S. Army Fort Monmouth, New Jersey on 16 June 1990. UST. No. 5 was a single wall steel, 1000-gallon capacity No. 2 fuel oil tank. This report presents the results of the UST closure activities and remedial investigation associated with NJDEPE Spill No. 90-06-16-1303.

All activities associated with the decommissioning of UST No. 5 complied with all applicable Federal, State and Local laws and ordinances in effect at the date of closure. These laws included but were not limited to: N.J.A.C. 7:14B-1 et seq., N.J.A.C. 5:23-1 et seq., and Occupational Safety and Health Administration (OSHA) 29 CFR 1910.146 & 29 CFR 1910.120. 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 UST Site Assessment Summary Form for UST No. 5 has been included in Appendix A. The UST Site Assessment Summary Form has been signed and sealed by Mr. James Ott, Acting Director of DPW.

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" (N.J.A.C. 7:14B-1 et seq. September 1989.

To the extent possible, this report has been prepared to comply with NJDEPE's Technical Requirements (N.J.A.C. 7:26E-1 et seq.). As the requirements at the time of UST closure differ from the current regulations some sections may be missing information requested by NJDEPE. 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 Section 3 of this report.

1.2 SITE DESCRIPTION

Building T-65 is located on Riverside Avenue in the Main Post area of Fort Monmouth. A site location map is provided in Figure 1-1. Building T-65 is used as a temporary storage building. UST No. 5 was located immediately adjacent to and toward the southeastern portion of Building T-65. A site plan is provided in Figure 1-2. One groundwater monitoring well was installed as part of the closure of UST No. 5 and approximately 10 tons of contaminated soil was excavated from the site.

1.3 GEOLOGICAL/HYDROGEOLOGICAL SETTING

The following is a description of the geological/hydrogeological setting of the area surrounding Building T-65. 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.

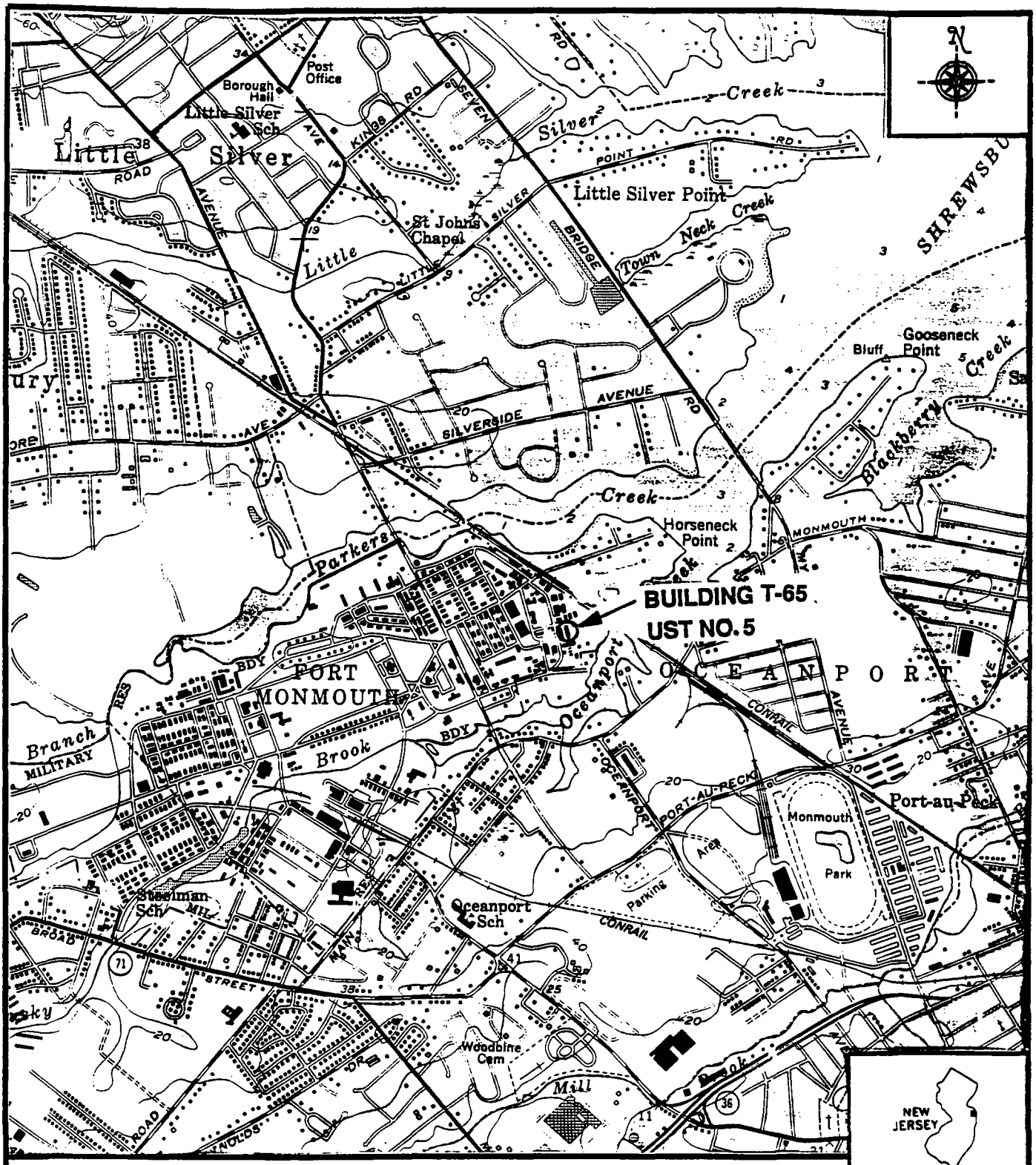
1.3.1 Geological Setting

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).



REFERENCE: U.S.G.S. QUADRANGLE LONG BRANCH, NJ: PHOTOREVISED 1981
CONTOUR INTERVAL 20 FEET SCALE 1 INCH = 2000 FEET

UST LATITUDE: N 40 Deg. 19 Min. 3 Sec.
UST LONGITUDE: W 74 Deg. 1 Min. 22 Sec.

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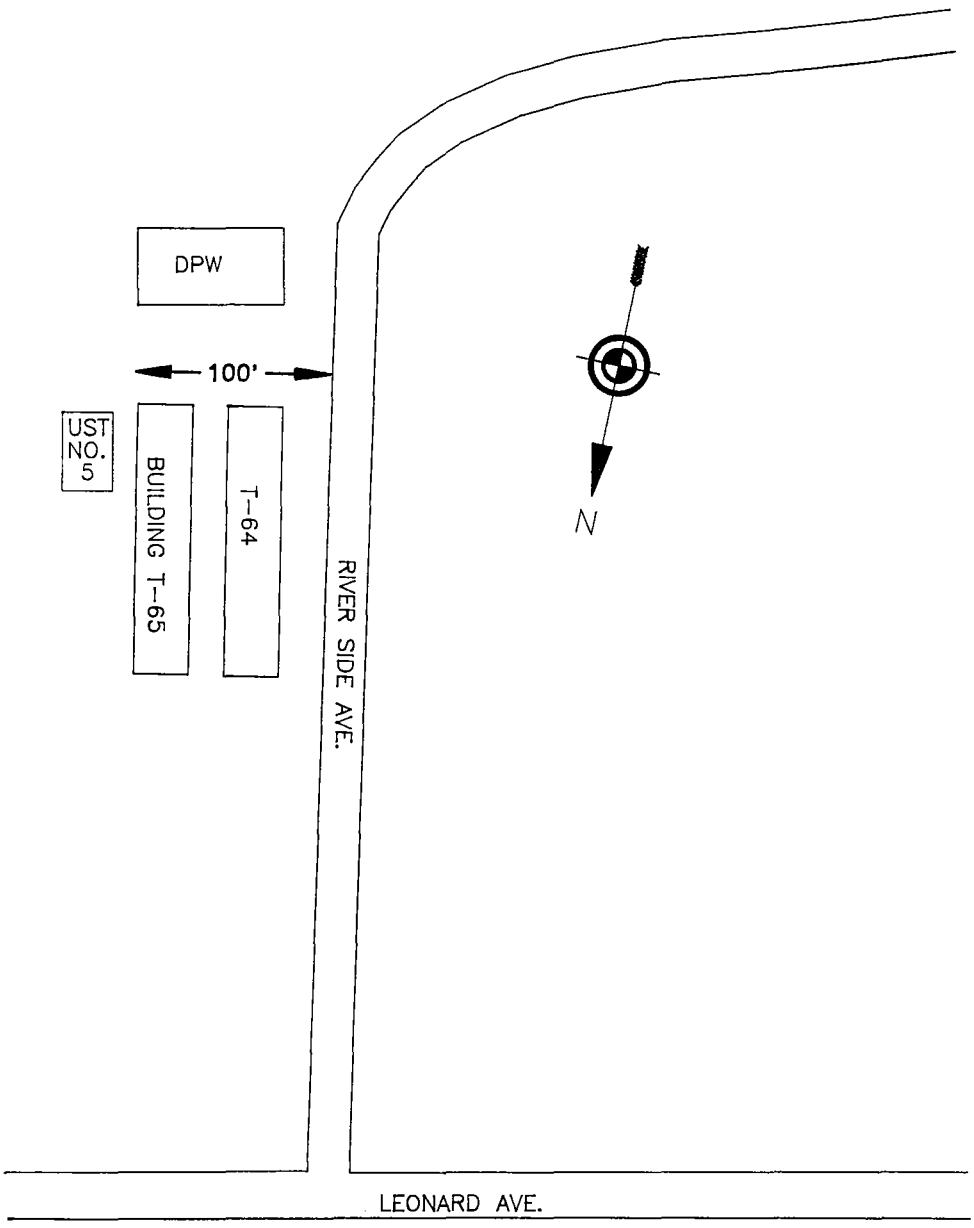
FIGURE 1-1
FACILITY LOCATION MAP
U.S. ARMY - DIRECTORATE OF PUBLIC WORKS
FORT MONMOUTH, NEW JERSEY



REVISION #: 1 DATE: 5/24/94 PLOT NAME: B-T65
FILE NAME: B-T65.DWG DRAWN BY: B. MAC

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PROJECT NAME: UNDERGROUND STORAGE TANK CLOSURE AND SITE INVESTIGATION REPORT BUILDING T-65 - UST NO. 5 FORT MONMOUTH, NEW JERSEY

CLIENT NAME: U.S. ARMY-FORT MONMOUTH DIRECTORATE OF PUBLIC WORKS

SITE PLAN

DATE: 5/25/94

FIGURE #: 1-2

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-course-grained sand 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 gluconic 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.

1.3.2 Hydrogeological Setting

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, 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, rivers and tributaries),
- topography,
- nature of the fill material within the Main Post area,
- presence of clay and silt lenses in the natural overburden deposits, and
- local groundwater recharge areas (i.e. stream, lakes).

Due to the fluvial depositional 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. A subsurface profile of UST No. 5, located at Building T-65 is provided in Figure 1-3.

On 8 October 1991, a groundwater monitoring well was placed downgradient and within 10 feet of the UST No. 5 excavation site. The monitoring well permit, monitoring well record and Form B for the Building T-65 well is provided in Appendix B.

Groundwater flow direction in the area of Building T-65 is toward the east as determined by wells installed at the site and at Building 108, approximately 700 feet north of the site. Groundwater levels vary in the wells from about 2.5 to 5.8 feet BGS. Table 1-1 provides a summary of well data at both buildings.

1.3.3 Offsite Groundwater Usage

In compliance with the NJDEPE regulations, WESTON conducted a well search to identify all irrigation, monitoring, domestic, industrial and public supply wells within one half mile of U.S. Army Fort Monmouth, Main Post. The file search produced records for 104 wells. The well search summary table includes the following information on surrounding wells: well identification number; well owner; well address; total depth (feet BGS); casing length (feet); static water level elevation (feet BGS); use code; and NJDEPE permit number. In addition, a summary table of all U.S. Army wells located at Fort Monmouth, which includes the following information: well number, NJDEPE permit number; New Jersey State Plane Coordinates; casing elevation and, elevation of ground well records for the nearest identified offsite well have also been included, if available. This information is included in Appendix C.

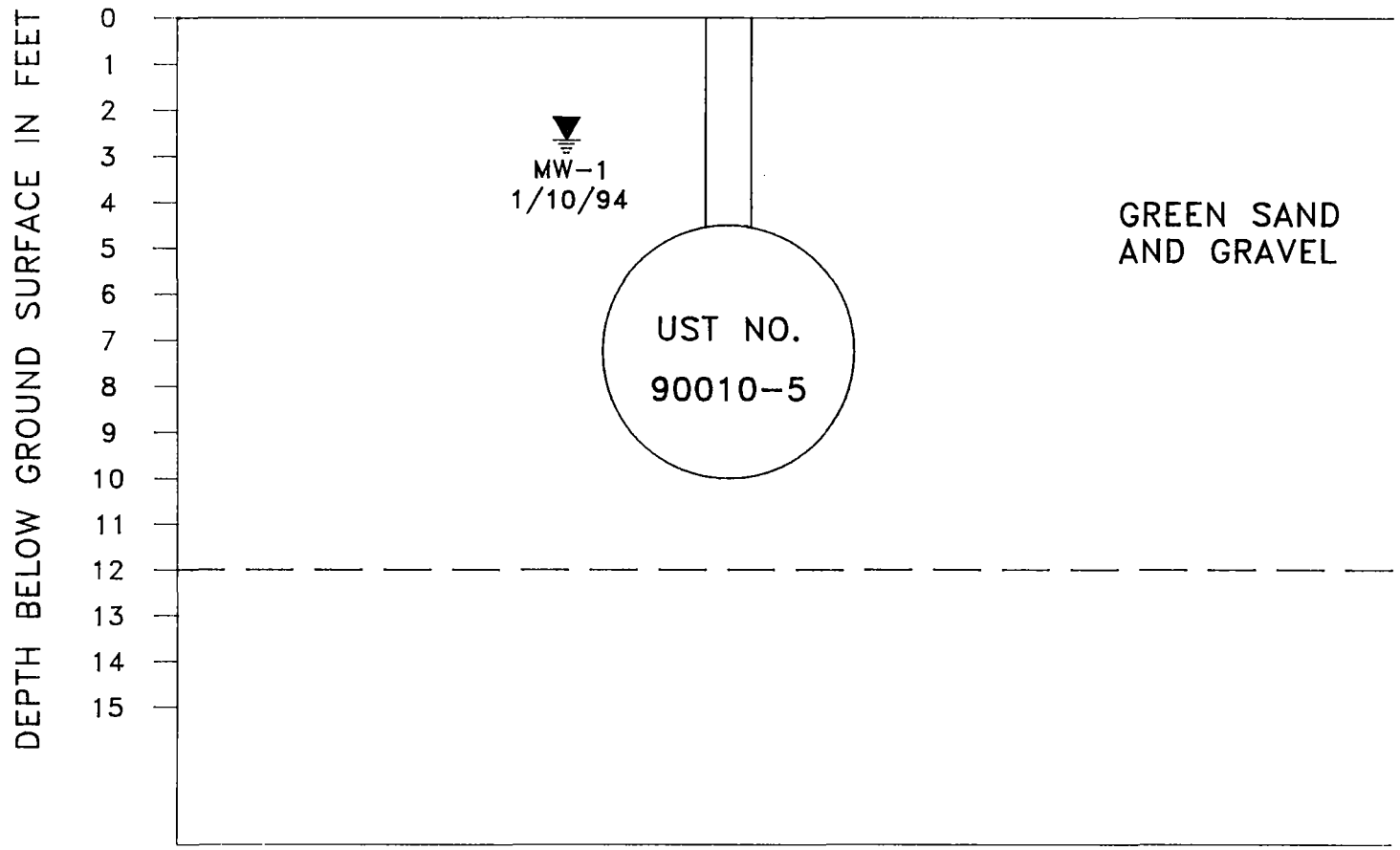
A review of the well records indicated that the majority of the wells within the area of concern are used for monitoring wells. A domestic well (Permit No. 29-21780), owned by Mr. Bill Rudolph is the closest to the site. The well is located at 18 Ashbury Avenue, approximately 1,800 feet southeast of the site.

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.



WESTON MANAGERS DESIGNERS/CONSULTANTS	PROJECT NAME: UNDERGROUND STORAGE TANK CLOSURE AND SITE INVESTIGATION REPORT BUILDING T-65 – UST NO. 5 FORT MONMOUTH, NEW JERSEY CLIENT NAME: U.S. ARMY–FORT MONMOUTH DIRECTORATE OF PUBLIC WORKS	SUBSURFACE PROFILE	
		DATE: 5/25/94	FIGURE #: 1–3

REVISION #: 0000 DATE: 5/24/94
FILE NAME: B-T65-X.DWG DRAWN BY: S. MAC

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TABLE 1-1

SUMMARY OF MONITORING WELL SURVEY (BUILDING T-65)

Building No.	Well No.	Top of Casing Elevation (ft)	Groundwater Depth (ft)*	Groundwater Elevation (ft)*
T-65	29-26938	8.47	5.69	2.78
108	29-29739	11.85	5.63	6.22
108	29-29740	10.89	5.85	5.04
108	29-29741	8.16	2.54	5.62

Note:

* Groundwater depth and elevations are based on measurements obtained on 5 January 1994 for Building T-65 and for Building 108.

- Approximately 10 tons of potentially contaminated soil was identified and removed during closure activities.

- Surface materials (i.e, asphalt, concrete, etc...) were excavated and staged separately from 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. The UST was completely emptied of all liquids prior to removal from the ground. Liquids were transported and disposed of by Lionetti Oil Recoveries Company, Inc. (Lionetti). Lionetti is a licensed hazardous waste transporter (USEPA ID No. NJD084044064). A hazardous waste manifest was completed for disposal of liquid wastes is included in Appendix D.

After the UST was removed from the excavation, it was staged on polyethylene sheeting and examined for cracks, corrosion or punctures holes. The presence or absence of defects was documented by the Sub-Surface Evaluator. Several corrosion holes of approximately 1/16-inch diameter were noted. In addition, a sheen and small amounts of product were noted on the groundwater surface in the excavation surrounding UST No. 5, indicating that a historical discharge may have occurred. A discharge was reported to the NJDEPE by the DPW on 16 June 1990 (Case No. 90-06-16-1303). Groundwater was present in the excavation at approximately four feet BGS. Approximately 10 tons of contaminated soil was removed from the area surrounding UST No. 5. The potentially contaminated soil was manifested, transported, and disposed of by Fabiano and Sons, Inc. to Soil Safe Testing, Inc. in Baltimore, Maryland.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL:

The tanks were transported by Fabiano and Sons to Mazza and Sons, 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:

Approximately 10 tons of contaminated soil was removed from the area surrounding UST No. 5 and placed on and covered with polyethylene sheets. Soil samples were collected and analyzed from the pile to determine a waste profile for its disposal. Based on the analytical results and with approval from the NJDEPE, the soil was transported to Soil Safe Testing, Inc., which is a soil recycling/reuse facility based in Baltimore, Maryland. Due to the groundwater in the excavation area, the site was backfilled with stone.

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SECTION 2.0

SITE INVESTIGATION ACTIVITIES

2.1 OVERVIEW

The site investigation activities were managed and carried out by U.S Army DPW personnel. All analyses were performed and reported by Environmental Profile Laboratories and 21st Century Environmental, which are NJDEPE-certified testing laboratories. 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) 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, Inc.
  Contact Person: Anthony Fabiano
  Phone Number: (908) 571-1004
  NJDEPE Company Certification No.: PLEO1349

- Subsurface Evaluator: Dinker Desai
  Employer: U.S. Army, Fort Monmouth
  Phone Number: (908) 532-1475
  NJDEPE Certification No.: 2266

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

- Analytical Laboratory: 21st Century Environmental, Inc.
  Contact Person: Richard W. Lynch
  Phone Number: (609) 467-9521
  NJDEPE Laboratory Certification No.: 08031

- Hazardous Waste Hauler: Lionetti Oil Recovery, Inc.
  Contact Person: Joe Scupp
  Phone Number: (201) 721-0900
  NJDEPE Transporter I.D. No.: 6217

2.2 GROUNDWATER SAMPLING

On 10 December 1991, 26 October 1992, and 28 April 1993, groundwater samples were collected in accordance with NJDEPE procedures. The first round (10 December 1991) was analyzed by Environmental Profile Laboratories, Inc., located in Toms River, New Jersey for BN+15, VO+15 and chlordane. The second round (26 October 1992) was analyzed by Environmental Profile Laboratories, Inc., for BN+15, VO+15 and lead. The third round was analyzed by 21st Century Environmental Laboratories, Inc., located in Bridgeport, New Jersey for BN+15 and VO+15 only. A summary of sampling activities including parameters analyzed is provided in Table 2-1. Figure 2-1 depicts the location of the monitoring well. The samples were collected using decontaminated teflon bailers. Following groundwater sampling activities, the samples were chilled and delivered to the applicable 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). The frequency of sampling and parameters analyzed were consistent with the applicable NJDEPE regulations at the date of closure, which were the "Interim Closure Requirements for Underground Storage Tank Systems", dated September 1990.

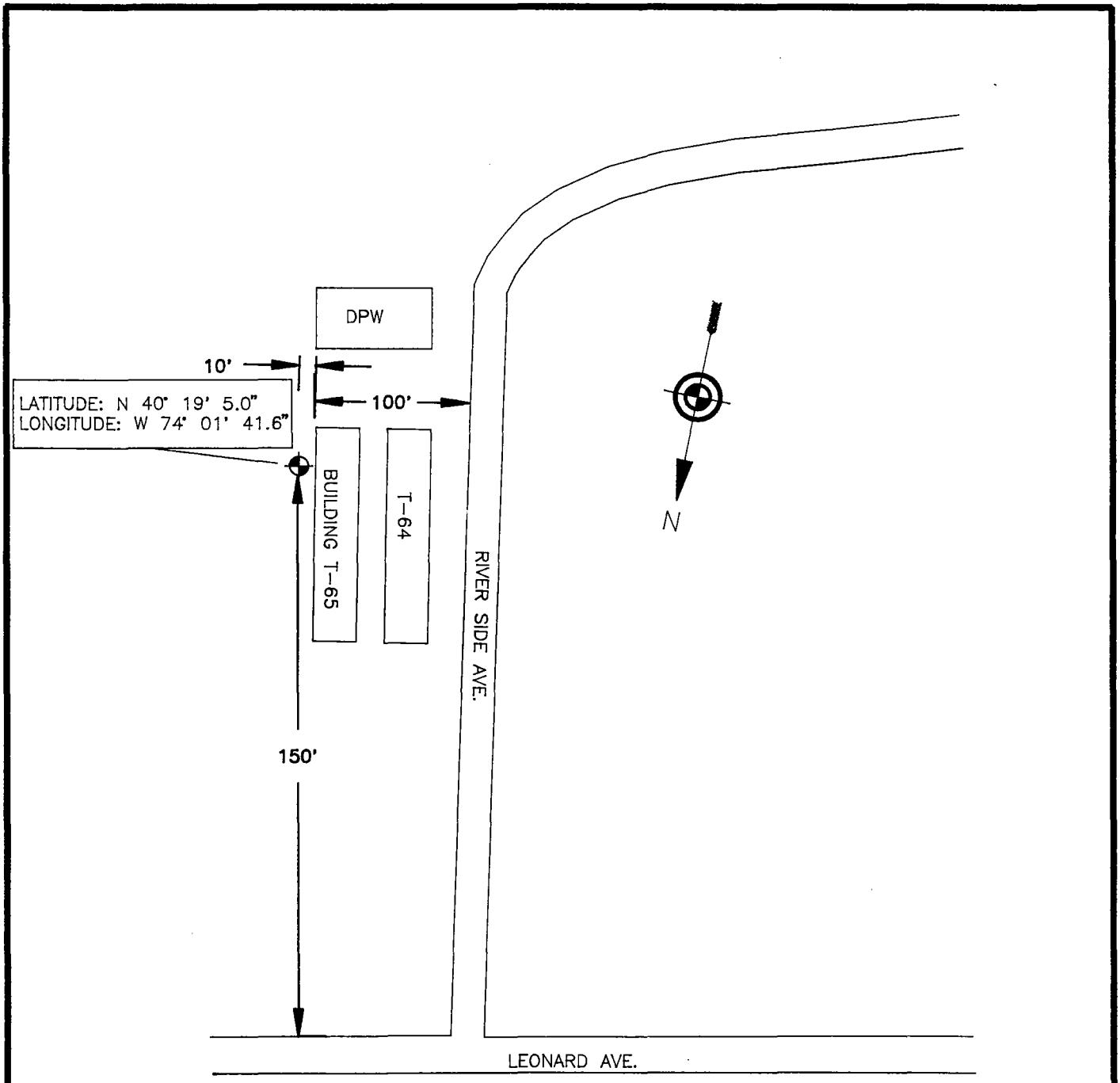
TABLE 2-1

SUMMARY OF GROUNDWATER SAMPLING ACTIVITIES
BUILDING NO. T65
UST NO. 5
FORT MONMOUTH, NEW JERSEY

Sample ID No.	Date of Collection	Matrix	Sample Type	Analytical Parameters	Sample Method
T65-W1	12/10/91	Aqueous	Monitoring Well	BN+15, VO+15, Chlordane	Decontaminated Teflon Bailer
T65	10/26/92	Aqueous	Monitoring Well	BN+15, VO+15	Decontaminated Teflon Bailer
MW-1-2926938	4/28/93	Aqueous	Monitoring Well	BN+15, VO+15, Lead	Decontaminated Teflon Bailer

Abbreviations:

BN+15 - Base neutral acid analysis plus 15 tentatively identified compounds.
VO+15 - Volatile organic analysis plus 15 tentatively identified compounds.



LEGEND

⊕ – MONITORING WELL

REVISION #: 1 DATE: 5/24/94 PLOT NAME: B-T65
FILE NAME: B-T65.DWG DRAWN BY: B. MAC

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CLIENT NAME: U.S. ARMY-FORT MONMOUTH DIRECTORATE OF PUBLIC WORKS

MONITORING WELL LOCATION MAP

DATE: 5/25/94

FIGURE #: 2-1

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SECTION 3.0

CONCLUSIONS AND RECOMMENDATIONS

3.1 GROUNDWATER SAMPLING RESULTS

To evaluate groundwater conditions following removal of the UST and associated soils, analytical results from the groundwater samples were compared to proposed NJDEPE Class II-A Ground Water Quality Criteria (N.J.A.C. 7:9-6.4, 6.8 and Table 1). A summary of the analytical results and comparison to proposed NJDEPE Class II-A Ground Water Quality 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 E. The full data package, including associated quality control and chromatograph data is on file at U.S. Army Fort Monmouth, DPW.

Methylene chloride was detected in each of the three analyses at concentrations that exceeded the NJDEPE Class II-A Ground Water Quality Criteria of 2 ug/l. One of the results (April 1993) was qualified with a "B", indicating that this compound was detected in the laboratory's method blank sample. Because methylene chloride was found in the method blank, and is commonly used in many laboratory procedures, its presence is attributable to laboratory induced contamination and not of the past operations at the site.

In addition to methylene chloride, eight base neutral compounds (2-methylnaphthalene, dibenzofuran, fluorene, phenanthrene, pyrene, acenaphthene, di-n-butylphthalate, bis(2-ethylhexyl)phthalate) and lead have been detected in samples collected between December 1991 and April 1993. All of the reported concentrations for these base neutral and metal compounds were detected at concentrations below NJDEPE Class II-A Ground Water Quality Criteria. In addition, the concentration of analyzed parameters decreased one to two orders of magnitude over the duration of the sampling programs.

3.2 CONCLUSIONS AND RECOMMENDATIONS:

On 16 June 1990, DPW closed UST No. 5 at Building T-65 in the Main Post area of Fort Monmouth. After the removal of the tank approximately ten tons of potentially contaminated soil was excavated, analyzed and transported to Soil Safe Testing, Inc. of Baltimore, Maryland for recycling/reuse.

Based on the lack of significant contaminant levels in monitoring well MW-1 and the remedial measures taken to remove soil, no further action is recommended for this site.

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TABLE 3-1

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BUILDING NO. T65
UST NO. 5
FORT MONMOUTH, NEW JERSEY

Sample ID No.		T65-W1	T-65	Method Blank	MW-1-2926938	Method Blank	NJDEPE Class II-A Groundwater Quality Criteria/ Practical Quantitation Limits
Lab ID No.		6944.19	9173.20	NA	A1743	NA	
Matrix		Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	
Sample Type		MW	MW	QA	MW	QA	
Date of Collection		12/10/91	10/26/92	NA	4/28/93	NA	
Analytical Parameters	Units						
Base Neutral Compounds							
2-Methylnaphthalene	ug/L	380	110	ND	7.4J	NA	NC
Dibenzofuran	ug/L	22	ND	ND	1.2J	NA	NC
Fluorene	ug/L	54	44	ND	3.1J	NA	300
Phenanthrene	ug/L	95	76	ND	1.2J	NA	NC
Pyrene	ug/L	14J	6J	ND	ND	NA	200
Acenaphthene	ug/L	ND	22J	ND	2.5J	NA	400
Di-n-butylphthalate	ug/L	ND	0.4JB	2JB	ND	NA	900
Butylbenzylphthalate	ug/L	ND	ND	ND	1.6J	NA	100
Bis(2-Ethylhexyl)phthalate	ug/L	ND	ND	ND	3.6J	NA	30
Volatile Organic Compounds							
Acetone	ug/L	ND	ND	ND	NDB	2.9J	700
Methylene Chloride	ug/L	22	8	12B	2.3JB	2.2J	2
Inorganics							
Lead	ug/L	NR	4	NR	NR	NR	10
Pesticides							
Chlordane	ug/L	ND	NR	NR	NR	NR	0.5

Abbreviations:

TPHC - Total Petroleum Hydrocarbons.
MW: - Monitoring Well.
NA: - Not applicable.
NC: - No subsurface cleanup criterion has been proposed for this analyte by NJDEPE.
NR: - Analysis not requested.
QA: - Quality assurance.
ug/L: - Micrograms per Liter.

Data Qualifiers:

B: - Indicates also present in blank.
J: - Indicates an estimated value.
ND: - Indicates compound not indicated.

TABLE 3-2

ANALYTICAL METHODS/QUALITY ASSURANCE SUMMARY TABLE
BUILDING NO. T65
UST NO. 5
FORT MONMOUTH, NEW JERSEY

Analytical Parameter	No. of Samples Collected	Matrix	Date Collected	Date Analysis Completed	Preservation Method	USEPA SW-846 Analytical Method
VOCs	1	Aqueous	12/10/91	12/13/91	Cool to 4°C	8240
BNAs	1	Aqueous	12/10/91	12/13/91	Cool to 4°C	8270
Chlordane	1	Aqueous	12/10/91	12/13/91	Cool to 4°C	608
VOCs	1	Aqueous	10/26/92	10/28/92	Cool to 4°C	8240
BNAs	1	Aqueous	10/26/92	10/28/92	Cool to 4°C	8270
VOCs	1	Aqueous	4/28/93	5/5/93	Cool to 4°C	8240
BNAs	1	Aqueous	4/28/93	5/5/93	Cool to 4°C	8270
Lead	1	Aqueous	4/28/93	5/5/93	Cool to 4°C	6010

Abbreviations:

VOCs - Volatile Organic Compounds.
BNAs: - Base Neutral Acid Extractable Compounds.
C: - Celsius.

APPENDIX A

NJDEPE UST SITE ASSESSMENT SUMMARY FORM

UST-014
2/91

FOR STATE USE ONLY
UST #
Date Rec'd
TMS #
Staff

State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0028
Tel. # 609-984-3156
Fax. # 609-292-5604

Scott A. Weiner
Commissioner

Karl J. Delaney
Director

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 6-8-94

90010
FACILITY REGISTRATION #

I. FACILITY NAME AND ADDRESS

U.S. Army Fort Monmouth
Directorate of Public Works, Building 167
Fort Monmouth, NJ County Monmouth
Telephone No. (908)532-6224

OWNER'S NAME AND ADDRESS, if different from above

Telephone No.

II. DISCHARGE REPORTING REQUIREMENTS

A. Was contamination found? X Yes ___ No If Yes, Case No. 90-06-16-1303
(Note: All discharges must be reported to the Environmental Action Hotline (609) 292-7172)

B. The substance(s) discharged was(were) #2 Fuel Oil

C. Have any vapor hazards been mitigated? X Yes ___ No ___ 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? ___ Yes X No ___ N/A

2. Were soil borings taken at the tank system closure site as prescribed? X Yes ___ No ___ 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 1

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? X Yes ___ No
If "Yes", please answer Question B-E
If "No", please answer Question B

Note: The presence of soil contamination is based on air monitoring using a Photoionization Detector

B. The highest soil contamination still remaining in the ground 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 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 X Yes ___ 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? X Yes ___ No ___ 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. 0 ppb total BTEX. 948 ppb total non-targeted VOC
2. 565 ppb total B/N. 1338 ppb total non-targeted B/N
3. 0 ppb total MTBE. 0 ppb total TBA
4. 4 ppb Lead (for non-petroleum substance)
5. greatest thickness of separate phase product found 0.0
6. separate phase product has been delineated X Yes ___ No ___ 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 ___ N/A

2. The number of these wells identified is ___.

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 _____ 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 _____ feet from the source and its screening begins at a depth of _____ 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 _____ feet below grade. This well is located _____ 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 _____ feet from the source. This well is _____ feet deep and screening begins at a depth of _____ feet.

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

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

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

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

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) Dinkerrai Desai SIGNATURE _____

COMPANY NAME U.S. Army Fort Monmouth DATE 6/8/94
(Preparer of Site Assessment Plan)

CERTIFYING ORGANIZATION NJDEPE CERTIFICATION NUMBER 2266

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) Dinkerrai Desai SIGNATURE _____

COMPANY NAME U.S. Army Fort Monmouth DATE 6/8/94
(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 SIGNATURE _____

COMPANY NAME U.S. Army Fort Monmouth DATE 6/9/94

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 _____

WESTON
MANAGERS DESIGNERS/CONSULTANTS

ATTACHMENT I

NO/NA RESPONSE EXPLANATION

SAS QUESTION #	RESPONSE	EXPLANATION
III.	N/A	Closure of Facility UST No. 0090010, UST No. 5 was conducted on 16 June 1990 in compliance with the "Interim Closure Requirements for Underground Storage Tank Systems" (N.J.A.C 7:14B-1 et. seq September 1989).
IV.C.1	No	No soil samples were collected as part of the closure of Facility UST No. 0090010.
V.B	N/A	Same as above.
V.C.2	No	Approximately 10 tons of contaminated soil was removed from the area surrounding Facility UST No. 0090010, UST No. 5. Free product contaminated soils are not suspected to exist below the water table.
V.C.3	No	Free product contaminated soils are not suspected exist off the property boundaries.
V.D	N/A	Same as above.
V.E	No	Since no soil samples have been collected soil contamination has not been determined to intersect groundwater.
VI.A	No	Groundwater samples collected from the monitoring well placed adjacent to Facility UST No. 0090010, UST No. 5 indicate that no contaminants have been detected in concentrations exceeding NJDEPE Class II-A Ground Water Quality Criteria.

APPENDIX B

MONITORING WELL RECORDS AND FORM B

SERIAL #: 22271

DWR-133M (4/90)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
TRENTON, N.J.

mw-1

Permit No. 2926938

Mail to:
Water Allocation
CN 029
Trenton, N.J. 08625

MONITORING WELL PERMIT 38 mw-3

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 29.14.441

Owner U.S. Army Fort Monmouth
Address Bldg. 167 D&H Environmental
Fort Monmouth, N.J. 07703-5000

Driller Tabasco Drilling Corp.
Address P.O. Box 749
Hainesport, N.J. 08036

Name of Facility Bldg. T-65
Address

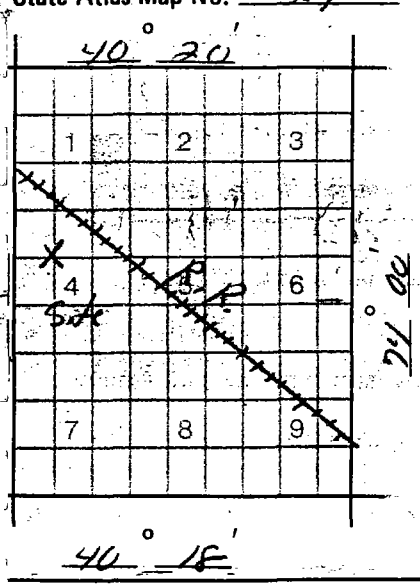
Diameter of Well(s) 4 Inches	Proposed Depth of Well(s) 20 Feet
# of Wells Applied for (max. 10) 1	Will pumping equipment be installed? YES ☐ NO ☒
Type of Well (see reverse) Monitoring	If Yes, give pump capacity N/A GPM

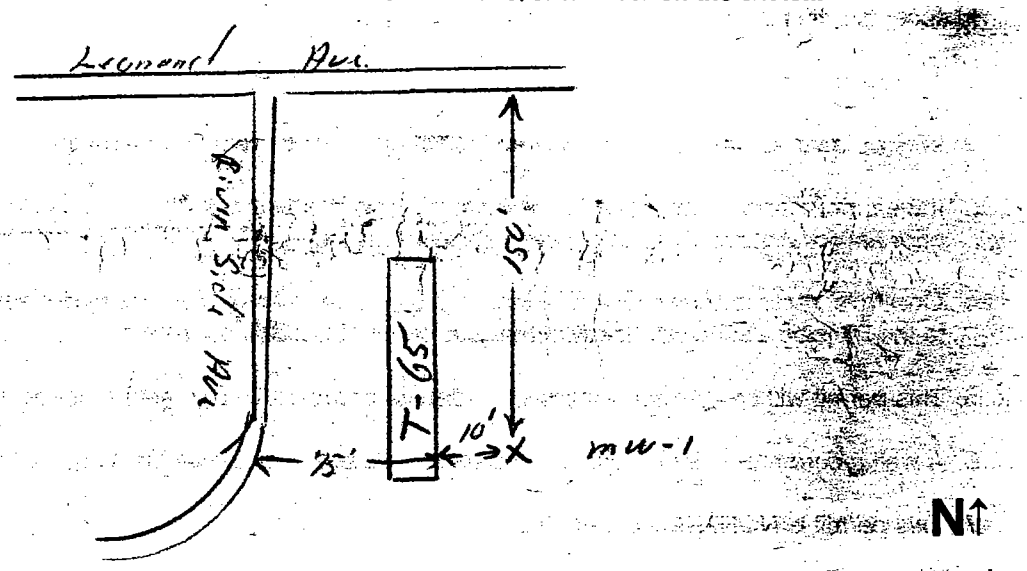
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
N/A	N/A	Fort Monmouth (Oceanport Boro)	Monmouth

State Atlas Map No. 29

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Fund Case
- ☐ ECRA Case
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☒ Underground Storage Tank
- ☐ NJPDES Municipal Discharge Permit
- ☐ NJPDES Industrial Discharge Permit
- ☐ Div. Hazardous Waste Mgmt. Enforcement Case
- ☐ Div. Water Resources Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☒ Other (explain) U.S. Army Site Investigation

Case I.D. Number

This Space for Approval Stamp

WELL PERMIT APPROVED
Dept. of Environmental Protection
Water Resources/Water Allocation
SEP 25 1991

FOR D.E.P. USE

☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.
☐

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS PERTAINING TO THIS PERMIT.

In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date 9/24/91 Signature of Driller [signature] License # 1530

Signature of Owner [signature]

COPIES: Water Allocation — White and Pink Health Dept. — Yellow Owner — Blue Driller — White

DWR-138 M
6/89

New Jersey Department of Environmental Protection
Division of Water Resources

MONITORING WELL RECORD

Well Permit No: 29 26938
Atlas Sheet Coordinates: 29 : 14 : [illegible]

OWNER IDENTIFICATION - Owner: U.S. ARMY FORT MONMOUTH
Address: BLDG. 167 D & H ENVIRONMENTAL
City: FORT MONMOUTH State: NJ Zip Code:

WELL LOCATION - If not the same as owner please give address. Owner's Well No: MW-1
County: Municipality: OCEANPORT BORO Lot No: N/A Block No: N/A
Address:

TYPE OF WELL (as per Well Permit Categories): MONITORING Date well completed: 10/8/91
Regulatory Program Requiring Well: UST Case I.D. #:
CONSULTING FIRM/FIELD SUPERVISOR (if applicable): Tele. #:

WELL CONSTRUCTION

Total depth drilled 12 ft.
Well finished to 12 ft.
Borehole diameter:
Top [illegible] in.
Bottom [illegible] in.
Well was finished: ☐ above grade ☒ flush mounted
If finished above grade, casing height (stick up) above land surface _____ ft.
Was steel protective casing installed? ☒ Yes ☐ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.) [From land surface]	Diameter (inches)	Type and Material
Inner Casing	0	2	4	PVC
Outer Casing (Not Protective Casing)				
Screen (Note slot size)	2	12	4	PVC .020
Tail Piece				
Gravel Pack	1.5	12		Morie #2
Annular Seal/Grout	1	1.5		Pellets
Method of Grouting				

Static water level after drilling 4.0 ft.
Water level was measured using Electric tape
Well was developed for 1 hours at 4 gpm
Method of development Centrifugal
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity N/A gpm
Pump type: N/A
Drilling Method HSA
Drilling Fluid NONE Type of Rig IS-61
Name of Driller [illegible]
Health and Safety Plan submitted? ☐ Yes ☒ No
Level of Protection used on site (circle one) (None) D C B A
N.J. License No. 1530
Name of Driller Company TABASCO DRILLING CORP.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0 Asphalt
Sands
gravels grey in color with green sands.
12'

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature [signature] Date 10/8/91

COPIES: White & Green - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS OR HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION

Name of Permittee: United States Army
Name of Facility: Fort Monmouth - Building No. 65A
Location: Fort Monmouth
New Jersey
NJPDES Permit No: NJ 29-29938

LAND SURVEYOR'S CERTIFICATION

Well Permit Number; As assigned by NJDEPE's Water Allocation Section (609-984-6831): This number must be permanently affixed to the well casing.		29-29938
Longitude (one tenth of a second):	West	74° 01' 41.6"
Latitude (one tenth of a second):	North	40° 19' 05.0"
Elevation of Top of Casing (cap off)		8.47
Distance from Top of Casing (cap off) to ground		0.0
Owner's Well Number (As shown in the application or Plans):		MW-1
Benchmark:		

AUTHENTICATION:

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

William C. Telling
Professional Land Surveyor's Signature

William E. Telling, P.L.S.
Professional Land Surveyor's Name

SEAL

N.J.P.L.S. License No. 37211
Professional Land Surveyor's License #

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APPENDIX C

WELL SEARCH RECORD

MAIN POST AREA - WELL SEARCH

WELL SEARCH SUMMARY TABLE
MAIN POST AREA
U.S. ARMY FORT MONMOUTH

WELL ID NO	WELL OWNER	WELL ADDRESS	TOTAL DEPTH (FEET BGS)	CASING LENGTH (FEET)	STATIC WATER ELEV. (FEET BGS)	USE CODE	NJDEPE PERMIT NO.
5	Eatontown Senior Housing	55 Wyckoff Road, Eatontown	192	177	25	G	29-15008
14	Shell Oil Company	Block 110, Lot 25, Oceanport	12	2	4	M	29-24953
15	Shell Oil Company	Block 110, Lot 25, Oceanport	12	2	3	M	29-24953
16	Shell Oil Company	Block 110, Lot 25, Oceanport	12	2	3	M	29-24953
17	Shell Oil Company	Block 110, Lot 25, Oceanport	11	2	3	M	29-24953
34	Boro of Eatowntown	Block 14, Lot 17, Eatontown	20	10	12.1	M	29-28236
35	Redacted - Privacy Act	Orchard St, Block 73, Lot 36, Eatontown	67	52	16	D	29-23690
36	Redacted - Privacy Act	92 Sunnybrook Dr, Shrewsbury Boro	197	191	7	D	29-23608
37	V. J. Russo Realty	170 Ave of Commons, Shrewsbury Boro	250	245	4	G	29-27756
38	Price Communication Corp	1 Register Plaza, Shrewsbury Boro	28	15	8	M	29-26185
39	Redacted - Privacy Act	Trafalger Pl, Block 69.04, Lot 4, Shrewsbury Boro	50	50	5	G	29-22571
40	Redacted - Privacy Act	83 Sunnybrook Dr, Shrewsbury Boro	250	210	8	D	29-26704
41	Boro of Eatontown	Block 14, Lot 17, Eatowtown	20	10	11.7	M	29-29158
42	Boro of Eatontown	Block 14, Lot 17, Eatowtown	18	8	10.1	M	29-29159
43	Redacted - Privacy Act	Relwof Ave, Block 98, Lot 1&2, Oceanport	45	35	2	G	29-21780
44	Kleiner Bros. Construction	Allenhurst & Myrtle Aves, Oceanport	50	40	5	D	29-6499
64	Redacted - Privacy Act	112 Orchid St, Oceanport	323	317	16	D,G	29-14244
65	N.J. Transit Corporation	Silverside & Fairview Ave, Little Silver	*	*	*	M	29-13825
97	Shell Oil Company	1 Main Street, Oceanport	10	2	2.5	M/S	29-12553
98	Shell Oil Company	1 Main Street, Oceanport	9	1	2	M/S	29-12554
99	Shell Oil Company	1 Main Street, Oceanport	9	1	2	M/S	29-12555
100	Redacted - Privacy Act	121 Horseneck Point Rd, Oceanport	15	12	5	D	29-5084
101	Bridgewater Townhouse	57 Bridgewater Dr, Oceanport	180	155	12	G	29-22549
113	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.38	M	29-14180
114	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	5.1	M	29-14181
115	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.47	M	29-14182
116	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.39	M	29-14183
117	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.75	M	29-14184
118	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.10	M	29-14185
119	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.82	M	29-14186
120	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.30	M	29-14187
121	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.54	M	29-14188
122	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.34	M	29-14189

ID – Identification
BGS – Below Ground Surface
G – Irrigation Well
D – Domestic Well
M – Monitoring Well
E – Recovery Well
S – Sealed Well
* – This information was not available during the well search
** – This well has not received a permit by the NJDEPE

MAIN POST AREA
U.S. ARMY FORT MONMOUTH

WELL ID NO	WELL OWNER	WELL ADDRESS	TOTAL DEPTH (FEET BGS)	CASING LENGTH (FEET)	STATIC WATER ELEV. (FEET BGS)	USE CODE	NJDEPE PERMIT NO.
123	Shell Oil Company	Route 35 & South Street, Eatontown	12	2	4.22	M	29-14190
124	Shell Oil Company	Route 35 & South Street, Eatontown	12	2	3.9	M	29-14191
125	Shell Oil Company	Route 35 & South Street, Eatontown	14.83	4	4	E	29-14192
127	Vincent J. Russo, Bldr	Block 70.1, Lot 90, Shrewsbury	184	165	5	G	29-14168
128	Redacted - Privacy Act	30 Alwin Terrace, Little Silver	173	158	6	G	29-22526
129	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-23732
130	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-23733
131	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-23734
132	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-23735
133	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-24138
134	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	4	*	M	29-24139
135	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-24140
136	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-24141
137	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	20	5	7	M	29-27072
138	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	16	3	6	M	29-29208
138A	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	6	E	29-30283
138B	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	6	E	29-30284
139	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	6.36	M	29-12793
140	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	7.08	M	29-12794
141	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	6.34	M	29-12795
142	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	7.59	M	29-12796
143	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	6.63	M	29-12797
144	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	6.07	M	29-12798
145	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12785
146	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12786
147	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12787
148	Citgo Oil Co.	700 Branch Avenue, Little Silver	10	1	*	M	29-12788
149	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12789
150	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12790
151	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12792
152	Mobile Oil Corporation	700 Branch Avenue, Little Silver	10	1	*	M	29-12793
153	Mobile Oil Corporation	700 Branch Avenue, Little Silver	11	1	*	M	29-12794
154	Mobile Oil Corporation	700 Branch Avenue, Little Silver	11	1	*	M	29-12795
155	Mobile Oil Corporation	Highway 35 & Tinton Avenue, Eatontown	15	5	7	M	29-25317

ID – Identification
BGS – Below Ground Surface
G – Irrigation Well
D – Domestic Well

M – Monitoring Well
E – Recovery Well
S – Sealed Well
* – This information was not available during the well search
** – This well has not received a permit by the NJDEPE

WELL SEARCH SUMMARY TABLE
MAIN POST AREA
U.S. ARMY FORT MONMOUTH

WELL ID NO	WELL OWNER	WELL ADDRESS	TOTAL DEPTH (FEET BGS)	CASING LENGTH (FEET)	STATIC WATER ELEV. (FEET BGS)	USE CODE	NJDEPE PERMIT NO.
156	Mobile Oil Corporation	Highway 35 & Tinton Avenue, Eatontown	15	2	7	M	29-25316
157	Mobile Oil Corporation	Highway 35 & Tinton Avenue, Eatontown	15	5	7	M	29-25318
158	Mobile Oil Corporation	Highway 35 & Tinton Avenue, Eatontown	15	5	7	M	29-25319
159	Mobile Oil Corporation	Highway 35 & Tinton Avenue, Eatontown	15	5	7	M	29-25320
160	Exxon Oil Company	Highway 35 & Tinton Avenue, Eatontown	16	3	4.7	M	29-26806
161	Exxon Oil Company	Highway 35 & Tinton Avenue, Eatontown	17	2	6	M	29-26807
162	Exxon Oil Company	Highway 35 & Tinton Avenue, Eatontown	15	3	8.2	M	29-26808
163	Exxon Oil Company	Highway 35 & Tinton Avenue, Eatontown	15	3	5.8	M	29-26809
164	Exxon Oil Company	Highway 35 & Tinton Avenue, Eatontown	12	2	2.35	M	29-28143
165	Allied Signal, Inc.	118 Route 35, Eatontown	*	*	*	M	*
814/1	U.S. Army, Fort Monmouth	Main Post, Building 814, Ft Monmouth	14	4	4	M	29-26939
750/1	U.S. Army, Fort Monmouth	Main Post, Building 750, Ft Monmouth ***	15	5	7.5	M	29-28992
750/2	U.S. Army, Fort Monmouth	Main Post, Building 750, Ft Monmouth ***	15	5	7.5	M	29-28993
750/3	U.S. Army, Fort Monmouth	Main Post, Building 750, Ft Monmouth ***	15	5	7.5	M	29-28994
750/4	U.S. Army, Fort Monmouth	Main Post, Building 750, Ft Monmouth ***	15	5	7.5	M	29-28995
699/1	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	2	4	M	29-23677-1
699/2	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	17	1.5	5	M	29-23678-9
699/3	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	2	4	M	29-23679-1
699/4	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	20	2	3	M	29-23680-7
699/5	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	3	5	M	29-23808-1
699/6	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	1	4.5	M	29-23809-9
699/7	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	3	3	M	29-23810-2
699/8	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	2	4	M	29-23811-1
699/9	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	2	3	M	29-24639
699/10	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	14	1	3	M	29-24640
699/11	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	*	*	E	29-28031
699/12	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	5	7.1	M	29-28907
699/13	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	5	*	*	M	**
699/14	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	5.7	*	*	M	**
1076/1	U.S. Army, Fort Monmouth	Main Post, Building 1076, Ft Monmouth ***	15	3	5.5	M	29-26940
1076/2	U.S. Army, Fort Monmouth	Main Post, Building 1076, Ft Monmouth ***	14	4	5	M	29-26941
1076/3	U.S. Army, Fort Monmouth	Main Post, Building 1076, Ft Monmouth ***	15	5	6	M	29-26942
65A/1	U.S. Army, Fort Monmouth	Main Post, Building 65, Ft Monmouth ***	12	2	4	M	29-26938
L/1	U.S. Army, Fort Monmouth	Main Post, Landfill, Fort Monmouth	9.85	3.05	5.08	M	49-000551
L/2	U.S. Army, Fort Monmouth	Main Post, Landfill, Fort Monmouth	16.99	1.30	*	M	49-000552
L/3	U.S. Army, Fort Monmouth	Main Post, Landfill, Fort Monmouth	16.43	1.62	10.83	M	49-000553
L/4	U.S. Army, Fort Monmouth	Main Post, Landfill, Fort Monmouth	10.25	1.90	*	M	49-000554
108/1	U.S. Army, Fort Monmouth	Main Post, Building 108, Ft Monmouth ***	13	3	4	M	29-29739
108/2	U.S. Army, Fort Monmouth	Main Post, Building 108, Ft Monmouth ***	13	3	4	M	29-29740
108/3	U.S. Army, Fort Monmouth	Main Post, Building 108, Ft Monmouth ***	13	3	4	M	29-29741

ID – Identification
BGS – Below Ground Surface
G – Irrigation Well
D – Domestic Well

M – Monitoring Well
E – Recovery Well
S – Sealed Well
* – This information was not available during the well search
** – This well has not received a permit by the NJDEPE
*** – Form B has been completed for this well.

US Army Fort Monmouth Well Coordinates Main Post Area

Well No.	Permit No.	NJ Planar Coord****		Elevation-TOC	Elevation-GRD
		Northing	Easting		
5	29-15008	534833	2172701	***	30
14	29-24953	539699	2176794	***	***
15	29-24953	539699	2176794	***	***
16	29-24953	539699	2176794	***	***
17	29-24953	539699	2176794	***	***
34	29-28236	536866	2169110	***	***
35	29-23690	534905	2173743	31.5	30
36	29-23608	542674	2175219	41.5	40
37	29-27756	541198	2169014	11	10
38	29-26185	541186	2168357	***	***
39	29-22571	542306	2172913	31	30
40	29-26704	542869	2173760	21	21
41	29-29158	536588	2169220	***	***
42	29-29159	536292	2169165	***	***
43	29-21780	540011	2179428	***	9
44	29-6499	539721	2181216	***	48
64	29-14244	541732	2181489	***	***
65	29-13825	544679	2175765	***	***
97	29-12553	539866	2176849	***	***
98	29-12554	539866	2176849	***	***
99	29-12555	539866	2176849	***	***
100	29-5084	542528	2182033	***	5
101	29-22549	539587	2178036	***	30
113	29-14180	534995	2168385	***	***
114	29-14181	534995	2168385	***	***
115	29-14182	534995	2168385	***	***
116	29-14183	534995	2168385	***	***
117	29-14184	534995	2168385	***	***
118	29-14185	534995	2168385	***	***
119	29-14186	534995	2168385	***	***
120	29-14187	534995	2168385	***	***
121	29-14188	534995	2168385	***	***
122	29-14189	534995	2168385	***	***
123	29-14190	534995	2168385	***	***
124	29-14191	534995	2168385	***	***
125	29-14192	534777	2168285	***	***

US Army Fort Monmouth Well Coordinates Main Post Area

Well No.	Permit No.	NJ Planar Coord****		Elevation-TOC	Elevation-GRD
		Northing	Easting		
127	29-14168	541665	2168429	***	60
128	29-22526	545069	2180319	***	20
129	29-23732	545613	2175613	***	***
130	29-23733	545613	2175613	***	***
131	29-23734	545613	2175613	***	***
132	29-23735	545613	2175613	***	***
133	29-24138	545613	2175613	***	***
134	29-24139	545613	2175613	***	***
135	29-24140	545613	2175613	***	***
136	29-24141	545613	2175613	***	***
137	29-27072	545613	2175613	***	***
138	29-29208	545613	2175613	***	***
138A	29-30283	545613	2175613	***	***
138B	29-30284	545613	2175613	***	***
139	29-12793	546086	2175947	***	***
140	29-12794	546086	2175947	***	***
141	29-12795	546086	2175947	***	***
142	29-12796	546086	2175947	***	***
143	29-12797	546086	2175947	***	***
144	29-12798	546086	2175947	***	***
145	29-12785	546225	2174788	***	***
146	29-12786	546225	2174788	***	***
147	29-12787	546225	2174788	***	***
148	29-12788	546225	2174788	***	***
149	29-12789	546225	2174788	***	***
150	29-12790	546225	2174788	***	***
151	29-12792	546225	2174788	***	***
152	29-12793	546393	2175613	***	***
153	29-12794	546393	2175613	***	***
154	29-12795	546393	2175613	***	***
155	29-25317	537562	2168385	***	***
156	29-25316	537562	2168385	***	***
157	29-25318	537562	2168385	***	***
158	29-25319	537562	2168385	***	***
159	29-25320	537562	2168385	***	***
160	29-26806	537896	2168078	***	***

US Army Fort Monmouth Well Coordinates Main Post Area

Well No.	Permit No.	NJ Planar Coord****		Elevation-TOC	Elevation-GRD
		Northing	Easting		
161	29-26807	537896	2168078	***	***
162	29-26808	537896	2168078	***	***
163	29-26809	537896	2168078	***	***
164	29-28143	537896	2168078	***	***
165	*	534471	2171838	***	***
1076/1	29-26940	537975	2175236	19.44	19.28
1076/2	29-26941	537975	2175236	18.03	17.61
1076/3	29-26942	537975	2175236	19.36	19.28
108/1	29-29739	541565	2178231	11.85	8.48
108/2	29-29740	541565	2178231	10.89	7.65
108/3	29-29741	541565	2178231	8.16	8.06
65A/1	29-26938	541114	2178147	8.47	8.47
699/1	29-23677-1	539367	2171941	15.81	***
699/2	29-23678-9	539486	2171973	16.64	***
699/3	29-23679-1	539399	2173050	15.8	***
699/4	29-23680-7	539380	2171986	15.92	***
699/5	29-23808-1	539409	2173150	15.48	***
699/6	29-23809-9	539342	2173066	15.78	***
699/7	29-23810-2	539272	2172914	15.97	***
699/8	29-23811-1	539331	2172842	16.2	***
699/9	29-24639	539220	2173102	15.96	***
699/10	29-24640	539171	2173042	15.97	***
699/11	29-28031	539334	2173025	17.14	***
699/12	29-28907	539194	2172956	16.66	***
699/13	**	539389	2173010	16.21	***
699/14	**	539351	2173021	15.98	***
750/1	29-28992	538342	2171950	18.79	18.69
750/2	29-28993	538342	2171950	18.61	18.51
750/3	29-28994	538342	2171950	19.04	18.88
750/4	29-28995	538342	2171950	18.98	18.79
814/1	29-26939	538025	2173387	***	***
L/1	49-000551	540568	2172144	***	***
L/2	49-000552	540568	2172144	***	***
L/3	49-000553	540568	2172144	***	***
L/4	49-000554	540568	2172144	***	***

US Army Fort Monmouth Well Coordinates Main Post Area

Well No.	Permit No.	NJ Planar Coord****		Elevation-TOC	Elevation-GRD
		Northing	Easting		

Notes: * - This information was not available during the well search

** - This well was not issued a permit by NJDEPE

*** - No elevation data was found for this well location.

**** - Except for wells 699/1-14, all coordinates shown are approximate. The information given does not represent surveyed coordinates.

TOC - Top of Casing

GRD - Ground Surface

WELL ID NO. 64

Form DWR-138
11/80

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 2913695

PERMIT NO. 2914244

APPLICATION NO. _____

COUNTY Monmouth

WELL RECORD

Redacted - Privacy Act

1. OWNER _____ ADDRESS 112 ORCHID ST.

Owner's Well No. (1)One. SURFACE ELEVATION _____ Feet (Above mean sea level)

2. LOCATION Lot: 1&2 Block: 106 Municipality: Oceanport Boro

3. DATE COMPLETED March,23,85 DRILLER Peter's Well Drilling

4. DIAMETER: Top 4. inches Bottom 4 inches TOTAL DEPTH 323 Feet

5. CASING: Type Black Steel Pipe. Diameter 4 Inches Length 317 Feet

6. SCREEN: Type S.S. Size of Opening 14 Slot Diameter Nom. 4 Inches Length 6 Feet

With Riser&Packer 9'6"

Range in Depth Top 317 Feet
Bottom 323 Feet

Geologic Formation Englishtown/

Riser

Reference: Diameter 3 Inches Length 3 Feet

7 WELL FLOWS NATURALLY no Gallons per minute at no Feet above surface

Water rises to no Feet above surface

8. RECORD OF TEST: Date March,18,85 Yield 100 Gallons per minute

Static water level before pumping 16 Feet below surface

Pumping level 56 feet below surface after 2 hours pumping

Drawdown 40 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown

How pumped Air Compressor How measured Elec.Water Tester.

Observed effect on nearby wells None.

9. PERMANENT PUMPING EQUIPMENT:

Type Submersible Mfrs. Name (Customers Own Installed).

Capacity 10-15 G.P.M. How Driven Elec. H.P. ½ R.P.M. 3450

Depth of Pump in well 100? Feet Depth of Footpiece in well _____ Feet

Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches

10. USED FOR Dwelling &Irrigation. AMOUNT Average 1000/2000. Gallons Daily
Maximum _____ Gallons Daily

11. QUALITY OF WATER Good. Sample: Yes _____ No x

Taste Good. Odor None. Color Clear. Temp. 53 °F.

12. LOG See Other Side. Are samples available? no.

(Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)

SOURCE OF DATA Bailer & Mud Pit.

14. DATA OBTAINED BY Driller. Date May,15,1985

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

APPENDIX D

HAZARDOUS WASTE MANIFEST

(REV. 9/88)

State of New Jersey
Department of Environmental Protection
Division of Hazardous Waste Management
Manifest Section
CN 028, Trenton, NJ 08625

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

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

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. NJD 0[illegible]9172 — Manifest Document No.
2. Page 1 of 1
Information in the shaded area is not required by Federa law.

3. Generator's Name and Mailing Address
DEPT OF [illegible] HQ
[illegible] mahwah, NJ
4. Generator's Phone ( ) [illegible]

A. State Manifest Document Number **NJA 0937955**
B. State Generator's ID SAME
C. State Trans. ID [illegible]
D. Transporter's Phone ( ) 721-[illegible]
E. State Trans. ID
F. Transporter's Phone ( )
G. State Facility's ID
H. Facility's Phone ( ) [illegible]

5. Transporter 1 Company Name [illegible] — 6. US EPA ID Number
7. Transporter 2 Company Name — 8. US EPA ID Number
9. Designated Facility Name and Site Address
LIGHETTI OIL RECOVERY, INC.
RUNYON & CHEESEQUAKE RDS.
OLD BRIDGE, NJ 08857
10. US EPA ID Number

	11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.	X WASTE OIL NOS COMBUSTIBLE LIQUID NA 1270	[illegible]	[illegible]	02000	G	X17212
b.						
c.						
d.						

J. Additional Descriptions for Materials Listed Above
a. L.T. 100 % OIL
b.
c.
d.

K. Handling Codes for Wastes Listed Above
a. T04 FILTRATION
b.
c.
d.

15. Special Handling Instructions and Additional Information
DECAL # 44527

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford:

GENERATOR — Printed/Typed Name: [illegible] — Signature: [signature] — Month Day Year: 06 18 90

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: JOE SCUPP — Signature: Joe Scupp — Month Day Year: 06 18 90

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Month Day Year

TRANSPORTER

19. Discrepancy Indication Space
JA Completed At Facility.
Please note the date Should Read 6-18-90

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Linda [illegible] — Signature: [signature] — Month Day Year: 6 18 90

FACILITY

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

SIGNATURE AND INFORMATION *MUST* BE LEGIBLE ON ALL COPIES

3 — TSD MAIL TO - GENERATOR

GENERATOR

In the event of a spill immediately call the state the emergency occurred in and the N.J. Dept. of Environmental Protection. (609) 292-5560 (Day) (609) 292-7172 (Night)

APPENDIX E

ANALYTICAL DATA PACKAGE

Bldg. T

ENVIRONMENTAL PROFILE LABORATORIES

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

ID# 6944.19

LABORATORY ANALYSIS REPORT

CLIENT :Serv-Air

PROJECT: Fort Monmouth
BN+15

Report Number: 6944
Date Received: Dec, 10, 1991
Date Released: Dec, 20, 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
6944.1	BLD 814	Aquaous
6944.2	B 1076 W1	Aquaous
6944.3	B 1076 W2	Aquaous
6944.4	B 1076 W3	Aquaous
6944.5	B 3021 W1	Aquaous
6944.6	B 3021 W2	Aquaous
6944.7	B 3021 W3	Aquaous
6944.19	T-65 W1	Aquaous
6944.20	Field Blank	Aquaous

Environmental Profile Laboratories

CUSTOMER PURCHASE ORDER NO:

CHAIN OF CUSTODY RECORD

PROJECT NO.:

SAMPLER (SIGNATURE): John F. Kk

DATE / TIME: 12/10/91 3pm

ANALYSIS PARAMETERS

START: 700 AM

FINISH: 4:00pm

CUSTOMER (NAME/ADDRESS)
E-Systems
Serv-Air

SITE NAME: Fort Monmouth

PHONE NO:

FAX NO:

LAB SAMPLE NUMBER	DATE/TIME	SAMPLE MATRIX	CUSTOMER SAMPLE LOCATION/ID NUMBER	NUMBER OF CONTAINERS	VOA+15 TH	lead (total)	BN +13 TH	REMARKS	PRESERVATION METHOD 6pH<4°C
6944.1	12/10 8-3p	H2O	B/d 814	3	X	X	X		ice
.2			B 1076 W1		X		X		
.3			B 1076 W2		X		X		
.4			B 1076 W3		X		X		
.5			B 3021 W1		X		X		
.6			B 3021 W2		X		X		
.7			B 3021 W3		X		X		
.8			B2567 W1	2	X	X			
.9			B2567 W2		X	X			
.10			B2567 W3		X	X			
.11			B2567 W4		X	X			

Relinquished By (Signature)	DATE / TIME	Received By (Signature)	METHOD OF SHIPPING:
	12-10-91 3:00		C.O.V.
Relinquished By (Signature)	DATE / TIME	Received By (Signature)	SHIPPED BY (Signature):
Relinquished By (Signature)	DATE / TIME	Received for Lab by (Signature): Robert Beaulieu	DATE / TIME 12-10-91 4:30 pm

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

FORM DOC/CUSTODY REV. 1 PAGE 1 OF 1 PAGES

CUSTOMER PURCHASE ORDER NO:

CHAIN OF CUSTODY RECORD

PROJ NO:

CUSTOMER (NAME/ADDRESS): E-Systems Serv-Air

SAMPLER (SIGNATURE): [signature]

DATE / TIME: 12/10/91 3pm

SITE NAME: Fort Monmouth

ANALYSIS PARAMETERS: VOA's 15 TIC; lead; B/N's 15 TIC; chlordane

START: 7:00 Am

FINISH: 4:00 pm

PHONE NO:

FAX NO:

PRESERVATION METHOD: <4°C

LAB SAMPLE ID NUMBER	DATE/TIME	SAMPLE MATRIX	CUSTOMER SAMPLE LOCATION/ID NUMBER	NUMBER OF CONTAINERS	VOA's 15 TIC	lead	B/N's 15 TIC	chlordane	REMARKS
6944.12	12/10 7-4m-3m	H_2O	B699 W2	2	X	X			
.13			B699 5		X	X			
.14			B699 6		X	X			
.15			B699 7		X	X			
.16			B699 8		X	X			
.17			B699 9		X	X			
.18			B699 10		X	X			
.19			T-65 W1	3	X		X	X	
.20			Field blank		X	X	X		
.21			trip blank	2	X		(X)		

Relinquished By (Signature)	DATE / TIME	Received By (Signature)	METHOD OF SHIPPING:
[signature]	12-10-91 3:00	[signature]	C.O.V.
Relinquished By (Signature)	DATE / TIME	Received By (Signature)	SHIPPED BY (Signature):
Relinquished By (Signature)	DATE / TIME	Received for Lab by (Signature): Robert Brouillette	DATE / TIME 12/10/91 4:30pm

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

LABORATORY CHRONICLE

SAMPLE NUMBER	6944.1	6944.2	6944.3	6944.4	6944.5	6944.6	6944.7
Received & Refrigerated Date	12/10/91	12/10/91	12/10/91	12/10/91	12/10/91	12/10/91	12/10/91
Organics Extraction Date							
BN/ABN	NA	NA	NA	NA	NA	NA	NA
PCB's	NA	NA	NA	NA	NA	NA	NA
Analysis Date							
BN/ABN	NA	NA	NA	NA	NA	NA	NA
PCB's	NA	NA	NA	NA	NA	NA	NA
Volatiles	12/13/91	12/13/91	12/13/91	12/18/91	12/18/91	→	→
TPHC's	NA	NA	NA	NA	NA	NA	NA
Metals	NA	NA	NA	NA	NA	NA	NA
Total Solids	NA	NA	NA	NA	NA	NA	NA
Organic Supervisor Review & Approval	Brian K. McKee B.K. McK						12/19/91
Inorganic Supervisor Review & Approval							

LABORATORY CHRONICLE

SAMPLE NUMBER	6944.19	6944.20					
Received & Refrigerated Date	12/10/91	12/10/91					
Organics Extraction Date							
BN/ABN	NA	NA					
PCB's	NA	NA					
Analysis Date							
BN/ABN	NA	NA					
PCB's	NA	NA					
Volatiles	12/18/91	12/18/91					
TPHC's	NA	NA					
Metals	NA	NA					
Total Solids	NA	NA					
Organic Supervisor Review & Approval	Brian K. McKee B. K. McK						12/19/91
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) out of QC limits.
6944	2 out of 80 outside units, (see forms 8b+8c)

SURROGATE RECOVERY:-

Client ID #	Surrogates outside QC limits
6944	1 surrogate out (see form 2)

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

7

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.

