SITE INSPECTION PRIORITIZATION REPORT
JOHN HASSALL
WESTBURY, NASSAU COUNTY, NEW YORK

CERCLIS ID No.: NYD002045417

Prepared by:
Region 2 Site Assessment Team
Weston Solutions, Inc.
Edison, New Jersey

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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March 2005

SUBMITTED BY:

Daniel J. Gaughan
SAT Project Manager

Date 3/24/05

W. Scott Butterfield, CHMM
SAT Program Manager

Date 3/24/05

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Guidance for Performing Site Inspections Under CERCLA Draft Publication 9345.1-0

Rereviewed: 11/9/93
Recommend: L
G. Ferreira

Report No.: 8002-06-4
Work Assignment No.: 019-2JZZ
Contract No.: 68-WP-0051
June 30, 1992
Updated: March 11, 1993
Volume 1 of 3

Ms. Sandra Foose
Pre - Remedial Assistant WAM
Environmental Services Division
U.S. Environmental Protection Agency
Region II
Edison, NJ 08837

RE: John Hassall Inc. Site Inspection Prioritization Evaluation

Dear Ms. Foose:

The following is a summary of the Site Inspection Prioritization Evaluation of John Hassall Inc., Cantiague Rock Road, Westbury, New York (CERCLIS No. NYD002045417) (Ref. No. 1).

General Description and Site History

John Hassall Inc. is an active manufacturing facility for specialty nails and fasteners located on Cantiague Rock Road, Westbury Township, Nassau County, New York. The site is situated in an industrial area between the Long Island Expressway (LIE) and the Northern State Parkway. The industrial area is situated within densely populated areas of Oyster Bay Township, and the adjacent townships of North Hempstead and Hempstead (Ref. Nos. 1; 23; 28, p. 2). The property consists of a main production manufacturing building, spec-com building, treatment buildings, warehouse and shed on approximately 7.5 acres of property. The areas of concern are the recharge basin and the underground storage tanks located adjacent to the treatment building (Ref. Nos. 5; 20; 24; 28, p. 10).

Wastewater from process solutions, and rinse solutions from deburring, burnishing, and cleaning operations were discharged into the on-site recharge basin. The recharge basin is constructed of existing soils and is approximately 60 feet long, 85 feet wide, and 10 feet deep (5,100 feet^3). Wastewaters discharged into the basin from the plating room contained solutions of metals, cyanide, solvents, and oils and grease. Cyanide use was discontinued, and a treatment system was installed to pre-treat wastewaters prior to discharge into the recharge basin in 1974. Wastewater discharge into the basin was discontinued in 1982, after John Hassall Inc. connected to the Nassau County Sewer System. John Hassall Inc. has monitored wastewater effluent compounds and constituents prior to discharge since approximately 1975. Historical analysis conducted for NCHD and NYSDEC by a New York State approved laboratory indicated levels of total chromium, copper, nickel, iron and oils and grease, which exceeded SPEDES permit limitations on a number of occasions during the seven year period of monitoring (Ref. Nos. 2; 20; 28, p. 4).

John Hassall Inc. uses 14 tanks for on-site treatment of wastewaters prior to discharge. Historical information indicates the eleven underground storage tanks (UST's) were installed in approximately 1975 and treated wastewaters containing nickel, chromium, iron, copper, emulsified oils and solvents. These tanks have a storage capacity of 1,000 - 10,000 gallons (Ref. Nos. 5; 9). A spill of approximately 50 - 100 gallons of oil and grease contaminated wastewater occurred from one of these tanks in December 1987. Soils in the immediate area of the spill were removed and replaced with fresh fill (Ref. No. 28, p. 4). On July 25, 1988 eight of the UST's failed tank pressure testing (Ref. No. 6). Further examination by John Hassall Inc. indicated interconnections between four of the tanks however tank numbers 5, 7, 8 and 11 were found to be unserviceable are being removed (Ref. Nos. 5; 6; 7; 8; 9). The unserviceable tanks contained approximately 31,000 gallons of nickel, chromium, iron, copper, emulsified oils and solvent contaminated

wastewaters (Ref. No. 9). Excavation and removal of the UST's began in approximately March 1989 and is currently in progress (Ref. Nos. 2; 3; 9). NCHD has confirmed contamination in subsurface soils to a depth of approximately 25 feet for the site. Presently, investigations are continuing to determine the extent of contamination and probable migration into the aquifer (Ref. No. 2).

Evaluation of Existing Information

Existing information from the 1988 site inspection report and the supporting documentation file were used to conduct the evaluation. Analytical data for the site inspection was based upon Contract Laboratory Program (CLP) data which included the analysis of one background soil sample and seven surface sediment samples (Ref. No. 28, p. 21).

Site inspection sampling efforts focused upon the constituent contamination and compounds contained in sediment soils from the recharge basin. Analytical results indicate levels of inorganics which are significantly greater than levels found in background soils. Volatile compounds trichloroethane, toluene, benzoic acid, and non-naturally occurring poly chlorobiphenyls (PCB's), Aroclor 1260 and Aroclor 1254 were found in surface sediment samples but not in background soil samples (Ref. Nos. 4; 28, p. 21).

Additional analytical data has been included from site investigations conducted on July 15 - 18, 1991 by Diversified Environmental Resources for John Hassall Inc. and the Nassau County Health Department. The additional data has been reviewed for Contract Laboratory Program (CLP) equivalent criteria. A data validation report for the historical data is contained in reference number 4. Site investigation sampling activities during tank removal focused on possible sub-surface soil contamination. Analysis of the additional data further indicates the presence of organic and inorganic constituents which are comparable to the contents of the UST's which were found unserviceable. Levels found in subsurface soils are significantly above those background soil samples (Ref. Nos., 4; 24; 26). A sample location map for this investigation is provided in reference number 26 with the table of qualified data appearing in reference number 4.

Hazard Assessment

Updated and additional information and data to further evaluate the site include current site conditions, groundwater population data, sensitive environment information, 4 mile vicinity populations and site historical files.

Groundwater Pathway - Groundwater sampling for the John Hassall site has not been conducted, however there is a potential for contamination due to migration from soil contamination, low permeability of the overlying soils which are hydraulically interconnected with the aquifers of concern and the relatively shallow depth to the groundwater table. The facility is situated above the Upper Glacial, Magothy and Lloyd Aquifers. The Upper Glacial and Magothy Aquifers are contained within Pleistocene glacial outwash deposits which are approximately 150 feet in depth and the Upper Cretaceous Magothy formation which is approximately 600 feet in depth. The soils in the aquifers consists of fine sands and glacial till to fine and medium sands and clays. Permeability within the soils of the aquifers is approximately 10^{-3} cm/sec and the depth to groundwater is approximately 68 feet (Ref. No. 28, p. 5). The Lloyd Aquifer is a deep, confined aquifer which is part of Raritan Formation. The aquifer is approximately 700 feet deep and consists of numerous beds of sands interspersed with beds and lenses of clays (Ref. No. 28, pp 127-128). There are currently 156,150 ~~149,435~~ persons being supplied potable drinking waters from public supply well fields located within a 4 mile radius of the site (0 - 0.25 mile, 0; 0.25 - 0.5 mile, 0; 0.5 - 1 mile, 9,952; 1 - 2 miles, 31,782; 2 - 3 miles, 49,548; 3 - 4 miles, 64,868) (Ref. Nos. 10, 12, 13, 14, 15, 16, 17, 18, 23). The closest

well is Hicksville #6-1, which is located approximately 2,800 feet east of the site. The Jericho Water Department Well #15 is located approximately 500 feet northeast of the site; however, this well is no longer in use as it was closed due to tetrachloroethylene contamination. This contaminant is not attributable to the site (Ref. Nos. 13; 23). The on-site contamination sources are located within the wellhead protection area around Jericho No. 15 (Ref. No. 27).

Surface Water Pathway - The John Hassall site is relatively flat and the surrounding topography gradually slopes from north to northeast (Ref. No. 28, p. 7). The area of the site has been identified as an area of no recorded flooding (Ref. No. 25). There are several perennial ponds located approximately 1.5 miles northwest of the site, however, there is a very low potential for surface water migration. Surface water runoff drains from the site via stormdrains, and enters a recharge basin where it filters to the surficial aquifer (Ref. No. 28, p. 7). There are no surface water intakes, fisheries or surface water environments that may be potentially effected by contaminants from the site.

Soil Exposure Pathway - Analytical results of the site inspection soil sampling and the underground storage tank soil sampling indicate the surficial presence of inorganic and organic constituents associated with site activities. Although there are no residence, schools or daycare facilities within 200 feet of the site boundary, a potential for soil exposure does exist (Ref. No. 23). John Hassall Inc is an active facility with approximately 100 workers on-site (Ref. No. 3). There are approximately 4 acres of Palustrine Forested state wetlands located within 0.5 miles of the site (0 - 0.25, 4 acres; .25 - .50, 0 acres) (Ref. Nos. 21, 22). Additionally, there are approximately 13,236 persons residing within 1 mile of the site (Ref. No. 11).

Air Pathway - There is no analytical data to determine whether or not a release or organic or inorganic constituents has occurred to the air. However, during the site inspection, air readings were noted on the HNu, photoionizer detector of 5 - 50 ppm as calibrated to isobutylene (Ref. No. 28, pp. 50-62). There are approximately 182,975 person within the 4 mile vicinity of the site (on-site, 100; 0 - 0.25 mile, 1,339; 0.25 - 0.5 mile, 2,187; 0.5 - 1 mile, 9,710; 1 - 2 miles, 31,323; 2 - 3 miles, 63,425; 3 - 4 miles, 74,891) (Ref. Nos. 3, 11). There are approximately 4 acres of Paulistrine Forested state wetlands within a .50 mile vicinity of the site (Ref. No. 21).

Ms. Sandra Foose
U.S. Environmental Protection Agency
June 30, 1992
Updated: March 11, 1993
Volume 1 of 3

Report No.: 8002-06-4

Summary

Based on information contained in the site inspection report and additional information developed from ongoing UST investigations, groundwater, soils and air are the pathways of concern. Although groundwater samples were not collected during inspection or investigation activities, groundwater is a principle source of drinking water within 4 miles of site, serving a population of approximately 149,435. Additionally, the site is situated within a well head protection area. There are currently 100 employees on-site and the combined 4 mile vicinity of the site is 182,975.

Very truly yours,

RICKEY T. KAMPFER
SITE MANAGER

JOHN D. RIECKHOFF
PRE-REMEDIAL PROGRAM MANAGER

DENNIS STAINKEN, Ph.D.
WORK ASSIGNMENT MANAGER

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ATTACHMENT 1

REFERENCES

1. U. S. EPA Superfund Program, Comprehensive Environmental Response Compensation Liability Information System (CERCLIS), List 8: Site/Event Listing pg. 328, February 28, 1992.

2. Telecon Note: Conversation between David Fitzgerald, Engineer, Nassau County Department of Health and R. Kampfer, Malcolm Pirnie, Inc. (MPI), April 8, 1992.

3. Telecon Note: Conversation between Victor Palese, Facilities Manager, John Hassall Inc., and R. Kampfer, MPI, May 22, 1992.

4. Project Note: Valerie Smith, Malcolm Pirnie, Inc. to John Hassall Inc file, Subject: John Hassall CLP Equivalent Data and Historical Data, May 22, 1992.

5. U.S. EPA Hazardous Waste Permit Application, EPA Form 3510-3 (6-80), John Hassall Inc., November 19, 1980.

6. Letter from Michael Sekreta, Bureau of Land Resources Management, Nassau County Department of Heal to Victor Palese, Facilities Manager, John Hassall Inc., December 19, 1988.

7. Letter from Victor Palese, Facilities Manager, John Hassall Inc., to Michael Sekreta, Bureau of Land Resources Management, Nassau County Department of Health, January 24, 1989.

8. Letter from Michael Sekreta, Bureau of Land Resources Management, Nassau County Department of Health, to Victor Palese, Facilities Manager, John Hassall Inc., March 2, 1989.

9. Letter from Victor Palese, Facilities Manager, John Hassall Inc., to Bureau of Land Resources Management, Nassau County Department of Health, February 26, 1987.

10. Project Note: L. Szegedi, MPI, to John Hassall Inc. file, Subject: Wells: Population Distribution, January 5, 1993.

11. General Sciences Corporation, Person Computer Version of the Graphical Exposure Modeling System (PCGEMS), Landover, Maryland, April 1990.

12. Letter from Daniel David, PE, Town of Hempstead Department of Water to R. Kampfer, MPI, May 15, 1992.

13. Telecon Note: Conversation between Joe Passarillo, Superintendent, Jerico Water District and R. Kampfer, MPI, May 12, 1992.

14. Telecon Note: Conversation between Marie Hadsky, Clerk, Westbury Water Department and R. Kampfer, MPI, May 11, 1992.

15. Telecon Note: Conversation between Richard Woodwell, Superintendent, Hicksville Water Department and R. Kampfer, MPI, May 11, 1992.

16. Telecon Note: Conversation between Bob Zilman, Plant Operator, Hempstead Water District, and R. Kampfer, MPI, May 12, 1992.

17. Telecon Note: Conversation between Ken Claus, Superintendent, Plainview Water Department and R. Kampfer, MPI, May 11, 1992.

18. Telecon Note: Conversation between Frank Cipriano, Superintendent, Roslyn Water Department and R. Kampfer, MPI, May 12, 1992.

19. Superfund Chemical Data Matrix (SCDM) U. S. EPA, November 1, 1991.

20. Preliminary Assessment, John Hassall Inc., Westbury, Nassau County, EPA ID No. NYD002045417.

21. Sensitive Environments for John Hassall Inc., based on U.S. Department of the Interior National Wetlands Inventory Map, 7.5 minute series, "Hicksville Quadrangle, NY", April 1981.

22. Project Note: R. Kampfer, MPI, to John Hassall Inc. file, Subject: Sensitive Environments, John Hassall Inc. site, June 3, 1992.

23. Four-mile Vicinity Map for John Hassall Inc. based on U.S. Geological Survey Topographical Maps, 7.5 minute series "Hicksville Quadrangle, NY", 1967 photorevised 1979, "Freeport Quadrangle, NY" 1969, photorevised 1979, "Sea Cliff Quadrangle, NY", 1968, photorevised 1979 and "Huntington Quadrangle, NY" 1968, photorevised 1979.

24. Laboratory Analysis Report, Laboratory Resources Inc., Laboratory Analysis of John Hassall Inc., August 27, 1991.

25. Telecon Note: Conversation between Tom Smith, Westbury Township Planning Board and R. Kampfer, MPI, June 5, 1992.

26. Project Note: R. Kampfer, MPI, to John Hassall Inc file, Subject: Tank Testing/Removal, June 5, 1992.

27. New York State Well Head Protection Program, prepared by NYSDEC, Division of Water for Submittal to the USEPA, September 1990, Chapter 3, pp. 15 through 25.

28. Site Inspection, John Hassall Inc., Westbury, Nassau County, EPA ID No. NYD002045417, NUS Corporation - Superfund Division, February 17, 1989.

REFERENCE NO. 1

EPA ID NO.	SITE NAME / STREET / CITY / COUNTY CODE AND NAME	STATE	ZIP / CONG DIST.	OPRBLE UNIT	EVENT TYPE	EVENT QUAL	ACTUAL START DATE	ACTUAL COMPL DATE	CURRENT EVENT LEAD
NYD980531545	JEWETT WHITE LEAD CO			00	DS1			06/01/81	EPA (FUND)
	SHORE RD				PA1	NO FURTHER REMDL ACT PLND		01/26/87	EPA (FUND)
	STATEN ISLAND	NY	10307						
	085 RICHMOND		NY-17						
NYD980534531	JILSON'S RDA			00	DS1			04/24/80	EPA (FUND)
	NY RTE 17				PA1		05/11/87	06/12/87	EPA (FUND)
	LOWMAN	NY	14861		SI1	NO FURTHER REMDL ACT PLND		12/27/91	STATE(FUND)
	015 CHEMUNG		NY-27						
NYD012045417	JOHN HASSALL			00	DS1			10/01/80	EPA (FUND)
	CONTIAGUE ROCK RD				PA1			09/24/86	EPA (FUND)
	WESTBURY	NY	11590		SI1		06/10/88	06/20/88	EPA (FUND)
	059 NASSAU		NY-04						
NYD986957868	JOHN ST (GENERAL TESTING)			00	DS1			10/31/89	STATE(FUND)
	326 JOHN ST				PA1		05/20/91	06/20/91	STATE(FUND)
	HENRIETTA	NY	14623						
	055 MONROE		NY-29						
NYD986927697	JOHNNY CAKE ROAD FARM			00	RV1	STABILIZATION	09/04/90	09/12/90	EPA (FUND)
	RURAL ROUTE # 1				RV2	STABILIZATION	03/21/91	03/29/91	EPA (FUND)
	DANUBE TWP LONG ISLAND	NY	13365						
	043 HERKIMER		NY-26						
NYD980506927	JOHNSTOWN CITY LF			00	RS1		08/01/90	09/13/90	EPA (FUND)
	W FULTON S EXT				DS1			12/01/79	EPA (FUND)
	JOHNSTOWN	NY	12095		PA1		08/01/84	09/01/84	STATE(FUND)
	035 FULTON		NY-26		NP1			10/15/84	EPA (FUND)
					NF1			06/10/86	EPA (FUND)
					SI1		08/01/84	09/01/84	EPA (FUND)
				01	CO1		10/03/88		OTHER
					MA1		09/30/91		FED ENFORCE
					AS1			10/01/87	EPA (FUND)
NYD000813429	JONES CHEMICAL INC			00	RS1		04/18/90	09/14/90	EPA (FUND)
	100 SUNNY SUL BLVD				RS2		07/08/91	09/05/91	EPA (FUND)
	CALEDONIA	NY	14423		DS1			04/01/80	EPA (FUND)
	051 LIVINGSTON		NY-35		PA1			09/29/86	STATE(FUND)

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. John Hassall

Date: 8 April 1992 Time: 2:00 [ ] AM [X] PM

[ ] Incoming Call From: _____ Telephone No.

Affiliation: _____

[X] Outgoing Call To: David Fitzgerald 516-535-3691 Telephone No.

Affiliation: Nassau County Dept of Health Engineer

Malcolm Pirnie Staff: Ricley Kampfer
(Receiving or Calling) Name Telephone No.

Summary of [X] Conversation [ ] Agreement:

John Hassall has ~~made~~ had 2 seperate investigations conducted since 1989

- In the first investigation, 9 underground storage tanks were removed. Soils testing confirmed contamination and subsequent removal of soils to a depth of 75 feet. Complete removal of ~~soils~~ contaminated soils has not occured due to the unknown depth. This investigation began in 1990 and is presently ongoing.

- The second investigation concentrated on groundwater contamination resulting from ~~leaking~~ the UST's. A boring has been completed & monitoring well installed. Analysis is due within 2 weeks.

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REFERENCE NO. 2

REFERENCE NO. 3

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8002

Date: 28 MAY 1992 Time: 8:09 [ ] AM [ ] PM

[ ] Incoming Call From: _____ Telephone No.

Affiliation: _____

[X] Outgoing Call To: MR. VICTOR PALLEE 516-234-5300 Telephone No.

Affiliation: JOHN HASSALL INC.

Malcolm Pirnie Staff: _____
(Receiving or Calling) Name Telephone No.

Summary of [X] Conversation [ ] Agreement:

- MR. PALLEE SAID JOHN HASSALL INC. IS CURRENTLY STAFFING APPROXIMATELY 100 EMPLOYEES.

- MR. ~~PALLEE~~ PALLEE WAS ALSO CONCERNED ABOUT THE ONGOING INVESTIGATIONS OF ~~ITS~~ ON THE SITE, AND ASSOCIATED COSTS TO JOHN HASSALL INC.

- I INFORMED MR. PALLEE THAT ~~NO INFORMATION~~ A COPY OF THIS REPORT WOULD BE AVAILABLE AFTER EPA REVIEW, IN THE JULY-AUGUST TIMEFRAME.

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REFERENCE NO. 4

MALCOLM PIRNIE

INTEROFFICE CORRESPONDENCE

To: John Hassal Project File **Date:** 5/22/92

From: Valerie Smith

Re: John Hassal CLP Equivalent Data and Historical Data

The following is a summary of the data validation performed on analytical results submitted by Laboratory Resources produced from samples collected at the John Hassal Site on 7/15-18/91.

This summary addresses all Volatile and Semi-Volatile Target Compound List (TCL) chemicals as specified in the U.S. EPA Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analysis.

The U.S. EPA CLP SOW and the National Functional Guidelines for Organic Data Review have been applied to evaluate and assess the above mentioned data. Parameters under review were:

Sample Holding Time
Blank Contamination
Tuning and Instrument Performance Check
Initial and Continuing Calibration
Surrogate Recovery
Internal Standards
Compound Identification
Matrix Spike/Matrix Spike Duplicate Recovery
Overall assessment of data

The rationale for the qualification of the data is as follows:

Holding Times - The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization etc. If the specified holding time is exceeded, the data may not be valid. Holding time criteria has been met.

Blank Contamination - Method, trip and field blanks are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for common contaminants), the analytes are qualified as non-detect "U".

Method Blank Contamination

Volatiles
Methylene Chloride was flagged as non-detect in samples JH-6-1, JH-6-4, JH-4-2 and JH-7-1

Semi-Volatiles
Di-N-butylphthalate is flagged with a "B" qualifier on the From I's in this data package. This means there was method blank contamination. The raw data is not present to calculate the amount of contamination in the blank, but it is highly probable the amount found in the sample is below the 5 time criteria of the blank value and these results should be considered as suspect.

Field Blank Contamination

Semi-Volatiles
Bis(2-ethylhexyl)phthalate was flagged as non-detect in samples JH-6-1, JH-6-4 and JH-4-2.

Trip Blank Contamination

None

Tentatively Identified Compounds (TICs)

All known TIC results were qualified "N" which indicates the presence of an analyte not on the TCL and the numerical value "J" which represents its approximate concentration.

Instrument Tune and Performance Check - Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is bromofluorobenzene (BFB). All tuning criteria has been met.

Calibration - Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data.

Initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The percent Relative Standard Deviation (RSD) is used to indicate the stability of the specific compounds response factor (RF) over increasing concentrations. Therefore those positive analytes with a RSD of greater than 30 were flagged estimated "J" in the samples listed below:

Continuing Calibration checks document that the instrument is giving satisfactory daily performance. The percent Difference (%D) is a measure of the instruments daily performance, values showing a %D greater than 25 were flagged estimated "J" in the samples listed below:

Initial Calibration

Volatiles

Carbon disulfide was flagged as estimated in samples TB-01-01 and FB-01-01 due to the %RSD >30.

Carbon disulfide and acetone were flagged as estimated in FB-04-01 and TB.

2-Butanone was rejected in samples TB-01-01, FB-01-01, JH-6-1, JH-6-4,, JH-4-2, FB-04-01, Trip Blank, JH-7-1, and Wet Well due to the RRF <0.05.

Semi-Volatiles

Isophorone was flagged as estimated in samples JH-6-1, JH-6-4, JH-4-2 and FB-01-01 due to the %RSD>30.

2-nitrophenol was flagged as estimated in FB-04-01 and TB.

2,4-dinitrophenol, 4-nitroaniline and benzidine were flagged as estimated in JH-7-1 and Wet Well.

Continuing Calibration

Volatiles

Bromomethane, chloroethane, trichlorofluoromethane, acrolein, 2-chloroethylvinylether, trans-1,3-dichloropropane, cis-1,3-dichloropropene, 1,1,2-trichloroethane, dibromochloromethane, bromoform, 4-methyl-2-pentanone, and 1,1,2,2-tetrachloroethane were flagged as estimated in TB-01-01.

Bromomethane, acrolein, acrylonitrile, 2-chloroethylvinylether, trans-1,3-dichloropropene, cis-1,3-dichloropropene, 1,1,2-trichloroethane and 4-methyl-2-pentanone were flagged as estimated in sample FB-01-01.

Acrolein was flagged as estimated in FB-04-01 and TB.

Chloromethane was flagged as estimated in JH-7-1 and Wet Well.

Semi-Volatiles
Bis(2-chloroisopropyl)ether and bis(2-chloroethoxy)ether were flagged as estimated in sample FB-01-01 due to %D>25.

Bis(2-chloroisopropyl)ether and crysene were flagged as estimated in samples JH-6-1,, JH-6-4 and JH-4-2 due to %D>25.

N-nitroso-di-n-propylamine and pyrene were flagged as estimated in FB-04-01 and TB.

System Monitoring Compounds (SMC) - All samples are spiked with system monitoring compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. All criteria has been met.

Internal Standards (IS) - IS performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. All criteria has been met.

Compound Identification - TCL compounds are identified on the GC/MS by using the analytes relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within $\pm$ 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For tentatively identified compounds (TICs) the ion spectra must match accurately. Raw data for the samples is present and verification of the sample results was performed.

Matrix Spike/Matrix Spiké Duplicate (MS/MSD) - The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices.

Semi-Volatiles
2-chlorophenol and 4-nitrophenol were rejected in samples JH-6-1, JH-6-4, and JH-4-2 diue to the percent recovery of these analytes being less than 10%.

Additional Comments

The raw data for the MS/MSD, surrogate recovery and calibration information is not present. The laboratory included summarized information only. This data package was validated based on the information provided.

Validation could not be performed on the inorganic fraction of the data submitted by Laboratory Resources due to the lack of information provided.

See attached sheets for explanation of laboratory and validation qualifiers.

DATA VALIDATION QUALIFIER DEFINITIONS

The following definitions provide brief explanations of the national qualifiers assigned to results in the data review process. If the Regions choose to use additional qualifiers, a complete explanation of those qualifiers should accompany the data review.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

SITE NAME: JOHN HASSALL
PROJECT#: 8002-064
SAMPLING DATE: HISTORICAL DATA
LAB: LABORATORY RESOURCES

VOLATILES									
Sample ID No.	FB-01-01	TB-01-01	JH-6-1	JH-6-4	JH-4-2	FB-04-01	TB	JH-7-1	WET WELL
Sampling Date	7/15/91	7/15/91	7/15/91	7/15/91	7/15/91	7/18/91	7/18/91	7/18/91	7/18/91
Matrix	WATER	WATER	SOIL	SOIL	SOIL	WATER	WATER	SOIL	SOIL
Units	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/kg	ug/kg
Dilution Factor	1	1	1	25	50	1	1	100	100
Percent Moisture			4.3	5.3	4			3.5	6.6
Chloromethane									
Vinyl Chloride									
Bromomethane									
Chloroethane									
Acrolein									
Trichlorofluoromethane									
1,1-Dichloroethene									
Carbon Disulfide									
Acetone									
Acrylonitrile									
Methylene Chloride			93 JB	87 JB	189 JB	1 JB	1 JB	123 J	
1,2-Dichloroethene (total)									
1,1-Dichloroethane									
Chloroform									
1,2-Dichloroethane									
Vinyl Acetate									
2-Butanone									
1,1,1-Trichloroethane							3 J		
Carbon Tetrachloride									
Benzene									
Trichloroethene									
1,2-Dichloropropane									
Bromodichloromethane									
2-Chloroethylvinylether									
Trans-1,3-Dichloropropene									
Cis-1,3-Dichloropropene									
1,1,2-Trichloroethane									
Dibromochloromethane									
Bromoform									
4-Methyl-2-Pentanone									
Toluene		1 J	164 J		78 J				
Tetrachloroethene									
2-Hexanone									
Chlorobenzene									
Ethylbenzene			751		289			122 J	832
M,P,Xylene			1909		1191			226 J	1602
O-Xylene			3221	337	2343			427 J	2895
Styrene									
1,1,2,2-Tetrachloroethane									
1,3-Dichlorobenzene									
1,4-Dichlorobenzene									
1,2-Dichlorobenzene									

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
J - estimated value, compound present below CRQL but above IDL

SITE NAME: JOHN HASSALL
PROJECT#: 8002-064
SAMPLING DATE: HISTORICAL DATA
LAB: LABORATORY RESOURCES

VOLATILES									
Sample ID No.	FB-01-01	TB-01-01	JH-6-1	JH-6-4	JH-4-2	FB-04-01	TB	JH-7-1	WET WELL
Sampling Date	7/15/91	7/15/91	7/15/91	7/15/91	7/15/91	7/18/91	7/18/91	7/18/91	7/18/91
Matrix	WATER	WATER	SOIL	SOIL	SOIL	WATER	WATER	SOIL	SOIL
Units	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/L	ug/L	ug/kg	ug/kg
Dilution Factor	1	1	1	25	50	1	1	100	100
Percent Moisture			4.3	5.3	4			3.5	6.6

SITE NAME: JOHN HASSALL
PROJECT#: 8002-064
SAMPLING DATE: HISTORICAL DATA
EPA CASE NO.: NA LAB: LABORATORY RESOURCES

SEMI-VOLATILES Sample ID No. Traffic Report No. Matrix Units Dilution Factor/GPC Cleanup (Y) Percent Moisture	FB-01-01 7/15/91 WATER ug/L 1	TB-01-01 7/15/91 WATER ug/L 1	JH-6-1 7/15/91 SOIL ug/kg 1	JH-6-4 7/15/91 SOIL ug/kg 25	JH-4-2 7/15/91 SOIL ug/kg 50	FB-04-01 7/18/91 SOIL ug/kg 1	TB 7/18/91 WATER ug/L 1	JH-7-1 7/18/91 SOIL ug/kg 100	WET WELL 7/18/91 SOIL ug/kg 100
Anthracene		NR					NR		
Di-n-butylphthalate		NR	1114 B	1136 B	1072 B	1 J	NR		
Fluoranthene		NR					NR		
Benzidine		NR					NR		
Pyrene		NR	51 J	44 J			NR		
Butylbenzylphthalate		NR				6 J	NR		
Benzo(a)anthracene		NR					NR		
3,3'-Dichlorobenzidine		NR					NR		
Chrysene		NR					NR		
bis(2-Ethylhexyl)phthalate	5 JB	NR	1116	110 J	548	48	NR		
Di-n-octylphthalate		NR	37 J				NR		
Benzo(b)fluoranthene		NR					NR		
Benzo(k)fluoranthene		NR					NR		
Benzo(a)pyrene		NR					NR		
Indeno(1,2,3-cd)pyrene		NR					NR		
Dibenz(a,h)anthracene		NR					NR		
Benzo(g,h,i)perylene		NR					NR		

NOTES:
Blank space - compound analyzed for but not detected
B - compound found in lab blank as well as sample, indicates possible/probable blank contamination
J - estimated value, compound present below CRQL but above IDL
NR - analysis not required

SITE NAME: JOHN HASSALL
PROJECT#: 8002-064
SAMPLING DATE: HISTORICAL DATA
EPA CASE NO.: NA LAB: LABORATORY RESOURCES

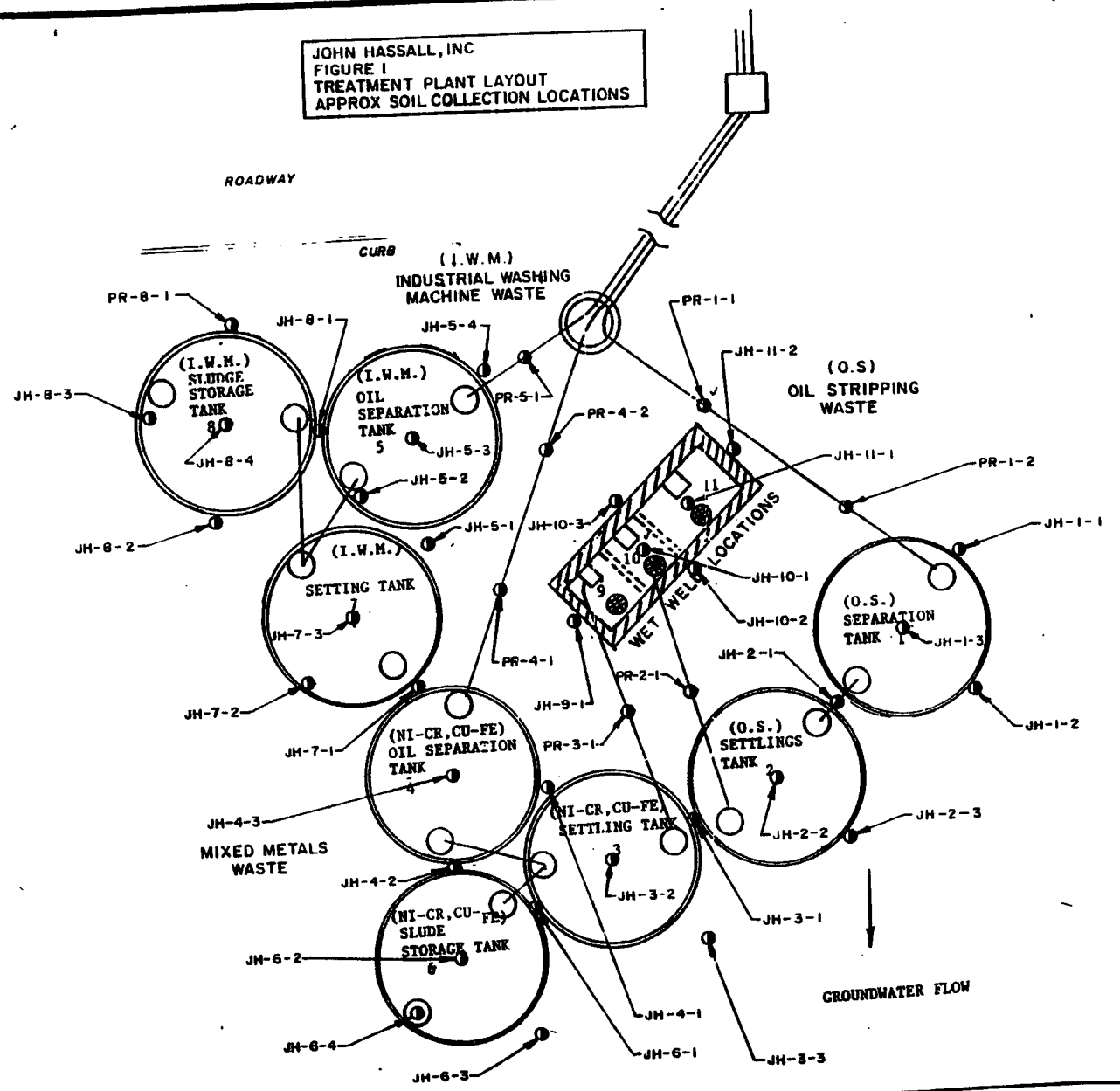
SEMI-VOLATILES									
Sample ID No.	FB-01-01	TB-01-01	JH-6-1	JH-6-4	JH-4-2	FB-04-01	TB	JH-7-1	WET WELL
Traffic Report No.	7/15/91	7/15/91	7/15/91	7/15/91	7/15/91	7/18/91	7/18/91	7/18/91	7/18/91
Matrix	WATER	WATER	SOIL	SOIL	SOIL	SOIL	WATER	SOIL	SOIL
Units	ug/L	ug/L	ug/kg	ug/kg	ug/kg	ug/kg	ug/L	ug/kg	ug/kg
Dilution Factor/GPC Cleanup (Y)	1	1	1	25	50	1	1	100	100
Percent Moisture									
Phenol		NR					NR		
2-Chlorophenol		NR					NR		
bis(2-Chloroethyl)ether		NR					NR		
1,3-Dichlorobenzene		NR					NR		
1,4-Dichlorobenzene		NR					NR		
Benzyl alcohol		NR					NR		
1,2-Dichlorobenzene		NR					NR		
2-Methylphenol		NR					NR		
bis(2-Chloroisopropyl)ether		NR					NR		
N-Nitroso-di-n-dipropylamine		NR					NR		
Hexachloroethane		NR					NR		
4-Methylphenol		NR					NR		
Nitrobenzene		NR					NR		
Isophorone		NR					NR		
2-Nitrophenol		NR					NR		
2,4-Dimethylphenol		NR					NR		
bis(2-Chloroethoxy)methane		NR					NR		
2,4-Dichlorophenol		NR					NR		
Benzoic acid		NR					NR		
1,2,4-Trichlorobenzene		NR					NR		
Naphthalene		NR	220 J		1444		NR	2824 J	13505
4-Chloroaniline		NR					NR		
Hexachlorobutadiene		NR					NR		
2-Methylnaphthalene		NR	315 J		525		NR		2237 J
4-Chloro-3-Methylphenol		NR					NR		
Hexachlorocyclopentadiene		NR					NR		
2,4,5-Trichlorophenol		NR					NR		
2,4,6-Trichlorophenol		NR					NR		
2-Chloronaphthalene		NR					NR		
2-Nitroaniline		NR					NR		
Acenaphthylene		NR					NR		
Dimethylphthalate		NR					NR		
2,6-Dinitrotoluene		NR					NR		
3-Nitroaniline		NR					NR		
Acenaphthene		NR					NR		
2,4-Dinitrophenol		NR					NR		
Dibenzofuran		NR					NR		
4-Nitrophenol		NR					NR		
2,4-Dinitrotoluene		NR					NR		
Fluorene		NR					NR		
4-Nitroaniline		NR					NR		
Diethylphthalate		NR					NR		
4-Chlorophenyl-phenyl ether		NR					NR		
4,6-Dinitro-2-methylphenol		NR					NR		
N-nitrosodiphenylamine		NR					NR		
Azobenzene		NR					NR		
4-Bromophenyl-phenyl ether		NR					NR		
Hexachlorobenzene		NR					NR		
Pentachlorophenol		NR					NR		
Phenanthrene		NR	64 J		51 J		NR		

SITE NAME: JOHN HASSALL
PROJECT#: 8002-064
SAMPLING DATE: HISTORICAL DATA
LAB NAME: LABORATORY RESOURCES

INORGANICS Sample ID No. Traffic Report No. Matrix Units	FB-01-01 7/15/91 WATER mg/L	JH-6-1 7/15/91 SOIL mg/kg	JH-6-2 7/15/91 SOIL mg/kg	JH-6-3 7/15/91 SOIL mg/kg	JH-6-4 7/15/91 SOIL mg/kg	JH-4-2 7/15/91 SOIL mg/kg	FB-01-01 7/18/91 WATER mg/L	JH-1-1 7/18/91 SOIL mg/kg	JH-7-1 7/18/91 SOIL mg/kg	JH-4-1 7/18/91 SOIL mg/kg	JH-8-1 7/18/91 SOIL mg/kg	WET WELL 7/18/91 SOIL mg/kg
Chromium		6.58	16.1	52.7	20.9	9.08		12.7	12.4	15.4	11.3	12
Copper	0.319	4.2	12.4	33.6	9.77	2.08			7.74	18.2	11	4.91
Iron		1650	4010	2660	3160	2790		5150	3190	3230	4180	2720
Mercury												
Nickel		4.48	82	55.3	13.7	8.26	0.025	3.37	9.34	36.7	5.19	4.09
Zinc	0.0136	3.77	14.2	22.2	11.9	5.8		5.81	9.34	16.3	10.5	4.68
Petroleum Hydrocarbons		10200	1970	756	1730	14800		427	6920	2940	1680	9860
Total % Solids	NA	95.7	96.9	95.8	94.7	96		97	96.5	95.8	96.7	93.4

NOTES:
Blank space - compound analyzed for but not detected
NA - not analysed for

JOHN HASSALL, INC
FIGURE I
TREATMENT PLANT LAYOUT
APPROX SOIL COLLECTION LOCATIONS



BORING NO.	REQURIED ANALYSIS	OPTIONAL ANALYSIS
JH-1-1	TPHC	B/N + 25, VOA + 15
JH-1-2	TPHC	B/N + 25, VOA + 15
JH-1-3	TPHC	B/N + 25, VOA + 15
PR-1-1	TPHC	B/N + 25, VOA + 15
PR-1-2	TPHC	B/N + 25, VOA + 15
JH-2-1	TPHC	B/N + 25, VOA + 15
JH-2-2	TPHC	B/N + 25, VOA + 15
JH-2-3	TPHC	B/N + 25, VOA + 15
PR-2-1	TPHC,Ni,Cr,Cu,Fe,Hg,Zn	B/N + 25, VOA + 15
JH-3-1	TPHC,Ni,Cr,Cu,Fe,Hg,Zn	B/N + 25, VOA + 15
JH-3-2	TPHC,Ni,Cr,Cu,Fe,Hg,Zn	B/N + 25, VOA + 15
JH-3-3	TPHC	B/N + 25, VOA + 15
PR-3-1	TPHC,Ni,Cr,Cu,Fe,Hg,Zn	B/N + 25, VOA + 15
JH-4-1	TPHC,Ni,Cr,Cu,Fe,Hg,Zn	B/N + 25, VOA + 15
PR-4-2	TPHC,Ni,Cr,Cu,Fe,Hg,Zn	B/N + 25, VOA + 15
JH-5-1	TPHC	B/N + 25, VOA + 15
JH-5-2	TPHC	B/N + 25, VOA + 15
JH-5-3	TPHC	B/N + 25, VOA + 15
JH-5-4	TPHC	B/N + 25, VOA + 15
PR-5-1	TPHC,Ni,Cr,Cu,Fe,Hg,Zn	B/N + 25, VOA + 15
JH-6-1	TPHC,Ni,Cr,Cu,Fe,Hg,Zn	B/N + 25, VOA + 15
JH-6-2	TPHC,Ni,Cr,Cu,Fe,Hg,Zn	B/N + 25, VOA + 15
JH-6-3	TPHC,Ni,Cr,Cu,Fe,Hg,Zn	B/N + 25, VOA + 15
JH-6-4	TPHC	B/N + 25, VOA + 15
JH-7-1	TPHC	B/N + 25, VOA + 15
JH-7-2	TPHC	B/N + 25, VOA + 15
JH-7-3	TPHC	B/N + 25, VOA + 15
JH-8-1	TPHC	B/N + 25, VOA + 15
JH-8-2	TPHC	B/N + 25, VOA + 15
JH-8-3	TPHC	B/N + 25, VOA + 15
JH-8-4	TPHC	B/N + 25, VOA + 15
PR-8-1	TPHC	B/N + 25, VOA + 15
JH-9-1	TPHC	B/N + 25, VOA + 15
JH-10-1	TPHC	B/N + 25, VOA + 15
JH-10-2	TPHC	B/N + 25, VOA + 15
JH-10-3	TPHC	B/N + 25, VOA + 15
JH-11-1	TPHC	B/N + 25, VOA + 15
JH-11-2	TPHC	B/N + 25, VOA + 15

Diversified Environmental Resources, Inc.
P.O. Box 516
101 Jessup Road
Thorofare, N.J. 08086

Title WASTE TREATMENT FACILITY No. 1 OF 1

JOHN HASSALL, INC.

Date Drawn: 6/27/91

REFERENCE NO. 5

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

F N Y D 0 0 2 0 4 5 4 1 7

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility c revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

C	YR.	MO.	DAY
8	5 3	0 6	0 1

FOR NEW FACILITI PROVIDE THE DAT *(yr., mo., & day)* OPE TION BEGAN OR IS EXPECTED TO BEG

YR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES — CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided fo entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, the describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.

1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	G

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP T/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	2. UNIT OF MEASURE (enter code)	FOR OFFICI USE ONLY
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 2	18,500 000	G		7				
2					8				
3					9				
4					10				

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

F6: A/55 F6: A/56

EPA I.D. NO. *(enter from page 1)*

F N Y D 0 0 2 0 4 5 4 1 7 T/A 3 C 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
40 46 30	073 33 15

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*
E	

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F	G		

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this 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 information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
MR. THEODORE SMITH PRESIDENT	Theodore B. Smith	NOVEMBER 19, 1980

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this 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 information, including the possibility of fine and imprisonment.

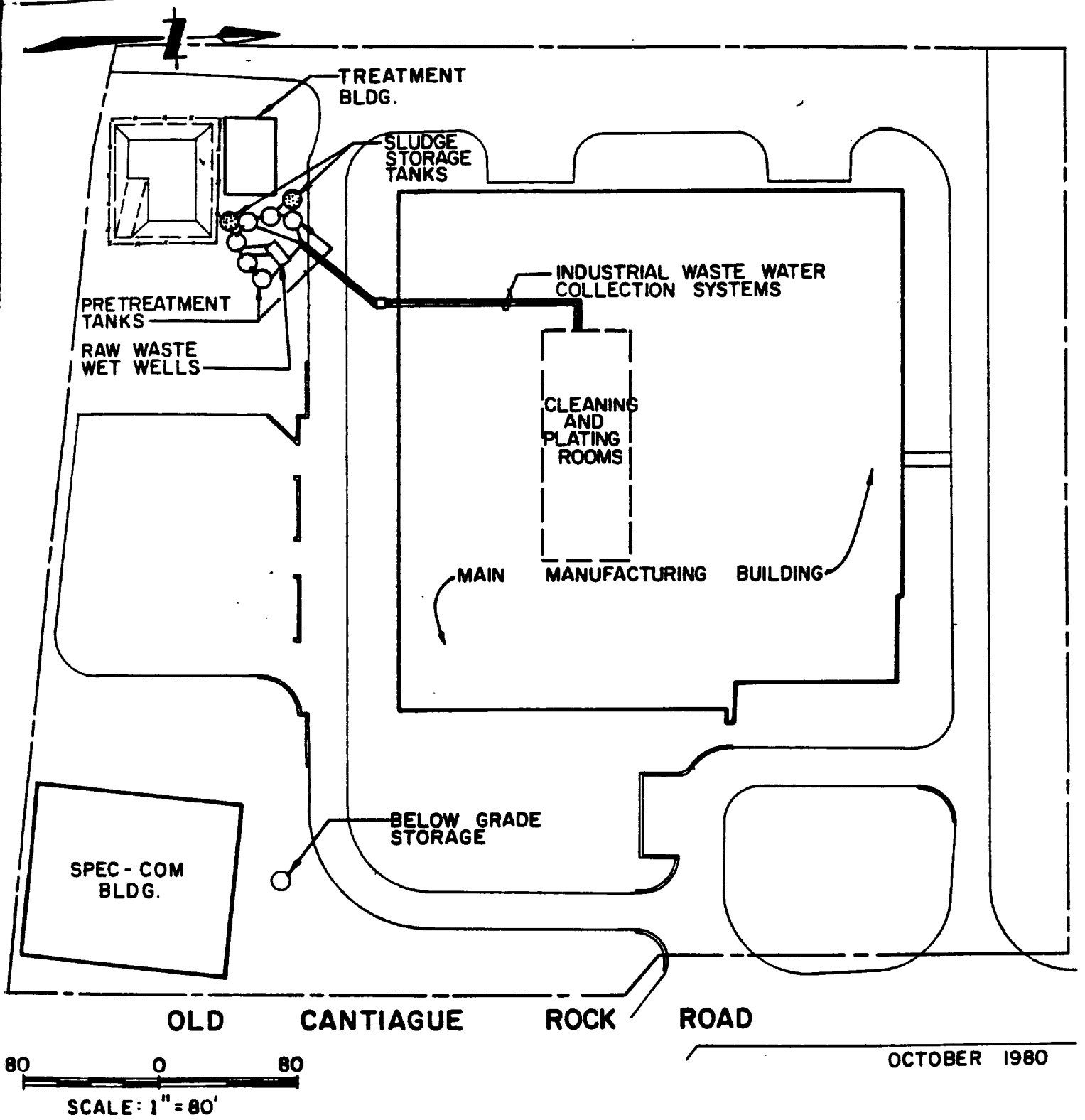
A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
MR. KARL HORLITZ PLANT MANAGER	Karl W. Horlitz	NOVEMBER 19, 1980

CONTINUE ON PAGE 5

NYD002045417 JOHN HASSALL

Form Approved OMB No. 158-S80004

V. FACILITY DRAWING (see page 4)



CHEMICAL FACILITY PLAN

JOHN HASSALL INC.
WESTBURY, NASSAU CO., NEW YORK

EPA I.D. NO. NYD002045417

REFERENCE NO. 6

THOMAS S. GULOTTA
COUNTY EXECUTIVE

JOHN J. DOWLING, M.D., M.P.H.
COMMISSIONER

STANLEY JUCZAK, P.E., M.C.E.
DIRECTOR
CENTER FOR ENVIRONMENTAL PROTECTION

NASSAU COUNTY
DEPARTMENT OF HEALTH
240 OLD COUNTRY ROAD, MINEOLA, N.Y. 11501

December 19, 1988

Mr. Victor Palese
John Hassall, Inc.
Cantiague Rock Rd.
Westbury, N.Y. 11590

Re: John Hassall Proposal
for Future utilization
of Existing Wastewater
Treatment Tanks

Dear Mr. Palese:

In response to your November 2, 1988 proposal to this Department regarding the existing wastewater treatment tanks at your facility, please note that Article XI of the Nassau County Public Health Ordinance (NCPHO), sec. 9.a. 10) requires that when a storage facility or part thereof is found to be leaking, it must be emptied of its contents and rendered out of service. A tank that is placed out of service must be secured against tampering and its fill line and discharge line capped and blind flanged (sec. 9.a.4)). Tank numbers 2,3,5,7,8,9,10 and 11 have failed the leak tightness test proposed by John Hassall and accepted by this Department. These tanks must be taken out of service immediately.

In addition, the leaking tanks constitute a spill condition and a likely source of soil and/or groundwater contamination. This condition represents violations of NCPHO Article XI and Article 17 of the Environmental Conservation Law (ECL) of the State of New York as follows:

ECL - Article 17, Section 17-0501 and 17-0505. Discharging industrial wastes without a permit.

NCPHO - Section 5.a. Discharging hazardous materials or wastes without a permit.

Consequently, you are required to perform the following work in order to remediate the problem:

1. - Immediately - Render all tanks found to be leaking out of service.

2. - By January 2, 1989 obtain the services of a professional engineer licensed to practice in the State of New York with documented experience in the field of environmental pollution with respect to investigation and remediation of soil and groundwater contamination.

3.- By January 30, 1989 the engineer should prepare and submit to this Department for approval three (3) copies of a remedial investigation work plan to detail the extent of vertical and areal contamination in the soil and groundwater. The plan must contain a work implementation schedule for each phase of the remedial investigation work plan including submission of a remedial investigation report detailing the results of the investigation, and submission of a plan and schedule for remediation of the contamination and restoration of the site to its prespill condition.

To assure that the recommended course of action detailed in the submission reflects the owner's decision, it is required that a letter be submitted by the owner along with the work plan officially accepting the work plan and adopting the project for implementation.

4.- Implement the above work plan as approved by this Department. This is to begin within two weeks of receipt of approval of the work plan by this Department.

5.- This Department is to be notified at least five (5) business days in advance of any field work so that the work can be witnessed. The Department reserves the option of obtaining split samples during the field work.

All toxic and hazardous material removed from the spill site are to be handled by an industrial waste transporter registered with the New York State Department of Environmental Conservation (NYSDEC) and disposed at a NYSDEC or USEPA disposal facility.

With respect to your proposal to utilize the existing concrete wastewater tanks as secondary containment for future installations of below ground wastewater storage tanks (Program A), an engineering review cannot be considered by this Department unless a detailed submission is received under separate cover. The submission would be dependent upon the results the investigation of possible soil and groundwater contamination and should be reserved until such time that the investigation is completed.

If you have any questions concerning this matter, please contact me at (516) 535-2406.

Very truly yours,

Michael Sekreta

Michael Sekreta
Sanitarian II
Bureau of Land Resources Management

MS:sb
cc: Phil Barbato - NYSDEC
Angela Pettinelli -NCDH

FACILITY: 000007 UNDRGRND TANK TEST SCHEDULE JOHN HASSEL INC. HABU106
TANK: 0001
TEST DUE: 070193 DATE TESTED: NEXT TEST: DOC REC:
RESULT: (P/F) SPILL #: FAILURE: SYS/TANK: TEST TYPE:
NOTES:
TEST DUE: 122787 DATE TESTED: 070188 NEXT TEST: 070193 DOC REC: Y
RESULT: (F) (P/F) SPILL #: FAILURE: SYS/TANK: TEST TYPE: I
NOTES: H2M, LINE LEVEL

* CHANGE DATA THEN PRESS ENTER *

PF KEY 3:FACILITY MENU 5:NEXT TANK 8:NEXT PAGE GO TO:
FACILITY: 000007 UNDRGRND TANK TEST SCHEDULE JOHN HASSEL INC. HABU106
TANK: 0002
TEST DUE: 070193 DATE TESTED: NEXT TEST: DOC REC:
RESULT: (P/F) SPILL #: FAILURE: SYS/TANK: TEST TYPE:
NOTES:
TEST DUE: 122787 DATE TESTED: 070188 NEXT TEST: 070193 DOC REC: Y
RESULT: (F) (P/F) SPILL #: S05-88 FAILURE: 2 SYS/TANK: 5 TEST TYPE: I
NOTES: H2M, LINE LEVEL

* CHANGE DATA THEN PRESS ENTER *

PF KEY 3:FACILITY MENU 5:NEXT TANK 8:NEXT PAGE GO TO:
FACILITY: 000007 UNDRGRND TANK TEST SCHEDULE JOHN HASSEL INC. HABU106
TANK: 0003
TEST DUE: 070193 DATE TESTED: NEXT TEST: DOC REC:
RESULT: (P/F) SPILL #: FAILURE: SYS/TANK: TEST TYPE:
NOTES:
TEST DUE: 122787 DATE TESTED: 070188 NEXT TEST: 070193 DOC REC: Y
RESULT: (F) (P/F) SPILL #: S06-88 FAILURE: 2 SYS/TANK: 5 TEST TYPE: I
NOTES: H2M, LINE LEVEL

TEST DUE: [illegible] DATE TESTED: [illegible] NEXT TEST: [illegible] DOC REC:
RESULT: (P/F) SPILL #: FAILURE: SYS/TANK: TEST TYPE:
NOTES:
TEST DUE: 122787 DATE TESTED: 070188 NEXT TEST: 070193 DOC REC: Y
RESULT: P (P/F) SPILL #: FAILURE: SYS/TANK: S TEST TYPE: I
NOTES: H2M, LINE LEVEL

* CHANGE DATA THEN PRESS ENTER *

PF KEY 3:FACILITY MENU 5:NEXT TANK 8:NEXT PAGE GO TO:
FACILITY: 000007 UNDRGRND TANK TEST SCHEDULE JOHN HASSAL INC. HA8U106
TANK: 0005
TEST DUE: 070193 DATE TESTED: NEXT TEST: DOC REC:
RESULT: (P/F) SPILL #: FAILURE: SYS/TANK: TEST TYPE:
NOTES:
TEST DUE: 122787 DATE TESTED: 070188 NEXT TEST: 070193 DOC REC: Y
RESULT: F (P/F) SPILL #: S07-88 FAILURE: 2 SYS/TANK: S TEST TYPE: I
NOTES: H2M, LINE LEVEL

* CHANGE DATA THEN PRESS ENTER *

PF KEY 3:FACILITY MENU 5:NEXT TANK 8:NEXT PAGE GO TO:
FACILITY: 000007 UNDRGRND TANK TEST SCHEDULE JOHN HASSAL INC. HA8U106
TANK: 0006
TEST DUE: 070193 DATE TESTED: NEXT TEST: DOC REC:
RESULT: (P/F) SPILL #: FAILURE: SYS/TANK: TEST TYPE:
NOTES:
TEST DUE: 122787 DATE TESTED: 070188 NEXT TEST: 070193 DOC REC: Y
RESULT: P (P/F) SPILL #: FAILURE: SYS/TANK: S TEST TYPE: I
NOTES: H2M, LINE LEVEL

* CHANGE DATA THEN PRESS ENTER *

PF KEY 3:FACILITY MENU 5:NEXT TANK 8:NEXT PAGE GO TO:
FACILITY: 000007 UNDRGRND TANK TEST SCHEDULE JOHN HASSAL INC. HA8U106
TANK: 0007
TEST DUE: 070193 DATE TESTED: NEXT TEST: DOC REC:
RESULT: (P/F) SPILL #: FAILURE: SYS/TANK: TEST TYPE:
NOTES:
TEST DUE: 122787 DATE TESTED: 070188 NEXT TEST: 070193 DOC REC: Y
RESULT: F (P/F) SPILL #: S08-88 FAILURE: 2 SYS/TANK: S TEST TYPE: I
NOTES: H2M, LINE LEVEL

* CHANGE DATA THEN PRESS ENTER *

PF KEY 3:FACILITY MENU 5:NEXT TANK 8:NEXT PAGE GO TO:
FACILITY: 000007 UNDRGRND TANK TEST SCHEDULE JOHN HASSAL INC. HA8U106
TANK: 0008
TEST DUE: 072593 DATE TESTED: NEXT TEST: DOC REC:
RESULT: (P/F) SPILL #: FAILURE: SYS/TANK: TEST TYPE:
NOTES:
TEST DUE: 122787 DATE TESTED: 072588 NEXT TEST: 072593 DOC REC: Y
RESULT: F (P/F) SPILL #: S09-88 FAILURE: 2 SYS/TANK: S TEST TYPE: I
NOTES: H2M, LINE LEVEL

* CHANGE DATA THEN PRESS ENTER *

PF KEY 3:FACILITY MENU 5:NEXT TANK 8:NEXT PAGE GO TO:
FACILITY: 000007 UNDRGRND TANK TEST SCHEDULE JOHN HASSAL INC. HA8U106
TANK: 0009
TEST DUE: 072593 DATE TESTED: NEXT TEST: DOC REC:
RESULT: (P/F) SPILL #: FAILURE: SYS/TANK: TEST TYPE:
NOTES:
TEST DUE: 122787 DATE TESTED: 072588 NEXT TEST: 072593 DOC REC: Y
RESULT: F (P/F) SPILL #: S10-88 FAILURE: 2 SYS/TANK: S TEST TYPE: I
NOTES: H2M, LINE LEVEL

* CHANGE DATA THEN PRESS ENTER *

PF KEY 3:FACILITY MENU 5:NEXT TANK 8:NEXT PAGE GO TO:

TEST DUE: 072593 DATE TESTED: NEXT TEST: DOC REC:
RESULT: (P/F) SPILL #: FAILURE: SYS/TANK: TEST TYPE:
NOTES:
TEST DUE: 122787 DATE TESTED: 072588 NEXT TEST: 072593 DOC REC: Y
RESULT: (P/F) SPILL #: S11-88 FAILURE: 2 SYS/TANK: S TEST TYPE: I
NOTES: H.O. LINE LEVEL

* CHANGE DATA THEN PRESS ENTER *

PF KEY 3:FACILITY MENU 5:NEXT TANK 8:NEXT PAGE GO TO:
FACILITY: 000007 UNDRGRND TANK TEST SCHEDULE JOHN HASSAL INC. HA8U106
TANK: 0011
TEST DUE: 072593 DATE TESTED: NEXT TEST: DOC REC:
RESULT: (P/F) SPILL #: FAILURE: SYS/TANK: TEST TYPE:
NOTES:
TEST DUE: 122787 DATE TESTED: 072588 NEXT TEST: 072593 DOC REC: Y
RESULT: (P/F) SPILL #: S12-88 FAILURE: 2 SYS/TANK: S TEST TYPE: I
NOTES: H.O. LINE LEVEL

* CHANGE DATA THEN PRESS ENTER *

PF KEY 3:FACILITY MENU 5:NEXT TANK 8:NEXT PAGE GO TO:

REFERENCE NO. 7

SPECIAL NAILS·RIVETS·SCREWS
Hassall
ESTABLISHED 1850
JOHN HASSALL, INC.·WESTBURY·LONG ISLAND·N.Y.·1159
TELEX 14 4585 516 · 334-6200 FAX 516-2221911

1/24/89

Mr. Michael Sekreta
Nassau County Dept. Of Health
Bureau of Land Resources Mgt.
240 Old Country Rd.
Mineola, N.Y. 11501

Dear Mr. Sekreta:

In response to your letter dated December 19, 1988 in which you list leaking tanks by number which are to be immediately removed from service coupled with remedial action plans, please note the following:

Tank numbers 2-3-9 and 10 were among the eight tanks listed as leaking, however, the test results indicate that tank numbers 2 and 3 actually had a rise in liquid level - not a decrease.

Although H_2M attributes this to oil interference alone I believe it is both an interference and interconnection problem.

Please consider the following explanation: Although tanks 2 and 3 are consecutively numbered they are separate and distinct systems Each of these tanks are connected to a separate wet well designated tank #9 and #10. Tank number 10 (a liquid loss) and Tank #2 (a liquid gain) are connected just as tank #3 (a liquid gain) and tank #9 (a liquid loss) are connected.

At this point a logical assessment would seem to indicate that the rise and fall in liquid level is due to the interconnection between these tanks. I therefore question the validity of the data concerning this group of tanks.

Based upon this information I ask at this time, to continue utilization of tanks 2,3,9 and 10, it will most certainly aid us in our overall plans to upgrade the facility.

As of this date we have removed from service tanks #5 and #11. We intend to remove #7 and #8 as quickly as possible.

We have obtained the services of Chemical Management, a division of Stout for remediation investigation. Please be aware that your letter dated 12/19/88 was opened on January 3rd, 1989 due to a holiday shutdown at John Hassall Inc.

I am doing my best to remedy the problem as quickly as possible. We intend to fully comply with all County, State and Federal regulations.

Yours very truly,

Victor Palese
Facility Manager

VP/td

REFERENCE NO. 8

MS File

THOMAS S. GULOTTA
COUNTY EXECUTIVE

JOHN J. DOWLING, M.D., M.P.H.
COMMISSIONER

STANLEY JUCZAK, P.E., M.C.E.
DIRECTOR
CENTER FOR ENVIRONMENTAL PROTECTION

NASSAU COUNTY
DEPARTMENT OF HEALTH
240 OLD COUNTRY ROAD, MINEOLA, N.Y. 11501

March 2, 1989

Mr. Victor Palese
Facility Manager
John Hassall Inc.
Cantiague Rock Road
Westbury, New York 11590

Re: TANK UTILIZATION
TANKS 2,3,9,10

Dear Mr. Palese:

Your inquiry of January 24, 1989 regarding the continued utilization of Wastewater tanks 2, 3, 9, and 10 has been reviewed.

Your explanation of the liquid level discrepancies noted during testing appear valid. This Department has no objection to the continued use of the tanks provided that the tanks are retested using water, that all interconnections are plugged to prevent water from migrating between connected tanks, that an approved tank tester using approved methods performs the tests, and that all tanks pass the tank tests.

A partial list of approved tank testers is included for your reference.

Retesting must be in conjunction with but prior to a soil/groundwater investigation.

If you have any questions regarding this matter, please call me at (516) 535 - 2284.

Very truly yours,

Michael Sekreta

Michael Sekreta
P.H. Sanitarian II
Bureau of Land Resources Management

MS:ah
Enc.
cc: Angela Pettinelli, NCDH
David Fitzgerald, NCDH

REFERENCE NO. 9

SPECIAL NAILS·RIVETS·SCREWS
Hassall
ESTABLISHED 1850
JOHN HASSALL, INC.·WESTBURY·LONG ISLAND·N.Y.·11
Tel. 516·334-6200 • Telex No. 144585

February 26, 1987

Nassau County Department of Health
Bureau of Land Resources Management
240 Old Country Road
Mineola, N.Y. 11501

Dear Sir:

This booklet represents the various buildings involved in the John Hassall, Inc. operations in Westbury, New York.

I have filled out four (4) applications; one for each different building.

I hope the information is complete; however, if I left any doubt, please give me a call and I will be glad to provide you with any additional details needed.

Sincerely,

Victor Palese
Facility Manager

VP/rd
Enc.

SSAU COUNT EPARTMENT OF HEALTH
PLICATION FOR A TOXIC OR HAZARDOUS MATERIALS STORAGE FACILITY PERMIT
RM 2 - TANK REGISTRATION
E INSTRUCTION SHEETS

RECEIVED
MAR 10 1987
NCDH—BLRM

For Office Use Only

Date Application Received		Facility I.D.
Reviewed By	JK	Date Reviewed 4/7
Action: ☐ Approved ☐ Disapproved	☐ Not Req'd.	No. of Months

ility Name JOHN HASSALL, INC.

ility Address
ANTIAGUE ROCK ROAD, WESTBURY, N.Y. (WASTE TREAT)

Tank Number	Location	Design Capacity (Gallons)	Material of Construction	Internal Protection	External Protection	Piping	Type	Material Currently or Last Stored: NCDH Number	Material Currently or Last Stored: Name	Status	Tank Installation Date (Month/yr)	Leak Detection Sys.	Secondary Containment	Product Gauge	Dispenser Method	Fill	Additional Information for Abandoned Tanks: Date Last Used (Month/yr)	Condition
1	4	10,000	3	1	9	1	2	Waste Water	Containing	1	Approx. 1975	8	5	2	1	1		
2	4	"	3	1	9	1	2	Ni,Cr,Fe,Cu	and	1	1- 14	8	5	2	1	1		
3	4	"	3	1	9	1	2	emulsified oils and solvents.		1		8	5	2	1	1		
4	4	"	3	1	9	1	2	This description applies		1		8	5	2	1	1		
5	4	"	3	1	9	1	2	to tank # 1 to 14		1		8	5	2	1	1		
6	4	"	3	1	9	1	2			1		8	5	2	1	1		
7	4	"	3	1	9	1	2			1		8	5	2	1	1		
8	4	"	3	1	9	1	2			1		8	5	2	1	1		
9	4	1,000	3	1	9	1	2			1		8	5	2	1	1		
10	4	"	3	1	9	1	2			1		8	5	2	1	1		
11	4	"	3	1	9	1	2			1		8	5	2	1	1		
12	1	10,000	1	9	2	8	2			1		8	2	1	2	1		
13	1	10,000	1	9	2	8	2			1		8	2	1	2	1		
14	1	10,000	1	9	2	8	2			1		8	2	1	2	1		

☐ D.P.

← Northern Parkway →

100'

(75.30')

(42.0')

268.40'

John Hassall Spec. Mach.

(underground)

5 6 4 8 7 3 11 1

John Hassall

12 13 14

WASTE TREAT

John Hassall Inc Warehouse

(366.19')

John Hassall Inc. Bldg #1

Canon Inc

(311.55')

Cantiague Rock Road

(541.89')

Bankmann Inst.

RECEIVED MAR 10 1987 NCDH—LRM

N

(733.75')

John Hassall Ind. Park
Cantiague Rock Road

REFERENCE NO. 10

MALCOLM PIRNIE, INC.	PROJECT NOTES

To: File	**Date:** January 5, 1993
From: Lisa Szegedi	**Project #:** 8002-064
Subject: Wells: Population Distribution	**Site Name:** John Hassall, Inc.

Westbury Water District
20,500 customers on 11 wells = 1,864 people per well
0-0.25 miles = 0
0.25-0.50 miles = 0
0.50-1 miles = 2 wells = 3,728 people
1-2 miles = 4 wells = 7,456 people
2-3 miles = 5 wells = 9,320 people
3-4 miles = 0

Hicksville Water Dept.
47,810 customers on 17 wells = 2,812 people per well
0-0.25 miles = 0
0.25-0.50 miles = 0
0.50-1 miles = 2 wells = 5,624 people
1-2 miles = 6 wells = 16,872 people
2-3 miles = 10 wells = 28,120 people
3-4 miles = 0

Bowling Green Water Dept.
37,000 customers on 37 wells = 1,000 people per well
0-0.25 miles = 0
0.25-0.50 miles = 0
0.50-1 miles = 0
1-2 miles = 2 wells = 2,000 people
2-3 miles = 0
3-4 miles = 1 well = 1,000 people

Village of Old Wesbury
3,000 customers on 5 wells = 600 people per well
0-0.25 miles = 0
0.25-0.50 miles = 0
0.50-1 miles = 1 well = 600 people
1-2 miles = 0
2-3 miles = 2 wells = 1,200 people
3-4 miles = 1 well = 600 people

Jerico Water Dept.
60,000 customers on 22 wells = 2,727 people per well
0-0.25 miles = 0
0.25-0.50 miles = 0
0.50-1 miles = 0
1-2 miles = 2 wells = 5,454 people
2-3 miles = 4 wells = 10,908 people
3-4 miles = 2 wells = 5,454 people

MALCOLM PIRNIE, INC.	PROJECT NOTES

To: File	**Date:** January 5, 1993
From: Lisa Szegedi	**Project #:** 8002-064
Subject: Wells: Population Distribution	**Site Name:** John Hassall, Inc.

