RESULTS OF UNDERGROUND STORAGE TANK INVESTIGATION – AREA 2

Sunnyside Yard
Queens, New York

October 23, 1992

Prepared for:

National Railroad Passenger Corporation
Washington, D.C.

Prepared by:

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APPENDICES

1.0 INTRODUCTION

Roux Associates, Inc. (Roux Associates) was retained by the National Passenger Railroad Corporation (AMTRAK) to conduct a facility-wide Remedial Investigation/Feasibility Study (RI/FS) at the Sunnyside Yard, Queens, New York (Yard). During the RI, an apparent hydrocarbon release was detected in the subsurface at the receiving area (Area 2) to the west of the commissary building (Figure 1). Upon further investigation, an underground storage tank (UST) was discovered located between the Flammable Gas Storage and the Radio Shop Building (Figure 1). As a result, Roux Associates was retained by AMTRAK to prepare and implement a work plan to remove the UST. The New York State Department of Environmental Conservation (NYSDEC) accepted the Work Plan For The Removal Of The Underground Storage Tank Located At The Receiving Area (Area 2) Sunnyside Yard, Queens, New York (Work Plan) on October 10, 1991.

The area where the UST is located had been previously identified by Roux Associates as an area of concern (Area 2) in the February 27, 1990 Work Plan for the Remedial Investigation and Feasibility Study, Sunnyside Yard, Queens, New York. The Material Control or Receiving Area (Area 2) serves as the central receiving point for temporary storage and distribution of materials and supplies entering the Yard.

No construction details or inventory records were available for the UST. However, according to Yard personnel, the UST was most probably used for petroleum hydrocarbon (gasoline) storage, but may have subsequently been used for solvent storage from a once active paint shop operation.

2.0 PREVIOUS INVESTIGATION

During the RI field investigation, on November 5, 1990, a gasoline odor was detected and a photoionization detector (PID) reading of 240 parts per million (ppm) was detected in a soil sample collected from 2 to 4 feet (ft) below land surface (bls) in boring S-41 (Figure 1). Further investigation of the area located a UST approximately 10 ft from boring S-41. On November 7, 1990, a subsequent boring (S-41A) was completed adjacent to boring S-41 to collect a soil sample for volatile organic compound (VOC) analysis. VOCs were analyzed using United States Environmental Protection Agency (USEPA) Method 624, by Envirosystems Laboratory of Columbia, Maryland.

Several questions concerning compliance with method protocols were raised during validation of the data collected for the RI. However, VOCs in general, and specifically the samples discussed below were analyzed according to method protocols. A copy of the data validation report is included as Appendix F of the January 22, 1992 report titled "Phase I Remedial Investigation, Sunnyside Yard, Queens, New York." The geologic logs for soil borings S-41, S-41A, S-42, S-43, and S-44, drilled in Area 2 as part of the RI, are provided in Appendix A. The analytical data are provided in Appendix D.

In the soil sample collected from 3.5 to 5.5 ft bls in boring S-41A, on November 7, 1990 VOCs were detected in the following concentrations:

Constituent	Concentration
acetone	293 micrograms per kilogram (μg/kg)
xylenes (total)	137 μg/kg
ethylbenzene	67 μg/kg

A ground-water sample was also collected from the open borehole of S-41A on November 7, 1990. VOCs were detected in the following concentrations:

Constituent	Concentration
xylenes (total)	275 micrograms per liter (μg/L)
ethylbenzene	98 μg/L

A sample of the tank contents (water/product mixture) was collected on November 16, 1990. VOCs were detected in the following concentrations:

Constituent	Concentration
xylenes (total)	92,000 μg/L
ethylbenzene	24,400 μg/L
toluene	3,830 μg/L
2-butanone	3,660 μg/L

The concentrations of toluene, ethylbenzene and xylenes (constituents of gasoline) detected in the tank contents suggested that the UST contained hydrocarbons and water. The presence of 2-butanone detected in the tank contents indicated that solvents may have been stored in the tank at some time. The presence of hydrocarbon constituents and solvents detected in the soil and ground-water samples collected in close proximity to the UST suggested that the tank /or associated piping may have overflowed or leaked.

Due to the limited information available concerning the UST (i.e., no information regarding construction details including size, type, etc.), on November 16, 1990, Roux Associates used a Schonstedt Magnetic Locator and a steel rod advanced with a slide hammer in an attempt to determine the size of the UST located beneath a 3 ft by 8 ft concrete pad. Based upon a review of the data collected, it was estimated that the UST had approximately an 800-gallon capacity.

3.0 METHODS OF INVESTIGATION

Land, Air, Water Environmental Services, Inc., of Center Moriches, New York, performed the drilling services specified in the October 10, 1991 Work Plan, under the supervision of a Roux Associates Hydrogeologist.

A truck-mounted Model B-61 Mobile Drill Rig was used to advance 4-inch and 6-inch inside diameter hollow stem augers at borehole and monitoring well locations, respectively. Soil samples were collected using a 2-inch diameter split-barrel sampler.

To better define the extent and degree of potential contamination for excavation, stockpiling, and disposal purposes, three pre-excavation soil borings, S-96, S-97, and S-98 (Figure 1) were completed on October 30, 1991. The water table was encountered between 6 and 7 feet bls at all locations. Split-spoon samples were collected at 2-foot intervals continuously from land surface to approximately 12 feet bls at each location. Soil samples were collected, placed in 4-ounce amber colored jars and held in ice filled cooler. The soil samples were visually inspected for staining and then screened with a PID for VOCs. Geologic logs, including PID readings, are included in Appendix B. Based upon visual staining, PID readings, and location of the borings relative to the UST, three representative soil samples were selected from those collected from above the water table and submitted to the laboratory for VOC analysis by USEPA Method 8240. Sample S-97 (4 to 6 feet) was selected on the basis of low PID readings. Sample S-97 (6 to 8 feet) was selected on the basis of staining and high PID readings. Sample S-98 (4 to 6 feet) was selected on the basis of staining and intermediate PID readings. No sample was selected for analysis from soil boring S-96 due to the absence of staining and no PID readings above background. As proposed in the Work Plan, the analytical results from these samples were used to determine the extent and degree of contaminated soil to estimate the volume of soil to be stockpiled prior to disposal.

To characterize ground-water quality downgradient of the UST, Monitoring Well MW-41 was installed on October 30, 1991. The well is located approximately 30 feet northwest (hydraulically downgradient) of the UST (Figure 1).

The monitoring well was constructed with 10 feet of 4-inch diameter stainless steel, 10 slot (0.010 inch) well screen and 4-inch diameter PVC riser casing. The bottom of the well screen was set at 13.4 feet bls, approximately 7 feet below the water table. As requested by the NYSDEC, the borehole annulus around the well was filled with a Morie No. 0 gravel pack (instead of No. 1 as proposed in the Work Plan) to approximately 1.4 feet above the top of the well screen. A 1-foot layer of bentonite pellets was placed on top of the gravel pack and hydrated with potable water to form a seal against surface water infiltration. A flush mounted protective casing was placed around the well and cement grouted to grade. A locking cap was installed on the finished well.

The well was developed after installation using a centrifugal pump and intermittent surging for approximately 2 hours. No separate phase petroleum was observed and approximately 500 gallons of water were removed. The geologic and well construction logs for MW-41 are included in Appendix B and Appendix C, respectively.

On November 6, 1991, one week after development, a ground-water sample was collected from Monitoring Well MW-41 for VOC analysis by USEPA Method 624. The depth to water and the total depth of the well were measured and the column of standing water in the well was determined. Using a clean teflon™ bailer, a volume of water equivalent to three times the volume of standing water was purged from the well. After purging was completed, a ground-water sample was collected. A field blank was collected prior to sampling using laboratory-supplied distilled water to determine the efficacy of the decontamination procedures and a laboratory-supplied trip blank accompanied the sample bottles throughout shipment.

Soil and ground-water samples were placed in ice-filled coolers and shipped via Federal Express overnight delivery to Northeastern Analytical Corporation of Marlton, New Jersey for analysis. The samples were analyzed according to NYSDEC December, 1989 Analytical Services Protocol (ASP) procedures. Although ASP quality assurance/quality control (QA/QC) documentation (or data validation) was not required by the NYSDEC for this investigation, a modified category B ASP deliverables package has been provided for all soil and ground water analyses.

4.0 SOIL QUALITY

The soil sampling program was designed to characterize the degree and extent of contamination in the area of the UST to assist in determining soil stockpiling and disposal requirements.

The soil samples collected during this investigation were analyzed for VOCs including benzene, toluene, ethylbenzene, and xylenes (BTEX), as well as acetone and 2-butanone (MEK) using USEPA Method 8240 . Analytical results, Chain of Custody form and modified category B deliverables package for the soil samples collected on October 30, 1991 are included in Appendix E. The results of the analyses are presented below.

There were no VOCs detected in sample S-98 (4 to 6 feet). Methylene chloride, a common laboratory contaminant, was the only VOC detected in sample S-97 (4 to 6 feet). It was detected at a concentration of 2 μg/kg, which is below the method detection limit (MDL) and, therefore, qualified as estimated. Sample S-97 (6 to 8 feet) contained VOCs in the following concentrations:

Parameter	Concentration in μg/kg	NYSDEC Proposed Cleanup Level
xylenes (total)	249,000	1.2 ppm (1,200 μg/kg)
ethylbenzene	27,000J	5.5 ppm (5,500 μg/kg)
Chloroform	6,600J	*

Note: J - below the limits of reliable quantitation.
* - cleanup level not proposed by the NYSDEC

The only sample in which the NYSDEC proposed clean-up levels were exceeded, was boring S-97 (6 to 8 feet) and only total xylenes (249,000 μg/kg) and ethylbenzene (27,000 μg/kg) exceeded proposed clean-up levels of 5,500 μg/kg and 1,200 μg/kg respectively.

5.0 GROUND-WATER QUALITY

The ground-water sampling program was designed to characterize ground-water quality hydraulically downgradient from the UST area.

The ground-water sample, field blank and trip blank collected during this investigation were analyzed for VOCs including BTEX, acetone and MEK using USEPA Method 624. There were no VOCs detected in any of the aqueous samples. Analytical results, well sampling log, Chain of Custody form and modified category B deliverables package for the aqueous samples collected in November 6, 1991 are included in Appendix E.

6.0 UNDERGROUND STORAGE TANK ABANDONMENT

Land, Air, Water Environmental Services, Inc. of Center Moriches, New York performed the excavation services, under the supervision of a Roux Associates Hydrogeologist, and the disposal of all solid and liquid wastes generated during the performance of this project.

Liquid Removal

The first step of the abandonment process was the removal of the tank contents using a vacuum truck. A total 336 gallons of liquid was removed and manifested as gasoline/water/N.O.S (not otherwise specified). The liquid was then removed from the Site for proper disposal. The removal and disposal manifest is included in Appendix E.

UST Excavation

To access the UST, a 3-foot by 8-foot concrete pad located above the UST was removed and the soil beneath it excavated. The UST was found encased within a concrete vault covering all but the top 6 to 8 inches of the tank. Further excavation revealed that the vault extended under the concrete pad for Flammable Gas Storage to the east, and to within 4 feet of the Radio Shop Building to the west (Figure 1). After discussions between Roux Associates, Sunnyside Yard personnel, and the subcontractor concerning the risk of undermining adjacent structures by continuing the excavation, the following alternatives to the Work Plan were proposed to the NYSDEC Project Engineer, Mr. James Quinn, who was present at the Yard:

- due to the risks to the adjacent structures associated with attempting removal, the UST will be abandoned in place;
- all accessible associated piping will be removed where possible or filled with cement grout and capped in place;
- the UST will be opened and cleaned and all materials used or generated during the cleaning process will be containerized and disposed of properly;
- the UST will be backfilled with clean sand;
- all UST openings will be sealed with cement grout; and
- the area around the UST will be backfilled with clean sand and compacted in 1-foot lifts.

The NYSDEC Project Engineer concurred with the assessment of the situation and accepted the alternative procedures as described above.

The exposed section of the UST was opened and inspected. It was constructed of ¼-inch thick steel plate with no visible evidence of rust or corrosion. The tank and excavation were ventilated with a fresh air blower while the interior surface of the tank was cleaned. The bottom sludge and cleaning waste were drummed for disposal. The tank was then filled with clean sand and sealed with cement grout. All accessible piping was removed, where practical, or filled with grout and capped in place. The excavation was then backfilled with clean sand and compacted.

Excavation of Contaminated Soil

As proposed in the Work Plan, the soil surrounding the UST was to be excavated based upon a review of the analytical data from soil borings S-96, S-97, and S-98, PID screening results, and visual observations. However, attempts to excavate the soil around the tank to the water table (approximately 6.5 feet bls) were discontinued when a series of unmapped underground utilities, including a 10-inch water main encased within a concrete vault and several buried electrical cables, were encountered. PID readings of zero ppm indicated no VOCs had been encountered to this point. The water main was found to run diagonally through the area designated for excavation at a depth of approximately 3 feet bls, rather than parallel and adjacent to the track as indicated on engineering drawings of the Yard (Figure 1).

An excavation was then attempted closer to the Radio Shop Building, located between soil borings S-97 and S-98. At a depth of approximately 1.5 feet bls, several unmapped electrical cables, some encased in conduit, were uncovered. Since the source and energy level of these cables was unknown and could not be readily determined, the excavation was discontinued. PID readings of zero ppm indicated that no VOCs had been encountered in the soil to this point. Roux Associates and Yard personnel decided that it was unsafe and impractical to attempt further excavation. The NYSDEC Project Engineer concurred with this assessment and the excavations were backfilled with clean sand and compacted.

7.0 SUMMARY OF FINDINGS AND CONCLUSIONS

The results of the investigation indicate the following:

- the UST was determined to be encased in a concrete vault and no visible evidence of rust or corrosion was noted;
- the UST contents contained xylenes, ethylbenzene, toluene, and MEK;
- no VOCs were detected in soil samples collected in boreholes located greater than 10 feet from the UST;
- the VOCs detected in soil samples collected in close proximity (i.e., less than 10 feet) to the UST were predominately xylenes, however, ethylbenzene, acetone and chloroform were also detected;
- the NYSDEC proposed soil clean-up levels were exceeded in only one sample S-97 (6 to 8 feet) for ethylbenzene and total xylenes;
- no VOCs were detected in the ground-water sample collected from Monitoring Well MW-41; and
- all attempts to excavate the area surrounding the UST were abandoned (i.e., structural hazards and buried utilities).

A review of these findings indicates the following:

- the localized soil and ground-water contamination by petroleum related compounds may have resulted from overfilling of the UST and/or leaks in the associated piping;
- the localized soil and ground-water contamination by acetone, chloroform and MEK may have resulted from the once active painting operation or minor surface spills of materials brought into the receiving area, or they may be the result of contamination of samples by the analytical laboratory;
- further attempts to excavate the area surrounding the UST will likely be abandoned; and
- the contamination is restricted to an area immediately adjacent to the UST and does not appear to be migrating off site at this time.

At this time, Yard personnel plan to pave the area over the UST with asphalt and demolish the Radio Shop building. Most of the ground surface in the Receiving Area is already paved. As a result, it is likely that there will be no vapor problems associated with the UST and surface infiltration will be precluded so migration of the contaminants will be minimal.

Therefore, Roux Associates recommends that no further remedial actions be performed at this time. However, continued gauging of Monitoring Well MW-41 will be performed during the Phase II RI at the Yard, and an additional ground-water sample will be collected and analyzed for VOCs including BTEX, acetone and MEK.

Respectfully submitted,
ROUX ASSOCIATES, INC.

Harry Gregory
Staff Hydrogeologist

Joseph D. Duminuco
Senior Hydrogeologist/
Project Manager

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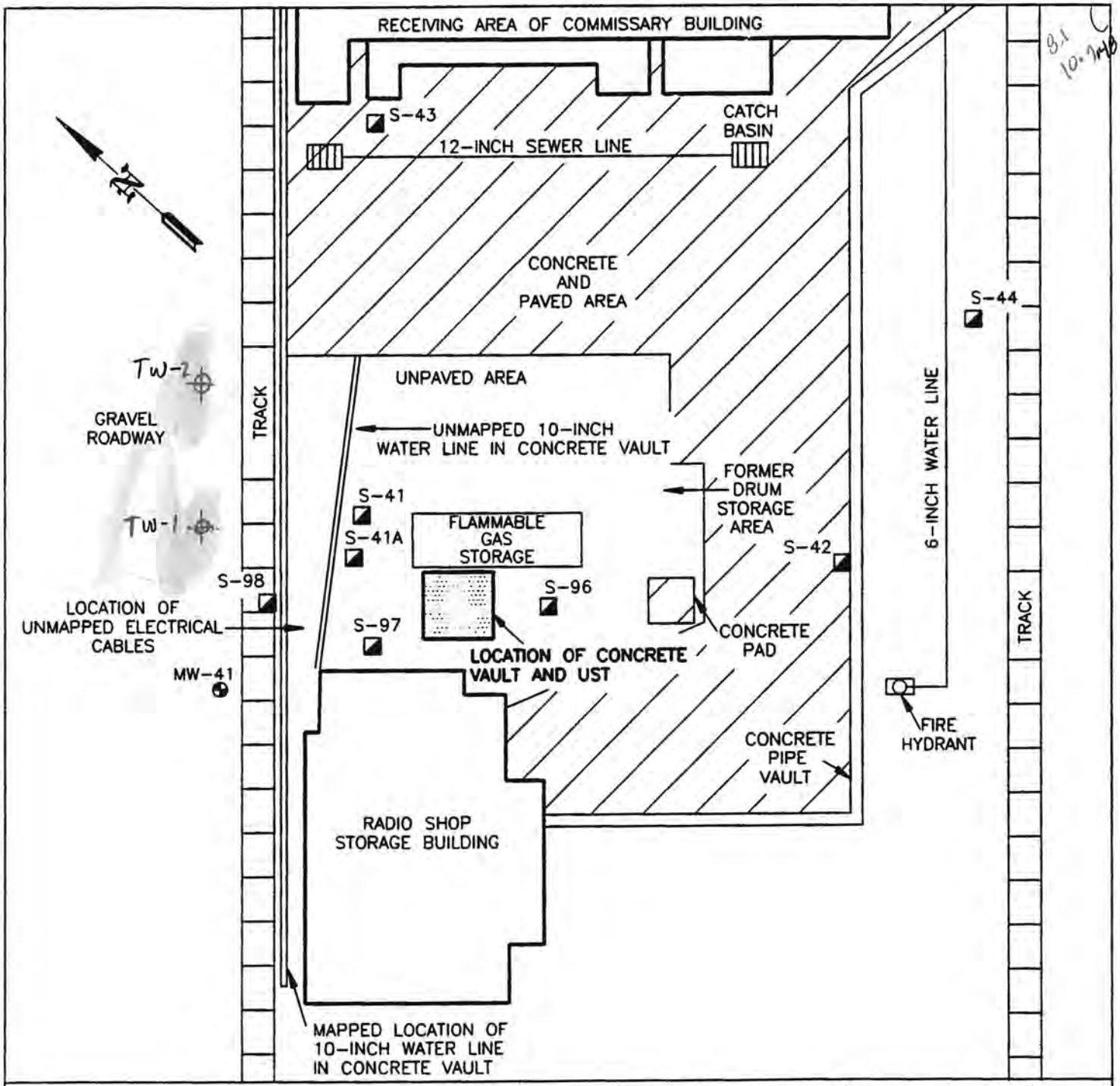
Principal Hydrogeologist



S-43 LOCATION AND DESIGNATION OF SOIL BORING

MW-41 LOCATION AND DESIGNATION OF MONITORING WELL

TW-1 Location and Designation of Temporary Wellpoint

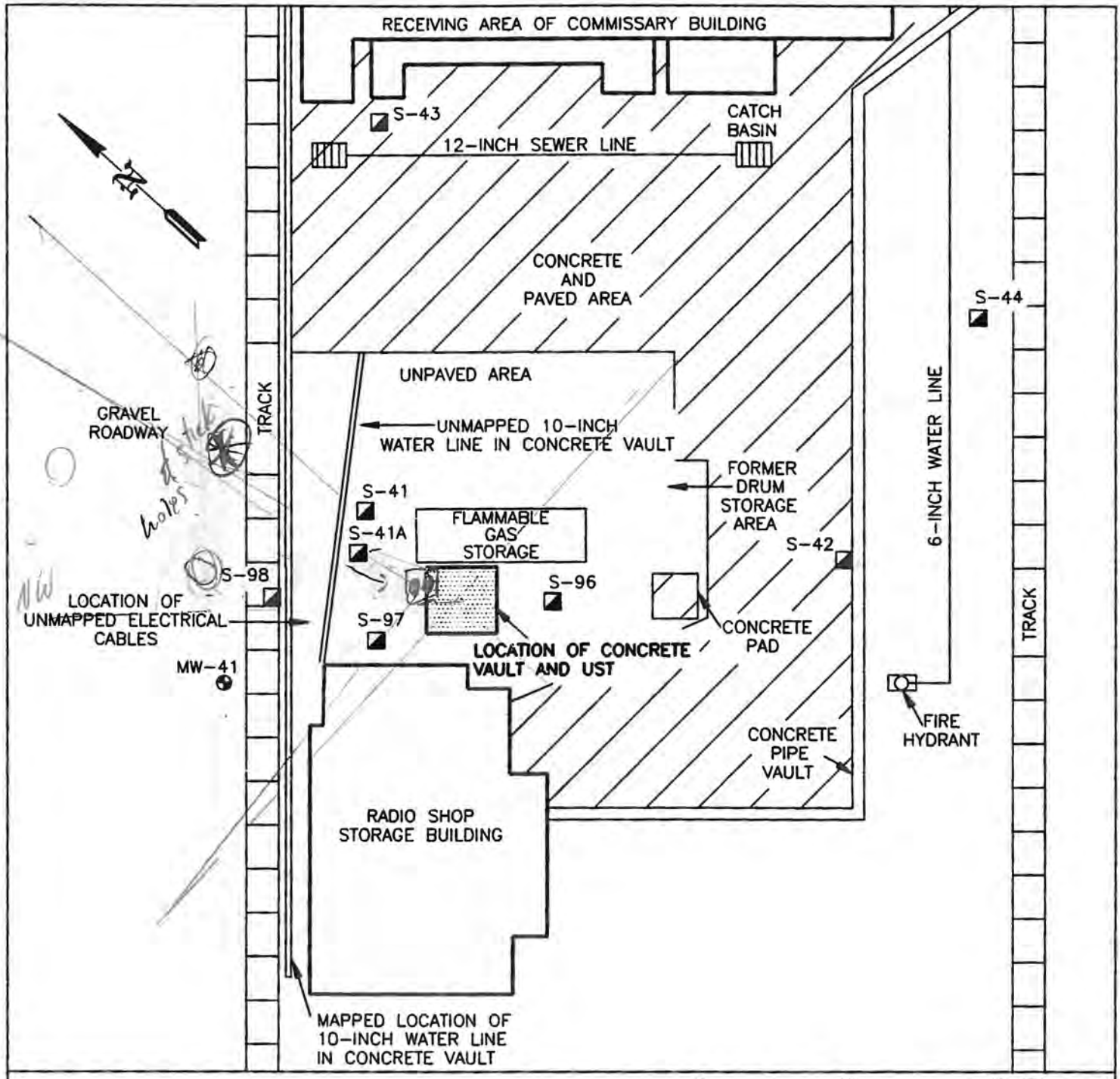
Title:

SITE PLAN INCLUDING THE LOCATION OF UNDERGROUND STORAGE TANK, SOIL BORINGS, ~~AND~~ MONITORING WELL AND TEMPORARY WELLPOINTS

Prepared For:

SUNNYSIDE YARD, QUEENS, NEW YORK

ROUX ASSOCIATES INC Environmental Consulting & Management	Compiled by: H.G.	Date: ~~9/92~~ 3/93	FIGURE 1
	Prepared by: J.R.	Scale: SHOWN	
	Project Mgr: J.D.D.	Revision:	
	File No: AM511A58		



S-43 LOCATION AND DESIGNATION OF SOIL BORING

MW-41 LOCATION AND DESIGNATION OF MONITORING WELL

Title:

SITE PLAN INCLUDING THE LOCATION OF UNDERGROUND STORAGE TANK, SOIL BORINGS AND MONITORING WELL

Prepared For:

SUNNYSIDE YARD, QUEENS, NEW YORK

ROUX ASSOCIATES INC
Environmental Consulting & Management

Compiled by: H.G.	Date: 9/92	FIGURE 1
Prepared by: J.R.	Scale: SHOWN	
Project Mgr: J.D.D.	Revision:	
File No: AM511A58		

APPENDIX A

Geologic Logs from Phase I Remedial Investigation Report

ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES, INC.

GEOLOGIC LOG

Study No. 05509Y Date 11/05/90
Project Sunnyside Yard
Client AMTRAK
Page 1 of 1
Logged By H. Gregory
Well No. S-41
Location
M.P. Elevation
Drilling Started 11:00 Ended 11:30
Driller Land, Air, Water Environmental Services
Type of Rig Hand Driven

WELL DATA
Hole Diam. (in.) 2.0
Final Depth (ft.) 4.0
Casing Diam. (in.)
Casing Length (ft.)
Screen Setting (ft.)
Screen Slot & Type
Well Status

G-W READINGS (1)

Date	DTW MP (2)	Elev. W

SAMPLER
Type Split Spoon
Hammer 140 lb.
Fall 30 in.

DEVELOPMENT

PID (ppm)	SAMPLE No.	Rec.	Depth	Blows/6"	Strata Change & Gen. Desc.	Depth (ft)	SAMPLE DESCRIPTION
78			0-2'	Grab Sample		0-2	Brown, fine to medium SAND, trace cinders and gravel.
240			2-4'	Grab Sample	SAND	2-4	Top 1.5': Brown, fine to medium SAND, trace gravel. Bottom 0.5': Brown fine to medium SAND, trace gravel-stained grey to brown.
					------4 ft.------ Bottom of boring		

REMARKS (1) in feet relative to a common datum
(2) from top of PVC casing

ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES, INC.

GEOLOGIC LOG

Study No. 05509Y Date 11/07/90
Project Sunnyside Yard
Client AMTRAK
Page 1 of 1
Logged By H. Gregory
Well No. S-41a
Location
M.P. Elevation
Drilling Started 16:10 Ended 16:50
Driller Land, Air, Water Environmental Services
Type of Rig Hand Driven

WELL DATA
Hole Diam. (in.) 2.0
Final Depth (ft.) 5.5
Casing Diam. (in.)
Casing Length (ft.)
Screen Setting (ft.)
Screen Slot & Type
Well Status

G-W READINGS (1)

Date	DTW MP (2)	Elev. W.

SAMPLER
Type Split Spoon
Hammer 140 lb.
Fall 30 in.

DEVELOPMENT

PID (ppm)	SAMPLE No.	Rec.	Depth	Blows/6"	Strata Change & Gen. Desc.	Depth (ft)	SAMPLE DESCRIPTION
6			0-3'	Grab Sample		0-3	Brown, fine to medium SAND, trace silt and gravel.
					SAND		
355		2.0'	3.5-5.5'	Grab Sample		3-5.5	Brown, medium SAND, stained gray, trace silt, stained gray. Water Table at 5 ft.
					-----5.5 ft.---- Bottom of boring		

REMARKS (1) in feet relative to a common datum
(2) from top of PVC casing

ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES, INC.

GEOLOGIC LOG

Study No. 05509Y Date 11/05/90
Project Sunnyside Yard
Client AMTRAK
Page 1 of 1
Logged By B. Woods
Well No. S-42
Location
M.P. Elevation
Drilling Started 13:10 Ended 14:30
Driller Land, Air, Water Environmental Services
Type of Rig Hollow stem auger

WELL DATA
Hole Diam. (in.) 8.0
Final Depth (ft.) 14.0
Casing Diam. (in.)
Casing Length (ft.)
Screen Setting (ft.)
Screen Slot & Type
Well Status

G-W READINGS

Date	DTW MP (2)	Elev.

SAMPLER
Type Split Spoon
Hammer 140 lb.
Fall 30 in.

DEVELOPMENT

PID (ppm)	SAMPLE No.	Rec.	Depth	Blows/6"	Strata Change & Gen. Desc.	Depth (ft)	SAMPLE DESCRIPTION
0			0-2'	Grab Sample		0-2	Brown to black, medium to fine SAND and medium gravel.
0			2-4'	Grab Sample		2-4	Brown to light brown, medium SAND, little gravel.
0		0.4'	4-6'	3,3,4,10		4-6	Brown, medium SAND, trace gravel.
0		0.8'	6-8'	4,4,7,9	SAND	6-8	Brown, medium SAND, wet. Water Table at 6.5 ft.
0		1.3'	12-14'	12,14,16,17		12-14	Gray, medium SAND, trace fine and coarse gravel. Gray to brown, clayey silt with shredded wood chips.
					——14 ft.—— Bottom of boring		

REMARKS (1) in feet relative to a common datum
(2) from top of PVC casing

ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES, INC.

GEOLOGIC LOG

Study No. 05509Y Date 11/05/90
Project Sunnyside Yard
Client AMTRAK
Page 1 of 1
Logged By H. Gregory
Well No. S-43
Location
M.P. Elevation
Drilling Started 10:15 Ended 10:50
Driller Land, Air, Water Environmental Services
Type of Rig Hand Driven

WELL DATA

Hole Diam. (in.) 10.0
Final Depth (ft.) 3.0
Casing Diam. (in.)
Casing Length (ft.)
Screen Setting (ft.)
Screen Slot & Type
Well Status

G-W READINGS

Date	DTW MP (2)	Elev.

SAMPLER

Type Split Spoon
Hammer 140 lb.
Fall 30 in.

DEVELOPMENT

PID (ppm)	SAMPLE No.	Rec.	Depth	Blows/6"	Strata Change & Gen. Desc.	Depth (ft)	SAMPLE DESCRIPTION
0			0-2'	Grab Sample	SAND	0-2–	Brown, fine to medium SAND, trace gravel. Top 1.1' stained dark brown to black-portion of Railroad tie.
0			2-3'	Grab Sample		2-3–	Brown, fine to medium SAND, trace gravel.
					-----3 ft.----- Bottom of boring		

REMARKS (1) in feet relative to a common datum
(2) from top of PVC casing

ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES, INC.

GEOLOGIC LOG

Study No. 05509Y Date 11/05/90
Project Sunnyside Yard
Client AMTRAK
Page 1 of 1
Logged By H. Gregory
Well No. S-44
Location
M.P. Elevation
Drilling Started 11:35 Ended 11:55
Driller Land, Air, Water Environmental Services
Type of Rig Hand Driven

WELL DATA
Hole Diam. (in.) 2.0
Final Depth (ft.) 8.0
Casing Diam. (in.)
Casing Length (ft.)
Screen Setting (ft.)
Screen Slot & Type
Well Status

G-W READINGS (1

Date	DTW MP (2)	Elev. W

SAMPLER
Type Split Spoon
Hammer 140 lb.
Fall 30 in.

DEVELOPMENT

PID (ppm)	SAMPLE No.	Rec.	Depth	Blows/6"	Strata Change & Gen. Desc.	Depth (ft)	SAMPLE DESCRIPTION
0			0-2'	Grab Sample		0-2	Dark brown, fine to medium SAND, trace cinders and gravel. (Railroad bed fill).
0			2-4'	Grab Sample	SAND	2-4	Brown, fine to medium SAND, little gravel trace cinders stained gray to black.
0			4-6'	N/R		4-6	Brown, fine to medium SAND, trace gravel; stained gray.
0			6-8'	N/R		6-8	Gray, medium to fine SAND, little gravel, slight hydrocarbon odor,wet. Water Table at 7 ft.
					——8 ft.—— Bottom of boring		

REMARKS (1) in feet relative to a common datum
(2) from top of PVC casing

APPENDIX B

Geologic Logs from UST Investigation - Area 2

ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES, INC.

GEOLOGIC LOG

Study No. 05511Y Date 10/30/91
Project Sunnyside Yard UST
Client AMTRAK
Page 1 of 1
Logged By H. Gregory
Well/Boring No. MW-41
Location Area 2
M.P. Elevation
Drilling Started 13:40 Ended 14:15
Driller Land, Air, Water
Type of Rig B-61 Mobile

WELL DATA
Hole Diam. (in.) 10
Final Depth (ft.) 14
Casing Diam. (in.) 4
Casing Length (ft.) 1
Screen Setting (ft.) 13.4
Screen Slot & Type 10 Slot - SS
Well Status

G-W READINGS (1)

Date	DTW MP (2)	Elev. W.S

SAMPLER
Type Split spoon
Hammer 140 lb.
Fall 30 in.

DEVELOPMENT

PID (ppm)	SAMPLE No.	Rec.	Depth	Blows 6	Strata Change & Gen. Desc.	Depth (ft)	SAMPLE DESCRIPTION
159 ppm			0 - 2'	Grab Sample	Railroad Fill	0	Dark brown fine to coarse SAND with railroad bed fill.
			2 - 4'	Grab Sample	Sand and Gravel	2	Brown to orange brown medium to coarse SAND, trace gravel. Petroleum odor.
151 ppm	0.9		4 - 6'	4,7,12,18		4	Orange brown medium to coarse SAND trace gravel. Slight staining, moist, odor.
54.8	0.5		6 - 8'	8,7,16,19		6	Brown medium to coarse SAND/trace gravel. Odor, wet, water table at 6.4 ft.
40.1	0.6		8 - 10'	25,17,9,8		8	Grey to black medium to coarse SAND, trace gravel. Odor, staining.
38.2	1.1		10 - 12'	8,7,10,11		10	Grey medium to coarse SAND, trace gravel. Slight odor.
						12	
					Bottom of Boring	14	
						16	
						18	

REMARKS (1) in feet relative to a common datum
(2) from top of PVC casing

ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES, INC.

GEOLOGIC LOG

Study No. 05511Y Date 10/30/91
Project Sunnyside Yard UST
Client AMTRAK
Page 1 of 1
Logged By H. Gregory
Well/Boring No. S-96
Location Area 2
M.P. Elevation
Drilling Started 08:30 Ended 09:20
Driller Land, Air, Water
Type of Rig B-61 Mobile

WELL DATA
Hole Diam. (in.) 6
Final Depth (ft.) 12
Casing Diam. (in.)
Casing Length (ft.)
Screen Setting (ft.)
Screen Slot & Type
Well Status

G-W READINGS (1)

Date	DTW MP (2)	Elev. W.S

SAMPLER
Type Split spoon
Hammer 140 lb.
Fall 30 in.

DEVELOPMENT

PID (ppm)	SAMPLE No.	Rec.	Depth	Blows 6	Strata Change & Gen. Desc.	Depth (ft)	SAMPLE DESCRIPTION
1 ppm			0 - 4'	Grab Sample	Sand and Gravel	0	Brown medium to coarse SAND, trace fine to coarse gravel with fractured cobbles.
						2	
0 ppm		0.6	4 - 6'	7,5,3,2		4	Same as above except no fractured rock.
0 ppm		0.5	6 - 8'	4,2,2,1		6	Brown fine, medium and coarse, SAND, trace gravel. Water Table at 6.0 ft.
0 ppm		1.2	8 - 10'	6,2,2,3		8	Brown fine, medium and coarse, SAND, trace gravel.
0 ppm		0.9	10 - 12'	4,2,3,4		10	Brown fine, medium and coarse SAND, trace gravel.
					---------- Bottom of Boring	12	
						14	
						16	
						18	

REMARKS (1) in feet relative to a common datum
(2) from top of PVC casing
(3) logged cuttings

ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES, INC.

GEOLOGIC LOG

Study No. 05511Y Date 10/30/91
Project Sunnyside Yard UST
Client AMTRAK
Page 1 of 1
Logged By H. Gregory
Well/Boring No. S-97
Location Area 2
M.P. Elevation
Drilling Started 12:00 Ended 13:00
Driller Land, Air, Water
Type of Rig B-61 Mobile

WELL DATA
Hole Diam. (in.) 6
Final Depth (ft.) 12
Casing Diam. (in.)
Casing Length (ft.)
Screen Setting (ft.)
Screen Slot & Type
Well Status

G-W READINGS (1)

Date	DTW MP (2)	Elev. W.S

SAMPLER
Type Split spoon
Hammer 140 lb.
Fall 30 in.

DEVELOPMENT

PID (ppm)	SAMPLE No.	Rec.	Depth	Blows 6	Strata Change & Gen. Desc.	Depth (ft)	SAMPLE DESCRIPTION
54.1 ppm			0 - 2'	Grab Sample		0	Dark brown medium to coarse SAND and gravel.
			2 - 4'	Grab Sample	Sand and Gravel	2	Orange brown medium to coarse SAND, some gravel, trace cobbles.
54.7 ppm		0.4	4 - 6'	3,3,2,3		4	Orange brown fine, medium and coarse SAND, trace gravel. Petroleum odor.
12.95 1295		1.0	6 - 8'	2,5,6,4		6	Grey-black stained medium to coarse SAND, trace gravel. Wet odor, sheen, water table at 6.4 ft.
651		1.6	8 - 10'	2,3,5,7		8	Grey-black stained medium to coarse SAND, trace gravel. Odor, sheen.
613		1.8	10 - 12'	2,3,3,6		10	Grey-black stained medium to coarse SAND, trace gravel. Odor, sheen.
					Bottom of Boring	12	
						14	
						16	
						18	

REMARKS (1) in feet relative to a common datum
(2) from top of PVC casing

ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES, INC.

GEOLOGIC LOG

Study No. 05511Y Date 10/30/91
Project Sunnyside Yard UST
Client AMTRAK
Page 1 of 1
Logged By H. Gregory
Well/Boring No. S-98
Location Area 2
M.P. Elevation
Drilling Started 10:10 Ended 10:45
Driller Land, Air, Water
Type of Rig B-61 Mobile

WELL DATA
Hole Diam. (in.) 6
Final Depth (ft.) 12
Casing Diam. (in.)
Casing Length (ft.)
Screen Setting (ft.)
Screen Slot & Type
Well Status

G-W READINGS (1)

Date	DTW MP (2)	Elev. W.S

SAMPLER
Type Split spoon
Hammer 140 lb.
Fall 30 in.

DEVELOPMENT

PID (ppm)	SAMPLE No.	Rec.	Depth	Blows 6	Strata Change & Gen. Desc.	Depth (ft)	SAMPLE DESCRIPTION
52.0 ppm			0 - 4'	Grab Sample	Railroad Fill	0	Dark brown fine to coarse SAND with railroad bed fill.
					Sand and Gravel	2	Brown medium to coarse SAND, trace fine gravel.
225 ppm		0.5	4 - 6'	3,6,12,15		4	Brown to grey - black stained medium and to coarse SAND, trace gravels. Petroleum odor. Smear zone - 5.5 ft. - 6.5 ft.
191 ppm		0.3	6 - 8'	10,11,14,16		6	Grey-black stained fine medium and coarse SAND trace fine gravel. Wet, odor, water table at 6.5 ft.
1017 ppm		0.6	8 - 10'	4,5,7,5		8	Grey-black stained fine, medium and coarse SAND, trace fine gravel. Odor, sheen.
401 ppm		1.1	10-12	4,3,2,4		10	same as above odor sheen
					Bottom of Boring	12	should be added
						14	
						16	
						18	

REMARKS (1) in feet relative to a common datum
(2) from top of PVC casing
(3) logged cuttings

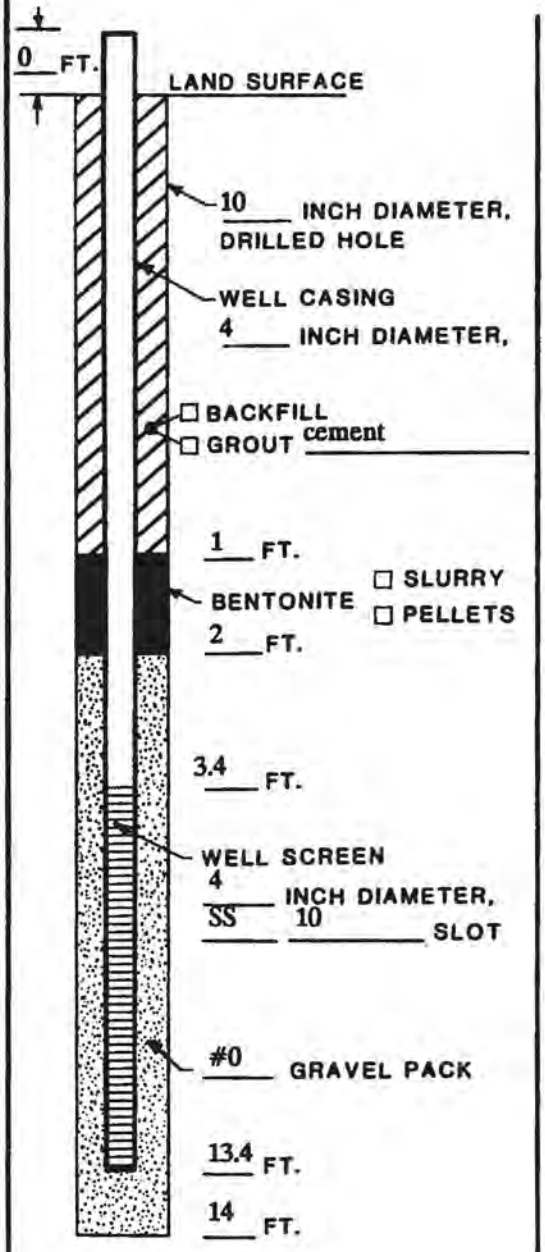
APPENDIX C

Well Construction Log

ROUX

Consulting Ground-Water Geologists
ROUX ASSOCIATES INC

MONITORING WELL CONSTRUCTION LOG



NOTE:
ALL DEPTHS IN FEET
BELOW LAND SURFACE

PROJECT NAME AMTRAK/Sunnyside Yard NUMBER 05511Y

WELL NO. MW-41 PERMIT NO. _____

TOWN/CITY Long Island City

COUNTY Queens STATE New York

LAND-SURFACE ELEVATION

AND DATUM _____ FEET ☐ SURVEYED

☐ ESTIMATED

INSTALLATION DATE(S) 10/30/91

DRILLING METHOD Hollow Stem Auger

DRILLING CONTRACTOR Land, Air, Water

DRILLING FLUID None

DEVELOPMENT TECHNIQUE(S) AND DATE(S)
10/30/91 - pump (centrifugal) and surge.

FLUID LOSS DURING DRILLING None GALLONS

WATER REMOVED DURING DEVELOPMENT ~500 GALLONS

STATIC DEPTH TO WATER _____ FEET BELOW M.P.

PUMPING DEPTH TO WATER _____ FEET BELOW M.P.

PUMPING DURATION 2 HOURS

YIELD _____ GPM _____ DATE _____

SPECIFIC CAPACITY _____ GPM/FT.

WELL PURPOSE Monitoring

REMARKS Flush mount to grade.

HYDROGEOLOGIST H. Gregory

APPENDIX D

Laboratory Data from Phase I Remedial Investigation Report

ORGANICS ANALYSIS DATA SHEETS
Envirosystems, Inc.

CLIENT SAMPLE ID:	S-41A	UST-1
LAB SAMPLE ID:	90112601	90112691
SAMPLE DATE:	11/07/90	11/16/90
RECEIVED DATE:	11/09/90	11/17/90
ANALYSIS DATE:	11/13/90	11/23/90
FILE NAME:	112601	112691
INSTRUMENT ID:	MSB	MSB
MATRIX:	WATER	WATER
UNITS:	UG/L	UG/L
DILUTION FACTOR:	10	500

VOLATILE COMPOUNDS

Acetone	100 U	5000 U
Benzene	50 U	2500 U
Bromodichloromethane	50 U	2500 U
Bromoform	50 U	2500 U
Bromomethane	100 U	5000 U
2-Butanone	100 U	5000 U
Carbon Disulfide	50 U	2500 U
Carbon Tetrachloride	50 U	2500 U
Chlorobenzene	50 U	2500 U
Chloroethane	100 U	5000 U
2-Chloroethylvinylether	100 U	5000 U
Chloroform	50 U	2500 U
Chloromethane	100 U	5000 U
Dibromochloromethane	50 U	2500 U
1,3 Dichlorobenzene	50 U	2500 U
1,2 Dichlorobenzene	50 U	2500 U
1,4 Dichlorobenzene	50 U	2500 U
1,2-Dichloroethane	50 U	2500 U
1,1-Dichloroethane	50 U	2500 U
1,1-Dichloroethene	50 U	2500 U
1,2-Dichloroethene (total)	50 U	2500 U
1,2-Dichloropropane	50 U	2500 U
cis-1,3-Dichloropropene	50 U	2500 U
Ethylbenzene	98	24400
2-Hexanone	100 U	5000 U
4-Methyl-2-Pentanone	100 U	5000 U
Methylene Chloride	50 U	2500 U
Styrene	50 U	2500 U
1,1,2,2-Tetrachloroethane	50 U	2500 U
Tetrachloroethene	50 U	2500 U
Toluene	50 U	3830
Trans-1,3-Dichloropropene	50 U	2500 U
1,1,1-Trichloroethane	50 U	2500 U
1,1,2-Trichloroethane	50 U	2500 U
Trichloroethene	50 U	2500 U
Trichlorofluoromethane	50 U	2500 U

ORGANICS ANALYSIS DATA SHEETS
Envirosystems, Inc.

CLIENT SAMPLE ID:	S-41A	UST-1
LAB SAMPLE ID:	90112601	90112691
SAMPLE DATE:	11/07/90	11/16/90
RECEIVED DATE:	11/09/90	11/17/90
ANALYSIS DATE:	11/13/90	11/23/90
FILE NAME:	112601	112691
INSTRUMENT ID:	MSB	MSB
MATRIX:	WATER	WATER
UNITS:	UG/L	UG/L
DILUTION FACTOR:	10	500

VOLATILE COMPOUNDS

Vinyl Acetate	100 U	5000 U
Vinyl Chloride	100 U	5000 U
Xylenes (total)	275	92000

B - Detected in Lab Blank. U - Below Reported Quantitation Level. J - Estimated Value.

ORGANICS ANALYSIS DATA SHEETS
Envirosystems, Inc.

CLIENT SAMPLE ID:	S-43(0-2)	S-41A(3-5)
LAB SAMPLE ID:	90112583	90112600
SAMPLE DATE:	11/05/90	11/07/90
RECEIVED DATE:	11/07/90	11/09/90
ANALYSIS DATE:	11/13/90	11/13/90
FILE NAME:	112583	112600
INSTRUMENT ID:	MSB	MSB
MATRIX:	SOIL	SOIL
UNITS:	UG/KG	UG/KG
% MOISTURE:	11	14
DILUTION FACTOR:	1.0	5.0

VOLATILE COMPOUNDS

Acetone	11 U	293
Benzene	6.0 U	29 U
Bromodichloromethane	6.0 U	29 U
Bromoform	6.0 U	29 U
Bromomethane	11 U	58 U
2-Butanone	11 U	58 U
Carbon Disulfide	6.0 U	29 U
Carbon Tetrachloride	6.0 U	29 U
Chlorobenzene	6.0 U	29 U
Chloroethane	11 U	58 U
2-Chloroethylvinylether	11 U	58 U
Chloroform	3.8 J	29 U
Chloromethane	11 U	58 U
Dibromochloromethane	6.0 U	29 U
1,3 Dichlorobenzene	6.0 U	29 U
1,2 Dichlorobenzene	6.0 U	29 U
1,4 Dichlorobenzene	6.0 U	29 U
1,2-Dichloroethane	6.0 U	29 U
1,1-Dichloroethane	6.0 U	29 U
1,1-Dichloroethene	6.0 U	29 U
1,2-Dichloroethene (total)	6.0 U	29 U
1,2-Dichloropropane	6.0 U	29 U
cis-1,3-Dichloropropene	6.0 U	29 U
Ethylbenzene	6.0 U	67
2-Hexanone	11 U	58 U
4-Methyl-2-Pentanone	11 U	58 U
Methylene Chloride	6.0 U	29 U
Styrene	6.0 U	29 U
1,1,2,2-Tetrachloroethane	6.0 U	29 U
Tetrachloroethene	6.0 U	29 U
Toluene	6.0 U	29 U
Trans-1,3-Dichloropropene	6.0 U	29 U
1,1,1-Trichloroethane	6.0 U	29 U
1,1,2-Trichloroethane	6.0 U	29 U
Trichloroethene	6.0 U	29 U
Trichlorofluoromethane	6.0 U	29 U

ORGANICS ANALYSIS DATA SHEETS
Envirosystems, Inc.

CLIENT SAMPLE ID:	S-43(0-2)	S-41A(3-5)
LAB SAMPLE ID:	90112583	90112600
SAMPLE DATE:	11/05/90	11/07/90
RECEIVED DATE:	11/07/90	11/09/90
ANALYSIS DATE:	11/13/90	11/13/90
FILE NAME:	112583	112600
INSTRUMENT ID:	MSB	MSB
MATRIX:	SOIL	SOIL
UNITS:	UG/KG	UG/KG
% MOISTURE:	11	14
DILUTION FACTOR:	1.0	5.0
VOLATILE COMPOUNDS		
Vinyl Acetate	11 U	11 U	58 U
Vinyl Chloride	11 U	11 U	58 U
Xylenes (total)	6.0 U	4.4 J	137

B - Detected in Lab Blank. U - Below Reported Quantitation Level. J - Estimated Value.

APPENDIX E

Laboratory Data from UST Investigation

Northeastern Analytical Corp.

ANALYTICAL REPORT

for

ROUX ASSOCIATES, INC.
775 Park Avenue
Suite 255
Huntington, New York 11743

Attention: Mr. Joseph Duminuco

TEST REPORT NO. NAC91L-3432

PROJECT: Amtrak - UST Removal
Sunnyside
Queens, New York
#05511Y

Client Designation	NAC Designation	Date Sampled	Time Sampled	Sampled By	Matrix
MW-41	91L-3432-1	11-06-91	1700	Client	Aqueous
Field Blank	91L-3432-2	11-06-91	1650	Client	Aqueous
Trip Blank	91L-3432-3	NP	NP	Client	Aqueous

NP: Not Provided.

Laboratory Name: Northeastern Analytical Corp.

NJ Certification No: 03117

NY Certification No: 11022

Paul Painter

Name: Paul P. Painter

Title: Laboratory Director

Paul Painter for

Name: June S. Baker

Title: Quality Assurance Manager

Date: November 29, 1991

NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3432
Certification No. 03117
November 29, 1991

B. TABLE OF CONTENTS

NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3432
Certification No. 03117
November 29, 1991

C. SAMPLE ANALYSIS REQUEST

- None Provided -

NAC NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3432
Certification No. 03117
November 29, 1991

D. CHAIN OF CUSTODY DOCUMENTS

ROUX

CHAIN OF CUSTODY

№ 00142

Ground-Water Consultants
ROUX ASSOCIATES INC

PAGE OF

PROJECT NAME: Amtrak-UST removal
PROJECT NUMBER: 055;1Y
PROJECT LOCATION: Sunnyside, Queens
SAMPLER(S): H. Eist, H. Gregely

ANALYSES

SAMPLE DESIGNATION/LOCATION	DATE COLLECTED	TIME COLLECTED		SAMPLE MATRIX	VOCs Method 624					TOTAL BOTTLES	PRESERVATION
MW-41	11/6/91	1700			4					4	
Field Blank	11/6/91	16:50			4					4	
Trip Blank	—	—			4					4	

RELINQUISHED BY: SAMPLER'S (SIGNATURE)	FOR	DATE	TIME	SEAL INTACT Y OR N	RECEIVED BY: (SIGNATURE)	FOR	DATE	TIME	SEAL INTACT Y OR N
[signature]	ROUX	11/6/91	1800	(Y) OR N	[signature]	NAC	11/7/91	1000	(Y) OR N
RELINQUISHED BY: (SIGNATURE)	FOR	DATE	TIME	SEAL INTACT Y OR N	RECEIVED BY: (SIGNATURE)	FOR	DATE	TIME	SEAL INTACT Y OR N
RELINQUISHED BY: (SIGNATURE)	FOR	DATE	TIME	SEAL INTACT Y OR N	RECEIVED BY: (SIGNATURE)	FOR	DATE	TIME	SEAL INTACT Y OR N

DELIVERY METHOD: Fed. Ex

ANALYTICAL LABORATORY: NAC

COMMENTS: Att: Mark Riether

NORTHEASTERN ANALYTICAL CORPORATION

INTERNAL CHAIN OF CUSTODY

NAC NO. 911-3432 PROJECT Rex Assoc

SAMPLE/CONTAINERS 1-3 PARAMETER(S) 624

4-40ml. vials each

DATE	TIME	SAMPLE(S) RELINQUISHED BY	SAMPLE(S) RECEIVED BY	REASON FOR CHANGE OF CUSTODY
11/7/91	1600	[illegible]	[illegible]	Analysis + Storage

E. METHODOLOGY REVIEW

. Purgeables by GC/MS

EPA Method 624 - This is a purge and trap gas chromatograph/mass spectrometer (GC/MS) method. The organic compounds are separated by the gas chromatograph and detected using the mass spectrometer. Federal Register, Vol. 40, No. 136, July, 1988.

An HP5890/5970 GC/MS was used with a packed column of 1% SP-1000 on Carbopack B.

Method detection limits are as stated.

NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3432
Certification No. 03117
November 29, 1991

F. DATA SUMMARY PACKAGE

1. Non-Conformance Summary Report

None.

NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3432
Certification No. 03117
November 29, 1991

F. DATA SUMMARY PACKAGE (Continued)

2. Quality Control Summary

a. Volatile Organics by GC/MS

1. Tune Summary

NORTHEASTERN ANALYTICAL CORPORATION

BFB GC/MS TUNE SUMMARY SHEET

INSTRUMENT A

LAB FILE ID:>A3274 DATE:10/29/91 TIME:08:46

This Performance tune applies to the following Samples, Blanks and Standards.

LAB SAMPLE ID	LAB FILE ID	INJECT DATE AND TIME
50UG/L HSL CAL CHK	>A3275	10/29/91 09:48
100UG/L HSL CAL CHK	>A3276	10/29/91 10:51
150UG/L HSL CAL CHK	>A3277	10/29/91 11:42
200UG/L HSL CAL CHK	>A3278	10/29/91 13:05
20UG/L HSL CAL CHK	>A3280	10/29/91 16:12

NORTHEASTERN ANALYTICAL CORPORATION

BFB GC/MS TUNE SUMMARY SHEET

INSTRUMENT A

LAB FILE ID:>A3512 DATE:11/12/91 TIME:08:38

This Performance tune applies to the following Samples, Blanks and Standards.

LAB SAMPLE ID	LAB FILE ID	INJECT DATE AND TIME
HSL CAL CHK	>A3513	11/12/91 08:56
METHOD BLANK	>A3514	11/12/91 10:03
91L-3432-1	>A3516	11/12/91 12:01
91L-3432-2	>A3517	11/12/91 13:31
91L-3432-3	>A3519	11/12/91 15:40

NORTHEASTERN ANALYTICAL CORPORATION

BFB GC/MS TUNE SUMMARY SHEET

INSTRUMENT A

LAB FILE ID:>A3524 DATE:11/12/91 TIME:20:52

This Performance tune applies to the following Samples, Blanks and Standards.

LAB SAMPLE ID	LAB FILE ID	INJECT DATE AND TIME
HSL CAL CHK	>A3525	11/12/91 21:19
METHOD BLANK	>A3526	11/12/91 22:21
91L-3365-6MS A-354	>A3528	11/13/91 00:10
91L-3365-6MSD A-354	>A3529	11/13/91 01:00

F. DATA SUMMARY PACKAGE (Continued)

2. Quality Control Summary (Continued)

a. Volatile Organics by GC/MS (Continued)

2. Surrogate Recovery Summary

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE AQUEOUS SURROGATE SPIKE PERCENT RECOVERY

* INDICATES RECOVERY OUTSIDE OF RANGE

DATA FILE	DATE	SAMPLE ID	TOLUENE-d8 (88-110)	BROMOFLOURO BENZENE (86-115)	1,2-DICHLORO ETHENE (76-114)
>A3516	11/12/91	91L-3432-1	102	100	99
>A3517	11/12/91	91L-3432-2	104	102	101
>A3519	11/12/91	91L-3432-3	108	103	104

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE AQUEOUS SURROGATE SPIKE PERCENT RECOVERY

* INDICATES RECOVERY OUTSIDE OF RANGE

DATA FILE	DATE	SAMPLE ID	TOLUENE-d8 (88-110)	BROMOFLOURO BENZENE (86-115)	1,2-DICHLORO ETHENE (76-114)
>A3514	11/12/91	METHOD BLANK	96	99	95

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE AQUEOUS SURROGATE SPIKE PERCENT RECOVERY

* INDICATES RECOVERY OUTSIDE OF RANGE

DATA FILE	DATE	SAMPLE ID	TOLUENE-d8 (88-110)	BROMOFLOURO BENZENE (86-115)	1,2-DICHLORO ETHENE (76-114)
>A3526	11/12/91	METHOD BLANK	103	104	105

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE AQUEOUS SURROGATE SPIKE PERCENT RECOVERY

* INDICATES RECOVERY OUTSIDE OF RANGE

DATA FILE	DATE	SAMPLE ID	TOLUENE-d8 (88-110)	BROMOFLOURO BENZENE (86-115)	1,2-DICHLORO ETHENE (76-114)
>A3528	11/13/91	91L-3365-6MS A	100	103	102
>A3529	11/13/91	91L-3365-6MSD	101	102	101

NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3432
Certification No. 03117
November 29, 1991

F. DATA SUMMARY PACKAGE (Continued)

2. Quality Control Summary (Continued)

a. Volatile Organics by GC/MS (Continued)

3. Method Blank Summary

NORTHEASTERN ANALYTICAL CORPORATION

VOLATILE METHOD BLANK SUMMARY SHEET

LAB SAMPLE ID:METHOD BLANK LAB FILE ID:>A3514

MATRIX:AQUEOUS LEVEL:LOW

DATE ANALYZED:11/12/91 TIME ANALYZED:10:03

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

LAB SAMPLE ID	LAB FILE ID	INJECT DATE AND TIME
91L-3432-1	>A3516	11/12/91 12:01
91L-3432-2	>A3517	11/12/91 13:31
91L-3432-3	>A3519	11/12/91 15:40

NORTHEASTERN ANALYTICAL CORPORATION

VOLATILE METHOD BLANK SUMMARY SHEET

LAB SAMPLE ID:METHOD BLANK LAB FILE ID:>A3526

MATRIX:AQUEOUS LEVEL:LOW

DATE ANALYZED:11/12/91 TIME ANALYZED:22:21

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

LAB SAMPLE ID	LAB FILE ID	INJECT DATE AND TIME
91L-3365-6MS A	>A3528	11/13/91 00:10
91L-3365-6MSD	>A3529	11/13/91 01:00

NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3432
Certification No. 03117
November 29, 1991

F. DATA SUMMARY PACKAGE (Continued)

2. Quality Control Summary (Continued)

a. Volatile Organics by GC/MS (Continued)

4. Matrix Spike/Matrix Spike Duplicate Summary

NORTHEASTERN ANALYTICAL CORPORATION
AQUEOUS VOLATILE MATRIX SPIKE AND MATRIX SPIKE DUPLICATE

SAMPLE NAME:91L-3365-6 ANALYSIS DATE:11/13/91

BATCH NO:354

COMPOUND	SPIKE ADDED	MS CONC	MSD CONC	SAM CONC	MS% REC	MSD% REC	RPD
1,1-Dichloroethene	50	43	42	ND	86	84	2
Trichloroethene	50	43	41	ND	86	82	5
Benzene	50	52	50	ND	104	100	4
Toluene	50	45	45	ND	90	90	0
Chlorobenzene	50	46	44	ND	92	88	4

UNITS OF CONCENTRATION ARE UG/L

QC LIMITS	%REC	RPD
1,1-Dichloroethene	61-145	14
Trichloroethene	71-120	14
Benzene	76-127	11
Toluene	76-125	13
Chlorobenzene	75-130	13

* INDICATES RECOVERY OUTSIDE OF LIMITS

RPD: 0 OUT OF 5 OUTSIDE OF LIMITS
SPIKE RECOVERY: 0 OUT OF 10 OUTSIDE OF LIMITS

NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3432
Certification No. 03117
November 29, 1991

F. DATA SUMMARY PACKAGE (Continued)

2. Quality Control Summary (Continued)

a. Volatile Organics by GC/MS (Continued)

4. Internal Standard Area Summary

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:91L-3432-1 INSTRUMENT ID:A

SAMPLE FILE ID:>A3516 STANDARD FILE ID:>A3513

DATE ANALYZED:11/12/91 TIME ANALYZED:12:01

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWER LIMIT
Bromochloromethane	221	221	25072	28533	57066	14267
1,4-Difluorobenzene	488	487	116171	121500	243000	60750
Chlorobenzene-d5	613	613	96603	100759	201518	50380

UPPER LIMIT=STAND AREA X 2
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:91L-3432-2 INSTRUMENT ID:A

SAMPLE FILE ID:>A3517 STANDARD FILE ID:>A3513

DATE ANALYZED:11/12/91 TIME ANALYZED:13:31

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWER LIMIT
Bromochloromethane	221	221	25522	28533	57066	14267
1,4-Difluorobenzene	488	487	116563	121500	243000	60750
Chlorobenzene-d5	614	613	97212	100759	201518	50380

UPPER LIMIT=STAND AREA X 2
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:91L-3432-3 INSTRUMENT ID:A

SAMPLE FILE ID:>A3519 STANDARD FILE ID:>A3513

DATE ANALYZED:11/12/91 TIME ANALYZED:15:40

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWER LIMIT
Bromochloromethane	221	221	23198	28533	57066	14267
1,4-Difluorobenzene	487	487	109368	121500	243000	60750
Chlorobenzene-d5	614	613	87828	100759	201518	50380

UPPER LIMIT=STAND AREA X 2
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:METHOD BLANK

INSTRUMENT ID:A

SAMPLE FILE ID:>A3514

STANDARD FILE ID:>A3513

DATE ANALYZED:11/12/91

TIME ANALYZED:10:03

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWER LIMIT
Bromochloromethane	221	221	29932	28533	57066	14267
1,4-Difluorobenzene	488	487	123271	121500	243000	60750
Chlorobenzene-d5	613	613	102232	100759	201518	50380

UPPER LIMIT=STAND AREA X 2
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:METHOD BLANK INSTRUMENT ID:A

SAMPLE FILE ID:>A3526 STANDARD FILE ID:>A3525

DATE ANALYZED:11/12/91 TIME ANALYZED:22:21

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWER LIMIT
Bromochloromethane	221	221	25354	24972	49944	12486
1,4-Difluorobenzene	488	487	111525	110072	220144	55036
Chlorobenzene-d5	614	613	92275	90727	181454	45364

UPPER LIMIT=STAND AREA X 2
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:91L-3365-6MS A-354 INSTRUMENT ID:A

SAMPLE FILE ID:>A3528 STANDARD FILE ID:>A3525

DATE ANALYZED:11/13/91 TIME ANALYZED:00:10

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWER LIMIT
Bromochloromethane	221	221	25813	24972	49944	12486
1,4-Difluorobenzene	487	487	107677	110072	220144	55036
Chlorobenzene-d5	613	613	92586	90727	181454	45364

UPPER LIMIT=STAND AREA X 2
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:91L-3365-6MSD A-354 INSTRUMENT ID:A

SAMPLE FILE ID:>A3529 STANDARD FILE ID:>A3525

DATE ANALYZED:11/13/91 TIME ANALYZED:01:00

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWE LIMI
Bromochloromethane	221	221	25676	24972	49944	1248
1,4-Difluorobenzene	487	487	110409	110072	220144	5503
Chlorobenzene-d5	613	613	92335	90727	181454	4536

UPPER LIMIT=STAND AREA X 2
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3432
Certification No. 03117
November 29, 1991

F. DATA SUMMARY PACKAGE (Continued)

3. Sample Data Package

a. Volatile Organics by GC/MS (Continued)

1. Sample Result Summary and Method Detection Limit

32
REVISED

NORTHEASTERN ANALYTICAL CORPORATION

VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:91L-3432-1 LAB FILE ID:>A3516

DATE RECEIVED:11/06/91 DATE ANALYZED:911112

SAMPLE WT/VOL:5.0ML LEVEL:LOW

CAS NO.		MDL	CONC. ug/L
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
107-02-8	Acrolein	20	U
107-13-1	Acrylonitrile	20	U
67-64-1	Acetone	10	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	Trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
110-75-8	2-Chloroethylvinylether	10	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-02-7	m&p Xylenes	10	U
110-75-8	O-Xylenes	5	U

U; Not Detected

NORTHEASTERN ANALYTICAL CORPORATION

VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:91L-3432-2 LAB FILE ID:>A3517

DATE RECEIVED:11/06/91 DATE ANALYZED:911112

SAMPLE WT/VOL:5.0ML LEVEL:LOW

CAS NO.		MDL	CONC. ug/L
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	7
107-02-8	Acrolein	20	U
107-13-1	Acrylonitrile	20	U
67-64-1	Acetone	10	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	Trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
110-75-8	2-Chloroethylvinylether	10	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-02-7	m&p Xylenes	10	U
110-75-8	O-Xylenes	5	U

U; Not Detected

REVISED

NORTHEASTERN ANALYTICAL CORPORATION

VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:91L-3432-3 LAB FILE ID:>A3519

DATE RECEIVED:11/06/91 DATE ANALYZED:911112

SAMPLE WT/VOL:5.0ML LEVEL:LOW

CAS NO.		MDL	CONC. ug/I
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
107-02-8	Acrolein	20	U
107-13-1	Acrylonitrile	20	U
67-64-1	Acetone	10	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	Trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
110-75-8	2-Chloroethylvinylether	10	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-02-7	m&p Xylenes	10	U
110-75-8	O-Xylenes	5	U

U; Not Detected

Roux Associates, Inc.
Test Report No. NAC91L-3432
Certification No. 03117
November 29, 1991

F. DATA SUMMARY PACKAGE (Continued)

3. Sample Data Package (Continued)

a. Volatile Organics by GC/MS (Continued)