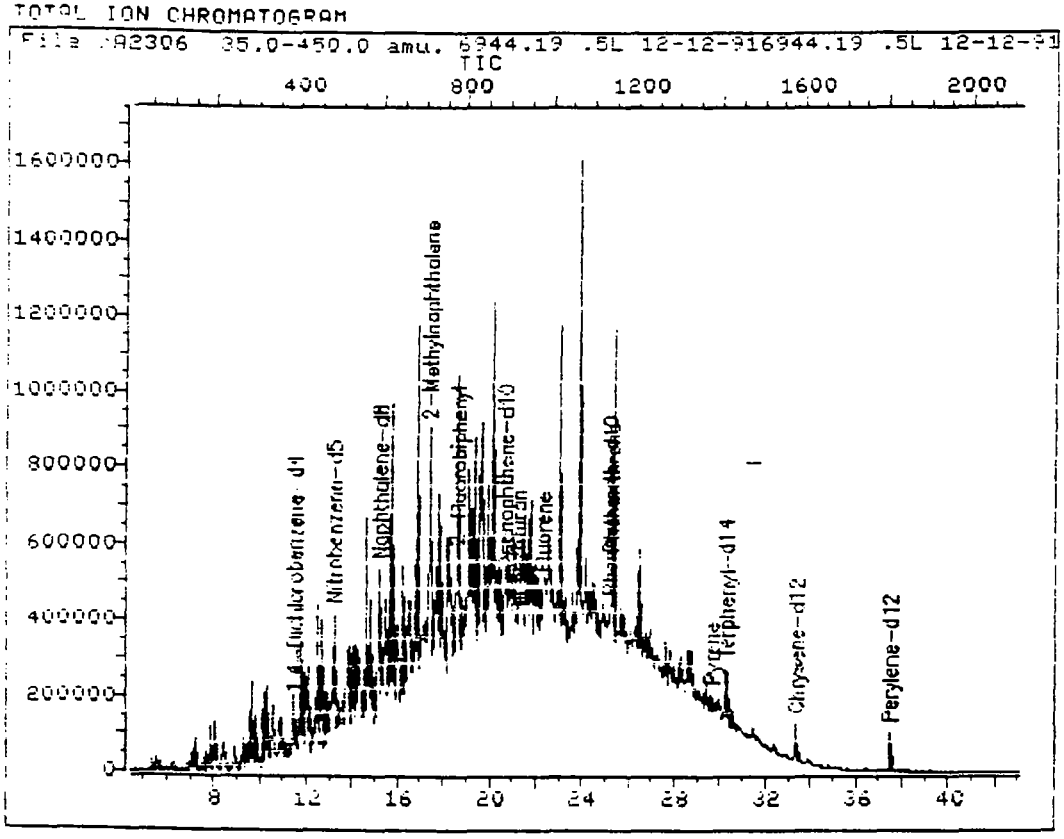
Environmental Profile Laboratories
BASE/NEUTRAL/ACID ANALYSIS DATA

JOB NUMBER		MATRIX	Water
SAMPLE NAME	5944.19 .5L 12-12-91	DILUTION FACTOR	2.00
CLIENT ID		QA BATCH	
DATA FILE	2306	DATE ANALYZED	12/18/91

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-nitroso-dimethylamine	ND	20	Diethylphthalate	ND	20
bis(2-Chloroethyl)Ether	ND	20	4-Chlorophenyl-phenylether	ND	20
1,3-Dichlorobenzene	ND	20	Fluorene	54	20
1,4-Dichlorobenzene	ND	20	N-Nitrosodiphenylamine	ND	20
Benzyl alcohol	ND	20	4-Bromophenyl-phenylether	ND	20
1,2-Dichlorobenzene	ND	20	Hexachlorobenzene	ND	20
bis(2-chloroisopropyl)ether	ND	20	Phenanthrene	95	20
N-Nitroso-Di-n-propylamine	ND	20	Anthracene	ND	20
Hexachloroethane	ND	20	Di-n-butylphthalate	ND	20
Nitrobenzene	ND	20	Fluoranthene	ND	20
Isophorone	ND	20	Benzidine	ND	20
Benzoic Acid	ND	20	Pyrene	14 J	20
bis(2-Chloroethoxy)methane	ND	20	Butylbenzylphthalate	ND	20
1,2,4-Trichlorobenzene	ND	20	3,3'-Dichlorobenzidine	ND	20
Naphthalene	ND	20	Benzo(a)anthracene	ND	20
Hexachlorobutadiene	ND	20	bis(2-Ethylhexyl)phthalate	ND	20
2-Methylnaphthalene	380	20	Chrysene	ND	20
Hexachlorocyclopentadiene	ND	20	Di-n-octylphthalate	ND	20
2-Chloronaphthalene	ND	20	Benzo(b)fluoranthene	ND	20
Dimethylphthalate	ND	20	Benzo(k)fluoranthene	ND	20
Acenaphthylene	ND	20	Benzo(a)pyrene	ND	20
Acenaphthene	ND	20	Indeno(1,2,3-cd)pyrene	ND	20
Dibenzofuran	22	20	Dibenz(a,h)anthracene	ND	20
2,6-Dinitrotoluene	ND	20	Benzo(g,h,i)perylene	ND	20
2,4-Dinitrotoluene	ND	20	1,2-Diphenylhydrazine	ND	20

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

TOTAL ION CHROMATOGRAM

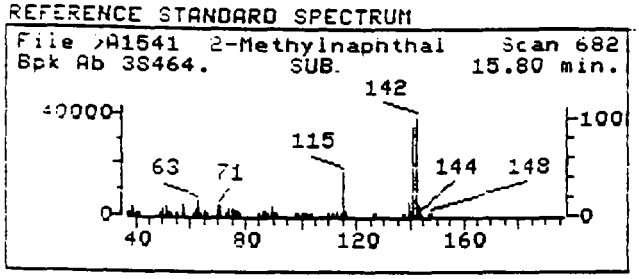


Data File: >A2306::D3 Quant Output File: ^A2306::DB
Name: 6944.19 .5L 12-12-91
Misc: 6944.19 .5L 12-12-91 **BTL# 7**

Id File: IDBNA::D4
Title: Semivolatile Organics (EPA Methods 625/8270) by GC/MS
Last Calibration: 911213 12:34

Operator ID: MARK
Quant Time: 911218 19:09
Injected at: 911218 18:25

REFERENCE STANDARD SPECTRUM



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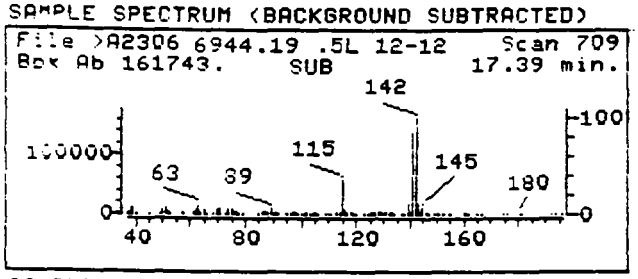

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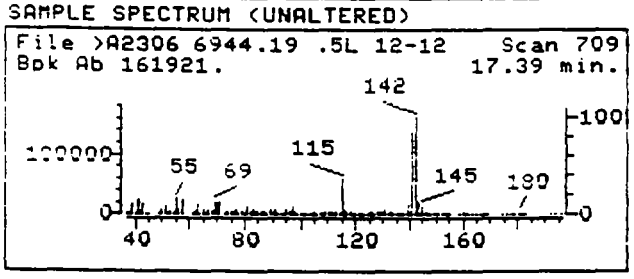
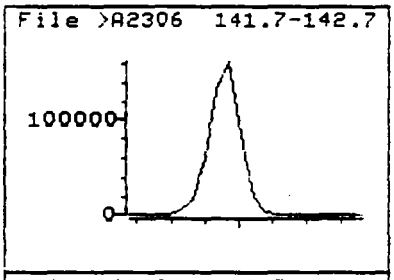
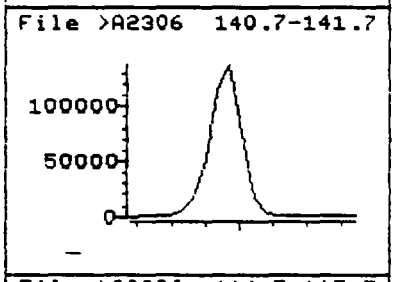
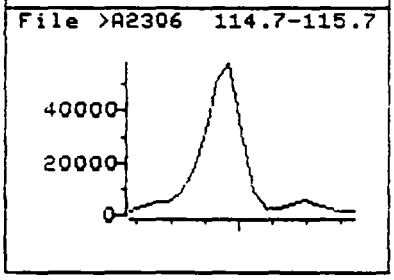




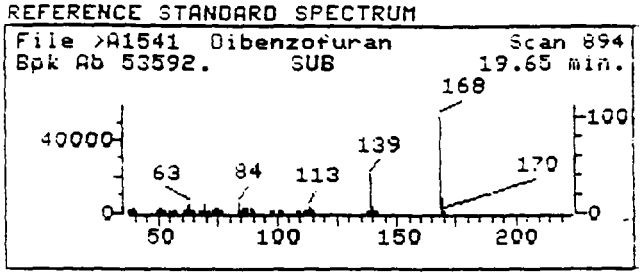




Data File: >A2306::D3 Quant Output File: ^A2306::DB
Name: 6944.19 .5L 12-12-91
Misc: 6944.19 .5L 12-12-91 BTL# 7
Quant Time: 911218 19:09 Quant ID File: IDBNA::D4
Injected at: 911218 18:25 Last Calibration: 911213 12:34

Compound No: 33
Compound Name: 2-Methylnaphthalene
Scan Number: 709
Retention Time: 17.39 min.
Quant Ion: 142.0
Area: 535438
Concentration: 190.20 ng/uL
q-value: 89

REFERENCE STANDARD SPECTRUM



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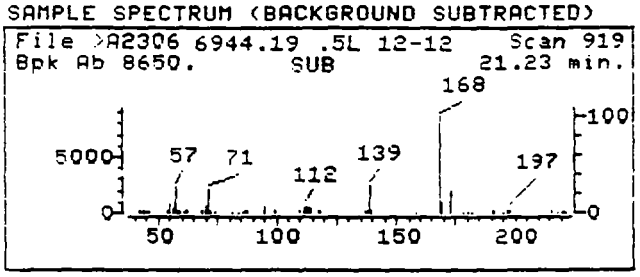

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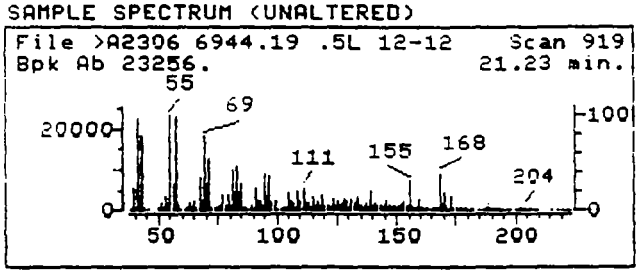
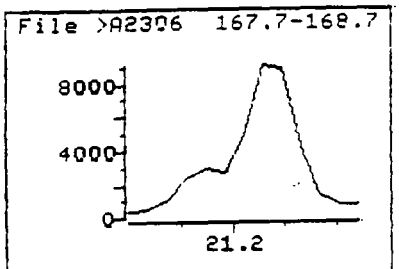
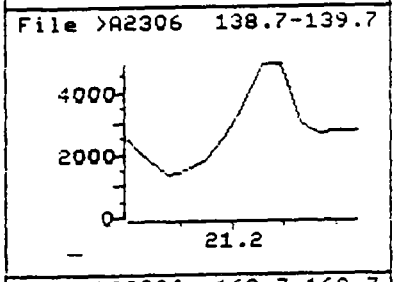
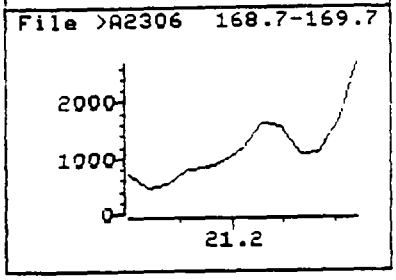








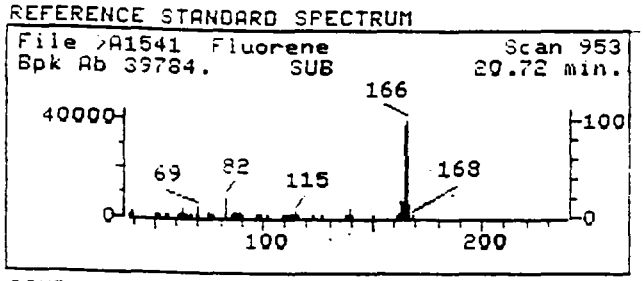
Data File: >A2306::D3
Name: 6944.19 .5L 12-12-91
Misc: 6944.19 .5L 12-12-91
Quant Time: 911218 19:09
Injected at: 911218 18:25

Quant Output File: ^A2306::DB

BTL# 7
Quant ID File: IDBNA::D4
Last Calibration: 911213 12:34

Compound No: 47
Compound Name: Dibenzofuran
Scan Number: 919
Retention Time: 21.23 min.
Quant Ion: 168.0
Area: 38433
Concentration: 11.00 ng/uL
q-value: 84

REFERENCE STANDARD SPECTRUM



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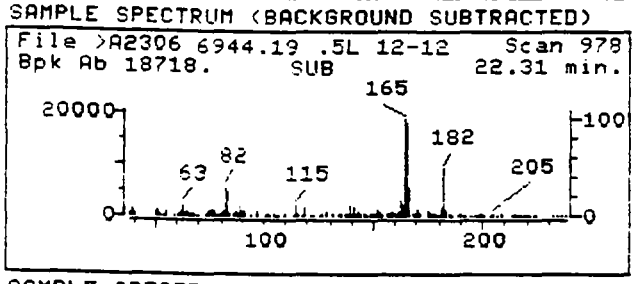
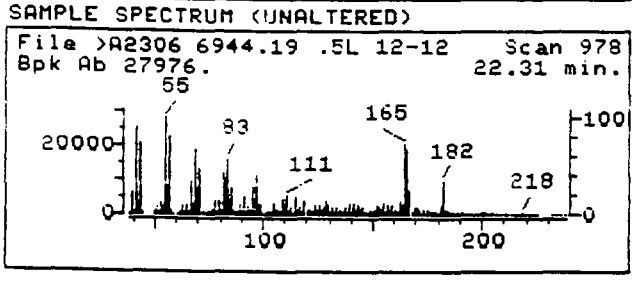
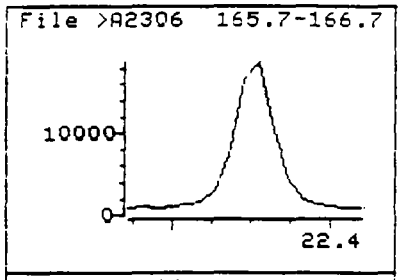
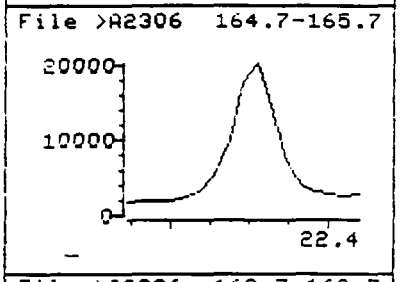
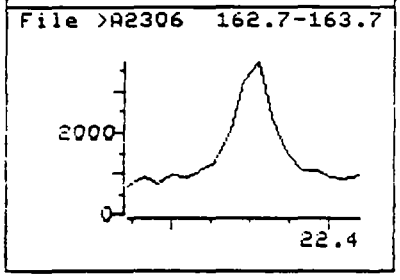


SAMPLE SPECTRUM (UNALTERED)









Data File: >A2306::D3
Name: 6944.19 .5L 12-12-91
Misc: 6944.19 .5L 12-12-91
Quant Time: 911218 19:09
Injected at: 911218 18:25

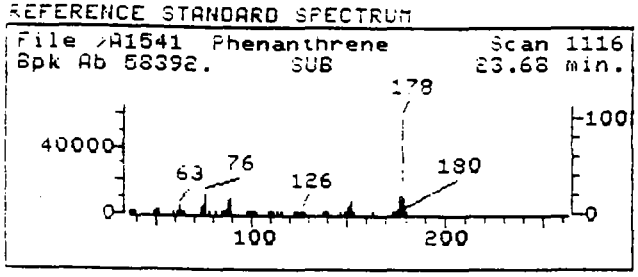
Quant Output File: ^A2306::DB

BTL# 7

Quant ID File: IDBNA::D4
Last Calibration: 911213 12:34-

Compound No: 52
Compound Name: Fluorene
Scan Number: 978
Retention Time: 22.31 min.
Quant Ion: 166.0
Area: 69383
Concentration: 26.76 ng/uL
q-value: 90

REFERENCE STANDARD SPECTRUM



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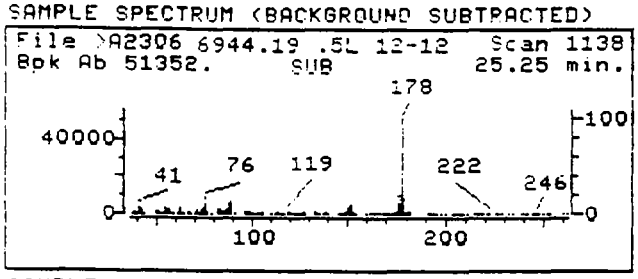

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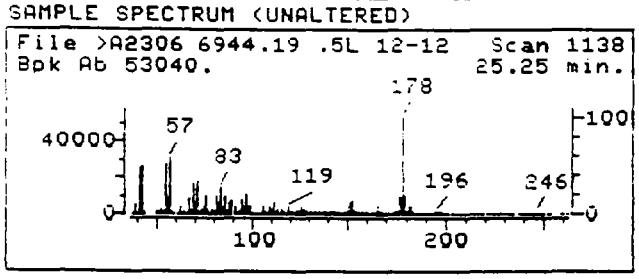
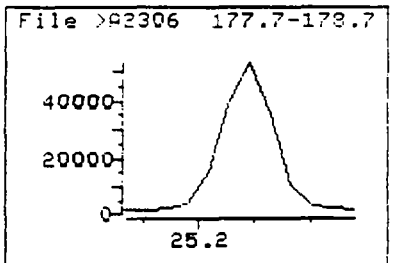
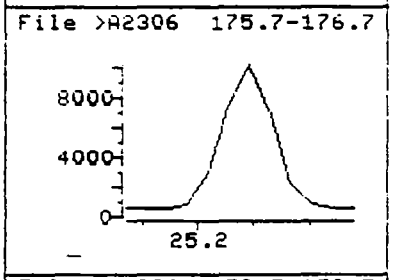
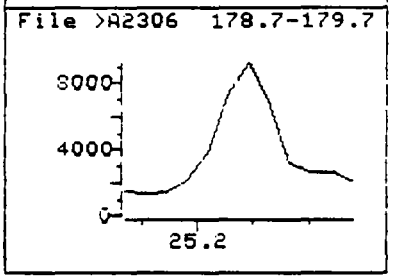








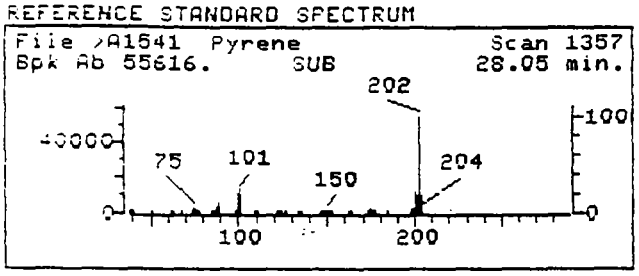
Data File: >A2306::D3
Name: 6944.19 .5L 12-12-91
Misc: 6944.19 .5L 12-12-91
Quant Time: 911218 19:09
Injected at: 911218 18:25

Quant Output File: ^A2306::DB

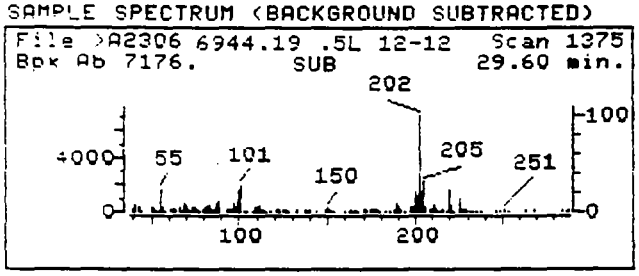
BTL# 7
Quant ID File: IDBNA::D4
Last Calibration: 911213 12:34

Compound No: 62
Compound Name: Phenanthrene
Scan Number: 1138
Retention Time: 25.25 min.
Quant Ion: 178.0
Area: 163902
Concentration: 47.62 ng/uL
q-value: 97

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



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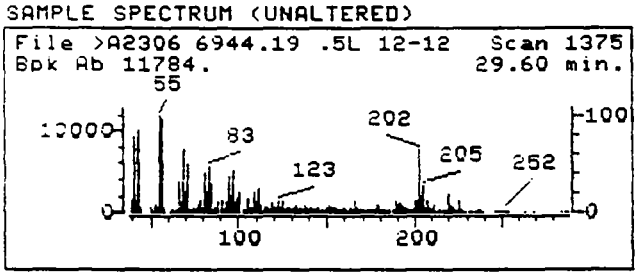
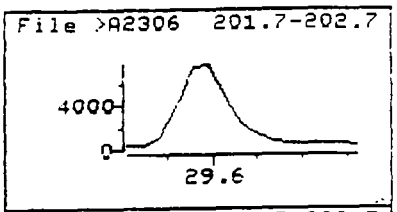
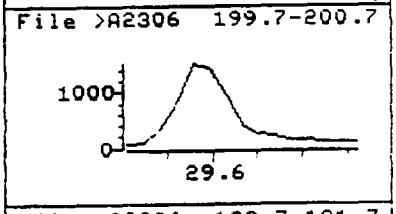
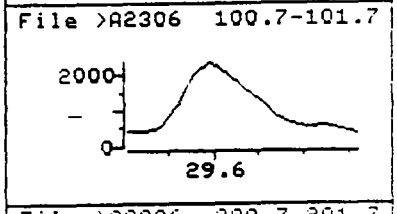
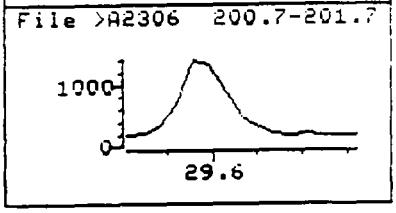










Data File: >A2306::D3
Name: 6944.19 .5L 12-12-91
Misc: 6944.19 .5L 12-12-91
Quant Time: 911218 19:09
Injected at: 911218 18:25

Quant Output File: ^A2306::DB

BTL# 7

Quant ID File: IDBNA::D4
Last Calibration: 911213 12:34

Compound No: 68
Compound Name: Pyrene
Scan Number: 1375
Retention Time: 29.60 min.
Quant Ion: 202.0
Area: 28689
Concentration: 6.80 ng/uL
q-value: 88

Bldg. T-65

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

ID 6944.19

mw#

2926938

LABORATORY ANALYSIS REPORT

CLIENT : Serv-Air

PROJECT: Fort Monmouth
VOA+15

Report Number: 6944
Date Received: Dec, 10, 1991
Date Released: Dec, 18, 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
6944.1	BLD 814	Aquaous
6944.2	B 1076 W1	Aquaous
6944.3	B 1076 W2	Aquaous
6944.4	B 1076 W3	Aquaous
6944.5	B 3021 W1	Aquaous
6944.6	B 3021 W2	Aquaous
6944.7	B 3021 W3	Aquaous
6944.19	T-65 W1	Aquaous
6944.20	Field Blank	Aquaous

Environmental Profile Laboratories

CUSTOMER PURCHASE ORDER NO:

CHAIN OF CUSTODY RECORD

PROJECT NO.:

CUSTOMER (NAME/ADDRESS) E-Systems Serv-Air

SAMPLER (SIGNATURE): John F. K[illegible]

DATE / TIME 12/10/91 3pm

ANALYSIS PARAMETERS: VOA+15 TA; lead (total); BN+15 TA

START: 7:00 AM

FINISH: 4:00pm

SITE NAME: Fort Monmouth

PHONE NO:

FAX NO:

PRESERVATION METHOD: below 4°C

LAB SAMPLE ID NUMBER	DATE	TIME	SAMPLE MATRIX	CUSTOMER SAMPLE LOCATION/ID NUMBER	NUMBER OF CONTAINERS	VOA+15 TA	lead (total)	BN+15 TA						REMARKS	
6844.1	12/10	8-3p	H_2O	Bld 814	3	X	[redacted]	X							ice
.2	↓	↓	↓	B 1076 W1	↓	X		X							↓
.3				B 1076 W2		X		X							
.4				B 1076 W3		X		X							
.5				B 3021 W1		X		X							
.6				B 3021 W2		X		X							
.7				B 3021 W3		X		X							
.8				B2567 W1	2	X	X								
.9				B2567 W2	↓	X	X								
.10				B2567 W3		X	X								
.11	↓	↓	↓	B2567 W4	↓	X	X								↓

Relinquished By (Signature)	DATE / TIME	Received By (Signature)	METHOD OF SHIPPING:
[signature]	12-10-91 3:00	[signature]	C.O.V.
Relinquished By (Signature)	DATE / TIME	Received By (Signature)	SHIPPED BY (Signature):
Relinquished By (Signature)	DATE / TIME	Recieved for Lab by (Signature): Robert Braullette	DATE / TIME 12-10-91 4:30 pm

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

CUSTOMER PURCHASE ORDER NO:

CHAIN OF CUSTODY RECORD

PROJECT NO:

CUSTOMER (NAME/ADDRESS):
E-Systems
Serv-Air

SAMPLER (SIGNATURE): John F. Ll

DATE / TIME: 12/10/91 3pm

ANALYSIS PARAMETERS

START: 7:00 Am

SITE NAME: Fort Monmouth

FINISH: 4:00 pm

PHONE NO:

FAX NO:

LAB SAMPLE ID NUMBER	DATE/TIME	SAMPLE MATRIX	CUSTOMER SAMPLE LOCATION/ID NUMBER	NUMBER OF CONTAINERS	VOA+15 TIC	lead	B/N+15 TIC	chloroform	REMARKS	PRESERVATION METHOD <4°C
6944.12	12/10 2-3pm	H_2O	B699 W2	2	x	x				
.13			B699 5		x	x				
.14			B699 6		x	x				
.15			B699 7		x	x				
.16			B699 8		x	x				
.17			B699 9		x	x				
.18			B699 10		x	x				
.19			T-65 W1	3	x		x	x		
.20			Field blank		x	x	x			
.21			trip blank	2	x		(x)			

Relinquished By (Signature)	DATE / TIME	Received By (Signature)	METHOD OF SHIPPING:
	12-10-91 3:00		C.O.V.
Relinquished By (Signature)	DATE / TIME	Received By (Signature)	SHIPPED BY (Signature):
Relinquished By (Signature)	DATE / TIME	Received for Lab by (Signature): Robert Beaulieu	DATE / TIME 12/10/91 4:30pm

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

FORM OCC/CHAIN OF CUSTODY

LABORATORY CHRONICLE

SAMPLE NUMBER	6944.1	6944.2	6944.3	6944.4	6944.5	6944.6	6944.7
Received & Refrigerated Date	12/10/91	12/10/91	12/10/91	12/10/91	12/10/91	12/10/91	12/10/91
Organics Extraction Date							
BN/ABN	NA	NA	NA	NA	NA	NA	NA
PCB's	NA	NA	NA	NA	NA	NA	NA
Analysis Date							
BN/ABN	NA	NA	NA	NA	NA	NA	NA
PCB's	NA	NA	NA	NA	NA	NA	NA
Volatiles	12/13/91	12/13/91	12/13/91	12/18/91	12/18/91	———	——→
TPHC's	NA	NA	NA	NA	NA	NA	NA
Metals	NA	NA	NA	NA	NA	NA	NA
Total Solids	NA	NA	NA	NA	NA	NA	NA
Organic Supervisor Review & Approval	Brian K. McKee B.K. McK						12/19/91
Inorganic Supervisor Review & Approval							

LABORATORY CHRONICLE

SAMPLE NUMBER	6944.19	6944.20					
Received & Refrigerated Date	12/10/91	12/10/91					
Organics Extraction Date							
BN/ABN	NA	NA					
PCB's	NA	NA					
Analysis Date							
BN/ABN	NA	NA					
PCB's	NA	NA					
Volatiles	12/18/91	12/18/91					
TPHC's	NA	NA					
Metals	NA	NA					
Total Solids	NA	NA					
Organic Supervisor Review & Approval	Brian K. McKee B. K. McK						12/19/91
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 samp. 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 adde 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 matri
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 applicabl

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

INTERNAL STANDARD AREA:-

CLIENT ID #	NUMBER OF INTERNAL STANDARD AREA(S) out of QC limits.
6944	2 out of 80 outside units, (see forms 8b+8c)

SURROGATE RECOVERY:-

Client ID #	Surrogates outside QC limits
6944	1 surrogate out (see form 2)

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

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following "results qualifier" 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 great than zero. If the detection limit was 10ug/L and a concentration of 3ug/L was calculated, report a "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 calibra range of the GC/MS instrument for that specific analysi

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

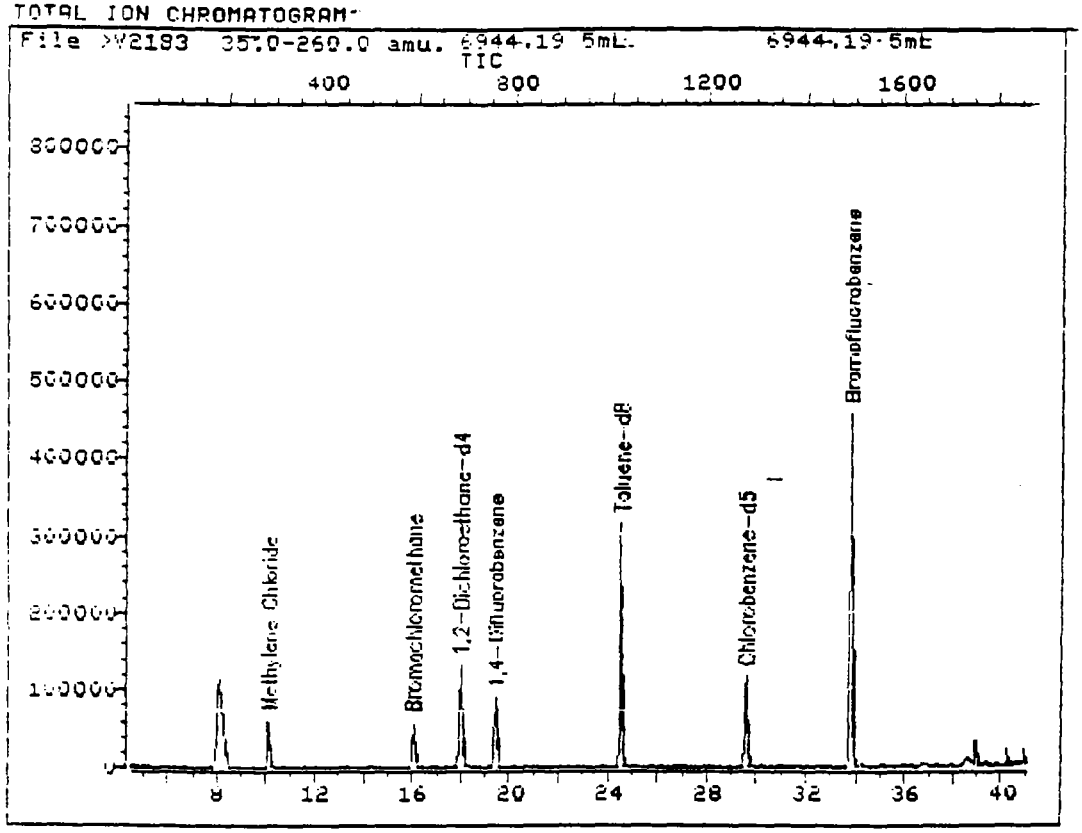
Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER		MATRIX	Water
SAMPLE NAME	6944.19 5mL	DILUTION FACTOR	1.00
CLIENT ID		QA BATCH	
DATA FILE	>V2183	DATE ANALYZED	12/13/91

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Chloromethane	ND	10	Trichloroethene	ND	5
Bromomethane	ND	10	Dibromochloromethane	ND	5
Vinyl Chloride	ND	10	1,1,2-Trichloroethane	ND	5
Chloroethane	ND	10	Benzene	ND	5
Methylene Chloride	22	5	trans-1,3-Dichloropropene	ND	5
Acrolein	ND	50	2-Chloroethylvinyl ether	ND	5
Acrylonitrile	ND	50	Bromoform	ND	5
Acetone	ND	5	2-Hexanone	ND	5
Carbon Disulfide	ND	5	4-Methyl-2-Pentanone	ND	5
1,1-Dichloroethene	ND	5	Tetrachloroethene	ND	5
1,1-Dichloroethane	ND	5	1,1,2,2-Tetrachloroethane	ND	5
trans-1,2-Dichloroethene	ND	5	Toluene	ND	5
Trichlorofluoromethane	ND	5	Chlorobenzene	ND	5
Chloroform	ND	5	Ethylbenzene	ND	5
1,2-Dichloroethane	ND	5	Styrene	ND	5
2-Butanone	ND	5	o-Xylene	ND	5
1,1,1-Trichloroethane	ND	5	m + p-Xylenes	ND	5
Carbon Tetrachloride	ND	5	1,3-Dichlorobenzene	ND	5
Bromodichloromethane	ND	5	1,2-Dichlorobenzene	ND	5
Vinyl Acetate	ND	5	1,4-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5	tert-Butyl Alcohol	ND	50
cis-1,3-Dichloropropene	ND	5	Methyl tert-Butyl Ether	ND	5

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

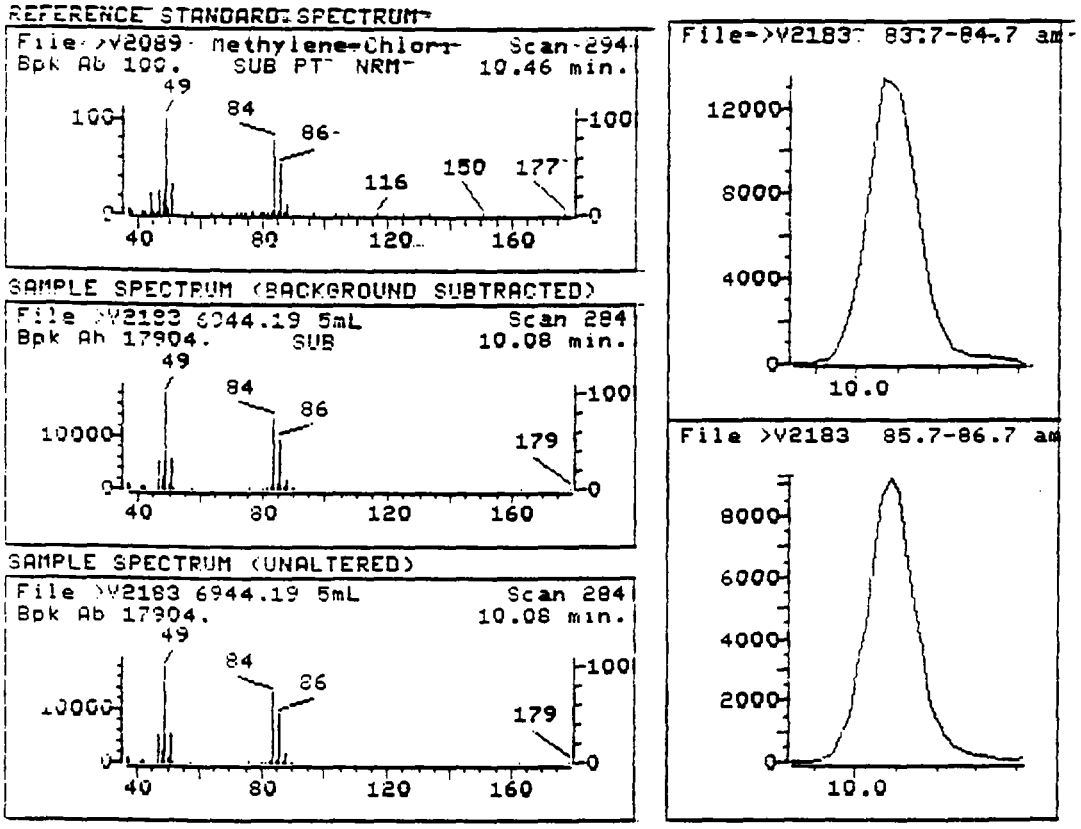
TOTAL ION CHROMATOGRAM



Data File: >V2183::D1 Quant Output File: ^V2183::DB
Name: 6944.19 5mL
Misc: 6944.19 5mL

Id File: IDVOA::D4
Title: HSL VOLATILE ORGANICS
Last Calibration: 911211 12:31

Operator ID: MARK
Quant Time: 911214 16:22
Injected at: 911213 16:44



Data File: >V2183::D1
Name: 6944.19 5mL
Misc: 6944.19 5mL
Quant Time: 911214 16:22
Injected at: 911213 16:44

Quant Output File: ^V2183::DB
Quant ID File: IDVOA::D4
Last Calibration: 911211 12:3

Compound No: 7
Compound Name: Methylene Chloride
Scan Number: 284
Retention Time: 10.08 min.
Quant Ion: 84.0
Area: 119392
Concentration: 22.37 ppb
q-value: 86

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

REPORT OF ANALYSIS

CERV-AIR
PO BOX 368, BLDG. 430
FT. MONMOUTH, NJ 07703

SAMPLE ID NO :
SAMPLE RCI :
ANALYSIS START :
MATRIX :

THIS ANALYSES ON WATER WAS PERFORMED BY GAS CHROMATOGRAPHY (EPA METHO
THIS SYSTEM IS EQUIPPED WITH AN ELECTRON CAPTURE DETECTOR.

PARAMETERS:	CPL ID #	CLIENT ID.	RESULTS	DE
CHLORDANE	6844-19	T65-W1	ND	

ND= NONE DETECTED

Daniel K. Wright

DANIEL K. WRIGHT
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 FT.MONMOUTH
PO BOX 369 BLDG.#490
FORT MONMOUTH, NJ 07703-5000

EPL#
SAMPLE RCD
ANALYSIS START
ANALYSIS COMP
PO#

TEST PARAMETER: LEAD (Pb)

RESULTS AND DETECTION LIMITS ARE EXPRESSED IN mg/L. (ppm)

EPL#	BLDG. #	MW#	DICAR#	RESULTS
9173.20	T-65	1-2926938	90-6-16-1303	0.004

ND = NONE DETECTED

DANIEL K. WRIGHT
LABORATORY DIRECTOR

MONITORING WELL SAMPLING DATASHEET DATE: 10/26/92

SAMPLERS: ROBERT BROUILLETTE EPL LABORATORIES NJDEPE # 15526

LOCATION (BLDG. #): 65-A (AKA T-65)

WEATHER CONDITIONS: SUNNY 55 F

MW # 1 : 2926938

DEPTH TO WATER: 4.40 TIME: 4:50

DEPTH OF WELL: 11.61 OVA/HnU: 0.0

HEIGHT OF WATER: 7.21

EVACUATED GAL. H2O: 14.12 (7.21 X .65 X 3 = 14.05)

MONITORING WELL SAMPLING DATASHEET DATE: 10-26-91

SAMPLERS: Robert Brouillette, Jack Kaiser, Erik Johnson
LOCATION (BLDG. #): T-65
WEATHER CONDITIONS: Sunny 55°F

LABORATORY: Environmental Profile Labs

MW # 1 : 2926938

DEPTH TO WATER: 4.40' TIME: 4:50 p.m

DEPTH OF WELL: 11.61' OVA/HnU: ND

HEIGHT OF WATER: 7.21'

EVACUATED GAL. H2O: 14.12g (7.21 X .65 X 3 = 14.05g)

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 Inc.
Fort Monmouth, N.J.

SITE: UST Assessments
Fort Monmouth, N.J.

PROJECT: BN+15
TIER II

Report Number: 9173.11-.14, .2
Date Received: October 26, 19
Date Released: December 3, 19
Data Released By:

Daniel K. Wright
Laboratory Director

CLIENT: Serv-Air, Inc.
Fort Monmouth, N.J.

PROJECT: UST Assesments
Fort Monmouth, N.J.

MATRIX: Aqueous

SAMPLE LOCATION AND IDENTIFICATION

LAB ID NUMBER	Bldg #	MW #	DICAR #
9173.20	T-65	1-2926938	90-6-16-13
9173.26	Field Blank		

TABLE OF CONTENTS

Environmental Profile Laboratories
1565 Rt. 37-Unit 13
Toms River, NJ 08755
(908) 244-6278

Customer Purchase Order No.:

CHAIN OF CUSTODY RECORD

Sampled by: (Signature) [illegible] Date/Time 10/26/12

Customer Name and Address:
[illegible] Inc.
Fort Monmouth NJ

Site Name and Address:
Ft. Monmouth NJ
UST Assessments

Analysis parameters (Be as specific as possible)

Telephone No: Fax:

Lab Sample ID Number	Date/Time Sampled	Sample Matrix	Customer Sample Location/ID No.	Number of Containers	624+15	610 +15	Pb								Remarks	Preservative Method
9173.1	10/26 1145	W.O	699-1	3	✓		✓				Dissolved Pb 1 & 2 all other unfiltered				filtered for Pb	ice
.2	1245		699-2	3	✓		✓									
3	1040		699-5	3	✓		✓									
4	1205		699-6	3	✓		✓									
5	1225		699-8	3	✓		✓									
6	1116		699-9	3	✓		✓									
7	1230		699-11	3	✓		✓									
8	1230		699-11 DUP	3	✓		✓									
9	1155		699-12	3	✓		✓									
10	1245		699-13	3	✓		✓									

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Method of Shipping:	QA/QC Required:
[signature]	10/26/12	[signature]	COV	

...al Profile Laboratories
..., Unit 13
...ms River, NJ 08755
(908) 244-6278

Customer Purchase Order No.:

Sampled by: (Signature) [illegible] Date/Time 10/26/92

Customer Name and Address:
Sru-Aire Inc
Fort Monmouth NJ

Site Name and Address:
FT. MONMOUTH
UST Assessments

Telephone No: Fax:

Analysis parameters (Be as specific as possible)

Lab Sample ID Number	Date/Time Sampled	Sample Matrix	Customer Sample Location/ID No.	Number of Containers	624+15	B/N+15	PB							Remarks	Preservation Method
[illegible]11	10/26 213	H2O	814-1	4	✓	✓	✓				DISPOSABLE 1L BAILERS			HNO3 for Pb	ICE
12	247		1076-1	4	✓	✓	✓								
13	247		1076-2	4	✓	✓	✓								
14	247		1076-3	4	✓	✓	✓								
15	415		2567-1	3	✓		✓								
16	415		2567-1 DUP	3	✓		✓								
17	425		2567-2	3	✓		✓								
18	425		2567-3	3	✓		✓								
19	420		2567-4	2	✓		✓								
[illegible]			T-65	4	✓	✓	✓								

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Method of Shipping:
[signature]	10/26/92 1700	[signature]	COV
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipped By:
Relinquished By: (Signature)	Date/Time	Received For EPL By: (Signature)	Date/Time

QA/QC Required:
✓ NJ Tier II
___ Results Only
___ Other ______

Turnaround Time: ______

...llo L...atori...
...Unit 13
...River, NJ 08755
(908) 244-6278

CHAIN OF CUSTODY RECORD

Customer Purchase Order No.:

Sampled by: (Signature) [signature] Date/Time 10/26/92

Customer Name and Address: Serv-Air Inc. Fort Monmouth N.J.

Site Name and Address: FT. MONMOUTH UST ASSESSMENTS

Telephone No: Fax:

Analysis parameters (Be as specific as possible)

Lab Sample ID Number	Date/Time Sampled	Sample Matrix	Customer Sample Location/ID No.	Number of Containers	624+15	BN+15	Pb	(other)	Remarks	Preservation Method
9173.21	10/26 340	H_2O	3021-1	4	✓	✓	✓	DISPOSABLE BAILORS 1l	HNO_3 for Pb	ICE
.22	330	↓	3021-2	4	✓	✓	✓	↓	↓	↓
.23	330	↓	3021-3	4	✓	✓	✓	↓	↓	↓
.24	115	↓	699-14	3	✓		✓	↓	↓	↓
.25	↓	↓	TRIP BLANK	1	✓			↓	↓	↓
.26	↓	↓	FIELD BLANK	4	✓	✓	✓	↓	↓	↓

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Method of Shipping:
[signature]	10/26/92 1700	[signature]	COV

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipped By:

Relinquished By: (Signature)	Date/Time	Received For EPL By: (Signature)	Date/Time

QA/QC Required:

- ✓ NJ Tier II
- Results Only
- Other

Turnaround Time:

LABORATORY CHRONICLE

SAMPLE NUMBER	9173-11	9173-12	9173-13	9173-14	9173-20	9173-21	9173-22
Received & Refrigerated Date	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92
Organics Extraction Date							
BN/ABN	10-28-92	10-28-92	10-28-92	10-28-92	10-29-92	10-29-92	10-28-92
PCB's							
Analysis Date							
BN/ABN	10-30-92	10-30-92	10-30-92	10-31-92	10-31-92	10-31-92	10-31-92
PCB's							
Volatiles							
TPHC's							
Metals							
Total Solids							
Organic Supervisor Review & Approval							
Inorganic Supervisor Review & Approval							

5

LABORATORY CHRONICLE

SAMPLE NUMBER	9173.23	9173.25					
Received & Refrigerated Date	10-26-92	10-26-92					
Organics Extraction Date							
BN/ABN	10-29-92	10-29-92					
PCB's							
Analysis Date							
BN/ABN	10-31-92	10-31-92					
PCB's							
Volatiles							
TPHC's							
Metals							
Total Solids							
Organic Supervisor Review & Approval							
Inorganic Supervisor Review & Approval							

METHOD SUMMARY

Base Neutrals/Acid Extractables

The semivolatile samples in this report have been analyzed using method cited in the USEPA-CLP-IFB version 2/88. The CLP semi-volatile method is based on the 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:
All CCC and SPCC values were within QC limits.

CONTINUING CALIBRATION REQUIREMENTS:
All CCC and SPCC values were within 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:- All recoveries were within limits.
All RPD values were within limits.

INTERNAL STANDARD AREA:-

CLIENT ID #	NUMBER OF INTERNAL STANDARD AREA(S)
None	

SURROGATE RECOVERY:-

CLIENT ID #	SURROGATES OUTSIDE QC LIMITS
BNA AQ BLK	2-Fluorobiphenyl
9173.22	2-Fluorobiphenyl

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

DATA REPORTING QUALIFIERS

For reporting results to the 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 identified compound (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 10 ug/L and a concentratin of 3 ug/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.

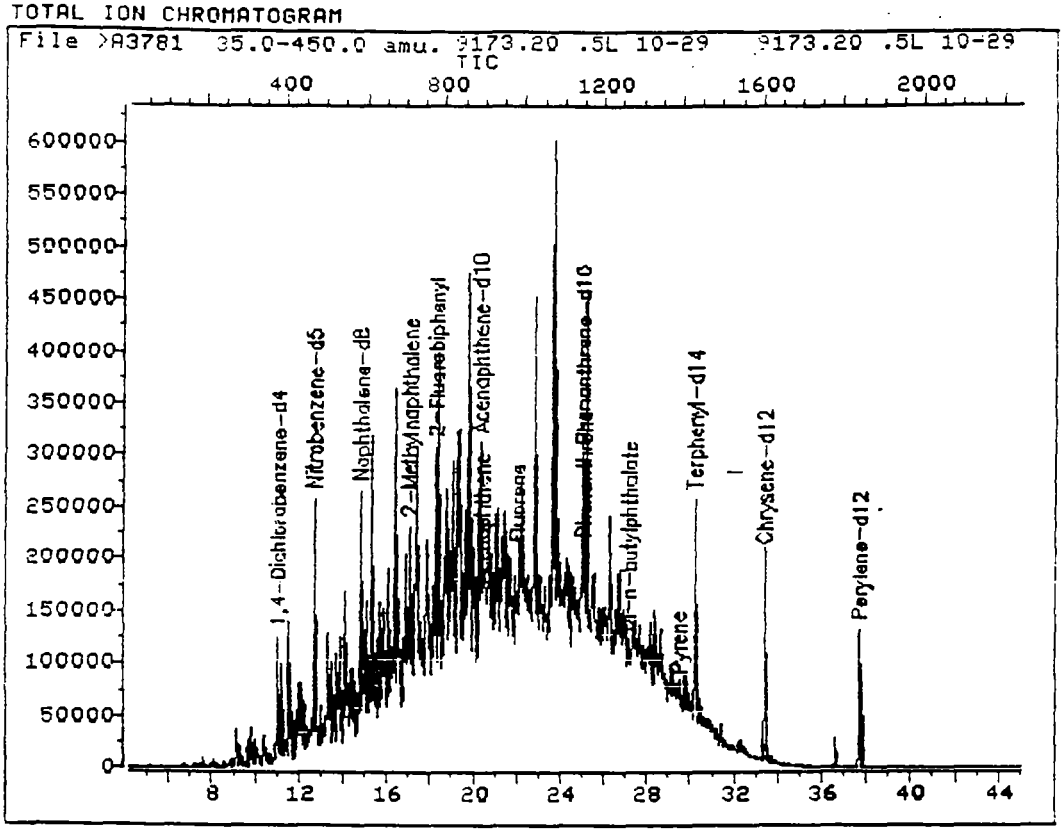
Environmental Profile Laboratories
BASE/NEUTRAL/ACID ANALYSIS DATA

PROJECT	9173	MATRIX	Water
SAMPLE ID	9173.20 .5L 10-29	DILUTION FACTOR	4.00
CLIENT NAME	Serv-Air	DATE RECEIVED	10-26-92
DATA FILE	>A3781	DATE ANALYZED	10/31/92

Compound	ug/L	MDL	Compound	ug/L	MDL
N-nitroso-dimethylamine	ND	40	Diethylphthalate	ND	40
bis(2-Chloroethyl)Ether	ND	40	4-Chlorophenyl-phenylether	ND	40
1,3-Dichlorobenzene	ND	40	Fluorene	44	40
1,4-Dichlorobenzene	ND	40	N-Nitrosodiphenylamine	ND	40
Benzyl alcohol	ND	40	4-Bromophenyl-phenylether	ND	40
1,2-Dichlorobenzene	ND	40	Hexachlorobenzene	ND	40
bis(2-chloroisopropyl)ether	ND	40	Phenanthrene	76	40
N-Nitroso-Di-n-propylamine	ND	40	Anthracene	ND	40
Hexachloroethane	ND	40	Di-n-butylphthalate	4 JB	40
Nitrobenzene	ND	40	Fluoranthene	ND	40
Isophorone	ND	40	Benzidine	ND	40
Benzoic Acid	ND	200	Pyrene	6 J	40
bis(2-Chloroethoxy)methane	ND	40	Butylbenzylphthalate	ND	40
1,2,4-Trichlorobenzene	ND	40	3,3`-Dichlorobenzidine	ND	40
Naphthalene	ND	40	Benzo(a)anthracene	ND	40
Hexachlorobutadiene	ND	40	bis(2-Ethylhexyl)phthalate	ND	40
2-Methylnaphthalene	110	40	Chrysene	ND	40
Hexachlorocyclopentadiene	ND	40	Di-n-octylphthalate	ND	40
2-Chloronaphthalene	ND	40	Benzo(b)fluoranthene	ND	40
Dimethylphthalate	ND	40	Benzo(k)fluoranthene	ND	40
Acenaphthylene	ND	40	Benzo(a)pyrene	ND	40
Acenaphthene	22 J	40	Indeno(1,2,3-cd)pyrene	ND	40
Dibenzofuran	ND	40	Dibenz(a,h)anthracene	ND	40
2,6-Dinitrotoluene	ND	40	Benzo(g,h,i)perylene	ND	40
2,4-Dinitrotoluene	ND	40	1,2-Diphenylhydrazine	ND	40

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

TOTAL ION CHROMATOGRAM

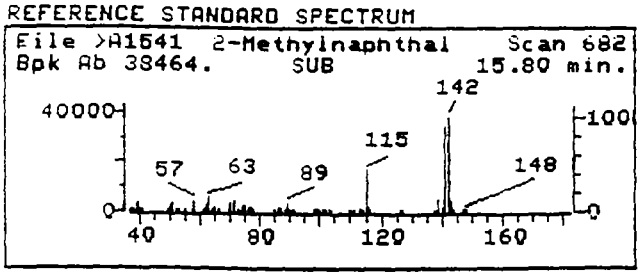


Data File: >A3781::D3 Quant Output File: ^A3781::DB
Name: 9173.20 .5L 10-29
Misc: 9173.20 .5L 10-29 **BTL#** 3

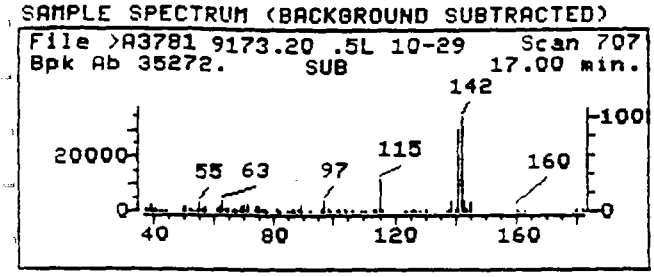
Id File: IDBNA::D4
Title: Semivolatile Organics (EPA Methods 625/8270) by GC/MS
Last Calibration: 921024 20:25

Operator ID: MARK
Quant Time: 921031 20:21
Injected at: 921031 19:35

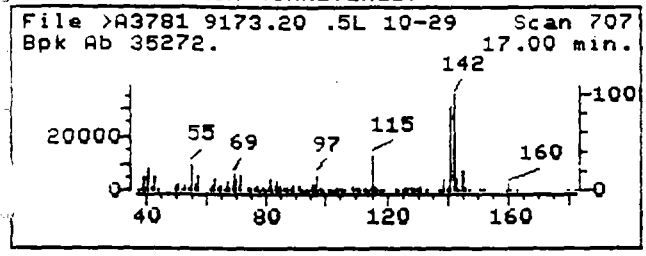
REFERENCE STANDARD SPECTRUM

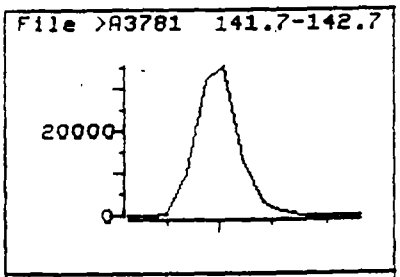


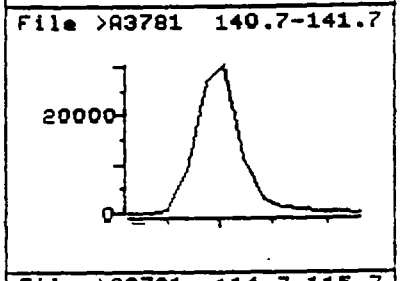
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

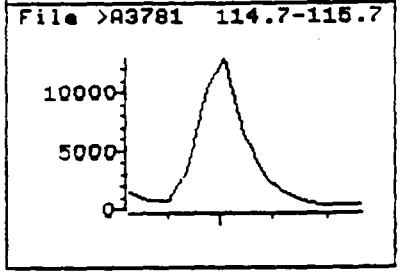


SAMPLE SPECTRUM (UNALTERED)









Data File: >A3781::D3
Name: 9173.20 .5L 10-29
Misc: 9173.20 .5L 10-29
Quant Time: 921031 20:21
Injected at: 921031 19:35

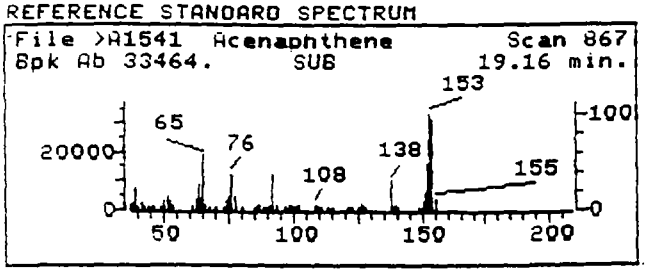
Quant Output File: ^A3781::DB

BTL# 3

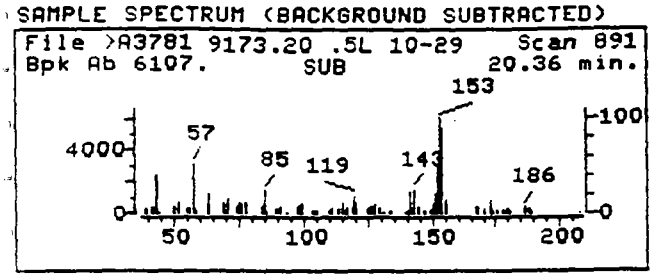
Quant ID File: IDBNA::D4
Last Calibration: 921024 20:25

Compound No: 33
Compound Name: 2-Methylnaphthalene
Scan Number: 707
Retention Time: 17.00 min.
Quant Ion: 142.0
Area: 104361
Concentration: 27.54 ng/uL
q-value: 97

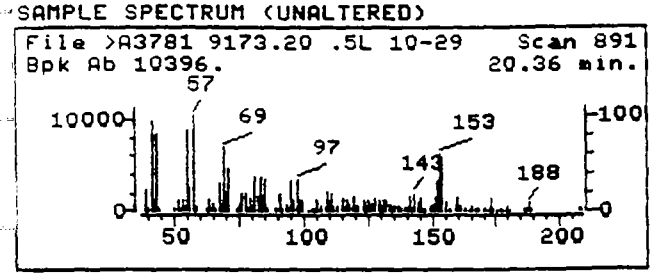
REFERENCE STANDARD SPECTRUM

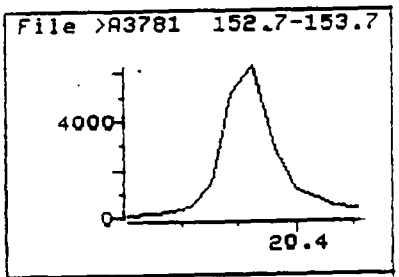


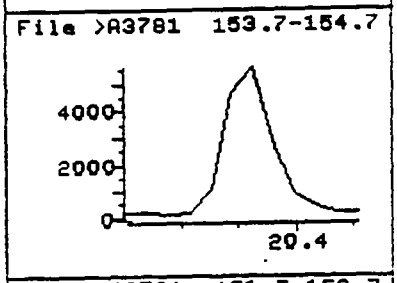
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

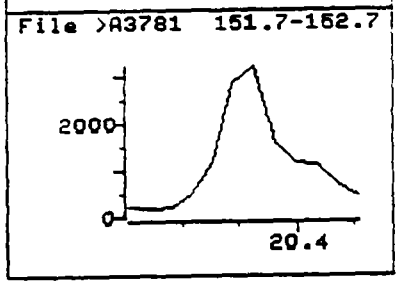


SAMPLE SPECTRUM (UNALTERED)









Data File: >A3781::D3
Name: 9173.20 .5L 10-29
Misc: 9173.20 .5L 10-29
Quant Time: 921031 20:21
Injected at: 921031 19:35

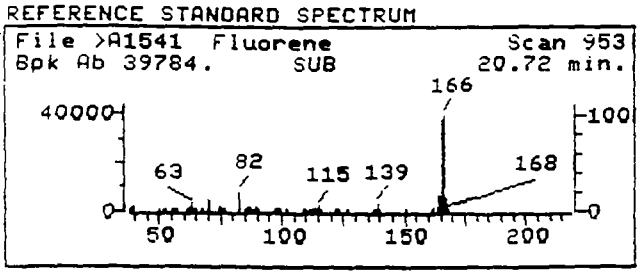
Quant Output File: ^A3781::DB

BTL# 3

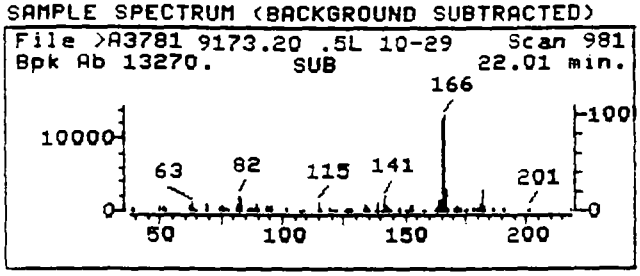
Quant ID File: IDBNA::D4
Last Calibration: 921024 20:25

Compound No: 44
Compound Name: Acenaphthene
Scan Number: 891
Retention Time: 20.36 min.
Quant Ion: 153.0
Area: 19683
Concentration: 5.48 ng/uL
q-value: 98

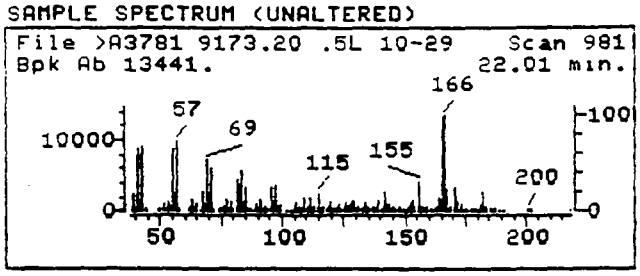
REFERENCE STANDARD SPECTRUM

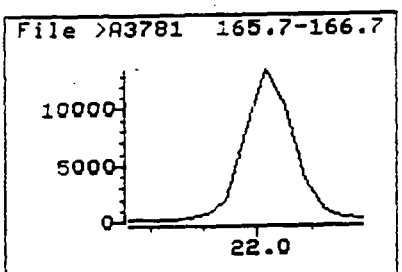


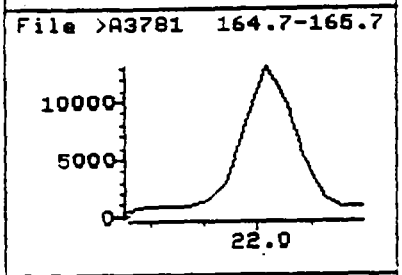
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

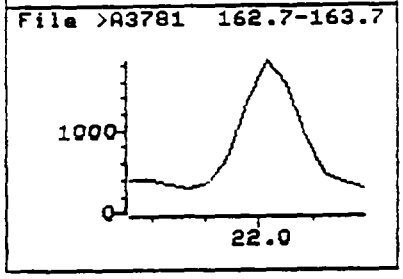


SAMPLE SPECTRUM (UNALTERED)









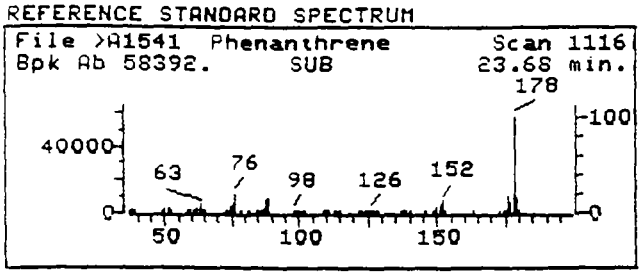
Data File: >A3781::D3
Name: 9173.20 .5L 10-29
Misc: 9173.20 .5L 10-29
Quant Time: 921031 20:21
Injected at: 921031 19:35

Quant Output File: ^A3781::DB

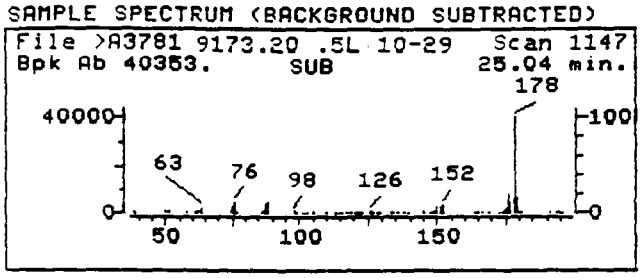
BTL# 3
Quant ID File: IDBNA::D4
Last Calibration: 921024 20:25

Compound No: 52
Compound Name: Fluorene
Scan Number: 981
Retention Time: 22.01 min.
Quant Ion: 166.0
Area: 42172
Concentration: 10.94 ng/uL
q-value: 98

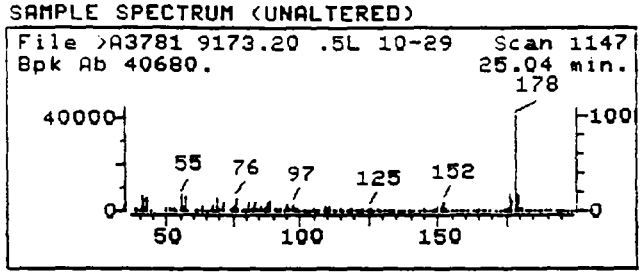
REFERENCE STANDARD SPECTRUM

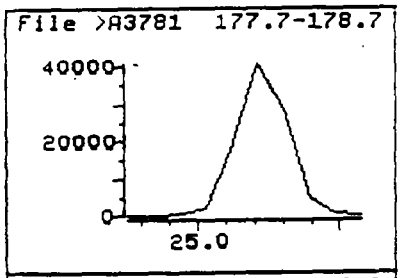


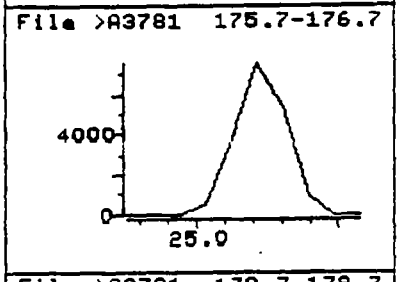
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

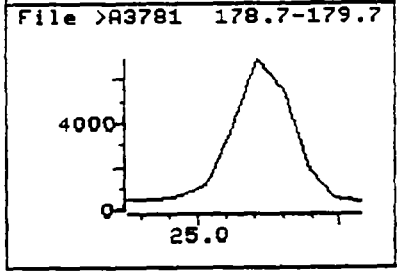


SAMPLE SPECTRUM (UNALTERED)









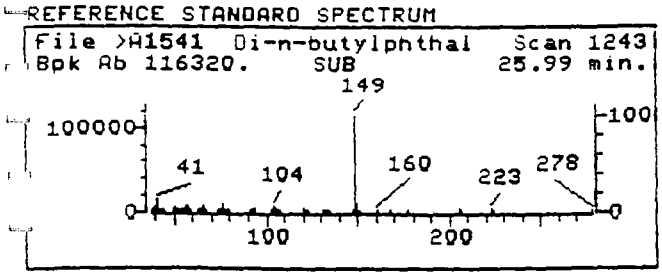
Data File: >A3781::D3
Name: 9173.20 .5L 10-29
Misc: 9173.20 .5L 10-29
Quant Time: 921031 20:21
Injected at: 921031 19:35

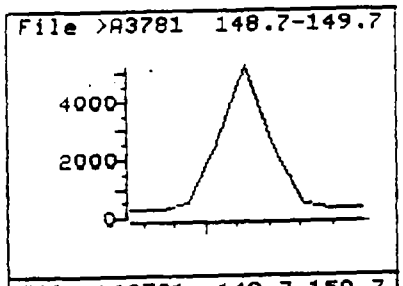
Quant Output File: ^A3781::DB

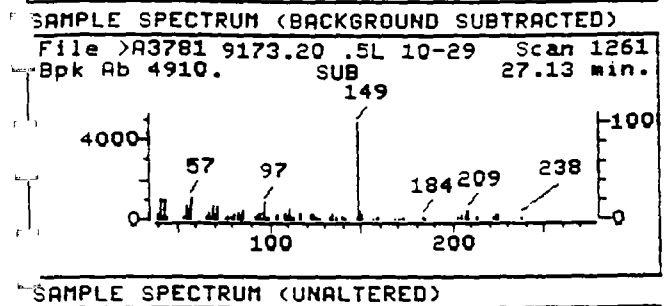
BTL# 3

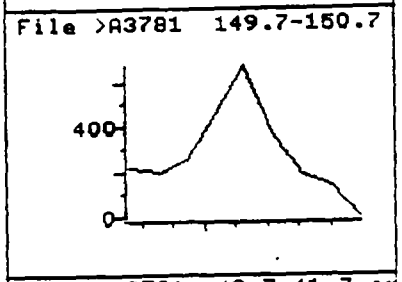
Quant ID File: IDBNA::D4
Last Calibration: 921024 20:25

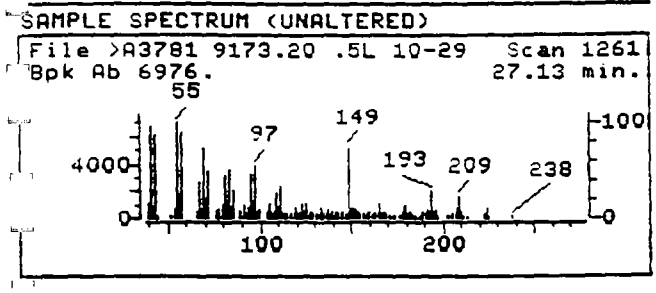
Compound No: 62
Compound Name: Phenanthrene
Scan Number: 1147
Retention Time: 25.04 min.
Quant Ion: 178.0
Area: 102930
Concentration: 18.98 ng/uL
q-value: 96

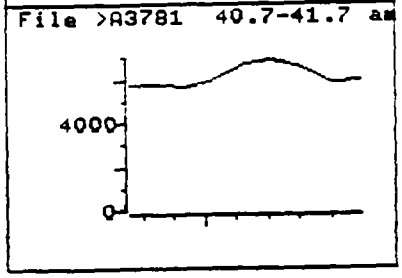












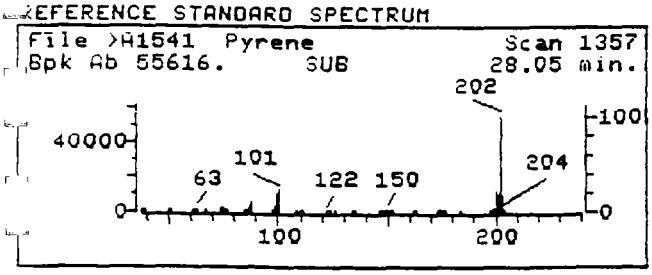
Data File: >A3781::D3
Name: 9173.20 .5L 10-29
Misc: 9173.20 .5L 10-29
Quant Time: 921031 20:21
Injected at: 921031 19:35

Quant Output File: ^A3781::DB

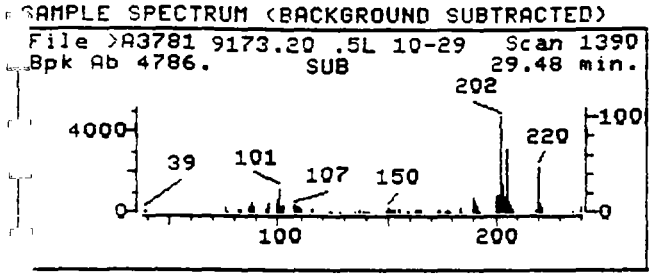
BTL# 3
Quant ID File: IDBNA::D4
Last Calibration: 921024 20:25

Compound No: 64
Compound Name: Di-n-butylphthalate
Scan Number: 1261
Retention Time: 27.13 min.
Quant Ion: 149.0
Area: 10641
Concentration: 1.02 ng/uL
q-value: 81

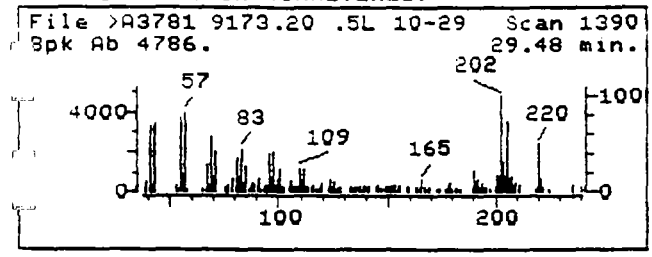
REFERENCE STANDARD SPECTRUM

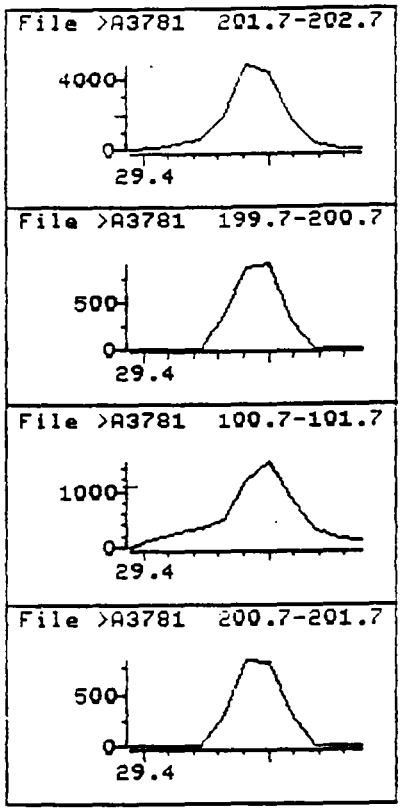


SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)





Data File: >A3781::D3
Name: 9173.20 .5L 10-29
Misc: 9173.20 .5L 10-29
Quant Time: 921031 20:21
Injected at: 921031 19:35

Quant Output File: ^A3781::DB

BTL# 3

Quant ID File: IDBNA::D4
Last Calibration: 921024 20:25

Compound No: 68
Compound Name: Pyrene
Scan Number: 1390
Retention Time: 29.48 min.
Quant Ion: 202.0
Area: 15718
Concentration: 1.48 ng/uL
q-value: 89

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO: 9173.20 .5L

Lab Name: Environmental Profile Lab NJDEP Cert.# 15526

Matrix: Water

Sample wt/vol: 500 (g/mL) mL

Level: (low/med) LOW

Extraction: (Sepf/Cont/Sonc) Sep. Funnel

GPC Cleanup: (Y/N) N

Lab Sample ID: 9173.20 .5L

Lab File ID: >A3781

Date Received: 10-26-92

Date Extracted: 10-29-92

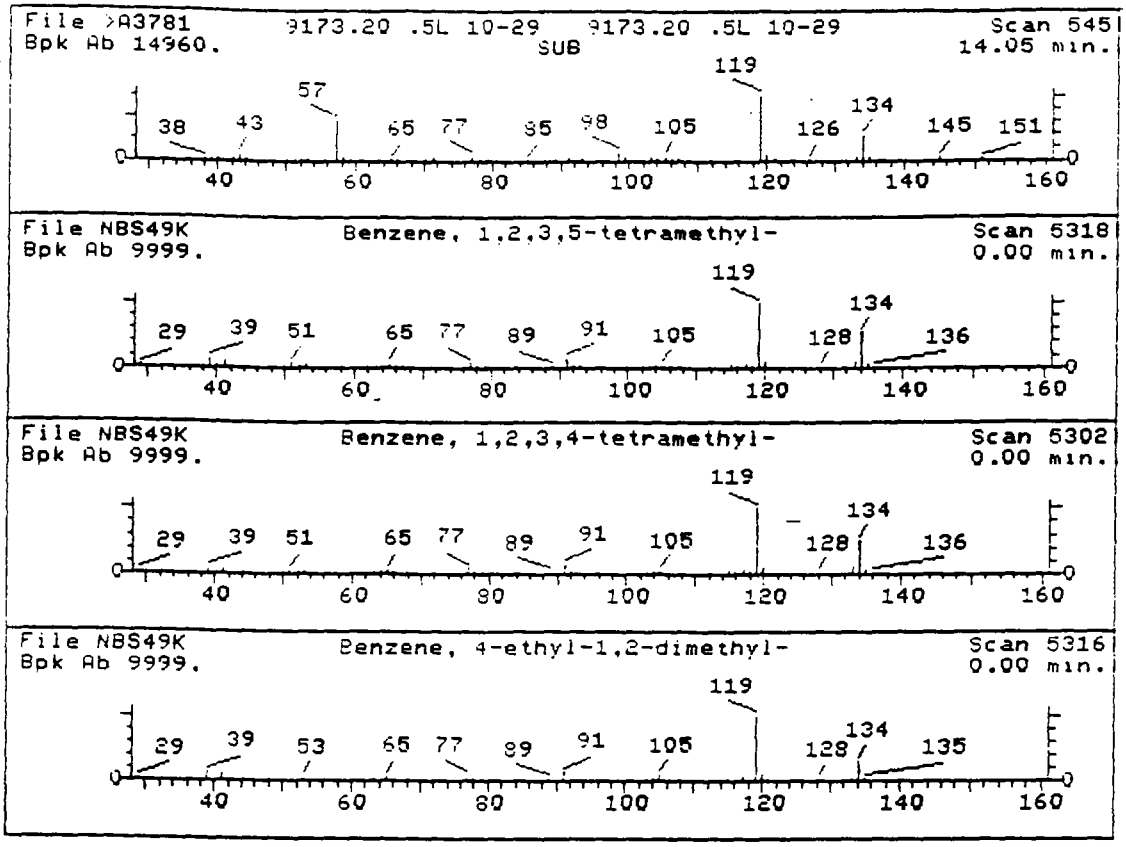
Date Analyzed: 10/31/92

Dilution Factor: 2

Number of TICs found: 15

CONCENTRATION UNITS: ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1	527537	Benzene, 1,2,3,5-tetramethyl	14.05	56	60
2	17057828	1H-Indene, 2,3-dihydro-1,2-d	14.98	64	73
3	6044719	Dodecane, 6-methyl-	15.27	70	88
4	62016335	Octane, 2,3,6-trimethyl-	16.42	108	83
5	91576	Naphthalene, 2-methyl-	17.31	132	87
6	20027774	Naphthalene, 1,2,3,4-tetrahy	17.83	70	44
7	1127760	Naphthalene, 1-ethyl-	18.79	48	81
8	575439	Naphthalene, 1,6-dimethyl-	19.01	74	95
9	571584	Naphthalene, 1,4-dimethyl-	19.25	94	95
10	544763	Hexadecane	19.80	76	83
11		Unknown	20.03	48	
12	2245387	Naphthalene, 1,6,7-trimethyl	21.02	46	86
13	17312822	Undecane, 4,6-dimethyl-	22.79	148	70
14	74645980	Dodecane, 2,7,10-trimethyl-	23.65	240	83
15	544763	Hexadecane	26.25	64	76

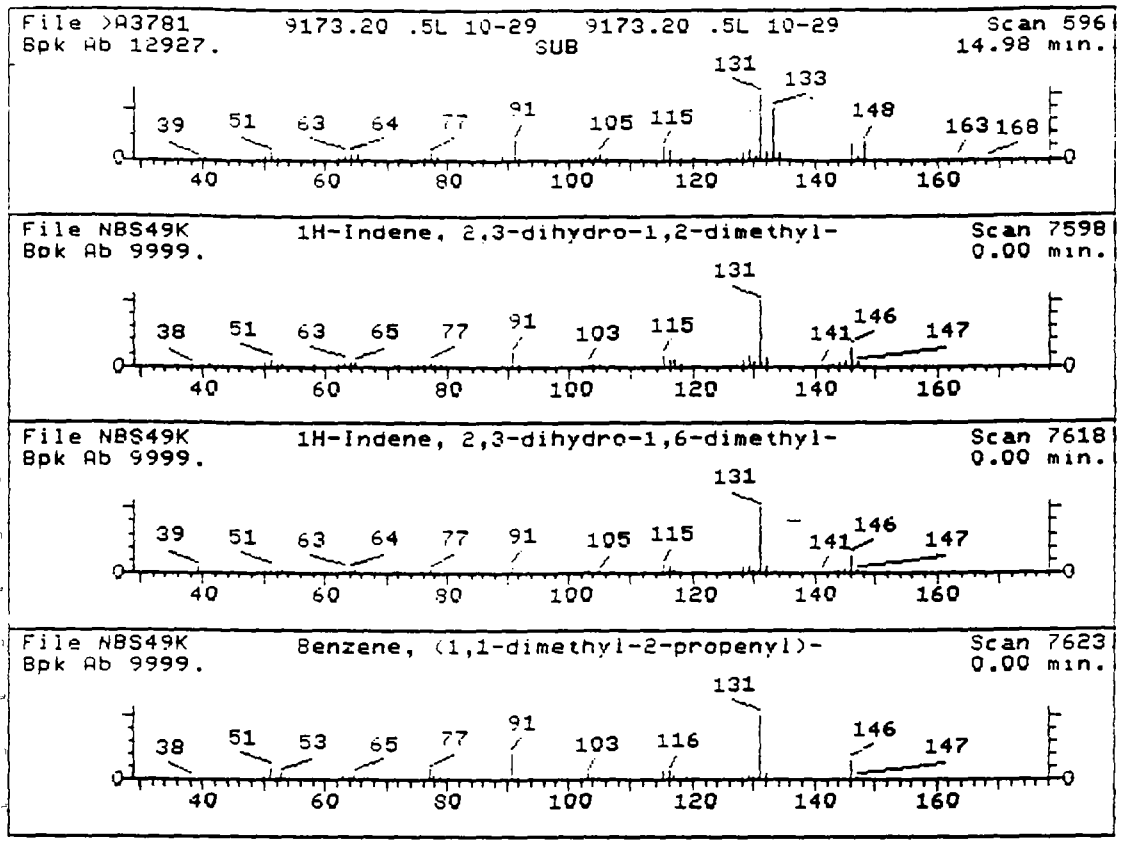


UNKNOWN #,1
AREA = 474960.0 TENTATIVE CONCENTRATION IS 28.00

1.	Benzene, 1,2,3,5-tetramethyl-	134 C10H14
2.	Benzene, 1,2,3,4-tetramethyl-	134 C10H14
3.	Benzene, 4-ethyl-1,2-dimethyl-	134 C10H14
4.	Ethanone, 1-(methylphenyl)-	134 C9H10O
5.	Benzene, 1,2,4,5-tetramethyl-	134 C10H14
6.	Benzene, 2-ethyl-1,4-dimethyl-	134 C10H14

Sample file: >A3781 Spectrum #: 545
Search speed: 1 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	60*	527537	16261	NBS49K	40	53	2	0	72	15	30	19
2.	60*	488233	16251	NBS49K	36	58	2	0	76	15	30	16
3.	60*	934805	13534	NBS49K	32	61	2	0	100	15	30	15
4.	60*	26444199	13526	NBS49K	27	65	3	0	100	15	30	13
5.	60*	95932	16262	NBS49K	31	71	2	0	70	14	30	14
6.	60*	1758889	13535	NBS49K	27	67	2	0	100	15	30	14