(con't)

Plainview Water Dept.
37,000 customers on 4 wells = 9,520 people per well
0-0.25 miles = 0
0.25-0.50 miles = 0
0.50-1 miles = 0
1-2 miles = 0
2-3 miles = 0
3-4 miles = 4 wells = 37,000 people

Rosyln Water Dept.
5,700 customers on 14 wells = 407 people per well
0-0.25 miles = 0
0.25-0.50 miles = 0
0.50-1 miles = 0
1-2 miles = 0
2-3 miles = 0
3-4 miles = 2 wells = 814 people

Levittown Water District
45,000 customers on 9 wells = 5,000 people per well
0-0.25 miles = 0
0.25-0.50 miles = 0
0.50-1 miles = 0
1-2 miles = 0
2-3 miles = 0
3-4 miles = 4 wells = 20,000 people

Summary
0-0.25 miles = 0
0.25-0.50 miles = 0
0.50-1 miles = 9,952 people
1-2 miles = 31,782 people
2-3 miles = 49,548 people
3-4 miles = 64,868 people

REFERENCE NO. 11

GSC-TR-32-90-008

DRAFT

PCGEMS
USER'S GUIDE
RELEASE 1.0

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF PESTICIDES AND TOXIC SUBSTANCES
EXPOSURE EVALUATION DIVISION

Under
Contract No. 68024281
Task No. 2-28
Project Officer: Lynn Delpire
Task Manager: Patricia Harrigan

Prepared by

GENERAL SCIENCES CORPORATION
6100 Chevy Chase Drive
Laurel, Maryland 20707

April 1990

JOHN HASSELL INC.

LATITUDE 40:46:30 LONGITUDE 73:33:10 1980 POPULATION

KM	0.00- 0.4	0.4- 0.8	0.8- 1.6	1.6- 3.2	3.2- 4.8	4.8- 6.4	SECTOR TOTALS
S 1	1339	2187	9710	31323	63425	74891	182875
RING TOTALS	1339	2187	9710	31323	63425	74891	182875

1 MILE = 1.609 Km

0.4 Km = .25 MILE

0.8 Km = .50 MILE

1.6 Km = 1.0 MILE

3.2 Km = 2.0 mile

4.8 Km = 3.0 mile

6.4 Km = 4.0 MILE

REFERENCE NO. 12

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8003-079

Date: 7/28/92 Time: 10:17 [X] AM [ ] PM

[ ] Incoming Call From: _____ Telephone No.

Affiliation: _____

[X] Outgoing Call To: Harold Morgan (516)-794-8300 Telephone No.

Affiliation: Hempstead Water District

Malcolm Pirnie Staff: Lisa Szegedi (609)-860-0100
(Receiving or Calling) Name Telephone No.

Summary of [X] Conversation [ ] Agreement:

There are currently 6 districts being served by this water dept Mr Morgan believes that only two are within 4 miles of Hicksville - I requested a map showing the delineations from Mr Galletta - engineering dept
Each district has their own separate well system, however water within each district is blended before distribution

Levittown Water District - There are 9 active wells, and all are located in the Magothy aquifer They range in depth from 400-600' Their locations and total pumpage for 1991 are listed below

well # 2A - Azalea Rd 150 million gallons
9 - Bluegrass Lane between Shelter Rd and Center Rd 468 million gallons
6A and 5A - Market Lane 6A - 119 million gallons
5A - 247 million gallons
7A and 8A - Bowling Lane 7A - 169 million gallons
8A - 362 million gallons
12 - Loring Rd 177 million gallons
13 - Entry Lane 238 million gallons
14 - Water Lane S 127 million gallons

Altogether this system serves ~45,000 people

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JOSEPH N. MONDELLO
Presiding Supervisor

GREGORY P. PETERSON
Supervisor

Council Members
JOSEPH G. CAIRO, JR.
RICHARD V. GUARDINO, JR.
ANGIE M. CULLIN
PATRICK A. ZAGARINO
DAVID A. LEVY
JOSEPH J. KEARNEY

DANIEL M. FISHER, JR.
Town Clerk

ROBERT D. LIVINGSTON, JR.
Receiver of Taxes

Town of Hempstead
Department of Water

1995 PROSPECT AVENUE, EAST MEADOW, N.Y. 11554
(516) 794-8300
Fax # (516) 794-1355

DANIEL DAVIS, P
Commissioner

May 15, 1992

Mr. Rickey T. Kampfer
Malcolm Pirnie, Inc.
104 Interchange Plaza
Cranbury, NJ 08512-9543

Re: Public Water Supply Wells
As Per Four Mile Vicinity Map - 6/30/92
Levittown Water District

Dear Sir:

Enclosed as requested is the Four Mile Vicinity Map previously submitted with four (4) public supply wells indicated which are operated by the Department's Levittown Water District.

The Levittown Water District has 11,917 active accounts, which represents a population of 41,710 persons. The population estimate is based upon a Long Island Lighting Company 1991 census estimate wherein the average number of persons per household is 3.5.

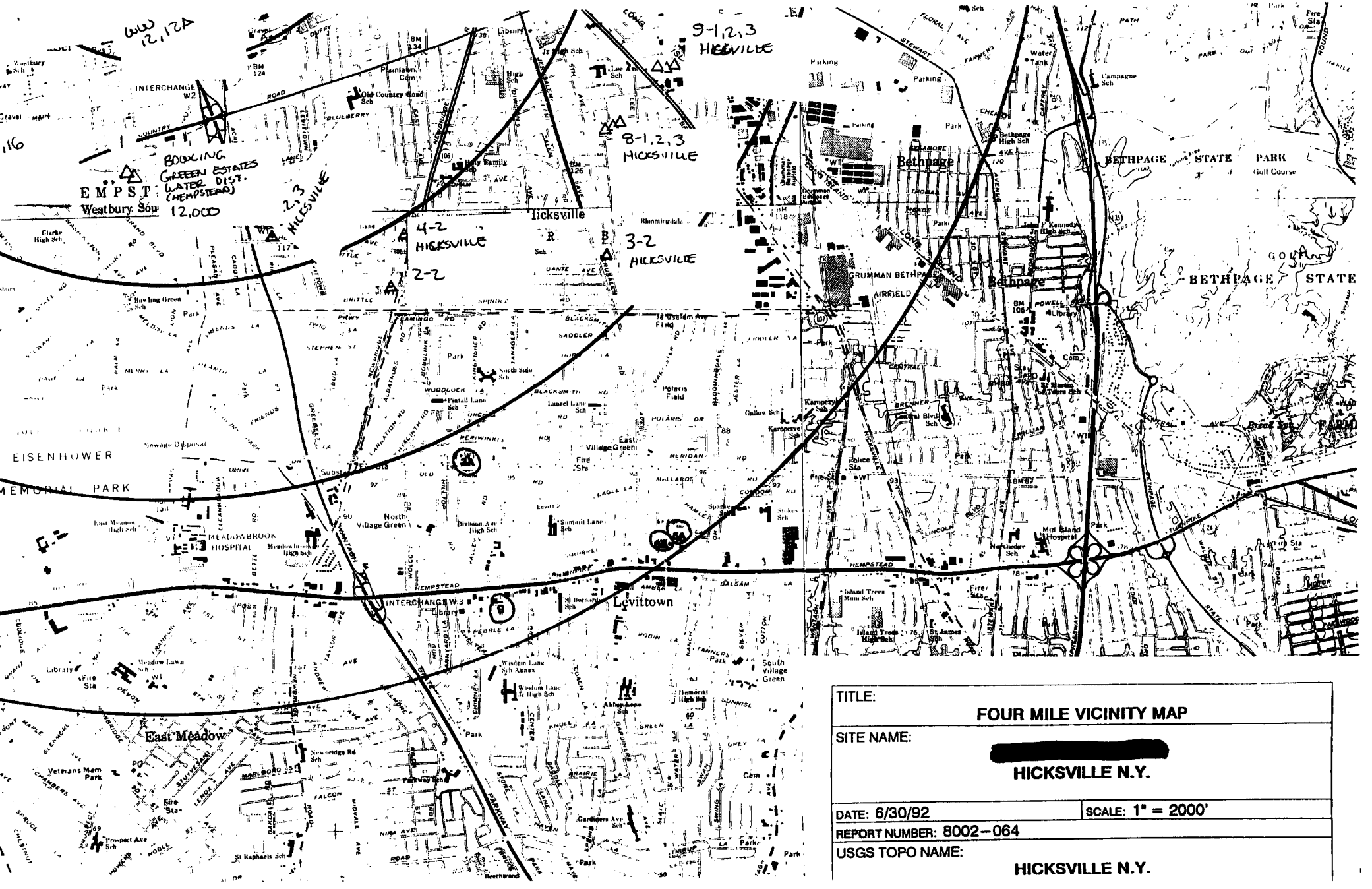
I trust the enclosed information is what you were looking for in your letter of 5/11/92.

Very truly yours,

Daniel Davis TP

Daniel Davis, P.E.,
Commissioner

DD:tp
encl.



TITLE:	FOUR MILE VICINITY MAP
SITE NAME:	[redacted] HICKSVILLE N.Y.
DATE: 6/30/92	SCALE: 1" = 2000'
REPORT NUMBER: 8002-064	
USGS TOPO NAME:	HICKSVILLE N.Y.

REFERENCE NO. 13

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8002-06-4

Date: 12 MAY 1992 Time: 8:40 [✓] AM [ ] PM

[X] Incoming Call From: JOE PASSARILLO

Affiliation: SUPERINTENDANT, JERICO WATER DEPT. Telephone No.

[ ] Outgoing Call To:

Affiliation: Telephone No.

Malcolm Pirnie Staff: RICKEY T. KAMPFER 609-860-0100
(Receiving or Calling) Name Telephone No.

Summary of [✓] Conversation [ ] Agreement:

- MR. PASSARILLO LOCATED 4 ADDITIONAL WELLS WITHIN THE AREA OF CONCERN, AND FURTHER STATED JERICO #10 WAS NOT IN SERVICE DUE TO POOR PRODUCTION.

* - ADDITIONALY; JERICO #15 WAS CLOSED DUE TO LEVELS OF TETRACHLOROTHYLENE (12 PPB) WICH EXCEEDED THE REVISED NASSAU COUNTY HEALTH DEPARTMENT POTABLE WATER GUIDELINES FOR TETRACHLOROETHYLENE (5 PPB)

- The JERICO WATER DISTRICT CURRENTLY SERVES APPROXIMATELY 10,000 CUSTOMERS (PERSONS) FROM 22 wells.

REFERENCE NO. 14

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8002-064

Date: 11 MAY 92 Time: 1427 [ ] AM [ ] PM

[ ] Incoming Call From: _____ Telephone No.

Affiliation: _____

[✓] Outgoing Call To: MARIE HADSKY 516-333-0427 Telephone No.

Affiliation: CLERK, WESTBURY WATER DEPT.

Malcolm Pirnie Staff: R. KAUFFER
(Receiving or Calling) Name Telephone No.

Summary of [✓] Conversation [ ] Agreement:

MRS HADSKY CONFIRMED 11 WELLS OPERATING AS LOCATED IN NUS REPORT PG NO 145. PK
CURRENTLY SERVING 20,500

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REFERENCE NO. 15

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8002-064

Date: 11 MAY 1992 Time: 1048 [x] AM [ ] PM

[ ] Incoming Call From: _____ Telephone No.

Affiliation: _____

[X] Outgoing Call To: MR. RICHARD WOODWELL 516-931-0184 Telephone No.

Affiliation: SUPERINTENDENT-HICKSVILLE WATER DEPT.

Malcolm Pirnie Staff: RICKEY KAMPFER
(Receiving or Calling) Name Telephone No.

Summary of [X] Conversation [ ] Agreement:

MR. WOODWELL CONFIRMED THE LOCATIONS OF 19 WELLS' LOCATIONS AS REFERENCED IN NUS ST PG. NO 138. WELL #'S 2-2 & 7-2 ARE NOT IN OPERATION.

THERE ARE CURRENTLY 47,810 PERSONS CURRENTLY BEING SUPPLIED

f:\rectele.jan(1)

REFERENCE NO. 16

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8002-064

Date: 12 MAY 92 Time: 1239 [ ] AM [X] PM

[ ] Incoming Call From: _____ Telephone No.

Affiliation: _____

[X] Outgoing Call To: BOB ZILMAN 516-794-8300 Telephone No.

Affiliation: ~~WORKER~~ PLANT OPERATOR, HEMPSTEAD WATER DIST.

Malcolm Pirnie Staff: _____
(Receiving or Calling) Name Telephone No.

Summary of [X] Conversation [ ] Agreement:

MR. ZILMAN LOCATED 3 wells WITH-IN THE AREA OF CONCERN

- HEMPTEAD WATER DEPT. CURRENTLY SERVES 37,000 PERSONS FROM 37 wells.

f:\rectele.jan(1)

REFERENCE NO. 17

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8002-06H

Date: 11 MAY 92 Time: 1534 [ ] AM [ ] PM

[ ] Incoming Call From: _____ Telephone No.

Affiliation: _____

[X] Outgoing Call To: KEN CLAUS 516-938-64-69 Telephone No.

Affiliation: SUPERINTENDANT - PLAINVIEW WATER DEPT.

Malcolm Pirnie Staff: R. KAMPFER
(Receiving or Calling) Name Telephone No.

Summary of [X] Conversation [ ] Agreement:

MR. CLAUS LOCATED 2 WATER SUPPLY PLANTS WITHIN THE AREA OF CONCERN

1. NORTH OF FERN PLACE SCHOOL ON ORANGE AVENUE (SOUTH OF NASSAU AVE)
   PLANT NO. 3 - 2 wells (3-1, 3-2)

2. SOUTH OF AND AT THE END OF MARYLIN BLVD.
   PLANT NO. 4 - 2 wells (4-1, 4-2)

CURRENTLY SUPPLYING 37,000 PERSONS

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REFERENCE NO. 18

ARCS II CONTRACT 68-W9-0051
MALCOLM PIRNIE, INC.
RECORD OF TELEPHONE CONVERSATION/AGREEMENT

File No. 8002-064

Date: 12 MAY 92 Time: _____ [ ] AM [ ] PM

[ ] Incoming Call From: _____ Telephone No.

Affiliation: MR. ~~FRANK~~ CIPRIANO

[X] Outgoing Call To: 516-621-7770 Telephone No.

Affiliation: SUPERINTENDANT, ROSLYN WATER DEPT.

Malcolm Pirnie Staff: _____
(Receiving or Calling) Name Telephone No.

Summary of [X] Conversation [ ] Agreement:

- MR. CIPRANO LOCATED 2 WELLS WITH-IN THE AREA OF CONCERN.
- ROSLYN WATER DEPARTMENT CURRENTLY SERVES ~~57,000~~ 5,700 PERSONS FROM 14 WELLS

f:\rectele.jan(1)

REFERENCE NO. 19

SUPERFUND CHEMICAL DATA MATRIX

1 November 1991

Appendix A

Chemical Data, Factor Values, and Benchmarks for Chemical Substances

HAZARD RANKING SYSTEM
Hazardous Substance Factor Values
(305 Substances)

Substance Name	CAS Number	Toxicity	Ground Water Mobility: Liquid: Karst	Ground Water Mobility: Liquid: Non-Karst	Ground Water Mobility: Non-Liquid: Karst	Ground Water Mobility: Non-Liquid: Non-Karst	Persistence: River	Persistence: Lake	Bioaccumulation: Food Chain: Fresh	Bioaccumulation: Food Chain: Salt	Bioaccumulation: Environmental: Fresh	Bioaccumulation: Environmental: Salt	Ecotoxicity: Fresh	Ecotoxicity: Salt	Air Gas Migration	Air Gas Mobility Gas	Air Gas Mobility Part
Benzofluoranthene, 3,4-	000205-99-2	10000	1.0E+00	1.0E-04	2.0E-05	2.0E-09	1.0000	1.0000	50000.0	50000.0	50000.0	50000.0	...	...	6	0.0020	Yes Yes
Benzoic acid	000065-85-0	1	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0000	1.0000	5.0	5.0	5000.0	5000.0	1	1	11	0.2000	Yes Yes
Benzonitrile	000100-47-0	10	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	0.0700	5.0	5.0	5.0	5.0	...	...	11	0.2000	Yes Yes
Benzothiazole, 1,2,-	000095-16-9	1	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.0007	0.0700	50.0	50.0	50.0	50.0	...	...	11	0.2000	Yes Yes
Benzyl chloride	000100-44-7	100	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.0700	0.0700	50.0	50.0	50.0	50.0	100	100	11	1.0000	Yes No
Beryllium	007440-41-7	10000	1.0E+00	1.0E-02	1.0E+00	1.0E-02	1.0000	1.0000	50.0	50.0	50.0	50.0	...	...	NA	NA	No Yes
Biphenyl, 1,1-	000092-52-4	10	1.0E+00	1.0E-02	2.0E-01	2.0E-03	0.4000	0.4000	500.0	500.0	500.0	500.0	100	100	11	0.2000	Yes Yes
Bis (2-ethylhexyl) phthalate	000117-81-7	100	1.0E+00	1.0E-04	2.0E-03	2.0E-07	1.0000	1.0000	5000.0	5000.0	50000.0	50000.0	1000	1000	6	0.0020	Yes Yes
Bis(2-chloroethoxy)methane	000111-91-1	100	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0000	1.0000	0.5	0.5	0.5	0.5	...	...	11	1.0000	Yes No
Bis(2-chloroethyl)ether	000111-44-4	1000	1.0E+00	1.0E-02	1.0E+00	1.0E-02	1.0000	1.0000	50.0	50.0	50.0	50.0	1	1	11	1.0000	Yes No
Bis(chloromethyl)ether	000542-88-1	10000	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.0007	0.0007	0.5	0.5	0.5	0.5	...	...	17	1.0000	Yes No
Boron	007440-42-8	10	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0000	1.0000	0.5	0.5	0.5	0.5*	...	...	NA	NA	No Yes
Bromodichloromethane	000075-27-4	100	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	1.0000	50.0	50.0	50.0	50.0	...	...	17	1.0000	Yes No
Bromomethane	000074-83-9	1000	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	1.0000	5.0	5.0	5.0	5.0	10	10	17	1.0000	Yes No
Bromoxynil	001689-84-5	100	1.0E+00	1.0E-02	2.0E-01	2.0E-03	0.4000	0.0700	50.0	50.0	50.0	50.0	...	...	0	0.0002	Yes Yes
Butadiene, 1,3-	000106-99-0	1000	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.0007	0.0700	5.0	5.0	5.0	5.0	...	...	17	1.0000	Yes No
Butanol	000071-36-3	10	1.0E+00	1.0E-02	1.0E+00	1.0E-02	1.0000	1.0000	5.0	5.0	5.0	5.0	1	1	11	1.0000	Yes No
Butylbenzyl phthalate	000085-68-7	10	1.0E+00	1.0E-04	2.0E-01	2.0E-05	1.0000	1.0000	500.0	500.0	500.0	500.0	100	1000	6	0.0020	Yes Yes
Butyric acid, 4-(2,4-dichlorophenoxy)	000094-82-6	100	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	0.0700	50.0	50.0	50.0	50.0	100	100	0	0.0020	Yes Yes

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HAZARD RANKING SYSTEM
Hazardous Substance Factor Values
(305 Substances)

Substance Name	CAS Number	Toxicity	Ground Water Mobility: Liquid: Karst	Ground Water Mobility: Liquid: Non-Karst	Ground Water Mobility: Non-Liquid: Karst	Ground Water Mobility: Non-Liquid: Non-Karst	Persistence: River	Persistence: Lake	Bioaccumulation: Food Chain: Fresh	Bioaccumulation: Food Chain: Salt	Bioaccumulation: Environmental: Fresh	Bioaccumulation: Environmental: Salt	Ecotoxicity: Fresh	Ecotoxicity: Salt	Air Gas Migration	Air Gas Mobility	Air Gas	Part
Chlorpyrifos	002921-88-2	1000	1.0E+00	1.0E-04	2.0E-01	2.0E-05	1.0000	1.0000	5000.0	5000.0	5000.0	5000.0	10000	10000	NA	NA	No	Yes
Chromium	007440-47-3	10000	1.0E+00	1.0E-02	1.0E+00	1.0E-02	1.0000	1.0000	5.0	500.0	5.0	500.0	10000	10	NA	NA	No	Yes
Chromium(III)	016065-83-1	10000	1.0E+00	1.0E-02	1.0E+00	1.0E-02	1.0000	1.0000	500.0	500.0	500.0	500.0	10	10	NA	NA	No	Yes
Chromium(VI)	018540-29-9	10000	1.0E+00	1.0E-02	1.0E+00	1.0E-02	1.0000	1.0000	5.0	500.0	5.0	500.0	100	100	NA	NA	No	Yes
Chrysene	000218-01-9	...	1.0E+00	1.0E-04	2.0E-05	2.0E-09	1.0000	1.0000	500.0	500.0	500.0	500.0	...	...	6	0.0002	Yes	Yes
Cobalt	007440-48-4	100	1.0E+00	1.0E-02	1.0E+00	1.0E-02	1.0000	1.0000	5000.0	5000.0	5000.0	5000.0	...	...	NA	NA	No	Yes
Copper	007440-50-8	100	1.0E+00	1.0E-02	1.0E+00	1.0E-02	1.0000	1.0000	50000.0	50000.0	50000.0	50000.0	100	1000	NA	NA	No	Yes
Copper cyanide	000544-92-3	100	1.0E+00	1.0E-02	1.0E+00	1.0E-02	1.0000	1.0000	500.0	500.0	500.0	500.0*	...	...	NA	NA	No	Yes
Coumaphos	000056-72-4	100	1.0E+00	1.0E-04	2.0E-01	2.0E-05	0.4000	0.4000	500.0	500.0	500.0	500.0	10000	1000	NA	NA	No	Yes
Creosote	008001-58-9	10	1.0E+00	1.0E+00	2.0E-05	2.0E-05	0.4000	0.0700	0.5	0.5	0.5	0.5	1	1	NA	NA	No	Yes
Cresol, m-	000108-39-4	10	1.0E+00	1.0E-02	1.0E+00	1.0E-02	1.0000	1.0000	5.0	5.0	5.0	5.0	100	100	11	1.0000	Yes	No
Cresol, p-	000106-44-5	10	1.0E+00	1.0E-02	1.0E+00	1.0E-02	1.0000	0.4000	500.0	500.0	5000.0	5000.0	100	100	11	1.0000	Yes	No
Cumene	000098-82-8	1000	1.0E+00	1.0E-02	2.0E-01	2.0E-03	0.4000	1.0000	500.0	500.0	500.0	500.0	100	1	17	1.0000	Yes	No
Cyanazine	021725-46-2	1000	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	0.0700	50.0	50.0	50.0	50.0	...	...	0	0.0020	Yes	Yes
Cyanide	000057-12-5	100	1.0E+00	1.0E+00	2.0E-05	2.0E-05	0.4000	0.0700	0.5	0.5	0.5	0.5	1000	1000	NA	NA	No	Yes
Cyanogen	000460-19-5	100	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	0.0700	0.5	0.5	0.5	0.5	...	...	17	1.0000	Yes	No
Cyanogen bromide	000506-68-3	10	1.0E+00	1.0E+00	2.0E-05	2.0E-05	0.4000	0.0700	0.5	0.5	0.5	0.5	1000	1000	NA	NA	No	Yes
Cyclohexane	000110-82-7	1	1.0E+00	1.0E-02	2.0E-01	2.0E-03	0.4000	1.0000	500.0	500.0	500.0	500.0	10	100	17	1.0000	Yes	No
Cyclohexanone	000108-94-1	1	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	0.0700	5.0	5.0	5.0	5.0	...	...	11	1.0000	Yes	No

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HAZARD RANKING SYSTEM
Hazardous Substance Factor Values
(305 Substances)

Substance Name	CAS Number	Toxicity	Ground Water Mobility: Liquid: Karst	Ground Water Mobility: Liquid: Non-Karst	Ground Water Mobility: Non-Liquid: Karst	Ground Water Mobility: Non-Liquid: Non-Karst	Persistence: River	Persistence: Lake	Bioaccumulation: Food Chain: Fresh	Bioaccumulation: Food Chain: Salt	Bioaccumulation: Environmental: Fresh	Bioaccumulation: Environmental: Salt	Ecotoxicity: Fresh	Ecotoxicity: Salt	Air Gas Migration	Air Gas Mobility	Air Gas	Air Part
Dinitrobenzene, 1,3-	000099-65-0	10000	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	0.0700	5.0	5.0	5.0	5.0	100	100	6	0.0200	Yes	Yes
Dinitrophenol, 2,4-	000051-28-5	1000	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0000	1.0000	5.0	5.0	5.0	5.0	10000	10000	11	0.2000	Yes	Yes
Dinitrotoluene, 2,4-	000121-14-2	1000	1.0E+00	1.0E-02	1.0E+00	1.0E-02	1.0000	0.4000	50.0	50.0	50.0	50.0	10	10	6	0.0200	Yes	Yes
Dinitrotoluene, 2,6-	000606-20-2	1000	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	0.0700	50.0	50.0	50.0	50.0	10	10	6	0.0200	Yes	Yes
Dinoseb	000088-85-7	1000	1.0E+00	1.0E-02	2.0E-01	2.0E-03	1.0000	1.0000	500.0	500.0	500.0	500.0	10000	100	6	0.0200	Yes	Yes
Dioxane, 1,4-	000123-91-1	10	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0000	1.0000	0.5	0.5	0.5	0.5	1	1	11	1.0000	Yes	No
Dioxathion	000078-34-2	100	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	0.0700	50.0	50.0	50.0	50.0	10000	10000	NA	NA	No	Yes
Diphenylhydrazine, 1,2-	000122-66-7	1000	1.0E+00	1.0E-02	2.0E-01	2.0E-03	1.0000	1.0000	50.0	50.0	50.0	50.0	1000	1000	6	0.0200	Yes	Yes
Diquat	000085-00-7	1000	1.0E+00	1.0E+00	2.0E-05	2.0E-05	0.4000	0.0700	0.5	0.5	0.5	0.5	1000	1000	NA	NA	No	Yes
Disulfoton	000298-04-4	10000	1.0E+00	1.0E+00	2.0E-01	2.0E-01	1.0000	1.0000	500.0	500.0	500.0	500.0	10000	10000	6	0.0200	Yes	Yes
Diuron	000330-54-1	1000	1.0E+00	1.0E+00	2.0E-01	2.0E-01	0.4000	0.0700	5000.0	5000.0	500.0	500.0	1000	100	NA	NA	No	Yes
Endosulfan (I or II)	000115-29-7	10000	1.0E+00	1.0E-02	2.0E-03	2.0E-05	1.0000	0.4000	5000.0	5000.0	5000.0	5000.0	10000	10000	11	0.0020	Yes	Yes
Endosulfan sulfate	001031-07-8	...	1.0E+00	1.0E-02	1.0E+00	1.0E-02	1.0000	1.0000	50.0	50.0	50.0	50.0	...	...	17	1.0000	Yes	No
Endothall	000145-73-3	100	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	0.0700	0.5	0.5	0.5	0.5	...	...	6	0.0200	Yes	Yes
Endrin	000072-20-8	10000	1.0E+00	1.0E-04	2.0E-03	2.0E-07	1.0000	1.0000	5000.0	5000.0	50000.0	5000.0	10000	10000	6	0.0020	Yes	Yes
Endrin aldehyde	007421-93-4	...	1.0E+00	1.0E+00	2.0E-05	2.0E-05	0.4000	0.0700	0.5	0.5	0.5	0.5	10000	10000	NA	NA	No	Yes
Ethion	000563-12-2	1000	1.0E+00	1.0E-04	2.0E-01	2.0E-05	1.0000	1.0000	5000.0	5000.0	5000.0	5000.0	10000	10000	NA	NA	No	Yes
Ethyl acetate	000141-78-6	1	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	0.4000	0.5	0.5	0.5	0.5	...	...	17	1.0000	Yes	No
Ethyl benzene	000100-41-4	10	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	0.4000	50.0	50.0	50.0	50.0	100	1000	17	1.0000	Yes	No

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HAZARD RANKING SYSTEM
Hazardous Substance Factor Values
(305 Substances)

Substance Name	CAS Number	Toxicity	Ground Water Mobility: Liquid: Karst	Ground Water Mobility: Liquid: Non-Karst	Ground Water Mobility: Non-Liquid: Karst	Ground Water Mobility: Non-Liquid: Non-Karst	Persistence: River	Persistence: Lake	Bioaccumulation: Food Chain: Fresh	Bioaccumulation: Food Chain: Salt	Bioaccumulation: Environmental: Fresh	Bioaccumulation: Environmental: Salt	Ecotoxicity: Fresh	Ecotoxicity: Salt	Air Gas Migration	Air Gas Mobility	Gas	Part
Maleic anhydride	000108-31-6	10	1.0E+00	1.0E+00	2.0E-05	2.0E-05	0.4000	0.0700	0.5	0.5	0.5	0.5	1	1	11	1.0000	Yes	No
Maleic hydrazide	000123-33-1	1	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	1.0000	0.5	0.5	0.5	0.5	...	...	17	1.0000	Yes	No
Manganese	007439-96-5	10000	1.0E+00	1.0E-02	1.0E+00	1.0E-02	1.0000	1.0000	50000.0	5000.0	50000.0	50000.0	...	...	NA	NA	No	Yes
Mercury	007439-97-6	10000	1.0E+00	1.0E+00	2.0E-05	2.0E-05	1.0000	1.0000	50000.0	50000.0	50000.0	50000.0	10000	10000	11	0.2000	Yes	Yes
Methacrylonitrile	000126-98-7	10000	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	1.0000	0.5	0.5	0.5	0.5	...	...	17	1.0000	Yes	No
Methanol	000067-56-1	1	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0000	0.4000	0.5	0.5	0.5	0.5	1	1	11	1.0000	Yes	No
Methomyl	016752-77-5	100	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	1.0000	0.5	0.5	0.5	0.5	...	...	17	1.0000	Yes	No
Methoxychlor	000072-43-5	100	1.0E+00	1.0E-04	2.0E-03	2.0E-07	1.0000	1.0000	50000.0	5000.0	50000.0	50000.0	10000	10000	6	0.0020	Yes	Yes
Methyl chloroarbonate	000079-22-1	100	1.0E+00	1.0E+00	2.0E-05	2.0E-05	0.4000	0.0700	0.5	0.5	0.5	0.5	...	...	NA	NA	No	Yes
Methyl ethyl ketone	000078-93-3	10	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	0.4000	0.5	0.5	0.5	0.5	1	1	17	1.0000	Yes	No
Methyl isobutyl ketone	000108-10-1	100	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	1.0000	5.0	5.0	5.0	5.0	1	1	17	1.0000	Yes	No
Methyl methacrylate	000080-62-6	10	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	1.0000	5.0	5.0	5.0	5.0	1	1	17	1.0000	Yes	No
Methylene bis (2-chloroaniline), 4,4-	000101-14-4	1000	1.0E+00	1.0E-04	2.0E-01	2.0E-05	0.4000	0.0700	500.0	500.0	500.0	500.0	...	...	0	0.0002	Yes	Yes
Methylene chloride	000075-09-2	10	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	1.0000	5.0	5.0	5.0	5.0	1	1	17	1.0000	Yes	No
Methylenediphenyl diisocyanate, 4,4-	000101-68-8	10000	1.0E+00	1.0E+00	2.0E-05	2.0E-05	0.4000	0.0700	0.5	0.5	0.5	0.5	...	...	0	0.0020	Yes	Yes
Metribuzin	021087-64-9	100	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	1.0000	5.0	5.0	5.0	5.0	...	...	17	1.0000	Yes	No
Mirex	002385-85-5	10000	1.0E+00	1.0E+00	2.0E-05	2.0E-05	0.4000	0.0700	5000.0	50000.0	50000.0	50000.0	10000	10000	NA	NA	No	Yes
Naphthalene	000091-20-3	1000	1.0E+00	1.0E-02	2.0E-01	2.0E-03	0.4000	0.4000	500.0	5.0	500.0	5000.0	1000	1000	11	0.2000	Yes	Yes
Nickel	007440-02-0	10000	1.0E+00	1.0E-02	2.0E-03	2.0E-05	1.0000	1.0000	0.5	500.0	500.0	500.0	10	1000	NA	NA	No	Yes

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HAZARD RANKING SYSTEM
Hazardous Substance Factor Values
(305 Substances)

Substance Name	CAS Number	Toxicity	Ground Water Mobility: Liquid: Karst	Ground Water Mobility: Liquid: Non-Karst	Ground Water Mobility: Non-Liquid: Karst	Ground Water Mobility: Non-Liquid: Non-Karst	Persistence: River	Persistence: Lake	Bioaccumulation: Food Chain: Fresh	Bioaccumulation: Food Chain: Salt	Bioaccumulation: Environmental: Fresh	Bioaccumulation: Environmental: Salt	Ecotoxicity: Fresh	Ecotoxicity: Salt	Air Gas Migration	Air Gas Mobility	Air Gas	Air Part
Tetraethyldithiopyrophosphate	003689-24-5	1000	1.0E+00	1.0E+00	2.0E-05	2.0E-05	0.4000	0.0700	0.5	0.5	0.5	0.5	10000	10000	NA	NA	No	Yes
Tetrahydrofuran	000109-99-9	1	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	1.0000	0.5	0.5	0.5	0.5	...	...	17	1.0000	Yes	No
Thallium	007440-28-0	10000	1.0E+00	1.0E-04	1.0E+00	1.0E-04	1.0000	1.0000	500.0	50.0	500.0	50.0	...	...	NA	NA	No	Yes
Thiourea	000062-56-6	100	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	0.0700	0.5	0.5	0.5	0.5	...	...	6	0.0200	Yes	Yes
Thiram	000137-26-8	100	1.0E+00	1.0E+00	2.0E-01	2.0E-01	0.4000	0.0700	5000.0	5000.0	5000.0	5000.0	...	...	NA	NA	No	Yes
Toluene	000108-88-3	10	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	0.4000	50.0	50.0	50.0	50.0	100	100	17	1.0000	Yes	No
Toluene diisocyanate	000584-84-9	1000	1.0E+00	1.0E+00	2.0E-05	2.0E-05	0.4000	0.0700	0.5	0.5	0.5	0.5	1	1	11	0.2000	Yes	Yes
Toxaphene	008001-35-2	1000	1.0E+00	1.0E-02	2.0E-03	2.0E-05	1.0000	1.0000	50000.0	50000.0	50000.0	50000.0	10000	10000	6	0.0020	Yes	Yes
TP, 2,4,5-	000093-72-1	100	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	0.0700	500.0	500.0	500.0	500.0	1000	1000	0	0.0020	Yes	Yes
Tribromomethane	000075-25-2	100	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0000	1.0000	50.0	50.0	50.0	50.0	10	10	11	1.0000	Yes	No
Trichloro-1,2,2-Trifluoroethane, 1,1,2-	000076-13-1	1	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	1.0000	50.0	50.0	50.0	50.0	...	...	17	1.0000	Yes	No
Trichlorobenzene, 1,2,4-	000120-82-1	1000	1.0E+00	1.0E-02	2.0E-01	2.0E-03	0.4000	1.0000	500.0	500.0	500.0	500.0	1000	100	17	1.0000	Yes	No
Trichloroethane, 1,1,1-	000071-55-6	10	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	1.0000	5.0	5.0	5.0	5.0	10	10	17	1.0000	Yes	No
Trichloroethane, 1,1,2-	000079-00-5	1000	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	1.0000	50.0	50.0	50.0	50.0	10	10	17	1.0000	Yes	No
Trichloroethylene	000079-01-6	10	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	1.0000	50.0	50.0	50.0	50.0	10	10	17	1.0000	Yes	No
Trichlorofluoromethane	000075-69-4	10	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	1.0000	50.0	50.0	50.0	50.0	...	...	17	1.0000	Yes	No
Trichlorophenol, 2,3,5-	000933-78-8	...	1.0E+00	1.0E-04	2.0E-01	2.0E-05	1.0000	1.0000	5000.0	5000.0	5000.0	5000.0	...	...	6	0.0200	Yes	Yes
Trichlorophenol, 2,3,6-	000933-75-5	...	1.0E+00	1.0E-02	2.0E-01	2.0E-03	1.0000	1.0000	500.0	500.0	500.0	500.0	...	...	6	0.0200	Yes	Yes
Trichlorophenol, 2,4,5-	000095-95-4	10	1.0E+00	1.0E-02	1.0E+00	1.0E-02	1.0000	0.4000	500.0	500.0	5000.0	5000.0	1000	1000	11	0.2000	Yes	Yes

* Indicates difference between previous version of chemical data (OCT91) and current version of chemical data.

HAZARD RANKING SYSTEM
Hazardous Substance Factor Values
(305 Substances)

Substance Name	CAS Number	Toxicity	Ground Water Mobility: Liquid: Karst	Ground Water Mobility: Liquid: Non-Karst	Ground Water Mobility: Non-Liquid: Karst	Ground Water Mobility: Non-Liquid: Non-Karst	Persistence: River	Persistence: Lake	Bioaccumulation: Food Chain: Fresh	Bioaccumulation: Food Chain: Salt	Bioaccumulation: Environmental: Fresh	Bioaccumulation: Environmental: Salt	Ecotoxicity: Fresh	Ecotoxicity: Salt	Air Gas Migration	Air Gas Mobility	Gas	Part
Trichlorophenol, 2,4,6-	000088-06-2	10	1.0E+00	1.0E+00	1.0E+00	1.0E+00	1.0000	0.4000	500.0	500.0	500.0	500.0	1000	100	11	0.2000	Yes	Yes
Trichlorophenol, 3,4,5-	000609-19-8	...	1.0E+00	1.0E-02	2.0E-01	2.0E-03	1.0000	1.0000	500.0	500.0	500.0	500.0	...	...	11	0.0200	Yes	Yes
Trichlorophenoxyacetic acid, 2,4,5-	000093-76-5	100	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	0.0700	50.0	50.0	500.0	500.0	10000	10000	0	0.0020	Yes	Yes
Trichloropropane, 1,2,3-	000096-18-4	100	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	1.0000	5.0	5.0	5.0	5.0	...	...	11	1.0000	Yes	No
Triethanolamine	000102-71-6	1	1.0E+00	1.0E+00	2.0E-05	2.0E-05	0.4000	0.0700	0.5	0.5	0.5	0.5	...	...	0	0.0020	Yes	Yes
Trifluralin	001582-09-8	100	1.0E+00	1.0E-04	2.0E-01	2.0E-05	1.0000	1.0000	5000.0	5000.0	50000.0	50000.0	10000	1000	11	0.0200	Yes	Yes
Trinitrobenzene, 1,3,5-	000099-35-4	10000	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	0.0700	5.0	5.0	5.0	5.0	100	100	6	0.0200	Yes	Yes
Trinitrotoluene	000118-96-7	1000	1.0E+00	1.0E-02	1.0E+00	1.0E-02	1.0000	1.0000	5.0	5.0	5.0	5.0	...	...	6	0.0200	Yes	Yes
Tris (2,3-dibromopropyl) phosphate	000126-72-7	1000	1.0E+00	1.0E-04	2.0E-01	2.0E-05	1.0000	1.0000	5000.0	5000.0	5.0	5.0	...	...	11	0.0200	Yes	Yes
Vanadium pentoxide	001314-62-1	100	1.0E+00	1.0E+00	2.0E-05	2.0E-05	1.0000	1.0000	0.5	0.5	0.5	0.5	...	...	NA	NA	No	Yes
Vinyl acetate	000108-05-4	10	1.0E+00	1.0E+00	1.0E+00	1.0E+00	0.4000	1.0000	0.5	0.5	0.5	0.5	10	100	17	1.0000	Yes	No
Vinyl chloride	000075-01-4	10000	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.0007	0.0700	5.0	5.0	5.0	5.0	...	...	17	1.0000	Yes	No
Warfarin	000081-81-2	10000	1.0E+00	1.0E-02	2.0E-01	2.0E-03	0.4000	0.0700	50.0	50.0	50.0	50.0	10	10	0	0.0020	Yes	Yes
Xylene, m-	000108-38-3	10	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	1.0000	500.0	500.0	500.0	500.0	100	100	17	1.0000	Yes	No
Xylene, o-	000095-47-6	10	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	1.0000	50.0	50.0	50.0	50.0	100	100	17	1.0000	Yes	No
Xylene, p-	000106-42-3	10	1.0E+00	1.0E-02	1.0E+00	1.0E-02	0.4000	1.0000	50.0	50.0	50.0	50.0	100	100	17	1.0000	Yes	No
Zinc	007440-66-6	10	1.0E+00	1.0E-02	2.0E-01	2.0E-03	1.0000	1.0000	500.0	50000.0	500.0	50000.0	10	100	NA	NA	No	Yes
Zinc cyanide	000557-21-1	10	1.0E+00	1.0E-02	2.0E-01	2.0E-03	1.0000	1.0000	50000.0	50000.0	50000.0	50000.0*	...	...	NA	NA	No	Yes
Zinc phosphide	001314-84-7	10000	1.0E+00	1.0E-02	2.0E-01	2.0E-03	1.0000	1.0000	50000.0	50000.0	50000.0	50000.0*	...	...	NA	NA	No	Yes

* Indicates difference between previous version of chemical data (OCT91) and current version of chemical data.

REMEDIAL SITE ASSESSMENT DECISION - EPA REGION II

Site Name: JOHN HASSALL INC **EPA ID#:** NYD002045417 **State ID#:**

Alias Site Names:

City: WESTBURY **County or Parish:** NASSAU **State:** NY

Refer to Report Dated: 92/06/30 **Report type:** SIP

Report developed by: PIRNIE

FINAL DRAFT
SI PRIORITIZATION
JOHN HASSAL
VOL 3 OF 3
JUNE 30, 1992

DECISION:

| | **1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:**

| | 1a. Site does not qualify for further remedial site assessment under CERCLA (Site Evaluation Accomplished - SEA)

| | 1b. Site may qualify for further action, but is deferred to:

|XX| **2. Further Assessment Needed Under CERCLA:**

2a. Priority: | | Higher |XX| Lower

2b. Other: (recommended action) HRS

DISCUSSION/RATIONALE: THIS SITE WARRANTS FURTHER CERCLA ACTION BASED ON A SI WORKSHEET SCORE ABOVE 28.5. ALL TARGETS ARE SECONDARY. THE SITE IS AN ACTIVE MANUFACTURING FACILITY FOR SPECIALTY NAILS AND FASTENERS. UNDERGROUND TANKS AND A RECHARGE BASIN ARE LOCATED ONSITE.
GW - THERE IS NO OBSERVED RELEASE TO GROUNDWATER. THE SITE LIES WITHIN A WELLHEAD PROTECTION AREA. THE CLOSEST WELL IS LOCATED MORE THAN ½ MILE FROM THE SITE. 156,150 PEOPLE ARE SERVED BY GROUNDWATER WITHIN 4 MILES OF THE SITE.
SW - SURFACE WATER FROM THE SITE DRAINS TO STORM SEWERS OR THE RECHARGE BASIN. THERE ARE SEVERAL PERENNIAL PONDS LOCATED 1.5 MILES FROM THE SITE, HOWEVER, THERE IS A VERY LOW POTENTIAL FOR SURFACE WATER MIGRATION.
SOIL - THERE IS AN OBSERVED RELEASE OF INORGANICS AND ORGANICS TO THE SOIL. THERE IS NO RESIDENT POPULATION; 100 WORKERS ARE PRESENT ONSITE.
AIR - THERE IS NO OBSERVED RELEASE TO AIR. 182,875 LIVE WITHIN 4 MILES OF THE SITE. 100 WORKERS ARE PRESENT ONSITE. 4 ACRES OF PALUSTRINE FORESTED STATE WETLANDS ARE LOCATED WITHIN ½ MILE.

Site Decision Made by: GINA FERREIRA Signature: Gina Ferreira Date: 92/11/09

EPA Form # 9100-3

REFERENCE NO. 20

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II
EDISON, NEW JERSEY 08837

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

Site Name: John Hasall, Inc.

Address: Cantiague Rock Road, Westbury, NY 11590

County: Nassau

EPA I.D. No.: NYD002045417

Summary:

John Hasall, Inc. is an active facility which makes specialty nails, rivets, and other fasteners from various metallic wires. Wastewater and hazardous wastes are produced from de-burring, burnishing, plating, and cleaning these fasteners. The wastewaters produced are high in heavy metals. Spent cleaning solvents are the hazardous wastes produced.

From 1974 to 1981, Hasall treated their wastewaters in an in-house treatment plant and then discharged the effluent to groundwaters via a recharge basin. During this period, Hasall routinely violated their SPDES permit standards for iron, chromium, and nickel. Prior to 1974, Hasall also generated wastewater containing cyanide. Since 1981, wastewater batches have been discharged to the to the Nassau County Sewer System, provided they meet sewer standards for the above metals. Testing performed in 1984 by Hasall on influent and a slurry from the treatment plant showed high amounts of volatile organics in the wastewater.

The potential exists for groundwater and soil contamination with heavy metals and volatile organics beneath and around the former recharge basin.

Priority for Inspection: High ___
Medium X
Low ___
None ___

Recommendations:

Because of Nassau County's dependency on groundwater for a drinking supply and the proximity of six public water supply wells (within a one mile radius of the site) the site is given a medium priority.

Sampling areas should include soil from the former recharge area and nearby wells. Samples should be analyzed for metals and volatile organics.

Prepared by: Carol Price, Environmental Scientist
U.S. EPA, Environmental Services Division

Date: August 28, 1986

EPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE: NY
02 SITE NUMBER: D002045417

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): John Hasall, Inc.
02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: Cantiague Rock Road
03 CITY: Westbury
04 STATE: NY
05 ZIP CODE: 11590
06 COUNTY: Nassau
07 COUNTY CODE: 059
08 CONG DIST: 2-5
09 COORDINATES LATITUDE: 40 46 30.
LONGITUDE: 73 33 10.
10 DIRECTIONS TO SITE (Starting from nearest public road):
Take the Long Island Expressway east. Get off at Exit 40 for Jericho Turnpike. Just after getting on the Jericho Turnpike, make first left onto Cantiague Rock Road. Follow Cantiague Rock Road to site.

III. RESPONSIBLE PARTIES

01 OWNER (If known): Theodore B. Smith, Jr.
02 STREET (Business, mailing, residential): Cantiague Rock Road
03 CITY: Westbury
04 STATE: NY
05 ZIP CODE: 11590
06 TELEPHONE NUMBER: (516 334-6200
07 OPERATOR (If known and different from owner): Karl W. Horlitz
08 STREET (Business, mailing, residential): Cantiague Rock Road
09 CITY: Westbury
10 STATE: NY
11 ZIP CODE: 11590
12 TELEPHONE NUMBER: (516 334-6200
13 TYPE OF OWNERSHIP (Check one):
☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN
14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply):
☒ A. RCRA 3001 DATE RECEIVED: 11/18/80 (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: / / (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES DATE 4/20/83 (MONTH DAY YEAR)
☐ NO
8/12/85
BY (Check all that apply):
☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): _____
02 SITE STATUS (Check one):
☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN
03 YEARS OF OPERATION: 1953 (BEGINNING YEAR) Current (ENDING YEAR) ☐ UNKNOWN
04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Solvents from the cleaning of metal parts.
Heavy metals and possibly cyanide from de-burring and finishing of metal parts.
05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Chlorinated solvents and heavy metals may have contaminated soil and groundwater from previous disposal of wastewater to groundwater. Nassau County is highly dependent on groundwater as a drinking water supply.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents):
☐ A. HIGH (Inspection required promptly) ☒ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NUMBER
Diana Messina	EPA/ESD/SMB/Superfund Support Section	201) 321-6776

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Carol Price	EPA	ESD/SMB/Super.	201) 321-6714	8/29/86 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D002045417

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- ☐ A SOLID
- ☐ B POWDER, FINES
- ☒ C SLUDGE
- ☐ D OTHER _____ (Specify)
- ☐ E SLURRY
- ☒ F LIQUID
- ☐ G GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS _____
CUBIC YARDS _____
NO. OF DRUMS 8

03 WASTE CHARACTERISTICS (Check all that apply)

- ☒ A. TOXIC
- ☒ B. CORROSIVE
- ☐ C. RADIOACTIVE
- ☒ D. PERSISTENT
- ☒ E. SOLUBLE
- ☐ F. INFECTIOUS
- ☐ G. FLAMMABLE
- ☐ H. IGNITABLE
- ☒ I. HIGHLY VOLATILE
- ☐ J. EXPLOSIVE
- ☐ K. REACTIVE
- ☐ L. INCOMPATIBLE
- ☐ M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	9000	Gallons	Wastewater treatment sludge
OLW	OILY WASTE			
SOL	SOLVENTS	440	Gallons	Spent solvents from degreasing
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Trace		In sludge and wastewater

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	Nickel		Contained in sludge and wastewater	Unknown	N/A
MES	Chromium		"	"	"
MES	Copper		"	"	"
IOC	Cyanide		Wastewater (historical)	"	"
SOL	III Trichloroethane		Manifested	"	"
SOL	Freon TMC		"	"	"
SOL	1,1-dichloroethylene		Discharged to sewer or manifested	3-160	ppb
SOL	1,1-dichloroethane		"	34-280	ppb
SOL	1,1,1-trichloroethane		"	95-2700	ppb
SOL	Tetrachloroethylene		"	5	ppb
SOL	Trichloroethylene		"	9	ppb
SOL	Chlorobenzene		"	14	ppb

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	Various metal wires		FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

USGS Geological Survey Quadrangle Maps, Hicksville Quad.
USEPA RCRA 3001 Notification
USEPA RCRA Permits files
New York State Dept. of Env. Conservation files (Region 1)
Nassau County Dept. of Health files

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D002045417

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: 48,000
02 [ ] OBSERVED (DATE: _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

From 1974 to 1981 John Hasall routinely exceeded permit standards for the discharge of chromium and nickel into groundwater (discharge was wastewater treatment effluent into groundwater via a recharge basin). The analysis of wastewater in 1984 showed chlorinated solvents.

01 [ ] B. SURFACE WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

01 [X] C. CONTAMINATION OF AIR
03 POPULATION POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE: _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

There is a potential for air contamination from volatization of chlorinated solvents used on site.

01 [X] D. FIRE/EXPLOSIVE CONDITIONS
03 POPULATION POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

According to the facility the drums of waste solvent are not accumulated for longer than a month and are kept in a building equipped with sprinklers and fire extinguishers

01 [ ] E. DIRECT CONTACT
03 POPULATION POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

01 [X] F. CONTAMINATION OF SOIL
03 AREA POTENTIALLY AFFECTED: Not known
02 [ ] OBSERVED (DATE: _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Heavy metal and solvent contamination may exist in the soil beneath and around the former recharge basin.

01 [X] G. DRINKING WATER CONTAMINATION
03 POPULATION POTENTIALLY AFFECTED: Approx. 48,000
02 [ ] OBSERVED (DATE: _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Six water supply wells are located within 1 mile of the Hasall facility. Two of the wells are located in the Hicksville Water District. They pump 1300 gallons per minute (gpm) and 1800 gpm. The Hicksville Water District serves approximately 48,000 people. It is not known what water district the other four wells are in.

01 [ ] H. WORKER EXPOSURE/INJURY
03 WORKERS POTENTIALLY AFFECTED: _____
02 [ ] OBSERVED (DATE: _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

01 [X] I. POPULATION EXPOSURE/INJURY
03 POPULATION POTENTIALLY AFFECTED: 181,971
02 [ ] OBSERVED (DATE: _____) [X] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Groundwater and air contamination could affect the 181,971 people who live within four mile of the site.

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
NY	D002 045417

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include names(s) of species)

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/runoff/standing liquids/leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☒ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

The potential exists for damage to off-site wells.

01 ☒ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☒ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: 181,971 people live within 4 miles of the site

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

(cont.)
Hicksville Water District (telecon)

EPA FORM 2070-12 (7-81)

SITE DATA
****

EPA ID NO.: NYD002045417 SHEET 01

(ACTION : *.* - FOR DATA ENTRY USE ONLY)

SF : *..* *..* *..* SITE NAME: JOHN HASSAIL SOURCE: R SOURCE COUNTS (NOT UPDATABLE)

.. *..* STREET: CONTTAGUE ROCK RD CONG. DIST.: 04 NOTIS: 0

NATL PRIORITY: N CITY: WESTBURY ST: NY ZIP: 11590-..... STS: 0

NPL: *.....* CNTY NAME: NASSAU CNTY CODE: 059 HWDMS: 0

NPL DATE (YY/MM): *../..* LATITUDE: *..../..../.....* LONGITUDE: *...../...../.....* COMPOSITE: 0

RESPONSE TERMINATION (CHECK ONE IF APPLICABLE): PENDING *.* NO FURTHER ACTION *.* OTHER: 0

ENFORCEMENT DISPOSITION (CHECK ANY THAT APPLY): NO VIABLE RESPONSIBLE PARTY *.* VOLUNTARY RESPONSE *.*

ENFORCED RESPONSE *.* COST RECOVERY *.*

EVENTS
******

	(ACTION - FOR DATE ENTRY USE ONLY)	EVENT TYPE	DATE (YY/MM) STARTED	DATE (YY/MM) COMPLETED	CONDUCTED BY EPA	STATE	RESP/PARTY	OTHER	COUNTS
EVENTS	*.*	(X) SITE DISCOVERY (SD)		80/10					
	.	PRELIMINARY ASSESSMENT (PA)		*../..*					
	.	SITE INVESTIGATION (SI)	*../..*	*../..*	*.*	*.*			
	.	REMEDIAL ACTION (RD)	*../..*	*../..*	*.*	*.*	*.*	*.*	*..*
	.	REMOVAL ACTION (RV)	*../..*	*../..*					*..*
ENFORCE EVENTS	*.*	ENFORCEMENT INVESTIGATION (EI)	*../..*	*../..*	*.*	*.*		*.*	
	.	ADMINISTRATIVE ORDER (AO)	*../..*	*../..*	*.*	*.*		*.*	
	.	JUDICIAL ACTION (JA)	*../..*	*../..*	*.*	*.*		*.*	

EPA ID NO.: NYD002045417 SHEET 02

SITE NAME: JOHN HASBALL

ALIAS & ALIAS LOCATION DATA
****

ALIAS (ACTION *.* = FOR DATA ENTRY USE ONLY)

SEQ. NO.: *..* ALIAS NAME: *.....* SOURCE: *.*

ALIAS LOCATION (ACTION *.* = FOR DATA ENTRY USE ONLY)

CONTIGUOUS PORTION OF SITE: *.*

STREET: *.....* CONG. DIST.: *..*

CITY: *.....* ST: *..* ZIP: *.....-....*

CNTY NAME: *.....* CNTY CODE: *...*

LATITUDE: *../../...* LONGITUDE: *.../../...*

ALIAS (ACTION *.* = FOR DATA ENTRY USE ONLY)

SEQ. NO.: *..* ALIAS NAME: *.....* SOURCE: *.*

ALIAS LOCATION (ACTION *.* = FOR DATA ENTRY USE ONLY)

CONTIGUOUS PORTION OF SITE: *.*

STREET: *.....* CONG. DIST.: *..*

CITY: *.....* ST: *..* ZIP: *.....-....*

CNTY NAME: *.....* CNTY CODE: *...*

LATITUDE: *../../...* LONGITUDE: *.../../...*

U. S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
DATA BASE UPDATED 83/04/10
T.1 - ERRTS TURNAROUND DOCUMENT

EPA ID NO.: NYD002145417 SHEET 04

SITE NAME: JOHN HASSALL

REGIONAL COMMENTS
****

(SECTION - FOR DATA ENTRY USE ONLY)	ENTRY CODE	DESCRIPTION	DATE1 (YY/MM/DD)	DATE2 (YY/MM/DD)	DATE3 (YY/MM/DD)	FREE FIELD
.	*....**	*.....	*../../..*	*../../..*	*../../..*	*.....
.	*....**	*.....	*../../..*	*../../..*	*../../..*	*.....
.	*....**	*.....	*../../..*	*../../..*	*../../..*	*.....
.	*....**	*.....	*../../..*	*../../..*	*../../..*	*.....
.	*....**	*.....	*../../..*	*../../..*	*../../..*	*.....
.	*....**	*.....	*../../..*	*../../..*	*../../..*	*.....
.	*....**	*.....	*../../..*	*../../..*	*../../..*	*.....
.	*....**	*.....	*../../..*	*../../..*	*../../..*	*.....
.	*....**	*.....	*../../..*	*../../..*	*../../..*	*.....
.	*....**	*.....	*../../..*	*../../..*	*../../..*	*.....
.	*....**	*.....	*../../..*	*../../..*	*../../..*	*.....
.	*....**	*.....	*../../..*	*../../..*	*../../..*	*.....
.	*....**	*.....	*../../..*	*../../..*	*../../..*	*.....
.	*....**	*.....	*../../..*	*../../..*	*../../..*	*.....
.	*....**	*.....	*../../..*	*../../..*	*../../..*	*.....

U. S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF EMERGENCY AND REMEDIAL RESPONSE
DATA BASE UPDATED 83/04/10
T.1 - ERPTS TURNAROUND DOCUMENT

EPA ID NO.: NYD002045417 SHEET 03

SITE NAME: JOHN HASSALL

SITE COMMENTS
****

(ACTION = FOR DATA ENTRY USE ONLY)	COMMENT NUMBER	COMMENT
.	*...*	*
.	*...*	*
.	*...*	*

FINDS

ID NUMBER ASSIGNMENT/INPUT FORM 1

EPA ID NUMBER NYD002045417

TRANS CODE

DATE ENTERED Y Y M M D D

AME OF FACILITY JOHN HASSALL

STREET LONDAGLE ROCK RD

CITY WESTBURY STATE NY ZIP 115

COUNTY NAME NASSAU

COUNTY CODE 059

YSTEM:

A. RCRA _ B. NPDES _ C. STATE _ D. HWCTDB _ E. SUPERFUND K

F. TSCA _ G. CDS _ H. SIP _ I. FATES _ J. DOCKET _

s this a Federal Facility? Yes ____ No ✓

REQUESTOR'S NAME M. Hatch

REQUESTOR'S PROGRAM Superfund

REQUESTOR'S PH

DATE REQUESTED 2/26/92

REQUEST REC'D BY

ASSIGNED BY

METHOD S

REFERENCE NO. 21

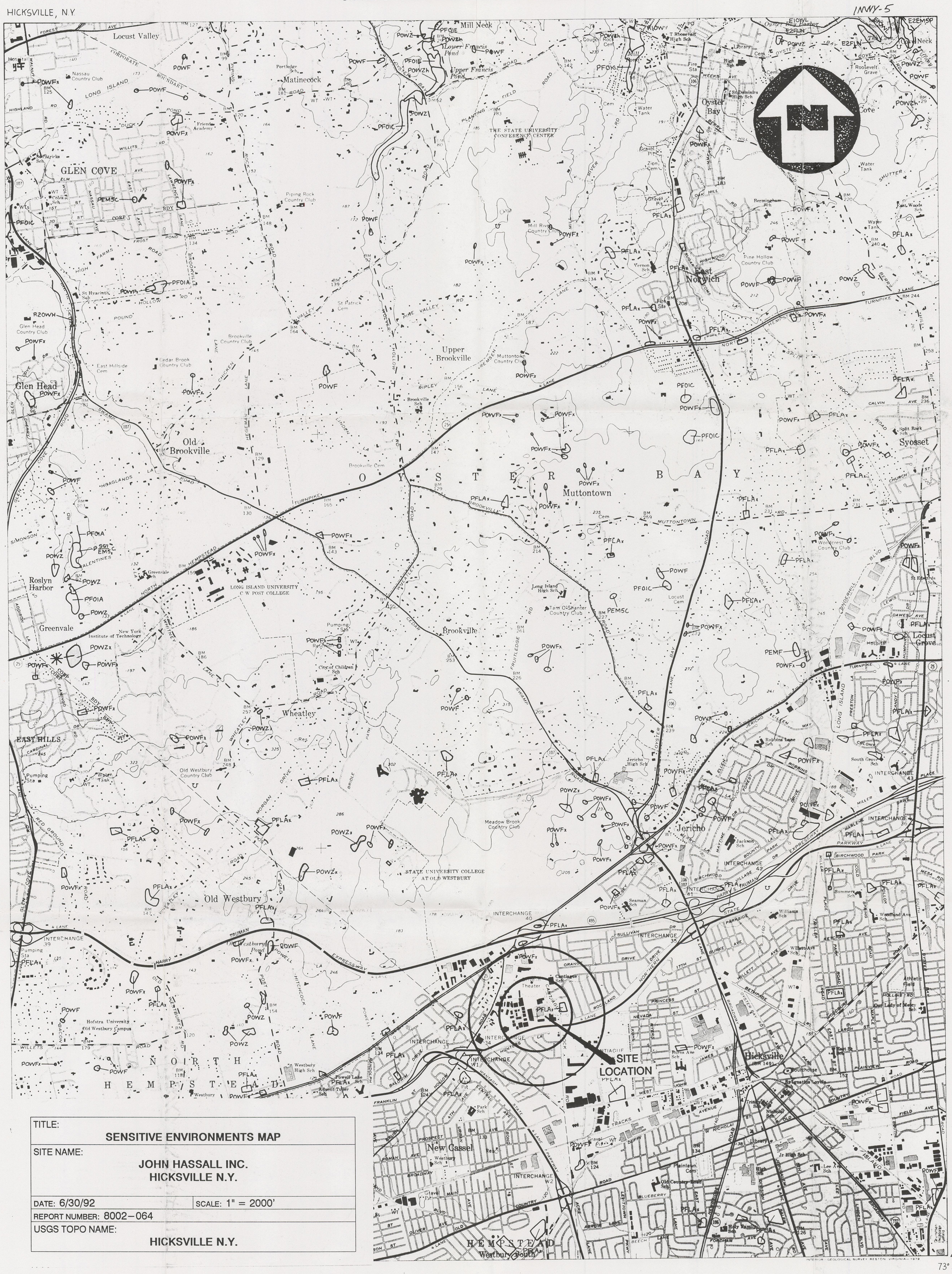
AF 14064C D

NATIONAL WETLANDS INVENTORY

UNITED STATES DEPARTMENT OF THE INTERIOR

HICKSVILLE, N.Y.

INWY-5



TITLE: SENSITIVE ENVIRONMENTS MAP	
SITE NAME: JOHN HASSALL INC. HICKSVILLE N.Y.	
DATE: 6/30/92	SCALE: 1" = 2000'
REPORT NUMBER: 8002–064	
USGS TOPO NAME: HICKSVILLE N.Y.	

40°45'
73°30'

NEW YORK NW
LONG ISLAND WEST

HICKSVILLE, N.Y.

SCALE 1:24 000

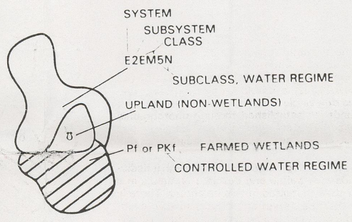
Other information concerning the wetland resources depicted on this document may be available. For information, contact:
Regional Director (ARDE) Region V
U.S. Fish and Wildlife Service
1 Gateway Center, Suite 700
Newton Corner, Massachusetts 01258

SPECIAL NOTE

This document was prepared primarily by stereoscopic analysis of high altitude aerial photographs. Wetlands were identified on the photographs based on vegetation, visible hydrology, and geography in accordance with **Classification of Wetlands and Deep-Water Habitats of the United States** (An Operational Draft), Cowardin, et al, 1977. The aerial photographs typically reflect conditions during the specific year and season when they were taken. In addition, there is a margin of error inherent in the use of the aerial photographs. Thus, a detailed on the ground and historical analysis of a single site may result in a revision of the wetland boundaries established through photographic interpretation. In addition, some small wetlands and those obscured by dense forest cover may not be included on this document.

Federal, State and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, State or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

SYMBOLOGY EXAMPLE



NOTES TO THE USER

- Wetlands which have been field examined are indicated on the map by an asterisk (*).
- Dominance type (either vegetative or sedentary animal) can be added to the map by the interested user.
- Additions or corrections to the wetlands information displayed on this map are solicited. Please forward such information to the address indicated.
- Some areas designated R4SB, R4SBW, or R4SBJ (intermittent streams) may not meet the definition of wetlands.

AERIAL PHOTOGRAPHY

DATE:	4 / / 81
SCALE:	1:80 000
TYPE:	B-W
DATE:	/ /
SCALE:	
TYPE:	
DATE:	/ /
SCALE:	
TYPE:	

U.S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Prepared by Office of Biological Services for the National Wetlands Inventory

WETLAND LEGEND

U – Primarily represents **upland** areas, but may include unclassified wetlands such as man-modified areas, non photo-identifiable areas and/or unintentional omissions.

E – ESTUARINE

ECOLOGICAL SYSTEM / Ecological Subsystem / CLASS / Subclass

1 – Subtidal

- RB – ROCK BOTTOM: 1 Bedrock, 2 Boulder
- UB – UNCONSOLIDATED BOTTOM: 1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic
- AB – AQUATIC BED: 1 Submergent Algal, 2 Submergent Vascular, 3 Submergent Moss, 4 Floating leaved, 5 Floating, 6 Unknown Submergent, 7 Unknown Surface
- RF – REEF: 2 Mollusc, 3 Worm
- OW – OPEN WATER: Unknown Bottom

2 – Intertidal

- AB – AQUATIC BED: 1 Submergent Algal, 2 Submergent Vascular, 6 Unknown Submergent, 7 Unknown Surface
- RF – REEF: 2 Mollusc, 3 Worm
- FL – FLAT: 1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic, 5 Vegetated Pioneer, 6 Vegetated Non-pioneer
- SB – STREAMBED: 1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic
- RS – ROCKY SHORE: 1 Bedrock, 2 Boulder, 6 Vegetated Non-pioneer
- BB – BEACH/BAR: 1 Cobble/Gravel, 2 Sand
- EM – EMERGENT: 1 Persistent, 2 Nonpersistent, 3 Narrow leaved Nonpersistent, 4 Broad leaved Nonpersistent, 5 Narrow leaved Persistent, 6 Broad leaved Persistent
- SS – SCRUB/SHRUB: 1 Broad leaved Deciduous, 3 Broad leaved Evergreen, 4 Needle leaved Evergreen, 5 Dead, 6 Deciduous, 7 Evergreen
- FO – FORESTED: 1 Broad leaved Deciduous, 3 Broad leaved Evergreen, 4 Needle leaved Evergreen, 5 Dead, 6 Deciduous, 7 Evergreen

M – MARINE

ECOLOGICAL SYSTEM / Ecological Subsystem / CLASS / Subclass

1 – Subtidal

- RB – ROCK BOTTOM: 1 Bedrock, 2 Boulder
- UB – UNCONSOLIDATED BOTTOM: 1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic
- AB – AQUATIC BED: 1 Submergent Algal, 2 Submergent Vascular, 6 Unknown Submergent
- RF – REEF: 1 Coral, 3 Worm
- OW – OPEN WATER: Unknown Bottom

2 – Intertidal

- AB – AQUATIC BED: 1 Submergent Algal, 2 Submergent Vascular, 6 Unknown Submergent
- RF – REEF: 1 Coral, 3 Worm
- FL – FLAT: 1 Cobble/Gravel, 2 Sand, 3 Mud, 6 Vegetated Non-pioneer
- RS – ROCKY SHORE: 1 Bedrock, 2 Boulder, 6 Vegetated Non-pioneer
- RB – BEACH/BAR: 1 Cobble/Gravel, 2 Sand

P – PALUSTRINE

ECOLOGICAL SYSTEM / No Subsystem / CLASS / Subclass

- RB – ROCK BOTTOM: 1 Bedrock, 2 Boulder
- UB – UNCONSOLIDATED BOTTOM: 1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic
- AB – AQUATIC BED: 1 Submergent Algal, 2 Submergent Vascular, 3 Submergent Moss, 4 Floating leaved, 5 Floating, 6 Unknown Submergent, 7 Unknown Surface
- FL – FLAT: 1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic, 5 Vegetated Pioneer, 6 Vegetated Non-pioneer
- ML – MOSS LICHEN: 1 Moss, 2 Lichen
- EM – EMERGENT: 1 Persistent, 2 Nonpersistent, 3 Narrow leaved Nonpersistent, 4 Broad leaved Nonpersistent, 5 Narrow leaved Persistent, 6 Broad leaved Persistent
- SS – SCRUB/SHRUB: 1 Broad leaved Deciduous, 2 Needle leaved Deciduous, 3 Broad leaved Evergreen, 4 Needle leaved Evergreen, 5 Dead, 6 Deciduous, 7 Evergreen
- FO – FORESTED: 1 Broad leaved Deciduous, 2 Needle leaved Deciduous, 3 Broad leaved Evergreen, 4 Needle leaved Evergreen, 5 Dead, 6 Deciduous, 7 Evergreen
- OW – OPEN WATER: Unknown Bottom

L – LACUSTRINE

ECOLOGICAL SYSTEM / Ecological Subsystem / CLASS / Subclass

1 – Limnetic

- RB – ROCK BOTTOM: 1 Bedrock, 2 Boulder
- UB – UNCONSOLIDATED BOTTOM: 1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic
- AB – AQUATIC BED: 1 Submergent Algal, 2 Submergent Vascular, 3 Submergent Moss, 4 Floating leaved, 5 Floating, 6 Unknown Submergent, 7 Unknown Surface
- OW – OPEN WATER: Unknown Bottom

2 – Littoral

- RB – ROCK BOTTOM: 1 Bedrock, 2 Boulder
- UB – UNCONSOLIDATED BOTTOM: 1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic
- AB – AQUATIC BED: 1 Submergent Algal, 2 Submergent Vascular, 3 Submergent Moss, 4 Floating leaved, 5 Floating, 6 Unknown Submergent, 7 Unknown Surface
- FL – FLAT: 1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic, 5 Vegetated Pioneer, 6 Vegetated Non-pioneer
- RS – ROCKY SHORE: 1 Bedrock, 2 Boulder
- BB – BEACH/BAR: 1 Cobble/Gravel, 2 Sand
- EM – EMERGENT: 2 Nonpersistent, 3 Narrow leaved Nonpersistent, 4 Broad leaved Nonpersistent
- OW – OPEN WATER: Unknown Bottom

R – RIVERINE

ECOLOGICAL SYSTEM / Ecological Subsystem / CLASS / Subclass

1 – Tidal

- EM – EMERGENT(1): 2 Nonpersistent, 3 Narrow leaved Nonpersistent, 4 Broad leaved Nonpersistent
- RB – ROCK BOTTOM: 1 Bedrock, 2 Boulder
- UB – UNCONSOLIDATED BOTTOM: 1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic

2 – Lower Perennial

- AB – AQUATIC BED: 1 Submergent Algal, 2 Submergent Vascular, 3 Submergent Moss, 4 Floating leaved, 5 Floating, 6 Unknown Submergent, 7 Unknown Surface

3 – Upper Perennial

- FL – FLAT: 1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic, 5 Vegetated Pioneer, 6 Vegetated Non-pioneer

4 – Intermittent

- SB – STREAMBED: 1 Cobble/Gravel, 2 Sand, 3 Mud, 4 Organic

5 – Unknown Perennial

- RS – ROCKY SHORE: 1 Bedrock, 2 Boulder
- BB – BEACH/BAR: 1 Cobble/Gravel, 2 Sand
- OW – OPEN WATER: Unknown Bottom

(1) EM – EMERGENTS are only found in the **Riverine Tidal** and **Riverine Lower Perennial** Ecological Subsystem. All other classes are found in all Riverine Ecological Subsystems.