2. Sample Chromatograms, Quantitation Reports and Mass Spectra

QUANT REPORT

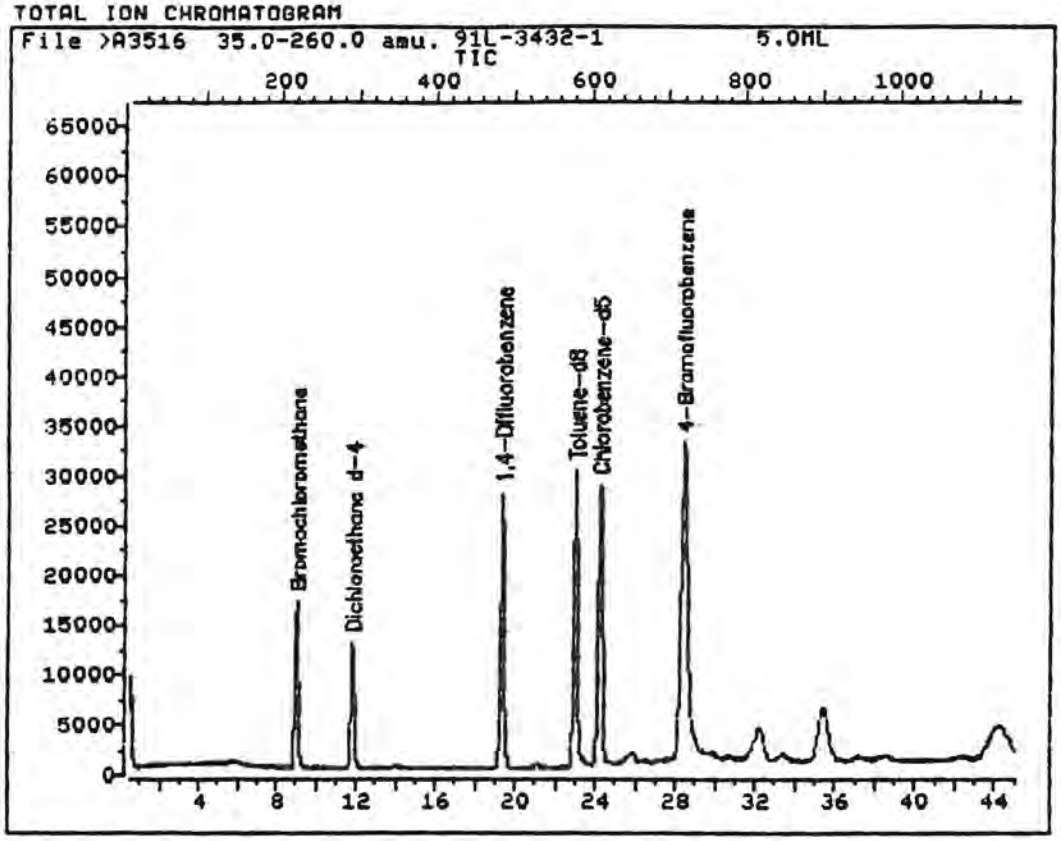
Operator ID: MALOS Quant Rev: 6 Quant Time: 911112 12:56
Output File: ^A3516::D1 Injected at: 911112 12:01
Data File: >A3516::D4 Dilution Factor: 1.00000
Name: 91L-3432-1
Misc: 5.0ML

ID File: ID_VCA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911029 17:27

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.03	221	25072	50.00	ug/L	90
16)	1,2-Dichloroethane-d4	11.82	293	64575	49.26	ug/L	81
23)	*1,4-Difluorobenzene	19.37	488	116171	50.00	ug/L	68
33)	*Chlorobenzene-d5	24.21	613	96603	50.00	ug/L	98
39)	Toluene-d8	23.01	582	123732	51.10	ug/L	97
45)	Bromofluorobenzene	28.40	721	101391	50.19	ug/L	90

* Compound is ISTD

TOTAL ION CHROMATOGRAM

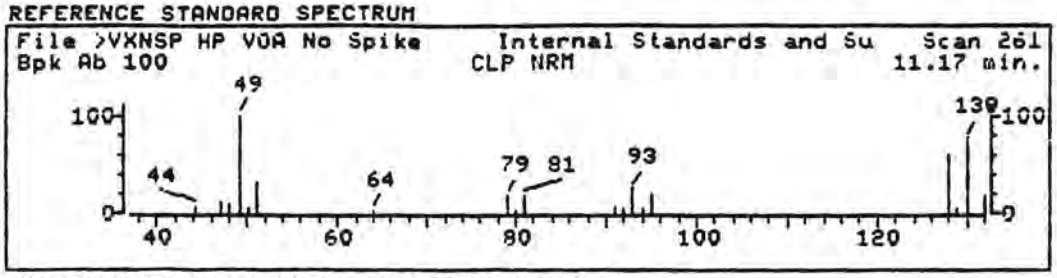


Data File: >A3516::D4 Quant Output File: ^A3516::D1
Name: 91L-3432-1
Misc: 5.0ML

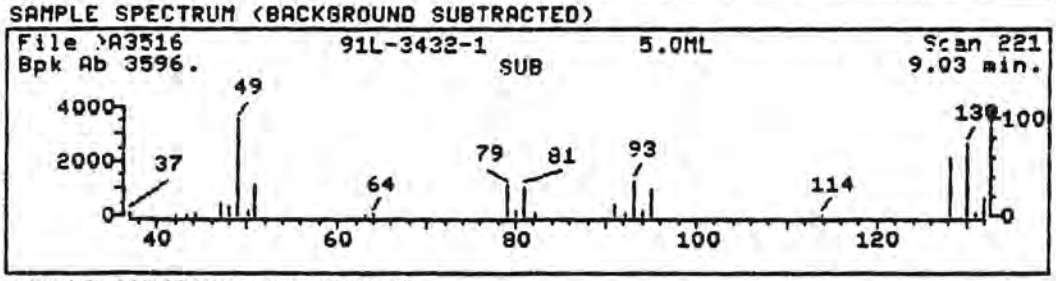
Id File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911029 17:27

Operator ID: MALOS
Quant Time: 911112 12:56
Injected at: 911112 12:01

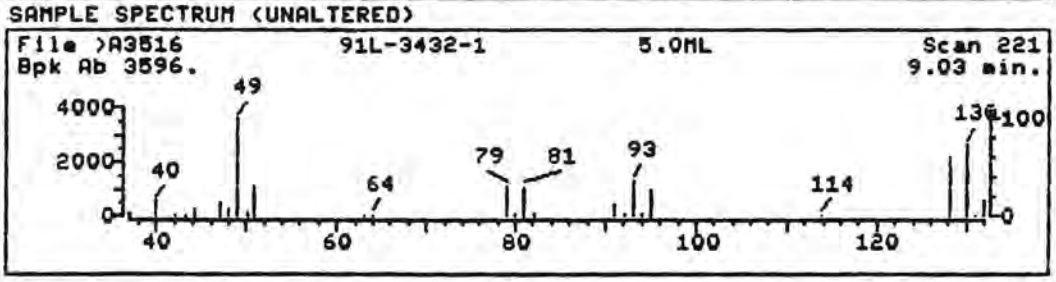
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



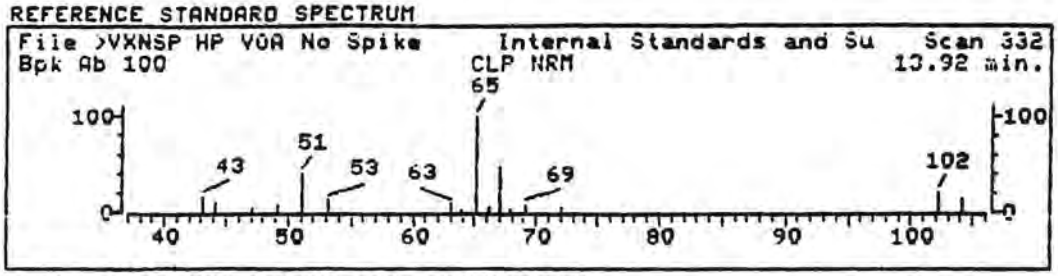
SAMPLE SPECTRUM (UNALTERED)



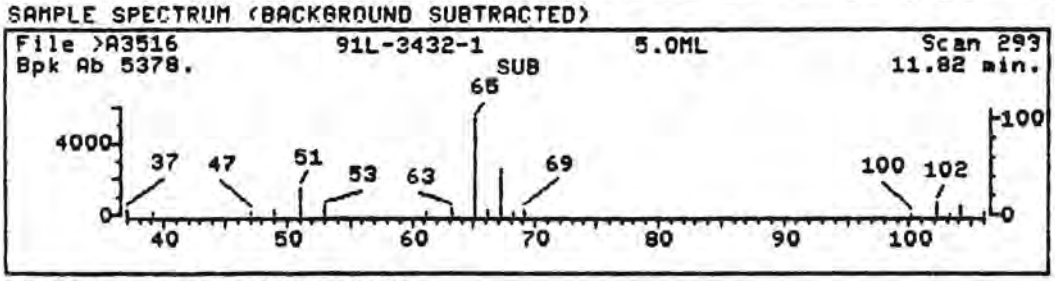
Data File: >A3516::D4 Quant Output File: ^A3516::D1
Name: 91L-3432-1
Misc: 5.0ML
Quant Time: 911112 12:56 Quant ID File: ID_VCA::D2
Injected at: 911112 12:01 Last Calibration: 911029 17:27

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 221
Retention Time: 9.03 min.
Quant Ion: 128.0
Area: 25072
Concentration: 50.00 ug/L
q-value: 90

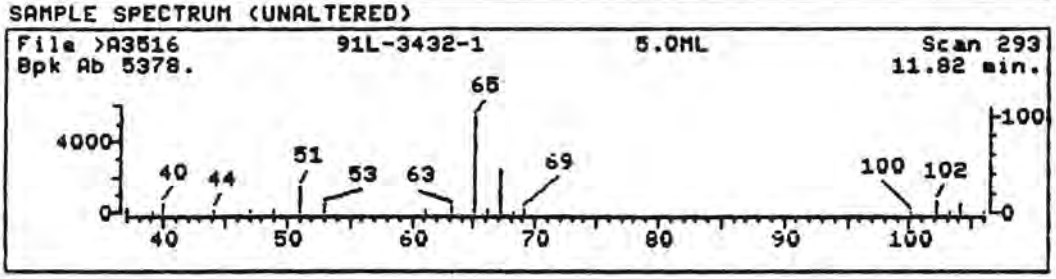
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



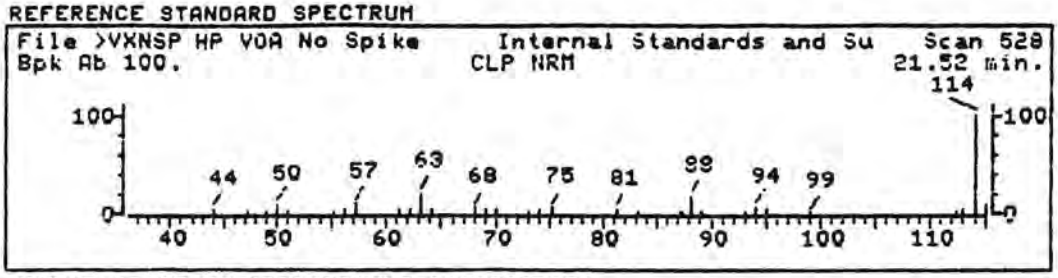
SAMPLE SPECTRUM (UNALTERED)



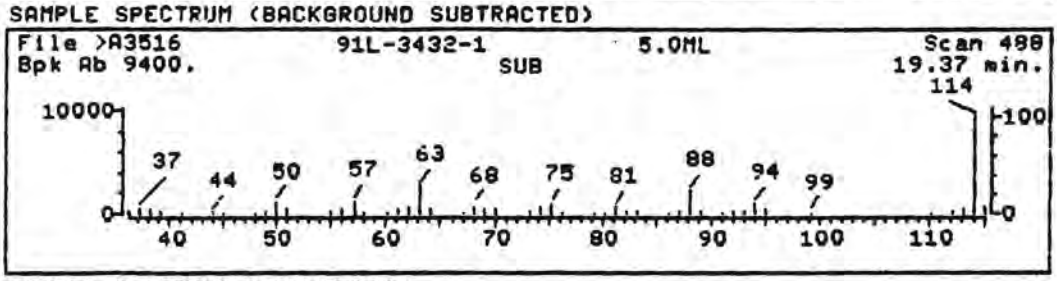
Data File: >A3516::D4 Quant Output File: ^A3516::D1
Name: 91L-3432-1
Misc: 5.0ML
Quant Time: 911112 12:56 Quant ID File: ID_VCA::D2
Injected at: 911112 12:01 Last Calibration: 911029 17:27

Compound No: 16
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 293
Retention Time: 11.82 min.
Quant Ion: 65.0
Area: 64575
Concentration: 49.26 ug/L
q-value: 81

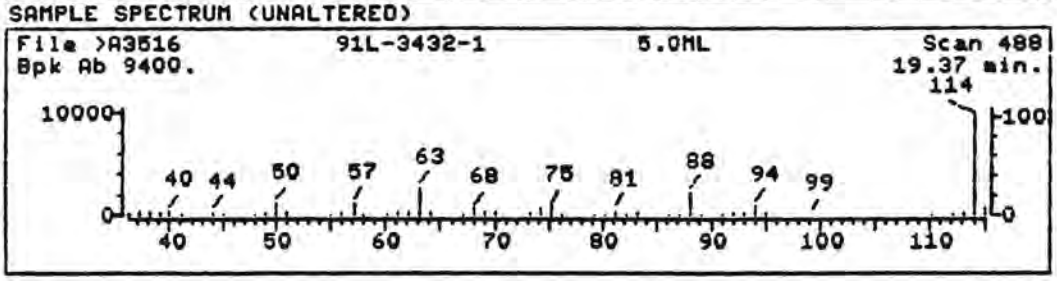
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



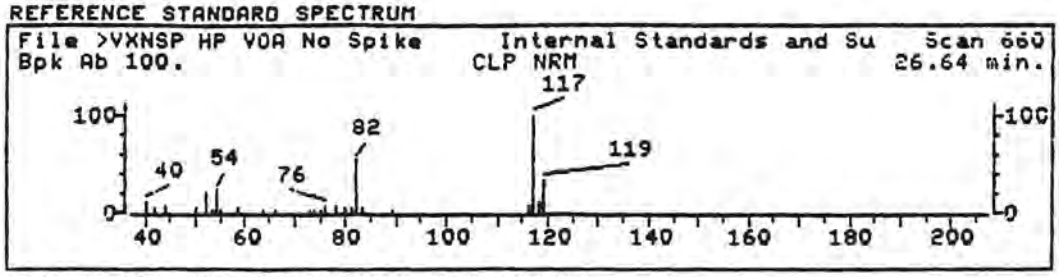
SAMPLE SPECTRUM (UNALTERED)



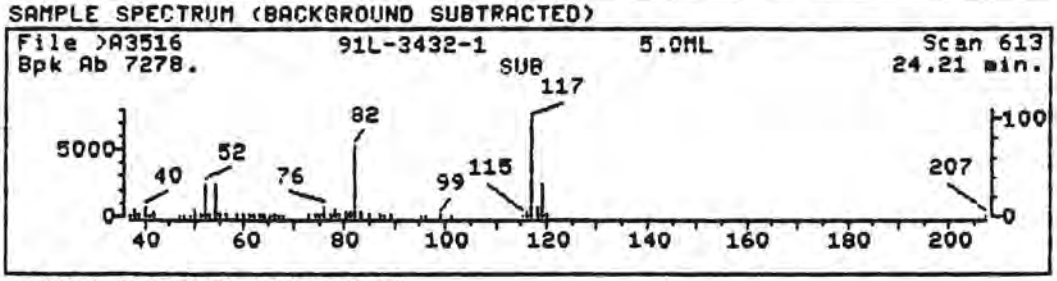
Data File: >A3516::D4 Quant Output File: ^A3516::D1
Name: 91L-3432-1
Misc: 5.0ML
Quant Time: 911112 12:56 Quant ID File: ID_VCA::D2
Injected at: 911112 12:01 Last Calibration: 911029 17:27

Compound No: 23 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 488
Retention Time: 19.37 min.
Quant Ion: 114.0
Area: 116171
Concentration: 50.00 ug/L
q-value: 68

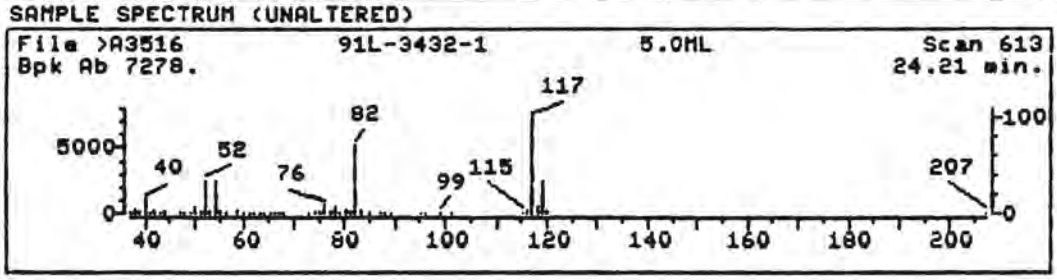
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



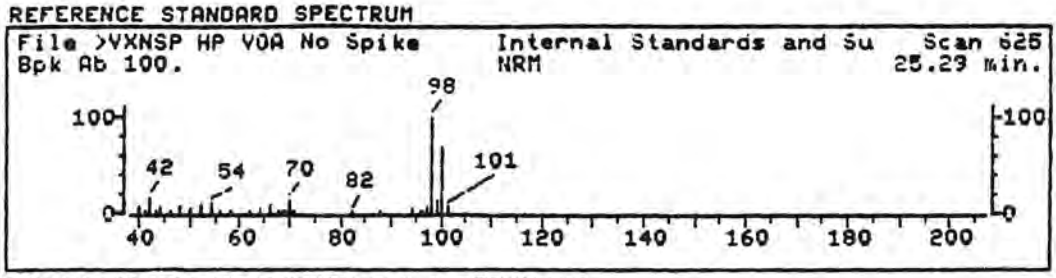
SAMPLE SPECTRUM (UNALTERED)



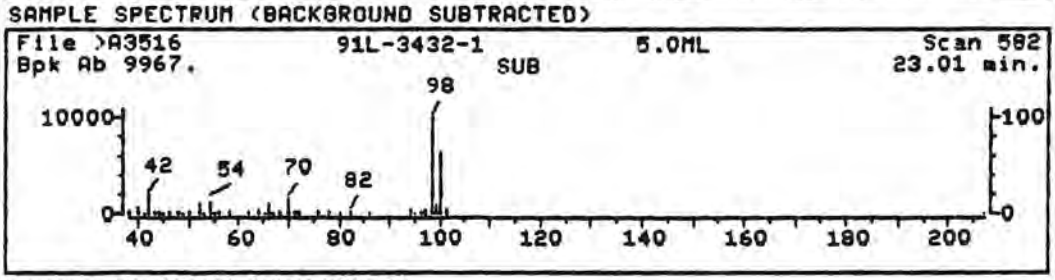
Data File: >A3516::D4
Quant Output File: ^A3516::D1
Name: 91L-3432-1
Misc: 5.0ML
Quant Time: 911112 12:56
Quant ID File: ID_VCA::D2
Injected at: 911112 12:01
Last Calibration: 911029 17:27

Compound No: 33 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 613
Retention Time: 24.21 min.
Quant Ion: 117.0
Area: 96603
Concentration: 50.00 ug/L
q-value: 98

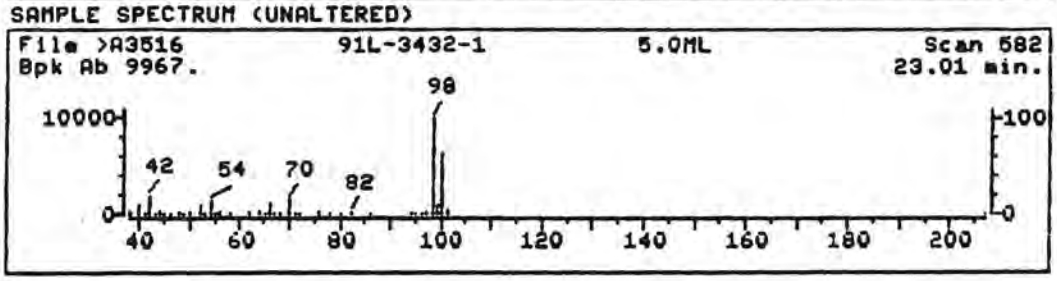
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



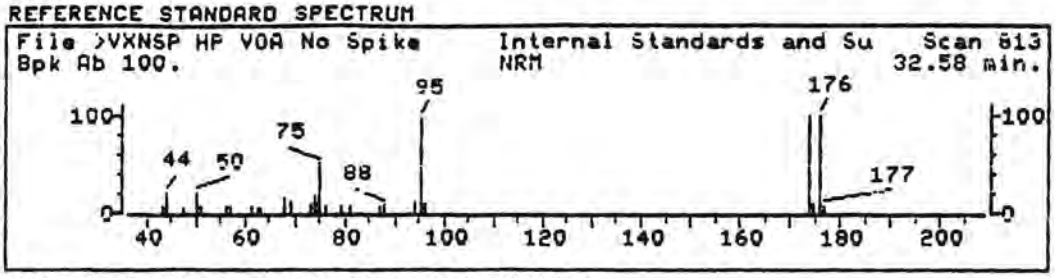
Data File: >A3516::D4
Name: 91L-3432-1
Misc: 5.0ML
Quant Time: 911112 12:56
Injected at: 911112 12:01

Quant Output File: ^A3516::D1

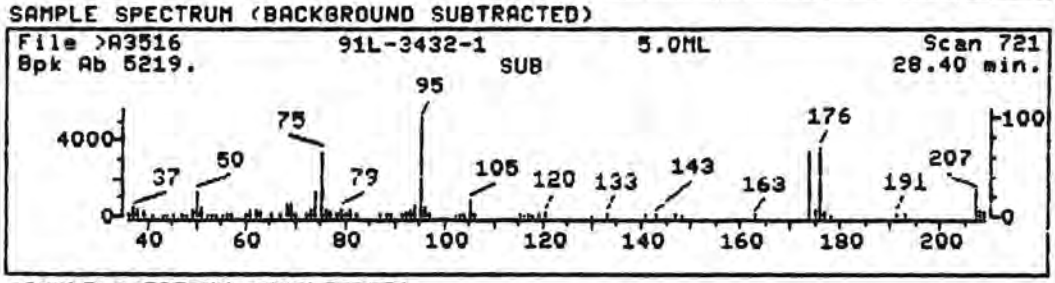
Quant ID File: ID_VCA::D2
Last Calibration: 911029 17:27

Compound No: 39
Compound Name: Toluene-d8
Scan Number: 582
Retention Time: 23.01 min.
Quant Ion: 98.0
Area: 123732
Concentration: 51.10 ug/L
q-value: 97

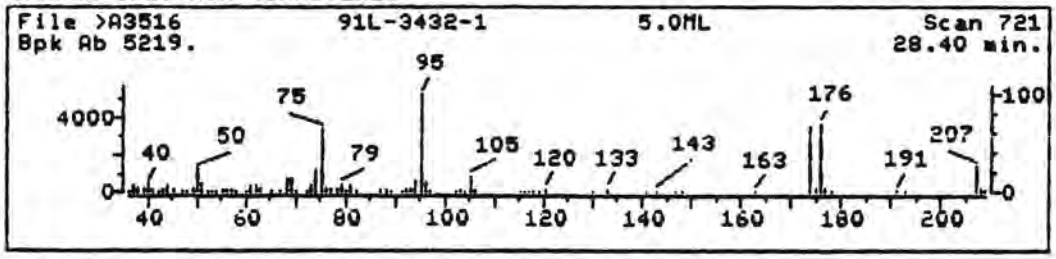
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Quant Output File: ^A3516::D1

Name: 91L-3432-1
Misc: 5.0ML
Quant Time: 911112 12:56
Quant ID File: ID_VCA::D2
Injected at: 911112 12:01
Last Calibration: 911029 17:27

Compound No: 45
Compound Name: Bromofluorobenzene
Scan Number: 721
Retention Time: 28.40 min.
Quant Ion: 95.0
Area: 101391
Concentration: 50.19 ug/L
q-value: 90

QUANT REPORT

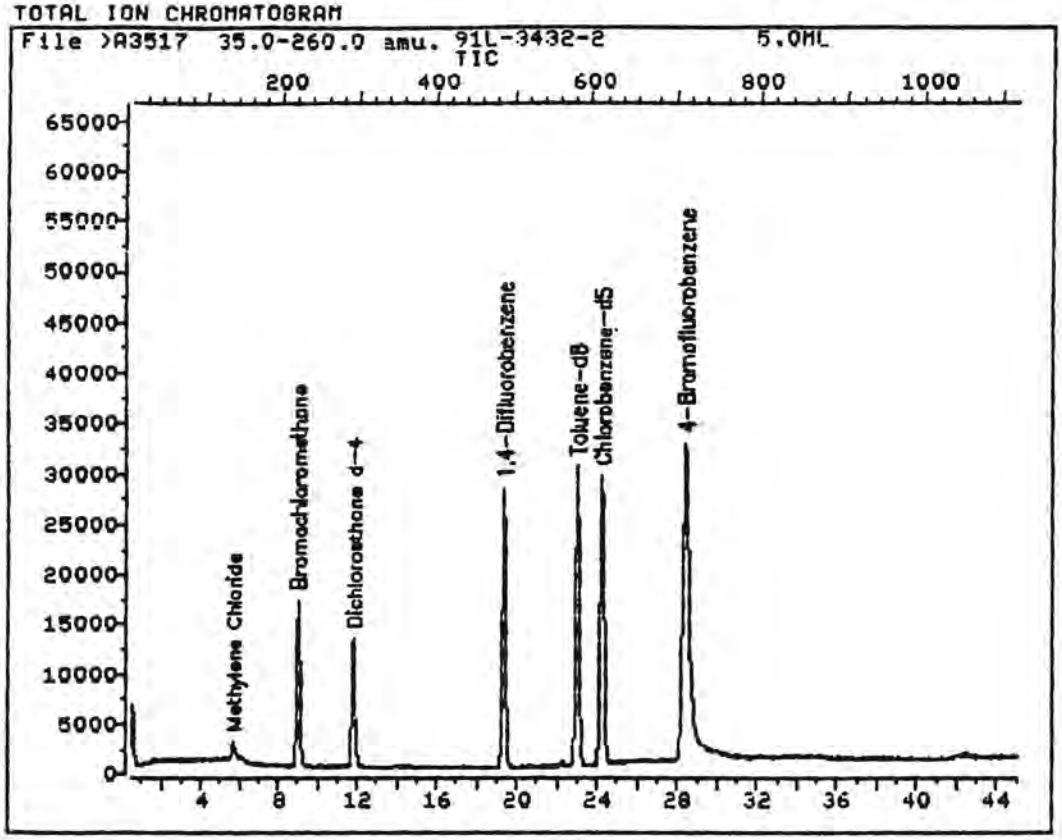
Operator ID: MALOS Quant Rev: 6 Quant Time: 911112 14:22
Output File: ^A3517::D1 Injected at: 911112 13:31
Data File: >A3517::D4 Dilution Factor: 1.00000
Name: 91L-3432-2
Misc: 5.0ML

ID File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911029 17:27

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.02	221	25522	50.00	ug/L	96
6)	Methylene Chloride	5.69	135	4463	7.33	ug/L	84
16)	1,2-Dichloroethane-d4	11.85	294	67287	50.43	ug/L	82
23)	*1,4-Difluorobenzene	19.36	488	116563	50.00	ug/L	69
33)	*Chlorobenzene-d5	24.24	614	97212	50.00	ug/L	93
39)	Toluene-d8	23.00	582	126615	51.96	ug/L	99
45)	Bromofluorobenzene	28.43	713	104032	51.18	ug/L	91

* Compound is ISTD

TOTAL ION CHROMATOGRAM

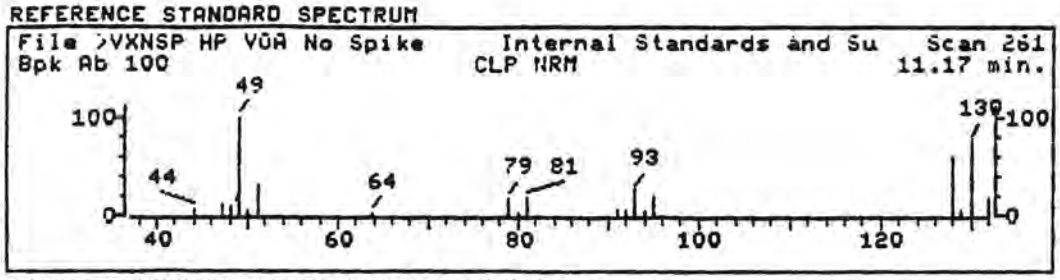


Data File: >A3517::D4 Quant Output File: ^A3517::D1
Name: 91L-3432-2
Misc: 5.0ML

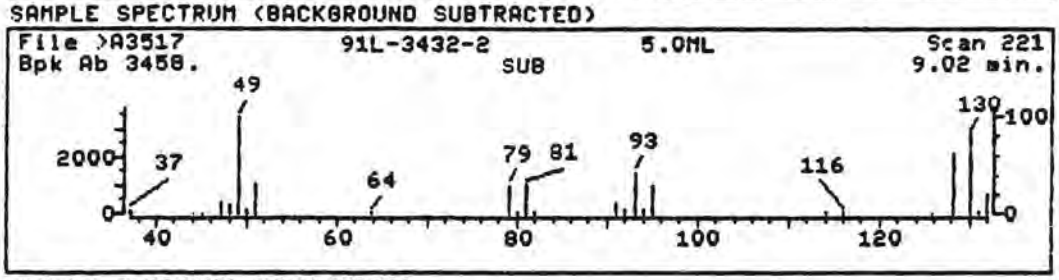
Id File: ID_VCA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911029 17:27

Operator ID: MALOS
Quant Time: 911112 14:22
Injected at: 911112 13:31

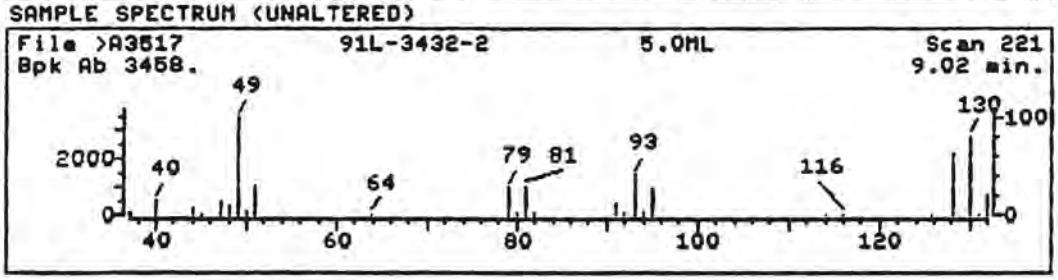
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



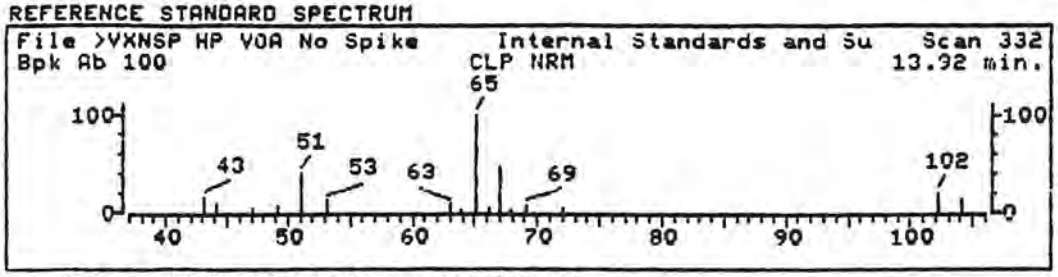
SAMPLE SPECTRUM (UNALTERED)



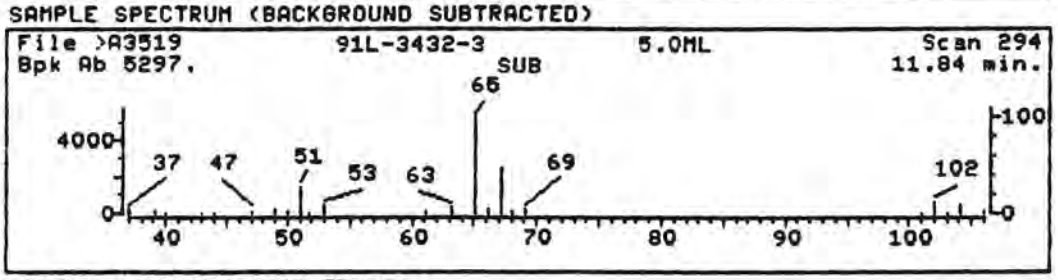
Data File: >A3517::D4 Quant Output File: ^A3517::D1
Name: 91L-3432-2
Misc: 5.0ML
Quant Time: 911112 14:22 Quant ID File: ID_VCA::D2
Injected at: 911112 13:31 Last Calibration: 911029 17:27

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 221
Retention Time: 9.02 min.
Quant Ion: 128.0
Area: 25522
Concentration: 50.00 ug/L
q-value: 96

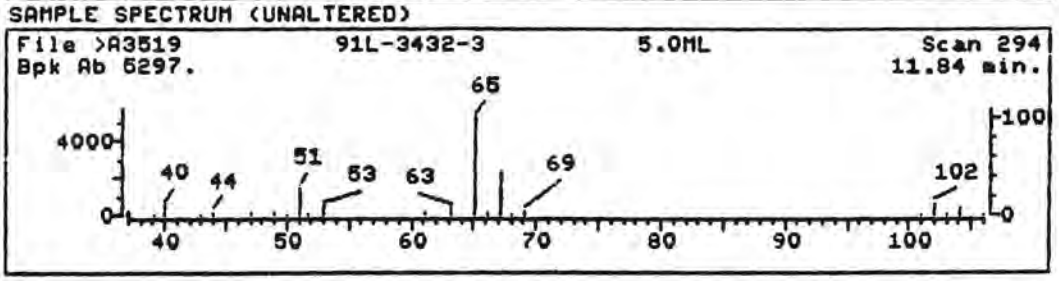
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



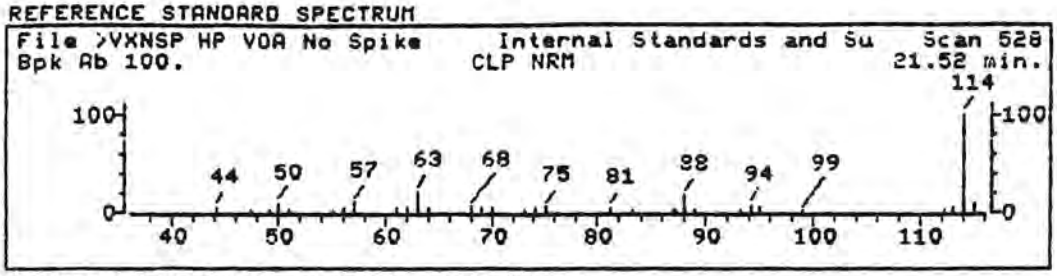
SAMPLE SPECTRUM (UNALTERED)



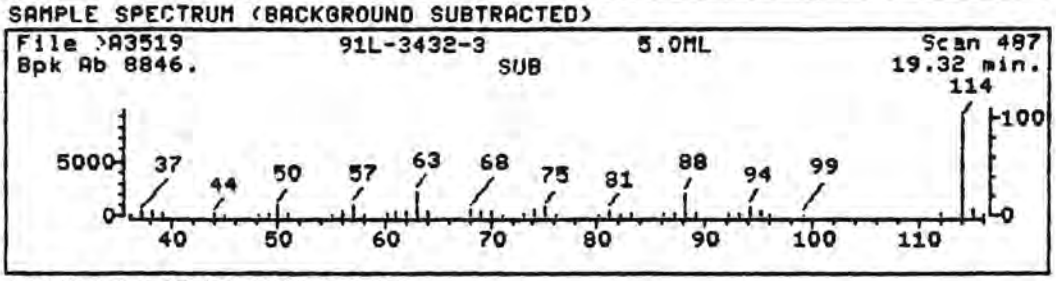
Data File: >A3519::D4 Quant Output File: ^A3519::D2
Name: 91L-3432-3
Misc: 5.0ML
Quant Time: 911112 16:26 Quant ID File: ID_VCA::D2
Injected at: 911112 15:40 Last Calibration: 911029 17:27

Compound No: 16
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 294
Retention Time: 11.84 min.
Quant Ion: 65.0
Area: 62997
Concentration: 51.94 ug/L
q-value: 81

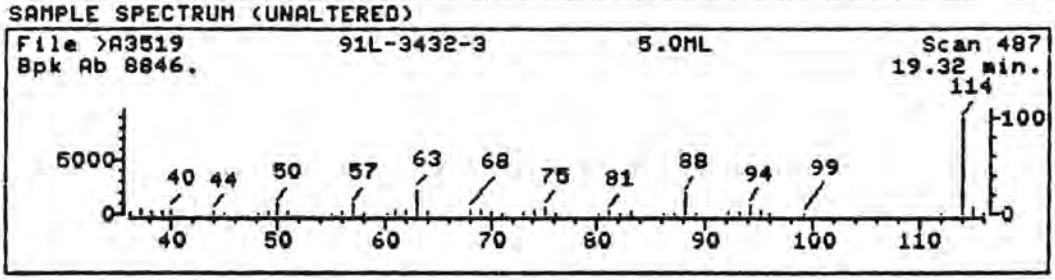
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



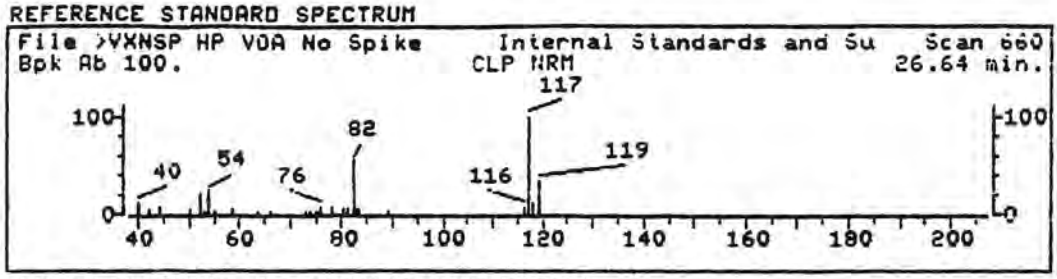
SAMPLE SPECTRUM (UNALTERED)



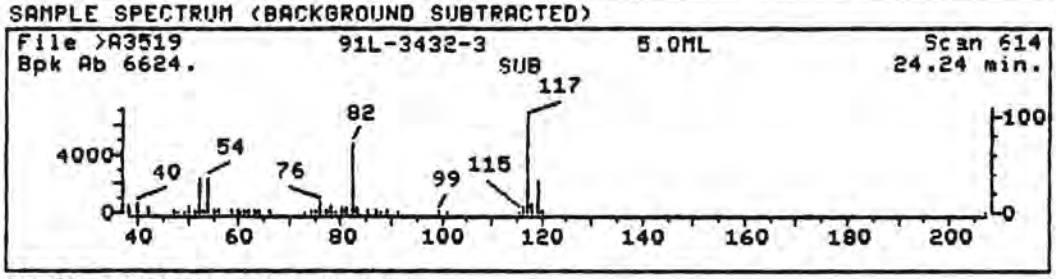
Data File: >A3519::D4 Quant Output File: ^A3519::D2
Name: 91L-3432-3
Misc: 5.0ML
Quant Time: 911112 16:26 Quant ID File: ID_VCA::D2
Injected at: 911112 15:40 Last Calibration: 911029 17:27

Compound No: 23 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 487
Retention Time: 19.32 min.
Quant Ion: 114.0
Area: 109368
Concentration: 50.00 ug/L
q-value: 68

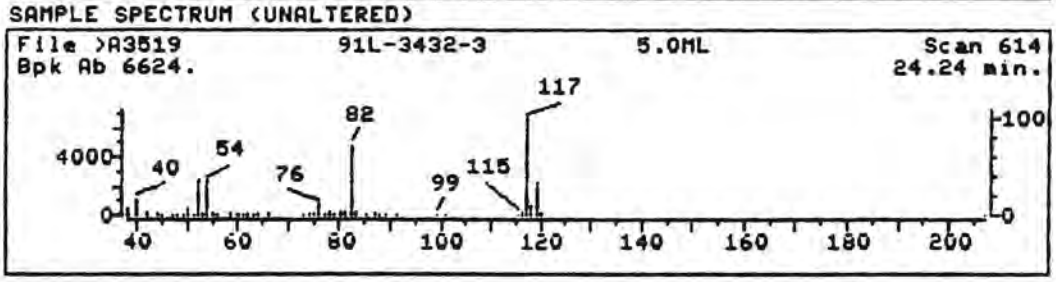
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



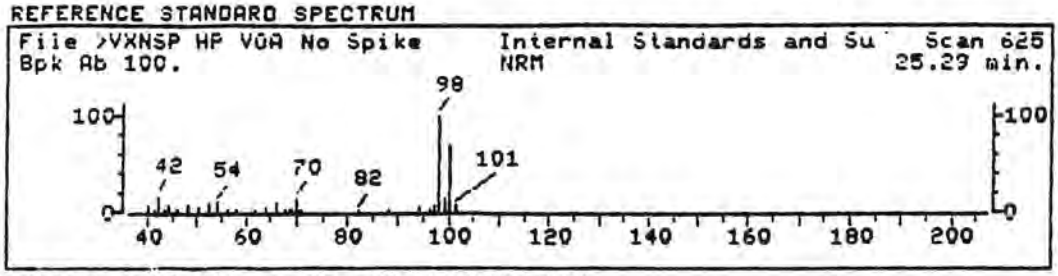
SAMPLE SPECTRUM (UNALTERED)



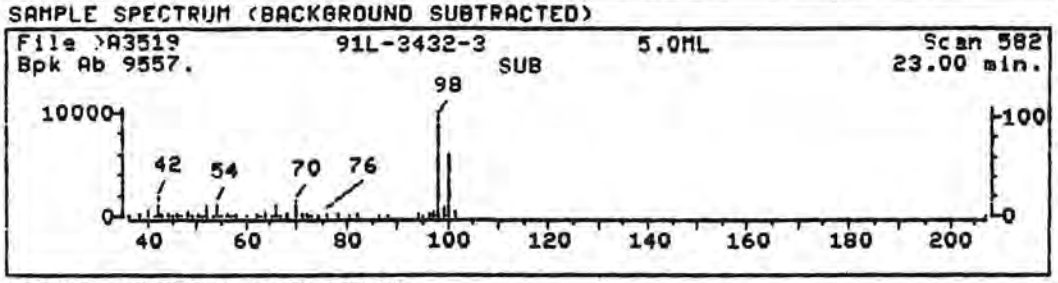
Data File: >A3519::D4
Quant Output File: ^A3519::D2
Name: 91L-3432-3
Misc: 5.0ML
Quant Time: 911112 16:26
Quant ID File: ID_VOA::D2
Injected at: 911112 15:40
Last Calibration: 911029 17:27

Compound No: 33 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 614
Retention Time: 24.24 min.
Quant Ion: 117.0
Area: 87828
Concentration: 50.00 ug/L
q-value: 97

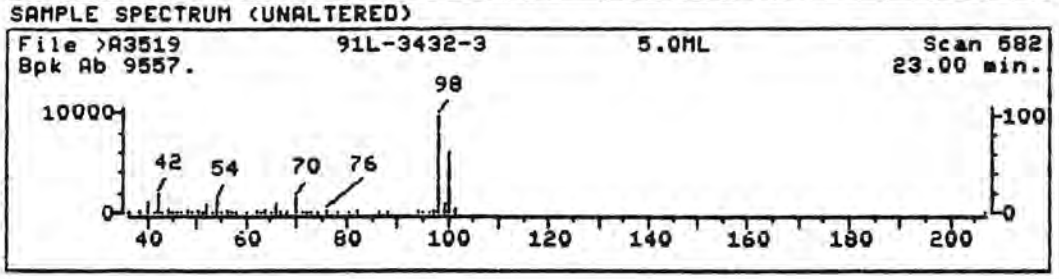
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



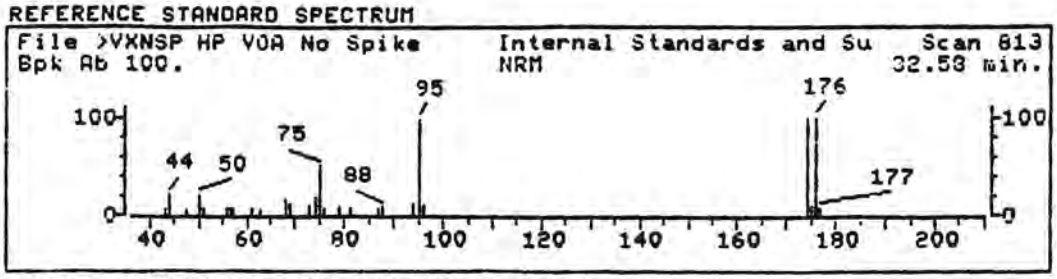
Data File: >A3519::D4
Name: 91L-3432-3
Misc: 5.0ML
Quant Time: 911112 16:26
Injected at: 911112 15:40

Quant Output File: ^A3519::D2

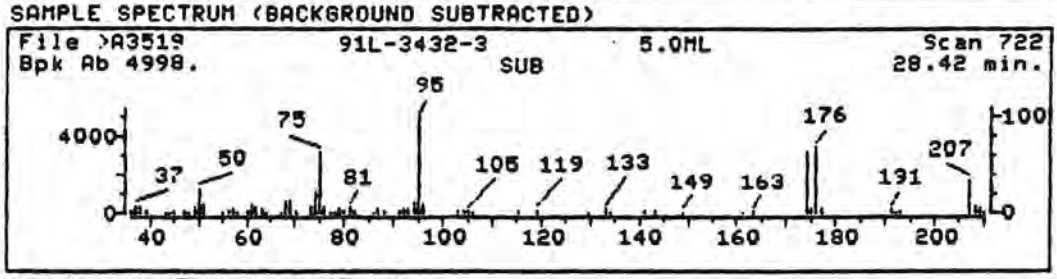
Quant ID File: ID_VCA::D2
Last Calibration: 911029 17:27

Compound No: 39
Compound Name: Toluene-d8
Scan Number: 582
Retention Time: 23.00 min.
Quant Ion: 98.0
Area: 119065
Concentration: 54.08 ug/L
q-value: 98

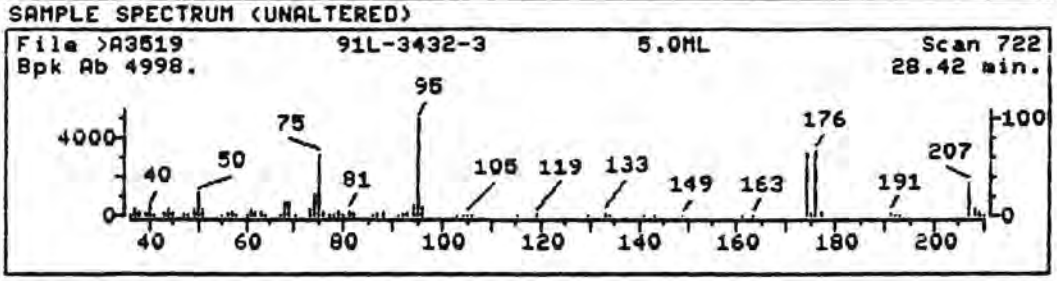
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >A3519::D4 Quant Output File: ^A3519::D2
Name: 91L-3432-3
Misc: 5.0ML
Quant Time: 911112 16:26 Quant ID File: ID_VCA::D2
Injected at: 911112 15:40 Last Calibration: 911029 17:27

Compound No: 45
Compound Name: Bromofluorobenzene
Scan Number: 722
Retention Time: 28.42 min.
Quant Ion: 95.0
Area: 94977
Concentration: 51.72 ug/L
q-value: 89

Roux Associates, Inc.
Test Report No. NAC91L-3432
Certification No. 03117
November 29, 1991

F. DATA SUMMARY PACKAGE (Continued)

3. Sample Data Package (Continued)

a. Volatile Organics by GC/MS (Continued)

3. Library Searches for Non-Target Compounds

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE UNKNOWN IDENTIFICATION

LAB SAMPLE ID:91L-3432-1 LAB FILE ID:>A3516

DATE RECEIVED:11/06/91 DATE ANALYZED:911112

SAMPLE WT/VOL:5.0ML LEVEL:LOW

COMPOUND	RET TIME	CONC	
1.Unknown	32.20	16 ug/L	J
2.Unknown	35.45	25 ug/L	J
3.Unknown Aromatic	44.21	25 ug/L	J

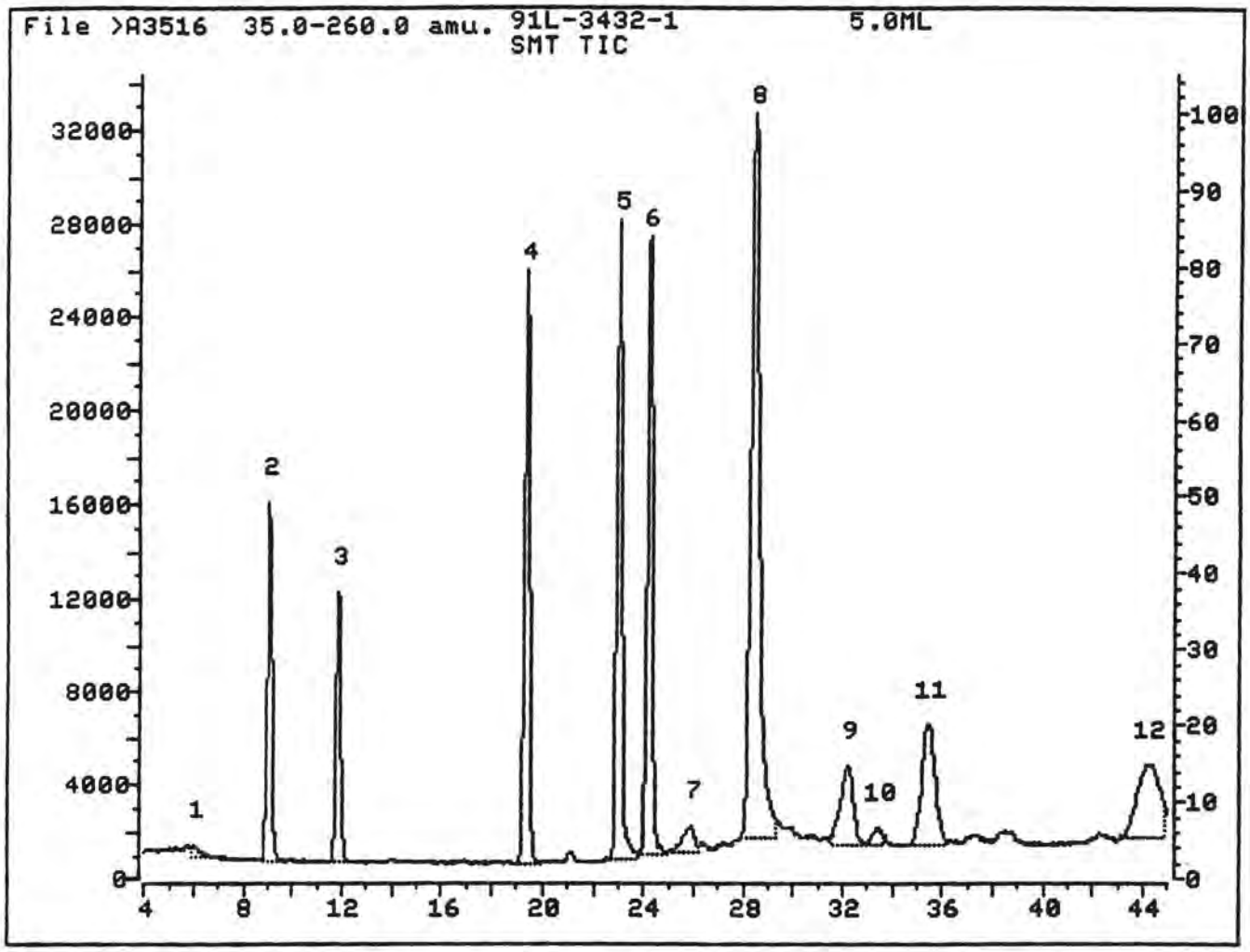
J; Estimated Concentration

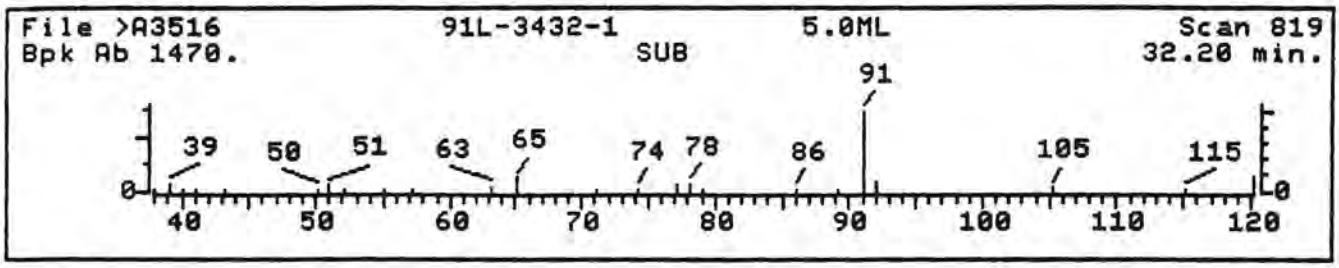
SAMPLE INTEGRATION SUMMARY

SAMPLE NAME AND AMT: 91L-3432-1 5.0ML
SAMPLE DATA FILE: >A3516

PEAK NO.	RET. TIME	SCAN	AREA	IDENTIFICATION
1	6.01	143	11399	<10%
2	9.03	221	202380	IS
3	11.82	293	151871	SS
4	19.37	488	345823	IS
5	23.01	582	391521	SS
6	24.25	614	382497	IS
7	25.92	657	33757	<10%
8	28.44	722	768068	SS
9	32.20	819	119822	UK
10	33.44	851	17220	<10%
11	35.45	903	188119	UK
12	44.21	1129	191211	UK

IS = INTERNAL STANDARD
SS = SURROGATE
TC = TARGET COMPOUND
UK = UNKNOWN
<10% = UNKNOWN LESS THEN 10% OF INTERNAL STANDARD

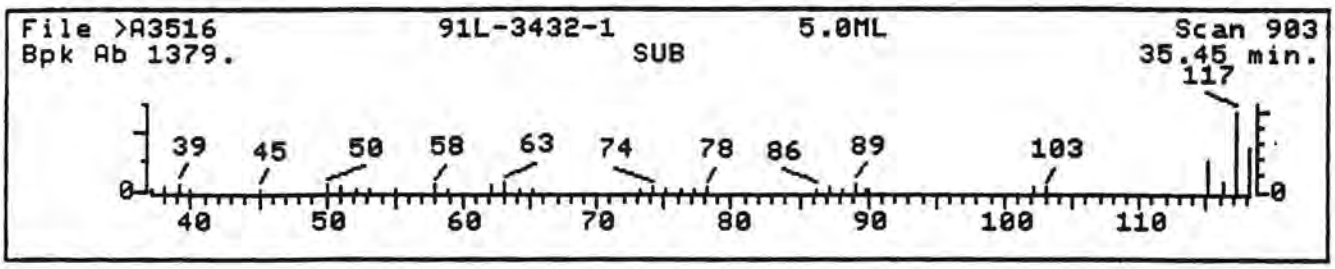

File >A3516 35.0-260.0 amu. 91L-3432-1 5.0ML
SMT TIC
32000
28000
24000
20000
16000
12000
8000
4000
0
100
90
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
12
4
8
12
16
20
24
28
32
36
40
44



Sample file: >A3516 Spectrum #: 819

No data base entries were retrieved.

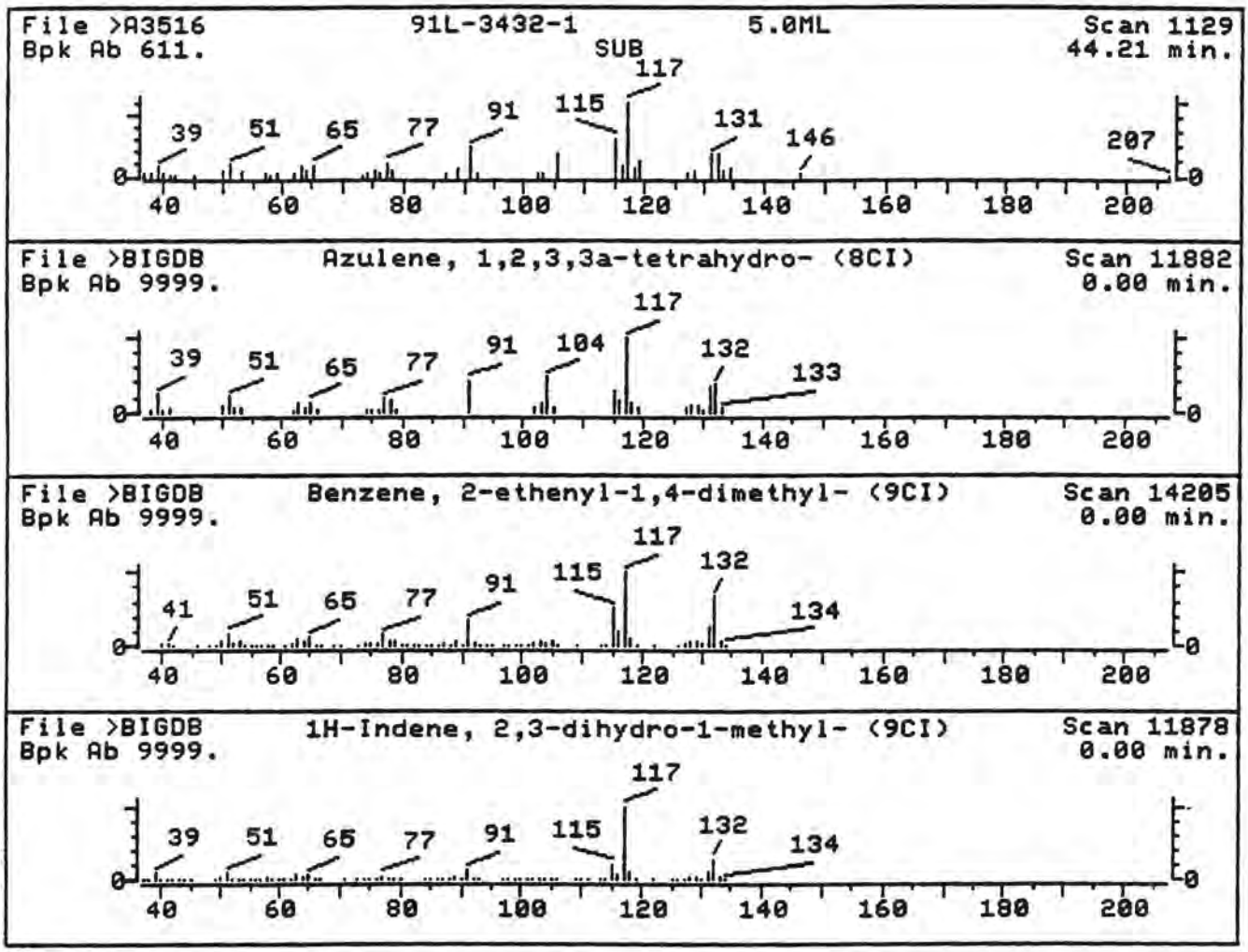
CORRECTED TOTAL ION AREA OF UNKNOWN = 119822
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 382497
CONCENTRATION OF INTERNAL STD = 50 ug/L DILUTION FACTOR = 1
SEMI QUANTITATION OF UNKNOWN = 16 ug/L



Sample file: >A3516 Spectrum #: 903

No data base entries were retrieved.