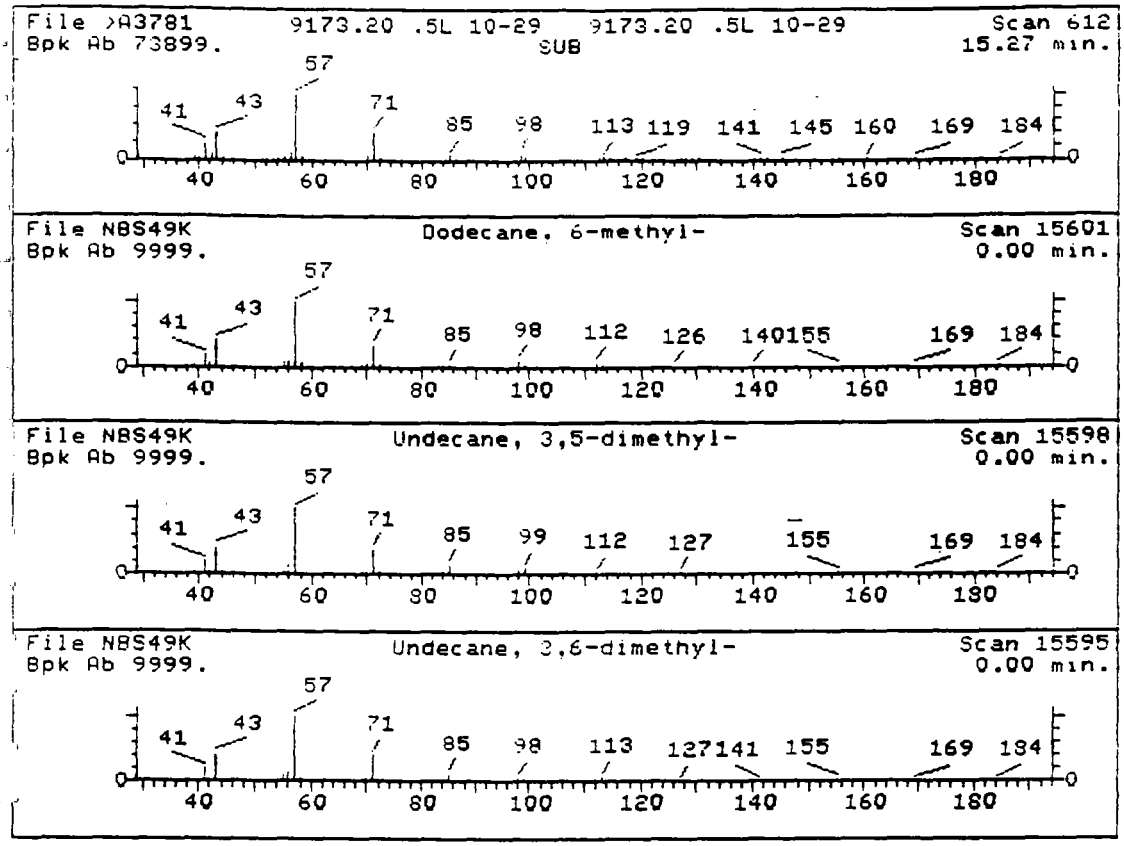
UNKNOWN #,2
AREA = 532142.0 TENTATIVE CONCENTRATION IS 32.00

1.	1H-Indene, 2,3-dihydro-1,2-dimethyl-	146 C11H14
2.	1H-Indene, 2,3-dihydro-1,6-dimethyl-	146 C11H14
3.	Benzene, (1,1-dimethyl-2-propenyl)-	146 C11H14
4.	Benzene, (3-methyl-2-butenyl)-	146 C11H14
5.	1H-Indene, 2,3-dihydro-1,3-dimethyl-	146 C11H14
6.	Benzene, 2-ethenyl-1,3,5-trimethyl-	146 C11H14

Sample file: >A3781 Spectrum #: 596
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.	73*	17057828	15754	NBS49K	84	20	2	1	84	24	32	60
2.	68*	17059482	15757	NBS49K	75	24	2	2	98	24	30	54
3.	58*	18321363	15759	NBS49K	58	44	2	4	92	19	25	28
4.	55*	4489843	18709	NBS49K	67	39	2	3	58	32	20	39
5.	54*	4175535	15758	NBS49K	75	26	2	0	88	45	17	57
6.	40*	769255	18714	NBS49K	71	39	2	2	31	49	12	44

H2

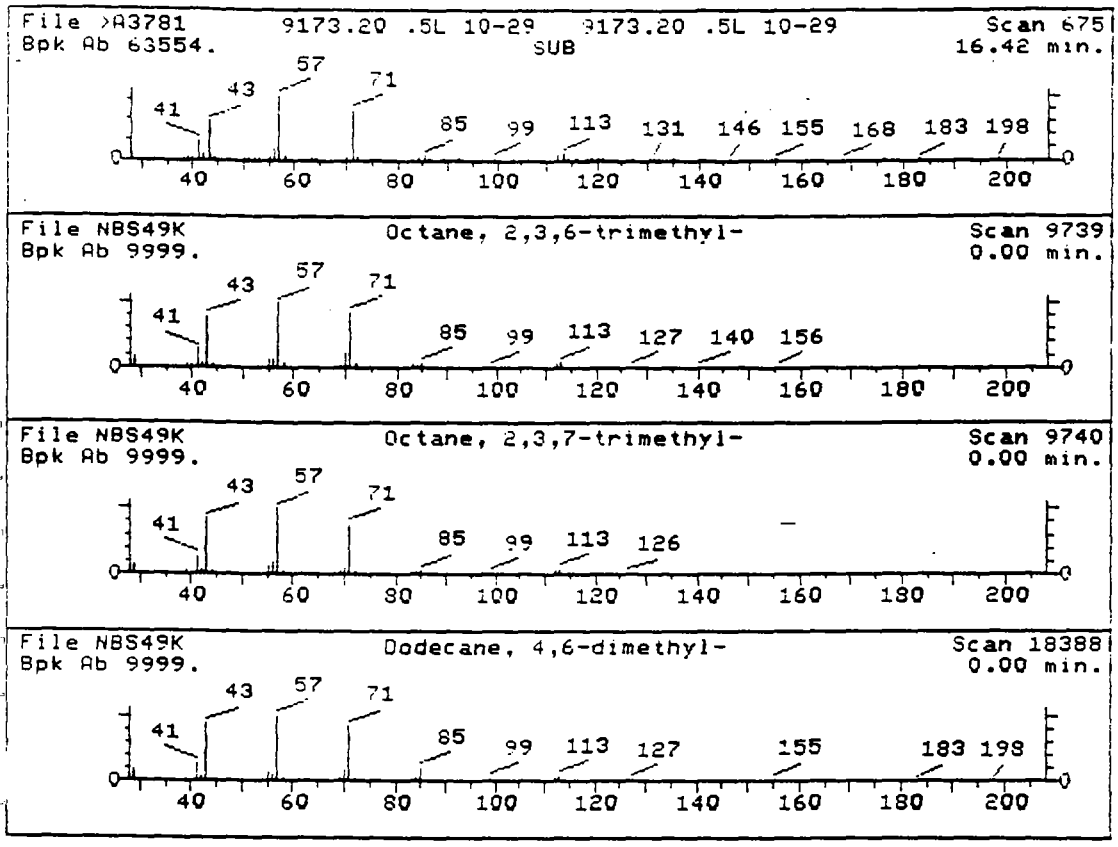


UNKNOWN #,3
AREA = 595423.0 TENTATIVE CONCENTRATION IS 35.00

1.	Dodecane, 6-methyl-	184 C13H28
2.	Undecane, 3,5-dimethyl-	184 C13H28
3.	Undecane, 3,6-dimethyl-	184 C13H28
4.	Undecane, 2,6-dimethyl-	184 C13H28
5.	Undecane, 4,6-dimethyl-	184 C13H28
6.	Undecane, 2,5-dimethyl-	184 C13H28

Sample file: >A3781 Spectrum #: 612
Search speed: 1 Tilting option: F No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	88*	6044719	9562	NBS49K	76	21	2	1	98	3	65	5
2.	83*	17312811	9853	NBS49K	51	47	2	0	95	4	57	2
3.	81*	17301289	4386	NBS49K	70	27	2	2	80	6	53	4
4.	74*	17301234	9563	NBS49K	69	33	2	2	73	14	39	4
5.	70*	17312822	4387	NBS49K	62	36	1	4	67	17	32	5
6.	68*	17301223	12182	NBS49K	67	32	1	3	81	22	30	5



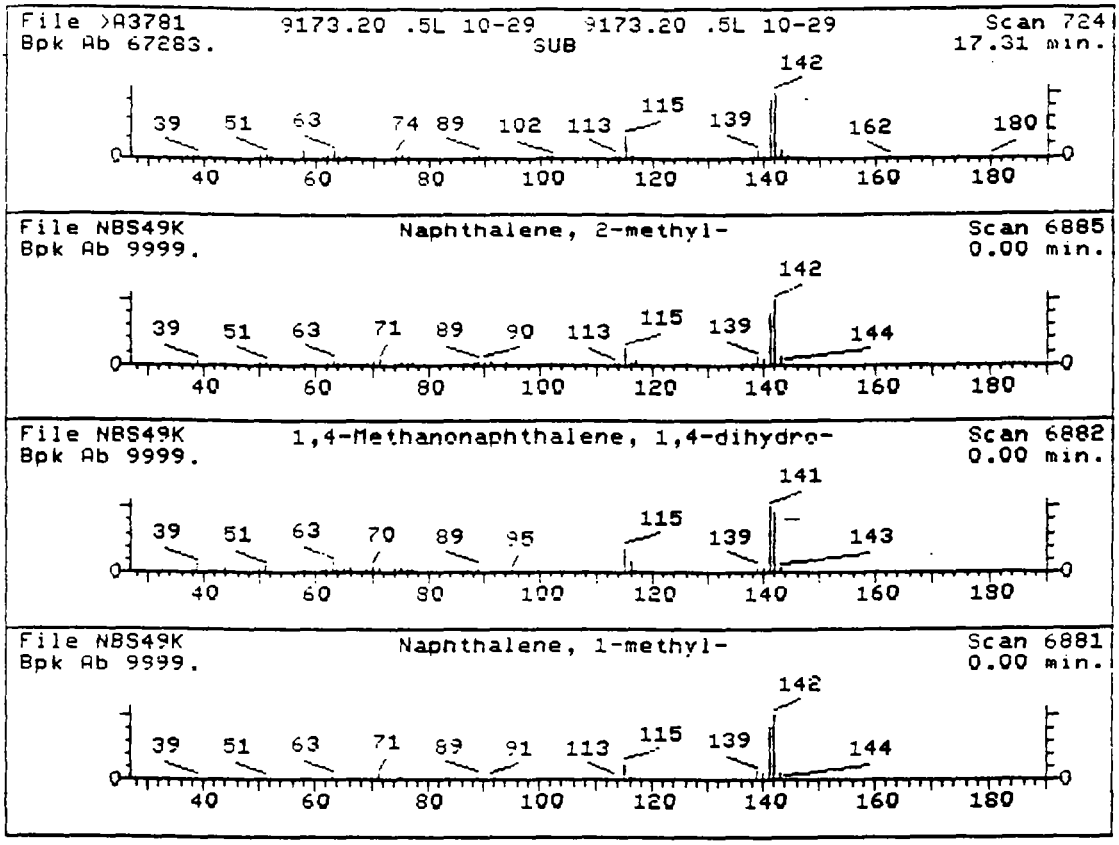
UNKNOWN #,4

AREA = 913884.0 TENTATIVE CONCENTRATION IS 54.00

1.	Octane, 2,3,6-trimethyl-	156 C11H24
2.	Octane, 2,3,7-trimethyl-	156 C11H24
3.	Dodecane, 4,6-dimethyl-	198 C14H30
4.	Tridecane, 7-methyl-	198 C14H30
5.	Heptane, 3,3,5-trimethyl-	142 C10H22
6.	Heptane, 2,5,5-trimethyl-	142 C10H22

Sample file: >A3781 Spectrum #: 675
Search speed: 1 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	83	62016335	4356	NBS49K	67	25	2	0	75	5	57	2
2.	83	62016346	4357	NBS49K	64	29	2	0	69	5	57	2
3.	70*	61141728	4410	NBS49K	40	70	2	0	67	6	42	1
4.	67*	26730143	12201	NBS49K	64	47	3	3	100	12	34	2
5.	38	7154805	4330	NBS49K	46	38	2	0	78	29	14	1
6.	37	1189997	4328	NBS49K	45	45	2	0	81	29	14	1

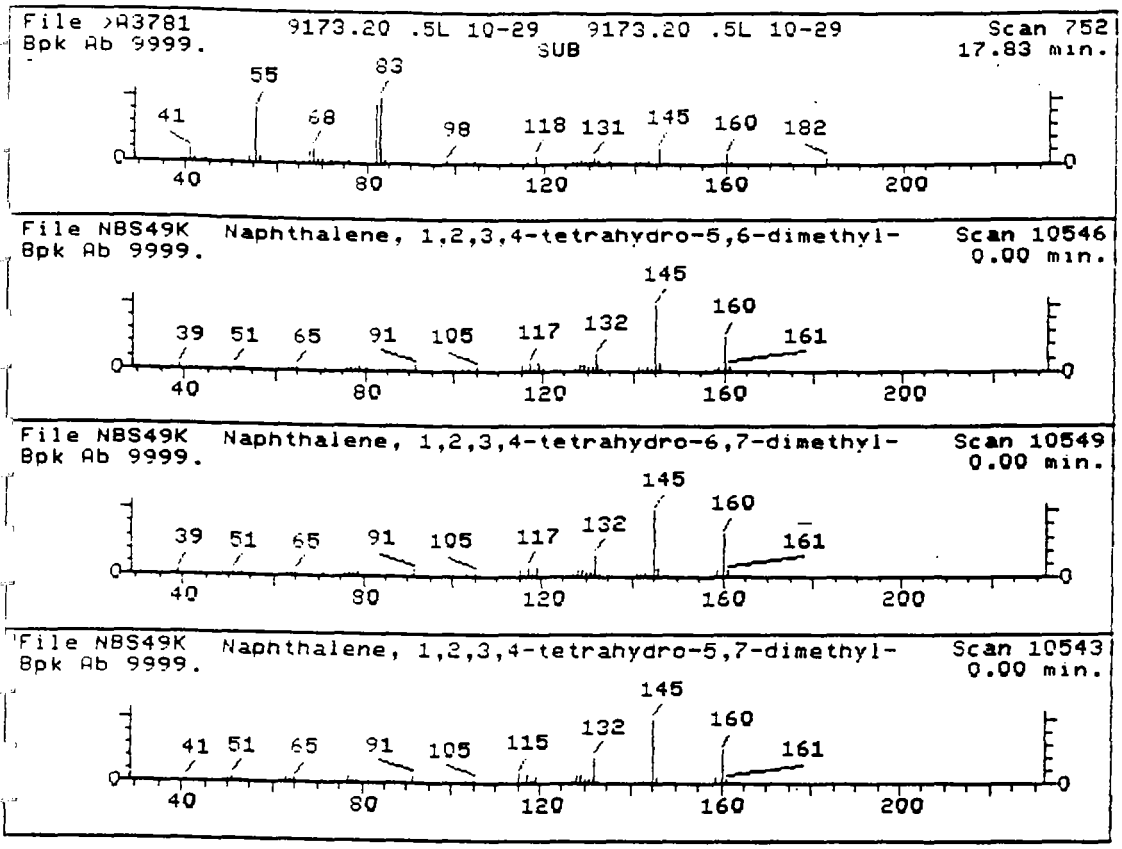


UNKNOWN #,5
AREA = 1109971. TENTATIVE CONCENTRATION IS 66.00

1.	Naphthalene, 2-methyl-	142 C11H10
2.	1,4-Methanonaphthalene, 1,4-dihydro-	142 C11H10
3.	Naphthalene, 1-methyl-	142 C11H10
4.	1H-Indene, 1-ethylidene-	142 C11H10
5.	Benzeneacetonitrile, 2-cyano-	142 C9H6N2
6.	BENZOCYCLOHEPTATRIENE	142 C11H10

Sample file: >A3781 Spectrum #: 724
Search speed: 1 Tilting option: F No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	87*	91576	18084	NBS49K	65	33	2	1	85	5	63	4
2.	86*	4453901	18081	NBS49K	64	38	2	-2	91	2	60	3
3.	70*	90120	18080	NBS49K	52	48	3	0	100	7	42	1
4.	63*	2471832	18082	NBS49K	55	45	2	0	76	20	30	3
5.	32*	3759282	18075	NBS49K	45	49	2	0	93	43	12	2
6.	32*	264095	18083	NBS49K	59	34	0	0	31	60	12	7

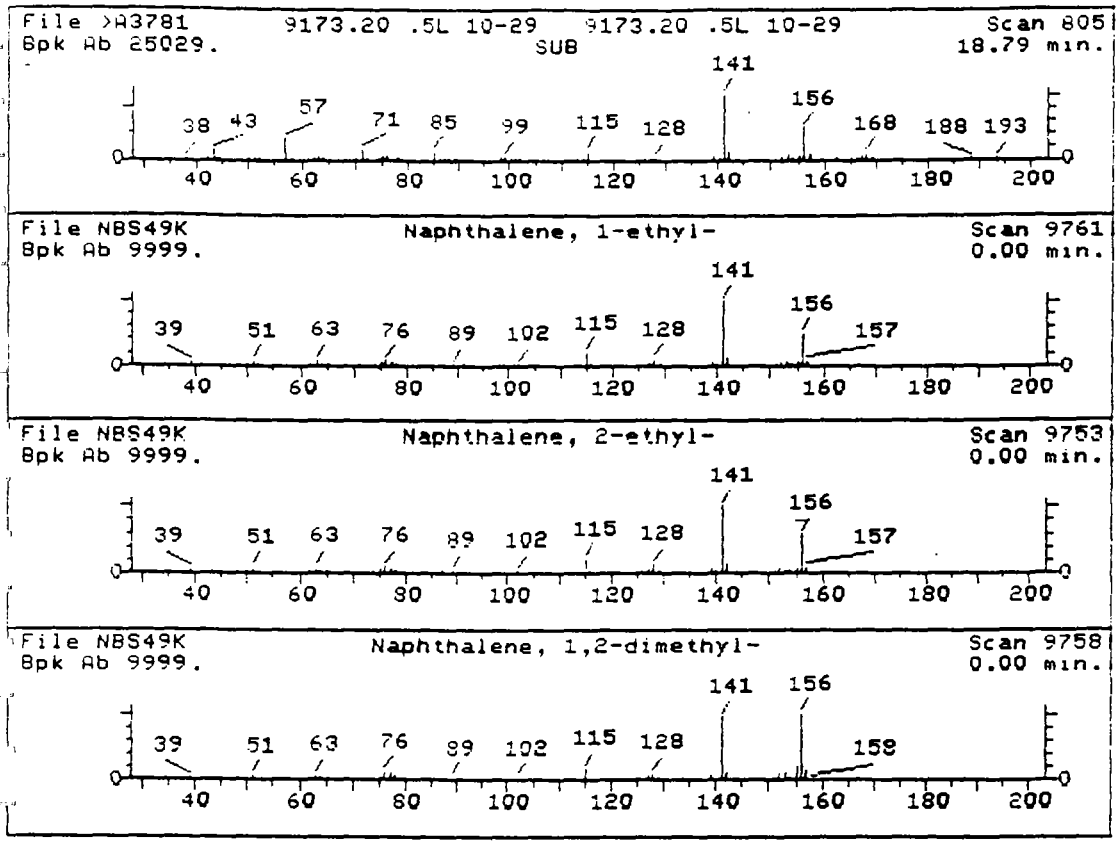


UNKNOWN #,6
AREA = 772017.0 TENTATIVE CONCENTRATION IS 35.00

1.	Naphthalene, 1,2,3,4-tetrahydro-5,6-dimethyl-	160	C12H16
2.	Naphthalene, 1,2,3,4-tetrahydro-6,7-dimethyl-	160	C12H16
3.	Naphthalene, 1,2,3,4-tetrahydro-5,7-dimethyl-	160	C12H16
4.	Benzenepropanoic acid, 3,4-dihydroxy-	182	C9H1004
5.	Cyclohexane, 1,1'-(1,4-butanediyl)bis-	222	C16H30
6.	Decane 2-cyclohexyl-, 2-cyclohexyl-	224	C16H32

Sample file: >A3781 Spectrum #: 752
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.	44*	20027774	21177	NBS49K	43	51	2	1	30	22	17	15
2.	41*	1076615	21180	NBS49K	38	58	2	2	37	21	17	12
3.	35*	21693549	21175	NBS49K	38	59	2	3	46	29	14	12
4.	31*	1078611	24755	NBS49K	44	42	1	2	39	44	8	19
5.	30*	6165442	6066	NBS49K	30	90	3	0	100	32	12	13
6.	30*	13151730	6071	NBS49K	36	101	3	0	89	34	12	13

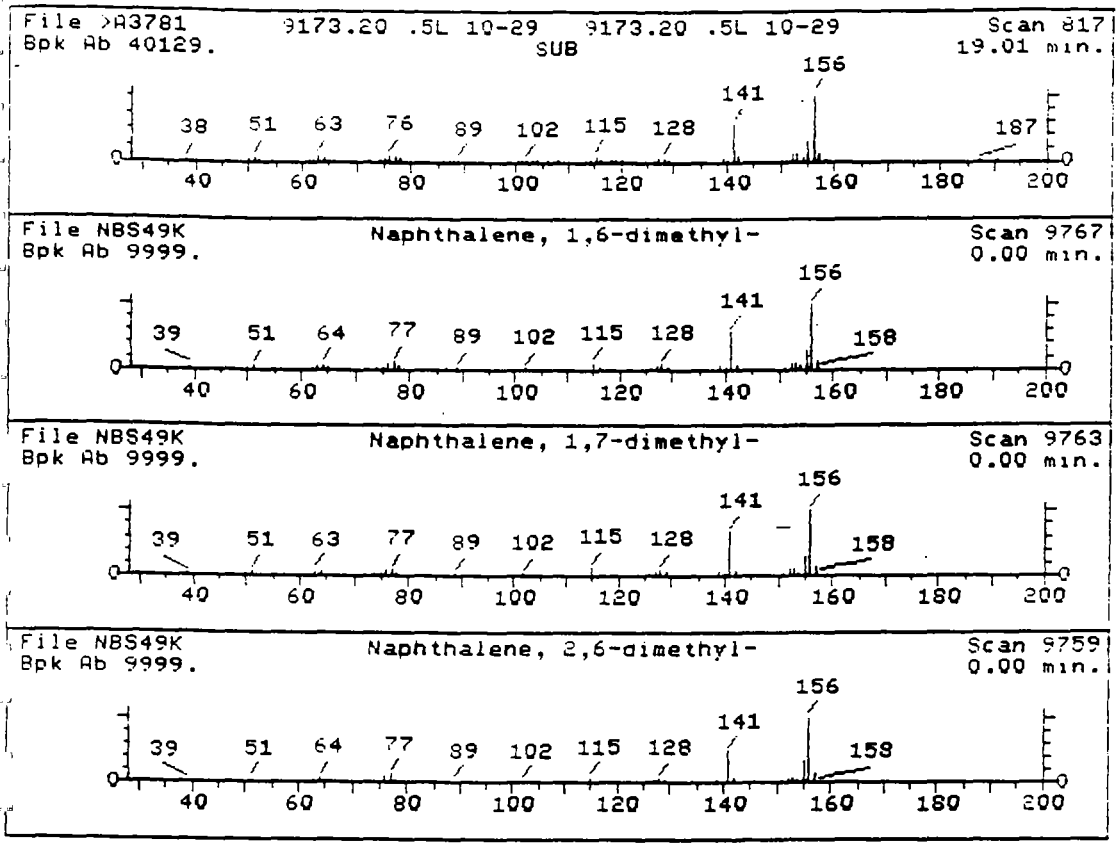


UNKNOWN #,7
AREA = 530970.0 TENTATIVE CONCENTRATION IS 24.00

1.	Naphthalene, 1-ethyl-	156 C12H12
2.	Naphthalene, 2-ethyl-	156 C12H12
3.	Naphthalene, 1,2-dimethyl-	156 C12H12
4.	Naphthalene, 1,4-dimethyl-	156 C12H12
5.	Naphthalene, 1,3-dimethyl-	156 C12H12
6.	Naphthalene, 1,8-dimethyl-	156 C12H12

Sample file: >A3781 Spectrum #: 805
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.	81*	1127760	20516	NBS49K	69	30	2	-2	79	7	53	40
2.	79*	939275	20508	NBS49K	72	34	2	-3	72	9	48	37
3.	39*	573988	20513	NBS49K	55	58	2	4	56	36	14	26
4.	37*	571584	20520	NBS49K	45	48	2	0	48	36	14	24
5.	35*	575417	20519	NBS49K	50	42	2	0	48	48	11	31
6.	32*	569415	20515	NBS49K	46	49	2	0	48	45	12	23

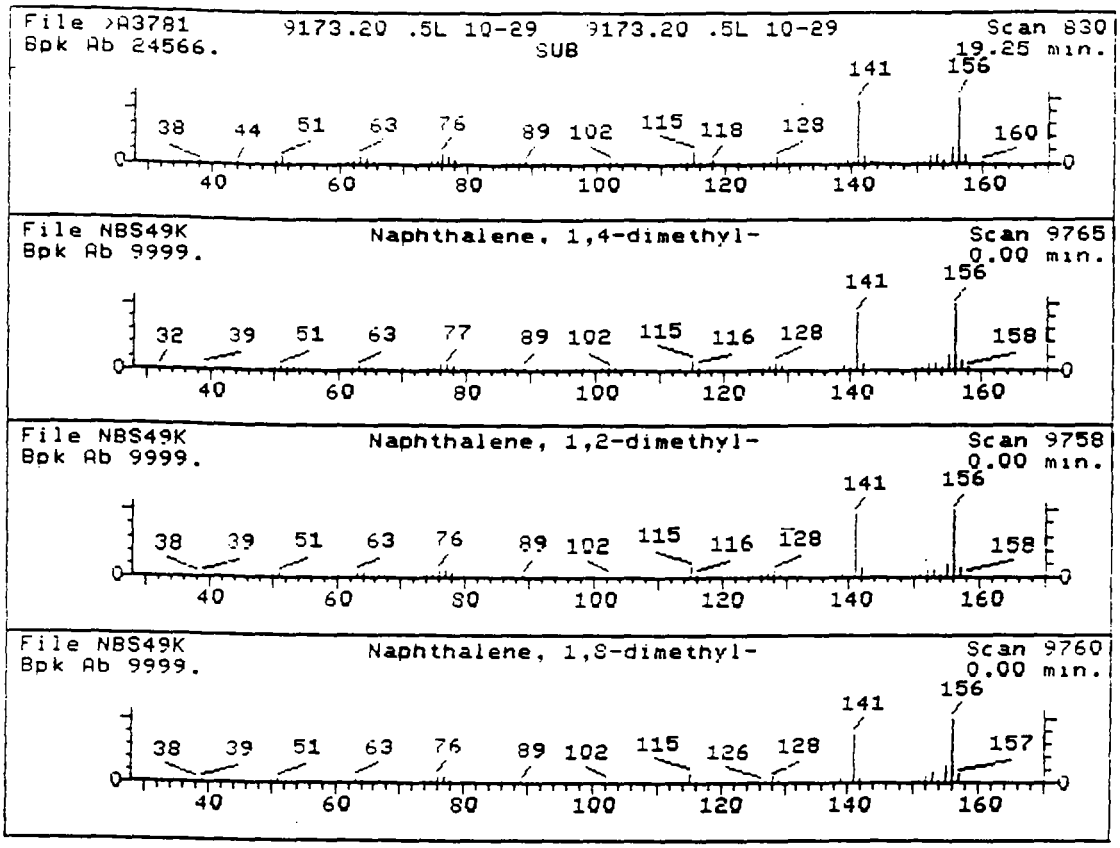


UNKNOWN #,8
AREA = 820316.0 TENTATIVE CONCENTRATION IS 37.00

1.	Naphthalene, 1,6-dimethyl-	156	C12H12
2.	Naphthalene, 1,7-dimethyl-	156	C12H12
3.	Naphthalene, 2,6-dimethyl-	156	C12H12
4.	Naphthalene, 1,5-dimethyl-	156	C12H12
5.	Naphthalene, 1,2-dimethyl-	156	C12H12
6.	Naphthalene, 1,4-dimethyl-	156	C12H12

Sample file: >A3781 Spectrum #: 817
Search speed: 1 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	95*	575439	20522	NBS49K	98	10	1	0	76	0	72	9
2.	89*	575371	20518	NBS49K	92	16	2	0	78	0	66	7
3.	89*	581420	20514	NBS49K	88	17	1	0	74	10	62	8
4.	89*	571619	20523	NBS49K	82	27	2	0	72	0	66	6
5.	74*	573988	20513	NBS49K	74	39	1	0	56	29	37	7
6.	74*	571584	20520	NBS49K	67	41	1	-3	76	15	39	4

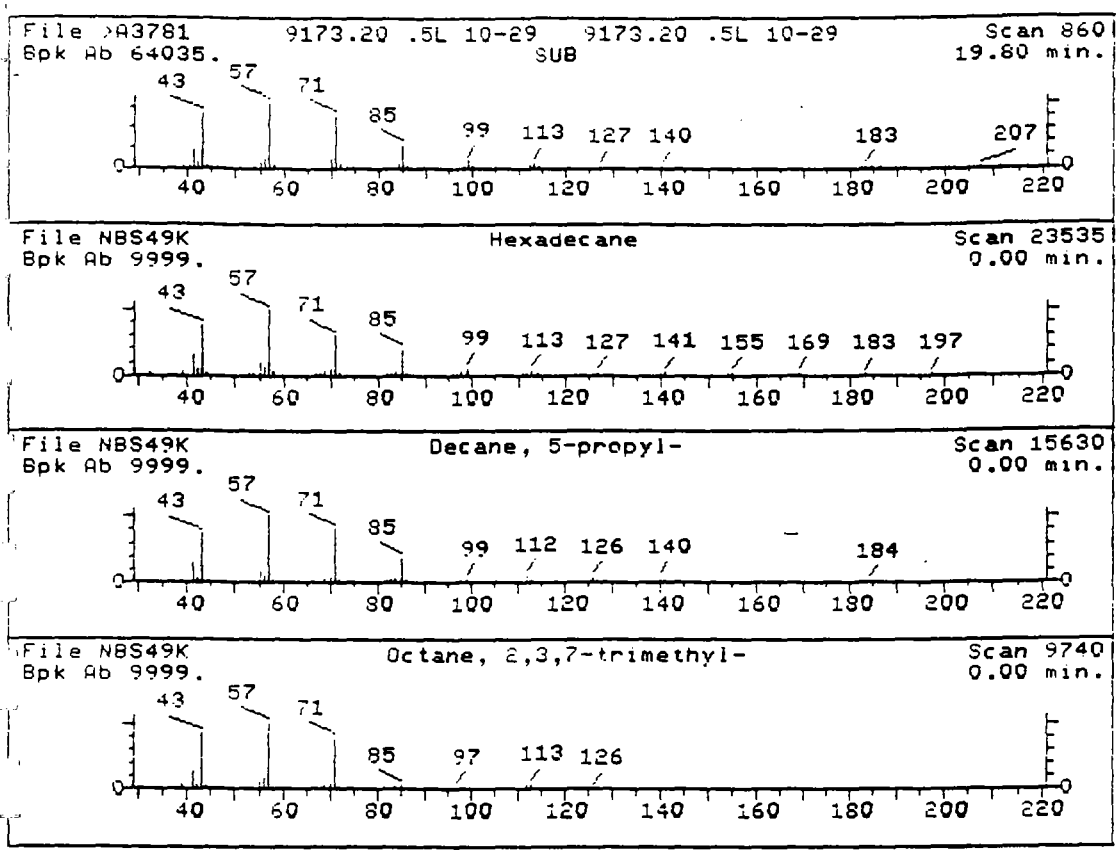


UNKNOWN #,9
AREA = 1031954. TENTATIVE CONCENTRATION IS 47.00

1.	Naphthalene, 1,4-dimethyl-	156 C12H12
2.	Naphthalene, 1,2-dimethyl-	156 C12H12
3.	Naphthalene, 1,8-dimethyl-	156 C12H12
4.	Naphthalene, 2,3-dimethyl-	156 C12H12
5.	Naphthalene, 1,6-dimethyl-	156 C12H12
6.	Naphthalene, 1,7-dimethyl-	156 C12H12

Sample file: >A3781 Spectrum #: 830
Search speed: 1 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	95*	571584	20520	NBS49K	101	7	1	1	92	1	72	9
2.	93*	573988	20513	NBS49K	90	23	1	0	83	4	68	8
3.	89*	569415	20515	NBS49K	91	19	2	0	87	4	66	7
4.	86*	581408	20512	NBS49K	92	14	2	0	98	6	59	7
5.	81*	575439	20522	NBS49K	77	31	1	0	81	20	45	7
6.	81*	575371	20518	NBS49K	77	31	1	0	84	20	45	7

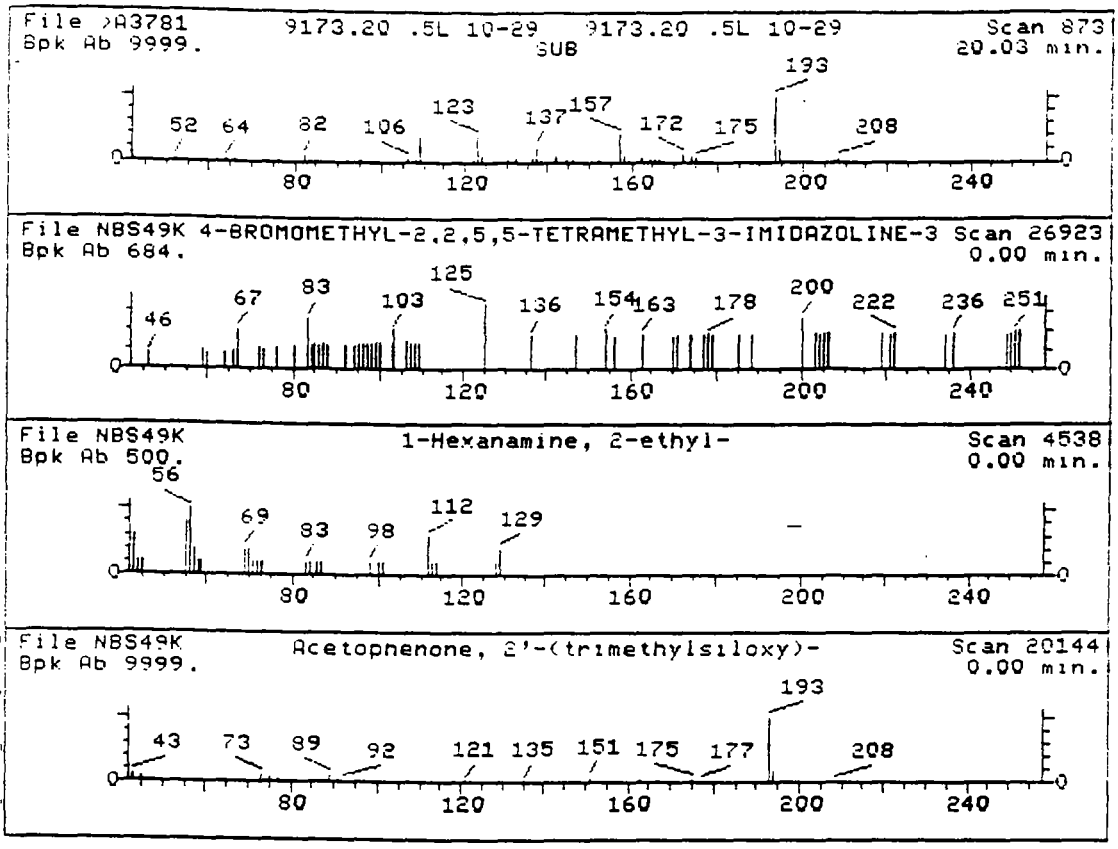


UNKNOWN #,10
AREA = 834292.0 TENTATIVE CONCENTRATION IS 38.00

1.	Hexadecane	226 C16H34
2.	Decane, 5-propyl-	184 C13H28
3.	Octane, 2,3,7-trimethyl-	156 C11H24
4.	Octane, 2,3,6-trimethyl-	156 C11H24
5.	Nonane, 4-methyl-5-propyl-	184 C13H28
6.	Nonane, 2,3-dimethyl-	156 C11H24

Sample file: >A3781 Spectrum #: 860
Search speed: 1 Tilting option: F No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	83	544763	6835	NBS49K	80	40	2	0	88	4	57	2
2.	76*	17312628	4395	NBS49K	56	55	2	3	97	7	45	2
3.	67	62016346	4357	NBS49K	63	30	2	0	81	13	34	2
4.	67	62016335	4356	NBS49K	57	35	1	0	69	13	34	2
5.	60*	62185551	12180	NBS49K	50	62	3	0	100	15	30	1
6.	60	2884062	12128	NBS49K	61	40	2	0	70	14	30	1

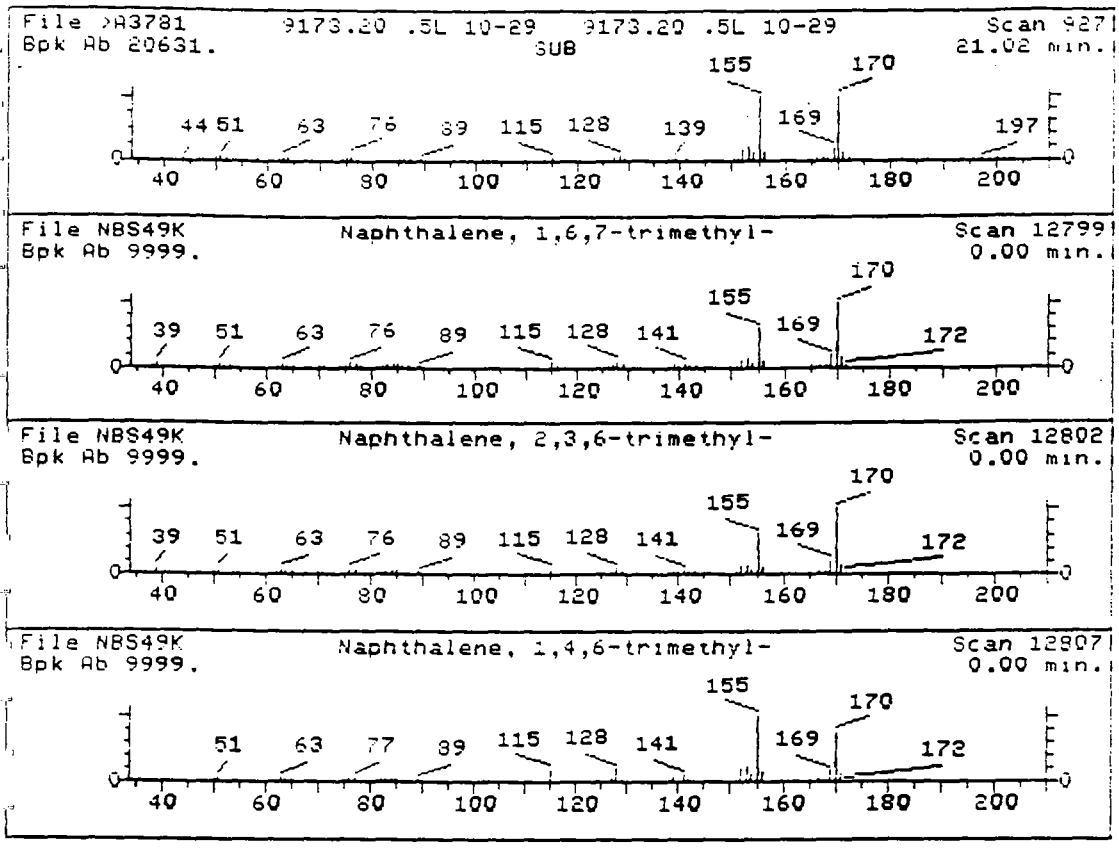


UNKNOWN #,11
AREA = 533932.0 TENTATIVE CONCENTRATION IS 24.00

1.	4-BROMOMETHYL-2,2,5,5-TETRAMETHYL-3-IMIDAZOLINE-3-OXIDE-1-OXILE	249	C8H14BrN2O2
2.	1-Hexanamine, 2-ethyl-	129	C8H19N
3.	Acetophenone, 2'-(trimethylsiloxy)-	208	C11H16O2Si
4.	3-PHENYLINDOLE	193	C14H11N
5.	Acridine, 9-methyl-	193	C14H11N
6.	1,5-Methano-8H-pyrido[1,2-a][1,5]diazocin-8-one, decahydro-4-(2-propenyl)-, [1S-(1.alpha.,4.alpha.,5.alpha.,11a.alpha.)]-	234	C14H22N2O

Sample file: >A3781 Spectrum #: 873
Search speed: 1 Tilting option: F No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	73*	51973274	209	NBS49K	82	9	1	2	19	47	30	8
2.	24*	104756	102	NBS49K	50	14	2	2	31	53	7	2
3.	15*	33342857	26512	NBS49K	28	82	2	0	100	60	3	1
4.	11*	1504161	26503	NBS49K	28	73	1	0	66	61	2	1
5.	11*	611643	26498	NBS49K	22	69	3	0	100	61	2	1

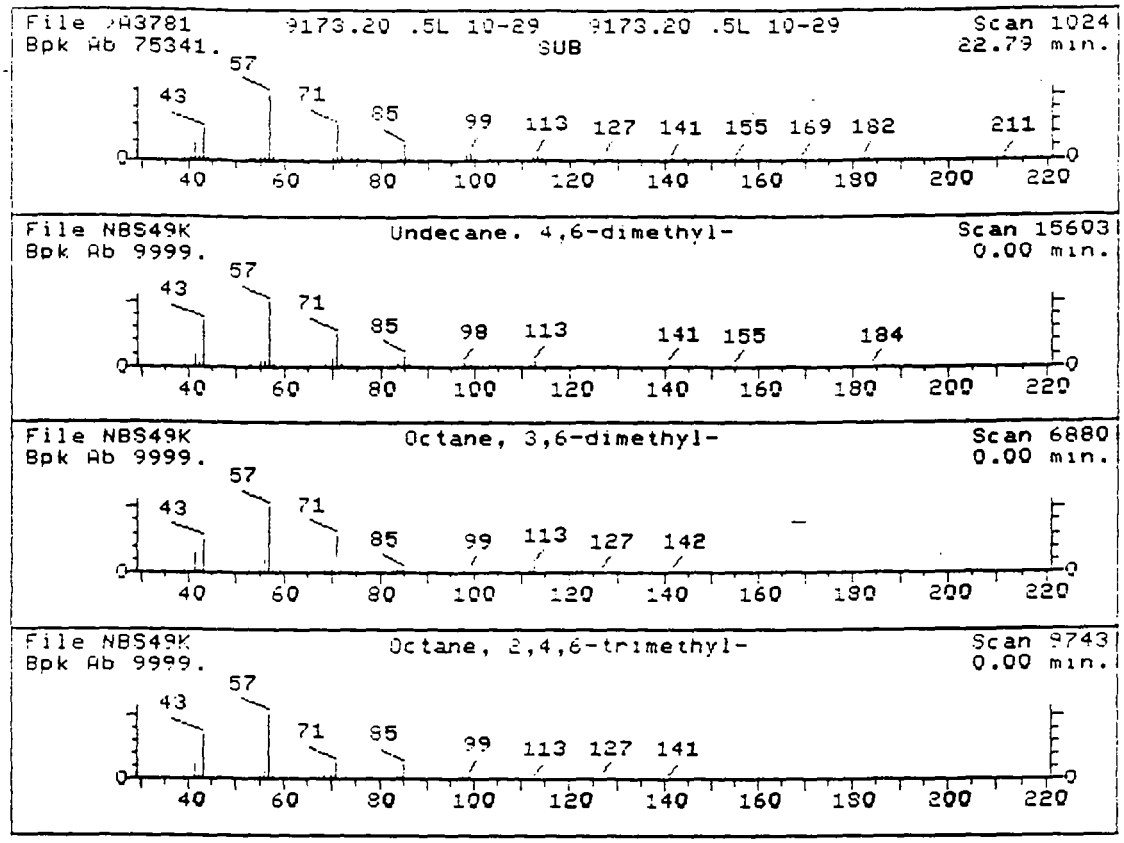


UNKNOWN #,12
AREA = 505767.0 TENTATIVE CONCENTRATION IS 23.00

1.	Naphthalene, 1,6,7-trimethyl-	170	C13H14-
2.	Naphthalene, 2,3,6-trimethyl-	170	C13H14
3.	Naphthalene, 1,4,6-trimethyl-	170	C13H14
4.	Naphthalene, 1,4,5-trimethyl-	170	C13H14
5.	Naphthalene, 1,3,6-trimethyl-	170	C13H14
6.	Naphthalene, 2-(1-methylethyl)-	170	C13H14

Sample file: >A3781 Spectrum #: 927
Search speed: 1 Tilting option: F No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	86*	2245387	22927	NBS49K	64	44	2	4	91	2	60	3
2.	86*	829265	22929	NBS49K	63	46	2	4	88	2	60	3
3.	63*	2131422	22933	NBS49K	58	61	2	0	85	19	30	3
4.	52*	2131411	22932	NBS49K	54	64	2	3	60	21	22	2
5.	34*	3031081	22928	NBS49K	34	34	2	0	97	31	12	1
6.	28*	2027170	20305	NBS49K	35	65	2	0	89	37	10	1

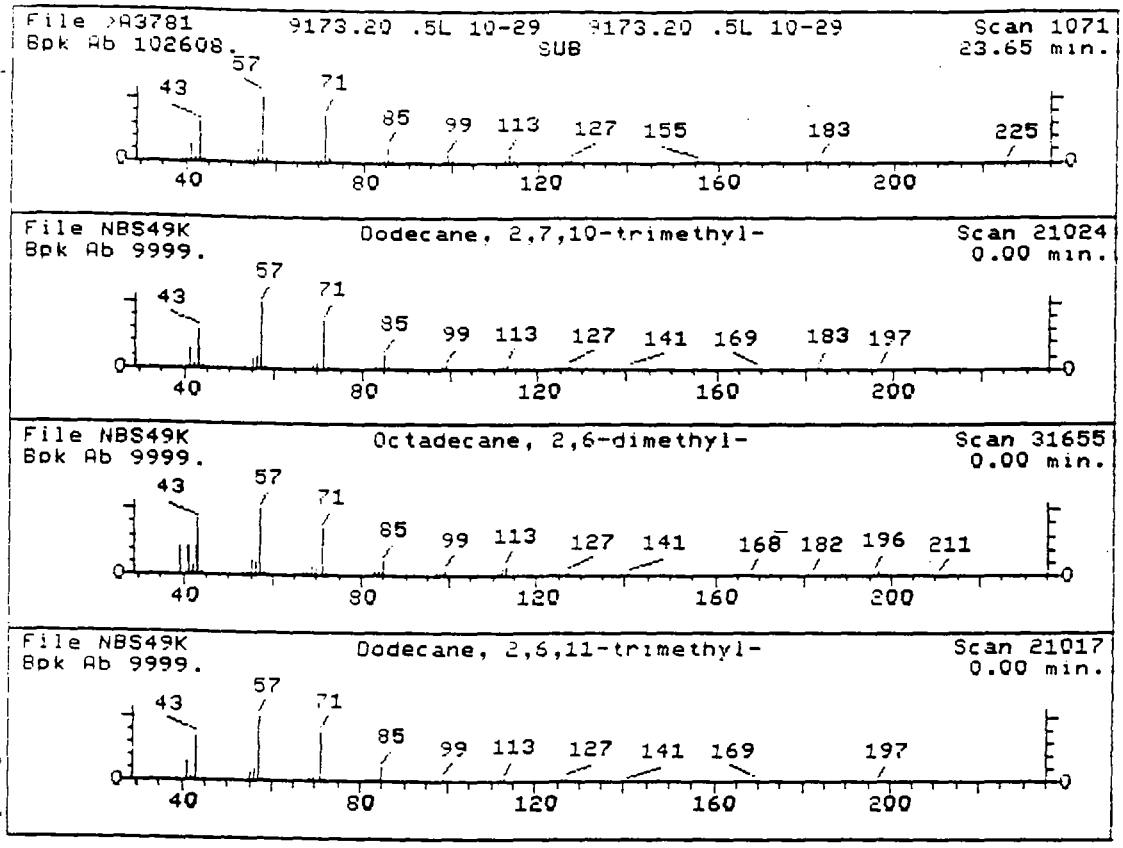


UNKNOWN #,13
AREA = 1102617. TENTATIVE CONCENTRATION IS 74.00

1.	Undecane, 4,6-dimethyl-	184 C13H28
2.	Octane, 3,6-dimethyl-	142 C10H22
3.	Octane, 2,4,6-trimethyl-	156 C11H24
4.	Hexadecane	226 C16H34
5.	Undecane, 6,6-dimethyl-	184 C13H28
6.	Pentane, 2,2,3,3-tetramethyl-	128 C9H20

Sample file: >A3781 Spectrum #: 1024
Search speed: 1 Tilting option: F No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IC
1.	70	17312822	4387	NBS49K	56	42	2	0	100	8	42	16
2.	52	15869940	12333	NBS49K	47	42	2	0	92	18	20	16
3.	43	62016379	6679	NBS49K	42	43	2	0	82	23	17	14
4.	40	544763	6835	NBS49K	71	49	2	0	60	28	14	17
5.	38	17312764	12432	NBS49K	65	33	2	4	68	30	14	15
6.	37	7154792	9706	NBS49K	44	45	2	0	73	30	14	14

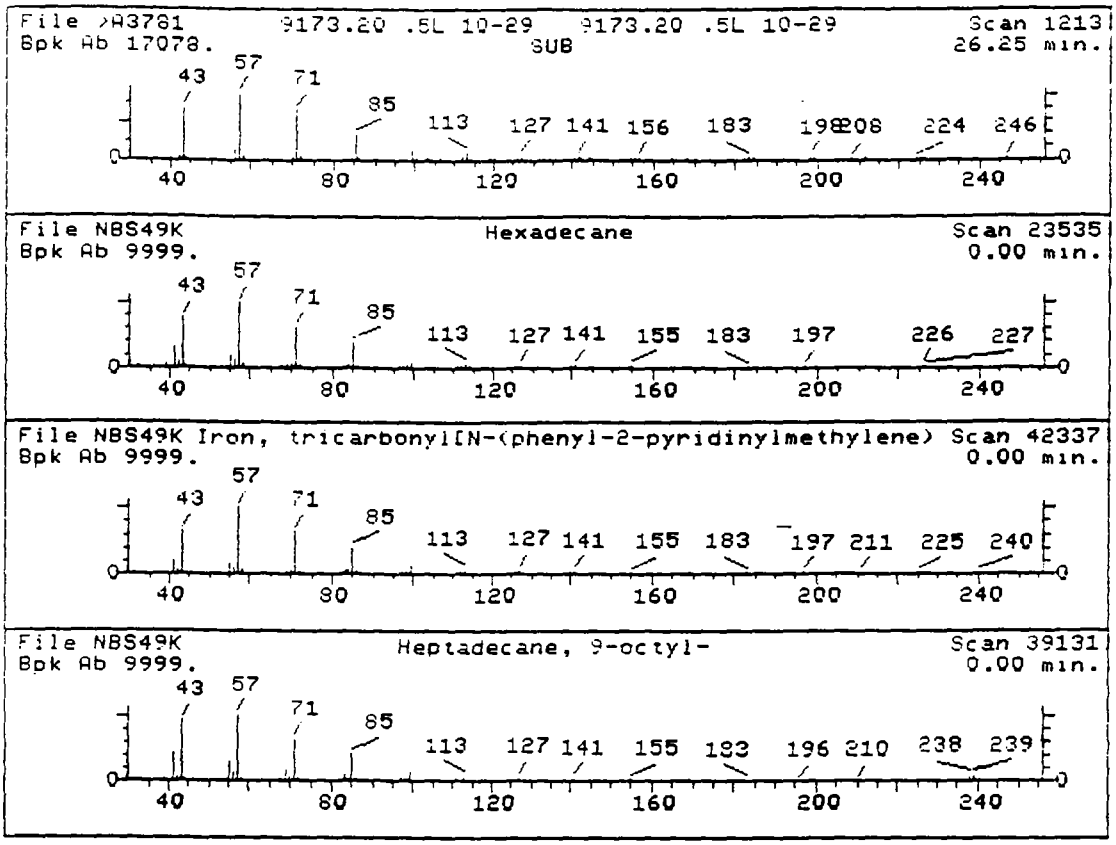


UNKNOWN #,14
AREA = 1742240. TENTATIVE CONCENTRATION IS 120.00

1.	Dodecane, 2,7,10-trimethyl-	212 C15H32
2.	Octadecane, 2,6-dimethyl-	282 C20H42
3.	Dodecane, 2,6,11-trimethyl-	212 C15H32
4.	Undecane, 4,6-dimethyl-	184 C13H28
5.	Octane, 3,6-dimethyl-	142 C10H22
6.	Octane, 2,3,6-trimethyl-	156 C11H24

Sample file: >A3781 Spectrum #: 1071
Search speed: 1 Tilting option: F No. of ion ranges searched: 48

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	83	74645980	4422	NBS49K	77	32	2	0	94	2	57	2
2.	78	75163972	12512	NBS49K	82	59	3	0	70	1	55	1
3.	70	31295564	4421	NBS49K	66	40	2	0	83	8	42	1
4.	70	17312822	4387	NBS49K	49	49	2	0	100	9	42	1
5.	52	15869940	12333	NBS49K	55	34	2	0	100	19	20	1
6.	52	62016335	4356	NBS49K	56	36	2	0	76	18	20	1



UNKNOWN #,15
AREA = 474968.0 TENTATIVE CONCENTRATION IS 32.00

1.	Hexadecane	226	C16H34
2.	Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N']-	398	C21H14FeN2O3
3.	Heptadecane, 9-octyl-	352	C25H52
4.	Tetratetracontane	618	C44H90
5.	Eicosane, 7-hexyl-	366	C26H54
6.	Decane, 5-propyl-	184	C13H28

Sample file: >A3781 Spectrum #: 1213
Search speed: 1 Tilting option: F No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	76	544763	6835	NBS49K	79	41	2	0	97	10	45	2
2.	76	74764117	6907	NBS49K	83	54	2	0	94	7	45	2
3.	70	7225641	6893	NBS49K	70	77	3	0	84	10	42	1
4.	70	7098228	9995	NBS49K	73	87	3	0	100	9	42	1
5.	70	55333998	6899	NBS49K	76	73	3	0	83	7	42	1
6.	66*	17312628	4395	NBS49K	62	49	2	0	94	20	31	4

55

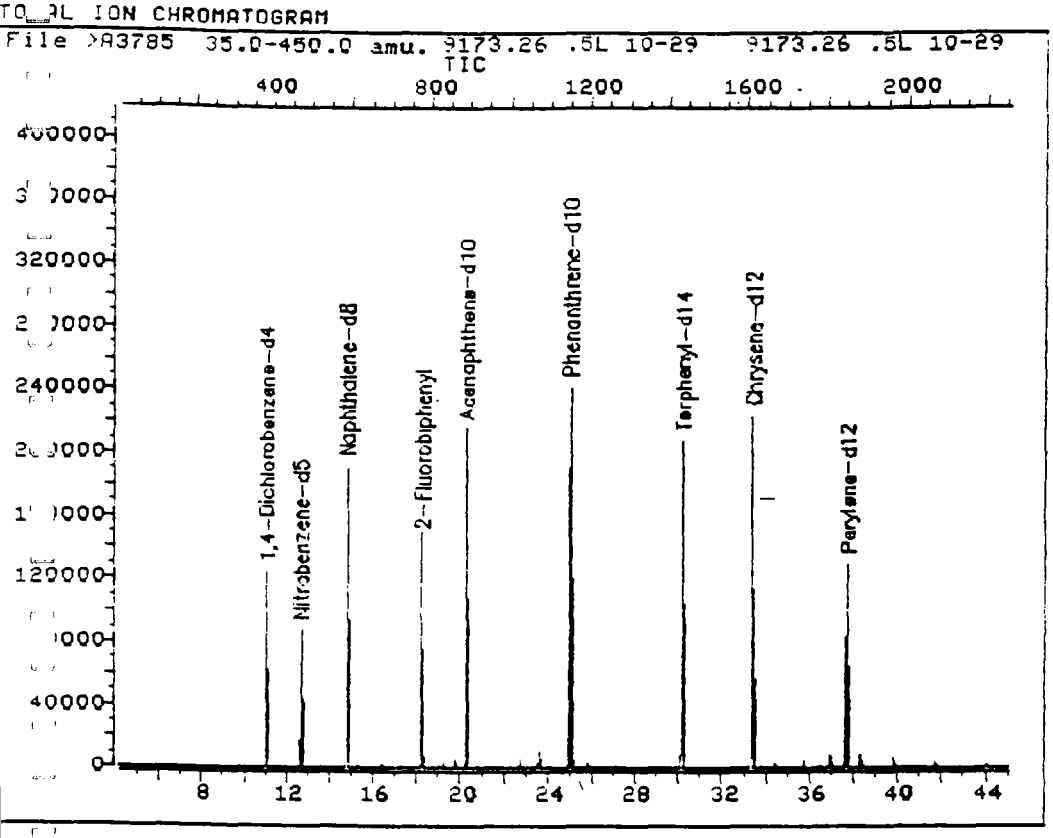
Environmental Profile Laboratories
BASE/NEUTRAL/ACID ANALYSIS DATA

PROJECT	9173	MATRIX	Water
SAMPLE ID	9173.26 .5L 10-29	DILUTION FACTOR	2.00
CLIENT NAME	Serv-Air	DATE RECEIVED	10-26-92
DATA FILE	>A3785	DATE ANALYZED	10/31/92

Compound	ug/L	MDL	Compound	ug/L	MDL
N-nitroso-dimethylamine	ND	20	Diethylphthalate	ND	20
bis(2-Chloroethyl)Ether	ND	20	4-Chlorophenyl-phenylether	ND	20
1,3-Dichlorobenzene	ND	20	Fluorene	ND	20
1,4-Dichlorobenzene	ND	20	N-Nitrosodiphenylamine	ND	20
Benzyl alcohol	ND	20	4-Bromophenyl-phenylether	ND	20
1,2-Dichlorobenzene	ND	20	Hexachlorobenzene	ND	20
bis(2-chloroisopropyl)ether	ND	20	Phenanthrene	ND	20
N-Nitroso-Di-n-propylamine	ND	20	Anthracene	ND	20
Hexachloroethane	ND	20	Di-n-butylphthalate	ND	20
Nitrobenzene	ND	20	Fluoranthene	ND	20
Isophorone	ND	20	Benzidine	ND	20
Benzoic Acid	ND	100	Pyrene	ND	20
bis(2-Chloroethoxy)methane	ND	20	Butylbenzylphthalate	ND	20
1,2,4-Trichlorobenzene	ND	20	3,3`-Dichlorobenzidine	ND	20
Naphthalene	ND	20	Benzo(a)anthracene	ND	20
Hexachlorobutadiene	ND	20	bis(2-Ethylhexyl)phthalate	ND	20
2-Methylnaphthalene	ND	20	Chrysene	ND	20
Hexachlorocyclopentadiene	ND	20	Di-n-octylphthalate	ND	20
2-Chloronaphthalene	ND	20	Benzo(b)fluoranthene	ND	20
Dimethylphthalate	ND	20	Benzo(k)fluoranthene	ND	20
Acenaphthylene	ND	20	Benzo(a)pyrene	ND	20
Acenaphthene	ND	20	Indeno(1,2,3-cd)pyrene	ND	20
Dibenzofuran	ND	20	Dibenz(a,h)anthracene	ND	20
2,6-Dinitrotoluene	ND	20	Benzo(g,h,i)perylene	ND	20
2,4-Dinitrotoluene	ND	20	1,2-Diphenylhydrazine	ND	20

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

TO 3L ION CHROMATOGRAM



Data File: >A3785::D3 Quant Output File: ^A3785::DB
Name: 9173.26 .5L 10-29
Misc: 9173.26 .5L 10-29 BTL# 7

Id File: IDBNA::D4
Title: Semivolatile Organics (EPA Methods 625/8270) by GC/MS
Last Calibration: 921024 20:25

Operator ID: MARK
Quant Time: 921101 00:09
Injected at: 921031 23:23

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE

9173.26

Lab Name: Environmental Profile Lab NJDEP Cert.# 15526

Matrix: Water

Lab Sample ID: 9173.26 .5

Sample wt/vol: 500 (g/mL) mL

Lab File ID: >A3785

Level: (low/med) LOW

Date Received: 10-26-92

Date Extracted: 10-29-92

Extraction: (Sepf/Cont/Sonc) Sep. Funnel

Date Analyzed: 10/31/92

GPC Cleanup: (Y/N) N

Dilution Factor: 2

Number of TICs found: 0

CONCENTRATION UNITS: ug/L

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: >A3754 DFTPP Injection Date: 10/30/92

Instrument ID: 5970 GC/MS #2 DFTPP Injection Time: 10:41

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	59.6
68	Less than 2.0% of mass 69	0.0(0.0)1
69	Mass 69 relative abundance	68.
70	Less than 2.0% of mass 69	0.0(0.0)1
127	40.0 - 60.0% of mass 198	44.9
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	6.8
275	10.0 - 30.0% of mass 198	18.3
365	Greater than 1.00% of mass 198	1.49
441	Present, but less than mass 443	8.3
442	Greater than 40.0% of mass 198	55.4
443	17.0 - 23.0% of mass 442	10.3(18.6)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	CCC/SPCC	>A3755	10/30/92	11:07
02	BNA AQ BLK	BNA AQ BLK	>A3761	10/30/92	17:21
03	9173.11 .5	9173.11 .5	>A3764	10/30/92	20:14
04	9173.12 .5	9173.12 .5	>A3765	10/30/92	21:11
05	9173.13 .5	9173.13 .5	>A3766	10/30/92	22:08
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
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20					
21					
22					

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: >A3777 DFTPP Injection Date: 10/31/92

Instrument ID: 5970 GC/MS #2 DFTPP Injection Time: 16:15

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	59.0
68	Less than 2.0% of mass 69	0.0(0.0)1
69	Mass 69 relative abundance	67.
70	Less than 2.0% of mass 69	0.0(0.0)1
127	40.0 - 60.0% of mass 198	42.3
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	6.7
275	10.0 - 30.0% of mass 198	16.6
365	Greater than 1.00% of mass 198	1.15
441	Present, but less than mass 443	6.5
442	Greater than 40.0% of mass 198	47.3
443	17.0 - 23.0% of mass 442	8.3(17.6)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	CCC/SPCC	>A3778	10/31/92	16:42
02	BNA Aq Bk.	BNA Aq Bk.	>A3779	10/31/92	17:40
03	9173.14 .5	9173.14 .5	>A3780	10/31/92	18:38
04	9173.20 .5	9173.20 .5	>A3781	10/31/92	19:35
05	9173.21 .5	9173.21 .5	>A3782	10/31/92	20:32
06	9173.22 .5	9173.22 .5	>A3783	10/31/92	21:29
07	9173.23 .5	9173.23 .5	>A3784	10/31/92	22:26
08	9173.26 .5	9173.26 .5	>A3785	10/31/92	23:23
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Continuing Calibration Check
-SL Compounds

Case No: Calibration Date: 10/30/92

Contractor: E.P.L. Time: 11:07

Contract No: NJDEPE ID# 15526 Laboratory ID: >A3755

Instrument ID: No. 2: Semivolatiles Initial Calibration Date: 10/20/92

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Pyridine	1.34978	1.79443	32.94		
N-nitroso-dimethylamine	.93353	1.09087	16.86		
2-Fluorophenol	1.53550	1.46898	4.33		
Phenol-d6	1.84381	2.09697	13.73		
Phenol	3.42875	3.63146	5.91	*	
Aniline	2.78598	2.92313	4.92		
bis(2-Chloroethyl)Ether	1.90466	2.10515	10.53		
2-Chlorophenol	1.98444	2.07574	4.60		
1,3-Dichlorobenzene-	1.89716	1.86455	1.72		
1,4-Dichlorobenzene	1.85437	1.86792	.73	*	
Benzyl alcohol	1.18885	1.27145	6.95		
1,2-Dichlorobenzene	2.04202	2.07862	1.79		
2-Methylphenol	1.74650	1.90983	9.35		
bis(2-chloroisopropyl)ether	2.79349	3.15464	12.93		
4-Methylphenol	1.54677	1.88306	21.74		
N-Nitroso-Di-n-propylamine	1.21335	1.87757	54.74		**
Hexachloroethane	.63118	.76170	20.68		
Nitrobenzene-d5	.43621	.46107	5.70		
Nitrobenzene	.49090	.53251	8.48		
Isophorone	1.06938	1.17677	10.04		
2-Nitrophenol	.32209	.33143	2.90	*	
2,4-Dimethylphenol	.42294	.41257	2.45		
Benzoic Acid	.17219	.13727	20.28		
bis(2-Chloroethoxy)methane	.62841	.67159	6.87		
2,4-Dichlorophenol	.43892	.42021	4.26	*	
1,2,4-Trichlorobenzene	.36894	.35511	3.75		
Naphthalene	.85279	.90224	5.80		
4-Chloroaniline	.52825	.53630	1.52		
Hexachlorobutadiene	.17144	.15931	7.07	*	
4-Chloro-3-methylphenol	.50564	.52297	3.43	*	
2-Methylnaphthalene	.64838	.66475	2.52		
Hexachlorocyclopentadiene	.37270	.37631	.97		**

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 (**)

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Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/30/92

Contractor: E.P.L. Time: 11:07

Contract No: NJDEPE ID# 15526 Laboratory ID: >A3755

Instrument ID: No. 2: Semivolatiles Initial Calibration Date: 10/20/92

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	.61438	.62022	.95	*	
2,4,5-Trichlorophenol	.54946	.56140	2.17		
2-Chloronaphthalene	1.38957	1.46163	5.19		
2-Fluorobiphenyl	1.27708	1.35203	5.87		
2-Nitroaniline	.62109	.67788	9.14		
Dimethylphthalate	1.76150	1.85116	5.09		
Acenaphthylene	1.43617	1.59040	10.74		
3-Nitroaniline	.44109	.45768	3.76		
Acenaphthene	1.05760	1.15336	9.05	*	
2,4-Dinitrophenol	.16678	.18621	11.65		**
4-Nitrophenol	.44455	.57444	29.22		**
Dibenzofuran	1.78619	1.97350	10.49		
2,6-Dinitrotoluene	.41168	.41679	1.24		
2,4-Dinitrotoluene	.70570	.71909	1.90		
Diethylphthalate	1.92316	2.00550	4.28		
4-Chlorophenyl-phenylether	.72240	.75795	4.92		
Fluorene	1.13568	1.26826	11.67		
4-Nitroaniline	.49928	.58707	17.58		
4,6-Dinitro-2-methylphenol	.19573	.20175	3.08		
N-Nitrosodiphenylamine	.51030	.54467	6.73	*	
1,2-Diphenylhydrazine	1.20198	1.38893	15.55		
2,4,6-Tribromophenol	.13780	.12755	7.44		
4-Bromophenyl-phenylether	.22386	.21823	2.51		
Hexachlorobenzene	.29539	.27130	8.15		
Pentachlorophenol	.20964	.21277	1.49	*	
Phenanthrene	.87511	.94238	7.69		
Anthracene	.84831	.91163	7.46		
Di-n-butylphthalate	1.68928	1.77664	5.17		
Fluoranthene	.97729	.99613	1.93	*	
Benzidine	.73655	.44271	39.89		
Pyrene	1.53572	1.49772	2.47		
Terphenyl-d14	1.21887	1.14823	5.80		

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: 10/30/92

Contractor: E.P.L. Time: 11:07

Contract No: NJDEPE ID# 15526 Laboratory ID: >A3755

Instrument ID: No. 2: Semivolatiles Initial Calibration Date: 10/20/92

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Butylbenzylphthalate	1.18513	1.14969	2.99		
3,3'-Dichlorobenzidine	.50938	.48319	5.14		
Benzo(a)anthracene	1.18618	1.19821	1.01		
bis(2-Ethylhexyl)phthalate	1.60918	1.61311	.24		
Chrysene	1.19297	1.18650	.54		
Di-n-octylphthalate	2.93044	2.48576	15.17	*	
Benzo(b)fluoranthene	1.16225	1.04596	10.01		
Benzo(k)fluoranthene	.99460	1.00403	.95		
Benzo(a)pyrene	.90613	.95991	5.94	*	
Indeno(1,2,3-cd)pyrene	.48893	.84001	71.81		
Dibenz(a,h)anthracene	.50255	.80535	60.25		
Benzo(g,h,i)perylene	.48078	.81268	69.03		

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

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

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Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 10/31/92

Contractor: E.P.L. Time: 16:42

Contract No: NJDEPE ID# 15526 Laboratory ID: A3778

Instrument ID: No. 2: Semivolatiles Initial Calibration Date: 10/20/92

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Pyridine	1.34978	1.66779	23.56		
N-nitroso-dimethylamine	.93353	1.09950	17.78		
2-Fluorophenol	1.53550	1.45910	4.98		
Phenol-d6	1.84381	2.05085	11.23		
Phenol	3.42875	3.56536	3.98	*	
Aniline	2.78598	2.84752	2.21		
bis(2-Chloroethyl)Ether	1.90466	1.99167	4.57		
2-Chlorophenol	1.98444	1.96588	.94		
1,3-Dichlorobenzene	1.89716	1.89936	.12		
1,4-Dichlorobenzene	1.85437	1.90608	2.79	*	
Benzyl alcohol	1.18885	1.29752	9.14		
1,2-Dichlorobenzene	2.04202	2.06721	1.23		
2-Methylphenol	1.74650	1.86832	6.97		
bis(2-chloroisopropyl)ether	2.79349	3.32817	19.14		
4-Methylphenol	1.54677	1.90827	23.37		
N-Nitroso-Di-n-propylamine	1.21335	1.85415	52.81		**
Hexachloroethane	.63118	.73090	15.80		
Nitrobenzene-d5	.43621	.46977	7.69		
Nitrobenzene	.49090	.51445	4.80		
Isophorone	1.06938	1.13544	6.18		
2-Nitrophenol	.32209	.34027	5.64	*	
2,4-Dimethylphenol	.42294	.42282	.03		
Benzoic Acid	.17219	.17344	.73		
bis(2-Chloroethoxy)methane	.62841	.63598	1.20		
2,4-Dichlorophenol	.43892	.45403	3.44	*	
1,2,4-Trichlorobenzene	.36894	.37407	1.39		
Naphthalene	.85279	.89427	4.86		
4-Chloroaniline	.52825	.54414	3.01		
Hexachlorobutadiene	.17144	.18498	7.90	*	
4-Chloro-3-methylphenol	.50564	.51711	2.27	*	
2-Methylnaphthalene	.64838	.68999	6.42		
Hexachlorocyclopentadiene	.37270	.41196	10.53		**

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: 10/31/92

Contractor: E.P.L. Time: 16:42

Contract No: NJDEPE ID# 15526 Laboratory ID: >A3778

Instrument ID: No. 2: Semivolatiles Initial Calibration Date: 10/20/92

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	.61438	.63315	3.06	*	
2,4,5-Trichlorophenol	.54946	.56757	3.29		
2-Chloronaphthalene	1.38957	1.39773	.59		
2-Fluorobiphenyl	1.27708	1.33096	4.22		
2-Nitroaniline	.62109	.65106	4.83		
Dimethylphthalate	1.76150	1.79167	1.71		
Acenaphthylene	1.43617	1.50484	4.78		
3-Nitroaniline	.44109	.44989	1.99		
Acenaphthene	1.05760	1.08646	2.73	*	
2,4-Dinitrophenol	.16678	.27766	66.48		**
4-Nitrophenol	.44455	.58723	32.10		**
Dibenzofuran	1.78619	1.86171	4.23		
2,6-Dinitrotoluene	.41168	.41009	.39		
2,4-Dinitrotoluene	.70570	.71306	1.04		
Diethylphthalate	1.92316	1.90434	.98		
4-Chlorophenyl-phenylether	.72240	.76347	5.68		
Fluorene	1.13568	1.20771	6.34		
4-Nitroaniline	.49928	.58318	16.80		
4,6-Dinitro-2-methylphenol	.19573	.25237	28.94		
N-Nitrosodiphenylamine	.51030	.52264	2.42	*	
1,2-Diphenylhydrazine	1.20198	1.26208	5.00		
2,4,6-Tribromophenol	.13780	.14544	5.55		
4-Bromophenyl-phenylether	.22386	.22775	1.74		
Hexachlorobenzene	.29539	.30278	2.50		
Pentachlorophenol	.20964	.24646	17.56	*	
Phenanthrene	.87511	.88969	1.67		
Anthracene	.84831	.85681	1.00		
Di-n-butylphthalate	1.68928	1.68264	.39		
Fluoranthene	.97729	.99087	1.39	*	
Benzidine	.73655	.43508	40.93		
Pyrene	1.53572	1.48456	3.33		
Terphenyl-d14	1.21887	1.19515	1.95		

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: 10/31/92

Contractor: E.P.L. Time: 16:42

Contract No: NJDEPE ID# 15526 Laboratory ID: >A3778

Instrument ID: No. 2: Semivolatiles Initial Calibration Date: 10/20/92

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Butylbenzylphthalate	1.18513	1.11385	6.01		
3,3'-Dichlorobenzidine	.50938	.56025	9.99		
Benzo(a)anthracene	1.18618	1.24210	4.71		
bis(2-Ethylhexyl)phthalate	1.60918	1.53031	4.90		
Chrysene	1.19297	1.28340	7.58		
Di-n-octylphthalate	2.93044	2.21495	24.42	*	
Benzo(b)fluoranthene	1.16225	1.04140	10.40		
Benzo(k)fluoranthene	.99460	.98769	.69		
Benzo(a)pyrene	.90613	.97865	8.00	*	
Indeno(1,2,3-cd)pyrene	.48893	.93955	92.17		
Dibenz(a,h)anthracene	.50255	.90552	80.19		
Benzo(g,h,i)perylene	.48078	.94646	96.86		

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: 10/20/92

Contract No: NJDEPE ID# 15526

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

Laboratory ID:	>A3659	>A3658	>A3660	>A3661	>A3662				
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC SPCC
Pyridine	1.49983	1.30304	1.17894	1.46307	1.30402	.423	1.34978	9.717	
N-nitroso-dimethylamine	.94969	.84757	.85853	1.01697	.99487	.423	.93353	8.298	
2-Fluorophenol	1.65216	1.43532	1.39181	1.60420	1.59402	.697	1.53550	7.457	
Phenol-d6	2.01693	1.79515	1.67953	1.91787	1.80955	.926	1.84381	6.966	
Phenol	3.78307	3.36135	3.18490	3.51576	3.29865	.930	3.42875	6.747	*
Aniline	3.01130	2.68924	2.54804	2.86553	2.81578	.922	2.78598	6.319	
bis(2-Chloroethyl)Ether	2.19491	1.90765	1.72839	1.93296	1.75939	.947	1.90466	9.725	
2-Chlorophenol	2.27549	1.94479	1.83296	2.00869	1.86028	.948	1.98444	8.916	
1,3-Dichlorobenzene	2.14034	1.84419	1.74275	1.93164	1.82687	.984	1.89716	7.990	
1,4-Dichlorobenzene	2.12131	1.81552	1.71695	1.89963	1.71842	1.004	1.85437	9.031	*
Benzyl alcohol	1.21884	1.20064	1.07397	1.26437	1.18641	1.048	1.18885	5.940	
1,2-Dichlorobenzene	2.39761	2.02749	1.88692	2.03712	1.86095	1.041	2.04202	10.489	
2-Methylphenol	1.95117	1.75528	1.61845	1.73720	1.67041	1.078	1.74650	7.256	
bis(2-chloroisopropyl)ether	3.02729	2.59583	2.63789	3.00562	2.70084	1.083	2.79349	7.413	
4-Methylphenol	1.90228	1.61001	1.49158	1.43390	1.29609	1.123	1.54677	14.779	
N-Nitroso-Di-n-propylamine	1.72426	1.49047	1.34699	.88149	.62355	1.121	1.21335	37.171	**
Hexachloroethane	.84611	.67358	.62727	.57019	.43877	1.127	.63118	23.599	
Nitrobenzene-d5	.48823	.42898	.39731	.44388	.42266	.858	.43621	7.701	
Nitrobenzene	.55443	.47676	.44948	.51160	.46224	.863	.49090	8.644	
Isophorone	1.25481	1.06542	.98572	1.05873	.98219	.920	1.06938	10.362	
2-Nitrophenol	.39255	.33064	.29495	.31226	.28005	.925	.32209	13.567	*
2,4-Dimethylphenol	.48748	.41585	.38310	.42105	.40724	.946	.42294	9.197	
Benzoic Acid	.14121	.12615	.16663	.20198	.22496	.986	.17219	23.915	
bis(2-Chloroethoxy)methane	.73479	.61716	.58039	.62822	.58148	.966	.62841	10.049	
2,4-Dichlorophenol	.51947	.44576	.39876	.43005	.40056	.977	.43892	11.218	*
1,2,4-Trichlorobenzene	.45368	.38072	.34170	.34732	.32129	.990	.36894	14.084	
Naphthalene	1.00896	.84462	.78726	.83081	.79230	1.005	.85279	10.633	
4-Chloroaniline	.60902	.52257	.47519	.53068	.50381	1.022	.52825	9.454	
Hexachlorobutadiene	.20615	.17448	.15793	.16601	.15261	1.034	.17144	12.306	*
4-Chloro-3-methylphenol	.57709	.50618	.46197	.50304	.47990	1.132	.50564	8.666	*