MODIFYING TERMS

In order to more adequately describe wetland and aquatic habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

WATER REGIME(1)

Non-Tidal:
- A Temporary
- B Saturated
- C Seasonal
- D Seasonal Well drained
- E Seasonal Saturated
- F Semipermanent
- G Intermittently Exposed
- H Permanent
- J Intermittently Flooded
- K Artificial
- Z Intermittently Exposed/Permanent
- W Intermittently Flooded/Temporary
- Y Saturated/Semipermanent/Seasonals
- U Unknown

Tidal:
- R Seasonal Tidal
- S Temporary Tidal
- T Semipermanent Tidal
- V Permanent Tidal
- U Unknown

- K Artificial
- L Subtidal
- M Irregularly Exposed
- N Regular
- P Irregular

WATER CHEMISTRY

Coastal Salinity:
- 1 Hyperhaline
- 2 Euhaline
- 3 Mixohaline (Brackish)
- 4 Polyhaline
- 5 Mesohaline
- 6 Oligohaline
- 0 Fresh

Inland Salinity:
- 7 Hypersaline
- 8 Eusaline
- 9 Mixosaline
- 0 Fresh

pH Modifiers for all Fresh Water:
- a Acid
- t Circumneutral
- i Alkaline

SOIL
- g Organic
- n Mineral

SPECIAL MODIFIERS
- b Beaver
- n Partially Drained/Ditched
- f Farmed
- h Diked/Impounded
- r Artificial
- s Spoil
- x Excavated

(1) Information on the water regime modifiers found on this legend, but not found in the classification system, may be obtained from the above listed source.

374

REFERENCE NO. 22

MALCOLM PIRNIE, INC. **PROJECT NOTES**

To: John Hassall Inc.	**Date:** June 3 1992
From: Rickey T. Kampfer	**Project Number:** 8002-06-4
Subject: Sensitive Environments	**Site Name:** John Hassall Inc.

1. A review of Natural Heritage Data for the John Hassall Inc. Site does not indicate occurrences of rare plants, or animals within ½ mile of the site or on-site.

2. Natural Heritage Data is classified confidential and may not be released to the public.

3. Data package on file with site file

New York State Department of Environmental Conservation
Wildlife Resources Center
Information Services
700 Troy-Schenectady Road
Latham, New York 12110-2400

Thomas C. Jorling
Commissioner

May 26, 1992

Rickey T. Kampfer
Malcolm Pirnie, Inc.
104 Interchange Plaza
Cranbury, New Jersey 08512-9543

Dear Mr. Kampfer:

We have reviewed the Significant Habitat Unit and the NY Natural Heritage Program files with respect to your request for biological information concerning the John Hassell, Inc. hazardous waste site in Westbury, as indicated on your map, Towns of Oyster Bay and North Hempstead, Nassau County, New York State.

Enclosed is a computer printout covering the area you requested to be reviewed by our staff. The information contained in this report is confidential and may not be released to the public without permission from the Significant Habitat Unit.

Our files are continually growing as new habitats and occurrences of rare species and communities are discovered. In most cases, site-specific or comprehensive surveys for plant and animal occurrences have not been conducted. For these reasons, we can only provide data which have been assembled from our files. We cannot provide a definitive statement on the presence or absence of species, habitats or natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

This response applies only to known occurrences of rare animals, plants and natural communities and/or significant wildlife habitats. You should contact our regional office, Division of Regulatory Affairs, at the address enclosed for information regarding any regulated areas or permits that may be required (e.g., regulated wetlands) under State Law.

If this project is still active one year from now we recommend that you contact us again so that we may update this response.

Sincerely,

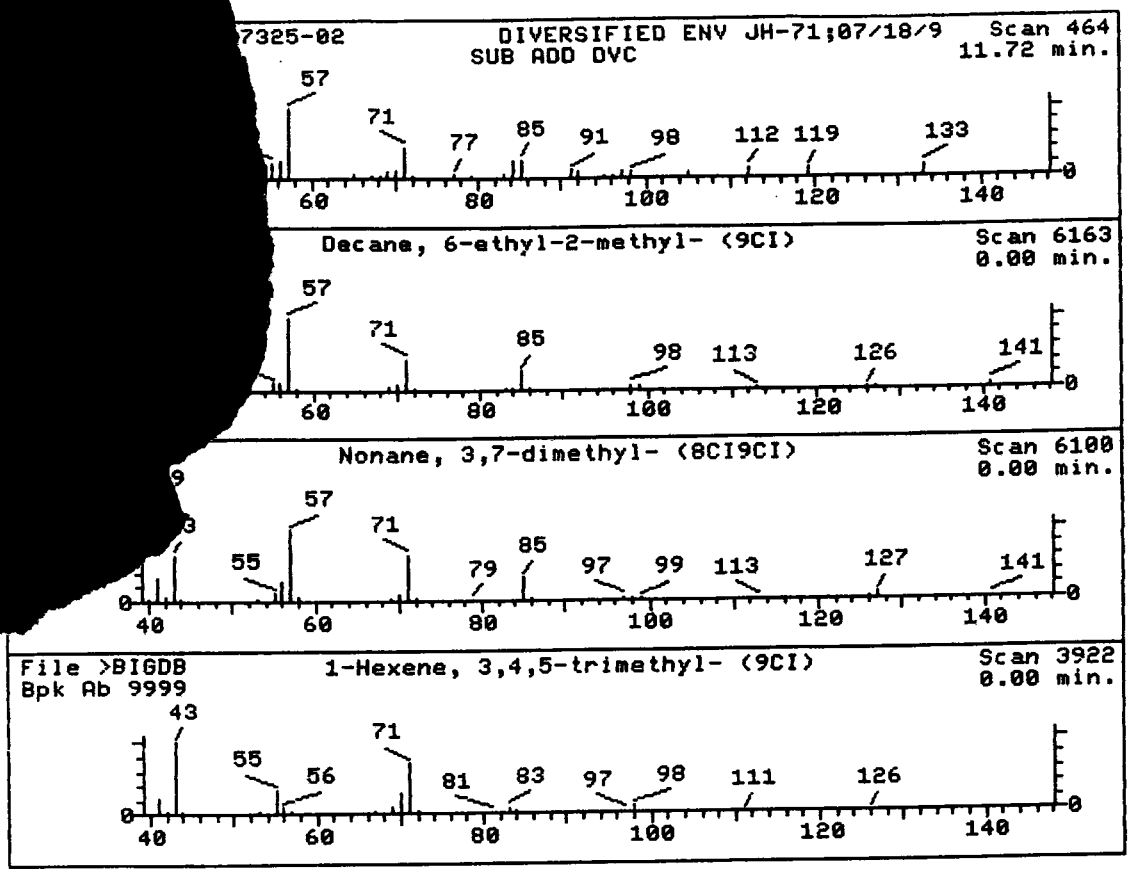
Burrell Buffington

Burrell Buffington
Significant Habitat Unit

Encs.
cc: Reg. 1, Wildlife Mgr.

printed on recycled paper

NY Heritage Program is supported in part by The Nature Conservancy



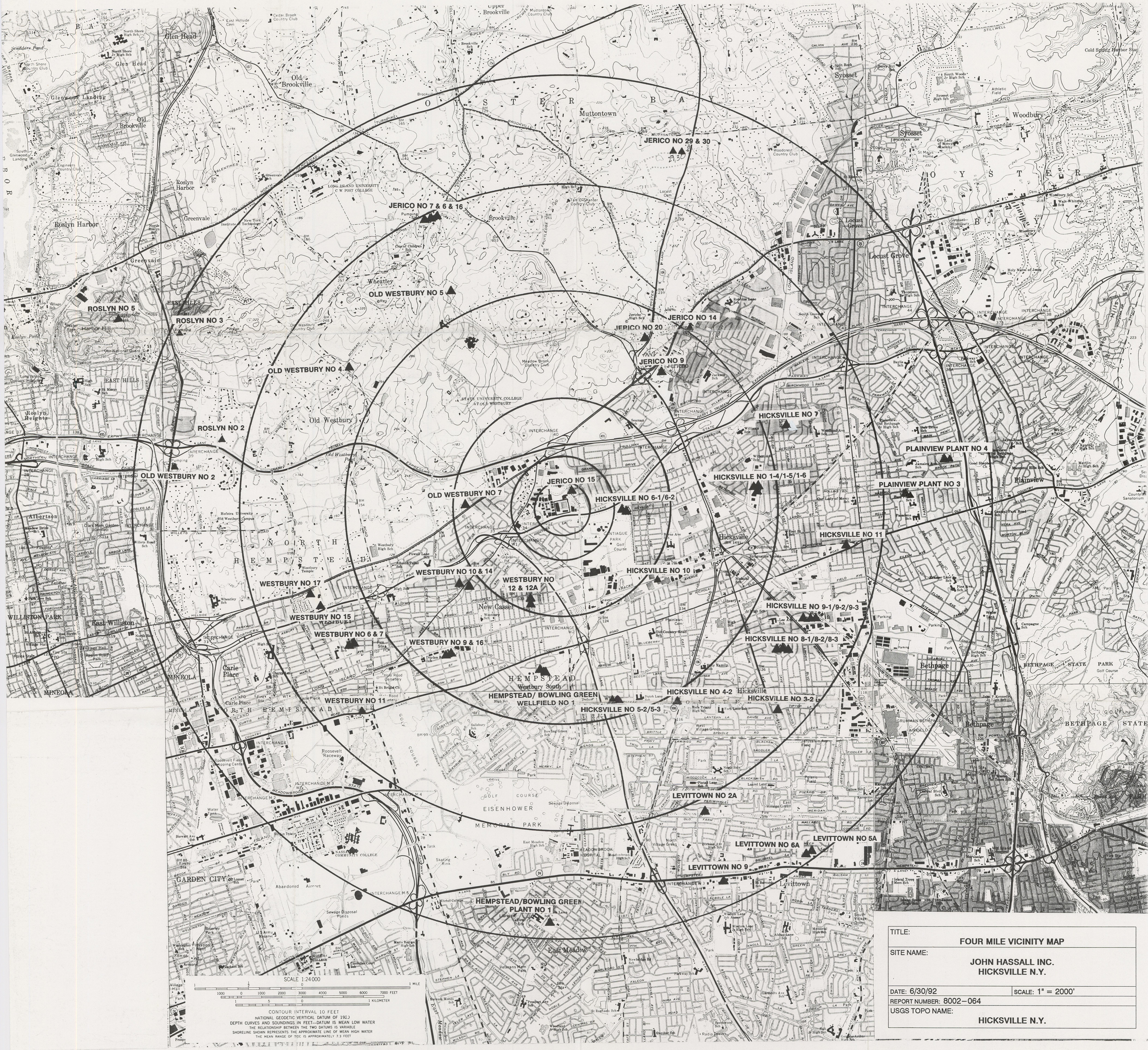
. Unknown #,22
Area = 42837.00 Tentative Concentration is 14000.00

1. Decane, 6-ethyl-2-methyl- (9CI)	184	C13H28
2. Nonane, 3,7-dimethyl- (8CI9CI)	156	C11H24
3. 1-Hexene, 3,4,5-trimethyl- (9CI)	126	C9H18
4. Hydrazine, 1,1-di-2-propenyl- (9CI)	112	C6H12N2

Sample file: >D0659 Spectrum #: 464
Search speed: 1 Tilting option: N No. of ion ranges searched: 52

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20	62108218	6163	"BIGDB	51	48	2	0	100	51	5	12
2.	15	17302328	6100	"BIGDB	41	45	2	0	68	56	3	14
3.	11	56728100	3922	"BIGDB	41	44	2	0	63	65	2	14
4.	11*	5164114	10782	"BIGDB	22	73	2	0	61	65	2	13

REFERENCE NO. 23



TITLE:	FOUR MILE VICINITY MAP
SITE NAME:	JOHN HASSALL INC. HICKSVILLE N.Y.
DATE: 6/30/92	SCALE: 1" = 2000'
REPORT NUMBER: 8002–064	
USGS TOPO NAME:	HICKSVILLE N.Y.

REFERENCE NO. 24

Laboratory Resources INC
363 Old Hook Road Westwood, New Jersey 07675 201/ 666-6644

LABORATORY ANALYSIS REPORT

Client: Diversified Environmental, Inc.

Contact: Mr. Dave Nickerson

Project: John Hassall, Inc. - Westbury, NY

Lab ID No.:	Sample Reference	Matrix	Collection Date & Time
W107325-01	JH1-1	Soil	07/18/91 14:42
W107325-02	JH7-1	Soil	07/18/91 14:35
W107325-03	JH4-1	Soil	07/18/91 15:23
W107325-04	JH8-1	Soil	07/18/91 15:17
W107325-05	Wet Well	Soil	07/18/91 14:55

Date Received: July 19, 1991

Date of Report: August 27, 1991

Tara A. Weiss
Laboratory Manager

N.J. Certification #02046
N.Y. Certification #10588

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CASE NARRATIVE

Laboratory Resources, Westwood, received five soil samples for Tier II deliverables on July 19, 1991. The samples were analyzed for the parameters outlined in the chain of custody.

The samples were extracted and analyzed within recommended holding times. Any parameters which were outside of their respective quality control ranges are noted in the non-conformance summaries.

Please contact us if there are any questions regarding the enclosed results.

LABORATORY DELIVERABLES

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following laboratory deliverables shall be included in the data submission. All deviations from the accepted methodology and procedures, or performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages may be returned or held without review until the data package is completed.

		Check if Complete
I.	Cover Page, Format, and Laboratory Certification (Include Cross Reference Table of Field I.D. # and Laboratory I.D. #)	✓
II.	Chain of Custody	✓
III.	Summary Sheets Listing Analytical Results Including QA Data Information (see Attached Form and ESPG Attachment 2.B.2.C.)	✓
IV.	Laboratory Chronicle and Methodology Summary including Sampling Holding Time Check	✓
V.	Initial Calibration and Continuing Calibration	✓
VI.	Tune Summary (MS)	✓
VII.	Blanks (Method, Field, Trip)	✓
VIII.	Surrogate Recovery Summary	✓
IX.	Chromatographs Labelled/Compound Identification	✓
X.	Non-Conformance Summary	✓

Tara A. Weiss
Laboratory Manager or Environmental Consultant's Signature

9/28/91
Date

SUMMARY

0003

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

	No	Yes
1. GC/MS Tune Specifications		
a. BFB passed		✓
b. DFTPP passed		✓
2. GC/MS Tuning Frequency - Performed every 12 hours		✓
3. GC/MS Calibration - Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours before sample analysis		✓
4. GC/MS Calibration Requirements		
a. Calibration Check Compounds		✓
b. System Performance Check Compounds		✓
5. Blank Contamination - List compounds for each fraction		
a. VOA Fraction NONE		
b. B/N Fraction NONE		
c. Acid Fraction U		
6. Surrogate Recoveries Meet Criteria (If not met; list those compounds and their recoveries which fall outside the acceptable range)		✓
a. VOA Fraction		
b. B/N Fraction Nitrobenzene-D5; 260 % (Wet Well)		
c. Acid Fraction Phenol-D6; 131 % (JH 7-1) 152 % (Wet Wall)		
7. Extraction Holding Time Met		✓
Comments:		
8. Analysis Holding Time Met		✓
Comments:		

Additional Comments:

Laboratory Manager Tara Weiss Date: 9/28/91

0003

ORGANIC NON-CONFORMANCE SUMMARY

SEMI-VOLATILES

1. The surrogate recovery of phenol-d6 was above the required quality control limit in the wet well and JH7-1 samples (W107325-02 and 05 respectively).

   One acid surrogate is allowed outside of the required quality control limits.

2. The surrogate recovery of nitrobenzene-d5 was above the required quality control limit in the wet well sample (W107325-05).

   One base/neutral surrogate is allowed outside of the required quality control limits.

Inorganic Non-Conformance Summary

There were no non-conformances encountered during the anlayses of these samples.

W107325

Laboratory Resources INC

CHAIN OF CUSTODY

CUSTOMER INFORMATION

CUSTOMER: DER, INC.
ADDRESS: 101 JESSUP ROAD
TELEPHONE: 609-384-8030
PROJECT: JOHN HASSALL INC.
PROJECT MANAGER: DAVID NICKERSON
PROJECT LOCATION: WESTBURY STATE: NY
PO NUMBER: 7805

REPORT INFORMATION

SEND REPORT TO: DER, INC.
101 JESSUP ROAD
THOROFARE, NJ 08086

DATE REPORT REQUIRED: ASAP
RUSH RESULTS: FAX

PROJECT INFORMATION

TURNAROUND (INDICATE CALENDAR DAYS, CONFIRM WITH LAB): 2 5 7 14 21 OTHER:
DELIVERABLES (PLEASE CIRCLE): TIER I TIER II/ECRA CLP RESULTS ONLY 21E TASA OTHER:
IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:
NAME: DAVID NICKERSON
TELEPHONE: 516-334-6200 EXT 420 TIL 7-19-91

ANALYTICAL REQUESTS

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE: COMPOSITE (C)	SAMPLE TYPE: GRAB (G)	SAMPLE MATRIX: SOLID (S)	SAMPLE MATRIX: LIQUID (L)	SAMPLE MATRIX: COMBINED (C)	SAMPLE MATRIX: OTHER (O)	PRESERVATIVE*	VOA	BNA/1625 + PHC	Metals	ANALYSIS (SEE COMMENTS FOR INSTRUCTIONS)
-01	JH 1-1	7/18/91	2142		X	X				2	1	1		TPHC NI,CR,CU,FE,HG AND ZN (BNA + 25 AND VOA + 15)
-02	JH 7-1		2 35		X	X				2	1	1		
-03	JH 4-1		323		X	X				2	1	1		
-04	JH 8-1		317		X	X				2	1	1		
-05	Wet Well		255		X	X				2	1	1		

PLEASE INDICATE NUMBER OF BOTTLES

CUSTODY

SAMPLER: David Nickerson		DATE: 7-19-91	
RECEIVED:		TIME: 830	
RELINQUISHED: David Nickerson		DATE: 7/19/91	
RECEIVED: Bob Bell		TIME: 835	
RELINQUISHED:		DATE:	
RECEIVED:		TIME:	

COMMENTS, REQUESTS OR REMARKS (Toxic?, Flammable?, Explosive?, High Levels?)

*PRESERVATIVE: NaOH H_2SO_4 HNO_3 HCL ASCORBIC ACID

IF PCH [ ] ARE 100 PPM OR GREATER ON ANY SAMPLE, RUN THE HIGHEST PHC SAMPLE FOR BNA + 25 AND VOA + 15.

RUN THE SAMPLES FOR METALS AS LISTED. (TOTAL METALS)

7/26 Per DN run BNA and VOA on JH 7-1 and Wet well

LABORATORY RESOURCES, INC. LABORATORY CHRONICLES

Sample Number LW07325	JH 1-1 -01	JH 7-1 -02	JH 4-1 -03	JH 8-1 -04	wet well -05					
Received & Refrigerated Date:	7/19/91	→	→	→	→					
Organics Extraction Date:										
Petroleum Hydrocarbons	7/24/91	→	→	→	→					
Base/Neutrals		7/29/91			→					
PCBs/Pesticides										
Metals Digestion	7/23/91	→	→	→	→					
Analysis Date:										
Petroleum Hydrocarbons	7/24/91	→	→	→	→					
Volatiles		8/1/91			8/1/91					
Base/Neutrals		8/6/91			8/6/91					
PCBs/Pesticides										
Herbicides										
Metals	7/24/91	→	→	→	→					
Total Solids	7/25/91	→	→	→	→					
Corrosivity										
Organic Supervisor Review & Approval	SC 8/20/91	→	→	→	→					
Inorganic Supervisor Review & Approval	MD 8/20/91	→	→	→	→					

Laboratory Resources INC
363 Old Hook Road Westwood, New Jersey 07675 201/666-6644

METHODS SUMMARY

TCLP EXTRACTION SUMMARY

Samples requiring TCLP analyses are extracted according to Method 1311, cited in 40 CFR 261 et seq, June 29, 1990.

VOLATILES by GC/MS

Samples requesting volatiles by GC/MS 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 (Purgeables) and SW-846 Method 8240.
The method is based on 5 milliliters of aqueous or 5 grams of non-aqueous sample spiked with a known concentration of surrogates and internal standards. The samples and standards are then purged onto a trap using the Tekmar LSC 2000 and desorbed onto a fused silica megabore column with a DB-624 phase installed in the HP 5890 GC that is coupled via a jet separator to the HP 5970 MSD. The data is then collected and reduced via the HP 1000 RTE data system.

BASE NEUTRALS / ACID EXTRACTABLES

Samples requesting semi-volatiles have been analyzed using the method cited in the USEPA-CLP-IFB version 2/88. The CLP semi-volatile method is based on USEPA Method 625 (Base/Neutrals and Acids) and SW-846 Method 8270.
Three acid and 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 SPB-5 0.32mm capillary column is used in the Hewlett Packard 5890 GC coupled to the HP 5970 MSD. The data is collected and reduced via the HP 1000 RTE data system.

TEST METHODS

PETROLEUM HYDROCARBONS (IR)

Aqueous samples are analyzed for petroleum hydrocarbons following EPA Method 418.1 as prescribed in Methods for Chemical Analysis of Water and Waste, EPA-600/4-79-020, March 1979.

PETROLEUM HYDROCARBONS (SOXHLET)

Non-aqueous samples are analyzed for petroleum hydrocarbons following a modification of Method 418.1 cited in the Sampling Plan Guide (Draft), NJDEP-ECRA, Trenton, NJ 08625, June 1986.

TOTAL SOLIDS

The total solid analysis is performed according to Method 209A cited in the 16th Edition of Standard Methods for the Examination of Water and Wastewater.

METALS

A sample requiring metals analysis is analyzed using the EPA 200 series methods, SW846 7000 series methods or SW846 method 6010.

Laboratory Resources INC
A UNITED WATER RESOURCES COMPANY
363 Old Hook Road
Westwood, New Jersey 07675-3235
201) 666-6644 • FAX: (201) 666-7978

NJ Certification # 02046
NY Certification # 10588

iversified Environmental
101 Jessup Rd
Thorofare, NJ 08086

Attn: David Nickerson

Date of Report: 08/28/91
Work Order #: W1-07-325
Date Received: 07/19/91
Client #: 000297
P.O./Project #: 7805

PARAMETER	JH 1-1	JH 7-1	JH 4-1
CHROMIUM	12.7*	12.4*	15.4*
COPPER	<0.921*	7.74*	18.2*
IRON	5150*	3190*	3230*
MERCURY	<0.0731*	<0.0946*	<0.0782*
NICKEL	3.37*	9.34*	36.7*
ZINC	5.81*	9.34*	16.3*
PETROLEUM HYDROCARBONS S	427*	6920*	2940*
SOLIDS, TOTAL %	97.0	96.5	95.8

PARAMETER	JH 8-1	Wet Well
CHROMIUM	11.3*	12.0*
COPPER	11.0*	4.91*
IRON	4180*	2720*
MERCURY	<0.0903*	<0.0810*
NICKEL	5.19*	4.09*
ZINC	10.5*	4.68*

All results expressed as mg/L unless otherwise stated
(See reverse for additional information)

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NJ Certification # 02046
NY Certification # 10588

Work Order # W1-07-325

PARAMETER	JH 8-1	Wet Well
'ETROLEUM HYDROCARBONS S	1680*	9860*
SOLIDS, TOTAL %	96.7	93.4

Tara L Weiss
Laboratory Manager

All results expressed as mg/L unless otherwise stated
(See reverse for additional information)

LABORATORY RESOURCES, INC. - WESTWOOD 1991

QUALITY CONTROL REPORT FOR WORK ORDER: W1-07-325

QUALITY CONTROL PERFORMED ON WORK ORDER: W1-07-227-01

PARAMETER	METHOD (1)	BLANK mg/L	BLANK SPK % REC	MATRIX SPK T.V. (W)	MATRIX SPK % REC	MATRIX SPK DUP % REC	SPK LIMITS 75% - 125%
Aluminum	6010						
Antimony	7041						
Arsenic	7060						
Barium	6010						
Beryllium	6010						
Boron	6010						
Cadmium	6010						
Calcium	6010						
Chromium	6010	<0.0100		75.4	118	95	
Cr Hex	7196						
Cobalt	6010						
Copper	6010	<0.0100	101	75.4	233	92	
Iron	6010	<0.100	104	302	N/A	N/A	
Lead	7421						
Lead	6010						
Magnesium	6010						
Manganese	6010						
Mercury	7470						
Molybdenum	6010						
Nickel	6010	<0.0250		75.4	101	93	
Potassium	6010						
Selenium	7740						
Silicon	6010						
Silver	6010						
Sodium	6010						
Thallium	7841						
Tin	282.2(2)						
Titanium	283.2(2)						
Vanadium	6010						
Zinc	6010	<0.0100	96	75.4	143	90	

(1) = Solid and hazardous waste methods approved by NJDEP ECRA and RCRA and listed in EPA SW 846 3rd Edition, 1986.

(2) = Water and wastewater methods approved in the Federal Register in section 40 CFR 136 and listed in EPA 600/4-79-020.

(W) = Data expressed in mg/kg wet weight.

N/A = No predigested spike recovered due to high sample concentration. The sample result was greater than 10 times the spike concentration.

T.V. = True value.

LABORATORY RESOURCES, INC. - WESTWOOD 1991

QUALITY CONTROL REPORT FOR WORK ORDER: W1-07-325

QUALITY CONTROL PERFORMED ON WORK ORDER: W1-07-227-01

PARAMETER	METHOD (1)	MDL mg/L	SMDL *	MATRIX SPK (3) (W)	MATRIX SPK DUP (W)	RPD (%)	RPD LIMIT 20 %
Aluminum	6010	0.200					
Antimony	7041	0.0030					
Arsenic	7060	0.0030					
Barium	6010	0.0050					
Beryllium	6010	0.0050					
Boron	6010	0.0125					
Cadmium	6010	0.0050					
Calcium	6010	0.300					
Chromium	6010	0.0100	1.66	112	94.0	18	
Cr Hex	7196	0.0250					
Cobalt	6010	0.0100					
Copper	6010	0.0100	1.66	192	85.2	77	
Iron	6010	0.100	16.6	11600	11500	1	
Lead	7421	0.0030					
Lead	6010	0.100					
Magnesium	6010	0.500					
Manganese	6010	0.0050					
Mercury	7470	0.0002					
Molybdenum	6010	0.0100					
Nickel	6010	0.0250	4.15	92.3	86.3	11	
Potassium	6010	4.0					
Selenium	7740	0.0030					
Silicon	6010	0.250					
Silver	6010	0.0050					
Sodium	6010	0.250					
Thallium	7841	0.0030					
Tin	282.2(2)	0.0100					
Titanium	283.2(2)	0.0100					
Vanadium	6010	0.0050					
Zinc	6010	0.0100	1.66	1180	172	49	

(1) = Solid and hazardous waste methods approved by NJDEP ECRA and RCRA and listed in EPA SW 846 3rd Edition, 1986.

(2) = Water and wastewater methods approved in the Federal Register in section 40 CFR 136 and listed in EPA 600/4-79-020.

(3) = The sample spike is the total concentration of both the sample and the matrix spike. The sample spike dup is the total concentration of both the sample and the matrix spike duplicate.

(W) = Data expressed in mg/kg wet weight.

* = Data expressed in mg/kg dry weight.

SMDL= This is the specific MDL for the sample (the general method MDL shown on the % recovery QC form multiplied by any dilutions for digestion and analysis of the sample).

LABORATORY RESOURCES, INC. - WESTWOOD 1991

QUALITY CONTROL REPORT FOR WORK ORDER: W1-07-325

QUALITY CONTROL PERFORMED ON WORK ORDER: W1-07-325-02

PARAMETER	METHOD (1)	BLANK mg/L	BLANK SPK % REC	MATRIX SPK T.V. (W)	MATRIX SPK % REC	MATRIX SPK DUP % REC	SPK LIMITS 75% - 125%
Aluminum	6010						
Antimony	7041						
Arsenic	7060						
Barium	6010						
Beryllium	6010						
Boron	6010						
Cadmium	6010						
Calcium	6010						
Chromium	6010						
Cr Hex	7196						
Cobalt	6010						
Copper	6010						
Iron	6010						
Lead	7421						
Lead	6010						
Magnesium	6010						
Manganese	6010						
Mercury	7470	<0.0002		1.04	115	106	
Molybdenum	6010						
Nickel	6010						
Potassium	6010						
Selenium	7740						
Silicon	6010						
Silver	6010						
Sodium	6010						
Thallium	7841						
Tin	282.2(2)						
Titanium	283.2(2)						
Vanadium	6010						
Zinc	6010						

(1) = Solid and hazardous waste methods approved by NJDEP ECRA and RCRA and listed in EPA SW 846 3rd Edition, 1986.
(2) = Water and wastewater methods approved in the Federal Register in section 40 CFR 136 and listed in EPA 600/4-79-020.

(W) = Data expressed in mg/kg wet weight.

A = No predigested spike recovered due to high sample concentration. Analytical spike result and recovery on diluted sample is shown in parentheses.

T.V. = True value.

LABORATORY RESOURCES, INC. - WESTWOOD 1991

QUALITY CONTROL REPORT FOR WORK ORDER: W1-07-325

QUALITY CONTROL PERFORMED ON WORK ORDER: W1-07-325-02

PARAMETER	METHOD (1)	MDL mg/L	SMDL *	MATRIX SPK (3) (W)	MATRIX SPK DUP (W)	RPD (%)	RPD LIMIT 20 %
Aluminum	6010	0.200					
Antimony	7041	0.0030					
Arsenic	7060	0.0030					
Barium	6010	0.0050					
Beryllium	6010	0.0050					
Boron	6010	0.0125					
Cadmium	6010	0.0050					
Calcium	6010	0.300					
Chromium	6010	0.0100					
Cr Hex	7196	0.0250					
Cobalt	6010	0.0100					
Copper	6010	0.0100					
Iron	6010	0.100					
Lead	7421	0.0030					
Lead	6010	0.100					
Magnesium	6010	0.500					
Manganese	6010	0.0050					
Mercury	7470	0.0002	0.108	1.20	1.10	9	
Molybdenum	6010	0.0100					
Nickel	6010	0.0250					
Potassium	6010	4.0					
Selenium	7740	0.0030					
Silicon	6010	0.250					
Silver	6010	0.0050					
Sodium	6010	0.250					
Thallium	7841	0.0030					
Tin	282.2(2)	0.0100					
Titanium	283.2(2)	0.0100					
Vanadium	6010	0.0050					
Zinc	6010	0.0100					

(1) = Solid and hazardous waste methods approved by NJDEP ECRA and RCRA and listed in EPA SW 846 3rd Edition, 1986.

(2) = Water and wastewater methods approved in the Federal Register in section 40 CFR 136 and listed in EPA 600/4-79-020.

(3) = The sample spike is the total concentration of both the sample and the matrix spike. The sample spike dup is the total concentration of both the sample and the matrix spike duplicate.

(W) = Data expressed in mg/kg wet weight.

* = Data expressed in mg/kg dry weight.

SMDL= This is the specific MDL for the sample (the general method MDL shown on the % recovery QC form multiplied by any dilutions for digestion and analysis of the sample).

LABORATORY RESOURCES, INC. - WESTWOOD 1991

QUALITY CONTROL REPORT FOR WORK ORDER: W1-07-325

QUALITY CONTROL PERFORMED ON WORK ORDER: W1-07-325-03

PARAMETER	METHOD (1)	BLANK mg/L	BLANK SPK % REC	MATRIX SPK T.V. (W)	MATRIX SPK % REC	MATRIX SPK DUP % REC	SPK LIMITS 75% - 125%
Acidity	305.1(2)						
Alkalinity/Acidity	310.1(2)						
Coliform, Total MF	9132						
Coliform, Total MPN	9131						
Coliform, Fecal MF	p124(3)						
Coliform, Strep MF	p136(3)						
Coliform, Fecal MPN	p132(3)						
BOD 5 day	507(4)						
BOD 20 day	507(4)						
Chloride	9252						
Chemical Oxygen Demand	HACH						
Conductivity	9050						
Cyanide, Total	9010						
Surfactants	512B(4)						
Fluoride	340.2(2)						
Hardness Total,CaCO3	130.2(2)						
Ammonia	350,1(2)						
Nitrate	9200						
Nitrite	354.1						
Total Kjeldahl Nitrogen	351.2(2)						
Oil & Grease, Gr	9070						
Oil & Grease, Soxhlet	9071						
Organic Carbon, Total	9060						
Petroleum Hydro, IR	418.1(2)						
Petroleum Hydro, Soil	418.1(5)	<2.5	90	463	160	130	
Phenolics, Total	9065						
Phosphorous, Total	365.2(2)						
Solids, Total	160.3(2)						
Sulfate	9038						
Sulfide	9030						
Sulfite	377.1(2)						

(1) = Solid and hazardous waste methods approved by NJDEP ECRA and RCRA and listed in EPS SW 846 dition, 1986.
(2) = Water and wastewater methods approved in the Federal Register in section 40 CFR 136 and listed in EPA 600/4-79-020.
(3) = Methods cited in EPA 600/8-78-017.
(4) = Methods cited in Standard Methods 16th Edition, 1986.
(5) = NJDEP modification of EPA Method 418.1.
(W) = Data expressed in mg/kg wet weight.

A = No matrix spike recovered due to high sample concentration. Analytical spike result and recovery on diluted sample is shown in parentheses.

T.V.= True value.

LABORATORY RESOURCES, INC. - WESTWOOD 1991

QUALITY CONTROL REPORT FOR WORK ORDER: W1-07-325

QUALITY CONTROL PERFORMED ON WORK ORDER: W1-07-325-03

PARAMETER	METHOD (1)	MDL mg/L	SMDL *	MATRIX SPK (6) (W)	MATRIX SPK DUP (W)	RPD (%)	RPD LIMIT 20 %
Acidity	305.1(2)						
Alkalinity/Acidity	310.1(2)						
Coliform, Total MF	9132						
Coliform, Total MPN	9131						
Coliform, Fecal MF	p124(3)						
Coliform, Strep MF	p136(3)						
Coliform, Fecal MPN	p132(3)						
BOD 5 day	507(4)						
BOD 20 day	507(4)						
Chloride	9252						
Chemical Oxygen Demand	HACH						
Total Kjeldahl Nitrogen	351.2(2)						
Oil & Grease, Gr	9070						
Oil & Grease, Soxhlet	9071						
Organic Carbon, Total	9060						
Petroleum Hydro, IR	418.1(2)						
Petroleum Hydro, Soil	418.1(5)	2.5	24.2	3560	3430	4	
pH, Soil	9045						
Phenolics, Total	9065						
Phosphorous, Total	365.2(2)						
Solids, Total	CLP						
Sulfate	9038						
Sulfide	9030						
Sulfite	377.1(2)						

(1) = Solid and hazardous waste methods approved by NJDEP ECRA and RCRA and listed in EPS SW 846 3rd Edi dition, 1986.
(2) = Water and wastewater methods approved in the Federal Register in section 40 CFR 136 and listed in EPA 600/4-79-020.
(3) = Methods cited in EPA 600/8-78-017.
(4) = Methods cited in Standard Methods 16th Edition, 1986.
(5) = NJDEP modification of EPA Method 418.1.
CLP = Contract Laboratory Program procedure for total solids determination, SOW 7/88, Part F, page D-83.
(W) = Data expressed in mg/kg wet weight.

(6) = The matrix spike is the total concentration of the sample plus the matrix spike. The matrix spike dup is the total concentration of the sample plus the matrix spike duplicate.

SMDL= This is the specific MDL for the sample (the general method MDL shown on the % recovery QC form multiplied by any dilutions for extraction, distillation, digestion, and analysis of the sample).

* = Data expressed in mg/kg dry weight.

LABORATORY RESOURCES, INC. - WESTWOOD 1991

QUALITY CONTROL REPORT FOR WORK ORDER: W1-07-325

QUALITY CONTROL PERFORMED ON WORK ORDER: W1-07-325-03

PARAMETER	METHOD (1)	SAMPLE %	SAMPLE DUP %	RPD (%)	RPD LIMIT 20 %
Acidity	305.1(2)				
Alkalinity/Acidity	310.1(2)				
Coliform, Total MF	9132				
Coliform, Total MPN	9131				
Coliform, Fecal MF	p124(3)				
Coliform, Strep MF	p136(3)				
Coliform, Fecal MPN	p132(3)				
BOD 5 day	507(4)				
BOD 20 day	507(4)				
Chloride	9252				
Chemical Oxygen Demand	HACH				
Total Kjeldahl Nitrogen	351.2(2)				
Oil & Grease, Gr	9070				
Oil & Grease, Soxhlet	9071				
Organic Carbon, Total	9060				
Petroleum Hydro, IR	418.1(2)				
Petroleum Hydro, Soil	418.1(5)				
pH, Soil	9045				
Phenolics, Total	9065				
Phosphorous, Total	365.2(2)				
Solids, Total	CLP	95.8	96.4	1	
Sulfate	9038				
Sulfide	9030				
Sulfite	377.1(2)				

(1) = Solid and hazardous waste methods approved by NJDEP ECRA and RCRA and listed in EPS SW 846 3rd Edition, 1986.
(2) = Water and wastewater methods approved in the Federal Register in section 40 CFR 136 and listed in EPA 600/4-79-020.
(3) = Methods cited in EPA 600/8-78-017.
(4) = Methods cited in Standard Methods 16th Edition, 1986.
(5) = NJDEP modification of EPA Method 418.1.
CLP = Contract Laboratory Program procedure for total solids determination, SOW 7/88, Part F, page D-83.
(W) = Data expressed in mg/kg wet weight.

(6) = The matrix spike is the total concentration of the sample plus the matrix spike. The matrix spike dup is the total concentration of the sample plus the matrix spike duplicate.

SMDL= This is the specific MDL for the sample (the general method MDL shown on the % recovery QC form multiplied by any dilutions for extraction, distillation, digestion, and analysis of the sample).

* = Data expressed in mg/kg dry weight.

PROJECT SUMMARY REPORT
FOR
ALL ORGANIC ANALYSIS

SAMPLES AND CONCENTRATIONS
ug/L or ug/Kg

Lab Work Order # - W107325-(Sample no.)

COMPOUNDS	JH 7-1 02	WET WALL 05		
ETHYLBENZENE		832		
M,P-XYLENE		1602		
O-XYLENE		2895		
NAPHTHALENE		13505		

B : COMPOUND ALSO PRESENT IN BLANK.

NOTE: IF NO ENTRY IS MADE THEN THE SAMPLE IS NONE DETECTED.

LABORATORY RESOURCES, INC.
363 OLD HOOK ROAD
WESTWOOD, NJ 07675
LAB. CERTIFICATION: NJ 02046
NY 10588

DATE COLLECTED: 07/18/91
DATE RECEIVED : 07/19/91
DATE ANALYZED : 08/01/91
DILUTION FACT.: 100.0

CLIENT : DIVERSIFIED JH 7-1
LAB SAMPLE : W107325-02
ANALYST : JOHN
FILE NAME : >82861

GC/MS VOLATILE ORGANICS REPORT

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
CHLOROMETHANE	ND	1036	1,2-DICHLOROPROPANE	ND	518
VINYL CHLORIDE	ND	1036	BROMODICHLOROMETHANE	ND	518
BROMOMETHANE	ND	1036	2-CHLOROETHYLVINYLETHER	ND	518
CHLOROETHANE	ND	1036	TRANS-1,3-DICHLOROPROPENE	ND	518
ACROLEIN	ND	1036	CIS-1,3-DICHLOROPROPENE	ND	518
TRICHLOROFLUOROMETHANE	ND	518	1,1,2-TRICHLOROETHANE	ND	518
1,1-DICHLOROETHENE	ND	518	DIBROMOCHLOROMETHANE	ND	518
CARBON DISULFIDE	ND	518	BROMOFORM	ND	518
ACETONE	ND	1036	4-METHYL-2-PENTANONE	ND	1036
ACRYLONITRILE	ND	1036	TOLUENE	ND	518
METHYLENE CHLORIDE	123 ~~J~~	518	TETRACHLOROETHENE	ND	518
TRANS-1,2-DICHLOROETHENE	ND	518	2-HEXANONE	ND	1036
1,1-DICHLOROETHANE	ND	518	CHLOROBENZENE	ND	518
CHLOROFORM	ND	518	ETHYLBENZENE	122 J	518
1,2-DICHLOROETHANE	ND	518	M,P-XYLENE	226 J	518
VINYL ACETATE	ND	1036	O-XYLENE	427 J	518
2-BUTANONE	~~ND~~	1036	STYRENE	ND	518
1,1,1-TRICHLOROETHANE	ND	518	1,1,2,2-TETRACHLOROETHANE	ND	518
CARBON TETRACHLORIDE	ND	518	1,3-DICHLOROBENZENE	ND	518
BENZENE	ND	518	1,4-DICHLOROBENZENE	ND	518
TRICHLOROETHENE	ND	518	1,2-DICHLOROBENZENE	ND	518

SURROGATE COMPOUNDS	RECOVERY	LIMITS	STATUS
1,2-DICHLOROETHANE-D4	107 %	70 - 121	OK
TOLUENE-D8	97 %	81 - 117	OK
4-BROMOFLUOROBENZENE	101 %	74 - 121	OK

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

Percent Solid of 96.5 is used for all Target compounds.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

JH 7-1

Lab Name: Laboratory Resources Inc., Contract:-------

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL Lab Sample ID: W107325-02

Sample wt/vol: 0.05 (g/ml) g Lab File ID: >B2861

Level: (low/med) LOW Date Received: 07/19/91

% Solid: 96.5 Date Analyzed: 08/01/91

Column: CAP Dilution Factor: 100

Number of TICs found: 15

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1		Unknown Cyclic Hydrocarbon	18.59	7253	
2		Unknown	19.46	8082	
3		Unknown Aromatic Hydrocarbon	20.02	6943	
4		Unknown Aromatic Hydrocarbon	20.24	12435	
5		Unknown Alkane	20.57	21761	
6		Unknown Aromatic Hydrocarbon	21.02	16580	
7	1074437	Benzene, 1-methyl-3-propyl-	22.56	8393	97
8		Unknown Aromatic Hydrocarbon	22.73	10362	
9		Unknown Aromatic Hydrocarbon	23.07	6424	
10	535773	Benzene, 1-methyl-3-(1-methy	23.32	23834	93
11		Unknown	23.91	6528	
12		Unknown Aromatic Hydrocarbon	24.40	6424	
13		Unknown Aromatic Hydrocarbon	24.52	5803	
14		Unknown	25.01	6632	
15		Unknown Aromatic Hydrocarbon	25.40	9430	

LABORATORY RESOURCES. INC.
363 OLD HOOK ROAD
WESTWOOD, NJ 07675
LAB. CERTIFICATION: NJ 02046
NY 10588

DATE COLLECTED: 07/18/91
DATE RECEIVED : 07/19/91
DATE ANALYZED : 08/01/91
DILUTION FACT.: 100.0

CLIENT : DIVERSIFIED WET WELL
LAB SAMPLE : W107325-05
ANALYST : JOHN
FILE NAME : >B2862

GC/MS VOLATILE ORGANICS REPORT

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
CHLOROMETHANE	ND	1071	1,2-DICHLOROPROPANE	ND	535
VINYL CHLORIDE	ND	1071	BROMODICHLOROMETHANE	ND	535
BROMOMETHANE	ND	1071	2-CHLOROETHYLVINYLETHER	ND	535
CHLOROETHANE	ND	1071	TRANS-1,3-DICHLOROPROPENE	ND	535
ACROLEIN	ND	1071	CIS-1,3-DICHLOROPROPENE	ND	535
TRICHLOROFLUOROMETHANE	ND	535	1,1.2-TRICHLOROETHANE	ND	535
1,1-DICHLOROETHENE	ND	535	DIBROMOCHLOROMETHANE	ND	535
CARBON DISULFIDE	ND	535	BROMOFORM	ND	535
ACETONE	ND	1071	4-METHYL-2-PENTANONE	ND	1071
ACRYLONITRILE	ND	1071	TOLUENE	ND	535
METHYLENE CHLORIDE	ND	535	TETRACHLOROETHENE	ND	535
TRANS-1,2-DICHLOROETHENE	ND	535	2-HEXANONE	ND	1071
1,1-DICHLOROETHANE	ND	535	CHLOROBENZENE	ND	535
CHLOROFORM	ND	535	ETHYLBENZENE	832	535
1,2-DICHLOROETHANE	ND	535	M,P-XYLENE	1602	535
VINYL ACETATE	ND	1071	O-XYLENE	2895	535
2-BUTANONE	ND	1071	STYRENE	ND	535
1,1,1-TRICHLOROETHANE	ND	535	1,1,2,2-TETRACHLOROETHANE	ND	535
CARBON TETRACHLORIDE	ND	535	1,3-DICHLOROBENZENE	ND	535
BENZENE	ND	535	1,4-DICHLOROBENZENE	ND	535
TRICHLOROETHENE	ND	535	1,2-DICHLOROBENZENE	ND	535

SURROGATE COMPOUNDS	RECOVERY	LIMITS	STATUS
1,2-DICHLOROETHANE-D4	108 %	70 - 121	OK
TOLUENE-D8	99 %	81 - 117	OK
4-BROMOFLUOROBENZENE	107 %	74 - 121	OK

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

Percent Solid of 93.4 is used for all Target compounds.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

WET WELL

Lab Name: Laboratory Resources Inc., Contract:-------

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL Lab Sample ID: W107325-05

Sample wt/vol: 0.05 (g/ml) g Lab File ID: >B2862

Level: (low/med) LOW Date Received: 07/19/91

% Solid: 93.4 Date Analyzed: 08/01/91

Column: CAP Dilution Factor: 100

Number of TICs found: 15

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1		Unknown Cyclic Hydrocarbon	18.59	18201	
2		Unknown Alkene	19.46	17130	
3	611143	Benzene, 1-ethyl-2-methyl- (	20.05	22483	96
4		Unknown Aromatic Hydrocarbon	20.24	23554	
5		Unknown Alkane	20.58	43897	
6	95636	Benzene, 1,2,4-trimethyl- (8	21.05	41755	91
7	535773	Benzene, 1-methyl-3-(1-methy	21.71	12847	97
8		Unknown Aromatic Hydrocarbon	21.93	14989	
9	1074437	Benzene, 1-methyl-3-propyl-	22.56	22483	96
10		Unknown Aromatic Hydrocarbon	22.76	25695	
11		Unknown Aromatic Hydrocarbon	23.07	13918	
12		dimethyl Benzene Isomer	23.34	46038	96
13	874419	Benzene, 1-ethyl-2,4-dimethy	23.54	13918	96
14		Unknown Aromatic Hydrocarbon	25.01	12847	
15		Unknown Aromatic Hydrocarbon	25.43	17130	

2A
VOLATILE SURROGATE RECOVERIES

Lab Name: Laboratory Resources Inc.,

Lab Code: 020406 Case No.:---- SAS No.:---- SDG No.:----

Date Analyzed: 08/01/91

LAB SAMP NO. ($)	S1 (DCE)#	S2 (TOL)#	S3 (BFB)#	OTHER	TOT OUT
METHOD BLA W	105	96	102		0
W107421-05 W	104	101	98		0
W107421-06 W	105	96	101		0
W107421-07 W	106	98	101		0
W107421-04 W	109	99	104		0
W107325-02 S	107	97	101		0
W107325-05 S	108	99	107		0
W107421-05 W	106	101	99		0
W107421-05 W	109	98	100		0
W107464-04 W	101	102	98		0
W107464-06 W	107	100	102		0
W107338-04 S	108	96	110		0
W107434-01 W	107	100	100		0

EPA CLP QC Limits For:	Soil	Water
S1 (DCE) = 1,2-DICHLOROETHANE-D4	70-121	76-114
S2 (TOL) = TOLUENE-D8	81-117	88-110
S3 (BFB) = 4-BROMOFLUOROBENZENE	74-121	86-115

$ Column indicating Soil or Water matrix
# Column to be used to flag recovery values
* Values outside of CLP QC limits

========== LABORATORY RESOURCES INC. ==========

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Laboratory Resources Contract:

Lab Code: Case No.: SAS No.: SDG No.:

Matrix Spike - Sample No.: W107421-05 Level: LOW

COMPOUNDS	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1.1-DICHLOROETHENE	50.00	0.00	47.13	94	61-145
BENZENE	50.00	0.00	47.19	94	71-120
TRICHLOROETHENE	50.00	2.33	46.95	89	76-127
TOLUENE	50.00	0.00	45.87	92	76-125
CHLOROBENZENE	50.00	0.00	45.56	91	75-130

COMPOUNDS	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1.1-DICHLOROETHENE	50.00	45.72	91	3	14	61-145
BENZENE	50.00	48.55	97	3	14	71-120
TRICHLOROETHENE	50.00	49.16	94	5	11	76-127
TOLUENE	50.00	46.03	92	0	13	76-125
CHLOROBENZENE	50.00	47.14	94	3	13	75-130

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

* Values outside of advisory EPA contract Lab QC limits.

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

Comments: _____

_____

FORM III VOA-1 Rev. 7/89

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: Laboratory Resources Inc.,

Lab file ID: >B2855 Lab Sample ID: METHOD BLAN

Date Analyzed: 08/01/91 Time Analyzed: 10:52

Matrix: Water

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

LAB FILE NO.	LAB SAMPLE ID	TIME ANALYZED
>B2857	W107421-05	12:31
>B2858	W107421-06	13:17
>B2859	W107421-07	13:55
>B2860	W107421-04	14:33
>B2861	W107325-02	15:11
>B2862	W107325-05	15:49
>B2863	W107421-05 M	16:27
>B2864	W107421-05 M	17:06
>B2865	W107464-04	17:44
>B2866	W107464-06	18:22
>B2869	W107338-04	20:17
>B2870	W107434-01	20:56

Comments:

5A

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

Lab Name: Laboratory Resources Inc., Contract: -----

Lab File ID: >TB227 BFB Injection date: 8/01/91

Instrument ID: 0881 BFB Injection time: 9:35

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	15-40% of mass 95	19.7
75	30-60% of mass 95	47.7
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.1
173	Less than 2.0% of mass 174	0.0(0.0)1
174	Greater than 50.0% of mass 95	88.3
175	5.0 - 9.0% of mass 174	5.8(6.5)1
176	Greater than 95.0%, but less than 101.0% of mass 174	86.6(98.0)1
177	5.0 - 9.0% of mass 176	5.6(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
1	----------	50 PPB.		>B2854	8/01/91	10:14
2	----------	METHOD BLANK		>B2855	8/01/91	10:52
3	----------	W107421-05		>B2857	8/01/91	12:31
4	----------	W107421-06		>B2858	8/01/91	13:17
5	----------	W107421-07		>B2859	8/01/91	13:55
6	----------	W107421-04		>B2860	8/01/91	14:33
7	----------	W107325-02		>B2861	8/01/91	15:11
8	----------	W107325-05		>B2862	8/01/91	15:49
9	----------	W107421-05	M	>B2863	8/01/91	16:27
10	----------	W107421-05	M	>B2864	8/01/91	17:06
11	----------	W107464-04		>B2865	8/01/91	17:44
12	----------	W107464-06		>B2866	8/01/91	18:22
13	----------	W107338-04		>B2869	8/01/91	20:17
14	----------	W107434-01		>B2870	8/01/91	20:56
15						
16						
17						
18						
19						
20						
21						
22						

FORM V VOA

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Laboratory Resources Inc.,

Lab file ID: >B2854 Lab Sample ID: 50 PPB.

Date Analyzed: 08/01/91 Time Analyzed: 10:14

	IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
12 HOUR STD	42990	8.51	177039	10.76	142315	16.53
UPPER LIMIT	85980		354078		284630	
LOWER LIMIT	21495		88520		71158	
LAB SAMPLE #						
METHOD BLA	34753	8.50	142889	10.75	124900	16.54
W107421-05	42138	8.51	181064	10.76	148471	16.53
W107421-06	39552	8.49	163894	10.76	138501	16.53
W107421-07	40063	8.50	165002	10.76	138435	16.53
W107421-04	32031	8.52	128381	10.77	108778	16.52
W107325-02	42587	8.51	175717	10.76	146292	16.52
W107325-05	28806	8.52	115924	10.77	96849	16.54
W107421-05	36900	8.51	157810	10.76	129074	16.53
W107421-05	34514	8.52	143336	10.77	125304	16.54
W107464-04	28200	8.51	136598	10.78	109805	16.57
W107464-06	39932	8.51	164480	10.76	137254	16.53
W107338-04	35030	8.49	144724	10.74	126967	16.53
W107434-01	28766	8.49	123677	10.76	103003	16.53

IS1 (BCM) = Bromochlormethane
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 are values with an asterisk

Initial Calibration Data
HSL Compounds

Case No: Instrument ID: 2637A01713

Contractor: LABORATORY RESOURCES Calibration Date: 07/29/91

Contract No:

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

Laboratory ID:	>B2799	>B2798	>B2800	>B2801	>B2802						
Compound	RF 20.00	RF 50.00	RF 100.00	RF 150.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC	
CHLOROMETHANE	.34469	.51406	.40783	.34567	.33547	.232	.38954	19.338		**	
VINYL CHLORIDE	.72065	.73456	.75467	.74587	.73452	.244	.73805	1.747	*		
BROMOMETHANE	1.13894	1.21824	1.07124	1.13623	1.12270	.289	1.13747	4.638			
CHLOROETHANE	.51114	.56772	.51147	.55393	.53883	.314	.53662	4.708			
ACROLEIN	.02589	.04708	.05163	.05449	.05765	.445	.04735	26.634			
TRICHLOROFLUOROMETHANE	2.74603	2.92265	2.40305	2.46772	2.38648	.344	2.58519	9.199			
1,1-DICHLOROETHENE	2.12491	2.31036	2.03740	1.87199	1.88014	.447	2.04496	8.949	*		
CARBON DISULFIDE	1.95782	2.10597	2.00716	2.02052	1.86741	.469	1.99178	4.400			
ACETONE	.21626	.15147	.15121	.13202	.13009	.498	.15621	22.454			
ACRYLONITRILE	.09827	.11597	.13841	.13705	.13891	.681	.12572	14.404			
METHYLENE CHLORIDE	1.56543	1.52184	1.36986	1.32465	1.35512	.590	1.42738	7.599			
TRANS-1,2-DICHLOROETHENE	1.98638	2.10764	2.00422	2.07959	2.15591	.668	2.06675	3.435			
1,1-DICHLOROETHANE	2.41680	2.58775	2.48313	2.55466	2.66015	.787	2.54050	3.700		**	
CHLOROFORM	3.03856	3.13187	2.98598	3.08333	3.15928	1.042	3.07980	2.270	*		
1,2-DICHLOROETHANE	1.83105	1.82030	1.81560	1.82407	1.83030	1.159	1.82426	.361			
1,2-DICHLOROETHANE-D4	1.48825	1.45470	1.57278	1.65502	1.65366	1.142	1.56488	5.899			(Conc=50.0,50.0,50.0,5
VINYL ACETATE	.30966	.32827	.27954	.26478	.30190	.664	.29683	8.431			
2-BUTANONE	.01104	.01104	.01408	.01263	.01294	.773	.01234	10.584			
1,1,1-TRICHLOROETHANE	.63815	.67483	.63905	.63416	.65556	.836	.64835	2.610			
CARBON TETRACHLORIDE	.60108	.65748	.62984	.62483	.64113	.865	.63087	3.305			
BENZENE	.83052	.85373	.84721	.83777	.88074	.905	.84999	2.275			
TRICHLOROETHENE	.45700	.47337	.45704	.47199	.46641	1.035	.46517	1.693			
1,2-DICHLOROPROPANE	.33719	.33041	.34998	.34123	.36232	1.071	.34422	3.587	*		
BROMODICHLOROMETHANE	.63569	.64928	.66230	.66565	.68947	1.135	.66048	3.038			
2-CHLOROETHYLVINYLETHER	.15131	.14426	.16600	.16488	.17028	1.209	.15935	6.921			
TRANS-1,3-DICHLOROPROPENE	.18497	.18250	.20035	.19852	.20745	1.333	.19476	5.461			
CIS-1,3-DICHLOROPROPENE	.81993	.84780	.88280	.90355	.93293	1.220	.87740	5.089			
1,1,2-TRICHLOROETHANE	.29795	.28243	.31689	.30346	.31122	1.363	.30239	4.398			
DIBROMOCHLOROMETHANE	.65644	.64444	.69141	.68907	.70394	1.430	.67706	3.738			
BROMOFORM	.54600	.52684	.60820	.56562	.59884	1.705	.56910	6.052		**	

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - 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: 2637A01713

Contractor: LABORATORY RESOURCES

Calibration Date: 07/29/91

Contract No:

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

Laboratory ID:	>B2799	>B2798	>B2800	>B2801	>B2802						
Compound	RF 20.00	RF 50.00	RF 100.00	RF 150.00	RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC	
4-METHYL-2-PENTANONE	.20892	.18257	.20945	.18601	.18793	.824	.19497	6.725			
TOLUENE-D8	1.10819	1.12667	1.11391	1.12473	1.10069	.822	1.11484	.986			(Conc=50.0,50.0,50.0,5
TOLUENE	.74662	.77506	.75458	.76084	.75528	.829	.75848	1.393	*		
TETRACHLOROETHENE	.63244	.66668	.63579	.63916	.62054	.895	.63892	2.666			
2-HEXANONE	.05985	.05748	.06939	.06179	.06049	.929	.06180	7.313			
CHLOROBENZENE	1.03262	1.07425	1.04451	1.05945	1.09318	1.004	1.06080	2.256		**	
ETHYLBENZENE	.45803	.47993	.47202	.46695	.48036	1.024	.47146	1.990	*		
M,P-XYLENE	2.53913	2.64041	2.68239	2.89810	2.67383	1.041	2.68677	4.881			
O-XYLENE	1.25604	1.30299	1.35084	1.40262	1.36393	1.090	1.33528	4.256			
STYRENE	.91946	.94393	.99308	1.03953	1.00800	1.093	.98080	4.959			
4-BROMOFLUOROBENZENE	.82024	.85034	.84745	.82484	.84551	1.157	.83768	1.674			(Conc=50.0,50.0,50.0,5
1,1,2,2-TETRACHLOROETHANE	.52756	.49276	.56179	.49877	.52271	1.188	.52072	5.260		**	
1,3-DICHLOROBENZENE	1.05671	1.13660	1.17465	1.16031	1.14057	1.299	1.13377	4.034			
1,4-DICHLOROBENZENE	1.09551	1.14974	1.21696	1.18839	1.16832	1.313	1.16378	3.917			
1,2-DICHLOROBENZENE	.97379	1.03611	1.08281	1.03424	1.00617	1.359	1.02662	3.931			
TERT-BUTYL-METHYL-ETHER	.67840	.71470	.72461	.65224	.66370	.361	.68673	4.609			(Conc=20.0,50.0,100.0,
TERT-BUTYL-ALCOHOL	.01798	.02028	.03986	.04130	.03549	.388	.03098	35.698			(Conc=50.0,100.0,150.0
DI-ISOPROPYL-ETHER	.74915	.77908	.77423	.77675	.80140	.441	.77612	2.393			(Conc=20.0,50.0,100.0,

RF - Resoonse Factor (Subscript is amount in UG/L)

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

Continuing Calibration Check
HSL Compounds

Case No: | Calibration Date: 08/01/91

Contractor: LABORATORY RESOURCES | Time: 10:14

Contract No: | Laboratory ID: >B2854

Instrument ID: 2637A01713 | Initial Calibration Date: 07/29/91

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

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
CHLOROMETHANE	.38954	.59144	51.83		**	
VINYL CHLORIDE	.73805	.92152	24.86	*		
BROMOMETHANE	1.13747	1.31905	15.96			
CHLOROETHANE	.53662	.61828	15.22			
ACROLEIN	.04735	.04638	2.04			(Conc=50.00)
TRICHLOROFLUOROMETHANE	2.58519	2.27660	11.94			
1,1-DICHLOROETHENE	2.04496	1.98153	3.10	*		
CARBON DISULFIDE	1.99178	1.89688	4.76			
ACETONE	.15621	.14471	7.36			
ACRYLONITRILE	.12572	.11905	5.31			(Conc=50.00)
METHYLENE CHLORIDE	1.42738	1.32519	7.16			
TRANS-1,2-DICHLOROETHENE	2.06675	1.94983	5.66			
1,1-DICHLOROETHANE	2.54050	2.42445	4.57		**	
CHLOROFORM	3.07980	3.06930	.34	*		
1,2-DICHLOROETHANE	1.82426	1.78046	2.40			
1,2-DICHLOROETHANE-D4	1.56488	1.36478	12.79			
VINYL ACETATE	.29683	.23671	20.25			
2-BUTANONE	.01234	.01144	7.30			
1,1,1-TRICHLOROETHANE	.64835	.65466	.97			
CARBON TETRACHLORIDE	.63087	.64118	1.63			
BENZENE	.84999	.83766	1.45			(Conc=50.00)
TRICHLOROETHENE	.46517	.47747	2.65			
1,2-DICHLOROPROPANE	.34422	.32781	4.77	*		
BROMODICHLOROMETHANE	.66048	.64391	2.51			
2-CHLOROETHYLVINYLETHER	.15935	.14891	6.55			
TRANS-1,3-DICHLOROPROPENE	.19476	.18434	5.35			
CIS-1,3-DICHLOROPROPENE	.87740	.83478	4.86			
1,1,2-TRICHLOROETHANE	.30239	.29564	2.23			
DIBROMOCHLOROMETHANE	.67706	.66545	1.71			
BROMOFORM	.56910	.54738	3.82		**	
4-METHYL-2-PENTANONE	.19497	.18690	4.14			
TOLUENE-D8	1.11484	1.10488	.89			

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: 08/01/91

Contractor: LABORATORY RESOURCES

Time: 10:14

Contract No:

Laboratory ID: >B2854

Instrument ID: 2637A01713

Initial Calibration Date: 07/29/91

Minimum $\overline{RF}$ for SPCC is .30

Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
TOLUENE	.75848	.75187	.87	*		(Conc=50.00)
TETRACHLOROETHENE	.63892	.66807	4.56			
2-HEXANONE	.06180	.05988	3.11			
CHLOROBENZENE	1.06080	1.06477	.37		**	(Conc=50.00)
ETHYLBENZENE	.47146	.46599	1.16	*		(Conc=50.00)
M,P-XYLENE	2.68677	2.56175	4.65			(Conc=50.00)
O-XYLENE	1.33528	1.27472	4.54			(Conc=50.00)
STYRENE	.98080	.93420	4.75			
4-BROMOFLUOROBENZENE	.83768	.80862	3.47			
1,1,2,2-TETRACHLOROETHANE	.52072	.49483	4.97		**	
1,3-DICHLOROBENZENE	1.13377	1.09379	3.53			
1,4-DICHLOROBENZENE	1.16378	1.12006	3.76			
1,2-DICHLOROBENZENE	1.02662	1.01176	1.45			
TERT-BUTYL-METHYL-ETHER	.68673	.71272	3.79			(Conc=50.00)
TERT-BUTYL-ALCOHOL	.03098	.02633	15.03			(Conc=100.00)
DI-ISOPROPYL-ETHER	.77612	.37162	52.12			(Conc=100.00)

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 (**)

LABORATORY RESOURCES, INC.
363 OLD HOOK ROAD
WESTWOOD, NJ 07675
LAB. CERTIFICATION: NJ 02046
NY 10588

DATE COLLECTED:
DATE RECEIVED :
DATE ANALYZED : 08/01/91
DILUTION FACT.: 1.0

CLIENT : DIVERSIFIED ENV.
LAB SAMPLE : METHOD BLANK
ANALYST : JOHN
FILE NAME : >B2855

GC/MS VOLATILE ORGANICS REPORT

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
CHLOROMETHANE	ND	10	1,2-DICHLOROPROPANE	ND	5
VINYL CHLORIDE	ND	10	BROMODICHLOROMETHANE	ND	5
BROMOMETHANE	ND	10	2-CHLOROETHYLVINYLETHER	ND	5
CHLOROETHANE	ND	10	TRANS-1,3-DICHLOROPROPENE	ND	5
ACROLEIN	ND	10	CIS-1,3-DICHLOROPROPENE	ND	5
TRICHLOROFLUOROMETHANE	ND	5	1,1,2-TRICHLOROETHANE	ND	5
1,1-DICHLOROETHENE	ND	5	DIBROMOCHLOROMETHANE	ND	5
CARBON DISULFIDE	ND	5	BROMOFORM	ND	5
ACETONE	ND	10	4-METHYL-2-PENTANONE	ND	10
ACRYLONITRILE	ND	10	TOLUENE	ND	5
METHYLENE CHLORIDE	ND	5	TETRACHLOROETHENE	ND	5
TRANS-1,2-DICHLOROETHENE	ND	5	2-HEXANONE	ND	10
1,1-DICHLOROETHANE	ND	5	CHLOROBENZENE	ND	5
CHLOROFORM	ND	5	ETHYLBENZENE	ND	5
1,2-DICHLOROETHANE	ND	5	M,P-XYLENE	ND	5
VINYL ACETATE	ND	10	O-XYLENE	ND	5
2-BUTANONE	ND	10	STYRENE	ND	5
1,1,1-TRICHLOROETHANE	ND	5	1,1,2,2-TETRACHLOROETHANE	ND	5
CARBON TETRACHLORIDE	ND	5	1,3-DICHLOROBENZENE	ND	5
BENZENE	ND	5	1,4-DICHLOROBENZENE	ND	5
TRICHLOROETHENE	ND	5	1,2-DICHLOROBENZENE	ND	5

SURROGATE COMPOUNDS	RECOVERY	LIMITS	STATUS
1,2-DICHLOROETHANE-D4	105 %	76 - 114	OK
TOLUENE-D8	96 %	88 - 110	OK
4-BROMOFLUOROBENZENE	102 %	86 - 115	OK

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

METHOD BLANK

Lab Name: Laboratory Resources Inc., Contract:-------

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: WATER

Lab Sample ID: METHOD BLANK

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

Lab File ID: >B2855

Level: (low/med) LOW

Date Received:

% Solid: 0

Date Analyzed: 08/01/91

Column: CAP

Dilution Factor: 1

CONCENTRATION UNITS:
ug/L

Number of TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC

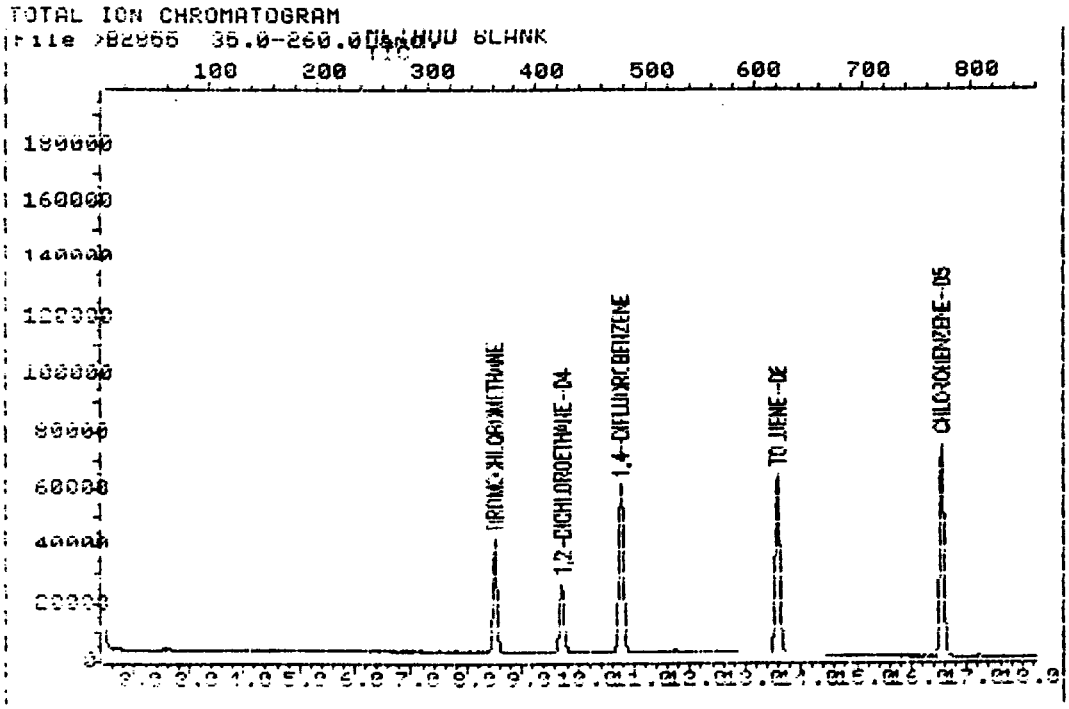
1/87 Rev

Operator ID: JOHN Quant Rev: 7 Quant Time: 910801 11:27
Output File: ^B2855::QT Injected at: 910801 10:52
Data File: >B2855::B3 Dilution Factor: 1.00000
Name: METHOD BLANK Instrument ID: MSD 4
Misc:

ID File: IDDVOB::SC
Title: LABORATORY RESOURCES ID FILE FOR VOLATILES METHOD 624
Last Calibration: 910729 15:35 Last Qcal Time: 910801 10:14

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*BROMOCHLOROMETHANE	8.50	127.9	34753	50.00	UG/L	94
17)	1,2-DICHLOROETHANE-D4	9.71	65.0	49799	52.50	UG/L	97
18)	*1,4-DIFLUOROBENZENE	10.75	114.0	142889	50.00	UG/L	88
33)	*CHLOROBENZENE-D5	16.54	117.0	124900	50.00	UG/L	92
35)	TOLUENE-D8	13.58	98.0	132649	48.06	UG/L	95
44)	4-BROMOFLUOROBENZENE	19.14	95.0	102538	50.76	UG/L	88

* Compound is ISTD



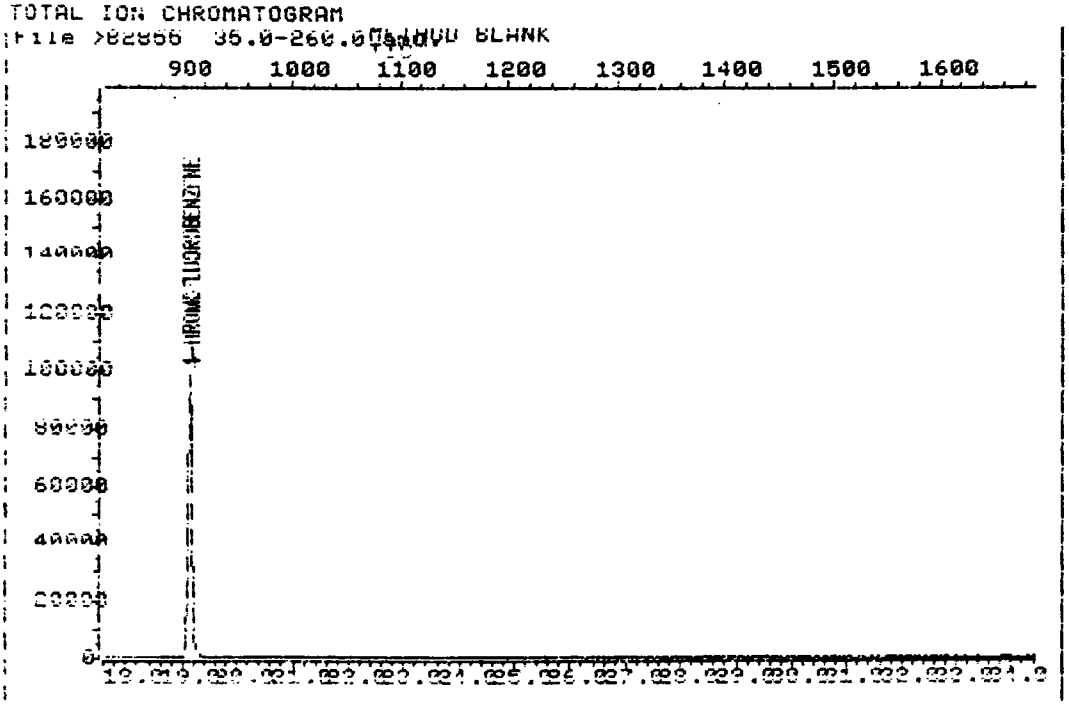
Data File: >B2855::B3 Quant Output File: ^B2855::QT
Name: METHOD BLANK Instrument ID: MSD 4
Misc:

Id File: IDDVOB::SC
Title: LABORATORY RESOURCES ID FILE FOR VOLATILES METHOD 624
Last Calibration: 910729 15:35 Last Qcal Time: 910801 10:14

Operator ID: JOHN
Quant Time : 910801 11:27
Injected at: 910801 10:52

Page 1 of 2

TOTAL ION CHROMATOGRAM



Data File: >B2855::B3 Quant Output File: ^B2855::QT
Name: METHOD BLANK Instrument ID: MSD 4
Misc:

Id File: IDDVOB::SC
Title: LABORATORY RESOURCES ID FILE FOR VOLATILES METHOD 624
Last Calibration: 910729 15:35 Last Qcal Time: 910801 10:14

Operator ID: JOHN
Quant Time : 910801 11:27
Injected at: 910801 10:52

MS data file header from : >B2855::B3

Sample: METHOD BLANK Operator: JOHN REG. GRP. 8/01/91 10:52
Misc :
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MSD 4
Method file: M_B624 Tuning file: MTBFBB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	10.	160.	220.	0.	0.
Chromatographic times, min. :	5.0	3.0	1.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	20.0	0.0	.1	0.0

No peaks found.