CORRECTED TOTAL ION AREA OF UNKNOWN = 188119
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 382497
CONCENTRATION OF INTERNAL STD = 50 ug/L DILUTION FACTOR = 1
SEMI QUANTITATION OF UNKNOWN = 25 ug/L



1.	Azulene, 1,2,3,3a-tetrahydro- (8CI)	132 C10H12
2.	Benzene, 2-ethenyl-1,4-dimethyl- (9CI)	132 C10H12
3.	1H-Indene, 2,3-dihydro-1-methyl- (9CI)	132 C10H12
4.	Benzofuran, 2-methyl- (8CI9CI)	132 C9H8O
5.	1H-Indene, 2,3-dihydro-5-methyl- (9CI)	132 C10H12

Sample file: >A3516 Spectrum #: 1129
Search speed: 1 Tilting option: S No. of ion ranges searched: 61

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	62*	33877871	11882	"BIGDB	69	45	2	0	77	29	25	49
2.	43	2039896	14205	"BIGDB	71	36	3	0	100	21	17	14
3.	33*	767588	11878	"BIGDB	44	53	2	1	100	33	12	16
4.	32*	4265252	14211	"BIGDB	49	41	2	3	35	45	12	23
5.	28*	874351	14199	"BIGDB	44	62	2	0	67	38	10	14

CORRECTED TOTAL ION AREA OF UNKNOWN = 191211
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 382497
CONCENTRATION OF INTERNAL STD = 50 ug/L DILUTION FACTOR = 1
SEMI QUANTITATION OF UNKNOWN = 25 ug/L

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE UNKNOWN IDENTIFICATIION

LAB SAMPLE ID:91L-3432-2 LAB FILE ID:>A3517

DATE RECEIVED:11/06/91 DATE ANALYZED:911112

SAMPLE WT/VOL:5.0ML LEVEL:LOW

COMPOUND	RET TIME(MIN)	CONC
NONE FOUND		

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE UNKNOWN IDENTIFICATIION

LAB SAMPLE ID:91L-3432-3 LAB FILE ID:>A3519

DATE RECEIVED:11/06/91 DATE ANALYZED:911112

SAMPLE WT/VOL:5.0ML LEVEL:LOW

COMPOUND	RET TIME(MIN)	CONC
NONE FOUND		

Calibration Check Report

Title: HP VOA Standards for 5 Point Calibration Curve
Calibrated: 911029 17:23

Check Standard Data File: >A3525
Injection Time: 911112 21:19

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Chloromethane	.62001	.65722	6.00	Average	
Bromomethane	1.30973	1.31888	.70	Average	
Vinyl Chloride	.83498	.83433	.08	Average	
Chloroethane	.59785	.64200	7.38	Average	
Methylene Chloride	1.19272	1.25657	5.35	Average	
Acrolein	.07473	.05498	26.43	Average	
Acrylonitrile	.10164	.10812	6.38	Average	
Acetone	.14267	.14692	2.98	Average	
Carbon Disulfide	2.27506	2.33153	2.48	Average	
Trichlorofluoromethane	6.63270	6.91250	4.22	Average	
1,1-Dichloroethene	1.39581	1.45843	4.49	Average	
1,1-Dichloroethane	2.96138	3.22541	8.92	Average	
Trans-1,2-Dichloroethene	1.33357	1.44874	8.64	Average	
Chloroform	4.49836	4.82132	7.18	Average	
1,2-Dichloroethane-d4	2.61416	2.88231	10.26	Average	
1,2-Dichloroethane	2.75184	2.89260	5.12	Average	
2-Butanone	.22793	.24732	8.51	Average	
1,1,1-Trichloroethane	4.52097	4.64801	2.81	Average	
Carbon Tetrachloride	4.68152	4.92199	5.14	Average	
Vinyl Acetate	1.53913	1.48126	3.76	Average	
Bromodichloromethane	4.29624	4.48586	4.41	Average	
1,2-Dichloropropane	.34904	.39235	12.41	Average	
cis-1,3-Dichloropropene	.61769	.62332	.91	Average	(Conc=81.00)
Trichloroethene	.46062	.47671	3.49	Average	
Dibromochloromethane	.58617	.58780	.28	Average	
1,1,2-Trichloroethane	.28108	.30521	8.58	Average	
Benzene	.76500	.86613	13.22	Average	
trans-1,3-Dichloropropene	.53610	.51605	3.74	Average	(Conc=19.00)
2-Chloroethylvinylether	.13149	.12024	8.56	Average	
Bromoform	.45886	.43122	6.02	Average	
2-Hexanone	.12830	.12421	3.19	Average	
4-Methyl-2-Pentanone	.18778	.19569	4.21	Average	
Tetrachloroethene	.53345	.53605	.49	Average	
1,1,2,2-Tetrachloroethane	.43585	.47140	8.16	Average	
Toluene	.67860	.72512	6.85	Average	
Toluene-d8	1.25333	1.32949	6.08	Average	
Chlorobenzene	.96912	1.01800	5.04	Average	
Ethylbenzene	.45361	.47664	5.08	Average	
Styrene	.91588	.92524	1.02	Average	
m&p Xylenes	.27735	.29592	6.70	Average	(Conc=100.00)

RF - Response Factor from daily standard file at 50.00 ug/L

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

%Diff - % Difference from original average or curve

Calibration Check Report

Title: HP VOA Standards for 5 Point Calibration Curve
Calibrated: 911029 17:23

Check Standard Data File: >A3525
Injection Time: 911112 21:19

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
O-Xylenes	1.07003	1.13487	6.06	Average	
Bromofluorobenzene	1.04553	1.14342	9.36	Average	
1,3-Dichlorobenzene	1.06498	1.13985	7.03	Average	
1,2 &1,4-Dichlorobenzenes	1.05712	1.12688	6.60	Average	(Conc=100.00)

RF - Response Factor from daily standard file at 50.00 ug/L

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

%Diff - % Difference from original average or curve

NAC NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3432
Certification No. 03117
November 29, 1991

G. STANDARDS DATA PACKAGE (Continued)

1. Volatile Organics by GC/MS (Continued)

c. Chromatograms and Quantitation Reports of Standards

QUANT REPORT

Operator ID: MALOS
Output File: ^A3280::D2
Data File: >A3280::D1
Name: 20UG/L HSL CAL CHK
Misc:

Quant Rev: 6 Quant Time: 911029 17:10
Injected at: 911029 16:12
Dilution Factor: 1.00000

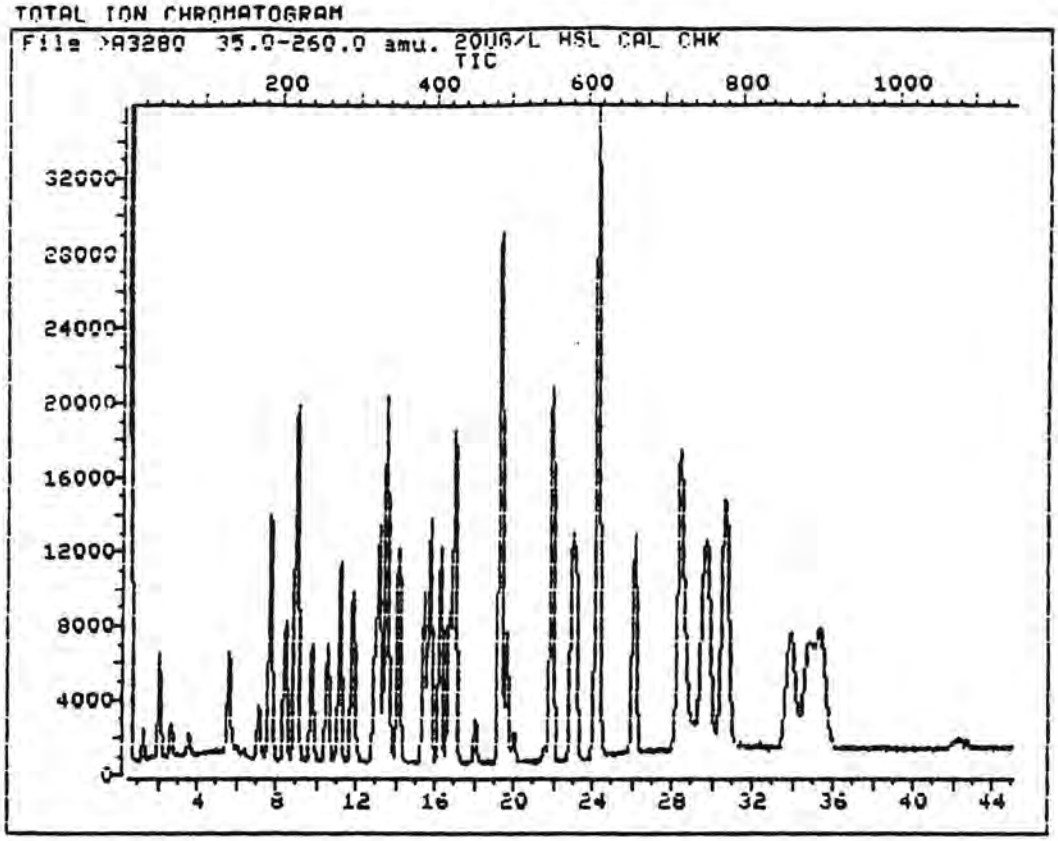
ID File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910912 17:18

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.02	221	28664	50.00	ug/L	9
2)	Chloromethane	1.27	21	7030	9.44	ug/L	8
3)	Bromomethane	2.08	42	14315	15.06	ug/L	8
4)	Vinyl Chloride	2.67	57	9516	12.33	ug/L	9
5)	Chloroethane	3.59	81	6379	13.98	ug/L	9
6)	Methylene Chloride	5.65	134	13238	19.94	ug/L	8
7)	Acrolein	6.42	154	574M	14.15	ug/L	
8)	Acrylonitrile	7.16	173	1073M	9.78	ug/L	
9)	Acetone	6.38	153	1717	15.71	ug/L	8
10)	Carbon Disulfide	7.16	173	24121	11.09	ug/L	10
11)	Trichlorofluoromethane	7.70	187	72744	31.54	ug/L	9
12)	1,1-Dichloroethene	8.48	207	15159	24.41	ug/L	9
13)	1,1-Dichloroethane	9.79	241	32614	21.20	ug/L	9
14)	Trans-1,2-Dichloroethene	10.57	261	14285	20.46	ug/L	8
15)	Chloroform	11.19	277	49668	23.44	ug/L	9
16)	1,2-Dichloroethane-d4	11.81	293	29543	22.79	ug/L	8
17)	1,2-Dichloroethane	11.92	296	31348	20.15	ug/L	9
18)	2-Butanone	11.81	293	2757	11.61	ug/L	9
19)	1,1,1-Trichloroethane	13.12	327	48486	24.25	ug/L	7
20)	Carbon Tetrachloride	13.51	337	49372	24.88	ug/L	8
21)	Vinyl Acetate	13.74	343	16508	11.87	ug/L	7
22)	Bromodichloromethane	14.13	353	47383	20.90	ug/L	8
23)	*1,4-Difluorobenzene	19.32	487	122049	50.00	ug/L	6
24)	1,2-Dichloropropane	15.45	387	16830	16.92	ug/L	9
25)	cis-1,3-Dichloropropene	15.72	394	46818	28.03	ug/L	9
26)	Trichloroethene	16.26	408	21272	20.29	ug/L	9
27)	Dibromochloromethane	16.96	426	27291	17.06	ug/L	9
28)	1,1,2-Trichloroethane	17.04	428	13746	15.89	ug/L	9
29)	Benzene	16.73	420	36245	17.20	ug/L	8
30)	trans-1,3-Dichloropropene	17.04	428	9881	6.41	ug/L	9
31)	2-Chloroethylvinylether	18.08	455	6296	12.64	ug/L	8
32)	Bromoform	19.67	496	20939	14.38	ug/L	9
33)	*Chlorobenzene-d5	24.20	613	100824M	50.00	ug/L	
34)	2-Hexanone	21.57	545	5797	12.06	ug/L	9
35)	4-Methyl-2-Pentanone	20.02	505	7402	9.76	ug/L	8
36)	Tetrachloroethene	21.92	554	20876	21.72	ug/L	9
37)	1,1,2,2-Tetrachloroethane	21.96	555	17573M	12.41	ug/L	
38)	Toluene	23.16	586	26458M	18.53	ug/L	
39)	Toluene-d8	22.96	581	48306M	22.95	ug/L	
40)	Chlorobenzene	24.32	616	37642M	19.23	ug/L	
41)	Ethylbenzene	26.14	663	17495M	19.32	ug/L	
42)	Styrene	29.55	751	35146M	18.43	ug/L	
43)	m&p Xylenes	29.82	758	21190M	38.79	ug/L	

	Compound	R.T.	Scan#	Area	Conc	Units	q
44)	O-Xylenes	30.64	729	39324	18.00	ug/L	8
45)	Bromofluorobenzene	28.35	720	41439M	21.56	ug/L	
46)	1,3-Dichlorobenzene	33.97	865	41519	20.62	ug/L	9
47)	1,2 &1,4-Dichlorobenzenes	35.29	899	83116M	39.36	ug/L	9

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >A3280::D1 Quant Output File: ^A3280::D2
Name: 20UG/L HSL CAL CHK
Misc:

Id File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910912 17:18

Operator ID: MALOS
Quant Time: 911029 17:10
Injected at: 911029 16:12

QUANT REPORT

Operator ID: MALOS Quant Rev: 6 Quant Time: 911029 10:49
Output File: ^A3275::D4 Injected at: 911029 09:48
Data File: >A3275::D2 Dilution Factor: 1.00000
Name: 50UG/L HSL CAL CHK
Misc:

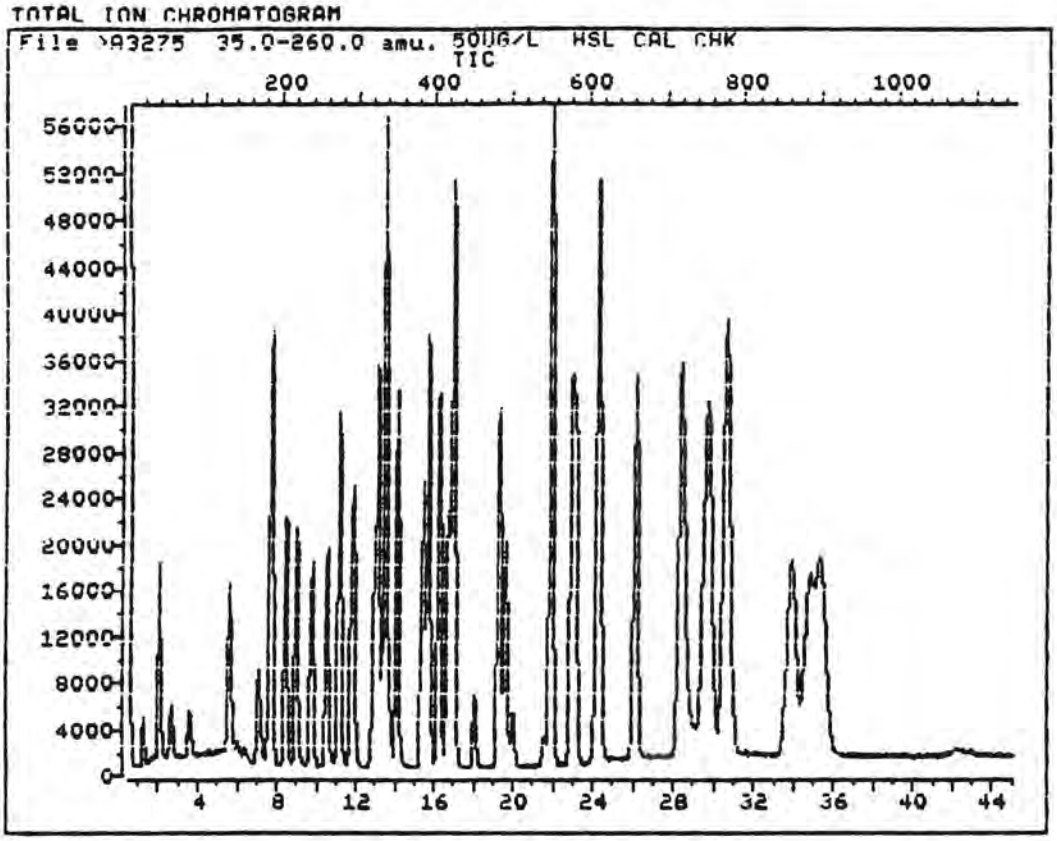
ID File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910912 17:18

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.00	220	32612	50.00	ug/L	98
2)	Chloromethane	1.25	20	19526	23.04	ug/L	91
3)	Bromomethane	2.07	41	42868	39.65	ug/L	84
4)	Vinyl Chloride	2.69	57	26681	30.39	ug/L	95
5)	Chloroethane	3.62	81	19804	38.15	ug/L	98
6)	Methylene Chloride	5.63	133	38642	51.16	ug/L	82
7)	Acrolein	6.41	153	2793	60.52	ug/L	62
8)	Acrylonitrile	7.14	172	3409	27.32	ug/L	91
9)	Acetone	6.41	153	4774	38.40	ug/L	67
10)	Carbon Disulfide	7.10	171	73100	29.54	ug/L	100
11)	Trichlorofluoromethane	7.72	187	206050	78.53	ug/L	99
12)	1,1-Dichloroethene	8.46	206	44630	63.18	ug/L	90
13)	1,1-Dichloroethane	9.78	240	92265	52.71	ug/L	95
14)	Trans-1,2-Dichloroethene	10.55	260	43188	54.38	ug/L	90
15)	Chloroform	11.17	276	141243	58.59	ug/L	91
16)	1,2-Dichloroethane-d4	11.29	292	77828	52.78	ug/L	83
17)	1,2-Dichloroethane	11.91	295	84650	47.82	ug/L	99
18)	2-Butanone	11.83	293	6862	25.41	ug/L	99
19)	1,1,1-Trichloroethane	13.11	326	143341	63.01	ug/L	76
20)	Carbon Tetrachloride	13.50	336	143339	63.48	ug/L	87
21)	Vinyl Acetate	13.73	342	46783	29.56	ug/L	73
22)	Bromodichloromethane	14.16	353	132588	51.40	ug/L	98
23)	*1,4-Difluorobenzene	19.27	485	135282	50.00	ug/L	68
24)	1,2-Dichloropropane	15.44	386	45357	41.15	ug/L	94
25)	cis-1,3-Dichloropropene	15.71	393	132298	71.46	ug/L	96
26)	Trichloroethene	16.29	408	61942	53.31	ug/L	93
27)	Dibromochloromethane	16.95	425	77553	43.73	ug/L	97
28)	1,1,2-Trichloroethane	17.02	427	37489	39.11	ug/L	90
29)	Benzene	16.71	419	99749	42.71	ug/L	85
30)	trans-1,3-Dichloropropene	17.02	427	26457	15.48	ug/L	95
31)	2-Chloroethylvinylether	18.07	454	17122	31.00	ug/L	99
32)	Bromoform	19.62	494	61174	37.90	ug/L	96
33)	*Chlorobenzene-d5	24.19	612	110932	50.00	ug/L	99
34)	2-Hexanone	21.56	544	13701	25.91	ug/L	91
35)	4-Methyl-2-Pentanone	20.01	504	20430	24.48	ug/L	88
36)	Tetrachloroethene	21.91	553	60554	57.27	ug/L	97
37)	1,1,2,2-Tetrachloroethane	21.95	554	49159M	31.55	ug/L	
38)	Toluene	23.15	585	74867	47.67	ug/L	94
39)	Toluene-d8	22.95	580	132878	57.37	ug/L	98
40)	Chlorobenzene	24.31	615	106883	49.62	ug/L	97
41)	Ethylbenzene	26.13	662	51460	51.65	ug/L	99
42)	Styrene	29.54	750	104110	49.61	ug/L	88
43)	m&p Xylenes	29.81	757	62234	103.53	ug/L	

	Compound	R.T.	Scan#	Area	Conc	Units	q
44)	O-Xylenes	30.71	780	120481	50.12	ug/L	8/
45)	Bromofluorobenzene	28.38	720	110377	52.21	ug/L	91
46)	1,3-Dichlorobenzene	33.92	863	116215M	52.47	ug/L	
47)	1,2 &1,4-Dichlorobenzenes	35.28	898	231402M	99.59	ug/L	95

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >A3275::D2 Quant Output File: ^A3275::U4
Name: 50UG/L HSL CAL CHK
Misc:

Id File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910912 17:18

Operator ID: MALOS
Quant Time: 911029 10:49
Injected at: 911029 09:48

QUANT REPORT

Operator ID: MALOS Quant Rev: 6 Quant Time: 911029 11:44
Output File: ^A3276::D4 Injected at: 911029 10:51
Data File: >A3276::D2 Dilution Factor: 1.00000
Name: 100UG/L HSL CAL CHK
Misc:

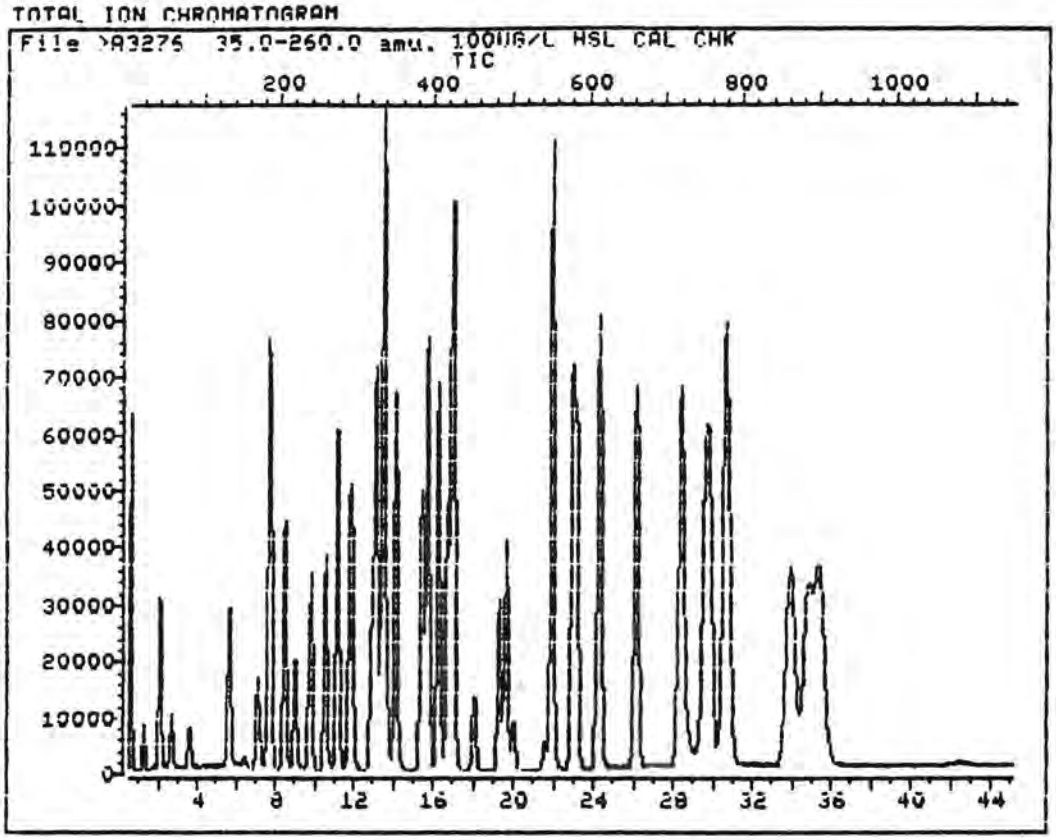
ID File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910912 17:18

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.99	220	30583	50.00	ug/L	97
2)	Chloromethane	1.28	21	37820	47.59	ug/L	92
3)	Bromomethane	2.05	41	79932	78.84	ug/L	88
4)	Vinyl Chloride	2.67	57	50367	61.18	ug/L	94
5)	Chloroethane	3.60	81	36500	74.97	ug/L	97
6)	Methylene Chloride	5.62	133	73608	103.91	ug/L	79
7)	Acrolein	6.43	154	4683	108.20	ug/L	64
8)	Acrylonitrile	7.13	172	6304	53.87	ug/L	87
9)	Acetone	6.43	154	8438	72.37	ug/L	74
10)	Carbon Disulfide	7.13	172	140876	60.70	ug/L	100
11)	Trichlorofluoromethane	7.71	187	421757	171.41	ug/L	99
12)	1,1-Dichloroethene	8.49	207	87734	132.44	ug/L	89
13)	1,1-Dichloroethane	9.80	241	186721	113.75	ug/L	93
14)	Trans-1,2-Dichloroethene	10.54	260	83276	111.81	ug/L	85
15)	Chloroform	11.16	276	284441	125.83	ug/L	94
16)	1,2-Dichloroethane-d4	11.82	293	164567	119.00	ug/L	83
17)	1,2-Dichloroethane	11.90	295	173458	104.48	ug/L	98
18)	2-Butanone	11.86	294	14008	55.31	ug/L	96
19)	1,1,1-Trichloroethane	13.14	327	288533	135.24	ug/L	75
20)	Carbon Tetrachloride	13.52	337	299191	141.29	ug/L	88
21)	Vinyl Acetate	13.76	343	95298	64.21	ug/L	73
22)	Bromodichloromethane	14.14	353	272334	112.59	ug/L	92
23)	*1,4-Difluorobenzene	19.30	486	131346	50.00	ug/L	69
24)	1,2-Dichloropropane	15.46	387	94261	88.08	ug/L	92
25)	cis-1,3-Dichloropropene	15.73	394	269521	149.94	ug/L	96
26)	Trichloroethene	16.28	408	126208	111.88	ug/L	92
27)	Dibromochloromethane	16.97	426	157576	91.51	ug/L	94
28)	1,1,2-Trichloroethane	17.05	428	75172	80.76	ug/L	91
29)	Benzene	16.74	420	204213	90.06	ug/L	89
30)	trans-1,3-Dichloropropene	17.01	427	54542	52.88	ug/L	96
31)	2-Chloroethylvinylether	18.06	454	34719	64.75	ug/L	98
32)	Bromoform	19.65	495	122710	78.30	ug/L	99
33)	*Chlorobenzene-d5	24.18	612	109494	50.00	ug/L	97
34)	2-Hexanone	21.58	545	25390	48.65	ug/L	85
35)	4-Methyl-2-Pentanone	20.03	505	40930	49.69	ug/L	86
36)	Tetrachloroethene	21.89	553	118785	113.81	ug/L	95
37)	1,1,2,2-Tetrachloroethane	21.93	554	95019M	61.79	ug/L	
38)	Toluene	23.13	585	150949	97.37	ug/L	98
39)	Toluene-d8	22.94	580	282183	123.43	ug/L	98
40)	Chlorobenzene	24.30	615	214772	101.01	ug/L	94
41)	Ethylbenzene	26.12	662	101501	103.21	ug/L	93
42)	Styrene	29.57	751	198589	95.87	ug/L	84
43)	m&p Xylenes	29.80	757	123731	208.54	ug/L	93

	Compound	R.T.	Scan#	Area	Conc	Units	q
44)	O-Xylenes	30.65	779	239777	101.05	ug/L	89
45)	Bromofluorobenzene	28.37	720	233095	111.70	ug/L	91
46)	1,3-Dichlorobenzene	33.91	863	241983M	110.68	ug/L	
47)	1,2 &1,4-Dichlorobenzenes	35.27	898	473503M	206.47	ug/L	95

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >A3276::D2 Quant Output File: ^A3276::D4
Name: 100UG/L HSL CAL CHK
Misc:

Id File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910912 17:18

Operator ID: MALOS
Quant Time: 911029 11:44
Injected at: 911029 10:51

QUANT REPORT

Operator ID: MALOS
Output File: ^A3277::D4
Data File: >A3277::D2
Name: 150UG/L HSL CAL CHK
Misc:

Quant Rev: 6 Quant Time: 911029 12:51
Injected at: 911029 11:42
Dilution Factor: 1.00000

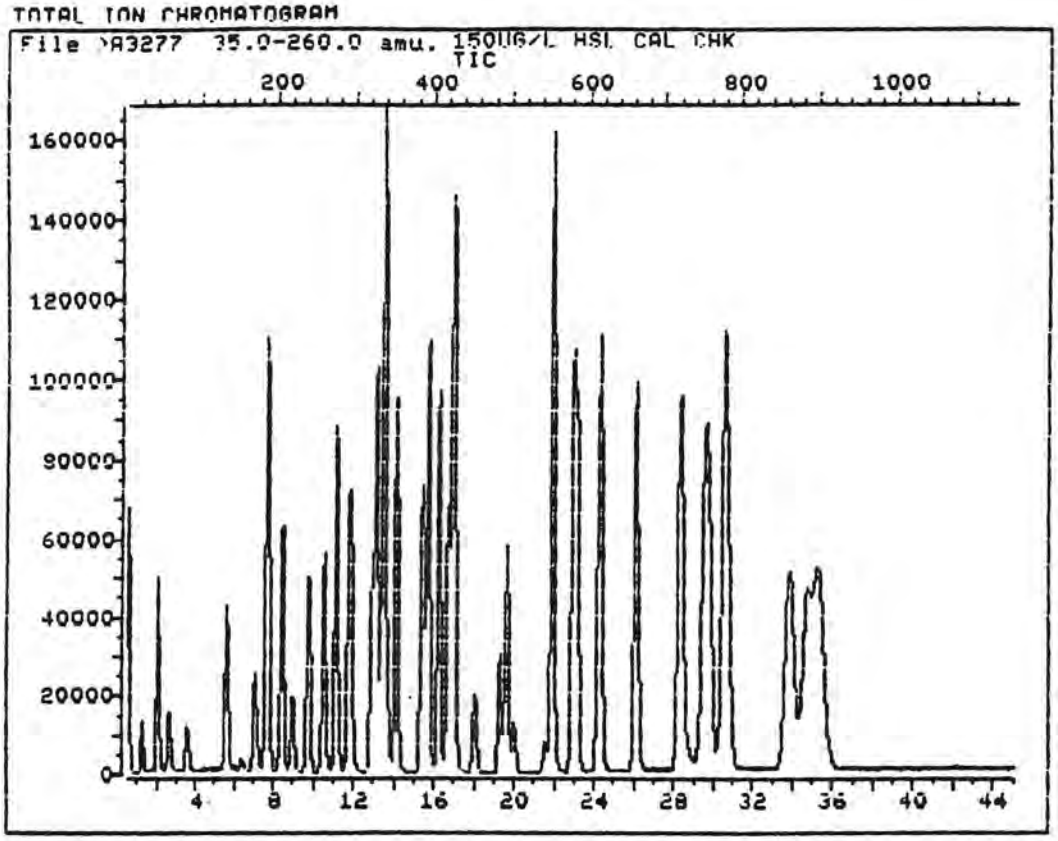
ID File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910912 17:18

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.98	220	29119	50.00	ug/L	97
2)	Chloromethane	1.27	21	58331	77.09	ug/L	94
3)	Bromomethane	2.05	41	123839	128.28	ug/L	87
4)	Vinyl Chloride	2.67	57	79182	101.02	ug/L	93
5)	Chloroethane	3.60	81	54781	118.18	ug/L	98
6)	Methylene Chloride	5.65	134	107820	159.86	ug/L	82
7)	Acrolein	6.39	153	6773	164.36	ug/L	92
8)	Acrylonitrile	7.12	172	8853	79.46	ug/L	95
9)	Acetone	6.43	154	12147	109.41	ug/L	76
10)	Carbon Disulfide	7.08	171	211500	95.71	ug/L	100
11)	Trichlorofluoromethane	7.70	187	604558	258.06	ug/L	95
12)	1,1-Dichloroethene	8.44	206	126390	200.38	ug/L	91
13)	1,1-Dichloroethane	9.76	240	268189	171.59	ug/L	94
14)	Trans-1,2-Dichloroethene	10.53	260	120589	170.04	ug/L	87
15)	Chloroform	11.15	276	408488	189.79	ug/L	98
16)	1,2-Dichloroethane-d4	11.77	292	238879	181.42	ug/L	81
17)	1,2-Dichloroethane	11.89	295	245014	155.01	ug/L	99
18)	2-Butanone	11.81	293	19761	81.95	ug/L	98
19)	1,1,1-Trichloroethane	13.13	327	411280	202.46	ug/L	77
20)	Carbon Tetrachloride	13.52	337	433189	214.85	ug/L	87
21)	Vinyl Acetate	13.75	343	141019	99.80	ug/L	70
22)	Bromodichloromethane	14.14	353	384200	166.82	ug/L	96
23)	*1,4-Difluorobenzene	19.29	486	127830	50.00	ug/L	68
24)	1,2-Dichloropropane	15.42	386	135151	129.76	ug/L	92
25)	cis-1,3-Dichloropropene	15.73	394	385196	220.18	ug/L	96
26)	Trichloroethene	16.27	408	177741	161.90	ug/L	90
27)	Dibromochloromethane	16.93	425	226080	134.90	ug/L	97
28)	1,1,2-Trichloroethane	17.04	428	106582	117.66	ug/L	95
29)	Benzene	16.69	419	300181	136.03	ug/L	89
30)	trans-1,3-Dichloropropene	17.00	427	80775	50.03	ug/L	94
31)	2-Chloroethylvinylether	18.05	454	50737	97.23	ug/L	93
32)	Bromoform	19.64	495	175779	115.24	ug/L	99
33)	*Chlorobenzene-d5	24.17	612	106121	50.00	ug/L	95
34)	2-Hexanone	21.54	544	39389	77.87	ug/L	87
35)	4-Methyl-2-Pentanone	19.99	504	59286	74.26	ug/L	87
36)	Tetrachloroethene	21.89	553	171414	169.45	ug/L	89
37)	1,1,2,2-Tetrachloroethane	21.93	554	137095M	91.98	ug/L	
38)	Toluene	23.13	585	219979	146.40	ug/L	95
39)	Toluene-d8	22.93	580	418200	188.75	ug/L	99
40)	Chlorobenzene	24.29	615	320727	155.64	ug/L	96
41)	Ethylbenzene	26.11	662	145150	152.28	ug/L	95
42)	Styrene	29.56	751	295561	147.23	ug/L	85
43)	m&p Xylenes	29.79	757	177866	309.31	ug/L	90

	Compound	R.T.	Scan#	Area	Conc	Units	q
44)	O-Xylenes	30.61	778	347440	151.08	ug/L	8
45)	Bromofluorobenzene	28.32	719	343949	170.06	ug/L	9
46)	1,3-Dichlorobenzene	33.90	863	339108M	160.03	ug/L	
47)	1,2 &1,4-Dichlorobenzenes	35.34	900	665383M	299.36	ug/L	9

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >A3277::D2 Quant Output File: ^A3277::D4
Name: 150UG/L HSL CAL CHK
Misc:

Id File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910912 17:18

Operator ID: MALOS
Quant Time: 911029 12:51
Injected at: 911029 11:42

QUANT REPORT

Operator ID: MALUS
Output File: ^A3278::D4
Data File: >A3278::D2
Name: 200UG/L HSL CAL CHK
Misc:

Quant Rev: 6 Quant Time: 911029 13:54
Injected at: 911029 13:05
Dilution Factor: 1.00000

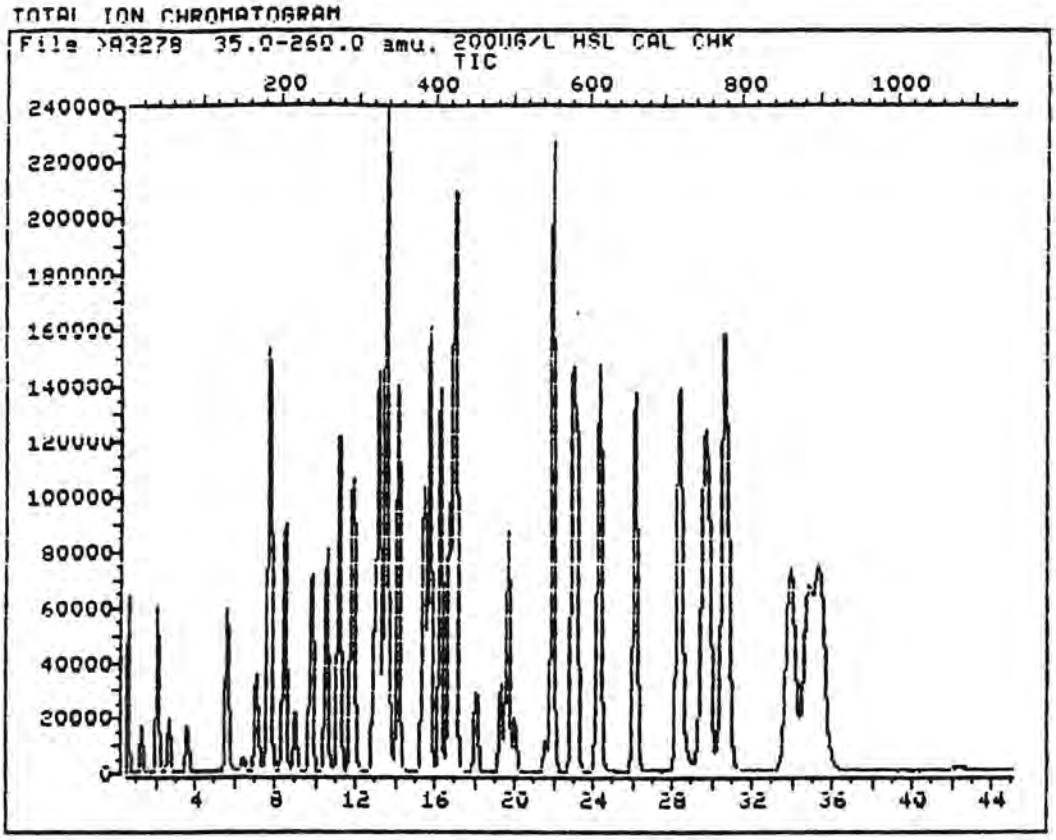
ID File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910912 17:18

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.02	221	32014	50.00	ug/L	8
2)	Chloromethane	1.28	21	77103	92.68	ug/L	9
3)	Bromomethane	2.05	41	161506	152.17	ug/L	9
4)	Vinyl Chloride	2.67	57	102052	118.43	ug/L	9
5)	Chloroethane	3.60	81	77063	151.22	ug/L	9
6)	Methylene Chloride	5.61	133	151932	204.89	ug/L	7
7)	Acrolein	6.39	153	10740M	237.06	ug/L	
8)	Acrylonitrile	7.09	171	13532	110.47	ug/L	92
9)	Acetone	6.47	155	17957	147.12	ug/L	7
10)	Carbon Disulfide	7.09	171	295265	121.53	ug/L	100
11)	Trichlorofluoromethane	7.71	187	856038	332.36	ug/L	99
12)	1,1-Dichloroethene	8.48	207	180202	259.86	ug/L	91
13)	1,1-Dichloroethane	9.80	241	385514	224.35	ug/L	93
14)	Trans-1,2-Dichloroethene	10.54	260	173610	222.67	ug/L	84
15)	Chloroform	11.16	276	576572	243.66	ug/L	94
16)	1,2-Dichloroethane-d4	11.81	293	343530	237.31	ug/L	81
17)	1,2-Dichloroethane	11.89	295	357127	205.50	ug/L	99
18)	2-Butanone	11.85	294	29908	112.81	ug/L	98
19)	1,1,1-Trichloroethane	13.13	327	583351	261.20	ug/L	78
20)	Carbon Tetrachloride	13.52	337	621833	280.53	ug/L	93
21)	Vinyl Acetate	13.75	343	211167	135.93	ug/L	74
22)	Bromodichloromethane	14.14	353	567616	224.17	ug/L	94
23)	*1,4-Difluorobenzene	19.30	486	135675	50.00	ug/L	70
24)	1,2-Dichloropropane	15.46	387	192066	173.74	ug/L	92
25)	cis-1,3-Dichloropropene	15.73	394	562183	302.77	ug/L	96
26)	Trichloroethene	16.27	408	252664	216.84	ug/L	93
27)	Dibromochloromethane	16.97	426	330606	185.86	ug/L	92
28)	1,1,2-Trichloroethane	17.05	428	153393	159.54	ug/L	91
29)	Benzene	16.74	420	426067	181.91	ug/L	91
30)	trans-1,3-Dichloropropene	17.01	427	115318	67.29	ug/L	95
31)	2-Chloroethylvinylether	18.06	454	74602	134.69	ug/L	96
32)	Bromoform	19.64	495	264686	163.49	ug/L	95
33)	*Chlorobenzene-d5	24.18	612	112925	50.00	ug/L	94
34)	2-Hexanone	21.54	544	60790	112.94	ug/L	87
35)	4-Methyl-2-Pentanone	20.03	505	89462	105.31	ug/L	86
36)	Tetrachloroethene	21.89	553	236185	219.42	ug/L	90
37)	1,1,2,2-Tetrachloroethane	21.93	554	196875M	124.13	ug/L	
38)	Toluene	23.13	585	307976	192.62	ug/L	96
39)	Toluene-d8	22.94	580	573156	243.10	ug/L	98
40)	Chlorobenzene	24.30	615	433881	197.86	ug/L	98
41)	Ethylbenzene	26.12	662	203692	200.83	ug/L	94
42)	Styrene	29.53	750	421970	197.53	ug/L	88
43)	m&p Xylenes	29.80	757	254455	415.84	ug/L	92

	Compound	R.T.	Scan#	Area	Conc	Units	q
44)	O-Xylenes	30.65	779	498118	203.55	ug/L	8
45)	Bromofluorobenzene	28.36	720	478953	222.54	ug/L	9
46)	1,3-Dichlorobenzene	33.91	863	486767M	215.88	ug/L	9
47)	1,2 &1,4-Dichlorobenzenes	35.31	899	981133M	414.82	ug/L	9

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >A3278::D2 Quant Output File: ^A3278::D4
Name: 200UG/L HSL CAL CHK
Misc:

Id File: ID_VCA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910912 17:18

Operator ID: MALOS
Quant Time: 911029 13:54
Injected at: 911029 13:05

QUANT REPORT

Operator ID: MALOS
Output File: ^A3513::D1
Data File: >A3513::D4
Name: HSL CAL CHK
Misc: 50UG/L

Quant Rev: 6 Quant Time: 911112 09:46
Injected at: 911112 08:56
Dilution Factor: 1.00000

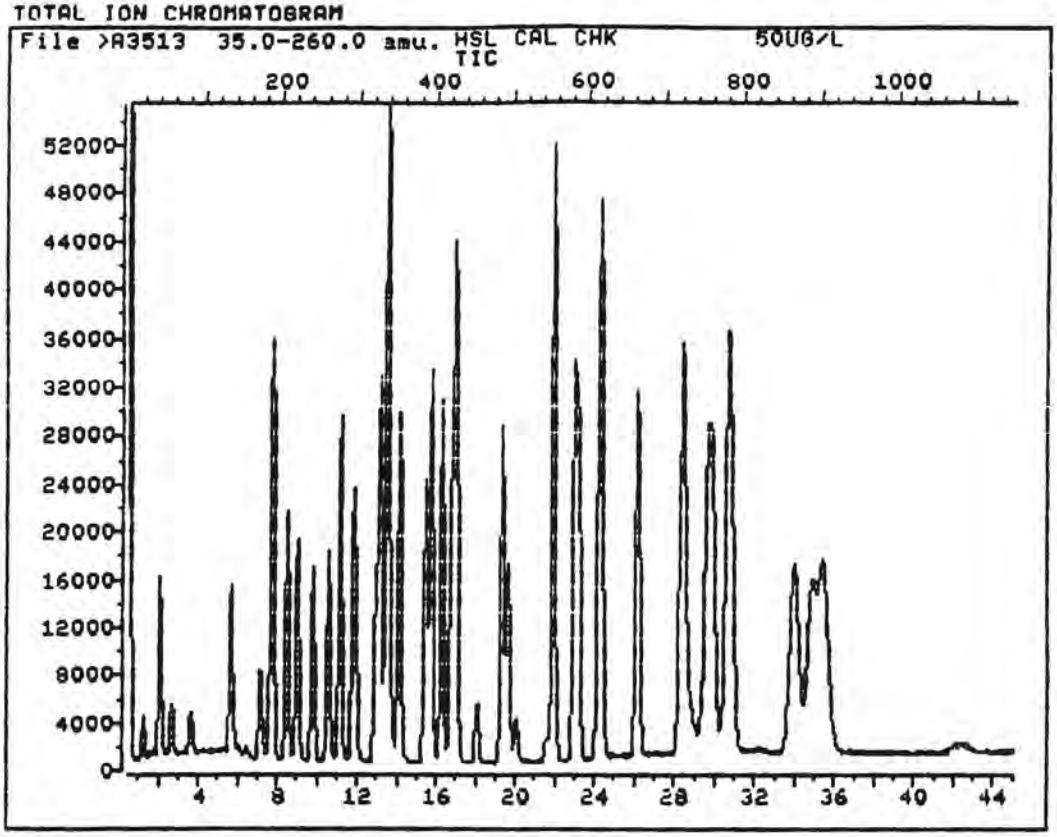
ID File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911029 17:27

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.02	221	28533	50.00	ug/L	92
2)	Chloromethane	1.27	21	17849	50.45	ug/L	94
3)	Bromomethane	2.08	42	38303	51.25	ug/L	90
4)	Vinyl Chloride	2.70	58	24102	50.58	ug/L	99
5)	Chloroethane	3.63	82	17977	52.69	ug/L	92
6)	Methylene Chloride	5.69	135	35019	51.45	ug/L	84
7)	Acrolein	6.50	156	1973M	46.26	ug/L	69
8)	Acrylonitrile	7.20	174	2731	47.09	ug/L	92
9)	Acetone	6.46	155	4620	56.74	ug/L	73
10)	Carbon Disulfide	7.16	173	66577	51.28	ug/L	100
11)	Trichlorofluoromethane	7.74	188	196603	51.94	ug/L	98
12)	1,1-Dichloroethene	8.51	208	41446	52.03	ug/L	91
13)	1,1-Dichloroethane	9.83	242	87066	51.52	ug/L	95
14)	Trans-1,2-Dichloroethene	10.57	261	39690	52.15	ug/L	86
15)	Chloroform	11.19	277	130135	50.69	ug/L	94
16)	1,2-Dichloroethane-d4	11.81	293	76667	51.39	ug/L	81
17)	1,2-Dichloroethane	11.92	296	77110	49.10	ug/L	98
18)	2-Butanone	11.89	295	6732	51.76	ug/L	92
19)	1,1,1-Trichloroethane	13.16	328	129031	50.01	ug/L	77
20)	Carbon Tetrachloride	13.51	337	133590	50.00	ug/L	89
21)	Vinyl Acetate	13.78	344	39937	45.47	ug/L	75
22)	Bromodichloromethane	14.13	353	120728	49.24	ug/L	89
23)	*1,4-Difluorobenzene	19.32	487	121500	50.00	ug/L	70
24)	1,2-Dichloropropane	15.49	387	44226	52.14	ug/L	94
25)	cis-1,3-Dichloropropene	15.72	394	113165	75.39	ug/L	95
26)	Trichloroethene	16.26	408	56696	50.65	ug/L	96
27)	Dibromochloromethane	16.96	426	66680	46.81	ug/L	98
28)	1,1,2-Trichloroethane	17.04	428	33906	49.64	ug/L	94
29)	Benzene	16.77	421	97826	52.62	ug/L	90
30)	trans-1,3-Dichloropropene	17.04	428	23191	17.80	ug/L	94
31)	2-Chloroethylvinylether	18.08	455	13546	42.39	ug/L	96
32)	Bromoform	19.63	495	49524	44.41	ug/L	91
33)	*Chlorobenzene-d5	24.21	613	100759	50.00	ug/L	93
34)	2-Hexanone	21.61	546	10874	42.06	ug/L	86
35)	4-Methyl-2-Pentanone	20.06	506	18101	47.83	ug/L	87
36)	Tetrachloroethene	21.92	554	53704	49.96	ug/L	89
37)	1,1,2,2-Tetrachloroethane	21.92	554	41314M	47.04	ug/L	
38)	Toluene	23.20	587	70209	51.34	ug/L	99
39)	Toluene-d8	23.01	582	130513	51.67	ug/L	97
40)	Chlorobenzene	24.32	616	98738	50.56	ug/L	97
41)	Ethylbenzene	26.14	663	46644	51.03	ug/L	99
42)	Styrene	29.63	753	94201	51.04	ug/L	87
43)	m&p Xylenes	29.90	760	57608	103.07	ug/L	91

	Compound	R.T.	Scan#	Area	Conc	Units	q
44)	O-Xylenes	30.76	782	111449	51.68	ug/L	87
45)	Bromofluorobenzene	28.43	722	108655	51.57	ug/L	90
46)	1,3-Dichlorobenzene	34.05	867	106202	49.49	ug/L	96
47)	1,2 &1,4-Dichlorobenzenes	35.41	902	211458M	99.26	ug/L	93

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >A3513::D4 Quant Output File: ^A3513::D1
Name: HSL CAL CHK
Misc: 50UG/L

Id File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911029 17:27

Operator ID: MALOS
Quant Time: 911112 09:46
Injected at: 911112 08:56

QUANT REPORT

Operator ID: MALOS Quant Rev: 6 Quant Time: 911112 22:05
Output File: ^A3525::D4 Injected at: 911112 21:19
Data File: >A3525::D3 Dilution Factor: 1.00000
Name: HSL CAL CHK
Misc: 50 UG/L

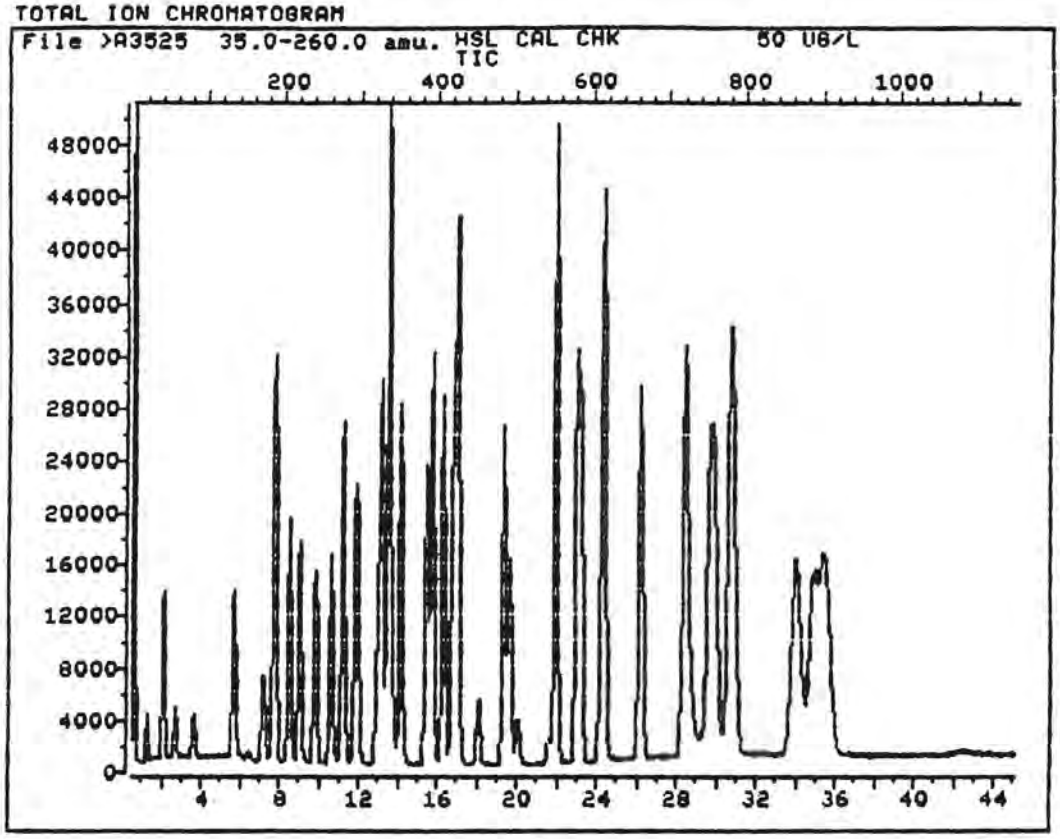
ID File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911029 17:27

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.04	221	24972	50.00	ug/L	90
2)	Chloromethane	1.29	21	16412	53.00	ug/L	95
3)	Bromomethane	2.10	42	32935	50.35	ug/L	88
4)	Vinyl Chloride	2.68	57	20835	49.96	ug/L	98
5)	Chloroethane	3.61	81	16032	53.69	ug/L	90
6)	Methylene Chloride	5.70	135	31379	52.68	ug/L	82
7)	Acrolein	6.52	156	1373	36.78	ug/L	82
8)	Acrylonitrile	7.18	173	2700	53.19	ug/L	98
9)	Acetone	6.44	154	3669	51.49	ug/L	76
10)	Carbon Disulfide	7.18	173	58223	51.24	ug/L	100
11)	Trichlorofluoromethane	7.76	188	172619	52.11	ug/L	96
12)	1,1-Dichloroethene	8.53	208	36420	52.24	ug/L	87
13)	1,1-Dichloroethane	9.81	241	80545	54.46	ug/L	96
14)	Trans-1,2-Dichloroethene	10.58	261	36178	54.32	ug/L	86
15)	Chloroform	11.20	277	120398	53.59	ug/L	98
16)	1,2-Dichloroethane-d4	11.82	293	71977	55.13	ug/L	82
17)	1,2-Dichloroethane	11.94	296	72234	52.56	ug/L	98
18)	2-Butanone	11.90	295	6176	54.25	ug/L	98
19)	1,1,1-Trichloroethane	13.14	327	116070	51.40	ug/L	77
20)	Carbon Tetrachloride	13.53	337	122912	52.57	ug/L	84
21)	Vinyl Acetate	13.80	344	36990	48.12	ug/L	69
22)	Bromodichloromethane	14.15	353	112021	52.21	ug/L	90
23)	*1,4-Difluorobenzene	19.34	487	110072	50.00	ug/L	68
24)	1,2-Dichloropropane	15.47	387	43187	56.21	ug/L	93
25)	cis-1,3-Dichloropropene	15.74	394	111148	81.74	ug/L	98
26)	Trichloroethene	16.32	409	52472	51.75	ug/L	88
27)	Dibromochloromethane	16.94	425	64700	50.14	ug/L	97
28)	1,1,2-Trichloroethane	17.06	428	33595	54.29	ug/L	97
29)	Benzene	16.78	421	95337	56.61	ug/L	91
30)	trans-1,3-Dichloropropene	17.06	428	21585	18.29	ug/L	95
31)	2-Chloroethylvinylether	18.10	455	13235	45.72	ug/L	99
32)	Bromoform	19.65	495	47465	46.99	ug/L	95
33)	*Chlorobenzene-d5	24.22	613	90727	50.00	ug/L	96
34)	2-Hexanone	21.59	545	11269	48.41	ug/L	85
35)	4-Methyl-2-Pentanone	20.04	505	17754	52.11	ug/L	86
36)	Tetrachloroethene	21.94	554	48634	50.24	ug/L	90
37)	1,1,2,2-Tetrachloroethane	21.94	554	42769M	54.08	ug/L	
38)	Toluene	23.18	586	65788	53.43	ug/L	96
39)	Toluene-d8	22.98	581	120621	53.04	ug/L	94
40)	Chlorobenzene	24.34	616	92360	52.52	ug/L	94
41)	Ethylbenzene	26.16	663	43244	52.54	ug/L	95
42)	Styrene	29.61	752	83944	50.51	ug/L	87
43)	m&p Xylenes	29.92	760	53695	106.70	ug/L	92

	Compound	R.T.	Scan#	Area	Conc	Units	q
44)	O-Xylenes	30.70	780	102963	53.03	ug/L	89
45)	Bromofluorobenzene	28.41	721	103739	54.68	ug/L	90
46)	1,3-Dichlorobenzene	33.99	865	103415	53.51	ug/L	97
47)	1,2 &1,4-Dichlorobenzenes	35.39	901	204476M	106.60	ug/L	84

* Compound is ISTD

TOTAL ION CHROMATOGRAM



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Name: HSL CAL CHK
Misc: 50 UG/L

Id File: ID_VCA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911029 17:27

Operator ID: MALOS
Quant Time: 911112 22:05
Injected at: 911112 21:19

NAC NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3432
Certification No. 03117
November 29, 1991

H. RAW QC DATA PACKAGE

1. Volatile Organics by GC/MS (Continued)

a. BFB Spectra and Mass Listing

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

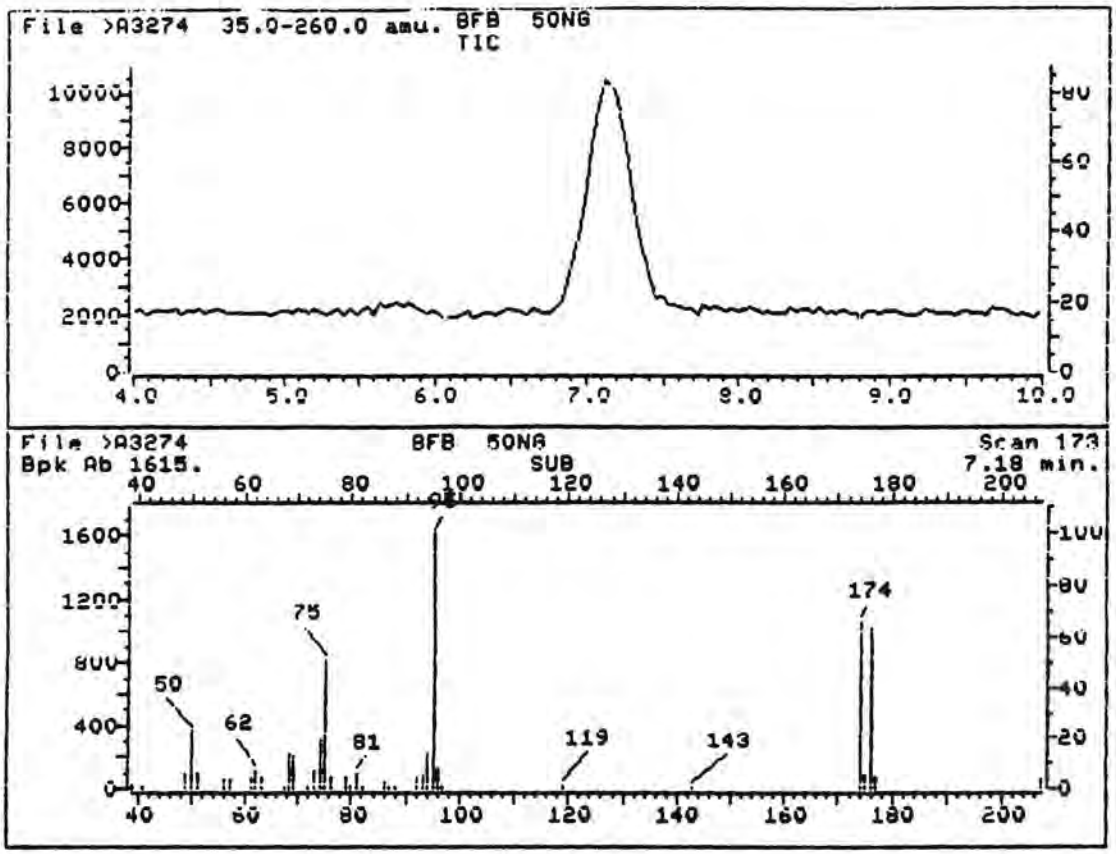
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.85	22.85	Ok
75	30-60% of mass 95	50.84	50.84	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.11	8.11	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	65.76	65.76	Ok
175	5-9% of mass 174	5.39	8.19	Ok
176	95-101% of mass 174	62.97	95.76	Ok
177	5-9% of mass 176	4.77	7.57	Ok

Injection Date: 10/29/91
Injection Time: 08:46
Data File: >A3274
Scan: 173

>A3274 BFB 50NG
173 SUB NRM

File: >A3274 Scan #: 173 Retn. time: 7.18

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.10	6.068	61.15	4.644	74.15	19.876	87.05	.991	119.15	1.858
38.10	5.387	62.15	7.183	75.15	50.836	88.05	.929	143.05	1.053
39.10	1.672	63.15	4.087	76.15	4.211	92.15	4.087	174.05	65.759
41.10	.805	67.35	1.300	79.05	4.396	93.15	5.325	175.05	5.387
49.00	5.759	68.15	13.746	79.95	2.105	94.15	13.746	176.05	62.972
50.10	22.848	69.15	12.879	81.05	6.130	95.15	100.000	177.10	4.768
51.10	6.378	72.05	1.672	82.15	.743	96.05	8.111	207.20	3.715
56.10	3.344	73.15	6.811	86.15	2.477	97.05	1.424	208.20	2.043
57.10	3.158								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BFB 50NG
SUB
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1200
800
400
0
50
62
75
81
119
143
174
40
60
80
100
120
140
160
180
200

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

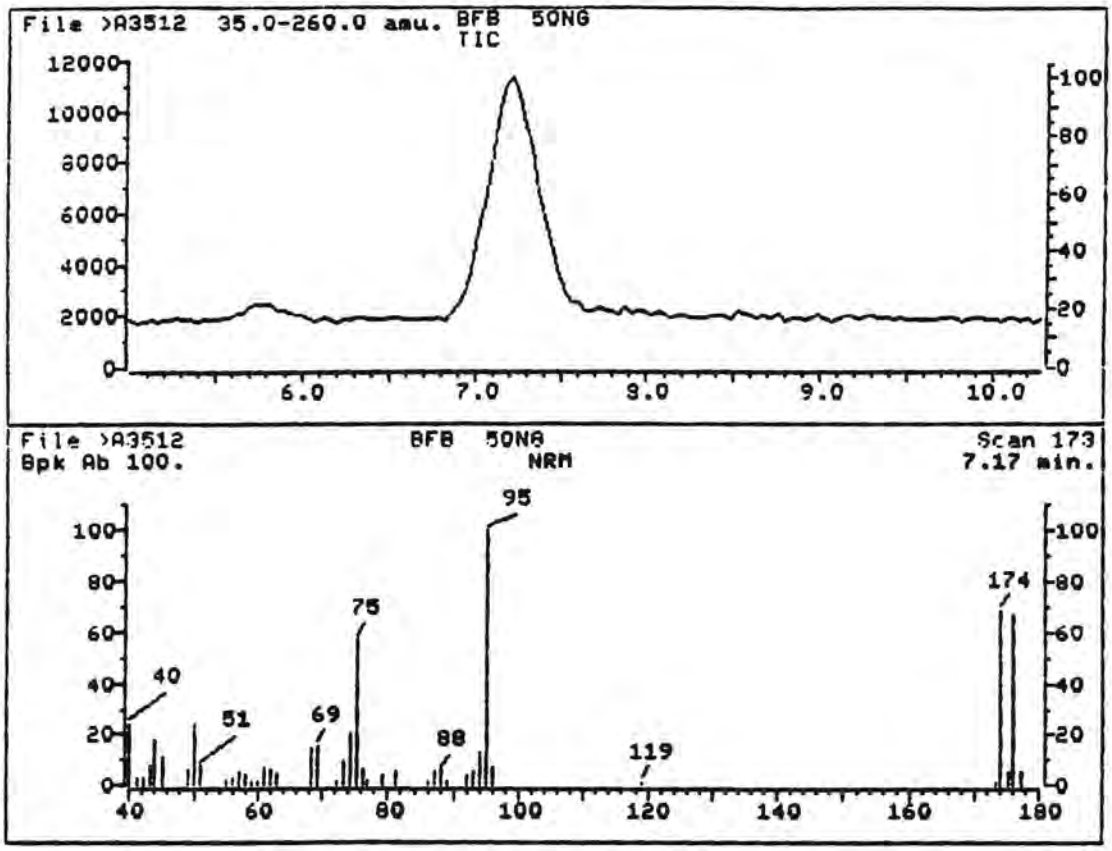
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	23.54	23.54	Ok
75	30-60% of mass 95	56.96	56.96	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.20	7.20	Ok
173	Less than 2% of mass 174	1.16	1.69	Ok
174	Greater than 50% of mass 95	68.42	68.42	Ok
175	5-9% of mass 174	4.94	7.22	Ok
176	95-101% of mass 174	66.26	96.85	Ok
177	5-9% of mass 176	5.04	7.61	Ok

Injection Date: 11/12/91
Injection Time: 08:38
Data File: >A3512
Scan: 173

>A3512 BFB 50NG
173 NRM

File: >A3512 Scan #: 173 Retn. time: 7.17

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.00	1.156	49.10	6.358	62.15	5.885	79.05	3.626	95.15	100.000
37.10	7.304	50.10	23.542	63.15	4.519	81.05	4.834	96.15	7.199
38.10	5.150	51.10	7.357	68.15	14.714	86.15	1.892	119.05	1.156
39.20	3.205	55.10	2.102	69.15	15.397	87.05	5.465	173.15	1.156
40.00	23.857	56.10	2.838	72.15	2.207	88.15	5.728	174.05	68.418
41.10	2.733	57.10	5.360	73.15	9.564	89.15	1.839	175.15	4.940
42.10	2.365	58.10	4.362	74.15	20.441	92.15	3.941	176.05	66.264
43.10	8.092	59.10	1.682	75.15	56.963	93.15	4.992	177.10	5.045
44.00	17.919	60.05	1.787	76.15	6.253	94.15	12.454	207.20	5.360
45.10	12.191	61.15	6.569	77.05	1.787				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6.0
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8.0
9.0
10.0
File >A3512
Bpk Ab 100.
BFB 50NG
NRM
Scan 173
7.17 min.
95
174
75
40
51
69
88
119
100
80
60
40
20
0
40
60
80
100
120
140
160
180

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	25.55	25.55	Ok
75	30-60% of mass 95	36.20	36.20	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.31	8.31	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	67.65	67.65	Ok
175	5-9% of mass 174	4.74	7.01	Ok
176	95-101% of mass 174	64.77	95.74	Ok
177	5-9% of mass 176	4.60	7.10	Ok

Injection Date: 11/12/91
Injection Time: 20:52
Data File: >A3524
Scan: 184

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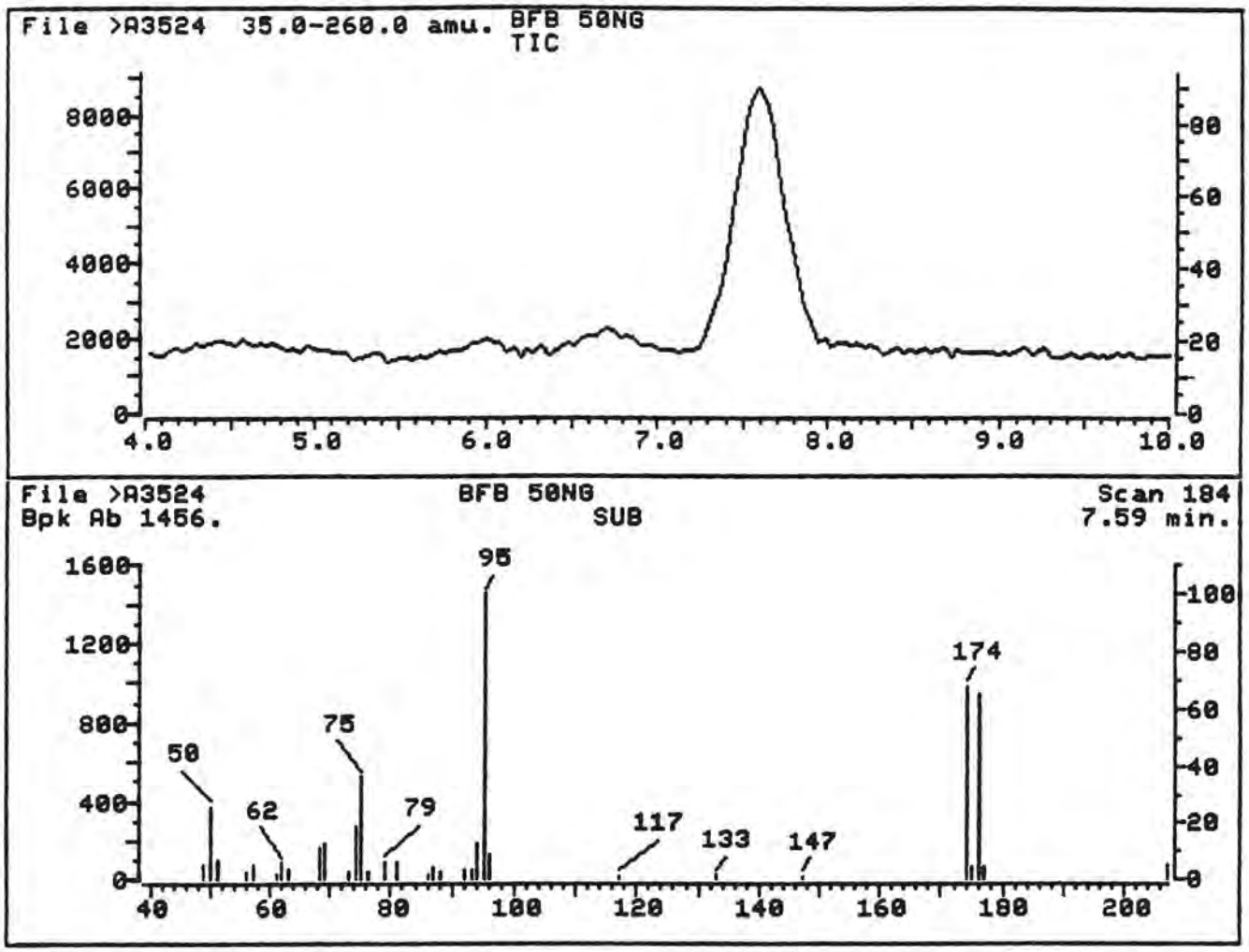
FMGR : NRM,100
FMGR : TAB

 >A3524          BFB 50NG
    184          SUB NRM
```

File: >A3524 Scan #: 184 Retn. time: 7.59

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.10	6.868	57.10	5.495	74.15	18.407	88.15	2.679	133.05	1.786
38.10	6.456	61.15	2.129	75.15	36.195	92.05	3.159	147.05	1.305
39.00	.481	62.15	5.907	76.15	3.022	93.25	3.777	174.05	67.651
49.10	5.563	63.15	3.915	79.05	6.250	94.15	12.843	175.05	4.739
50.10	25.549	68.15	11.195	81.05	5.975	95.15	100.000	176.05	64.766
51.10	6.662	69.15	13.187	86.05	1.511	96.15	8.310	177.10	4.602
56.10	2.679	73.15	2.816	87.15	4.670	117.05	1.168	207.20	5.014