$\overline{RF}$ - 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

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: 10/20/92

Contract No: NJDEPE ID# 15526

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

Laboratory ID:	>A3659	>A3658	>A3660	>A3661	>A3662					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
2-Methylnaphthalene	.78266	.65704	.59086	.63105	.58030	1.151	.64838	12.517		
Hexachlorocyclopentadiene	.42712	.36593	.35628	.37277	.34142	.865	.37270	8.751		**
2,4,6-Trichlorophenol	.74011	.63172	.56768	.59159	.54081	.886	.61438	12.666	*	
2,4,5-Trichlorophenol	.65841	.56292	.51265	.52872	.48462	.891	.54946	12.222		
2-Chloronaphthalene	1.69117	1.42336	1.29470	1.30687	1.23175	.914	1.38957	13.115		
2-Fluorobiphenyl	1.53397	1.31158	1.19426	1.22661	1.11896	.901	1.27708	12.479		
2-Nitroaniline	.70359	.62962	.57490	.61597	.58138	.935	.62109	8.294		
Dimethylphthalate	2.06511	1.77464	1.61779	1.72411	1.62587	.971	1.76150	10.344		
Acenaphthylene	1.80968	1.46665	1.33473	1.34869	1.22113	.977	1.43617	15.749		
3-Nitroaniline	.42253	.43181	.42213	.47480	.45420	1.001	.44109	5.192		
Acenaphthene	1.28163	1.07831	.99170	1.00185	.93450	1.006	1.05760	12.793	*	
2,4-Dinitrophenol	.12615	.14882	.14791	.19889	.21214	1.017	.16678	22.068		**
4-Nitrophenol	.46642	.43580	.40102	.46149	.45802	1.035	.44455	6.076		**
Dibenzofuran	2.20657	1.84387	1.66210	1.66189	1.55650	1.033	1.78619	14.373		
2,6-Dinitrotoluene	.48542	.42051	.38761	.39778	.36706	.977	.41168	11.050		
2,4-Dinitrotoluene	.80965	.71344	.65239	.69045	.66259	1.039	.70570	8.906		
Diethylphthalate	2.33576	1.98749	1.81178	1.82088	1.65990	1.083	1.92316	13.423		
4-Chlorophenyl-phenylether	.89466	.74561	.67165	.67119	.62889	1.092	.72240	14.544		
Fluorene	1.40247	1.19494	1.05372	1.06758	.95970	1.087	1.13568	15.060		
4-Nitroaniline	.55266	.50465	.46345	.50004	.47559	1.100	.49928	6.882		
4,6-Dinitro-2-methylphenol	.19564	.18298	.18047	.20509	.21448	.895	.19573	7.380		
N-Nitrosodiphenylamine	.62317	.50625	.47776	.48389	.46043	.903	.51030	12.775	*	
1,2-Diphenylhydrazine	1.43425	1.17113	1.10842	1.16958	1.12653	.906	1.20198	11.037		
2,4,6-Tribromophenol	.15611	.13422	.12854	.13611	.13401	.913	.13780	7.705		
4-Bromophenyl-phenylether	.27152	.22321	.20922	.21250	.20283	.947	.22386	12.351		
Hexachlorobenzene	.35707	.29531	.27004	.28000	.27451	.951	.29539	12.112		
Pentachlorophenol	.23148	.20534	.19200	.21109	.20831	.978	.20964	6.798	*	
Phenanthrene	1.04928	.86984	.80666	.84473	.80503	1.003	.87511	11.553		
Anthracene	1.03125	.84650	.78126	.81457	.76796	1.010	.84831	12.581		
Di-n-butylphthalate	2.08203	1.70172	1.56948	1.61046	1.48269	1.087	1.68928	13.809		

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

$\overline{RRT}$ - 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. 2: Semivolatiles

Contractor: E.P.L. Calibration Date: 10/20/92

Contract No: NJDEPE ID# 15526

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

Laboratory ID: >A3659 >A3658 >A3660 >A3661 >A3662

Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
Fluoranthene	1.19499	.95754	.90409	.94480	.88501	1.154	.97729	12.812	*	
Benzidine	.75163	.55315	.69423	.82612	.85761	.880	.73655	16.395		
Pyrene	1.48815	1.48441	1.41483	1.63375	1.65745	.884	1.53572	6.825		
Terphenyl-d14	1.22980	1.20265	1.12027	1.26979	1.27186	.904	1.21887	5.108		
Butylbenzylphthalate	1.14960	1.16619	1.09627	1.24698	1.26663	.955	1.18513	5.964		
3,3`-Dichlorobenzidine	.40689	.48116	.47843	.58486	.59556	1.000	.50938	15.638		
Benzo(a)anthracene	1.16803	1.12742	1.08408	1.25973	1.29165	.998	1.18618	7.390		
bis(2-Ethylhexyl)phthalate	1.62815	1.55856	1.50563	1.65792	1.69565	1.012	1.60918	4.763		
Chrysene	1.11663	1.13386	1.11058	1.28929	1.31451	1.003	1.19297	8.399		
Di-n-octylphthalate	3.27702	3.39334	2.70982	2.71273	2.55929	.949	2.93044	12.862	*	
Benzo(b)fluoranthene	1.10466	1.25967	1.11705	1.16261	1.16724	.970	1.16225	5.247		
Benzo(k)fluoranthene	1.09561	1.01941	.90319	1.02656	.92823	.972	.99460	7.885		
Benzo(a)pyrene	.88902	.88747	.86003	.96624	.92789	.995	.90613	4.568	*	
Indeno(1,2,3-cd)pyrene	.40825	.33759	.46648	.59744	.63487	1.103	.48893	25.666		
Dibenz(a,h)anthracene	.43116	.35694	.47635	.60212	.64618	1.107	.50255	23.864		
Benzo(g,h,i)perylene	.40682	.31697	.45063	.60093	.62857	1.134	.48078	27.415		

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

$\overline{RRT}$ - 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 (**)

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Environmental Profile Lab

Lab Code: 15526

Matrix Spike for EPL Sample Number: 9170.7 .25

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIM REC
Phenol	200.00	0.00	30.60	15	12-
2-Chlorophenol	200.00	0.00	59.90	29	27-1
1,4-Dichlorobenzene	100.00	0.00	38.30	38	36-
N-Nitroso-di-n-prop.(1)	100.00	0.00	69.80	69	41-1
1,2,4-Trichlorobenzene	100.00	0.00	43.20	43	39-
4-Chloro-3-methylphenol	200.00	0.00	69.90	34	23-
Acenaphthene	100.00	0.00	52.10	52	46-1
4-Nitrophenol	200.00	0.00	43.50	21	10-
2,4-Dinitrotoluene	100.00	0.00	45.10	45	24-
Pentachlorophenol	200.00	0.00	77.00	38	9-1
Pyrene	100.00	0.00	43.50	43	26-1

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
Phenol	200.00	31.90	15	0	42	12-
2-Chlorophenol	200.00	63.70	31	6	40	27-1
1,4-Dichlorobenzene	100.00	44.50	44	14	28	36-
N-Nitroso-di-n-prop.(1)	100.00	77.80	77	10	38	41-1
1,2,4-Trichlorobenzene	100.00	48.60	48	10	28	39-
4-Chloro-3-methylphenol	200.00	75.60	37	8	42	23-
Acenaphthene	100.00	59.10	59	12	31	46-1
4-Nitrophenol	200.00	48.50	24	13	50	10-
2,4-Dinitrotoluene	100.00	48.80	48	6	38	24-
Pentachlorophenol	200.00	83.10	41	7	50	9-1
Pyrene	100.00	48.40	48	10	31	26-1

(1) N-Nitroso-di-n-propylamine

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

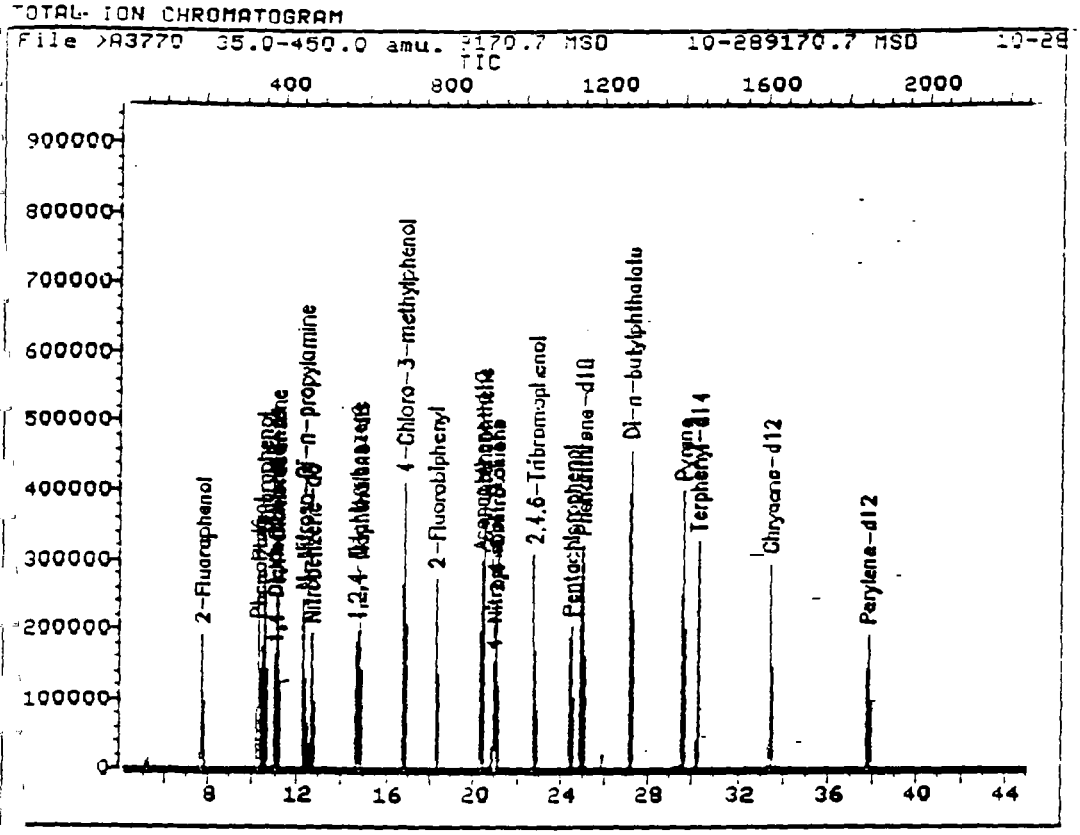
* Values outside of qc limits

RPD: 0 out of 11 outside limits

Spike Recovery: 0 out of 22 outside limits

COMMENTS: _____

TOTAL ION CHROMATOGRAM



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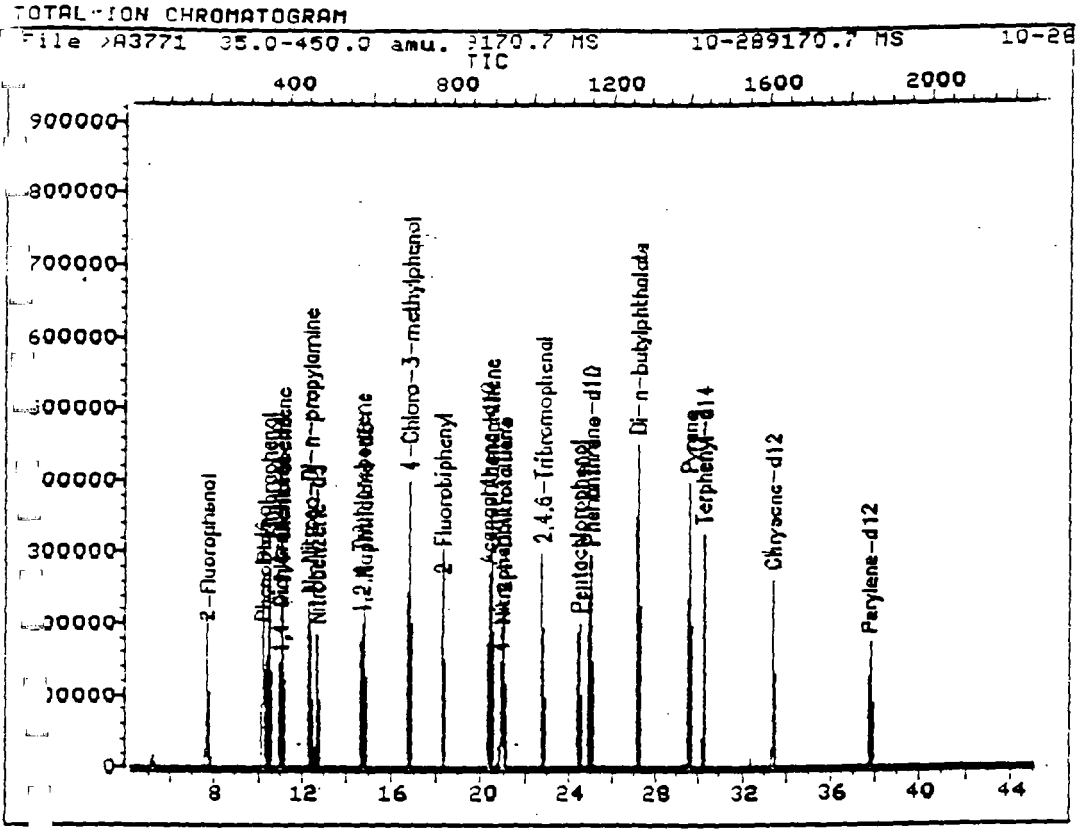
Misc: 9170.7 MSD 10-28 BTL#14

Id File: IDBNA::04
Title: Semivolatile Organics (EPA Methods 625/8270) by GC/MS
Last Calibration: 921024 20:25

Operator ID: MARK
Quant Time: 921031 02:07
Injected at: 921031 01:21



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Name: 9170.7 MS 10-28
Misc: 9170.7 MS 10-28 BTL#15

Id File: IDBNA::D4
Title: Semivolatile Organics (EPA Methods 625/8270) by GC/MS
Last Calibration: 921024 20:25

Operator ID: MARK
Quant Time: 921031 03:04
Injected at: 921031 02:18

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID: >A3761 Lab Sample ID: BNA AQ BLK

Date Extracted: 10/28/92 Extraction: Sep. Funnel

Date Analyzed: 10/30/92 Time Analyzed: 17:21

Matrix: Water

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	9173.11 .5	9173.11 .5	>A3764	10/30/92
02	9173.12 .5	9173.12 .5	>A3765	10/30/92
03	9173.13 .5	9173.13 .5	>A3766	10/30/92
04				
05				
06				
07				
08				
09				
10				
11				
12				
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28				
29				
30				

COMMENTS:

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID: >A3779 Lab Sample ID: BNA Aq Blk

Date Extracted: 10/29/92 Extraction: Sep. Funnel

Date Analyzed: 10/31/92 Time Analyzed: 17:40

Matrix: Water

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	9173.14 .5	9173.14 .5	>A3780	10/31/92
02	9173.20 .5	9173.20 .5	>A3781	10/31/92
03	9173.21 .5	9173.21 .5	>A3782	10/31/92
04	9173.22 .5	9173.22 .5	>A3783	10/31/92
05	9173.23 .5	9173.23 .5	>A3784	10/31/92
06	9173.26 .5	9173.26 .5	>A3785	10/31/92
07				
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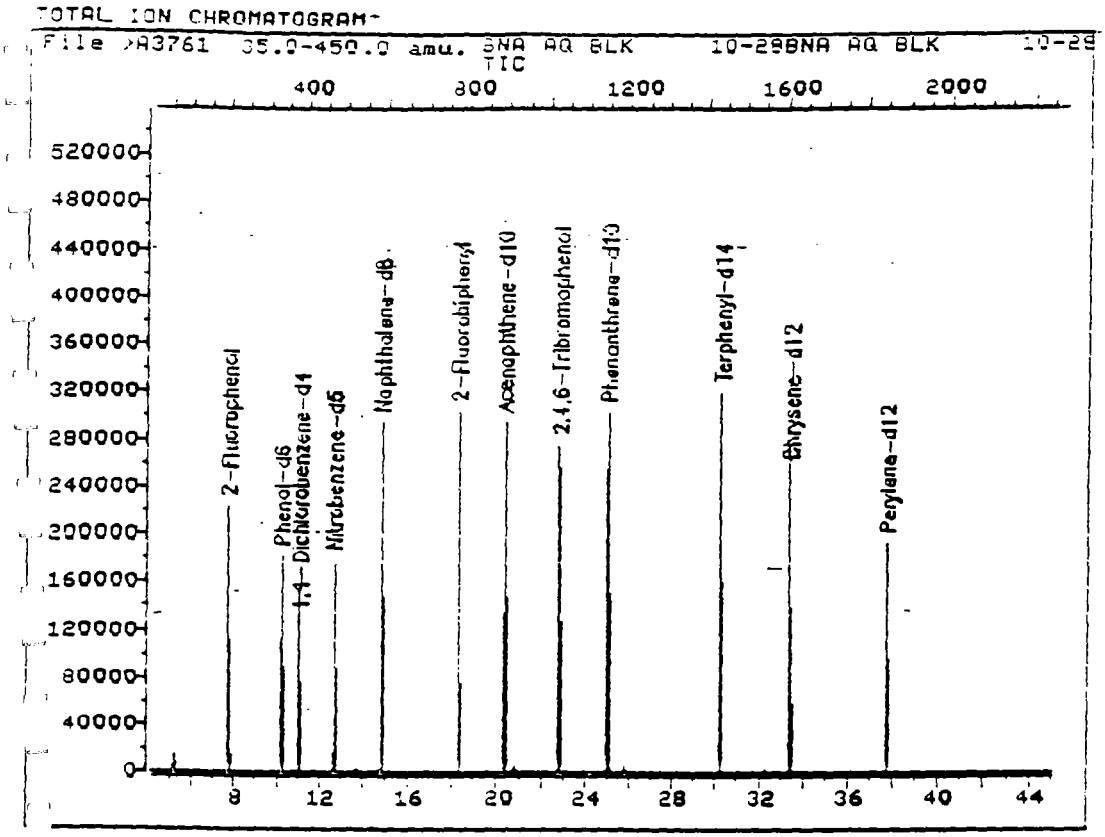
COMMENTS:

Environmental Profile Laboratories
BASE/NEUTRAL/ACID ANALYSIS DATA

JOB NUMBER		MATRIX	Water
SAMPLE NAME	BNA AQ BLK 10-28	DILUTION FACTOR	2.00
CLIENT ID		QA BATCH	
DATA FILE	>A3761	DATE ANALYZED	10/30/92

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-nitroso-dimethylamine	ND	20	Diethylphthalate	ND	20
bis(2-Chloroethyl)Ether	ND	20	4-Chlorophenyl-phenylether	ND	20
1,3-Dichlorobenzene	ND	20	Fluorene	ND	20
1,4-Dichlorobenzene	ND	20	N-Nitrosodiphenylamine	ND	20
Benzyl alcohol	ND	20	4-Bromophenyl-phenylether	ND	20
1,2-Dichlorobenzene	ND	20	Hexachlorobenzene	ND	20
bis(2-chloroisopropyl)ether	ND	20	Phenanthrene	ND	20
N-Nitroso-Di-n-propylamine	ND	20	Anthracene	ND	20
Hexachloroethane	ND	20	Di-n-butylphthalate	ND	20
Nitrobenzene	ND	20	Fluoranthene	ND	20
Isophorone	ND	20	Benzidine	ND	20
Benzoic Acid	ND	100	Pyrene	ND	20
bis(2-Chloroethoxy)methane	ND	20	Butylbenzylphthalate	ND	20
1,2,4-Trichlorobenzene	ND	20	3,3'-Dichlorobenzidine	ND	20
Naphthalene	ND	20	Benzo(a)anthracene	ND	20
Hexachlorobutadiene	ND	20	bis(2-Ethylhexyl)phthalate	ND	20
2-Methylnaphthalene	ND	20	Chrysene	ND	20
Hexachlorocyclopentadiene	ND	20	Di-n-octylphthalate	ND	20
2-Chloronaphthalene	ND	20	Benzo(b)fluoranthene	ND	20
Dimethylphthalate	ND	20	Benzo(k)fluoranthene	ND	20
Acenaphthylene	ND	20	Benzo(a)pyrene	ND	20
Acenaphthene	ND	20	Indeno(1,2,3-cd)pyrene	ND	20
Dibenzofuran	ND	20	Dibenz(a,h)anthracene	ND	20
2,6-Dinitrotoluene	ND	20	Benzo(g,h,i)perylene	ND	20
2,4-Dinitrotoluene	ND	20	1,2-Diphenylhydrazine	ND	20

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



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Name: BNA AQ BLK 10-28
Misc: BNA AQ BLK 10-28 BTL# 5

Id File: IDBNA::04
Title: Semivolatile Organics (EPA Methods 625/8270) by GC/MS
Last Calibration: 921024 20:25

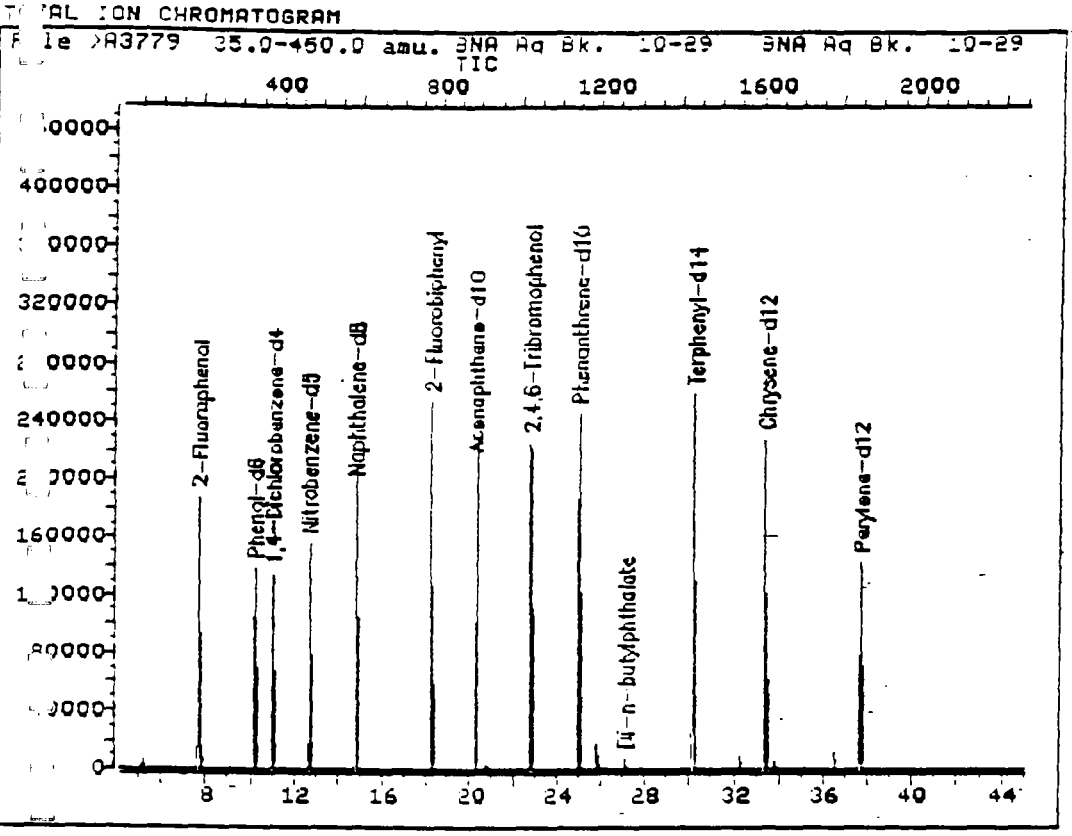
Operator ID: MARK
Quant Time: 921030 18:07
Injected at: 921030 17:21

Environmental Profile Laboratories
BASE/NEUTRAL/ACID ANALYSIS DATA

JOB NUMBER		MATRIX	Water
SAMPLE NAME	BNA Ag Bk. 10-29	DILUTION FACTOR	2.00
CLIENT ID		QA BATCH	
DATA FILE	>A3779	DATE ANALYZED	10/31/92

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-nitroso-dimethylamine	ND	20	Diethylphthalate	ND	20
bis(2-Chloroethyl)Ether	ND	20	4-Chlorophenyl-phenylether	ND	20
1,3-Dichlorobenzene	ND	20	Fluorene	ND	20
1,4-Dichlorobenzene	ND	20	N-Nitrosodiphenylamine	ND	20
Benzyl alcohol	ND	20	4-Bromophenyl-phenylether	ND	20
1,2-Dichlorobenzene	ND	20	Hexachlorobenzene	ND	20
bis(2-chloroisopropyl)ether	ND	20	Phenanthrene	ND	20
N-Nitroso-Di-n-propylamine	ND	20	Anthracene	ND	20
Hexachloroethane	ND	20	Di-n-butylphthalate	2 JB	20
Nitrobenzene	ND	20	Fluoranthene	ND	20
Isophorone	ND	20	Benzidine	ND	20
Benzoic Acid	ND	100	Pyrene	ND	20
bis(2-Chloroethoxy)methane	ND	20	Butylbenzylphthalate	ND	20
1,2,4-Trichlorobenzene	ND	20	3,3'-Dichlorobenzidine	ND	20
Naphthalene	ND	20	Benzo(a)anthracene	ND	20
Hexachlorobutadiene	ND	20	bis(2-Ethylhexyl)phthalate	ND	20
2-Methylnaphthalene	ND	20	Chrysene	ND	20
Hexachlorocyclopentadiene	ND	20	Di-n-octylphthalate	ND	20
2-Chloronaphthalene	ND	20	Benzo(b)fluoranthene	ND	20
Dimethylphthalate	ND	20	Benzo(k)fluoranthene	ND	20
Acenaphthylene	ND	20	Benzo(a)pyrene	ND	20
Acenaphthene	ND	20	Indeno(1,2,3-cd)pyrene	ND	20
Dibenzofuran	ND	20	Dibenz(a,h)anthracene	ND	20
2,6-Dinitrotoluene	ND	20	Benzo(g,h,i)perylene	ND	20
2,4-Dinitrotoluene	ND	20	1,2-Diphenylhydrazine	ND	20

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

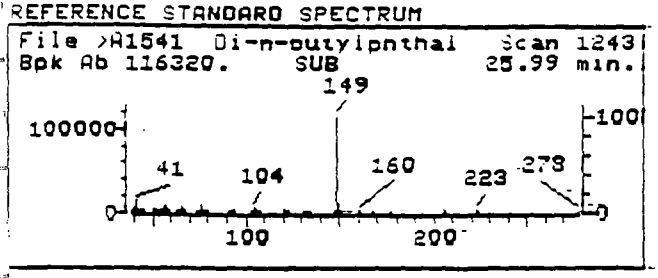


Data File: >A3779::03 Quant Output File: ^A3779::08
Name: BNA Aq Bk. 10-29
Misc: BNA Aq Bk. 10-29 BTL# 1

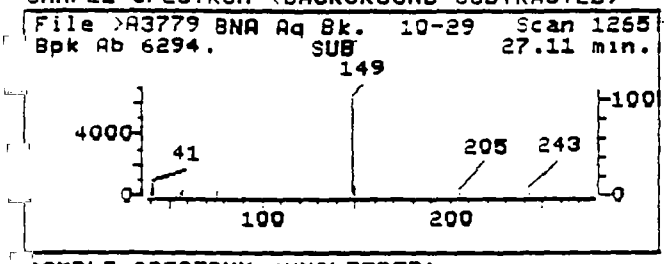
Id File: IDBNA::04
Title: Semivolatile Organics (EPA Methods 625/8270) by GC/MS
Last Calibration: 921024 20:25

Operator ID: MARK
Quant Time: 921031 18:26
Injected at: 921031 17:40

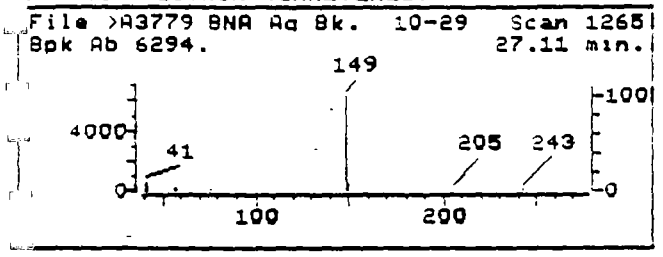
REFERENCE STANDARD SPECTRUM

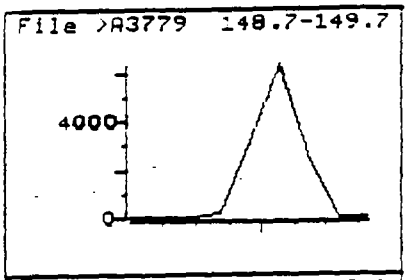


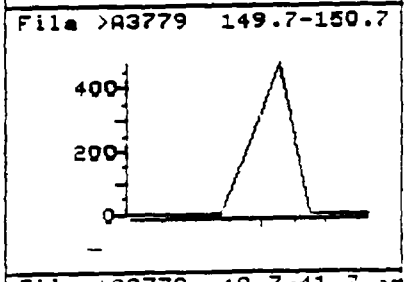
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

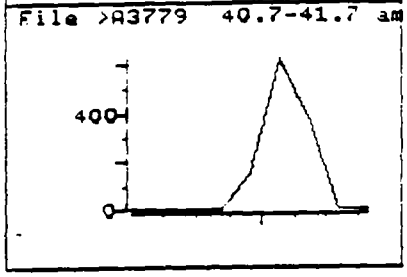


SAMPLE SPECTRUM (UNALTERED)









Data File: >A3779::03
Name: BNA Aq Bk. 10-29
Misc: BNA Aq Bk. 10-29
Quant Time: 921031 18:26
Injected at: 921031 17:40

Quant Output File: ^A3779::DB
BTL# 1
Quant ID File: IDBNA::D4
Last Calibration: 921024 20:25

Compound No: 64
Compound Name: Di-n-butylphthalate
Scan Number: 1265
Retention Time: 27.11 min.
Quant Ion: 149.0
Area: 13040
Concentration: 1.03 ng/uL
q-value: 96

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE: BNA-AQ.B

Lab Name: Environmental Profile Lab. NJDEP Cert.# 15526

Matrix: Water

Lab Sample ID: BNA-AQ.BLK

Sample wt/vol: 500 (g/mL) mL

Lab File ID: >A3761

Level: (low/med) LOW

Date Received: NA

Date Extracted: 10-28-92

Extraction: (Sepf/Cont/Sonc) Sep. Funnel

Date Analyzed: 10/30/92

GPC Cleanup: (Y/N) N

Dilution Factor: 2

Number of TICs Found: 0

CONCENTRATION UNITS: ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC 1/87 Re

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE

BNA-Aq-Bl

Lab Name: Environmental Profile Lab NJDEP Cert.# 15526

Matrix: Water

Sample wt/vol: 500 (g/mL) mL

Level: (low/med) LOW

Extraction: (Sepf/Cont/Sonc) Sep. Funnel

GPC Cleanup: (Y/N) N

Lab Sample ID: BNA-Aq-Bk.

Lab File ID: >A3779

Date Received: NA-

Date Extracted: 10-29-92

Date Analyzed: 10/31/92

Dilution Factor: 2

Number of TICs found: 0

CONCENTRATION UNITS: ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC 1/87 Re

2C

WATER 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 AQ BLK	45	42 *	36	27	32	50		1
02	9173.11 .5	55	51	41					0
03	9173.12 .5	49	45	37					0
04	9173.13 .5	49	47	37					0
05									
06									
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29									
30									

	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	(35-114)
S2 (FBP) = 2-Fluorobiphenyl	(43-116)
S3 (TPH) = Terphenyl-d14	(33-141)
S4 (PHL) = Phenol-d5	(10-94)
S5 (2FP) = 2-Fluorophenol	(21-100)
S6 (TBP) = 2,4,6-Tribromophenol	(10-123)

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

83

2C

WATER 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 Aq Bk.	46	44	36	25	31	54		0
02	9173.14 .5	70	68	58					0
03	9173.20 .5	47	48	34					0
04	9173.21 .5	66	68	56					0
05	9173.22 .5	44	43 *	36					1
06	9173.23 .5	74	74	64					0
07	9173.26 .5	52	58	52					0
08									
09									
10									
11									
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29									
30									

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(35-114)
S2 (FBP)	= 2-Fluorobiphenyl	(43-116)
S3 (TPH)	= Terphenyl-d14	(33-141)
S4 (PHL)	= Phenol-d5	(10-94)
S5 (2FP)	= 2-Fluorophenol	(21-100)
S6 (TBP)	= 2,4,6-Tribromophenol	(10-123)

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

84

FORM II SV-1 1/87 Rev.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Environmental Profile Lab. Contract: Serv-Air

Lab Code: 15526

Lab File ID (Standard): >A3755 Date Analyzed: 10/30/92

Instrument ID: GC/MSD 5970 #2 Time Analyzed: 11:07

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	59971.	11.03	305928.	14.77	157762.	20.26
	UPPER LIMIT	119942.		611856.		315524.	
	LOWER LIMIT	29986.		152964.		78881.	
	EPA SAMPLE NO.						
01	BNA AQ BLK	71007.	11.04	333790.	14.76	199074.	20.26
02	9173.11 ..5	70161.	11.02	324624.	14.76	190355.	20.24
03	9173.12 ..5	66755.	11.02	305846.	14.74	185122.	20.24
04	9173.13 .5	67687.	11.03	305807.	14.75	187697.	20.25
05							
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07							
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20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID (Standard): >A3755 Date Analyzed: 10/30/92

Instrument ID: GC/MSD 5970 #2 Time Analyzed: 11:07

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	333697.		24.96	236793.		33.41	257189.		37.71
	UPPER LIMIT	667394.			473586.			514378.		
	LOWER LIMIT	166848.			118397.			128595.		
	EPA SAMPLE NO.									
01	BNA AQ BLK	385258.		24.96	378515.		33.37	304233.		37.69
02	9173.11 .5	369614.		24.96	377383.		33.36	305959.		37.68
03	9173.12 .5	364407.		24.94	371861.		33.37	288743.		37.67
04	9173.13 .5	370600.		24.95	373460.		33.37	288924.		37.67
05										
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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

3B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID (Standard): >A3778 Date Analyzed: 10/31/92

Instrument ID: GC/MSD 5970 #2 Time Analyzed: 16:42

		IS1(DCB) AREA	#	RT	IS2(NPT) AREA	#	RT	IS3(ANT) AREA	#	RT
	12 HOUR STD	52076.		11.03	264537.		14.76	144726.		20.26
	UPPER LIMIT	104152.			529074.			289452.		
	LOWER LIMIT	26038.			132268.			72363.		
	EPA SAMPLE NO.									
01	BNA Aq Bk.	57718.		11.02	261375.		14.74	154091.		20.23
02	9173.14 .5	55317.		11.02	257372.		14.74	153076.		20.24
03	9173.20 .5	56953.		11.02	233814.		14.75	135738.		20.27
04	9173.21 .5	53833.		11.00	243706.		14.74	145611.		20.24
05	9173.22 .5	51170.		11.01	233863.		14.73	143519.		20.25
06	9173.23 .5	55086.		11.01	257163.		14.75	155240.		20.23
07	9173.26 .5	52397.		11.01	246663.		14.73	152164.		20.23
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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): >A3778 Date Analyzed: 10/31/92

Instrument ID: GC/MSD 5970 #2 Time Analyzed: 16:42

	IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
12 HOUR STD	300131.		24.96	210560.		33.40	267386.		37.71
UPPER LIMIT	600262.			421120.			534772.		
LOWER LIMIT	150065.			105280.			133693.		
EPA SAMPLE NO.									
01 BNA Aq Bk.	300158.		24.95	298400.		33.37	225274.		37.67
02 9173.14 .5	293669.		24.95	307635.		33.37	219888.		37.67
03 9173.20 .5	247827.		24.99	275716.		33.36	200076.		37.66
04 9173.21 .5	285189.		24.94	299073.		33.36	220226.		37.66
05 9173.22 .5	275915.		24.94	285450.		33.36	202457.		37.66
06 9173.23 .5	302988.		24.95	309094.		33.37	220486.		37.67
07 9173.26 .5	293621.		24.95	302209.		33.37	215660.		37.67
08									
09									
10									
11									
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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

Bldg. T-65

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 Inc.
Fort Monmouth, N.J.

SITE: UST Assessments
Fort Monmouth, N.J.

PROJECT: VOA+15
TIER II

Report Number: 9173.1 - .26
Date Received: October 26, 1992
Date Released: December 3, 1992
Data Released By:

Daniel K. Wright
Laboratory Director

TABLE OF CONTENTS

CLIENT: Serv-Air, Inc.
Fort Monmouth, N.J.

PROJECT: UST Assesments
Fort Monmouth, N.J.

MATRIX: Aqueous

SAMPLE LOCATION AND IDENTIFICATION

LAB ID NUMBER	Bldg #	MW #	DICAR #
9173.20	T-65	1-2926938	90-6-16-1303
9173.25	Trip Blank		
9173.26	Field Blank		

GLC Urban Market at Serv A-[illegible]

E[illegible] Pro[illegible] Laboratories
1565 Rt. 37-Unit 13
Toms River, NJ 08755
(908) 244-6278

Customer Purchase Order No.:

CHAIN OF CUSTODY RECORD

Sampled by: (Signature)

Date/Time 10/26/92

Customer Name and Address:
Serv-Ace Inc.
Fort Monmouth NJ

Site Name and Address:
Ft. Monmouth NJ
UST Assessments

Analysis parameters (Be as specific as possible)

Telephone No: Fax:

Lab Sample ID Number	Date/Time Sampled	Sample Matrix	Customer Sample Location/ID No.	Number of Containers	624+15	B/N +15	Pb							Remarks	Preservation Method
9173.1	10/26 1145	H_2O	699-1	3	✓		✓				DISPOSABLE 1 L BOTTLES			HNO_3 FOR Pb	ICE
.2	1245		699-2	3	✓		✓								
.3	1040		699-5	3	✓		✓								
.4	1205		699-6	3	✓		✓								
.5	1225		699-8	3	✓		✓								
.6	1116		699-9	3	✓		✓								
.7	1230		699-11	3	✓		✓								
.8	1230		699-11 DUP	3	✓		✓								
.9	1155		699-12	3	✓		✓								
.10	1245		699-13	3	✓		✓								

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Method of Shipping:
	10/26/92 1200		COV
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipped By:
Relinquished By: (Signature)	Date/Time	Received For EPL By: (Signature)	Date/Time

QA/QC Required:

✓ NJ Tier II
___ Results Only
___ Other

Turnaround Time:

Environmental Profl[illegible]bor[illegible]s
1565 Rt. 37-Unit 13
Toms River, NJ 08755
(908) 244-6278

Customer Purchase Order No.:

CHAIN OF CUSTODY RECORD

Sampled by: (Signature) [signature] Date/Time 10/26/92

Customer Name and Address:
Stru-Ate Inc.
Fort Monmouth NJ

Site Name and Address:
FT. MONMOUTH
UST Assessments

Analysis parameters (Be as specific as possible)

Telephone No: Fax:

Lab Sample ID Number	Date/Time Sampled	Sample Matrix	Customer Sample Location/ID No.	Number of Containers	624+15	B/N+15	Pb				Remarks	Preservation Method
9173.11	10/26 213	H2O	814-1	4	✓	✓	✓				DISPOSABLE BAILERS	HNO3 for Pb	ICE
.12	247		1076-1	4	✓	✓	✓						
.13	247		1076-2	4	✓	✓	✓						
.14	247		1076-3	4	✓	✓	✓						
.15	415		2567-1	3	✓		✓						
.16	415		2567-1 DUP	3	✓		✓						
.17	425		2567-2	3	✓		✓						
.18	425		2567-3	3	✓		✓						
.19	420		2567-4	2	✓		✓						
.20			T-65	4	✓	✓	✓						

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Method of Shipping:
[signature]	10/26/1700	[signature]	COV
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipped By:
Relinquished By: (Signature)	Date/Time	Received For EPL By: (Signature)	Date/Time

QA/QC Required:

✓ NJ Tier II
___ Results Only
___ Other ___

Turnaround Time: ___

Environmental Profile Laboratories
1565 Rt. 37-Unit 13
Toms River, NJ 08755
(908) 244-6278

Customer Purchase Order No.:

CHAIN OF CUSTODY RECORD

Sampled by: (Signature) [signature] Date/Time 10/26/92

Customer Name and Address:
Serv-Air Inc.
Fort Monmouth N.J.

Site Name and Address:
FT. MONMOUTH
UST Assessments

Analysis parameters (Be as specific as possible)

Telephone No: Fax:

Lab Sample ID Number	Date/Time Sampled	Sample Matrix	Customer Sample Location/ID No.	Number of Containers	624's	BNA's	Pb							Remarks	Preservation Method
9173 21	10/26 340	H_2O	3021-1	4	✓	✓	✓					DISPOSABLE BOTTLES	1l	HNO_3 for Pb	ICE
.22	330		3021-2	4	✓	✓	✓								
.23	330		3021-3	4	✓	✓	✓								
.24	115		699-14	3	✓		✓								
.25			TRIP BLANK	1	✓										
.26			FIELD BLANK	4	✓	✓	✓								

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Method of Shipping:
[signature]	10/26/92 1700	[signature]	COV
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipped By:
Relinquished By: (Signature)	Date/Time	Received For EPL By: (Signature)	Date/Time

QA/QC Required:

✓ NJ Tier II
Results Only
Other

Turnaround Time:

LABORATORY CHRONICLE

SAMPLE NUMBER	9173.1	9173.2	9173.3	9173.4	9173.5	9173.6	9173 7
Received & Refrigerated Date	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92
Organics Extraction Date							
BN/ABN							
PCB's							
Analysis Date							
BN/ABN							
PCB's							
Volatiles	10-30-92	10-27-92	10-27-92	10-31-92	10-27-92	10-27-92	10-31-92
TPHC's							
Metals							
Total Solids							
Organic Supervisor Review & Approval							
Inorganic Supervisor Review & Approval							

09

LABORATORY CHRONICLE

SAMPLE NUMBER	9173.8	9173.9	9173.10	9173.11	9173.12	9173.13	9173.14
Received & Refrigerated Date	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92
Organics Extraction Date							
BN/ABN							
PCB's							
Analysis Date							
BN/ABN							
PCB's							
Volatiles	10-30-92	10-27-92	10-30-92	10-27-92	10-27-92	10-27-92	10-27-92
TPHC's							
Metals							
Total Solids							
Organic Supervisor Review & Approval							
Inorganic Supervisor Review & Approval							

6

LABORATORY CHRONICLE

SAMPLE NUMBER	9173.15	9173.16	9173.17	9173.18	9173.19	9173.20	9173.21
Received & Refrigerated Date	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92
Organics Extraction Date							
BN/ABN							
PCB's							
Analysis Date							
BN/ABN							
PCB's							
Volatiles	10-30-92	10-30-92	10-30-92	10-31-92	10-27-92	10-31-92	10-27-92
TPHC's							
Metals							
Total Solids							
Organic Supervisor Review & Approval							
Inorganic Supervisor Review & Approval							

LABORATORY CHRONICLE

SAMPLE NUMBER	9173.22	9173.23	9173.24	9173.25	9173.26		
Received & Refrigerated Date	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92		
Organics Extraction Date							
BN/ABN							
PCB's							
Analysis Date							
BN/ABN							
PCB's							
Volatiles	10-30-92	10-27-92	10-30-92	10-27-92	10-27-92		
TPHC's							
Metals							
Total Solids							
Organic Supervisor Review & Approval							
Inorganic Supervisor Review & Approval							

8

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 1 gram of a non-aqueous sample spiked with a known concentration of surrogate and internal standard. The samples and standards are then purged onto a trap using a Tekmar LSC 2 and desorbed onto a capillary column installed in a Hewlett Packard 5890 GC coupled via a jet separator to 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:
All CCC and SPCC values were within QC limits.

CONTINUING CALIBRATION REQUIREMENTS:
All CCC and SPCC values were within 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:- All recoveries were within limits.
1 out of 5 RPD values were not within limits.

INTERNAL STANDARD AREA:-

CLIENT ID #	NUMBER OF INTERNAL STANDARD AREA(S)
None	

SURROGATE RECOVERY:-

CLIENT ID #	SURROGATES OUTSIDE QC LIMITS
None	

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

NOTE: Methylene Chloride, Freon and Acetone are used extensively in daily laboratory procedures.

DATA REPORTING QUALIFIERS

For reporting results to the CRL, the following "result 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 identified compound (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 10 ug/L and a concentratin of 3 ug/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.

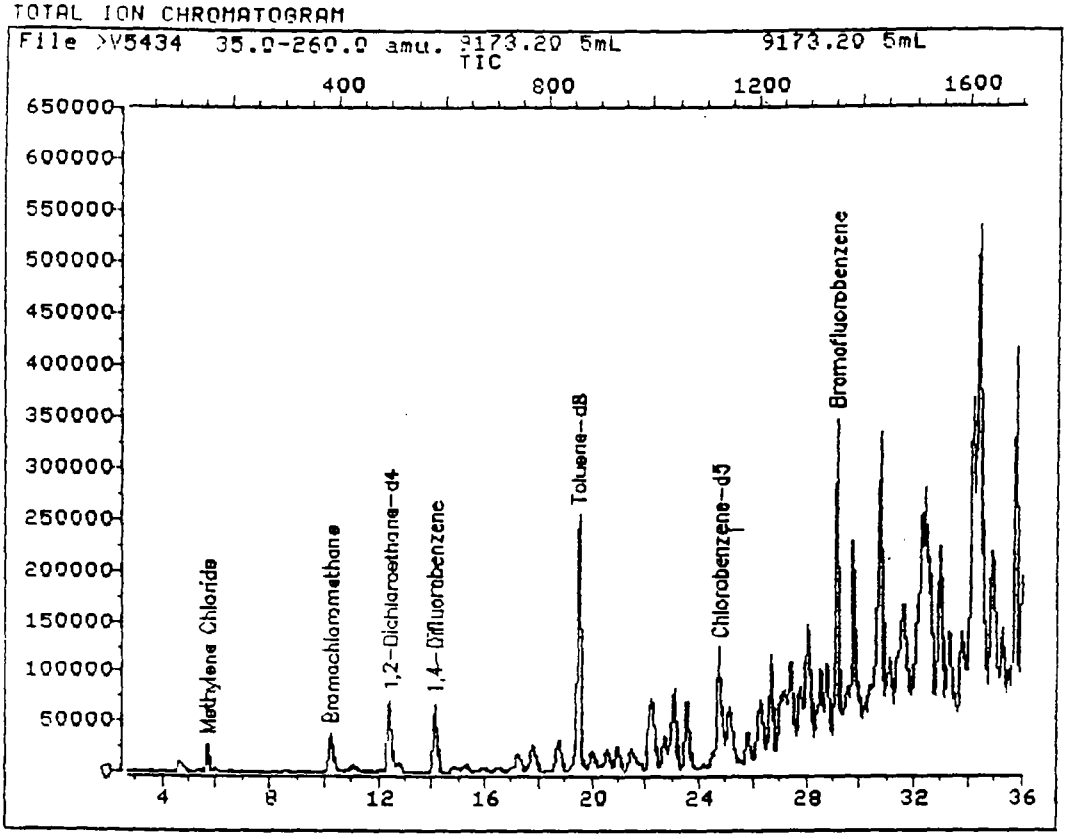
Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

PROJECT	9173	MATRIX	Water
SAMPLE ID	9173.20 5mL	DILUTION FACTOR	1.00
CLIENT NAME	Serv-Air	DATE RECEIVED	10-26-92
DATA FILE	>U5434	DATE ANALYZED	10/31/92

Compound	ug/L	MDL	Compound	ug/L	MDL
Chloromethane	ND	10	Dibromochloromethane	ND	5
Bromomethane	ND	10	1,1,2-Trichloroethane	ND	5
Vinyl Chloride	ND	10	Benzene	ND	5
Chloroethane	ND	10	trans-1,3-Dichloropropene	ND	5
Methylene Chloride	8	5	2-Chloroethylvinyl ether	ND	5
Acrolein	ND	50	Bromoform	ND	5
Acrylonitrile	ND	50	2-Hexanone	ND	5
Acetone	ND	5	4-Methyl-2-Pentanone	ND	5
Carbon Disulfide	ND	5	Tetrachloroethene	ND	5
1,1-Dichloroethene	ND	5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	ND	5	Toluene	ND	5
trans-1,2-Dichloroethene	ND	5	Chlorobenzene	ND	5
Trichlorofluoromethane	ND	5	Ethylbenzene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,2-Dichloroethane	ND	5	o-Xylene	ND	5
2-Butanone	ND	5	m + p-Xylenes	ND	5
1,1,1-Trichloroethane	ND	5	1,3-Dichlorobenzene	ND	5
Carbon Tetrachloride	ND	5	1,2-Dichlorobenzene	ND	5
Bromodichloromethane	ND	5	1,4-Dichlorobenzene	ND	5
Vinyl Acetate	ND	5	tert-Butyl Alcohol	ND	50
1,2-Dichloropropane	ND	5	Methyl tert-Butyl Ether	ND	5
cis-1,3-Dichloropropene	ND	5	Diethyl ether	ND	50
Trichloroethene	ND	5			0

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

TOTAL ION CHROMATOGRAM



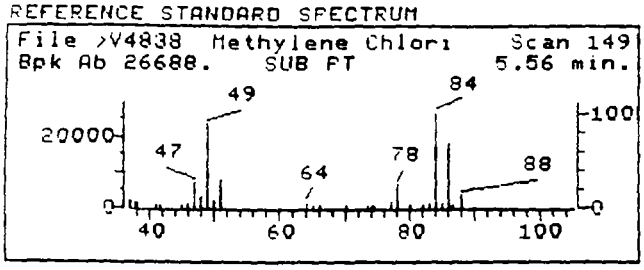
Data File: >V5434::D1
Name: 9173.20 5mL
Misc: 9173.20 5mL

Quant Output File: ^V5434::DB

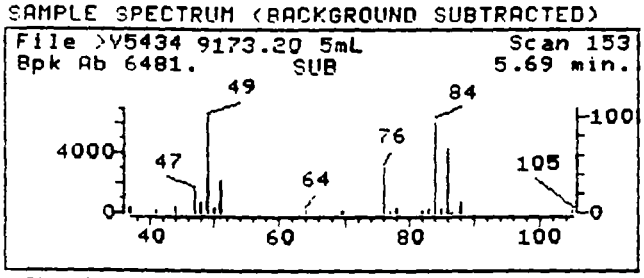
Id File: IDVOA::D2
Title: HSL VOLATILE ORGANICS
Last Calibration: 921031 15:57

Operator ID: MARK
Quant Time: 921031 19:19
Injected at: 921031 18:42

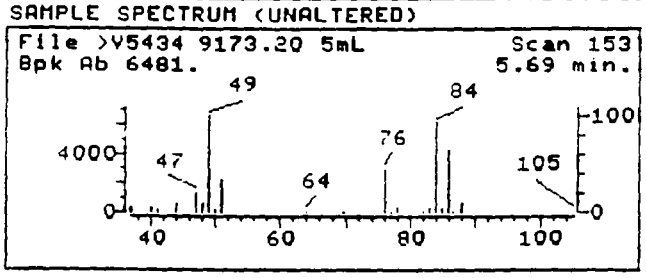
REFERENCE STANDARD SPECTRUM

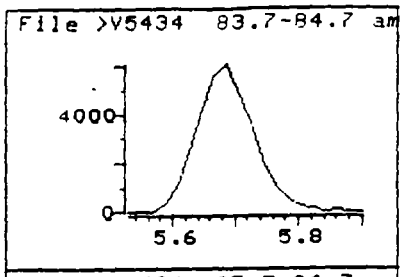


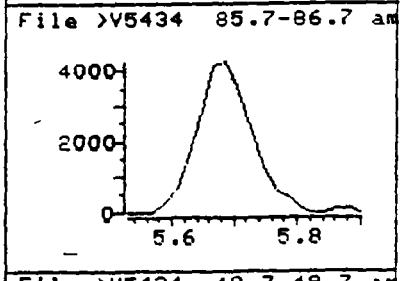
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

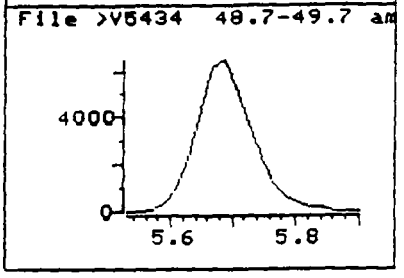


SAMPLE SPECTRUM (UNALTERED)









Data File: >V5434::D1
Name: 9173.20 5mL
Misc: 9173.20 5mL
Quant Time: 921031 19:19
Injected at: 921031 18:42

Quant Output File: ^V5434::DB

Quant ID File: IDV0A::D2
Last Calibration: 921031 15:57

Compound No: 7
Compound Name: Methylene Chloride
Scan Number: 153
Retention Time: 5.69 min.
Quant Ion: 84.0
Area: 38306
Concentration: 7.89 ppb
q-value: 86

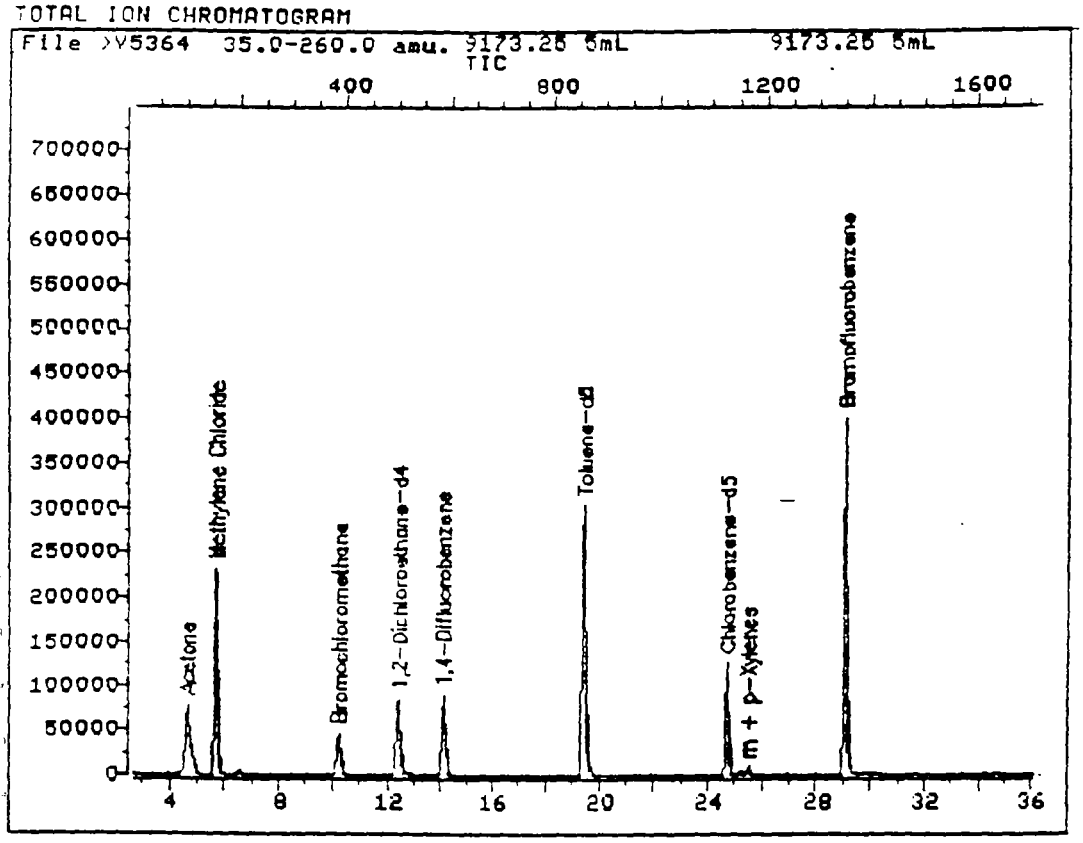
Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

PROJECT	9173	MATRIX	Water
SAMPLE ID	9173.25 5mL	DILUTION FACTOR	1.00
CLIENT NAME	Serv-Air	DATE RECEIVED	10-26-92
DATA FILE	>U5364	DATE ANALYZED	10/28/92

Compound	ug/L	MDL	Compound	ug/L	MDL
Chloromethane	ND	10	Dibromochloromethane	ND	5
Bromomethane	ND	10	1,1,2-Trichloroethane	ND	5
Vinyl Chloride	ND	10	Benzene	ND	5
Chloroethane	ND	10	trans-1,3-Dichloropropene	ND	5
Methylene Chloride	66 B	5	2-Chloroethylvinyl ether	ND	5
Acrolein	ND	50	Bromoform	ND	5
Acrylonitrile	ND	50	2-Hexanone	ND	5
Acetone	84	5	4-Methyl-2-Pentanone	ND	5
Carbon Disulfide	ND	5	Tetrachloroethene	ND	5
1,1-Dichloroethene	ND	5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	ND	5	Toluene	ND	5
trans-1,2-Dichloroethene	ND	5	Chlorobenzene	ND	5
Trichlorofluoromethane	ND	5	Ethylbenzene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,2-Dichloroethane	ND	5	o-Xylene	ND	5
2-Butanone	ND	5	m + p-Xylenes	1 J	5
1,1,1-Trichloroethane	ND	5	1,3-Dichlorobenzene	ND	5
Carbon Tetrachloride	ND	5	1,2-Dichlorobenzene	ND	5
Bromodichloromethane	ND	5	1,4-Dichlorobenzene	ND	5
Vinyl Acetate	ND	5	tert-Butyl Alcohol	ND	50
1,2-Dichloropropane	ND	5	Methyl tert-Butyl Ether	ND	5
cis-1,3-Dichloropropene	ND	5	Diethyl ether	ND	50
Trichloroethene	ND	5			0

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

TOTAL ION CHROMATOGRAM

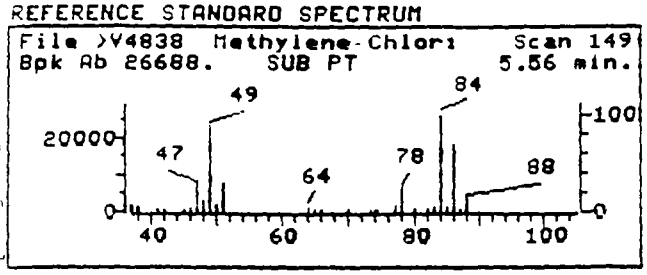


Data File: >V5364::D1 Quant Output File: ^V5364::D8
Name: 9173.25 5mL
Misc: 9173.25 5mL

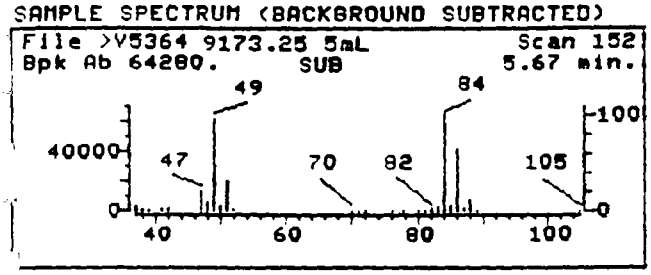
Id File: IDVOA::D2
Title: HSL VOLATILE ORGANICS
Last Calibration: 921027 22:05

Operator ID: MARK
Quant Time: 921028 00:55
Injected at: 921028 00:19

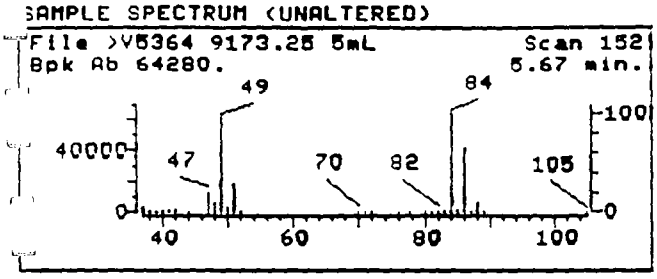
REFERENCE STANDARD SPECTRUM

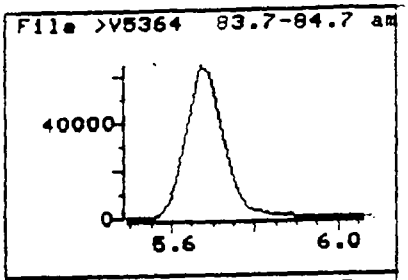


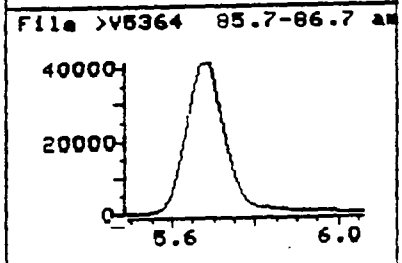
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

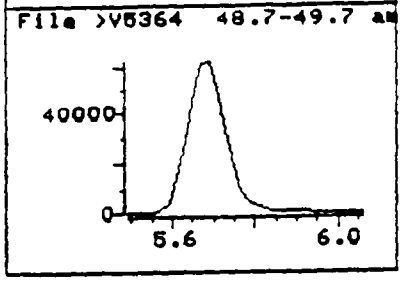


SAMPLE SPECTRUM (UNALTERED)







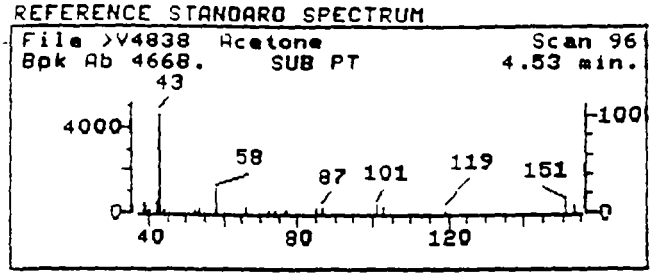


Data File: >V5364::D1
Name: 9173.25 5mL
Misc: 9173.25 5mL
Quant Time: 921028 00:55
Injected at: 921028 00:19

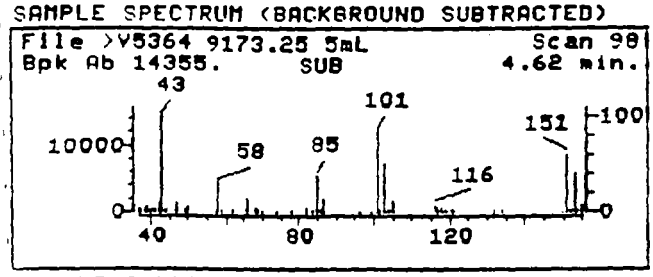
Quant Output File: ^V5364::DB
Quant ID File: IDVOA::D2
Last Calibration: 921027 22:05

Compound No: 7
Compound Name: Methylene Chloride
Scan Number: 152
Retention Time: 5.67 min.
Quant Ion: 84.0
Area: 412043
Concentration: 66.23 ppb
q-value: 93

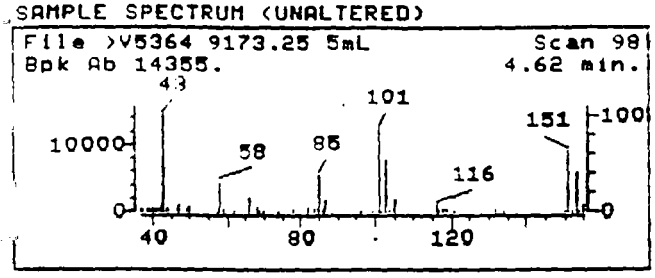
REFERENCE STANDARD SPECTRUM

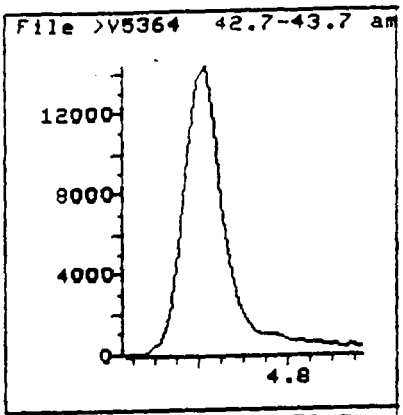


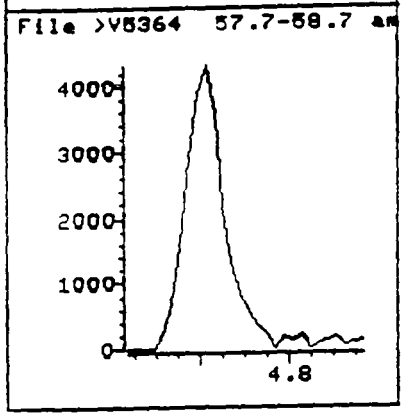
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)







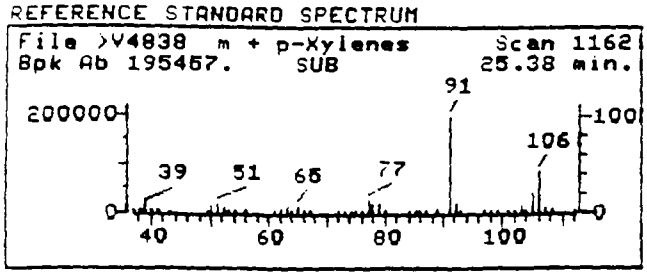
Data File: >V5364::D1
Name: 9173.25 5mL
Misc: 9173.25 5mL
Quant Time: 921028 00:55
Injected at: 921028 00:19

Quant Output File: ^V5364::D8

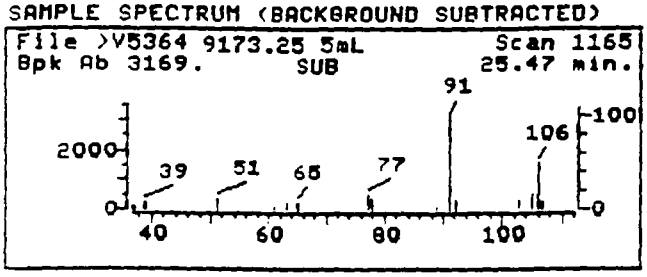
Quant ID File: IDV0A::02
Last Calibration: 921027 22:05

Compound No: 10
Compound Name: Acetone
Scan Number: 98
Retention Time: 4.62 min.
Quant Ion: 43.0
Area: 94984
Concentration: 83.95 ppb
q-value: 96

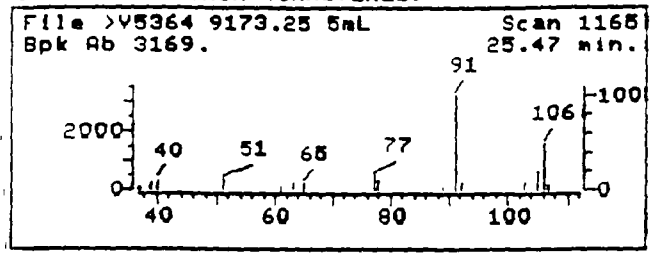
REFERENCE STANDARD SPECTRUM

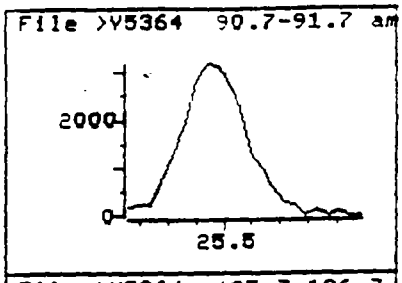


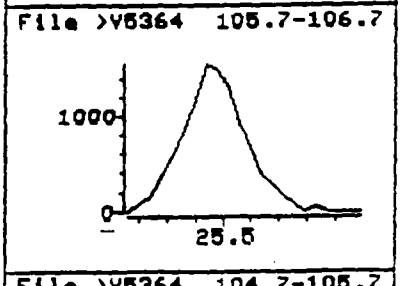
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

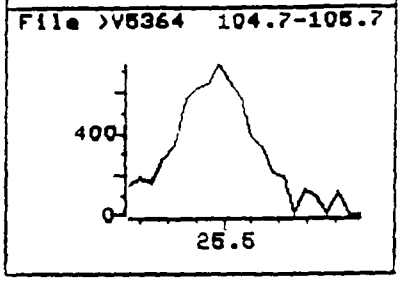


SAMPLE SPECTRUM (UNALTERED)









Data File: >V5364::D1
Name: 9173.25 5mL
Misc: 9173.25 5mL
Quant Time: 921028 00:55
Injected at: 921028 00:19

Quant Output File: ^V5364::D8

Quant ID File: IDV0A::D2
Last Calibration: 921027 22:05

Compound No: 44
Compound Name: m + p-Xylenes
Scan Number: 1165
Retention Time: 25.47 min.
Quant Ion: 91.0
Area: 26208
Concentration: 1.45 ppb
q-value: 95

Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

PROJECT	9173	MATRIX	Water
SAMPLE ID	9173.26 5mL	DILUTION FACTOR	1.00
CLIENT NAME	Serv-Air	DATE RECEIVED	10-26-92
DATA FILE	>V5365	DATE ANALYZED	10/28/92

Compound	ug/L	MDL	Compound	ug/L	MDL
Chloromethane	ND	10	Dibromochloromethane	ND	5
Bromomethane	ND	10	1,1,2-Trichloroethane	ND	5
Vinyl Chloride	ND	10	Benzene	ND	5
Chloroethane	ND	10	trans-1,3-Dichloropropene	ND	5
Methylene Chloride	5 JB	5	2-Chloroethylvinyl ether	ND	5
Acrolein	ND	50	Bromoform	ND	5
Acrylonitrile	ND	50	2-Hexanone	ND	5
Acetone	ND	5	4-Methyl-2-Pentanone	ND	5
Carbon Disulfide	ND	5	Tetrachloroethene	ND	5
1,1-Dichloroethene	ND	5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	ND	5	Toluene	ND	5
trans-1,2-Dichloroethene	ND	5	Chlorobenzene	ND	5
Trichlorofluoromethane	ND	5	Ethylbenzene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,2-Dichloroethane	ND	5	o-Xylene	ND	5
2-Butanone	ND	5	m + p-Xylenes	ND	5
1,1,1-Trichloroethane	ND	5	1,3-Dichlorobenzene	ND	5
Carbon Tetrachloride	ND	5	1,2-Dichlorobenzene	ND	5
Bromodichloromethane	ND	5	1,4-Dichlorobenzene	ND	5
Vinyl Acetate	ND	5	tert-Butyl Alcohol	ND	50
1,2-Dichloropropane	ND	5	Methyl tert-Butyl Ether	ND	5
cis-1,3-Dichloropropene	ND	5	Diethyl ether	ND	50
Trichloroethene	ND	5			0

(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: 9173.20 5mL

Lab Name: Environmental Profile Lab NJDEP Cert.# 15526

Matrix: Water

Lab Sample ID: 9173.20 5mL

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

Lab File ID: >V5434-

Level: (low/med) LOW

Date Received: 10-26-92

Date Analyzed: 10/31/92

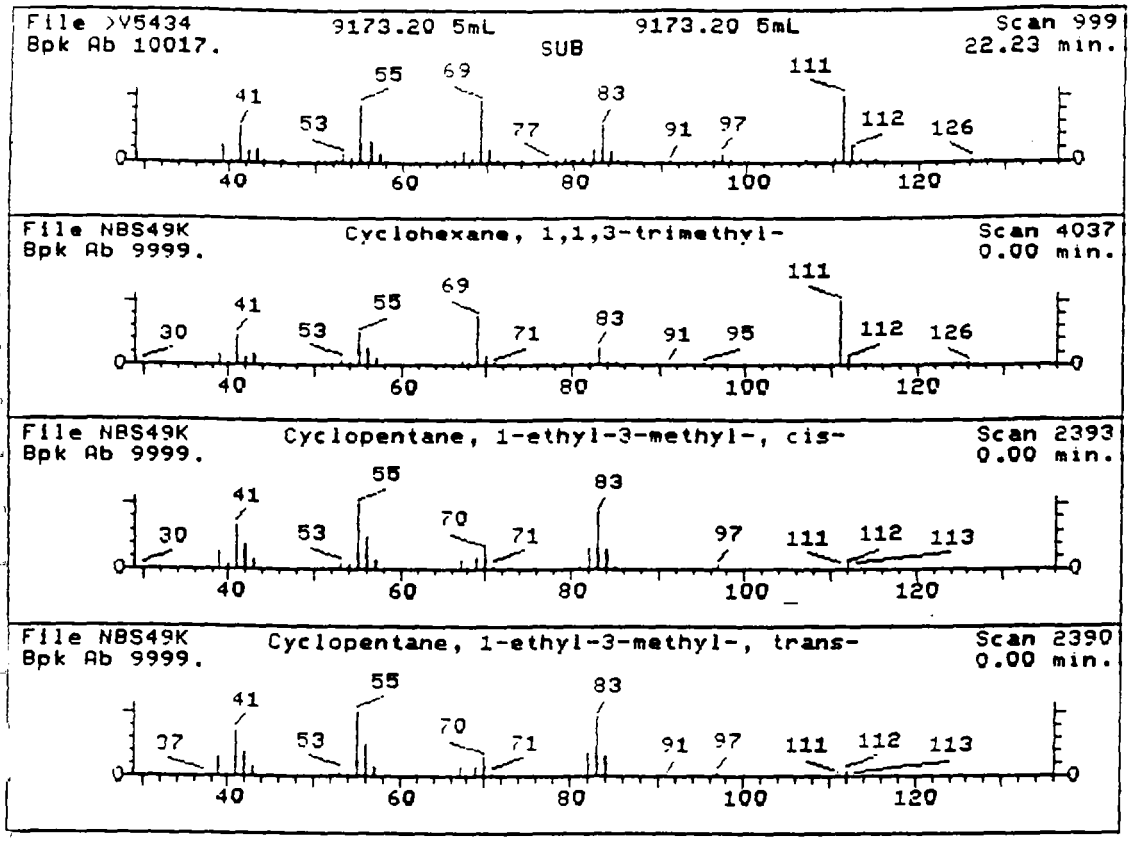
Column: Capillary

Dilution Factor: 1

Number of TICs found: 15

CONCENTRATION UNITS: ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1	3073663	Cyclohexane, 1,1,3-trimethyl	22.23	46	75
2	921471	Hexane, 2,3,4-trimethyl-	23.05	38	67
3	2216300	Heptane, 2,5-dimethyl-	23.52	26	84
4	4926787	Cyclohexane, 1-ethyl-4-methyl	26.22	32	57
5	5911046	Nonane, 3-methyl-	26.63	32	87
6	1629603	1-Hexen-3-one	28.04	54	52
7	103651	Benzene, propyl-	29.75	57	48
8	7154805	Heptane, 3,3,5-trimethyl-	30.75	89	41
9		Unknown	32.22	70	
10	13151343	Decane, 3-methyl-	32.96	54	52
11	99876	Benzene, 1-methyl-4-(1-methyl	33.75	36	76
12	141935	Benzene, 1,3-diethyl-	34.12	110	71
13	611154	Benzene, 1-ethenyl-2-methyl-	34.34	190	67
14	135013	Benzene, 1,2-diethyl-	34.85	59	83
15	535773	Benzene, 1-methyl-3-(1-methyl	35.77	91	97