Summary of Unknowns PBM Library Search and Quantitation

Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	217790.	8.50	1.44 - 9.62
2	50.0	326378.	10.75	9.62 - 13.64
3	50.0	377778.	16.54	13.64 - 34.43

Dilution Factor = 1.00 This sample was 1000.00 g or mL

Correction Factor = 1.00

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

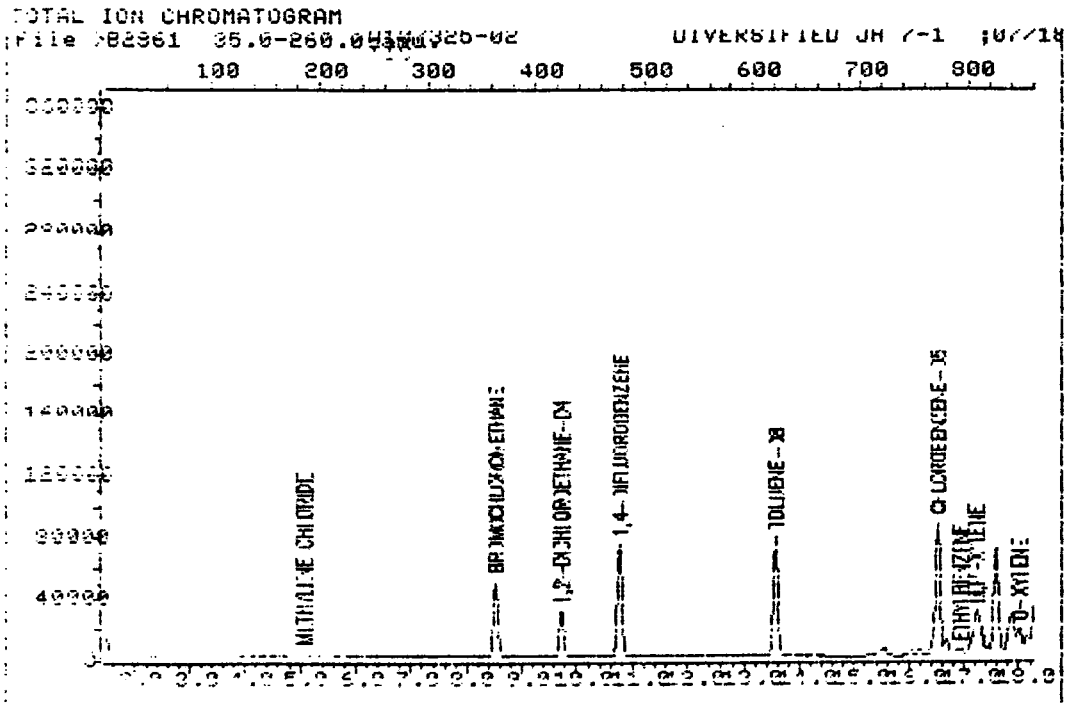
8:16 PM TUE., 6 AUG., 1991

Operator ID: JOHN Quant Rev: 7 Quant Time: 910801 15:47
Output File: ^B2861::QT Injected at: 910801 15:11
Data File: >B2861::B3 Dilution Factor: 1.00000
Name: W107325-02 Instrument ID: MSD 4
Misc: DIVERSIFIED JH 7-1 ;07/18/91:07/19/91

ID File: IDDVOB::SC
Title: LABORATORY RESOURCES ID FILE FOR VOLATILES METHOD 624
Last Calibration: 910729 15:35 Last Qcal Time: 910801 10:14

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*BROMOCHLOROMETHANE	8.51	127.9	42587	50.00	UG/L	98
12)	METHYLENE CHLORIDE	5.05	84.0	1335M	1.18	UG/L	
17)	1,2-DICHLOROETHANE-D4	9.71	65.0	62184	53.49	UG/L	95
18)	*1,4-DIFLUOROBENZENE	10.76	114.0	175717	50.00	UG/L	91
33)	*CHLOROBENZENE-D5	16.52	117.0	146292	50.00	UG/L	91
39)	TOLUENE-D8	13.56	98.0	156118	48.29	UG/L	98
40)	ETHYLBENZENE	16.93	106.0	1600	1.17	UG/L	92
41)	M,P-XYLENE	17.20	91.0	16325	2.18	UG/L	95
42)	O-XYLENE	18.00	91.0	15369	4.12	UG/L	90
44)	4-BROMOFLUOROBENZENE	19.12	95.0	120058	50.75	UG/L	86

* Compound is ISTD



Data File: >82861::83 Quant Output File: ^B2861::QT
Name: W107325-02 Instrument ID: MSD 4
Misc: DIVERSIFIED JH 7-1 :07/18/91;07/19/91

Id File: IDDVOB::SC
Title: LABORATORY RESOURCES ID FILE FOR VOLATILES METHOD 624
Last Calibration: 910729 15:35 Last Qcal Time: 910801 10:14

Operator ID: JOHN
Quant Time : 910801 15:47
Injected at: 910801 15:11

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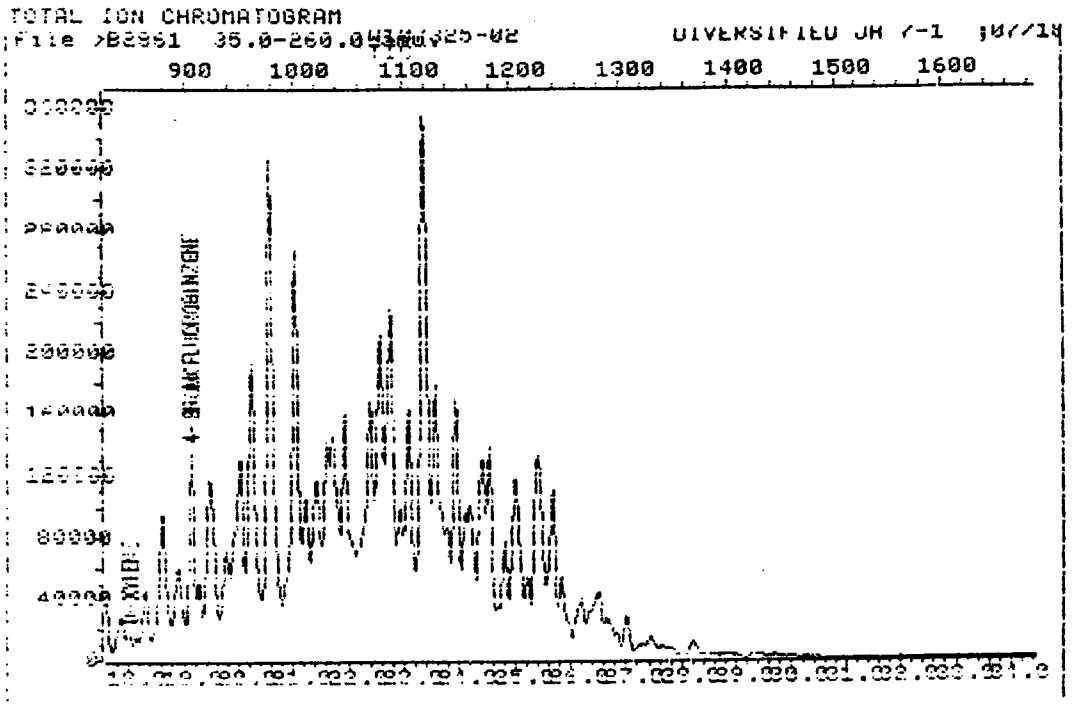
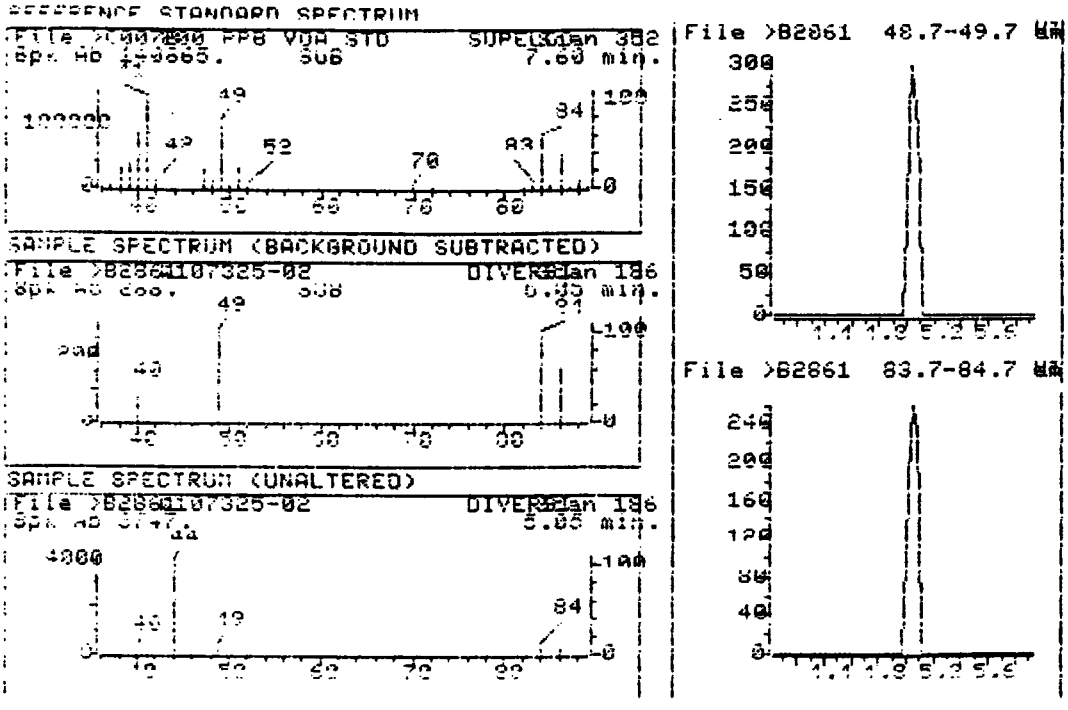


Data File: >B2861::83 Quant Output File: ^B2861::QT
Name: W107325-02 Instrument ID: MSD 4
Misc: DIVERSIFIED JH 7-1 :07/18/91:07/19/91

Id File: IDDVOB::SC
Title: LABORATORY RESOURCES ID FILE FOR VOLATILES METHOD 624
Last Calibration: 910729 15:35 Last Qcal Time: 910801 10:14

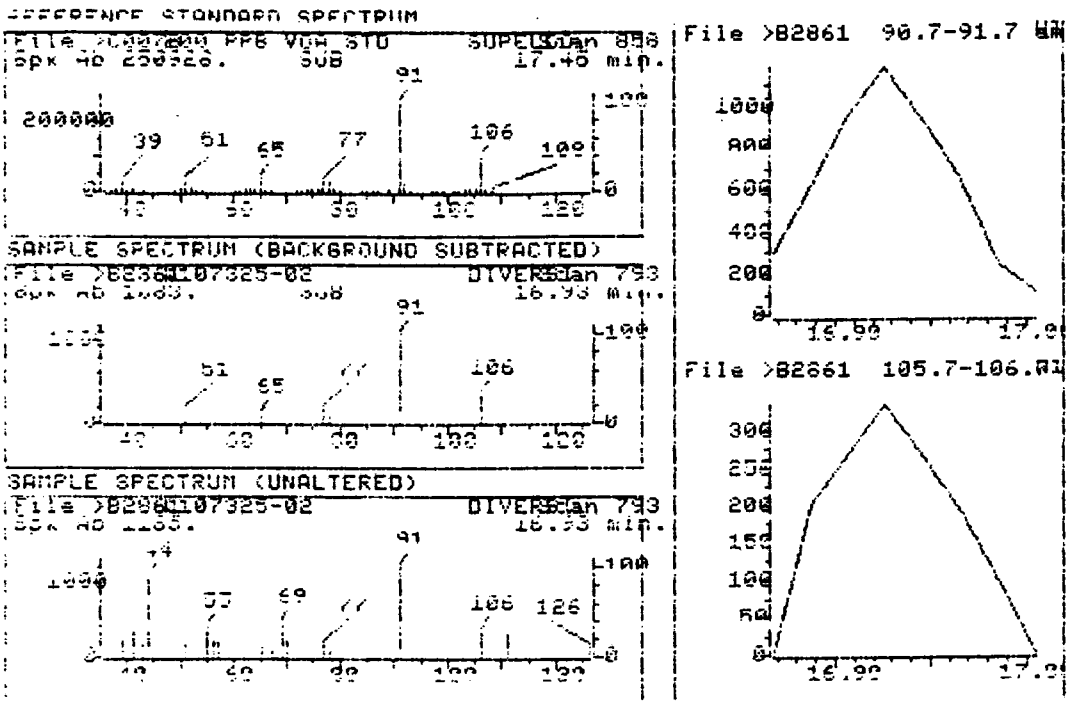
Operator ID: JOHN
Quant Time : 910801 15:47
Injected at: 910801 15:11

Page 2 of 2



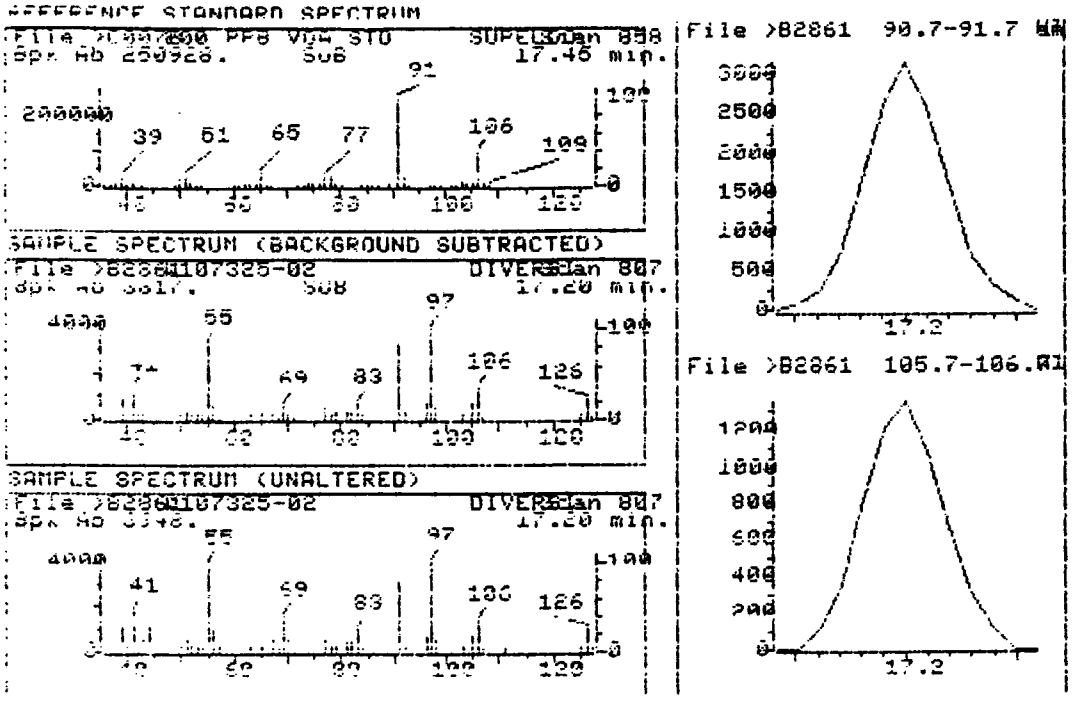
Data File: >B2861::B3 Quant Output File: ^B2861::QT
Name: W107325-02 Instrument ID: MSD 4
Misc: DIVERSIFIED JH 7-1 ;07/18/91;07/19/91
Quant Time: 910801 15:47 Quant ID File: IDDVOB::SC
Injected at: 910801 15:11 Last Calibration: 910729 15:35
Last Qcal Time: 910801 10:14

Compound No : 12
Compound Name : METHYLENE CHLORIDE
Scan Number : 186
Retention Time: 5.05 min.
Quant Ion : 84.0
Area : 1335M
Concentration : 1.18 UG/L



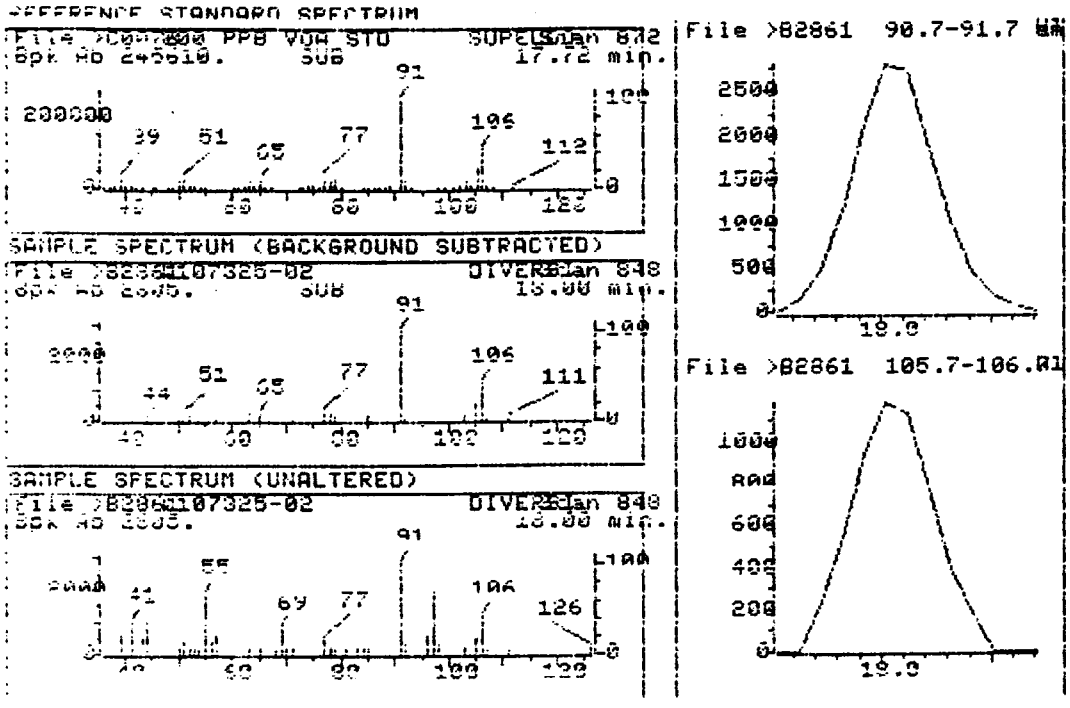
Data File: >B2861::B3 Quant Output File: ^B2861::QT
Name: W107325-02 Instrument ID: MSD 4
Misc: DIVERSIFIED JH 7-1 ;07/18/91;07/19/91
Quant Time: 910801 15:47 Quant ID File: IDDVOB::SC
Injected at: 910801 15:11 Last Calibration: 910729 15:35
Last Qcal Time: 910801 10:14

Compound No : 40
Compound Name : ETHYLBENZENE
Scan Number : 793
Retention Time: 16.93 min.
Quant Ion : 106.0
Area : 1600
Concentration : 1.17 UG/L
o-value : 92



Data File: >B2861::B3 Quant Output File: ^B2861::QT
Name: W107325-02 Instrument ID: MSD 4
Misc: DIVERSIFIED JH 7-1 :07/18/91:07/19/91
Quant Time: 910801 15:47 Quant ID File: IDDVOB::SC
Injected at: 910801 15:11 Last Calibration: 910729 15:35
Last Qcal Time: 910801 10:14

Compound No : 41
Compound Name : M,P-XYLENE
Scan Number : 807
Retention Time: 17.20 min.
Quant Ion : 91.0
Area : 16325
Concentration : 2.18 UG/L
Q-value : 95



Data File: >B2861::B3 Quant Output File: ^B2861::QT
Name: W107325-02 Instrument ID: MSD 4
Misc: DIVERSIFIED JH 7-1 ;07/18/91;07/19/91
Quant Time: 910801 15:47 Quant ID File: IDDVOB::SC
Injected at: 910801 15:11 Last Calibration: 910729 15:35
Last Qcal Time: 910801 10:14

Compound No : 42
Compound Name : O-XYLENE
Scan Number : 848
Retention Time: 18.00 min.
Quant Ion : 91.0
Area : 15369
Concentration : 4.12 UG/L
q-value : 90

1S data file header from : >B2861::B3

Sample: W107325-02 Operator: JOHN REG. GRP. 8/01/91 15:11
Misc : DIVERSIFIED JH 7-1 ;07/18/91;07/19/91
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MSD 4
Method file: M_B624 Tuning file: MTBFBB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	10.	160.	220.	0.	0.
Chromatographic times, min. :	5.0	3.0	1.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	20.0	0.0	.1	0.0

B2861 W107325-02 DIVERSIFIED JH 7-1 ;07/18/91;07/19/91
35.01 260.0 CLP TIC
Upslope: .2000 Area Reject: 26379. Max Peaks: 15 Bunch: -1 Valley >100 %
Onslope: 0.0000 Results File IB2861 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	18.59	869	878	887	81928	980066	693664	29.71	4.585
2	19.46	916	922	931	91050	1263957	776305	33.25	5.131
3	20.02	941	951	956	78936	1592374	665251*	28.50	4.397
4	20.24	956	962	971	155468	1818250	1149111	49.22	7.595
5	20.57	972	979	990	290524	2825503	2079816	89.09	13.746
6	21.02	990	1002	1008	230823	2386021	1640157	70.26	10.840
7	22.56	1075	1080	1084	122819	1745258	803107	34.40	5.308
8	22.73	1084	1089	1094	152987	1917282	1022152	43.78	6.756
9	23.07	1101	1106	1112	105180	1380257	622452	26.66	4.114
10	23.32	1112	1119	1126	295376	3300285	2334563	100.00	15.430
11	23.91	1144	1149	1154	111346	1324077	623982	26.73	4.124
12	24.40	1167	1174	1177	78508	1221524	615829	26.38	4.070
13	24.52	1177	1180	1186	105841	907837	559774	23.98	3.700
14	25.01	1199	1205	1213	80926	1278814	640653	27.44	4.234
15	25.40	1219	1225	1233	98892	1477809	903496	38.70	5.971

Sum of corrected areas: 15130316.

Summary of Unknowns PBM Library Search and Quantitation

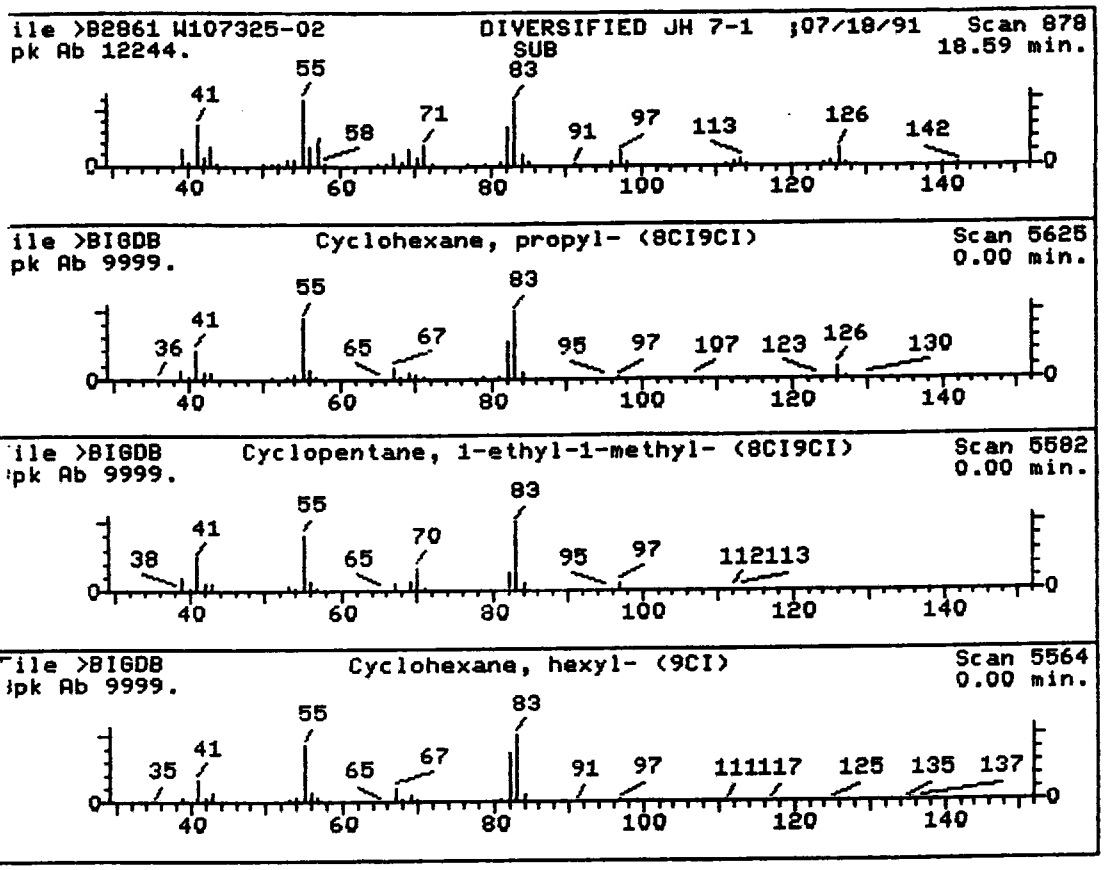
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	263795.	8.51	1.44 - 9.64
2	50.0	401322.	10.76	9.64 - 13.64
3	50.0	498665.	16.52	13.64 - 34.45

Dilution Factor = 1.00 This sample was 1000.00 g or mL

Correction Factor = 1.00

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

9:24 PM TUE., 6 AUG., 1991

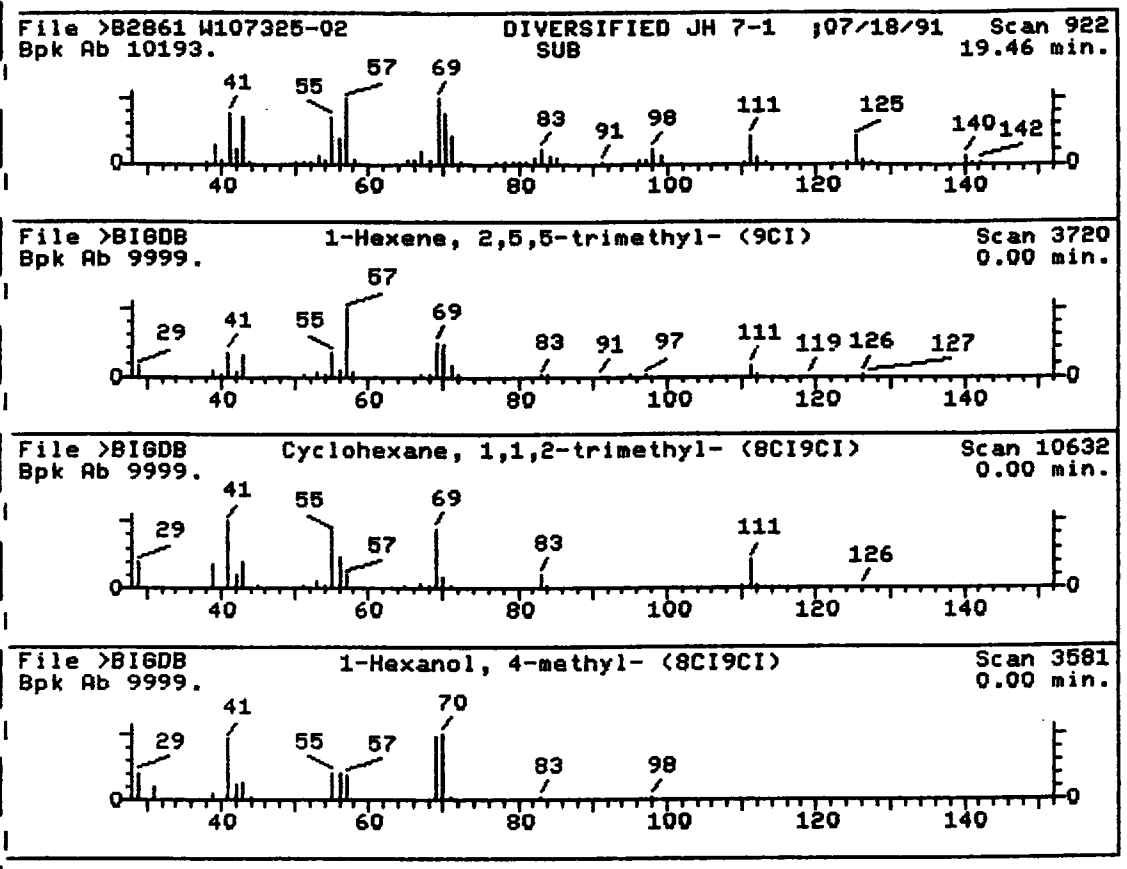


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:11
Result 1 in PBM results file: LB2861
Retention Time: 18.59 Area: 693664 Tentative Conc: 70.00
The unknown area is 139.10% of the nearest internal standard

1. Cyclohexane, propyl- (8CI9CI)	126	C9H18
2. Cyclopentane, 1-ethyl-1-methyl- (8CI9CI)	112	C8H16
3. Cyclohexane, hexyl- (9CI)	168	C12H24
4. Cyclohexane, octyl- (9CI)	196	C14H28
5. Cyclopentane, 1-methyl-3-(1-methylethyl)- (9CI)	126	C9H18
6. Pyridine, 2,3,4,5-tetrahydro- (8CI9CI)	83	C5H9N

Sample file: >B2861 Spectrum #: 878
Search speed: 1 Tilting option: N No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	88*	1678928	5625	"BIGDB	71	26	0	0	96	26	43	89
2.	31*	16747505	5582	"BIGDB	46	58	1	0	96	43	12	22
3.	30	4292755	5564	"BIGDB	34	61	0	0	76	37	10	16
4.	29	1795159	5581	"BIGDB	34	74	0	0	76	37	10	15
5.	27*	53771883	5383	"BIGDB	43	59	3	0	100	40	10	13
6.	27*	505180	5562	"BIGDB	31	62	3	0	158	40	10	13

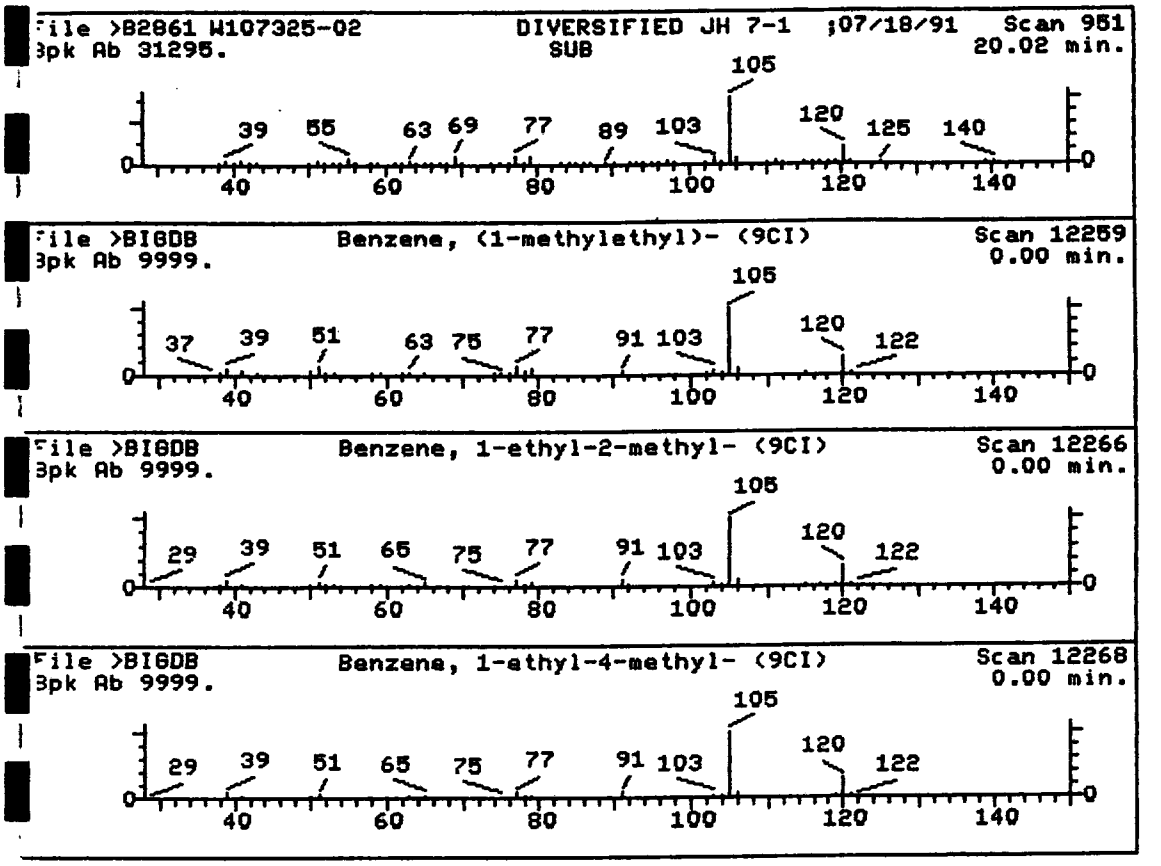


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:11
Result 2 in PBM results file: LB2861
Retention Time: 19.46 Area: 776305 Tentative Conc: 78.00
The unknown area is 155.68% of the nearest internal standard

1. 1-Hexene, 2,5,5-trimethyl- (9CI)	126	C9H18
2. Cyclohexane, 1,1,2-trimethyl- (8CI9CI)	126	C9H18
3. 1-Hexanol, 4-methyl- (8CI9CI)	116	C7H16O
4. Cyclopentane, 1,1,3,3-tetramethyl- (9CI)	126	C9H18
5. Cyclopentane, 1,1,3,4-tetramethyl-, cis- (9CI)	126	C9H18
6. 2-Octene, 4-ethyl-, (E)- (9CI)	140	C10H20

Sample file: >B2861 Spectrum #: 922
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	43	62185562	3720	"BIGDB	44	45	2	0	172	25	17	14
2.	31*	7094260	10632	"BIGDB	68	40	1	0	78	59	8	66
3.	30	818495	3581	"BIGDB	46	54	0	0	71	48	10	22
4.	30*	50876330	3669	"BIGDB	45	66	1	0	62	46	10	21
5.	30*	53907601	10646	"BIGDB	39	69	3	0	100	34	12	13
6.	25*	74630094	3764	"BIGDB	40	49	2	0	142	50	7	19

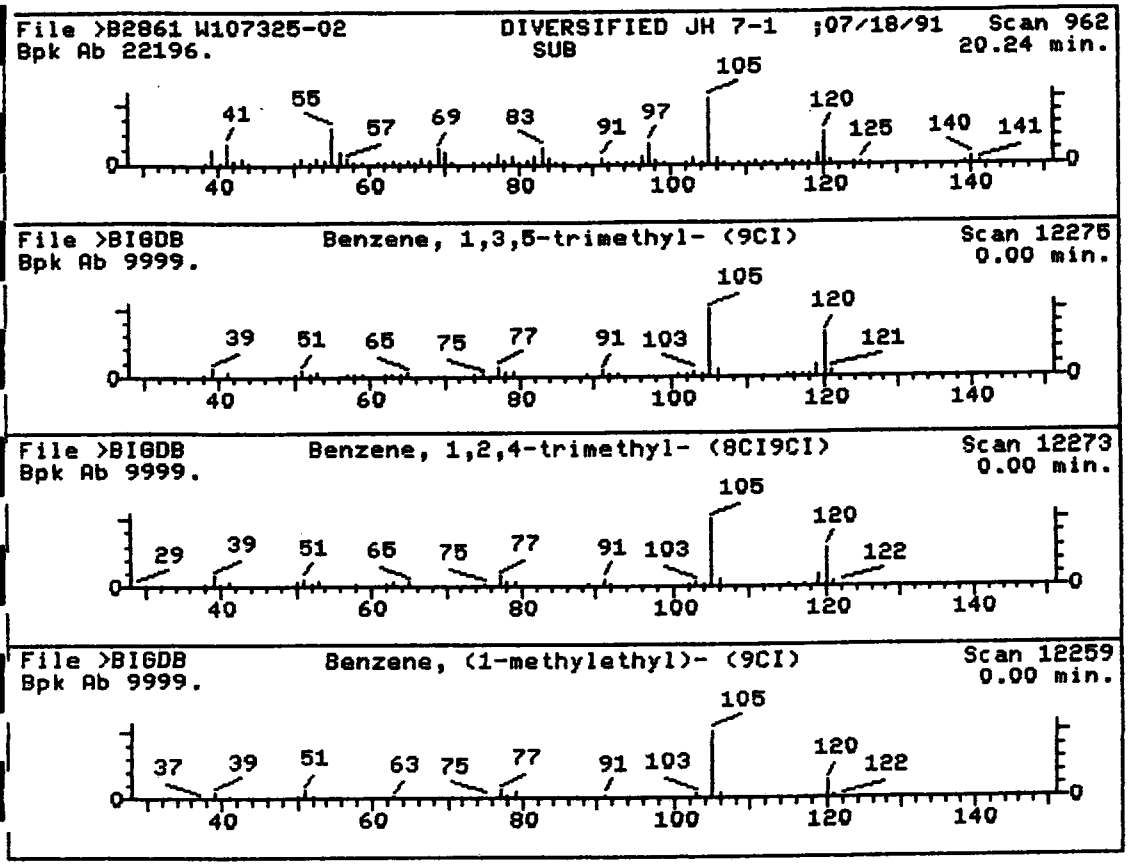


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:11
Result 3 in PBM results file: LB2861
Retention Time: 20.02 Area: 665251 Tentative Conc: 67.00
The unknown area is 133.41% of the nearest internal standard

1. Benzene, (1-methylethyl)- (9CI)	120	C9H12
2. Benzene, 1-ethyl-2-methyl- (9CI)	120	C9H12
3. Benzene, 1-ethyl-4-methyl- (9CI)	120	C9H12
4. Benzene, 1-ethyl-3-methyl- (9CI)	120	C9H12
5. Benzene, 1,2,3-trimethyl- (8CI9CI)	120	C9H12
6. 1,3-Cyclopentadiene, 5-(1-methylpropylidene)- (9CI)	120	C9H12

Sample file: >B2861 Spectrum #: 951
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83*	98828	12259	"BIGDB	64	23	2	0	87	9	54	53
2.	81*	611143	12266	"BIGDB	62	23	2	0	85	9	53	49
3.	81*	622968	12268	"BIGDB	62	23	2	0	88	9	53	49
4.	81*	620144	12267	"BIGDB	57	30	2	0	80	9	53	43
5.	31*	526738	12280	"BIGDB	49	51	2	0	54	41	12	22
6.	30*	3141024	12286	"BIGDB	41	48	2	0	41	45	12	21

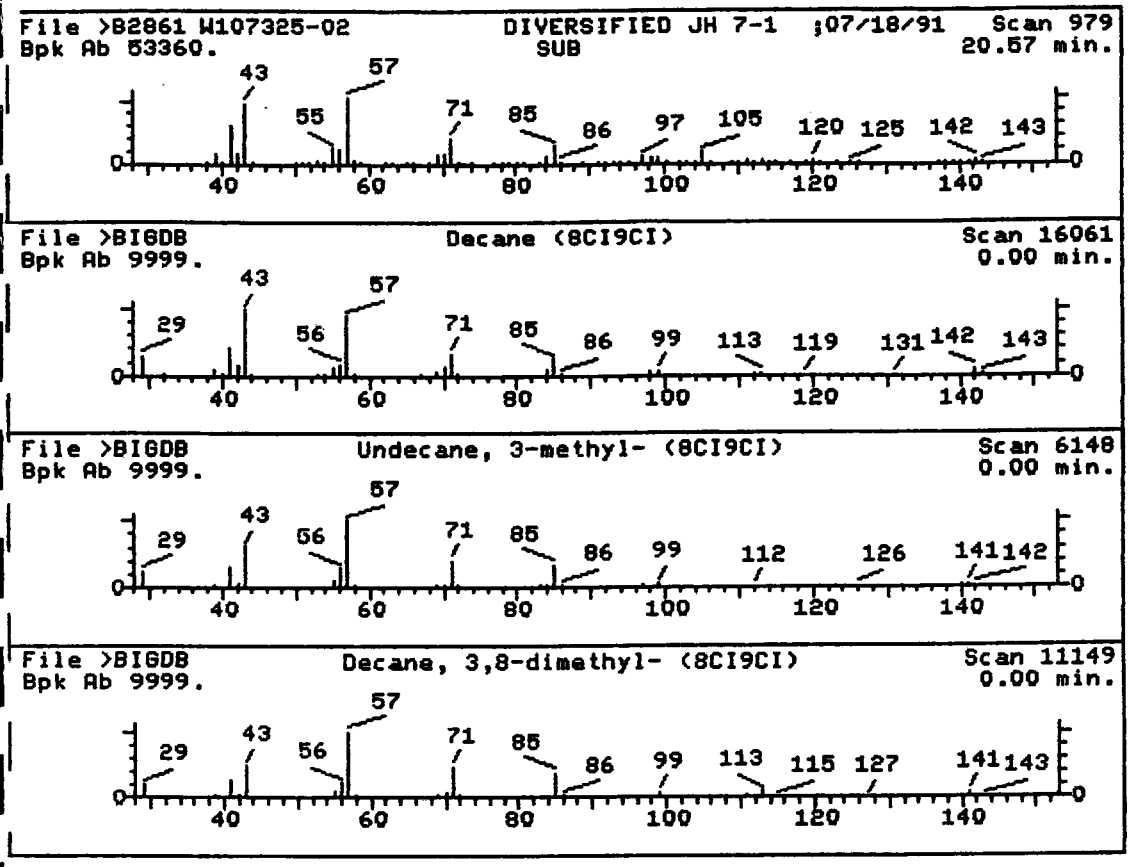


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:11
Result 4 in PBM results file: LB2861
Retention Time: 20.24 Area: 1149111 Tentative Conc: 120.00
The unknown area is 230.44% of the nearest internal standard

1. Benzene, 1,3,5-trimethyl- (9CI)	120	C9H12
2. Benzene, 1,2,4-trimethyl- (8CI9CI)	120	C9H12
3. Benzene, (1-methylethyl)- (9CI)	120	C9H12
4. Benzene, 1-ethyl-4-methyl- (9CI)	120	C9H12
5. Benzene, 1-ethyl-2-methyl- (9CI)	120	C9H12
6. Benzene, 1-ethyl-3-methyl- (9CI)	120	C9H12

Sample file: >B2861 Spectrum #: 962
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	108678	12275	"BIGDB	78	10	1	0	75	38	47	95
2.	87*	95636	12273	"BIGDB	81	14	1	0	67	38	47	92
3.	58*	98828	12259	"BIGDB	71	16	1	0	95	51	25	83
4.	32*	622968	12268	"BIGDB	61	24	2	0	100	51	9	48
5.	28*	611143	12266	"BIGDB	54	31	2	0	86	51	8	39
6.	28*	620144	12267	"BIGDB	54	33	2	0	87	51	8	39

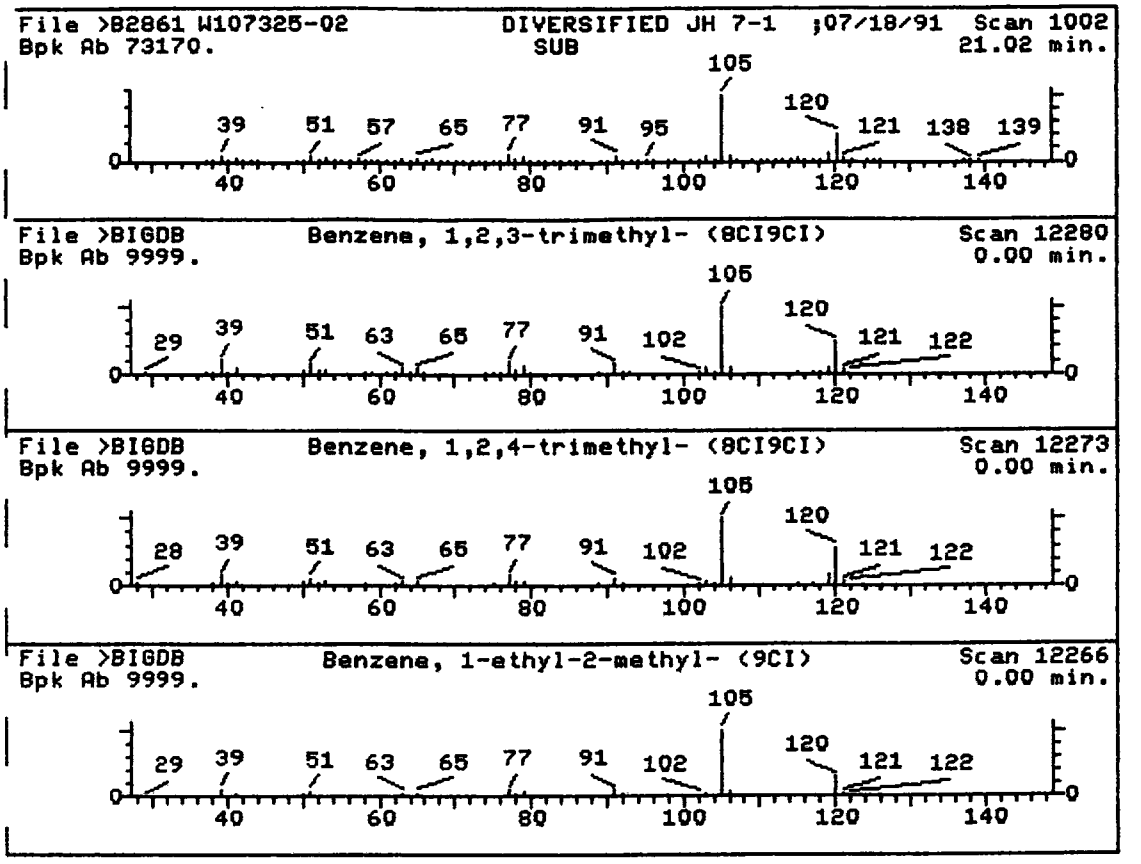


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:11
Result 5 in PBM results file: LB2861
Retention Time: 20.57 Area: 2079816 Tentative Conc: 210.00
The unknown area is 417.08% of the nearest internal standard

1. Decane (8CI9CI)	142	C10H22
2. Undecane, 3-methyl- (8CI9CI)	170	C12H26
3. Decane, 3,8-dimethyl- (8CI9CI)	170	C12H26
4. Octane, 3,6-dimethyl- (8CI9CI)	142	C10H22
5. Octane, 3,5-dimethyl- (8CI9CI)	142	C10H22
6. Decane, 2,5,9-trimethyl- (9CI)	184	C13H28

Sample file: >B2861 Spectrum #: 979
Search speed: 1 Tilting option: N No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	81	124185	16061	"BIGDB	84	16	1	0	90	7	53	48
2.	67	1002433	6148	"BIGDB	53	35	1	0	73	13	34	21
3.	52	17312559	11149	"BIGDB	58	34	2	0	71	17	20	19
4.	50*	15869940	11043	"BIGDB	39	50	1	0	68	25	22	22
5.	48*	15869939	3611	"BIGDB	44	49	1	0	92	30	19	26
6.	42	62108229	3927	"BIGDB	38	53	0	0	100	26	14	19

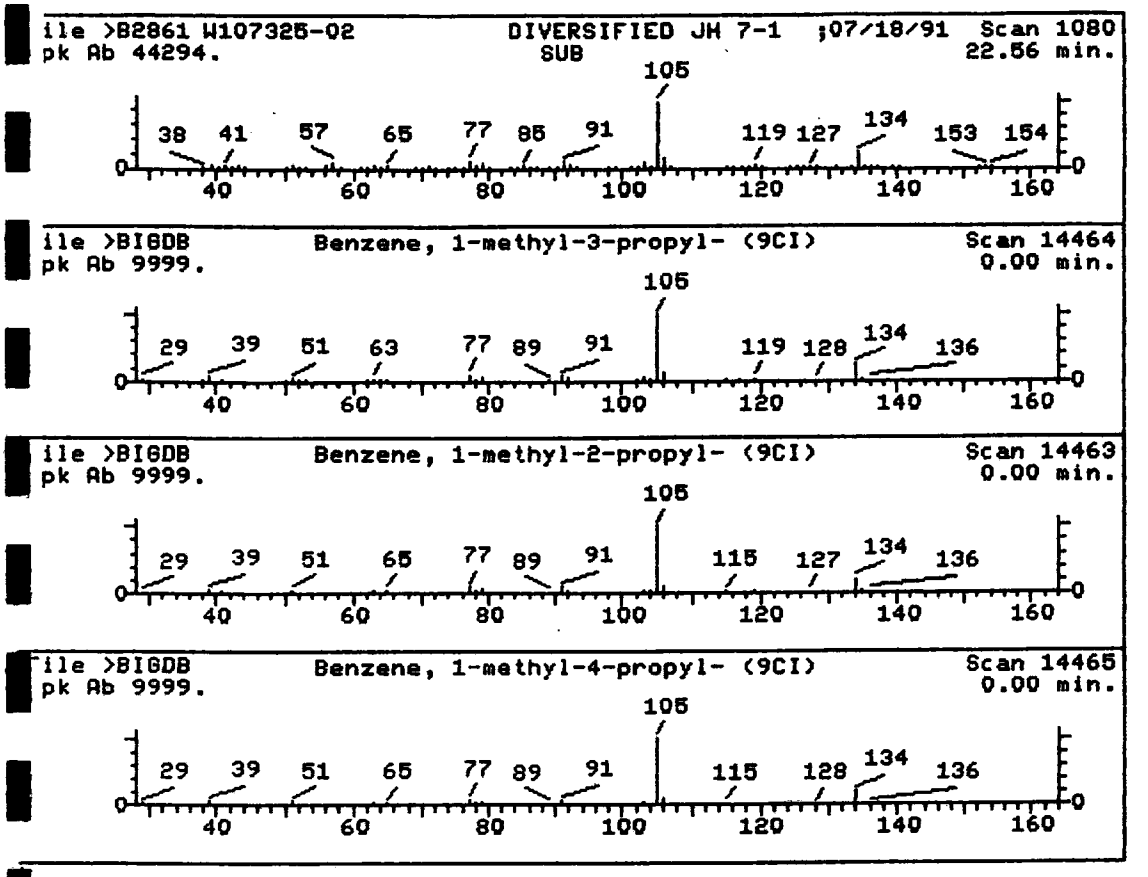


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:11
Result 6 in PBM results file: LB2861
Retention Time: 21.02 Area: 1640157 Tentative Conc: 160.00
The unknown area is 328.91% of the nearest internal standard

1. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12
2. Benzene, 1,2,4-trimethyl- (8CI9CI) 120 C9H12
3. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
4. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
5. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
6. Benzene, (1-methylethyl)- (9CI) 120 C9H12

Sample file: >B2861 Spectrum #: 1002
Search speed: 1 Tilting option: N No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	88*	526738	12280	"BIGDB	77	23	2	0	69	4	65	59
2.	88*	95636	12273	"BIGDB	72	23	0	0	53	28	43	89
3.	77*	611143	12266	"BIGDB	65	20	1	0	85	21	41	73
4.	77*	622968	12268	"BIGDB	59	26	0	0	71	21	41	73
5.	73*	620144	12267	"BIGDB	64	23	1	0	85	21	32	67
6.	73*	98828	12259	"BIGDB	60	27	1	0	85	24	32	60

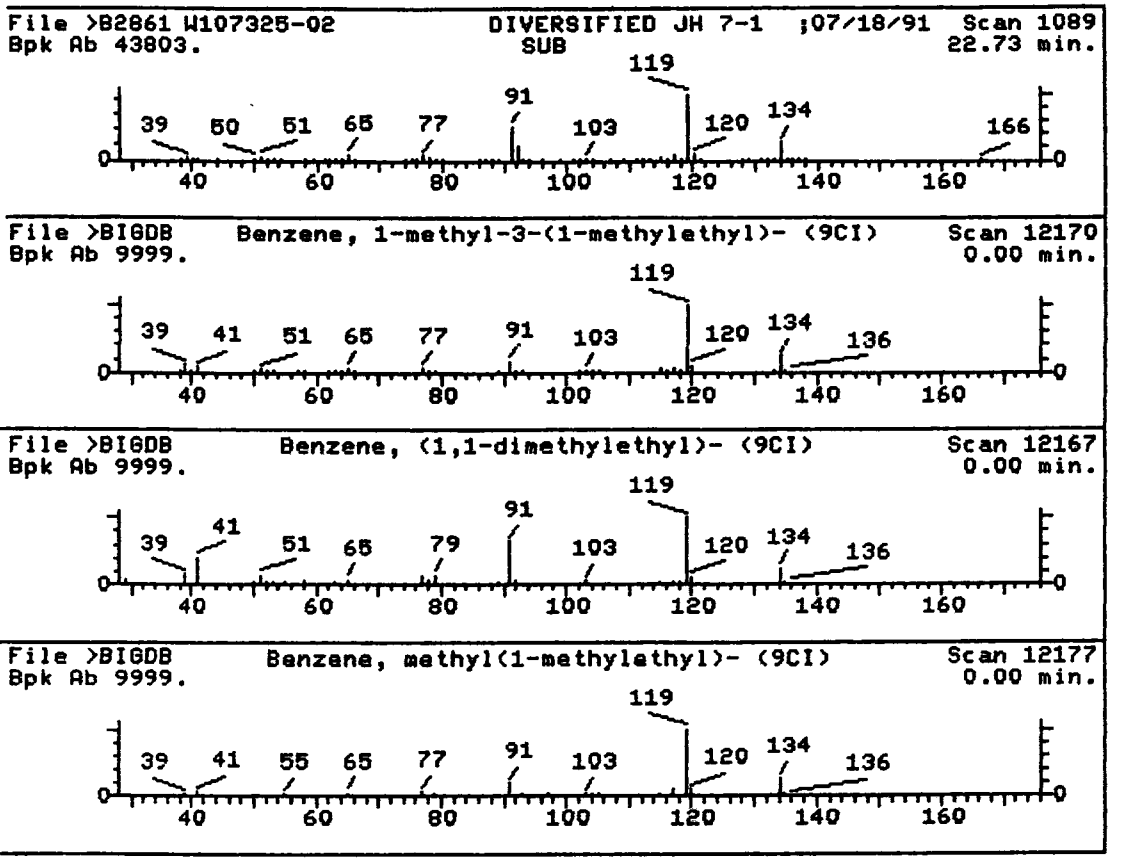


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:11
Result 7 in PBM results file: LB2861
Retention Time: 22.56 Area: 803107 Tentative Conc: 81.00
The unknown area is 161.05% of the nearest internal standard

1.	Benzene, 1-methyl-3-propyl- (9CI)	134	C10H14
2.	Benzene, 1-methyl-2-propyl- (9CI)	134	C10H14
3.	Benzene, 1-methyl-4-propyl- (9CI)	134	C10H14
4.	Benzene, (1-methylpropyl)- (9CI)	134	C10H14
5.	Benzene, (1,2,2-trimethyl-3-butenyl)- (9CI)	174	C13H18
6.	Benzene, (1,3-dimethyl-3-butenyl)- (9CI)	160	C12H16

Sample file: >B2861 Spectrum #: 1080
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	97*	1074437	14464	"BIGDB	86	1	0	0	92	5	72	97
2.	89*	1074175	14463	"BIGDB	70	15	1	0	97	8	62	86
3.	89*	1074551	14465	"BIGDB	68	15	1	0	100	8	62	80
4.	74*	135988	14459	"BIGDB	50	36	1	0	80	15	39	41
5.	38	61142174	9915	"BIGDB	45	41	2	0	100	29	14	15
6.	33	56851515	9933	"BIGDB	45	33	1	0	99	31	12	16



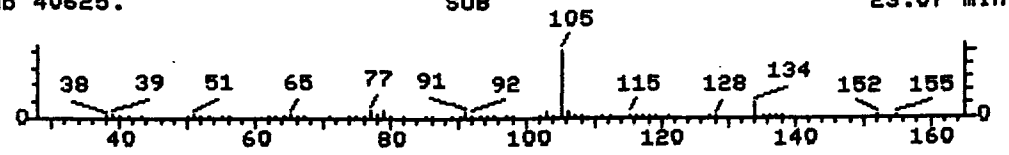
Instrument ID: MSD 4 Analyzed on: 8/01/91 15:11
Result 8 in PBM results file: LB2861
Retention Time: 22.73 Area: 1022152 Tentative Conc: 100.00
The unknown area is 204.98% of the nearest internal standard

1. Benzene, 1-methyl-3-(1-methylethyl)- (9CI)	134	C10H14
2. Benzene, (1,1-dimethylethyl)- (9CI)	134	C10H14
3. Benzene, methyl(1-methylethyl)- (9CI)	134	C10H14
4. Ethanone, 1-(methylphenyl)- (9CI)	134	C9H10O
5. Benzene, 1-ethyl-2,4-dimethyl- (9CI)	134	C10H14
6. Benzene, 1-ethyl-2,3-dimethyl- (9CI)	134	C10H14

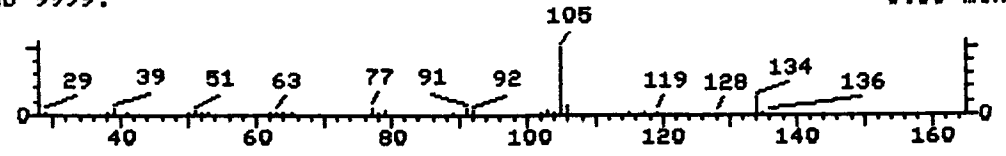
Sample file: >B2861 Spectrum #: 1089
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	76*	535773	12170	"BIGDB	62	27	0	0	67	30	37	74
2.	71*	98066	12167	"BIGDB	51	44	2	0	78	12	38	30
3.	65*	25155151	12177	"BIGDB	58	32	1	0	67	32	24	50
4.	63*	26444199	12182	"BIGDB	52	40	2	0	73	17	30	35
5.	62*	874419	12171	"BIGDB	56	32	2	0	100	28	25	42
6.	62*	933982	12172	"BIGDB	55	36	2	0	91	28	25	41

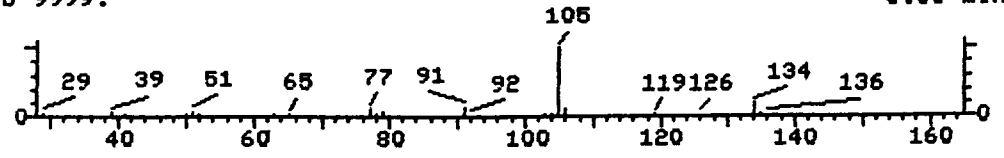
File >B2861 W107325-02 DIVERSIFIED JH 7-1 ;07/18/91 Scan 1106
Bpk Ab 40625. SUB 23.07 min.



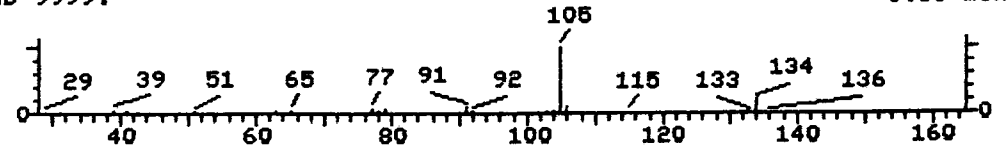
File >BIGDB Benzene, 1-methyl-3-propyl- (9CI) Scan 14464
Bpk Ab 9999. 0.00 min.



File >BIGDB Benzene, (1-methylpropyl)- (9CI) Scan 14459
Bpk Ab 9999. 0.00 min.



File >BIGDB Benzene, 1-methyl-2-propyl- (9CI) Scan 14463
Bpk Ab 9999. 0.00 min.



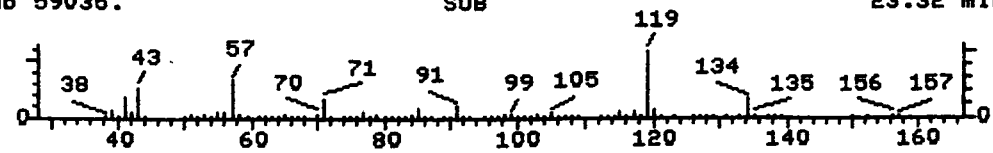
Instrument ID: MSD 4 Analyzed on: 8/01/91 15:11
Result 9 in PBM results file: LB2861
Retention Time: 23.07 Area: 622452 Tentative Conc: 62.00
The unknown area is 124.82% of the nearest internal standard

1.	Benzene, 1-methyl-3-propyl- (9CI)	134 C10H14
2.	Benzene, (1-methylpropyl)- (9CI)	134 C10H14
3.	Benzene, 1-methyl-2-propyl- (9CI)	134 C10H14
4.	Benzene, 1-methyl-4-propyl- (9CI)	134 C10H14
5.	Benzene, (1,2,2-trimethyl-3-butenyl)- (9CI)	174 C13H18
6.	Benzene, (1,3-dimethyl-3-butenyl)- (9CI)	160 C12H16

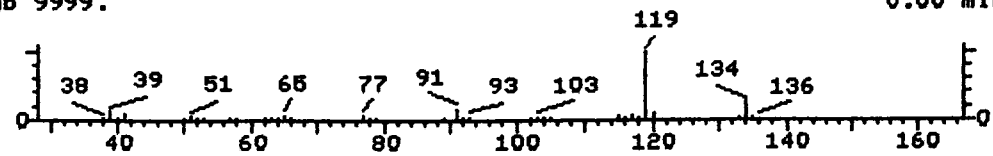
Sample file: >B2861 Spectrum #: 1106
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83*	1074437	14464	"BIGDB	64	23	2	0	71	8	54	53
2.	81*	135988	14459	"BIGDB	57	29	2	0	100	7	53	43
3.	79*	1074175	14463	"BIGDB	62	23	1	0	69	14	43	67
4.	76*	1074551	14465	"BIGDB	63	20	2	0	100	12	40	50
5.	52	61142174	9915	"BIGDB	49	37	2	0	100	19	20	17
6.	46	56851515	9933	"BIGDB	49	29	2	0	100	21	17	17

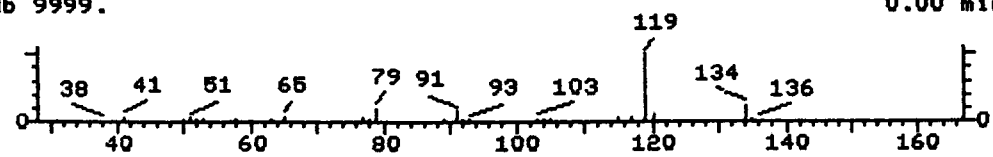
File >B2861 W107325-02 DIVERSIFIED JH 7-1 ;07/18/91 Scan 1119
Bpk Ab 59036. SUB 23.32 min.