```
FMGR : AL, Move cursor; then press carriage return :
```


File >A3524 35.0-260.0 amu. BFB 50NG
TIC
8000
6000
4000
2000
0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
80
60
40
20
0
File >A3524
Bpk Ab 1456.
BFB 50NG
SUB
Scan 184
7.59 min.
1600
1200
800
400
0
95
174
75
50
62
79
117
133
147
40
60
80
100
120
140
160
180
200
100
80
60
40
20
0

NAC NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3432
Certification No. 03117
November 29, 1991

H. RAW QC DATA PACKAGE (Continued)

1. Volatile Organics by GC/MS (Continued)

b. Method Blank Chromatograms, Quantitation Reports and Mass Spectra

NORTHEASTERN ANALYTICAL CORPORATION

VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:METHOD BLANK

LAB FILE ID:>A3514

DATE RECEIVED:NA

DATE ANALYZED:911112

SAMPLE WT/VOL:5.0ML

LEVEL:LOW

CAS NO.		MDL	CONC. ug/I
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
107-02-8	Acrolein	20	U
107-13-1	Acrylonitrile	20	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	Trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
110-75-8	2-Chloroethylvinylether	10	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-02-7	m&p Xylenes	10	U
110-75-8	O-Xylenes	5	U

U; Not Detected

QUANT REPORT

Operator ID: MALOS
Output File: ^A3514::D1
Data File: >A3514::D4
Name: METHOD BLANK
Misc: 5.0ML

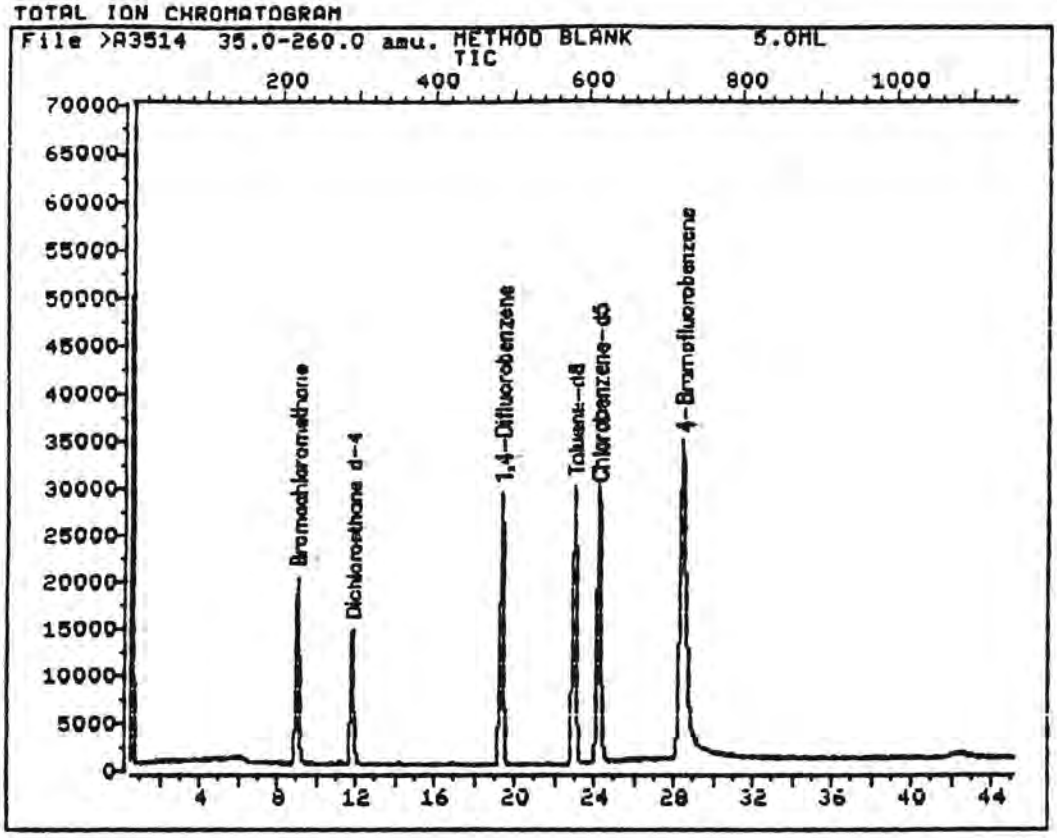
Quant Rev: 6 Quant Time: 911112 10:49
Injected at: 911112 10:03
Dilution Factor: 1.00000

ID File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911029 17:27

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.02	221	29932	50.00	ug/L	88
16)	1,2-Dichloroethane-d4	11.85	294	74012	47.29	ug/L	81
23)	*1,4-Difluorobenzene	19.36	488	123271	50.00	ug/L	68
33)	*Chlorobenzene-d5	24.21	613	102232	50.00	ug/L	98
39)	Toluene-d8	23.01	582	122846	47.94	ug/L	97
45)	Bromofluorobenzene	28.47	723	105822	49.50	ug/L	88

* Compound is ISTD

TOTAL ION CHROMATOGRAM

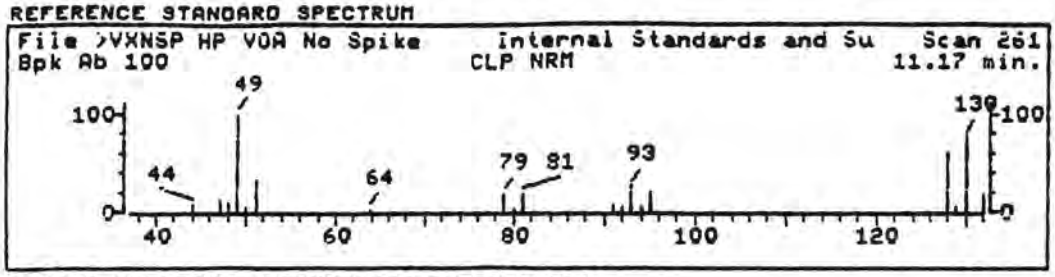


Data File: >A3514::D4 Quant Output File: ^A3514::D1
Name: METHOD BLANK
Misc: 5.0ML

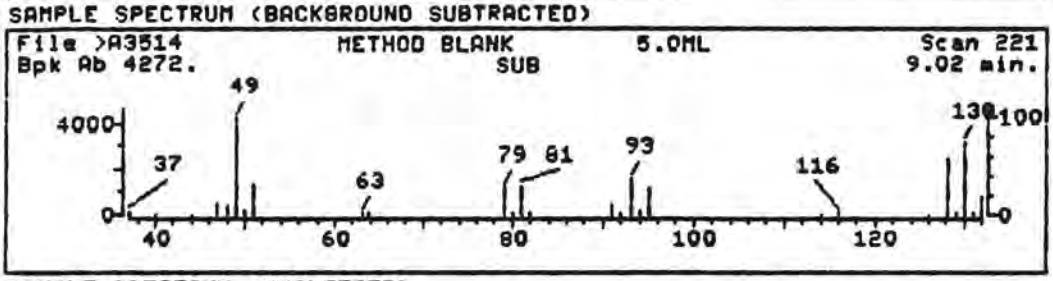
Id File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911029 17:27

Operator ID: MALOS
Quant Time: 911112 10:49
Injected at: 911112 10:03

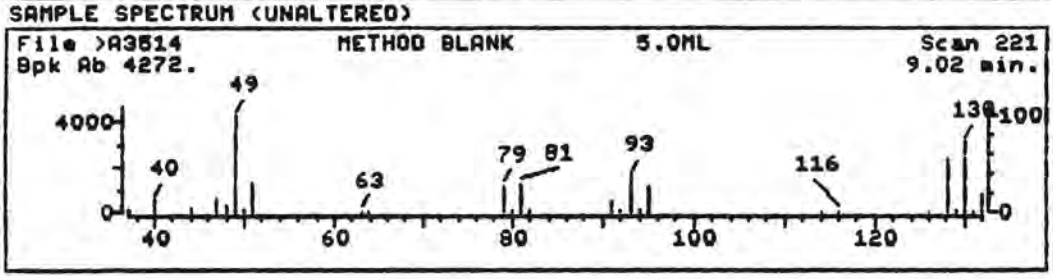
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



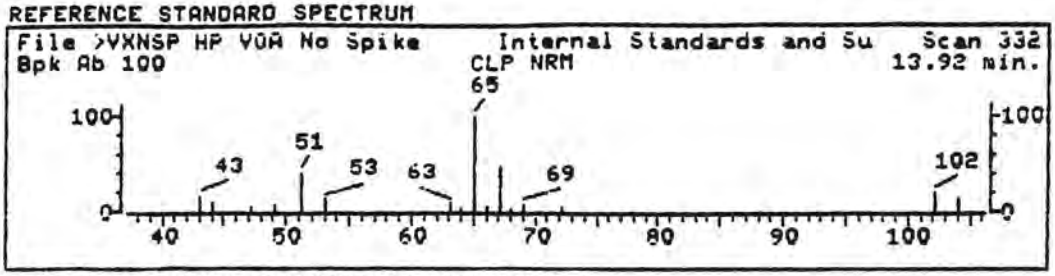
SAMPLE SPECTRUM (UNALTERED)



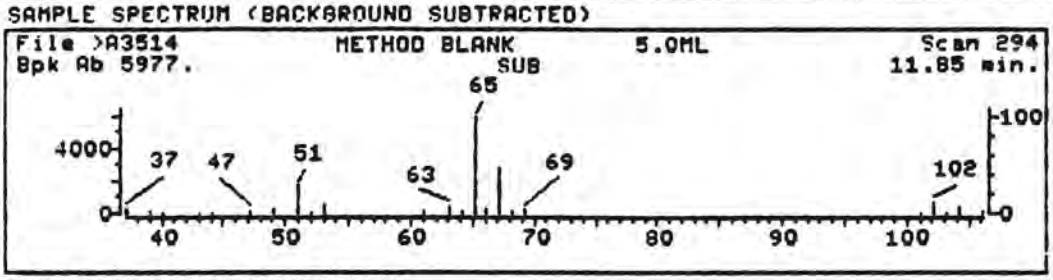
Data File: >A3514::D4 Quant Output File: ^A3514::D1
Name: METHOD BLANK
Misc: 5.0ML
Quant Time: 911112 10:49 Quant ID File: ID_VCA::D2
Injected at: 911112 10:03 Last Calibration: 911029 17:27

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 221
Retention Time: 9.02 min.
Quant Ion: 128.0
Area: 29932
Concentration: 50.00 ug/L
q-value: 88

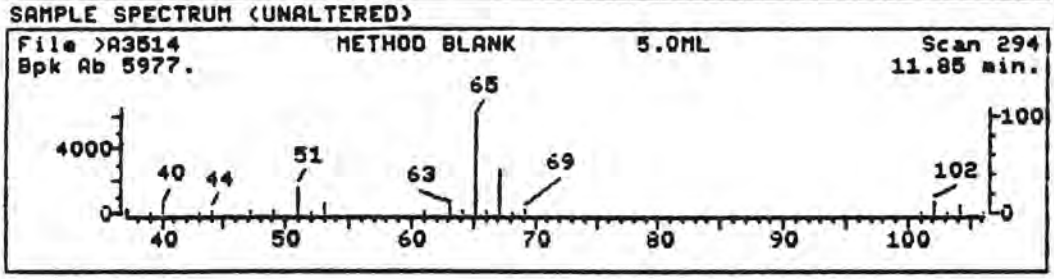
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



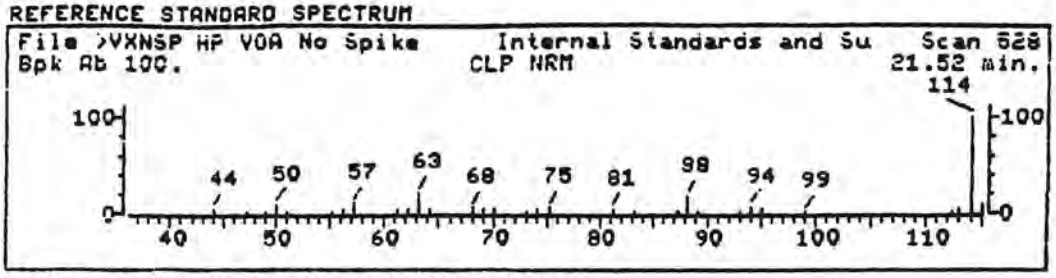
SAMPLE SPECTRUM (UNALTERED)



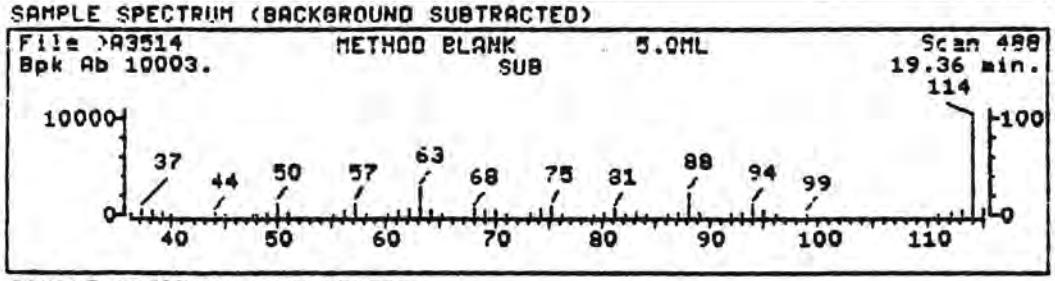
Data File: >A3514::D4 Quant Output File: ^A3514::D1
Name: METHOD BLANK
Misc: 5.0ML
Quant Time: 911112 10:49 Quant ID File: ID_VCA::D2
Injected at: 911112 10:03 Last Calibration: 911029 17:27

Compound No: 16
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 294
Retention Time: 11.85 min.
Quant Ion: 65.0
Area: 74012
Concentration: 47.29 ug/L
q-value: 81

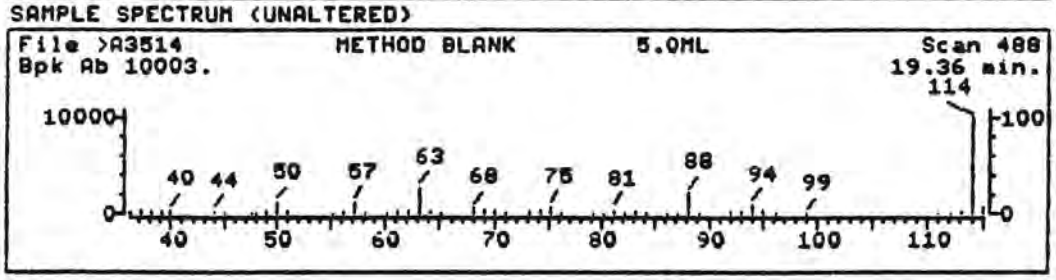
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



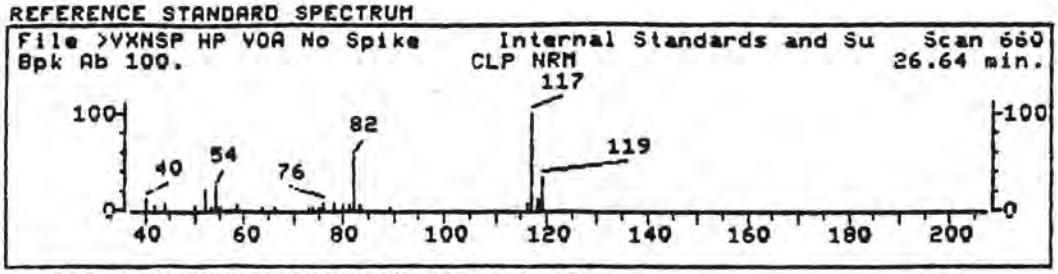
SAMPLE SPECTRUM (UNALTERED)



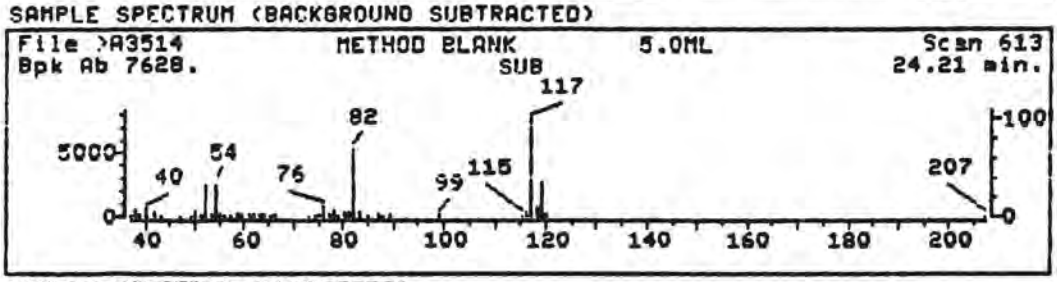
Data File: >A3514::D4 Quant Output File: ^A3514::D1
Name: METHOD BLANK
Misc: 5.0ML
Quant Time: 911112 10:49 Quant ID File: ID_VCA::D2
Injected at: 911112 10:03 Last Calibration: 911029 17:27

Compound No: 23 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 488
Retention Time: 19.36 min.
Quant Ion: 114.0
Area: 123271
Concentration: 50.00 ug/L
q-value: 68

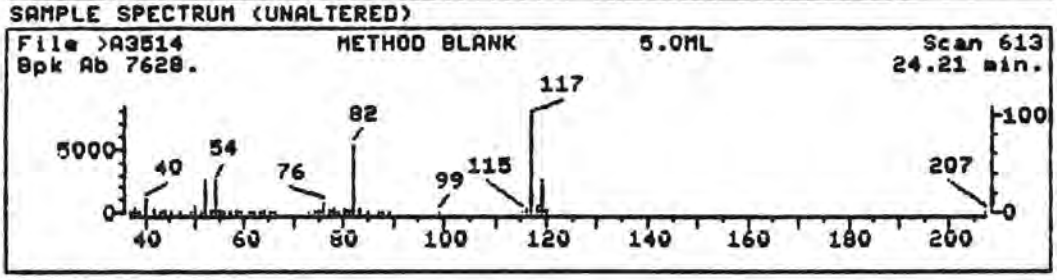
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



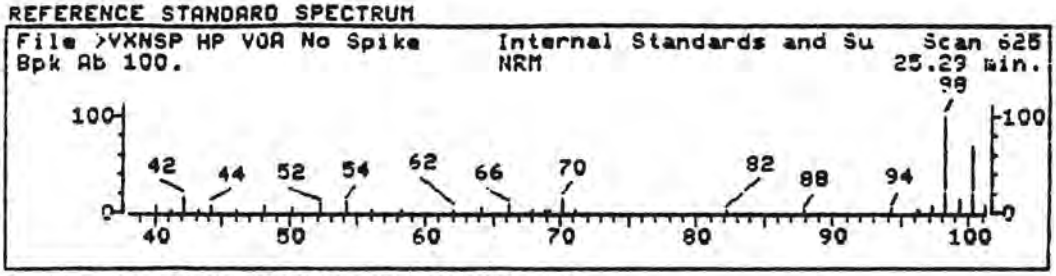
Data File: >A3514::D4
Name: METHOD BLANK
Misc: 5.0ML
Quant Time: 911112 10:49
Injected at: 911112 10:03

Quant Output File: ^A3514::D1

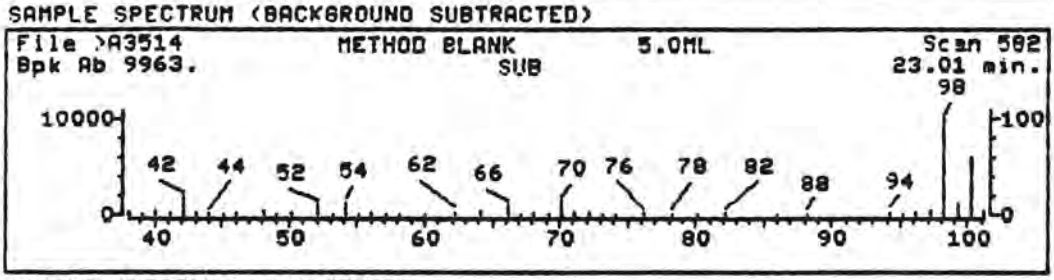
Quant ID File: ID_VCA::D2
Last Calibration: 911029 17:27

Compound No: 33 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 613
Retention Time: 24.21 min.
Quant Ion: 117.0
Area: 102232
Concentration: 50.00 ug/L
q-value: 98

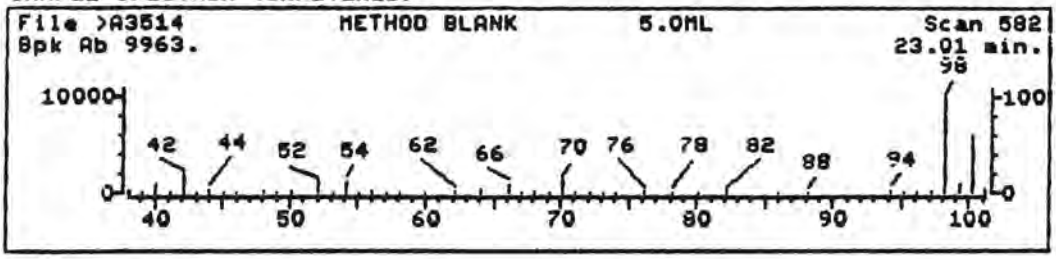
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



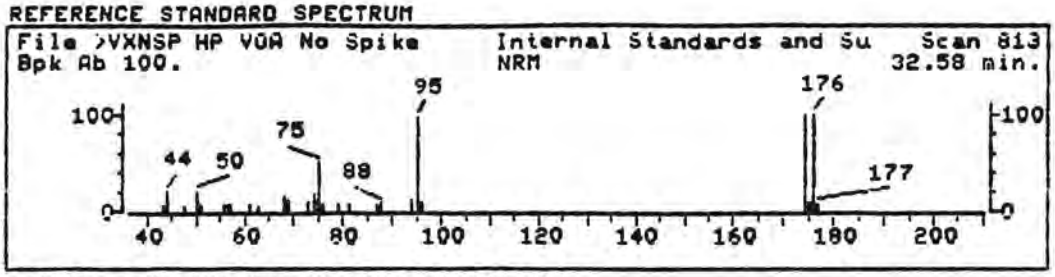
Data File: >A3514::D4
Name: METHOD BLANK
Misc: 5.0ML
Quant Time: 911112 10:49
Injected at: 911112 10:03

Quant Output File: ^A3514::D1

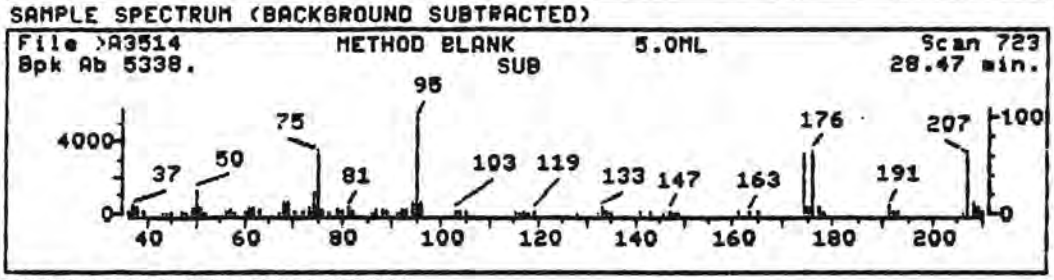
Quant ID File: ID_VCA::D2
Last Calibration: 911029 17:27

Compound No: 39
Compound Name: Toluene-d8
Scan Number: 582
Retention Time: 23.01 min.
Quant Ion: 98.0
Area: 122846
Concentration: 47.94 ug/L
q-value: 97

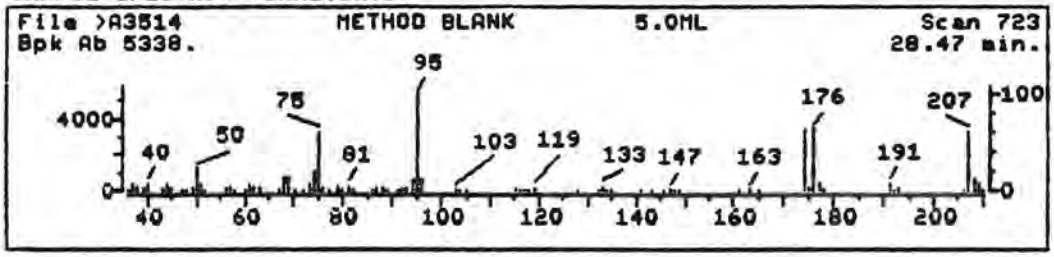
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >A3514::D4 Quant Output File: ^A3514::D1
Name: METHOD BLANK
Misc: 5.0ML
Quant Time: 911112 10:49 Quant ID File: ID_VCA::D2
Injected at: 911112 10:03 Last Calibration: 911029 17:27

Compound No: 45
Compound Name: Bromofluorobenzene
Scan Number: 723
Retention Time: 28.47 min.
Quant Ion: 95.0
Area: 105822
Concentration: 49.50 ug/L
q-value: 88

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE UNKNOWN IDENTIFICATION

LAB SAMPLE ID:METHOD BLANK
LAB FILE ID:>A3514

DATE RECEIVED:NA
DATE ANALYZED:911112

SAMPLE WT/VOL:5.0ML
LEVEL:LOW

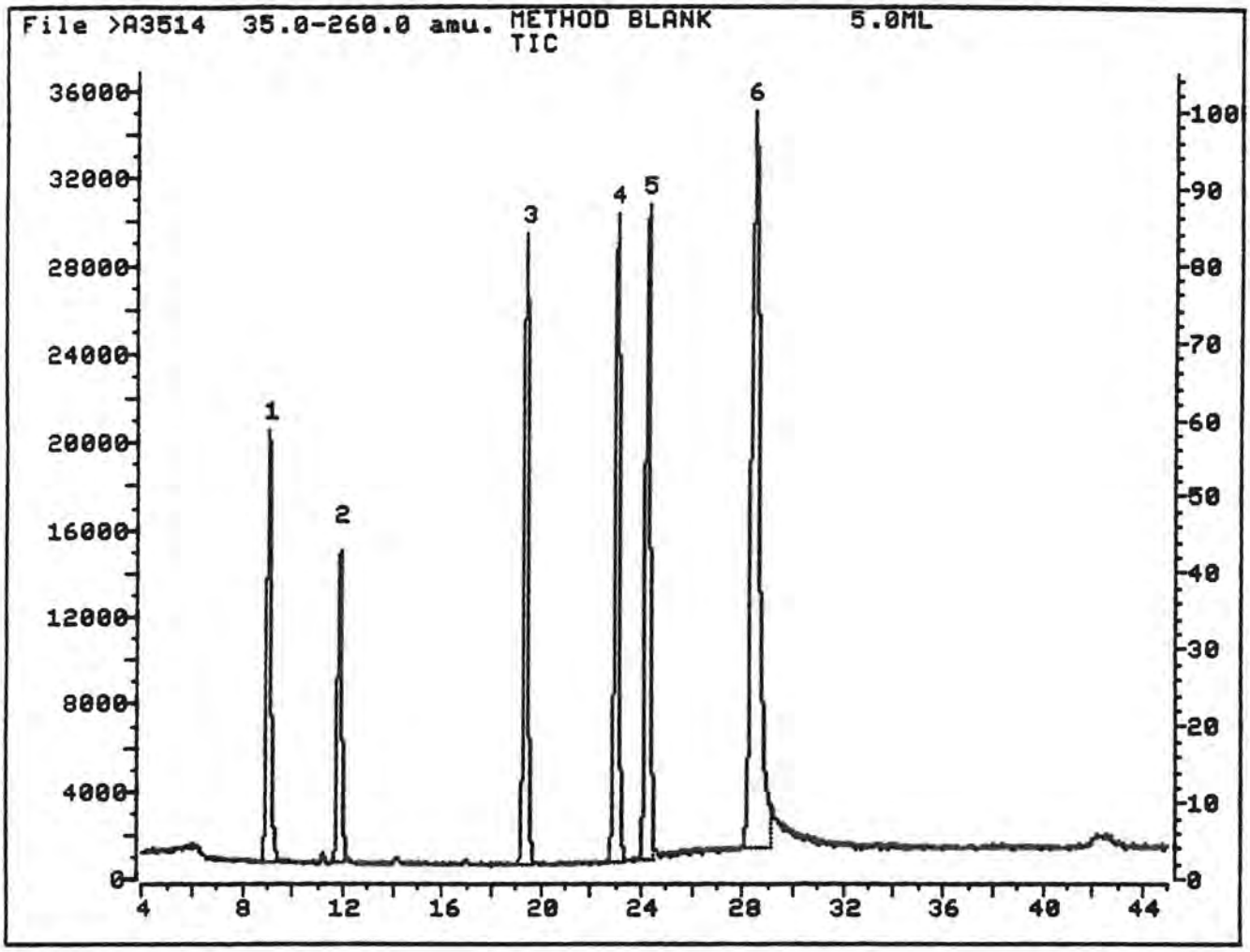
COMPOUND	RET TIME(MIN)	CONC
NONE FOUND		

SAMPLE INTEGRATION SUMMARY

SAMPLE NAME AND AMT: METHOD BLANK 5.0ML
SAMPLE DATA FILE: >A3514

PEAK NO.	RET. TIME	SCAN	AREA	IDENTIFICATION
1	9.02	221	240231	IS
2	11.85	294	171676	SS
3	19.36	488	350451	IS
4	23.01	582	370295	SS
5	24.25	614	391531	IS
6	28.43	722	781801	SS

IS = INTERNAL STANDARD
SS = SURROGATE
TC = TARGET COMPOUND
UK = UNKNOWN
<10% = UNKNOWN LESS THEN 10% OF INTERNAL STANDARD


File >A3514 35.0-260.0 amu. METHOD BLANK 5.0ML
TIC
36000
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28000
24000
20000
16000
12000
8000
4000
0
100
90
80
70
60
50
40
30
20
10
0
4
8
12
16
20
24
28
32
36
40
44
1
2
3
4
5
6

NORTHEASTERN ANALYTICAL CORPORATION

VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:METHOD BLANK | LAB FILE ID:>A3526

DATE RECEIVED:NA | DATE ANALYZED:911112

SAMPLE WT/VOL:5ML | LEVEL:LOW

CAS NO.		MDL	CONC. ug/l
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
107-02-8	Acrolein	20	U
107-13-1	Acrylonitrile	20	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	Trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
110-75-8	2-Chloroethylvinylether	10	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-02-7	m&p Xylenes	10	U
110-75-8	O-Xylenes	5	U

U; Not Detected

QUANT REPORT

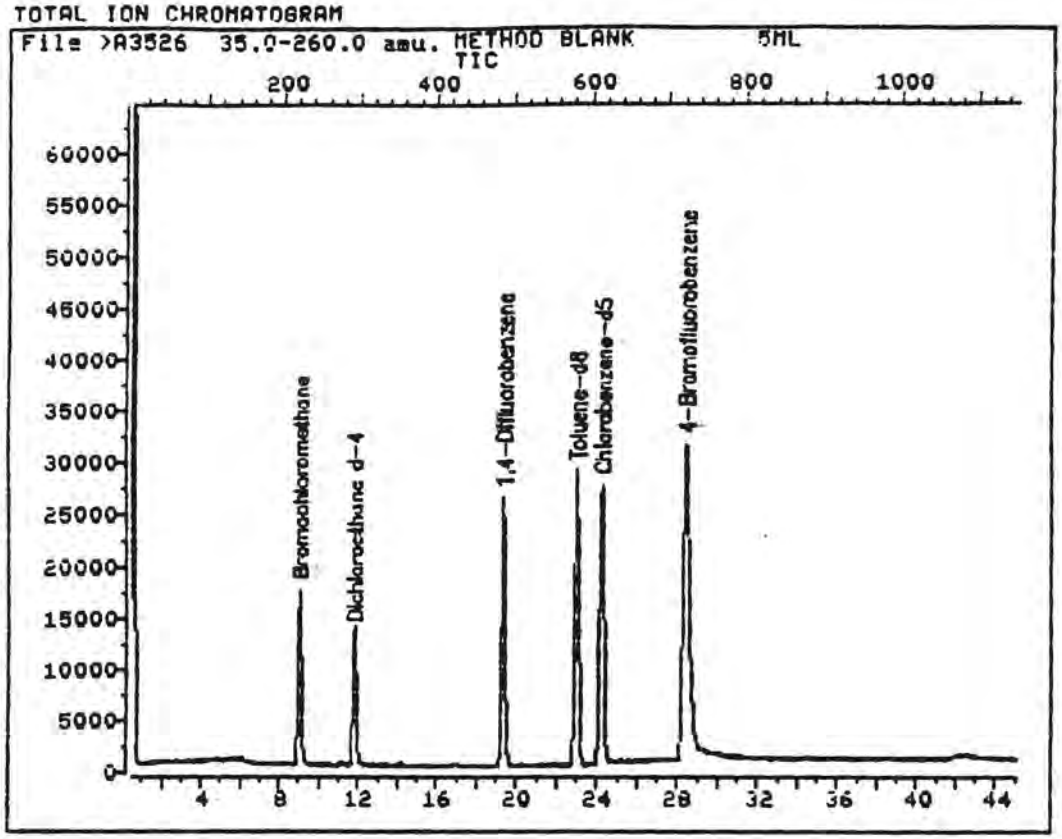
Operator ID: MALOS Quant Rev: 6 Quant Time: 911112 23:07
Output File: ^A3526::D4 Injected at: 911112 22:21
Data File: >A3526::D3 Dilution Factor: 1.00000
Name: METHOD BLANK
Misc: 5ML

ID File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911029 17:27

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.02	221	25354	50.00	ug/L	85
16)	1,2-Dichloroethane-d4	11.81	293	69349	52.32	ug/L	81
23)	*1,4-Difluorobenzene	19.36	488	111525	50.00	ug/L	69
33)	*Chlorobenzene-d5	24.24	614	92275	50.00	ug/L	94
39)	Toluene-d8	23.00	582	118887	51.40	ug/L	96
45)	Bromofluorobenzene	28.42	722	99877	51.76	ug/L	92

* Compound is ISTD

TOTAL ION CHROMATOGRAM

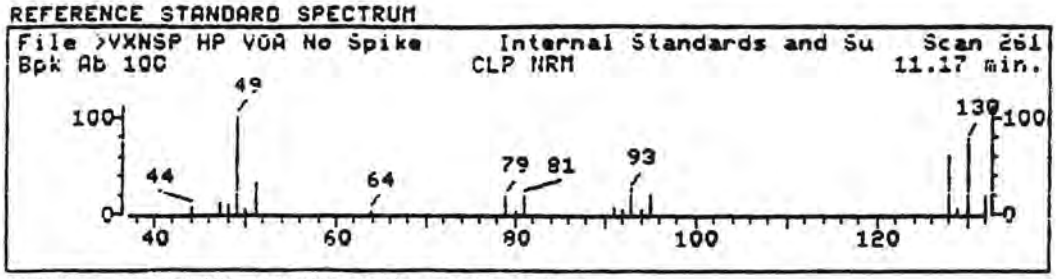


Data File: >A3526::D3 Quant Output File: ^A3526::D4
Name: METHOD BLANK
Misc: 5ML

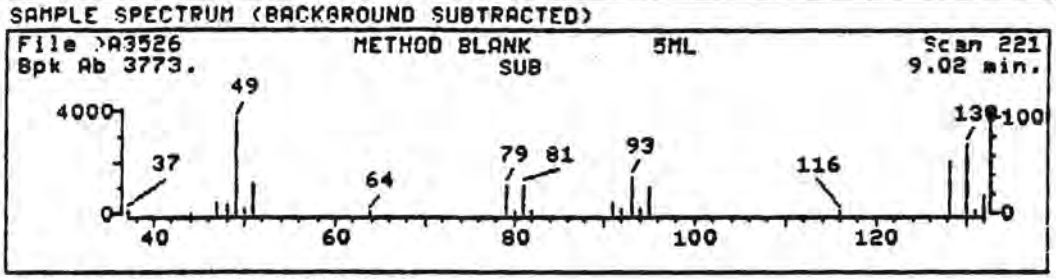
Id File: ID_VCA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911029 17:27

Operator ID: MALOS
Quant Time: 911112 23:07
Injected at: 911112 22:21

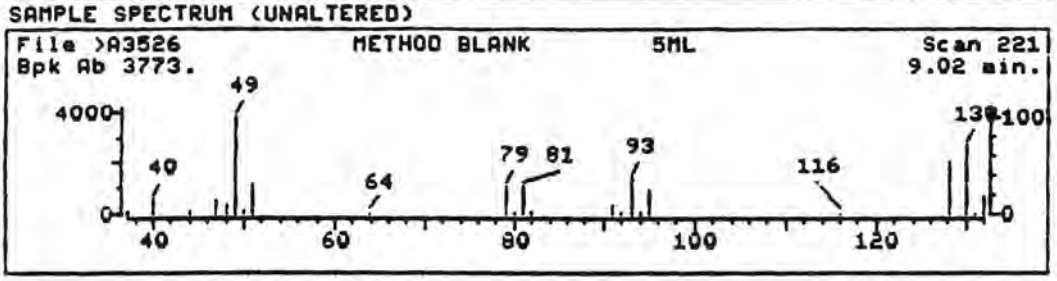
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



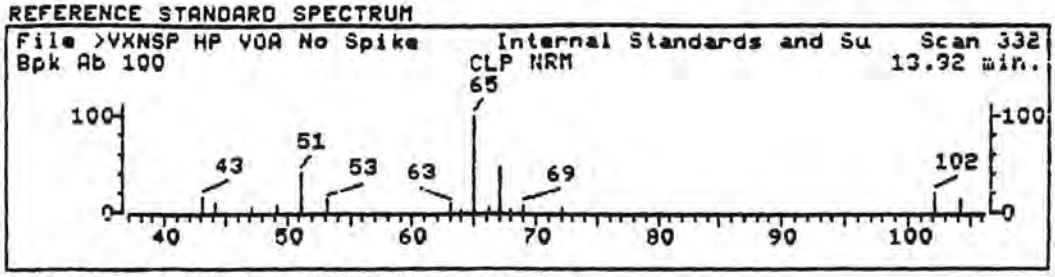
SAMPLE SPECTRUM (UNALTERED)



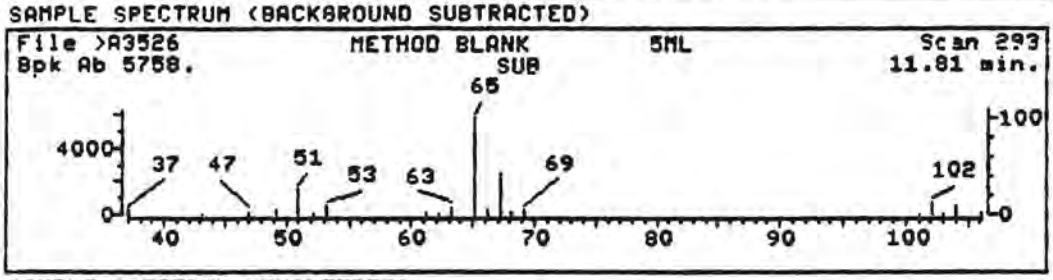
Data File: >A3526::D3 Quant Output File: ^A3526::D4
Name: METHOD BLANK
Misc: 5ML
Quant Time: 911112 23:07 Quant ID File: ID_VOA::D2
Injected at: 911112 22:21 Last Calibration: 911029 17:27

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 221
Retention Time: 9.02 min.
Quant Ion: 128.0
Area: 25354
Concentration: 50.00 ug/L
q-value: 85

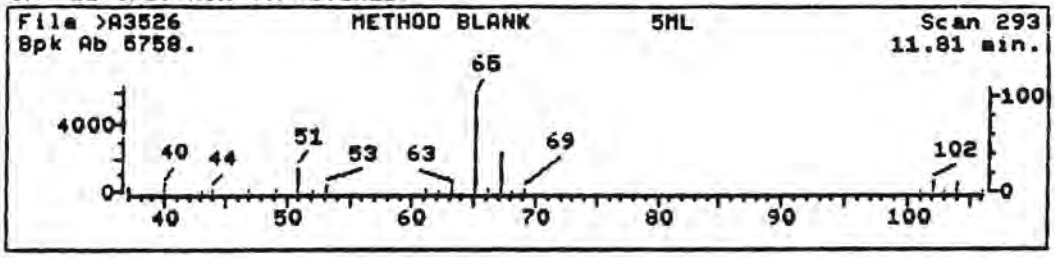
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



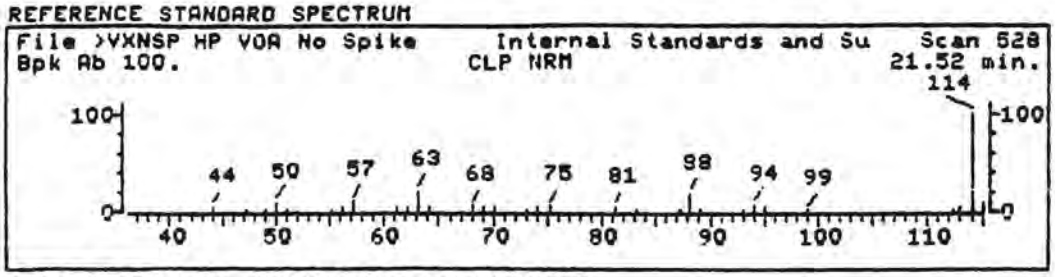
SAMPLE SPECTRUM (UNALTERED)



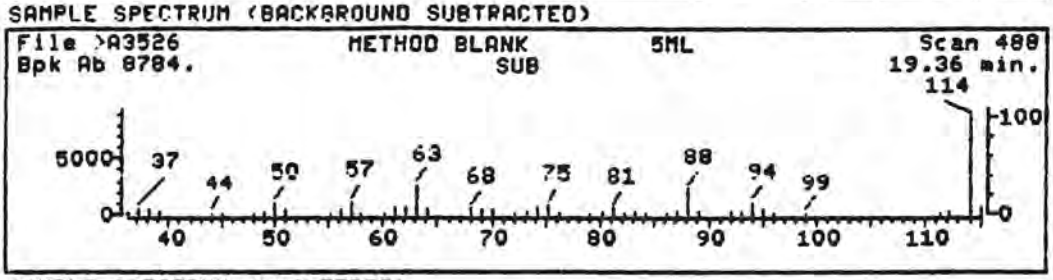
Data File: >A3526::D3 Quant Output File: ^A3526::D4
Name: METHOD BLANK
Misc: 5ML
Quant Time: 911112 23:07 Quant ID File: ID_VCA::D2
Injected at: 911112 22:21 Last Calibration: 911029 17:27

Compound No: 16
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 293
Retention Time: 11.81 min.
Quant Ion: 65.0
Area: 69349
Concentration: 52.32 ug/L
q-value: 81

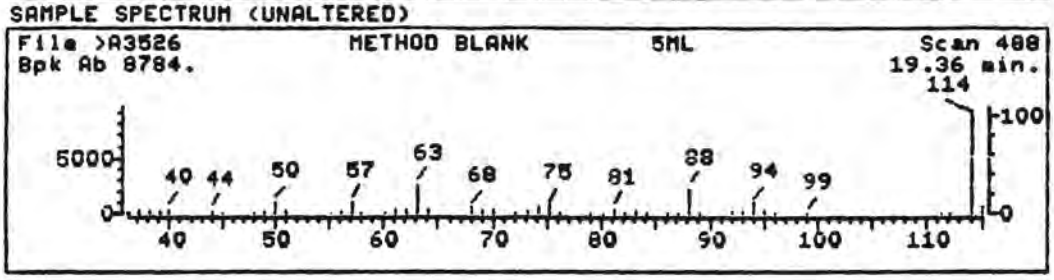
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



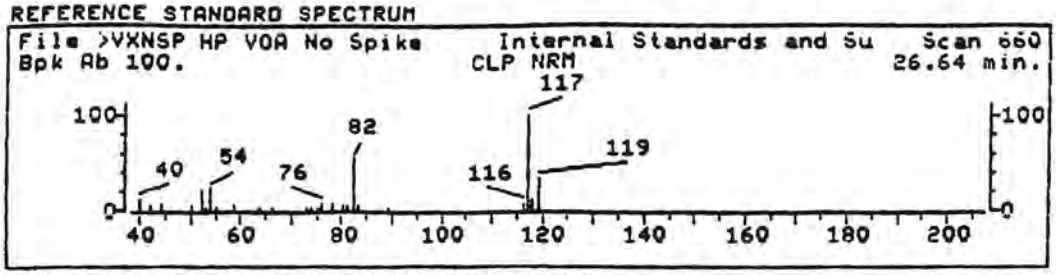
SAMPLE SPECTRUM (UNALTERED)



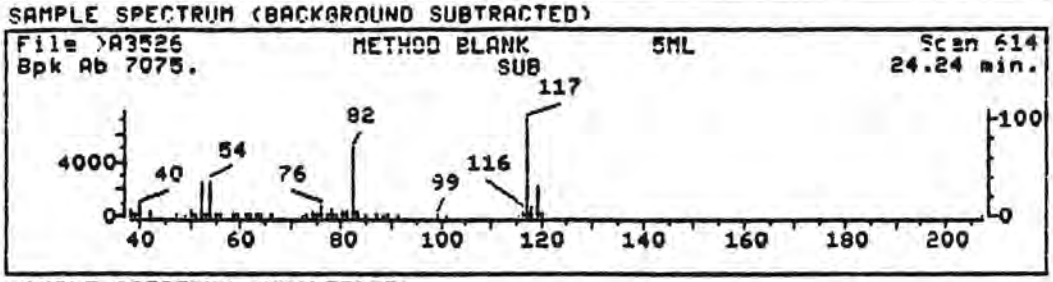
Data File: >A3526::D3 Quant Output File: ^A3526::D4
Name: METHOD BLANK
Misc: 5ML
Quant Time: 911112 23:07 Quant ID File: ID_VCA::D2
Injected at: 911112 22:21 Last Calibration: 911029 17:27

Compound No: 23 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 488
Retention Time: 19.36 min.
Quant Ion: 114.0
Area: 111525
Concentration: 50.00 ug/L
q-value: 69

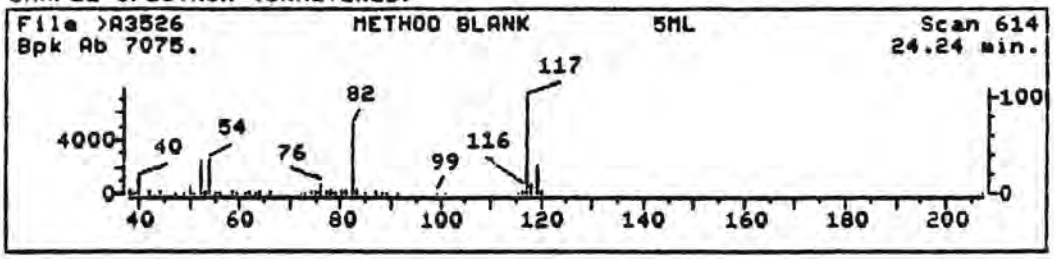
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



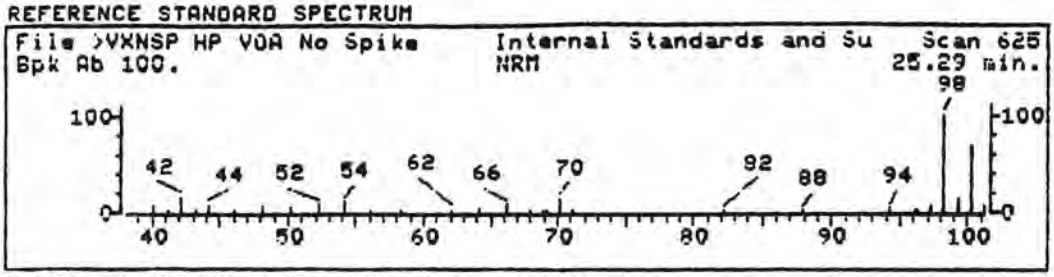
Data File: >A3526::D3
Name: METHOD BLANK
Misc: 5ML
Quant Time: 911112 23:07
Injected at: 911112 22:21

Quant Output File: ^A3526::D4

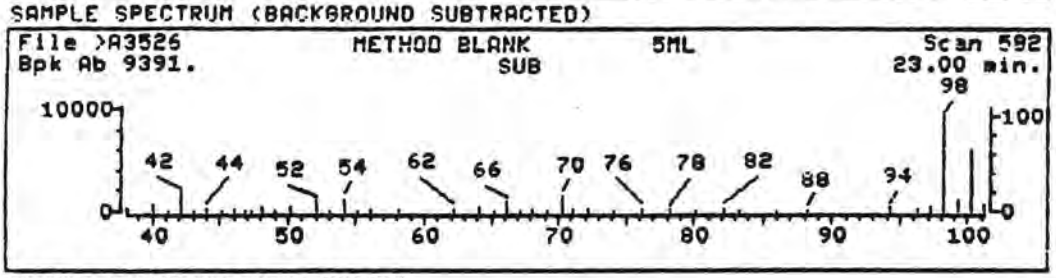
Quant ID File: ID_VCA::D2
Last Calibration: 911029 17:27

Compound No: 33 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 614
Retention Time: 24.24 min.
Quant Ion: 117.0
Area: 92275
Concentration: 50.00 ug/L
q-value: 94

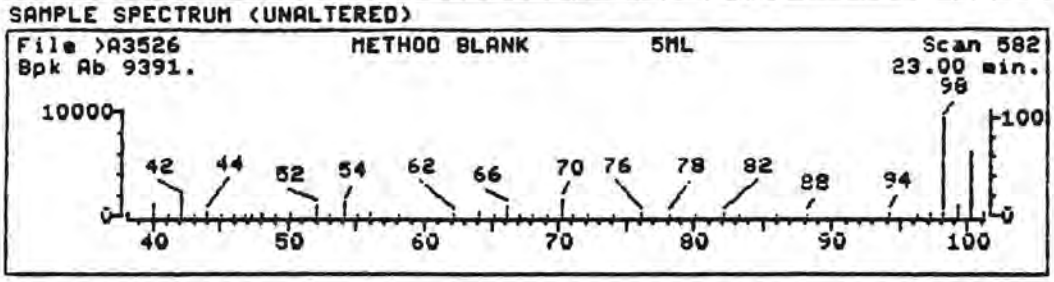
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



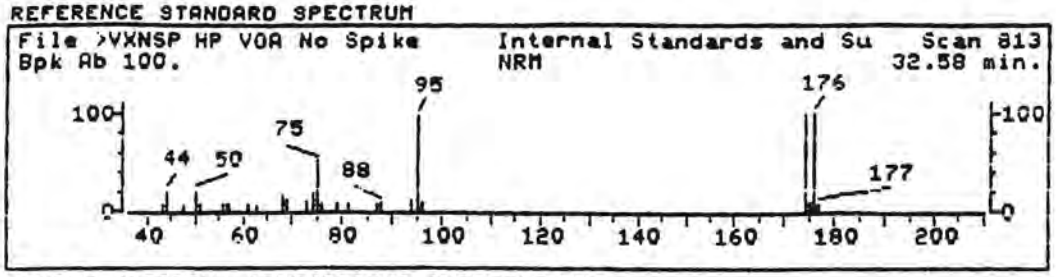
Data File: >A3526::D3
Name: METHOD BLANK
Misc: 5ML
Quant Time: 911112 23:07
Injected at: 911112 22:21

Quant Output File: ^A3526::D4

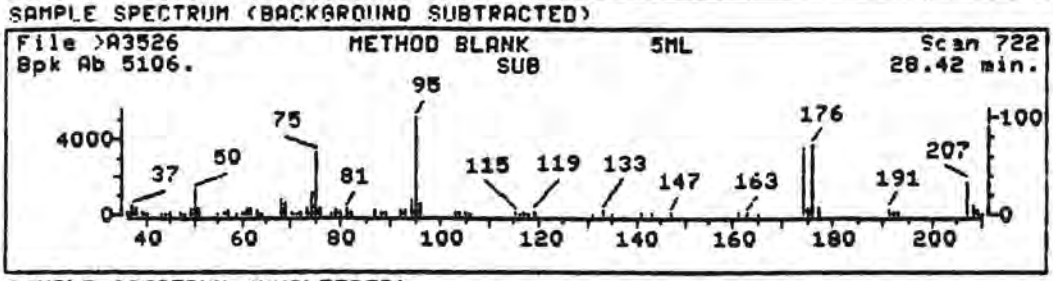
Quant ID File: ID_VCA::D2
Last Calibration: 911029 17:27

Compound No: 39
Compound Name: Toluene-d8
Scan Number: 582
Retention Time: 23.00 min.
Quant Ion: 98.0
Area: 118887
Concentration: 51.40 ug/L
q-value: 96

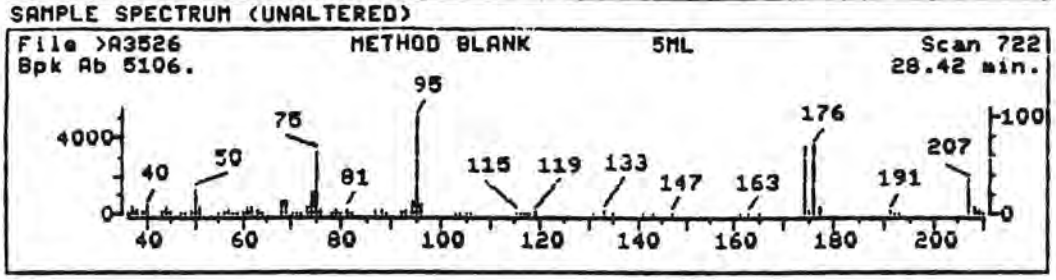
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >A3526::D3 Quant Output File: ^A3526::D4
Name: METHOD BLANK
Misc: 5ML
Quant Time: 911112 23:07 Quant ID File: ID_VOA::D2
Injected at: 911112 22:21 Last Calibration: 911029 17:27

Compound No: 45
Compound Name: Bromofluorobenzene
Scan Number: 722
Retention Time: 28.42 min.
Quant Ion: 95.0
Area: 99877
Concentration: 51.76 ug/L
q-value: 92

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE UNKNOWN IDENTIFICATIION

LAB SAMPLE ID:METHOD BLANK

LAB FILE ID:>A3526

DATE RECEIVED:NA

DATE ANALYZED:911112

SAMPLE WT/VOL:5ML

LEVEL:LOW

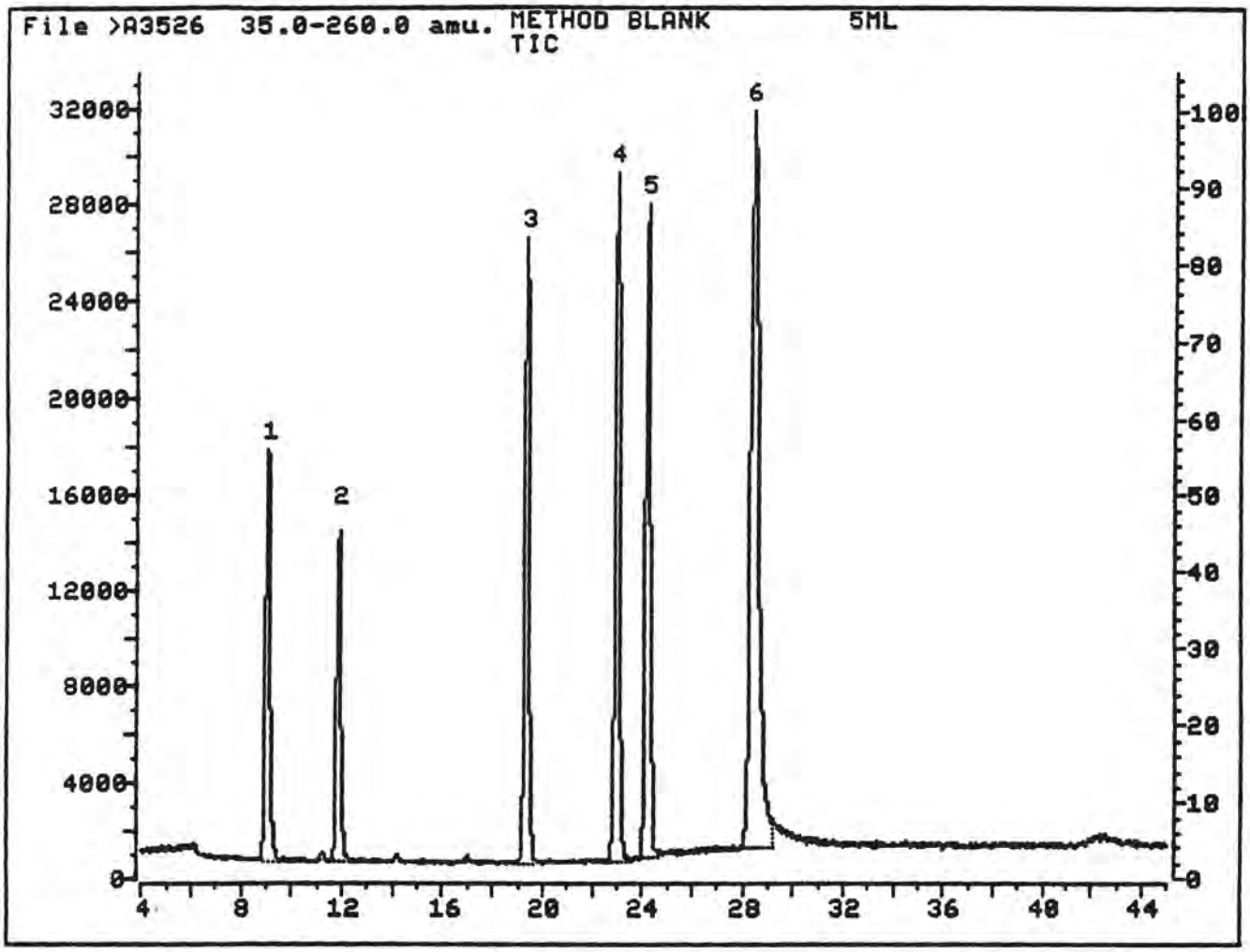
COMPOUND	RET TIME(MIN)	CONC
NONE FOUND		

SAMPLE INTEGRATION SUMMARY

SAMPLE NAME AND AMT: METHOD BLANK 5ML
SAMPLE DATA FILE: >A3526

PEAK NO.	RET. TIME	SCAN	AREA	IDENTIFICATION
1	9.02	221	212603	IS
2	11.84	294	165900	SS
3	19.36	488	317579	IS
4	23.00	582	361706	SS
5	24.24	614	356669	IS
6	28.42	722	703215	SS

IS = INTERNAL STANDARD
SS = SURROGATE
TC = TARGET COMPOUND
UK = UNKNOWN
<10% = UNKNOWN LESS THEN 10% OF INTERNAL STANDARD


File >A3526 35.0-260.0 amu. METHOD BLANK 5ML
TIC
32000
28000
24000
20000
16000
12000
8000
4000
0
100
90
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
4
8
12
16
20
24
28
32
36
40
44

NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3432
Certification No. 03117
November 29, 1991

H. RAW QC DATA PACKAGE (Continued)

1. Volatile Organics by GC/MS (Continued)

c. Matrix Spike/Matrix Spike Duplicate Chromatograms and Quantitation Reports

QUANT REPORT

Operator ID: MALOS
Output File: ^A3528::D4
Data File: >A3528::D3
Name: 91L-3365-6MS A-354
Misc: 5ML

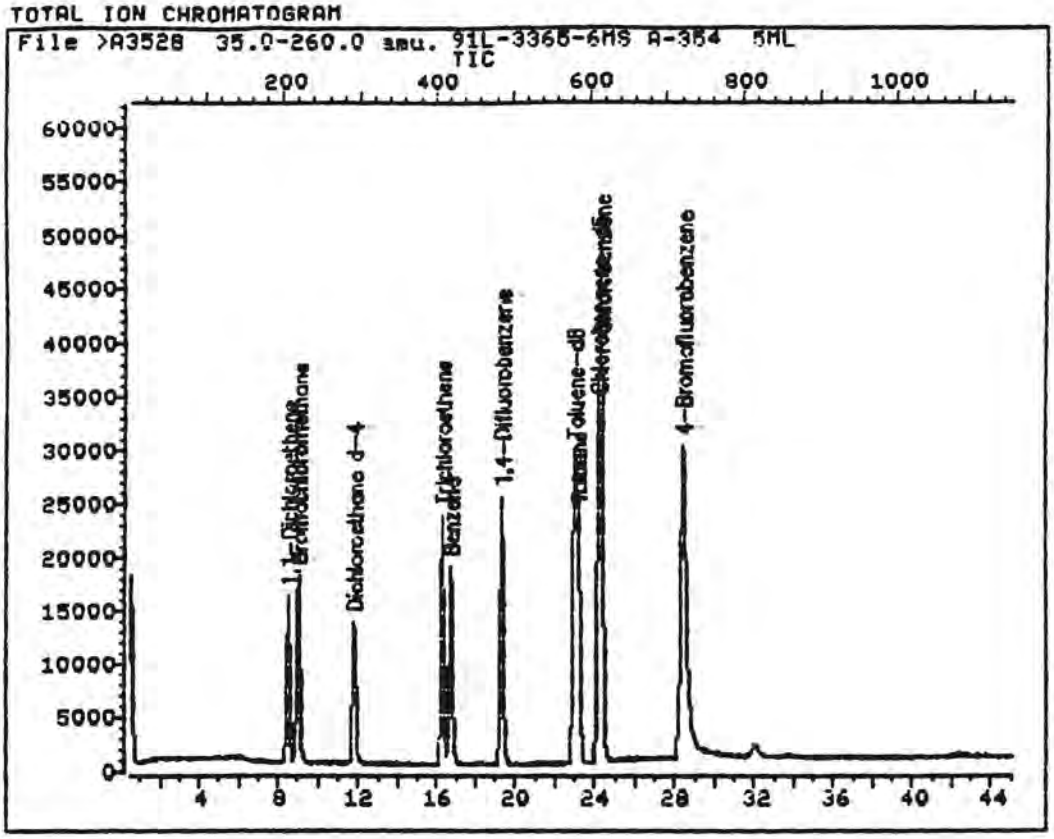
Quant Rev: 6 Quant Time: 911113 00:56
Injected at: 911113 00:10
Dilution Factor: 1.00000

ID File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911029 17:27

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.02	221	25813	50.00	ug/L	87
12)	1,1-Dichloroethene	8.51	208	30940	42.94	ug/L	86
16)	1,2-Dichloroethane-d4	11.81	293	68642	50.86	ug/L	80
23)	*1,4-Difluorobenzene	19.32	487	107677	50.00	ug/L	68
26)	Trichloroethene	16.30	409	43031	43.38	ug/L	90
29)	Benzene	16.76	421	86038	52.22	ug/L	92
33)	*Chlorobenzene-d5	24.20	613	92586	50.00	ug/L	94
38)	Toluene	23.19	587	56515	44.98	ug/L	96
39)	Toluene-d8	23.00	582	115927	49.95	ug/L	92
40)	Chlorobenzene	24.32	616	82540	46.00	ug/L	95
45)	Bromofluorobenzene	28.42	722	100129	51.72	ug/L	89

*- Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >A3528::D3 Quant Output File: ^A3528::D4
Name: 91L-3365-6MS A-354
Misc: 5ML

Id File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911029 17:27

Operator ID: MALOS
Quant Time: 911113 00:56
Injected at: 911113 00:10

QUANT REPORT

Operator ID: MALOS
Output File: ^A3529::D4
Data File: >A3529::D3
Name: 91L-3365-6MSD A-354
Misc: 5ML

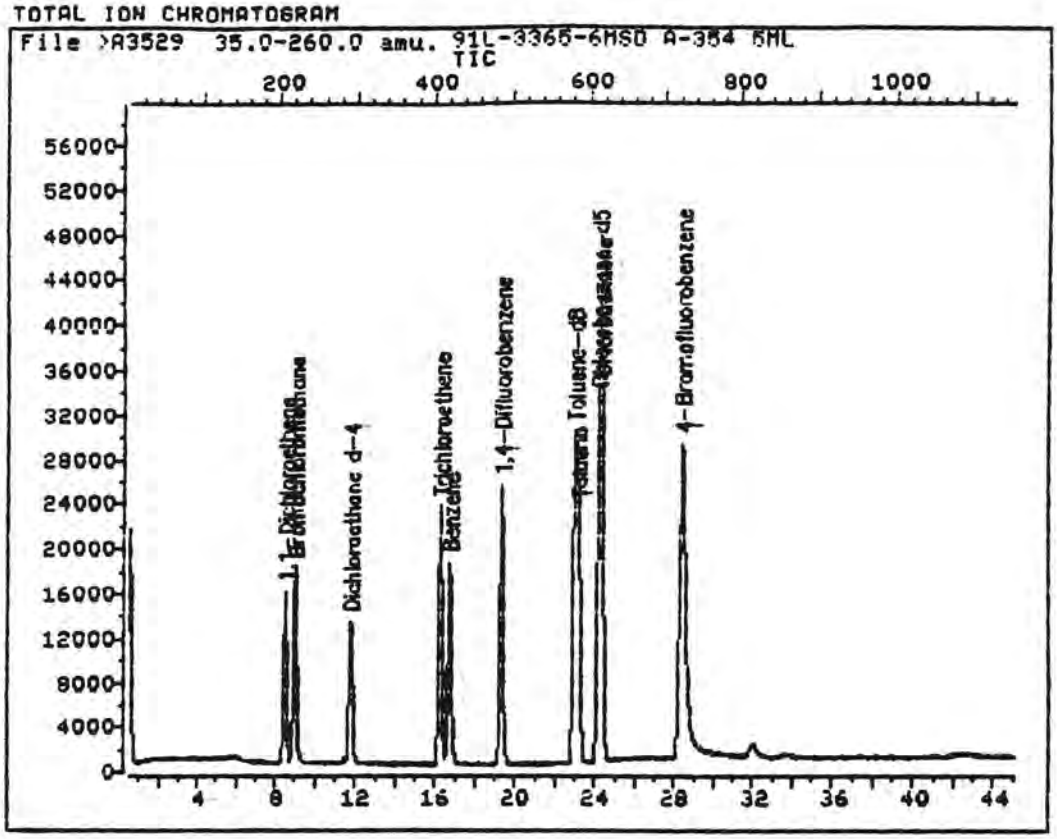
Quant Rev: 6 Quant Time: 911113 01:46
Injected at: 911113 01:00
Dilution Factor: 1.00000

ID File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911029 17:27

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.02	221	25676	50.00	ug/L	85
12)	1,1-Dichloroethene	8.51	208	30290	42.26	ug/L	90
16)	1,2-Dichloroethane-d4	11.81	293	67621	50.37	ug/L	83
23)	*1,4-Difluorobenzene	19.32	487	110409	50.00	ug/L	69
26)	Trichloroethene	16.30	409	41701	41.00	ug/L	93
29)	Benzene	16.76	421	83884	49.66	ug/L	95
33)	*Chlorobenzene-d5	24.20	613	92335	50.00	ug/L	95
38)	Toluene	23.19	587	55771	44.50	ug/L	96
39)	Toluene-d8	23.00	582	117234	50.65	ug/L	96
40)	Chlorobenzene	24.36	617	79246	44.28	ug/L	96
45)	Bromofluorobenzene	28.42	722	98931	51.24	ug/L	86

*- Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >A3529::D3 Quant Output File: ^A3529::D4
Name: 91L-3365-6MSD A-354
Misc: 5ML

Id File: ID_VOA::D2
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911029 17:27

Operator ID: MALOS
Quant Time: 911113 01:46
Injected at: 911113 01:00

Northeastern Analytical Corp.

ANALYTICAL REPORT

for

ROUX ASSOCIATES, INC.
775 Park Avenue
Suite 255
Huntington, New York 11743

Attention: Mr. Joseph Duminuco

TEST REPORT NO. NAC91L-3336

PROJECT: UST Removal
Sunnyside
Queens, New York
#05511Y

Client Designation	NAC Designation	Date Sampled	Time Sampled	Sampled By	Matrix
S-97, 4-6'	91L-3336-1	10-30-91	1220	Client	Solid
S-97, 6-8'	91L-3336-2	10-30-91	1030	Client	Solid
S-98, 4-6'	91L-3336-3	10-30-91	1230	Client	Solid

Laboratory Name: Northeastern Analytical Corp.

NJ Certification No: 03117

NY Certification No: 11022

Paul Painter

Name: Paul P. Painter

Title: Laboratory Director

June S. Baker

Name: June S. Baker

Title: Quality Assurance Manager

Date: November 22, 1991

NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3336
Certification No. 03117
November 22, 1991

B. TABLE OF CONTENTS

NAC NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3336
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November 22, 1991

C. SAMPLE ANALYSIS REQUEST

- None Provided -

NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3336
Certification No. 03117
November 22, 1991

D. CHAIN OF CUSTODY DOCUMENTS

ROUX 9L-3336

CHAIN OF CUSTODY

№ 00155

Ground-Water Consultants
ROUX ASSOCIATES INC

ANALYSES

PAGE 1 OF 1

PROJECT NAME: UST REMOVAL
PROJECT NUMBER: 05511J
PROJECT LOCATION: Sunnyside Yd. Queens, N.Y.
SAMPLER(S): A Gregory

SAMPLE DESIGNATION/LOCATION	DATE COLLECTED	TIME COLLECTED	SAMPLE MATRIX	VOCs (Method 8240) 2-40 mL Bottles each					TOTAL BOTTLES	PRESERVATION
1 S-97 (4'-6')	10/30/91	12:20	Soil	X					2	ICE
2 S-97 (6'-8')	"	12:30	"	X					2	ICE
3 S-98 (4'-6')	"	10:30	"	X					2	ICE

RELINQUISHED BY: SAMPLER'S (SIGNATURE)	FOR	DATE	TIME	SEAL INTACT (Y) OR N	RECEIVED BY: (SIGNATURE)	FOR	DATE	TIME	SEAL INTACT (Y) OR N
Anthony Gregory	Roux	10/31/91	18:00	(Y)		NAC	10/31/91	1815	(Y)
RELINQUISHED BY: (SIGNATURE)	FOR	DATE	TIME	SEAL INTACT Y OR N	RECEIVED BY: (SIGNATURE)	FOR	DATE		
RELINQUISHED BY: (SIGNATURE)	FOR	DATE	TIME	SEAL INTACT Y OR N	RECEIVED BY: (SIGNATURE)	FOR	DA		

DELIVERY METHOD: F-ED. EX.

ANALYTICAL LABORATORY: N.A.C.

COMMENTS: THREE DAY (3) turnaround

NORTHEASTERN ANALYTICAL CORPORATION

INTERNAL CHAIN OF CUSTODY

NAC NO. 91L-3336 PROJECT Roux Assoc.

SAMPLE/CONTAINERS 1-3 PARAMETER(S) 8240

1-40ml. Vial each

DATE	TIME	SAMPLE(S) RELINQUISHED BY	SAMPLE(S) RECEIVED BY	REASON FOR CHANGE OF CUSTODY
10/31/91	1615			Analysis + Storage

NORTHEASTERN ANALYTICAL CORPORATION

INTERNAL CHAIN OF CUSTODY

NAC NO. 91C-3336 PROJECT Rox Assoc

SAMPLE/CONTAINERS 1-3 PARAMETER(S) Total Solids

1-4 oz. vials each (Sterling Lake)

DATE	TIME	SAMPLE(S) RELINQUISHED BY	SAMPLE(S) RECEIVED BY	REASON FOR CHANGE OF CUSTODY
11/7/91	1330	[signature]	[signature]	Analysis 1-3
11/7/91	1400	[signature]	[signature]	Return to Storage 1-3

E. METHODOLOGY REVIEW

. Purgeables by GC/MS

Method 8240 - This is a purge and trap gas chromatograph/mass spectrometer (GC/MS) method. The organic compounds are separated by the gas chromatograph and detected using the mass spectrometer. Test Methods for Evaluating Solid Waste, SW846, 3rd Edition, November, 1986.

An HP5890/5970 GC/MS was used with a packed column of 1% SP-1000 on Carbopack B.

Method detection limits are as stated.

NAC NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3336
Certification No. 03117
November 22, 1991

F. DATA SUMMARY PACKAGE

1. Non-Conformance Summary Report

None.

NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3336
Certification No. 03117
November 22, 1991

F. DATA SUMMARY PACKAGE (Continued)

2. Quality Control Summary

a. Volatile Organics by GC/MS

1. Tune Summary

NORTHEASTERN ANALYTICAL CORPORATION

BFB GC/MS TUNE SUMMARY SHEET

INSTRUMENT B

LAB FILE ID:>C0899 DATE:10/15/91 TIME:07:59

This Performance tune applies to the following Samples, Blanks and Standards.

LAB SAMPLE ID	LAB FILE ID	INJECT DATE AND TIME
HEATED HSL CAL CHK	>C0900	10/15/91 08:56
HEATED HSL CAL CHK	>C0901	10/15/91 09:46
HEATED HSL CAL CHK	>C0902	10/15/91 10:37
HEATED HSL CAL CHK	>C0903	10/15/91 11:35
HEATED HSL CAL CHK	>C0904	10/15/91 12:33

NORTHEASTERN ANALYTICAL CORPORATION

BFB GC/MS TUNE SUMMARY SHEET

INSTRUMENT B

LAB FILE ID:>C1241 DATE:11/01/91 TIME:08:10

This Performance tune applies to the following Samples, Blanks and Standards.

LAB SAMPLE ID	LAB FILE ID	INJECT DATE AND TIME
HEATED HSL CAL CHK	>C1244	11/01/91 10:56
METHOD BLANK	>C1245	11/01/91 12:00
91L-3336-1	>C1246	11/01/91 13:24
91L-3336-3	>C1247	11/01/91 14:25
91L-3336-2	>C1248	11/01/91 15:52

NORTHEASTERN ANALYTICAL CORPORATION

BFB GC/MS TUNE SUMMARY SHEET

INSTRUMENT B

LAB FILE ID:>C1272 DATE:11/04/91 TIME:20:57

This Performance tune applies to the following Samples, Blanks and Standards.