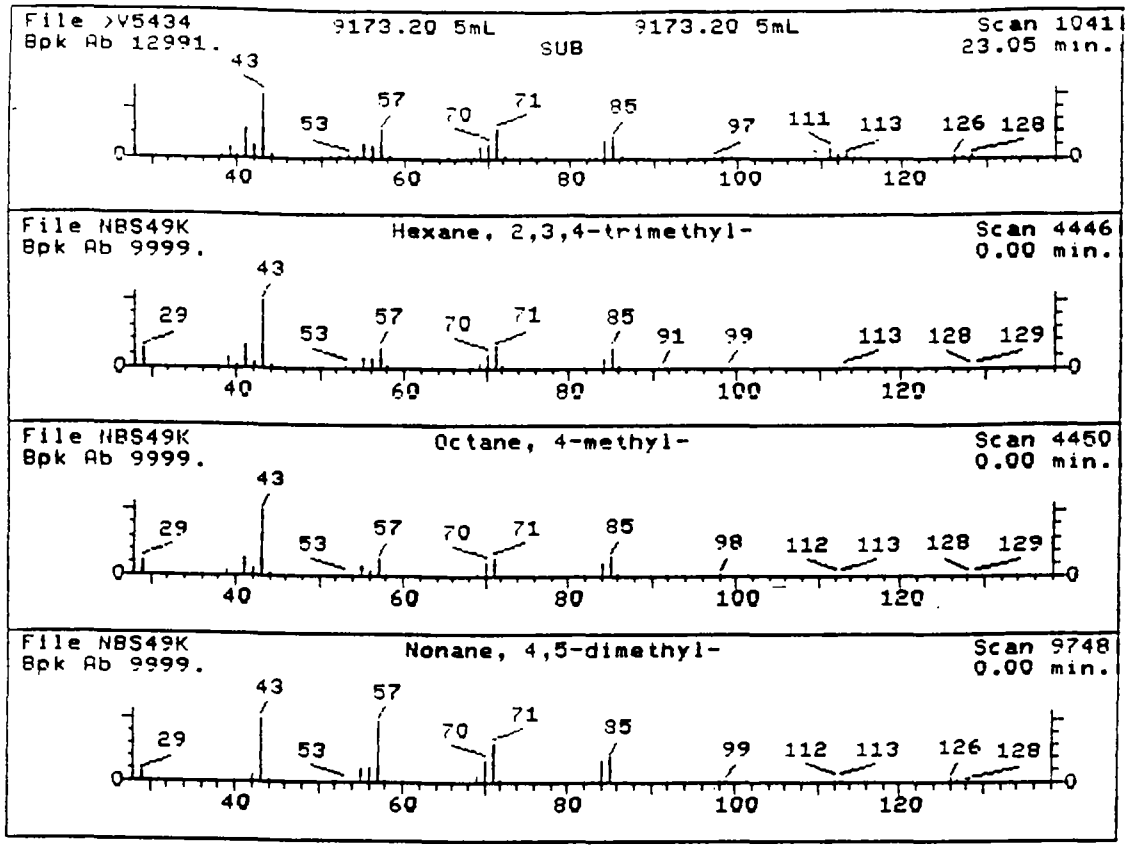


UNKNOWN #,1
AREA = 1188060. TENTATIVE CONCENTRATION IS 46.00

1.	Cyclohexane, 1,1,3-trimethyl-	126 C9H18
2.	Cyclopentane, 1-ethyl-3-methyl-, cis-	112 C8H16
3.	Cyclopentane, 1-ethyl-3-methyl-, trans-	112 C8H16
4.	2-Octene	112 C8H16
5.	4-Octene, (E)-	112 C8H16
6.	Cyclooctane, butyl-	168 C12H24

Sample file: >V5434 Spectrum #: 999
Search speed: 1 Tilting option: F No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	75*	3073663	11838	NBS49K	56	42	0	0	100	17	35	6
2.	63*	2613663	6164	NBS49K	53	40	2	3	35	20	30	3
3.	63*	2613652	6163	NBS49K	53	40	2	3	34	20	30	3
4.	41*	111671	12035	NBS49K	35	36	0	3	16	36	17	3
5.	40*	14850238	12041	NBS49K	46	41	1	2	32	34	16	2
6.	31	16538935	11900	NBS49K	36	59	0	0	79	37	10	1



UNKNOWN #,2

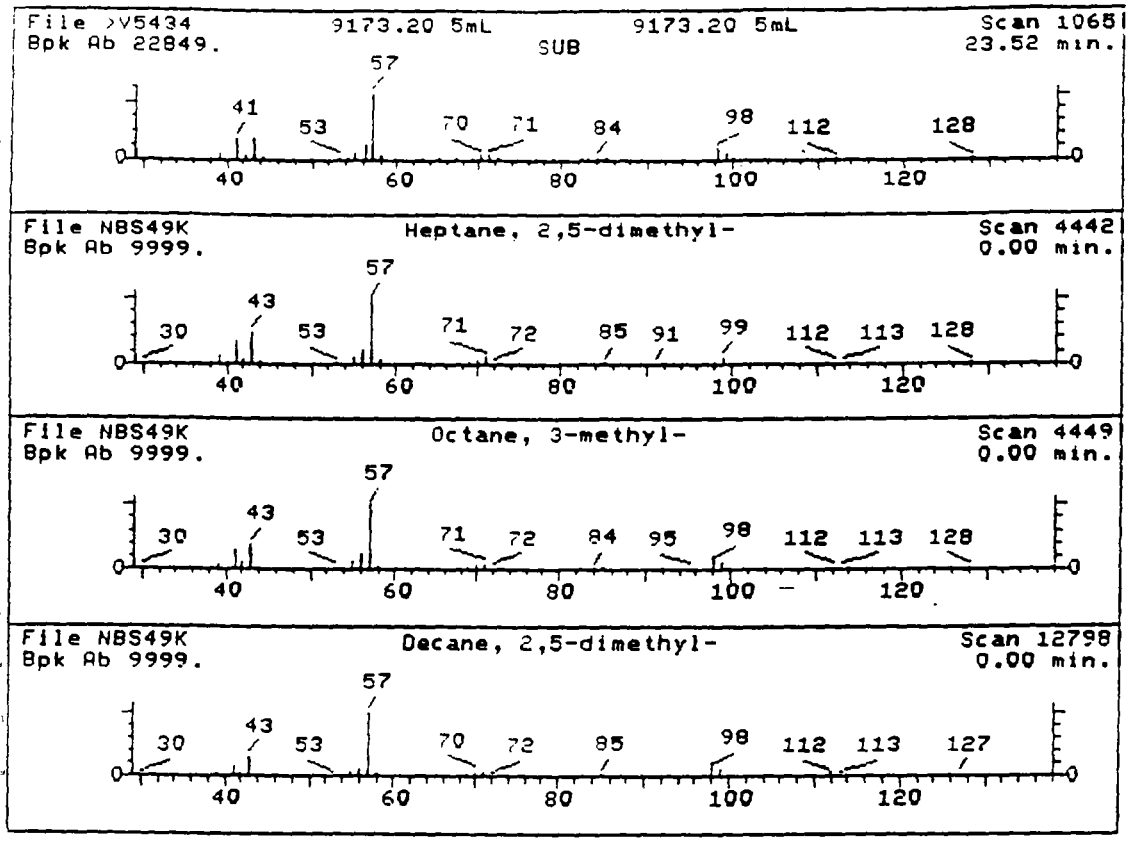
AREA = 986988.0 TENTATIVE CONCENTRATION IS 38.00

1.	Hexane, 2,3,4-trimethyl-	128 C9H20
2.	Octane, 4-methyl-	128 C9H20
3.	Nonane, 4,5-dimethyl-	156 C11H24
4.	Hexane, 3,3-dimethyl-	114 C8H18
5.	Heptane, 2,4-dimethyl-	128 C9H20
6.	1-Hexene, 4,5-dimethyl-	112 C8H16

Sample file: >V5434 Spectrum #: 1041

Search speed: 1 Tilting option: F No. of ion ranges searched: 4

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_
1.	67*	921471	6601	NBS49K	45	45	0	0	100	26	27	
2.	52*	2216344	6603	NBS49K	49	42	1	0	100	34	20	
3.	45	17302237	6683	NBS49K	66	39	2	2	77	21	17	
4.	36	563166	6560	NBS49K	50	40	1	0	92	32	12	
5.	35*	2213232	6599	NBS49K	33	54	0	0	100	50	11	
6.	35*	16106595	4285	NBS49K	48	39	1	0	81	50	11	



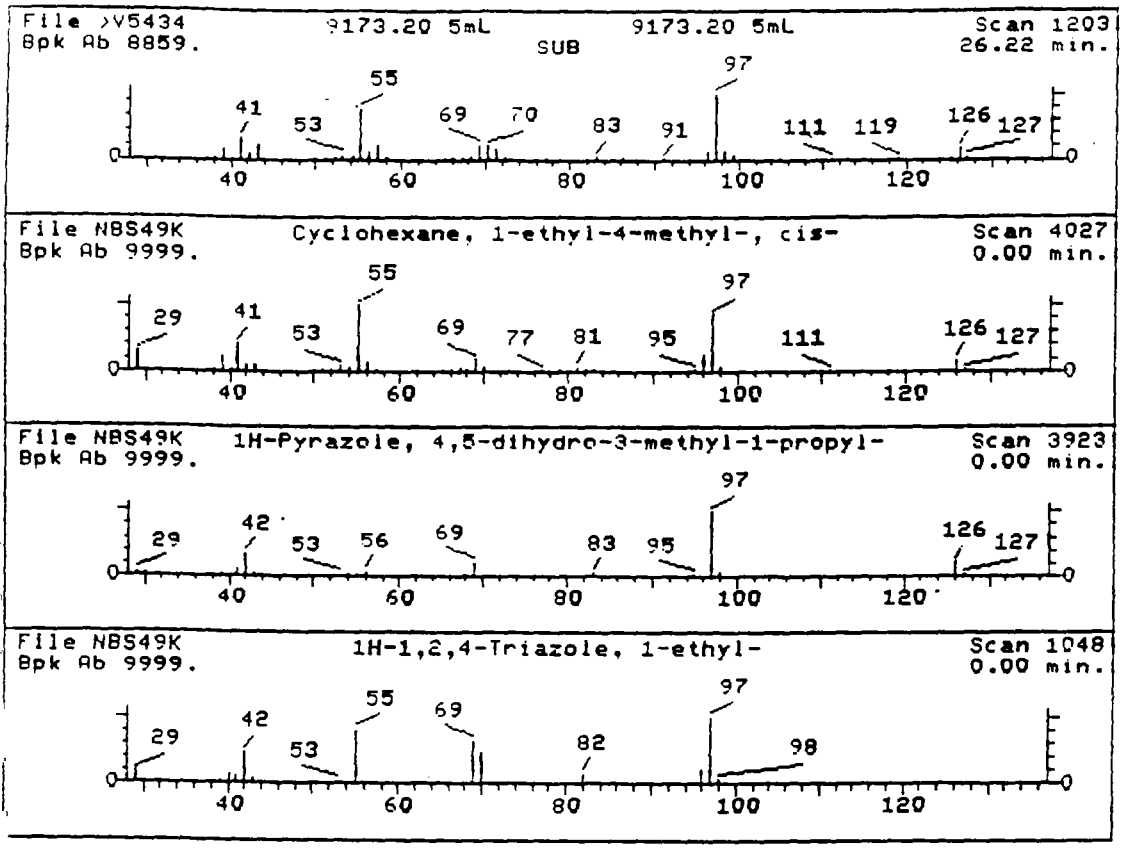
UNKNOWN #,3

AREA = 680562.0 TENTATIVE CONCENTRATION IS 26.00

1.	Heptane, 2,5-dimethyl-	128 C9H20
2.	Octane, 3-methyl-	128 C9H20
3.	Decane, 2,5-dimethyl-	170 C12H26
4.	Undecane, 6-methyl-	170 C12H26
5.	Heptane, 4-(1-methylethyl)-	142 C10H22
6.	Heptane, 3,5-dimethyl-	128 C9H20

Sample file: >V5434 Spectrum #: 1065
Search speed: 1 Tilting option: F No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I(
1.	84*	2216300	9707	NBS49K	64	22	1	0	74	10	55	69
2.	71*	2216333	9708	NBS49K	57	27	0	0	66	35	32	72
3.	60	17312504	9818	NBS49K	40	43	2	0	86	14	30	14
4.	60	17302339	9556	NBS49K	48	30	2	0	100	14	30	16
5.	60	52896874	9510	NBS49K	50	33	2	0	70	14	30	17
6.	58*	926829	1259	NBS49K	31	46	0	0	69	17	25	24

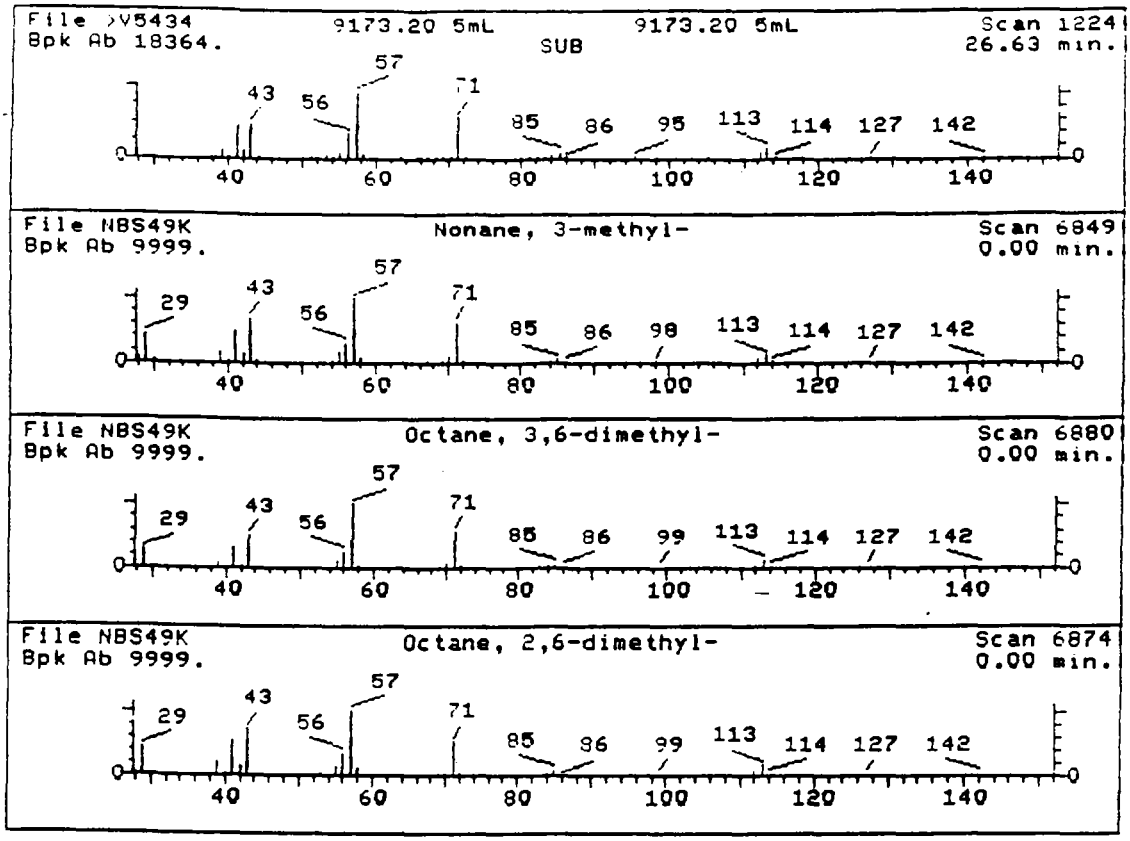


UNKNOWN #,4
AREA = 836908.0 TENTATIVE CONCENTRATION IS 32.00

1.	Cyclohexane, 1-ethyl-4-methyl-, cis-	126	C9H18
2.	1H-Pyrazole, 4,5-dihydro-3-methyl-1-propyl-	126	C7H14N2
3.	1H-1,2,4-Triazole, 1-ethyl-	97	C4H7N3
4.	Cyclohexane, 1-ethyl-2-methyl-, cis-	126	C9H18
5.	2-Hexene, 3,4,4-trimethyl-	126	C9H18
6.	4-Hepten-3-one, 4-methyl-	126	C8H14O

Sample file: >V5434 Spectrum #: 1203
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.	57*	4926787	9131	NBS49K	64	32	3	0	77	30	24	37
2.	50*	26964498	9119	NBS49K	48	39	2	0	78	23	19	28
3.	41*	16778704	9073	NBS49K	22	74	3	0	97	22	17	12
4.	40*	4923777	9132	NBS49K	54	38	2	-2	73	32	16	23
5.	39*	53941198	9136	NBS49K	35	58	2	0	95	29	14	16
6.	38*	22319319	9130	NBS49K	39	59	2	0	114	29	14	15



UNKNOWN #,5

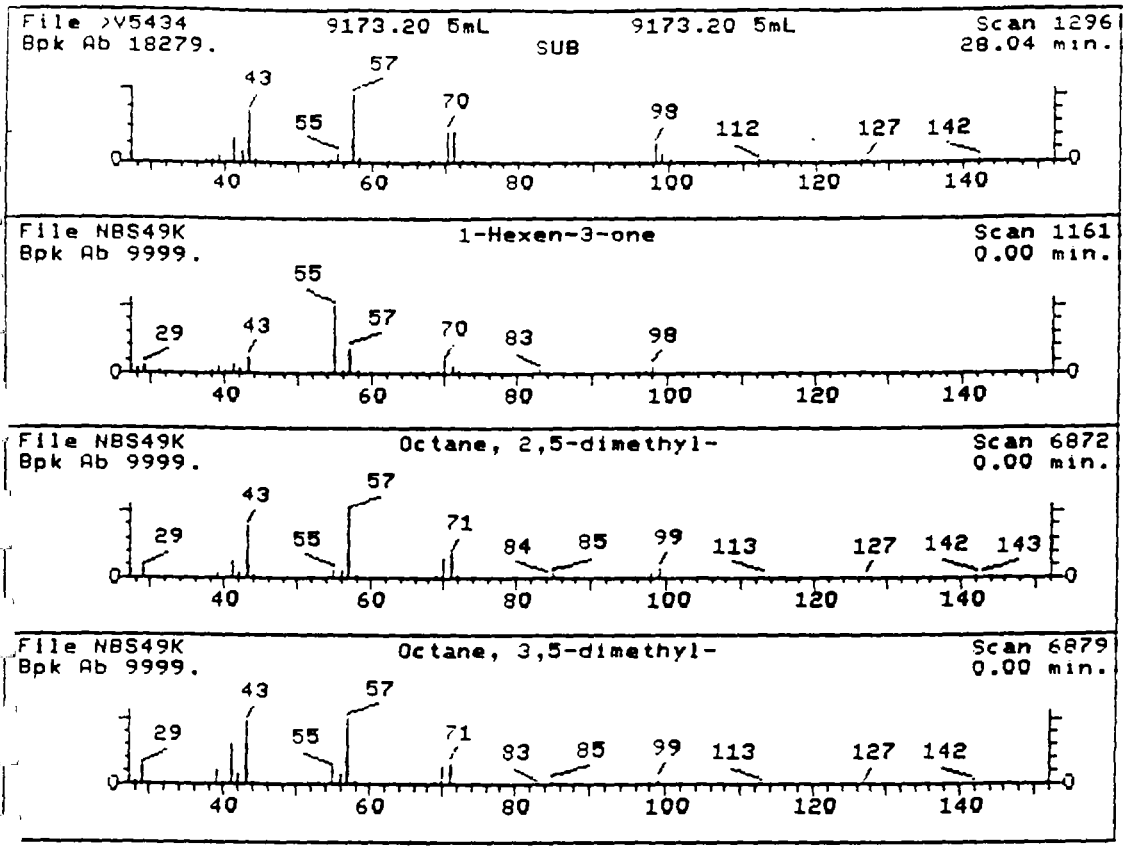
AREA = 834918.0 TENTATIVE CONCENTRATION IS 32.00

1.	Nonane, 3-methyl-	142 C10H22
2.	Octane, 3,6-dimethyl-	142 C10H22
3.	Octane, 2,6-dimethyl-	142 C10H22
4.	Undecane, 6,6-dimethyl-	184 C13H28
5.	Octane, 3-ethyl-	142 C10H22
6.	3-Hexanone, 2,2-dimethyl-	128 C8H16O

Sample file: >V5434 Spectrum #: 1224

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

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	F
1.	87*	5911046	12331	NBS49K	66	31	2	0	97	0	63	
2.	86*	15869940	12333	NBS49K	54	35	1	-1	82	2	60	
3.	86*	2051301	12332	NBS49K	56	39	2	0	74	1	60	
4.	60	17312764	12432	NBS49K	59	39	2	3	100	12	30	
5.	52*	5881174	4326	NBS49K	26	67	2	0	85	16	20	
6.	45	5405798	4306	NBS49K	46	39	1	0	94	25	17	

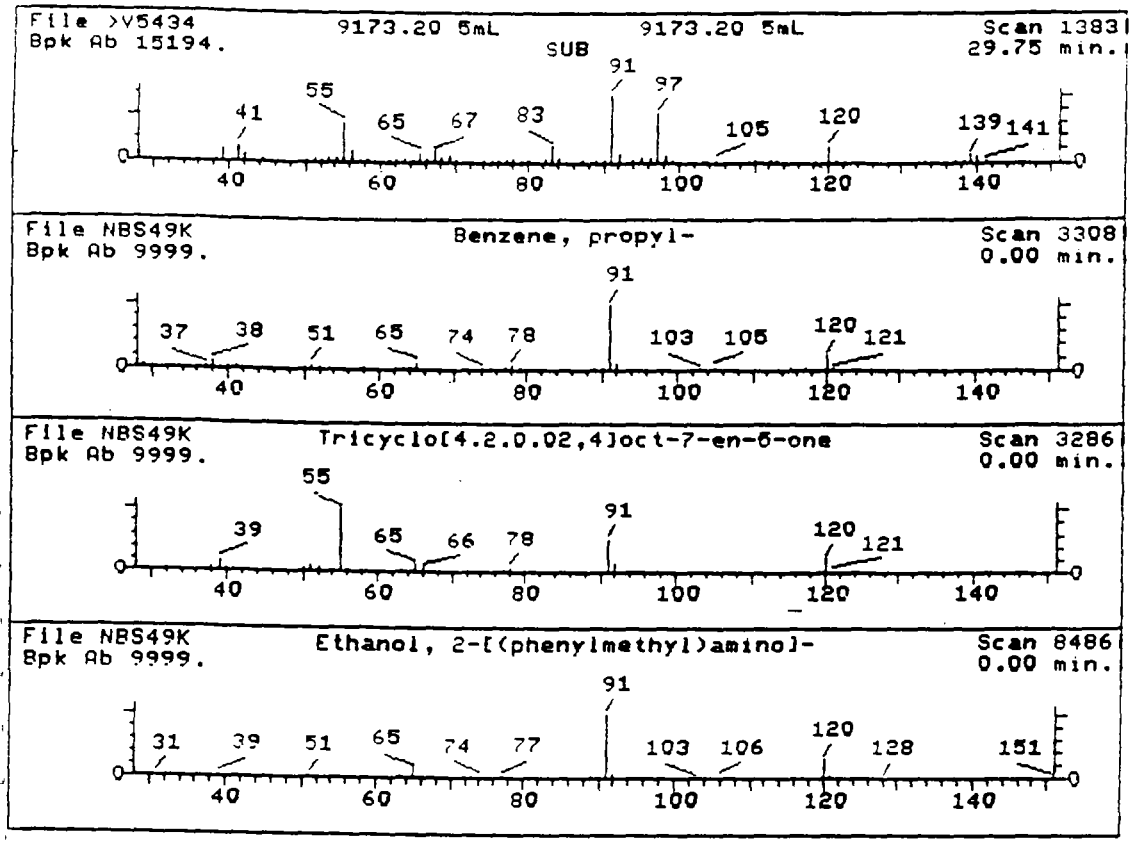


UNKNOWN #,6
AREA = 1397554. TENTATIVE CONCENTRATION IS 54.00

1.	1-Hexen-3-one	98 C6H10O
2.	Octane, 2,5-dimethyl-	142 C10H22
3.	Octane, 3,5-dimethyl-	142 C10H22
4.	Heptane, 4-(1-methylethyl)-	142 C10H22
5.	Heptane, 4-propyl-	142 C10H22
6.	Octane, 4,5-dimethyl-	142 C10H22

Sample file: >V5434 Spectrum #: 1296
earch speed: 1 Tilting option: F No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	52*	1629603	9433	NBS49K	28	54	3	0	249	20	20	13
2.	52	15869893	9754	NBS49K	48	44	2	0	86	19	20	14
3.	30*	15869939	4025	NBS49K	30	63	3	0	80	32	12	13
4.	27*	52896874	9510	NBS49K	25	58	3	0	100	39	10	13
5.	27*	3178298	9752	NBS49K	25	62	3	0	100	39	10	13
6.	20*	15869962	4022	NBS49K	25	60	2	0	56	55	5	14

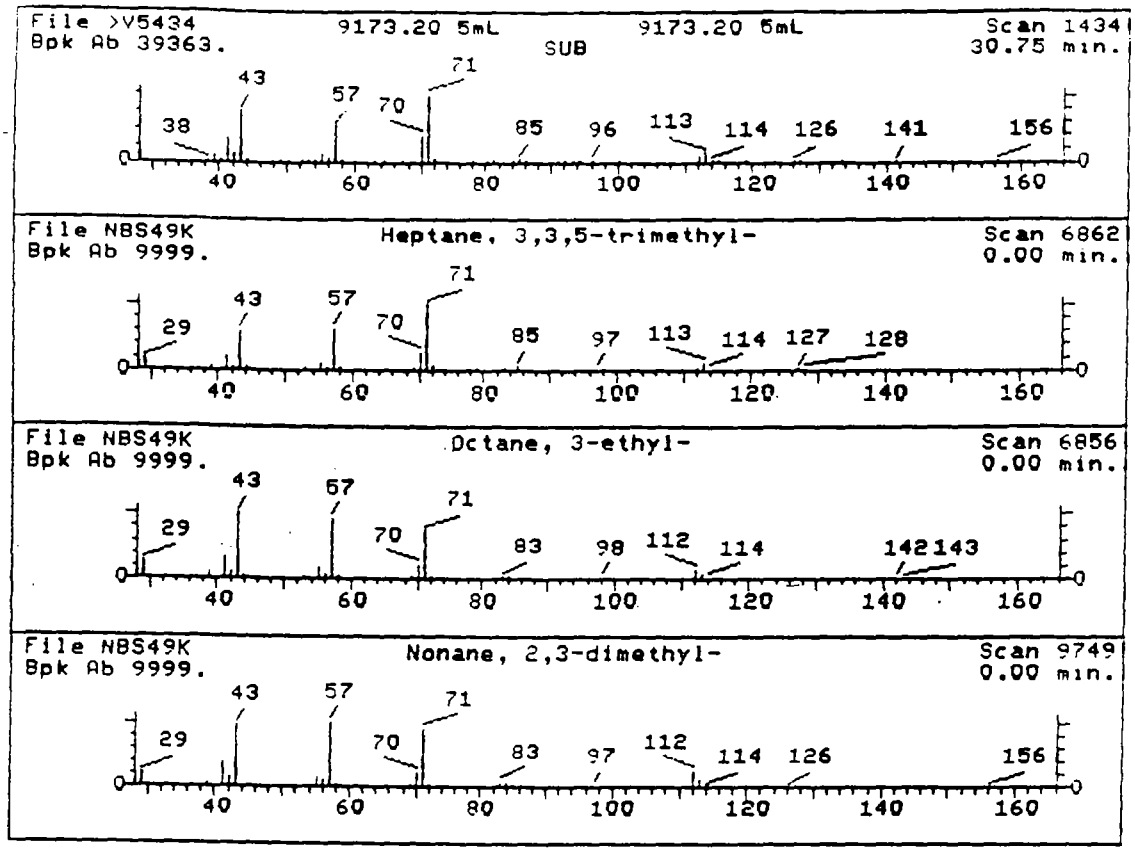


UNKNOWN #,7
AREA = 1486310. TENTATIVE CONCENTRATION IS 57.00

1.	Benzene, propyl-	120	C9H12
2.	Tricyclo[4.2.0.02,4]oct-7-en-5-one	120	C8H8O
3.	Ethanol, 2-[(phenylmethyl)amino]-	151	C9H13NO
4.	Benzaldehyde, 4-(phenylmethoxy)-	212	C14H12O2
5.	1,6-Heptadiyne	92	C7H8

Sample file: >V5434 Spectrum #: 1383
Search speed: 1 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	48*	103651	13679	NBS49K	67	18	2	-2	85	39	17	3
2.	31*	56666785	13664	NBS49K	53	36	2	-3	73	41	8	1
3.	28	104632	13712	NBS49K	47	32	2	0	74	44	8	1
4.	20	4397539	8542	NBS49K	36	49	2	0	70	53	5	1
5.	20*	2396636	8477	NBS49K	24	72	2	0	80	53	5	1



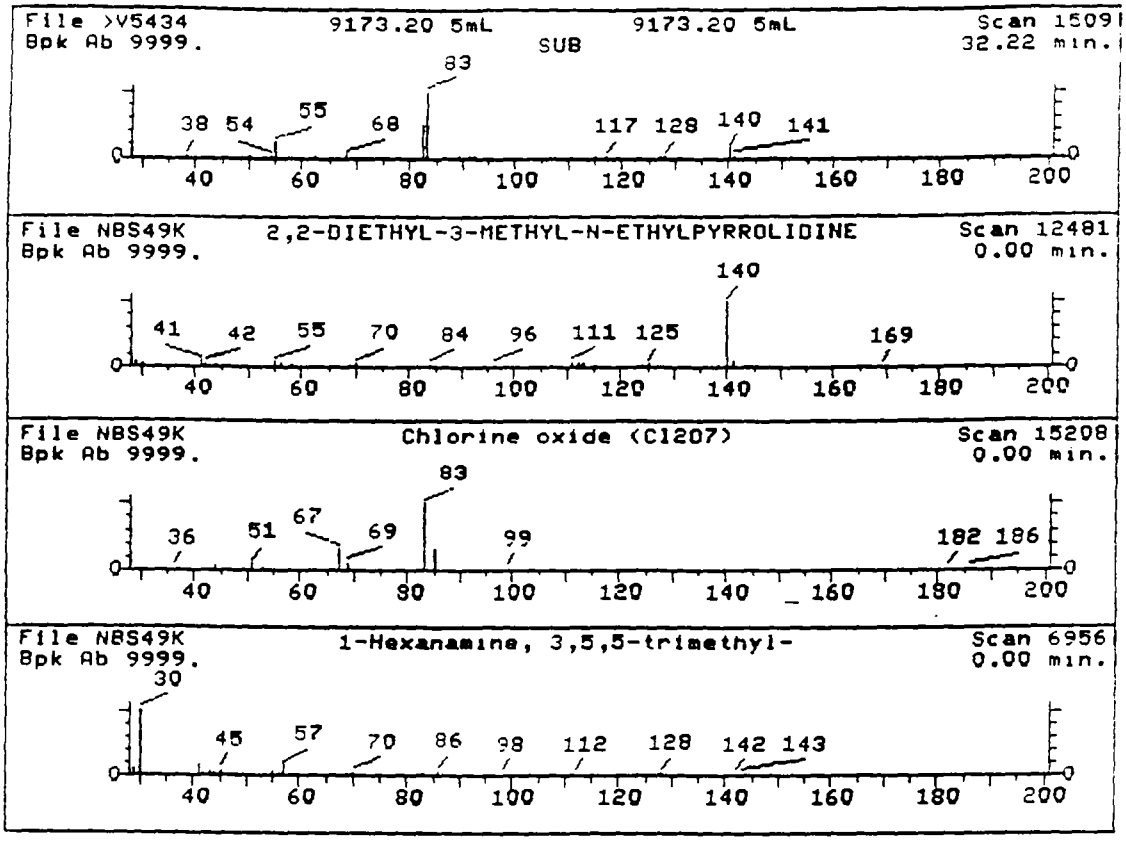
UNKNOWN #,8
AREA = 2320533. TENTATIVE CONCENTRATION IS 89.00

1.	Heptane, 3,3,5-trimethyl-	142 C10H22
2.	Octane, 3-ethyl-	142 C10H22
3.	Nonane, 2,3-dimethyl-	156 C11H24
4.	Heptane, 2,5,5-trimethyl-	142 C10H22
5.	Hexane, 2,3-dimethyl-	114 C8H18
6.	Pentane, 2,3,4-trimethyl-	114 C8H18

Sample file: >V5434 Spectrum #: 1434
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.	41	7154805	4330	NBS49K	36	48	2	0	84	24	17	12
2.	40	5881174	4326	NBS49K	34	59	0	0	57	30	14	17
3.	36*	2884062	12128	NBS49K	40	61	3	0	80	26	14	13
4.	35	1189997	4328	NBS49K	34	56	1	0	62	29	14	12
5.	32*	584941	3916	NBS49K	40	47	1	0	56	41	12	23
6.	31*	565753	3918	NBS49K	26	54	1	0	65	35	12	14

290

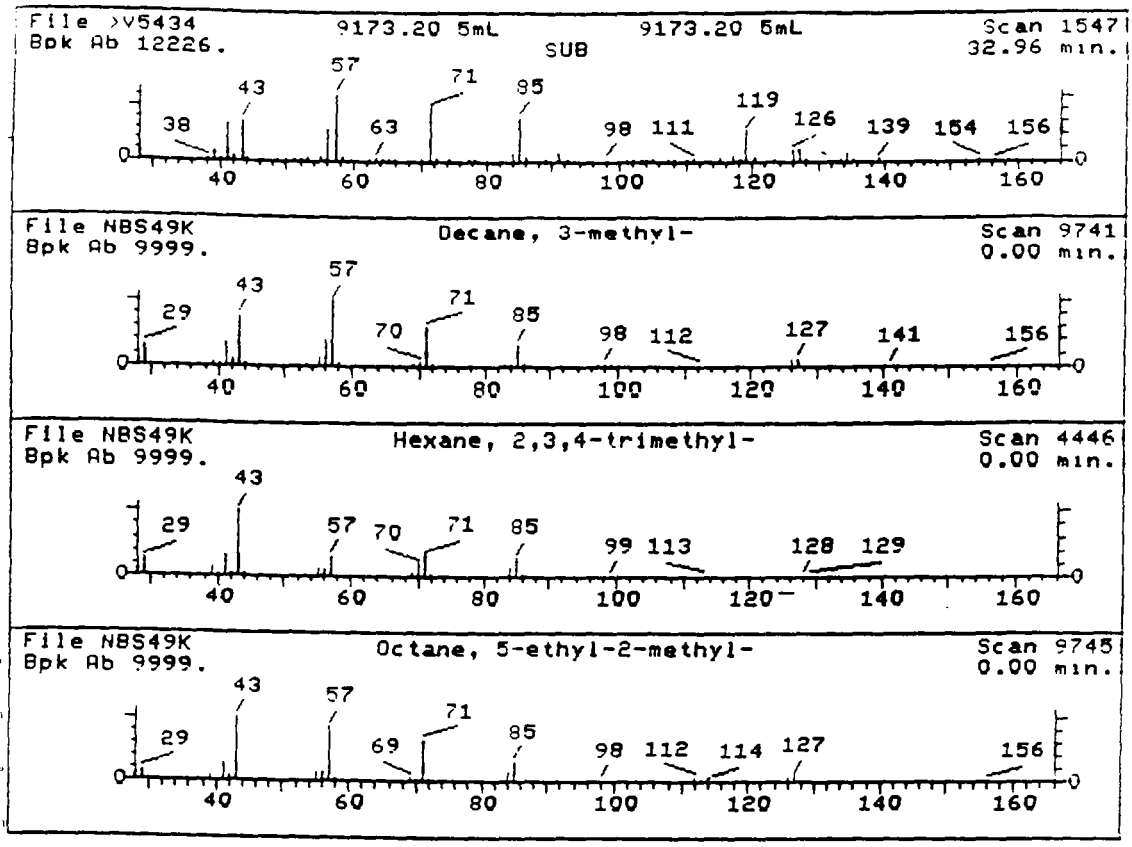


UNKNOWN #,9
AREA = 1810529. TENTATIVE CONCENTRATION IS 70.00

1.	2,2-DIETHYL-3-METHYL-N-ETHYLPYRROLIDINE	169 C11H23N
2.	Chlorine oxide (C1207)	182 C1207
3.	1-Hexanamine, 3,5,5-trimethyl-	143 C9H21N

Sample file: >V5434 Spectrum #: 1509
Search speed: 1 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I
1.	31*	89214959	17740	NBS49K	31	26	0	1	12	40	10	17
2.	24*	12015531	6224	NBS49K	22	62	3	0	100	45	8	12
3.	24*	3378630	105	NBS49K	49	34	2	2	63	54	7	23

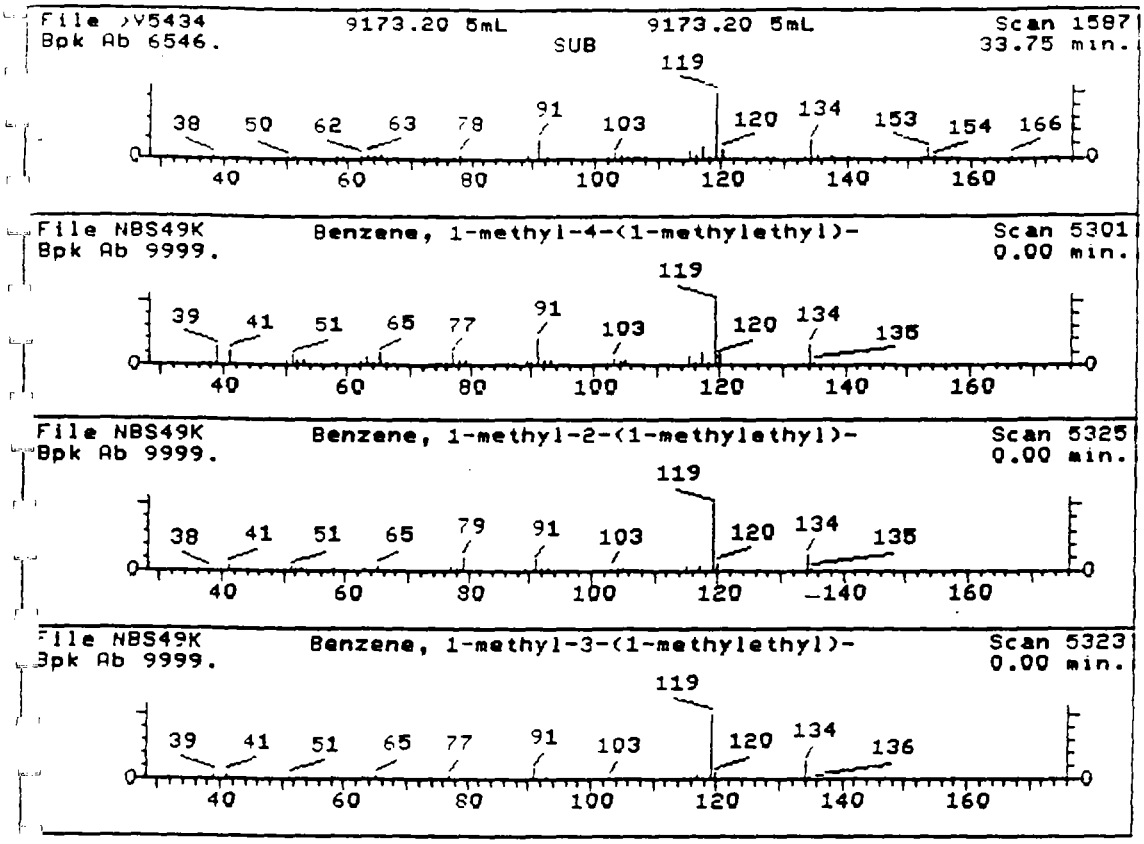


UNKNOWN #,10
AREA = 1394651. TENTATIVE CONCENTRATION IS 54.00

1.	Decane, 3-methyl-	156 C11H24
2.	Hexane, 2,3,4-trimethyl-	128 C9H20
3.	Octane, 5-ethyl-2-methyl-	156 C11H24
4.	Benzene, 1-methyl-4-(1-methylethyl)-	134 C10H14
5.	Benzene, methyl(1-methylethyl)-	134 C10H14
6.	Methylamine, N-(1-methylhexylidene)-	127 C8H17N

Sample file: >V5434 Spectrum #: 1547
Search speed: 1 Tilting option: F No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_I(
1.	52*	13151343	15040	NBS49K	52	42	2	-2	90	20	20	1E
2.	27*	921471	6601	NBS49K	34	56	3	0	232	40	10	13
3.	25*	62016186	15041	NBS49K	35	63	3	0	118	43	8	13
4.	15*	99876	13530	NBS49K	44	16	0	-3	11	61	3	40
5.	12*	25155151	13531	NBS49K	59	16	2	-2	25	61	2	28
6.	11*	22058715	4298	NBS49K	26	47	2	0	49	63	2	14

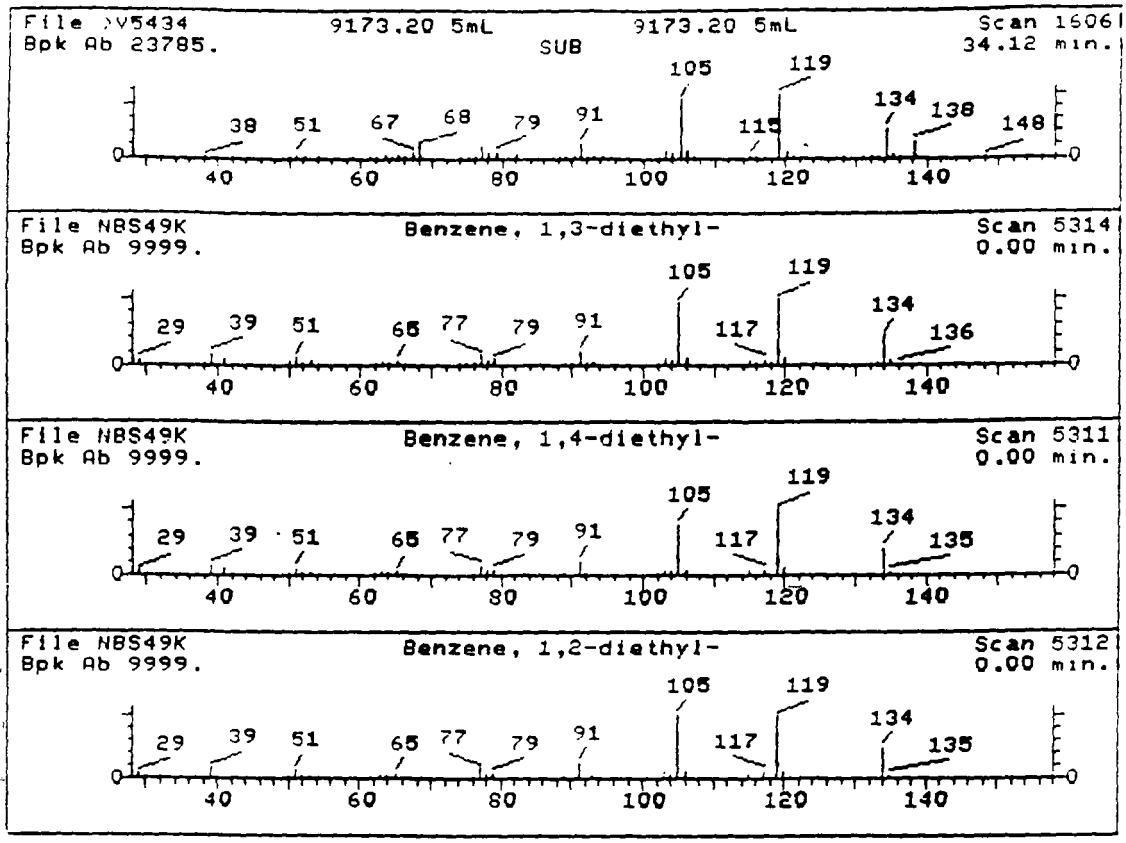


UNKNOWN #,11
AREA = 934974.0 TENTATIVE CONCENTRATION IS 36.00

1.	Benzene, 1-methyl-4-(1-methylethyl)-	134 C10H14
2.	Benzene, 1-methyl-2-(1-methylethyl)-	134 C10H14
3.	Benzene, 1-methyl-3-(1-methylethyl)-	134 C10H14
4.	Benzene, 1-ethyl-2,4-dimethyl-	134 C10H14
5.	Benzene, 1-ethyl-2,3-dimethyl-	134 C10H14
6.	Benzene, 2-ethyl-1,3-dimethyl-	134 C10H14

Sample file: >V5434 Spectrum #: 1587
Search speed: 1 Tilting option: F No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IC
1.	76*	99876	13530	NBS49K	71	34	2	0	69	11	40	52
2.	75*	527844	13539	NBS49K	68	24	1	3	97	18	35	61
3.	75*	535773	13538	NBS49K	66	23	1	0	100	18	35	67
4.	70*	874419	13536	NBS49K	60	28	1	4	100	19	32	55
5.	70*	933982	13533	NBS49K	61	30	1	4	98	19	32	52
6.	68*	2870044	13529	NBS49K	61	28	1	1	100	21	30	55

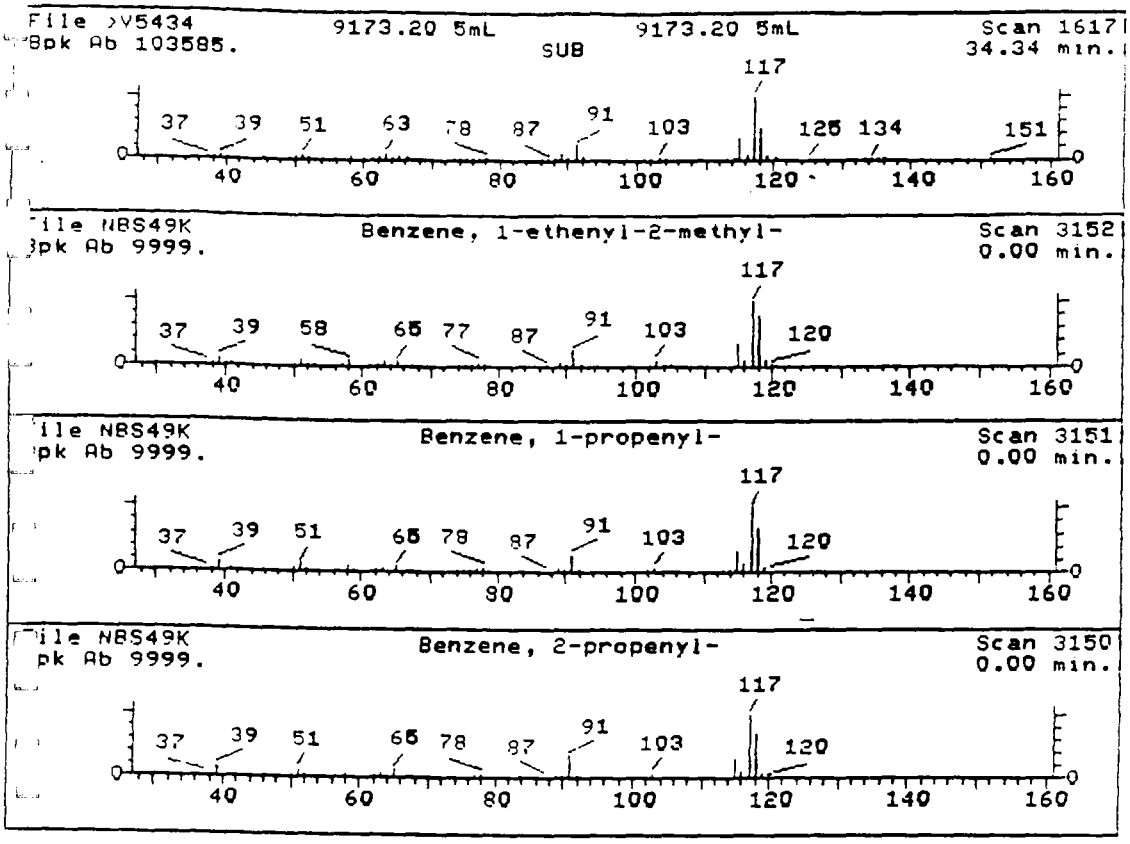


UNKNOWN #,12
AREA = 2946672. TENTATIVE CONCENTRATION IS 110.00

1.	Benzene, 1,3-diethyl-	134 C10H14
2.	Benzene, 1,4-diethyl-	134 C10H14
3.	Benzene, 1,2-diethyl-	134 C10H14
4.	Benzene, diethyl-	134 C10H14
5.	Benzene, 1-ethyl-3,5-dimethyl-	134 C10H14
6.	1,4-Cyclohexadiene, 3-ethenyl-1,2-dimethyl-	134 C10H14

Sample file: >V5434 Spectrum #: 1606
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.	71*	141935	16259	NBS49K	61	41	2	0	99	11	38	38
2.	71*	105055	16257	NBS49K	59	41	2	0	97	11	38	36
3.	71*	135013	16258	NBS49K	60	46	2	0	91	11	38	37
4.	40*	25340174	16250	NBS49K	45	50	1	0	87	38	14	27
5.	30*	934747	13532	NBS49K	44	51	2	3	100	39	10	16
6.	30*	62338572	13527	NBS49K	35	74	3	0	100	33	12	13

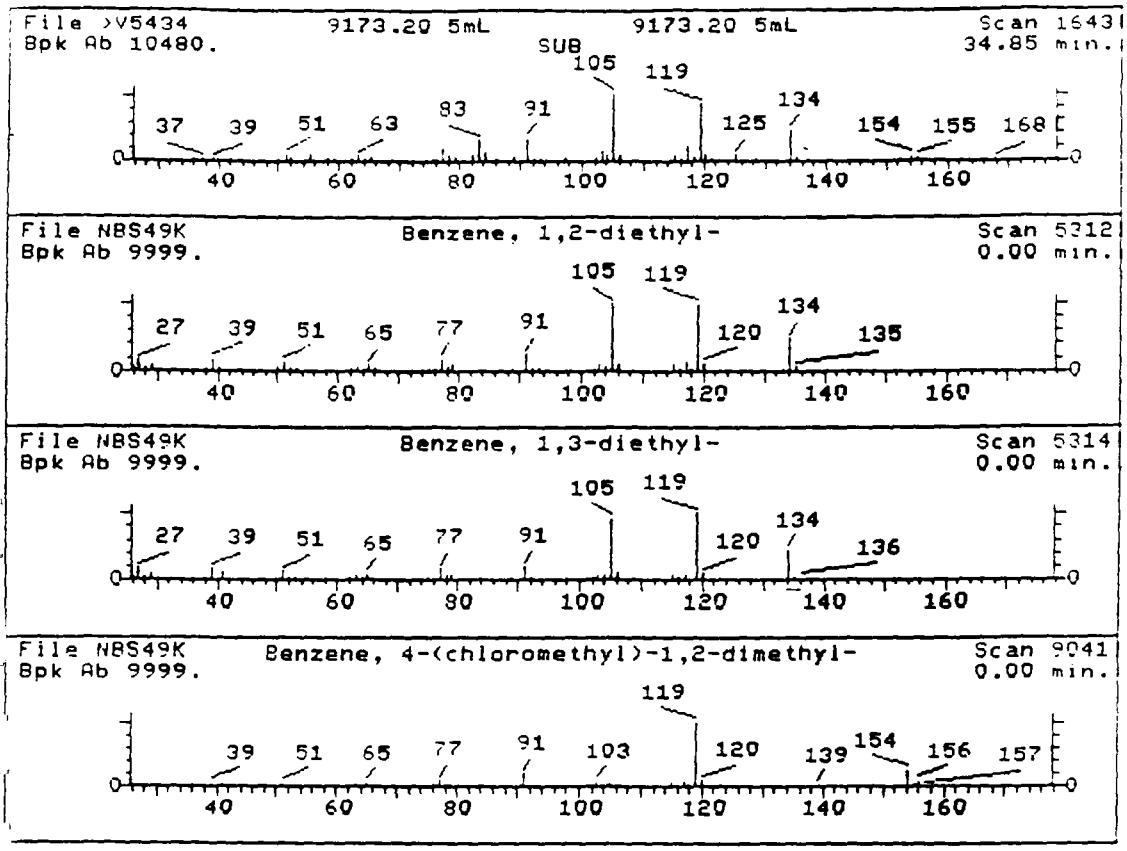


UNKNOWN #,13
REA = 4921689. TENTATIVE CONCENTRATION IS 190.00

1.	Benzene, 1-ethenyl-2-methyl-	118	C9H10
2.	Benzene, 1-propenyl-	118	C9H10
3.	Benzene, 2-propenyl-	118	C9H10
4.	Benzene, 1-ethenyl-4-methyl-	118	C9H10
5.	Benzene, ethenylmethyl-	118	C9H10
6.	Benzene, cyclopropyl-	118	C9H10

Sample file: >V5434 Spectrum #: 1617
Search speed: 1 Tilting option: F No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	67*	611154	13346	NBS49K	47	46	2	0	67	13	34	27
2.	60*	637503	13345	NBS49K	30	68	2	0	75	11	30	14
3.	41*	300572	13344	NBS49K	54	43	1	-1	52	40	17	30
	35*	622979	13347	NBS49K	49	41	1	1	35	50	11	31
	32*	25013154	13348	NBS49K	39	43	0	1	35	53	9	40
6.	29*	873494	13342	NBS49K	45	65	2	0	55	37	10	15

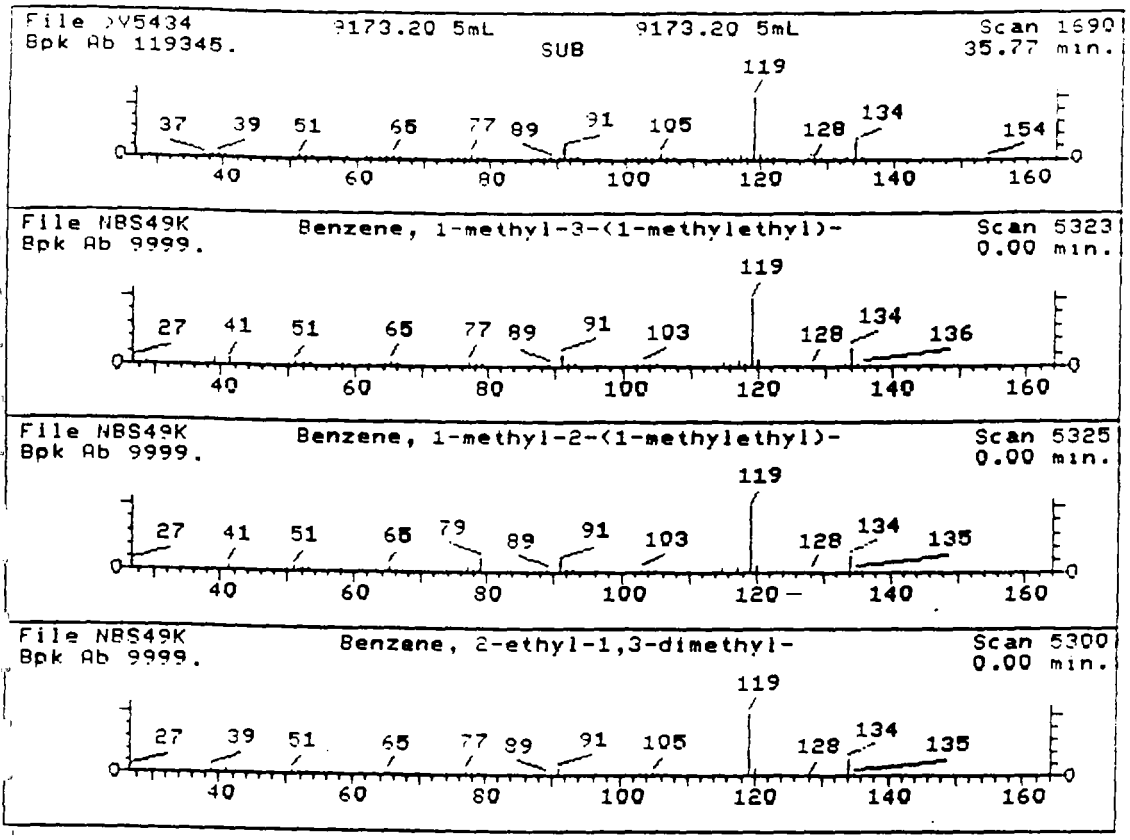


UNKNOWN #,14
AREA = 1518135. TENTATIVE CONCENTRATION IS 59.00

1.	Benzene, 1,2-diethyl-	134 C10H14
2.	Benzene, 1,3-diethyl-	134 C10H14
3.	Benzene, 4-(chloromethyl)-1,2-dimethyl-	154 C9H11Cl
4.	Benzene, 1,4-diethyl-	134 C10H14
5.	Benzene, 1-methyl-4-(1-methylethyl)-	134 C10H14
6.	Benzene, 1,2,3,4-tetramethyl-	134 C10H14

Sample file: >V5434 Spectrum #: 1643
Search speed: 1 Tilting option: F No. of ion ranges searched: 40

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IC
1.	83*	135013	16258	NBS49K	78	28	1	0	75	13	51	76
2.	70*	141935	16259	NBS49K	59	43	1	0	77	17	32	53
3.	52	102465	13558	NBS49K	55	40	2	3	98	17	20	12
4.	46*	105055	16257	NBS49K	49	51	1	0	75	33	16	29
5.	40*	99876	13530	NBS49K	67	38	2	0	76	46	12	46
6.	36*	488233	16251	NBS49K	46	48	1	4	91	40	14	23



UNKNOWN #,15
AREA = 2351872. TENTATIVE CONCENTRATION IS 91.00

1.	Benzene, 1-methyl-3-(1-methylethyl)-	134 C10H14
2.	Benzene, 1-methyl-2-(1-methylethyl)-	134 C10H14
3.	Benzene, 2-ethyl-1,3-dimethyl-	134 C10H14
4.	Benzene, 1-ethyl-2,3-dimethyl-	134 C10H14
5.	Benzene, 1-ethyl-2,4-dimethyl-	134 C10H14
6.	Benzene, 4-ethyl-1,2-dimethyl-	134 C10H14

Sample file: >V5434 Spectrum #: 1690
Search speed: 1 Tilting option: F No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IU
1.	97*	535773	13538	NBS49K	83	6	0	0	77	1	72	97
2.	95*	527844	13539	NBS49K	83	9	1	0	84	1	72	95
3.	95*	2870044	13529	NBS49K	77	12	1	0	94	3	72	93
4.	95*	933982	13533	NBS49K	78	13	1	0	67	3	72	93
5.	95*	874419	13536	NBS49K	75	13	1	0	90	3	72	93
6.	94*	934805	13534	NBS49K	79	14	1	0	88	3	72	92

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE

9173.25 5

Lab Name: Environmental Profile Lab NJDEP Cert.# 15526

Matrix: Water

Lab Sample ID: 9173.25 5ml

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

Lab File ID: >V5364

Level: (low/med) LOW

Date Received: 10-26-92

Date Analyzed: 10/28/92

Column: Capillary

Dilution Factor: 1

CONCENTRATION UNITS: ug/L

Number of TICs found: 0

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 ID:

9173.26.5m

Lab Name: Environmental Profile Lab NJDEP Cert.# 15526

Matrix: Water

Lab Sample ID: 9173.26.5mL

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

Lab File ID: >V5365

Level: (low/med) LOW

Date Received: 10-26-92

Date Analyzed: 10/28/92

Column: Capillary

Dilution Factor: 1

Number of TICs found: 0

CONCENTRATION UNITS:
ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev

5A

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

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID: >V5345 BFB Injection Date: 10/27/92

Instrument ID: GC/MSD 5970 #1 BFB Injection Time: 9:54

Matrix: Water Column: Capillary

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.9
75	30.0 - 60.0% of mass 95	48.4
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	76.3
175	5.0 - 9.0% of mass 174	5.5(7.2)1
176	Greater than 95.0%, but less than 101.0% of mass 174	73.7(96.6)1
177	5.0 - 9.0% of mass 176	4.7(6.4)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	>V5346	10/27/92	10:27
02	VOA BLANK	VOA BLANK	>V5347	10/27/92	11:36
03	9173.9 5mL	9173.9 5mL	>V5352	10/27/92	15:38
04	9173.2 5mL	9173.2 5mL	>V5353	10/27/92	16:20
05	9173.3 5mL	9173.3 5mL	>V5356	10/27/92	18:26
06	9173.5 5mL	9173.5 5mL	>V5358	10/27/92	19:50
07	9173.6 5mL	9173.6 5mL	>V5359	10/27/92	20:33
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

5A

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

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID: >V5361 BFB Injection Date: 10/27/92

Instrument ID: GC/MSD 5970 #1 BFB Injection Time: 21:53

Matrix: Water Column: Capillary

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.5
75	30.0 - 60.0% of mass 95	49.5
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	65.3
175	5.0 - 9.0% of mass 174	5.0(7.6)1
176	Greater than 95.0%, but less than 101.0% of mass 174	63.9(97.9)1
177	5.0 - 9.0% of mass 176	4.1(6.4)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/SPCCC	>V5362	10/27/92	22:24
02	VOA Blank	VOA Blank	>V5363	10/27/92	23:37
03	9173.25 5m	9173.25 5m	>V5364	10/28/92	0:19
04	9173.26 5m	9173.26 5m	>V5365	10/28/92	1:01
05	9173.14 5m	9173.14 5m	>V5366	10/28/92	1:43
06	9173.13 5m	9173.13 5m	>V5367	10/28/92	2:26
07	9173.23.5m	9173.23 5m	>V5368	10/28/92	3:08
08	9173.12 5m	9173.12 5m	>V5369	10/28/92	3:50
09	9173.21-5m	9173.21 5m	>V5370	10/28/92	4:33
10	9173.19-5m	9173.19 5m	>V5371	10/28/92	5:15
11	9173.11-5m	9173.11 5m	>V5372	10/28/92	5:58
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

5A

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

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID: >V5411 BFB Injection Date: 10/30/92

Instrument ID: GC/MSD 5970 #1 BFB Injection Time: 10:16

Matrix: Water Column: Capillary

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.4
75	30.0 - 60.0% of mass 95	48.0
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	70.7
175	5.0 - 9.0% of mass 174	5.2(7.4)1
176	Greater than 95.0%, but less than 101.0% of mass 174	68.6(97.0)1
177	5.0 - 9.0% of mass 176	4.5(6.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCC/SPCC	CCC/SPCC	>V5412	10/30/92	10:38
02	VOA BLANK	VOA BLANK	>V5413	10/30/92	11:42
03	9173.1 5uL	9173.1 5uL	>V5415	10/30/92	13:26
04	9173.8 50u	9173.8 50u	>V5418	10/30/92	15:31
05	9173.10 50	9173.10 50	>V5419	10/30/92	16:12
06	9173.15 .5	9173.15 .5	>V5421	10/30/92	17:37
07	9173.16 .5	9173.16 .5	>V5422	10/30/92	18:19
08	9173.24 .5	9173.24 .5	>V5423	10/30/92	19:01
09	9173.17 5m	9173.17 5m	>V5424	10/30/92	19:43
10	9173.22 5m	9173.22 5m	>V5426	10/30/92	21:07
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

5A

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

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID: >V5427 BFB Injection Date: 10/31/92

Instrument ID: GC/MSD 5970 #1 BFB Injection Time: 13:44

Matrix: Water Column: Capillary

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.5
75	30.0 - 60.0% of mass 95	48.9
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.2
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	71.3
175	5.0 - 9.0% of mass 174	5.5(7.7)1
176	Greater than 95.0%, but less than 101.0% of mass 174	70.1(98.3)1
177	5.0 - 9.0% of mass 176	4.7(6.7)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCC/SPCC	CCC/SPCC	>V5428	10/31/92	14:11
02	VOA Blank	VOA Blank	>V5429	10/31/92	15:10
03	9173.22 MS	9173.22 MS	>V5430	10/31/92	15:53
04	9173.22 MS	9173.22 MS	>V5431	10/31/92	16:36
05	9173.7 50u	9173.7 50u	>V5432	10/31/92	17:18
06	9173.4 .5m	9173.4 .5m	>V5433	10/31/92	18:01
07	9173.20 5m	9173.20 5m	>V5434	10/31/92	18:42
08	9173.18 5m	9173.18 5m	>V5436	10/31/92	20:07
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/27/92

Contractor: E.P.L. Time: 10:27

Contract No: NJDEPE ID# 15526 Laboratory ID: >V5346

Instrument ID: GC/MSD #1 Initial Calibration Date: 10/20/92

Minimum $\overline{RF}$ for SPCC is .30 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Chloromethane	1.28136	1.10969	13.40		**	
Bromomethane	3.56350	4.34436	21.91			
Vinyl Chloride	1.97246	1.84004	6.71	*		
Chloroethane	1.85262	1.95151	5.34			
Methyl tert-Butyl Ether	4.64109	4.28257	7.72			
Methylene Chloride	4.28970	4.07719	4.95			
Acrolein	.16356	.15680	4.13			(Conc=500.00)
Acrylonitrile	.25730	.25179	2.14			(Conc=500.00)
Acetone	.78012	.70591	9.51			
Carbon Disulfide	13.8242	12.5381	9.30			
1,1-Dichloroethene	3.15223	3.19648	1.40	*		
1,1-Dichloroethane	6.23895	6.12772	1.78		**	
tert-Butyl Alcohol	.08598	.07902	8.09			(Conc=500.00)
trans-1,2-Dichloroethene	5.26164	4.84898	7.84			
Trichlorofluoromethane	7.49104	7.69633	2.74			
Chloroform	8.86038	9.30035	4.97	*		
1,2-Dichloroethane-d4	2.29358	2.19975	4.09			(Conc=100.00)
1,2-Dichloroethane	4.12337	3.83860	6.91			
2-Butanone	.09677	.08491	12.26			
1,1,1-Trichloroethane	1.36023	1.48732	9.34			
Carbon Tetrachloride	1.18650	1.40226	18.18			
Bromodichloromethane	1.29358	1.38989	7.45			
Vinyl Acetate	.58768	.53142	9.57			
1,2-Dichloropropane	.60165	.61519	2.25	*		
cis-1,3-Dichloropropene	1.50097	1.52344	1.50			
Trichloroethene	.83241	.94431	13.44			
Dibromochloromethane	.95834	1.13720	18.66			
1,1,2-Trichloroethane	.44874	.49892	11.18			
Benzene	1.62988	1.64407	.87			
trans-1,3-Dichloropropene	.27115	.27867	2.77			
2-Chloroethylvinyl ether	.18189	.15307	15.84			
Bromoform	.55286	.62873	13.72		**	

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 (**)

329

Continuing Calibration Check
HSL Compounds

Case No: | Calibration Date: 10/27/92

Contractor: E.P.L. | Time: 10:27

Contract No: NJDEPE ID# 15526 | Laboratory ID: >U5346

Instrument ID: GC/MSD #1 | Initial Calibration Date: 10/20/92

Minimum $\overline{RF}$ for SPCC is .30 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
4-Methyl-2-Pentanone	.43455	.31830	26.75			
2-Hexanone	.17597	.12124	31.10			
Tetrachloroethene	1.07022	1.15747	8.15			
1,1,2,2-Tetrachloroethane	.70932	.66273	6.57		**	
Toluene	2.66135	2.48907	6.47	*		
Chlorobenzene	1.82137	1.89128	3.84		**	
Ethylbenzene	3.30060	3.23850	1.88	*		
Styrene	2.20138	2.08635	5.23			
m + p-Xylenes	2.78650	2.85973	2.63			(Conc=100.00)
o-Xylene	3.11671	2.95494	5.19			
1,3-Dichlorobenzene	1.83717	1.88150	2.41			
1,4-Dichlorobenzene	1.61421	1.66581	3.20			
1,2-Dichlorobenzene	1.42741	1.49493	4.73			
Toluene-d8	1.69988	1.49723	11.92			(Conc=100.00)
Bromofluorobenzene	1.04741	1.07886	3.00			(Conc=100.00)
Diethyl ether	.22600	.24279	7.43			(Conc=500.00)

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 (**)

330

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/27/92

Contractor: E.P.L. Time: 22:24

Contract No: NJDEPE ID# 15526 Laboratory ID: >V5362

Instrument ID: GC/MSD #1 Initial Calibration Date: 10/20/92

Minimum $\overline{RF}$ for SPCC is .30 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Chloromethane	1.28136	1.00891	21.26		**	
Bromomethane	3.56350	3.79699	6.55			
Vinyl Chloride	1.97246	1.75265	11.14	*		
Chloroethane	1.85262	1.70283	8.09			
Methyl tert-Butyl Ether	4.64109	4.35179	6.23			
Methylene Chloride	4.28970	4.24373	1.07			
Acrolein	.16356	.15834	3.19			(Conc=500.00)
Acrylonitrile	.25730	.25680	.19			(Conc=500.00)
Acetone	.78012	.78218	.26			
Carbon Disulfide	13.8242	10.5646	23.58			
1,1-Dichloroethene	3.15223	2.75138	12.72	*		
1,1-Dichloroethane	6.23895	5.33563	14.48		**	
tert-Butyl Alcohol	.08598	.08212	4.49			(Conc=500.00)
trans-1,2-Dichloroethene	5.26164	4.21587	19.88			
Trichlorofluoromethane	7.49104	6.60187	11.87			
Chloroform	8.86038	8.06368	8.99	*		
1,2-Dichloroethane-d4	2.29358	2.15653	5.98			(Conc=100.00)
1,2-Dichloroethane	4.12337	3.58684	13.01			
2-Butanone	.09677	.09095	6.02			
1,1,1-Trichloroethane	1.36023	1.24949	8.14			
Carbon Tetrachloride	1.18650	1.13685	4.18			
Bromodichloromethane	1.29358	1.25370	3.08			
Vinyl Acetate	.58768	.51357	12.61			
1,2-Dichloropropane	.60165	.55803	7.25	*		
cis-1,3-Dichloropropene	1.50097	1.43608	4.32			
Trichloroethene	.83241	.82498	.89			
Dibromochloromethane	.95834	1.02949	7.43			
1,1,2-Trichloroethane	.44874	.47960	6.88			
Benzene	1.62988	1.42725	12.43			
trans-1,3-Dichloropropene	.27115	.26154	3.54			
2-Chloroethylvinyl ether	.18189	.17662	2.90			
Bromoform	.55286	.57041	3.17		**	

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: 10/27/92

Contractor: E.P.L. Time: 22:24

Contract No: NJDEPE ID# 15526 Laboratory ID: >V5362

Instrument ID: GC/MSD #1 Initial Calibration Date: 10/20/92

Minimum $\overline{RF}$ for SPCC is .30 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
4-Methyl-2-Pentanone	.43455	.39889	8.21			
2-Hexanone	.17597	.15736	10.57			
Tetrachloroethene	1.07022	1.08033	.94			
1,1,2,2-Tetrachloroethane	.70932	.69714	1.72		**	
Toluene	2.66135	2.47343	7.06	*		
Chlorobenzene	1.82137	1.84446	1.27		**	
Ethylbenzene	3.30060	3.11994	5.47	*		
Styrene	2.20138	2.07044	5.95			
m + p-Xylenes	2.78650	2.84431	2.07			(Conc=100.00)
o-Xylene	3.11671	2.90506	6.79			
1,3-Dichlorobenzene	1.83717	1.78947	2.60			
1,4-Dichlorobenzene	1.61421	1.57625	2.35			
1,2-Dichlorobenzene	1.42741	1.41788	.67			
Toluene-d8	1.69988	1.66654	1.96			(Conc=100.00)
Bromofluorobenzene	1.04741	1.00885	3.68			(Conc=100.00)
Diethyl ether	.22600	.25915	14.67			(Conc=500.00)

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 (**)

332

Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 10/30/92

Contractor: E.P.L. Time: 10:38

Contract No: NJDEPE ID# 15526 Laboratory ID: >U5412

Instrument ID: GC/MSD #1 Initial Calibration Date: 10/20/92

Minimum $\overline{RF}$ for SPCC is .30 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Chloromethane	1.28136	1.42497	11.21		**	
Bromomethane	3.56350	5.25171	47.38			
Vinyl Chloride	1.97246	2.24517	13.83	*		
Chloroethane	1.85262	2.62542	41.71			
Methyl tert-Butyl Ether	4.64109	4.65209	.24			
Methylene Chloride	4.28970	4.64636	8.31			
Acrolein	.16356	.18016	10.15			(Conc=500.00)
Acrylonitrile	.25730	.28763	11.79			(Conc=500.00)
Acetone	.78012	.67769	13.13			
Carbon Disulfide	13.8242	13.7629	.44			
1,1-Dichloroethene	3.15223	3.11384	1.22	*		
1,1-Dichloroethane	6.23895	5.69765	8.68		**	
tert-Butyl Alcohol	.08598	.07386	14.10			(Conc=500.00)
trans-1,2-Dichloroethene	5.26164	4.95498	5.83			
Trichlorofluoromethane	7.49104	6.92690	7.53			
Chloroform	8.86038	7.97901	9.95	*		
1,2-Dichloroethane-d4	2.29358	1.93489	15.64			(Conc=100.00)
1,2-Dichloroethane	4.12337	3.33024	19.24			
2-Butanone	.09677	.09101	5.95			
1,1,1-Trichloroethane	1.36023	1.59743	17.44			
Carbon Tetrachloride	1.18650	1.44374	21.68			
Bromodichloromethane	1.29358	1.35297	4.59			
Vinyl Acetate	.58768	.54273	7.65			
1,2-Dichloropropane	.60165	.61272	1.84	*		
cis-1,3-Dichloropropene	1.50097	1.35777	9.54			
Trichloroethene	.83241	.90926	9.23			
Dibromochloromethane	.95834	.87002	9.22			
1,1,2-Trichloroethane	.44874	.38603	13.97			
Benzene	1.62988	1.74667	7.17			
trans-1,3-Dichloropropene	.27115	.19636	27.58			
2-Chloroethylvinyl ether	.18189	.12213	32.86			
Bromoform	.55286	.50254	9.10		**	

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: 10/30/92

Contractor: E.P.L. | Time: 10:38

Contract No: NJDEPE ID# 15526 | Laboratory ID: >U5412

Instrument ID: GC/MSD #1 | Initial Calibration Date: 10/20/92

Minimum $\overline{RF}$ for SPCC is .30 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
4-Methyl-2-Pentanone	.43455	.45656	5.06			
2-Hexanone	.17597	.12670	28.00			
Tetrachloroethene	1.07022	1.29156	20.68			
1,1,2,2-Tetrachloroethane	.70932	.88704	25.05		**	
Toluene	2.66135	3.01024	13.11	*		
Chlorobenzene	1.82137	1.90927	4.83		**	
Ethylbenzene	3.30060	3.44915	4.50	*		
Styrene	2.20138	2.10412	4.42			
m + p-Xylenes	2.78650	3.14011	12.69			(Conc=100.00)
o-Xylene	3.11671	3.72390	19.48			
1,3-Dichlorobenzene	1.83717	2.18733	19.06			
1,4-Dichlorobenzene	1.61421	1.98239	22.81			
1,2-Dichlorobenzene	1.42741	1.95327	36.84			
Toluene-d8	1.69988	1.90992	12.36			(Conc=100.00)
Bromofluorobenzene	1.04741	.96961	7.43			(Conc=100.00)
Diethyl ether	.22600	.36374	60.95			(Conc=500.00)

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 (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 10/31/92