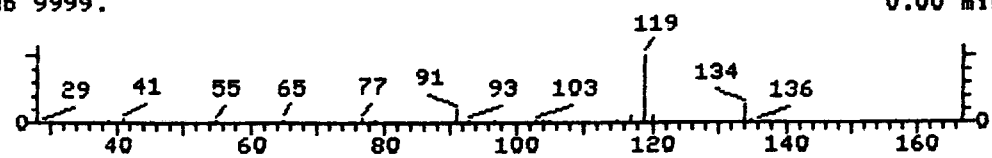
File >BIGDB Benzene, 1-methyl-3-(1-methylethyl)- (9CI) Scan 12170
Bpk Ab 9999. 0.00 min.



File >BIGDB Benzene, 1-methyl-2-(1-methylethyl)- (9CI) Scan 12169
Bpk Ab 9999. 0.00 min.



File >BIGDB Benzene, methyl(1-methylethyl)- (9CI) Scan 12177
Bpk Ab 9999. 0.00 min.

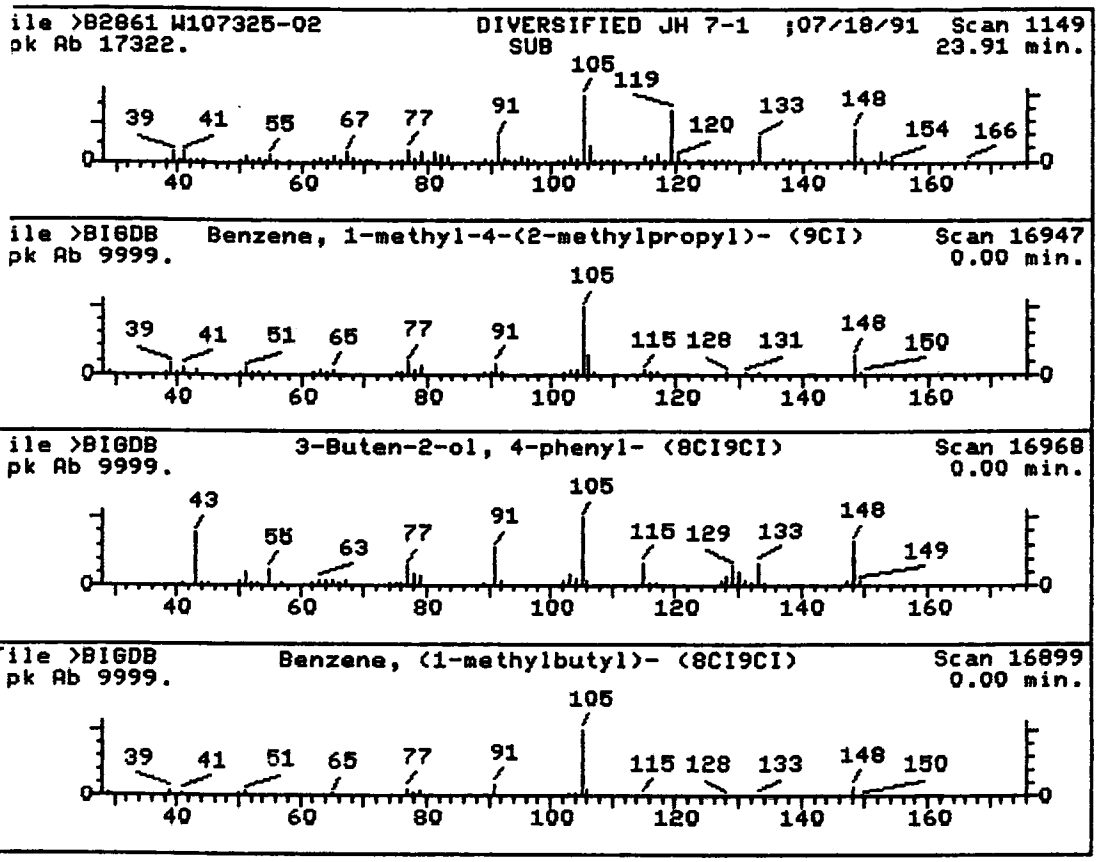


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:11
Result 10 in PBM results file: LB2861
Retention Time: 23.32 Area: 2334563 Tentative Conc: 230.00
The unknown area is 468.16% of the nearest internal standard

1. Benzene, 1-methyl-3-(1-methylethyl)- (9CI) 134 C10H14
2. Benzene, 1-methyl-2-(1-methylethyl)- (9CI) 134 C10H14
3. Benzene, methyl(1-methylethyl)- (9CI) 134 C10H14
4. Benzene, 2-ethyl-1,3-dimethyl- (9CI) 134 C10H14
5. Benzene, 1-ethyl-2,4-dimethyl- (9CI) 134 C10H14
6. Benzene, 4-ethyl-1,2-dimethyl- (9CI) 134 C10H14

Sample file: >B2861 Spectrum #: 1119
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	93*	535773	12170	"BIGDB	83	6	1	0	85	26	57	96
2.	92*	527844	12169	"BIGDB	83	9	1	0	79	26	57	95
3.	91*	25155151	12177	"BIGDB	78	12	1	0	71	26	57	93
4.	91*	2870044	12174	"BIGDB	77	12	1	0	97	26	57	93
5.	91*	874419	12171	"BIGDB	76	12	1	0	96	26	57	93
6.	74*	934805	12173	"BIGDB	72	21	1	0	82	26	37	72

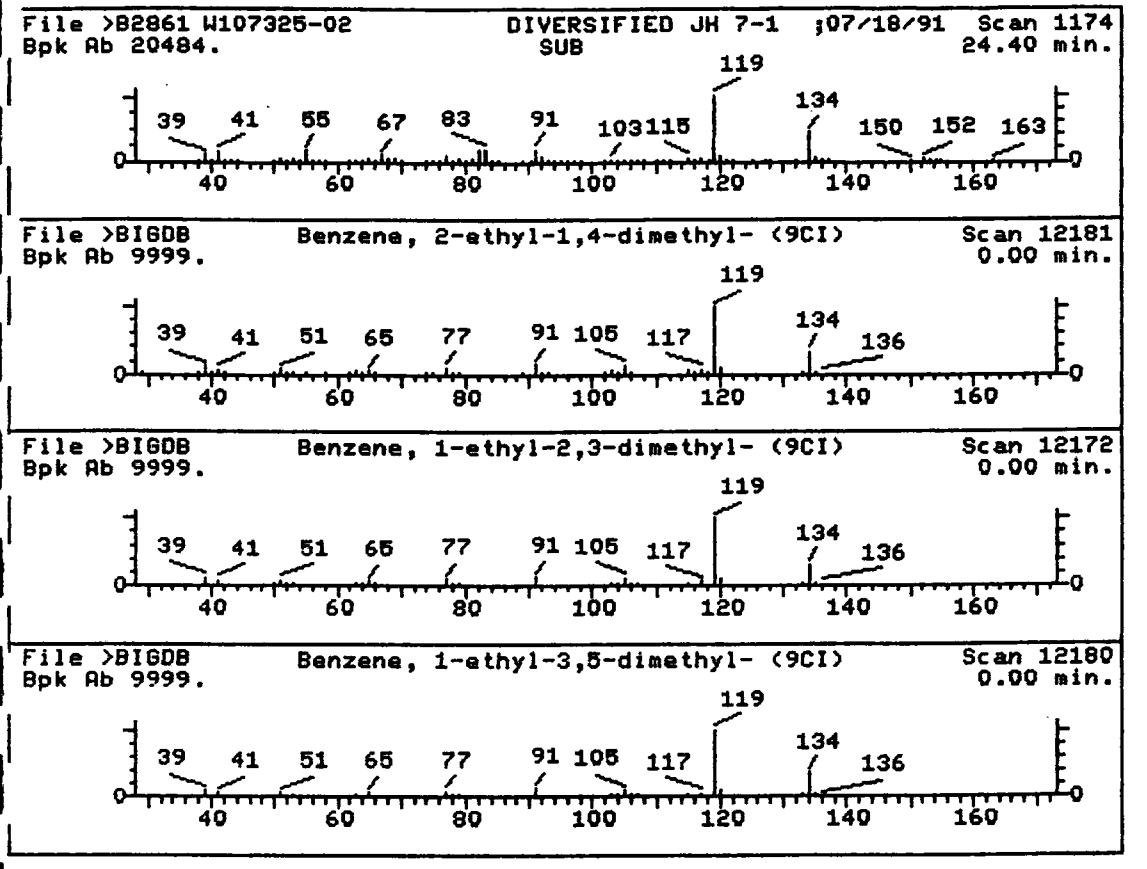


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:11
Result 11 in PBM results file: LB2861
Retention Time: 23.91 Area: 623982 Tentative Conc: 63.00
The unknown area is 125.13% of the nearest internal standard

1.	Benzene, 1-methyl-4-(2-methylpropyl)- (9CI)	148	C11H16
2.	3-Buten-2-ol, 4-phenyl- (8CI9CI)	148	C10H12O
3.	Benzene, (1-methylbutyl)- (8CI9CI)	148	C11H16
4.	Benzene, (2-methoxy-1-propenyl)- (9CI)	148	C10H12O
5.	3(2H)-Benzofuranone, 6-methyl- (8CI9CI)	148	C9H8O2
6.	1H-1,5-Benzodiazepine, 2,3,4,5-tetrahydro- (8CI9CI)	148	C9H12N2

Sample file: >B2861 Spectrum #: 1149
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	28*	5161046	16947	"BIGDB	51	44	2	0	88	51	8	30
2.	25*	17488652	16968	"BIGDB	30	82	3	0	74	46	7	13
3.	23*	2719520	16899	"BIGDB	37	51	0	0	99	60	6	42
4.	20*	10573327	16960	"BIGDB	29	52	2	0	75	51	5	14
5.	20*	20895414	16976	"BIGDB	39	84	3	0	53	55	5	13
6.	20*	6516898	16955	"BIGDB	24	84	3	0	77	53	5	12

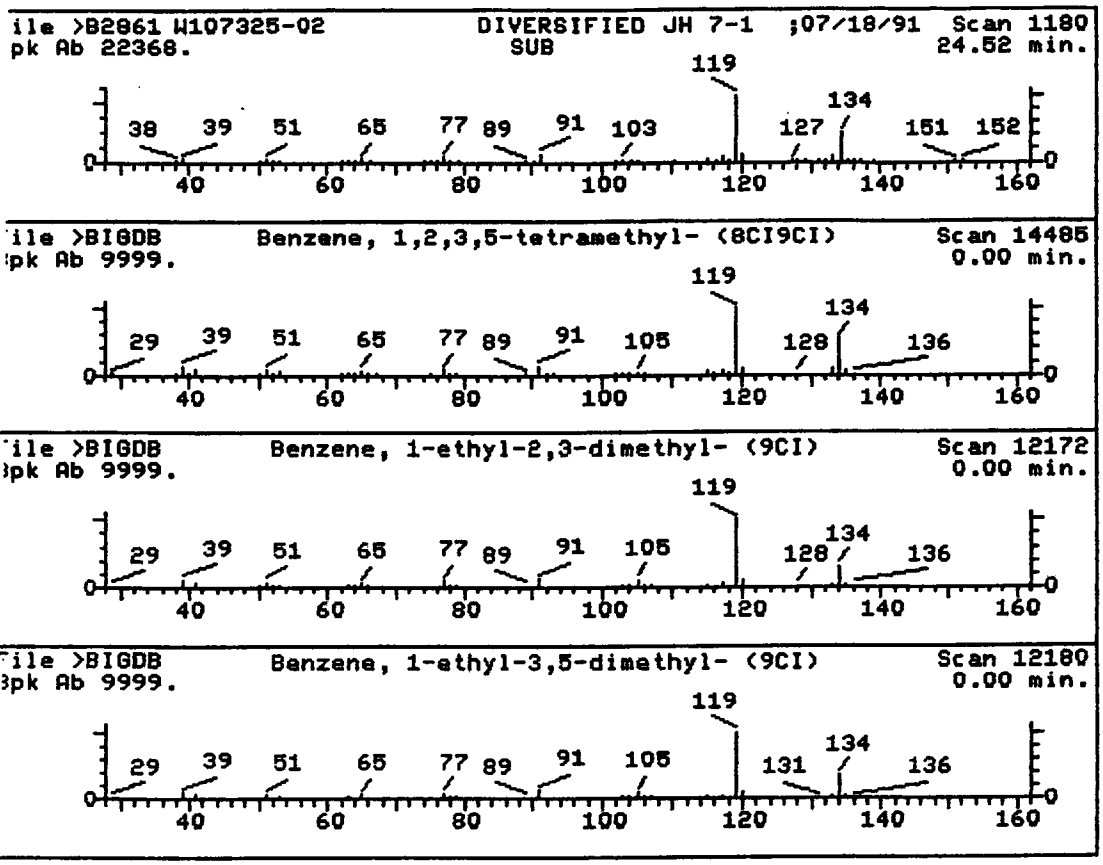


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:11
Result 12 in PBM results file: LB2861
Retention Time: 24.40 Area: 615829 Tentative Conc: 62.00
The unknown area is 123.50% of the nearest internal standard

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

Sample file: >B2861 Spectrum #: 1174
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	67*	1758889	12181	"BIGDB	43	51	2	0	95	13	34	22
2.	67*	933982	12172	"BIGDB	48	43	2	0	100	13	34	28
3.	67*	934747	12180	"BIGDB	49	46	2	0	100	13	34	27
4.	62*	874419	12171	"BIGDB	51	37	1	0	72	27	25	42
5.	58*	95932	14475	"BIGDB	49	53	2	0	79	16	25	22
6.	55*	488233	14484	"BIGDB	57	37	1	0	57	38	19	46

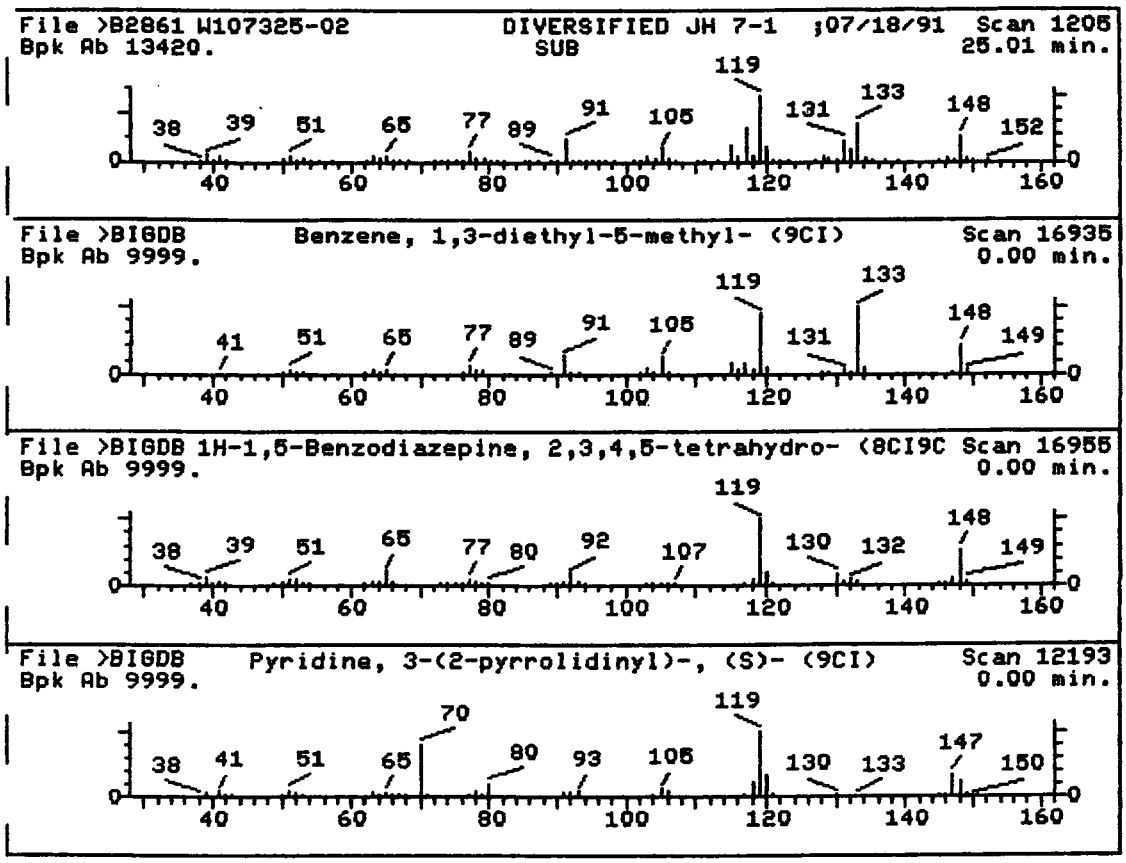


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:11
Result 13 in PBM results file: LB2861
Retention Time: 24.52 Area: 559774 Tentative Conc: 56.00
The unknown area is 112.25% of the nearest internal standard

1. Benzene, 1,2,3,5-tetramethyl- (8CI9CI) 134 C10H14
2. Benzene, 1-ethyl-2,3-dimethyl- (9CI) 134 C10H14
3. Benzene, 1-ethyl-3,5-dimethyl- (9CI) 134 C10H14
4. Benzene, 1,2,4,5-tetramethyl- (8CI9CI) 134 C10H14
5. Benzene, 2-ethyl-1,4-dimethyl- (9CI) 134 C10H14
6. Benzene, 1-methyl-3-(1-methylethyl)- (9CI) 134 C10H14

Sample file: >B2861 Spectrum #: 1180
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	88*	527537	14485	"BIGDB	68	25	2	0	80	1	65	55
2.	86*	933982	12172	"BIGDB	53	38	2	0	100	3	60	36
3.	86*	934747	12180	"BIGDB	53	42	2	0	99	1	60	32
4.	86*	95932	14475	"BIGDB	54	48	2	0	79	4	60	31
5.	83*	1758889	12181	"BIGDB	48	46	2	0	91	3	57	27
6.	74*	535773	12170	"BIGDB	59	30	2	0	80	15	39	45



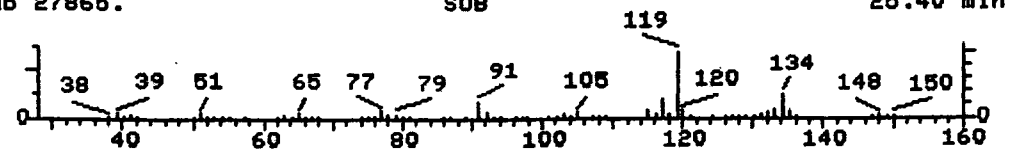
Instrument ID: MSD 4 Analyzed on: 8/01/91 15:11
Result 14 in PBM results file: LB2861
Retention Time: 25.01 Area: 640653 Tentative Conc: 64.00
The unknown area is 128.47% of the nearest internal standard

1. Benzene, 1,3-diethyl-5-methyl- (9CI) 148 C11H16
2. 1H-1,5-Benzodiazepine, 2,3,4,5-tetrahydro- (8CI9CI) 148 C9H12N2
3. Pyridine, 3-(2-pyrrolidinyl)-, (S)- (9CI) 148 C9H12N2
4. [1,2,4]Triazolo[1,5-a]pyridine (9CI) 119 C6H5N3

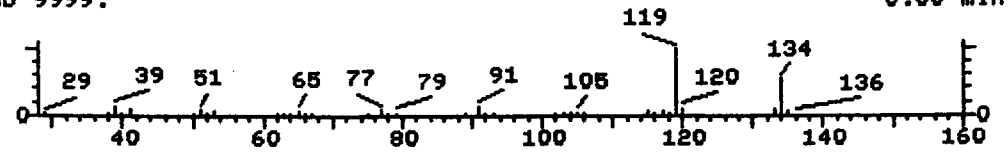
Sample file: >B2861 Spectrum #: 1205
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	31*	2050240	16935	"BIGDB	52	58	0	0	58	56	8	63
2.	25*	6516898	16955	"BIGDB	24	84	3	0	72	47	7	12
3.	20*	494973	12193	"BIGDB	26	89	3	0	100	54	5	13
4.	11*	274851	12133	"BIGDB	34	62	3	0	100	64	2	13

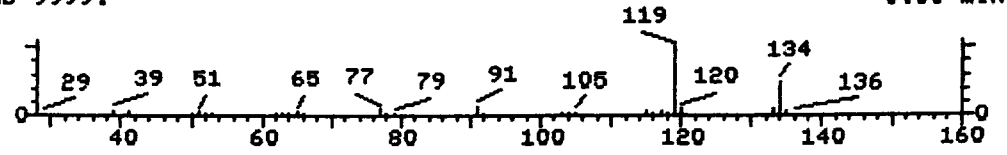
File >B2861 W107325-02 DIVERSIFIED JH 7-1 ;07/18/91 Scan 1225
Bpk Ab 27865. SUB 25.40 min.



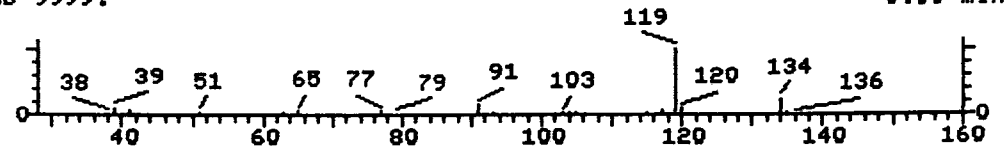
File >BIGDB Benzene, 1,2,3,5-tetramethyl- (8CI9CI) Scan 14485
Bpk Ab 9999. 0.00 min.



File >BIGDB Benzene, 1,2,3,4-tetramethyl- (8CI9CI) Scan 14484
Bpk Ab 9999. 0.00 min.



File >BIGDB Benzene, 1-methyl-3-(1-methylethyl)- (9CI) Scan 12170
Bpk Ab 9999. 0.00 min.



Instrument ID: MSD 4 Analyzed on: 8/01/91 15:11
Result 15 in PBM results file: LB2861
Retention Time: 25.40 Area: 903496 Tentative Conc: 91.00
The unknown area is 181.18% of the nearest internal standard

1. Benzene, 1,2,3,5-tetramethyl- (8CI9CI) 134 C10H14
2. Benzene, 1,2,3,4-tetramethyl- (8CI9CI) 134 C10H14
3. Benzene, 1-methyl-3-(1-methylethyl)- (9CI) 134 C10H14
4. Benzene, methyl(1-methylethyl)- (9CI) 134 C10H14
5. Benzene, 2-ethyl-1,4-dimethyl- (9CI) 134 C10H14
6. Benzene, 2-ethyl-1,3-dimethyl- (9CI) 134 C10H14

Sample file: >B2861 Spectrum #: 1225
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

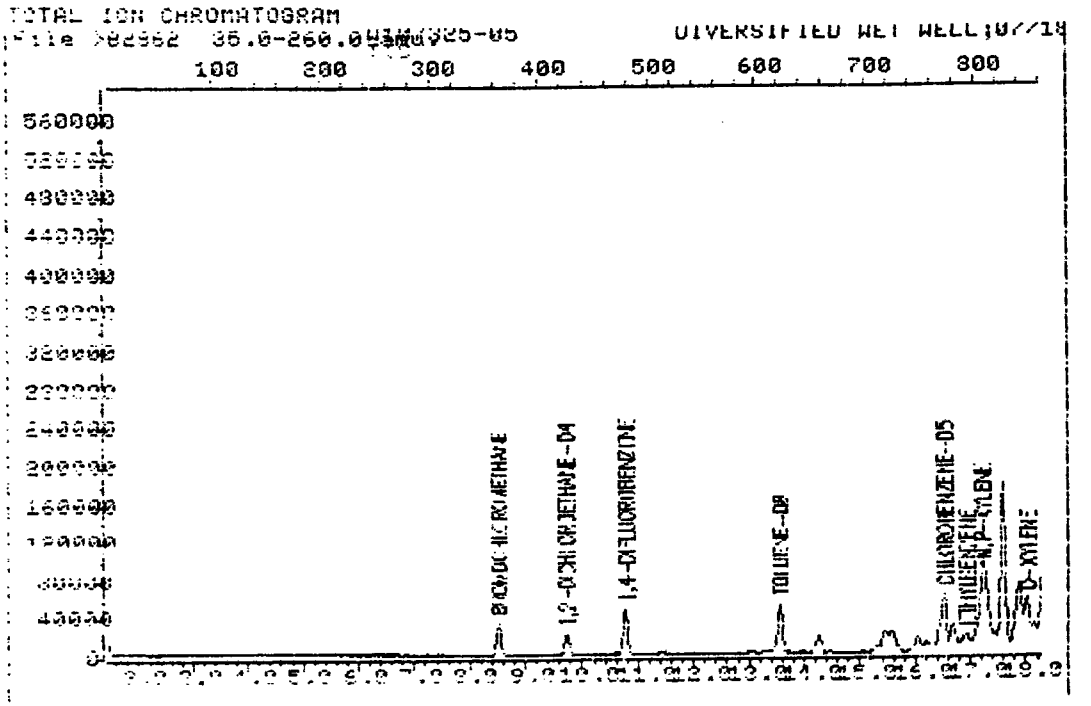
	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	70*	527537	14485	"BIGDB	48	45	0	0	66	20	32	57
2.	70*	488233	14484	"BIGDB	48	46	0	0	70	20	32	57
3.	68*	535773	12170	"BIGDB	46	43	0	0	98	25	30	54
4.	59*	25155151	12177	"BIGDB	52	38	2	0	100	22	27	35
5.	58*	1758889	12181	"BIGDB	47	47	2	0	100	19	25	26
6.	51*	2870044	12174	"BIGDB	41	48	1	0	100	25	22	23

Operator ID: JOHN Quant Rev: 7 Quant Time: 910801 16:25
Output File: ^B2862::QT Injected at: 910801 15:49
Data File: >B2862::B3 Dilution Factor: 1.00000
Name: W107325-05 Instrument ID: MSD 4
Misc: DIVERSIFIED WET WELL:07/18/91:07/19/91

ID File: IDDVOB::SC
Title: LABORATORY RESOURCES ID FILE FOR VOLATILES METHOD 624
Last Calibration: 910729 15:35 Last Qcal Time: 910801 10:14

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*BROMOCHLOROMETHANE	8.52	127.9	28806	50.00	UG/L	95
17)	1,2-DICHLOROETHANE-D4	9.71	65.0	42583	54.16	UG/L	96
18)	*1,4-DIFLUOROBENZENE	10.77	114.0	115924	50.00	UG/L	89
33)	*CHLOROBENZENE-D5	16.54	117.0	96849	50.00	UG/L	94
35)	TOLUENE-D8	13.56	98.0	106266	49.65	UG/L	96
40)	ETHYLBENZENE	16.93	106.0	7017	7.77	UG/L	93
41)	M,P-XYLENE	17.20	91.0	74256	14.96	UG/L	90
42)	O-XYLENE	18.03	91.0	66764	27.04	UG/L	89
44)	4-BROMOFLUOROBENZENE	19.14	95.0	83643	53.40	UG/L	96

* Compound is ISTD

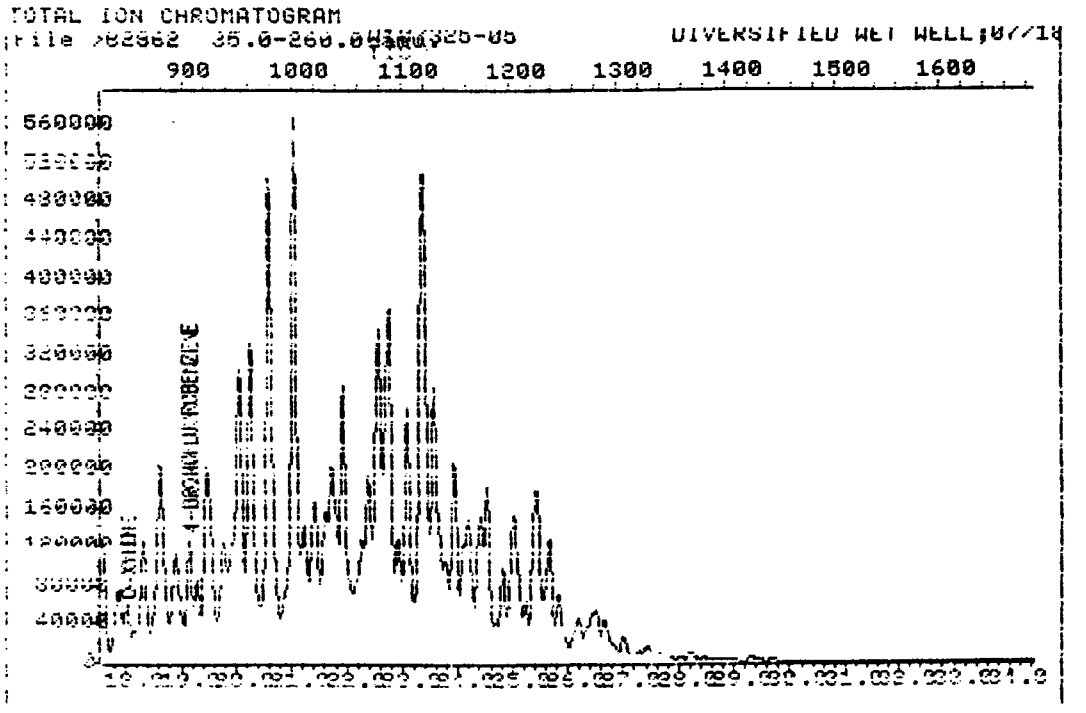


Data File: >B2862::B3 Quant Output File: ^B2862::QT
Name: W107325-05 Instrument ID: MSD 4
Misc: DIVERSIFIED WET WELL;07/18/91;07/19/91

Id File: IDDVOB::SC
Title: LABORATORY RESOURCES ID FILE FOR VOLATILES METHOD 624
Last Calibration: 910729 15:35 Last Qcal Time: 910801 10:14

Operator ID: JOHN
Quant Time : 910801 16:25
Injected at: 910801 15:49

Page 1 of 2



Data File: >B2862::83 Quant Output File: ^B2862::QT
Name: W107325-05 Instrument ID: MSD 4
Misc: DIVERSIFIED WET WELL;07/18/91;07/19/91

Id File: IDDVOB::SC
Title: LABORATORY RESOURCES ID FILE FOR VOLATILES METHOD 624
Last Calibration: 910729 15:35 Last Qcal Time: 910801 10:14

Operator ID: JOHN
Quant Time : 910801 16:25
Injected at: 910801 15:49

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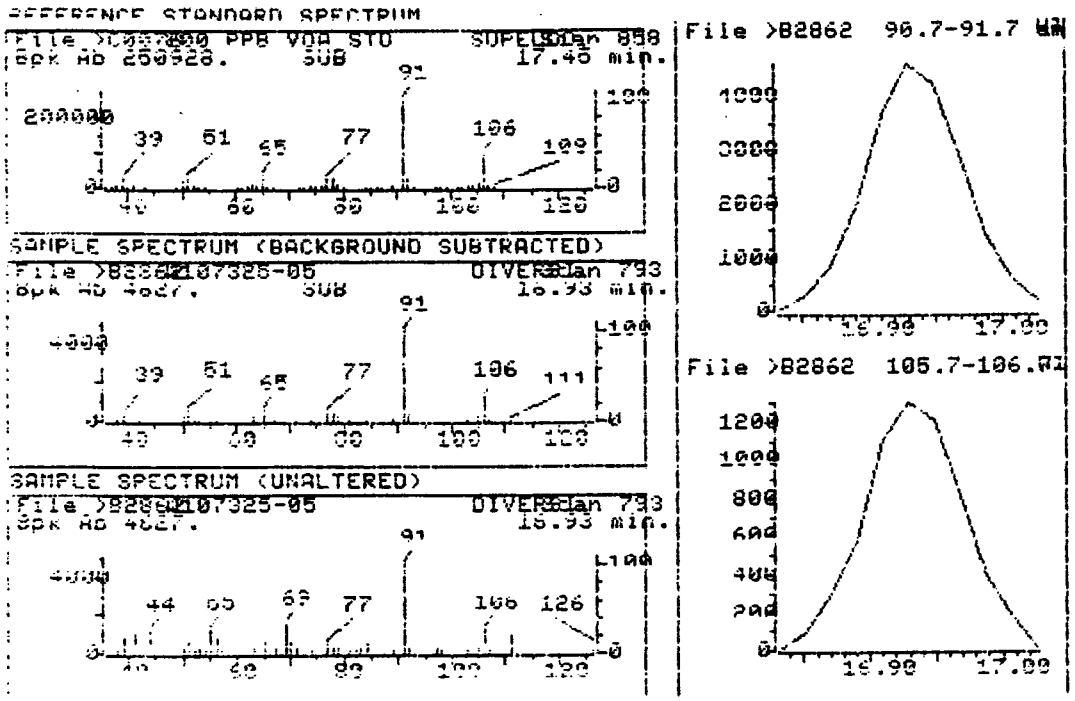
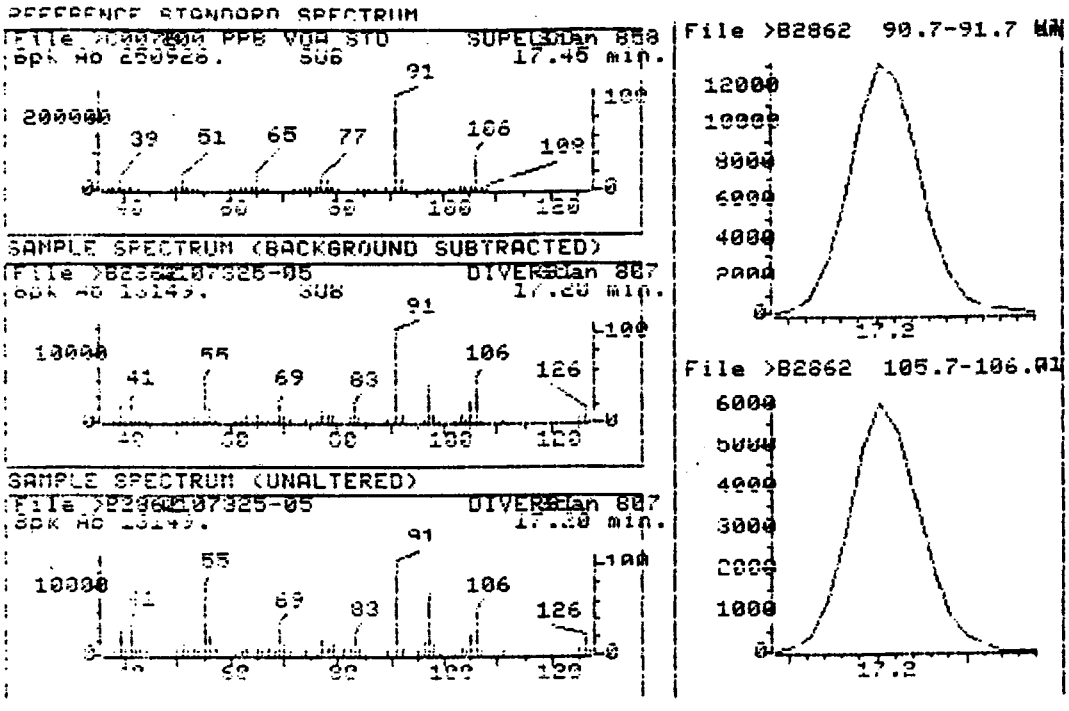


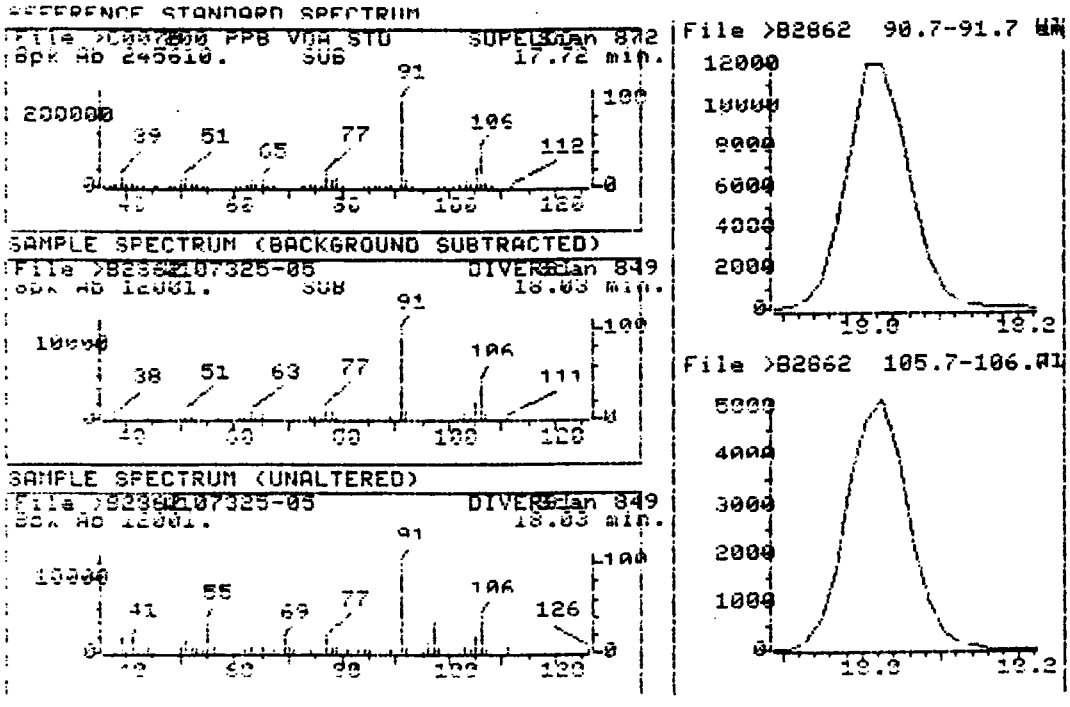
Data File: >B2862::B3 Quant Output File: ^B2862::QT
Name: W107325-05 Instrument ID: MSD 4
Misc: DIVERSIFIED WET WELL;07/18/91;07/19/91
Quant Time: 910801 16:25 Quant ID File: IDDVOB::SC
Injected at: 910801 15:49 Last Calibration: 910729 15:35
Last Qcal Time: 910801 10:14

Compound No : 40
Compound Name : ETHYLBENZENE
Scan Number : 793
Retention Time: 16.93 min.
Quant Ion : 106.0
Area : 7017
Concentration : 7.77 UG/L
q-value : 93



Data File: >B2862::B3 Quant Output File: ^B2862::QT
Name: W107325-05 Instrument ID: MSD 4
Misc: DIVERSIFIED WET WELL:07/18/91:07/19/91
Quant Time: 910801 16:25 Quant ID File: IDDVOB::SC
Injected at: 910801 15:49 Last Calibration: 910729 15:35
Last Qcal Time: 910801 10:14

Compound No : 41
Compound Name : M,P-XYLENE
Scan Number : 807
Retention Time: 17.20 min.
Quant Ion : 91.0
Area : 74256
Concentration : 14.96 UG/L
q-value : 90



Data File: >B2862::83 Quant Output File: ^B2862::QT
Name: W107325-05 Instrument ID: MSD 4
Misc: DIVERSIFIED WET WELL;07/18/91;07/19/91
Quant Time: 910801 16:25 Quant ID File: IDDVOB::SC
Injected at: 910801 15:49 Last Calibration: 910729 15:35
Last Qcal Time: 910801 10:14

Compound No : 42
Compound Name : O-XYLENE
Scan Number : 849
Retention Time: 18.03 min.
Quant Ion : 91.0
Area : 66764
Concentration : 27.04 UG/L
q-value : 89

MS data file header from : >B2862::B3

Sample: W107325-05 Operator: JOHN REG. GRP. 8/01/91 15:49
Misc : DIVERSIFIED WET WELL;07/18/91;07/19/91
Sys. #: 2 MS model: 70 SW/HW rev.: LF ALS # : 0 Equip ID: MSD 4
Method file: M_B624 Tuning file: MTBFBB No. of extra records: 2
Source temp.: N/A Analyzer temp.: N/A Transfer line temp. : 0

Chromatographic temperatures :	10.	160.	220.	0.	0.
Chromatographic times, min. :	5.0	3.0	1.0	0.0	0.0
Chromatographic rate, deg/min:	6.0	20.0	0.0	.1	0.0

>B2862 W107325-05 DIVERSIFIED WET WELL;07/18/91;07/19/91
35.0| 260.0 CLP TIC
Upslope: .2000 Area Reject: 26254. Max Peaks: 15 Bunch: -1 Valley >100 %
Dnslope: 0.0000 Results File IB2862 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	18.59	870	878	887	173815	2008415	1415156	38.89	5.158
2	19.46	916	922	932	158637	2188233	1363743	37.48	4.970
3	20.05	942	952	957	234343	3068636	1797477*	49.40	6.551
4	20.24	957	962	971	273308	2784060	1824539	50.14	6.650
5	20.58	972	979	990	457258	4442865	3459431	95.07	12.609
6	21.05	991	1003	1008	517429	4257567	3282986	90.22	11.966
7	21.71	1034	1037	1044	126326	1945722	1046113	28.75	3.813
8	21.93	1044	1048	1057	216290	2258947	1152019	31.66	4.199
9	22.56	1074	1080	1084	256643	2856737	1798453*	49.42	6.555
10	22.76	1084	1090	1095	275627	3179412	1997339*	54.89	7.280
11	23.07	1101	1106	1112	201544	1889593	1103800	30.33	4.023
12	23.34	1112	1120	1126	449523	4639742	3638963	100.00	13.263
13	23.54	1126	1130	1139	189338	2619056	1135763*	31.21	4.140
14	25.01	1199	1205	1213	114581	1645711	1027208	28.23	3.744
15	25.43	1219	1226	1233	143924	1936106	1394070	38.31	5.081

Sum of corrected areas: 27437068.

Summary of Unknowns PBM Library Search and Quantitation

Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	262545.	8.52	1.44 - 9.64
2	50.0	262545.	10.77	9.64 - 13.65
3	50.0	423432.	16.54	13.65 - 34.45

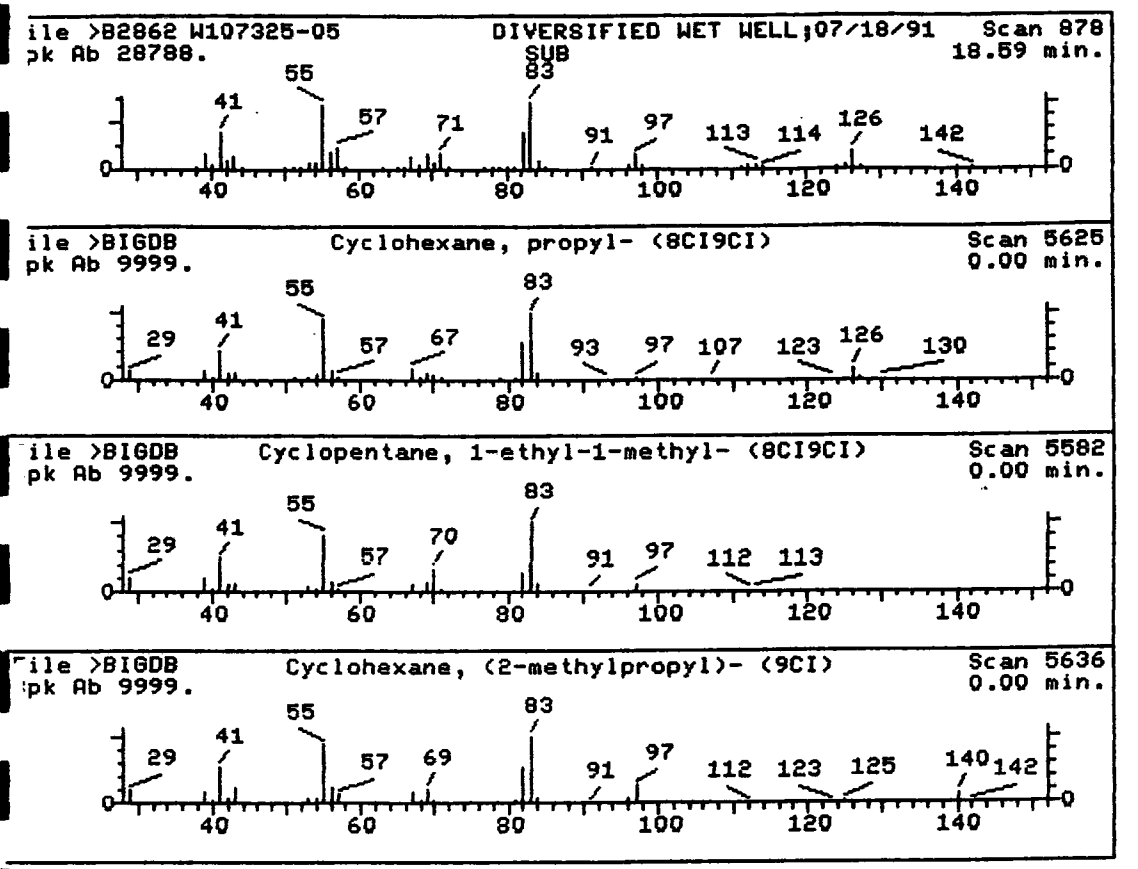
Dilution Factor = 1.00 This sample was 1000.00 g or mL

Correction Factor = 1.00

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

0063

10:05 PM TUE., 6 AUG., 1991

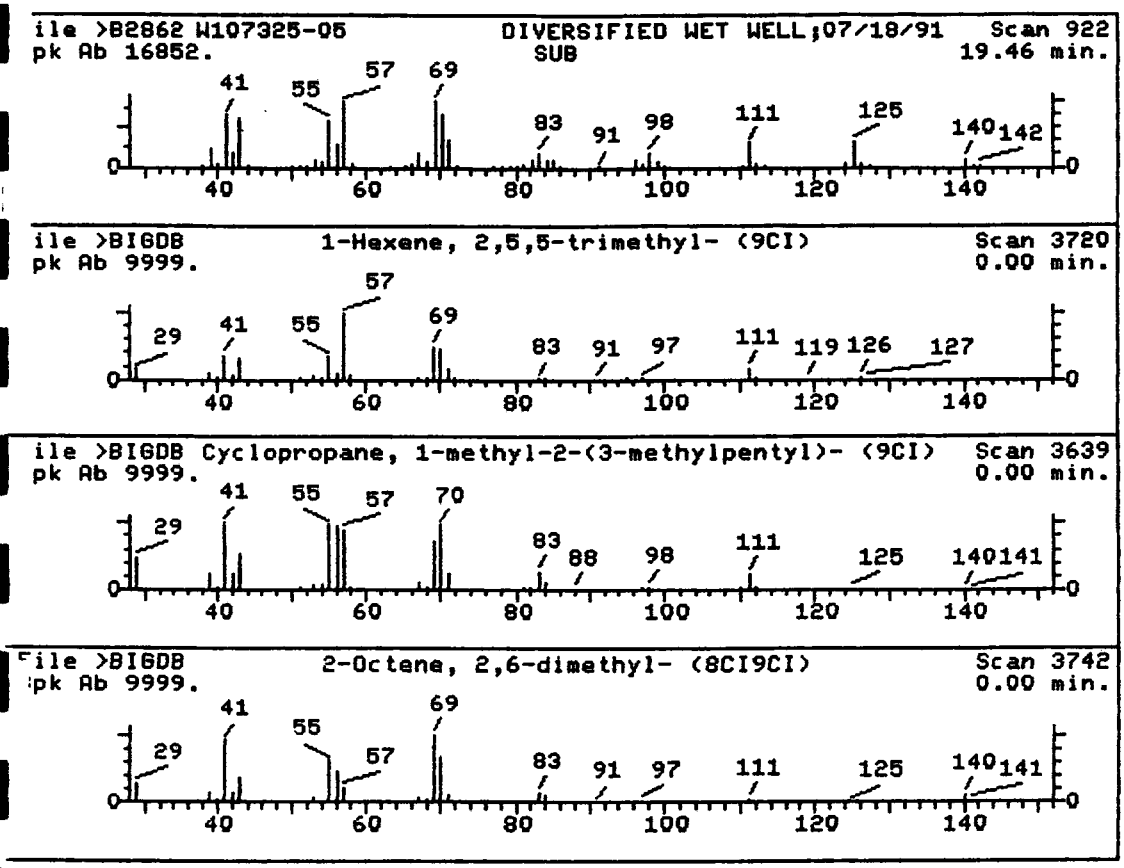


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:49
Result 1 in PBM results file: LB2862
Retention Time: 18.59 Area: 1415156 Tentative Conc: 170.00
The unknown area is 334.21% of the nearest internal standard

1. Cyclohexane, propyl- (8CI9CI)	126	C9H18
2. Cyclopentane, 1-ethyl-1-methyl- (8CI9CI)	112	C8H16
3. Cyclohexane, (2-methylpropyl)- (9CI)	140	C10H20
4. 2-Pyrazoline, 1-methyl-4-propyl- (8CI)	126	C7H14N2
5. Cyclohexane, 2-propenyl- (9CI)	124	C9H16
6. 2-Hexene, 4,4,5-trimethyl- (9CI)	126	C9H18

Sample file: >B2862 Spectrum #: 878
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	78*	1678928	5625	"BIGDB	63	34	0	0	97	29	37	76
2.	40*	16747505	5582	"BIGDB	48	56	1	0	100	40	14	27
3.	37	1678984	5636	"BIGDB	59	44	2	0	77	29	14	14
4.	30*	33063773	13204	"BIGDB	37	49	2	0	100	45	8	18
5.	28	2114423	5622	"BIGDB	55	44	2	0	84	39	10	14
6.	20*	55702619	5569	"BIGDB	26	57	1	0	100	52	5	14

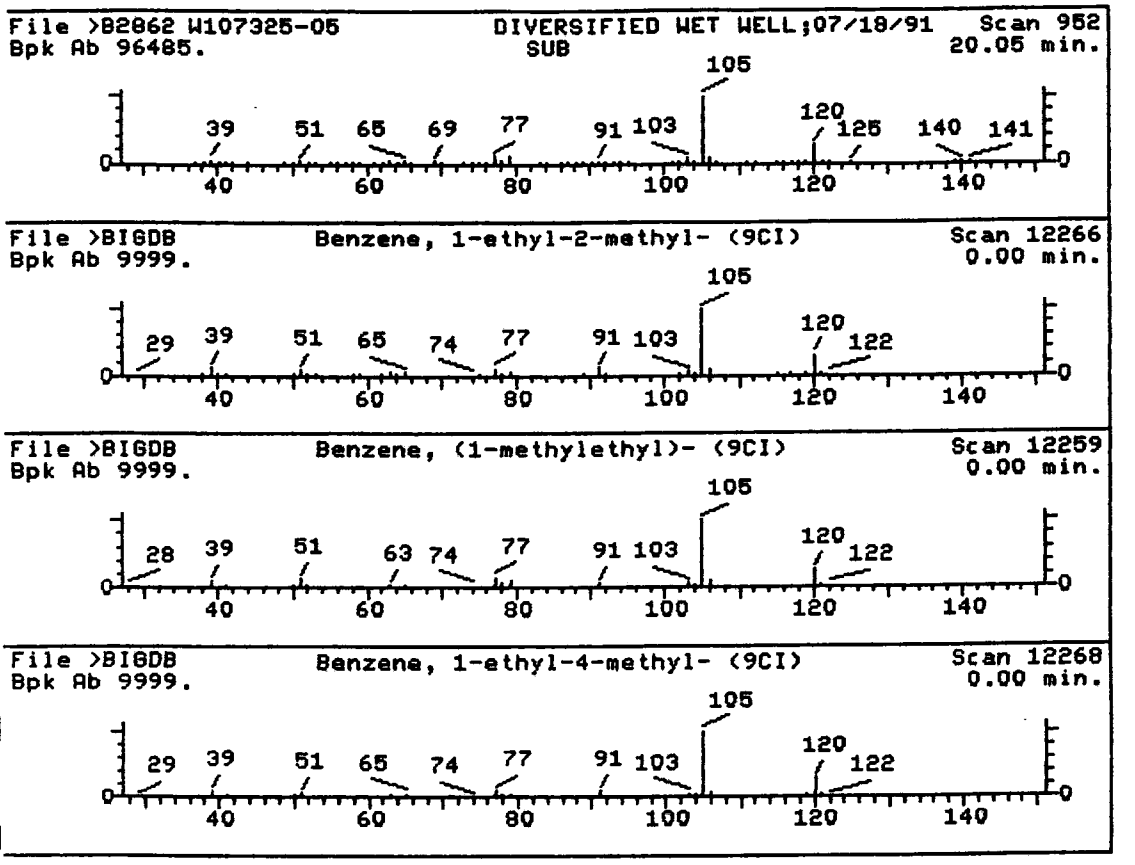


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:49
Result 2 in PBM results file: LB2862
Retention Time: 19.46 Area: 1363743 Tentative Conc: 160.00
The unknown area is 322.07% of the nearest internal standard

1.	1-Hexene, 2,5,5-trimethyl- (9CI)	126	C9H18
2.	Cyclopropane, 1-methyl-2-(3-methylpentyl)- (9CI)	140	C10H20
3.	2-Octene, 2,6-dimethyl- (8CI9CI)	140	C10H20
4.	1-Hexene, 3,5,5-trimethyl- (8CI9CI)	126	C9H18
5.	Cyclopentane, 1,1,3,4-tetramethyl-, cis- (9CI)	126	C9H18
6.	1-Octene, 3,7-dimethyl- (8CI9CI)	140	C10H20

Sample file: >B2862 Spectrum #: 922
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	46	62185562	3720	"BIGDB	49	40	2	0	174	22	17	17
2.	35*	62238077	3639	"BIGDB	50	61	1	0	73	50	11	32
3.	32*	4057425	3742	"BIGDB	42	62	0	0	73	51	9	44
4.	30*	4316658	3511	"BIGDB	43	47	2	0	143	49	10	23
5.	30*	53907601	10646	"BIGDB	29	79	3	0	100	33	12	13
6.	28*	4984014	3660	"BIGDB	51	57	1	0	68	52	8	34

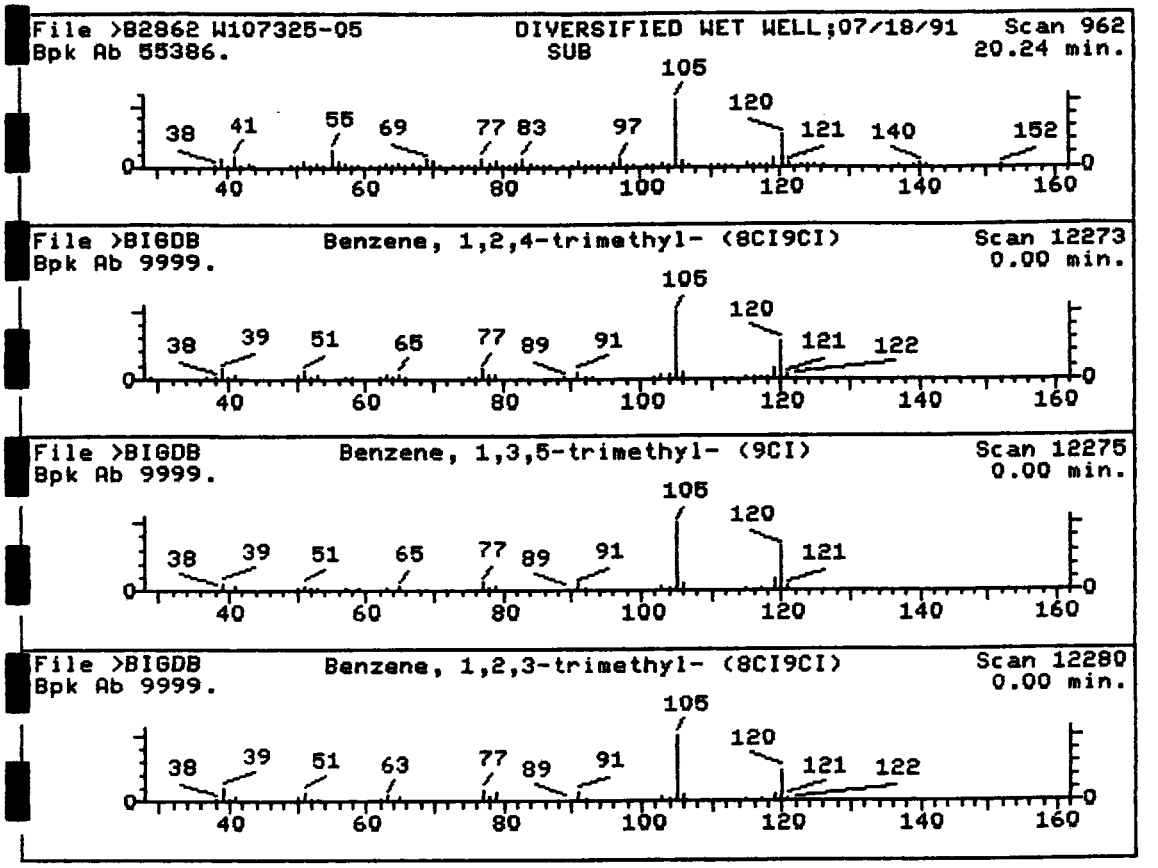


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:49
Result 3 in PBM results file: LB2862
Retention Time: 20.05 Area: 1797477 Tentative Conc: 210.00
The unknown area is 424.50% of the nearest internal standard

1. Benzene, 1-ethyl-2-methyl- (9CI)	120	C9H12
2. Benzene, (1-methylethyl)- (9CI)	120	C9H12
3. Benzene, 1-ethyl-4-methyl- (9CI)	120	C9H12
4. Benzene, 1-ethyl-3-methyl- (9CI)	120	C9H12
5. Benzene, (1,3-dimethyl-3-butenyl)- (9CI)	160	C12H16
6. Benzene, (1,2,2-trimethyl-3-butenyl)- (9CI)	174	C13H18

Sample file: >B2862 Spectrum #: 952
Search speed: 1 Tilting option: N No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	96*	611143	12266	"BIGDB	77	8	1	0	84	5	72	94
2.	88*	98828	12259	"BIGDB	64	23	2	0	85	5	65	53
3.	87*	622968	12268	"BIGDB	72	13	1	0	82	12	55	89
4.	87*	620144	12267	"BIGDB	62	25	2	0	84	5	63	49
5.	44	56851515	9933	"BIGDB	45	33	2	0	100	23	17	15
6.	44	61142174	9915	"BIGDB	46	40	2	0	100	21	17	15

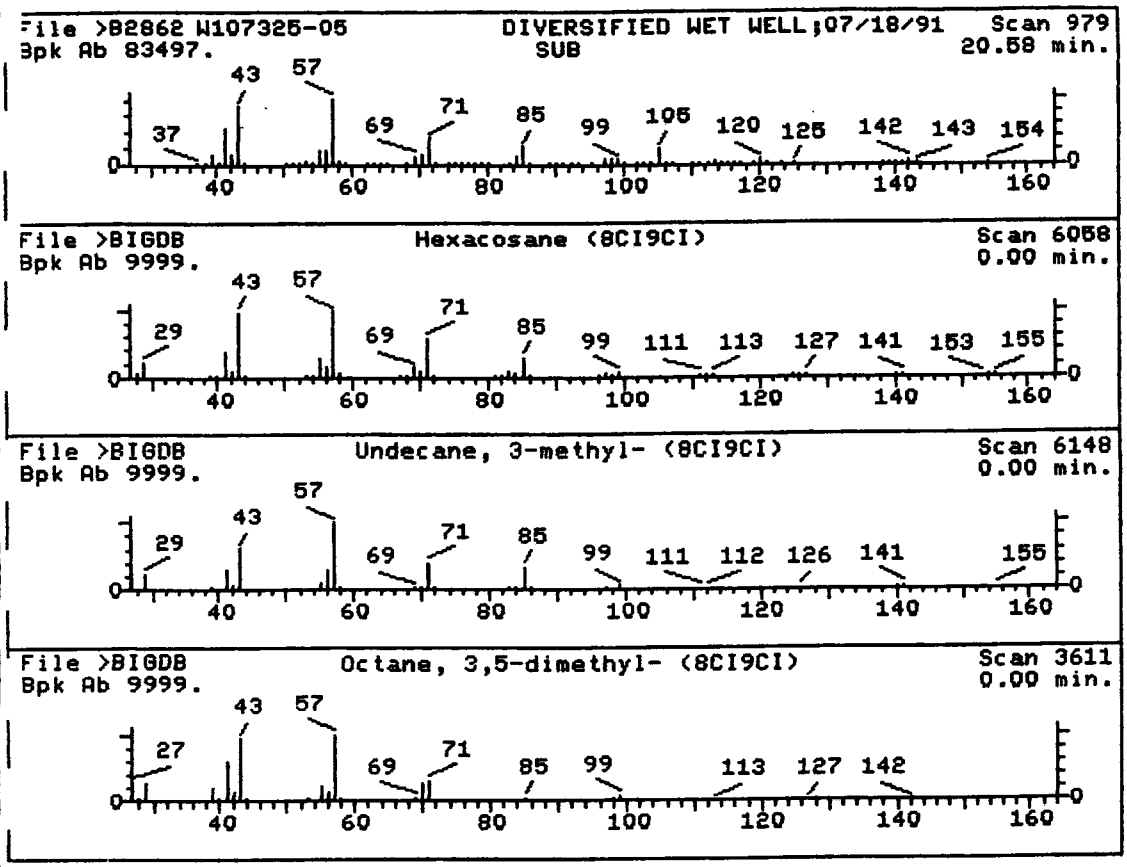


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:49
Result 4 in PBM results file: LB2862
Retention Time: 20.24 Area: 1824539 Tentative Conc: 220.00
The unknown area is 430.89% of the nearest internal standard

1. Benzene, 1,2,4-trimethyl- (8CI9CI) 120 C9H12
2. Benzene, 1,3,5-trimethyl- (9CI) 120 C9H12
3. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12
4. Benzene, (1-methylethyl)- (9CI) 120 C9H12
5. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
6. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12

Sample file: >B2862 Spectrum #: 962
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	88*	95636	12273	"BIGDB	77	18	0	0	55	40	47	93
2.	79*	108678	12275	"BIGDB	72	16	2	0	73	15	43	66
3.	76*	526738	12280	"BIGDB	77	23	2	0	69	15	40	59
4.	69*	98828	12259	"BIGDB	65	22	1	0	85	32	26	69
5.	69*	611143	12266	"BIGDB	59	26	1	0	69	34	26	61
6.	69*	622968	12268	"BIGDB	59	26	1	0	74	34	26	61

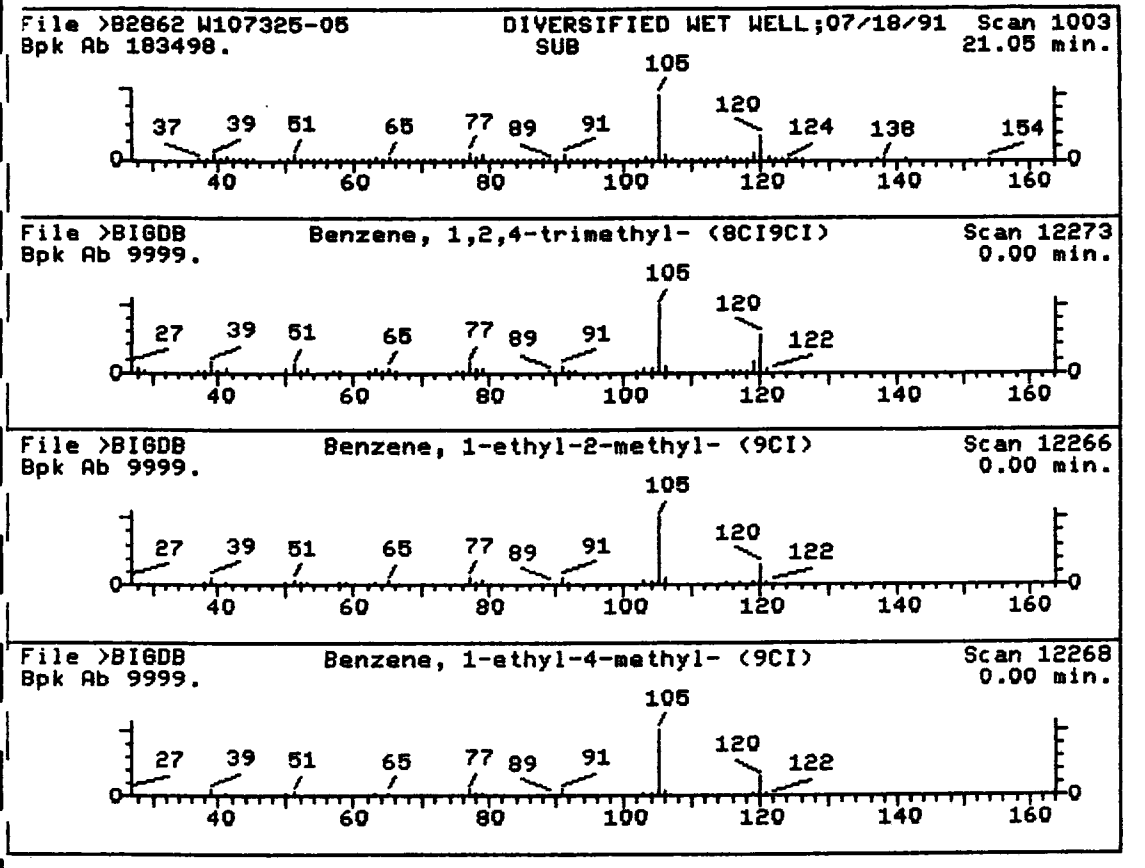


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:49
Result 5 in PBM results file: LB2862
Retention Time: 20.58 Area: 3459431 Tentative Conc: 410.00
The unknown area is 817.00% of the nearest internal standard

1. Hexacosane (8CI9CI)	366	C26H54
2. Undecane, 3-methyl- (8CI9CI)	170	C12H26
3. Octane, 3,5-dimethyl- (8CI9CI)	142	C10H22
4. Decane, 2,5,9-trimethyl- (9CI)	184	C13H28
5. Decane (8CI9CI)	142	C10H22
6. Decane, 3,8-dimethyl- (8CI9CI)	170	C12H26

Sample file: >B2862 Spectrum #: 979
Search speed: 1 Tilting option: N No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	52	630013	6058	"BIGDB	67	73	2	0	68	19	20	14
2.	52	1002433	6148	"BIGDB	47	41	2	0	71	19	20	16
3.	51*	15869939	3611	"BIGDB	49	44	1	0	91	33	20	35
4.	46	62108229	3927	"BIGDB	43	48	0	0	100	30	19	24
5.	45*	124185	16061	"BIGDB	47	53	0	0	71	46	13	55
6.	43	17312559	11149	"BIGDB	47	45	2	0	70	22	17	14

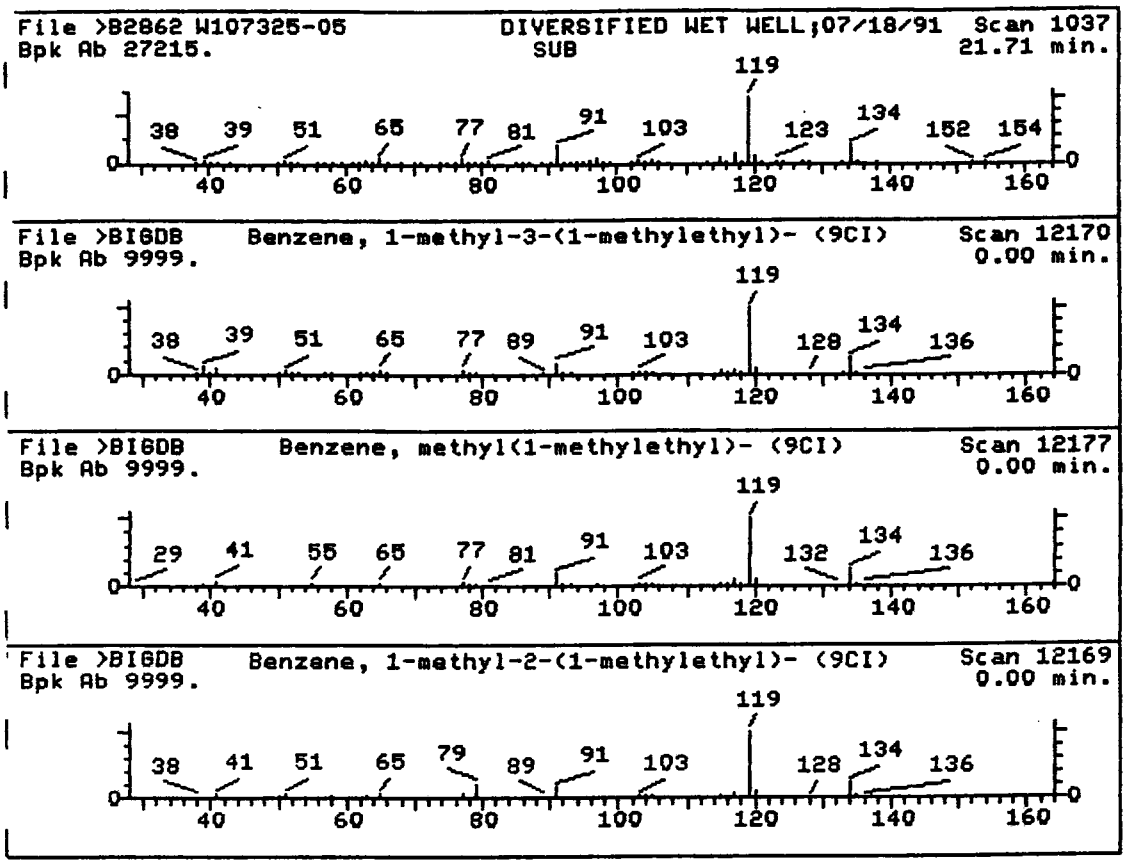


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:49
Result 6 in PBM results file: LB2862
Retention Time: 21.05 Area: 3282986 Tentative Conc: 390.00
The unknown area is 775.33% of the nearest internal standard