LAB SAMPLE ID	LAB FILE ID	INJECT DATE AND TIME
HEATED HSL CAL CHK	>C1273	11/04/91 21:23
METHOD BLANK	>C1274	11/04/91 22:27
91L-3279-10MS S-135	>C1276	11/05/91 00:18
91L-3279-10MSD S-135	>C1277	11/05/91 01:07

Roux Associates, Inc.
Test Report No. NAC91L-3336
Certification No. 03117
November 22, 1991

F. DATA SUMMARY PACKAGE (Continued)

2. Quality Control Summary (Continued)

a. Volatile Organics by GC/MS (Continued)

2. Surrogate Recovery Summary

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE SOIL SURROGATE SPIKE PERCENT RECOVERY

* INDICATES RECOVERY OUTSIDE OF RANGE

DATA FILE	DATE	SAMPLE ID	TOLUENE-d8 (81-117)	BROMOFLOURO BENZENE (74-121)	1,2-DICHLORO ETHENE (70-121)
>C1246	11/01/91	91L-3336-1	102	108	100
>C1248	11/01/91	91L-3336-2	103	111	99
>C1247	11/01/91	91L-3336-3	98	106	96

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE AQUEOUS SURROGATE SPIKE PERCENT RECOVERY

* INDICATES RECOVERY OUTSIDE OF RANGE

DATA FILE	DATE	SAMPLE ID	TOLUENE-d8 (88-110)	BROMOFLOURO BENZENE (86-115)	1,2-DICHLORO ETHENE (76-114)
>C1245	11/01/91	METHOD BLANK	103	107	103

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE AQUEOUS SURROGATE SPIKE PERCENT RECOVERY

* INDICATES RECOVERY OUTSIDE OF RANGE

DATA FILE	DATE	SAMPLE ID	TOLUENE-d8 (88-110)	BROMOFLOURO BENZENE (86-115)	1,2-DICHLORO ETHENE (76-114)
>C1274	11/04/91	METHOD BLANK	101	92	112

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE SOIL SURROGATE SPIKE PERCENT RECOVERY

* INDICATES RECOVERY OUTSIDE OF RANGE

DATA FILE	DATE	SAMPLE ID	TOLUENE-d8 (81-117)	BROMOFLOURO BENZENE (74-121)	1,2-DICHLORO ETHENE (70-121)
>C1276	11/05/91	91L-3279-10MS	111	93	118
>C1277	11/05/91	91L-3279-10MSD	115	94	117

NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3336
Certification No. 03117
November 22, 1991

F. DATA SUMMARY PACKAGE (Continued)

2. Quality Control Summary (Continued)

a. Volatile Organics by GC/MS (Continued)

3. Method Blank Summary

NORTHEASTERN ANALYTICAL CORPORATION

VOLATILE METHOD BLANK SUMMARY SHEET

LAB SAMPLE ID:METHOD BLANK LAB FILE ID:>C1245

MATRIX:AQUEOUS LEVEL:LOW

DATE ANALYZED:11/01/91 TIME ANALYZED:12:00

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

LAB SAMPLE ID	LAB FILE ID	INJECT DATE AND TIME
91L-3336-1	>C1246	11/01/91 13:24
91L-3336-3	>C1247	11/01/91 14:25
91L-3336-2	>C1248	11/01/91 15:52

NORTHEASTERN ANALYTICAL CORPORATION

VOLATILE METHOD BLANK SUMMARY SHEET

LAB SAMPLE ID:METHOD BLANK LAB FILE ID:>C1274

MATRIX:AQUEOUS LEVEL:LOW

DATE ANALYZED:11/04/91 TIME ANALYZED:22:27

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

LAB SAMPLE ID	LAB FILE ID	INJECT DATE AND TIME
91L-3279-10MS	>C1276	11/05/91 00:18
91L-3279-10MSD	>C1277	11/05/91 01:07

F. DATA SUMMARY PACKAGE (Continued)

2. Quality Control Summary (Continued)

a. Volatile Organics by GC/MS (Continued)

4. Matrix Spike/Matrix Spike Duplicate Summary

NORTHEASTERN ANALYTICAL CORPORATION
SOIL VOLATILE MATRIX SPIKE AND MATRIX SPIKE DUPLICATE

SAMPLE NAME:91L-3279-10 ANALYSIS DATE:11/05/91

BATCH NO:135

COMPOUND	SPIKE ADDED	MS CONC	MSD CONC	SAM CONC	MS% REC	MSD% REC	RPD
1,1-Dichloroethene	50	44	43	ND	88	86	2
Trichloroethene	50	48	47	ND	96	94	2
Benzene	50	56	55	ND	112	110	2
Toluene	50	52	52	ND	104	104	0
Chlorobenzene	50	51	51	ND	102	102	0

UNITS OF CONCENTRATION ARE UG/KG

QC LIMITS	%REC	RPD
1,1-Dichloroethene	59-172	22
Trichloroethene	59-137	24
Benzene	60-133	21
Toluene	60-139	21
Chlorobenzene	66-142	21

* INDICATES RECOVERY OUTSIDE OF LIMITS

RPD: 0 OUT OF 5 OUTSIDE OF LIMITS
SPIKE RECOVERY: 0 OUT OF 10 OUTSIDE OF LIMITS

NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3336
Certification No. 03117
November 22, 1991

F. DATA SUMMARY PACKAGE (Continued)

2. Quality Control Summary (Continued)

a. Volatile Organics by GC/MS (Continued)

4. Internal Standard Area Summary

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:91L-3336-1 INSTRUMENT ID:C

SAMPLE FILE ID:>C1246 STANDARD FILE ID:>C1244

DATE ANALYZED:11/01/91 TIME ANALYZED:13:24

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWI LIMI
Bromochloromethane	104	104	34060	42570	85140	2128
1,4-Difluorobenzene	240	241	126898	162210	324420	8110
Chlorobenzene-d5	305	306	100714	123455	246910	6172

UPPER LIMIT=STAND AREA X 2
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:91L-3336-2 INSTRUMENT ID:C

SAMPLE FILE ID:>C1248 STANDARD FILE ID:>C1244

DATE ANALYZED:11/01/91 TIME ANALYZED:15:52

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWI LIMI
Bromochloromethane	104	104	45614	42570	85140	212E
1,4-Difluorobenzene	240	241	170593	162210	324420	811C
Chlorobenzene-d5	306	306	132305	123455	246910	6172

UPPER LIMIT=STAND AREA X 2
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:91L-3336-3 INSTRUMENT ID:C

SAMPLE FILE ID:>C1247 STANDARD FILE ID:>C1244

DATE ANALYZED:11/01/91 TIME ANALYZED:14:25

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWEI LIMI
Bromochloromethane	105	104	46305	42570	85140	21285
1,4-Difluorobenzene	240	241	169412	162210	324420	81105
Chlorobenzene-d5	306	306	129150	123455	246910	61728

UPPER LIMIT=STAND AREA X 2
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:METHOD BLANK

INSTRUMENT ID:C

SAMPLE FILE ID:>C1245

STANDARD FILE ID:>C1244

DATE ANALYZED:11/01/91

TIME ANALYZED:12:00

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWE LIMI
Bromochloromethane	104	104	39547	42570	85140	2128
1,4-Difluorobenzene	241	241	149408	162210	324420	8110
Chlorobenzene-d5	306	306	116854	123455	246910	6172

UPPER LIMIT=STAND AREA X 2
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:METHOD BLANK INSTRUMENT ID:C

SAMPLE FILE ID:>C1274 STANDARD FILE ID:>C1273

DATE ANALYZED:11/04/91 TIME ANALYZED:22:27

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOW LIM
Bromochloromethane	104	104	43226	44014	88028	220(
1,4-Difluorobenzene	241	240	161158	158922	317844	794(
Chlorobenzene-d5	306	305	125489	125812	251624	6290

UPPER LIMIT=STAND AREA X 2
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:91L-3279-10MS S-135 INSTRUMENT ID:C

SAMPLE FILE ID:>C1276 STANDARD FILE ID:>C1273

DATE ANALYZED:11/05/91 TIME ANALYZED:00:18

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOW LIM
Bromochloromethane	104	104	34354	44014	88028	220
1,4-Difluorobenzene	241	240	122380	158922	317844	794
Chlorobenzene-d5	306	305	89924	125812	251624	629

UPPER LIMIT=STAND AREA X 2
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:91L-3279-10MSD S-135 INSTRUMENT ID:C

SAMPLE FILE ID:>C1277 STANDARD FILE ID:>C1273

DATE ANALYZED:11/05/91 TIME ANALYZED:01:07

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOW LIM
Bromochloromethane	104	104	33821	44014	88028	220
1,4-Difluorobenzene	241	240	118158	158922	317844	794
Chlorobenzene-d5	306	305	88272	125812	251624	629

UPPER LIMIT=STAND AREA X 2
LOWER LIMIT=STAND AREA/2

F. DATA SUMMARY PACKAGE (Continued)

3. Sample Data Package

a. Volatile Organics by GC/MS

1. Sample Result Summary and Method Detection Limit

QUANT REPORT

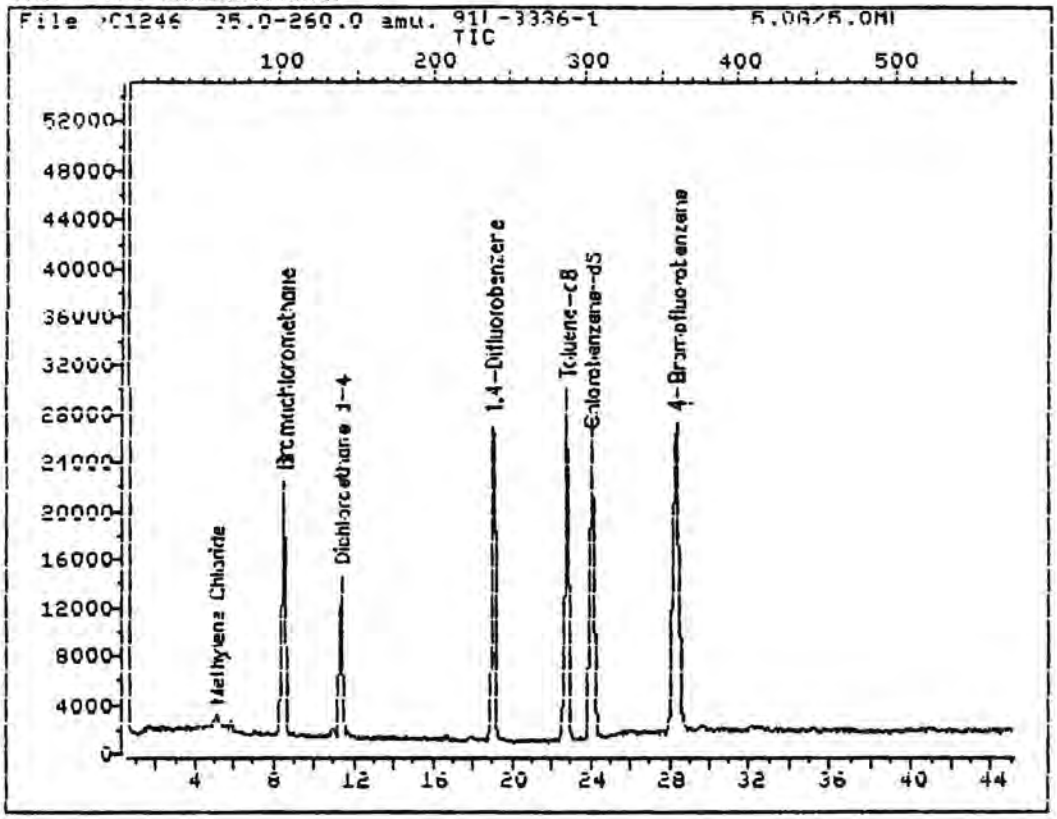
Operator ID: MALUS Quant Rev: 6 Quant Time: 911101 14:12
Output File: ^L1246::D3 Injected at: 911101 13:24
Data File: >L1246::D2 Dilution Factor: 1.00000
Name: 91L-3336-1
Misc: 5.0G/5.0ML

ID File: IDSLCC::QI
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 13:36

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.49	104	34060	50.00	UG/KG	76
6)	Methylene Chloride	5.10	60	2705	2.20	UG/KG	90
17)	1,2-Dichloroethane-d4	11.35	141	53472	49.90	UG/KG	96
27)	*1,4-Difluorobenzene	18.99	240	126898	50.00	UG/KG	69
38)	*Chlorobenzene-d5	24.01	305	100714	50.00	UG/KG	99
44)	Toluene-d8	22.77	289	128910	50.93	UG/KG	98
50)	Bromofluorobenzene	28.33	361	106130	53.97	UG/KG	95

* Compound is ISTD

TOTAL ION CHROMATOGRAM

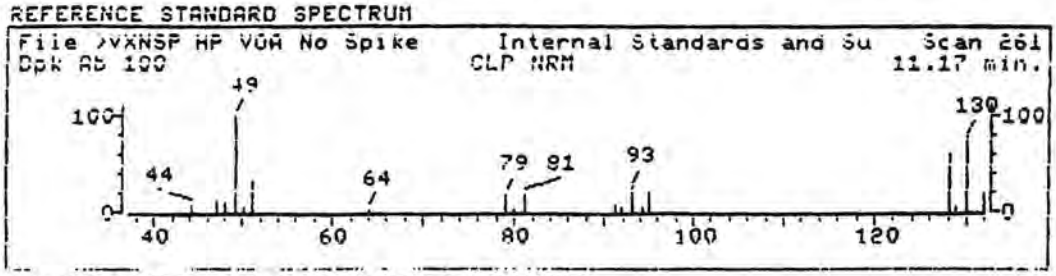


Data File: >C1246::D2 Quant Output File: >C1246::D3
Name: 91L-3336-1
Misc: 5.0G/5.0ML

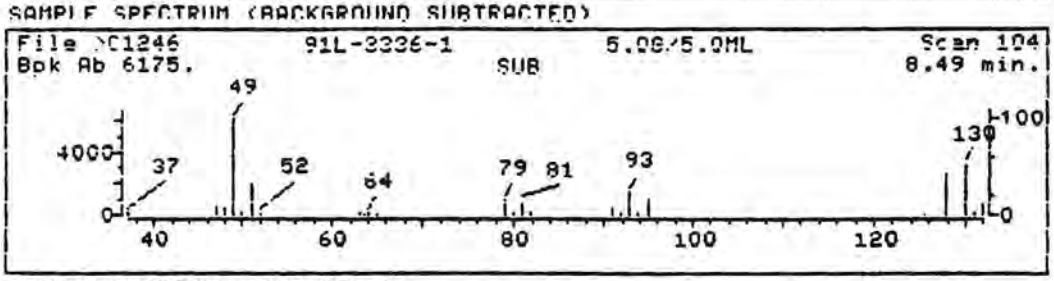
Id File: IDSCCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 13:36

Operator ID: MALOS
Quant Time: 911101 14:12
Injected at: 911101 13:24

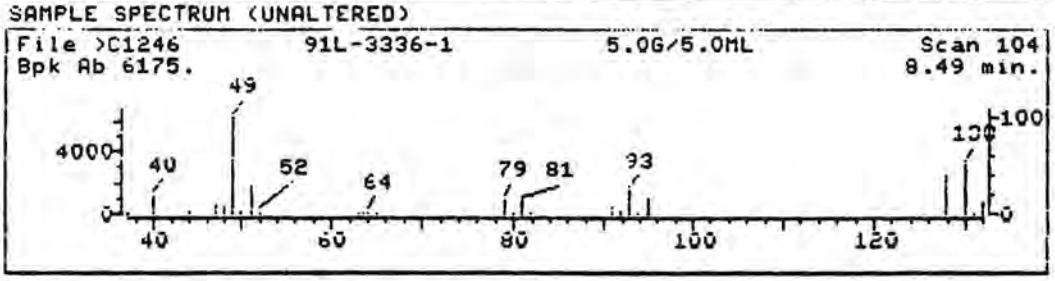
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



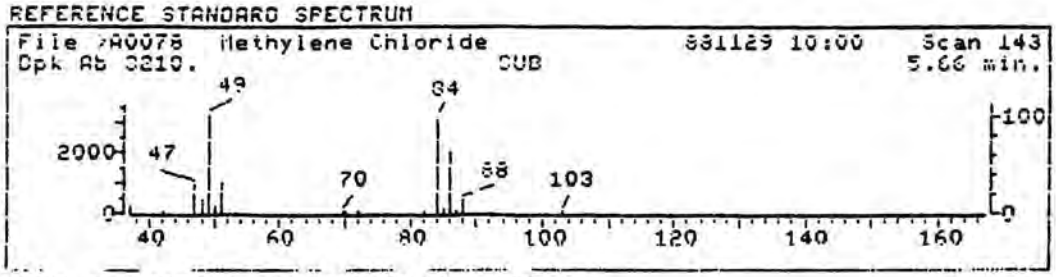
SAMPLE SPECTRUM (UNALTERED)



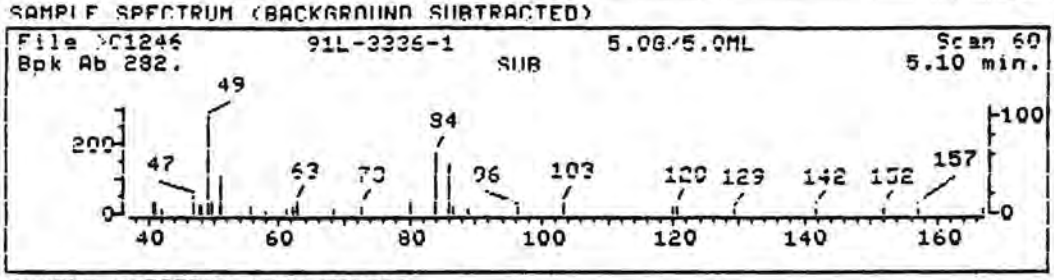
Data File: >C1246::D2
Quant Output File: ^C1246::D3
Name: 91L-3336-1
Misc: 5.0G/5.0ML
Quant Time: 911101 14:12
Quant ID File: IDSCCC::WI
Injected at: 911101 13:24
Last Calibration: 911015 13:36

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 104
Retention Time: 8.49 min.
Quant Ion: 128.0
Area: 34060
Concentration: 50.00 UG/KG
q-value: 76

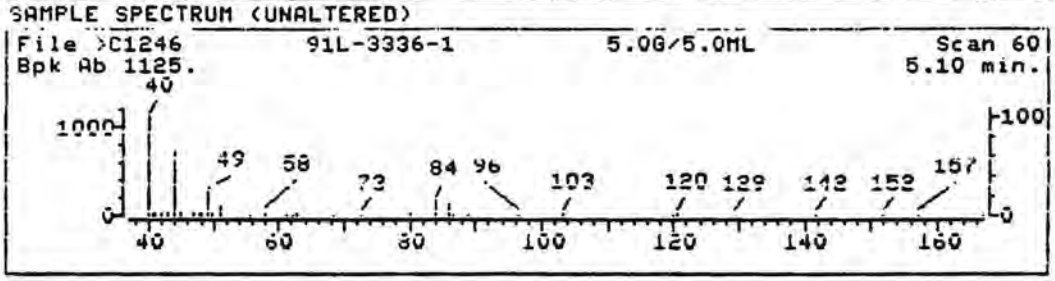
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



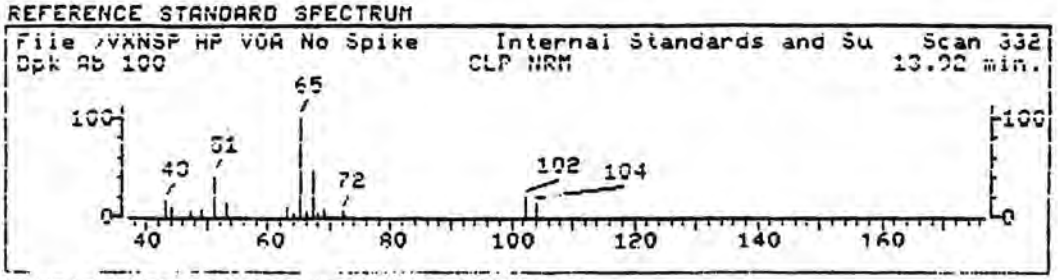
SAMPLE SPECTRUM (UNALTERED)



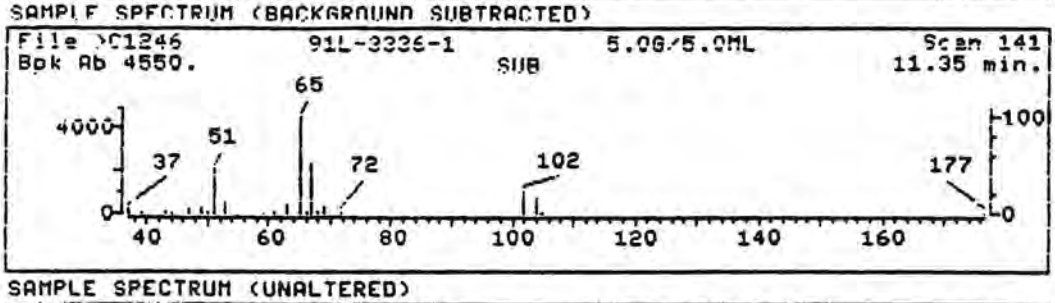
Data File: >C1246::D2 Quant Output File: ^C1246::D3
Name: 91L-3336-1
Misc: 5.0G/5.0ML
Quant Time: 911101 14:12 Quant ID File: IDSCCC::W1
Injected at: 911101 13:24 Last Calibration: 911015 13:36

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 60
Retention Time: 5.10 min.
Quant Ion: 84.0
Area: 2705
Concentration: 2.20 UG/KG
q-value: 90

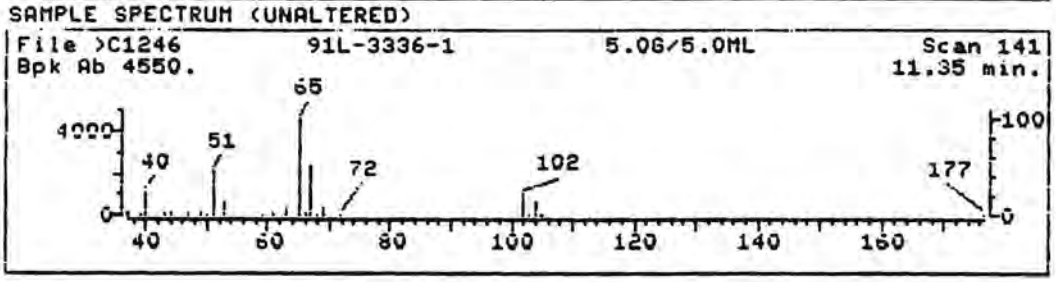
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



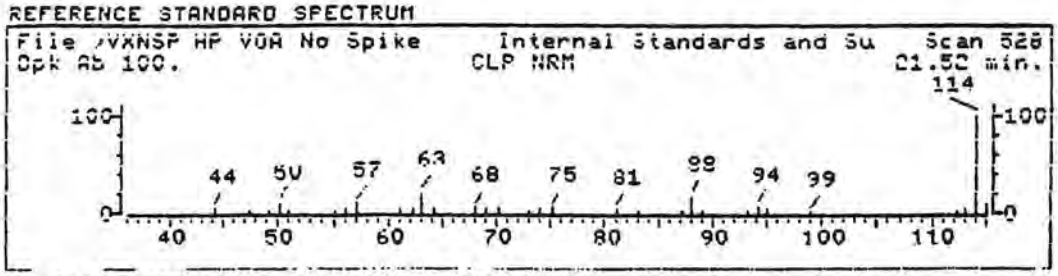
SAMPLE SPECTRUM (UNALTERED)



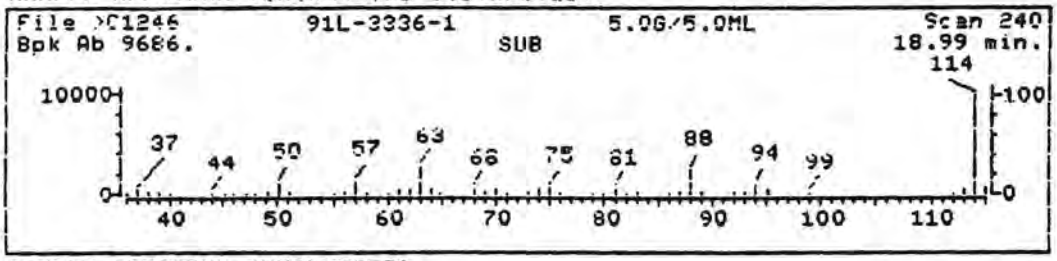
Data File: >C1246::D2 Quant Output File: ^C1246::D3
Name: 91L-3336-1
Misc: 5.0G/5.0ML
Quant Time: 911101 14:12 Quant ID File: IDSCCC::QT
Injected at: 911101 13:24 Last Calibration: 911015 13:36

Compound No: 17
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 141
Retention Time: 11.35 min.
Quant Ion: 65.0
Area: 534/2
Concentration: 49.90 UG/KG
q-value: 96

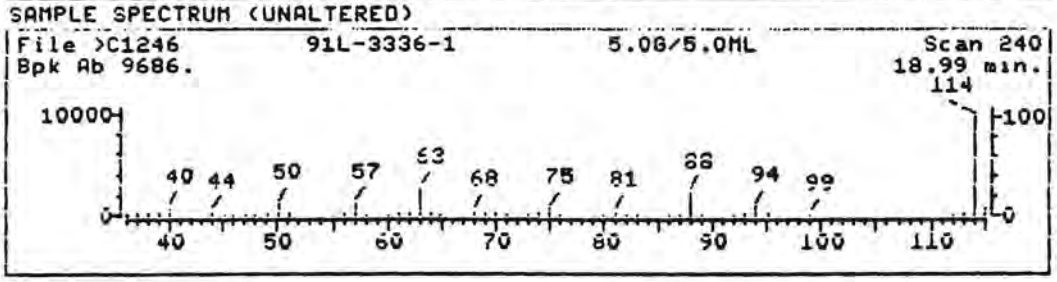
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



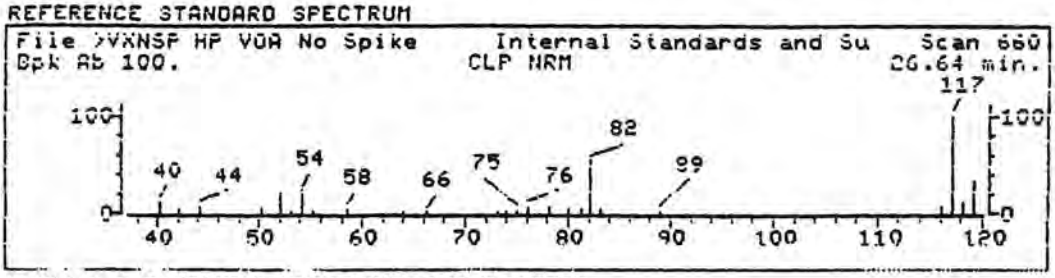
SAMPLE SPECTRUM (UNALTERED)



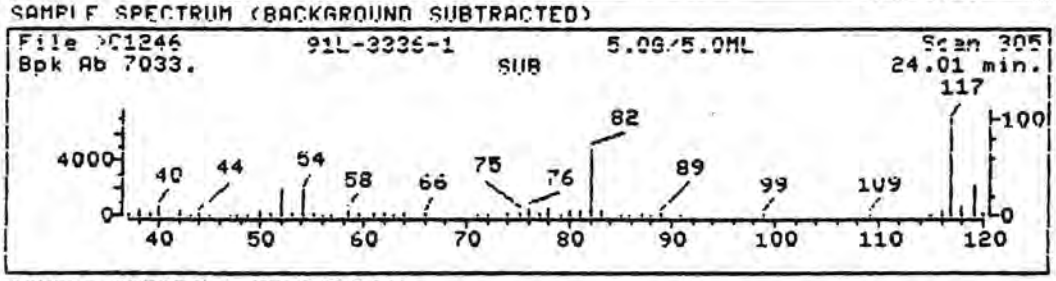
Data File: >C1246::02
Quant Output File: ^C1246::03
Name: 91L-3336-1
Misc: 5.UG/5.UML
Quant Time: 911101 14:12
Quant ID File: IDSLCC::QT
Injected at: 911101 13:24
Last Calibration: 911015 13:36

Compound No: 27 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 240
Retention Time: 18.99 min.
Quant Ion: 114.0
Area: 126898
Concentration: 50.00 UG/KG
q-value: 69

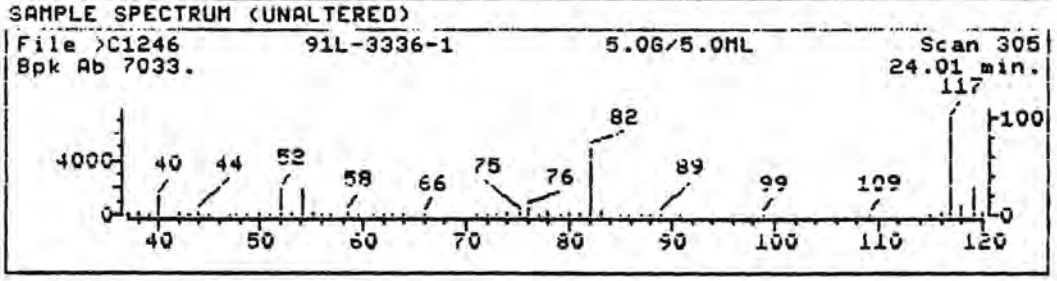
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

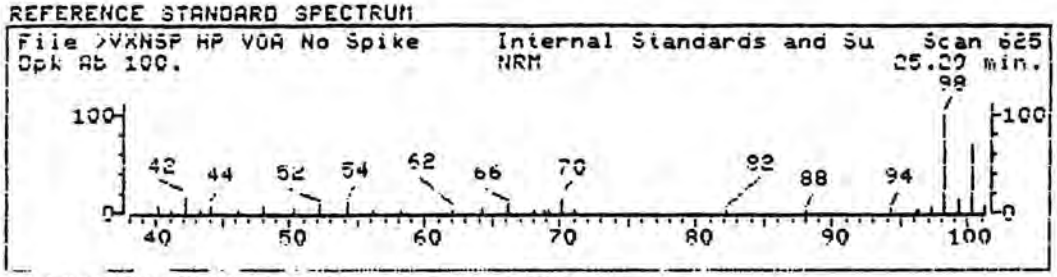


Data File: >C1246::D2
Name: 91L-3336-1
Misc: 5.0G/5.0ML
Quant Time: 911101 14:12
Injected at: 911101 13:24

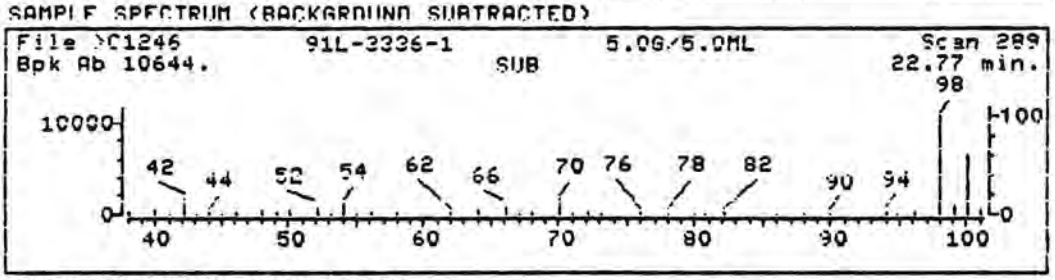
Quant Output File: ^C1246::D5
Quant ID File: IDSCCC::QT
Last Calibration: 911015 13:36

Compound No: 38 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 305
Retention Time: 24.01 min.
Quant Ion: 117.0
Area: 100714
Concentration: 50.00 UG/KG
q-value: 99

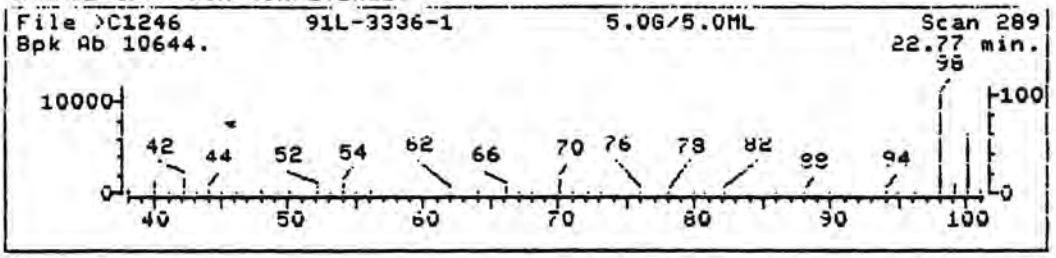
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



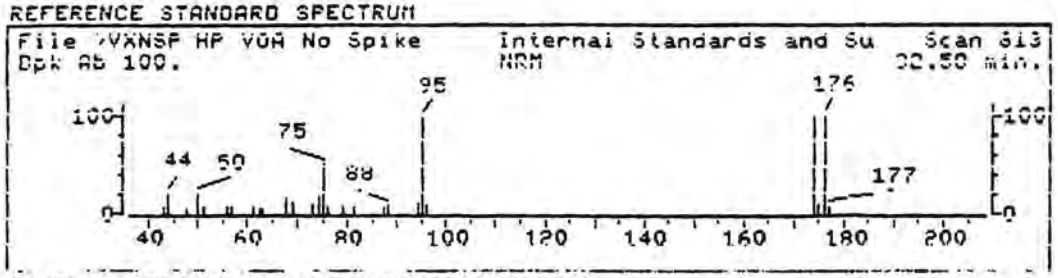
Data File: >C1246::D2
Name: 91L-3336-1
Misc: 5.0G/5.0ML
Quant Time: 911101 14:12
Injected at: 911101 13:24

Quant Output File: ^C1246::D3

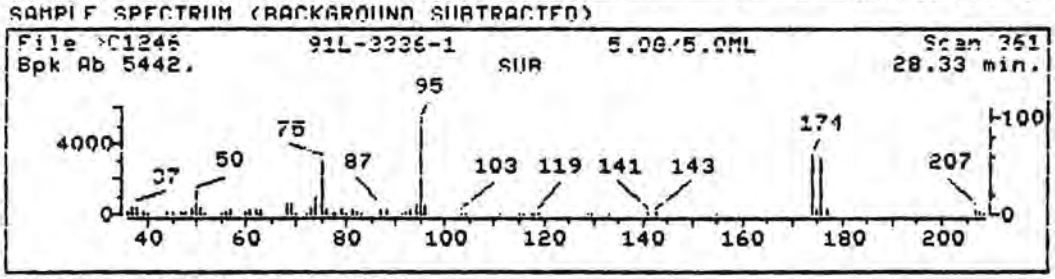
Quant ID File: IDSCCC::WT
Last Calibration: 911015 13:36

Compound No: 44
Compound Name: Toluene-d8
Scan Number: 289
Retention Time: 22.77 min.
Quant Ion: 98.0
Area: 128910
Concentration: 50.93 UG/KG
q-value: 98

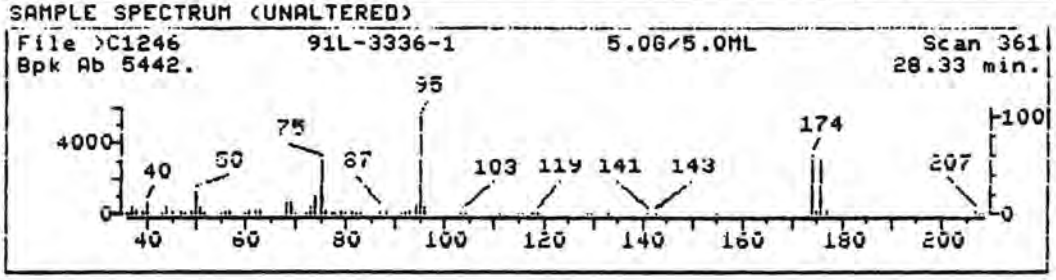
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C1246::D2 Quant Output File: ^C1246::D3
Name: 91L-3336-1
Misc: 5.UG/5.UML
Quant Time: 911101 14:12 Quant ID File: IDSCCC::QT
Injected at: 911101 13:24 Last Calibration: 911015 13:56

Compound No: 50
Compound Name: Bromofluorobenzene
Scan Number: 361
Retention Time: 28.33 min.
Quant Ion: 95.0
Area: 106130
Concentration: 53.97 UG/KG
q-value: 95

QUANT REPORT

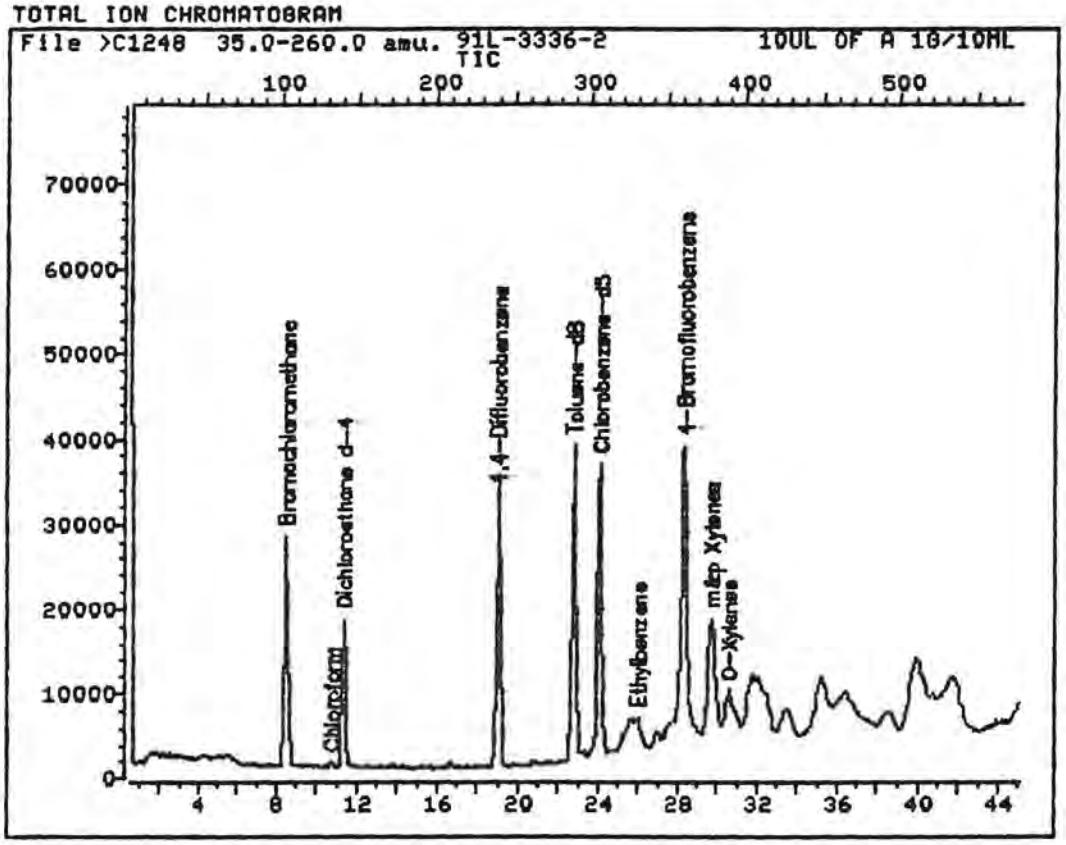
Operator ID: MALOS Quant Rev: 6 Quant Time: 911101 16:39
Output File: ^C1248::D1 Injected at: 911101 15:52
Data File: >C1248::D2 Dilution Factor: 5000.000
Name: 91L-3336-2
Misc: 10UL OF A 1G/10ML

ID File: IDSCCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 13:36

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.50	104	45614	50.00	UG/KG	85
16)	Chloroform	10.73	133	2917	5655.48	UG/KG	99
17)	1,2-Dichloroethane-d4	11.35	141	70763	246560.9	UG/KG	95
27)	*1,4-Difluorobenzene	18.99	240	170593	50.00	UG/KG	68
38)	*Chlorobenzene-d5	24.09	306	132305	50.00	UG/KG	95
44)	Toluene-d8	22.78	289	171549	257952.8	UG/KG	97
46)	Ethylbenzene	26.02	331	5658	23473.85	UG/KG	99
48)	m&p Xylenes	29.73	379	26928	192697.7	UG/KG	98
49)	O-Xylenes	30.58	390	13393	25134.68	UG/KG	92
50)	Bromofluorobenzene	28.34	361	142986	276759.8	UG/KG	97

* Compound is ISTD

TOTAL ION CHROMATOGRAM

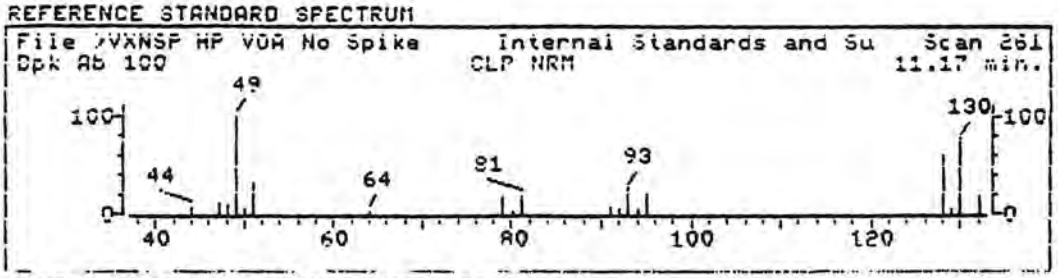


Data File: >C1248 Quant Output File: ^C1248::D1
Name: 91L-3336-2
Misc: 10UL OF A 1G/10ML

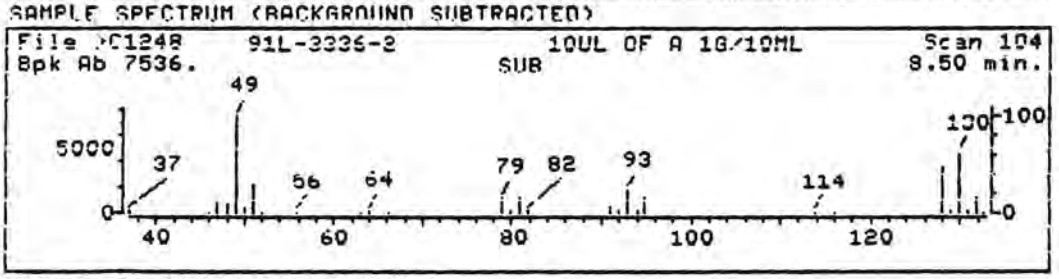
Id File: IDSCCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 13:36

Operator ID: MALOS
Quant Time: 911101 16:39
Injected at: 911101 15:52

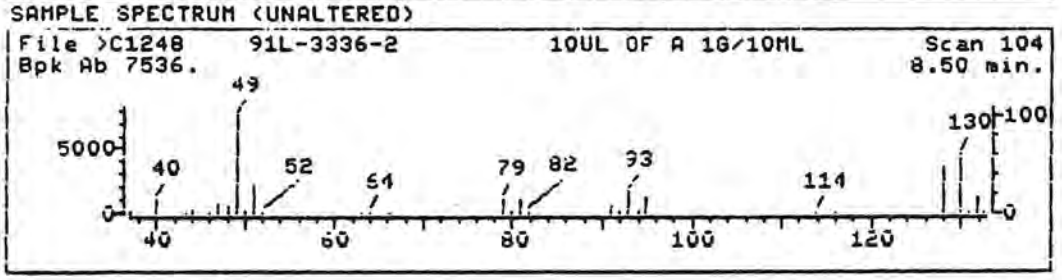
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



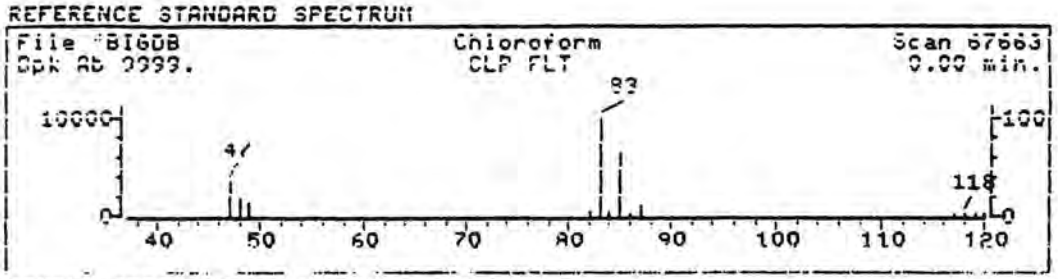
SAMPLE SPECTRUM (UNALTERED)



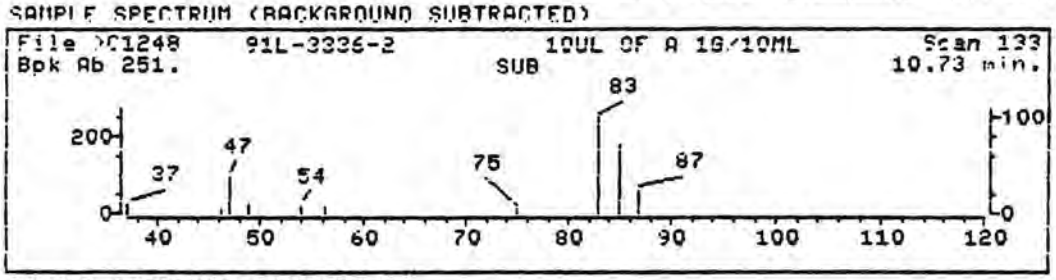
Data File: >C1248::D2 Quant Output File: ^C1248::D1
Name: 91L-3336-2
Misc: 10UL OF A 1G/10ML
Quant Time: 911101 16:39 Quant ID File: IDSCCC::QT
Injected at: 911101 15:52 Last Calibration: 911015 13:56

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 104
Retention Time: 8.50 min.
Quant Ion: 128.0
Area: 45614
Concentration: 50.00 UG/KG
q-value: 85

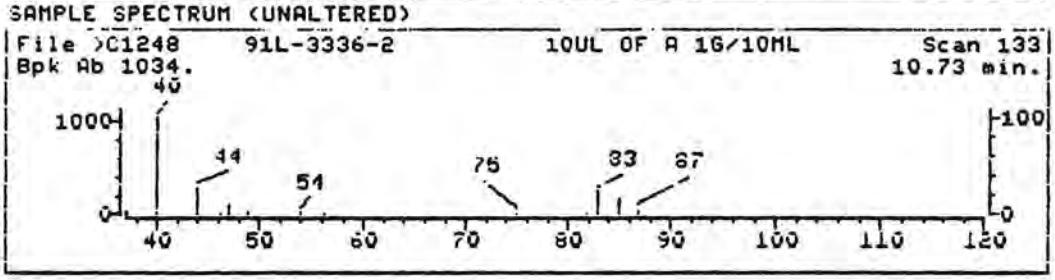
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

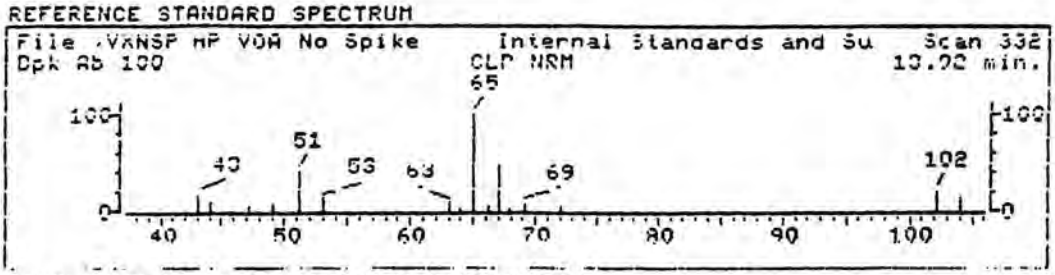


Data File: >C1248::D2
Name: 91L-3336-2
Misc: 10UL OF A 16/10ML
Quant Time: 911101 16:39
Injected at: 911101 15:52

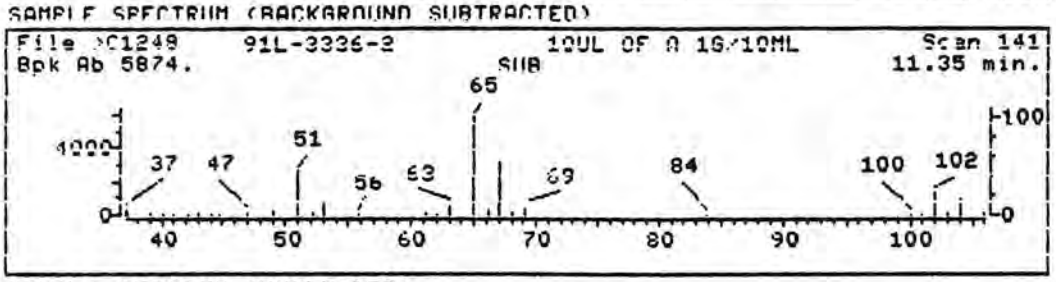
Quant Output File: ^C1248::D1
Quant ID File: IDSCCC::QT
Last Calibration: 911015 13:36

Compound No: 16
Compound Name: Chloroform
Scan Number: 133
Retention Time: 10.73 min.
Quant Ion: 83.0
Area: 2917
Concentration: 5655.48 UG/KG
q-value: 99

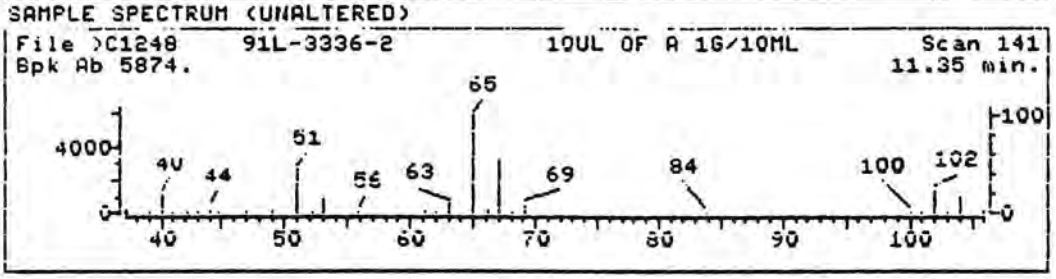
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



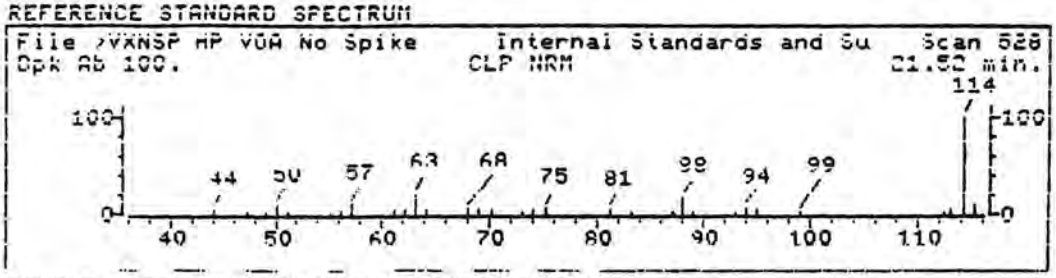
SAMPLE SPECTRUM (UNALTERED)



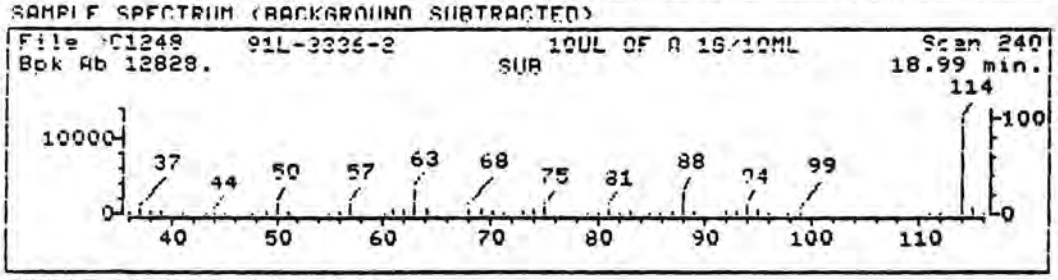
Data File: >C1248::D2
Quant Output File: ^C1248::D1
Name: 91L-3336-2
Misc: 10UL OF A 1G/10ML
Quant Time: 911101 16:59
Quant ID File: IDSCCC::QT
Injected at: 911101 15:52
Last Calibration: 911015 13:36

Compound No: 17
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 141
Retention Time: 11.35 min.
Quant Ion: 65.0
Area: 20763
Concentration: 246560.9 UG/KG
q-value: 95

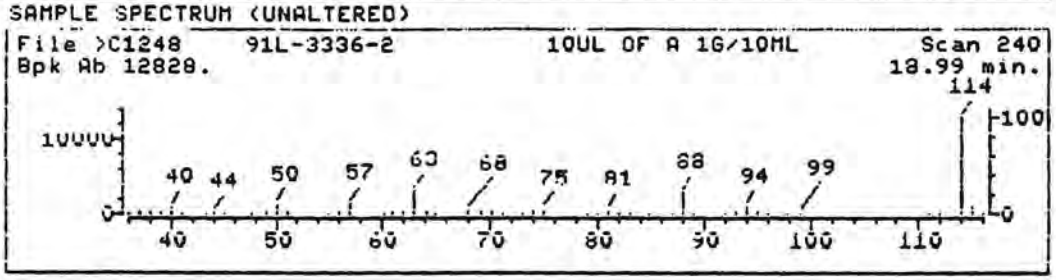
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



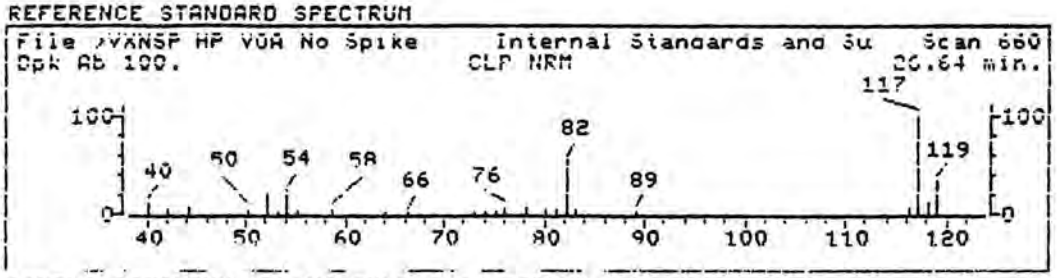
SAMPLE SPECTRUM (UNALTERED)



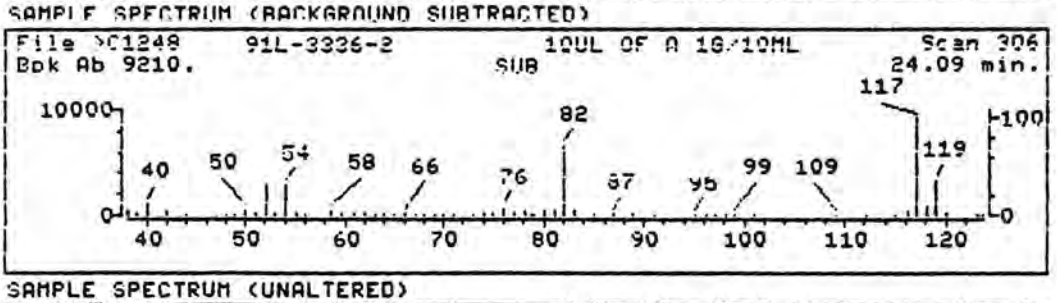
Data File: >C1248::D2
Quant Output File: ^C1248::D1
Name: 91L-3336-2
Misc: 10UL OF A 1G/10ML
Quant Time: 911101 16:39
Quant ID File: 10SCCC::QT
Injected at: 911101 15:52
Last Calibration: 911015 13:36

Compound No: 27 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 240
Retention Time: 18.99 min.
Quant Ion: 114.0
Area: 170593
Concentration: 50.00 UG/KG
q-value: 68

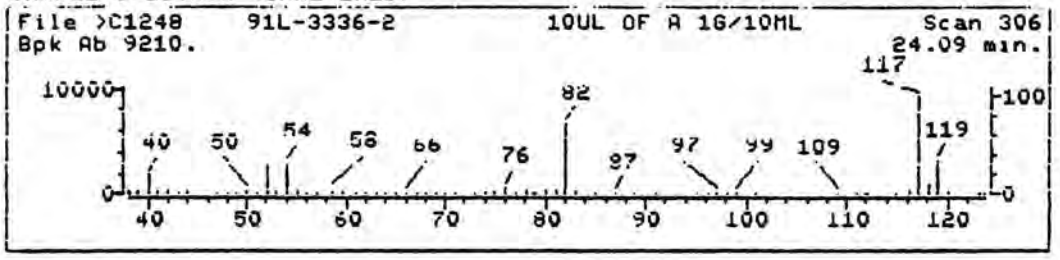
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



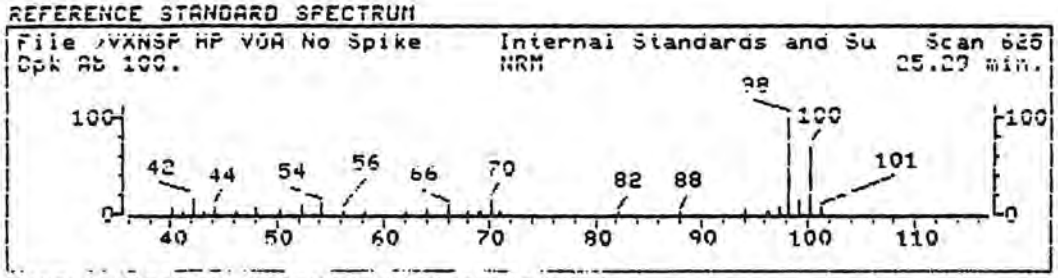
Data File: >C1248::D2
Name: 91L-3336-2
Misc: 10UL OF A 1G/10ML
Quant Time: 911101 16:39
Injected at: 911101 15:52

Quant Output File: ^C1248::D1

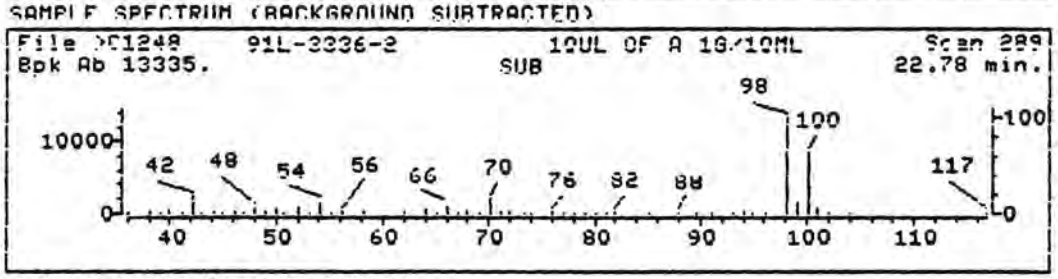
Quant ID File: IDSCCC::QT
Last Calibration: 911015 13:36

Compound No: 38 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 306
Retention Time: 24.09 min.
Quant Ion: 117.0
Area: 132305
Concentration: 50.00 UG/KG
q-value: 95

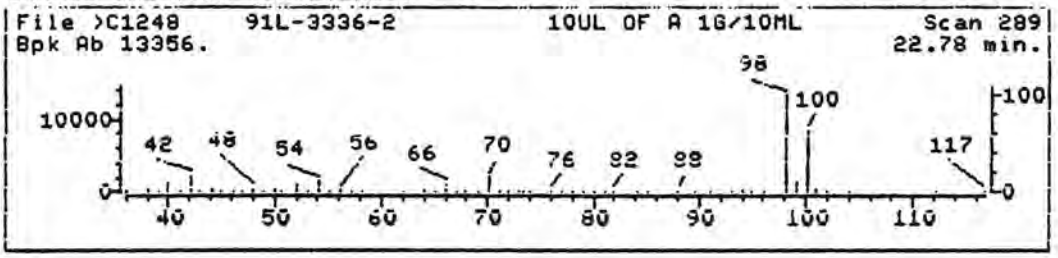
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



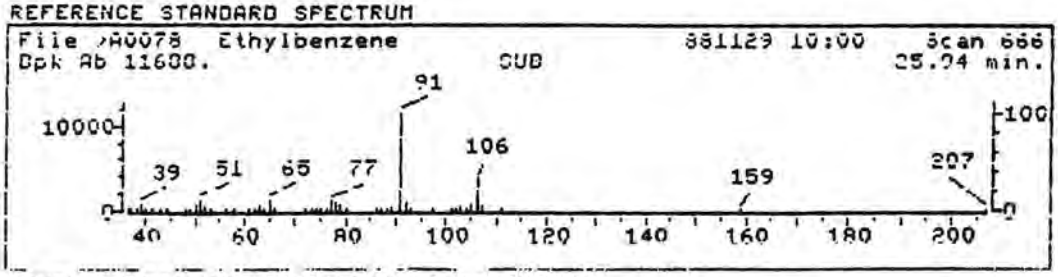
Data File: >C1248::D2
Name: 91L-3336-2
Misc: 10UL OF A 1G/10ML
Quant Time: 911101 16:39
Injected at: 911101 15:52

Quant Output File: >C1248::D1

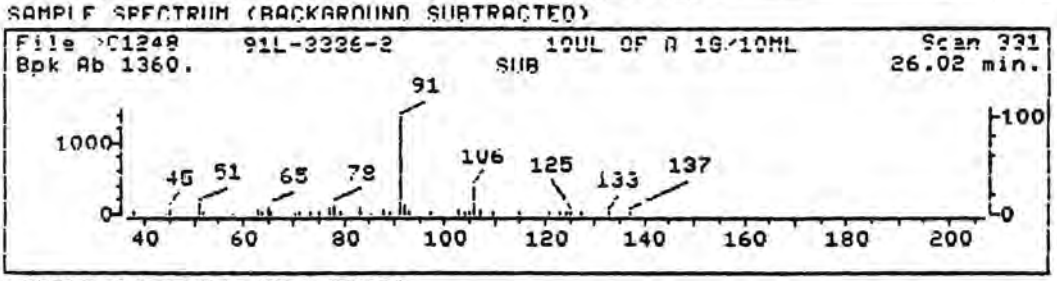
Quant ID File: IDSCCC::QT
Last Calibration: 911015 13:36

Compound No: 44
Compound Name: Toluene-d8
Scan Number: 289
Retention Time: 22.78 min.
Quant Ion: 98.0
Area: 171549
Concentration: 257952.8 UG/KG
q-value: 97

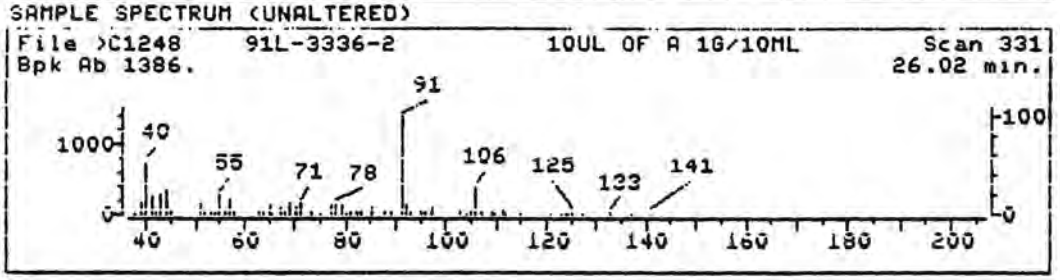
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



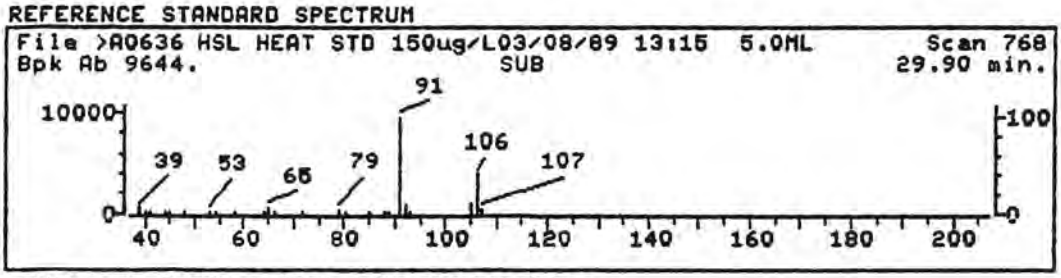
Data File: >C1248::D2
Name: 91L-3336-2
Misc: 10UL OF A 1G/10ML
Quant Time: 911101 16:39
Injected at: 911101 15:52

Quant Output File: ^C1248::D1

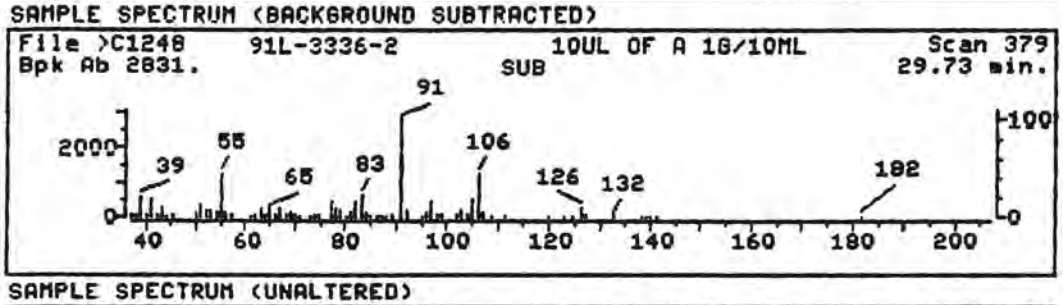
Quant ID File: IDSCCC::QT
Last Calibration: 911015 13:56

Compound No: 46
Compound Name: Ethylbenzene
Scan Number: 331
Retention Time: 26.02 min.
Quant Ion: 106.0
Area: 5658
Concentration: 23473.85 UG/KG
q-value: 99

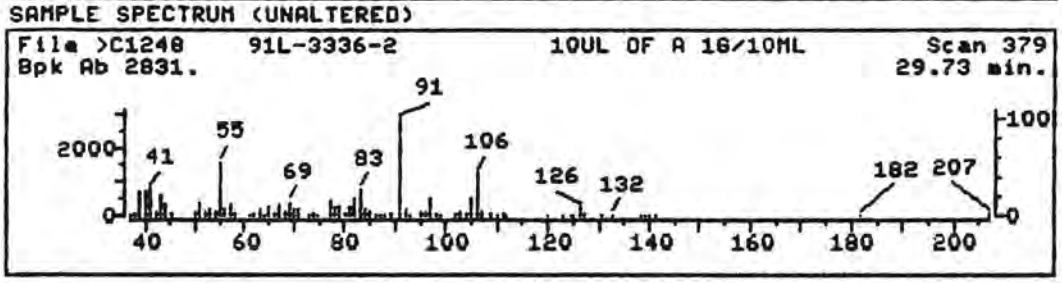
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



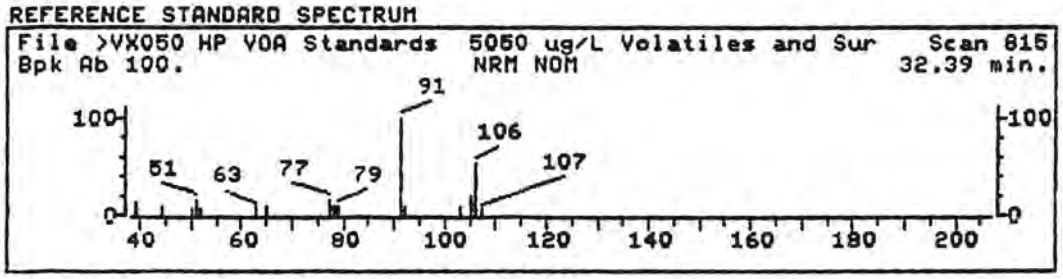
Data File: >C1248
Name: 91L-3336-2
Misc: 10UL OF A 1G/10ML
Quant Time: 911101 16:39
Injected at: 911101 15:52

Quant Output File: ^C1248::D1

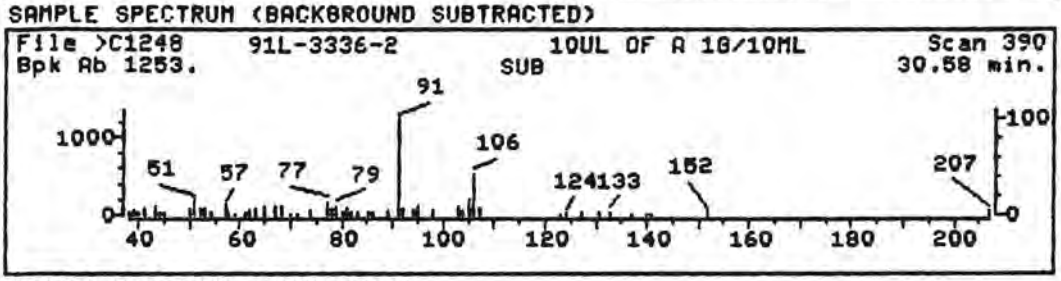
Quant ID File: IDSCCC::QT
Last Calibration: 911015 13:36

Compound No: 48
Compound Name: m&p Xylenes
Scan Number: 379
Retention Time: 29.73 min.
Quant Ion: 106.0
Area: 26928
Concentration: 192697.7 UG/KG
q-value: 98

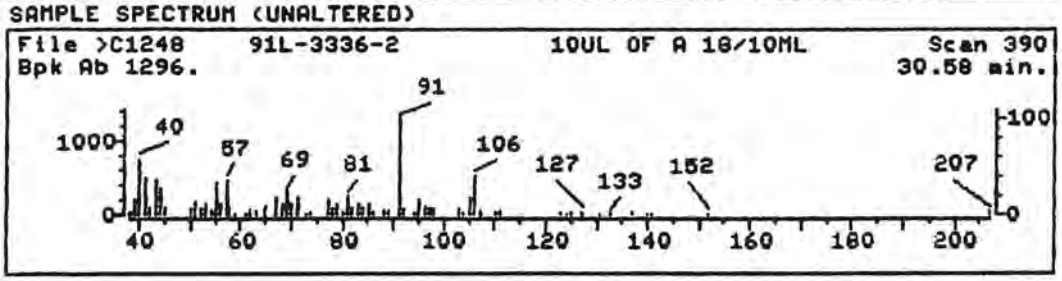
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



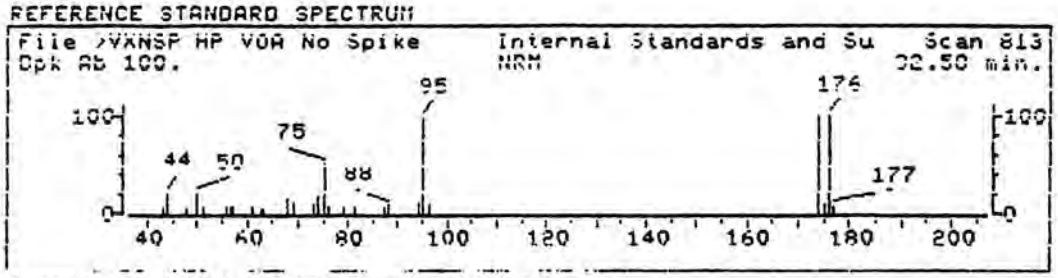
Data File: >C1248
Name: 91L-3336-2
Misc: 10UL OF A 1G/10ML
Quant Time: 911101 16:39
Injected at: 911101 15:52

Quant Output File: ^C1248::D1

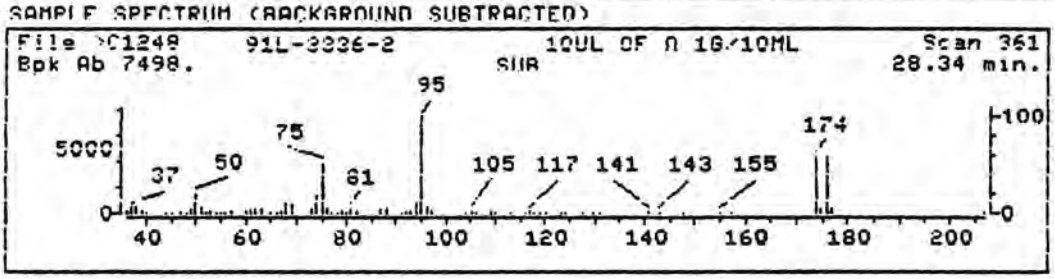
Quant ID File: IDSCCC::QT
Last Calibration: 911015 13:36

Compound No: 49
Compound Name: O-Xylenes
Scan Number: 390
Retention Time: 30.58 min.
Quant Ion: 106.0
Area: 13393
Concentration: 25134.68 UG/KG
q-value: 92

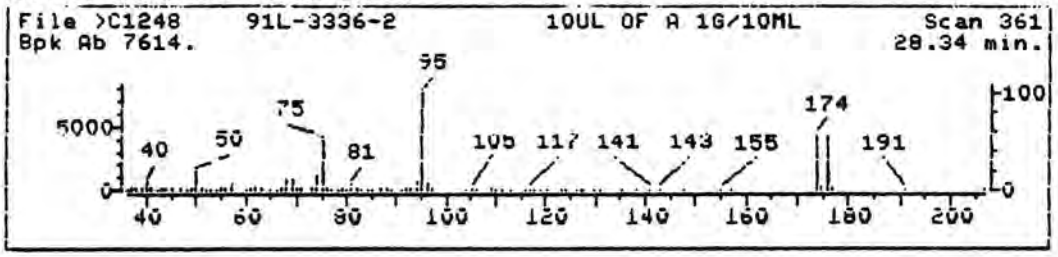
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C1248::D2 Quant Output File: ^C1248::D1
Name: 91L-3336-2
Misc: 10UL OF A 1G/10ML
Quant Time: 911101 16:39 Quant ID File: IDSCCC::QT
Injected at: 911101 15:52 Last Calibration: 911015 13:36

Compound No: 50
Compound Name: Bromofluorobenzene
Scan Number: 361
Retention Time: 28.34 min.
Quant Ion: 95.0
Area: 142986
Concentration: 276759.8 UG/KG
q-value: 97

QUANT REPORT

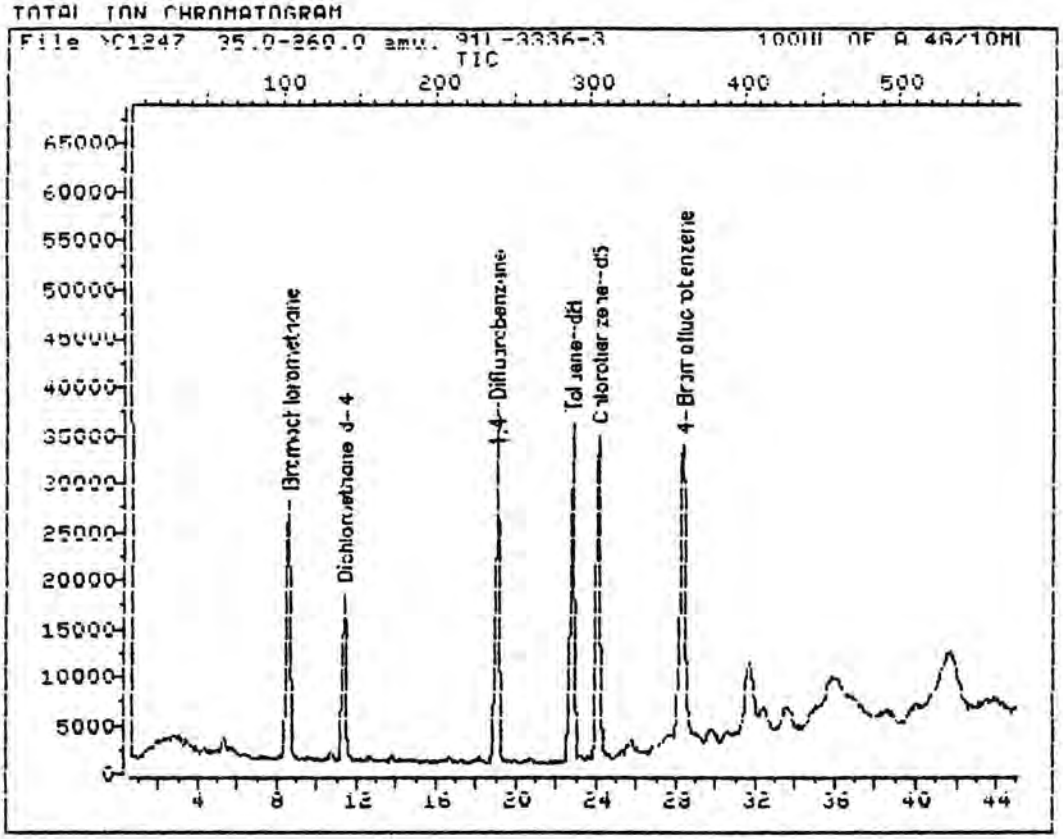
Operator ID: MALUS Quant Rev: 6 Quant Time: 911101 15:12
Output File: ?L124?::D4 Injected at: 911101 14:25
Data File: ?L124?::D2 Dilution Factor: 125.0000
Name: 91L-3396-3
Misc: 100UL DF A 46/10ML

ID File: ILSLLL::W1
Title: HP MUA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 13:36

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.57	105	46305	50.00	UG/KG	??
17)	1,2-Dichloroethane-d4	11.35	141	69942	6001.59	UG/KG	95
27)	*1,4-Difluorobenzene	18.99	240	169412	50.00	UG/KG	67
38)	*Chlorobenzene-d5	24.09	306	129150	50.00	UG/KG	99
44)	Toluene-d8	22.78	289	159535	6143.70	UG/KG	97
50)	Bromofluorobenzene	28.33	361	133322	6608.96	UG/KG	96

* Compound is ISTD

TOTAL ION CHROMATOGRAM

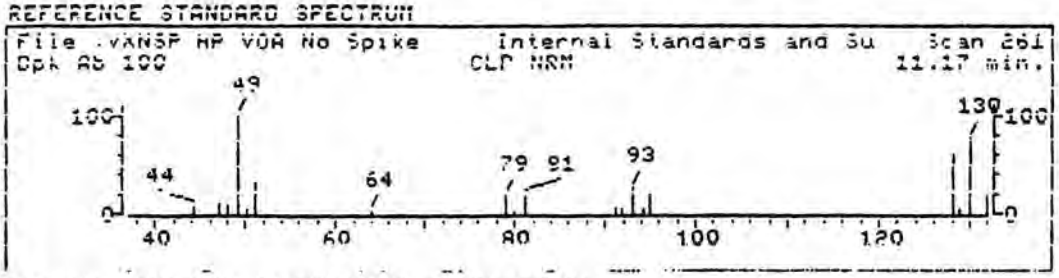


Data File: >C1247::D2 Quant Output File: ^C1247::D4
Name: 91L-3336-3
Misc: 100UL OF A 4G/10ML

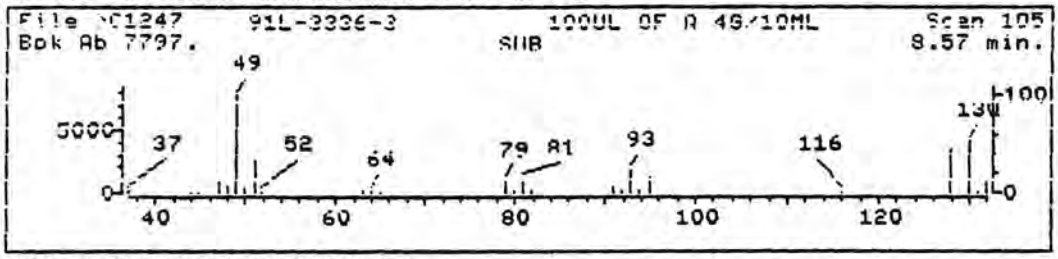
Id File: IDSCCC::WI