Contractor: E.P.L. Time: 14:11

Contract No: NJDEPE ID# 15526 Laboratory ID: >05428

Instrument ID: GC/MSD #1 Initial Calibration Date: 10/20/92

Minimum $\overline{RF}$ for SPCC is .30 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Chloromethane	1.28136	.94388	26.34		**	
Bromomethane	3.56350	3.48553	2.19			
Vinyl Chloride	1.97246	1.49094	24.41	*		
Chloroethane	1.85262	1.67619	9.52			
Methyl tert-Butyl Ether	4.64109	3.69393	20.41			
Methylene Chloride	4.28970	3.34148	22.10			
Acrolein	.16356	.14666	10.34			(Conc=500.00)
Acrylonitrile	.25730	.24070	6.45			(Conc=500.00)
Acetone	.78012	.66595	14.63			
Carbon Disulfide	13.8242	9.38635	32.10			
1,1-Dichloroethene	3.15223	2.42613	23.03	*		
1,1-Dichloroethane	6.23895	4.71782	24.38		**	
tert-Butyl Alcohol	.08598	.07476	13.05			(Conc=500.00)
trans-1,2-Dichloroethene	5.26164	3.90874	25.71			
Trichlorofluoromethane	7.49104	5.78736	22.74			
Chloroform	8.86038	7.20816	18.65	*		
1,2-Dichloroethane-d4	2.29358	2.13399	6.96			(Conc=100.00)
1,2-Dichloroethane	4.12337	3.39589	17.64			
2-Butanone	.09677	.09011	6.88			
1,1,1-Trichloroethane	1.36023	1.21163	10.92			
Carbon Tetrachloride.	1.18650	1.11049	6.41			
Bromodichloromethane	1.29358	1.24061	4.09			
Vinyl Acetate	.58768	.49255	16.19			
1,2-Dichloropropane	.60165	.53234	11.52	*		
cis-1,3-Dichloropropene	1.50097	1.38885	7.47			
Trichloroethene	.83241	.78313	5.92			
Dibromochloromethane	.95834	.99353	3.67			
1,1,2-Trichloroethane	.44874	.44642	.52			
Benzene	1.62988	1.39653	14.32			
trans-1,3-Dichloropropene	.27115	.25874	4.57			
2-Chloroethylvinyl ether	.18189	.15617	14.14			
Bromoform	.55286	.61280	10.84		**	

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: 10/31/92

Contractor: E.P.L. | Time: 14:11

Contract No: NJDEPE ID# 15526 | Laboratory ID: >U9428

Instrument ID: GC/MSD #1 | Initial Calibration Date: 10/20/92

Minimum $\overline{RF}$ for SPCC is .30 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
4-Methyl-2-Pentanone	.43455	.40304	7.25			
2-Hexanone	.17597	.16314	7.29			
Tetrachloroethene	1.07022	1.06550	.44			
1,1,2,2-Tetrachloroethane	.70932	.74675	5.28		**	
Toluene	2.66135	2.46072	7.54	*	—	
Chlorobenzene	1.82137	1.72300	5.40		**	
Ethylbenzene	3.30060	3.13570	5.00	*		
Styrene	2.20138	1.96840	10.58			
m + p-Xylenes	2.78650	2.71732	2.48			(Conc=100.00)
o-Xylene	3.11671	2.76517	11.28			
1,3-Dichlorobenzene	1.83717	1.79836	2.11			
1,4-Dichlorobenzene	1.61421	1.54930	4.02			
1,2-Dichlorobenzene	1.42741	1.45842	2.17			
Toluene-d8	1.69988	1.67960	1.19			(Conc=100.00)
Bromofluorobenzene	1.04741	1.03599	1.09			(Conc=100.00)
Diethyl ether	.22600	.24008	6.23			(Conc=500.00)

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 (**)

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Initial Calibration Data
HSL Compounds

Case No: ---------- Instrument ID: GC/MSD #1

Contractor: E.P.L. Calibration Date: 10/20/92

Contract No: NJDEPE ID# 15526

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

Laboratory ID:	>U5268	>U5267	>U5269	>U5270	>U5271					
Compound	RF 20.00	RF 50.00	RF 100.00	RF 150.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
Chloromethane	1.50294	1.49992	1.23329	1.26730	.90332	.287	1.28136	19.207		**
Bromomethane	2.99361	3.06827	4.19806	4.11264	3.44492	.347	3.56350	15.926		
Vinyl Chloride	2.37503	2.39296	1.75423	1.91730	1.42279	.296	1.97246	21.082	*	
Chloroethane	2.06558	1.67363	1.97650	1.95322	1.59418	.350	1.85262	11.116		
Methyl tert-Butyl Ether	5.23012	4.46234	4.55414	4.35144	4.60740	.590	4.64109	7.398		
Methylene Chloride	6.52683	4.31940	3.68406	3.67415	3.24404	.555	4.28970	30.495		
Acrolein	.19388	.14394	.15627	.15387	.16984	.440	.16356	11.804		(Conc=200.0,500.0,10(
Acrylonitrile	.31782	.22703	.23784	.23622	.26759	.579	.25730	14.422		(Conc=200.0,500.0,10(
Acetone	1.08049	.64897	.68880	.66465	.81769	.450	.78012	23.154		
Carbon Disulfide	14.2782	15.1274	14.0606	13.8156	11.8392	.552	13.8242	8.786		
1,1-Dichloroethene	3.32574	3.32445	3.21478	3.19919	2.69700	.471	3.15223	8.289	*	
1,1-Dichloroethane	6.41226	6.33833	6.46757	6.29424	5.68233	.716	6.23895	5.101		**
tert-Butyl Alcohol	.12654	.06211	.06182	.08538	.09405	.486	.08598	31.121		(Conc=200.0,500.0,100
trans-1,2-Dichloroethene	5.48229	5.34734	5.44542	5.29069	4.74247	.615	5.26164	5.703		
Trichlorofluoromethane	7.68374	8.19352	7.77534	7.41394	6.38869	.383	7.49104	9.036		
Chloroform	8.97644	9.21552	9.13957	8.79679	8.17359	.947	8.86038	4.699	*	
1,2-Dichloroethane-d4	2.27053	2.26971	2.33545	2.26930	2.32291	1.207	2.29358	1.430		(Conc=100.0,100.0,100.
1,2-Dichloroethane	4.26473	4.15584	4.22888	3.94809	4.01933	1.241	4.12337	3.292		
2-Butanone	.14133	.08539	.08184	.08521	.09008	.616	.09677	25.920		
1,1,1-Trichloroethane	1.42998	1.40101	1.37080	1.32401	1.27538	.800	1.36023	4.525		
Carbon Tetrachloride	1.20523	1.22422	1.20203	1.16924	1.13177	.863	1.18650	3.070		
Bromodichloromethane	1.31961	1.31057	1.31020	1.21944	1.30806	1.173	1.29358	3.222		
Vinyl Acetate	.64791	.54036	.56471	.55417	.63126	.531	.58768	8.256		
1,2-Dichloropropane	.61714	.60474	.60838	.57505	.60292	1.118	.60165	2.633	*	
cis-1,3-Dichloropropene	1.52169	1.49737	1.53565	1.40337	1.54677	1.323	1.50097	3.837		
Trichloroethene	.85254	.85548	.84841	.80629	.79933	1.070	.83241	3.273		
Dibromochloromethane	.98735	.94819	.97105	.88207	1.00302	1.597	.95834	4.927		
1,1,2-Trichloroethane	.48914	.43663	.44227	.40730	.46835	1.485	.44874	6.979		
Benzene	1.70335	1.66594	1.63209	1.60501	1.54302	.908	1.62988	3.740		
trans-1,3-Dichloropropene	.27867	.25889	.27571	.25326	.28920	1.454	.27115	5.449		

R - 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: GC/MSD #1

Contractor: E.P.L. Calibration Date: 10/20/92

Contract No: NJDEPE ID# 15526

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

Compound	Laboratory ID: >V5268 RF 20.00	>V5267 RF 50.00	>V5269 RF 100.00	>V5270 RF 150.00	>V5271 RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC	
2-Chloroethylvinyl ether	.19725	.16887	.18343	.15994	.19995	1.279	.18189	9.586			
Bromoform	.62420	.51703	.53621	.50415	.58272	1.976	.55286	9.005		**	
4-Methyl-2-Pentanone	.50746	.39358	.41056	.37438	.48678	.736	.43455	13.575			
2-Hexanone	.22675	.15072	.15799	.14286	.20151	.864	.17597	20.662			
Tetrachloroethene	1.07964	1.12434	1.08302	1.05412	1.00996	.898	1.07022	3.929			
1,1,2,2-Tetrachloroethane	.85100	.63396	.66487	.65771	.73904	1.169	.70932	12.466		**	
Toluene	2.71636	2.73374	2.68535	2.59823	2.57307	.800	2.66135	2.698	*		
Chlorobenzene	1.84549	1.80756	1.87468	1.80640	1.77272	1.005	1.82137	2.162		**	
Ethylbenzene	3.34626	3.34865	3.38158	3.27018	3.15631	1.019	3.30060	2.739	*		
Styrene	2.26810	2.19597	2.24196	2.18267	2.11820	1.096	2.20138	2.629			
m + p-Xylenes	3.13549	3.08067	2.53435	2.81919	2.36279	1.031	2.78650	12.070			(Conc=40.0,100.0,200.
o-Xylene	3.20746	3.15608	3.18110	3.08625	2.95265	1.090	3.11671	3.279			
1,3-Dichlorobenzene	1.92379	1.87945	1.77328	1.85845	1.75086	1.330	1.83717	3.970			
1,4-Dichlorobenzene	1.73771	1.63695	1.54290	1.61479	1.53872	1.346	1.61421	5.047			
1,2-Dichlorobenzene	1.55009	1.48125	1.31546	1.44555	1.34469	1.395	1.42741	6.797			
Toluene-d8	1.67182	1.68428	1.71921	1.70405	1.72006	.789	1.69988	1.258			(Conc=100.0,100.0,100.
Bromofluorobenzene	1.00324	.99381	1.06747	1.15179	1.02073	1.176	1.04741	6.193			(Conc=100.0,100.0,100.
Diethyl ether	.25659	.22226	.21098	.21817	.22199	.178	.22600	7.830			(Conc=200.0,500.0,1000

RF_n - 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 (**)

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Environmental Profile Labs

Lab Code: 15526

Matrix Spike - EPL Sample No.: 9148.2 5mL

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	100.00	0.00	74.20	74	61-145
Trichloroethene	100.00	0.00	113.00	113	71-120
Benzene	100.00	0.00	103.00	103	76-127
Toluene	100.00	0.00	95.50	95	76-125
Chlorobenzene	100.00	0.00	109.00	109	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	100.00	78.80	78	5	14	61-145
Trichloroethene	100.00	113.00	113	0	14	71-120
Benzene	100.00	104.00	103	0	11	76-127
Toluene	100.00	94.00	93	2	13	76-125
Chlorobenzene	100.00	112.00	112	2	13	75-130

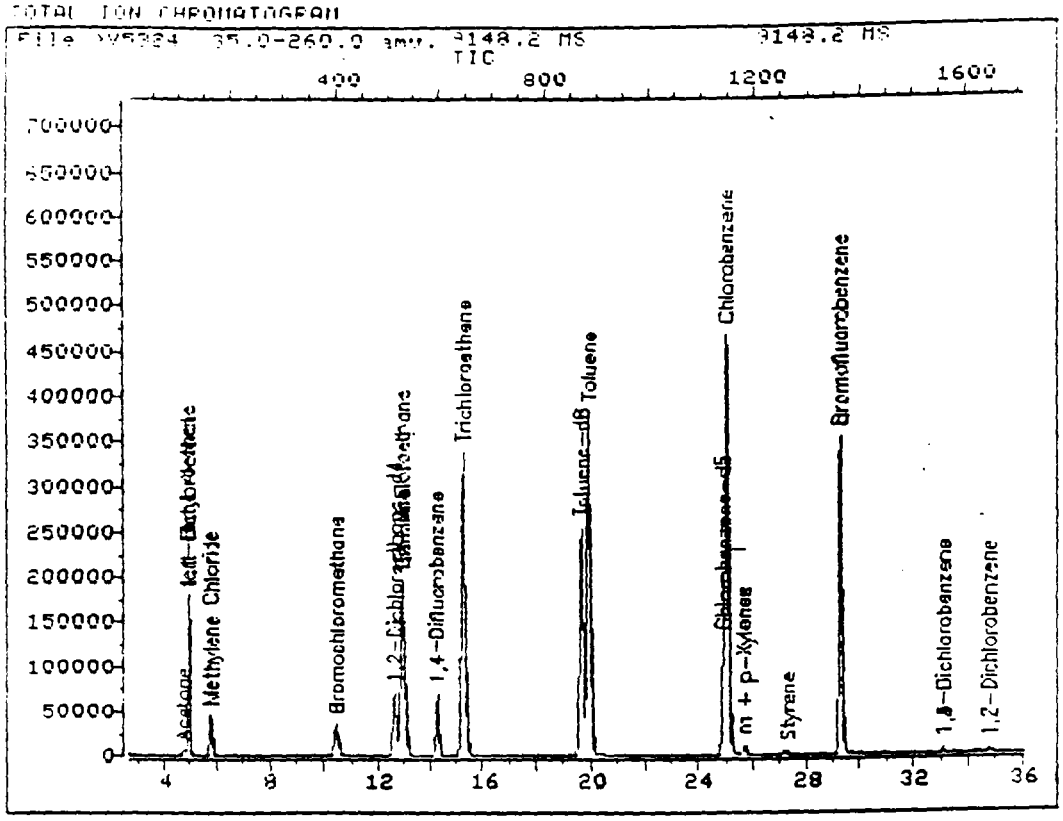
Column to be used to flag recovery and RPD values with an asterisk

* Values outside of qc limits

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

COMMENTS: _____

_____



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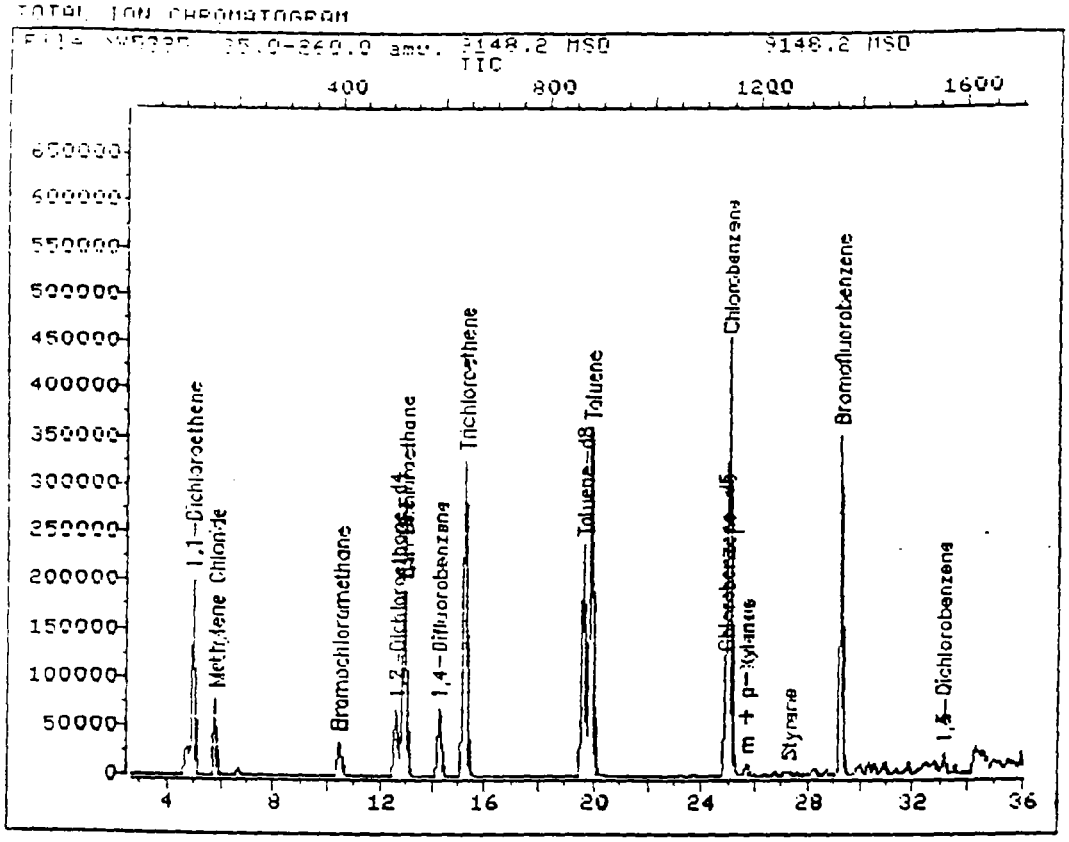
Name: 9148.2 MS
Misc: 9148.2 MS

Quant Output File: ^V5324::DB

Id File: IDVOA::D2
Title: HSL VOLATILE ORGANICS
Last Calibration: 921020 16:10

Operator ID: MARK
Quant Time: 921023 20:21
Injected at: 921023 19:44

TOTAL ION CHROMATOGRAM



Data File: >V5325::D1
Name: 9148.2 MSD
Misc: 9148.2 MSD

Quant Output File: ^V5325::DB

Id File: IDVOA::D2
Title: HSL VOLATILE ORGANICS
Last Calibration: 921020 16:10

Operator ID: MARK
Quant Time: 921023 21:03
Injected at: 921023 20:26

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Environmental Profile Labs Contract: CVI

Lab Code: 15526

Matrix Spike - EPL Sample No.: 9173.22 5m

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	#	QC LIMITS REC.
1,1-Dichloroethene	100.00	0.00	77.40	77		61-145
Trichloroethene	100.00	0.00	103.00	103		71-120
Benzene	100.00	2.83	90.60	87		76-127
Toluene	100.00	0.00	89.30	89		76-125
Chlorobenzene	100.00	0.00	102.00	102		75-130

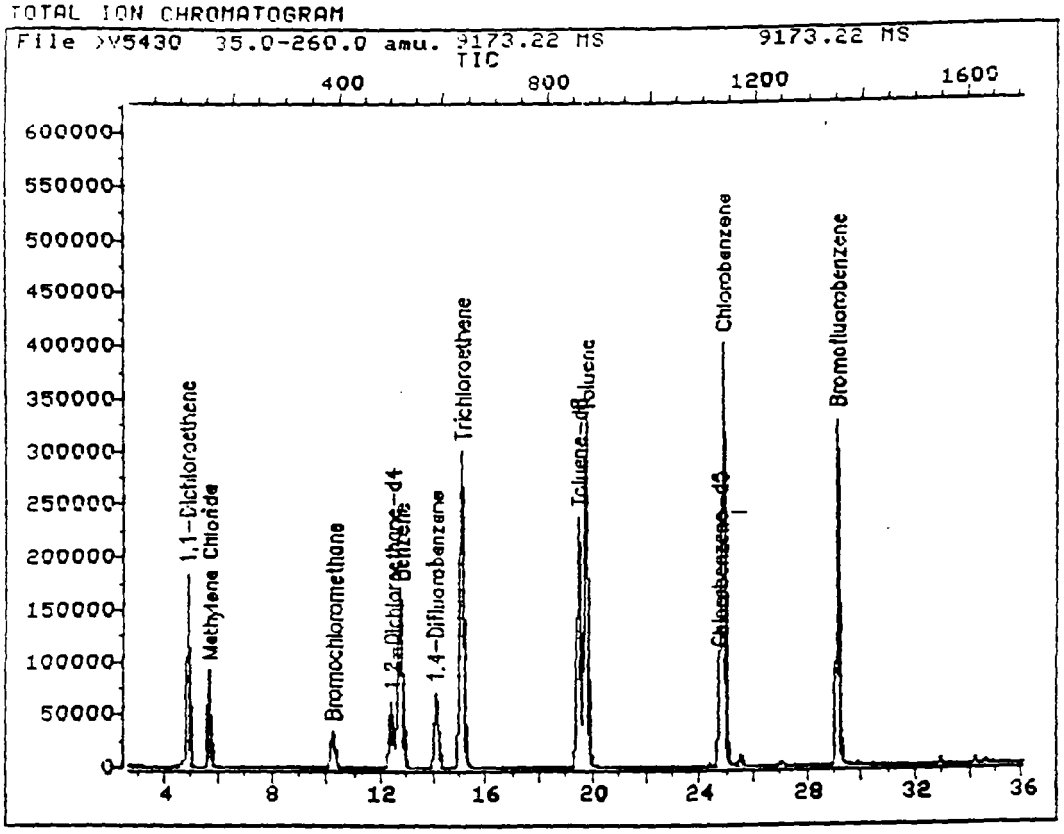
COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	100.00	86.00	85		9		14	61-145
Trichloroethene	100.00	118.00	117		12		14	71-120
Benzene	100.00	105.00	101		14	*	11	76-127
Toluene	100.00	102.00	101		12		13	76-125
Chlorobenzene	100.00	118.00	117		13		13	75-130

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

* Values outside of qc limits

RPD: 1 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

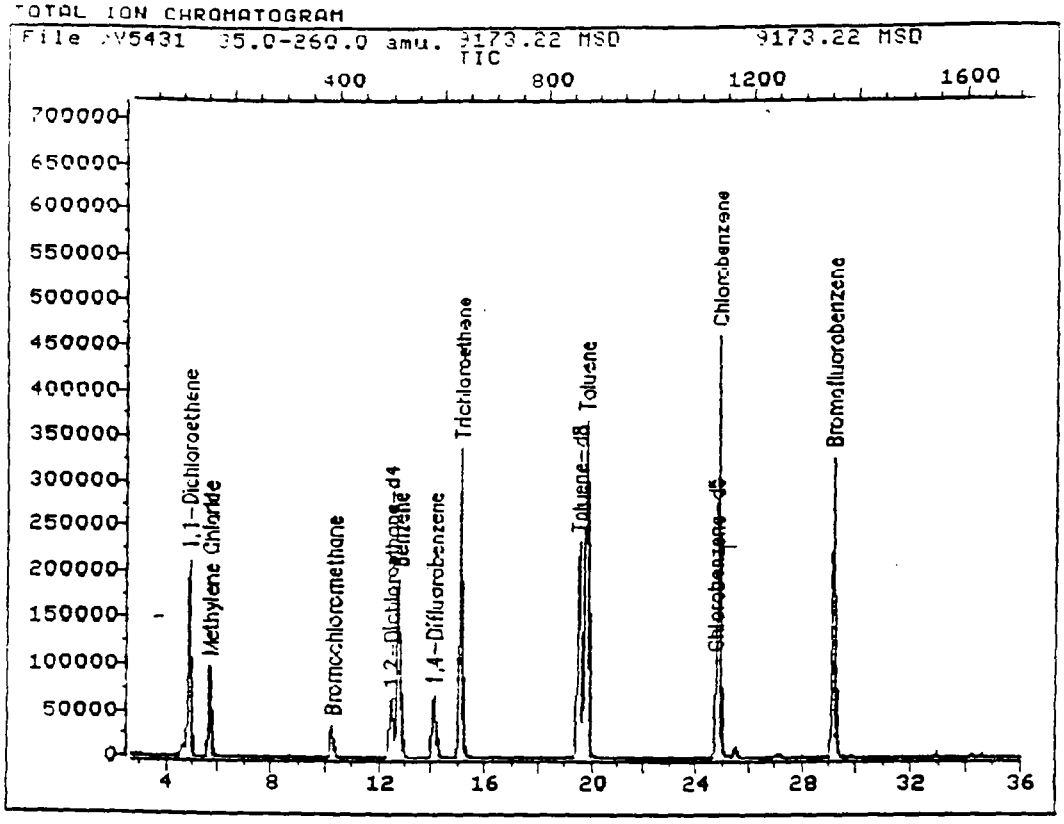
COMMENTS: _____



Data File: >V5430::D1 Quant Output File: ^V5430::DB.
Name: 9173.22 MS
Misc: 9173.22 MS

Id File: IDVOA::D2
Title: HSL VOLATILE ORGANICS
Last Calibration: 921031 15:57

Operator ID: MARK
Quant Time: 921031 16:30
Injected at: 921031 15:53



Data File: >V5431::D1 Quant Output File: ^V5431::DB
Name: 9173.22 MSD
Misc: 9173.22 MSD

Id File: IDVOA::D2
Title: HSL VOLATILE ORGANICS
Last Calibration: 921031 15:57

Operator ID: MARK
Quant Time: 921031 17:13
Injected at: 921031 16:36

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID: >V5347 Lab Sample ID: VOA BLANK

Date Analyzed: 10/27/92 Time Analyzed: 11:36

Matrix: Water

Instrument 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	>V5346	10:27
02	9173.9 5mL	9173.9 5mL	>V5352	15:38
03	9173.2 5mL	9173.2 5mL	>V5353	16:20
04	9173.3 5mL	9173.3 5mL	>V5356	18:26
05	9173.5 5mL	9173.5 5mL	>V5358	19:50
06	9173.6 5mL	9173.6 5mL	>V5359	20:33
07				
08				
09				
10				
11				
12				
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29				
30				

COMMENTS: _____

FORM IV VOA

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1/87 Rev.

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID: >V5363 Lab Sample ID: VOA Blank

Date Analyzed: 10/27/92 Time Analyzed: 23:37

Matrix: Water

Instrument 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/SPCCC	>V5362	22:24
02	9173.25 5m	9173.25 5m	>V5364	0:19
03	9173.26 5m	9173.26 5m	>V5365	1:01
04	9173.14 5m	9173.14 5m	>V5366	1:43
05	9173.13 5m	9173.13 5m	>V5367	2:26
06	9173.23 5m	9173.23 5m	>V5368	3:08
07	9173.12 5m	9173.12 5m	>V5369	3:50
08	9173.21 5m	9173.21 5m	>V5370	4:33
09	9173.19 5m	9173.19 5m	>V5371	5:15
10	9173.11 5m	9173.11 5m	>V5372	5:58
11				
12				
13				
14				
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30				

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID: >V5413 Lab Sample ID: VOA BLANK

Date Analyzed: 10/30/92 Time Analyzed: 11:42

Matrix: Water

Instrument 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	>V5412	10:38
02	9173.1 5uL	9173.1 5uL	>V5415	13:26
03	9173.8 50u	9173.8 50u	>V5418	15:31
04	9173.10 50	9173.10 50	>V5419	16:12
05	9173.15 .5	9173.15 .5	>V5421	17:37
06	9173.16 .5	9173.16 .5	>V5422	18:19
07	9173.24 .5	9173.24 .5	>V5423	19:01
08	9173.17 5m	9173.17 5m	>V5424	19:43
09	9173.22 5m	9173.22 5m	>V5426	21:07
10				
11				
12				
13				
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30				

COMMENTS: _____

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID: >V5429 Lab Sample ID: VOA Blank

Date Analyzed: 10/31/92 Time Analyzed: 15:10

Matrix: Water

Instrument 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	>V5428	14:11
02	9173.22 MS	9173.22 MS	>V5430	15:53
03	9173.22 MS	9173.22 MS	>V5431	16:36
04	9173.7 50u	9173.7 50u	>V5432	17:18
05	9173.4 .5m	9173.4 .5m	>V5433	18:01
06	9173.20 5m	9173.20 5m	>V5434	18:42
07	9173.18 5m	9173.18 5m	>V5436	20:07
08				
09				
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29				
30				

COMMENTS: _____

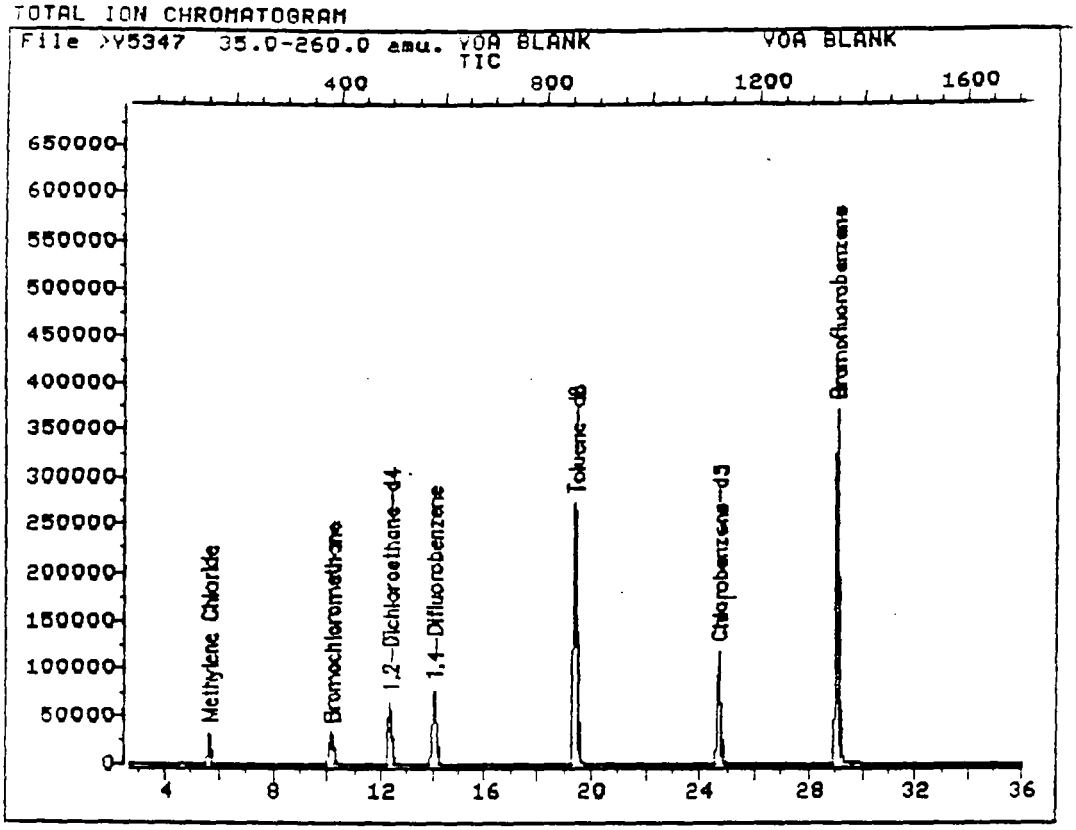
Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER		MATRIX	Water
SAMPLE NAME	VOA BLANK	DILUTION FACTOR	1.00
CLIENT ID		QA BATCH	
DATA FILE	>05347	DATE ANALYZED	10/27/92

COMPOUND	UG/L		MDL	COMPOUND	UG/L	MDL
Chloromethane	ND		10	Dibromochloromethane	ND	5
Bromomethane	ND		10	1,1,2-Trichloroethane	ND	5
Vinyl Chloride	ND		10	Benzene	ND	5
Chloroethane	ND		10	trans-1,3-Dichloropropene	ND	5
Methylene Chloride	12	B	5	2-Chloroethylvinyl ether	ND	5
Acrolein	ND		50	Bromoform	ND	5
Acrylonitrile	ND		50	2-Hexanone	ND	5
Acetone	ND		5	4-Methyl-2-Pentanone	ND	5
Carbon Disulfide	ND		5	Tetrachloroethene	ND	5
1,1-Dichloroethene	ND		5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	ND		5	Toluene	ND	5
trans-1,2-Dichloroethene	ND		5	Chlorobenzene	ND	5
Trichlorofluoromethane	ND		5	Ethylbenzene	ND	5
Chloroform	ND		5	Styrene	ND	5
1,2-Dichloroethane	ND		5	o-Xylene	ND	5
2-Butanone	ND		5	m + p-Xylenes	ND	5
1,1,1-Trichloroethane	ND		5	1,3-Dichlorobenzene	ND	5
Carbon Tetrachloride	ND		5	1,2-Dichlorobenzene	ND	5
Bromodichloromethane	ND		5	1,4-Dichlorobenzene	ND	5
Vinyl Acetate	ND		5	tert-Butyl Alcohol	ND	50
1,2-Dichloropropane	ND		5	Methyl tert-Butyl Ether	ND	5
cis-1,3-Dichloropropene	ND		5	Diethyl ether	ND	50
Trichloroethene	ND		5			0

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

TOTAL ION CHROMATOGRAM

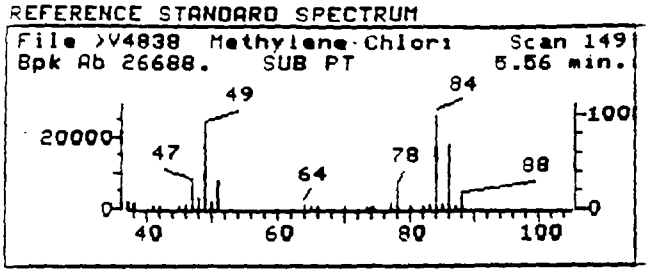


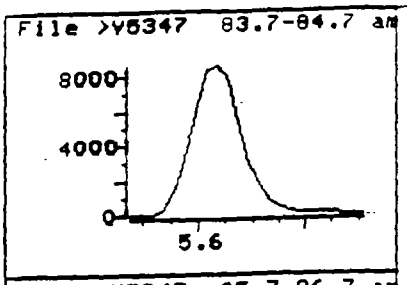
Data File: >V5347::D1 Quant Output File: ^V5347::DB
Name: VOA BLANK
Misc: VOA BLANK

Id File: IDVOA::D2
Title: HSL VOLATILE ORGANICS
Last Calibration: 921020 16:10

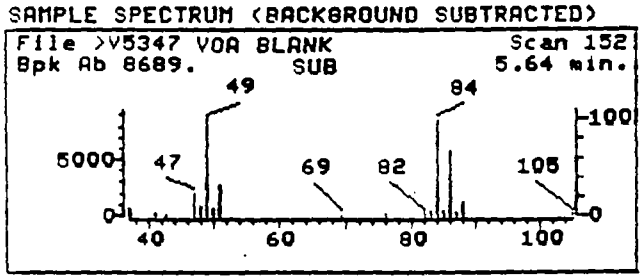
Operator ID: MARK
Quant Time: 921027 12:13
Injected at: 921027 11:36

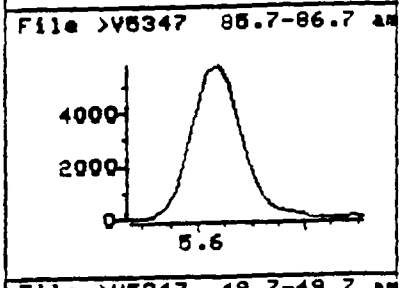
REFERENCE STANDARD SPECTRUM



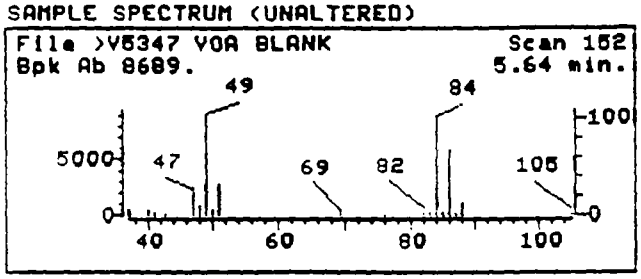


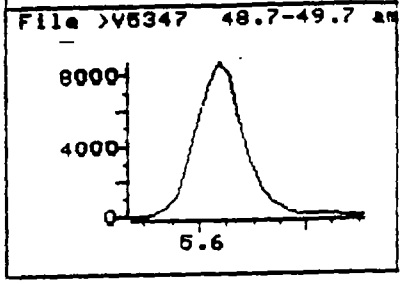
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)





SAMPLE SPECTRUM (UNALTERED)





Data File: >V5347::D1
Name: VOA BLANK
Misc: VOA BLANK
Quant Time: 921027 12:13
Injected at: 921027 11:36

Quant Output File: ^V5347::DB

Quant ID File: IDVOA::D2
Last Calibration: 921020 16:10

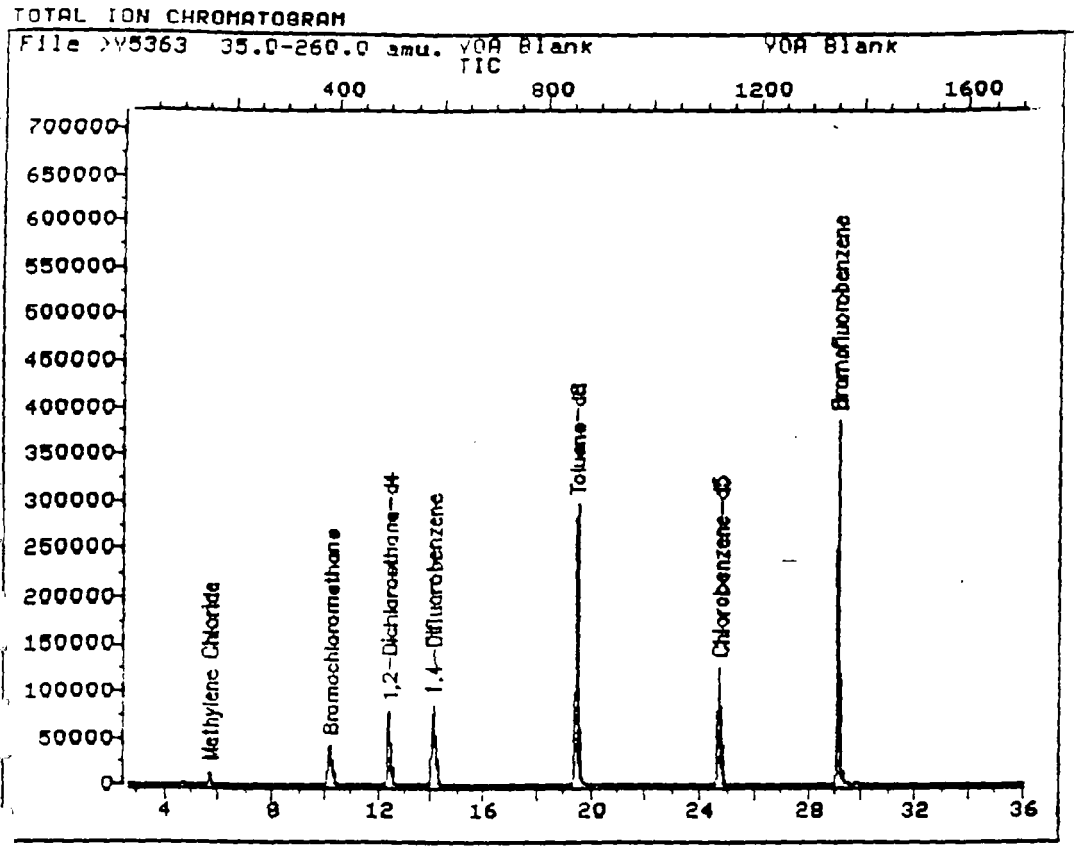
Compound No: 7
Compound Name: Methylene Chloride
Scan Number: 152
Retention Time: 5.64 min.
Quant Ion: 84.0
Area: 56606
Concentration: 11.84 ppb
q-value: 90

Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER		MATRIX	Water
SAMPLE NAME	VOA Blank	DILUTION FACTOR	1.00
CLIENT ID		QA BATCH	
DATA FILE	>V5363	DATE ANALYZED	10/27/92

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Chloromethane	ND	10	Dibromochloromethane	ND	5
Bromomethane	ND	10	1,1,2-Trichloroethane	ND	5
Vinyl Chloride	ND	10	Benzene	ND	5
Chloroethane	ND	10	trans-1,3-Dichloropropene	ND	5
Methylene Chloride	4 JB	5	2-Chloroethylvinyl ether	ND	5
Acrolein	ND	50	Bromoform	ND	5
Acrylonitrile	ND	50	2-Hexanone	ND	5
Acetone	ND	5	4-Methyl-2-Pentanone	ND	5
Carbon Disulfide	ND	5	Tetrachloroethene	ND	5
1,1-Dichloroethene	ND	5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	ND	5	Toluene	ND	5
trans-1,2-Dichloroethene	ND	5	Chlorobenzene	ND	5
Trichlorofluoromethane	ND	5	Ethylbenzene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,2-Dichloroethane	ND	5	o-Xylene	ND	5
2-Butanone	ND	5	m + p-Xylenes	ND	5
1,1,1-Trichloroethane	ND	5	1,3-Dichlorobenzene	ND	5
Carbon Tetrachloride	ND	5	1,2-Dichlorobenzene	ND	5
Bromodichloromethane	ND	5	1,4-Dichlorobenzene	ND	5
Vinyl Acetate	ND	5	tert-Butyl Alcohol	ND	50
1,2-Dichloropropane	ND	5	Methyl tert-Butyl Ether	ND	5
cis-1,3-Dichloropropene	ND	5	Diethyl ether	ND	50
Trichloroethene	ND	5			0

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



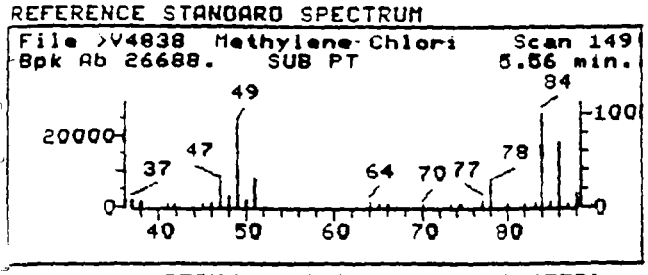
Data File: >V5363::D1
Name: VOA Blank
Misc: VOA Blank

Quant Output File: ^V5363::DB

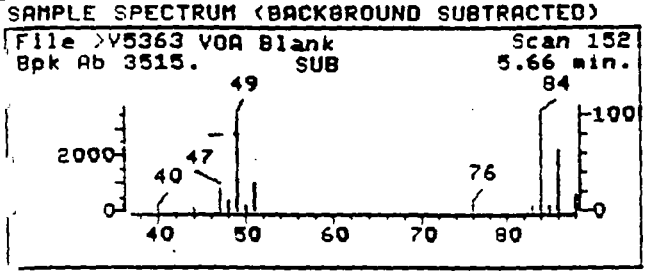
Id File: IDVOA::D2
Title: HSL VOLATILE ORGANICS
Last Calibration: 921027 22:05

Operator ID: MARK
Quant Time: 921028 00:14
Injected at: 921027 23:37

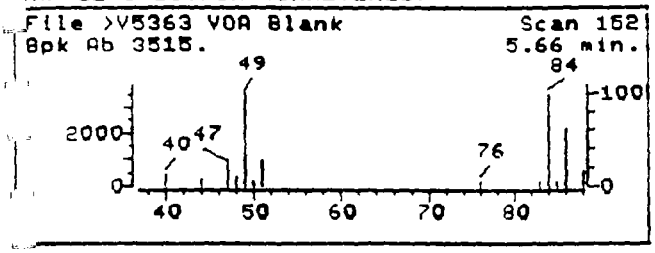
REFERENCE STANDARD SPECTRUM

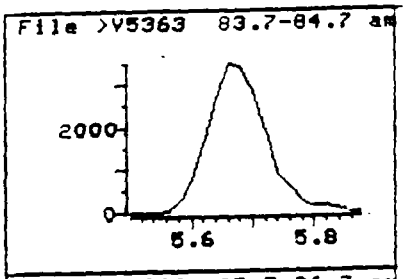


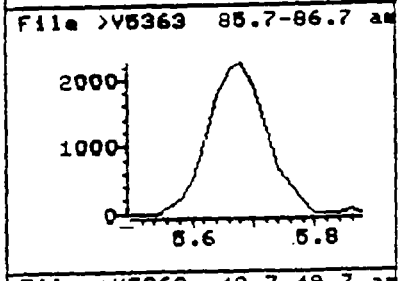
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

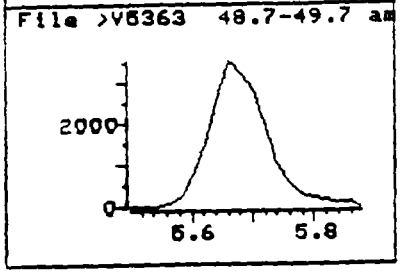


SAMPLE SPECTRUM (UNALTERED)









Data File: >V5363::D1
Name: VOA Blank
Misc: VOA Blank
Quant Time: 921028 00:14
Injected at: 921027 23:37

Quant Output File: ^V5363::DB

Quant ID File: IDVOA::D2
Last Calibration: 921027 22:05

Compound No: 7
Compound Name: Methylene Chloride
Scan Number: 152
Retention Time: 5.66 min.
Quant Ion: 84.0
Area: 22779
Concentration: 3.84 ppb
q-value: 88

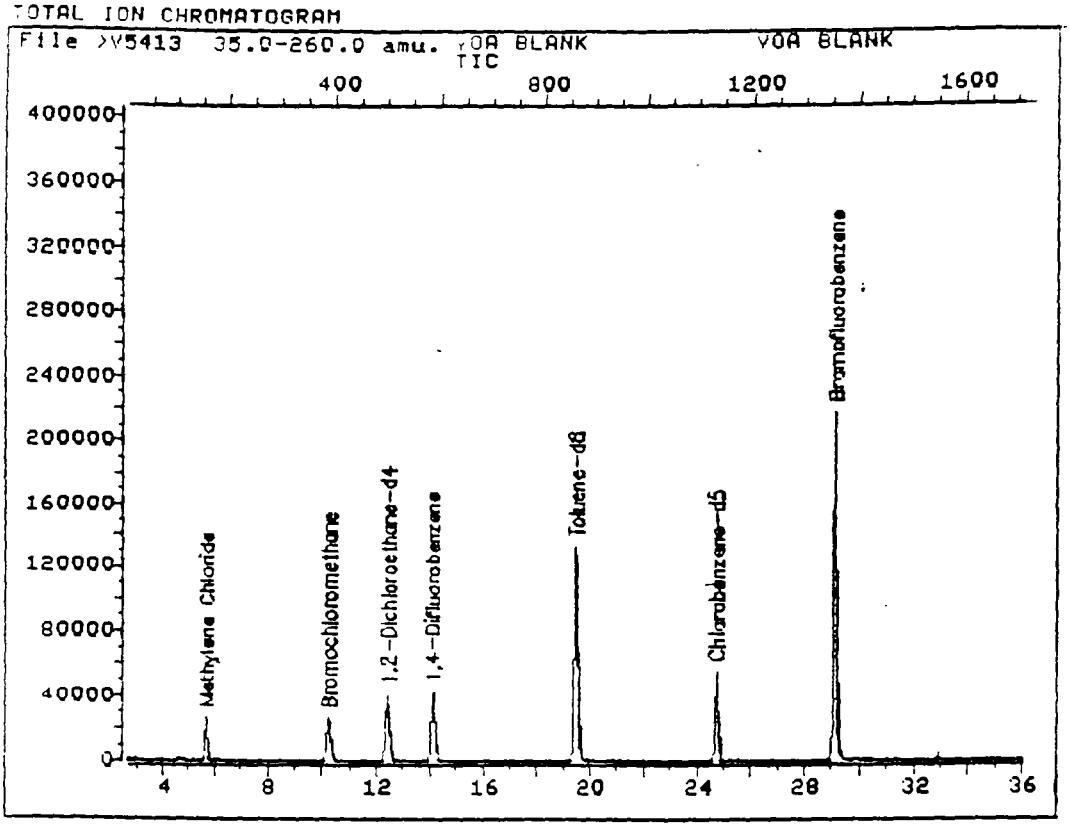
Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER		MATRIX	Water
SAMPLE NAME	VOA BLANK	DILUTION FACTOR	1.00
CLIENT ID		QA BATCH	
DATA FILE	>V5413	DATE ANALYZED	10/30/92

COMPOUND	UG/L		MDL	COMPOUND	UG/L	MDL
Chloromethane	ND		10	Dibromochloromethane	ND	5
Bromomethane	ND		10	1,1,2-Trichloroethane	ND	5
Vinyl Chloride	ND		10	Benzene	ND	5
Chloroethane	ND		10	trans-1,3-Dichloropropene	ND	5
Methylene Chloride	13	B	5	2-Chloroethylvinyl ether	ND	5
Acrolein	ND		50	Bromoform	ND	5
Acrylonitrile	ND		50	2-Hexanone	ND	5
Acetone	ND		5	4-Methyl-2-Pentanone	ND	5
Carbon Disulfide	ND		5	Tetrachloroethene	ND	5
1,1-Dichloroethene	ND		5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	ND		5	Toluene	ND	5
trans-1,2-Dichloroethene	ND		5	Chlorobenzene	ND	5
Trichlorofluoromethane	ND		5	Ethylbenzene	ND	5
Chloroform	ND		5	Styrene	ND	5
1,2-Dichloroethane	ND		5	o-Xylene	ND	5
2-Butanone	ND		5	m + p-Xylenes	ND	5
1,1,1-Trichloroethane	ND		5	1,3-Dichlorobenzene	ND	5
Carbon Tetrachloride	ND		5	1,2-Dichlorobenzene	ND	5
Bromodichloromethane	ND		5	1,4-Dichlorobenzene	ND	5
Vinyl Acetate	ND		5	tert-Butyl Alcohol	ND	50
1,2-Dichloropropane	ND		5	Methyl tert-Butyl Ether	ND	5
cis-1,3-Dichloropropene	ND		5	Diethyl ether	ND	50
Trichloroethene	ND		5			0

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

TOTAL ION CHROMATOGRAM



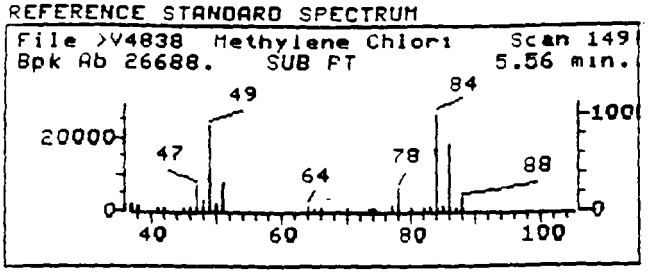
Data File: >V5413::D1
Name: VOA BLANK
Misc: VOA BLANK

Quant Output File: ^V5413::DB

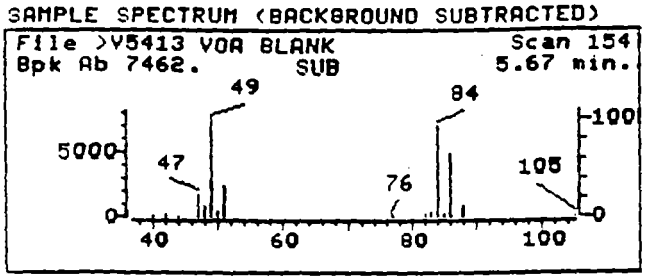
Id File: IDVOA::D2
Title: HSL VOLATILE ORGANICS
Last Calibration: 921027 22:05

Operator ID: MARK
Quant Time: 921030 12:19
Injected at: 921030 11:42

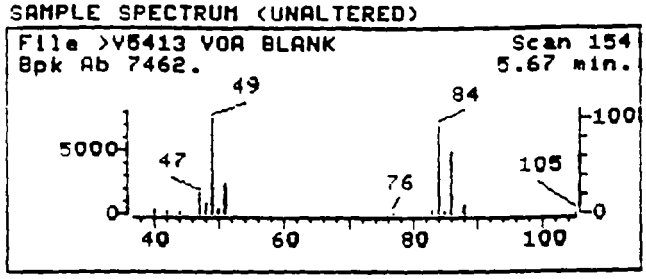
REFERENCE STANDARD SPECTRUM

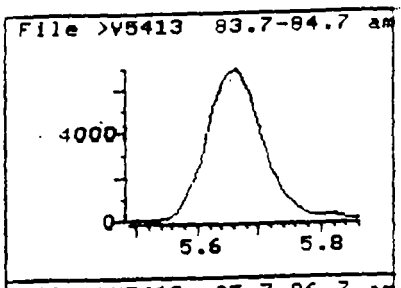


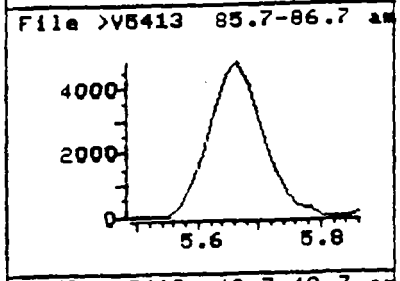
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)

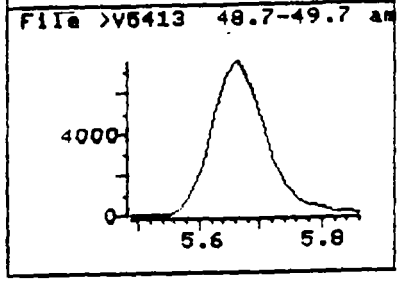


SAMPLE SPECTRUM (UNALTERED)









Data File: >V5413::D1
Name: VOA BLANK
Misc: VOA BLANK
Quant Time: 921030 12:19
Injected at: 921030 11:42

Quant Output File: ^V5413::DB

Quant ID File: IDVOA::D2
Last Calibration: 921027 22:05

Compound No: 7
Compound Name: Methylene Chloride
Scan Number: 154
Retention Time: 5.67 min.
Quant Ion: 84.0
Area: 44004
Concentration: 12.63 ppb
q-value: 85

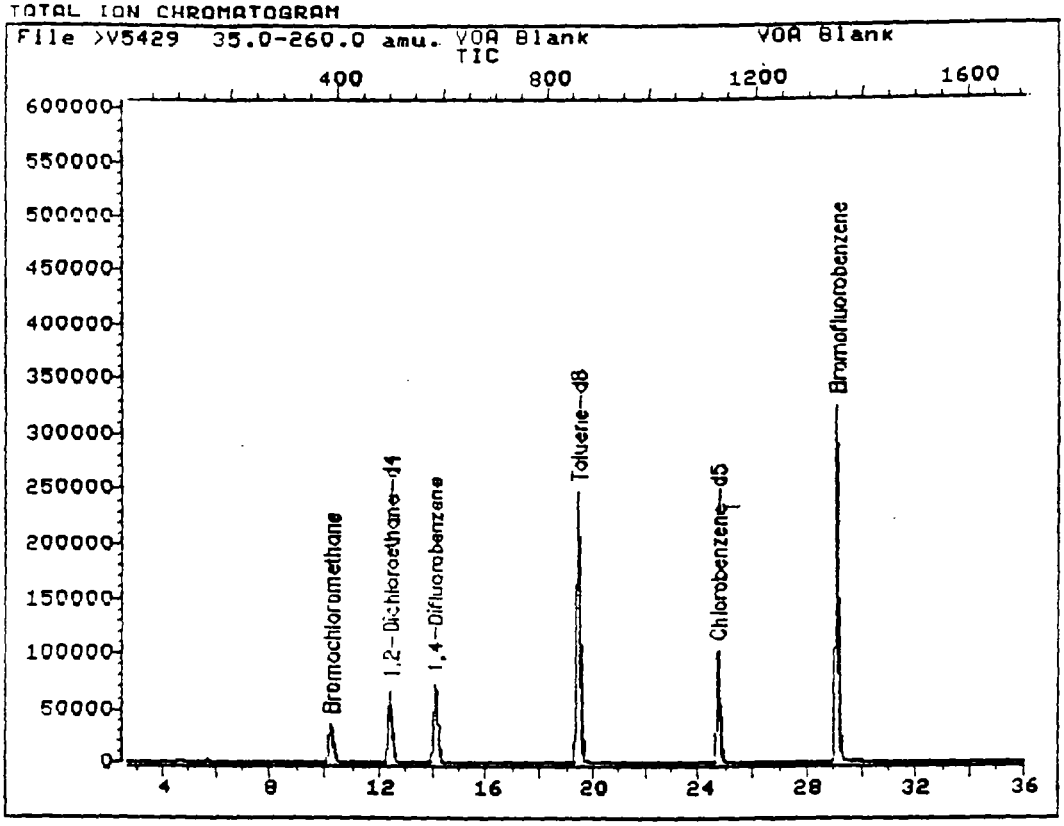
Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER		MATRIX	Water
SAMPLE NAME	VOA Blank	DILUTION FACTOR	1.00
CLIENT ID		QA BATCH	
DATA FILE	>U5429	DATE ANALYZED	10/31/92

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Chloromethane	ND	10	Dibromochloromethane	ND	5
Bromomethane	ND	10	1,1,2-Trichloroethane	ND	5
Vinyl Chloride	ND	10	Benzene	ND	5
Chloroethane	ND	10	trans-1,3-Dichloropropene	ND	5
Methylene Chloride	ND	5	2-Chloroethylvinyl ether	ND	5
Acrolein	ND	50	Bromoform	ND	5
Acrylonitrile	ND	50	2-Hexanone	ND	5
Acetone	ND	5	4-Methyl-2-Pentanone	ND	5
Carbon Disulfide	ND	5	Tetrachloroethene	ND	5
1,1-Dichloroethene	ND	5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	ND	5	Toluene	ND	5
trans-1,2-Dichloroethene	ND	5	Chlorobenzene	ND	5
Trichlorofluoromethane	ND	5	Ethylbenzene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,2-Dichloroethane	ND	5	o-Xylene	ND	5
2-Butanone	ND	5	m + p-Xylenes	ND	5
1,1,1-Trichloroethane	ND	5	1,3-Dichlorobenzene	ND	5
Carbon Tetrachloride	ND	5	1,2-Dichlorobenzene	ND	5
Bromodichloromethane	ND	5	1,4-Dichlorobenzene	ND	5
Vinyl Acetate	ND	5	tert-Butyl Alcohol	ND	50
1,2-Dichloropropane	ND	5	Methyl tert-Butyl Ether	ND	5
cis-1,3-Dichloropropene	ND	5	Diethyl ether	ND	50
Trichloroethene	ND	5			0

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

TOTAL ION CHROMATOGRAM



Data File: >V5429::D1
Name: VOA Blank
Misc: VOA Blank

Quant Output File: ^V5429::DB

Id File: IDVOA::D2
Title: HSL VOLATILE ORGANICS
Last Calibration: 921030 12:33

Operator ID: MARK
Quant Time: 921031 15:47
Injected at: 921031 15:10

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE

VOA BLANK

Lab Name: Environmental Profile Lab   NJDEP Cert.# 15526

Matrix: Water   Lab Sample ID: VOA-BLANK

Sample wt/vol: 5.0 (g/mL) mL   Lab File ID: >V5347

Date Analyzed: 10/27/92

Column: Capillary   Dilution Factor: 1

CONCENTRATION UNITS:

Number of TICs found: 0   ug/L

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

VOA-Blank

Lab Name: Environmental Profile Lab NJDEP Cert.# 15526

Matrix: Water

Lab Sample ID: VOA-Blank

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

Lab File ID: >V5363

Date Analyzed: 10/27/92

Column: Capillary

Dilution Factor: 1

Number of TICs found: 0

CONCENTRATION UNITS:
ug/L

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 N

VOA-BLANK

Lab Name: Environmental Profile Lab NJDEP Cert.# 15526

Matrix: Water

Lab Sample ID: VOA-BLANK

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

Lab File ID: >V5413

Date Analyzed: 10/30/92

Column: Capillary

Dilution Factor: 1

CONCENTRATION UNITS: ug/L

Number of TICs found: 0

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 N

VOA-Blank

Lab Name: Environmental Profile Lab NJDEP Cert.# 15526

Matrix: Water

Lab Sample ID: VOA-Blank

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

Lab File ID: >V5429

Date Analyzed: 10/31/92

Column: Capillary

Dilution Factor: 1

CONCENTRATION UNITS: ug/L

Number of TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev

2A

WATER 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	88	103	96		0
02	VOA BLANK	94	94	101		0
03	9173.9 5mL	96	97	105		0
04	9173.2 5mL	93	96	103		0
05	9173.3 5mL	90	98	108		0
06	9173.5 5mL	93	97	102		0
07	9173.6 5mL	94	95	102		0
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	QC LIMITS
S1 (TOL) = Toluene-d8	(76-125)
S2 (BFB) = Bromofluorobenzene	(76-125)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-125)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

2A

WATER 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	98	96	94		0
02	VOA Blank	98	95	96		0
03	9173.25 5m	99	95	98		0
04	9173.26 5m	99	92	99		0
05	9173.14 5m	97	95	98		0
06	9173.13 5m	101	94	99		0
07	9173.23 5m	96	94	102		0
08	9173.12 5m	99	97	98		0
09	9173.21 5m	98	93	103		0
10	9173.19 5m	96	96	103		0
11	9173.11 5m	101	93	103		0
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	QC LIMITS
S1 (TOL) = Toluene-d8	(76-125)
S2 (BFB) = Bromofluorobenzene	(76-125)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-125)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

365

FORM II VOA-1

1/87 Rev.

WATER VOLATILE SURROGATE RECOVERY

Lab Name: Environme- rofile Lab Contract: Serv-Air

Lab Code: 15526

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	CCC/SPCC	112	93	84		0
02	VOA BLANK	100	117	83		0
03	9173.1 5uL	101	93	100		0
04	9173.8 50u	101	93	99		0
05	9173.10 50	98	92	97		0
06	9173.15 .5	97	96	98		0
07	9173.16 .5	99	95	103		0
08	9173.24 .5	97	97	105		0
09	9173.17 5m	100	93	100		0
10	9173.22 5m	99	92	103		0
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	QC LIMITS
S1 (TOL) = Toluene-d8	(76-125)
S2 (BFB) = Bromofluorobenzene	(76-125)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-125)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

366

WATER 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	99	99	93		0
02	VOA Blank	99	93	96		0
03	9173.22 MS	98	95	99		0
04	9173.22 MS	96	95	97		0
05	9173.7 50u	97	95	94		0
06	9173.4 .5m	97	92	102		0
07	9173.20 5m	96	98	101		0
08	9173.18 5m	91	97	101		0
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	QC LIMITS
S1 (TOL) = Toluene-d8	(76-125)
S2 (BFB) = Bromofluorobenzene	(76-125)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-125)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

367

8A-

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID (Standard): >V5346 Date Analyzed: 10/27/92

Instrument ID: GC/MSD 5970 #1 Time Analyzed: 10:27

Matrix: Water Column: Capillary

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	60835.	10.14	360489.	13.97	332581.	24.65
	UPPER LIMIT	121670.		720978.		665162.	
	LOWER LIMIT	30418.		180244.		166290.	
	EPA SAMPLE NO.						
01	VOA BLANK	55744.	10.15	358504.	14.02	304794.	24.67
02	9173.9 5mL	52411.	10.24	331354.	14.09	290799.	24.72
03	9173.2 5mL	49460.	10.22	305897.	14.06	281602.	24.73
04	9173.3 5mL	52227.	10.25	299326.	14.08	278122.	24.71
05	9173.5 5mL	55898.	10.25	308076.	14.08	272346.	24.72
06	9173.6 5mL	59783.	10.25	335710.	14.08	300453.	24.71
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IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

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

Column used to flag internal standard area values with an asterisk

8A-

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID (Standard): >V5362 Date Analyzed: 10/27/92

Instrument ID: GC/MSD 5970 #1 Time Analyzed: 22:24

Matrix: Water Column: Capillary

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	60490.	10.22	361830.	14.06	306493.	24.71
	UPPER LIMIT	120980.		723660.		612986.	
	LOWER LIMIT	30245.		180915.		153247.	
	EPA SAMPLE NO.						
01	VOA Blank	69178.	10.21	396368.	14.06	319166.	24.71
02	9173.25 5m	72516.	10.22	398017.	14.08	324081.	24.71
03	9173.26 5m	62939.	10.21	350228.	14.06	296205.	24.71
04	9173.14 5m	70442.	10.22	376073.	14.05	319381.	24.70
05	9173.13 5m	68426.	10.24	362464.	14.07	294665.	24.70
06	9173.23 5m	66281.	10.21	355875.	14.04	311506.	24.71
07	9173.12 5m	64934.	10.23	328325.	14.06	273672.	24.71
08	9173.21 5m	62593.	10.22	334076.	14.05	291079.	24.72
09	9173.19 5m	62023.	10.22	325900.	14.07	280903.	24.70
10	9173.11 5m	66389.	10.24	355432.	14.07	288161.	24.70
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IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

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

Column used to flag internal standard area values with an asterisk

8A-

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID (Standard): >05412 Date Analyzed: 10/30/92

Instrument ID: GC/MSD 5970 #1 Time Analyzed: 10:38

Matrix: Water Column: Capillary

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	44650.	10.19	228874.	14.06	159025.	24.73
	UPPER LIMIT	89300.		457748.		318050.	
	LOWER LIMIT	22325.		114437.		79513.	
	EPA SAMPLE NO.						
01	VOA BLANK	40625.	10.22	189887.	14.07	139015.	24.73
02	9173.1 5uL	50369.	10.28	291166.	14.09	240904.	24.74
03	9173.8 50u	50705.	10.30	270452.	14.11	219647.	24.76
04	9173.10 50	49769.	10.27	274961.	14.10	234733.	24.75
05	9173.15 .5	55387.	10.25	270531.	14.09	235486.	24.74
06	9173.16 .5	43537.	10.25	236958.	14.10	196077.	24.74
07	9173.24 .5	45462.	10.23	241628.	14.10	200442.	24.74
08	9173.17 5m	51271.	10.24	258374.	14.09	213999.	24.72
09	9173.22 5m	50884.	10.24	264926.	14.07	216604.	24.72
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IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

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

Column used to flag internal standard area values with an asterisk

8A-

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Environmental Profile Lab Contract: Serv-Air

Lab Code: 15526

Lab File ID (Standard): >V5428 Date Analyzed: 10/31/92

Instrument ID: GC/MSD 5970 #1 Time Analyzed: 14:11

Matrix: Water Column: Capillary

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	58522.	10.18	344471.	14.03	279811.	24.71
	UPPER LIMIT	117044.		688942.		559622.	
	LOWER LIMIT	29261.		172235.		139905.	
	EPA SAMPLE NO.						
01	VOA Blank	57744.	10.23	328188.	14.08	263560.	24.71
02	9173.22 MS	54202.	10.23	306564.	14.08	260880.	24.71
03	9173.22 MS	55367.	10.25	299591.	14.08	258664.	24.72
04	9173.7 50u	62364.	10.26	316891.	14.09	265035.	24.72
05	9173.4 .5m	54046.	10.24	294194.	14.08	249348.	24.73
06	9173.20 5m	56592.	10.22	297390.	14.07	255176.	24.71
07	9173.18 5m	46021.	10.22	215967.	14.05	197363.	24.72
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IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

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

Column used to flag internal standard area values with an asterisk

618 HERON DRIVE, P.O. BOX 489 • BRIDGEPORT, NJ 08014-0489 • 609-467-9521

E-SYSTEMS

PROJECT: U.S. ARMY-FORT MONMOUTH, NJ BLDG T65

ANALYSIS NO:	CLIENT ID:
A 1742	Trip Blank
A 1743	MW-1-2926938
A 1744	Field Blank

DATE RECEIVED: APRIL 28, 1993

TWENTY FIRST CENTURY
ENVIRONMENTAL, INC.

RICHARD W. LYNCH
LABORATORY MANAGER

TABLE OF CONTENTS

NAkRATIVE

All extractions and analysis were performed within proper hold times for this batch of samples (A1742 to A1744). Please note that a peak appeared in the volatile scans due to trap breakdown in both the blanks and samples. The total ION chromatograms are labeled so.

CHAIN OF CUSTODY

21ST CENTURY ENVIRONMENTAL
618 HERON DRIVE, P.O. BOX 489 • BRIDGEPORT, NJ 08014-0489
609.467.9521 • 609.467.4523 FAX

CUSTOMER: FT MONMOUTH
ADDRESS:
TELEPHONE:
PROJECT: BLDG 4 T65
PROJECT MANAGER:
PROJECT LOCATION: STATE:
PO NUMBER: 90-6-16-1308

TURNAROUND (INDICATE CALENDAR DAYS, CONFIRM WITH LAB): 2 5 7 14 21 OTHER:
DELIVERABLES (PLEASE CIRCLE): TIER 1 TIER II ECRA
CLP RESULTS ONLY OTHER: BIAS CORRECTION
FAX RESULTS TO:

ADDITIONAL INFORMATION / SPECIAL INSTRUCTIONS

Temp 16.8 °C
Cond 420
PH 7.14

A1742-A1744

00002

SAMPLE NUMBER	SAMPLE DESCRIPTION	MATRIX	DATE	TIME	COMP	GRAB	NUMBER OF CONTAINERS	METHOD	VOLATILE ORGANICS	SEMI VOA'S (BNA'S)	PESTICIDES / PCB'S	PCB'S	BTEX	TPH-PETROLEUM HYDROCARBONS	CORROSIVITY	IGNITABILITY	FLASHPOINT	REACTIVITY	TOC	TCLP METALS	TCLP VOLATILE ORGANICS	TCLP SEMI VOA'S (BNA'S)	TCLP PEST / HERB	PRIORITY POLLUTANT METALS (13)	HSL METALS (23)	ADDITIONAL ANALYSIS
								ANALYSIS																	XYLENE	
HWU-9.3	TRIP BLANK	WATER	4/28/93	5:00			2	624+15	2																2	
↘	MW1-29 26938	WATER		9:30				625+15	2	2															2	
	FIELD BLANK	WATER		9:45					2	1															2	

Relinquished By:	Date	Time	Received By:	Date	Time
			Lynda Carlin	4/28/93	1800

WHITE
LAB COPY

YELLOW
CUSTOMER COPY

Purgeables

U.S.E.P.A. Method 624 - This is a purge and trap Gas Chromatograph/ Mass Spectrometer (GC/MS) method applicable to the determination of the compounds listed in the U.S.E.P.A. Manual entitled "Test Procedures for the Analysis of Organic Pollutants".

An HP5996 GC/MS was used with a capillary column.

Method detection limits are as stated.

Soil samples are prepared for analysis as prescribed in Method 8240 from SW846.

Acid Extractables
Base Neutrals

U.S.E.P.A. Method 625 - This method covers the determination of a number of organic compounds that are partitioned in an organic solvent and amenable to gas chromatography. This is a gas chromatography/mass spectrometer (GC/MS) method applicable to the determination of the compounds listed in the U.S.E.P.A. Manual entitled "Test Procedures for the Analysis of Organic Pollutants".

A HP5970 was used with a DB-5 FSCC.

Method detection limits are as stated.

Soil samples were prepared for analysis as prescribed in Method 3550 and analyzed as prescribed in Method 8270 from SW846.

LABORATORY CHRONICLE

RECEIPT/REFRIGERATION 4/28/93

RGANICS
XTRACTION

1. Acids NA
2. Base/Neutrals 5/5/93
3. Pesticides/PCB's/Herbicides NA
4. Petroleum Hydrocarbons/Oil & Grease NA

NALYSIS

1. Volatiles 5/5/93
2. Acids NA
3. Base/Neutrals 5/12/93
4. Pesticides/PCB's/Herbicides NA
5. Petroleum Hydrocarbons/Oil & Grease NA
6. Total Organic Carbon NA

Section Supervisor
Review & Approval Jeffrey D Martin

NORGANICS

1. Metals NA
2. Cyanides NA
3. Phenols NA

OTHER ANALYTES

Section Supervisor
Review & Approval NA

Quality Control Supervisor
Review & Approval

Laboratory Director
Review & Approval Richard W Pyne

I fractions are re-extracted and re-analyzed because initial endeavors did not meet quality control acceptance criteria, include dates for both.

RESULT SUMMARY

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1742	DILUTION FACTOR	1.00
CLIENT ID	TRIP BLANK BLDG T65	COMMENTS	HNU ND 90-6-16-1303
DATA FILE	>A1430	DATE ANALYZED	05/05/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	4.3 J	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	6.2 B	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	103	76 - 114	OK
Toluene-d8	99.6	88 - 110	OK
Bromofluorobenzene	94.0	86 - 115	OK

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

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

TRIP BLANK

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ
Case: 90-6-16-1303
Matrix: (soil/water) WATER

Sample wt/vol: 5 (g/mL) mL

Level: (low/med) LOW

% Moisture: NA

GC Column: DB-624

Client ID: BLDG T65

Lab Sample ID: A1742

Lab File ID: >A1430

Date Received: 04/28/93

Date Analyzed: 05/05/93

Dilution Factor: 1

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	No Unknowns			

FORM I VOA-TIC 1/87 Rev.

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1743	DILUTION FACTOR	1.00
CLIENT ID	MW1-2926938 BLDG T65	COMMENTS	HNU 9.3 90-6-16-1303
DATA FILE	>A1439	DATE ANALYZED	05/05/93

COMPOUND	UG/L		MDL	COMPOUND	UG/L	MDL
Acrolein	ND		50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND		50	2-Hexanone	ND	10
Chloromethane	ND		10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND		10	Toluene	ND	5
Vinyl Chloride	ND		10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND		10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	ND	B	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND		5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND		10	Tetrachloroethene	ND	5
Methylene Chloride	2.3	JB	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND		5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND		5	Ethylbenzene	ND	5
Vinyl Acetate	ND		5	m&p-Xylenes	ND	5
2-Butanone	ND		10	o-Xylene	ND	5
Chloroform	ND		5	Styrene	ND	5
1,1,1-Trichloroethane	ND		5	Bromoform	ND	5
Carbon Tetrachloride	ND		5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND		5	p-Dichlorobenzene	ND	5
Benzene	ND		5	o-Dichlorobenzene	ND	5
Trichloroethene	ND		5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND		5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND		5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	95.1	76 - 114	OK
Toluene-d8	98.6	88 - 110	OK
Bromofluorobenzene	96.7	86 - 115	OK

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

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER	US ARMY, FT. MONMOUTH, NJ	MATRIX	Water
SAMPLE NUMBER	A1743	DILUTION FACTOR	1.00
CLIENT ID	BLDG T-65, MW1-2926938	QA BATCH	HNU: 9.3, NJDEP 90-6-16-1303
DATA FILE	>C1227	DATE ANALYZED	05/12/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenlyether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	3.1 J	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	1.2 J	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	1.6 J	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	3.6 J	10
2-Methylnaphthalene	7.4 J	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	2.5 J	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	1.2 J	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

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

E1

EPA SAMPLE NUMBER

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW1-2926938

Client Name: US ARMY FT. MONMOUTH,NJ
Case: 90-6-16-1303
Client ID: T65

Matrix: (soil/water) WATER
Lab Sample ID: A1743

Sample wt/vol: 5 (g/mL) mL
Lab File ID: >A1439

Level: LOW
Date Received: 04/28/93

% Moisture: 100
Date Analyzed 05/05/93

Column: CAP
Dilution Factor: 1

Number TICs Found 17
CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST CONC
2	6236880	Cyclohexane, 1-ethyl-4-methyl-, trans- (8CI9	15.89	6
3	2051301	Octane, 2,6-dimethyl- (8CI9CI)	16.74	6
4	10574375	2-Pentene, 2,3-dimethyl- (8CI9CI)	16.98	9
5	74511516	1-Octene, 3,3-dimethyl- (9CI)	17.79	7
6	590669	Cyclohexane, 1,1-dimethyl- (8CI9CI)	18.21	10
7	2847725	Decane, 4-methyl- (8CI9CI)	18.80	11
8	1678939	Cyclohexane, butyl- (8CI9CI)	19.37	12
9	2216322	Heptane, 4-ethyl- (8CI9CI)	19.56	7
10	496117	1H-Indene, 2,3-dihydro- (9CI)	20.07	49
11	91178	Naphthalene, decahydro- (8CI9CI)	20.26	13
12	141935	Benzene, 1,3-diethyl- (9CI)	20.46	11
13	61141795	Cyclohexane, 1,2-diethyl-1-methyl- (9CI)	20.61	7
14	62108230	Decane, 2,5,6-trimethyl- (9CI)	20.84	7
15	933982	Benzene, 1-ethyl-2,3-dimethyl- (9CI)	20.93	16
16	767588	1H-Indene, 2,3-dihydro-1-methyl- (9CI)	21.15	38
17	2958761	Naphthalene, decahydro-2-methyl- (8CI9CI)	21.46	11
18	4292926	Cyclohexane, pentyl- (8CI9CI)	21.60	21

E1

EPA SAMPLE NUMBER

semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BLDG T-65
MW-1
1-2926938

Client: US ARMY, FT. MONMOUTH, NJ

Comments: HNU: 9.3

NJDEPE Case No.: 90-6-16-1303

Matrix: (soil/water) WATER

Lab Sample ID: A1743

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

Lab File ID: >C1227

Level: LOW

Date Received: 04/28/93

% Moisture: 100

Date Analyzed 05/12/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 05/05/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	496117	1H-Indene, 2,3-dihydro- (9CI)	10.12	27
2	527537	Benzene, 1,2,3,5-tetramethyl- (8CI9CI)	11.64	10
3		UNKNOWN	12.04	11
4	824226	1H-Indene, 2,3-dihydro-4-methyl- (9CI)	12.25	27
5	527537	Benzene, 1,2,3,5-tetramethyl- (8CI9CI)	12.28	10
6		UNKNOWN	13.04	15
7		UNKNOWN	13.65	11
8	6682719	1H-Indene, 2,3-dihydro-4,7-dimethyl- (9CI)	13.88	10
9		UNKNOWN	14.57	21
10		UNKNOWN	15.25	13
11	21564910	Naphthalene, 1,2,3,4-tetrahydro-1,5-dimethyl	16.03	14
12		Dimethyl Naphthalene Isomer	16.20	15
13		Dimethyl Naphthalene Isomer	16.42	11
14		Dimethyl Naphthalene Isomer	16.46	10
15		Dimethyl Naphthalene Isomer	16.70	12
16		UNKNOWN	16.87	13
17		UNKNOWN	18.21	10
18		UNKNOWN	18.78	13
19	54105678	Heptadecane, 2,6-dimethyl- (9CI)	19.92	56
20		UNKNOWN	21.10	28

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1744	DILUTION FACTOR	1.00
CLIENT ID	FIELD BLANK BLDG 65T	COMMENTS	HNU ND 90-6-16-1303
DATA FILE	>A1433	DATE ANALYZED	05/05/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	3.8 J	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	6.1 B	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	103	76 - 114	OK
Toluene-d8	96.3	88 - 110	OK
Bromofluorobenzene	100	86 - 115	OK

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

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER	US ARMY, FT. MONMOUTH,NJ	MATRIX	Water
SAMPLE NUMBER	A1744	DILUTION FACTOR	1.00
CLIENT ID	BLDG T-65, FIELD BLANK	QA BATCH	NJDEP 90-6-16-1303
DATA FILE	>C1228	DATE ANALYZED	05/12/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenlyether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	ND	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	ND	10
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Behzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

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

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD BLANK

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ
Case: 90-6-16-1303
Matrix: (soil/water) WATER
Sample wt/vol: 5 (g/mL) mL
Level: (low/med) LOW
% Moisture: NA
Column: DB-624

Client ID: BLDG T65
Lab Sample ID: A1744
Lab File ID: >A1433
Date Received: 04/28/93
Date Analyzed: 05/05/93
Dilution Factor: 1

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	No Unknowns			

FORM I VOA-TIC 1/87 Rev.