1. Benzene, 1,2,4-trimethyl- (8CI9CI) 120 C9H12
2. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
3. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
4. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
5. Benzene, (1-methylethyl)- (9CI) 120 C9H12
6. Benzene, 1,3,5-trimethyl- (9CI) 120 C9H12

Sample file: >B2862 Spectrum #: 1003
Search speed: 1 Tilting option: N No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	91*	95636	12273	"BIGDB	76	19	0	0	52	28	57	93
2.	76*	611143	12266	"BIGDB	64	21	1	0	81	21	41	72
3.	76*	622968	12268	"BIGDB	64	21	1	0	86	21	41	72
4.	73*	620144	12267	"BIGDB	64	23	1	0	81	21	32	67
5.	73*	98828	12259	"BIGDB	60	27	1	0	77	24	32	60
6.	67*	108678	12275	"BIGDB	63	25	2	0	61	28	27	50

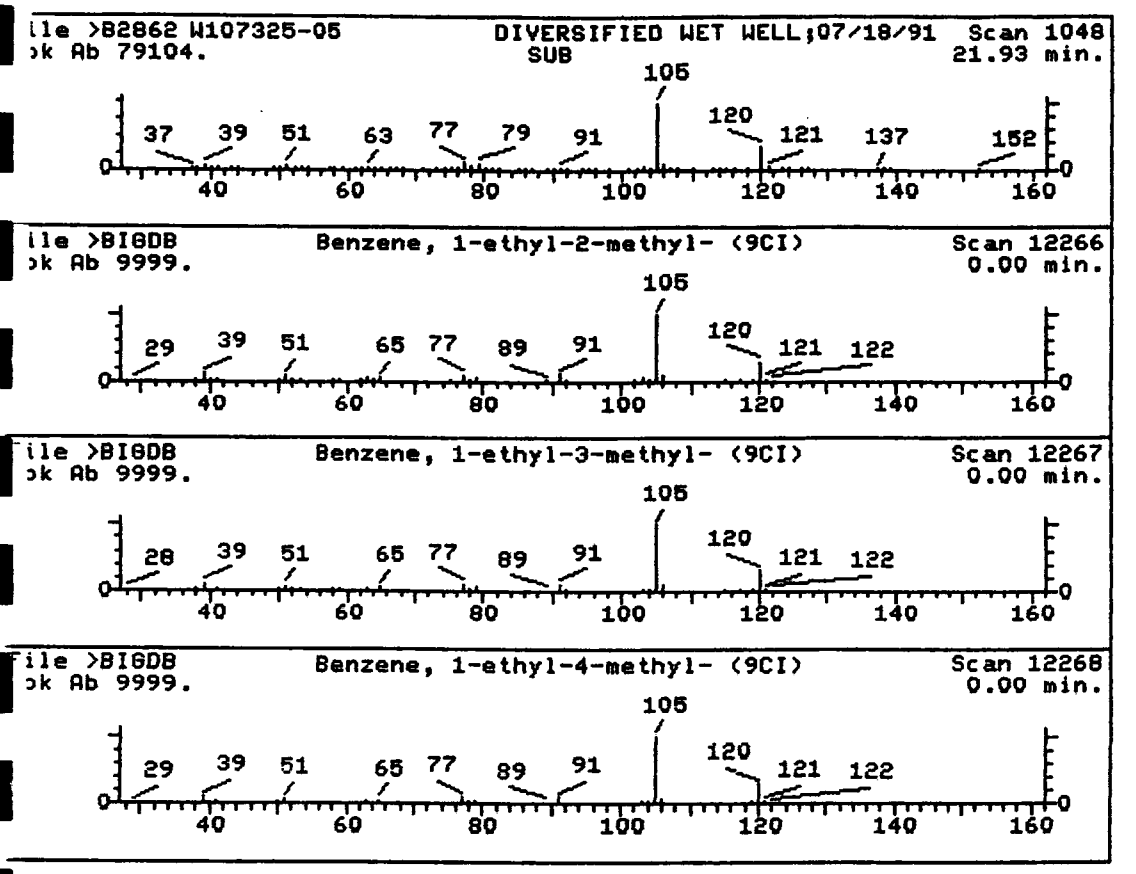


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:49
Result 7 in PBM results file: LB2862
Retention Time: 21.71 Area: 1046113 Tentative Conc: 120.00
The unknown area is 247.06% of the nearest internal standard

1. Benzene, 1-methyl-3-(1-methylethyl)- (9CI) 134 C10H14
2. Benzene, methyl(1-methylethyl)- (9CI) 134 C10H14
3. Benzene, 1-methyl-2-(1-methylethyl)- (9CI) 134 C10H14
4. Benzene, 2-ethyl-1,3-dimethyl- (9CI) 134 C10H14
5. Benzene, 1-ethyl-2,4-dimethyl- (9CI) 134 C10H14
6. Benzene, 1-ethyl-2,3-dimethyl- (9CI) 134 C10H14

Sample file: >B2862 Spectrum #: 1037
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	97*	535773	12170	"BIGDB	82	7	0	0	100	1	72	97
2.	96*	25155151	12177	"BIGDB	80	10	0	0	100	3	72	96
3.	93*	527844	12169	"BIGDB	77	15	1	0	98	1	68	89
4.	81*	2870044	12174	"BIGDB	61	28	2	0	99	7	53	48
5.	81*	874419	12171	"BIGDB	55	33	2	0	100	7	53	41
6.	81*	933982	12172	"BIGDB	55	36	2	0	90	7	53	41

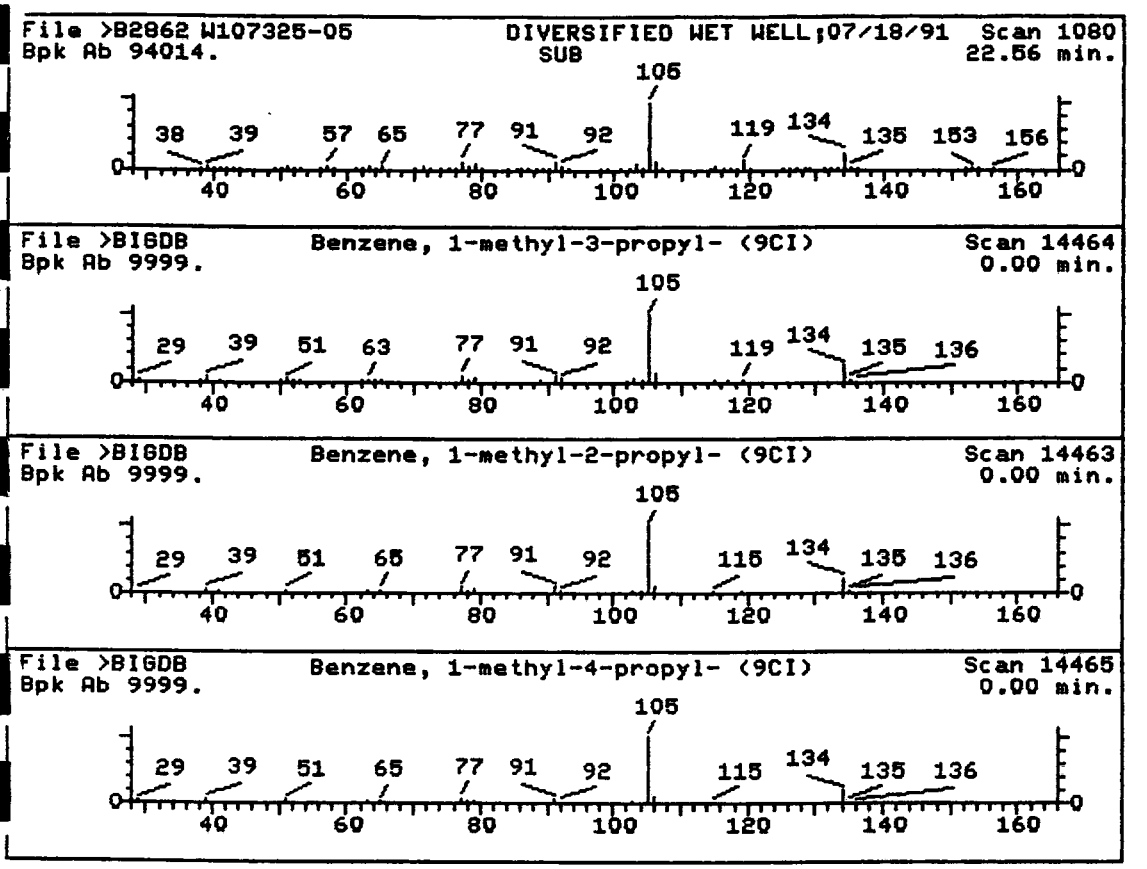


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:49
Result 8 in PBM results file: LB2862
Retention Time: 21.93 Area: 1152019 Tentative Conc: 140.00
The unknown area is 272.07% of the nearest internal standard

1. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
2. Benzene, 1-ethyl-3-methyl- (9CI) 120 C9H12
3. Benzene, 1-ethyl-4-methyl- (9CI) 120 C9H12
4. Benzene, (1-methylethyl)- (9CI) 120 C9H12
5. Benzene, 1,3,5-trimethyl- (9CI) 120 C9H12
6. Benzene, 1,2,3-trimethyl- (8CI9CI) 120 C9H12

Sample file: >B2862 Spectrum #: 1048
Search speed: 1 Tilting option: N No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83*	611143	12266	"BIGDB	42	43	2	0	100	5	57	22
2.	83*	620144	12267	"BIGDB	42	45	2	0	100	5	57	22
3.	70*	622968	12268	"BIGDB	37	48	2	0	100	9	42	18
4.	52*	98828	12259	"BIGDB	42	30	0	0	47	41	17	55
5.	35*	108678	12275	"BIGDB	46	42	2	0	54	45	12	26
6.	29*	526738	12280	"BIGDB	39	61	2	0	61	36	10	15

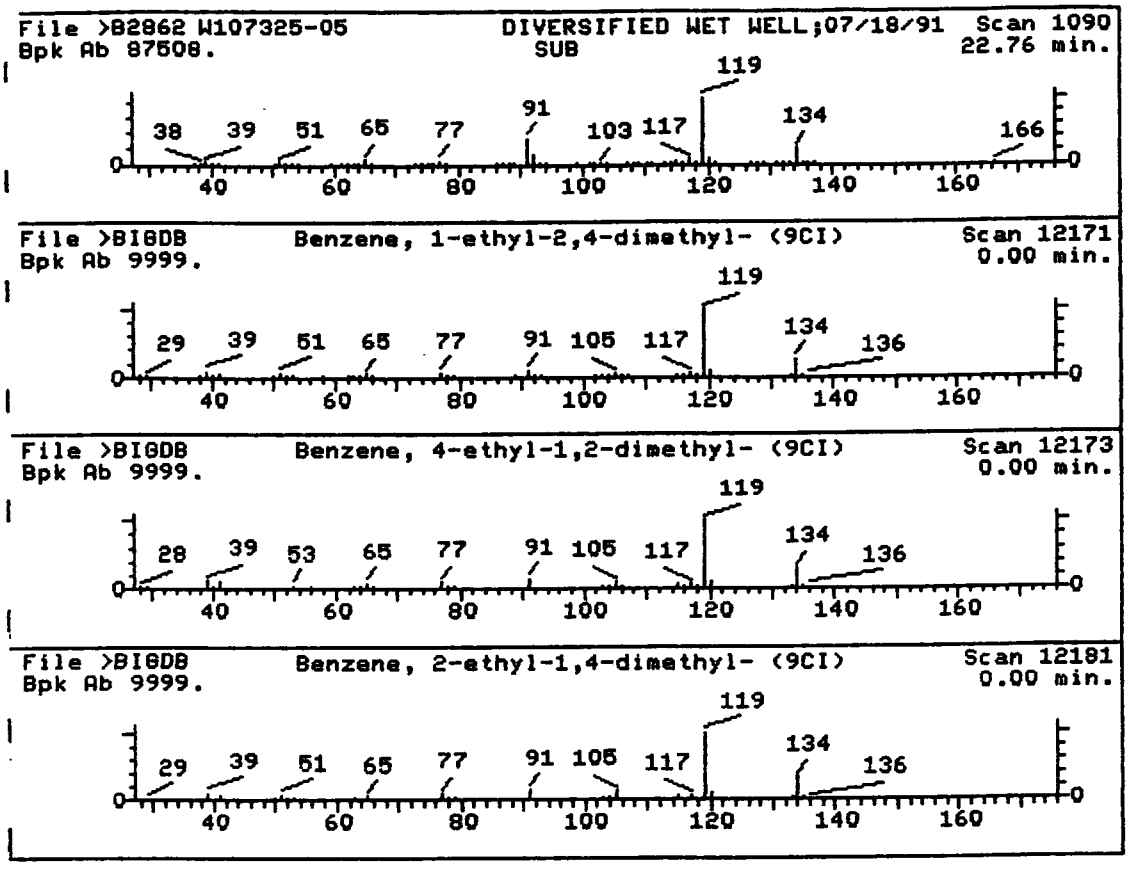


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:49
Result 9 in PBM results file: LB2862
Retention Time: 22.56 Area: 1798453 Tentative Conc: 210.00
The unknown area is 424.73% of the nearest internal standard

1.	Benzene, 1-methyl-3-propyl- (9CI)	134	C10H14
2.	Benzene, 1-methyl-2-propyl- (9CI)	134	C10H14
3.	Benzene, 1-methyl-4-propyl- (9CI)	134	C10H14
4.	Benzene, (1-methylpropyl)- (9CI)	134	C10H14
5.	Benzene, diethyl- (8CI9CI)	134	C10H14
6.	Benzene, (1,3-dimethyl-3-butenyl)- (9CI)	160	C12H16

Sample file: >B2862 Spectrum #: 1080
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	96*	1074437	14464	"BIGDB	81	6	0	0	95	14	64	97
2.	92*	1074175	14463	"BIGDB	73	12	1	0	96	16	60	92
3.	86*	1074551	14465	"BIGDB	68	15	1	0	100	16	50	80
4.	64*	135988	14459	"BIGDB	50	36	1	0	87	23	28	41
5.	47*	25340174	14530	"BIGDB	38	42	0	0	47	44	16	44
6.	38	56851515	9933	"BIGDB	44	34	1	0	94	30	14	15



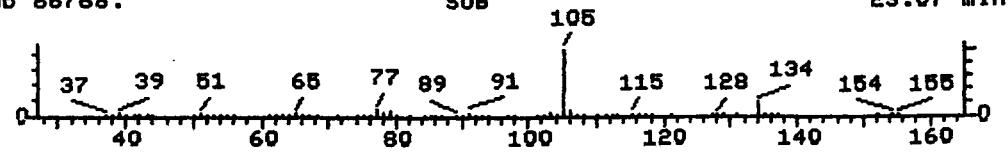
Instrument ID: MSD 4 Analyzed on: 8/01/91 15:49
Result 10 in PBM results file: LB2862
Retention Time: 22.76 Area: 1997339 Tentative Conc: 240.00
The unknown area is 471.70% of the nearest internal standard

1.	Benzene, 1-ethyl-2,4-dimethyl- (9CI)	134 C10H14
2.	Benzene, 4-ethyl-1,2-dimethyl- (9CI)	134 C10H14
3.	Benzene, 2-ethyl-1,4-dimethyl- (9CI)	134 C10H14
4.	Benzene, 1-methyl-3-(1-methylethyl)- (9CI)	134 C10H14
5.	Benzene, 2-ethyl-1,3-dimethyl- (9CI)	134 C10H14
6.	Benzene, 1-methyl-2-(1-methylethyl)- (9CI)	134 C10H14

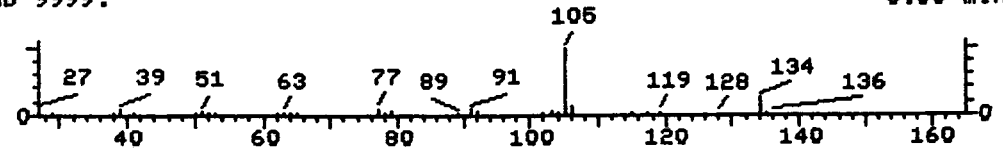
Sample file: >B2862 Spectrum #: 1090
Search speed: 1 Tilting option: N No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	79*	874419	12171	"BIGDB	50	38	2	0	88	10	48	31
2.	79*	934805	12173	"BIGDB	50	43	2	0	82	10	48	31
3.	76*	1758889	12181	"BIGDB	45	49	2	0	72	10	45	23
4.	76*	535773	12170	"BIGDB	46	43	2	0	94	7	45	26
5.	76*	2870044	12174	"BIGDB	45	44	2	0	85	10	45	24
6.	70*	527844	12169	"BIGDB	40	52	2	0	95	7	42	19

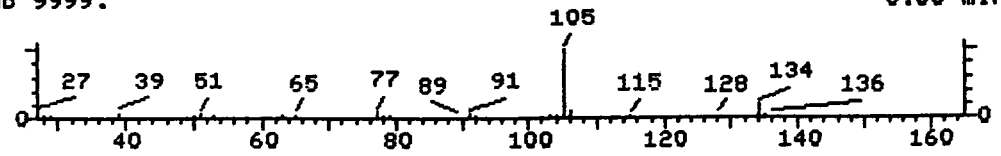
File >B2862 W107325-05 DIVERSIFIED WET WELL;07/18/91 Scan 1106
Bpk Ab 86768. SUB 23.07 min.



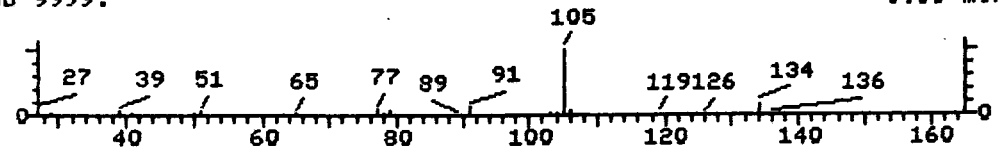
File >BIGDB Benzene, 1-methyl-3-propyl- (9CI) Scan 14464
Bpk Ab 9999. 0.00 min.



File >BIGDB Benzene, 1-methyl-4-propyl- (9CI) Scan 14465
Bpk Ab 9999. 0.00 min.



File >BIGDB Benzene, (1-methylpropyl)- (9CI) Scan 14459
Bpk Ab 9999. 0.00 min.

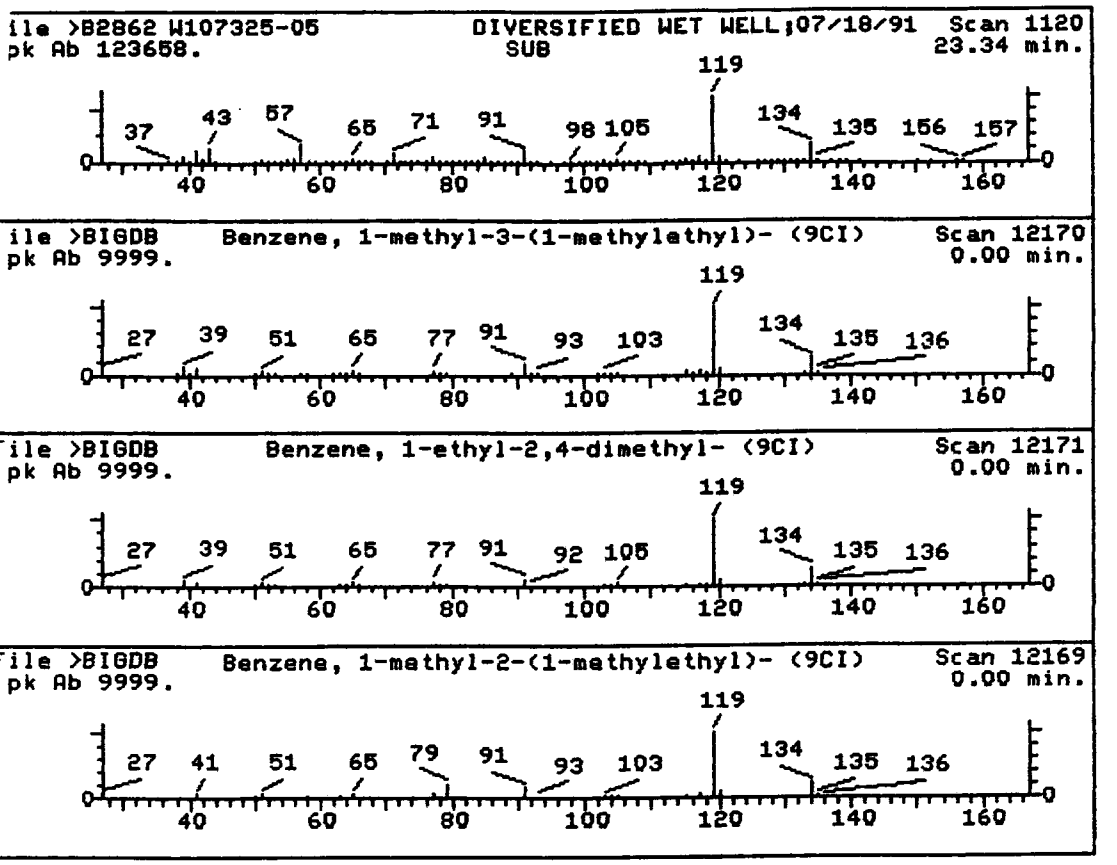


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:49
Result 11 in PBM results file: LB2862
Retention Time: 23.07 Area: 1103800 Tentative Conc: 130.00
The unknown area is 260.68% of the nearest internal standard

1. Benzene, 1-methyl-3-propyl- (9CI)	134	C10H14
2. Benzene, 1-methyl-4-propyl- (9CI)	134	C10H14
3. Benzene, (1-methylpropyl)- (9CI)	134	C10H14
4. Benzene, diethyl- (8CI9CI)	134	C10H14
5. Benzene, 1-methyl-2-propyl- (9CI)	134	C10H14
6. Benzeneacetaldehyde, .alpha.-methyl- (9CI)	134	C9H10O

Sample file: >B2862 Spectrum #: 1106
Search speed: 1 Tilting option: N No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86*	1074437	14464	"BIGDB	51	36	2	0	85	5	60	33
2.	81*	1074551	14465	"BIGDB	55	28	2	0	100	9	53	41
3.	76*	135988	14459	"BIGDB	47	39	2	0	100	7	45	27
4.	25*	25340174	14530	"BIGDB	36	59	2	0	50	48	7	15
5.	24*	1074175	14463	"BIGDB	40	45	1	0	65	51	7	23
6.	11*	93538	14455	"BIGDB	36	43	1	0	34	62	2	19



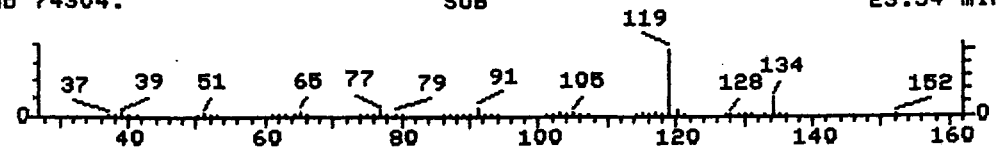
Instrument ID: MSD 4 Analyzed on: 8/01/91 15:49
Result 12 in PBM results file: LB2862
Retention Time: 23.34 Area: 3638963 Tentative Conc: 430.00
The unknown area is 859.40% of the nearest internal standard

1. Benzene, 1-methyl-3-(1-methylethyl)- (9CI) 134 C10H14
2. Benzene, 1-ethyl-2,4-dimethyl- (9CI) 134 C10H14
3. Benzene, 1-methyl-2-(1-methylethyl)- (9CI) 134 C10H14
4. Benzene, 2-ethyl-1,3-dimethyl- (9CI) 134 C10H14
5. Benzene, 1-ethyl-2,3-dimethyl- (9CI) 134 C10H14
6. Benzene, 1-ethyl-3,5-dimethyl- (9CI) 134 C10H14

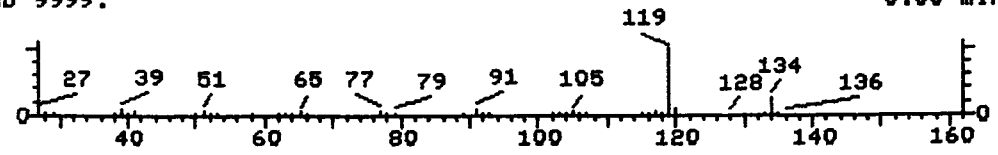
Sample file: >B2862 Spectrum #: 1120
Search speed: 1 Tilting option: N No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	96*	535773	12170	"BIGDB	83	6	1	0	78	5	72	96
2.	96*	874419	12171	"BIGDB	81	7	1	0	82	5	72	96
3.	95*	527844	12169	"BIGDB	83	9	1	0	74	5	72	95
4.	95*	2870044	12174	"BIGDB	76	13	1	0	88	5	72	93
5.	87*	933982	12172	"BIGDB	56	35	2	0	86	5	63	42
6.	86*	934747	12180	"BIGDB	56	39	2	0	74	5	60	36

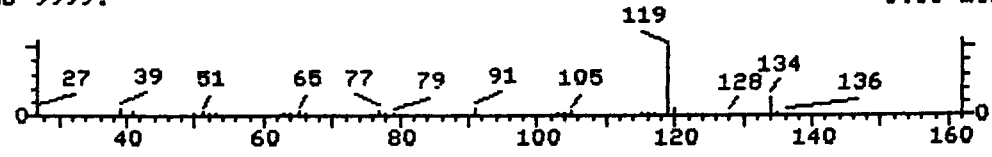
File >B2862 W107325-05 DIVERSIFIED WET WELL;07/18/91 Scan 1130
Bpk Ab 74304. SUB 23.54 min.



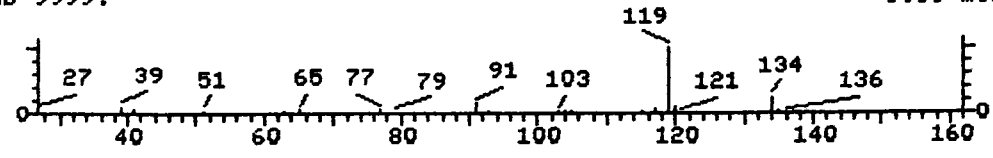
File >BIGDB Benzene, 1-ethyl-2,4-dimethyl- (9CI) Scan 12171
Bpk Ab 9999. 0.00 min.



File >BIGDB Benzene, 2-ethyl-1,3-dimethyl- (9CI) Scan 12174
Bpk Ab 9999. 0.00 min.



File >BIGDB Benzene, 1-methyl-3-(1-methylethyl)- (9CI) Scan 12170
Bpk Ab 9999. 0.00 min.

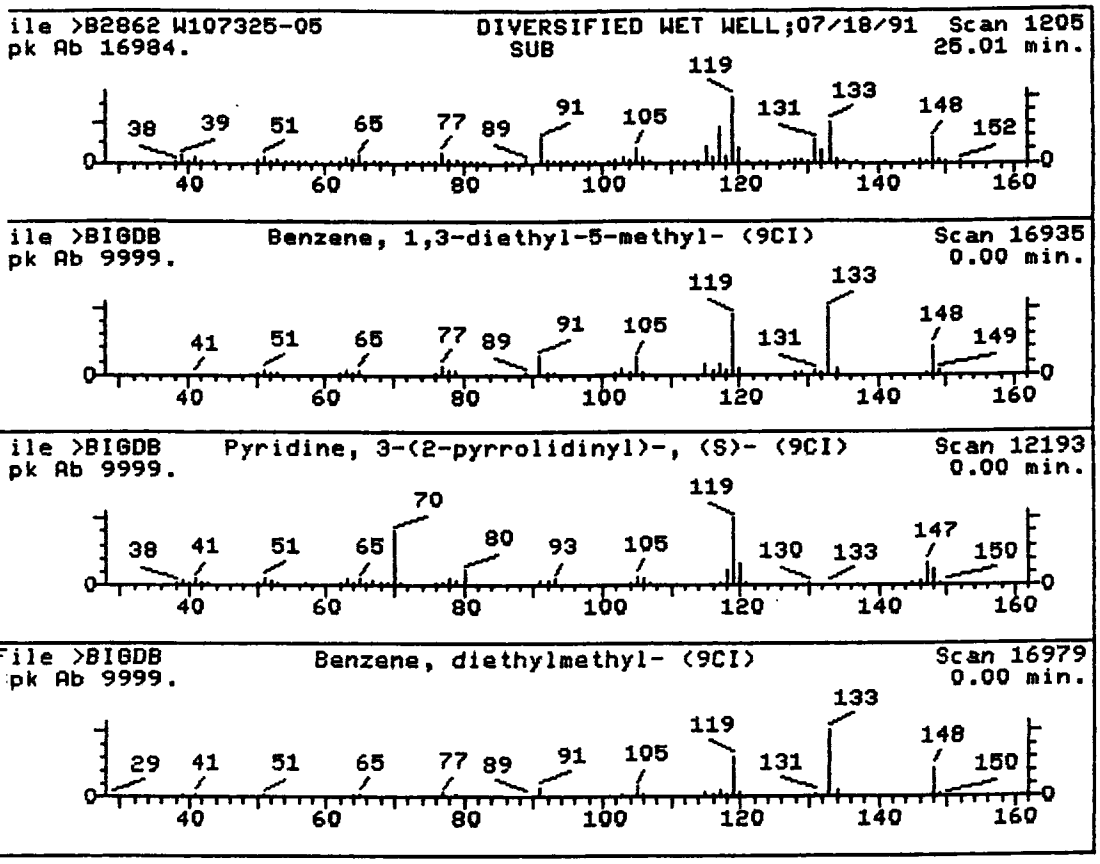


Instrument ID: MSD 4 Analyzed on: 8/01/91 15:49
Result 13 in PBM results file: LB2862
Retention Time: 23.54 Area: 1135763 Tentative Conc: 130.00
The unknown area is 268.23% of the nearest internal standard

1. Benzene, 1-ethyl-2,4-dimethyl- (9CI) 134 C10H14
2. Benzene, 2-ethyl-1,3-dimethyl- (9CI) 134 C10H14
3. Benzene, 1-methyl-3-(1-methylethyl)- (9CI) 134 C10H14
4. Benzene, 1-ethyl-2,3-dimethyl- (9CI) 134 C10H14
5. Benzene, 1-methyl-2-(1-methylethyl)- (9CI) 134 C10H14
6. Benzene, 1-ethyl-3,5-dimethyl- (9CI) 134 C10H14

Sample file: >B2862 Spectrum #: 1130
Search speed: 1 Tilting option: N No. of ion ranges searched: 41

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	96*	874419	12171	"BIGDB	77	11	1	0	91	1	72	94
2.	95*	2870044	12174	"BIGDB	77	12	1	0	80	1	72	93
3.	89*	535773	12170	"BIGDB	73	16	2	0	81	1	66	66
4.	88*	933982	12172	"BIGDB	68	23	2	0	90	1	65	59
5.	88*	527844	12169	"BIGDB	68	24	2	0	79	0	65	57
6.	88*	934747	12180	"BIGDB	69	26	2	0	78	1	65	54



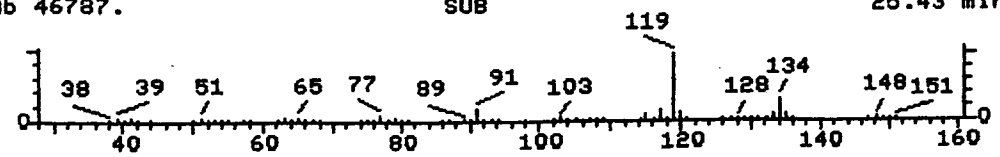
Instrument ID: MSD 4 Analyzed on: 8/01/91 15:49
Result 14 in PBM results file: LB2862
Retention Time: 25.01 Area: 1027208 Tentative Conc: 120.00
The unknown area is 242.59% of the nearest internal standard

1. Benzene, 1,3-diethyl-5-methyl- (9CI) 148 C11H16
2. Pyridine, 3-(2-pyrrolidinyl)-, (S)- (9CI) 148 C9H12N2
3. Benzene, diethylmethyl- (9CI) 148 C11H16

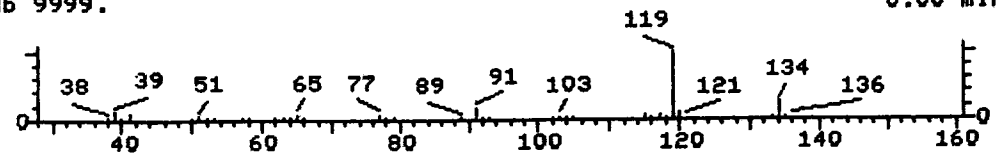
Sample file: >B2862 Spectrum #: 1205
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	64*	2050240	16935	"BIGDB	62	48	0	0	61	50	20	74
2.	25*	494973	12193	"BIGDB	26	89	3	0	100	50	7	13
3.	12*	25550134	16979	"BIGDB	31	72	0	0	57	64	2	24

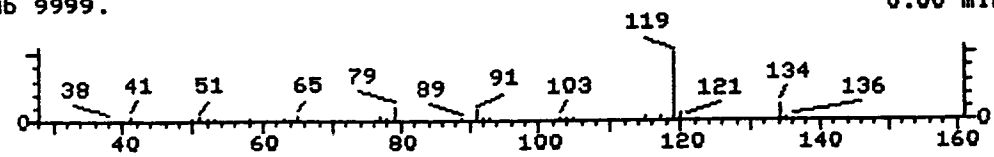
File >B2862 W107325-05 DIVERSIFIED WET WELL;07/18/91 Scan 1226
Bpk Ab 46787. SUB 25.43 min.



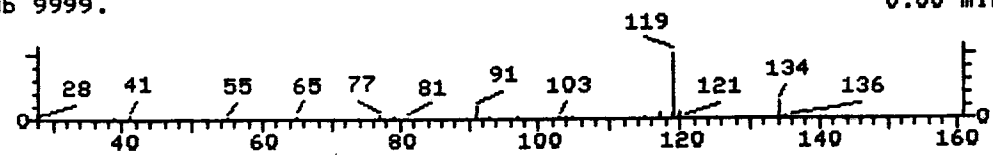
File >BIGDB Benzene, 1-methyl-3-(1-methylethyl)- (9CI) Scan 12170
Bpk Ab 9999. 0.00 min.



File >BIGDB Benzene, 1-methyl-2-(1-methylethyl)- (9CI) Scan 12169
Bpk Ab 9999. 0.00 min.



File >BIGDB Benzene, methyl(1-methylethyl)- (9CI) Scan 12177
Bpk Ab 9999. 0.00 min.



Instrument ID: MSD 4 Analyzed on: 8/01/91 15:49
Result 15 in PBM results file: LB2862
Retention Time: 25.43 Area: 1394070 Tentative Conc: 160.00
The unknown area is 329.23% of the nearest internal standard

1. Benzene, 1-methyl-3-(1-methylethyl)- (9CI) 134 C10H14
2. Benzene, 1-methyl-2-(1-methylethyl)- (9CI) 134 C10H14
3. Benzene, methyl(1-methylethyl)- (9CI) 134 C10H14
4. Benzene, 1-ethyl-2,3-dimethyl- (9CI) 134 C10H14
5. Benzene, 2-ethyl-1,4-dimethyl- (9CI) 134 C10H14
6. Benzene, 1-ethyl-3,5-dimethyl- (9CI) 134 C10H14

Sample file: >B2862 Spectrum #: 1226
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	75*	535773	12170	"BIGDB	53	36	0	0	84	16	35	65
2.	74*	527844	12169	"BIGDB	63	29	2	0	100	11	39	49
3.	74*	25155151	12177	"BIGDB	56	34	2	0	97	11	39	42
4.	71*	933982	12172	"BIGDB	52	39	2	0	100	13	38	35
5.	71*	1758889	12181	"BIGDB	53	41	2	0	96	13	38	34
6.	71*	934747	12180	"BIGDB	51	44	2	0	90	15	38	30

2B
SEMIVOLATILE SURROGATE RECOVERIES

Lab Name: Laboratory Resources Inc.,

Lab Code: 020406 Case No.:---- SAS No.:---- SDG No.:----

Date Analyzed: 08/05/91

LAB SAMP NO. ($)	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	DF	TOT OUT
W107338-05 W	72	79	95	N/A	N/A	N/A	1	0
W107312-06 W	101	91	120	N/A	N/A	N/A	1	0
PRO BLANK S	58	53	87	105	53	60	1	0
S91721 S	76	76	92	98	64	71	1	0
S91722 S	68	73	90	87	56	68	1	0

EPA CLP QC Limits For:	Soil	Water
S1 (NBZ) = NITROBENZENE-D5	23-120	35-114
S2 (FBP) = 2-FLUOROBIPHENYL	30-115	43-116
S3 (TPH) = 4-TERPHENYL-D14	18-137	33-141
S4 (PHL) = PHENOL-D6	24-113	10- 94
S5 (2FP) = 2-FLUOROPHENOL	25-121	21-100
S6 (TBP) = 2,4,6-TRIBROMOPHENOL	19-122	10-123

$ Column indicating Soil or Water matrix
# Column to be used to flag recovery values
* Values outside of CLP QC limits
N/A Not applicable
DF Column indicating dilution factor of final extract
DO Surrogates diluted out, no recovery data available

2B
SEMIVOLATILE SURROGATE RECOVERIES

Lab Name: Laboratory Resources Inc.,

Lab Code: 020406 Case No.:---- SAS No.:---- SDG No.:----

Date Analyzed: 08/06/91

LAB SAMP NO. ($)	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	DF	TOT OUT
W107325-02 S	117	85	104	131*	70	73	30	1
W107325-05 S	260*	99	134	152*	77	102	30	2
W107382-01 S	80	75	90	133*	91	79	5	1
W107382-03 S	55	36	50	100	69	48	5	0

EPA CLP QC Limits For:	Soil	Water
S1 (NBZ) = NITROBENZENE-D5	23-120	35-114
S2 (FBP) = 2-FLUOROBIPHENYL	30-115	43-116
S3 (TPH) = 4-TERPHENYL-D14	18-137	33-141
S4 (PHL) = PHENOL-D6	24-113	10- 94
S5 (2FP) = 2-FLUOROPHENOL	25-121	21-100
S6 (TBP) = 2,4,6-TRIBROMOPHENOL	19-122	10-123

$ Column indicating Soil or Water matrix
# Column to be used to flag recovery values
* Values outside of CLP QC limits
N/A Not applicable
DF Column indicating dilution factor of final extract
DO Surrogates diluted out, no recovery data available
D Surrogates diluted, recovery estimated

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Laboratory Resources, Inc.

Lab Code: 020406 Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix Spike - Lab Sample No.: W107382-04 (S91721 - S91722)

COMPOUND	SPIKE ADDED (UG/KG)	SAMPLE CONCENTRATION (UG/KG)	MS CONCENTRATION (UG/KG)	MS % REC#	QC LIMITS REC
Phenol	6600	0	3957	60	26- 90
2-Chlorophenol	6600	0	3654	55	25-102
1,4-Dichlorobenzene	3300	0	1727	52	28-104
N-Nitroso-di-n-prop.(1)	3300	0	1825	55	41-126
1,2,4-Trichlorobenzene	3300	0	2020	61	38-107
4-Chloro-3-methylphenol	6600	0	4932	75	26-103
Acenaphthene	3300	0	2999	91	31-137
4-Nitrophenol	6600	0	5035	76	11-114
2,4-Dinitrotoluene	3300	0	2452	74	28- 89
Pentachlorophenol	6600	0	3376	51	17-109
Pyrene	3300	0	5090	154*	35-142

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC#	% RPD#	QC LIMITS RPD	QC LIMITS REC
Phenol	6600	4185	63	6	35	26- 90
2-Chlorophenol	6600	3041	46	18	50	25-102
1,4-Dichlorobenzene	3300	1535	47	12	27	28-104
N-Nitroso-di-n-prop.(1)	3300	1810	55	1	38	41-126
1,2,4-Trichlorobenzene	3300	1722	52	16	23	38-107
4-Chloro-3-methylphenol	6600	4470	68	10	33	26-103
Acenaphthene	3300	2424	73	21*	19	31-137
4-Nitrophenol	6600	4452	67	12	50	11-114
2,4-Dinitrotoluene	3300	2216	67	10	47	28- 89
Pentachlorophenol	6600	3266	49	3	47	17-109
Pyrene	3300	5069	154*	0	36	35-142

(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: 1 out of 11 outside limits
Spike Recovery: 2 of 22 outside limits

COMMENTS: QC recovery values used as reference.
Matrix spike results vary depending upon sample matrix.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: Laboratory Resources Inc.,

Lab file ID: >D0650

Lab Sample ID: PRO BLANK

Date Extracted: 07/29/91

Extraction: (Sepf/Cont/Sonc)

Date Analyzed: 08/05/91

Time Analyzed: 21:13

Matrix: SOIL

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

LAB FILE NO.	LAB SAMPLE ID	DATE ANALYZED
>D0651	S91721	08/05/91
>D0652	S91722	08/05/91
>D0659	W107325-02	08/06/91
>D0660	W107325-05	08/06/91
>D0661	W107382-01	08/06/91
>D0662	W107382-03	08/06/91

Comments:

5B

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

Lab Name: Laboratory Resources Inc., Contract: -----

Lab File ID: >TD080 DFTPP Injection date: 8/05/91

Instrument ID: 0881 DFTPP Injection time: 11:41

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	41.0
68	Less than 2.0% of mass 69	.9(1.8)1
69	Mass 69 relative abundance	50.9
70	Less than 2.0% of mass 69	0.0(0.0)1
127	40.0 - 60.0% of mass 198	42.1
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	7.2
275	10.0 - 30.0% of mass 198	18.2
365	Greater than 1.00% of mass 198	2.34
441	Present, but less than mass 443	9.3
442	Greater than 40.0% of mass 198	60.8
443	17.0 - 23.0% of mass 442	12.0(19.7)2

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

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

	EPA SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	----------	50 PPM BNAE	>D0638	8/05/91	11:57
2	----------	W107338-05	>D0647	8/05/91	18:52
3	----------	W107312-06	>D0649	8/05/91	20:26
4	----------	PRO BLANK	>D0650	8/05/91	21:13
5	----------	S91721	>D0651	8/05/91	22:00
6	----------	S91722	>D0652	8/05/91	22:47
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

5B

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

Lab Name: Laboratory Resources Inc., Contract: -----

Lab File ID: >TD082 DFTPP Injection date: 8/06/91

Instrument ID: 0881 DFTPP Injection time: 9:41

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	46.8
68	Less than 2.0% of mass 69	0.0(0.0)1
69	Mass 69 relative abundance	53.9
70	Less than 2.0% of mass 69	0.0(0.0)1
127	40.0 - 60.0% of mass 198	41.6
197	Less than 1.0% of mass 198	.6
198	Base Peak, 100% Relative abundance	100.
199	5.0 - 9.0% of mass 198	7.2
275	10.0 - 30.0% of mass 198	19.0
365	Greater than 1.00% of mass 198	2.79
441	Present, but less than mass 443	9.4
442	Greater than 40.0% of mass 198	67.4
443	17.0 - 23.0% of mass 442	12.5(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
1	----------	50 PPM BNAE	>D0658	8/06/91	9:56
2	----------	W107325-02	>D0659	8/06/91	10:52
3	----------	W107325-05	>D0660	8/06/91	11:38
4	----------	W107382-01	>D0661	8/06/91	12:24
5	----------	W107382-03	>D0662	8/06/91	13:09
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Laboratory Resources Inc.,

Lab file ID: >D0638 Lab Sample ID: 50 PPM BNA

Date Analyzed: 08/05/91 Time Analyzed: 11:57

	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT	IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
12 HOUR STD	23798	9.16	49030	12.21	25272	16.54	43792	20.12	43506	26.71	43230	30.00
UPPER LIMIT	47596		98060		50544		87584		87012		86460	
LOWER LIMIT	11899		24515		12636		21896		21753		21615	
LAB SAMPLE #												
W107338-05	21394	9.13	48482	12.19	26758	16.52	52159	20.10	45498	26.70	42186	29.97
W107312-06	21044	9.14	48190	12.18	24995	16.51	44106	20.11	38490	26.69	37137	29.97
PRO BLANK	20061	9.15	44574	12.18	22513	16.51	42502	20.10	40569	26.69	39697	29.96
S91721	23524	9.17	48548	12.20	25344	16.51	41751	20.12	40259	26.72	32817	30.01
S91722	24997	9.19	55469	12.22	28335	16.53	46695	20.13	39624	26.73	25160	30.03

IS1 (DCB) = 1,4-Dichlorobenzene-d4 IS4 (PHN) = Phenanthrene-d10
IS2 (NPT) = Napthalene-d8 IS5 (CRY) = Chrysene-d12
IS3 (ANT) = Acenapthene-d10 IS6 (PRY) = Perylene-d12

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

Column used to flag internal standard are values with an asterisk

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Laboratory Resources Inc.,

Lab file ID: >D0658 Lab Sample ID: 50 PPM BNA

Date Analyzed: 08/06/91 Time Analyzed: 09:56

	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT	IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
12 HOUR STD	27746	9.08	56665	12.13	30541	16.44	52599	20.03	52417	26.60	52372	29.87
UPPER LIMIT	55492		113330		61082		105198		104834		104744	
LOWER LIMIT	13873		28333		15271		26299		26209		26186	
LAB SAMPLE #												
W107325-02	22616	9.06	52272	12.09	28784	16.42	48050	20.01	45448	26.59	43934	29.87
W107325-05	21613	9.08	51105	12.11	29514	16.43	49103	20.01	41689	26.60	36543	29.87
W107382-01	23045	9.05	56753	12.10	28991	16.41	45719	20.01	39340	26.59	34752	29.86
W107382-03	25579	9.07	57277	12.10	30916	16.43	48310	20.02	40464	26.59	33805	29.88

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Napthalene-d8
IS3 (ANT) = Acenapthene-d10
IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

Column used to flag internal standard are values with an asterisk

Initial Calibration Data
HSL Compounds

Case No: Instrument ID: #2637A01697

Contractor: LABORATORY RESOURCES Calibration Date: 08/01/91

Contract No:

Minimum $\overline{RF}$ for SPCC is .050 Maximum % RSD for CCC is 30%

Laboratory ID:	>D0604	>D0603	>D0605	>D0606	>D0607					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
PYRIDINE	.35353	.37588	.50175	.32402	.31544	.322	.37413	20.123		
N-NITROSODIMETHYLAMINE	.31903	.33452	.51171	.41010	.27115	.339	.36930	25.444		
2-FLUOROPHENOL	.53924	.56794	.74977	.61545	.51875	.710	.59823	15.406		
PHENOL-D6	.91631	.72601	.73440	.52132	.41833	.965	.66327	29.503		
PHENOL	1.02867	.98565	.94316	.69319	.65438	.967	.86101	20.221	*	
2-CHLOROPHENOL	.76325	.72685	.80659	.62361	.52694	.961	.68945	16.427		
BIS(2-CHLOROETHYL)ETHER	.94161	.75809	.86457	.57082	.42028	.965	.71108	30.092		
1,3-DICHLOROBENZENE	.89144	.71554	.96242	.80927	.72511	.989	.82076	12.982		
1,4-DICHLOROBENZENE	.94515	.76573	.97077	.78970	.68511	1.005	.83129	14.710		
BENZYL ALCOHOL	.65407	.64162	.86666	.69164	.64703	1.069	.70020	13.580		
1,2-DICHLOROBENZENE	.85915	.69153	.89616	.73872	.62676	1.049	.76246	14.843		
2-METHYLPHENOL	.67602	.60707	.79366	.59765	.53345	1.107	.64157	15.416		
BIS(2-CHLOROISOPROPYL)ETHER	1.26444	1.19679	1.70841	1.28277	1.18535	1.100	1.32755	16.346		
N-NITROSO-DI-N-PROPYLAMINE	.70415	.56614	.60872	.54851	.51077	1.150	.58766	12.597		**
3-METHYLPHENOL	1.39450	1.33506	1.46759	1.06038	.92251	1.150	1.23601	18.874		
HEXACHLOROETHANE	.50677	.39918	.52978	.39026	.30828	1.123	.42685	21.325		
4-METHYLPHENOL	1.61444	1.50744	1.67861	1.20570	1.04608	1.150	1.41046	19.339		
NITROBENZENE-D5	.45411	.43221	.45066	.34214	.30048	.871	.39592	17.725		
NITROBENZENE	.55337	.43413	.55788	.64074	.48083	.877	.53339	14.863		
ISOPHORONE	1.04644	.85545	.38862	1.11680	1.08035	.931	.89753	33.630		
2-NITROPHENOL	.19602	.23854	.29070	.27850	.26926	.936	.25460	14.929	*	
2,4-DIMETHYLPHENOL	.37001	.42807	.54102	.46680	.44028	.966	.44923	13.874		
BIS(2-CHLOROETHOXY)METHANE	.43999	.44504	.64838	.54689	.50004	.979	.51607	16.654		
2,4-DICHLOROPHENOL	.25097	.29565	.36858	.33831	.33302	.987	.31731	14.258	*	
BENZOIC ACID	.16730	.21149	.34261	.33062	.32347	1.025	.27510	29.107		
1,2,4-TRICHLOROBENZENE	.31585	.28300	.41284	.42599	.40188	.994	.36791	17.439		
NAPHTHALENE	.86372	.89055	1.11395	.99986	.95782	1.004	.96518	10.264		
4-CHLORDANILINE	.35596	.43358	.47048	.39790	.37386	1.029	.40635	11.358		
HEXACHLOROBUTADIENE	.19139	.15922	.21852	.22529	.20137	1.045	.19916	13.090	*	
2-METHYLNAPHTHALENE	.59906	.54342	1.05207	.92144	.77151	1.140	.77750	27.494		

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - 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: #2637A01697

Contractor: LABORATORY RESOURCES Calibration Date: 08/01/91

Contract No:

Minimum $\overline{RF}$ for SPCC is .050 Maximum % RSD for CCC is 30%

Laboratory ID:	>D0604	>D0603	>D0605	>D0606	>D0607					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
4-CHLORO-3-METHYLPHENOL	.36237	.36303	.46434	.35936	.31286	1.136	.37239	14.924	*	
HEXACHLOROCYCLOPENTADIENE	.34612	.32267	.40793	.40913	.40695	.881	.37856	10.874		**
2,4,5-TRICHLOROPHENOL	.37882	.40734	.50170	.47656	.44264	.903	.44141	11.299		
2,4,6-TRICHLOROPHENOL	.36803	.43104	.52487	.48789	.45393	.898	.45315	13.096	*	
2-FLUOROBIPHENYL	1.10296	1.07682	1.33216	1.22882	1.14616	.910	1.17738	8.830		
2-CHLORONAPHTHALENE	1.29017	1.12606	1.61290	1.37837	1.17468	.917	1.31644	14.649		
2-NITROANILINE	.48369	.48889	.71647	.61960	.57178	.945	.57609	16.865		
ACENAPHTHYLENE	1.60663	1.78068	2.51252	2.05330	1.75425	.977	1.94148	18.421		
DIMETHYLPHTHALATE	1.43309	1.44147	2.03833	1.20914	1.27520	.982	1.47945	22.180		
2,6-DINITROTOLUENE	.37922	.31445	.50618	.50976	.40993	.991	.42391	19.847		
3-NITROANILINE	.61767	.64469	.86624	.68675	.61641	1.009	.68635	15.230		
ACENAPHTHENE	1.04820	1.12282	1.55449	1.28274	1.07412	1.006	1.21647	17.244	*	
2,4-DINITROPHENOL	.09065	.18395	.26990	.26106	.27536	1.023	.21618	36.715		**
DIBENZOFURAN	1.66091	1.66982	2.12568	1.87740	1.77038	1.030	1.82084	10.530		
4-NITROPHENOL	.30711	.40843	.54352	.45906	.40526	1.045	.42468	20.314		**
2,4-DINITROTOLUENE	.59656	.50703	.86417	.73242	.69097	1.047	.67823	20.007		
FLUORENE	1.11399	1.20340	1.69688	1.41757	1.24846	1.081	1.33606	17.208		
4-NITROANILINE	.20312	.41617	.59107	.42655	.32264	1.105	.39191	36.510		
DIETHYLPHTHALATE	1.77946	1.77369	2.56613	1.75605	1.58253	1.090	1.89157	20.396		
4-CHLOROPHENYL-PHENYLETHER	.54820	.57288	.75889	.68538	.61572	1.087	.63621	13.531		
2,4,6-TRIBROMOPHENOL	.22614	.20545	.28328	.30804	.27858	1.120	.26030	16.431		
4,6-DINITRO-2-METHYLPHENOL	.12156	.16477	.23429	.16679	.12806	.910	.16310	27.485		
N-NITROSODIPHENYLAMINE	.19632	.23090	.31166	.20742	.19405	.912	.22807	21.466	*	
AZOBENZENE	1.40670	1.32460	1.60296	.97389	.72157	.912	1.20595	29.331		
4-BROMOPHENYL-PHENYLETHER	.19183	.18263	.26632	.24120	.24224	.951	.22484	15.978		
HEXACHLOROBENZENE	.30034	.24082	.33043	.33961	.30946	.964	.30413	12.736		
PENTACHLOROPHENOL	.13031	.18110	.22349	.23598	.23253	.989	.20068	22.445	*	
PHENANTHRENE	.93267	.92284	1.41218	1.27584	1.17426	1.003	1.14356	18.744		
ANTHRACENE	.89401	1.03194	1.39850	1.23878	.94110	1.009	1.10087	19.305		
DI-N-BUTYLPHTHALATE	1.81037	1.75821	2.60230	1.73957	1.62450	1.093	1.90699	20.691		

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RRT}$ - 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: #2637A01697

Contractor: LABORATORY RESOURCES

Calibration Date: 08/01/91

Contract No:

Minimum $\overline{RF}$ for SPCC is .050 Maximum % RSD for CCC is 30%

Laboratory ID:	>D0604	>D0603	>D0605	>D0606	>D0607					
Compound	RF 20.00	RF 50.00	RF 80.00	RF 120.00	RF 160.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
FLUORANTHENE	.92772	.95386	1.54987	1.34353	1.16664	1.147	1.18832	22.191	*	
BENZIDINE	.10093	.39715	.23399	.12338	.16876	.884	.20485	58.053		
PYRENE	1.05311	1.10463	1.73997	1.07730	1.27582	.886	1.25017	22.991		
4-TERPHENYL-D14	.75664	.73067	.86859	1.08803	.81809	.908	.85240	16.689		
BUTYLBENZYLPHTHALATE	.94191	.95584	1.21741	.69323	.79118	.962	.91992	21.621		
BENZO(A)ANTHRACENE	.92820	.98408	1.45166	1.02337	1.27533	.998	1.13253	19.642		
3,3'-DICHLOROBENZIDINE	.14021	.20787	.24586	.18087	.24704	.988	.20437	22.185		
CHRYSENE	.85677	.92297	1.21001	1.16816	1.01892	1.003	1.03537	14.722		
BIS(2-ETHYLHEXYL)PHTHALATE	1.27586	1.28313	1.60701	.81818	.94359	1.020	1.18555	26.298		
DI-N-OCTYLPHTHALATE	2.49842	2.34846	3.27286	1.83356	2.00022	.958	2.39070	23.425	*	
BENZO(B)FLUORANTHENE	1.16672	1.27296	1.99481	1.40209	1.68335	.975	1.50399	22.316		
BENZO(K)FLUORANTHENE	.63809	.58712	.76967	.72626	.66046	.976	.67632	10.682		
BENZO(A)PYRENE	.87478	.88397	1.29096	.99770	1.15062	.996	1.03961	17.251	*	
INDENO(1,2,3-CD)PYRENE	.81683	.94195	1.31032	1.14138	1.12767	1.077	1.06763	17.934		
DIBENZO(A,H)ANTHRACENE	.75453	.76923	1.00931	1.41814	.91699	1.080	.97364	27.743		
BENZO(G,H,I)PERYLENE	.80324	.81427	1.09846	1.06953	.88980	1.099	.93506	15.010		

RF - Response Factor (Subscript is amount in UG/L)

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

Continuing Calibration Check
HSL Compounds

Case No:

Calibration Date: 08/05/91

Contractor: LABORATORY RESOURCES

Time: 11:57

Contract No:

Laboratory ID: >D0638

Instrument ID: #2637A01697

Initial Calibration Date: 08/01/91

Minimum $\overline{RF}$ for SPCC is .050

Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
PYRIDINE	.37413	.27165	27.39		
N-NITROSODIMETHYLAMINE	.36930	.34104	7.65		
2-FLUOROPHENOL	.59823	.55779	6.76		
PHENOL-D6	.66327	.56704	14.51		
PHENOL	.86101	.85301	.93	*	
2-CHLOROPHENOL	.68945	.71687	3.98		
BIS(2-CHLOROETHYL)ETHER	.71108	.77062	8.37		
1,3-DICHLOROBENZENE	.82076	.82615	.66		
1,4-DICHLOROBENZENE	.83129	.85503	2.86		
BENZYL ALCOHOL	.70020	.68513	2.15		
1,2-DICHLOROBENZENE	.76246	.79593	4.39		
2-METHYLPHENOL	.64157	.60509	5.69		
BIS(2-CHLOROISOPROPYL)ETHER	1.32755	1.44073	8.53		
N-NITROSO-DI-N-PROPYLAMINE	.58766	.70769	20.43		**
3-METHYLPHENOL	1.23601	1.25842	1.81		
HEXACHLOROETHANE	.42685	.43227	1.27		
4-METHYLPHENOL	1.41046	1.43333	1.62		
NITROBENZENE-D5	.39592	.41692	5.30		
NITROBENZENE	.53339	.42793	19.77		
ISOPHORONE	.89753	.90439	.76		
2-NITROPHENOL	.25460	.22762	10.60	*	
2,4-DIMETHYLPHENOL	.44923	.36777	18.13		
BIS(2-CHLOROETHOXY)METHANE	.51607	.56876	10.21		
2,4-DICHLOROPHENOL	.31731	.30726	3.17	*	
BENZOIC ACID	.27510	.23279	15.38		
1,2,4-TRICHLOROBENZENE	.36791	.37226	1.18		
NAPHTHALENE	.96518	.91471	5.23		
4-CHLOROANILINE	.40635	.47928	17.95		
HEXACHLOROBUTADIENE	.19916	.22264	11.79	*	
2-METHYLNAPHTHALENE	.77750	.96028	23.51		
4-CHLORO-3-METHYLPHENOL	.37239	.34022	8.64	*	
HEXACHLOROCYCLOPENTADIENE	.37856	.37322	1.41		**

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: 08/05/91

Contractor: LABORATORY RESOURCES

Time: 11:57

Contract No:

Laboratory ID: >D0638

Instrument ID: #2637A01697

Initial Calibration Date: 08/01/91

Minimum $\overline{RF}$ for SPCC is .050 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2,4,5-TRICHLOROPHENOL	.44141	.47740	8.15		
2,4,6-TRICHLOROPHENOL	.45315	.46708	3.07	*	
2-FLUOROBIPHENYL	1.17738	1.19468	1.47		
2-CHLORONAPHTHALENE	1.31644	1.22013	7.32		
2-NITROANILINE	.57609	.54970	4.58		
ACENAPHTHYLENE	1.94148	1.76796	8.94		
DIMETHYLPHTHALATE	1.47945	1.67787	13.41		
2,6-DINITROTOLUENE	.42391	.42099	.69		
3-NITROANILINE	.68635	.68702	.10		
ACENAPHTHENE	1.21647	1.08455	10.84	*	
2,4-DINITROPHENOL	.21618	.13666	36.79		**
DIBENZOFURAN	1.82084	1.81931	.08		
4-NITROPHENOL	.42468	.38202	10.04		**
2,4-DINITROTOLUENE	.67823	.61456	9.39		
FLUORENE	1.33606	1.21542	9.03		
4-NITROANILINE	.39191	.36151	7.76		
DIETHYLPHTHALATE	1.89157	1.85122	2.13		
4-CHLOROPHENYL-PHENYLETHER	.63621	.67141	5.53		
2,4,6-TRIBROMOPHENOL	.26030	.24824	4.63		
4,6-DINITRO-2-METHYLPHENOL	.16310	.15058	7.67		
N-NITROSODIPHENYLAMINE	.22807	.25745	12.88	*	
AZOBENZENE	1.20595	1.13243	6.10		
4-BROMOPHENYL-PHENYLETHER	.22484	.24912	10.80		
HEXACHLOROBENZENE	.30413	.29901	1.68		
PENTACHLOROPHENOL	.20068	.19772	1.48	*	
PHENANTHRENE	1.14356	1.06799	6.61		
ANTHRACENE	1.10087	1.04903	4.71		
DI-N-BUTYLPHTHALATE	1.90699	2.01776	5.81		
FLUORANTHENE	1.18832	1.16805	1.71	*	
BENZIDINE	.20485	.25194	22.99		
PYRENE	1.25017	1.16146	7.10		
4-TERPHENYL-D14	.85240	.79882	6.29		

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: 08/05/91

Contractor: LABORATORY RESOURCES | Time: 11:57

Contract No: | Laboratory ID: >D0638

Instrument ID: #2637A01697 | Initial Calibration Date: 08/01/91

Minimum $\overline{RF}$ for SPCC is .050 | Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
BUTYLBENZYLPHTHALATE	.91992	.98473	7.05		
BENZO(A)ANTHRACENE	1.13253	1.09195	3.58		
3,3'-DICHLOROBENZIDINE	.20437	.17752	13.14		
CHRYSENE	1.03537	.96185	7.10		
BIS(2-ETHYLHEXYL)PHTHALATE	1.18555	1.38427	16.76		
DI-N-OCTYLPHTHALATE	2.39070	2.57958	7.90	*	
BENZO(B)FLUORANTHENE	1.50399	1.30254	13.39		
BENZO(K)FLUORANTHENE	.67632	.78114	15.50		
BENZO(A)PYRENE	1.03961	1.01700	2.17	*	
INDENO(1,2,3-CD)PYRENE	1.06763	1.04298	2.31		
DIBENZO(A,H)ANTHRACENE	.97364	.93411	4.06		
BENZO(G,H,I)PERYLENE	.93506	.94936	1.53		

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: 08/06/91

Contractor: LABORATORY RESOURCES

Time: 09:56

Contract No:

Laboratory ID: >D0658

Instrument ID: #2637A01697

Initial Calibration Date: 08/01/91

Minimum $\overline{RF}$ for SPCC is .050

Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
PYRIDINE	.37413	.31708	15.25		
N-NITROSODIMETHYLAMINE	.36930	.36442	1.32		
2-FLUOROPHENOL	.59823	.54762	8.46		
PHENOL-D6	.66327	.63032	4.97		
PHENOL	.86101	.83786	2.69	*	
2-CHLOROPHENOL	.68945	.73475	6.57		
BIS(2-CHLOROETHYL)ETHER	.71108	.78316	10.14		
1,3-DICHLOROBENZENE	.82076	.82684	.74		
1,4-DICHLOROBENZENE	.83129	.85147	2.43		
BENZYL ALCOHOL	.70020	.78195	11.67		
1,2-DICHLOROBENZENE	.76246	.81070	6.33		
2-METHYLPHENOL	.64157	.63014	1.78		
BIS(2-CHLOROISOPROPYL)ETHER	1.32755	1.34791	1.53		
N-NITROSO-DI-N-PROPYLAMINE	.58766	.70909	20.66		**
3-METHYLPHENOL	1.23601	1.27967	3.53		
HEXACHLOROETHANE	.42685	.42794	.25		
4-METHYLPHENOL	1.41046	1.47158	4.33		
NITROBENZENE-D5	.39592	.42508	7.37		
NITROBENZENE	.53339	.45645	14.42		
ISOPHORONE	.89753	.95215	6.09		
2-NITROPHENOL	.25460	.24714	2.93	*	
2,4-DIMETHYLPHENOL	.44923	.40736	9.32		
BIS(2-CHLOROETHOXY)METHANE	.51607	.54691	5.98		
2,4-DICHLOROPHENOL	.31731	.32740	3.18	*	
BENZOIC ACID	.27510	.21291	22.60		
1,2,4-TRICHLOROBENZENE	.36791	.38219	3.88		
NAPHTHALENE	.96518	.94628	1.96		
4-CHLOROANILINE	.40635	.47874	17.81		
HEXACHLOROBUTADIENE	.19916	.22819	14.58	*	
2-METHYLNAPHTHALENE	.77750	.96150	23.67		
4-CHLORO-3-METHYLPHENOL	.37239	.37070	.46	*	
HEXACHLOROCYCLOPENTADIENE	.37856	.32106	15.19		**

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: 08/06/91

Contractor: LABORATORY RESOURCES Time: 09:56

Contract No: Laboratory ID: >D0658

Instrument ID: #2637A01697 Initial Calibration Date: 08/01/91

Minimum $\overline{RF}$ for SPCC is .050 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
2,4,5-TRICHLOROPHENOL	.44141	.50856	15.21		
2,4,6-TRICHLOROPHENOL	.45315	.48004	5.93	*	
2-FLUOROBIPHENYL	1.17738	1.38990	18.05		
2-CHLORONAPHTHALENE	1.31644	1.25625	4.57		
2-NITROANILINE	.57609	.56339	2.20		
ACENAPHTHYLENE	1.94148	1.81825	6.35		
DIMETHYLPHTHALATE	1.47945	1.71803	16.13		
2,6-DINITROTOLUENE	.42391	.39789	6.14		
3-NITROANILINE	.68635	.71149	3.66		
ACENAPHTHENE	1.21647	1.16248	4.44	*	
2,4-DINITROPHENOL	.21618	.13047	39.65		**
DIBENZOFURAN	1.82084	1.83928	1.01		
4-NITROPHENOL	.42468	.35635	16.09		**
2,4-DINITROTOLUENE	.67823	.61829	8.84		
FLUORENE	1.33606	1.30338	2.45		
4-NITROANILINE	.39191	.35656	9.02		
DIETHYLPHTHALATE	1.89157	1.93311	2.20		
4-CHLOROPHENYL-PHENYLETHER	.63621	.71301	12.07		
2,4,6-TRIBROMOPHENOL	.26030	.27682	6.35		
4,6-DINITRO-2-METHYLPHENOL	.16310	.15206	6.76		
N-NITROSODIPHENYLAMINE	.22807	.27488	20.52	*	
AZOBENZENE	1.20595	1.18352	1.86		
4-BROMOPHENYL-PHENYLETHER	.22484	.26309	17.01		
HEXACHLOROBENZENE	.30413	.31172	2.49		
PENTACHLOROPHENOL	.20068	.21600	7.64	*	
PHENANTHRENE	1.14356	1.08863	4.80		
ANTHRACENE	1.10087	1.16033	5.40		
DI-N-BUTYLPHTHALATE	1.90699	2.14608	12.54		
FLUORANTHENE	1.18832	1.20037	1.01	*	
BENZIDINE	.20485	.23211	13.31		
PYRENE	1.25017	1.21481	2.83		
4-TERPHENYL-D14	.85240	.87103	2.19		

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: 08/06/91

Contractor: LABORATORY RESOURCES

Time: 09:56

Contract No:

Laboratory ID: >D0658

Instrument ID: #2637A01697

Initial Calibration Date: 08/01/91

Minimum $\overline{RF}$ for SPCC is .050

Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
BUTYLBENZYLPHTHALATE	.91992	.96318	4.70		
BENZO(A)ANTHRACENE	1.13253	1.09535	3.28		
3,3'-DICHLOROBENZIDINE	.20437	.20793	1.74		
CHRYSENE	1.03537	1.01804	1.67		
BIS(2-ETHYLHEXYL)PHTHALATE	1.18555	1.35020	13.89		
DI-N-OCTYLPHTHALATE	2.39070	2.61776	9.50	*	
BENZO(B)FLUORANTHENE	1.50399	1.49209	.79		
BENZO(K)FLUORANTHENE	.67632	.59102	12.61		
BENZO(A)PYRENE	1.03961	.97315	6.39	*	
INDENO(1,2,3-CD)PYRENE	1.06763	.89732	15.95		
DIBENZO(A,H)ANTHRACENE	.97364	.83228	14.52		
BENZO(G,H,I)PERYLENE	.93506	.81112	13.25		