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 13:36

Operator ID: MALUS
Quant Time: 911101 15:12
Injected at: 911101 14:25

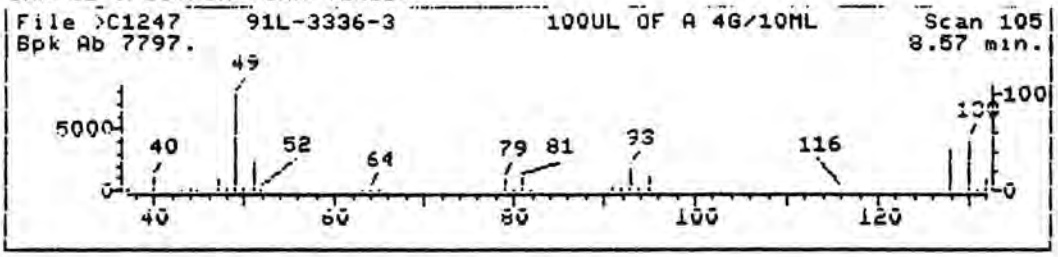
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



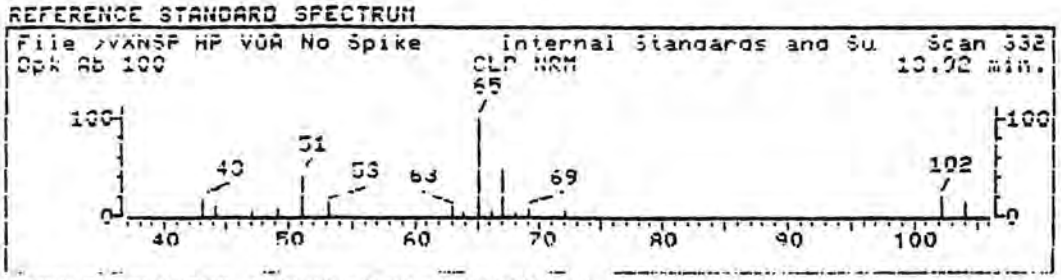
SAMPLE SPECTRUM (UNALTERED)



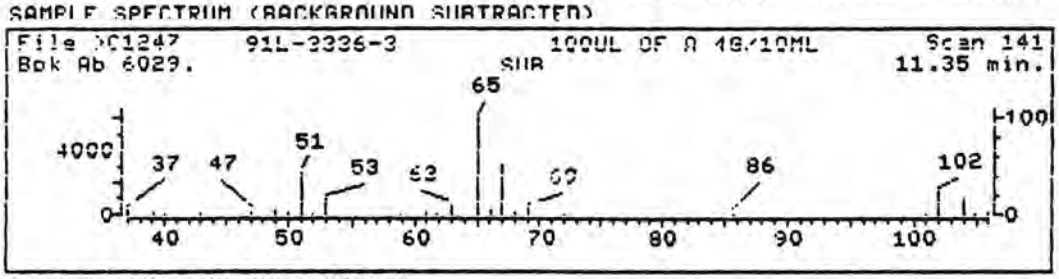
Data File: >C1247::D2
Quant Output File: >C1247::D4
Name: 91L-3336-3
Misc: 100UL OF A 4G/10ML
Quant Time: 911101 15:12
Quant ID File: IDSCCC::QI
Injected at: 911101 14:25
Last Calibration: 911015 13:36

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 105
Retention Time: 8.57 min.
Quant Ion: 128.0
Area: 46305
Concentration: 50.00 UG/KG
q-value: 77

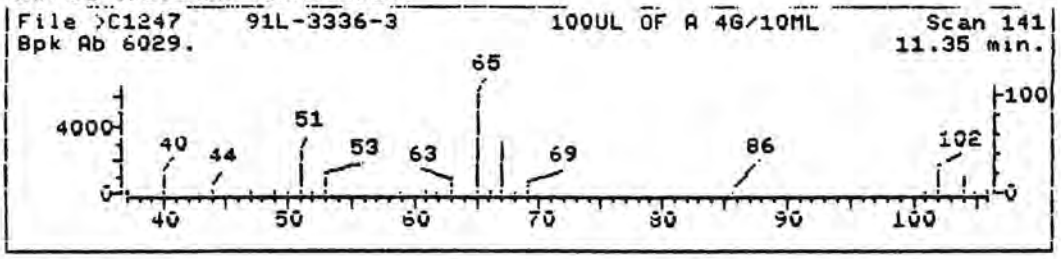
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



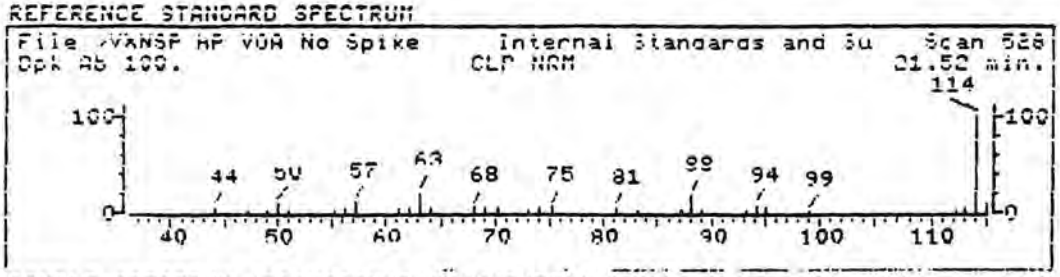
SAMPLE SPECTRUM (UNALTERED)



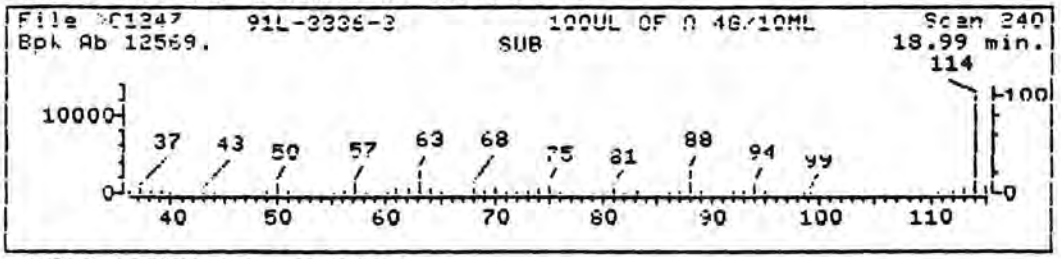
Data File: >C1247::D2 Quant Output File: ^C1247::D4
Name: 91L-3336-3
Misc: 100UL OF A 4G/10ML
Quant Time: 911101 15:12 Quant ID File: IDSCCC::WI
Injected at: 911101 14:25 Last Calibration: 911015 13:36

Compound No: 1/
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 141
Retention Time: 11.35 min.
Quant Ion: 65.0
Area: 69942
Concentration: 6001.59 UG/KG
q-value: 95

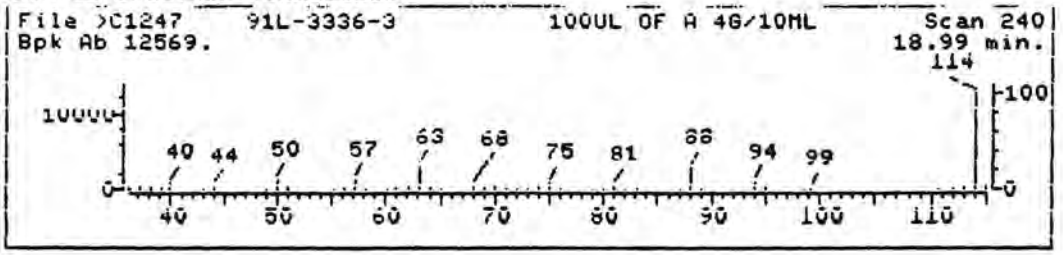
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



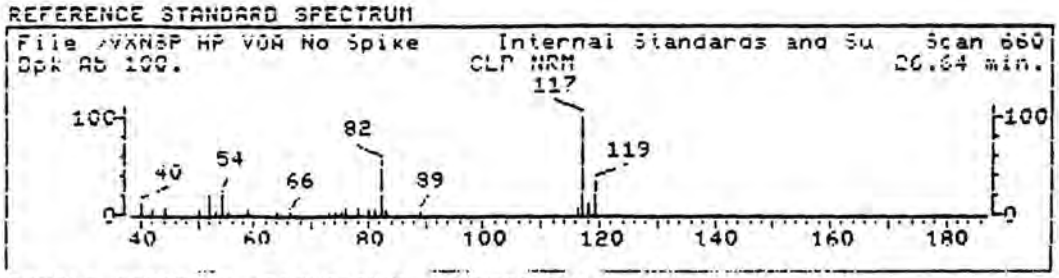
SAMPLE SPECTRUM (UNALTERED)



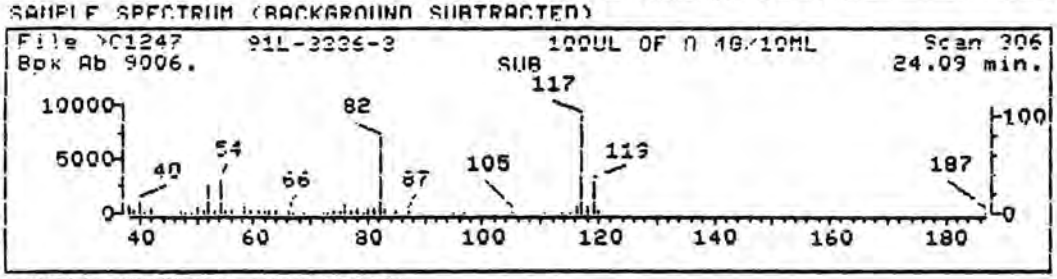
Data File: >C1247::D2 Quant Output File: ^C1247::D4
Name: 91L-3336-3
Misc: 100UL OF A 4G/10ML
Quant Time: 911101 15:12 Quant ID File: IDSCCC::QI
Injected at: 911101 14:25 Last Calibration: 911015 13:36

Compound No: 27 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 240
Retention Time: 18.99 min.
Quant Ion: 114.0
Area: 169412
Concentration: 50.00 UG/KG
q-value: 67

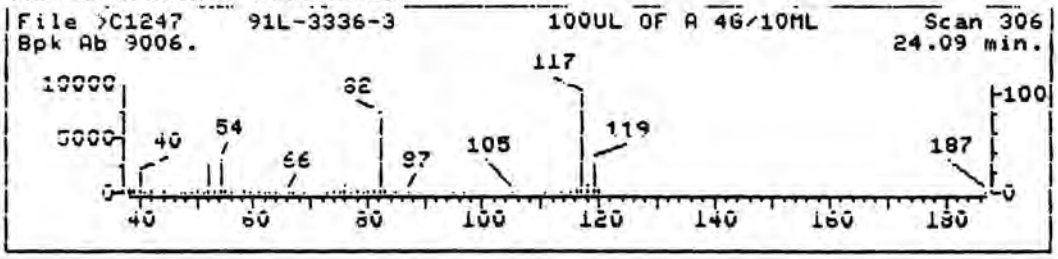
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

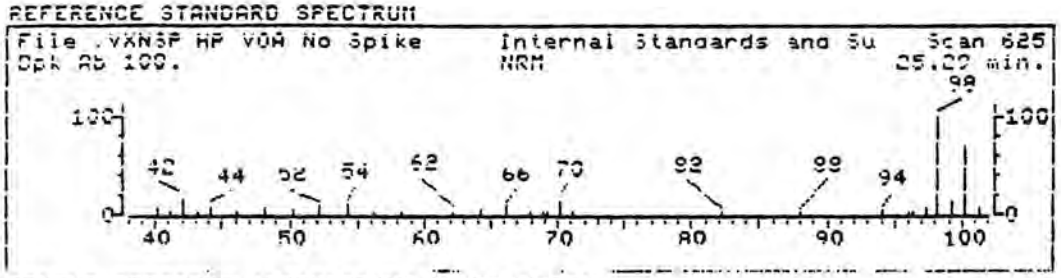


Data File: >C1247::D2
Quant Output File: >C1247::D4

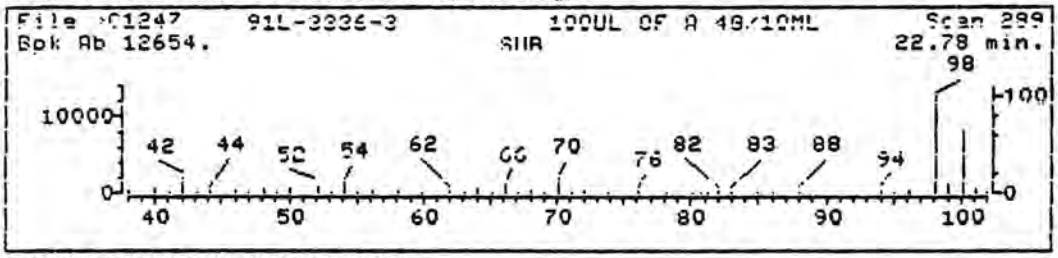
Name: 91L-3336-3
Misc: 100UL OF A 4G/10ML
Quant Time: 911101 15:12
Quant ID File: IDSCCC::WI
Injected at: 911101 14:25
Last Calibration: 911015 13:36

Compound No: 38 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 306
Retention Time: 24.09 min.
Quant Ion: 117.0
Area: 129150
Concentration: 50.00 UG/KG
q-value: 99

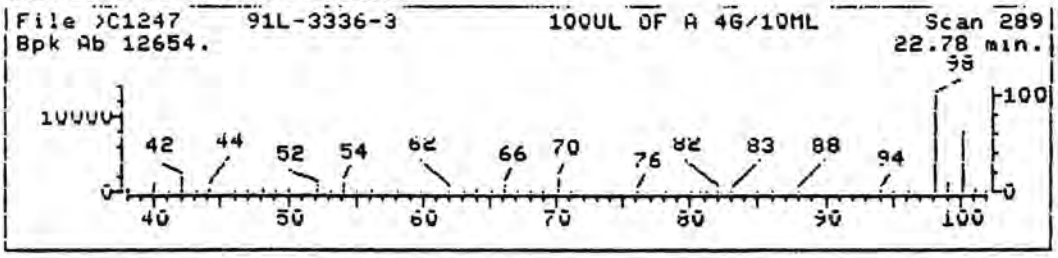
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



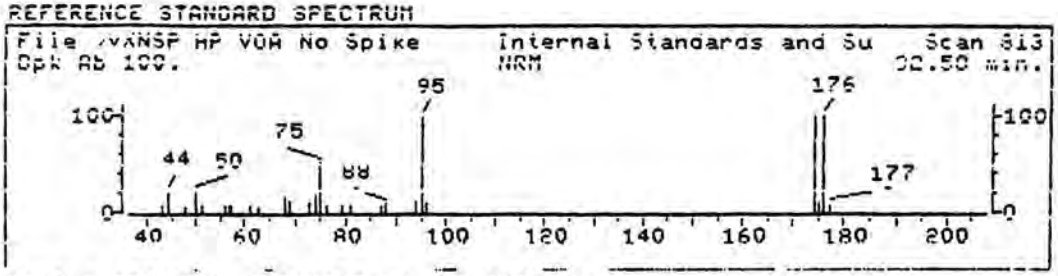
Data File: >C1247::D2
Name: 91L-3336-3
Misc: 100UL OF A 4G/10ML
Quant Time: 911101 15:12
Injected at: 911101 14:25

Quant Output File: ^C1247::D4

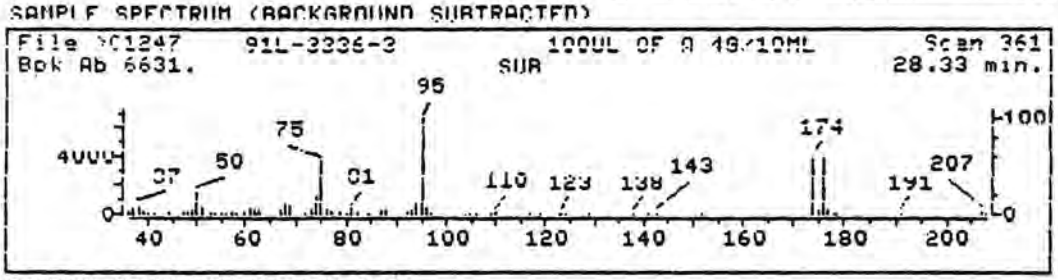
Quant ID File: IDSCCC::WI
Last Calibration: 911015 13:36

Compound No: 44
Compound Name: Toluene-d8
Scan Number: 289
Retention Time: 22.78 min.
Quant Ion: 98.0
Area: 159535
Concentration: 6143.70 UG/KG
q-value: 97

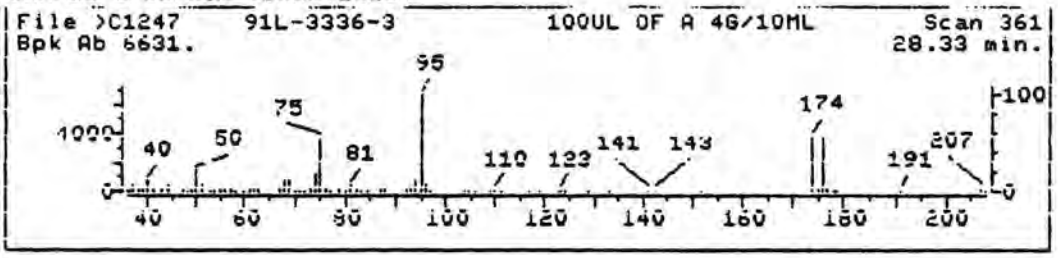
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C1247::D2
Quant Output File: ^C1247::D4
Name: 91L-3336-3
Misc: 100UL OF A 4G/10ML
Quant Time: 911101 15:12
Quant ID File: 105CCC::QT
Injected at: 911101 14:25
Last Calibration: 911015 13:36

Compound No: 50
Compound Name: Bromofluorobenzene
Scan Number: 361
Retention Time: 28.33 min.
Quant Ion: 95.0
Area: 133322
Concentration: 6608.96 UG/KG
q-value: 96

F. DATA SUMMARY PACKAGE (Continued)

3. Sample Data Package (Continued)

a. Volatile Organics by GC/MS (Continued)

3. Library Searches for Non-Target Compounds

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE UNKNOWN IDENTIFICATIION

LAB SAMPLE ID:91L-3336-1

LAB FILE ID:>C1246

DATE RECEIVED:10/30/91

DATE ANALYZED:911101

SAMPLE WT/VOL:5.0G/5.0ML

LEVEL:LOW

DRY WT: .9077

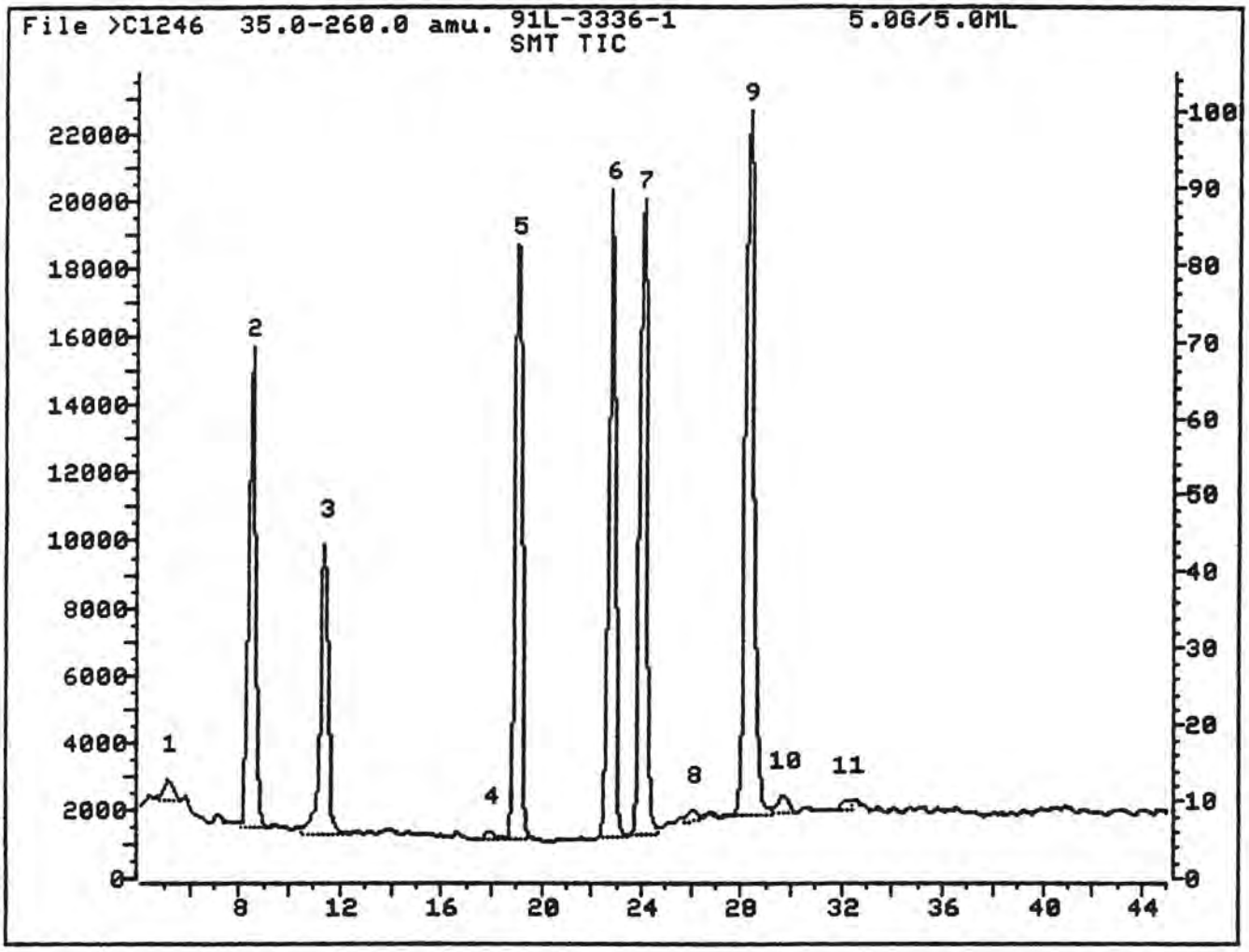
COMPOUND	RET TIME(MIN)	CONC
NONE FOUND		

SAMPLE INTEGRATION SUMMARY

SAMPLE NAME AND AMT: 91L-3336-1 5.0G/5.0ML
SAMPLE DATA FILE: >C1246

PEAK NO.	RET. TIME	SCAN	AREA	IDENTIFICATION
1	5.10	60	14450	TC
2	8.49	104	275893	IS
3	11.35	141	180646	SS
4	17.91	226	8335	<10%
5	18.99	240	340628	IS
6	22.77	289	366947	SS
7	24.09	306	376525	IS
8	26.09	332	9254	<10%
9	28.33	361	516379	SS
10	29.72	379	12590	<10%
11	32.19	411	8834	<10%

IS = INTERNAL STANDARD
SS = SURROGATE
TC = TARGET COMPOUND
UK = UNKNOWN
<10% = UNKNOWN LESS THEN 10% OF INTERNAL STANDARD


File >C1246 35.0-260.0 amu. 91L-3336-1
SMT TIC
5.0G/5.0ML
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
100
90
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
8
12
16
20
24
28
32
36
40
44

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE UNKNOWN IDENTIFICATION

LAB SAMPLE ID:91L-3336-2 LAB FILE ID:>C1248

DATE RECEIVED:10/30/91 DATE ANALYZED:911101

SAMPLE WT/VOL:10UL OF A 1G/1 LEVEL:MED

DRY WT:.8700

COMPOUND	RET TIME	CONC
1.Unknown	25.87	110000 UG/KG J
2.Unknown	31.81	220000 UG/KG J
3.Unknown	33.51	62000 UG/KG J
4.Unknown Aromatic	35.21	190000 UG/KG J
5.ethyl-methyl Benzene Isomer	36.37	140000 UG/KG J
6.Unknown	38.53	43000 UG/KG J
7.methyl(methylethyl) Benzene Isomer	39.92	290000 UG/KG J
8.Unknown	41.70	230000 UG/KG J
9.Unknown	44.25	29000 UG/KG J

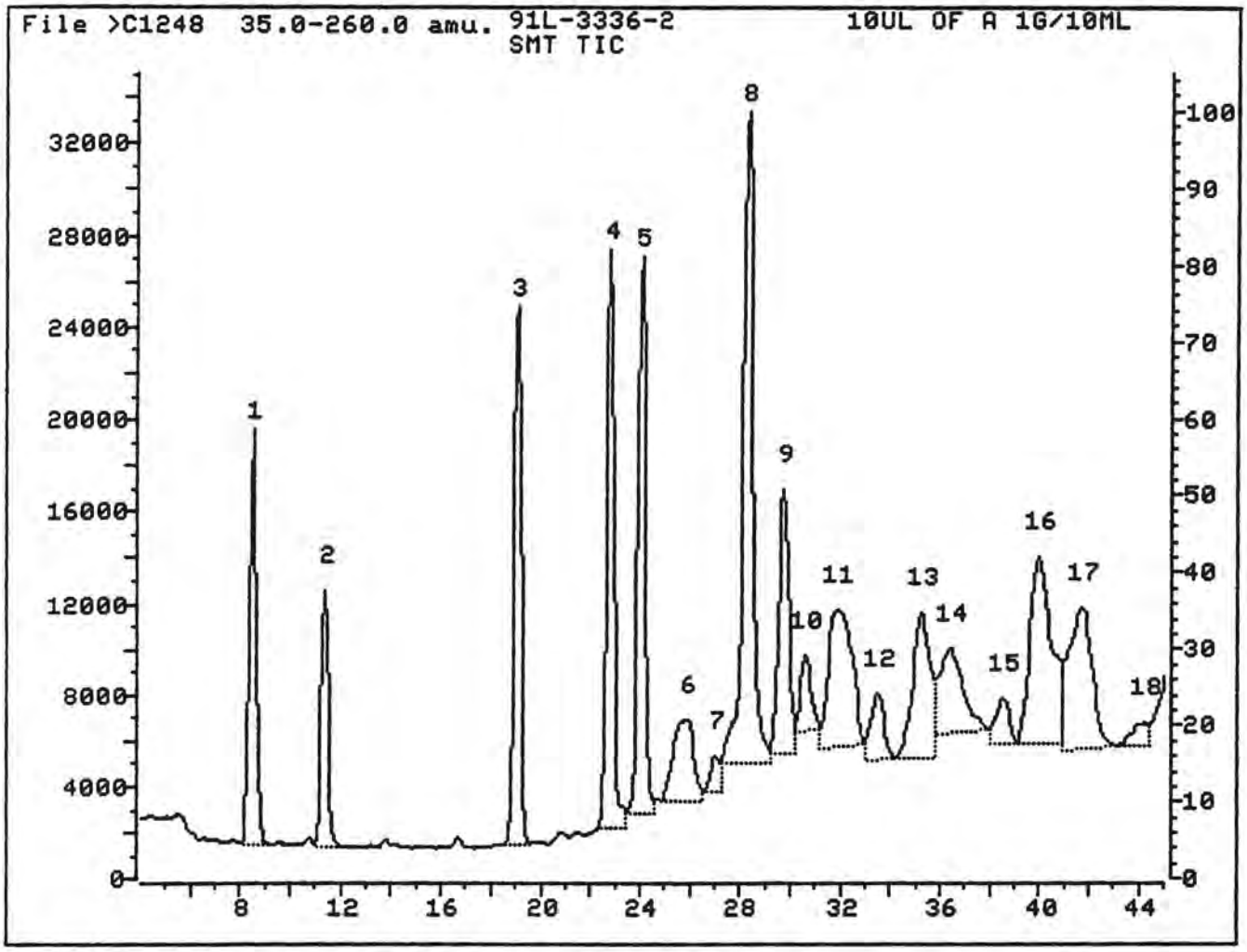
J; Estimated Concentration

SAMPLE INTEGRATION SUMMARY

SAMPLE NAME AND AMT: 91L-3336-2 10UL OF A
SAMPLE DATA FILE: >C1248

PEAK NO.	RET. TIME	SCAN	AREA	IDENTIFICATION
1	8.50	104	349336	IS
2	11.35	141	215294	SS
3	19.07	241	454997	IS
4	22.78	289	511591	SS
5	24.09	306	499115	IS
6	25.87	329	196973	UK
7	27.02	344	42377	<10%
8	28.34	361	795866	SS
9	29.73	379	319559	TC
10	30.58	390	94232	TC
11	31.81	406	384017	UK
12	33.51	428	107130	UK
13	35.21	450	324998	UK
14	36.37	465	235087	UK
15	38.53	493	74934	UK
16	39.92	511	501822	UK
17	41.70	534	405058	UK
18	44.25	567	51062	UK

IS = INTERNAL STANDARD
SS = SURROGATE
TC = TARGET COMPOUND
UK = UNKNOWN
<10% = UNKNOWN LESS THEN 10% OF INTERNAL STANDARD


File >C1248 35.0-260.0 amu. 91L-3336-2
SMT TIC
10UL OF A 1G/10ML
32000
28000
24000
20000
16000
12000
8000
4000
0
100
90
80
70
60
50
40
30
20
10
0
8
12
16
20
24
28
32
36
40
44
1
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4
5
6
7
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9
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11
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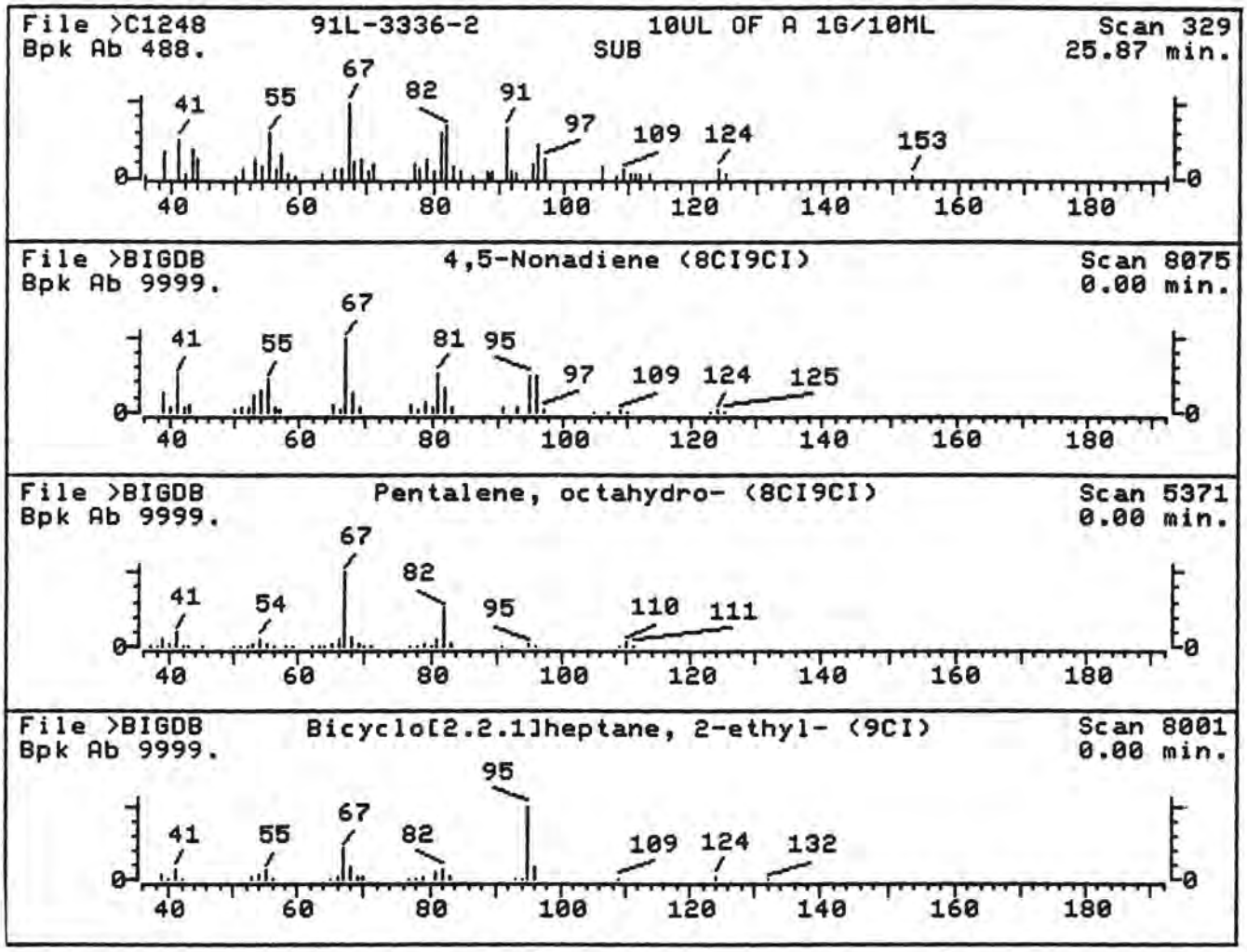
13
14
15
16
17
18

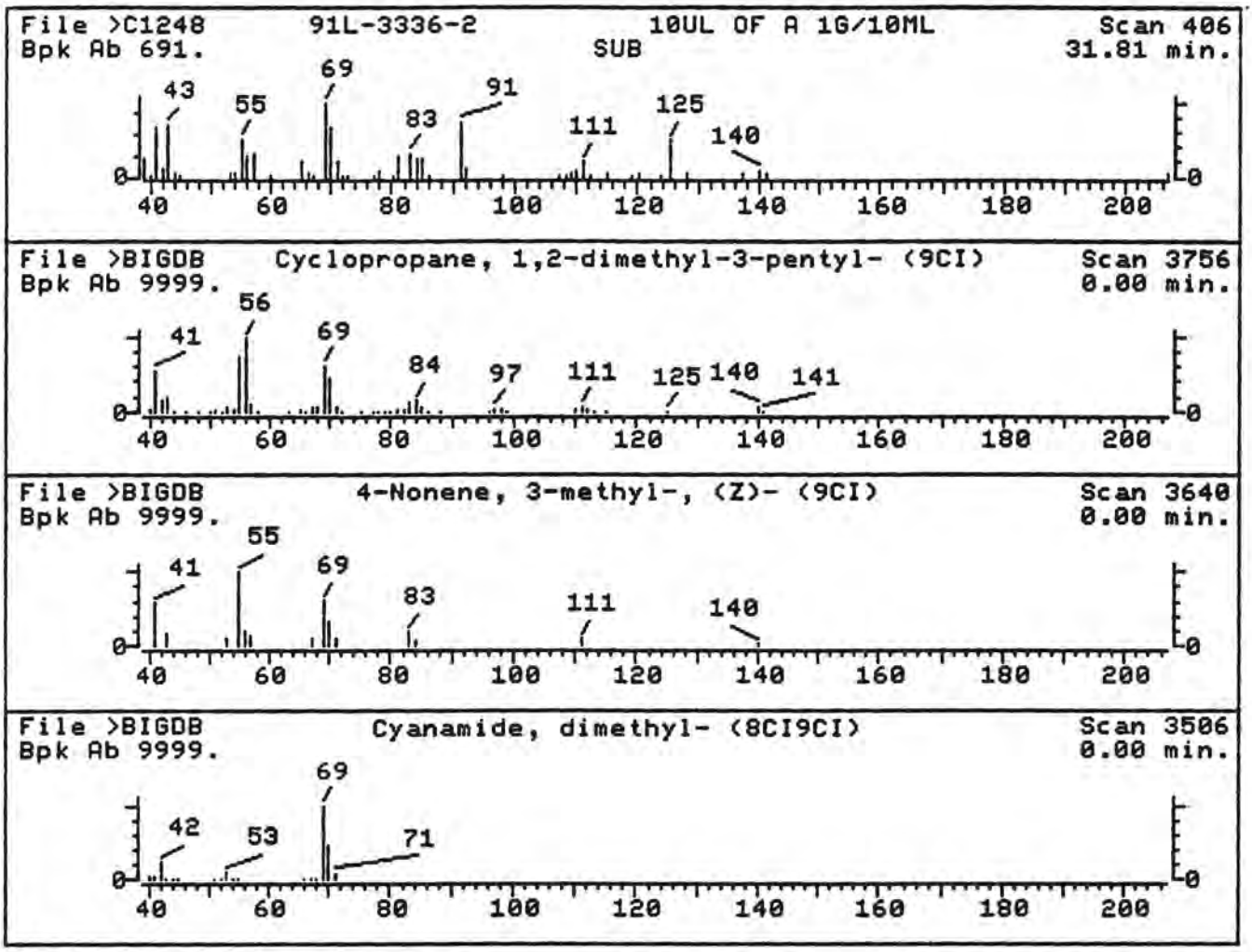


1.	4,5-Nonadiene (8CI9CI)	124 C9H16
2.	Pentalene, octahydro- (8CI9CI)	110 C8H14
3.	Bicyclo[2.2.1]heptane, 2-ethyl- (9CI)	124 C9H16
4.	Pentalene, octahydro-2-methyl- (8CI9CI)	124 C9H16
5.	1,3-Pentadiene, 3-methyl-, (Z)- (8CI9CI)	82 C6H10

Sample file: >C1248 Spectrum #: 329
Search speed: 1 Tilting option: S No. of ion ranges searched: 60

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	55*	821749	8075	"BIGDB	52	56	2	0	91	25	22	27
2.	51*	694724	5371	"BIGDB	37	51	0	0	94	39	19	42
3.	34*	2146410	8001	"BIGDB	34	56	2	0	212	31	12	17
4.	32*	3868642	8124	"BIGDB	42	69	0	0	57	54	9	44
5.	31*	2787453	5302	"BIGDB	42	50	2.	0	100	45	12	22

CORRECTED TOTAL ION AREA OF UNKNOWN = 196973
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 5000
DRY WT. = 87.00%
SEMI QUANTITATION OF UNKNOWN = 110000 UG/KG

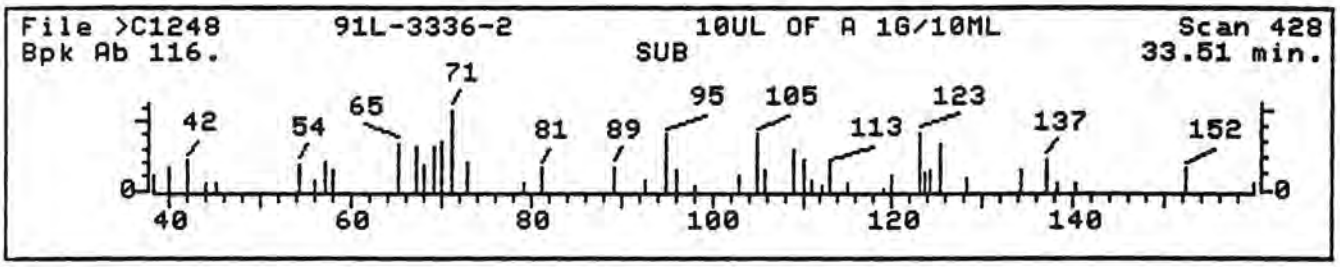


1.	Cyclopropane, 1,2-dimethyl-3-pentyl- (9CI)	140 C10H20
2.	4-Nonene, 3-methyl-, (Z)- (9CI)	140 C10H20
3.	Cyanamide, dimethyl- (8CI9CI)	70 C3H6N2
4.	Cyclopropane, 1,2-dimethyl-1-pentyl- (9CI)	140 C10H20
5.	Cyclopentane, (2-methylbutyl)- (9CI)	140 C10H20

Sample file: >C1248 Spectrum #: 406
Search speed: 1 Tilting option: S No. of ion ranges searched: 63

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	30*	62238055	3756	"BIGDB	27	74	3	0	147	33	12	13
2.	26*	63830693	3640	"BIGDB	31	70	2	0	113	41	8	14
3.	25*	1467794	3506	"BIGDB	24	59	3	0	100	50	7	12
4.	25*	62238044	5836	"BIGDB	29	73	3	0	72	46	7	13
5.	25*	53366384	10645	"BIGDB	29	83	3	0	73	46	7	13

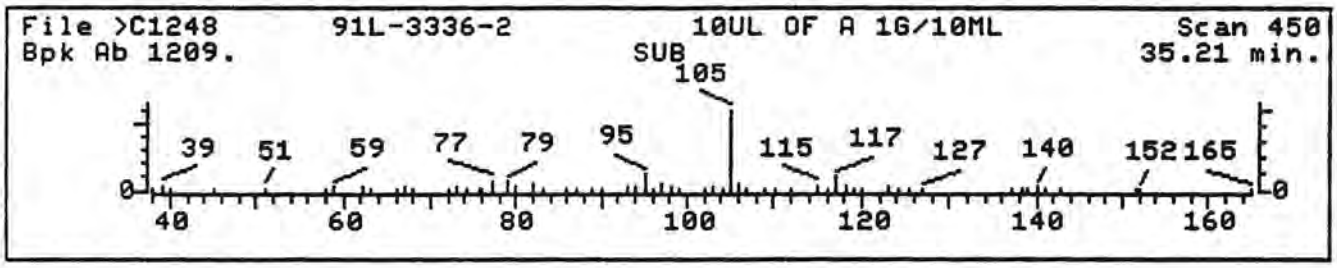
CORRECTED TOTAL ION AREA OF UNKNOWN = 384017
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 5000
DRY WT. = 87.00%
SEMI QUANTITATION OF UNKNOWN = 220000 UG/KG



Sample file: >C1248 Spectrum #: 428

No data base entries were retrieved.

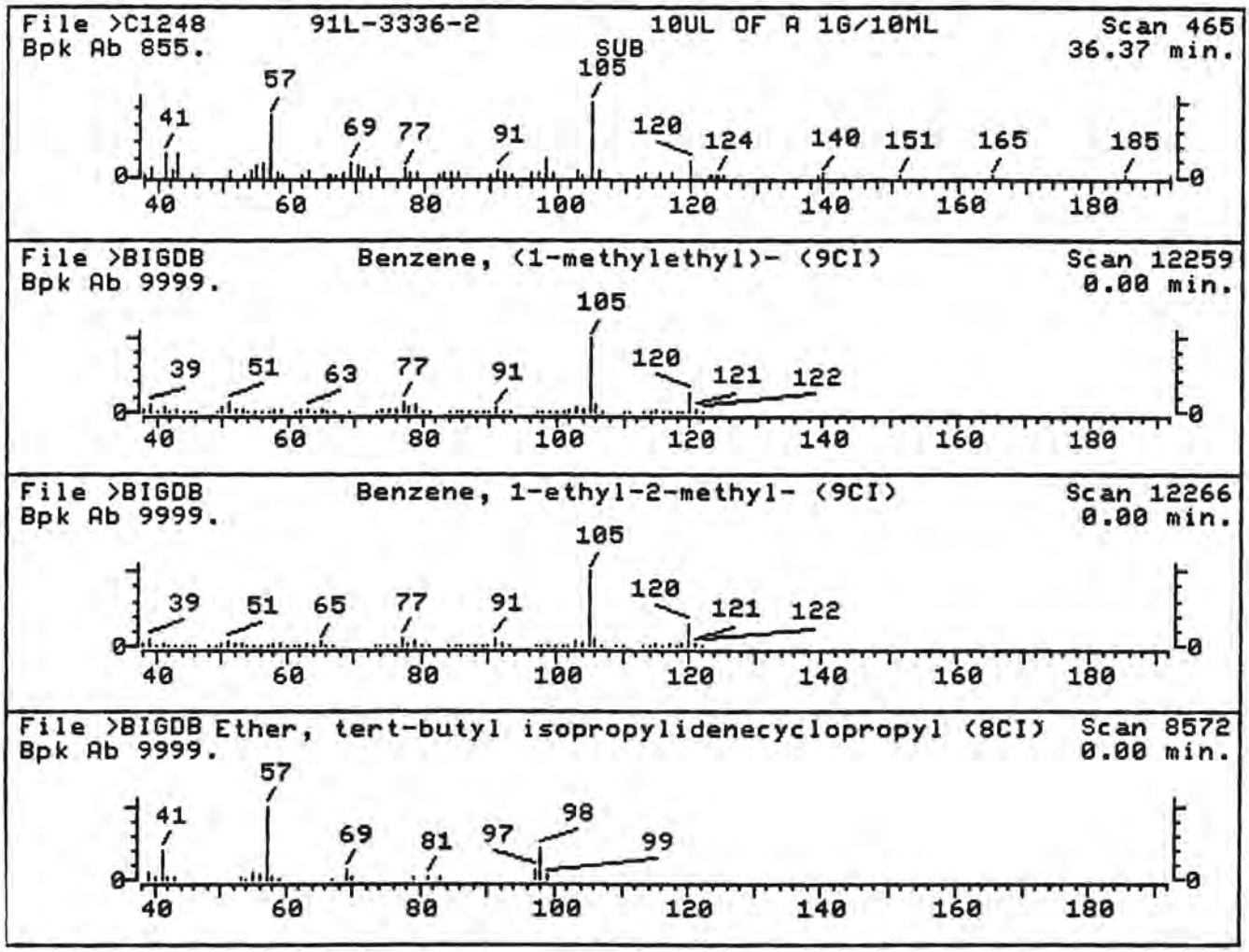
CORRECTED TOTAL ION AREA OF UNKNOWN = 107130
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 5000
DRY WT. = 87.00%
SEMI QUANTITATION OF UNKNOWN = 62000 UG/KG



Sample file: >C1248 Spectrum #: 450

No data base entries were retrieved.

CORRECTED TOTAL ION AREA OF UNKNOWN = 324998
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 5000
DRY WT. = 87.00%
SEMI QUANTITATION OF UNKNOWN = 190000 UG/KG

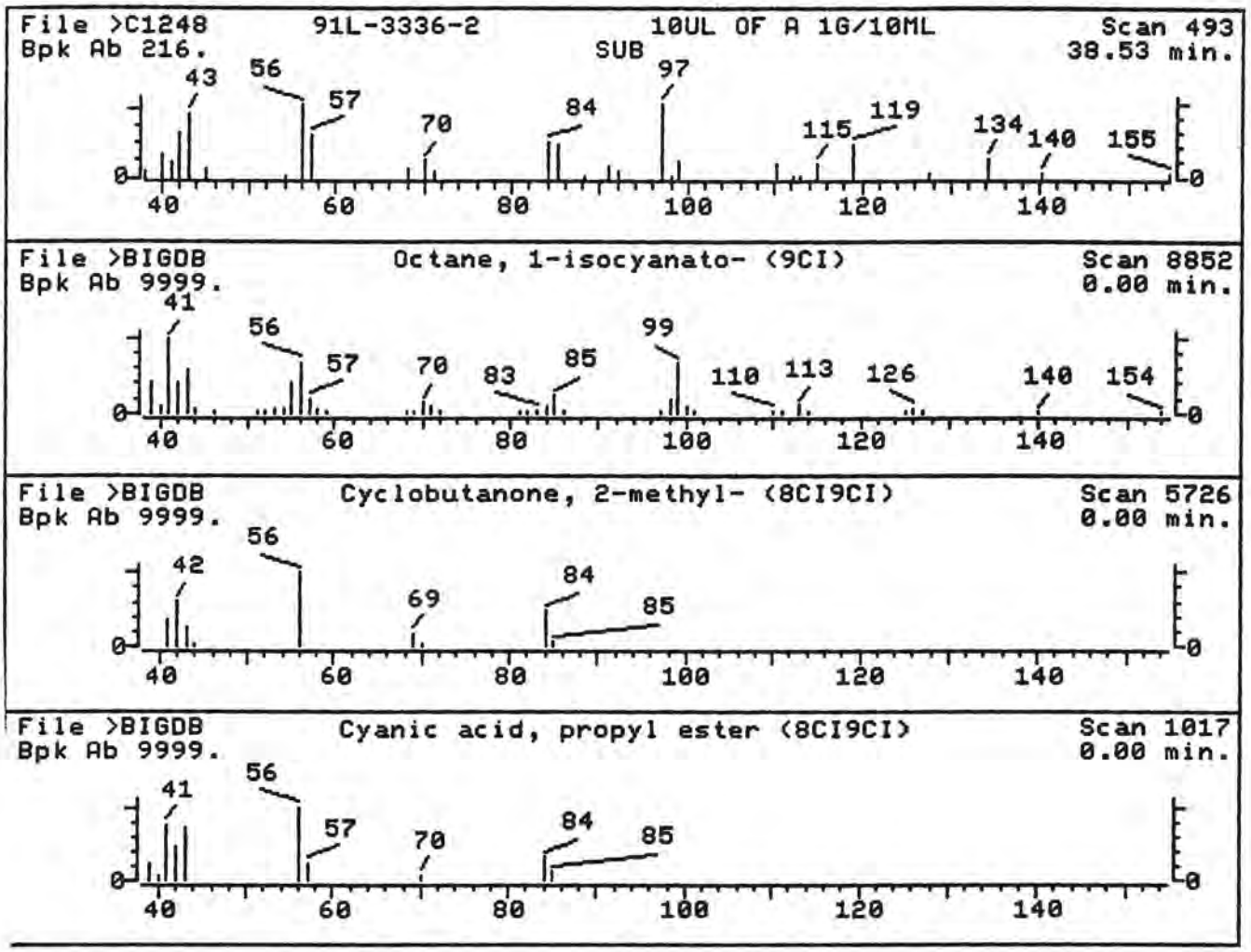


1.	Benzene, (1-methylethyl)- (9CI)	120	C9H12
2.	Benzene, 1-ethyl-2-methyl- (9CI)	120	C9H12
3.	Ether, tert-butyl isopropylidenecyclopropyl (8CI)	154	C10H18O
4.	Heptane, 4-(1-methylethyl)- (9CI)	142	C10H22
5.	Furazan, dimethyl- (8CI9CI)	98	C4H6N2O

Sample file: >C1248 Spectrum #: 465
Search speed: 1 Tilting option: S No. of ion ranges searched: 62

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	24*	98828	12259	"BIGDB	48	39	2	0	80	55	7	28
2.	21*	611143	12266	"BIGDB	53	32	2	0	75	56	5	36
3.	20	24524569	8572	"BIGDB	42	45	2	0	58	53	5	14
4.	20	52896874	8582	"BIGDB	40	43	1	0	72	52	5	14
5.	20*	4975217	8507	"BIGDB	31	60	2	0	101	54	5	15

CORRECTED TOTAL ION AREA OF UNKNOWN = 235087
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 5000
DRY WT. = 87.00%
SEMI QUANTITATION OF UNKNOWN = 140000 UG/KG

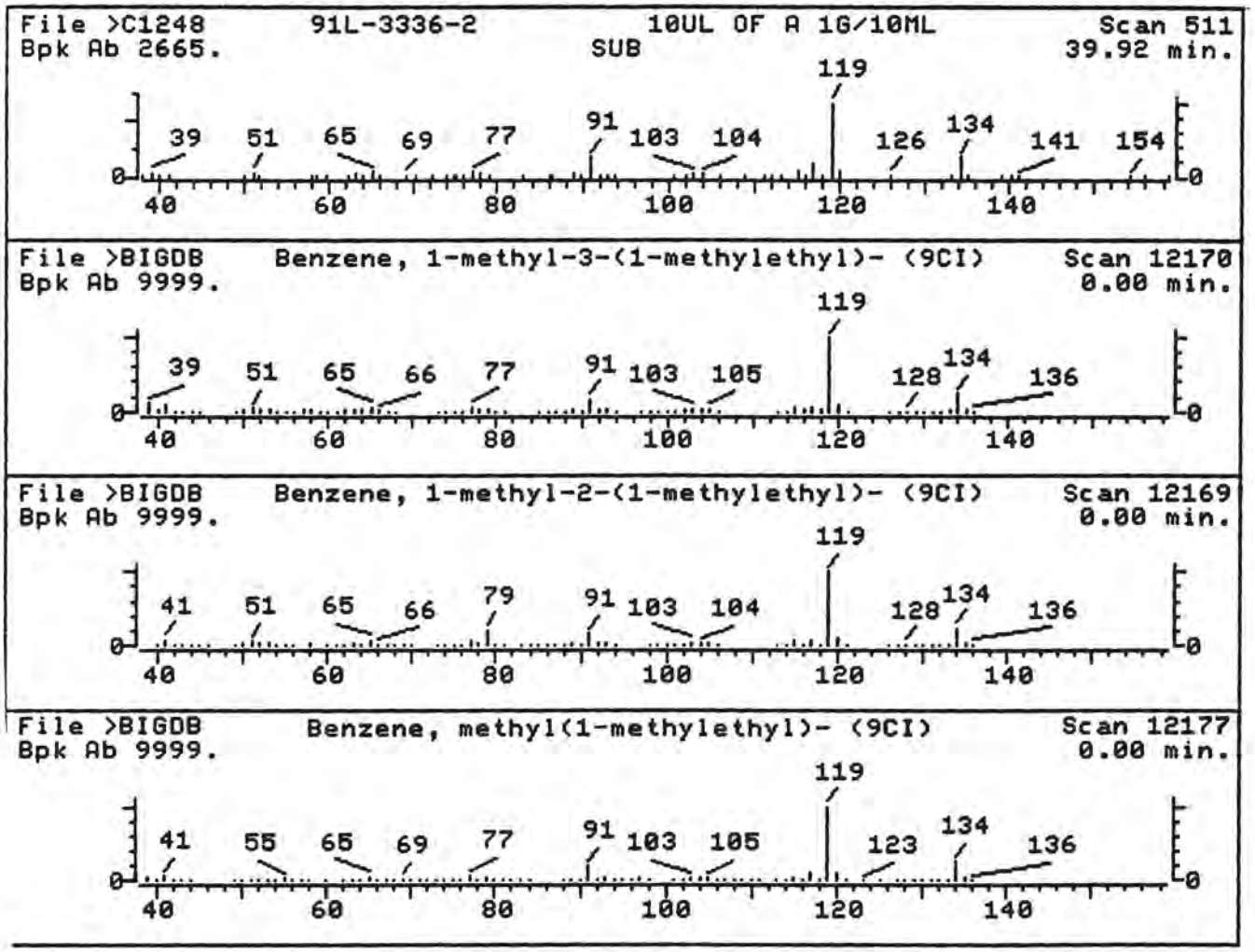


1.	Octane, 1-isocyanato- (9CI)	155 C9H17NO
2.	Cyclobutanone, 2-methyl- (8CI9CI)	84 C5H8O
3.	Cyanic acid, propyl ester (8CI9CI)	85 C4H7NO
4.	Cyanic acid, sec-butyl ester (8CI)	99 C5H9NO

Sample file: >C1248 Spectrum #: 493
Search speed: 1 Tilting option: S No. of ion ranges searched: 62

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	15*	3158267	8852	"BIGDB	24	93	3	0	144	58	3	12
2.	11*	1517153	5726	"BIGDB	26	36	3	0	98	65	2	13
3.	11*	1768361	1017	"BIGDB	36	69	2	0	98	63	2	14
4.	11*	1873138	3605	"BIGDB	24	68	3	0	177	65	2	12

CORRECTED TOTAL ION AREA OF UNKNOWN = 74934
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 5000
DRY WT. = 87.00%
SEMI QUANTITATION OF UNKNOWN = 43000 UG/KG

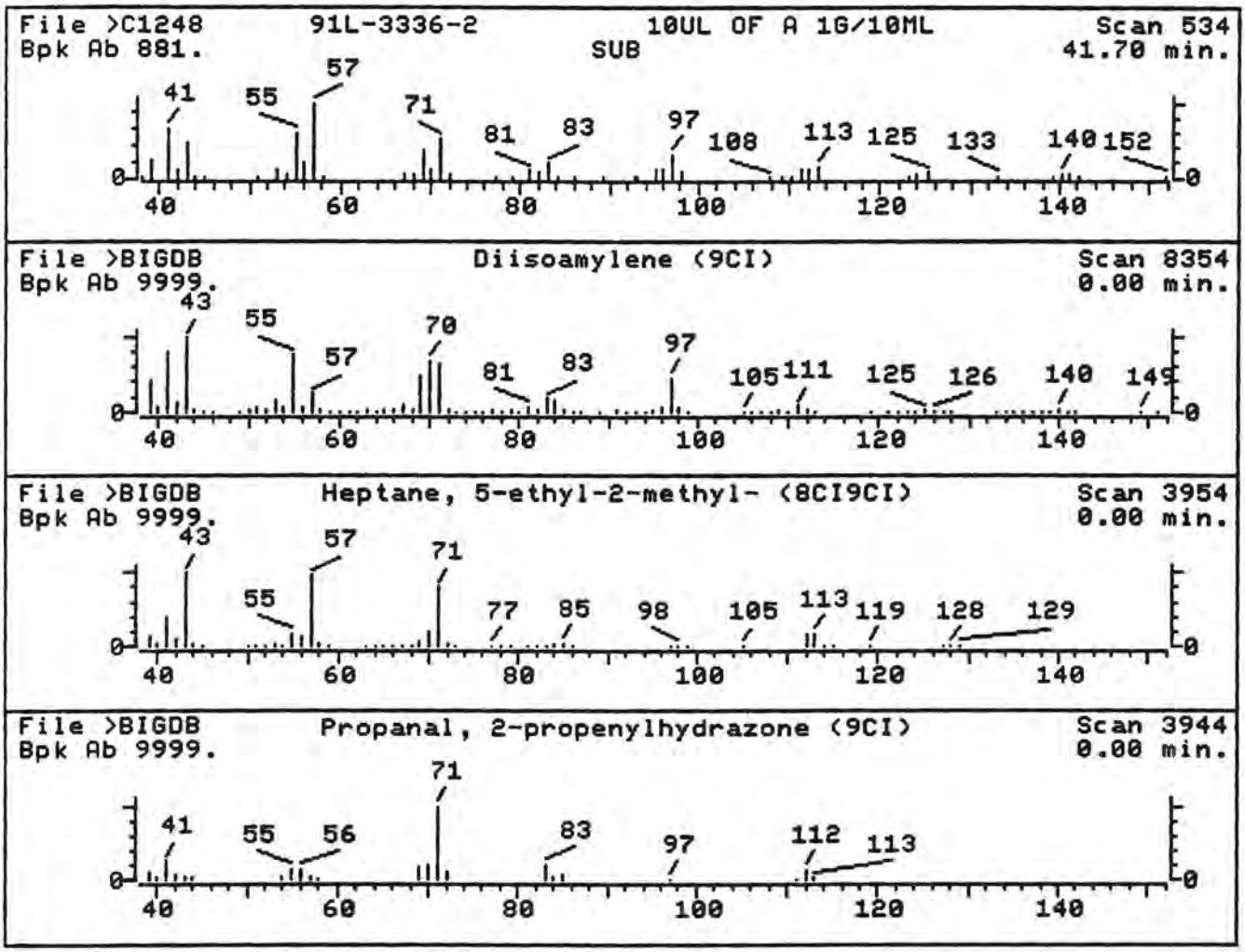


1. Benzene, 1-methyl-3-(1-methylethyl)- (9CI) 134 C10H14
2. Benzene, 1-methyl-2-(1-methylethyl)- (9CI) 134 C10H14
3. Benzene, methyl(1-methylethyl)- (9CI) 134 C10H14
4. Benzene, 4-ethyl-1,2-dimethyl- (9CI) 134 C10H14
5. Benzene, 2-ethyl-1,4-dimethyl- (9CI) 134 C10H14

Sample file: >C1248 Spectrum #: 511
Search speed: 1 Tilting option: S No. of ion ranges searched: 62

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83*	535773	12170	"BIGDB	65	24	0	0	79	15	51	78
2.	76*	527844	12169	"BIGDB	60	32	1	0	80	15	40	56
3.	74*	25155151	12177	"BIGDB	58	32	2	0	100	13	39	44
4.	58*	934805	12173	"BIGDB	42	51	2	0	90	16	25	22
5.	58*	1758889	12181	"BIGDB	56	38	2	-2	71	18	25	25

CORRECTED TOTAL ION AREA OF UNKNOWN = 501822
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 5000
DRY WT. = 87.00%
SEMI QUANTITATION OF UNKNOWN = 290000 UG/KG

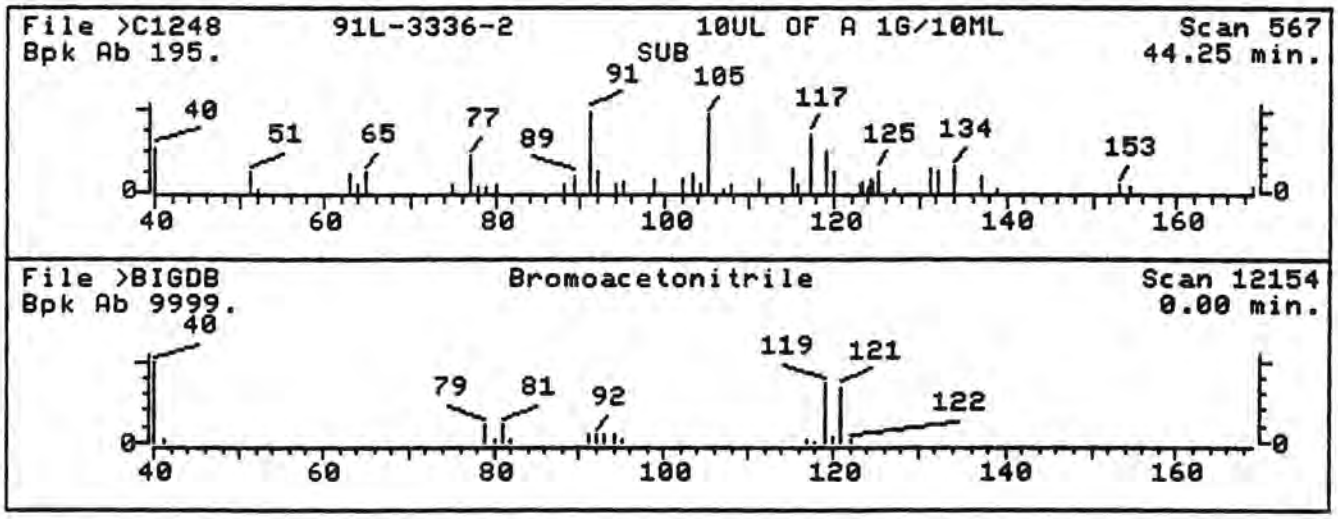


1.	Diisoamylene (9CI)	140 C10H20
2.	Heptane, 5-ethyl-2-methyl- (8CI9CI)	142 C10H22
3.	Propanal, 2-propenylhydrazone (9CI)	112 C6H12N2
4.	5-Octen-4-one, 7-methyl- (8CI9CI)	140 C9H16O
5.	Octane, 3,6-dimethyl- (8CI9CI)	142 C10H22

Sample file: >C1248 Spectrum #: 534
Search speed: 1 Tilting option: S No. of ion ranges searched: 62

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	30*	54063091	8354	"BIGDB	45	62	3	0	79	33	12	13
2.	25	13475780	3954	"BIGDB	45	41	2	0	45	50	7	15
3.	20*	19031788	3944	"BIGDB	32	52	1	0	41	52	5	17
4.	18*	32064781	8352	"BIGDB	41	42	1	0	93	60	4	23
5.	15*	15869940	11043	"BIGDB	34	55	2	0	86	56	3	17

CORRECTED TOTAL ION AREA OF UNKNOWN = 405058
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 5000
DRY WT. = 87.00%
SEMI QUANTITATION OF UNKNOWN = 230000 UG/KG



1. Bromoacetonitrile 119 C2H2BrN

Sample file: >C1248 Spectrum #: 567
Search speed: 1 Tilting option: S No. of ion ranges searched: 64

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	11*	590170	12154	"BIGDB	24	67	3	0	53	65	2	12

CORRECTED TOTAL ION AREA OF UNKNOWN = 51062
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 5000
DRY WT. = 87.00%
SEMI QUANTITATION OF UNKNOWN = 29000 UG/KG

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NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE UNKNOWN IDENTIFICATION

LAB SAMPLE ID:91L-3336-3 LAB FILE ID:>C1247

DATE RECEIVED:10/30/91 DATE ANALYZED:911101

SAMPLE WT/VOL:100UL OF A 4G/ LEVEL:MED

DRY WT:.9111

COMPOUND	RET TIME	CONC
1.Unknown Cycloalkane	25.79	990 UG/KG J
2.Unknown	31.66	3400 UG/KG J
3.Unknown	32.35	950 UG/KG J
4.Unknown	33.59	1100 UG/KG J
5.Unknown Aromatic	35.90	8500 UG/KG J
6.Unknown	38.53	850 UG/KG J
7.Unknown	40.07	1000 UG/KG J
8.Unknown	41.70	6700 UG/KG J
9.Unknown	43.55	710 UG/KG J

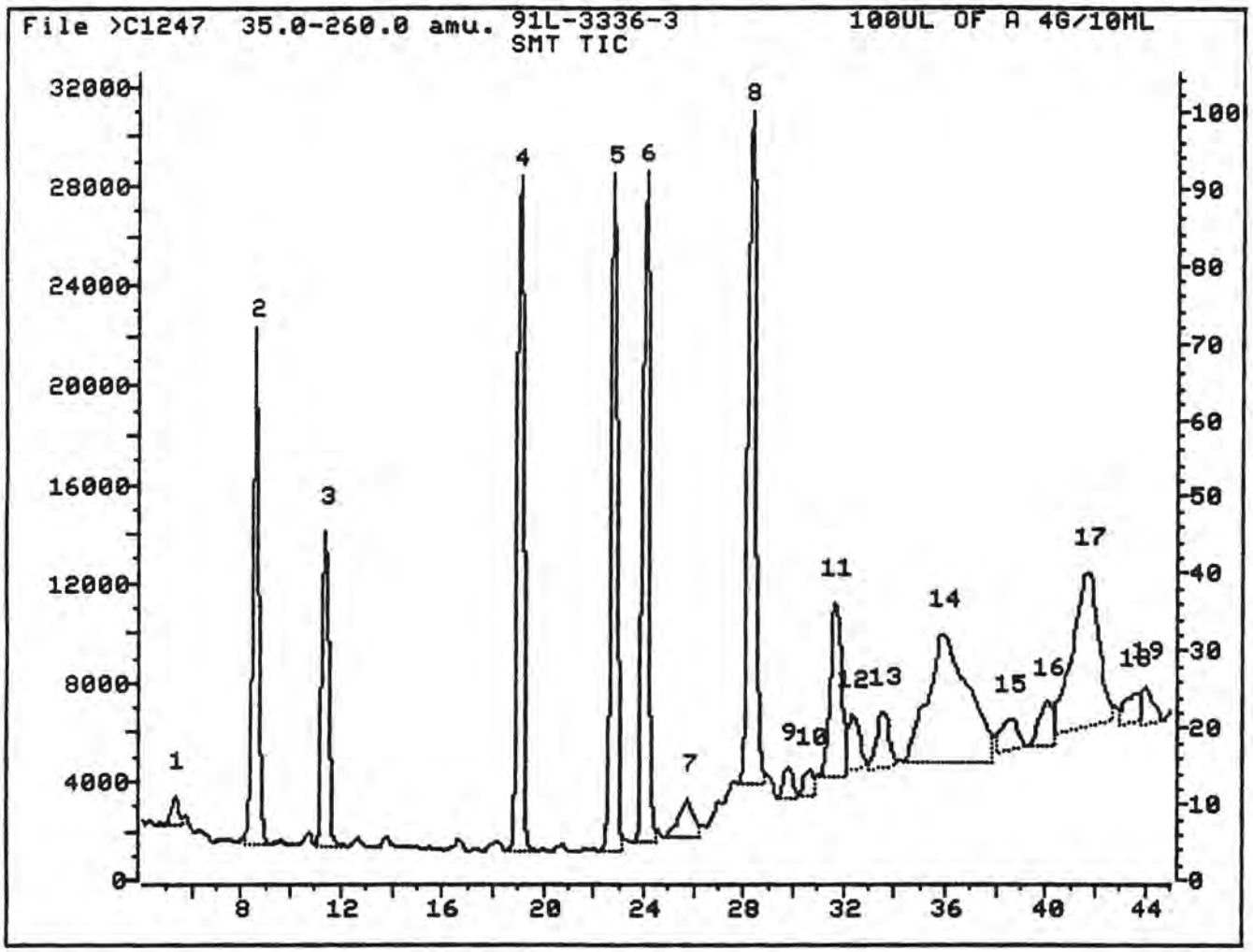
J; Estimated Concentration

SAMPLE INTEGRATION SUMMARY

SAMPLE NAME AND AMT: 91L-3336-3 100UL OF A
SAMPLE DATA FILE: >C1247

PEAK NO.	RET. TIME	SCAN	AREA	IDENTIFICATION
1	5.33	63	25015	<10%
2	8.57	105	354125	IS
3	11.35	141	213637	SS
4	19.07	241	454369	IS
5	22.78	289	456236	SS
6	24.09	306	467059	IS
7	25.79	328	67398	UK
8	28.33	361	587577	SS
9	29.80	380	34782	<10%
10	30.65	391	30390	<10%
11	31.66	404	229490	UK
12	32.35	413	64711	UK
13	33.59	429	74129	UK
14	35.90	459	576111	UK
15	38.53	493	57784	UK
16	40.07	513	69716	UK
17	41.70	534	453098	UK
18	43.55	558	48503	UK
19	44.01	564	43135	<10%

IS = INTERNAL STANDARD
SS = SURROGATE
TC = TARGET COMPOUND
UK = UNKNOWN
<10% = UNKNOWN LESS THEN 10% OF INTERNAL STANDARD


File >C1247 35.0-260.0 amu. 91L-3336-3
SMT TIC
100UL OF A 4G/10ML
32000
28000
24000
20000
16000
12000
8000
4000
0
100
90
80
70
60
50
40
30
20
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0
8
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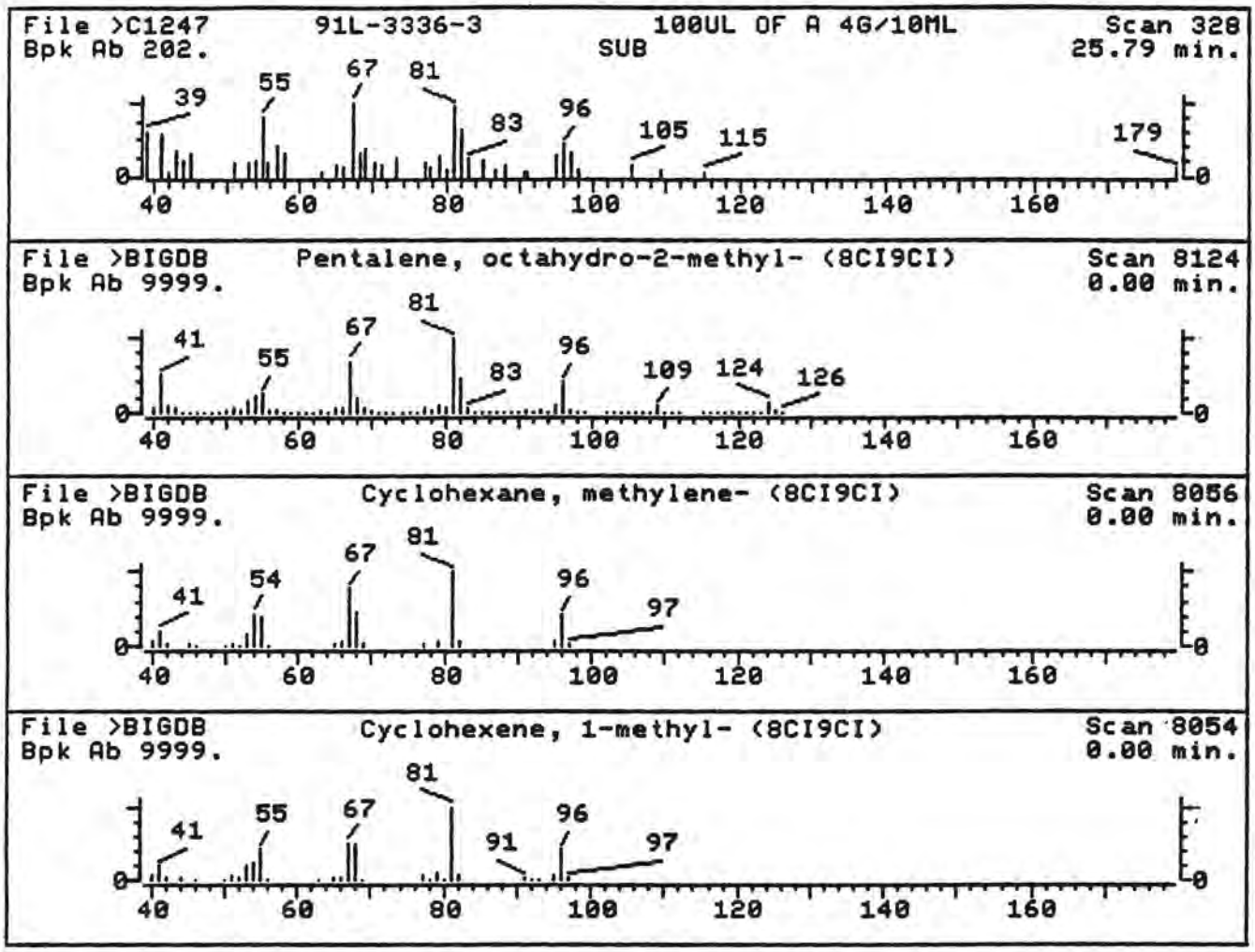
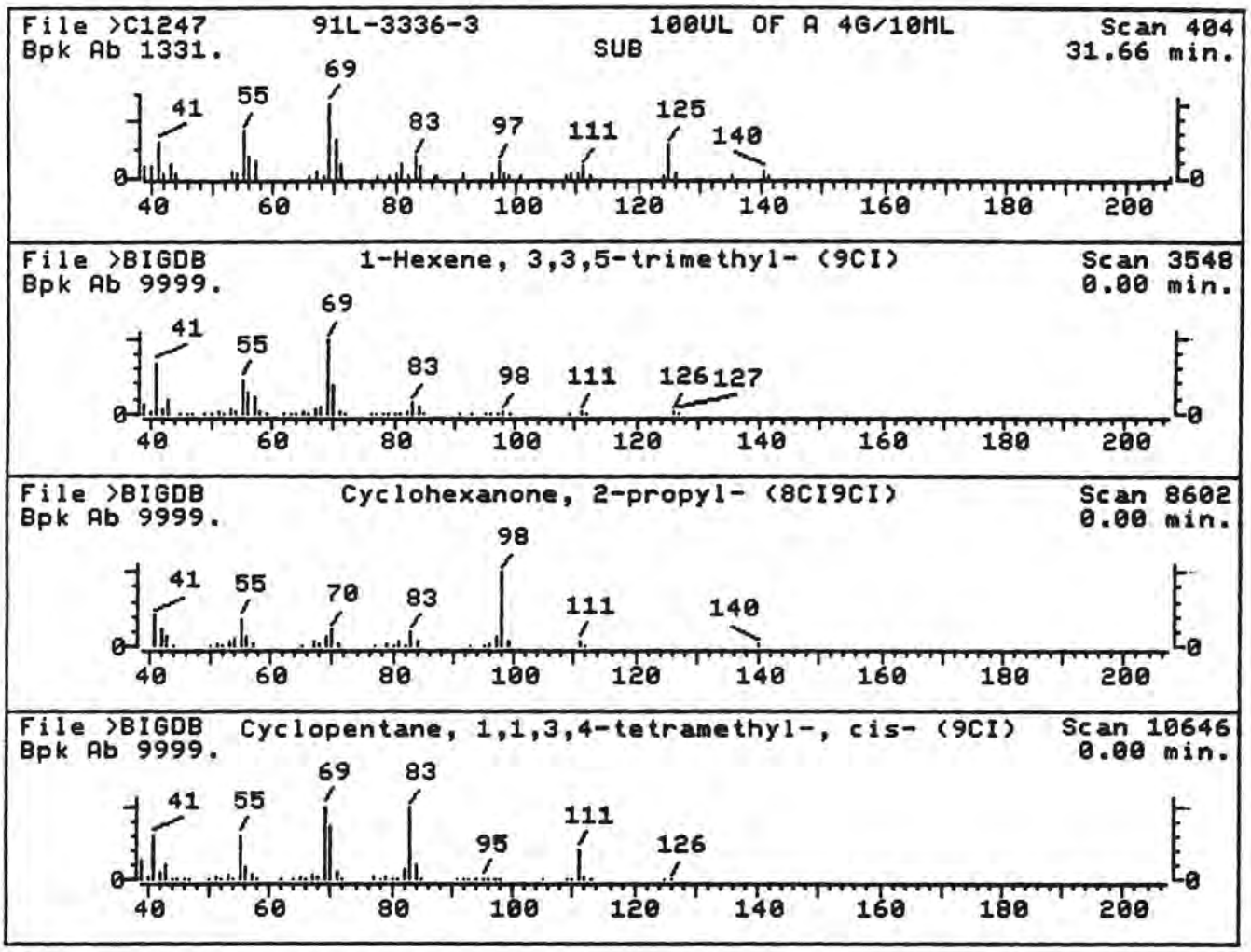


1.	Pentalene, octahydro-2-methyl- (8CI9CI)	124 C9H16
2.	Cyclohexane, methylene- (8CI9CI)	96 C7H12
3.	Cyclohexene, 1-methyl- (8CI9CI)	96 C7H12
4.	1,4-Hexadiene, 4-methyl- (8CI9CI)	96 C7H12
5.	1,4-Hexadiene, 2-methyl- (8CI9CI)	96 C7H12

Sample file: >C1247 Spectrum #: 328
Search speed: 1 Tilting option: S No. of ion ranges searched: 63

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	58	3868642	8124	"BIGDB	76	35	2	1	99	19	25	21
2.	26*	1192376	8056	"BIGDB	26	78	2	0	70	41	8	14
3.	25*	591491	8054	"BIGDB	33	72	2	0	87	47	7	14
4.	24*	1116901	8079	"BIGDB	45	62	1	0	95	53	7	21
5.	24*	1119148	8080	"BIGDB	45	64	1	0	92	54	7	21

CORRECTED TOTAL ION AREA OF UNKNOWN = 67398
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125
DRY WT. = 91.11%
SEMI QUANTITATION OF UNKNOWN = 990 UG/KG

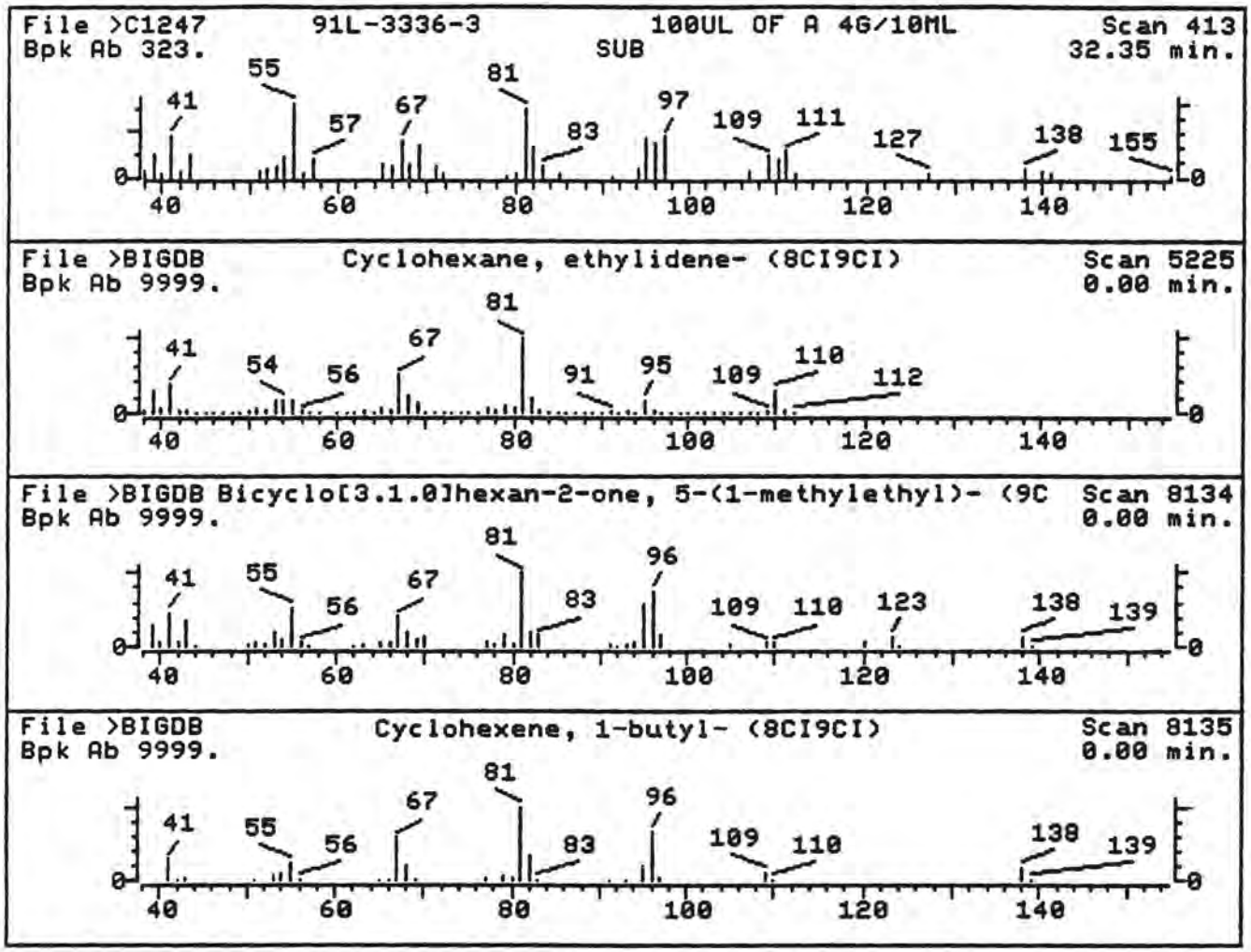


1.	1-Hexene, 3,3,5-trimethyl- (9CI)	126 C9H18
2.	Cyclohexanone, 2-propyl- (8CI9CI)	140 C9H16O
3.	Cyclopentane, 1,1,3,4-tetramethyl-, cis- (9CI)	126 C9H18
4.	Cyclohexanone, 2-(1-methylheptyl)- (9CI)	210 C14H26O
5.	3-Nonene, 3-methyl-, (E)- (9CI)	140 C10H20

Sample file: >C1247 Spectrum #: 404
Search speed: 1 Tilting option: S No. of ion ranges searched: 63

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	43*	13427435	3548	"BIGDB	47	46	1	0	94	36	17	32
2.	29*	94655	8602	"BIGDB	45	52	2	1	160	45	8	17
3.	27*	53907601	10646	"BIGDB	38	70	3	0	71	39	10	13
4.	25	54549905	8626	"BIGDB	41	48	2	0	308	50	7	12
5.	25*	69405421	3763	"BIGDB	39	50	2	0	100	48	7	19

CORRECTED TOTAL ION AREA OF UNKNOWN = 229490
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125
DRY WT. = 91.11%
SEMI QUANTITATION OF UNKNOWN = 3400 UG/KG

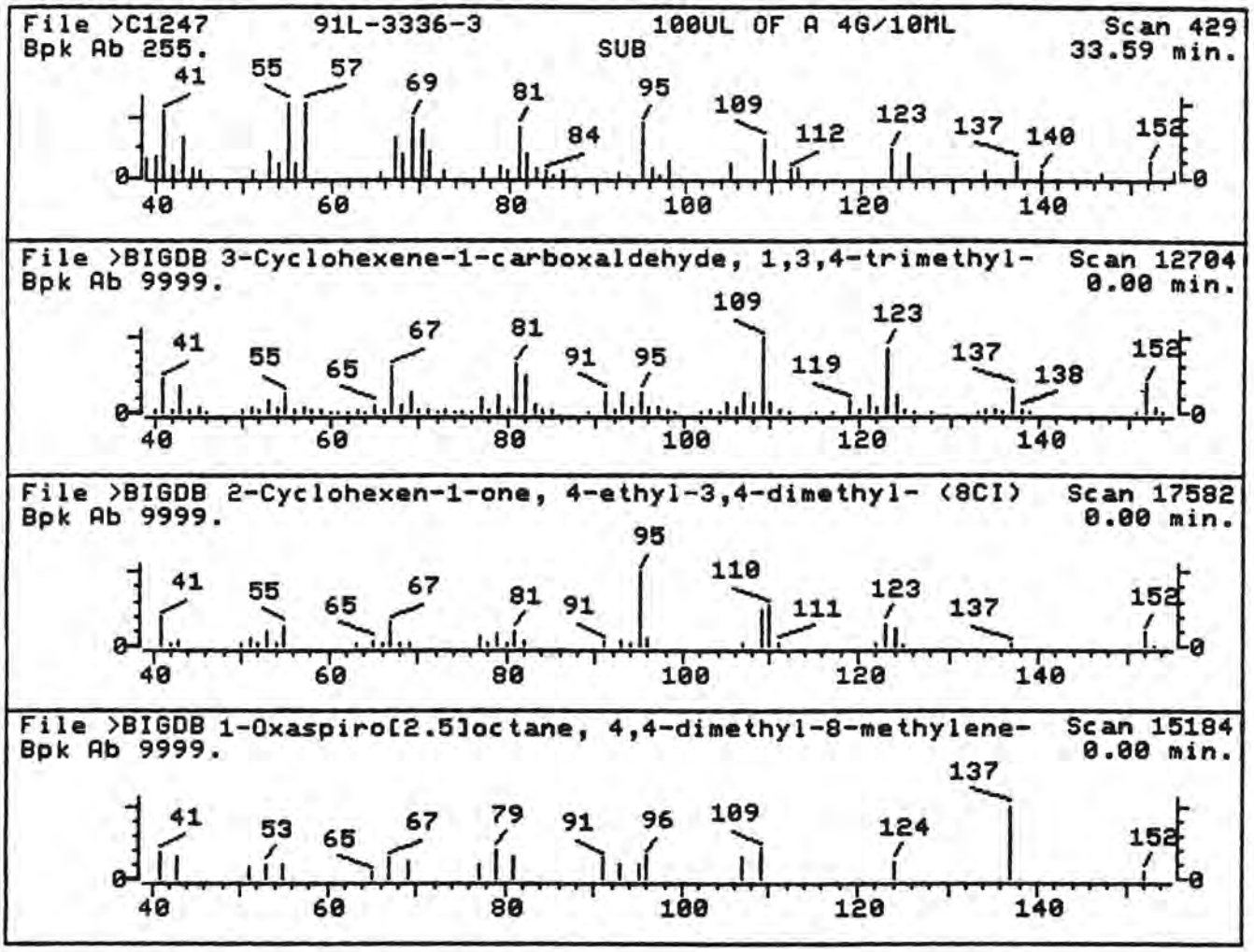


1. Cyclohexane, ethylidene- (8CI9CI) 110 C8H14
2. Bicyclo[3.1.0]hexan-2-one, 5-(1-methylethyl)- (9CI) 138 C9H14O
3. Cyclohexene, 1-butyl- (8CI9CI) 138 C10H18
4. Pentalene, octahydro-2,5-dimethyl- (8CI) 138 C10H18
5. Cyclohexene, 3-(2-methylpropyl)- (9CI) 138 C10H18

Sample file: >C1247 Spectrum #: 413
Search speed: 1 Tilting option: S No. of ion ranges searched: 62

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	35*	1003641	5225	"BIGDB	46	59	0	0	83	55	10	54
2.	27*	513202	8134	"BIGDB	35	80	3	0	63	36	10	13
3.	26*	3282539	8135	"BIGDB	34	71	2	0	65	45	8	14
4.	25*	28588558	8143	"BIGDB	36	64	2	0	93	48	7	14
5.	25*	4104567	5429	"BIGDB	41	70	3	0	83	45	8	13

CORRECTED TOTAL ION AREA OF UNKNOWN = 64711
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125
DRY WT. = 91.11%
SEMI QUANTITATION OF UNKNOWN = 950 UG/KG

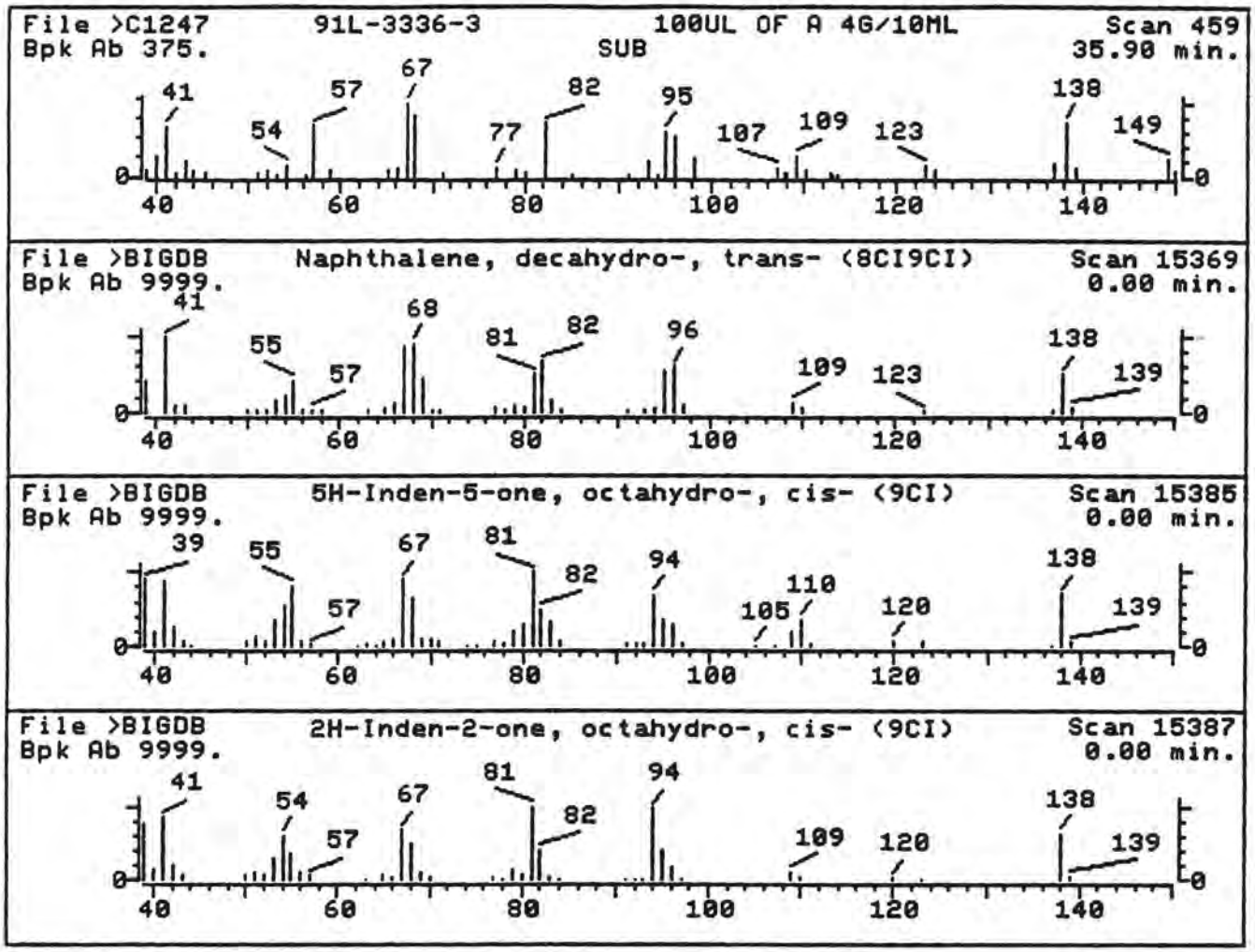


1. 3-Cyclohexene-1-carboxaldehyde, 1,3,4-trimethyl- (9C 152 C10H16O
2. 2-Cyclohexen-1-one, 4-ethyl-3,4-dimethyl- (8CI) 152 C10H16O
3. 1-Oxaspiro[2.5]octane, 4,4-dimethyl-8-methylene- (9C 152 C10H16O

Sample file: >C1247 Spectrum #: 429
Search speed: 1 Tilting option: S No. of ion ranges searched: 63

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	40702269	12704	"BIGDB	43	85	3	0	51	52	5	13
2.	15*	17622467	17582	"BIGDB	44	71	3	0	72	57	3	13
3.	11*	54345561	15184	"BIGDB	23	99	3	0	122	63	2	12

CORRECTED TOTAL ION AREA OF UNKNOWN = 74129
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125
DRY WT. = 91.11%
SEMI QUANTITATION OF UNKNOWN = 1100 UG/KG

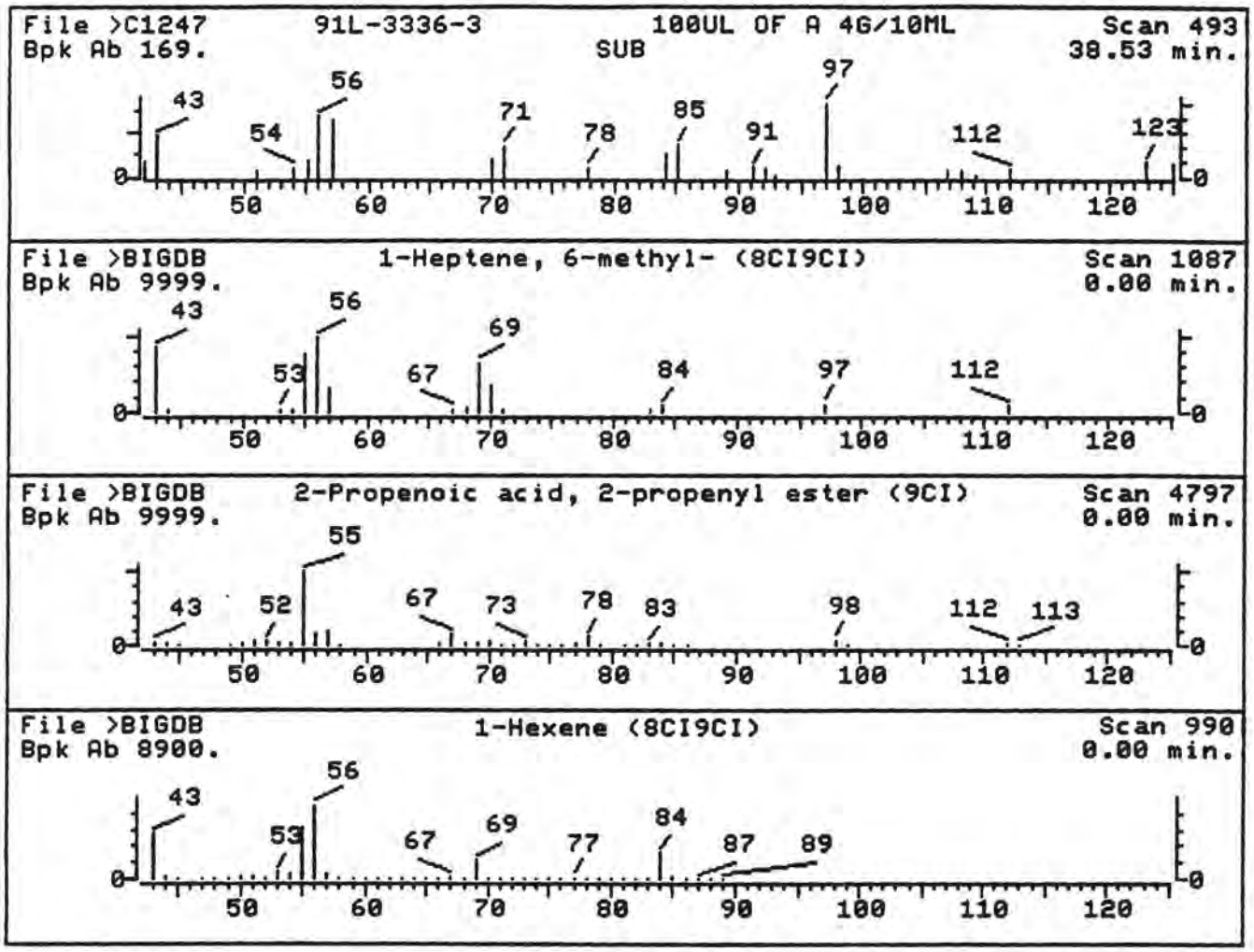


1.	Naphthalene, decahydro-, trans- (8CI9CI)	138	C10H18
2.	5H-Inden-5-one, octahydro-, cis- (9CI)	138	C9H14O
3.	2H-Inden-2-one, octahydro-, cis- (9CI)	138	C9H14O
4.	5H-Inden-5-one, octahydro-, trans- (9CI)	138	C9H14O
5.	2H-Inden-2-one, octahydro-, trans- (9CI)	138	C9H14O

Sample file: >C1247 Spectrum #: 459
Search speed: 1 Tilting option: S No. of ion ranges searched: 63

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	66*	493027	15369	"BIGDB	87	35	3	-3	64	18	31	43
2.	52*	4668911	15385	"BIGDB	44	94	3	0	104	20	20	13
3.	42*	5689043	15387	"BIGDB	56	73	3	1	145	22	17	13
4.	42*	4668819	15384	"BIGDB	41	86	3	0	114	21	17	13
5.	36*	16484176	15398	"BIGDB	43	92	3	0	96	27	14	13

CORRECTED TOTAL ION AREA OF UNKNOWN = 576111
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125
DRY WT. = 91.11%
SEMI QUANTITATION OF UNKNOWN = 8500 UG/KG

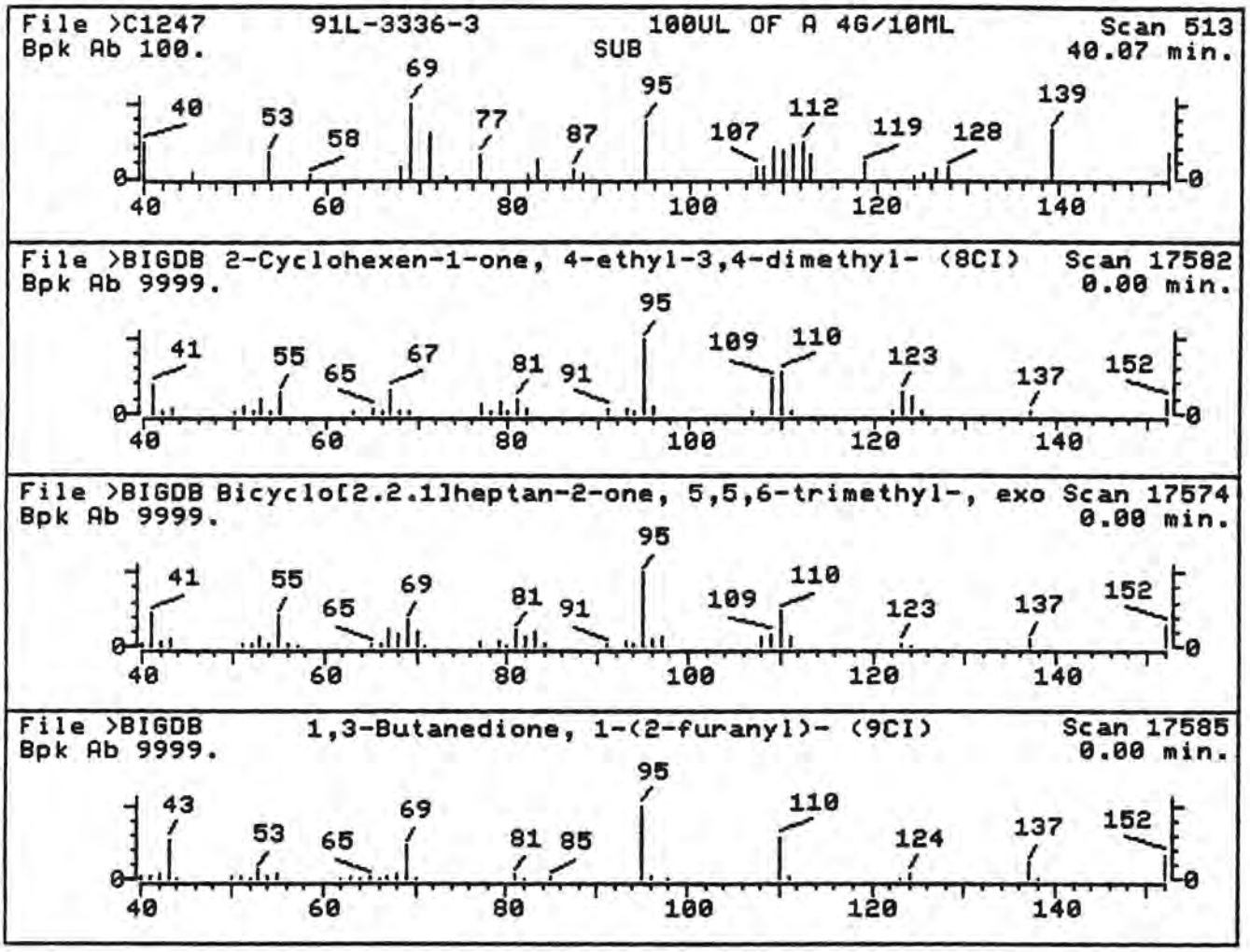


1.	1-Heptene, 6-methyl- (8CI9CI)	112 C8H16
2.	2-Propenoic acid, 2-propenyl ester (9CI)	112 C6H8O2
3.	1-Hexene (8CI9CI)	84 C6H12
4.	Aziridine, 2,2-dimethyl- (8CI9CI)	71 C4H9N
5.	Cyclobutanone, 3,3-dimethyl- (8CI9CI)	98 C6H10O

Sample file: >C1247 Spectrum #: 493
Search speed: 1 Tilting option: S No. of ion ranges searched: 65

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	27*	5026766	1087	"BIGDB	36	60	3	0	66	39	10	13
2.	26*	999553	4797	"BIGDB	22	69	3	0	404	36	10	12
3.	25*	592416	990	"BIGDB	27	73	3	0	91	45	8	13
4.	20*	2658244	973	"BIGDB	29	80	2	0	86	51	5	14
5.	15*	1192332	1048	"BIGDB	21	57	2	0	81	56	3	13

CORRECTED TOTAL ION AREA OF UNKNOWN = 57784
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125
DRY WT. = 91.11%
SEMI QUANTITATION OF UNKNOWN = 850 UG/KG

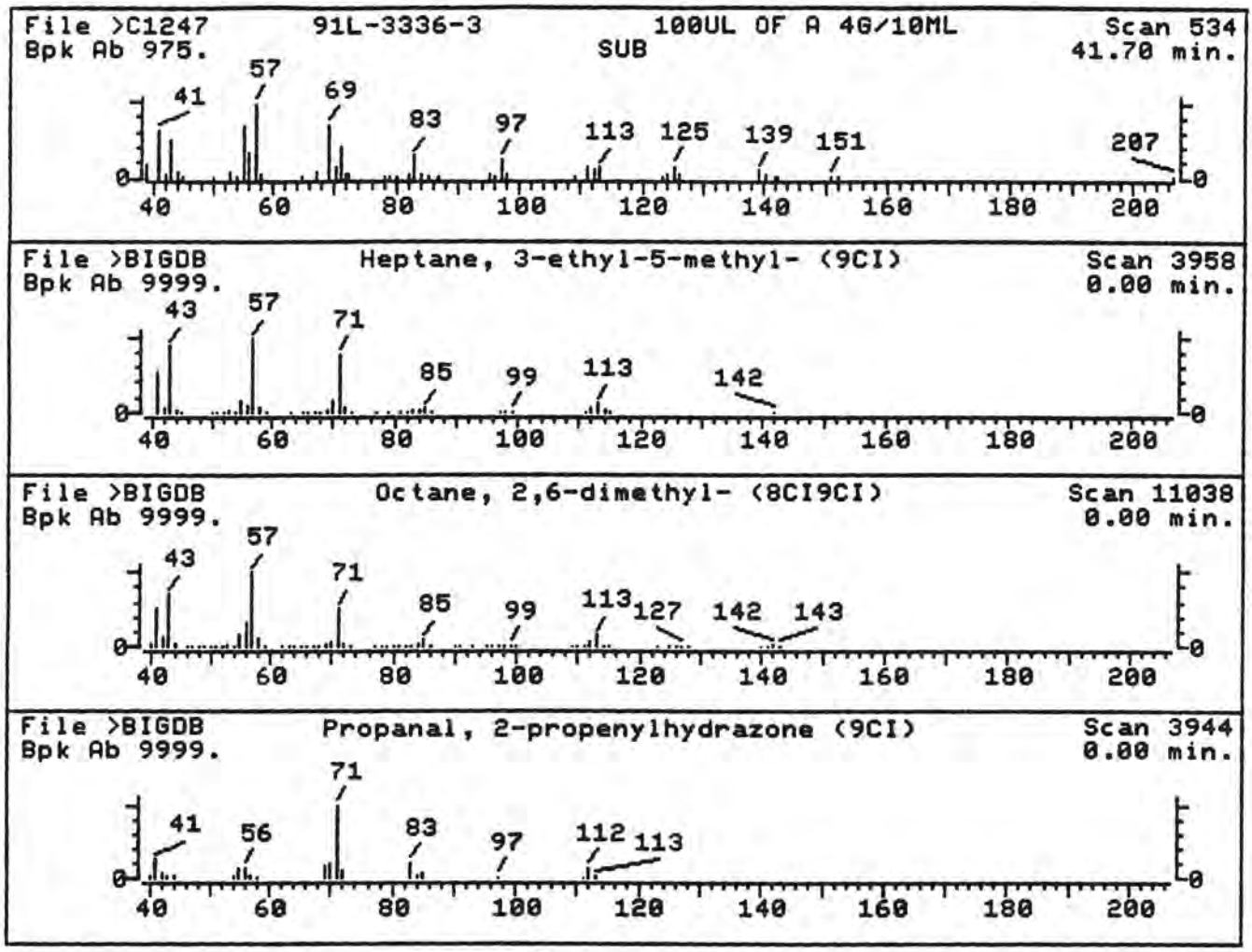


1.	2-Cyclohexen-1-one, 4-ethyl-3,4-dimethyl- (8CI)	152 C10H16O
2.	Bicyclo[2.2.1]heptan-2-one, 5,5,6-trimethyl-, exo- (9CI)	152 C10H16O
3.	1,3-Butanedione, 1-(2-furanyl)- (9CI)	152 C8H8O3
4.	3-Oxatricyclo[4.1.1.02,4]octane, 2,7,7-trimethyl- (9 CI)	152 C10H16O

Sample file: >C1247 Spectrum #: 513
Search speed: 1 Tilting option: S No. of ion ranges searched: 64