E1

EPA SAMPLE NUMBER

semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BLDG T-65
FIELD BLK

Client Name: US ARMY, FT. MONMOUTH, NJ

Matrix: (soil/water) WATER

Lab Sample ID: A1744

NJDEPE Case: 90-6-16-1303

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

Lab File ID: >C1228

Level: LOW

Date Received: 04/28/93

% Moisture: 100

Date Analyzed 05/12/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 05/05/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 2

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

CAS NUMBER	COMPOUND NAME	RT	EST CONC
	NO UNKNOWN COMPOUNDS IDENTIFIED		

DATA PACKAGE

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1742	DILUTION FACTOR	1.00
CLIENT ID	TRIP BLANK BLDG T65	COMMENTS	HNU ND 90-6-16-1303
DATA FILE	>A1430	DATE ANALYZED	05/05/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	4.3 J	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	6.2 B	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	103	76 - 114	OK
Toluene-d8	99.6	88 - 110	OK
Bromofluorobenzene	94.0	86 - 115	OK

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

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

TRIP BLANK

Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ
Case: 90-6-16-1303
Matrix: (soil/water) WATER

Sample wt/vol: 5 (g/mL) mL

Level: (low/med) LOW

% Moisture: NA

Column: DB-624

Client ID: BLDG T65

Lab Sample ID: A1742

Lab File ID: >A1430

Date Received: 04/28/93

Date Analyzed: 05/05/93

Dilution Factor: 1

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	No Unknowns			

FORM I VOA-TIC 1/87 Rev.

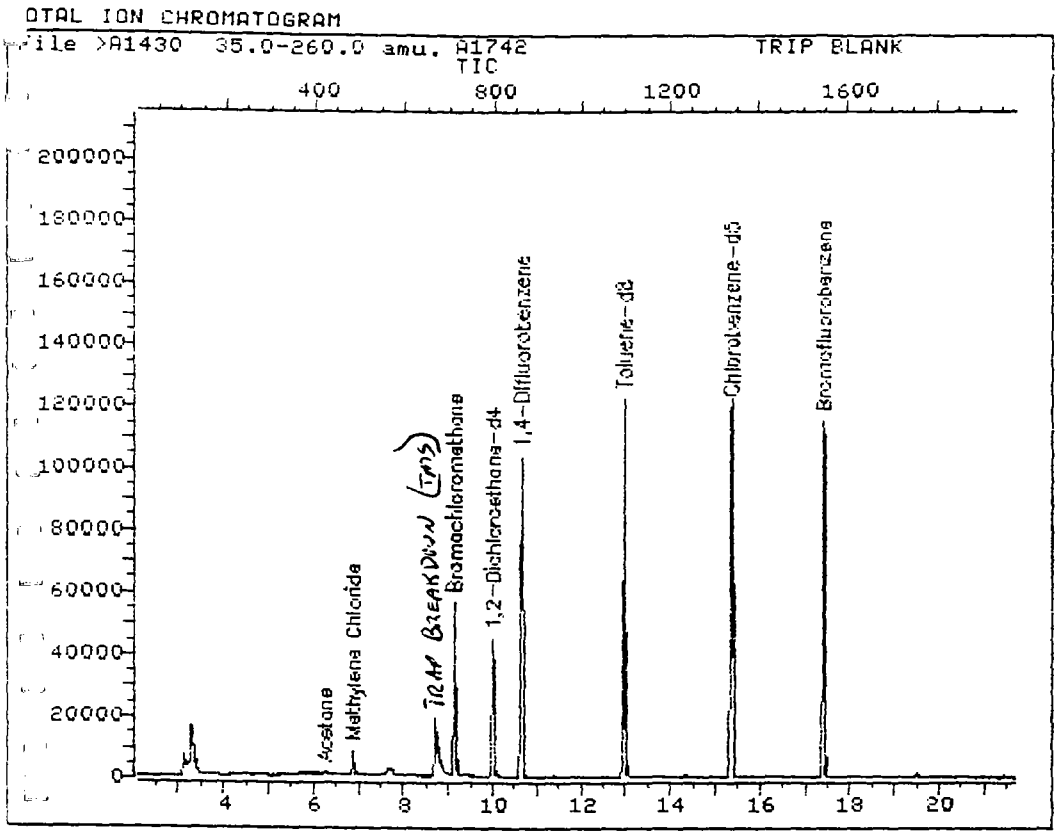
QUANT REPORT

Operator ID: GLENN Quant Rev: 6 Quant Time: 930505 03:28
Output File: ^A1430::D7 Injected at: 930505 02:58
Data File: >A1430::D2 Dilution Factor: 1.00000
Name: A1742
Misc: TRIP BLANK 5mL

Method File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930505 00:43

Compound	R.T.	Scan#	Area	Conc	Units	q
*Bromochloromethane	9.12	708	30499	50.00	UG/L	100
Acetone	6.23	417	1889	4.33	UG/L	81
Methylene Chloride	6.87	481	8577	6.19	UG/L	77
1,2-Dichloroethane-d4	9.99	796	60840	51.68	UG/L	100
*1,4-Difluorobenzene	10.64	862	156221	50.00	UG/L	100
Toluene-d8	12.95	1095	159844	49.79	UG/L	100
Chlorobenzene-d5	15.34	1336	134975	50.00	UG/L	100
Bromofluorobenzene	17.40	1544	82066	47.02	UG/L	100

Compound is ISTD



Data File: >A1430::D2 Quant Output File: ^A1430::D7
Name: A1742
Misc: TRIP BLANK 5mL

Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930505 00:43

Operator ID: GLENN
Quant Time: 930505 03:28
Injected at: 930505 02:58

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1743	DILUTION FACTOR	1.00
CLIENT ID	MW1-2926938 BLDG T65	COMMENTS	HNU 9.3 90-6-16-1303
DATA FILE	>A1439	DATE ANALYZED	05/05/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	ND B	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	2.3 JB	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	95.1	76 - 114	OK
Toluene-d8	98.6	88 - 110	OK
Bromofluorobenzene	96.7	86 - 115	OK

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

E1

EPA SAMPLE NUMBER

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW1-2926938

Client Name: US ARMY FT. MONMOUTH,NJ
Case: 90-6-16-1303
Matrix: (soil/water) WATER

Client ID: T65

Lab Sample ID: A1743

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1439

Level: LOW

Date Received: 04/28/93

% Moisture: 100

Date Analyzed 05/05/93

Column: CAP

Dilution Factor: 1

Number TICs Found 17

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC
2	6236880	Cyclohexane, 1-ethyl-4-methyl-, trans- (8CI9	15.89	6
	2051301	Octane, 2,6-dimethyl- (8CI9CI)	16.74	6
	10574375	2-Pentene, 2,3-dimethyl- (8CI9CI)	16.98	9
5	74511516	1-Octene, 3,3-dimethyl- (9CI)	17.79	7
6	590669	Cyclohexane, 1,1-dimethyl- (8CI9CI)	18.21	10
	2847725	Decane, 4-methyl- (8CI9CI)	18.80	11
8	1678939	Cyclohexane, butyl- (8CI9CI)	19.37	12
9	2216322	Heptane, 4-ethyl- (8CI9CI)	19.56	7
1	496117	1H-Indene, 2,3-dihydro- (9CI)	20.07	49
1	91178	Naphthalene, decahydro- (8CI9CI)	20.26	13
12	141935	Benzene, 1,3-diethyl- (9CI)	20.46	11
13	61141795	Cyclohexane, 1,2-diethyl-1-methyl- (9CI)	20.61	7
1	62108230	Decane, 2,5,6-trimethyl- (9CI)	20.84	7
15	933982	Benzene, 1-ethyl-2,3-dimethyl- (9CI)	20.93	16
16	767588	1H-Indene, 2,3-dihydro-1-methyl- (9CI)	21.15	38
17	2958761	Naphthalene, decahydro-2-methyl- (8CI9CI)	21.46	11
18	4292926	Cyclohexane, pentyl- (8CI9CI)	21.60	21

QUANT REPORT

p rator ID: GLENN
u put File: ^A1439::D7
ata File: >A1439::D2
a : A1743
i p: MW1-2926938 BLDG T65

Quant Rev: 6 Quant Time: 930505 21:10
Injected at: 930505 20:39
Dilution Factor: 1.00000

5mL

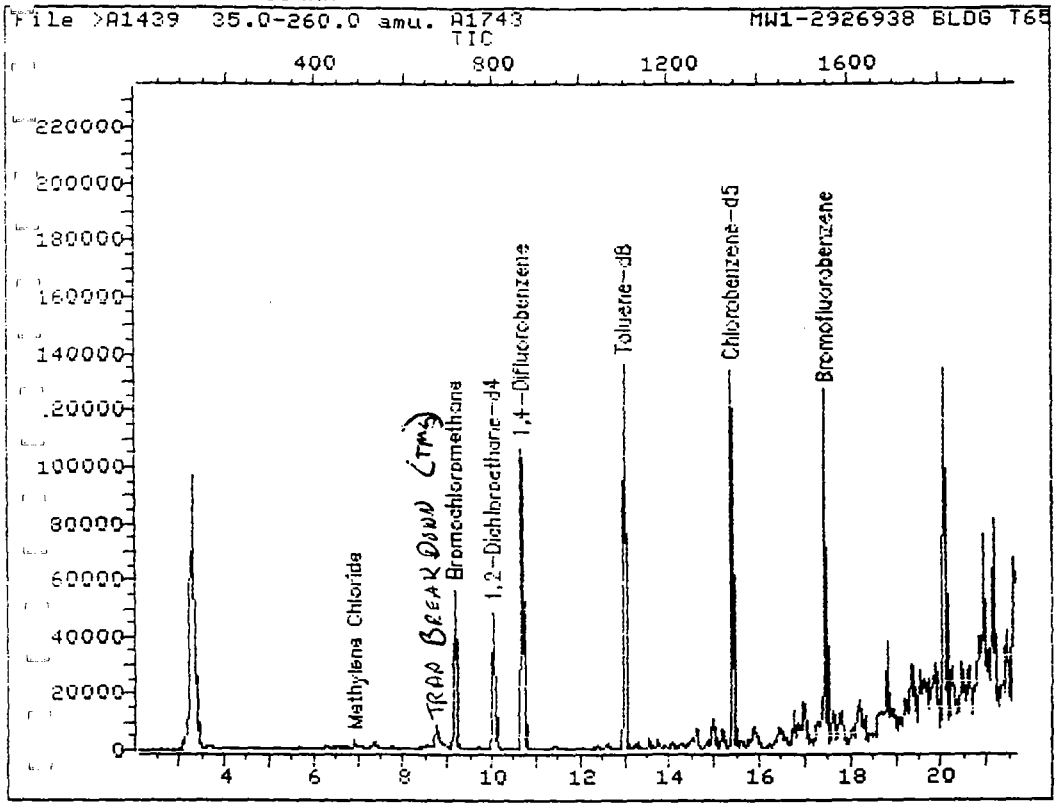
D File: ID0127::M1
i le: USEPA 624 VOLATILES
ast Calibration: 930505 20:24

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.16	711	31494	50.00	UG/L	100
3)	Methylene Chloride	6.92	485	3098	2.28	UG/L	71
1)	1,2-Dichloroethane-d4	10.02	798	63850	47.56	UG/L	100
2)	*1,4-Difluorobenzene	10.67	864	162479	50.00	UG/L	100
1)	Toluene-d8	12.99	1098	170505	49.29	UG/L	100
3)	*Chlorobenzene-d5	15.39	1340	143150	50.00	UG/L	100
5)	Bromofluorobenzene	17.45	1547	87504	48.36	UG/L	100

* ompound is ISTD

00023

TAL ION CHROMATOGRAM



Data File: >A1439::D2 Quant Output File: ^A1439::D7
Name: A1743
Misc: MW1-2926938 BLDG T65 5mL

Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930505 20:24

Operator ID: GLENN
Quant Time: 930505 21:10
Injected at: 930505 20:39

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER	US ARMY, FT. MONMOUTH, NJ	MATRIX	Water
SAMPLE NUMBER	A1743	DILUTION FACTOR	1.00
CLIENT ID	BLDG T-65, MW1-2926938	QA BATCH	HNU: 9.3, NJDEP 90-6-16-1303
DATA FILE	>C1227	DATE ANALYZED	05/12/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenlyether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	3.1 J	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	1.2 J	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	1.6 J	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	3.6 J	10
2-Methylnaphthalene	7.4 J	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	2.5 J	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	1.2 J	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

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

E1

semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

BLDG T-65
MW-1
1-2926938

Client: US ARMY, FT. MONMOUTH, NJ

Comments: HNU: 9.3

NJDEPE Case No.: 90-6-16-1303

Matrix: (soil/water) WATER

Lab Sample ID: A1743

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

Lab File ID: >C1227

Level: LOW

Date Received: 04/28/93

% Moisture: 100

Date Analyzed 05/12/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 05/05/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 20

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	496117	1H-Indene, 2,3-dihydro- (9CI)	10.12	27
2	527537	Benzene, 1,2,3,5-tetramethyl- (8CI9CI)	11.64	10
3		UNKNOWN	12.04	11
4	824226	1H-Indene, 2,3-dihydro-4-methyl- (9CI)	12.25	27
5	527537	Benzene, 1,2,3,5-tetramethyl- (8CI9CI)	12.28	10
6		UNKNOWN	13.04	15
7		UNKNOWN	13.65	11
8	6682719	1H-Indene, 2,3-dihydro-4,7-dimethyl- (9CI)	13.88	10
9		UNKNOWN	14.57	21
10		UNKNOWN	15.25	13
11	21564910	Naphthalene, 1,2,3,4-tetrahydro-1,5-dimethyl	16.03	14
12		Dimethyl Naphthalene Isomer	16.20	15
13		Dimethyl Naphthalene Isomer	16.42	11
14		Dimethyl Naphthalene Isomer	16.46	10
15		Dimethyl Naphthalene Isomer	16.70	12
16		UNKNOWN	16.87	13
17		UNKNOWN	18.21	10
18		UNKNOWN	18.78	13
19	54105678	Heptadecane, 2,6-dimethyl- (9CI)	19.92	56
20		UNKNOWN	21.10	28

QUANT REPORT

pl ator ID: JEFF
u put File: ^C1227::ED
ata File: >C1227::D3
ar : A1743 050593
i: : 051293 1000ML/1.0ML

Quant Rev: 6 Quant Time: 930512 13:37
Injected at: 930512 12:59
Dilution Factor: 1.00000

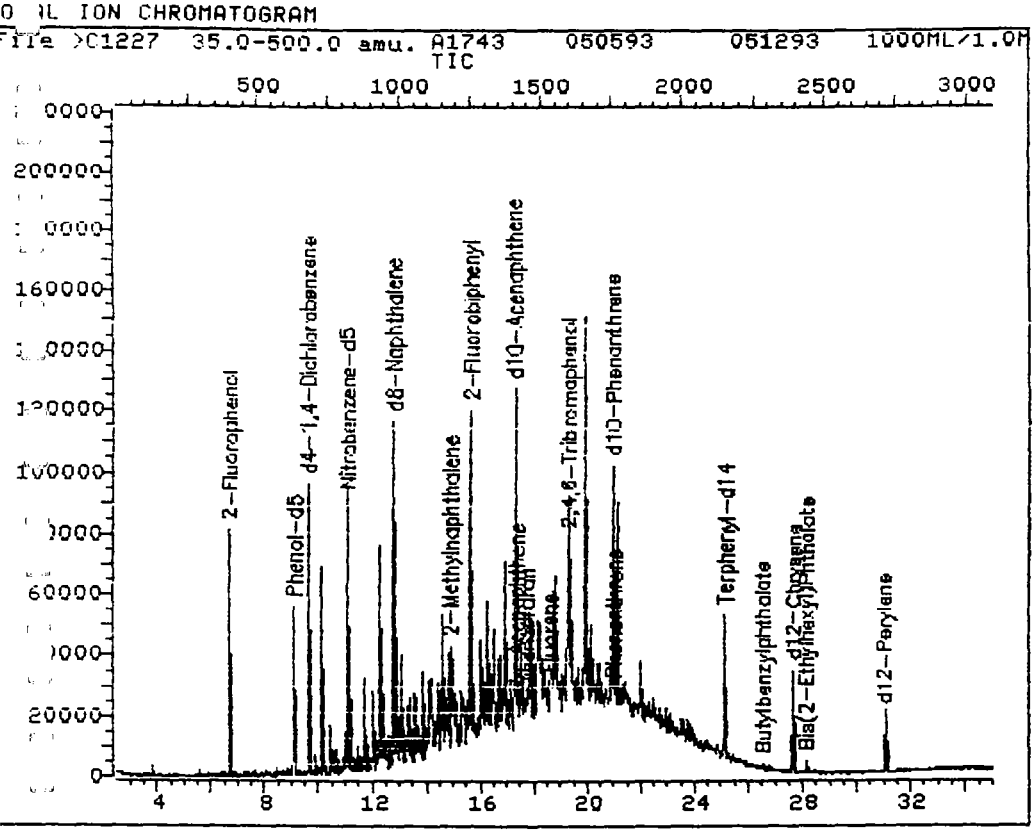
BTL# 5

D File: IDHSLC::D3
i e: hSL BNA STD
as Calibration: 930512 10:19

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.61	677	45727	40.00	UG/L	97
4)	2-Fluorophenol	6.68	397	36263	52.93	UG/L	99
5)	Phenol-d5	9.09	627	36653	38.97	UG/L	82
3)	*d8-Naphthalene	12.78	980	93715	40.00	UG/L	89
7)	Nitrobenzene-d5	11.07	817	39485	36.90	UG/L	88
2)	2-Methylnaphthalene	14.85	1177	13053	7.46	UG/L	90
6)	*d10-Acenaphthene	17.25	1404	53807	40.00	UG/L	94
8)	2-Fluorobiphenyl	15.64	1251	72393	37.90	UG/L	94
9)	Acenaphthene	17.33	1411	4197	2.49	UG/L	93
0)	Dibenzofuran	17.74	1450	2855	1.21	UG/L	84
1)	Fluorene	18.60	1531	5479	3.11	UG/L	99
2)	*d10-Phenanthrene	20.95	1753	69868	40.00	UG/L	99
0)	2,4,6-Tribromophenol	19.28	1596	19685	92.59	UG/L	96
3)	Phenanthrene	21.00	1758	2498	1.20	UG/L	85
4)	*d12-Chrysene	27.66	2389	29968	40.00	UG/L	96
1)	Terphenyl-d14	25.12	2147	39549	36.32	UG/L	90
6)	Butylbenzylphthalate	26.54	2282	809	1.56	UG/L	96
7)	Bis(2-Ethylhexyl)Phthalate	28.13	2434	2141	3.61	UG/L	95
8)	*d12-Perylene	31.01	2710	20515	40.00	UG/L	94

Compound is ISTD

0 NL ION CHROMATOGRAM



Data File: >C1227::D3 Quant Output File: ^C1227::ED
Name: A1743 050593
Misc: 051293 1000ML/1.0ML BTL# 5

Id File: IDHSLC::D3
Title: hSL BNA STD
Last Calibration: 930512 10:19

Operator ID: JEFF
Quant Time: 930512 13:37
Injected at: 930512 12:59

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1744	DILUTION FACTOR	1.00
CLIENT ID	FIELD BLANK BLDG 65T	COMMENTS	HNU ND 90-6-16-1303
DATA FILE	>A1433	DATE ANALYZED	05/05/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	3.8 J	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	6.1 B	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	103	76 - 114	OK
Toluene-d8	96.3	88 - 110	OK
Bromofluorobenzene	100	86 - 115	OK

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

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD BLANK

Name: 21st Century Environmental

nt Name: US ARMY FT. MONMOUTH, NJ
Case: 90-6-16-1303
trix: (soil/water) WATER
n le wt/vol: 5 (g/mL) mL
vel: (low/med) LOW
Moisture: NA
lumn: DB-624

Client ID: BLDG T65
Lab Sample ID: A1744
Lab File ID: >A1433
Date Received: 04/28/93
Date Analyzed: 05/05/93
Dilution Factor: 1

umber TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	No Unknowns			

FORM I VOA-TIC 1/87 Rev.

QUANT REPORT

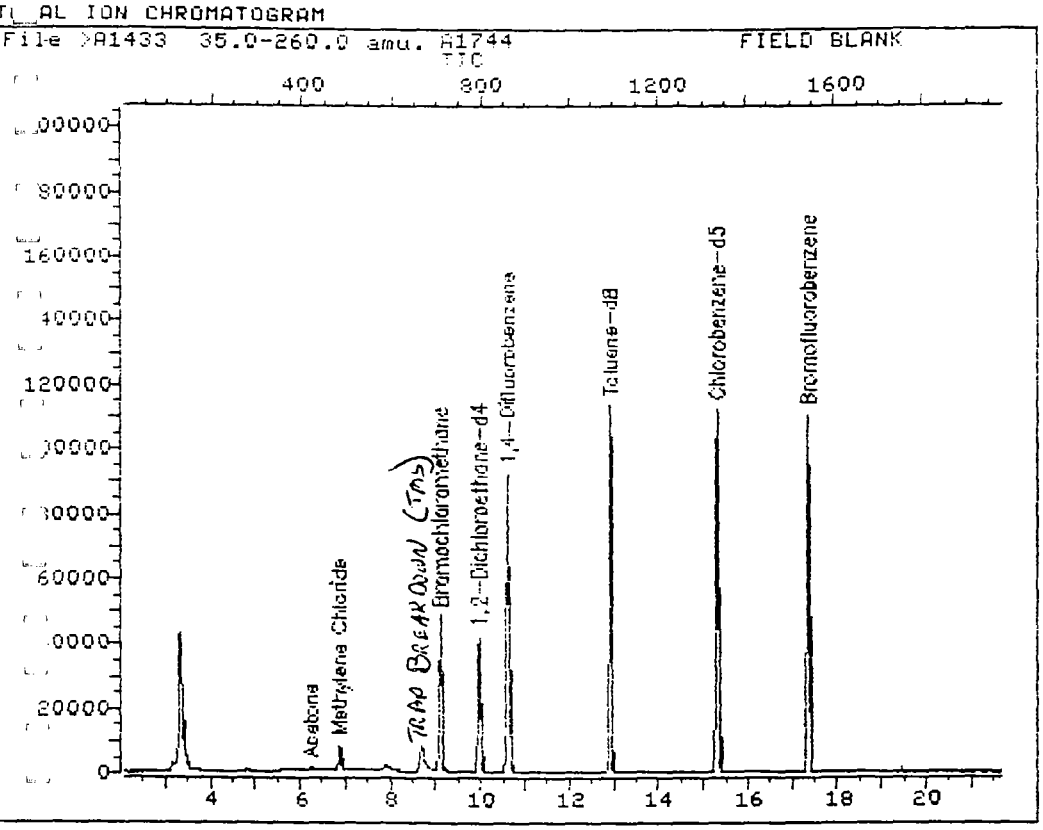
r tor ID: GLENN Quant Rev: 6 Quant Time: 930505 05:16
p t File: ^A1433::07 Injected at: 930505 04:46
a File: >A1433::02 Dilution Factor: 1.00000
e A1744
c FIELD BLANK 5mL

File: ID0127::M1
l : USEPA 624 VOLATILES
t Calibration: 930505 00:43

Compound	R.T.	Scan#	Area	Conc	Units	q
*Bromochloromethane	9.09	706	28142	50.00	UG/L	100
Acetone	6.22	416	1549	3.85	UG/L	80
Methylene Chloride	6.85	480	7853	6.14	UG/L	76
*1,2-Dichloroethane-d4	9.95	793	56036	51.59	UG/L	100
*1,4-Difluorobenzene	10.61	859	145603	50.00	UG/L	100
Toluene-d8	12.91	1092	144041	48.14	UG/L	100
Chlorobenzene-d5	15.30	1333	120736	50.00	UG/L	100
Bromofluorobenzene	17.35	1540	78318	50.16	UG/L	100

Compound is ISTD

TI AL ION CHROMATOGRAM



Data File: >A1433::D2 Quant Output File: ^A1433::D7
Name: A1744
Misc: FIELD BLANK 5mL

Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930505 00:43

Operator ID: GLENN
Quant Time: 930505 05:16
Injected at: 930505 04:46

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER	US ARMY, FT. MONMOUTH,NJ	MATRIX	Water
SAMPLE NUMBER	A1744	DILUTION FACTOR	1.00
CLIENT ID	BLDG T-65, FIELD BLANK	QA BATCH	NJDEP 90-6-16-1303
DATA FILE	>C1228	DATE ANALYZED	05/12/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenlyether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	ND	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	ND	10
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

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

E1

EPA SAMPLE NUMBER

semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BLDG T-65
FIELD BLK

Client Name: US ARMY, FT. MONMOUTH, NJ

Matrix: (soil/water) WATER

Lab Sample ID: A1744

NJDEPE Case: 90-6-16-1303

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

Lab File ID: >C1228

Level: LOW

Date Received: 04/28/93

% Moisture: 100

Date Analyzed 05/12/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 05/05/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 2

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

CAS NUMBER	COMPOUND NAME	RT	EST CONC
	NO UNKNOWN COMPOUNDS IDENTIFIED		

QUANT REPORT

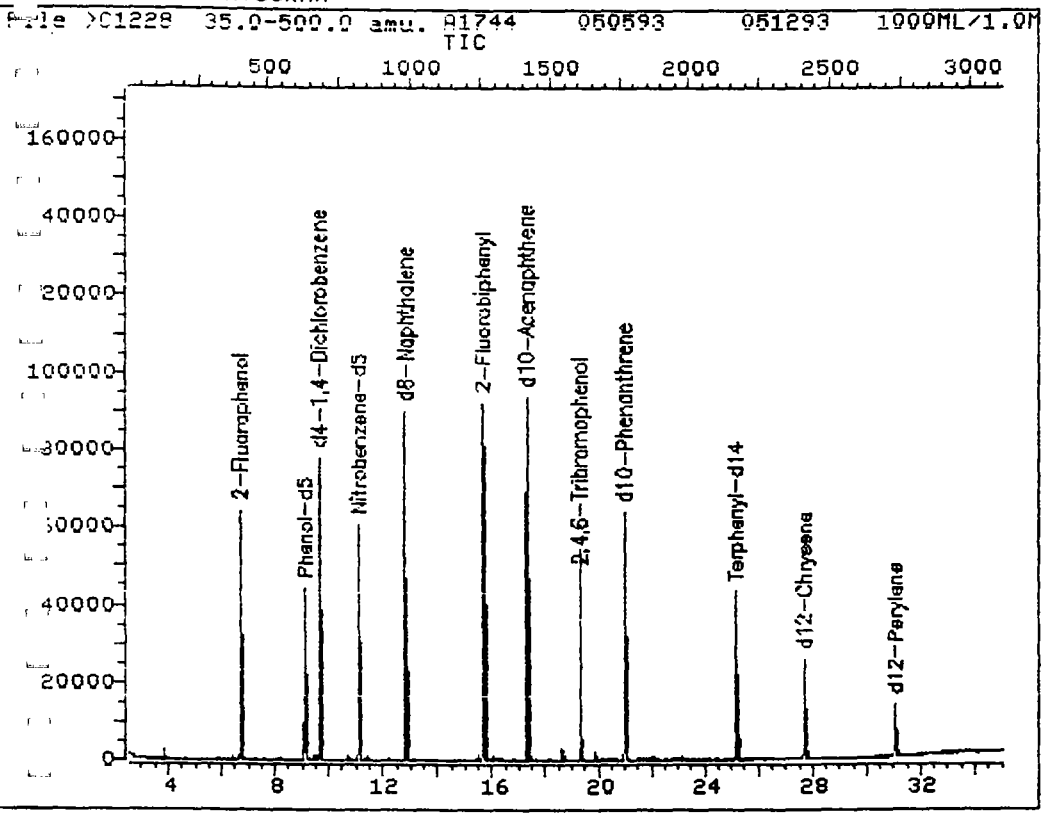
p rator ID: JEFF Quant Rev: 6 Quant Time: 930512 14:25
u put File: ^C1228::ED Injected at: 930512 13:47
ata File: >C1228::D4 Dilution Factor: 1.00000
ame: A1744 050593
i c: 051293 1000ML/1.0ML BTL# 6

D File: IDHSLC::D3
i le: hSL BNA STD
act Calibration: 930512 10:19

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	9.60	675	37761	40.00	UG/L	96
4)	2-Fluorophenol	6.68	395	29241	51.69	UG/L	97
5	Phenol-d5	9.08	625	28703	36.95	UG/L	84
8)	*d8-Naphthalene	12.78	980	80214	40.00	UG/L	88
9)	Nitrobenzene-d5	11.07	816	34892	38.09	UG/L	89
3)	*d10-Acenaphthene	17.25	1408	44926	40.00	UG/L	95
8)	2-Fluorobiphenyl	15.63	1253	61508	38.57	UG/L	93
3)	*d10-Phenanthrene	20.94	1762	55118	40.00	UG/L	98
6)	2,4,6-Tribromophenol	19.26	1601	12956	77.25	UG/L	96
4)	*d12-Chrysene	27.66	2406	22887	40.00	UG/L	97
7)	Terphenyl-d14	25.12	2162	35393	42.56	UG/L	88
3)	*d12-Perylene	31.02	2728	13104	40.00	UG/L	92

* ompound is ISTD

T TAL ION CHROMATOGRAM



Data File: >C1228::D4 Quant Output File: ^C1228::ED
Name: A1744 050593
Misc: 051293 1000ML/1.0ML BTL# 6

Id File: IDHSLC::D3
Title: hSL BNA STD
Last Calibration: 930512 10:19

Operator ID: JEFF
Quant Time: 930512 14:25
Injected at: 930512 13:47

Q C RESULTS

21st Century Environmental Inc
WATER VOLATILE SURROGATE RECOVERY

SAMPLE NO.	S1 (DCE)#	S2 (TOL)#	S3 (BFB)#	TOT OUT
BLANK	101	98	102	0
A1742	103	100	94	0
A1744	103	96	100	0
BLANK	95	96	96	0
A1743	95	99	97	0
A1582MS	101	99	99	0
A1582MSD	101	99	100	0

	QC LIMITS
S1 (DCE) = 1,2-Dichloroethane-d4	76-114
S2 (TOL) = Toluene-d8	88-110
S3 (BFB) = Bromofluorobenzene	86-115

Column used to flag surrogate recovery values

21ST CENTURY ENVIRONMENTAL INC.
WATER semi-VOLATILE SURROGATE RECOVERY

SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (FPH)#	S6 (TBP)#	TOT OUT
AQ BLK	69	69	83	-	-	-	0
A1743	74	76	73	-	-	-	0
A1744	76	77	85	-	-	-	0
A1412MS	83	92	110	-	-	-	0
A1412MSD	65	74	91	-	-	-	0

* Values out due to matrix interference

	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	(35-114)
S2 (FBP) = 2-Fluorobiphenyl	(43-116)
S3 (TPH) = Terphenyl-d14	(33-141)
S4 (PHL) = Phenol-d5	(10-94)
S5 (FPH) = 2-Fluorophenol	(21-100)
S6 (TBP) = 2,4,6-Tribromophenol	(10-123)

Column used to flag surrogate recovery values

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Name:21ST CENTURY ENVIRONMENTAL Contract:N/A

Code: Case No.: N/A SAS No.: N/A SDG No.: N/A

trix Spike - EPA Sample No.: A1582

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.00	ND	50.5	101	61-145
Trichloroethene	50.00	ND	51.5	103	71-120
Benzene	50.00	ND	56.7	113	76-127
Toluene	50.00	ND	53.9	108	76-125
Chlorobenzene	50.00	ND	51.4	103	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.00	46.9	94	7	14	61-145
Trichloroethene	50.00	47.8	96	7	14	71-120
Benzene	50.00	52.2	104	8	17	76-127
Toluene	50.00	49.7	99	9	12	76-125
Chlorobenzene	50.00	48.7	97	6	13	75-130

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

alues outside of qc limits

: 0 out of 5 outside limits

ke Recovery: 0 out of 10 outside limits

MENTS: _____

_____

00040

QUANT REPORT

rator ID: JEFF
tput File: ^A1303::QT
ata File: >A1303::D2
e: A1582MS
:

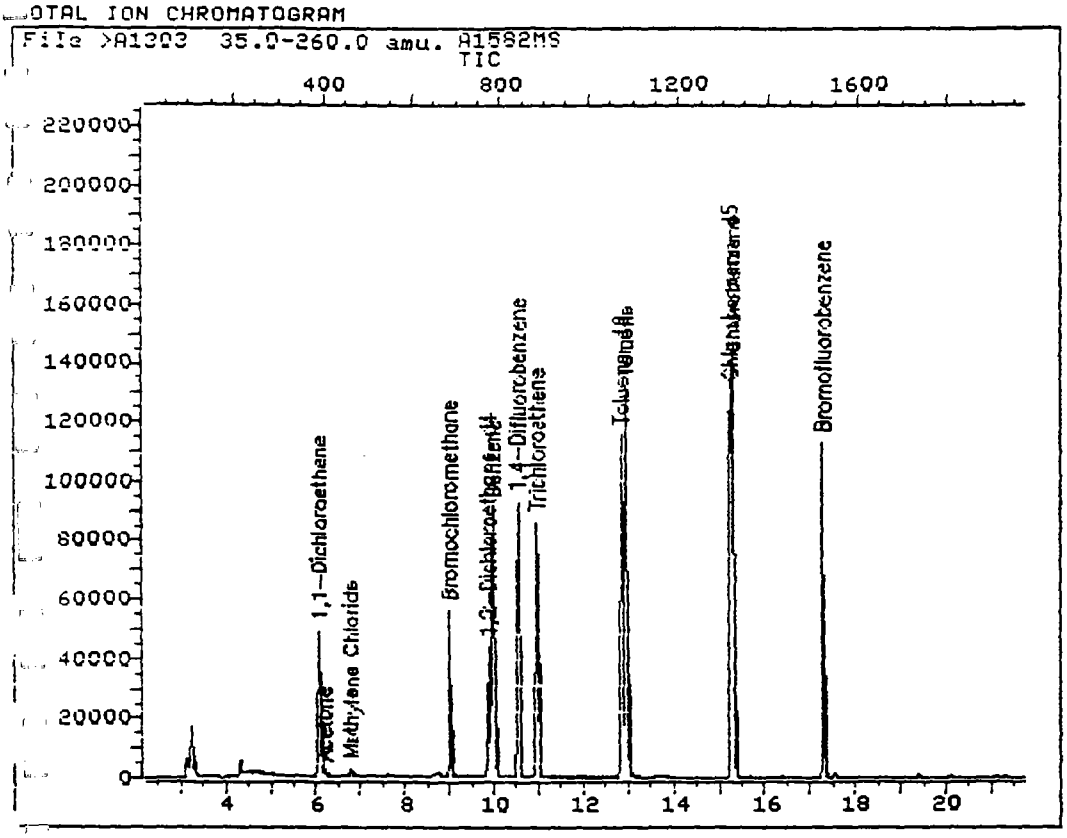
Quant Rev: 6 Quant Time: 930422 21:11
Injected at: 930422 20:41
Dilution Factor: 1.00000

5.0mL

File: ID0127::M1
le: USEPA 624 VOLATILES
ast Calibration: 930422 16:06

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.99	682	29725	50.00	UG/L	100
2)	Acetone	6.17	397	2832	6.11	UG/L	81
3)	1,1-Dichloroethene	6.07	387	65102	50.48	UG/L	100
4)	Methylene Chloride	6.78	459	2018	1.63	UG/L	83
5)	1,2-Dichloroethane-d4	9.86	770	61899	50.27	UG/L	100
6)	*1,4-Difluorobenzene	10.54	838	143184	50.00	UG/L	100
7)	Benzene	9.97	781	151941	56.65	UG/L	100
8)	Trichloroethene	10.96	880	55193	51.48	UG/L	80
9)	Toluene-d8	12.85	1071	148619	49.64	UG/L	100
10)	Toluene	12.96	1082	186788	53.91	UG/L	97
11)	*Chlorobenzene-d5	15.25	1313	127484	50.00	UG/L	100
12)	Chlorobenzene	15.29	1318	141007	51.43	UG/L	94
13)	Bromofluorobenzene	17.29	1519	77753	49.73	UG/L	100

Compound is ISTD



Data File: >A1303::D2 Quant Output File: ^A1303::QT
Name: A1582MS
Misc: 5.0mL

Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930422 16:06

Operator ID: JEFF
Quant Time: 930422 21:11
Injected at: 930422 20:41

QUANT REPORT

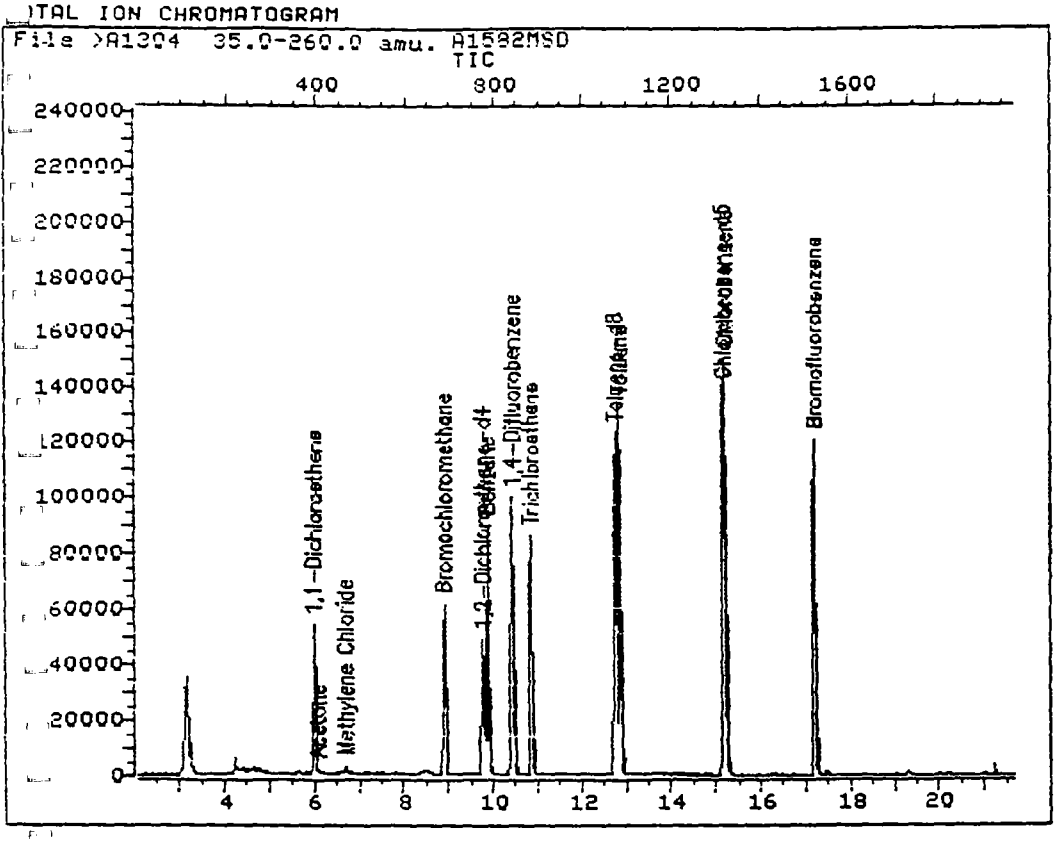
ator ID: JEFF
tput File: ^A1304::QT
ta File: >A1304::D2
: A1582MSD
s:

Quant Rev: 6 Quant Time: 930422 21:46
Injected at: 930422 21:16
Dilution Factor: 1.00000
5.0mL

File: ID0127::M1
t e: USEPA 624 VOLATILES
st Calibration: 930422 16:06

Compound	R.T.	Scan#	Area	Conc	Units	q
*Bromochloromethane	8.90	685	31771	50.00	UG/L	100
Acetone	6.06	398	3385	6.83	UG/L	79
1,1-Dichloroethene	5.99	391	64586	46.85	UG/L	100
Methylene Chloride	6.68	461	2426	1.83	UG/L	77
1,2-Dichloroethane-d4	9.76	772	66293	50.37	UG/L	100
*1,4-Difluorobenzene	10.43	839	155797	50.00	UG/L	100
Benzene	9.87	783	152393	52.21	UG/L	100
Trichloroethene	10.84	881	55705	47.75	UG/L	80
Toluene-d8	12.75	1073	160835	49.37	UG/L	100
Toluene	12.85	1084	187453	49.72	UG/L	97
*Chlorobenzene-d5	15.14	1315	136330	50.00	UG/L	100
Chlorobenzene	15.18	1319	142906	48.74	UG/L	93
Bromofluorobenzene	17.18	1521	83629	50.02	UG/L	100

Compound is ISTD



Data File: >A1304::D2 Quant Output File: ^A1304::QT
Name: A1582MSD
Misc: 5.0mL

Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930422 16:06

Operator ID: JEFF
Quant Time: 930422 21:46
Injected at: 930422 21:16

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: 21st Century Environmental Contract No.:
Lab Code: Case No: SAS No.: SDG No.:
MATRIX SPIKE- EPA SAMPLE NO.: A1412

COMPOUND NAME	SPIKE ADDED UG/L	MS CONC UG/L	SAMP CONC UG/L	MS % REC#	QC LIMITS RECOVERY
Phenol	100	59.5	ND	60	12-89
2-Cholrophenol	100	78.6	ND	79	27-123
1,-4-Dichlorobenzene	50	42.3	ND	85	36-97
N-Nitroso-di-n-prop. (1)	50	47.1	ND	94	41-116
1,2,4-Trichlorobenzene	50	39.7	ND	79	39-98
4-Chloro-3-methylphenol	100	82.9	ND	83	23-97
Acenapthene	50	44.6	ND	89	46-118
4-Nitrophenol	100	23.8	ND	24	10-80
2,4-Dinitrotoluene	50	37.7	ND	75	24-96
Pentachlorophenol	100	55.2	ND	65	9-103
Pyrene	50	55.2	ND	55	26-127

3C

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: 21st Century Environmental Contract No.:
Lab Code: Case No: SAS No.: SDG No.:
MATRIX SPIKE- EPA SAMPLE NO.:A1412

COMPOUND NAME	SPIKE ADDED UG/L	MSD CONC UG/L	MSD % REC.	% RPD	QC LIMITS RPD	QC LIMITS RECOV
Phenol	100	45.1	45	27	42	21-89
2-Cholrophenol	100	60.5	60	26	40	27-123
1,-4-Dichlorobenzene	50	32.9	66	25	28	36-197
N-Nitroso-di-n-prop.	50	36.0	72	27	38	41-116
1,2,4-Trichlorobenzene	50	30.2	60	27	28	39-98
4-Chloro-3-Methylphenol	100	64.8	65	25	42	23-97
Acenaphthene	50	35.6	71	22	31	46-118
4-Nitrophenol	100	22.8	23	4	50	10-80
2,4-Dinitrotoluene	50	33.1	66	13	38	24-96
Pentachlorophenol	100	51.6	52	22	50	9-103
Pyrene	50	38.2	76	36	51	26-127

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values
* Values outside of qc limits

RPD: 0 out of 11 outside limits
Spike Recovery: 0 out of 22 outside limits

00045

COMMENTS:

QUANT REPORT

e ator ID: JEFF
tput File: ^C1050::ED
ta File: >C1050::D2
m : A1412MS
s : 042393

Quant Rev: 6 Quant Time: 930423 14:06
Injected at: 930423 13:26
Dilution Factor: 1.00000

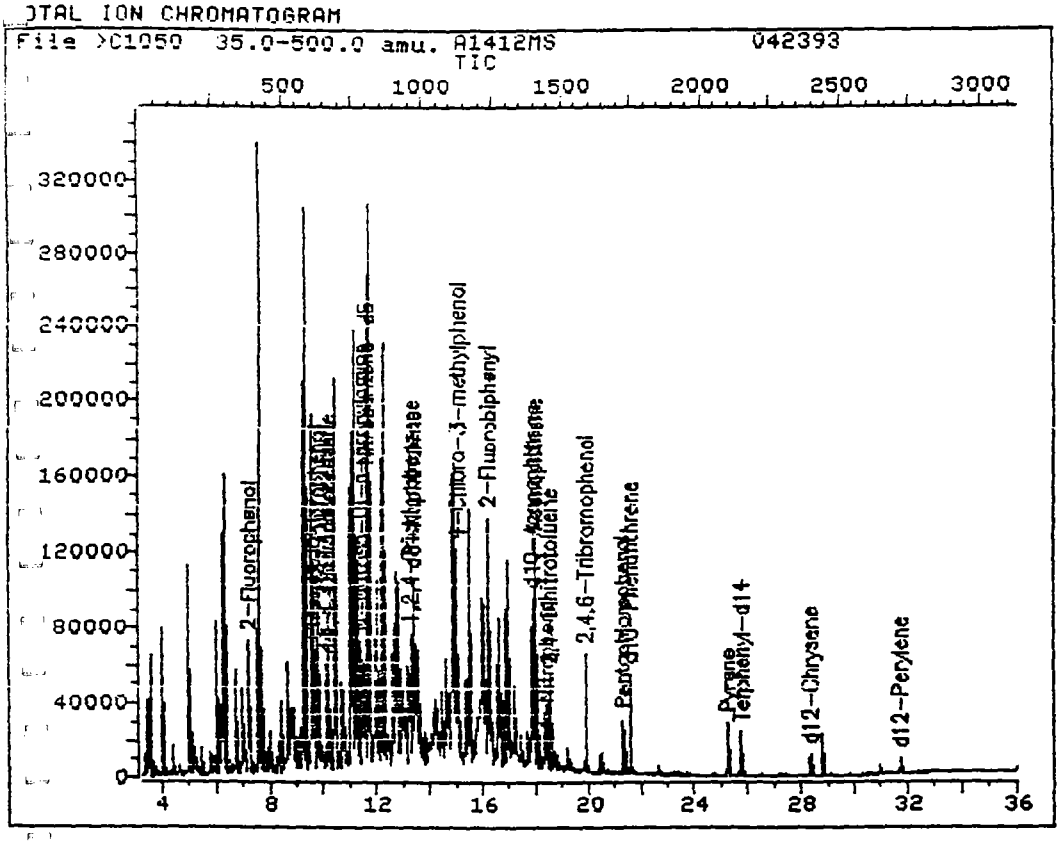
BTL# 1

File: ID0423::D3
t e: hSL BNA STD
st Calibration: 930423 13:14

	Compound	R.T.	Scan#	Area	Conc	Units	q
)	*d4-1,4-Dichlorobenzene	10.16	657	29184	40.00	UG/L	98
)	2-Fluorophenol	7.22	376	38152	69.93	UG/L	96
)	Phenol-d5	9.60	604	41325	54.35	UG/L	82
)	Phenol	9.63	607	50147	59.53	UG/L	65
)	2-Chlorophenol	9.74	617	48868	78.57	UG/L	99
)	1,4-Dichlorobenzene	10.20	661	29129	42.27	UG/L	97
)	N-Nitroso-Di-n-propylamine	11.42	777	26240	47.11	UG/L	97
)	*d8-Naphthalene	13.35	961	69918	40.00	UG/L	88
)	Nitrobenzene-d5	11.63	797	33588	41.43	UG/L	85
)	1,2,4-Trichlorobenzene	13.28	954	27412	39.68	UG/L	89
)	4-Chloro-3-methylphenol	15.03	1119	58872	82.92	UG/L	96
)	d10-Acenaphthene	17.86	1387	48105	40.00	UG/L	93
)	2-Fluorobiphenyl	16.21	1231	80168	46.22	UG/L	94
)	Acenaphthene	17.94	1395	65337	44.58	UG/L	93
)	4-Nitrophenol	18.39	1438	6078	23.81	UG/L	77
)	2,4-Dinitrotoluene	18.52	1450	20223	37.72	UG/L	92
)	*d10-Phenanthrene	21.58	1741	46629	40.00	UG/L	97
)	2,4,6-Tribromophenol	19.89	1580	13350	112.55	UG/L	90
)	Pentachlorophenol	21.30	1715	8167	64.82	UG/L	97
)	d12-Chrysene	28.34	2388	10685	40.00	UG/L	96
)	Pyrene	25.22	2089	31167	47.43	UG/L	96
)	Terphenyl-d14	25.75	2140	20578	55.22	UG/L	91
)	d12-Perylene	31.72	2712	8172	40.00	UG/L	94

Compound is ISTD

OTAL ION CHROMATOGRAM



Data File: >C1050::D2 Quant Output File: ^C1050::ED
Name: A1412MS
Misc: 042393 BTL# 1

Id File: ID0423::D3
Title: hSL BNA STD
Last Calibration: 930423 13:14

Operator ID: JEFF
Quant Time: 930423 14:06
Injected at: 930423 13:26

QUANT REPORT

rator ID: JEFF
tput File: ^C1051::EX
ta File: >C1051::D2
e: A1412MSD
e: 042393

Quant Rev: 6 Quant Time: 930423 15:23
Injected at: 930423 14:12
Dilution Factor: 1.00000

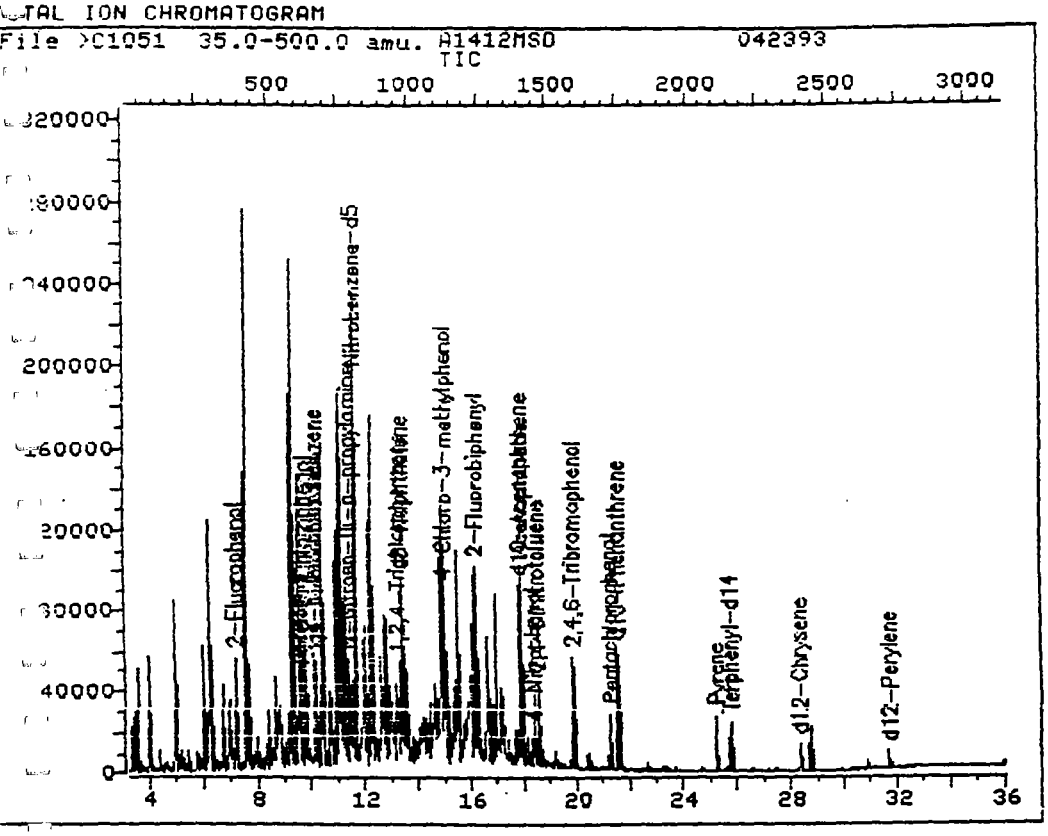
BTL# 2

File: ID0423::D3
e: hSL BNA STD
st Calibration: 930423 13:14

	Compound	R.T.	Scan#	Area	Conc	Units	q
)	*d4-1,4-Dichlorobenzene	10.15	656	28057	40.00	UG/L	98
)	2-Fluorophenol	7.20	375	28158	53.68	UG/L	96
)	Phenol-d5	9.58	602	30732	42.04	UG/L	84
)	Phenol	9.61	605	36551	45.14	UG/L	64
)	2-Chlorophenol	9.73	616	36156	60.47	UG/L	97
)	1,4-Dichlorobenzene	10.19	660	21794	32.90	UG/L	97
)	N-Nitroso-Di-n-propylamine	11.40	776	19260	35.97	UG/L	98
)	*d8-Naphthalene	13.35	961	68057	40.00	UG/L	88
)	Nitrobenzene-d5	11.62	797	25837	32.74	UG/L	89
)	1,2,4-Trichlorobenzene	13.26	953	20311	30.20	UG/L	94
)	4-Chloro-3-methylphenol	15.01	1119	44811	64.84	UG/L	99
)	*d10-Acenaphthene	17.85	1389	44399	40.00	UG/L	95
)	2-Fluorobiphenyl	16.21	1233	59154	36.95	UG/L	93
)	Acenaphthene	17.92	1396	48142	35.59	UG/L	92
)	4-Nitrophenol	18.38	1439	5373	22.80	UG/L	82
)	2,4-Dinitrotoluene	18.51	1452	16392	33.13	UG/L	83
)	*d10-Phenanthrene	21.57	1743	53624	40.00	UG/L	99
)	2,4,6-Tribromophenol	19.88	1582	11374	83.38	UG/L	98
)	Pentachlorophenol	21.29	1717	7479	51.62	UG/L	97
)	*d12-Chrysene	28.33	2391	12407	40.00	UG/L	97
)	Pyrene	25.21	2092	29131	38.18	UG/L	95
)	Terphenyl-d14	25.75	2143	19747	45.63	UG/L	89
)	d12-Perylene	31.71	2714	9349	40.00	UG/L	94

Compound is ISTD

TAL ION CHROMATOGRAM



Data File: >C1051::D2 Quant Output File: ^C1051::EX
Name: A1412MSD
Misc: 042393 BTL# 2

Id File: ID0423::D3
Title: hSL BNA STD
Last Calibration: 930423 13:14

Operator ID: JEFF
Quant Time: 930423 15:23
Injected at: 930423 14:12

21st Century Environmental Inc.

GC/MS STANDARD p-BROMOFLUOROBENZENE (BFB) TUNE
CRITERIA FOR VOLATILES 50ng

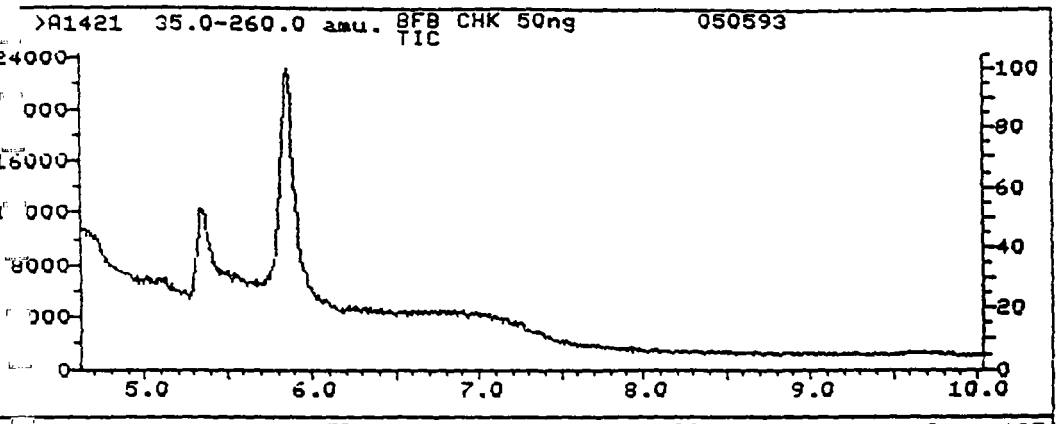
DATE AND TIME OF INJECTION: 5/04/93 18:45
INSTRUMENT ID: 5995

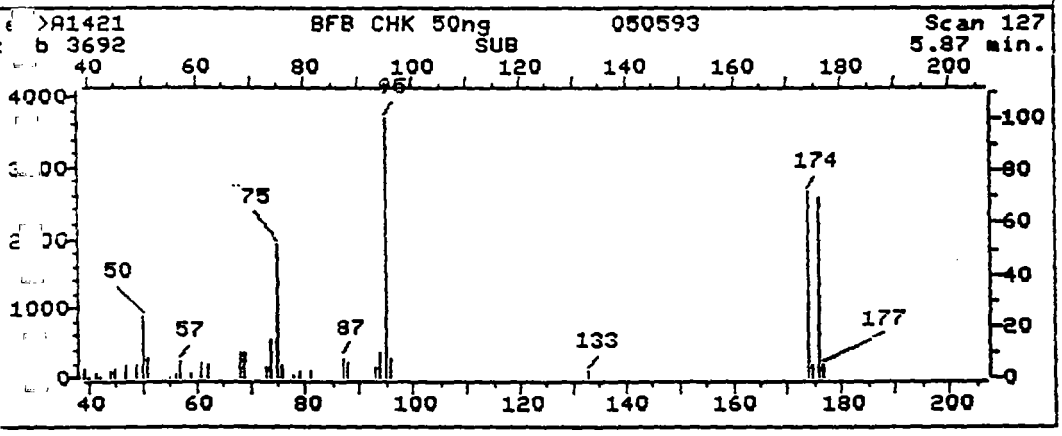
DATA RELEASE AUTHORIZED BY Richard W Ryan

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	23.67	23.67	Ok
75	30-60% of mass 95	51.90	51.90	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.72	7.72	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	71.83	71.83	Ok
175	5-9% of mass 174	4.98	6.94	Ok
176	95-101% of mass 174	69.72	97.06	Ok
177	5-9% of mass 176	5.01	7.19	Ok

THIS PERFORMANCE AFFECTS ALL SAMPLES
STANDARDS AND BLANKS LISTED BELOW

SAMPLE ID	LAB ID		DATE	TIME
>A1421::D2	BFB CHK 50ng		5/04/93	18:45
>A1422::D2	HSL CAL CHK 20ppb		5/04/93	19:29
>A1423::D2	HSL CAL CHK 50ppb		5/04/93	20:08
>A1424::D2	HSL CAL CHK 100ppb		5/04/93	20:50
>A1425::D2	HSL CAL CHK 150ppb		5/04/93	21:36
>A1426::D2	HSL CAL CHK 200ppb		5/04/93	22:49
>A1428::D2	BLANK		5/05/93	1:06
>A1429::D2	A1741		5/05/93	2:22
>A1430::D2	A1742		5/05/93	2:58
>A1431::D2	A1739		5/05/93	3:37
>A1432::D2	A1740		5/05/93	4:11
>A1433::D2	A1744		5/05/93	4:46





1 21 BFB CHK 50ng 050593
127 SUB NRM

I : >A1421 Scan #: 127 Retn. time: 5.87

m/ :	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
5.95	1.815	45.05	3.413	58.95	1.571	76.00	5.255	95.00	100.000
7.05	8.180	47.05	4.821	61.00	6.148	78.00	1.029	96.00	7.719
8.15	6.284	49.05	4.713	62.10	4.767	79.00	2.763	132.95	2.438
9.35	3.034	50.05	23.673	68.00	10.130	80.90	2.438	173.80	71.831
9.95	.379	51.05	7.801	69.00	9.670	86.90	7.936	174.80	4.984
1.15	1.381	55.05	.298	73.00	4.198	87.90	5.986	175.80	69.718
2.35	.190	56.05	1.950	74.00	14.789	93.00	3.900	176.80	5.011
4.05	2.681	57.05	6.663	75.00	51.896	94.00	10.184		

21st Century Environmental Inc.

GC/MS STANDARD p-BROMOFLUOROBENZENE (BFB) TUNE
CRITERIA FOR VOLATILES 50ng

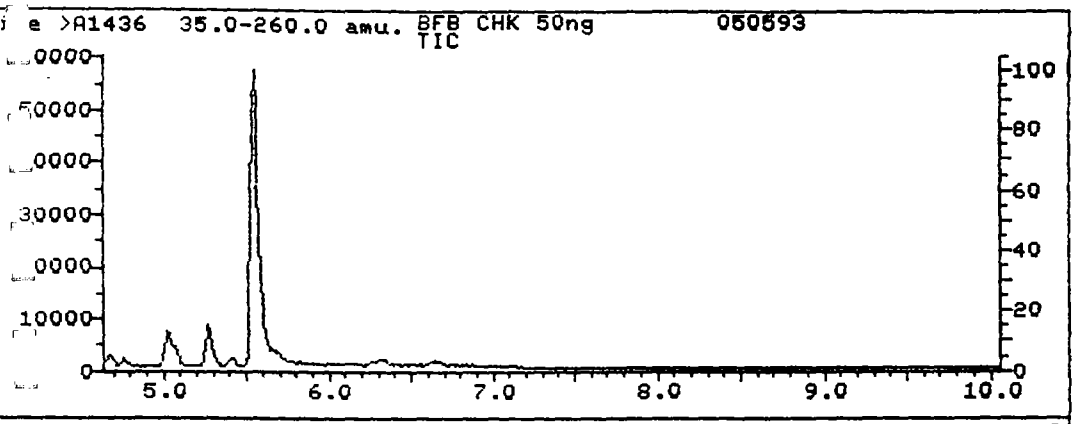
DATE AND TIME OF INJECTION: 5/05/93 18:37
INSTRUMENT ID: 5995

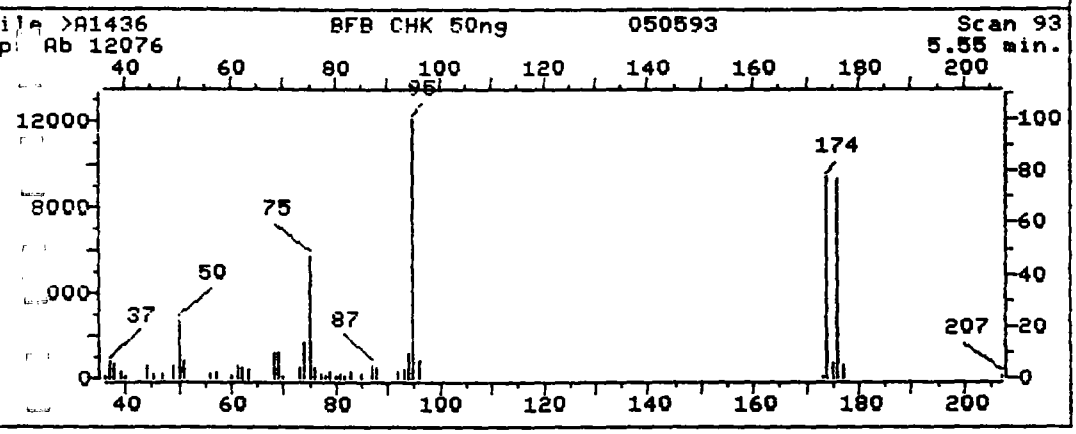
DATA RELEASE AUTHORIZED BY Richard W Pyrd

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.61	22.61	Ok
75	30-60% of mass 95	47.58	47.58	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.06	7.06	Ok
173	Less than 2% of mass 174	.54	.69	Ok
174	Greater than 50% of mass 95	77.62	77.62	Ok
175	5-9% of mass 174	5.64	7.27	Ok
176	95-101% of mass 174	76.71	98.84	Ok
177	5-9% of mass 176	5.08	6.62	Ok

THIS PERFORMANCE AFFECTS ALL SAMPLES
STANDARDS AND BLANKS LISTED BELOW

SAMPLE ID	LAB ID		DATE	TIME
>A1436::D2	BFB CHK 50ng		5/05/93	18:37
>A1437::D2	HSL CAL CHK 50ppb		5/05/93	19:08
>A1438::D2	BLANK		5/05/93	19:54
>A1439::D2	A1743		5/05/93	20:39
>A1440::D2	A1659		5/05/93	21:14
>A1441::D2	H0155		5/05/93	21:49
>A1442::D2	A1728		5/05/93	22:24
>A1443::D2	A1581		5/05/93	23:46
>A1444::D2	A1767		5/06/93	0:23
>A1445::D2	A1840		5/06/93	0:57
>A1446::D2	A1841		5/06/93	1:32
>A1447::D2	A1842		5/06/93	2:07
>A1448::D2	A1843		5/06/93	2:42
>A1449::D2	A1844		5/06/93	3:17





A 436 BFB CHK 50ng 050593
93 NRM

i e: >A1436 Scan #: 93 Retn. time: 5.55

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
3 .05	1.234	50.05	22.607	69.10	9.705	80.00	.729	94.10	9.622
37.05	6.360	51.05	6.376	70.00	.770	80.90	2.120	95.00	100.000
3 .05	5.606	56.05	1.433	73.00	4.041	81.90	.547	96.00	7.064
3 .05	2.236	57.05	2.733	74.10	14.285	82.90	2.219	172.90	.538
39.95	1.134	60.10	1.250	75.00	47.582	85.00	1.507	174.00	77.617
44.05	4.745	61.10	4.853	76.10	4.033	87.00	5.084	175.00	5.639
4 .05	1.731	62.10	4.447	77.00	1.938	88.00	4.439	176.00	76.714
4 .95	1.532	63.10	3.263	78.00	.869	92.00	2.194	177.00	5.076
49.05	4.687	68.10	10.260	78.90	2.153	93.00	3.486	207.05	1.300

21ST CENTURY ENVIRONMENTAL INC.

GC/MS STANDARD DECAFLUOROTRIPHENYLPHOSPHINE(DFTPP) TUNE
CRITERIA FOR SEMIVOLATILES 50ng

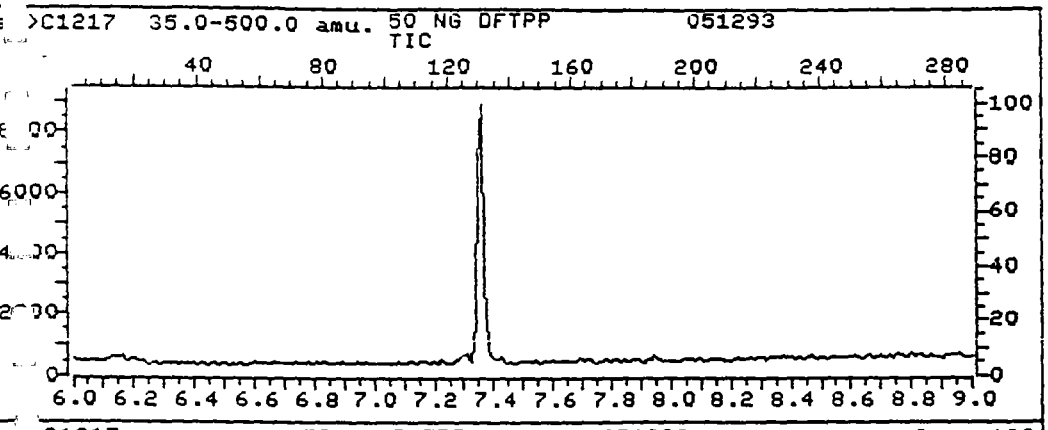
DATE AND TIME OF INJECTION: 5/12/93 5:21
INSTRUMENT ID: 5970

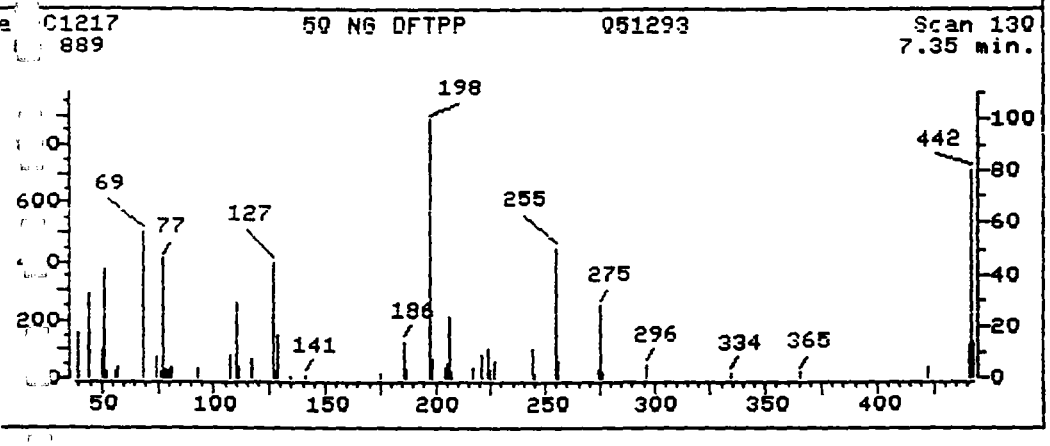
DATA RELEASE AUTHORIZED BY Richard W Lynch.

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	42.07	42.07	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	56.47	56.47	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	44.77	44.77	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	7.31	7.31	Ok
275	10-30% of mass 198	28.12	28.12	Ok
365	Greater than 1% of mass 198	2.25	2.25	Ok
441	0-100% of mass 443	13.27	92.19	Ok
442	Greater than 40% of mass 198	80.43	80.43	Ok
443	17-23% of mass 442	14.40	17.90	Ok

THIS PERFORMANCE AFFECTS ALL SAMPLES
STANDARDS AND BLANKS LISTED BELOW

SAMPLE ID		LAB ID		DATE	TIME
>C1217::E4		50 NG DFTPP		5/12/93	5:21
>C1218::D4		20 PPM BNA STD		5/12/93	5:54
>C1219::D4		50 PPM BNA STD		5/12/93	6:40
>C1220::D4		80 PPM BNA STD		5/12/93	7:27
>C1221::D4		120PPM BNA STD		5/12/93	8:13
>C1222::D4		160PPM BNA STD		5/12/93	9:00
>C1223::D3		AQ BLANK 050593		5/12/93	9:50
>C1224::D3		A1739 050593		5/12/93	10:37
>C1225::D3		A1740 050593		5/12/93	11:25
>C1226::D3		A1741 050593		5/12/93	12:12
>C1227::D3		A1743 050593		5/12/93	12:59
>C1228::D4		A1744 050593		5/12/93	13:47
>C1229::D4		A1745 050593		5/12/93	14:34
>C1231::D4		A1747 050593		5/12/93	16:10
>C1232::D4		A1748 050593		5/12/93	16:58





C1217 50 NG DFTPP 051293
130 NRM

1 : >C1217 Scan #: 130 Retn. time: 7.35

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
9.10	6.074	77.00	46.344	128.00	2.362	205.95	24.184	273.85	3.487
0.00	17.210	78.00	3.712	129.00	16.873	206.95	2.250	274.95	28.121
4.05	32.171	78.90	2.362	134.85	1.125	216.80	4.162	275.75	2.362
0.05	10.461	80.00	3.037	140.85	1.237	220.90	8.886	275.95	2.362
1.05	42.070	81.10	4.162	174.90	1.575	223.95	11.249	295.95	5.174
2.00	2.362	93.05	3.600	185.95	14.398	224.85	3.037	333.80	1.800
6.10	2.475	107.00	9.449	186.95	3.150	226.85	6.974	364.95	2.250
7.10	4.049	109.95	28.909	197.90	100.000	243.90	11.699	422.80	3.937
8.95	56.468	111.05	3.937	198.90	7.312	244.80	1.350	440.90	13.273
4.10	8.549	116.85	7.199	204.05	3.825	254.95	50.619	441.90	80.427
6.10	2.700	126.90	44.769	204.85	5.737	255.85	6.412	442.90	14.398

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 05/05/93

Contractor: 21st Century Env. Time: 19:08

Contract No: Laboratory ID: >A1437

Instrument ID: Volatile Inst A Initial Calibration Date: 05/05/93

Minimum $\overline{RF}$ for SPCC is .300 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Chloromethane	1.06373	.95663	10.07		**	
Bromomethane	.97708	1.11627	14.25			
Vinyl Chloride	1.32642	1.24600	6.06	*		
Chloroethane	1.00748	1.04282	3.51			
Acrolein	.05763	.05697	1.14			(Conc=80.00)
1,1,2-Trichlorotrifluoroethane	2.03985	2.25114	10.36			
Trichlorofluoromethane	2.03636	2.28919	12.42			
Acetone	.77034	.80199	4.11			
1,1-Dichloroethene	2.24726	2.30567	2.60	*		
Carbon Disulfide	2.65258	2.53946	4.26			
Acrylonitrile	.46501	.46367	.29			
Methylene Chloride	2.24895	2.16063	3.93			
1,2-Dichloroethene(trans)	2.18082	2.25228	3.28			
1,1-Dichloroethane	3.36679	2.80499	16.69		**	
Vinyl Acetate	.43792	.38531	12.01			
2-Butanone	.98223	.84241	14.24			
Chloroform	3.38162	3.41194	.90	*		
1,1,1-Trichloroethane	2.24172	2.32059	3.52			
Carbon Tetrachloride	2.00201	2.10245	5.02			
1,2-Dichloroethane-d4	1.88475	2.13198	13.12			(Conc=50.00)
1,2-Dichloroethane	.47304	.47606	.64			
Benzene	.98524	.95259	3.31			
Trichloroethene	.37331	.36384	2.54			
1,2-Dichloropropane	.38417	.36173	5.84	*		
Bromodichloromethane	.56497	.55526	1.72			
2-Chloroethylvinylether	.23797	.20779	12.68			
4-Methyl-2-pentanone	.29948	.26517	11.46			
trans 1,3-Dichloropropene	.58725	.53983	8.08			
Toluene-d8	1.05592	1.06455	.82			
Toluene	1.25007	1.20199	3.85	*		
cis- 1,3-Dichloropropene	.53561	.48616	9.23			
1,1,2,2-Tetrachloroethane	.58384	.54915	5.94		**	

RF - Response Factor from daily standard file at 50.00 UG/L

$\overline{RF}$ - 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: 05/05/93

Contractor: 21st Century Env. Time: 19:08

Contract No: Laboratory ID: >A1437

Instrument ID: Volatile Inst A Initial Calibration Date: 05/05/93

Minimum $\overline{RF}$ for SPCC is .300 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
1,1,2-Trichloroethane	.39422	.36607	7.14		
4-Methyl-2-pentanone	.35317	.30572	13.44		
Tetrachloroethene	.47860	.46489	2.86		
Dibromochloromethane	.51571	.49001	4.98		
Chlorobenzene	1.06727	1.02032	4.40		**
Ethylbenzene	1.88600	1.81378	3.83	*	
m,p-Xylenes	1.57117	1.47770	5.95		
o-Xylene	1.41723	1.44519	1.97		
Styrene	1.12602	1.08742	3.43		
Bromoform	.34634	.33324	3.78		**
Bromofluorobenzene	.63743	.63206	.84		
m-Dichlorobenzene	.87734	1.02612	16.96		
o-Dichlorobenzene	.88915	1.05739	18.92		
p-Dichlorobenzene	.80389	.94972	18.14		

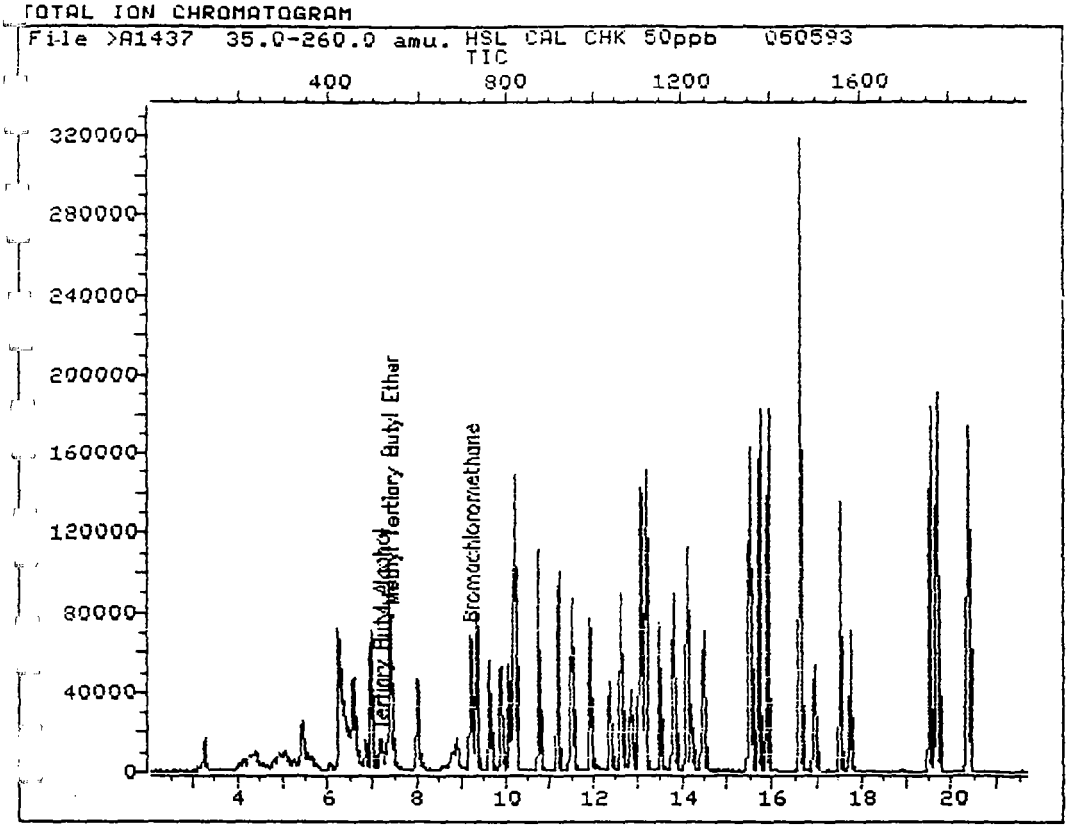
RF - Response Factor from daily standard file at 50.00 UG/L

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

Diff - % Difference from original average or curve

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

TOTAL ION CHROMATOGRAM



Data File: >A1437::D2 Quant Output File: MA1437::QT
Name: HSL CAL CHK 50ppb
Misc: 050593 5ml

Id File: IDAUXA::M1
Title: INST A AUX. COMPOUNDS
Last Calibration: 930524 17:42

Operator ID: GLENN
Quant Time: 930524 17:43
Injected at: 930505 19:08

21st Century Environmental Inc.