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 (**)

LABORATORY RESOURCES, INC.
363 OLD HOOK ROAD
WESTWOOD, NJ 07675
LAB. CERTIFICATION: NJ 02046
NY 10588

DATE COLLECTED:
DATE EXTRACTED: 07/29/91
DATE ANALYZED : 08/05/91
DILUTION FACT.: 1.0

CLIENT : DIVERSIFIED ENVIRONMENTAL
LAB SAMPLE : PROCEDURE BLANK
ANALYST : ED
FILE NAME : >D0650

GC/MS BASE NEUTRALS ACIDS REPORT

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
N-NITROSODIMETHYLAMINE	ND	330	3-NITROANILINE	ND	1650
ANILINE	ND	330	ACENAPHTHENE	ND	330
PHENOL	ND	330	2,4-DINITROPHENOL	ND	1650
2-CHLOROPHENOL	ND	330	DIBENZOFURAN	ND	330
BIS(2-CHLOROETHYL)ETHER	ND	330	4-NITROPHENOL	ND	1650
1,3-DICHLOROBENZENE	ND	330	2,4-DINITROTOLUENE	ND	330
1,4-DICHLOROBENZENE	ND	330	FLUORENE	ND	330
BENZYL ALCOHOL	ND	330	4-NITROANILINE	ND	1650
1,2-DICHLOROBENZENE	ND	330	DIETHYLPHTHALATE	ND	330
2-METHYLPHENOL	ND	330	4-CHLOROPHENYL-PHENYLETHER	ND	330
BIS(2-CHLOROISOPROPYL)ETHER	ND	330	4,6-DINITRO-2-METHYLPHENOL	ND	1650
N-NITROSO-DI-N-PROPYLAMINE	ND	330	N-NITROSODIPHENYLAMINE	ND	330
HEXACHLOROETHANE	ND	330	AZOBENZENE	ND	330
4-METHYLPHENOL	ND	330	4-BROMOPHENYL-PHENYLETHER	ND	330
NITROBENZENE	ND	330	HEXACHLOROBENZENE	ND	330
ISOPHORONE	ND	330	PENTACHLOROPHENOL	ND	1650
2-NITROPHENOL	ND	330	PHENANTHRENE	ND	330
2,4-DIMETHYLPHENOL	ND	330	ANTHRACENE	ND	330
BIS(2-CHLOROETHOXY)METHANE	ND	330	DI-N-BUTYLPHTHALATE	ND	330
2,4-DICHLOROPHENOL	ND	330	FLUORANTHENE	ND	330
BENZOIC ACID	ND	1650	BENZIDINE	ND	330
1,2,4-TRICHLOROBENZENE	ND	330	PYRENE	ND	330
NAPHTHALENE	ND	330	BUTYLBENZYLPHTHALATE	ND	330
4-CHLOROANILINE	ND	330	BENZO(A)ANTHRACENE	ND	330
HEXACHLOROBUTADIENE	ND	330	3,3'-DICHLOROBENZIDINE	ND	660
2-METHYLNAPHTHALENE	ND	330	CHRYSENE	ND	330
4-CHLORO-3-METHYLPHENOL	ND	330	BIS(2-ETHYLHEXYL)PHTHALATE	ND	330
HEXACHLOROCYCLOPENTADIENE	ND	330	DI-N-OCTYLPHTHALATE	ND	330
2,4,5-TRICHLOROPHENOL	ND	1650	BENZO(B)FLUORANTHENE	ND	330
2,4,6-TRICHLOROPHENOL	ND	330	BENZO(K)FLUORANTHENE	ND	330
2-CHLORONAPHTHALENE	ND	330	BENZO(A)PYRENE	ND	330
2-NITROANILINE	ND	1650	INDENO(1,2,3-CD)PYRENE	ND	330
ACENAPHTHYLENE	ND	330	DIBENZO(A,H)ANTHRACENE	ND	330
DIMETHYLPHTHALATE	ND	330	BENZO(G,H,I)PERYLENE	ND	330
2,6-DINITROTOLUENE	ND	330			

SURROGATE COMPOUNDS	RECOVERY	LIMITS	STATUS
NITROBENZENE-D5	58 %	23 - 120	OK
2-FLUOROBIPHENYL	53 %	30 - 115	OK
4-TERPHENYL-D14	87 %	18 - 137	OK
PHENOL-D6	105 %	24 - 113	OK
2-FLUOROPHENOL	53 %	25 - 121	OK
2,4,6-TRIBROMOPHENOL	60 %	19 - 122	OK

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

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

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.: PROCEDURE BLANK

Lab Name: Laboratory Resources Inc., Contract:-------

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: WATER

Lab Sample ID: PRO BLANK

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

Lab File ID: >D0650

Level: (low/med) LOW

Date Received:

% Solid: 0

Date Extracted: 07/29/91

Extraction: (Sepf/Cont/Sonc) SONC

Date Analyzed: 08/05/91

GPC Cleanup: (Y/N) N

Dilution Factor: 1

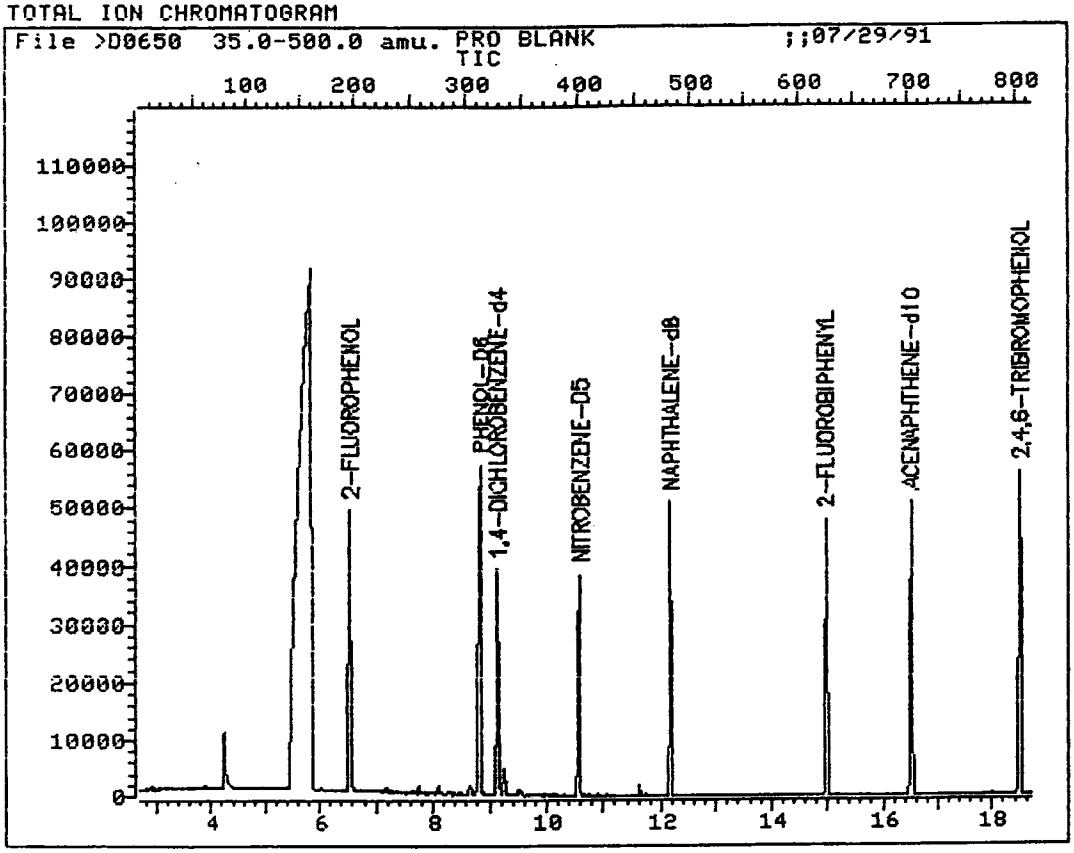
CONCENTRATION UNITS: ug/L

Number of TICs found: 4

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1		Unknown	4.25	500	
2		Condensation product	5.84	22000	
3		Unknown	9.27	180	
4		Unknown Phthalate	27.28	100	

FORM I SV-TIC 1/87 Rev

TOTAL ION CHROMATOGRAM



Data File: >D0650::B4 Quant Output File: ^D0650::GC
Name: PRO BLANK
Misc: ;;07/29/91 BTL# 7

Id File: IDD625::B2
Title: LABORATORY RESOURCES AQUARIUS ID FILE FOR SEMIVOLATILES
Last Calibration: 910805 16:10

Operator ID: ED
Quant Time: 910805 21:50
Injected at: 910805 21:13

TIC page 1 of 2

QUANT REPORT

Operator ID: ED
Output File: ^D0650::GC
Data File: >D0650::B4
Name: PRO BLANK
Misc: ;;07/29/91

Quant Rev: 6
Quant Time: 910805 21:50
Injected at: 910805 21:13
Dilution Factor: 1.00000

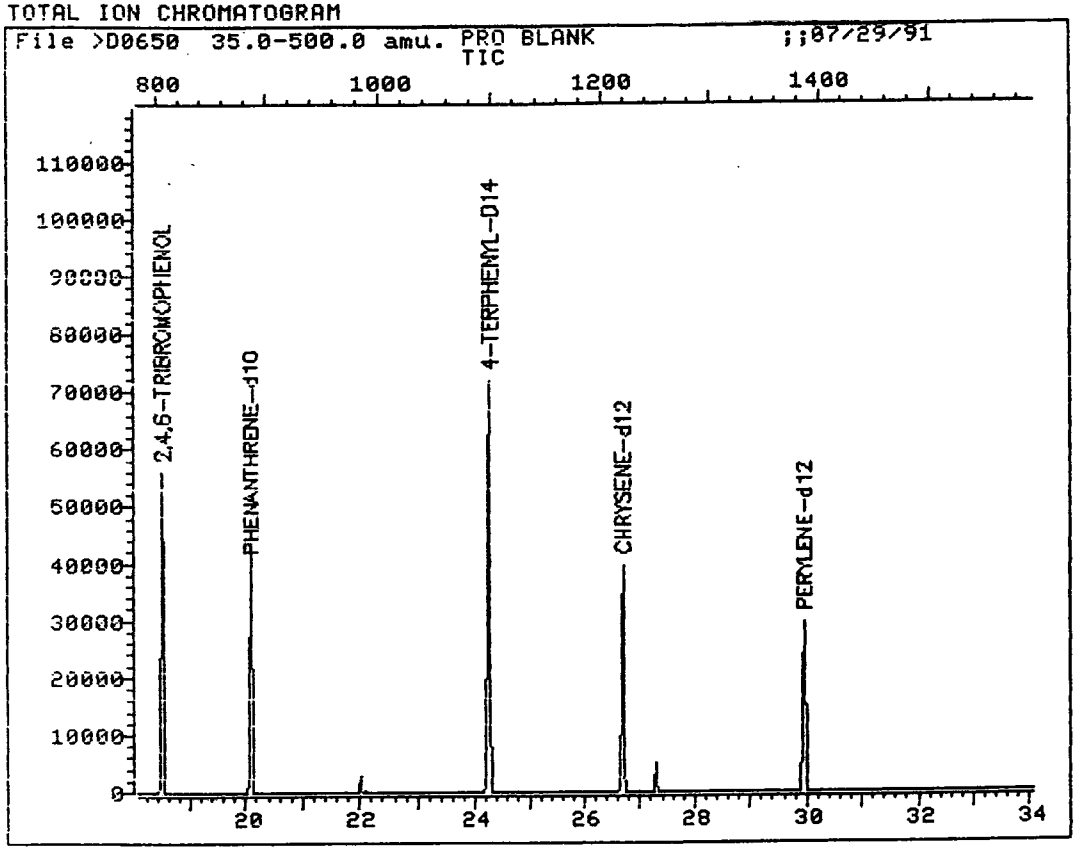
BTL# 7

ID File: IDD625::B2
Title: LABORATORY RESOURCES AQUARIUS ID FILE FOR SEMIVOLATILES
Last Calibration: 910805 16:10

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*1,4-DICHLOROBENZENE-d4	9.15	149.9	20061	40.00	UG/L	93
4)	2-FLUOROPHENOL	6.55	112.0	29904	106.90	UG/L	88
5)	PHENOL-D6	8.86	99.1	59913	210.68	UG/L	82
19)	*NAPHTHALENE-d8	12.18	136.0	44574	40.00	UG/L	98
20)	NITROBENZENE-D5	10.59	82.0	27085	58.30	UG/L	91
34)	*ACENAPHTHENE-d10	16.51	164.1	22513	40.00	UG/L	92
38)	2-FLUOROBIPHENYL	14.98	172.0	35677	53.06	UG/L	97
54)	2,4,6-TRIBROMOPHENOL	18.50	329.7	16895	120.92	UG/L	95
55)	*PHENANTHRENE-d10	20.10	188.1	42502	40.00	UG/L	99
66)	*CHRYSENE-d12	26.69	240.1	40569	40.00	UG/L	97
69)	4-TERPHENYL-D14	24.27	244.1	70111	86.54	UG/L	98
75)	*PERYLENE-d12	29.96	264.1	39697	40.00	UG/L	93

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >D0650::B4 Quant Output File: ^D0650::GC
Name: PRO BLANK
Misc: ;;07/29/91 BTL# 7

Id File: IDD625::B2
Title: LABORATORY RESOURCES AQUARIUS ID FILE FOR SEMIVOLATILES
Last Calibration: 910805 16:10

Operator ID: ED
Quant Time: 910805 21:50
Injected at: 910805 21:13

TIC page 2 of 2

MS data file header from : >D0650

Sample: PRO BLANK Operator: ED MS 8/05/91 21:13
Misc : ;;07/29/91 BTL# 7
Sys. #: 2 MS model: 70 SW/HW rev.: IA ALS # : 0
Method file: M_BNA Tuning file: MTBNAD No. of extra records: 2
Source temp.: 0 Analyzer temp.: 280 Transfer line temp. : 0

Chromatographic temperatures : 31. 300. 0. 0. 0.
Chromatographic times, min. : 4.0 10.0 0.0 0.0 0.0
Chromatographic rate, deg/min: 10.0 0.0 0.0 0.0 0.0

D0650 PRO BLANK ;;07/29/91
35.01 500.0 CLP ADC TIC
Upslope: .20 Area Reject: 8537. Max Peaks: 4 Bunching: 1
Onslope: 0.00 Results File ID0650 Sorted by Area/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	5.84	139	161	163	90349	1451241	1409423	100.00	96.416
2	4.25	77	80	89	10026	53631	32253	2.29	2.206
3	9.27	333	335	337	4782	13037	11422	.81	.781
4	27.28	1248	1250	1253	4870	8710	8710	.62	.596

Sum of corrected areas: 1461808.

Summary of Unknowns PBM Library Search and Quantitation

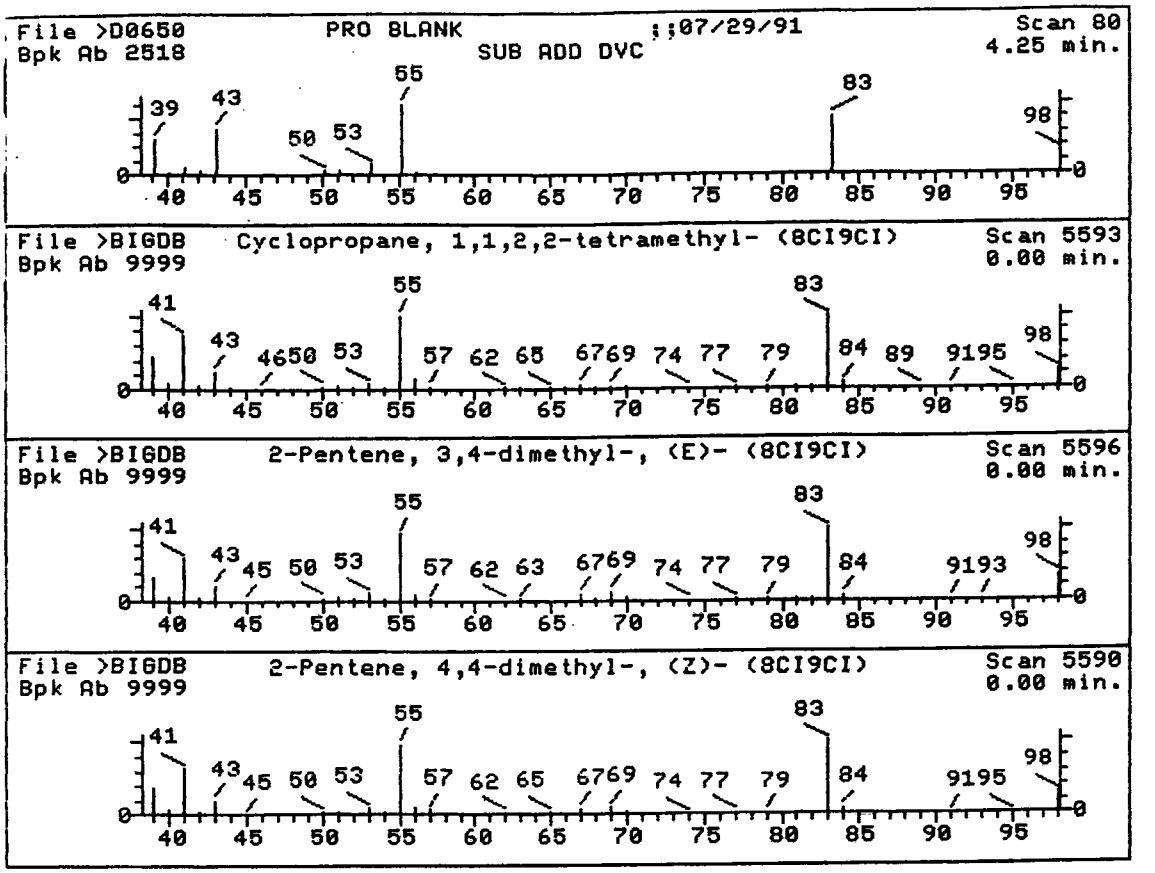
Standard	Concentration	Area	Retention Time	Unknown Window
1	40.0	85371.	9.15	2.69 - 10.67
2	40.0	100483.	12.18	10.67 - 14.35
3	40.0	108331.	16.51	14.35 - 18.30
4	40.0	118901.	20.10	18.30 - 23.39
5	40.0	111236.	26.69	23.39 - 28.33
6	40.0	104065.	29.96	28.33 - 34.06

Rec Dil Factor (RDF) = .0303 Fractional Solids (FS) = 1.00
Dilution Factor (DF) = 33.00 Percent Solids (PS) = 0.00

Correction Factor = 33.00 = 1 / (RDF * FS)

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

2:51 AM THU., 8 AUG., 1991

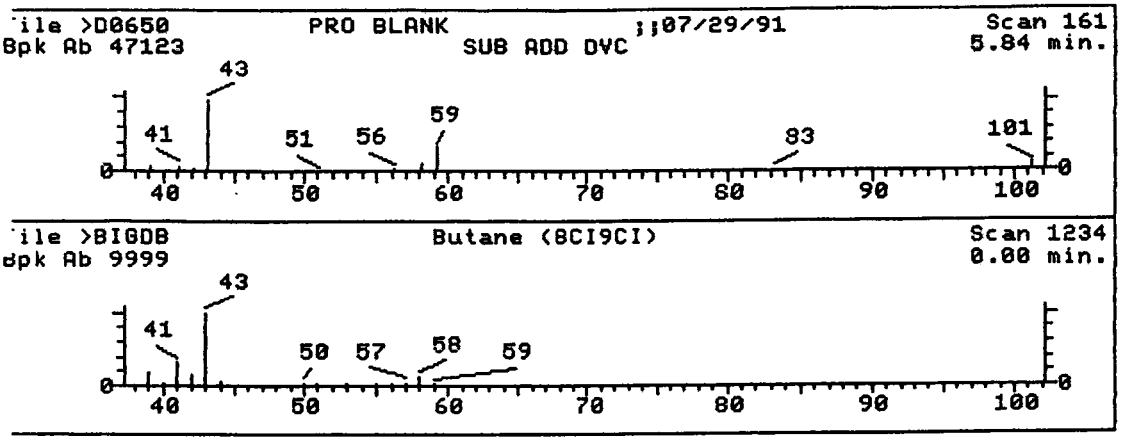


. Unknown #,1
Area = 32253.00 Tentative Concentration is 500.00

1.	Cyclopropane, 1,1,2,2-tetramethyl- (8CI9CI)	98	C7H14
2.	2-Pentene, 3,4-dimethyl-, (E)- (8CI9CI)	98	C7H14
3.	2-Pentene, 4,4-dimethyl-, (Z)- (8CI9CI)	98	C7H14
4.	3-Penten-2-one, 4-methyl- (8CI9CI)	98	C6H10O
5.	2-Pentene, 3,4-dimethyl-, (Z)- (8CI9CI)	98	C7H14
6.	2-Pentene, 4,4-dimethyl- (8CI9CI)	98	C7H14
7.	Ethanone, 1-(2-methylcyclopropyl)- (9CI)	98	C6H10O

Sample file: >D0650 Spectrum #: 80
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	70*	4127473	5593	"BIGDB	28	69	3	0	83	7	42	13
2.	52*	4914925	5596	"BIGDB	29	67	3	0	82	20	20	13
3.	43*	762630	5590	"BIGDB	24	68	2	0	82	23	17	14
4.	42*	141797	8486	"BIGDB	45	53	2	0	63	27	14	19
5.	42*	4914914	5595	"BIGDB	40	58	3	0	82	21	17	13
6.	42*	26232984	5599	"BIGDB	34	56	3	0	91	21	17	13
7.	42*	930563	5560	"BIGDB	27	62	3	0	119	25	17	13

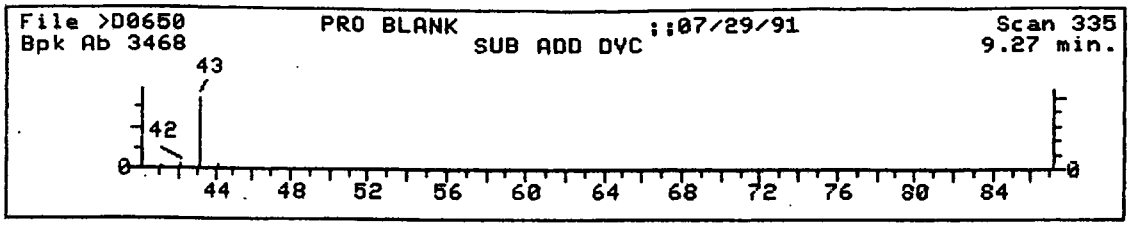


. Unknown #,2
Area = 1409423. Tentative Concentration is 22000.00

1. Butane (8CI9CI) 58 C4H10

Sample file: >D0650 Spectrum #: 161
Search speed: 1 Tilting option: N No. of ion ranges searched: 41

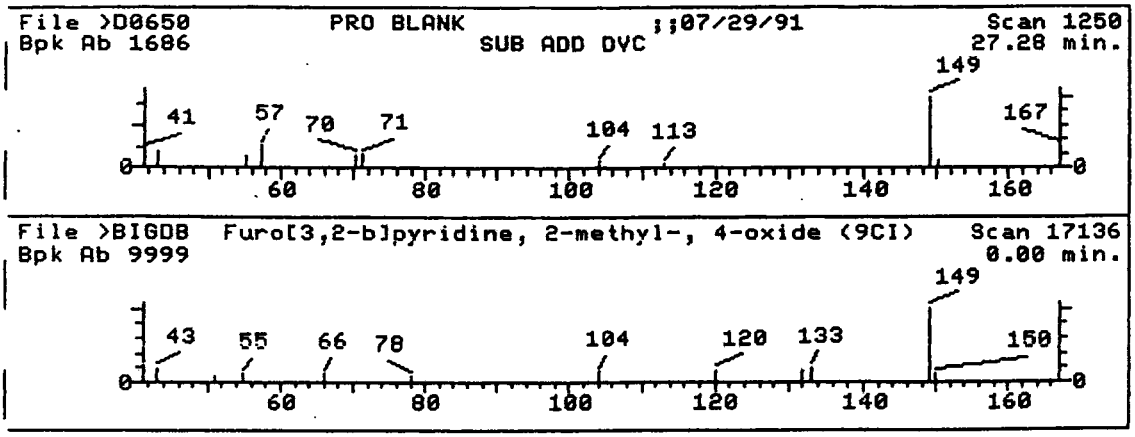
	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	11*	106978	1234	"BIGDB	23	41	1	0	44	62	2	14



Unknown #,3
Area = 11422.00 Tentative Concentration is 180.00

Sample file: >D0650 Spectrum #: 335

No data base entries were retrieved.



. Unknown #,4
Area = 8710.00 Tentative Concentration is 100.00

1. Furo[3,2-b]pyridine, 2-methyl-, 4-oxide (9CI) 149 C8H7NO2

Sample file: >D0650 Spectrum #: 1250
Search speed: 1 Tilting option: N No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	30*	69022839	17136	"BIGDB	25	54	3	0	100	33	12	13

LABORATORY RESOURCES, INC.
363 OLD HOOK ROAD
WESTWOOD, NJ 07675
LAB. CERTIFICATION: NJ 02046
NY 10588

DATE COLLECTED: 07/18/91
DATE EXTRACTED: 07/29/91
DATE ANALYZED : 08/06/91
DILUTION FACT.: 30.0

CLIENT : DIVERSIFIED ENV JH 7-1
LAB SAMPLE : W107325-02
ANALYST : ED
FILE NAME : >D0659

GC/MS BASE NEUTRALS ACIDS REPORT

COMPOUND	UG/KG	MDL
N-NITROSODIMETHYLAMINE	ND	10259
ANILINE	ND	10259
PHENOL	ND	10259
2-CHLOROPHENOL	ND	10259
BIS(2-CHLOROETHYL)ETHER	ND	10259
1,3-DICHLOROBENZENE	ND	10259
1,4-DICHLOROBENZENE	ND	10259
BENZYL ALCOHOL	ND	10259
1,2-DICHLOROBENZENE	ND	10259
2-METHYLPHENOL	ND	10259
BIS(2-CHLOROISOPROPYL)ETHER	ND	10259
N-NITROSO-DI-N-PROPYLAMINE	ND	10259
HEXACHLOROETHANE	ND	10259
4-METHYLPHENOL	ND	10259
NITROBENZENE	ND	10259
ISOPHORONE	ND	10259
2-NITROPHENOL	ND	10259
2,4-DIMETHYLPHENOL	ND	10259
BIS(2-CHLOROETHOXY)METHANE	ND	10259
2,4-DICHLOROPHENOL	ND	10259
BENZOIC ACID	ND	51295
1,2,4-TRICHLOROBENZENE	ND	10259
NAPHTHALENE	2824 J	10259
4-CHLOROANILINE	ND	10259
HEXACHLOROBUTADIENE	ND	10259
2-METHYLNAPHTHALENE	ND	10259
4-CHLORO-3-METHYLPHENOL	ND	10259
HEXACHLOROCYCLOPENTADIENE	ND	10259
2,4,5-TRICHLOROPHENOL	ND	51295
2,4,6-TRICHLOROPHENOL	ND	10259
2-CHLORONAPHTHALENE	ND	10259
2-NITROANILINE	ND	51295
ACENAPHTHYLENE	ND	10259
DIMETHYLPHTHALATE	ND	10259
2,6-DINITROTOLUENE	ND	10259

COMPOUND	UG/KG	MDL
3-NITROANILINE	ND	51295
ACENAPHTHENE	ND	10259
2,4-DINITROPHENOL	ND	51295
DIBENZOFURAN	ND	10259
4-NITROPHENOL	ND	51295
2,4-DINITROTOLUENE	ND	10259
FLUORENE	ND	10259
4-NITROANILINE	ND	51295
DIETHYLPHTHALATE	ND	10259
4-CHLOROPHENYL-PHENYLETHER	ND	10259
4,6-DINITRO-2-METHYLPHENOL	ND	51295
N-NITROSODIPHENYLAMINE	ND	10259
AZOBENZENE	ND	10259
4-BROMOPHENYL-PHENYLETHER	ND	10259
HEXACHLOROBENZENE	ND	10259
PENTACHLOROPHENOL	ND	51295
PHENANTHRENE	ND	10259
ANTHRACENE	ND	10259
DI-N-BUTYLPHTHALATE	ND	10259
FLUORANTHENE	ND	10259
BENZIDINE	ND	10259
PYRENE	ND	10259
BUTYLBENZYLPHTHALATE	ND	10259
BENZO(A)ANTHRACENE	ND	10259
3,3'-DICHLOROBENZIDINE	ND	20518
CHRYSENE	ND	10259
BIS(2-ETHYLHEXYL)PHTHALATE	ND	10259
DI-N-OCTYLPHTHALATE	ND	10259
BENZO(B)FLUORANTHENE	ND	10259
BENZO(K)FLUORANTHENE	ND	10259
BENZO(A)PYRENE	ND	10259
INDENO(1,2,3-CD)PYRENE	ND	10259
DIBENZO(A,H)ANTHRACENE	ND	10259
BENZO(G,H,I)PERYLENE	ND	10259

SURROGATE COMPOUNDS	RECOVERY	LIMITS	STATUS
NITROBENZENE-D5	117 %	23 - 120	OK
2-FLUOROBIPHENYL	85 %	30 - 115	OK
4-TERPHENYL-D14	104 %	18 - 137	OK
PHENOL-D6	131 %	24 - 113	OUT
2-FLUOROPHENOL	70 %	25 - 121	OK
2,4,6-TRIBROMOPHENOL	73 %	19 - 122	OK

J Indicates detected below MDL
ND Indicates compound not detected
B Indicates compound also present in blank
* Dilution performed due to poor internal standard and surrogate recoveries as a result of the sample matrix

Percent Solid of 96.5 is used for all Target compounds.

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.: JH 7-1

Lab Name: Laboratory Resources Inc., Contract:-------

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL

Lab Sample ID: W107325-02

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

Lab File ID: >D0659

Level: (low/med) LOW

Date Received: 07/19/91

% Solid: 96.5

Date Extracted: 07/29/91

Extraction: (Sepf/Cont/Sonc) Sonc

Date Analyzed: 08/06/91

GPC Cleanup: (Y/N) N

Dilution Factor: 30

Number of TICs found: 25

CONCENTRATION UNITS: ug/Kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1		Unknown (B)	5.37	35000	
2		Unknown Alkane	8.96	64000	
3		Trimethyl Benzene Isomer	9.33	29000	
4		Unknown Alkane	9.39	40000	
5		Unknown	9.49	30000	
6		Unknown	9.61	17000	
7		Unknown Alkane	9.69	21000	
8		Methylpropyl Benzene Isomer	9.89	35000	
9		Unknown	9.96	21000	
10		Unknown Alkane	10.04	31000	
11		Unknown Alkane	10.10	25000	
12		Unknown Alkane	10.16	41000	
13		Unknown Alkane	10.28	31000	
14		Ethyl-dimethyl Benzene Isomer	10.40	35000	
15		Unknown	10.58	19000	
16		Unknown Alkane	10.81	110000	
17		Unknown	10.89	17000	
18		Ethyl-dimethyl Benzene Isomer	11.05	20000	
19		Tetramethyl-Benzene Isomer	11.11	19000	
20		Unknown	11.34	11000	
21		Ethyl-dimethyl-Benzene Isomer	11.64	12000	
22		Unknown Alkane	11.72	14000	
23		Unknown Alkane	11.86	14000	
24		Unknown Alkane	12.43	32000	
25		Unknown	22.77	11000	

B - Compound present in blank

FORM I SV-TIC 1/87 Rev

QUANT REPORT

Operator ID: ED
Output File: ^D0659::GC
Data File: >D0659::B2
Name: W107325-02
Misc: DIVERSIFIED ENV JH-71;07/18/91;07/29/91

Quant Rev: 6
Quant Time: 910806 11:29
Injected at: 910806 10:52
Dilution Factor: 1.00000

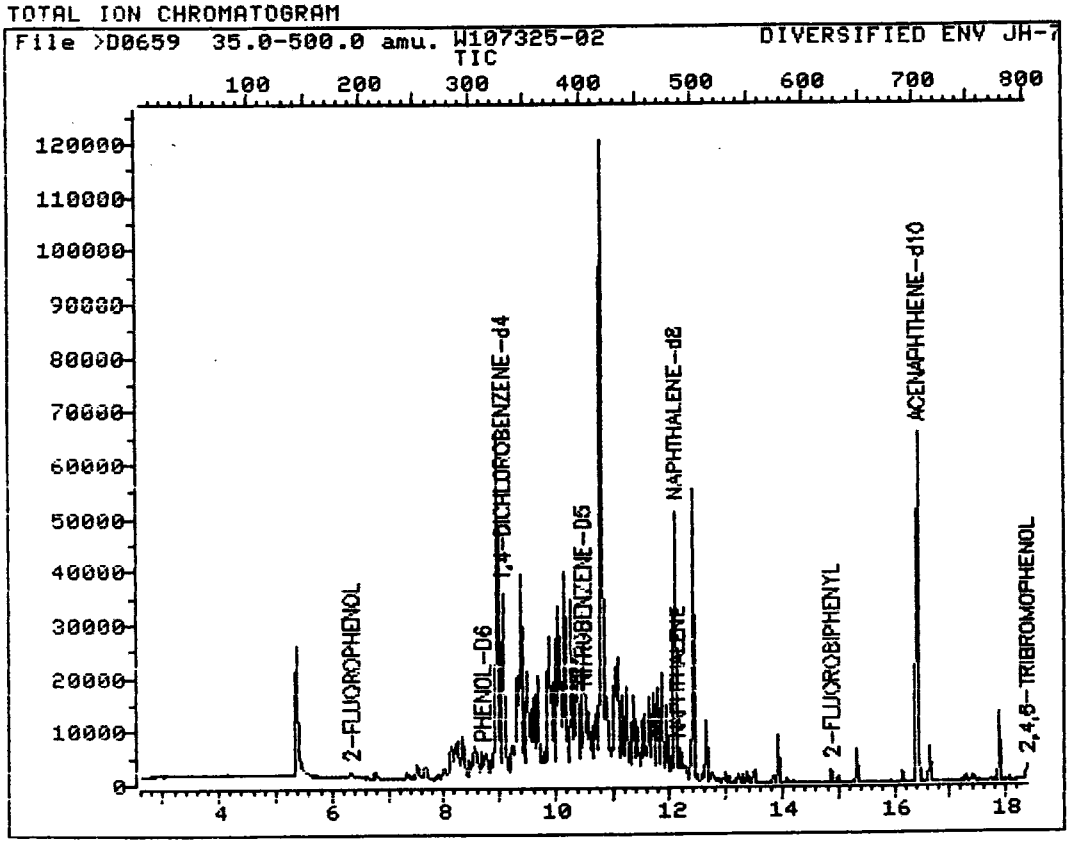
BTL# 1

ID File: IDD625::B2
Title: LABORATORY RESOURCES AQUARIUS ID FILE FOR SEMIVOLATILES
Last Calibration: 910806 10:47

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*1,4-DICHLOROBENZENE-d4	9.06	149.9	22616	40.00	UG/L	96
4)	2-FLUOROPHENOL	6.34	112.0	1454M	4.70	UG/L	
5)	PHENOL-D6	8.70	99.1	3105	8.71	UG/L	88
19)	*NAPHTHALENE-d8	12.09	136.0	52272	40.00	UG/L	99
20)	NITROBENZENE-D5	10.48	82.0	2166M	3.90	UG/L	84
29)	NAPHTHALENE	12.13	128.0	3404	2.75	UG/L	97
34)	*ACENAPHTHENE-d10	16.42	164.1	28784	40.00	UG/L	94
38)	2-FLUOROBIPHENYL	14.87	172.0	2847	2.85	UG/L	98
54)	2,4,6-TRIBROMOPHENOL	18.37	329.7	970	4.87	UG/L	97
55)	*PHENANTHRENE-d10	20.01	188.1	48050	40.00	UG/L	98
66)	*CHRYSENE-d12	26.59	240.1	45448	40.00	UG/L	98
69)	4-TERPHENYL-D14	24.13	244.1	3424	3.46	UG/L	97
75)	*PERYLENE-d12	29.87	264.1	43934	40.00	UG/L	96

* Compound is ISTD

TOTAL ION CHROMATOGRAM



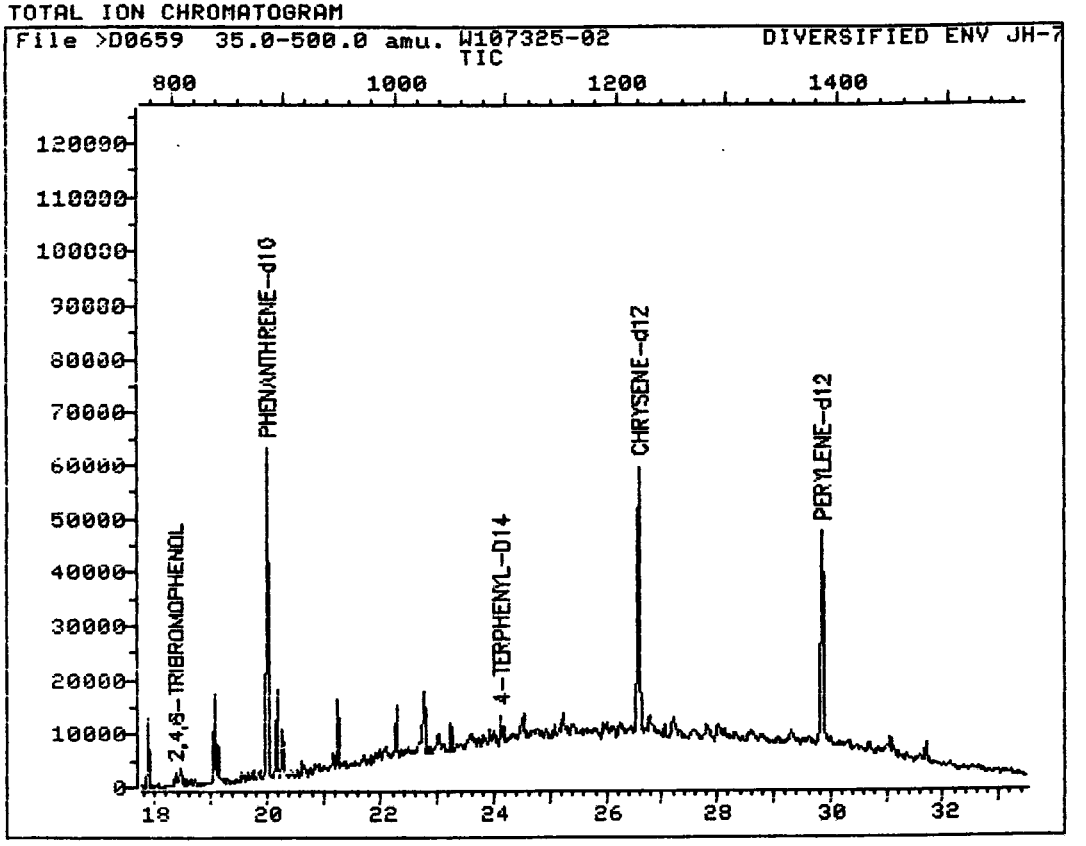
Data File: >D0659::B2 Quant Output File: ^D0659::GC
Name: W107325-02
Misc: DIVERSIFIED ENV JH-71;07/18/91;07/29/91 BTL# 1

Id File: IDD625::B2
Title: LABORATORY RESOURCES AQUARIUS ID FILE FOR SEMIVOLATILES
Last Calibration: 910806 10:47

Operator ID: ED
Quant Time: 910806 11:29
Injected at: 910806 10:52

TIC page 1 of 2

TOTAL ION CHROMATOGRAM



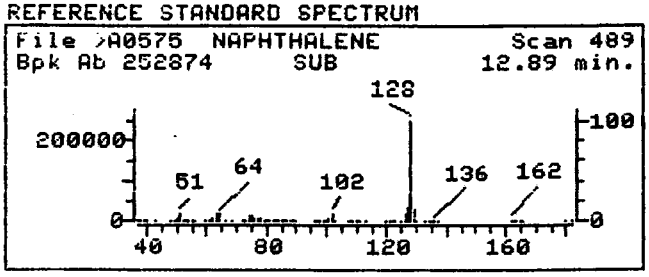
Data File: >D0659::B2 Quant Output File: ^D0659::GC
Name: W107325-02
Misc: DIVERSIFIED ENV JH-71;07/18/91;07/29/91 BTL# 1

Id File: IDD625::B2
Title: LABORATORY RESOURCES AQUARIUS ID FILE FOR SEMIVOLATILES
Last Calibration: 910806 10:47

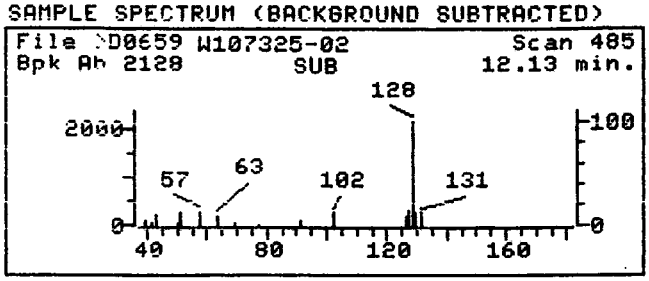
Operator ID: ED
Quant Time: 910806 11:29
Injected at: 910806 10:52

TIC page 2 of 2

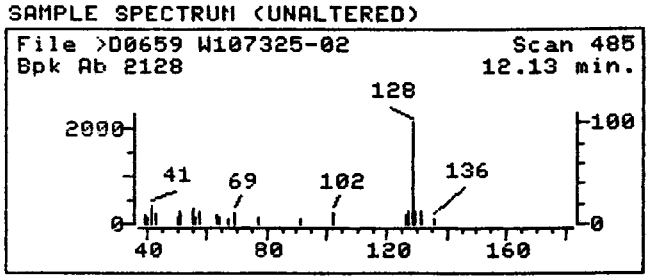
REFERENCE STANDARD SPECTRUM

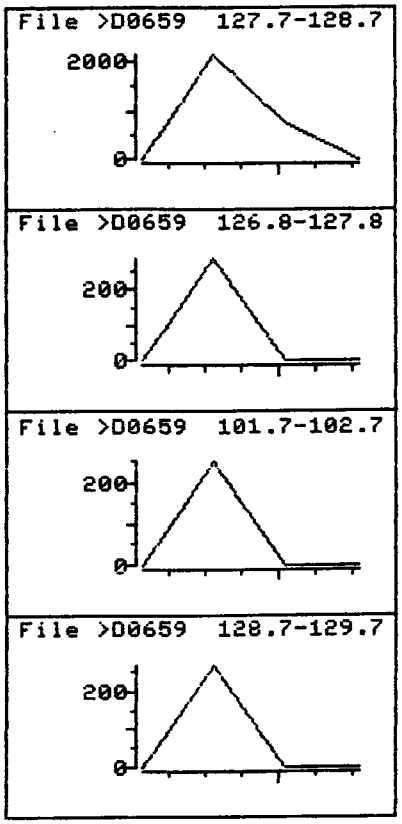


SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)





Data File: >D0659::B2 Quant Output File: ^D0659::GC
Name: W107325-02
Misc: DIVERSIFIED ENV JH-71;07/18/91;07/29/91 BTL# 1
Quant Time: 910806 11:29 Quant ID File: IDD625::B2
Injected at: 910806 10:52 Last Calibration: 910806 10:47

Compound No: 29
Compound Name: NAPHTHALENE
Scan Number: 485
Retention Time: 12.13 min.
Quant Ion: 128.0
Area: 3404
Concentration: 2.75 UG/L
q-value: 97

MS data file header from : >D0659

Sample: W107325-02 Operator: ED MS 8/06/91 10:52
Misc : DIVERSIFIED ENV JH-71;07/18/91;07/29/91 BTL# 1
Sys. #: 2 MS model: 70 SW/HW rev.: IA ALS # : 0
Method file: M_BNA Tuning file: MTBNAD No. of extra records: 2
Source temp.: 0 Analyzer temp.: 280 Transfer line temp. : 0

Chromatographic temperatures : 31. 300. 0. 0. 0.
Chromatographic times, min. : 4.0 10.0 0.0 0.0 0.0
Chromatographic rate, deg/min: 10.0 0.0 0.0 0.0 0.0

>D0659 W107325-02 DIVERSIFIED ENV JH-71;07/18/91;07/29/91

35.01 500.0 CLP ADC TIC
Upslope: .20 Area Reject: 9844. Max Peaks: 25 Bunching: 1
Dnslope: 0.00 Results File ID0659 Sorted by Area/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	10.81	414	418	421	118145	360720	341241	100.00	17.476
2	8.96	321	324	326	63088	170661	154438	45.26	7.909
3	10.16	383	385	389	37334	114288	97310	28.52	4.983
4	12.43	495	500	502	54458	103063	96784	28.36	4.957
5	9.39	344	346	349	36881	109216	94838	27.79	4.857
6	10.40	393	397	399	20362	101733	84853	24.87	4.346
7	9.89	368	371	373	25323	97901	83673	24.52	4.285
8	5.37	139	142	157	23987	122884	83661	24.52	4.284
9	10.28	389	391	393	31959	85910	74640	21.87	3.823
10	10.04	377	379	380	31091	83020	74512	21.84	3.816
11	9.49	349	351	355	18611	88991	71782	21.04	3.676
12	9.33	339	343	344	17850	83546	69128	20.26	3.540
13	11.05	427	430	431	19636	71946	60875	17.84	3.118
14	10.10	380	382	383	25023	68897	60408	17.70	3.094
15	11.11	431	433	435	21046	68702	57653	16.90	2.953
16	10.58	403	406	410	11096	76944	57371	16.81	2.938
17	10.89	421	422	427	13779	68843	52206	15.30	2.674
18	9.96	373	375	377	16652	62692	51338	15.04	2.629
19	9.69	359	361	365	18010	68003	50877	14.91	2.606
20	11.72	462	464	466	14701	53717	42837	12.55	2.194
21	11.86	469	471	474	18329	55976	42425	12.43	2.173
22	9.61	355	357	359	13699	52706	41244	12.09	2.112
23	11.64	458	460	462	13922	48272	37360	10.95	1.913
24	22.77	1021	1025	1027	11654	81766	36508	10.70	1.870
25	11.34	443	445	447	14451	45660	34684	10.16	1.776

Sum of corrected areas: 1952646.

Summary of Unknowns PBM Library Search and Quantitation

Standard	Concentration	Area	Retention Time	Unknown Window
1	40.0	98443.	9.06	2.60 - 10.58
2	40.0	125630.	12.09	10.58 - 14.26

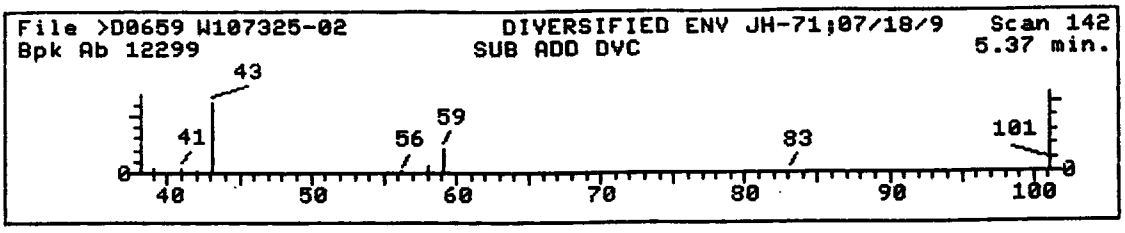
5	40.0	136574.	26.59	23.50 -	28.23
6	40.0	123966.	29.87	28.23 -	33.53

Rec Dil Factor (RDF) = .0010 Fractional Solids (FS) = .97
Dilution Factor (DF) = 990.00 Percent Solids (PS) = 96.50

Correction Factor = 1025.91 = 1 / (RDF * FS)

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

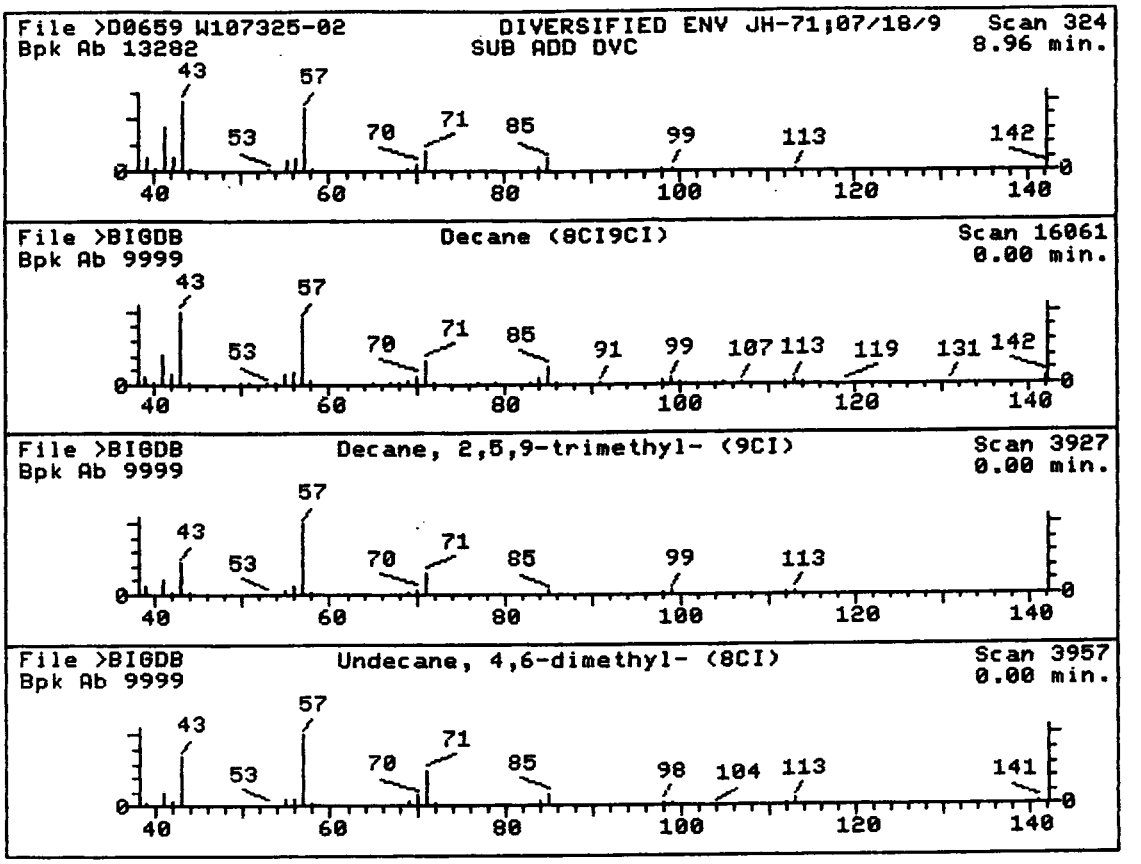
3:08 AM THU., 8 AUG., 1991



. Unknown #,1
Area = 83661.00 Tentative Concentration is 35000.00

Sample file: >D0659 Spectrum #: 142

No data base entries were retrieved.

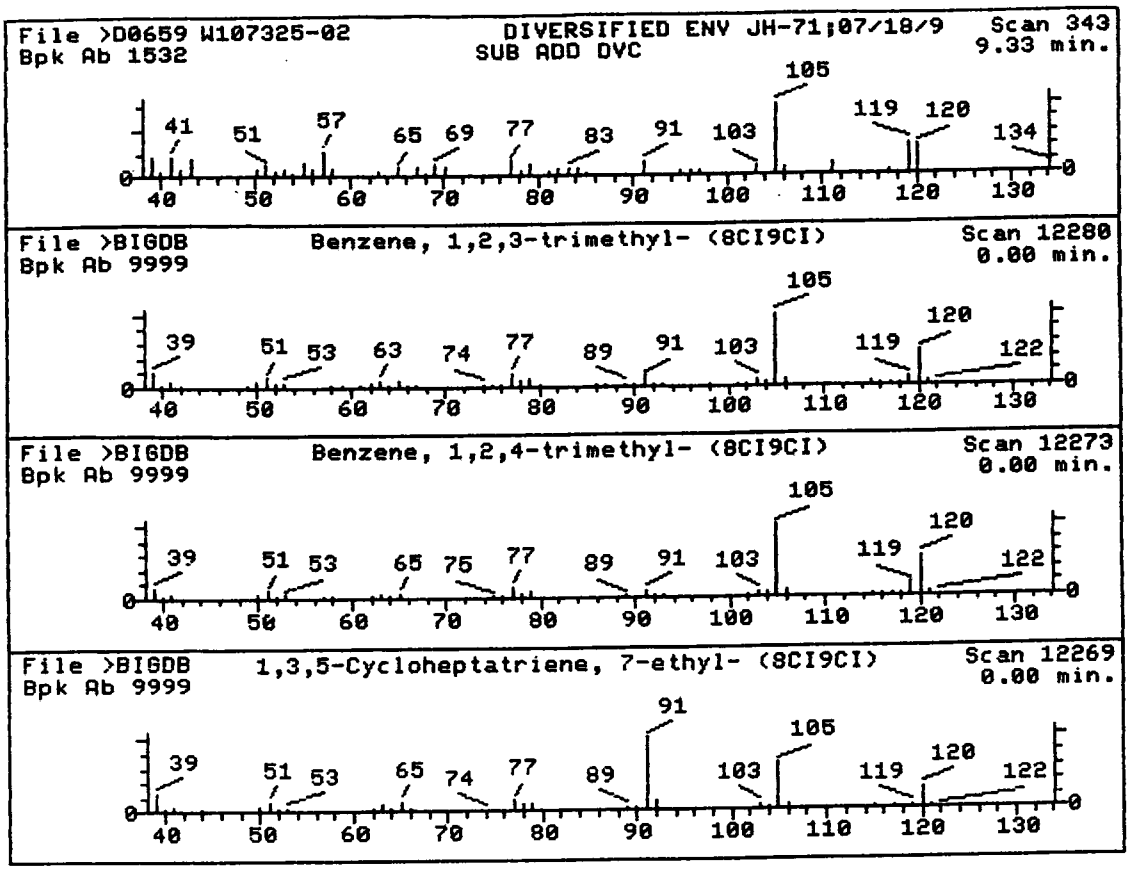


. Unknown #,2
Area = 154438.0 Tentative Concentration is 64000.00

1. Decane (8CI9CI)	142	C10H22
2. Decane, 2,5,9-trimethyl- (9CI)	184	C13H28
3. Undecane, 4,6-dimethyl- (8CI)	184	C13H28
4. Nonane, 2-methyl- (8CI9CI)	142	C10H22
5. Octane, 2,7-dimethyl- (8CI9CI)	142	C10H22
6. Octane, 2,4,6-trimethyl- (9CI)	156	C11H24
7. Octane, 4-ethyl- (8CI9CI)	142	C10H22

Sample file: >D0659 Spectrum #: 324
Search speed: 1 Tilting option: N No. of ion ranges searched: 52

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	86	124185	16061	"BIGDB	69	31	1	0	66	3	60	31
2.	79	62108229	3927	"BIGDB	53	38	0	0	84	10	48	31
3.	78	17312822	3957	"BIGDB	52	46	2	0	59	5	55	13
4.	78*	871830	8635	"BIGDB	50	46	3	0	100	5	55	18
5.	71*	1072168	8726	"BIGDB	54	41	2	0	79	12	38	34
6.	70	62016379	6004	"BIGDB	43	42	2	0	80	8	42	14
7.	67*	15869860	10847	"BIGDB	41	52	1	0	70	14	34	23

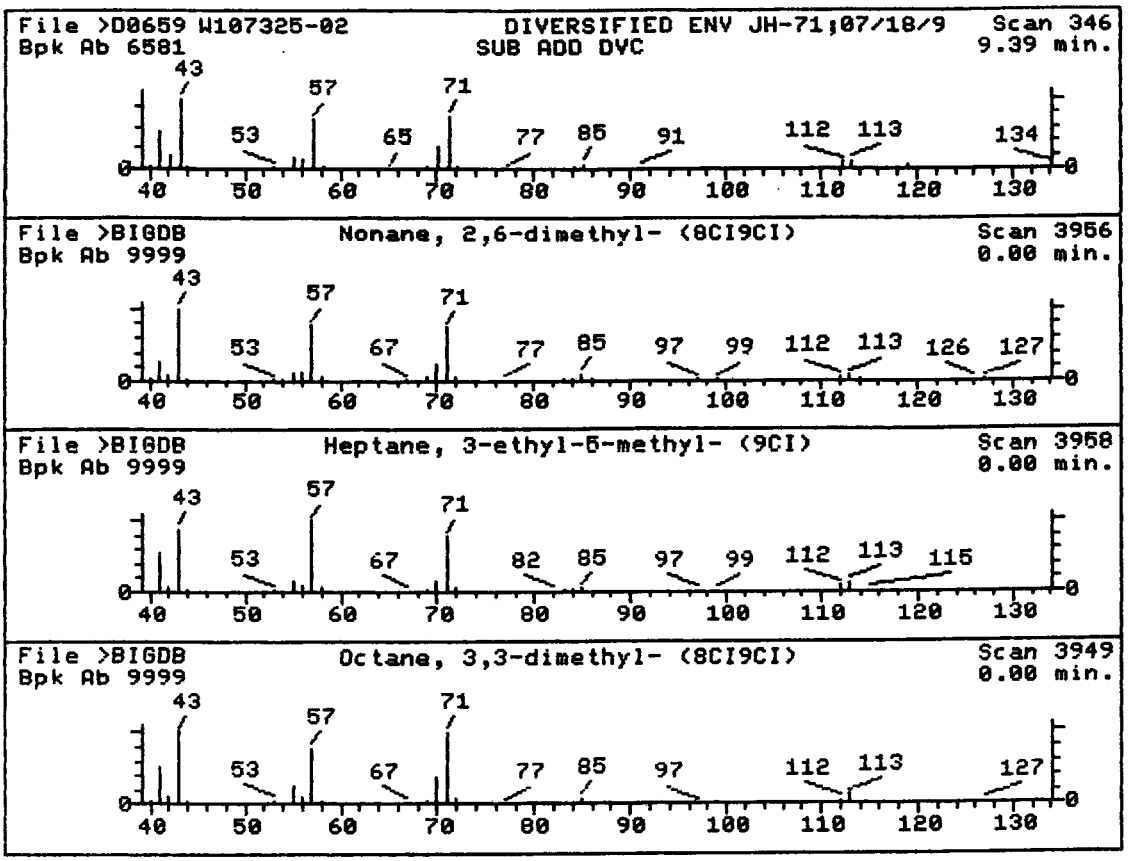


. Unknown #,3
Area = 69128.00 Tentative Concentration is 29000.00

1.	Benzene, 1,2,3-trimethyl- (8CI9CI)	120	C9H12
2.	Benzene, 1,2,4-trimethyl- (8CI9CI)	120	C9H12
3.	1,3,5-Cycloheptatriene, 7-ethyl- (8CI9CI)	120	C9H12
4.	Benzene, 1-ethyl-4-methyl- (9CI)	120	C9H12
5.	Benzene, 1-ethyl-3-methyl- (9CI)	120	C9H12
6.	Glycine, N-benzoyl-N-(2,2,3,3,3-pentafluoro-1-oxopropyl)-, methyl ester (9CI)	339	C13H10F5NO4
7.	Cyclohexane, 1,2,4-tris(methylene)- (8CI9CI)	120	C9H12

Sample file: >D0659 Spectrum #: 343
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	59*	526738	12280	"BIGDB	42	58	0	0	85	35	22	44
2.	36*	95636	12273	"BIGDB	27	68	0	0	72	35	12	19
3.	30*	17634514	12269	"BIGDB	46	55	3	0	140	35	12	13
4.	29*	622968	12268	"BIGDB	20	65	0	0	100	38	10	15
5.	29*	620144	12267	"BIGDB	20	67	0	0	100	37	10	15
6.	20	72347423	9861	"BIGDB	28	58	0	0	73	54	5	14
7.	20*	14296812	12290	"BIGDB	36	74	3	0	51	50	5	13

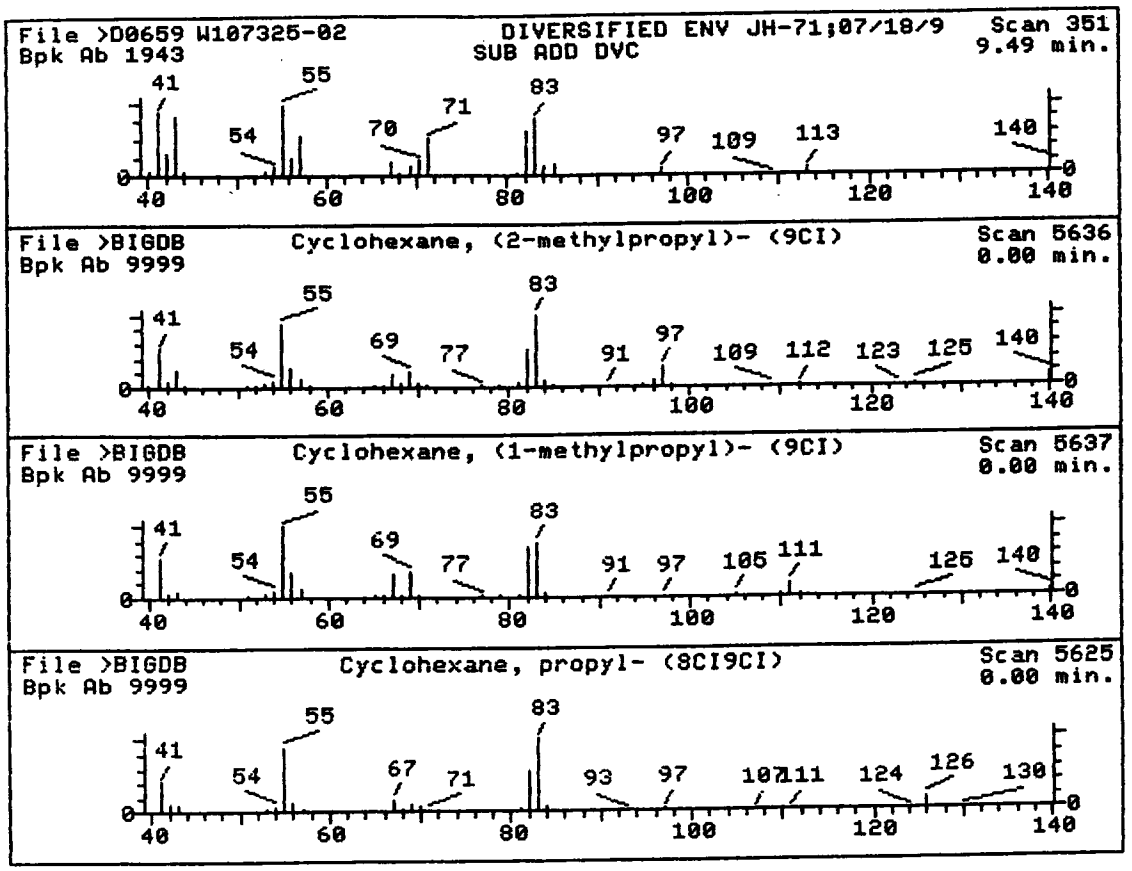


. Unknown #,4
Area = 94838.00 Tentative Concentration is 40000.00

1.	Nonane, 2,6-dimethyl- (8CI9CI)	156	C11H24
2.	Heptane, 3-ethyl-5-methyl- (9CI)	142	C10H22
3.	Octane, 3,3-dimethyl- (8CI9CI)	142	C10H22
4.	Octane, 2,3,6-trimethyl- (9CI)	156	C11H24
5.	Hexane, 3,3,4,4-tetramethyl- (8CI9CI)	142	C10H22
6.	Octane, 2,3,7-trimethyl- (9CI)	156	C11H24
7.	Octane, 3-ethyl- (8CI9CI)	142	C10H22

Sample file: >D0659 Spectrum #: 346
Search speed: 1 Tilting option: N No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	79	17302282	3956	"BIGDB	70	21	1	0	90	8	48	35
2.	67	52896909	3958	"BIGDB	63	31	2	0	95	11	34	22
3.	67	4110445	3949	"BIGDB	61	37	2	0	71	11	34	21
4.	60	62016335	3961	"BIGDB	56	36	2	0	70	11	30	19
5.	52	5171846	3950	"BIGDB	36	51	1	0	88	19	20	13
6.	52	62016346	3962	"BIGDB	51	42	2	0	70	18	20	16
7.	43	5881174	3951	"BIGDB	41	52	1	0	70	21	17	14

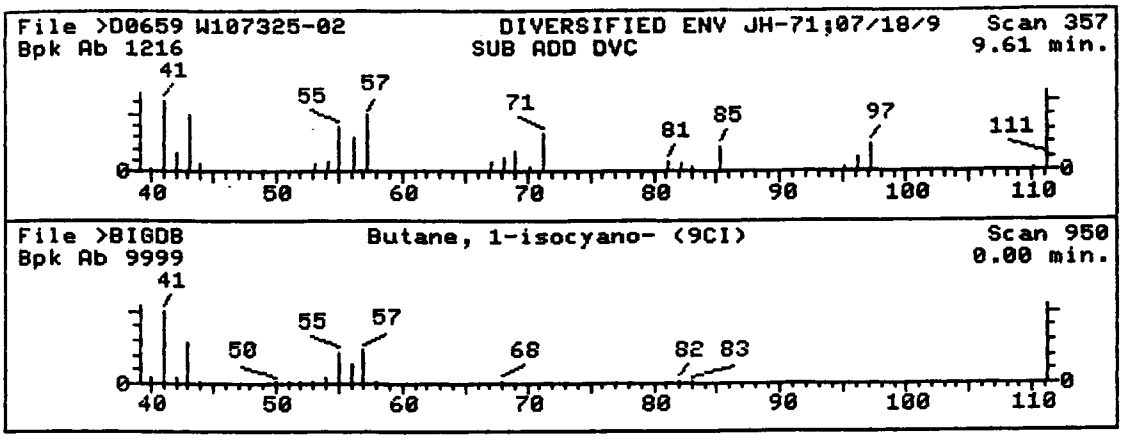


. Unknown #,5
Area = 71782.00 Tentative Concentration is 30000.00

1.	Cyclohexane, (2-methylpropyl)- (9CI)	140 C10H20
2.	Cyclohexane, (1-methylpropyl)- (9CI)	140 C10H20
3.	Cyclohexane, propyl- (8CI9CI)	126 C9H18
4.	Cyclohexanone, 3,3,5-trimethyl- (8CI9CI)	140 C9H16O
5.	Pyridine, 2,3,4,5-tetrahydro- (8CI9CI)	83 C5H9N
6.	2-Pentyn-1-ol (8CI9CI)	84 C5H8O
7.	1H-1,2,4-Triazole, 3-methyl- (9CI)	83 C3H5N3

Sample file: >D0659 Spectrum #: 351
Search speed: 1 Tilting option: N No. of ion ranges searched: 44

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	41*	1678984	5636	"BIGDB	53	50	2	0	80	36	14	28
2.	30*	7058017	5637	"BIGDB	30	71	3	0	88	34	12	13
3.	26	1678928	5625	"BIGDB	48	49	2	0	80	40	10	12
4.	25*	873949	5635	"BIGDB	35	67	3	0	80	44	8	13
5.	20*	505180	5562	"BIGDB	24	69	3	0	146	52	5	12
6.	20*	6261229	188	"BIGDB	22	100	3	0	100	52	5	12
7.	15*	7170016	5566	"BIGDB	24	31	1	0	73	58	3	14