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	17622467	17582	"BIGDB	28	87	3	0	70	53	5	13
2.	15*	3649863	17574	"BIGDB	35	82	3	0	76	58	3	13
3.	11*	25790356	17585	"BIGDB	27	74	3	0	68	61	2	13
4.	11*	1686142	10283	"BIGDB	24	94	3	0	124	64	2	12

CORRECTED TOTAL ION AREA OF UNKNOWN = 69716
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125
DRY WT. = 91.11%
SEMI QUANTITATION OF UNKNOWN = 1000 UG/KG

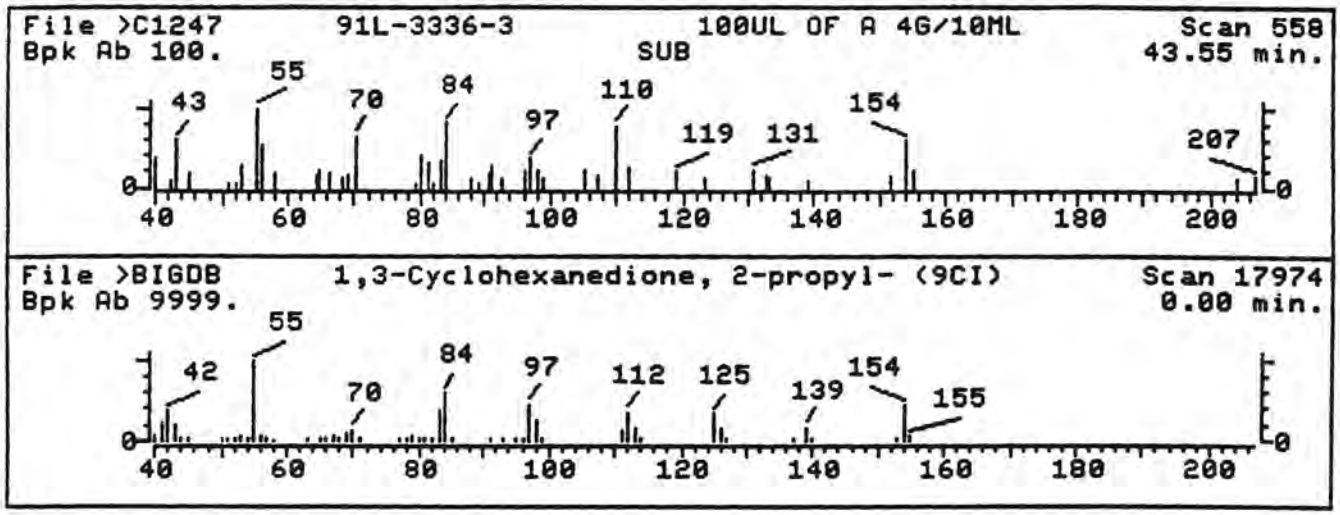


1.	Heptane, 3-ethyl-5-methyl- (9CI)	142 C10H22
2.	Octane, 2,6-dimethyl- (8CI9CI)	142 C10H22
3.	Propanal, 2-propenylhydrazone (9CI)	112 C6H12N2
4.	Diisoamylene (9CI)	140 C10H20
5.	Octane, 3,6-dimethyl- (8CI9CI)	142 C10H22

Sample file: >C1247 Spectrum #: 534
Search speed: 1 Tilting option: S No. of ion ranges searched: 63

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	32*	52896909	3958	"BIGDB	44	50	0	0	52	55	9	49
2.	30*	2051301	11038	"BIGDB	46	49	2	0	80	48	10	23
3.	28*	19031788	3944	"BIGDB	33	51	0	0	41	53	8	30
4.	27*	54063091	8354	"BIGDB	32	60	2	0	43	44	8	15
5.	26*	15869940	11043	"BIGDB	49	40	0	0	70	57	7	59

CORRECTED TOTAL ION AREA OF UNKNOWN = 453098
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125
DRY WT. = 91.11%
SEMI QUANTITATION OF UNKNOWN = 6700 UG/KG



1. 1,3-Cyclohexanedione, 2-propyl- (9CI) 154 C9H14O2

Sample file: >C1247 Spectrum #: 558
Search speed: 1 Tilting option: S No. of ion ranges searched: 64

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	15*	54244734	17974	"BIGDB	25	98	3	0	100	56	3	13

CORRECTED TOTAL ION AREA OF UNKNOWN = 48503
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125
DRY WT. = 91.11%
SEMI QUANTITATION OF UNKNOWN = 710 UG/KG

NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3336
Certification No. 03117
November 22, 1991

G. STANDARDS DATA PACKAGE

1. Volatile Organics by GC/MS

a. Initial Calibration Data

Calibration Report

Title: HP VOA Standards for 5 Point Calibration Curve
Calibrated: 911015 13:34

Compound	Files: >C0904 RF 20.00	>C0900 RF 50.00	>C0901 RF 100.00	>C0902 RF 150.00	>C0903 RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chloromethane	.88207	.83445	.83504	.82685	.83503	.136	.84269	2.645	
Bromomethane	1.08738	.98856	.90423	.83722	.82010	.212	.92750	11.996	
Vinyl Chloride	.98855	.90626	.85104	.68352	.55797	.276	.79747	21.860	
Chloroethane	.73459	.70515	.64252	.59084	.51683	.369	.63799	13.747	
Methylene Chloride	1.94959	1.91225	1.80013	1.67001	1.68645	.600	1.80368	7.051	
Acrolein	.23968	.27066	.25458	.23252	.24129	.707	.24775	6.089	
Acrylonitrile	.49014	.46112	.50535	.51769	.53302	.775	.50146	5.489	
Acetone	.52386	.62197	.53374	.53261	.56501	.705	.55544	7.261	
Carbon Disulfide	2.92637	2.64989	2.68521	2.65748	2.65917	.764	2.71562	4.366	
Trichlorofluoromethane	3.25061	3.07344	3.06472	2.99950	2.93585	.841	3.06483	3.843	(Conc=20.0,50.0,100.0,150.0,20(
1,1-Dichloroethene	1.52387	1.37182	1.32923	1.35538	1.33794	.936	1.38365	5.788	
1,1-Dichloroethane	2.76552	2.49351	2.48467	2.51976	2.38493	1.095	2.52968	5.591	
t-Butyl Alcohol	.49059	.49569	.51162	.42429	.46031	1.222	.47650	7.261	
Trans-1,2-Dichloroethene	1.51759	1.43487	1.35085	1.38990	1.41710	1.183	1.42206	4.366	
Chloroform	3.04434	2.82066	2.74356	2.81257	2.71332	1.266	2.82689	4.591	
1,2-Dichloroethane-d4	1.75299	1.55633	1.49550	1.53563	1.52447	1.343	1.57298	6.548	(Conc=20.0,50.0,100.0,150.0,200
1,2-Dichloroethane	1.78033	1.62255	1.57573	1.60186	1.58233	1.357	1.63256	5.182	
2-Butanone	1.06580	1.02715	1.14725	1.14767	1.24524	1.350	1.12662	7.496	
1,4-Dioxane	.04839	.04932	.03694	.03357	.03593	1.533	.04083	18.214	(Conc=80.0,200.0,400.0,600.0,80
Methyl t-Butyl Ether	2.17009	1.80877	1.73491	1.74561	1.65530	1.477	1.82294	11.058	
1,1,1-Trichloroethane	2.41777	2.33433	2.25647	2.28412	2.26852	1.502	2.31224	2.855	
Carbon Tetrachloride	2.27579	2.22512	2.13034	2.17617	2.16223	1.548	2.19393	2.602	
Vinyl Acetate	2.43486	2.66310	2.35377	2.32530	2.64357	1.579	2.48412	6.431	
Bromodichloromethane	2.94908	2.79911	2.71944	2.73064	2.72638	1.632	2.78493	3.491	
Cyclohexane	2.16114	1.84410	1.78114	1.81751	1.79011	1.541	1.87880	8.503	
1,2-Dichloropropane	.41785	.37883	.35437	.38491	.34775	.793	.37674	7.392	
cis-1,3-Dichloropropene	.61388	.57246	.52853	.57625	.51286	.809	.56080	7.206	(Conc=32.0,81.0,162.0,243.0,324.
Trichloroethene	.42299	.40329	.39250	.43947	.38856	.837	.40936	5.248	
Dibromochloromethane	.47077	.43997	.43018	.46418	.43390	.875	.44780	4.119	
1,1,2-Trichloroethane	.40788	.34704	.33324	.34810	.33168	.880	.35359	8.848	
Benzene	.99027	.93814	.83693	.86101	.77254	.860	.87978	9.729	
trans-1,3-Dichloropropene	.50319	.48719	.48302	.52066	.50016	.879	.49884	2.978	(Conc=8.0,19.0,38.0,57.0,76.0)
Ethylene Dibromide	.63133	.59525	.56566	.59880	.57540	.924	.59329	4.268	
2-Chloroethylvinylether	.23474	.18130	.21517	.23735	.25620	.935	.22495	12.626	
Bromoform	.51326	.48273	.46844	.48859	.46785	1.021	.48417	3.839	
2-Hexanone	.57910	.49924	.56565	.57355	.62133	.889	.56777	7.743	
4-Methyl-2-Pentanone	.70414	.70544	.71587	.73912	.74733	.824	.72238	2.738	
Tetrachloroethene	.41148	.38746	.38621	.40606	.40986	.905	.40021	3.093	
1,1,2,2-Tetrachloroethane	1.12667	1.07736	.95094	.98591	1.00531	.909	1.02924	6.937	

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

Calibration Report

Title: HP VOA Standards for 5 Point Calibration Curve
Calibrated: 911015 13:34

Compound	Files: >C0904 RF 20.00	>C0900 RF 50.00	>C0901 RF 100.00	>C0902 RF 150.00	>C0903 RF 200.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Toluene	.78314	.71852	.65959	.67694	.63369	.956	.69438	8.416	
Toluene-d8	1.38432	1.23335	1.19598	1.24152	1.22804	.947	1.25664	5.844	(Conc=20.0,50.0,100.0,150.0,2
Chlorobenzene	.99339	.90212	.91501	.96727	.93947	1.005	.94345	3.964	
Ethylbenzene	.49362	.43813	.42547	.45852	.46152	1.083	.45545	5.707	
Styrene	.88850	.84203	.85067	.94307	.92345	1.227	.88954	4.959	
m&p Xylenes	.27904	.25544	.24705	.27465	.26408	1.237	.26405	5.011	(Conc=40.0,100.0,200.0,300.0,
O-Xylenes	1.04574	.95936	.94371	1.06119	1.02429	1.272	1.00686	5.211	
Bromofluorobenzene	1.08018	.90072	.91714	.98617	.99695	1.177	.97623	7.338	(Conc=20.0,50.0,100.0,150.0,2(
1,3-Dichlorobenzene	.83543	.87470	.82086	.96082	.94134	1.408	.88663	7.041	
1,2 &1,4-Dichlorobenzenes	.90680	.90462	.83271	.98085	.97703	1.466	.92040	6.650	(Conc=40.0,100.0,200.0,300.0,4

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

NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3336
Certification No. 03117
November 22, 1991

G. STANDARDS DATA PACKAGE (Continued)

1. Volatile Organics by GC/MS (Continued)

b. Continuing Calibration Data

Calibration Check Report

Title: HP VOA Standards for 5 Point Calibration Curve
Calibrated: 911015 15:34

Check Standard Data File: >C12/5
Injection Time: 911104 21:25

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Chloromethane	.84269	.42296	49.81	Average	
Bromomethane	.92750	1.05501	13.73	Average	
Vinyl Chloride	.79747	.76162	4.50	Average	
Chloroethane	.63799	.70712	10.84	Average	
Methylene Chloride	1.80368	1.79850	.29	Average	
Acrolein	.24775	.22204	10.37	Average	
Acrylonitrile	.50146	.53008	5.71	Average	
Acetone	.55544	.53946	2.88	Average	
Carbon Disulfide	2.71562	2.30256	15.22	Average	
Trichlorofluoromethane	3.06483	3.23911	5.69	Average	(Conc=50.00)
1,1-Dichloroethene	1.38365	1.30349	5.79	Average	
1,1-Dichloroethane	2.52968	2.62017	3.58	Average	
t-Butyl Alcohol	.47650	.47626	.05	Average	
trans-1,2-Dichloroethene	1.42206	1.32658	6.71	Average	
Chloroform	2.82689	2.93348	3.77	Average	
1,2-Dichloroethane-d4	1.57298	1.69144	7.53	Average	
1,2-Dichloroethane	1.65256	1.91114	17.06	Average	
2-Butanone	1.12662	1.17703	4.47	Average	
1,4-Dioxane	.04085	.02826	30.78	Average	(Conc=200.00)
Methyl t-Butyl Ether	1.82294	1.79631	1.46	Average	
1,1,1-Trichloroethane	2.31224	2.30724	.22	Average	
Carbon Tetrachloride	2.19393	2.28986	4.37	Average	
Vinyl Acetate	2.48412	2.45722	1.08	Average	
Bromodichloromethane	2.78493	2.84105	2.02	Average	
Cyclohexane	1.87880	1.88133	.13	Average	
1,2-Dichloropropane	.37674	.41724	10.75	Average	
cis-1,3-Dichloropropene	.56080	.61170	9.08	Average	(Conc=81.00)
Trichloroethene	.40936	.46464	13.50	Average	
Dibromochloromethane	.44780	.51334	14.64	Average	
1,1,2-Trichloroethane	.35359	.38545	9.01	Average	
Benzene	.87978	.97837	11.21	Average	
trans-1,3-Dichloropropene	.49884	.51195	2.63	Average	(Conc=19.00)
Ethylene Dibromide	.59329	.63008	6.20	Average	
2-Chloroethylvinylether	.22495	.26826	19.25	Average	
Bromoform	.48417	.57458	18.67	Average	
2-Hexanone	.56777	.64275	13.21	Average	
4-Methyl-2-Pentanone	.72238	.88766	22.88	Average	
Tetrachloroethene	.40021	.47822	19.49	Average	
1,1,2,2-Tetrachloroethane	1.02924	1.05530	2.53	Average	
Toluene	.69438	.76280	9.85	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

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

%Diff - % Difference from original average or curve

Calibration Check Report

Title: HP VOA Standards for 5 Point Calibration Curve
Calibrated: 911015 15:54

Check Standard Data File: >C1273
Injection Time: 911104 21:23

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Toluene-d8	1.25664	1.24196	1.17	Average	
Chlorobenzene	.94345	1.02794	8.96	Average	
Ethylbenzene	.45545	.49512	8.71	Average	
Styrene	.88954	.96826	8.85	Average	
m&p Xylenes	.26405	.28884	9.39	Average	(Conc=100.00)
O-Xylenes	1.00686	1.13778	13.00	Average	
Bromofluorobenzene	.97625	.90098	7.71	Average	
1,3-Dichlorobenzene	.88663	1.00210	13.02	Average	(Conc=50.00)
1,2 &1,4-Dichlorobenzenes	.92040	1.05524	14.65	Average	(Conc=100.00)

RF - Response Factor from daily standard file at 50.00 ug/L

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

%Diff - % Difference from original average or curve

Calibration Check Report

Title: HP VOA Standards for 5 Point Calibration Curve
Calibrated: 911015 13:34

Check Standard Data File: >C1244
Injection Time: 911101 10:56

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Chloromethane	.84269	.50451	40.13	Average	
Bromomethane	.92750	.97818	5.46	Average	
Vinyl Chloride	.79747	.86180	8.07	Average	
Chloroethane	.63799	.69678	9.22	Average	
Methylene Chloride	1.80368	1.50540	16.54	Average	
Acrolein	.24775	.22805	7.95	Average	
Acrylonitrile	.50146	.57731	15.12	Average	
Acetone	.55544	.61680	11.05	Average	
Carbon Disulfide	2.71562	2.39277	11.89	Average	
Trichlorofluoromethane	3.06483	3.09479	.98	Average	(Conc=50.00)
1,1-Dichloroethene	1.38365	1.27761	7.66	Average	
1,1-Dichloroethane	2.52968	2.74444	8.49	Average	
t-Butyl Alcohol	.47650	.46101	3.25	Average	
Trans-1,2-Dichloroethene	1.42206	1.33073	6.42	Average	
Chloroform	2.82689	3.03930	7.51	Average	
1,2-Dichloroethane-d4	1.57298	1.55736	.99	Average	
1,2-Dichloroethane	1.63256	2.00724	22.95	Average	
2-Butanone	1.12662	1.40125	24.38	Average	
1,4-Dioxane	.04083	.03600	11.83	Average	(Conc=200.00)
Methyl t-Butyl Ether	1.82294	1.76934	2.94	Average	
1,1,1-Trichloroethane	2.31224	2.22814	3.64	Average	
Carbon Tetrachloride	2.19393	2.27296	3.60	Average	
Vinyl Acetate	2.48412	2.86641	15.39	Average	
Bromodichloromethane	2.78493	2.89892	4.09	Average	
Cyclohexane	1.87880	2.09220	11.36	Average	
1,2-Dichloropropane	.37674	.41665	10.59	Average	
cis-1,3-Dichloropropene	.56080	.62083	10.70	Average	(Conc=81.00)
Trichloroethene	.40936	.43041	5.14	Average	
Dibromochloromethane	.44780	.47590	6.27	Average	
1,1,2-Trichloroethane	.35359	.37689	6.59	Average	
Benzene	.87978	.98297	11.73	Average	
trans-1,3-Dichloropropene	.49884	.46835	6.11	Average	(Conc=19.00)
Ethylene Dibromide	.59329	.59853	.88	Average	
2-Chloroethylvinylether	.22495	.28040	24.65	Average	
Bromoform	.48417	.50464	4.23	Average	
2-Hexanone	.56777	.72521	27.73	Average	
4-Methyl-2-Pentanone	.72238	1.00320	38.87	Average	
Tetrachloroethene	.40021	.45248	13.06	Average	
1,1,2,2-Tetrachloroethane	1.02924	1.08234	5.16	Average	
Toluene	.69438	.76067	9.55	Average	

RF - Response Factor from daily standard file at 50.00 ug/L

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

%Diff - % Difference from original average or curve

Calibration Check Report

Title: HP VOA Standards for 5 Point Calibration Curve
Calibrated: 911015 13:34

Check Standard Data File: >C1244
Injection Time: 911101 10:56

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Toluene-d8	1.25664	1.20846	3.83	Average	
Chlorobenzene	.94345	.98642	4.55	Average	
Ethylbenzene	.45545	.47649	4.62	Average	
Styrene	.88954	.95650	7.53	Average	
m&p Xylenes	.26405	.28003	6.05	Average	(Conc=100.00)
O-Xylenes	1.00686	1.10374	9.62	Average	
Bromofluorobenzene	.97623	.95189	2.49	Average	
1,3-Dichlorobenzene	.88663	.95599	7.82	Average	(Conc=50.00)
1,2 &1,4-Dichlorobenzenes	.92040	.99492	8.10	Average	(Conc=100.00)

RF - Response Factor from daily standard file at 50.00 ug/L

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

%Diff - % Difference from original average or curve

NAC NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.
Test Report No. NAC91L-3336
Certification No. 03117
November 22, 1991

G. STANDARDS DATA PACKAGE (Continued)

1. Volatile Organics by GC/MS (Continued)

c. Chromatograms and Quantitation Reports of Standards

QUANT REPORT

Operator ID: MALUS
Output File: ^C0904::D2
Data File: >C0904::D4
Name: HEATED HSL CAL CHK
Misc: 20 UG/L

Quant Rev: 6 Quant Time: 911015 13:21
Injected at: 911015 12:33
Dilution Factor: 1.00000

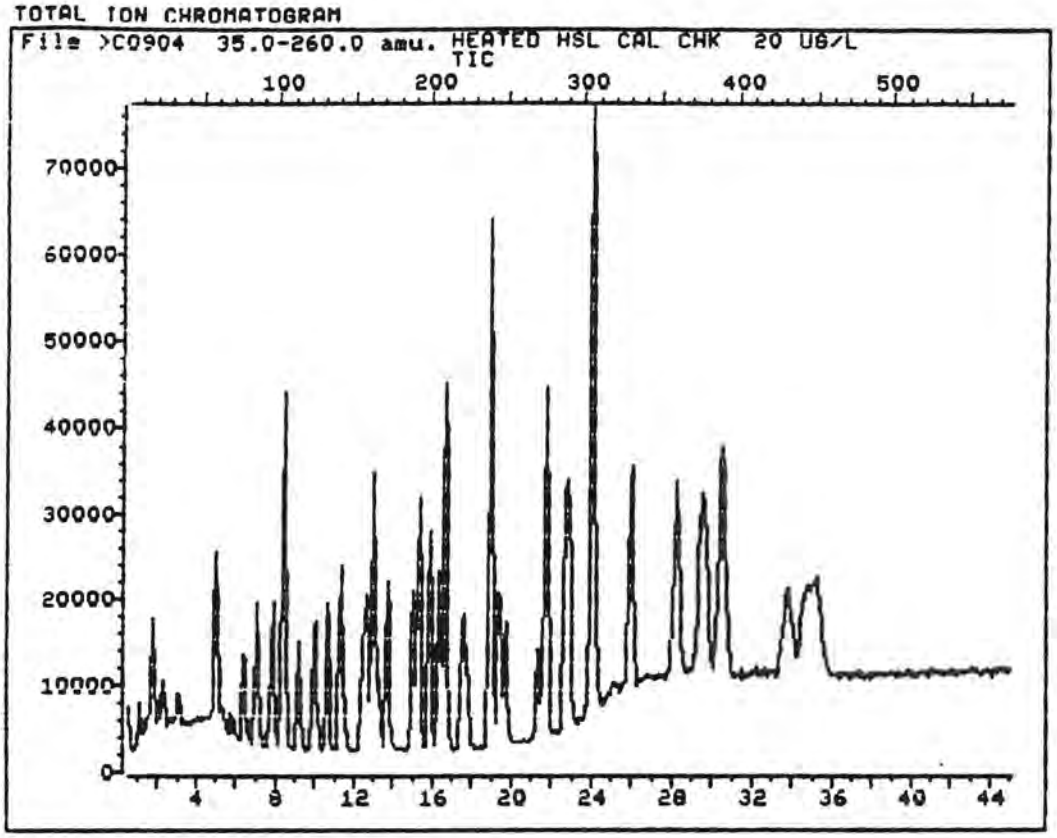
ID File: ID_CCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910928 20:40

	Compound	R.T.	Scan#	Area	Conc	Units	
1)	*Bromochloromethane	8.41	103	72877	50.00	ug/L	9
2)	Chloromethane	1.15	9	25713	20.07	ug/L	9
3)	Bromomethane	1.77	17	31698	20.32	ug/L	9
4)	Vinyl Chloride	2.31	24	28817	21.52	ug/L	9
5)	Chloroethane	3.08	34	21414	18.23	ug/L	9
6)	Methylene Chloride	5.02	59	56832	22.85	ug/L	6
7)	Acrolein	5.94	71	6987	24.23	ug/L	4
8)	Acrylonitrile	6.41	77	14288	14.62	ug/L	8
9)	Acetone	5.79	69	15271	17.91	ug/L	9
10)	Carbon Disulfide	6.48	78	85306	18.84	ug/L	10
11)	Trichlorofluoromethane	7.10	86	94758	24.58	ug/L	9
12)	1,1-Dichloroethene	7.87	96	44422	23.02	ug/L	8
13)	1,1-Dichloroethane	9.26	114	80617	20.02	ug/L	9
14)	t-Butyl Alcohol	10.19	126	14301M	19.58	ug/L	
15)	Trans-1,2-Dichloroethene	9.96	123	44239	20.64	ug/L	9
16)	Chloroform	10.65	132	88745	20.34	ug/L	9
17)	1,2-Dichloroethane-d4	11.35	141	51101	18.95	ug/L	9
18)	1,2-Dichloroethane	11.43	142	51898	18.53	ug/L	9
19)	2-Butanone	11.35	141	31069	17.26	ug/L	8
20)	1,4-Dioxane	12.89	161	5643M	82.39	ug/L	
21)	Methyl t-Butyl Ether	12.43	155	63260	19.29	ug/L	92
22)	1,1,1-Trichloroethane	12.66	158	70480	21.06	ug/L	8
23)	Carbon Tetrachloride	13.05	163	66341	20.40	ug/L	95
24)	Vinyl Acetate	13.28	166	70978	36.11	ug/L	9
25)	Bromodichloromethane	13.74	172	85968	20.02	ug/L	89
26)	Cyclohexane	12.97	162	62999	17.67	ug/L	74
27)	*1,4-Difluorobenzene	18.99	240	303603	50.00	ug/L	67
28)	1,2-Dichloropropane	15.05	189	50744	18.23	ug/L	87
29)	cis-1,3-Dichloropropene	15.36	193	119281	31.56	ug/L	95
30)	Trichloroethene	15.90	200	51368	17.96	ug/L	88
31)	Dibromochloromethane	16.60	209	57171	19.49	ug/L	96
32)	1,1,2-Trichloroethane	16.75	211	49534	20.83	ug/L	98
33)	Benzene	16.37	206	120260	19.55	ug/L	91
34)	trans-1,3-Dichloropropene	16.68	210	24443	6.78	ug/L	98
35)	Ethylene Dibromide	17.53	221	76670	19.81	ug/L	91
36)	2-Chloroethylvinylether	17.76	224	28507	16.26	ug/L	9
37)	Bromoform	19.38	245	62331	23.72	ug/L	98
38)	*Chlorobenzene-d5	24.01	305	243771	50.00	ug/L	94
39)	2-Hexanone	21.31	270	56467	21.24	ug/L	80
40)	4-Methyl-2-Pentanone	19.77	250	68660	16.96	ug/L	88
41)	Tetrachloroethene	21.70	275	40123	18.64	ug/L	86
42)	1,1,2,2-Tetrachloroethane	21.77	276	109860	22.04	ug/L	9
43)	Toluene	22.93	291	76363	18.97	ug/L	99

	Compound	R.T.	Scan#	Area	Conc	Units
44)	Toluene-d8	22.70	288	134983	20.12	ug/L
45)	Chlorobenzene	24.09	306	96864	18.48	ug/L
46)	Ethylbenzene	26.02	331	48132	18.47	ug/L
47)	Styrene	29.42	375	86636	19.01	ug/L
48)	m&p Xylenes	29.66	378	54418	35.14	ug/L
49)	O-Xylenes	30.51	389	101968	18.15	ug/L
50)	Bromofluorobenzene	28.26	360	105327	20.02	ug/L
51)	1,3-Dichlorobenzene	33.75	431	81461	16.20	ug/L
52)	1,2 &1,4-Dichlorobenzenes	35.14	449	176842M	32.92	ug/L

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >C0904::D4 Quant Output File: ^C0904::D2
Name: HEATED HSL CAL CHK
Misc: 20 UG/L

Id File: ID_CCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910928 20:40

Operator ID: MALUS
Quant Time: 911015 13:21
Injected at: 911015 12:33

QUANT REPORT

Operator ID: MALUS
Output File: ^C0900::D2
Data File: >C0900::04
Name: HEATED HSL CAL CHK
Misc: 50UG/L

Quant Rev: 6 Quant Time: 911015 12:17
Injected at: 911015 08:56
Dilution Factor: 1.00000

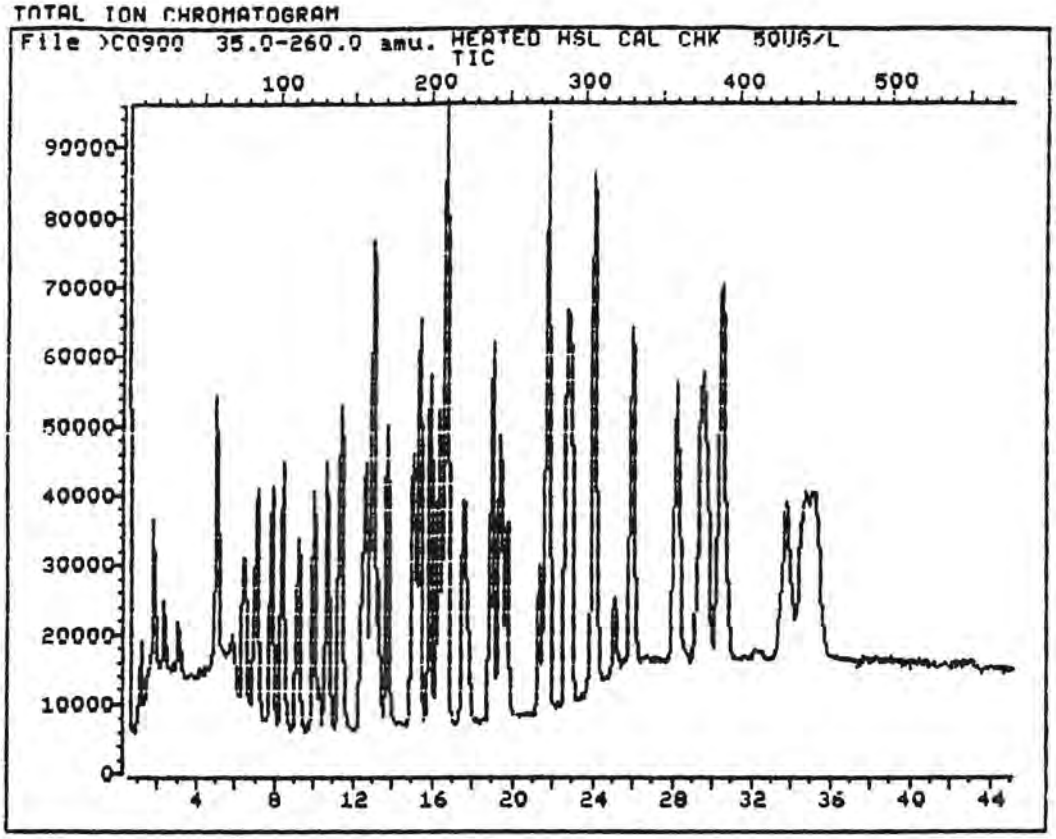
ID File: ID_CCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910928 20:40

	Compound	R.T.	Scan#	Area	Conc	Units	c
1)	*Bromochloromethane	8.43	103	69243	50.00	ug/L	9
2)	Chloromethane	1.16	9	57280	47.46	ug/L	9
3)	Bromomethane	1.78	17	68451	46.18	ug/L	9
4)	Vinyl Chloride	2.32	24	62752	49.31	ug/L	9
5)	Chloroethane	3.09	34	48827	43.76	ug/L	9
6)	Methylene Chloride	5.03	59	13241UM	56.04	ug/L	
7)	Acrolein	5.95	71	18741M	68.41	ug/L	8
8)	Acrylonitrile	6.49	78	31929	34.39	ug/L	9
9)	Acetone	5.88	70	43067	53.17	ug/L	9
10)	Carbon Disulfide	6.42	77	183486	42.64	ug/L	10
11)	Trichlorofluoromethane	7.11	86	212814	58.09	ug/L	9
12)	1,1-Dichloroethene	7.89	96	94989	51.80	ug/L	8
13)	1,1-Dichloroethane	9.20	113	172658	45.13	ug/L	9
14)	t-Butyl Alcohol	10.28	127	34323M	49.47	ug/L	
15)	Trans-1,2-Dichloroethene	9.97	123	99355	48.78	ug/L	9
16)	Chloroform	10.67	132	195311	47.12	ug/L	8
17)	1,2-Dichloroethane-d4	11.29	140	107765	42.06	ug/L	8
18)	1,2-Dichloroethane	11.44	142	112350	42.22	ug/L	9
19)	2-Butanone	11.36	141	71123	41.58	ug/L	8
20)	1,4-Dioxane	12.91	161	1366UM	209.91	ug/L	
21)	Methyl t-Butyl Ether	12.44	155	125245	40.20	ug/L	93
22)	1,1,1-Trichloroethane	12.68	158	161636	50.84	ug/L	80
23)	Carbon Tetrachloride	13.06	163	154074	49.87	ug/L	98
24)	Vinyl Acetate	13.29	166	184401	98.72	ug/L	91
25)	Bromodichloromethane	13.76	172	193819	47.49	ug/L	89
26)	Cyclohexane	12.98	162	127691	37.69	ug/L	72
27)	*1,4-Difluorobenzene	19.01	240	283581	50.00	ug/L	68
28)	1,2-Dichloropropane	15.07	189	107429	41.31	ug/L	94
29)	cis-1,3-Dichloropropene	15.38	193	262990	74.49	ug/L	94
30)	Trichloroethene	15.92	200	114364	42.82	ug/L	89
31)	Dibromochloromethane	16.62	209	124768	45.54	ug/L	96
32)	1,1,2-Trichloroethane	16.69	210	98414	44.30	ug/L	96
33)	Benzene	16.31	205	266038	46.31	ug/L	89
34)	trans-1,3-Dichloropropene	16.69	210	52500	15.59	ug/L	96
35)	Ethylene Dibromide	17.54	221	168801	46.68	ug/L	95
36)	2-Chloroethylvinylether	17.78	224	51414M	31.40	ug/L	92
37)	Bromoform	19.40	245	136892	55.77	ug/L	95
38)	*Chlorobenzene-d5	23.96	304	211962	50.00	ug/L	93
39)	2-Hexanone	21.33	270	105820	45.77	ug/L	82
40)	4-Methyl-2-Pentanone	19.78	250	149527	42.48	ug/L	87
41)	Tetrachloroethene	21.72	275	82126	43.88	ug/L	91
42)	1,1,2,2-Tetrachloroethane	21.79	276	228360	52.68	ug/L	91
43)	Toluene	22.95	291	152298	43.51	ug/L	93

	Compound	R.T.	Scan#	Area	Conc	Units
44)	Toluene-d8	22.72	288	261424	44.82	ug/L
45)	Chlorobenzene	24.11	306	191215	41.95	ug/L
46)	Ethylbenzene	25.97	330	92867	40.98	ug/L
47)	Styrene	29.45	375	178478	45.03	ug/L
48)	m&p Xylenes	29.68	378	108289	80.42	ug/L
49)	O-Xylenes	30.53	389	203348	41.62	ug/L
50)	Bromofluorobenzene	28.21	359	190919	41.74	ug/L
51)	1,3-Dichlorobenzene	33.77	431	185403	42.40	ug/L
52)	1,2 &1,4-Dichlorobenzenes	35.17	449	383492M	82.10	ug/L

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >C0900::D4 Quant Output File: ^C0900::D2