GC/MS STANDARD p-BROMOFLUOROBENZENE (BFB) TUNE
CRITERIA FOR VOLATILES 50ng

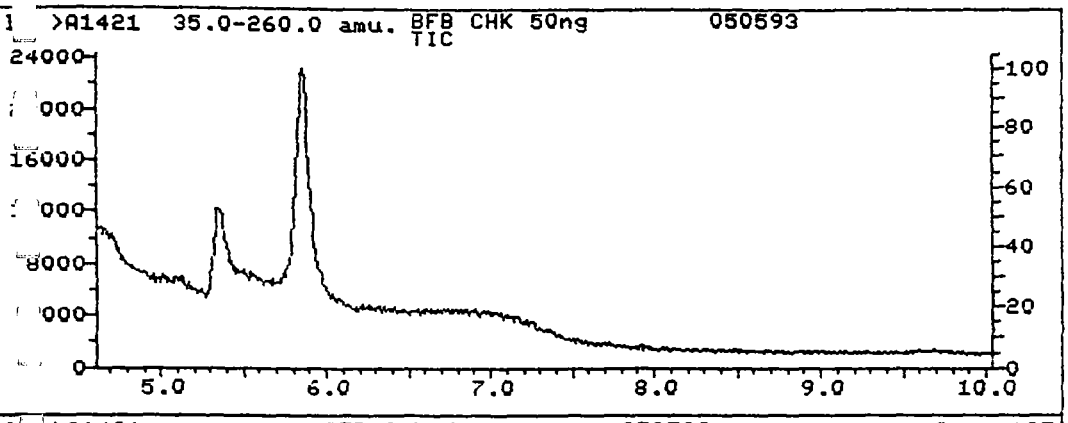
DATE AND TIME OF INJECTION: 5/04/93 18:45
INSTRUMENT ID: 5995

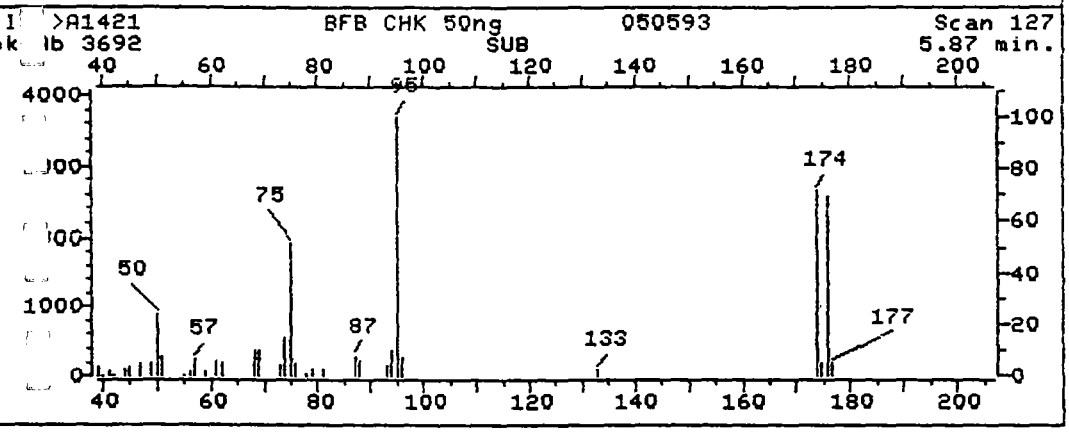
DATA RELEASE AUTHORIZED BY Richard W Ryan

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	23.67	23.67	Ok
75	30-60% of mass 95	51.90	51.90	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.72	7.72	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	71.83	71.83	Ok
175	5-9% of mass 174	4.98	6.94	Ok
176	95-101% of mass 174	69.72	97.06	Ok
177	5-9% of mass 176	5.01	7.19	Ok

THIS PERFORMANCE AFFECTS ALL SAMPLES
STANDARDS AND BLANKS LISTED BELOW

SAMPLE ID	LAB ID		DATE TIME
I>A1421::D2I	BFB CHK 50ng		5/04/93 18:45
I>A1422::D2I	HSL CAL CHK 20ppb		5/04/93 19:29
I>A1423::D2I	HSL CAL CHK 50ppb		5/04/93 20:08
I>A1424::D2I	HSL CAL CHK 100ppb		5/04/93 20:50
I>A1425::D2I	HSL CAL CHK 150ppb		5/04/93 21:36
I>A1426::D2I	HSL CAL CHK 200ppb		5/04/93 22:49
I>A1428::D2I	BLANK		5/05/93 1:06
I>A1429::D2I	A1741		5/05/93 2:22
I>A1430::D2I	A1742		5/05/93 2:58
I>A1431::D2I	A1739		5/05/93 3:37
I>A1432::D2I	A1740		5/05/93 4:11
I>A1433::D2I	A1744		5/05/93 4:46





A: 421 BFB CHK 50ng 050593
127 SUB NRM

i : >A1421 Scan #: 127 Retn. time: 5.87

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
35.95	1.815	45.05	3.413	58.95	1.571	76.00	5.255	95.00	100.000
37.05	8.180	47.05	4.821	61.00	6.148	78.00	1.029	96.00	7.719
5E 05	6.284	49.05	4.713	62.10	4.767	79.00	2.763	132.95	2.438
39.05	3.034	50.05	23.673	68.00	10.130	80.90	2.438	173.80	71.831
39.95	.379	51.05	7.801	69.00	9.670	86.90	7.936	174.80	4.984
41 05	1.381	55.05	.298	73.00	4.198	87.90	5.986	175.80	69.718
42 05	.190	56.05	1.950	74.00	14.789	93.00	3.900	176.80	5.011
44.05	2.681	57.05	6.663	75.00	51.896	94.00	10.184		

Initial Calibration Data
HSL Compounds

Case No: Instrument ID: Volatile Inst A

Contractor: 21st Century Env. Calibration Date: 05/05/93

Contract No:

Minimum $\overline{RF}$ for SPCC is .300 Maximum % RSD for CCC is 30%

Laboratory ID:	>A1422	>A1423	>A1424	>A1425	>A1426					
Compound	RF 20.00	RF 50.00	RF 100.00	RF 150.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
Chloromethane	1.28909	1.09624	.98638	.94509	1.00184	.440	1.06373	12.936		**
Bromomethane	1.21157	1.00769	.82845	.74912	1.08857	.530	.97708	19.311		
Vinyl Chloride	1.54642	1.31128	1.20307	1.21151	1.35984	.462	1.32642	10.539	*	
Chloroethane	1.24216	1.04787	.89276	.91475	.93987	.559	1.00748	14.301		
Acrolein	.07778	.05774	.05136	.05197	.04930	.653	.05763	20.289		(Conc=32.0,80.0,160.0,240
1,1,2-Trichlorotrifluoroethane	2.31406	1.89043	1.89904	1.99875	2.09696	.673	2.03985	8.572		
Trichlorofluoromethane	2.30443	1.98026	1.84664	2.00629	2.04416	.579	2.03636	8.216		
Acetone	1.28909	.71532	.62675	.61973	.60081	.682	.77034	38.078		
1,1-Dichloroethene	2.60645	2.26493	2.07125	2.15123	2.14243	.669	2.24726	9.453	*	
Carbon Disulfide	3.14128	2.76672	2.41657	2.52053	2.41777	.705	2.65258	11.622		
Acrylonitrile	.58868	.47991	.43121	.41949	.40576	.790	.46501	16.036		
Methylene Chloride	2.66274	2.27140	2.06490	2.13058	2.11514	.749	2.24895	10.835		
1,2-Dichloroethene(trans)	2.45775	2.23769	2.05513	1.99326	2.16027	.796	2.18082	8.309		
1,1-Dichloroethane	3.79317	3.22845	3.12067	3.31855	3.37312	.865	3.36679	7.629		**
Vinyl Acetate	.49864	.44637	.40837	.41823	.41798	.874	.43792	8.404		
2-Butanone	1.38447	.91323	.88415	.82855	.90078	.966	.98223	23.128		
Chloroform	3.68705	3.34762	3.13668	3.30013	3.43663	1.013	3.38162	5.990	*	
1,1,1-Trichloroethane	2.38195	2.17424	2.08519	2.15108	2.41616	1.047	2.24172	6.593		
Carbon Tetrachloride	2.09634	1.93319	1.86029	1.93452	2.18573	1.075	2.00201	6.703		
1,2-Dichloroethane-d4	1.87031	1.92991	1.89087	1.84467	1.88798	1.096	1.88475	1.657		(Conc=50.0,50.0,50.0,50.0
1,2-Dichloroethane	.50776	.47718	.45420	.47054	.45551	.949	.47304	4.596		
Benzene	1.12326	.99255	.92702	.93486	.94850	.948	.98524	8.243		
Trichloroethene	.39357	.37050	.35406	.36916	.37925	1.040	.37331	3.885		
1,2-Dichloropropane	.42018	.38011	.36349	.37701	.38009	1.071	.38417	5.536	*	
Bromodichloromethane	.58988	.55514	.54554	.56971	.56459	1.110	.56497	2.958		
2-Chloroethylvinylether	.24310	.23683	.23393	.25101	.22499	1.153	.23797	4.109		
2-Hexanone	.31738	.28312	.28965	.29825	.30903	1.327	.29948	4.655		
trans-1,3-Dichloropropene	.60009	.56237	.55146	.59952	.62283	1.176	.58725	5.023		
Toluene-d8	.97558	1.02758	1.04794	1.08682	1.14166	1.219	1.05592	5.920		(Conc=50.0,50.0,50.0,50.0
Toluene	1.29015	1.22272	1.20175	1.23972	1.29600	1.229	1.25007	3.324	*	

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RT}$ - 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: Volatile Inst A

Contractor: 21st Century Env. Calibration Date: 05/05/93

Contract No:

Minimum $\overline{RF}$ for SPCC is .300 Maximum % RSD for CCC is 30%

Laboratory ID:	>A1422	>A1423	>A1424	>A1425	>A1426						
Compound	RF 20.00	RF 50.00	RF 100.00	RF 150.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC	
-1,3-Dichloropropene	.53845	.51241	.51737	.55120	.55863	.871	.53561	3.794			
1,1,2,2-Tetrachloroethane	.69046	.57261	.55358	.58639	.51617	1.149	.58384	11.165		**	
1,1,2-Trichloroethane	.43098	.38435	.37580	.39340	.38659	.891	.39422	5.451			
ethyl-2-pentanone	.39599	.33709	.33672	.34486	.35120	.918	.35317	6.987			
rachloroethene	.51046	.46741	.45711	.47019	.48785	.909	.47860	4.381			
Dibromochloromethane	.51340	.49160	.50412	.53684	.53256	.934	.51571	3.694			
robenzene	1.18282	1.06553	1.01652	1.03001	1.04146	1.003	1.06727	6.283		**	
lbenzene	2.05635	1.88678	1.79947	1.83550	1.85191	1.015	1.88600	5.317	*		
m&p-Xylenes	1.71202	1.59931	1.50458	1.53077	1.50919	1.028	1.57117	5.561			
-Xylene	1.64682	1.50548	1.37023	1.32094	1.24267	1.074	1.41723	11.293			
ene	1.36715	1.24603	1.09019	1.02970	.89702	1.075	1.12602	16.348			
Bromoform	.35414	.32898	.33916	.37177	.33764	1.096	.34634	4.865		**	
Bromofluorobenzene	.62509	.64661	.65359	.65671	.60513	1.134	.63743	3.430			(Conc=50.0,50.0,50.0,50.0
chlorobenzene	1.12045	.91516	.78278	.84117	.72713	1.264	.87734	17.412			
chlorobenzene	1.14486	.93052	.79172	.85084	.72781	1.275	.88915	18.142			
o-Dichlorobenzene	1.01858	.84132	.71684	.78001	.66272	1.320	.80389	17.098			

RF - Response Factor (Subscript is amount in UG/L)

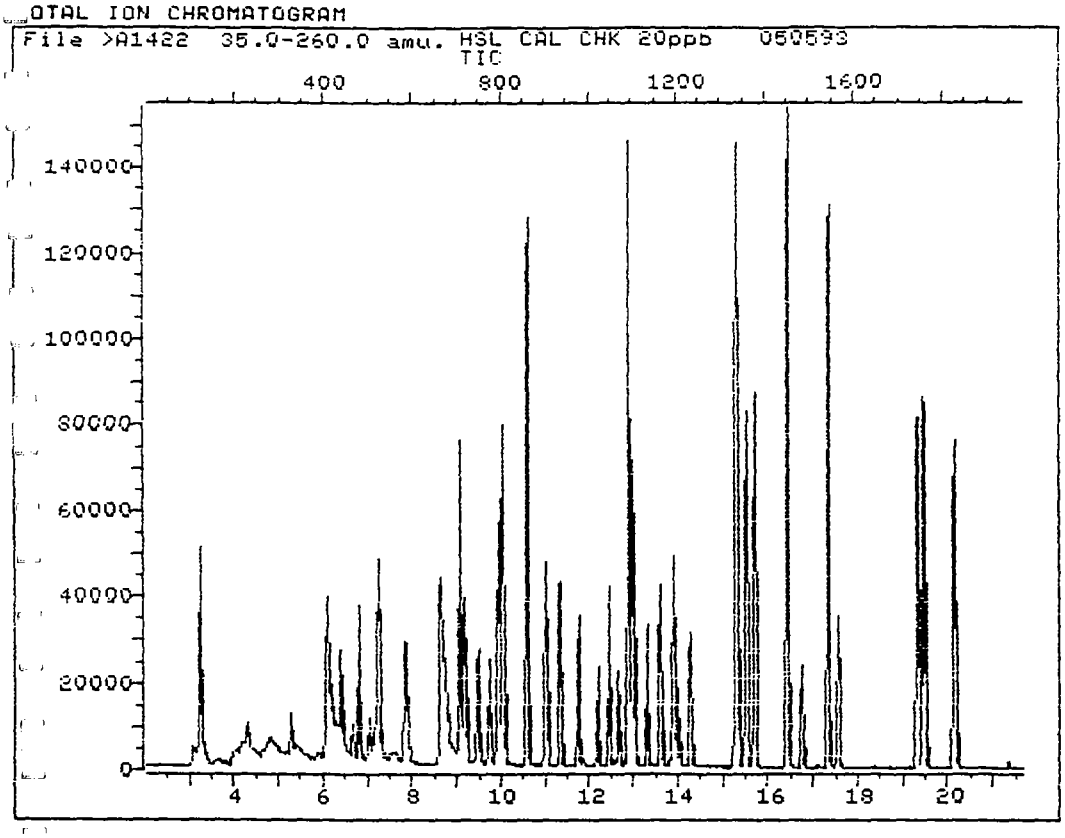
- Average Relative Retention Time (RT Std/RT Istd)

= - Average Response Factor

RSD - Percent Relative Standard Deviation

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

OTAL ION CHROMATOGRAM

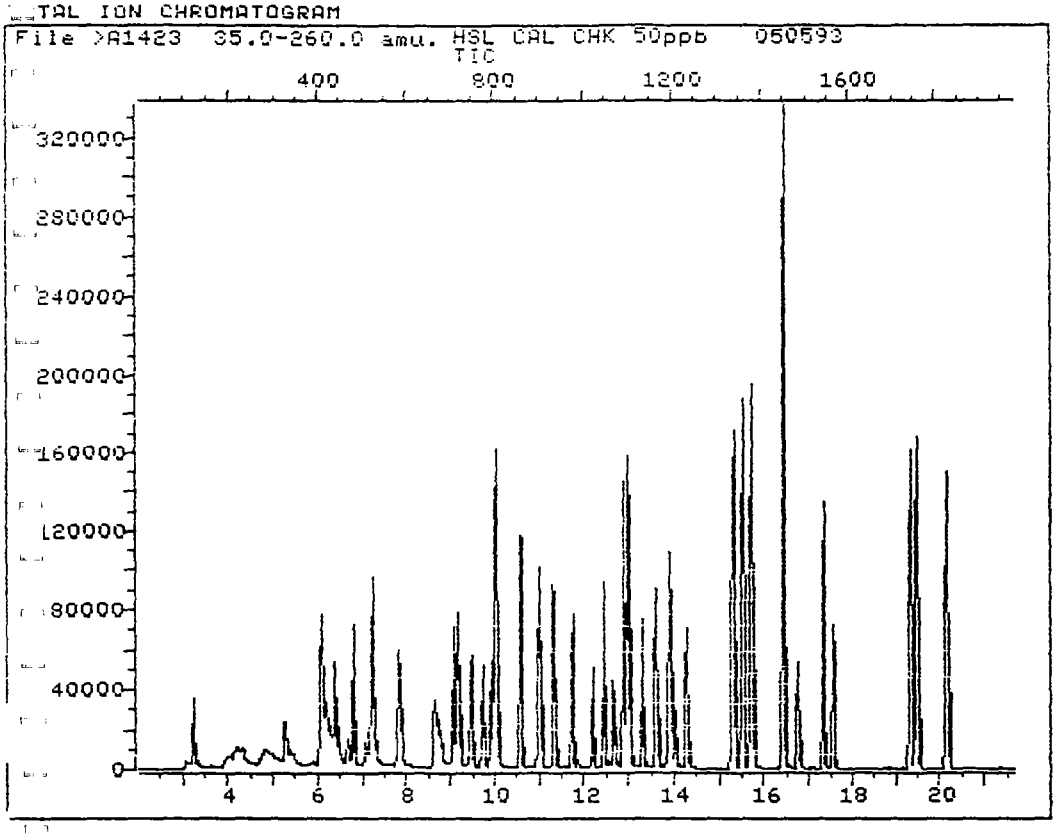


Data File: >A1422::D2 Quant Output File: ^A1422::D7
Name: HSL CAL CHK 20ppb
Misc: 050593 5ml

Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930430 14:33

Operator ID: GLENN
Quant Time: 930504 20:30
Injected at: 930504 19:29

TAL ION CHROMATOGRAM

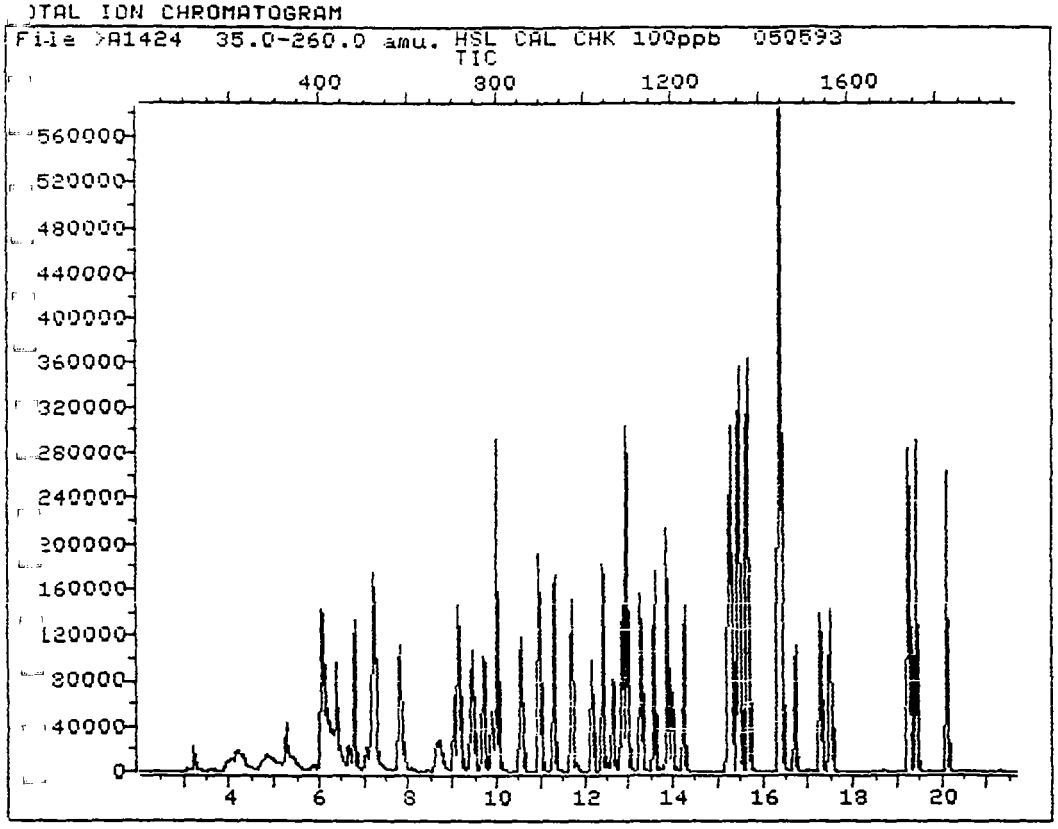


Data File: >A1423::D2 Quant Output File: ^A1423::D7
Name: HSL CAL CHK 50ppb
Misc: 050593 5ml

Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930430 14:33

Operator ID: GLENN
Quant Time: 930504 20:43
Injected at: 930504 20:08

)TAL ION CHROMATOGRAM

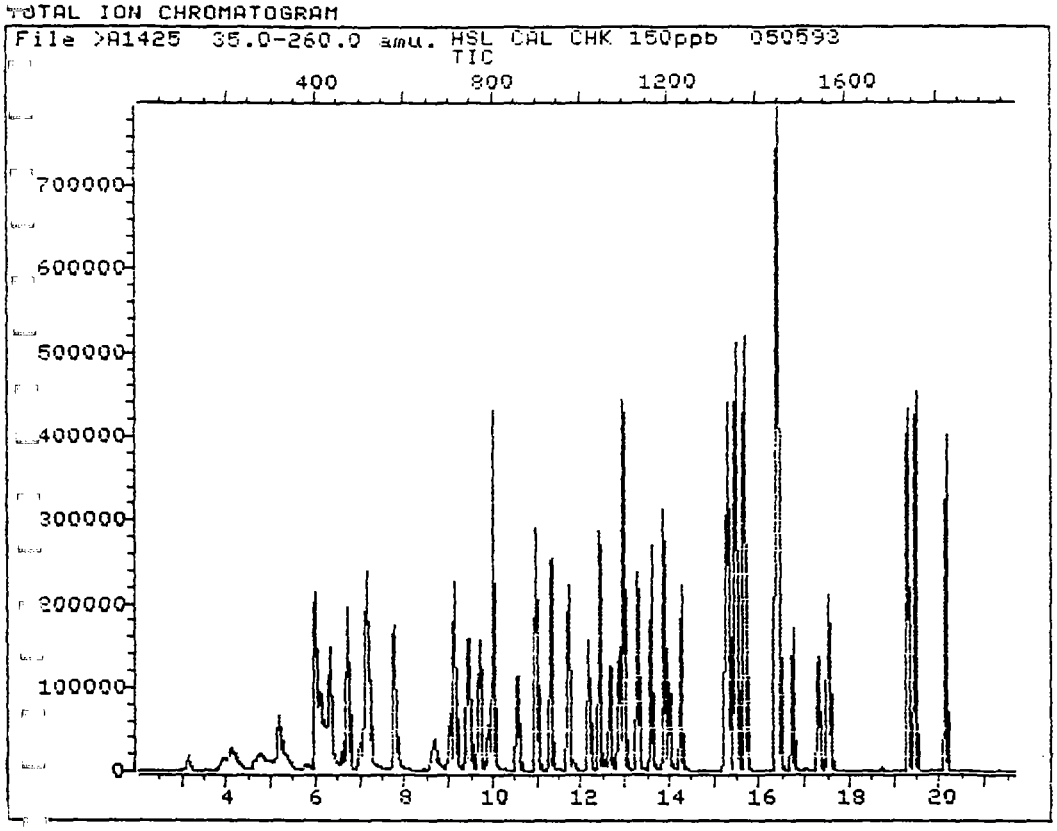


Data File: >A1424::D2 Quant Output File: ^A1424::D7
Name: HSL CAL CHK 100ppb
Misc: 050593 5ml

Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930430 14:33

Operator ID: GLENN
Quant Time: 930504 21:21
Injected at: 930504 20:50

TOTAL ION CHROMATOGRAM

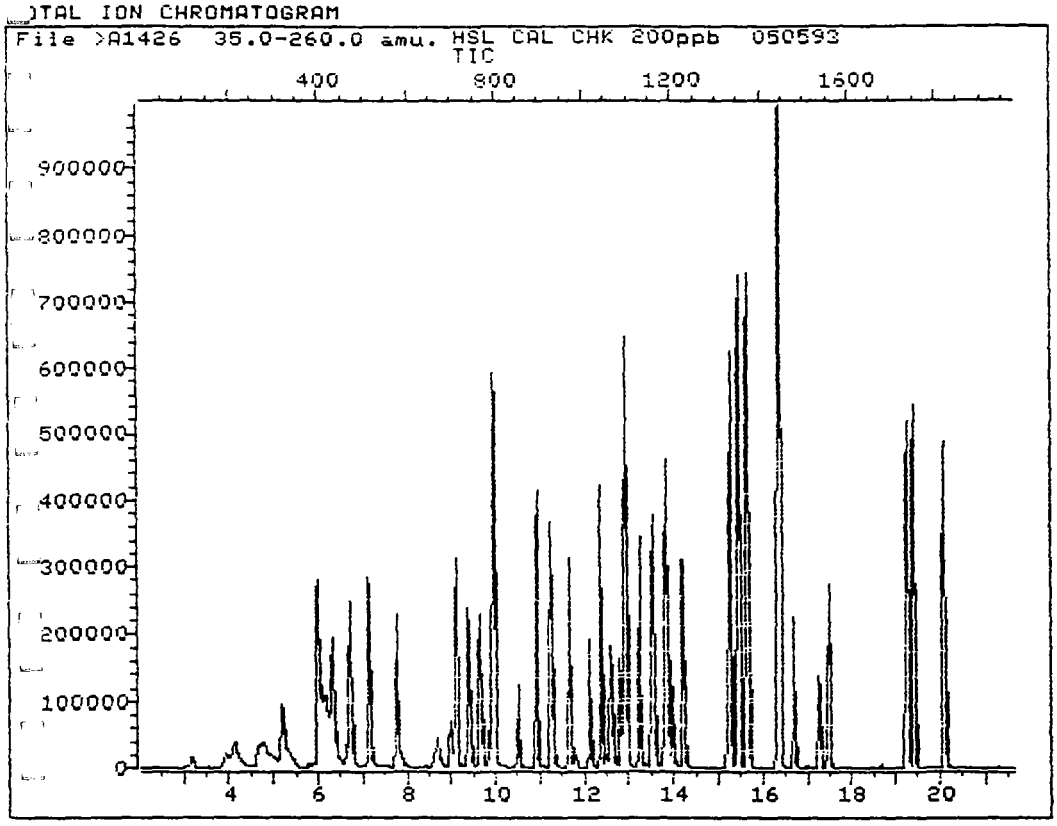


Data File: >A1425::D2 Quant Output File: ^A1425::D7
Name: HSL CAL CHK 150ppb
Misc: 050593 5ml

Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930430 14:33

Operator ID: GLENN
Quant Time: 930504 22:06
Injected at: 930504 21:36

)TAL ION CHROMATOGRAM

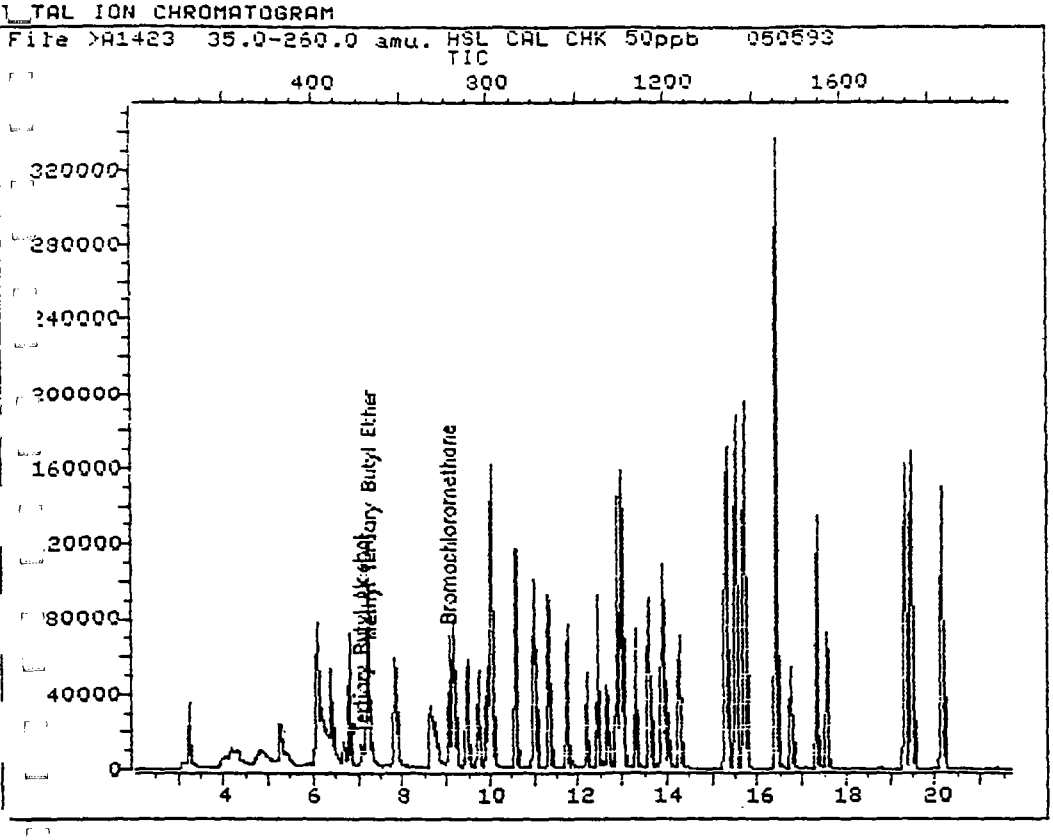


Data File: >A1426::D2 Quant Output File: ^A1426::D7
Name: HSL CAL CHK 200ppb
Misc: 050593 5ml

Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930430 14:33

Operator ID: GLENN
Quant Time: 930504 23:19
Injected at: 930504 22:49

TAL ION CHROMATOGRAM



Data File: >A1423::D2 Quant Output File: MA1423::QT
Name: HSL CAL CHK 50ppb
Misc: 050593 5ml

Id File: IDAUXA::M1
Title: INST A AUX. COMPOUNDS
Last Calibration: 930524 14:18

Operator ID: GLENN
Quant Time: 930524 14:18
Injected at: 930504 20:08

21ST CENTURY ENVIRONMENTAL INC.

GC/MS STANDARD DECAFLUOROTRIPHENYLPHOSPHINE(DFTPP) TUNE
CRITERIA FOR SEMIVOLATILES 50ng

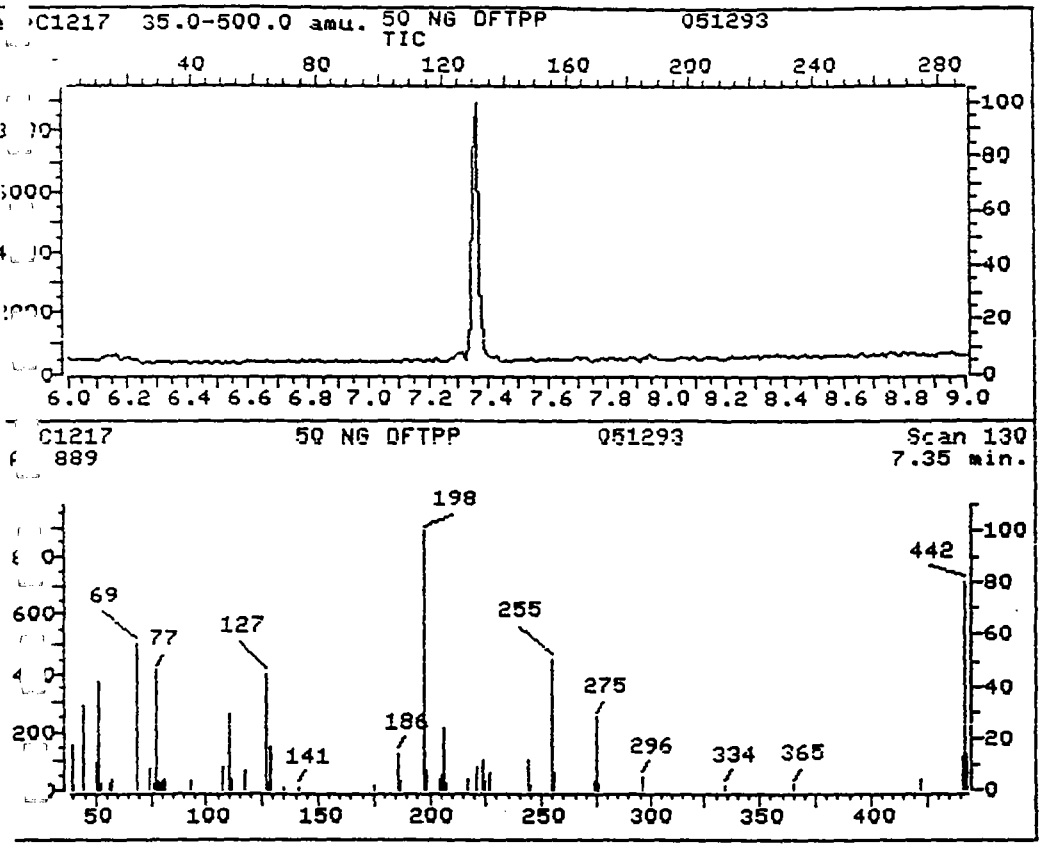
DATE AND TIME OF INJECTION: 5/12/93 5:21
INSTRUMENT ID: 5970

DATA RELEASE AUTHORIZED BY Richard W Lynch.

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	42.07	42.07	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	56.47	56.47	Ok
70	Less than 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	44.77	44.77	Ok
197	Less than 1% of mass 198	0.00	0.00	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	7.31	7.31	Ok
275	10-30% of mass 198	28.12	28.12	Ok
365	Greater than 1% of mass 198	2.25	2.25	Ok
441	0-100% of mass 443	13.27	92.19	Ok
442	Greater than 40% of mass 198	80.43	80.43	Ok
443	17-23% of mass 442	14.40	17.90	Ok

THIS PERFORMANCE AFFECTS ALL SAMPLES
STANDARDS AND BLANKS LISTED BELOW

SAMPLE ID		LAB ID		DATE	TIME
>C1217::E4		50 NG DFTPP		5/12/93	5:21
>C1218::D4		20 PPM BNA STD		5/12/93	5:54
>C1219::D4		50 PPM BNA STD		5/12/93	6:40
>C1220::D4		80 PPM BNA STD		5/12/93	7:27
>C1221::D4		120PPM BNA STD		5/12/93	8:13
>C1222::D4		160PPM BNA STD		5/12/93	9:00
>C1223::D3		AQ BLANK 050593		5/12/93	9:50
>C1224::D3		A1739 050593		5/12/93	10:37
>C1225::D3		A1740 050593		5/12/93	11:25
>C1226::D3		A1741 050593		5/12/93	12:12
>C1227::D3		A1743 050593		5/12/93	12:59
>C1228::D4		A1744 050593		5/12/93	13:47
>C1229::D4		A1745 050593		5/12/93	14:34
>C1231::D4		A1747 050593		5/12/93	16:10
>C1232::D4		A1748 050593		5/12/93	16:58



1217 50 NG DFTPP 051293
130 NRM

: >C1217 Scan #: 130 Retn. time: 7.35

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
10	6.074	77.00	46.344	128.00	2.362	205.95	24.184	273.85	3.487
0.00	17.210	78.00	3.712	129.00	16.873	206.95	2.250	274.95	28.121
05	32.171	78.90	2.362	134.85	1.125	216.80	4.162	275.75	2.362
05	10.461	80.00	3.037	140.85	1.237	220.90	8.886	275.95	2.362
1.05	42.070	81.10	4.162	174.90	1.575	223.95	11.249	295.95	5.174
00	2.362	93.05	3.600	185.95	14.398	224.85	3.037	333.80	1.800
00	2.475	107.00	9.449	186.95	3.150	226.85	6.974	364.95	2.250
7.10	4.049	109.95	28.909	197.90	100.000	243.90	11.699	422.80	3.937
8.95	56.468	111.05	3.937	198.90	7.312	244.80	1.350	440.90	13.273
00	8.549	116.85	7.199	204.05	3.825	254.95	50.619	441.90	80.427
0	2.700	126.90	44.769	204.85	5.737	255.85	6.412	442.90	14.398

Initial Calibration Data
HSL Compounds

a No: Instrument ID: 5970C

Contractor: 21st Century Envir Calibration Date: 05/12/93

ract No:

Minimum $\overline{RF}$ for SPCC is 0.050 Maximum % RSD for CCC is 30%

Laboratory ID:	>C1218	>C1219	>C1220	>C1221	>C1222					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
yridine	.95064	.64838	.70685	.78983	.75089	.342	.76932	14.845		
-N trosodimethylamine	.64720	.53782	.55720	.57105	.55986	.347	.57463	7.361		
2-Fluorophenol	.69645	.60468	.64230	.65136	.40149	.696	.59926	19.236		(Conc=100.0,100.0,100.0,1
henol-d5	.95712	.83604	.88140	.88802	.55128	.950	.82277	19.181		(Conc=100.0,100.0,100.0,1
ie ol	1.25440	1.07821	1.07148	1.15453	.99780	.953	1.11128	8.760	*	
bis-2-Chloroethyl)Ether	1.05172	.85004	.80922	.82288	.77128	.956	.86103	12.812		
2-Chlorophenol	.95296	.80247	.78941	.82251	.74567	.959	.82260	9.498		
,3 Dichlorobenzene	1.05358	.86950	.85676	.86740	.80672	.989	.89079	10.609		
,4 Dichlorobenzene	1.04250	.87268	.84508	.87121	.79637	1.005	.88557	10.502	*	
Benzyl Alcohol	.15170	.36992	.39274	.43214	.49305	1.058	.36791	35.218		
,2-Dichlorobenzene	1.01448	.83237	.82426	.82355	.75497	1.050	.84993	11.431		
M hylphenol	.88422	.74231	.72403	.73933	.68989	1.098	.75596	9.876		
bis2-Chloroisopropyl)ether	1.27189	1.08396	1.07318	1.14459	1.16993	1.096	1.14871	6.956		
Methylphenol	1.78301	1.51777	1.51128	1.52526	1.46997	1.142	1.56146	8.049		
N roso-Di-n-propylamine	.79836	.69877	.66109	.45215	.75319	1.139	.67271	19.906	**	
ex hloroethane	.48302	.39985	.38312	.39036	.36161	1.128	.40359	11.541		
litrobenzene-d5	.45791	.44555	.42627	.48353	.47059	.867	.45677	4.852		(Conc=50.0,50.0,50.0,50.0
t benzene	.50725	.49686	.50103	.51495	.49128	.871	.50227	1.828		
o orone	1.02080	1.01423	1.02846	1.10308	1.07161	.921	1.04763	3.651		
-Nitrophenol	.23300	.23257	.24024	.26324	.25018	.933	.24385	5.323	*	
4-Dimethylphenol	.34230	.34661	.32576	.35279	.34755	.956	.34300	3.013		
n ic Acid	.07821	.17978	.21739	.27461	.29808	1.000	.20961	41.500		
is-2-Chloroethoxy)Methane	.53276	.50569	.50931	.52201	.50957	.972	.51587	2.188		
4-Dichlorophenol	.36342	.36204	.36989	.38667	.36376	.983	.36916	2.776	*	
2 -Trichlorobenzene	.45944	.42179	.41886	.41765	.40494	.994	.42454	4.841		
ap halene	1.22342	1.11079	1.10839	1.06455	1.02356	1.004	1.10614	6.755		
-Chloroaniline	.50900	.50055	.52164	.53671	.51323	1.026	.51623	2.663		
x hlorobutadiene	.24041	.22212	.21724	.21325	.20534	1.045	.21967	5.974	*	
Cl oro-3-methylphenol	.35981	.36608	.38623	.42233	.38444	1.131	.38378	6.357	*	
-Methylnaphthalene	.81450	.74449	.72472	.74706	.70497	1.141	.74715	5.529		

F - Response Factor (Subscript is amount in ug/l)

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

F - Average Response Factor

SD - Percent Relative Standard Deviation

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

00071

Initial Calibration Data
HSL Compounds

Ca No: Instrument ID: 5970C

Contractor: 21st Century Envir Calibration Date: 05/12/93

Co ract No:

Minimum $\overline{RF}$ for SPCC is 0.050 Maximum % RSD for CCC is 30%

Laboratory ID:	>C1218	>C1219	>C1220	>C1221	>C1222						
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC	
lexachlorocyclopentadiene	.39151	.46414	.46717	.47970	.47671	.881	.45584	8.016		**	
, 5-Trichlorophenol	.45778	.43602	.44216	.47732	.46175	.895	.45501	3.606	*		
2,4,5-Trichlorophenol	.43766	.50018	.47899	.52676	.50488	.901	.48969	6.877			
-Chloronaphthalene	1.57233	1.45204	1.38261	1.35533	1.31578	.917	1.41562	7.115			
-F lorobiphenyl	1.43156	1.41266	1.31394	1.48063	1.46113	.907	1.41999	4.564			(Conc=50.0,50.0,50.0,50.0
2-N roaniline	.43962	.45588	.45948	.48248	.46497	.941	.46049	3.367			
Dimethyl Phthalate	1.59252	1.44168	1.30964	1.23267	1.15254	.978	1.34581	12.951			
ce phthylene	2.18694	1.91433	1.83733	1.76173	1.67194	.977	1.87445	10.479			
-N roaniline	.26515	.27190	.27689	.25678	.22680	1.003	.25950	7.621			
Acenaphthene	1.42432	1.27791	1.22020	1.20542	1.13348	1.005	1.25226	8.710	*		
,4-Dinitrophenol	.04246	.08148	.10744	.14462	.14209	1.017	.10362	41.527		**	
-N rophenol	.14275	.18091	.17304	.23121	.20200	1.036	.18598	17.761		**	
Dibenzofuran	1.92072	1.80092	1.73711	1.68665	1.63372	1.029	1.75582	6.321			
,4-Dinitrotoluene	.45816	.47103	.45064	.44085	.38019	1.041	.44018	8.019			
,6 initrotoluene	.39819	.39693	.39057	.38295	.36646	.985	.38702	3.356			
ie ylphthalate	1.53120	1.39461	1.25962	1.10875	.98386	1.082	1.25561	17.390			
-Chlorophenyl-phenylether	.74259	.68675	.64004	.60854	.56027	1.084	.64764	10.854			
lu ene	1.47918	1.35617	1.30624	1.25808	1.14990	1.079	1.30991	9.279			
-N roaniline	.21378	.23351	.24516	.23006	.20243	1.094	.22499	7.504			
,6-Dinitro-2-methylphenol	.07311	.12130	.14410	.16115	.15761	.906	.13145	27.514			
-Nitrosodiphenylamine	.61799	.57889	.55821	.57360	.57124	.910	.57999	3.891	*		
,4 -Tribromophenol	.11455	.10954	.12007	.12575	.13866	.921	.12171	9.238			(Conc=100.0,100.0,100.0,1
-Bromophenyl-phenylether	.29735	.28966	.27853	.29815	.30277	.951	.29329	3.240			
exachlorobenzene	.19803	.19372	.18762	.19920	.19722	.965	.19516	2.399	*		
nt chlorophenol	.08627	.12133	.13879	.16337	.15611	.988	.13318	23.172		**	
ier nthrene	1.27230	1.21065	1.16084	1.17708	1.15328	1.003	1.19483	4.068			
nthracene	1.21853	1.19975	1.16166	1.16080	1.12871	1.009	1.17389	3.019			
-n-Butylphthalate	1.27637	1.29383	1.16188	1.03367	1.01134	1.089	1.15542	11.401			
uc nthene	.93188	.85140	.79458	.71195	.66155	1.147	.79027	13.645	*		
yrene	2.23787	2.50106	2.42593	2.33823	2.08397	.888	2.31741	7.050			

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

$\overline{RT}$ - 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 (**)

00072

Initial Calibration Data
HSL Compounds

ise No: Instrument ID: 5970C

Contractor: 21st Century Envir Calibration Date: 05/12/93

ntract No:

Minimum $\overline{RF}$ for SPCC is 0.050 Maximum % RSD for CCC is 30%

Laboratory ID:	>C1218	>C1219	>C1220	>C1221	>C1222						
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC	
nzidine	.32552	.44636	.49666	.46554	.45305	.884	.43743	14.968			
rphenyl-d14	1.40928	1.58928	1.42238	1.46922	1.37659	.908	1.45335	5.707			(Conc=50.0,50.0,50.0,50.0
Butylbenzylphthalate	.56136	.67529	.69935	.73915	.78391	.960	.69181	12.109			
3.3'-Dichlorobenzidine	.23063	.24408	.29161	.32646	.32851	1.001	.28426	16.009			
nzo(a)Anthracene	1.19345	1.24549	1.25713	1.32636	1.32029	.999	1.26855	4.375			
s(2-Ethylhexyl)Phthalate	.56060	.65444	.80334	.93352	1.00645	1.017	.79167	23.514			
Chrysene	1.09561	1.10941	1.11609	1.14030	1.15241	1.002	1.12276	2.063			
n-octyl phthalate	1.18596	1.45226	1.64562	1.83291	1.99110	.954	1.62157	19.507	*		
nzo(b)fluoranthene	1.46036	1.47967	1.33243	1.51522	1.37028	.974	1.43159	5.380			
Benzo(k)Fluoranthene	1.27093	1.22087	1.21697	1.23475	1.32065	.976	1.25284	3.470			
nzo(a)Pyrene	1.16047	1.15470	1.17595	1.23068	1.25596	.996	1.19555	3.779	*		
eno(1,2,3-cd)Pyrene	.88489	.92959	1.12204	1.30463	1.26135	1.071	1.10050	17.223			
Dibenzo(a,h)Anthracene	.66566	.73840	.90541	1.05994	1.04766	1.073	.88342	20.175			
Benzo(g,h,i)Perylene	.77940	.78175	.91787	1.06478	1.05852	1.089	.92046	15.271			

RF - Response Factor (Subscript is amount in ug/l)

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

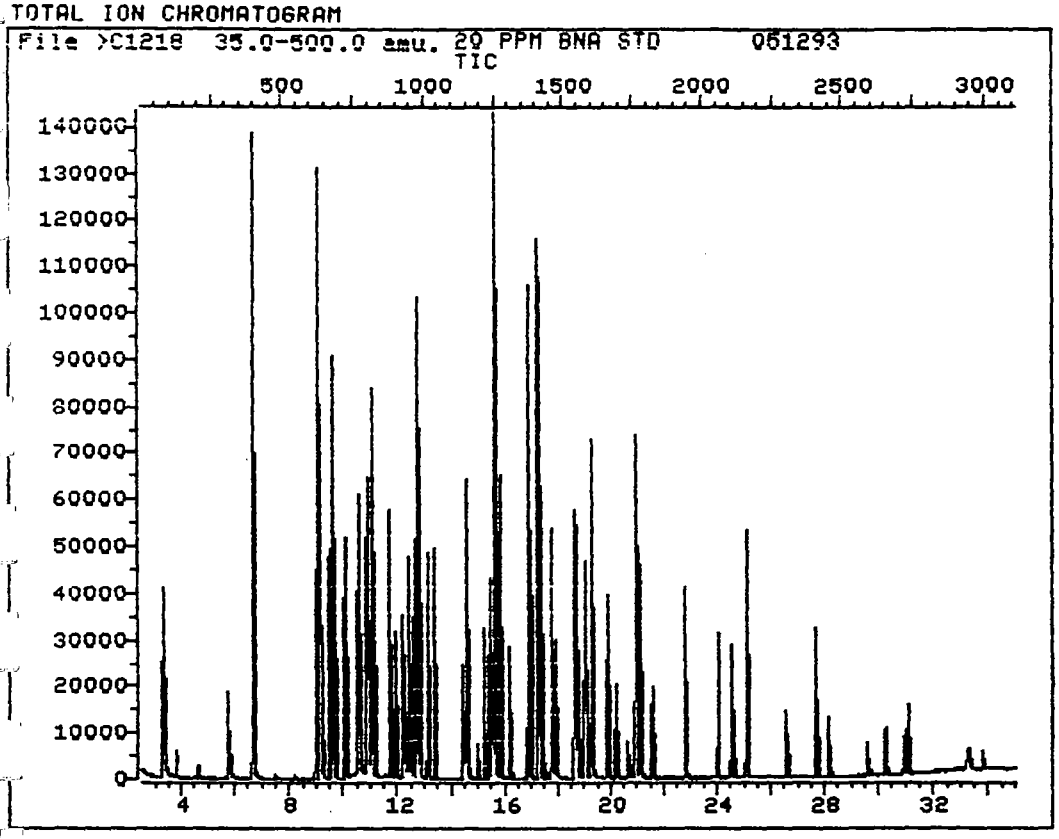
$\overline{RF}$ - Average Response Factor

%R - Percent Relative Standard Deviation

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

00073

TOTAL ION CHROMATOGRAM

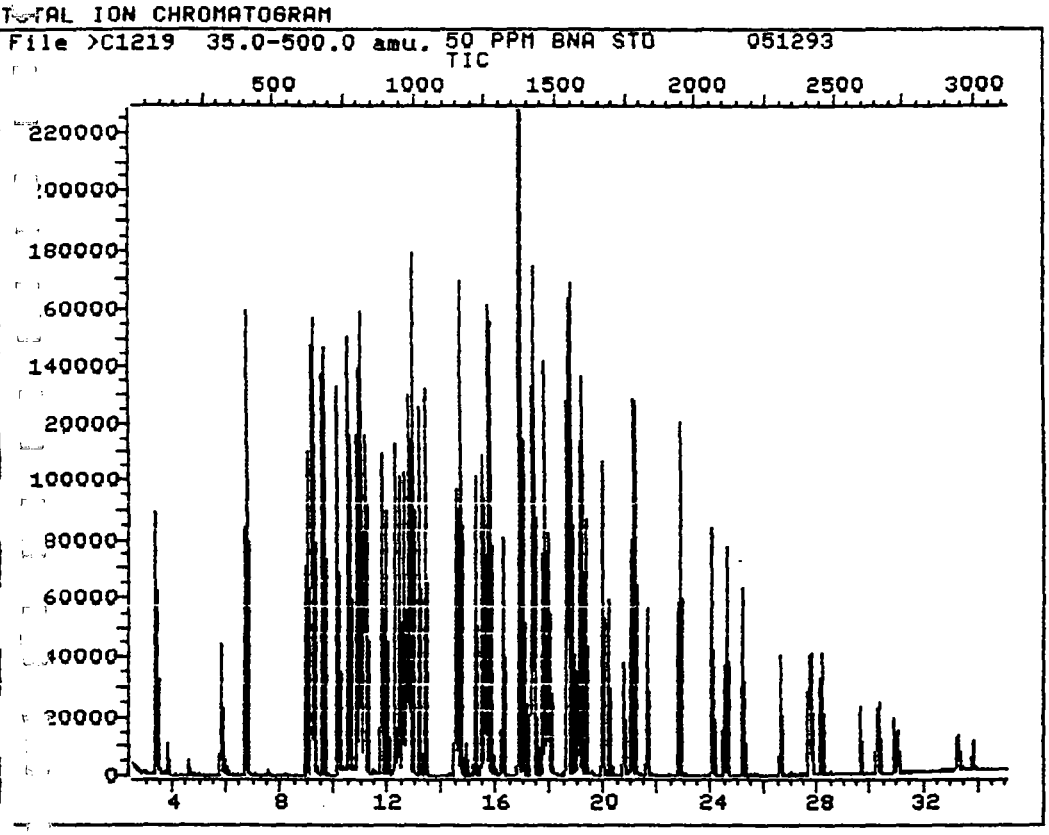


Data File: >C1218::D4 Quant Output File: ^C1218::ED
Name: 20 PPM BNA STD
Misc: 051293 BTL# 1

Id File: IDHSLC::D3
Title: hSL BNA STD
Last Calibration: 930511 10:26

Operator ID: JEFF
Quant Time: 930512 06:37
Injected at: 930512 05:54

TOTAL ION CHROMATOGRAM

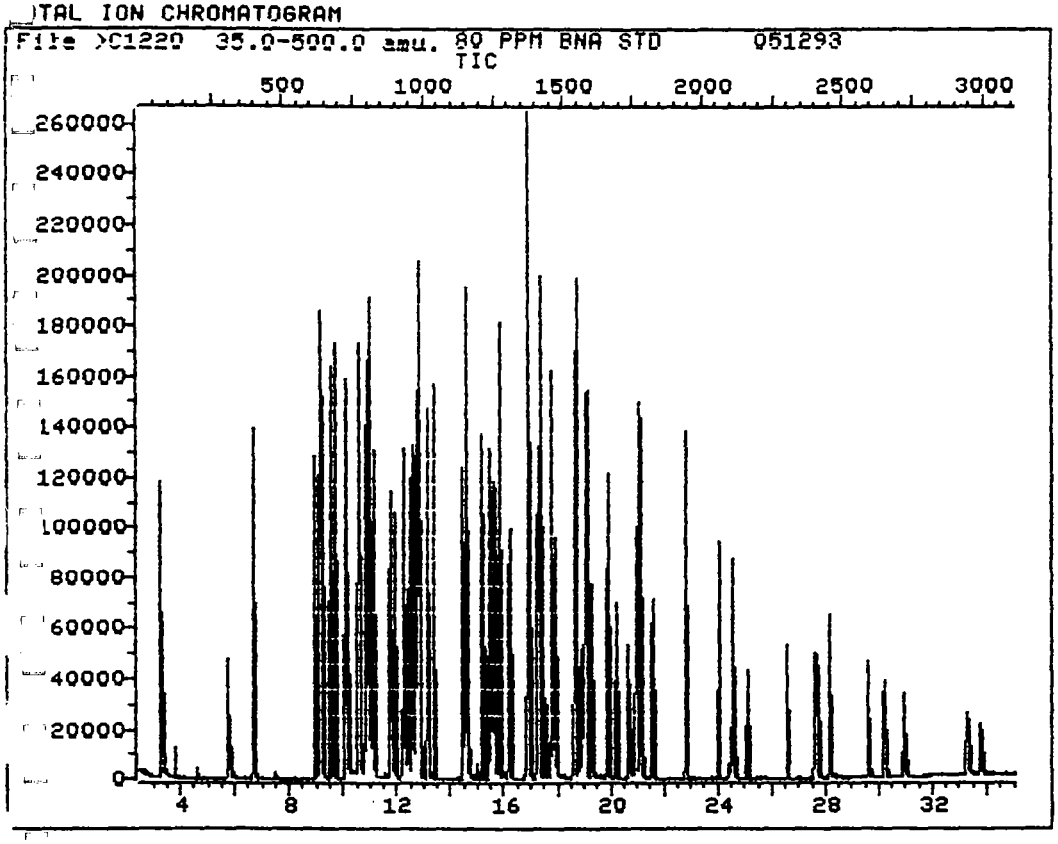


Data File: >C1219::D4 Quant Output File: ^C1219::ED
Name: 50 PPM BNA STD
Misc: 051293 BTL# 2

Id File: IDHSLC::D3
Title: hSL BNA STD
Last Calibration: 930511 10:26

Operator ID: JEFF
Quant Time: 930512 07:18
Injected at: 930512 06:40

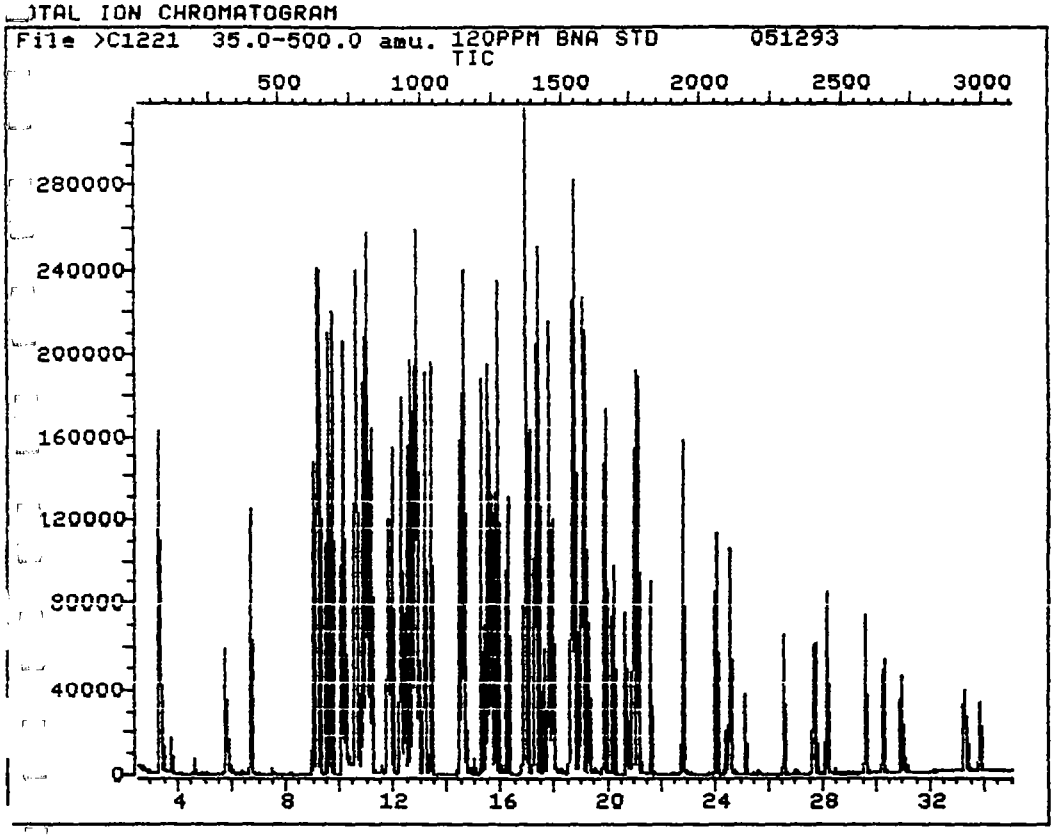
)TAL ION CHROMATOGRAM



Data File: >C1220::D4 Quant Output File: ^C1220::QT
Name: 80 PPM BNA STD
Misc: 051293 BTL# 3

Id File: IDHSLC::D3
Title: hSL BNA STD
Last Calibration: 930511 10:26

Operator ID: JEFF
Quant Time: 930512 08:06
Injected at: 930512 07:27

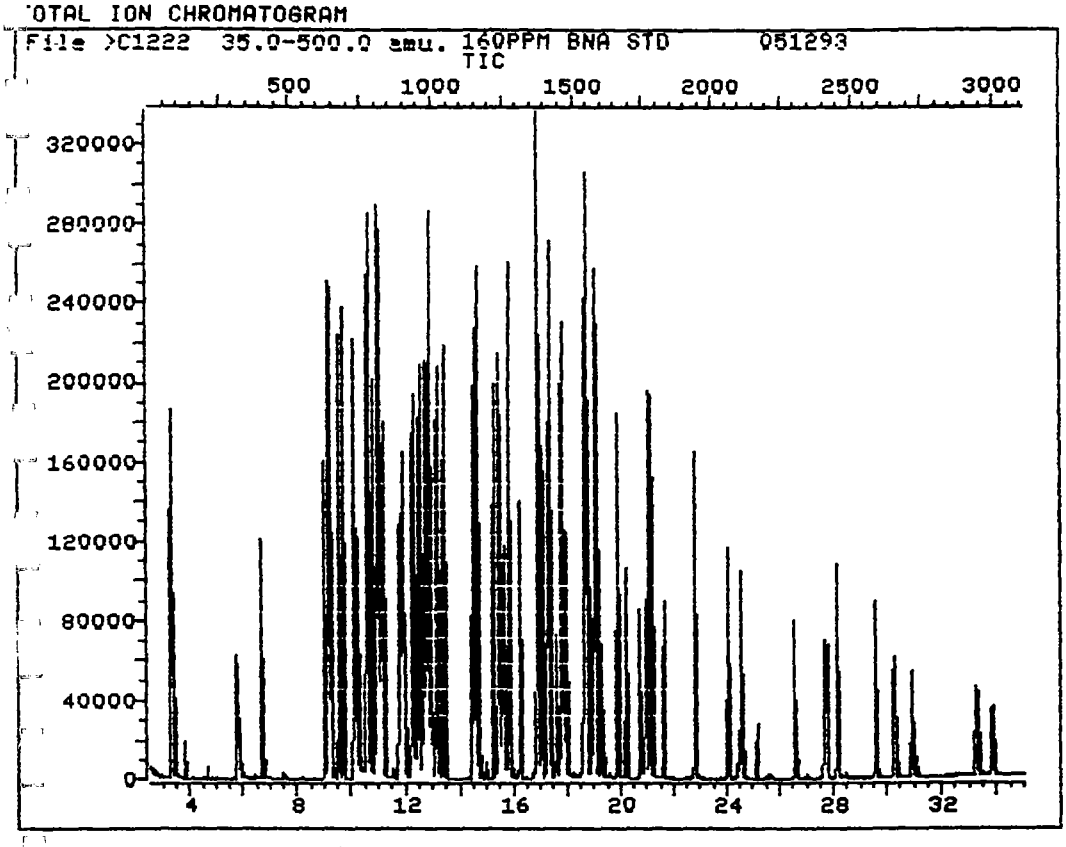


Data File: >C1221::D4 Quant Output File: ^C1221::ED
Name: 120PPM BNA STD
Misc: 051293 BTL# 4

Id File: IDHSLC::D3
Title: hSL BNA STD
Last Calibration: 930511 10:26

Operator ID: JEFF
Quant Time: 930512 08:51
Injected at: 930512 08:13

'OTAL ION CHROMATOGRAM



Data File: >C1222::D4 Quant Output File: ^C1222::ED
Name: 160PPM BNA STD
Misc: 051293 BTL# 5

Id File: IDHSLC::D3
Title: hSL BNA STD
Last Calibration: 930511 10:26

Operator ID: JEFF
Quant Time: 930512 09:38
Injected at: 930512 09:00

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: 21st Century Environmental Inc. Contract No.:

Lab Code: Case No: SAS No.: SDG No.:

LAB ID FILE (BLANK): >A1428 DATE ANALYZED: 05/05/93

INSTRUMENT ID: A TIME ANALYZED: 01:06

Matrix: WATER Level:(low/med) LOW Column:(pack/cap)

Sample ID: BLANK

THIS BLANK APPLIES TO THE FOLLOWING SAMPLES,MS AND MSD

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	A1741	>A1429	05/05/93	02:22
2	A1742	>A1430	05/05/93	02:58
3	A1739	>A1431	05/05/93	03:37
4	A1740	>A1432	05/05/93	04:11
5	A1744	>A1433	05/05/93	04:46
6				
7				
8				
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25				

COMMENTS: _____

_____

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER		MATRIX	Water
SAMPLE NUMBER	BLANK	DILUTION FACTOR	1.00
CLIENT ID	050593 METHOD BLANK	QA BATCH	
DATA FILE	>A1428	DATE ANALYZED	05/05/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	ND	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	1.3 J	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	101	76 - 114	OK
Toluene-d8	97.5	88 - 110	OK
Bromofluorobenzene	102	86 - 115	OK

(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

EPA SAMPLE NO.

BLANK

Lab Name:21st Century Environmental Contract:N/A

) Code: Case No.: N/A SAS No.: N/A SDG No.: N/A

atrix: (soil/water) WATER Lab Sample ID: BLANK

ple wt/vol: 5 (g/mL) mL Lab File ID: >A1428

vel: (low/med) LOW Date Received: NA

% Moisture: NA Date Analyzed: 05/05/93

umn: DB-624 Dilution Factor: 1

mber TICs found: 0 CONCENTRATION UNITS
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	No Unknowns			

FORM I VOA-TIC 1/87 Rev.

QUANT REPORT

d ID: GLENN Quant Rev: 6 Quant Time: 930505 01:37
ile: ^A1428::D7 Injected at: 930505 01:06
ile: >A1428::D2 Dilution Factor: 1.00000
BLANK
0593 METHOD BLANK 5ml

e: ID0127::M1
SEPA 624 VOLATILES
Calibration: 930505 00:43

Compound	R.T.	Scan#	Area	Conc	Units	q
Bromochloromethane	9.02	697	37660	50.00	UG/L	100
Methylene Chloride	6.75	468	2230	1.30	UG/L	69
, -Dichloroethane-d4	9.88	784	73598	50.63	UG/L	100
,4-Difluorobenzene	10.53	850	189667	50.00	UG/L	100
Toluene-d8	12.83	1082	190104	48.77	UG/L	100
Chlorobenzene-d5	15.22	1323	157483	50.00	UG/L	100
Bromofluorobenzene	17.27	1530	104356	51.24	UG/L	100

mpound is ISTD

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

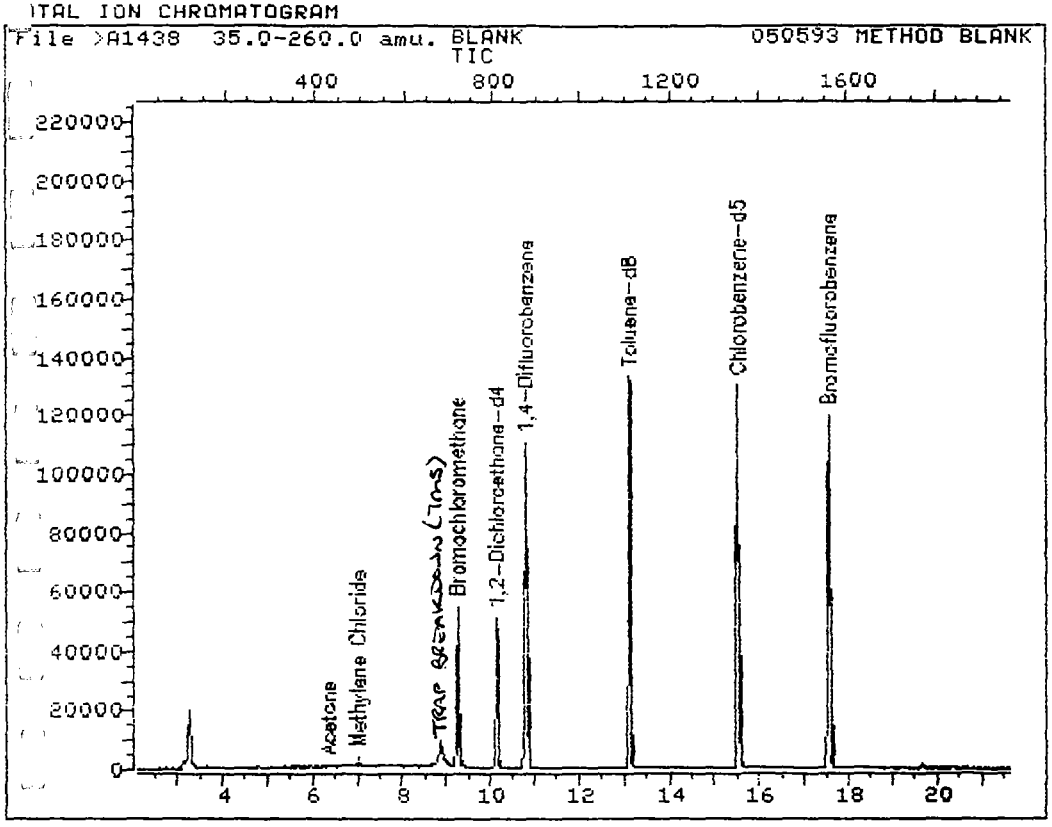
JOB NUMBER		MATRIX	Water
SAMPLE NUMBER	BLANK	DILUTION FACTOR	1.00
CLIENT ID	050593 METHOD BLANK	QA BATCH	
DATA FILE	>A1438	DATE ANALYZED	05/05/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	2.9 J	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	2.2 J	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	95.0	76 - 114	OK
Toluene-d8	96.2	88 - 110	OK
Bromofluorobenzene	96.1	86 - 115	OK

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

ITAL ION CHROMATOGRAM



Data File: >A1438::D2 Quant Output File: ^A1438::D7
Name: BLANK
Misc: 050593 METHOD BLANK 5ml

Id File: ID0127::M1
Title: USEPA 624 VOLATILES
Last Calibration: 930505 20:24

Operator ID: GLENN
Quant Time: 930505 20:25
Injected at: 930505 19:54

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: 21st Century Environmental Contract No.:

Lab Code: Case No: SAS No.: SDG No.:

LAB ID FILE (BLANK): >C1223 DATE ANALYZED: 05/12/93

INSTRUMENT ID: C TIME ANALYZED: 09:50

Matrix: WATER Level:(low/med) LOW Column:(pack/cap)

Date Extracted: 05/05/93 Extraction:(Sepf/Cont/Sonc) SEPF

Sample ID: AQ BLANK

THIS BLANK APPLIES TO THE FOLLOWING SAMPLES,MS AND MSD

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	A1743	>C1227	05/12/93	12:59
2	A1744	>C1228	05/12/93	13:47
3				
4				
5				
6				
7				
8				
9				
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11				
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23				
24				
25				

COMMENTS: _____

21ST CENTURY Environmental
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER	US ARMY, FT. MONMOUTH, NJ	MATRIX	Water
SAMPLE NUMBER	AQ BLANK 05/05/93	DILUTION FACTOR	1.00
CLIENT ID	BLDG T-65	QA BATCH	NJDEP 90-6-16-1303
DATA FILE	>C1223	DATE ANALYZED	05/12/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenlyether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	ND	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	ND	10
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

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

E1

EPA SAMPLE NUMBER

semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BLDG T-65
AQ BLNK

Client: US Army, Ft. Monmouth, NJ

NJDEP No. 90-6-16-1303

Matrix: (soil/water) WATER

Lab Sample ID: AQ BLNK

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

Lab File ID: >C1223

Level: LOW

Date Received: 05/05/93

% Moisture: 100

Date Analyzed 05/12/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 05/05/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 0

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

CAS NUMBER	COMPOUND NAME	RT	EST CONC
	NO UNKNOWN COMPOUNDS IDENTIFIED		

QUANT REPORT

ator ID: JEFF Quant Rev: 6 Quant Time: 930512 10:28
tput File: ^C1223::ED Injected at: 930512 09:50
ta File: >C1223::D3 Dilution Factor: 1.00000
m AQ BLANK 050593
s 051293 1000ML/1.0ML BTL# 1

File: IDHSLC::D3
: hSL BNA STD
st Calibration: 930512 10:19

	Compound	R.T.	Scan#	Area	Conc	Units	q
)	*d4-1,4-Dichlorobenzene	9.60	674	40638	40.00	UG/L	95
)	2-Fluorophenol	6.68	394	37573	61.71	UG/L	98
)	Phenol-d5	9.08	624	43485	52.02	UG/L	82
)	*d8-Naphthalene	12.77	978	87554	40.00	UG/L	87
)	Nitrobenzene-d5	11.07	815	34564	34.57	UG/L	92
)	d10-Acenaphthene	17.24	1406	48672	40.00	UG/L	94
)	2-Fluorobiphenyl	15.63	1252	59974	34.71	UG/L	93
)	*d10-Phenanthrene	20.93	1760	57561	40.00	UG/L	98
)	2,4,6-Tribromophenol	19.26	1600	14583	83.26	UG/L	98
)	d12-Chrysene	27.65	2404	23200	40.00	UG/L	98
)	Terphenyl-d14	25.11	2160	34940	41.45	UG/L	89
)	d12-Perylene	31.01	2726	13364	40.00	UG/L	92

Compound is ISTD