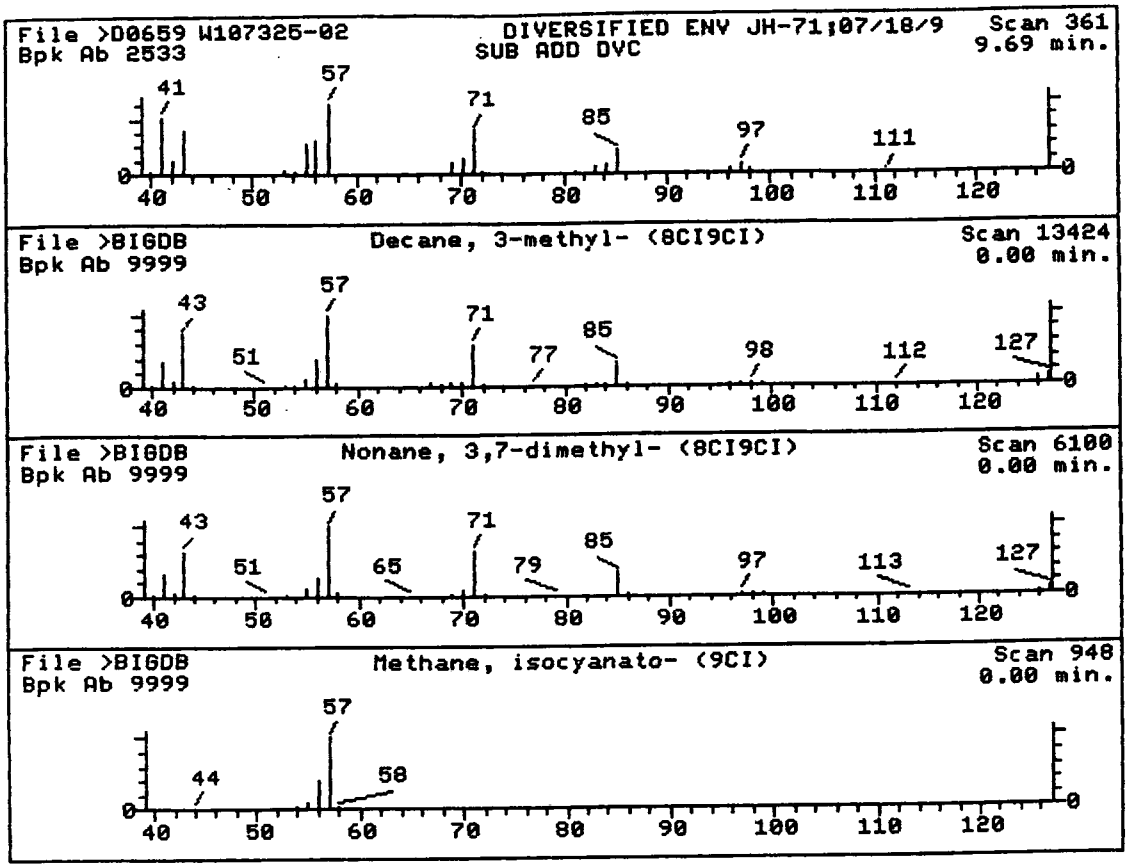


. Unknown #,6
Area = 41244.00 Tentative Concentration is 17000.00

1. Butane, 1-isocyano- (9CI) 83 C5H9N

Sample file: >D0659 Spectrum #: 357
Search speed: 1 Tilting option: N No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	2769644	950	"BIGDB	32	52	2	0	142	51	5	16

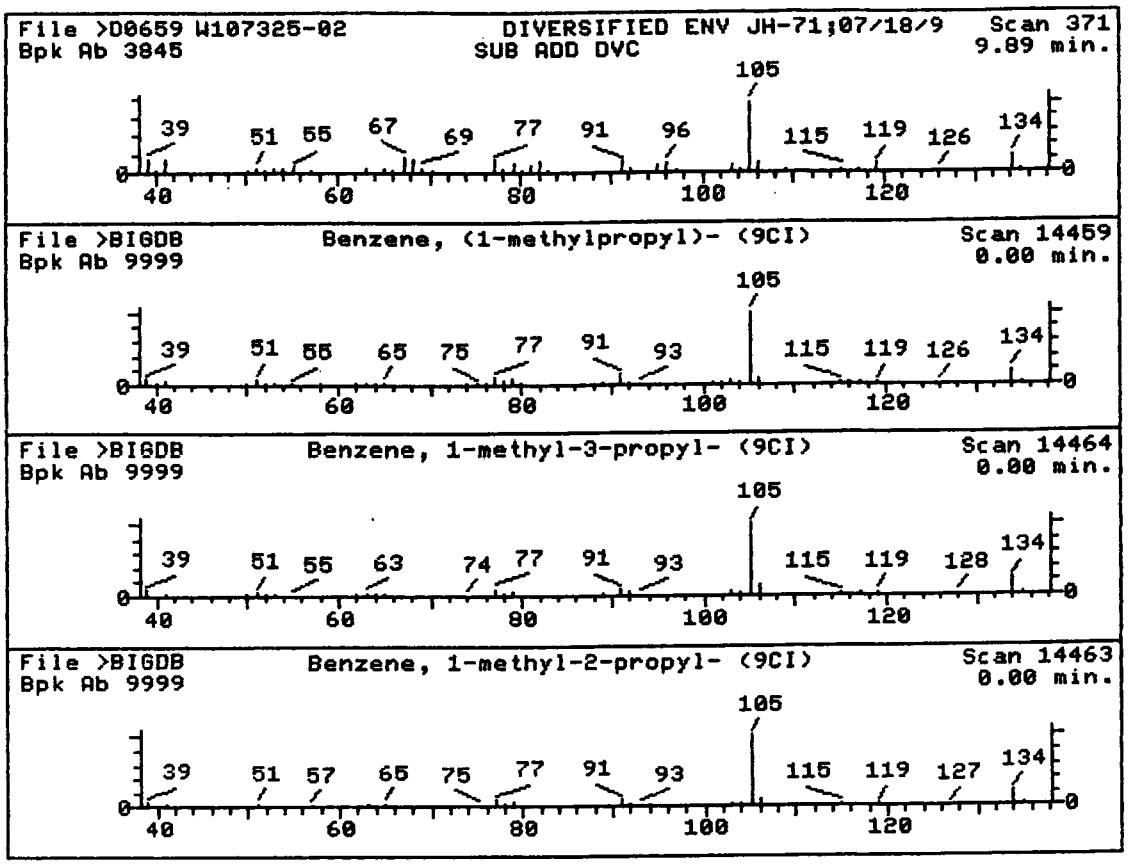


. Unknown #,7
Area = 50877.00 Tentative Concentration is 21000.00

1. Decane, 3-methyl- (8CI9CI)	156	C11H24
2. Nonane, 3,7-dimethyl- (8CI9CI)	156	C11H24
3. Methane, isocyanato- (9CI)	57	C2H3NO
4. Methylamine, N-(1-methylhexylidene)- (8CI)	127	C8H17N
5. 1-Hexene, 4-methyl- (8CI9CI)	98	C7H14
6. Aziridine, 2,2-dimethyl- (8CI9CI)	71	C4H9N
7. 1-Nonene (8CI9CI)	126	C9H18

Sample file: >D0659 Spectrum #: 361
Search speed: 1 Tilting option: N No. of ion ranges searched: 47

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	60	13151343	13424	"BIGDB	50	44	2	0	85	14	30	14
2.	42	17302328	6100	"BIGDB	40	46	2	0	96	23	17	13
3.	25*	624839	948	"BIGDB	22	42	1	0	100	50	7	14
4.	15*	22058715	3945	"BIGDB	26	47	2	0	48	56	3	14
5.	11*	3769231	1052	"BIGDB	29	64	2	0	81	62	2	14
6.	11*	2658244	973	"BIGDB	21	88	2	0	56	63	2	13
7.	11	124118	1101	"BIGDB	67	41	2	0	52	65	2	17

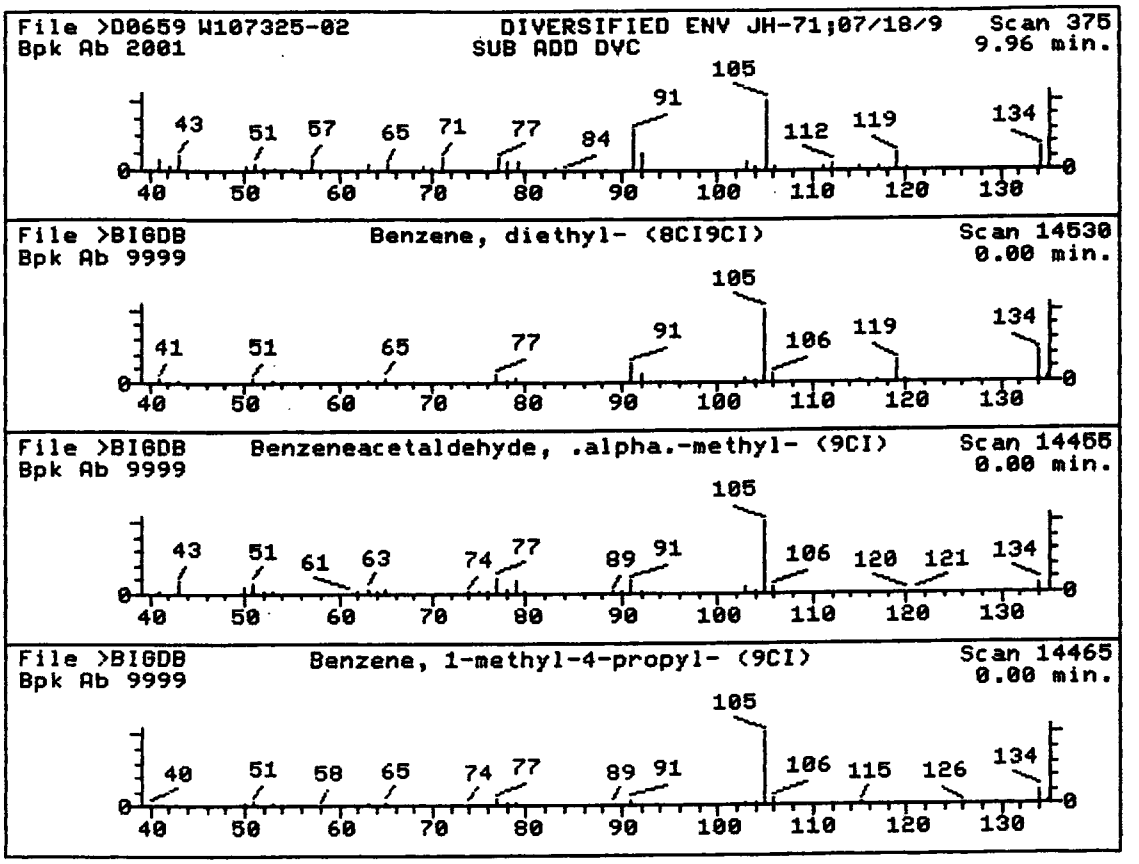


. Unknown #,8
Area = 83673.00 Tentative Concentration is 35000.00

1. Benzene, (1-methylpropyl)- (9CI)	134	C10H14
2. Benzene, 1-methyl-3-propyl- (9CI)	134	C10H14
3. Benzene, 1-methyl-2-propyl- (9CI)	134	C10H14
4. Benzeneacetaldehyde, .alpha.-methyl- (9CI)	134	C9H10O
5. Benzene, diethyl- (8CI9CI)	134	C10H14
6. Ethanone, 2-iodo-1-phenyl- (9CI)	246	C8H7IO

Sample file: >D0659 Spectrum #: 371
Search speed: 1 Tilting option: N No. of ion ranges searched: 42

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	71*	135988	14459	"BIGDB	57	29	0	0	100	30	29	69
2.	62*	1074437	14464	"BIGDB	54	33	1	0	98	28	25	49
3.	48*	1074175	14463	"BIGDB	47	38	1	0	100	32	20	32
4.	42*	93538	14455	"BIGDB	51	43	2	0	82	37	17	31
5.	20*	25340174	14530	"BIGDB	30	50	1	0	45	55	5	16
6.	20	4636162	9848	"BIGDB	26	17	0	0	67	54	5	13

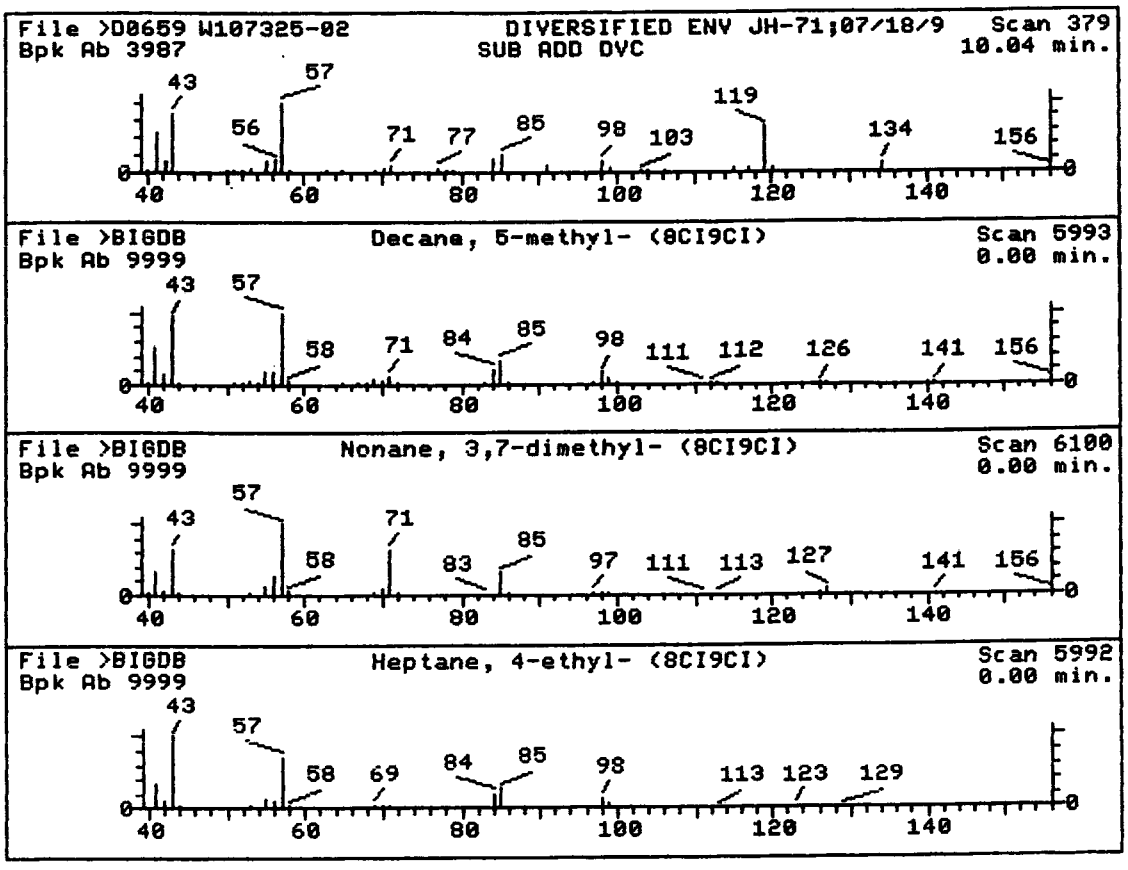


. Unknown #,9
Area = 51338.00 Tentative Concentration is 21000.00

1.	Benzene, diethyl- (8CI9CI)	134	C10H14
2.	Benzeneacetaldehyde, .alpha.-methyl- (9CI)	134	C9H10O
3.	Benzene, 1-methyl-4-propyl- (9CI)	134	C10H14
4.	Benzene, 1-methyl-2-propyl- (9CI)	134	C10H14
5.	Bicyclo[3.2.2]nona-6,8-dien-3-one (8CI9CI)	134	C9H10O
6.	1,4-Cyclohexadiene, 3-ethenyl-1,2-dimethyl- (9CI)	134	C10H14
7.	Bicyclo[3.2.1]oct-2-ene, 3-methyl-4-methylene- (9CI)	134	C10H14

Sample file: >D0659 Spectrum #: 375
Search speed: 1 Tilting option: N No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	65*	25340174	14530	"BIGDB	48	47	0	0	75	35	24	57
2.	25*	93538	14455	"BIGDB	40	54	2	0	69	50	7	19
3.	25*	1074551	14465	"BIGDB	20	63	2	0	100	43	8	13
4.	25*	1074175	14463	"BIGDB	20	65	2	0	100	43	8	13
5.	11*	26788910	14473	"BIGDB	39	47	3	0	59	64	2	16
6.	11*	62338572	12184	"BIGDB	39	70	3	0	72	65	2	13
7.	11*	49826531	14535	"BIGDB	27	82	3	0	59	62	2	13

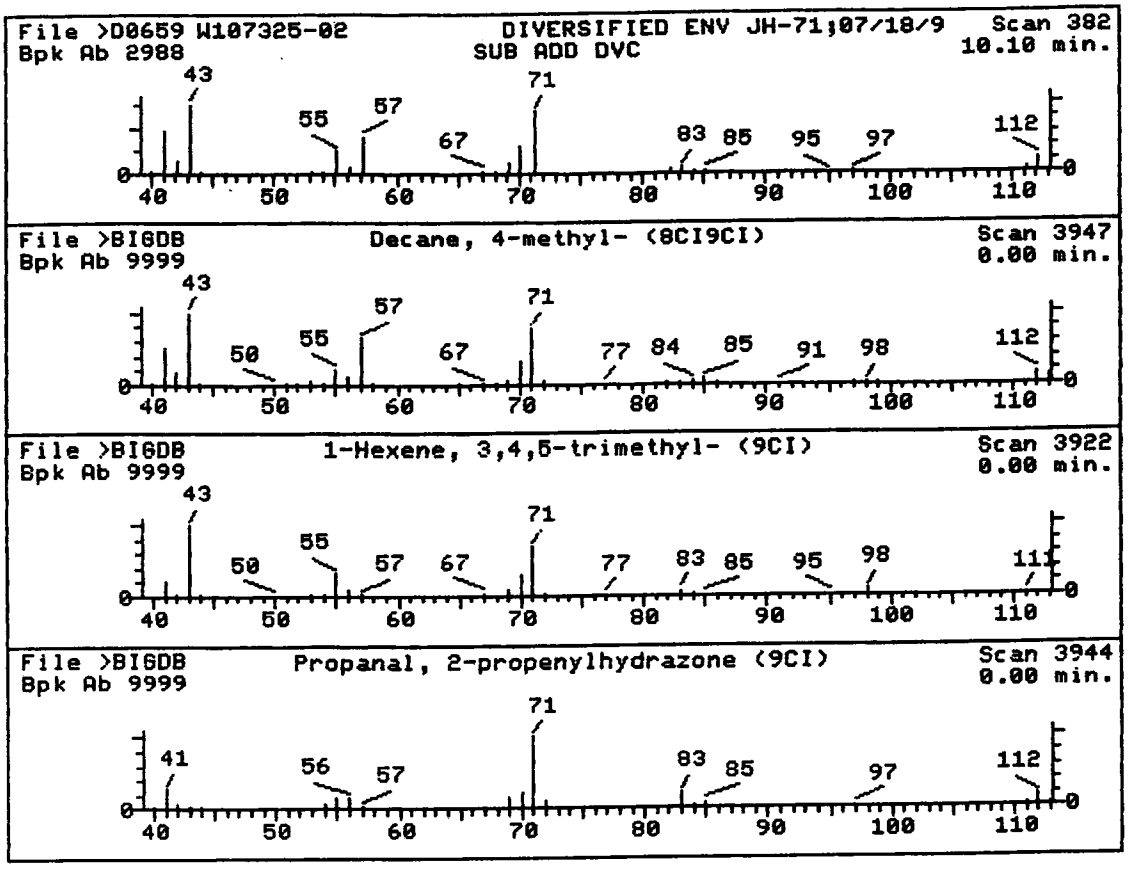


. Unknown #,10
Area = 74512.00 Tentative Concentration is 31000.00

1.	Decane, 5-methyl- (8CI9CI)	156	C11H24
2.	Nonane, 3,7-dimethyl- (8CI9CI)	156	C11H24
3.	Heptane, 4-ethyl- (8CI9CI)	128	C9H20
4.	Octane, 2,4,6-trimethyl- (9CI)	156	C11H24
5.	Nonane, 4,5-dimethyl- (8CI9CI)	156	C11H24
6.	Butane, 2,2,3-trimethyl- (8CI9CI)	100	C7H16
7.	Hexane, 2,4-dimethyl- (8CI9CI)	114	C8H18

Sample file: >D0659 Spectrum #: 379
Search speed: 1 Tilting option: N No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	13151354	5993	"BIGDB	70	29	0	0	77	25	47	89
2.	30*	17302328	6100	"BIGDB	32	54	2	0	69	40	10	16
3.	28	2216322	5992	"BIGDB	51	41	0	0	85	52	8	30
4.	25	62016379	6004	"BIGDB	35	50	1	0	88	42	8	13
5.	25*	17302237	6099	"BIGDB	31	74	2	0	60	49	7	14
6.	20	464062	5908	"BIGDB	35	49	1	0	87	52	5	13
7.	15	589435	5910	"BIGDB	37	61	0	0	56	58	3	16

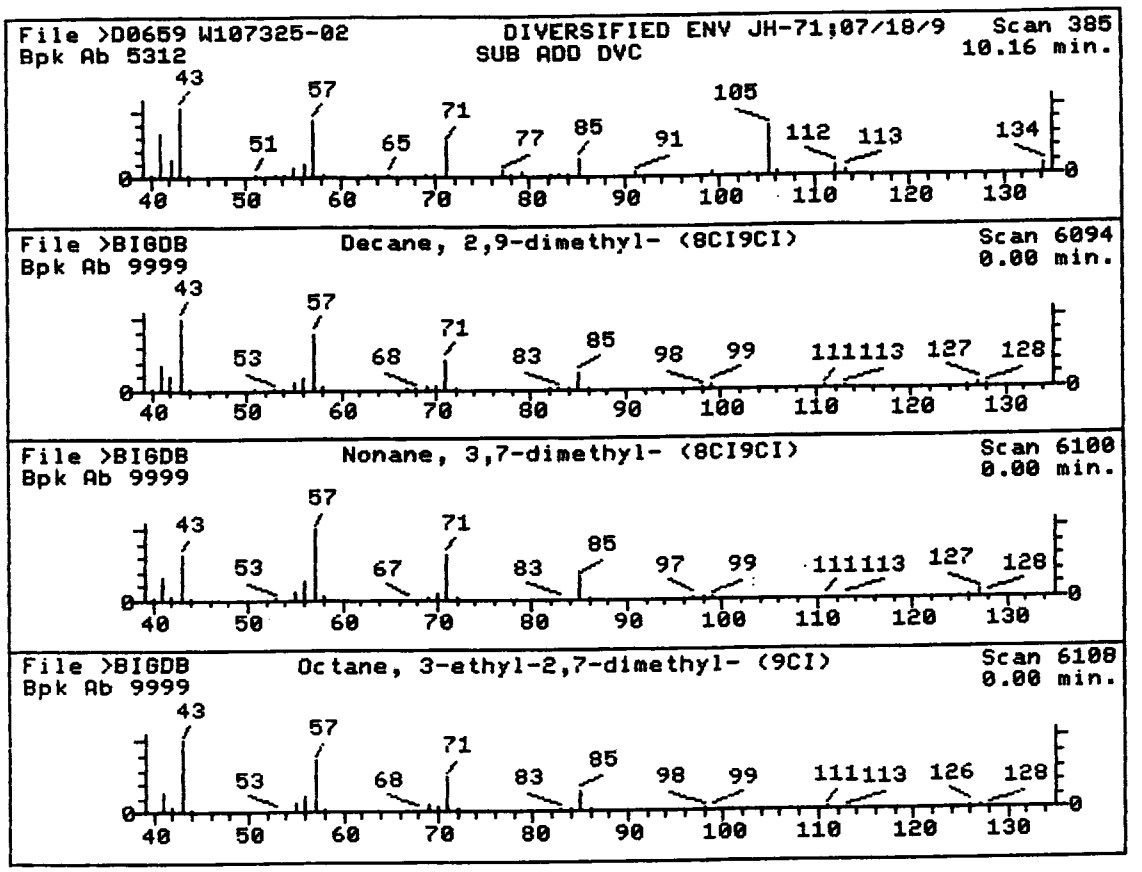


. Unknown #,11
Area = 60408.00 Tentative Concentration is 25000.00

1. Decane, 4-methyl- (8CI9CI)	156	C11H24
2. 1-Hexene, 3,4,5-trimethyl- (9CI)	126	C9H18
3. Propanal, 2-propenylhydrazone (9CI)	112	C6H12N2
4. 1-Heptene, 5-methyl- (8CI9CI)	112	C8H16
5. 1-Hexene, 4,5-dimethyl- (8CI9CI)	112	C8H16
6. 1,3-Butadien-1-ol, acetate (8CI9CI)	112	C6H8O2
7. Pyrrolidine (DOT)(8CI9CI)	71	C4H9N

Sample file: >D0659 Spectrum #: 382
Search speed: 1 Tilting option: N No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	52	2847725	3947	"BIGDB	56	45	2	0	83	19	20	14
2.	48	56728100	3922	"BIGDB	59	26	2	0	100	25	17	19
3.	31*	19031788	3944	"BIGDB	26	73	2	0	69	34	12	14
4.	17*	13151047	3547	"BIGDB	40	43	0	0	37	62	4	50
5.	11*	16106595	3874	"BIGDB	33	54	1	0	92	63	2	18
6.	11*	1515760	10774	"BIGDB	27	53	3	0	116	65	2	13
7.	11*	123751	3498	"BIGDB	20	68	2	0	74	65	2	13

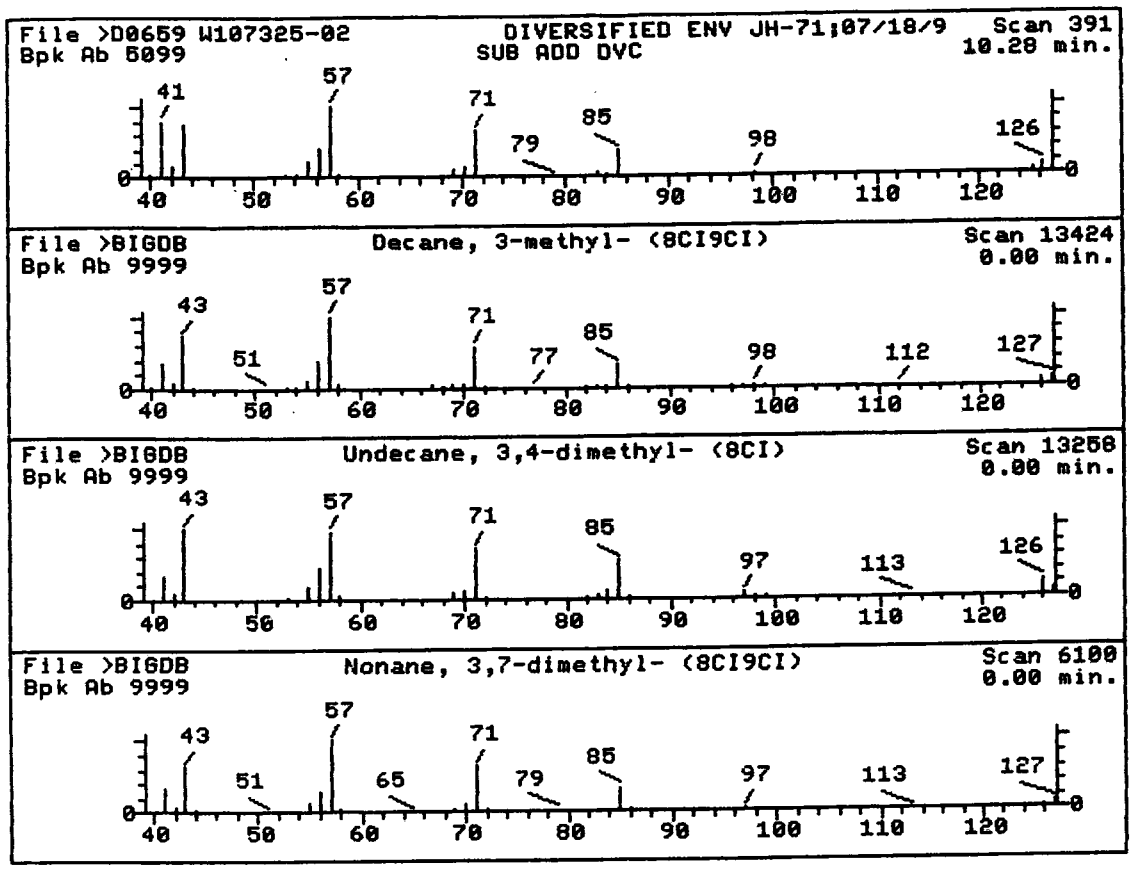


. Unknown #,12
Area = 97310.00 Tentative Concentration is 41000.00

1. Decane, 2,9-dimethyl- (8CI9CI)	170	C12H26
2. Nonane, 3,7-dimethyl- (8CI9CI)	156	C11H24
3. Octane, 3-ethyl-2,7-dimethyl- (9CI)	170	C12H26
4. Octane, 3,6-dimethyl- (8CI9CI)	142	C10H22
5. Butane, 2,2-dimethyl- (8CI9CI)	86	C6H14
6. Decane, 2,4-dimethyl- (8CI9CI)	170	C12H26
7. Octane, 3-ethyl- (8CI9CI)	142	C10H22

Sample file: >D0659 Spectrum #: 385
Search speed: 1 Tilting option: N No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	42	1002171	6094	"BIGDB	55	37	2	0	100	28	14	19
2.	37	17302328	6100	"BIGDB	41	45	2	0	70	30	14	14
3.	35	62183555	6108	"BIGDB	42	49	2	0	93	30	14	12
4.	30	15869940	11043	"BIGDB	42	47	2	0	82	35	12	13
5.	29	75832	3877	"BIGDB	45	47	1	0	67	40	10	15
6.	29	2801845	6054	"BIGDB	39	48	2	0	86	34	12	12
7.	26	5881174	3951	"BIGDB	45	48	2	0	66	39	10	12

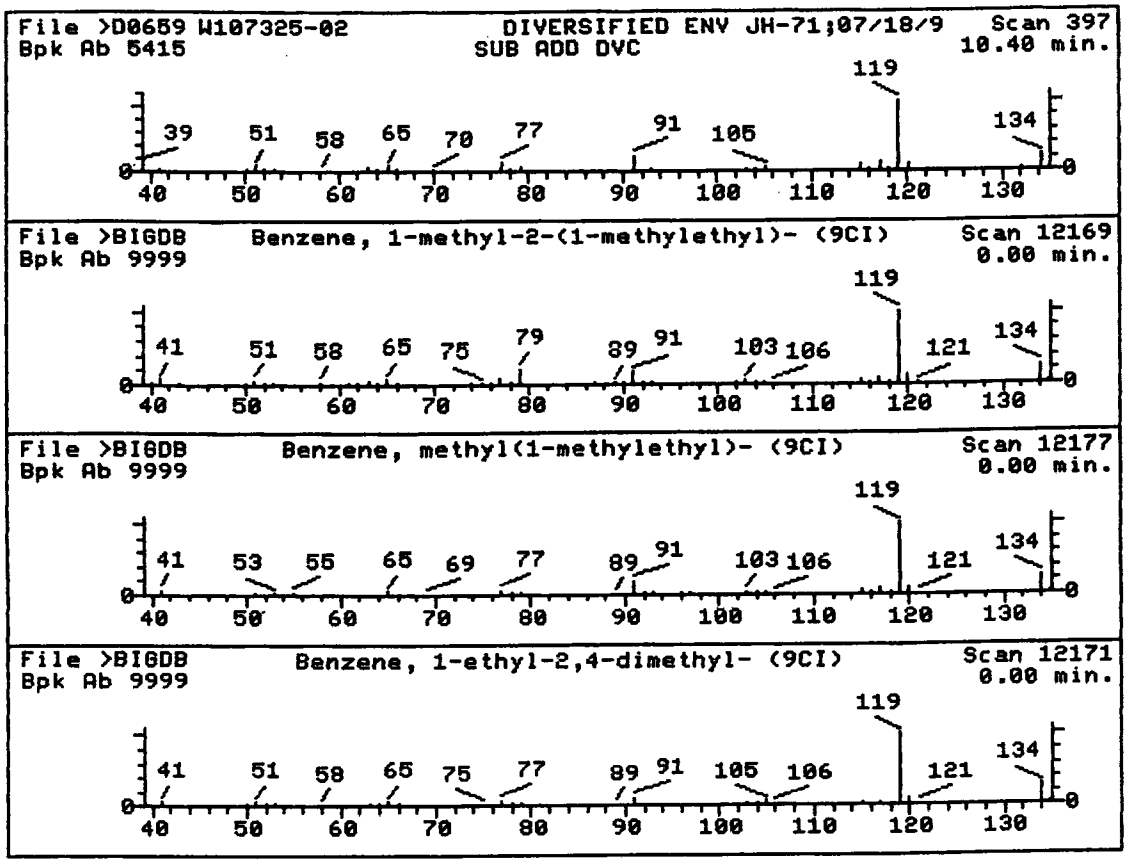


. Unknown #,13
Area = 74640.00 Tentative Concentration is 31000.00

1. Decane, 3-methyl- (8CI9CI)	156	C11H24
2. Undecane, 3,4-dimethyl- (8CI)	184	C13H28
3. Nonane, 3,7-dimethyl- (8CI9CI)	156	C11H24
4. Octane, 2,3,7-trimethyl- (9CI)	156	C11H24
5. Pentane, 2,2-dimethyl- (8CI9CI)	100	C7H16
6. Butane, 1-chloro-2-methyl- (8CI9CI)	106	C5H11Cl
7. Methane, isocyanato- (9CI)	57	C2H3NO

Sample file: >D0659 Spectrum #: 391
Search speed: 1 Tilting option: N No. of ion ranges searched: 46

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83	13151343	13424	"BIGDB	62	32	2	0	100	4	57	22
2.	52	17312786	13258	"BIGDB	65	51	2	0	63	20	20	14
3.	52	17302328	6100	"BIGDB	45	41	2	0	100	17	20	15
4.	32	62016346	3962	"BIGDB	50	43	2	0	84	33	12	15
5.	29	590352	5912	"BIGDB	42	42	1	0	95	37	10	15
6.	25	616137	1174	"BIGDB	42	47	2	0	100	42	8	13
7.	25*	624839	948	"BIGDB	26	38	0	0	90	46	7	18

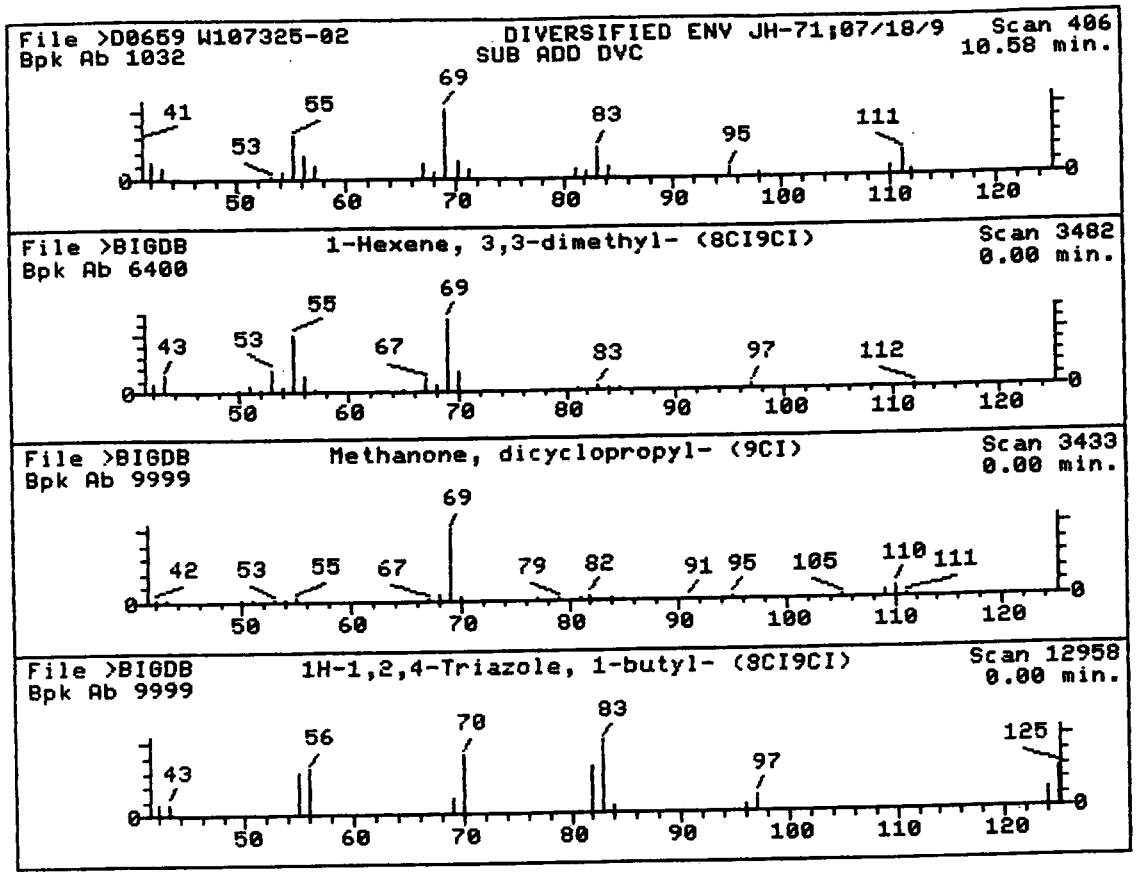


. Unknown #,14
Area = 84853.00 Tentative Concentration is 35000.00

1.	Benzene, 1-methyl-2-(1-methylethyl)- (9CI)	134	C10H14
2.	Benzene, methyl(1-methylethyl)- (9CI)	134	C10H14
3.	Benzene, 1-ethyl-2,4-dimethyl- (9CI)	134	C10H14
4.	Benzene, 2-ethyl-1,3-dimethyl- (9CI)	134	C10H14
5.	Benzene, 2-ethyl-1,4-dimethyl- (9CI)	134	C10H14
6.	Benzene, 1-methyl-3-(1-methylethyl)- (9CI)	134	C10H14
7.	Benzene, 4-ethyl-1,2-dimethyl- (9CI)	134	C10H14

Sample file: >D0659 Spectrum #: 397
Search speed: 1 Tilting option: N No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	87*	527844	12169	"BIGDB	59	33	2	0	93	5	63	44
2.	84*	25155151	12177	"BIGDB	68	22	2	0	86	8	55	60
3.	74*	874419	12171	"BIGDB	59	29	2	0	82	14	39	45
4.	74*	2870044	12174	"BIGDB	55	34	2	0	79	14	39	41
5.	74*	1758889	12181	"BIGDB	57	37	2	0	66	12	39	40
6.	71*	535773	12170	"BIGDB	50	39	2	0	87	12	38	31
7.	71*	934805	12173	"BIGDB	50	43	2	0	76	12	38	31

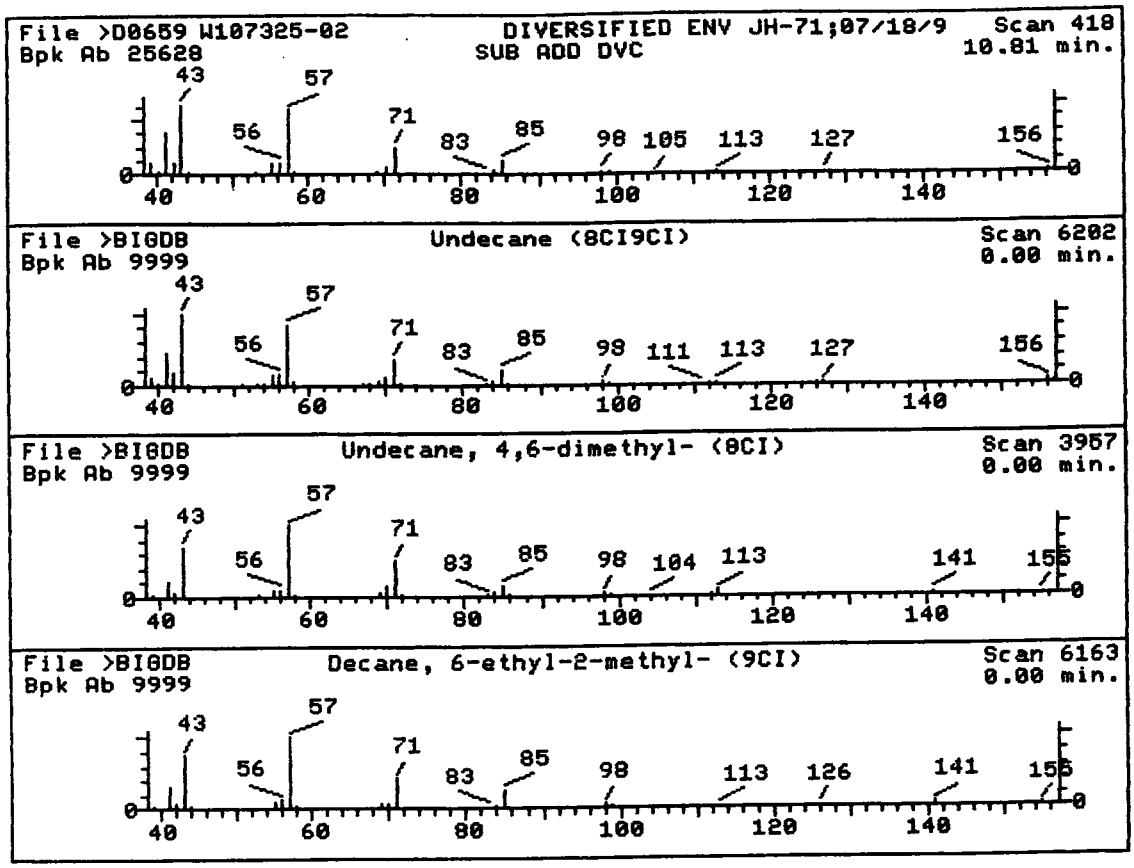


Unknown #,15
Area = 57371.00 Tentative Concentration is 19000.00

1. 1-Hexene, 3,3-dimethyl- (8CI9CI)	112	C8H16
2. Methanone, dicyclopropyl- (9CI)	110	C7H10O
3. 1H-1,2,4-Triazole, 1-butyl- (8CI9CI)	125	C6H11N3
4. 1-Pentene, 3,3-dimethyl- (8CI9CI)	98	C7H14
5. Cyclopentane, 1-ethyl-2-methyl-, cis- (8CI9CI)	112	C8H16

Sample file: >D0659 Spectrum #: 406
Search speed: 1 Tilting option: N No. of ion ranges searched: 45

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	25*	3404771	3482	"BIGDB	23	63	3	0	119	48	7	12
2.	20*	1121375	3433	"BIGDB	31	54	2	0	95	53	5	15
3.	20*	6086222	12958	"BIGDB	23	80	3	0	43	55	5	12
4.	15*	3404737	3428	"BIGDB	21	74	2	0	67	56	3	13
5.	15*	930892	5608	"BIGDB	65	35	2	0	43	61	3	44

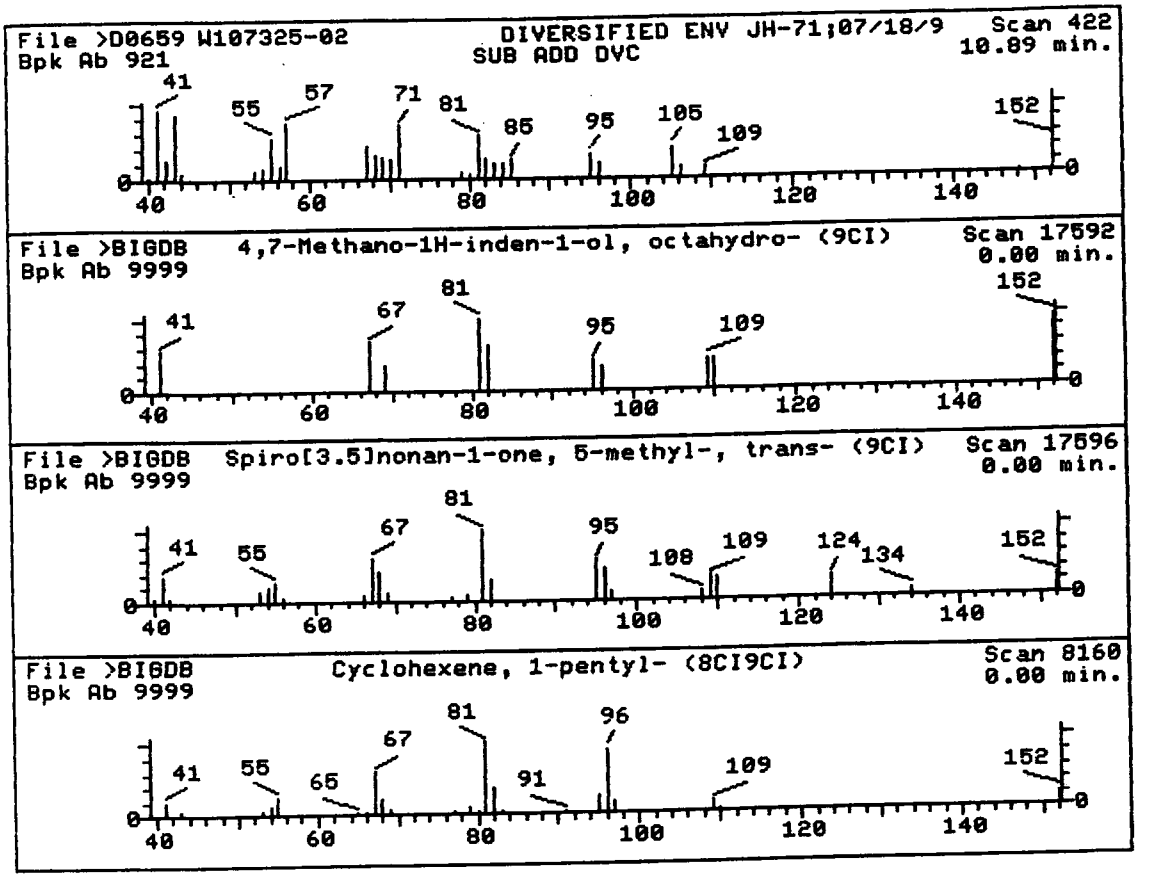


. Unknown #,16
Area = 341241.0 Tentative Concentration is 110000.0

1. Undecane (8CI9CI)	156	C11H24
2. Undecane, 4,6-dimethyl- (8CI)	184	C13H28
3. Decane, 6-ethyl-2-methyl- (9CI)	184	C13H28
4. Decane, 2,5,9-trimethyl- (9CI)	184	C13H28
5. Decane, 2,9-dimethyl- (8CI9CI)	170	C12H26
6. Decane, 2,6,8-trimethyl- (9CI)	184	C13H28
7. Octane, 3,5-dimethyl- (8CI9CI)	142	C10H22

Sample file: >D0659 Spectrum #: 418
Search speed: 1 Tilting option: N No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	96*	1120214	6202	"BIGDB	89	8	0	0	96	0	72	96
2.	70	17312822	3957	"BIGDB	58	40	2	0	72	10	42	17
3.	70	62108218	6163	"BIGDB	55	44	2	0	78	7	42	14
4.	67	62108229	3927	"BIGDB	48	43	0	0	83	14	34	27
5.	60	1002171	6094	"BIGDB	54	38	2	0	79	13	30	19
6.	60	62108263	3928	"BIGDB	46	46	2	0	92	11	30	13
7.	48	15869939	3611	"BIGDB	55	38	2	0	92	21	17	19

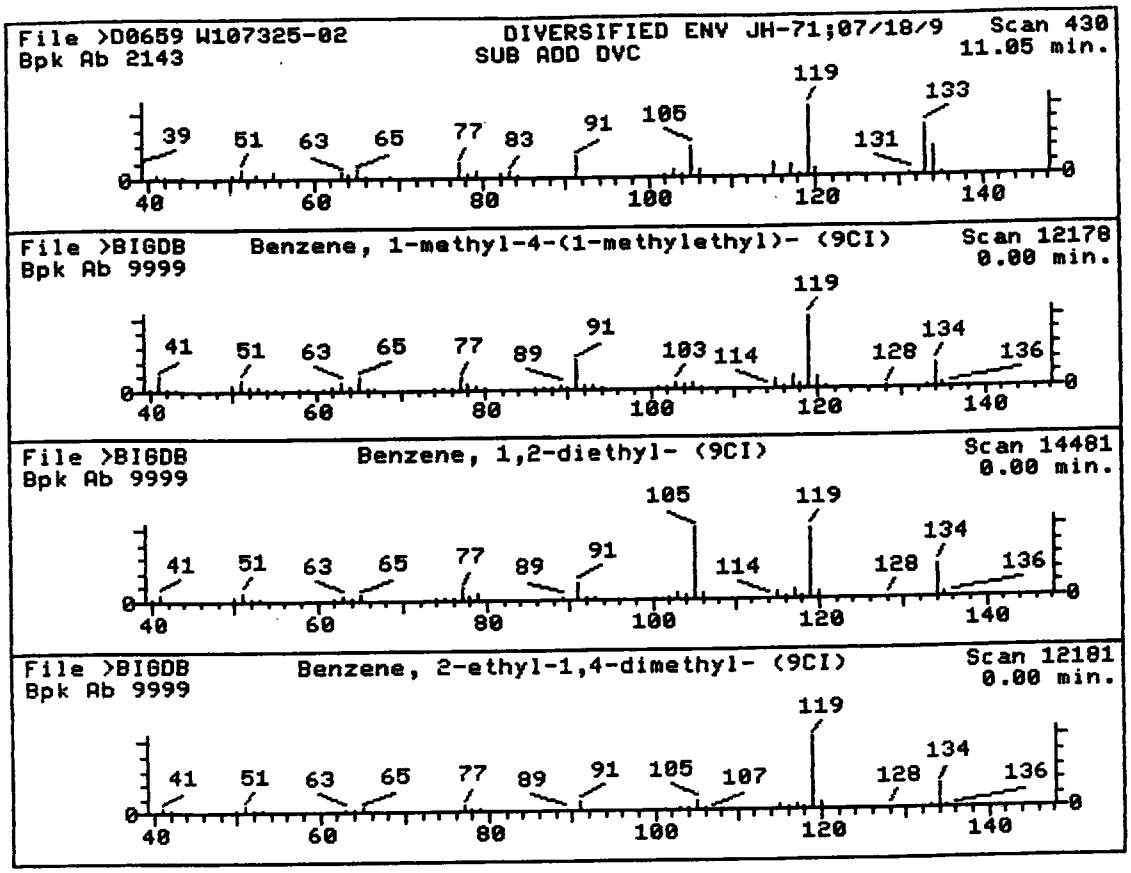


Unknown #,17
Area = 52206.00 Tentative Concentration is 17000.00

1. 4,7-Methano-1H-inden-1-ol, octahydro- (9CI)	152	C10H16O
2. Spiro[3.5]nonan-1-one, 5-methyl-, trans- (9CI)	152	C10H16O
3. Cyclohexene, 1-pentyl- (8CI9CI)	152	C11H20

Sample file: >D0659 Spectrum #: 422
Search speed: 1 Tilting option: N No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	11*	55255975	17592	"BIGDB	32	45	3	0	47	65	2	14
2.	11*	65147560	17596	"BIGDB	49	79	3	0	61	65	2	13
3.	11*	15232856	8160	"BIGDB	30	82	3	0	61	65	2	13

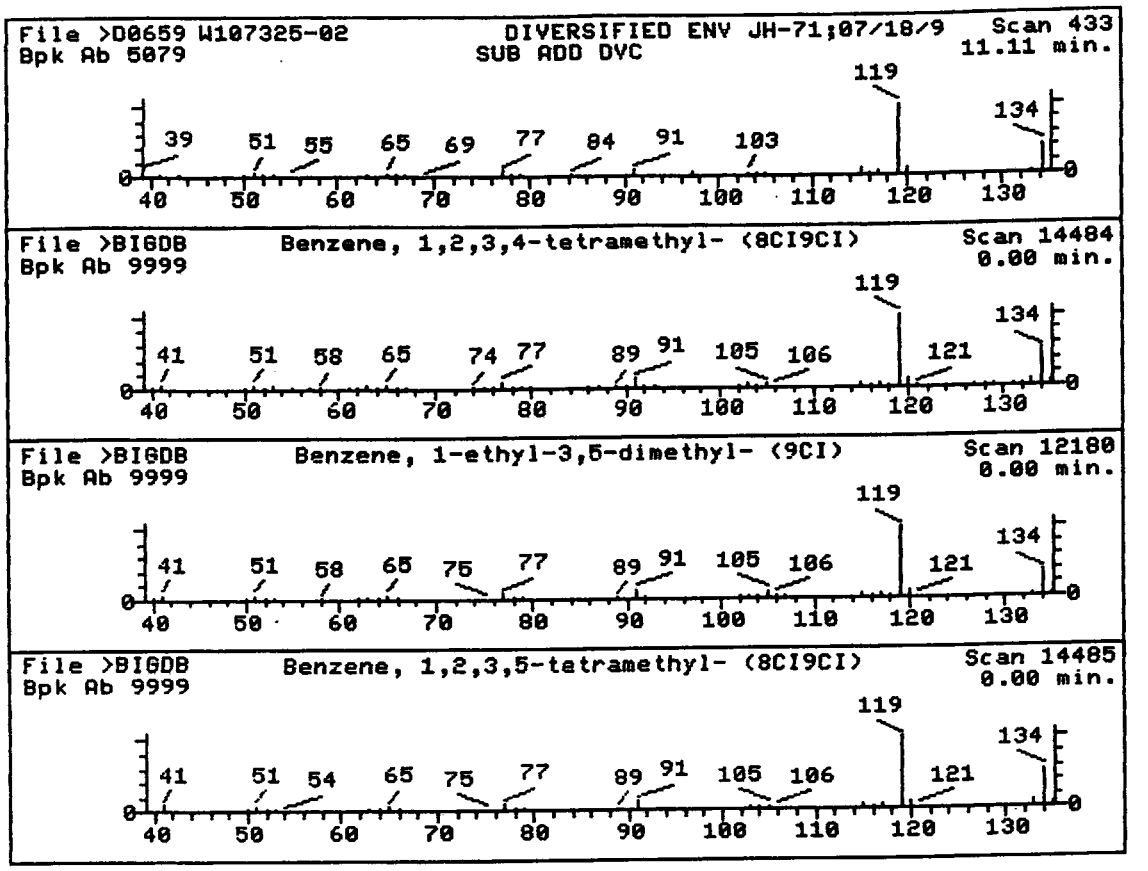


. Unknown #,18
Area = 60875.00 Tentative Concentration is 20000.00

1.	Benzene, 1-methyl-4-(1-methylethyl)- (9CI)	134 C10H14
2.	Benzene, 1,2-diethyl- (9CI)	134 C10H14
3.	Benzene, 2-ethyl-1,4-dimethyl- (9CI)	134 C10H14
4.	Benzene, 4-ethyl-1,2-dimethyl- (9CI)	134 C10H14
5.	Benzene, 1,4-diethyl- (9CI)	134 C10H14
6.	Benzene, 2-ethyl-1,3-dimethyl- (9CI)	134 C10H14
7.	Benzene, 1-ethyl-2,3-dimethyl- (9CI)	134 C10H14

Sample file: >D0659 Spectrum #: 430
Search speed: 1 Tilting option: N No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	47*	99876	12178	"BIGDB	63	42	2	0	68	42	16	41
2.	45*	135013	14481	"BIGDB	53	53	2	0	86	35	16	28
3.	37*	1758889	12181	"BIGDB	42	52	1	0	99	36	14	24
4.	33*	934805	12173	"BIGDB	35	58	1	0	100	38	10	19
5.	32*	105055	14480	"BIGDB	45	55	2	0	100	38	10	18
6.	31*	2870044	12174	"BIGDB	35	54	2	0	100	38	10	17
7.	31*	933982	12172	"BIGDB	35	56	2	0	100	38	10	17

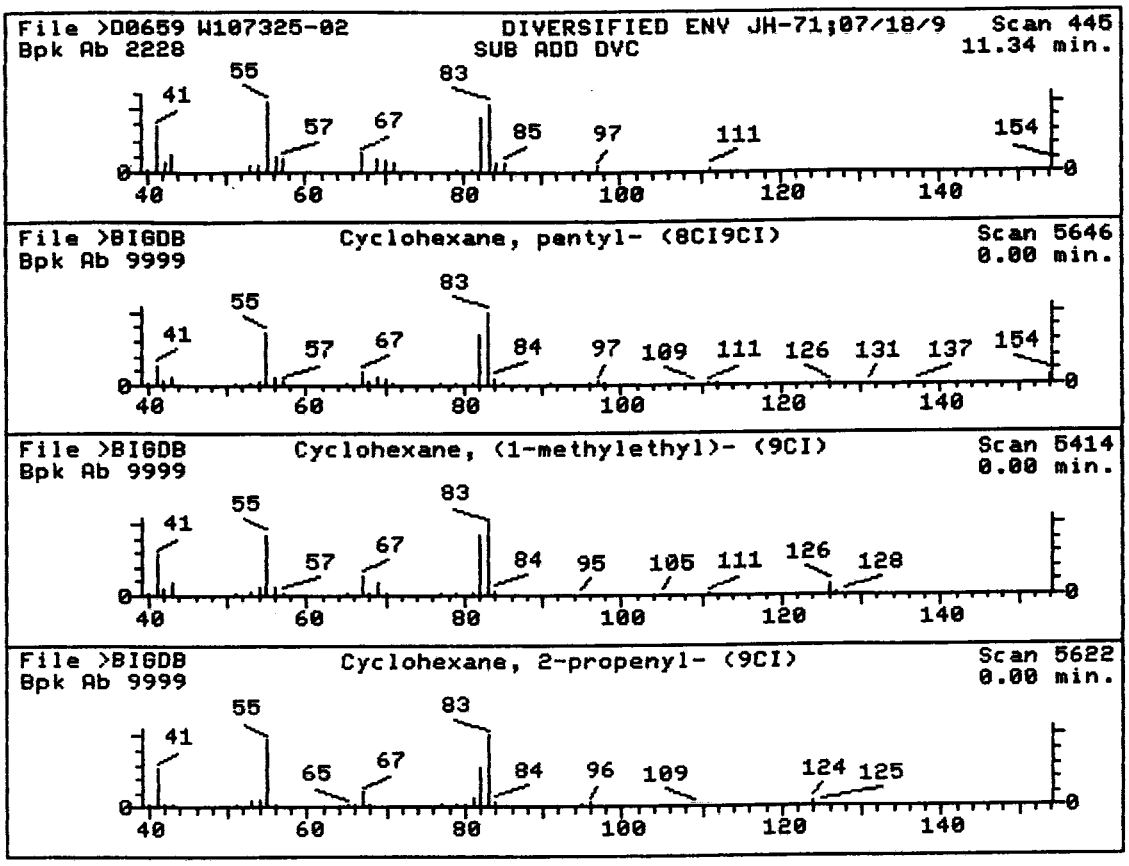


Unknown #,19
Area = 57653.00 Tentative Concentration is 19000.00

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

Sample file: >D0659 Spectrum #: 433
Search speed: 1 Tilting option: N No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89*	488233	14484	"BIGDB	75	19	2	0	70	0	66	66
2.	87*	934747	12180	"BIGDB	69	26	3	0	100	0	63	44
3.	87*	527537	14485	"BIGDB	63	30	2	0	77	0	63	49
4.	86*	934805	12173	"BIGDB	62	31	3	0	100	0	60	37
5.	86*	933982	12172	"BIGDB	57	34	3	0	100	1	60	30
6.	83*	105055	14480	"BIGDB	49	51	2	0	74	4	57	22
7.	78*	62338572	12184	"BIGDB	35	74	3	0	100	4	55	13

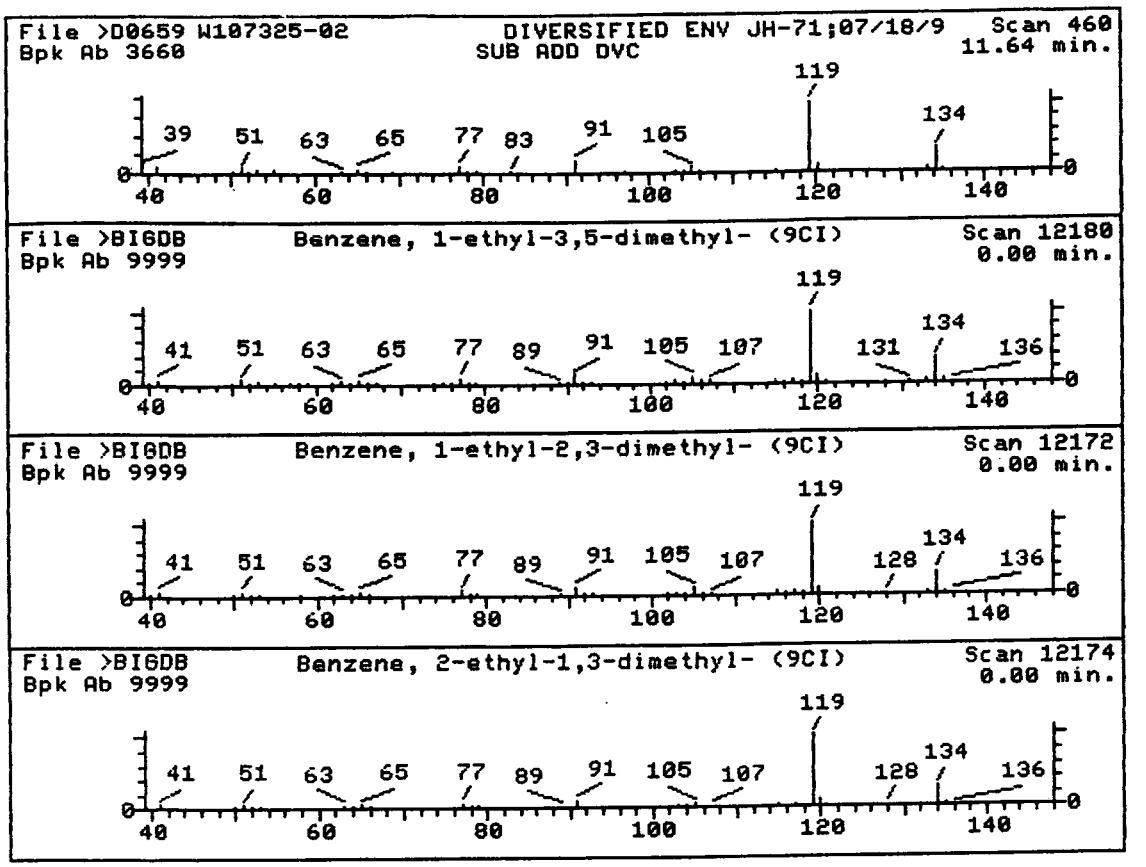


. Unknown #,20
Area = 34684.00 Tentative Concentration is 11000.00

1. Cyclohexane, pentyl- (8CI9CI)	154	C11H22
2. Cyclohexane, (1-methylethyl)- (9CI)	126	C9H18
3. Cyclohexane, 2-propenyl- (9CI)	124	C9H16
4. 1-Azabicyclo[3.1.0]hexane (8CI9CI)	83	C5H9N
5. Cyclohexanecarboxylic acid, ethenyl ester (9CI)	154	C9H14O2
6. 1H-1,2,4-Triazole, 3-propyl- (9CI)	111	C5H9N3
7. 1H-Imidazole, 1-methyl- (9CI)	82	C4H6N2

Sample file: >D0659 Spectrum #: 445
Search speed: 1 Tilting option: N No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	67*	4292926	5646	"BIGDB	43	52	2	0	97	15	34	21
2.	52	696297	5414	"BIGDB	64	39	2	0	89	19	20	19
3.	43	2114423	5622	"BIGDB	55	44	2	0	97	23	17	14
4.	36*	285767	5336	"BIGDB	26	53	3	0	150	30	14	13
5.	20*	4840760	5605	"BIGDB	33	50	2	0	97	54	5	16
6.	11*	19932606	5606	"BIGDB	25	57	2	0	97	63	2	14
7.	11*	616477	5316	"BIGDB	21	54	2	0	77	61	2	13

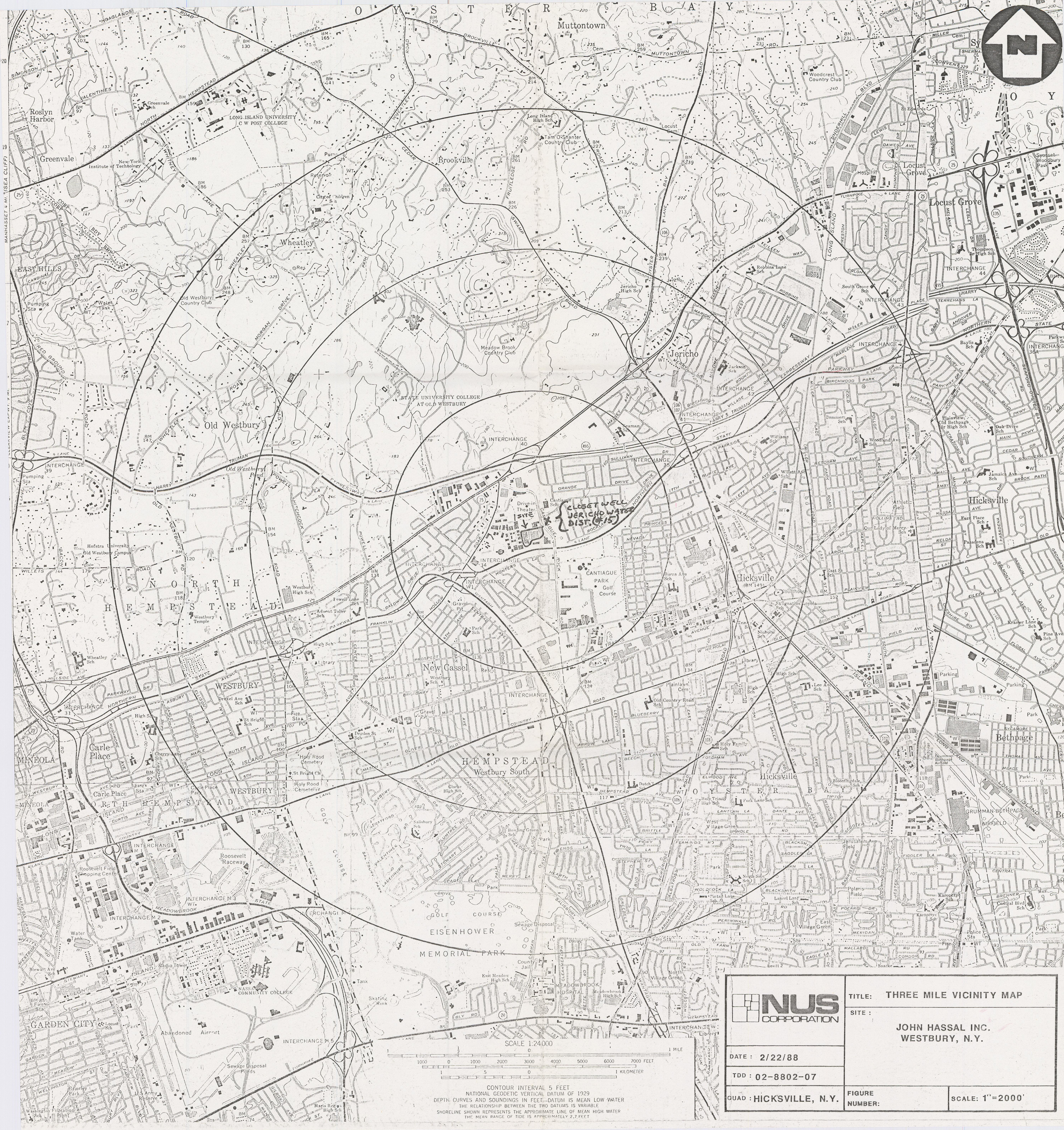


. Unknown #,21
Area = 37360.00 Tentative Concentration is 12000.00

1.	Benzene, 1-ethyl-3,5-dimethyl- (9CI)	134 C10H14
2.	Benzene, 1-ethyl-2,3-dimethyl- (9CI)	134 C10H14
3.	Benzene, 2-ethyl-1,3-dimethyl- (9CI)	134 C10H14
4.	Benzene, 1-ethyl-2,4-dimethyl- (9CI)	134 C10H14
5.	Benzene, 4-ethyl-1,2-dimethyl- (9CI)	134 C10H14
6.	Benzene, 1-methyl-3-(1-methylethyl)- (9CI)	134 C10H14
7.	Benzene, 1,2,3,4-tetramethyl- (8CI9CI)	134 C10H14

Sample file: >D0659 Spectrum #: 460
Search speed: 1 Tilting option: N No. of ion ranges searched: 43

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	87*	934747	12180	"BIGDB	60	35	2	0	95	1	63	43
2.	87*	933982	12172	"BIGDB	57	34	2	0	80	5	63	43
3.	86*	2870044	12174	"BIGDB	51	38	2	0	95	5	60	33
4.	86*	874419	12171	"BIGDB	50	38	2	0	95	5	60	31
5.	86*	934805	12173	"BIGDB	52	41	2	0	92	5	60	34
6.	71*	535773	12170	"BIGDB	49	40	2	0	91	13	38	30
7.	70*	488233	14484	"BIGDB	41	53	2	0	69	10	42	19



NUS CORPORATION

TITLE: THREE MILE VICINITY MAP

SITE: JOHN HASSAL INC. WESTBURY, N.Y.

DATE: 2/22/88

TDD: 02-8802-07

QUAD: HICKSVILLE, N.Y.

FIGURE NUMBER:

SCALE: 1"=2000'