Name: HEATED HSL CAL CHK
Misc: 50UG/L

Id File: ID_CCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910928 20:40

Operator ID: MALUS
Quant Time: 911015 12:17
Injected at: 911015 08:56

QUANT REPORT

Operator ID: MALUS
Output File: ^C0901::D2
Data File: >C0901::04
Name: HEATED HSL CAL CHK
Misc: 100G/L

Quant Rev: 6 Quant Time: 911015 10:41
Injected at: 911015 09:46
Dilution Factor: 1.00000

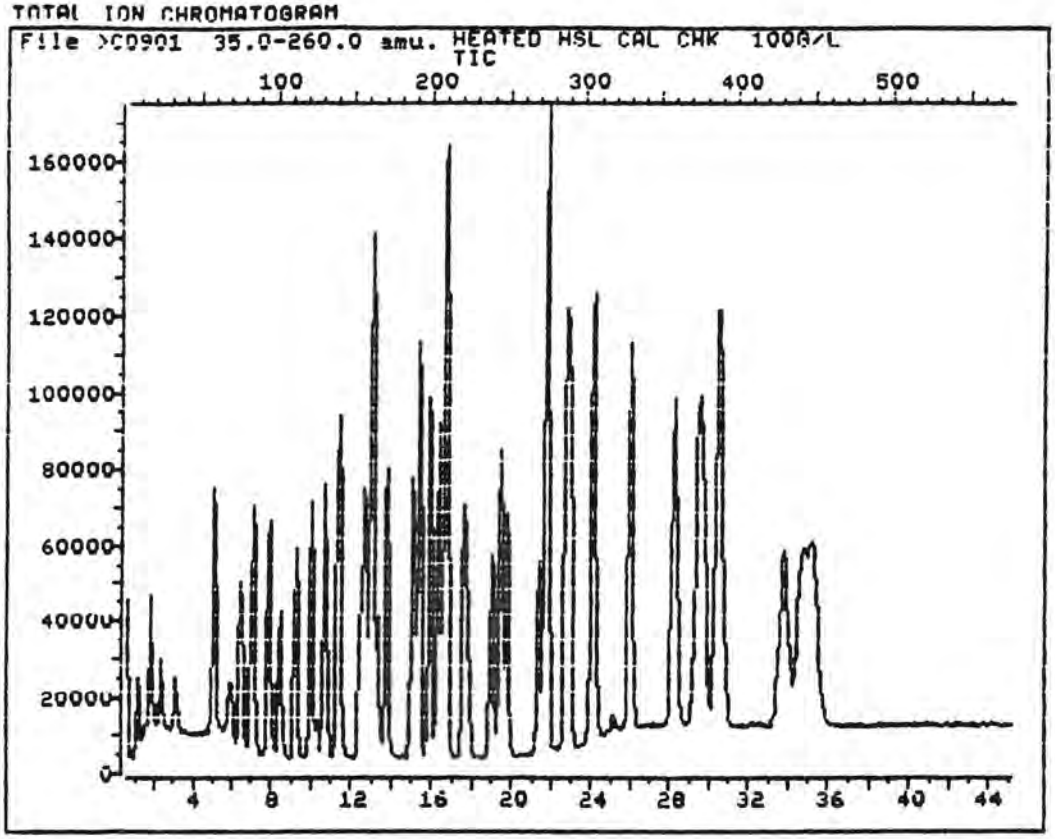
ID File: ID_CCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910928 20:40

	Compound	R.T.	Scan#	Area	Conc	Units	
1)	*Bromochloromethane	8.45	103	67611	50.00	ug/L	
2)	Chloromethane	1.11	8	112916	94.99	ug/L	8
3)	Bromomethane	1.81	17	122272	84.48	ug/L	9
4)	Vinyl Chloride	2.35	24	115079	92.62	ug/L	9
5)	Chloroethane	3.12	34	86883	79.74	ug/L	9
6)	Methylene Chloride	5.05	59	24341/M	105.51	ug/L	
7)	Acrolein	5.98	71	34425	128.69	ug/L	9
8)	Acrylonitrile	6.52	78	68355	75.39	ug/L	9
9)	Acetone	5.90	70	72173	91.26	ug/L	9
10)	Carbon Disulfide	6.44	77	363099	86.41	ug/L	10
11)	Trichlorofluoromethane	7.06	85	414418	115.86	ug/L	9
12)	1,1-Dichloroethene	7.91	96	179741	100.38	ug/L	9
13)	1,1-Dichloroethane	9.23	113	335982	89.93	ug/L	9
14)	t-Butyl Alcohol	10.31	127	69182M	102.11	ug/L	
15)	Trans-1,2-Dichloroethene	10.00	123	182665	91.86	ug/L	9
16)	Chloroform	10.69	132	370990	91.67	ug/L	8
17)	1,2-Dichloroethane-d4	11.31	140	202224	80.84	ug/L	8
18)	1,2-Dichloroethane	11.47	142	213074	82.00	ug/L	9
19)	2-Butanone	11.39	141	155134	92.87	ug/L	9
20)	1,4-Dioxane	12.93	161	19978M	514.41	ug/L	
21)	Methyl t-Butyl Ether	12.47	155	234598	77.12	ug/L	9
22)	1,1,1-Trichloroethane	12.62	157	305125	98.29	ug/L	86
23)	Carbon Tetrachloride	13.01	162	288069	95.49	ug/L	99
24)	Vinyl Acetate	13.32	166	518282	174.51	ug/L	94
25)	Bromodichloromethane	13.78	172	367728	92.28	ug/L	85
26)	Cyclohexane	13.01	162	240849M	72.81	ug/L	
27)	*1,4-Difluorobenzene	18.96	239	281087	50.00	ug/L	69
28)	1,2-Dichloropropane	15.02	188	199215	77.29	ug/L	95
29)	cis-1,3-Dichloropropene	15.33	192	481343	137.56	ug/L	91
30)	Trichloroethene	15.87	199	220656	83.34	ug/L	94
31)	Dibromochloromethane	16.64	209	241838	89.04	ug/L	92
32)	1,1,2-Trichloroethane	16.72	210	187339	85.07	ug/L	99
33)	Benzene	16.33	205	470499	82.63	ug/L	90
34)	trans-1,3-Dichloropropene	16.72	210	103186	30.92	ug/L	99
35)	Ethylene Dibromide	17.57	221	317999	88.72	ug/L	91
36)	2-Chloroethylvinylether	17.72	223	120961	74.53	ug/L	99
37)	Bromoform	19.42	245	263343	108.23	ug/L	95
38)	*Chlorobenzene-d5	23.98	304	218782	50.00	ug/L	92
39)	2-Hexanone	21.35	270	247510	103.72	ug/L	81
40)	4-Methyl-2-Pentanone	19.73	249	313240	86.22	ug/L	91
41)	Tetrachloroethene	21.66	274	168992	87.48	ug/L	99
42)	1,1,2,2-Tetrachloroethane	21.82	276	416099	92.99	ug/L	92
43)	Toluene	22.90	290	288612	79.89	ug/L	89

	Compound	R.T.	Scan#	Area	Conc	Units
44)	Toluene-d8	22.74	288	523317	86.92	ug/L
45)	Chlorobenzene	24.13	306	400374	85.11	ug/L
46)	Ethylbenzene	25.99	330	186169	79.60	ug/L
47)	Styrene	29.39	374	372222	90.99	ug/L
48)	m&p Xylenes	29.70	378	216199	155.56	ug/L
49)	O-Xylenes	30.47	388	412934	81.88	ug/L
50)	Bromofluorobenzene	28.23	359	401309	84.99	ug/L
51)	1,3-Dichlorobenzene	33.80	431	359177	79.58	ug/L
52)	1,2 &1,4-Dichlorobenzenes	35.19	449	728727M	151.14	ug/L

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >C09U1::D4 Quant Output File: ^C09U1::U2
Name: HEATED HSL CAL CHK
Misc: 100G/L

Id File: ID_CCC::QT
Title: HP VUA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910928 20:40

Operator ID: MALOS
Quant Time: 911015 10:41
Injected at: 911U15 U9:46

QUANT REPORT

Operator ID: MALUS
Output File: ^C0902::D2
Data File: >C0902::D4
Name: HEATED HSL CAL CHK
Misc: 150UG/L

Quant Rev: 6
Quant Time: 911015 12:08
Injected at: 911015 10:37
Dilution Factor: 1.00000

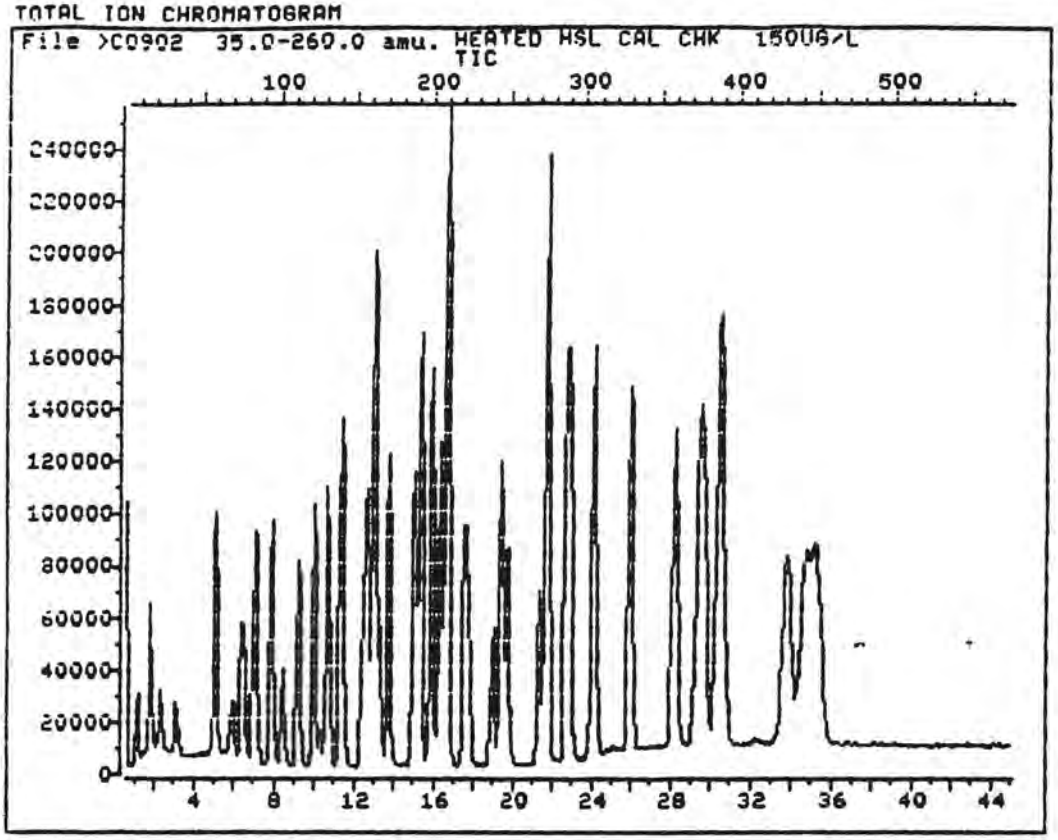
ID File: ID_CCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910928 20:40

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.43	103	66639	50.00	ug/L	9
2)	Chloromethane	1.17	9	165301	141.08	ug/L	9
3)	Bromomethane	1.79	17	167374	117.32	ug/L	9
4)	Vinyl Chloride	2.33	24	136648	111.58	ug/L	9
5)	Chloroethane	3.10	34	118118	109.99	ug/L	9
6)	Methylene Chloride	5.11	60	333863	146.83	ug/L	7
7)	Acrolein	5.96	71	46484	176.30	ug/L	6
8)	Acrylonitrile	6.58	79	103495	115.84	ug/L	94
9)	Acetone	6.04	72	106478	136.60	ug/L	98
10)	Carbon Disulfide	6.42	77	551275	128.28	ug/L	100
11)	Trichlorofluoromethane	7.04	85	599651	170.09	ug/L	91
12)	1,1-Dichloroethene	7.89	96	270963	153.53	ug/L	87
13)	1,1-Dichloroethane	9.20	113	503742	136.80	ug/L	90
14)	t-Butyl Alcohol	10.36	128	84822	127.02	ug/L	67
15)	Trans-1,2-Dichloroethene	9.98	123	277864	141.77	ug/L	97
16)	Chloroform	10.67	132	562280	140.96	ug/L	85
17)	1,2-Dichloroethane-d4	11.29	140	306999	124.51	ug/L	79
18)	1,2-Dichloroethane	11.44	142	520239	125.04	ug/L	95
19)	2-Butanone	11.37	141	229438	139.36	ug/L	89
20)	1,4-Dioxane	12.91	161	26844M	428.63	ug/L	
21)	Methyl t-Butyl Ether	12.45	155	348977	116.39	ug/L	89
22)	1,1,1-Trichloroethane	12.68	158	456634	149.24	ug/L	88
23)	Carbon Tetrachloride	13.07	163	435054	146.31	ug/L	96
24)	Vinyl Acetate	13.30	166	464868	258.60	ug/L	93
25)	Bromodichloromethane	13.76	172	545902	139.00	ug/L	86
26)	Cyclohexane	12.99	162	363351	111.45	ug/L	74
27)	*1,4-Difluorobenzene	19.01	240	264116	50.00	ug/L	68
28)	1,2-Dichloropropane	15.07	189	304984	125.93	ug/L	92
29)	cis-1,3-Dichloropropene	15.38	193	739676	224.96	ug/L	92
30)	Trichloroethene	15.92	200	348213	139.97	ug/L	88
31)	Dibromochloromethane	16.62	209	367794	144.12	ug/L	86
32)	1,1,2-Trichloroethane	16.70	210	275813	133.29	ug/L	99
33)	Benzene	16.31	205	682223	127.51	ug/L	89
34)	trans-1,3-Dichloropropene	16.70	210	156767	49.99	ug/L	94
35)	Ethylene Dibromide	17.55	221	474458	140.88	ug/L	90
36)	2-Chloroethylvinylether	17.78	224	188060	123.32	ug/L	94
37)	Bromoform	19.40	245	387135	169.33	ug/L	91
38)	*Chlorobenzene-d5	23.96	304	195152	50.00	ug/L	95
39)	2-Hexanone	21.33	270	335790	157.75	ug/L	84
40)	4-Methyl-2-Pentanone	19.79	250	432720	133.53	ug/L	87
41)	Tetrachloroethene	21.72	275	237730	137.96	ug/L	94
42)	1,1,2,2-Tetrachloroethane	21.80	276	577207	144.62	ug/L	92
43)	Toluene	22.95	291	396316	122.99	ug/L	88

	Compound	R.T.	Scan#	Area	Conc	Units
44)	Toluene-d8	22.72	288	726855	135.34	ug/L
45)	Chlorobenzene	24.11	306	566295	134.95	ug/L
46)	Ethylbenzene	25.97	330	268442	128.67	ug/L
47)	Styrene	29.45	375	552124	151.31	ug/L
48)	m&p Xylenes	29.68	378	921592	259.41	ug/L
49)	O-Xylenes	30.53	389	621283	138.10	ug/L
50)	Bromofluorobenzene	28.21	359	577361	137.08	ug/L
51)	1,3-Dichlorobenzene	33.77	431	562519	139.73	ug/L
52)	1,2 &1,4-Dichlorobenzenes	35.16	449	1148493M	267.04	ug/L

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >C0902::D4 Quant Output File: ^C0902::D2
Name: HEATED HSL CAL CHK
Misc: 150UG/L

Id File: ID_CCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910928 20:40

Operator ID: MALUS
Quant Time: 911015 12:08
Injected at: 911015 10:37

QUANT REPORT

Operator ID: MALUS Quant Rev: 6 Quant Time: 911015 13:08
Output File: ^C0903::D2 Injected at: 911015 11:35
Data File: >C0903::04 Dilution Factor: 1.00000
Name: HEATED HSL CAL CHK
Misc: 200UG/L

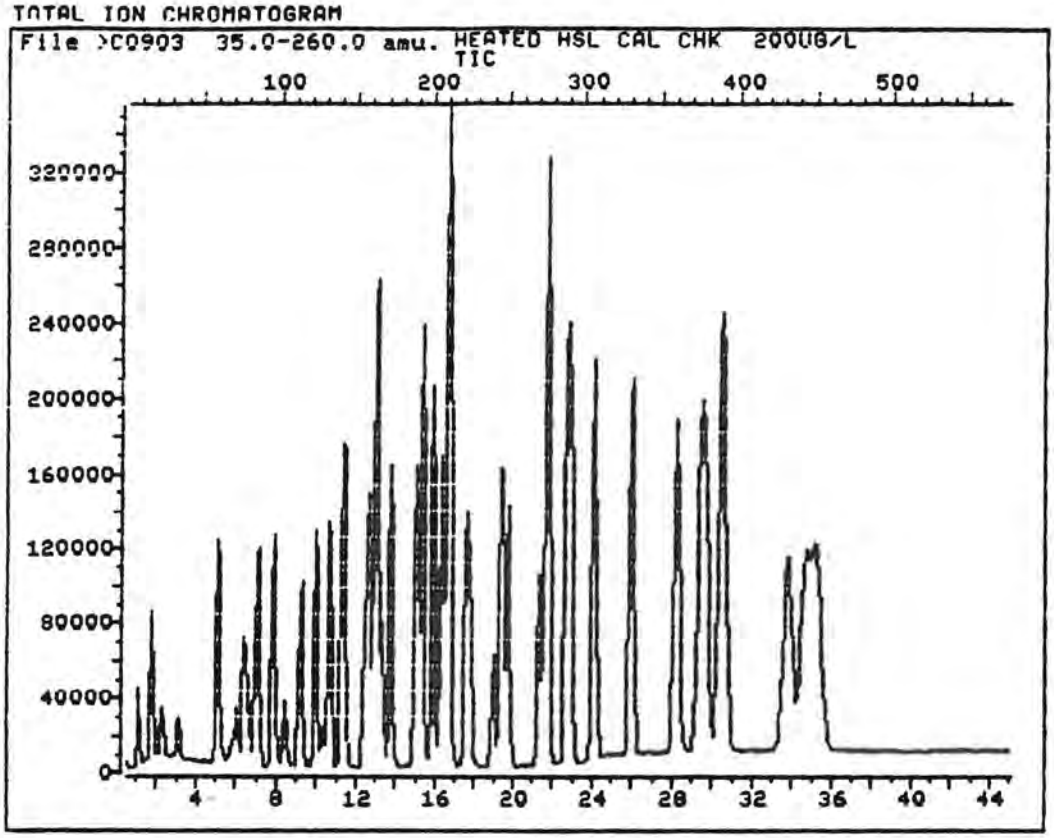
ID File: ID_CCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910928 20:40

	Compound	R.T.	Scan#	Area	Conc	Units	
1)	*Bromochloromethane	8.42	103	67034	50.00	ug/L	
2)	Chloromethane	1.16	9	223901	189.97	ug/L	
3)	Bromomethane	1.77	17	219899	153.24	ug/L	
4)	Vinyl Chloride	2.32	24	149612	121.45	ug/L	
5)	Chloroethane	3.17	35	138581	128.28	ug/L	
6)	Methylene Chloride	5.10	60	452198M	197.70	ug/L	
7)	Acrolein	5.95	71	64698M	243.94	ug/L	
8)	Acrylonitrile	6.64	80	142921	159.03	ug/L	9
9)	Acetone	6.10	73	151499	193.21	ug/L	9
10)	Carbon Disulfide	6.41	77	713018	171.15	ug/L	10
11)	Trichlorofluoromethane	7.11	86	787208	221.97	ug/L	8
12)	1,1-Dichloroethene	7.88	96	558749	202.07	ug/L	8
13)	1,1-Dichloroethane	9.27	114	639486	172.64	ug/L	9
14)	t-Butyl Alcohol	10.35	128	123426M	183.74	ug/L	
15)	Trans-1,2-Dichloroethene	9.96	123	379975	192.72	ug/L	9
16)	Chloroform	10.66	132	727558	181.51	ug/L	8
17)	1,2-Dichloroethane-d4	11.35	141	408764	164.81	ug/L	8
18)	1,2-Dichloroethane	11.43	142	424279	164.69	ug/L	9
19)	2-Butanone	11.43	142	333893	201.61	ug/L	9
20)	1,4-Dioxane	12.97	162	58533M	611.65	ug/L	
21)	Methyl t-Butyl Ether	12.43	155	443845	147.16	ug/L	9
22)	1,1,1-Trichloroethane	12.67	158	608272	197.63	ug/L	8
23)	Carbon Tetrachloride	13.05	163	579772	193.84	ug/L	9
24)	Vinyl Acetate	13.36	167	708836	392.00	ug/L	9
25)	Bromodichloromethane	13.75	172	731040	185.04	ug/L	8
26)	Cyclohexane	12.97	162	479994M	146.56	ug/L	
27)	*1,4-Difluorobenzene	19.00	240	295349	50.00	ug/L	6
28)	1,2-Dichloropropane	15.06	189	410850	151.70	ug/L	9
29)	cis-1,3-Dichloropropene	15.37	193	981549	266.96	ug/L	9
30)	Trichloroethene	15.91	200	459043	165.01	ug/L	9
31)	Dibromochloromethane	16.61	209	512609	179.63	ug/L	8
32)	1,1,2-Trichloroethane	16.76	211	391851	169.35	ug/L	9
33)	Benzene	16.37	206	912673	152.55	ug/L	8
34)	trans-1,3-Dichloropropene	16.68	210	224558	64.03	ug/L	9
35)	Ethylene Dibromide	17.53	221	679771	180.50	ug/L	8
36)	2-Chloroethylvinylether	17.76	224	302671	177.48	ug/L	9
37)	Bromoform	19.39	245	552722	216.19	ug/L	9
38)	*Chlorobenzene-d5	24.02	305	214735	50.00	ug/L	9
39)	2-Hexanone	21.32	270	533682	227.85	ug/L	8
40)	4-Methyl-2-Pentanone	19.77	250	641913	180.01	ug/L	9
41)	Tetrachloroethene	21.70	275	352045	185.66	ug/L	9
42)	1,1,2,2-Tetrachloroethane	21.78	276	863504	196.62	ug/L	8
43)	Toluene	22.94	291	544305	153.51	ug/L	8

	Compound	R.T.	Scan#	Area	Conc	Units
44)	Toluene-d8	22.71	288	1054812	178.50	ug/L
45)	Chlorobenzene	24.10	306	806949	174.76	ug/L
46)	Ethylbenzene	25.95	330	596422	172.69	ug/L
47)	Styrene	29.43	375	793188M	197.54	ug/L
48)	m&p Xylenes	29.66	378	453696	332.57	ug/L
49)	O-Xylenes	30.51	389	879801	177.74	ug/L
50)	Bromofluorobenzene	28.27	360	856321	184.78	ug/L
51)	1,3-Dichlorobenzene	33.76	431	808556	182.53	ug/L
52)	1,2 &1,4-Dichlorobenzenes	35.15	449	1678412M	354.66	ug/L

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >C0903::D4 Quant Output File: ^C0903::D2
Name: HEATED HSL CAL CHK
Misc: 200UG/L

Id File: ID_CCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 910928 20:40

Operator ID: MALOS
Quant Time: 911015 13:08
Injected at: 911015 11:35

QUANT REPORT

Operator ID: MALUS Quant Rev: 6 Quant Time: 911104 22:08
Output File: ?C12?3::D2 Injected at: 911104 21:23
Data File: ?C12?3::D4 Dilution Factor: 1.00000
Name: HEATED HSL CAL CHK
Misc: 50 UG/L

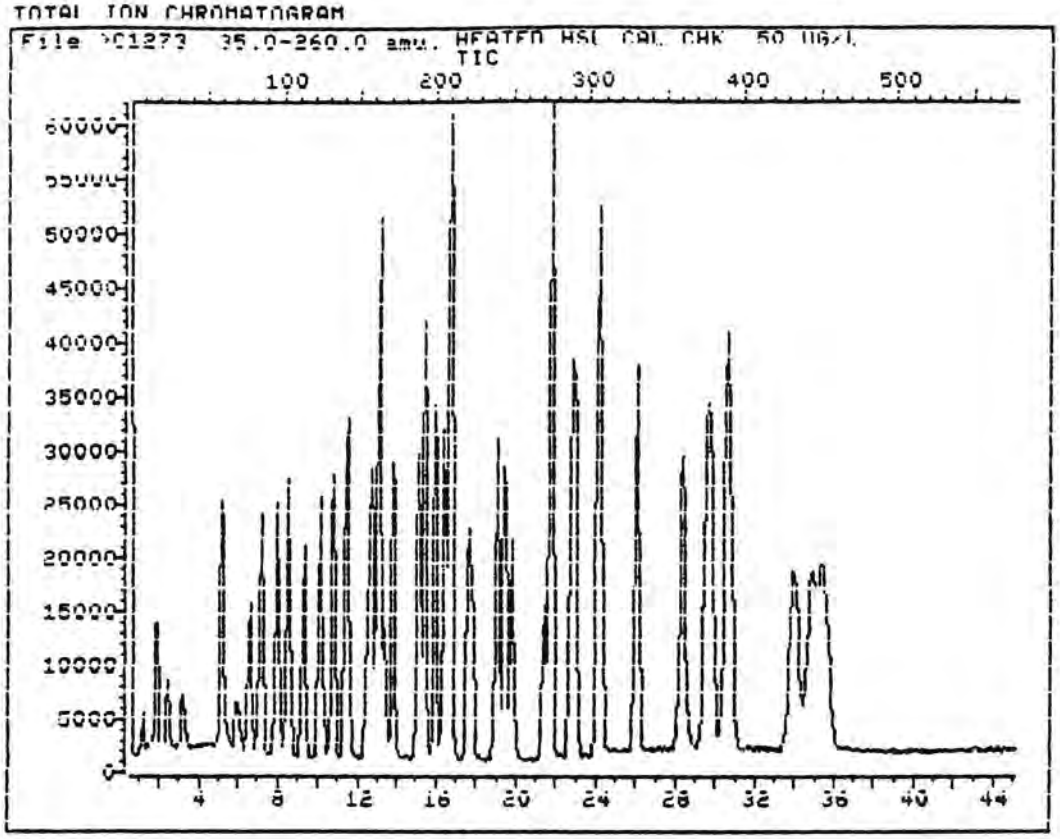
ID File: ID_CCC::WI
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 13:35

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.51	104	44014	50.00	ug/L	90
2)	Chloromethane	1.17	9	18616M	25.10	ug/L	94
3)	Bromomethane	1.87	18	46347	56.77	ug/L	96
4)	Vinyl Chloride	2.41	25	33522	47.75	ug/L	97
5)	Chloroethane	3.18	35	31123	55.42	ug/L	99
6)	Methylene Chloride	5.11	60	79159	49.86	ug/L	74
7)	Acrolein	6.04	72	9773M	44.81	ug/L	
8)	Acrylonitrile	6.58	79	23331	52.85	ug/L	93
9)	Acetone	5.88	70	25744	48.56	ug/L	97
10)	Carbon Disulfide	6.58	79	101336	42.39	ug/L	100
11)	Trichlorofluoromethane	7.12	86	142566	52.84	ug/L	99
12)	1,1-Dichloroethene	7.97	97	57372	47.10	ug/L	92
13)	1,1-Dichloroethane	9.28	114	115324	51.79	ug/L	92
14)	t-Butyl Alcohol	10.20	126	20962	49.97	ug/L	69
15)	trans-1,2-Dichloroethene	10.05	124	58388	46.64	ug/L	90
16)	Chloroform	10.75	133	129114	51.89	ug/L	93
17)	1,2-Dichloroethane-d4	11.36	141	74447	53.77	ug/L	93
18)	1,2-Dichloroethane	11.44	142	84117	58.53	ug/L	96
19)	2-Butanone	11.36	141	51806	52.24	ug/L	88
20)	1,4-Dioxane	12.91	161	4976M	138.45	ug/L	
21)	Methyl t-Butyl Ether	12.44	155	79063	49.27	ug/L	95
22)	1,1,1-Trichloroethane	12.68	158	101551	49.89	ug/L	79
23)	Carbon Tetrachloride	13.06	163	100786	52.19	ug/L	94
24)	Vinyl Acetate	13.37	167	108152	49.46	ug/L	98
25)	Bromodichloromethane	13.76	172	125046	51.01	ug/L	87
26)	Cyclohexane	13.06	163	82805	50.07	ug/L	79
27)	*1,4-Difluorobenzene	19.01	240	158922	50.00	ug/L	68
28)	1,2-Dichloropropane	15.07	189	66308	55.37	ug/L	89
29)	cis-1,3-Dichloropropene	15.38	193	157485	88.35	ug/L	96
30)	Trichloroethene	15.92	200	73842	56.75	ug/L	95
31)	Dibromochloromethane	16.61	209	81581	57.32	ug/L	98
32)	1,1,2-Trichloroethane	16.77	211	61256	54.50	ug/L	94
33)	Benzene	16.38	206	155484	55.60	ug/L	91
34)	trans-1,3-Dichloropropene	16.69	210	30917	19.50	ug/L	94
35)	Ethylene Dibromide	17.62	222	100133	53.10	ug/L	99
36)	2-Chloroethylvinylether	17.77	224	42633	59.63	ug/L	93
37)	Bromoform	19.39	245	91314	59.34	ug/L	97
38)	*Chlorobenzene-d5	24.03	305	125812	50.00	ug/L	93
39)	2-Hexanone	21.40	271	80866	56.60	ug/L	86
40)	4-Methyl-2-Pentanone	19.78	250	111678	61.44	ug/L	85
41)	Tetrachloroethene	21.71	275	60166	59.75	ug/L	95
42)	1,1,2,2-Tetrachloroethane	21.79	276	132770	51.27	ug/L	91
43)	Toluene	22.94	291	95421	54.04		

	Compound	R.T.	Scan#	Area	Conc	Units	q
44)	Toluene-d8	22.79	289	156254	49.42	ug/L	99
45)	Chlorobenzene	24.18	307	129527	54.48	ug/L	91
46)	Ethylbenzene	26.03	331	622972	54.55	ug/L	95
47)	Styrene	29.51	376	121819	54.42	ug/L	75
48)	m&p Xylenes	29.74	379	726779	109.39	ug/L	96
49)	o-Xylenes	30.59	390	145146	56.50	ug/L	90
50)	Bromofluorobenzene	28.35	361	113354	46.15	ug/L	94
51)	1,3-Dichlorobenzene	33.99	434	126076	56.51	ug/L	97
52)	1,2 &1,4-Dichlorobenzenes	35.38	452	2655234	114.65	ug/L	98

* Compound is ISTD

TOTAL ION CHROMATOGRAM



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Name: HEATED HSL CAL CHK
Misc: 50 UG/L

Id File: ID_CCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 13:35

Operator ID: MALUS
Quant Time: 911104 22:08
Injected at: 911104 21:23

QUANT REPORT

Operator ID: MALOS
Output File: >C1244::D4
Data File: >C1244::D2
Name: HEATED HSL CAL CHK
Misc: 50UG/L

Quant Rev: 6 Quant Time: 911101 11:41
Injected at: 911101 10:56
Dilution Factor: 1.00000

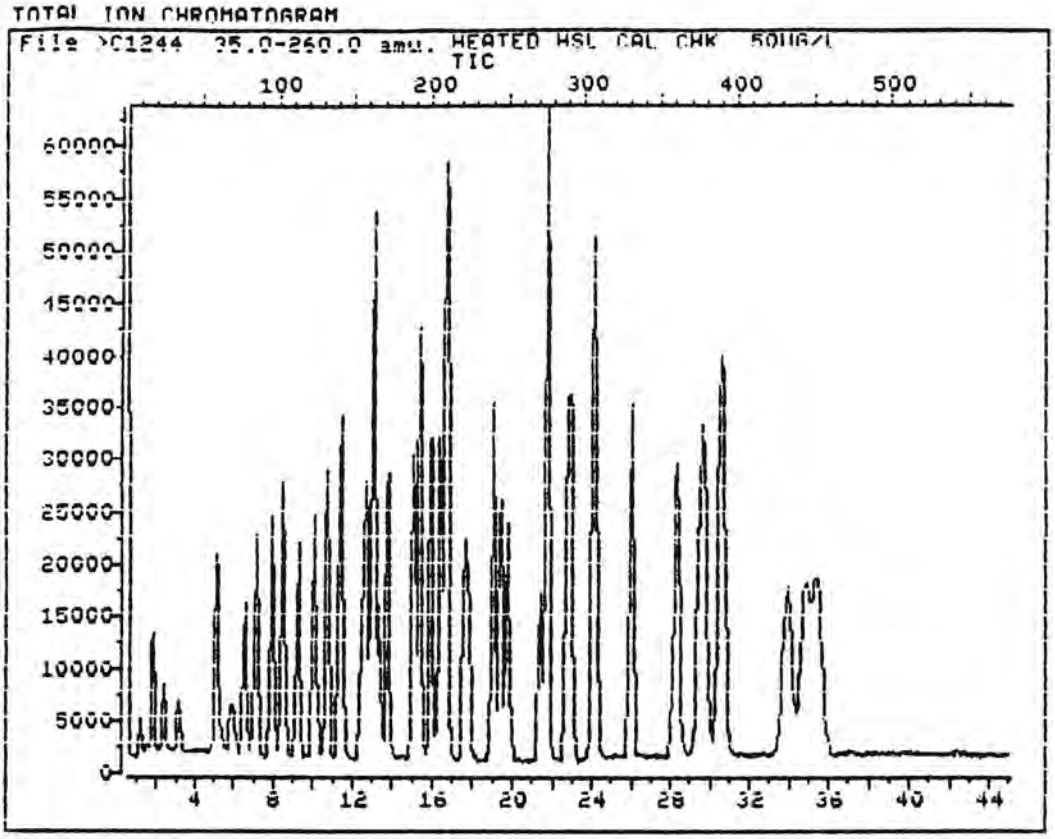
ID File: ID_CCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 15:35

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.49	104	42570	50.00	ug/L	9
2)	Chloromethane	1.15	9	21477	29.93	ug/L	91
3)	Bromomethane	1.85	18	41641	52.73	ug/L	87
4)	Vinyl Chloride	2.39	25	36687	54.03	ug/L	98
5)	Chloroethane	3.16	35	29662	54.61	ug/L	97
6)	Methylene Chloride	5.09	60	64085	41.73	ug/L	80
7)	Acrolein	6.02	72	9708M	46.02	ug/L	
8)	Acrylonitrile	6.56	79	24576	57.56	ug/L	97
9)	Acetone	5.86	70	26257	55.52	ug/L	95
10)	Carbon Disulfide	6.56	79	101860	44.06	ug/L	100
11)	Trichlorofluoromethane	7.10	86	131745	50.49	ug/L	98
12)	1,1-Dichloroethene	7.95	97	54388	46.17	ug/L	93
13)	1,1-Dichloroethane	9.26	114	116831	54.24	ug/L	94
14)	t-Butyl Alcohol	10.26	127	19625	48.37	ug/L	88
15)	Trans-1,2-Dichloroethene	10.03	124	56649	46.79	ug/L	89
16)	Chloroform	10.73	133	129383	53.76	ug/L	93
17)	1,2-Dichloroethane-d4	11.34	141	66297	49.50	ug/L	92
18)	1,2-Dichloroethane	11.50	143	85448	61.48	ug/L	99
19)	2-Butanone	11.42	142	59651	62.19	ug/L	99
20)	1,4-Dioxane	12.89	161	6130M	176.34	ug/L	
21)	Methyl t-Butyl Ether	12.50	156	75321	48.53	ug/L	87
22)	1,1,1-Trichloroethane	12.66	158	94852	48.18	ug/L	77
23)	Carbon Tetrachloride	13.04	163	96760	51.80	ug/L	96
24)	Vinyl Acetate	13.35	167	122023	57.69	ug/L	96
25)	Bromodichloromethane	13.81	173	123407	52.05	ug/L	89
26)	Cyclohexane	13.04	163	89065	55.68	ug/L	87
27)	*1,4-Difluorobenzene	19.06	241	162210	50.00	ug/L	67
28)	1,2-Dichloropropane	15.05	189	67585	55.30	ug/L	93
29)	cis-1,3-Dichloropropene	15.36	193	163141	89.67	ug/L	92
30)	Trichloroethene	15.90	200	69816	52.57	ug/L	95
31)	Dibromochloromethane	16.67	210	77196	53.14	ug/L	97
32)	1,1,2-Trichloroethane	16.75	211	61136	53.30	ug/L	92
33)	Benzene	16.36	206	159448	55.86	ug/L	93
34)	trans-1,3-Dichloropropene	16.75	211	28869	17.84	ug/L	92
35)	Ethylene Dibromide	17.60	222	97088	50.44	ug/L	97
36)	2-Chloroethylvinylether	17.75	224	45484	62.33	ug/L	96
37)	Bromoform	19.45	246	81857	52.11	ug/L	95
38)	*Chlorobenzene-d5	24.08	306	123455	50.00	ug/L	93
39)	2-Hexanone	21.38	271	89531	63.86	ug/L	86
40)	4-Methyl-2-Pentanone	19.76	250	123850	69.44	ug/L	83
41)	Tetrachloroethene	21.69	275	55861	56.53	ug/L	95
42)	1,1,2,2-Tetrachloroethane	21.77	276	133620	52.58	ug/L	90
43)	Toluene	23.00	292	93908	54.77	ug/L	91

	Compound	R.T.	Scan#	Area	Conc	Units
44)	Toluene-d8	22.77	289	149191	48.08	ug/L
45)	Chlorobenzene	24.16	307	121778	52.28	ug/L
46)	Ethylbenzene	26.01	331	58825	52.31	ug/L
47)	Styrene	29.49	376	118085	53.76	ug/L
48)	m&p Xylenes	29.72	379	69141	106.05	ug/L
49)	o-Xylenes	30.57	390	136262	54.81	ug/L
50)	Bromofluorobenzene	28.33	361	117515	48.75	ug/L
51)	1,3-Dichlorobenzene	33.97	434	118022	53.91	ug/L
52)	1,2 &1,4-Dichlorobenzenes	35.28	451	245655M	108.10	ug/L

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >C1244::D2 Quant Output File: ^C1244::D4
Name: HEATED HSL CAL CHK
Misc: 50UG/L

Id File: ID_CCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 13:35

Operator ID: MALOS
Quant Time: 911101 11:41
Injected at: 911101 10:56

H. RAW QC DATA PACKAGE

1. Volatile Organics by GC/MS (Continued)

a. BFB Spectra and Mass Listing

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

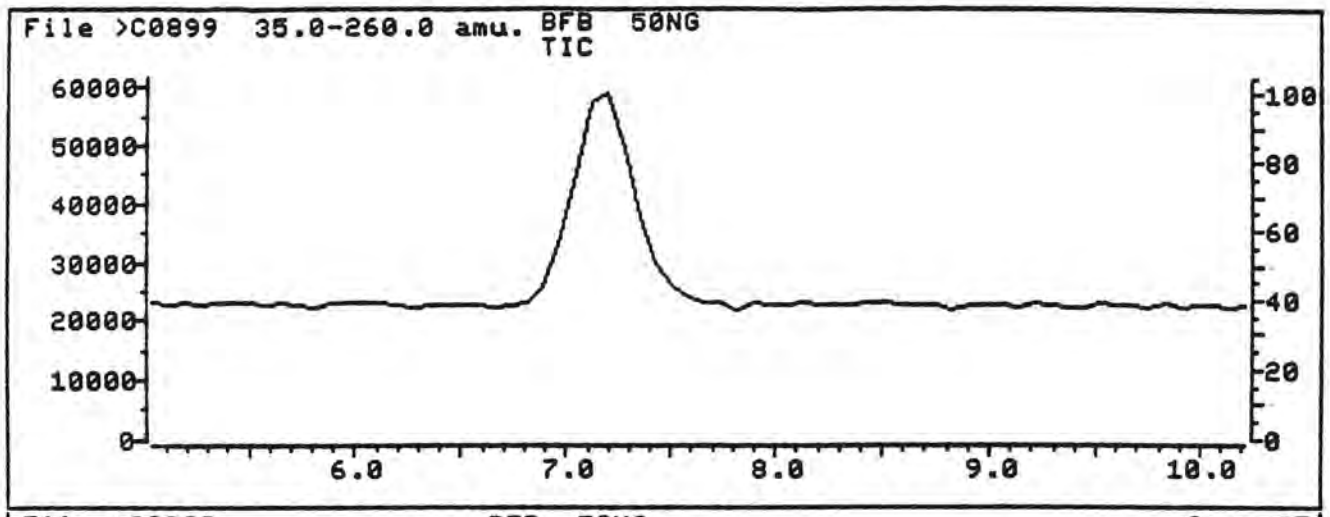
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	18.47	18.47	Ok
75	30-60% of mass 95	48.90	48.90	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.07	8.07	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	50.32	50.32	Ok
175	5-9% of mass 174	3.83	7.61	Ok
176	95-101% of mass 174	49.80	98.97	Ok
177	5-9% of mass 176	3.47	6.96	Ok

Injection Date: 10/15/91
Injection Time: 07:59
Data File: >C0899
Scan: 87

>C0899 BFB 50NG
87 NRM

File: >C0899 Scan #: 87 Retn. time: 7.20

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.10	.976	64.00	.732	90.00	.335	118.00	.447	154.10	.376
37.00	4.899	65.10	1.707	91.10	2.419	118.90	1.860	155.10	.366
38.10	4.431	66.00	.722	92.00	4.370	120.00	2.145	156.90	.396
39.10	3.527	67.10	3.374	92.90	4.726	121.00	1.098	159.10	.396
40.00	8.985	68.00	9.838	94.00	10.875	125.10	.803	161.10	.346
41.10	9.015	69.00	14.432	95.00	100.000	126.10	.325	163.00	.783
42.00	2.287	70.10	4.442	96.10	8.070	127.00	.518	164.80	.274
43.10	12.054	71.10	5.519	97.10	4.065	127.90	.498	165.90	.142
44.00	10.641	72.10	1.291	98.10	1.789	129.00	.833	166.90	.295
45.10	12.420	73.00	8.355	99.00	.976	129.90	.386	171.20	.244
46.10	.539	74.00	15.388	100.00	.437	131.00	.711	173.90	50.320
47.10	1.829	75.00	48.897	101.00	.620	133.10	.894	174.90	3.832
47.80	.478	76.00	4.553	101.90	.244	134.00	.305	175.90	49.802
49.00	3.720	77.10	1.840	103.00	.681	135.10	.671	176.90	3.466
50.00	18.467	77.80	.844	104.00	.742	137.00	3.273	177.90	.274
51.00	4.818	78.00	.864	105.10	1.311	138.00	.366	182.20	.152
53.10	.966	79.00	3.791	106.10	.783	139.00	.335	185.20	.386
54.00	1.565	80.00	1.474	109.10	1.291	140.90	1.270	191.10	.427
55.10	9.533	81.00	5.387	110.00	.894	143.00	1.006	199.10	.112
56.10	5.011	82.10	2.571	111.10	1.748	144.10	.152	207.10	.498
57.10	11.475	83.00	5.438	112.10	.650	145.00	.468	211.00	.132
58.10	3.222	84.00	2.866	113.00	.833	147.00	.874	215.10	.183
59.10	1.433	85.00	3.191	114.00	.213	148.00	.407	222.10	.112
60.00	2.429	85.90	1.199	115.00	.762	149.00	1.220	236.00	.163
61.00	4.492	87.00	7.531	116.00	.579	150.00	1.067	247.20	.193
62.00	4.269	88.00	6.068	117.00	.894	151.10	.925	255.10	.102
63.00	4.340	89.10	3.313						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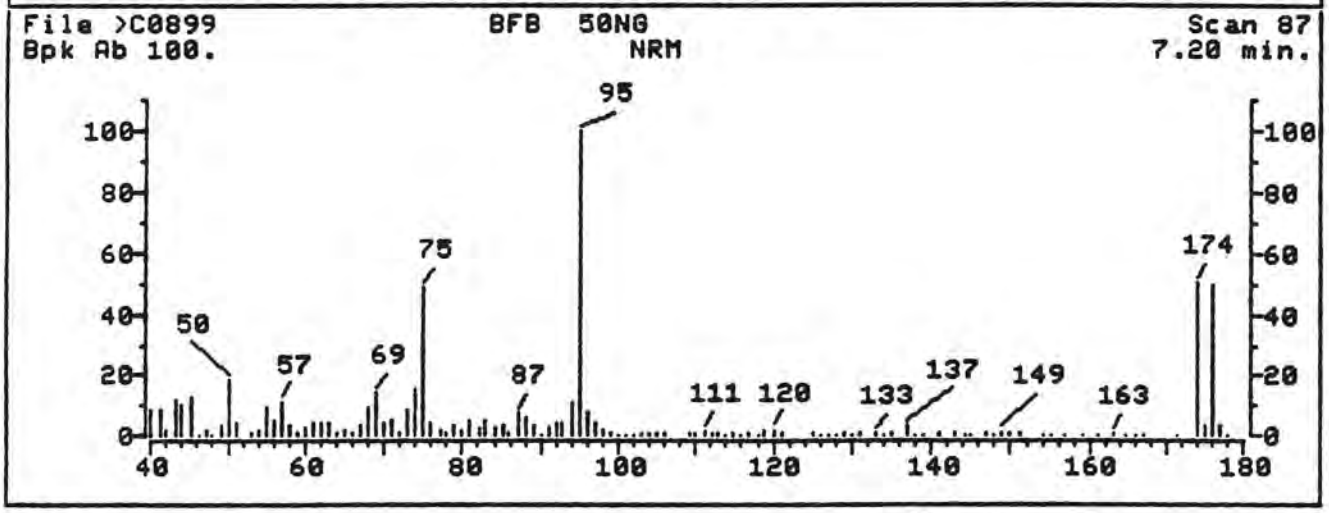
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149
163
100
80
60
40
20
0
40
60
80
100
120
140
160
180

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

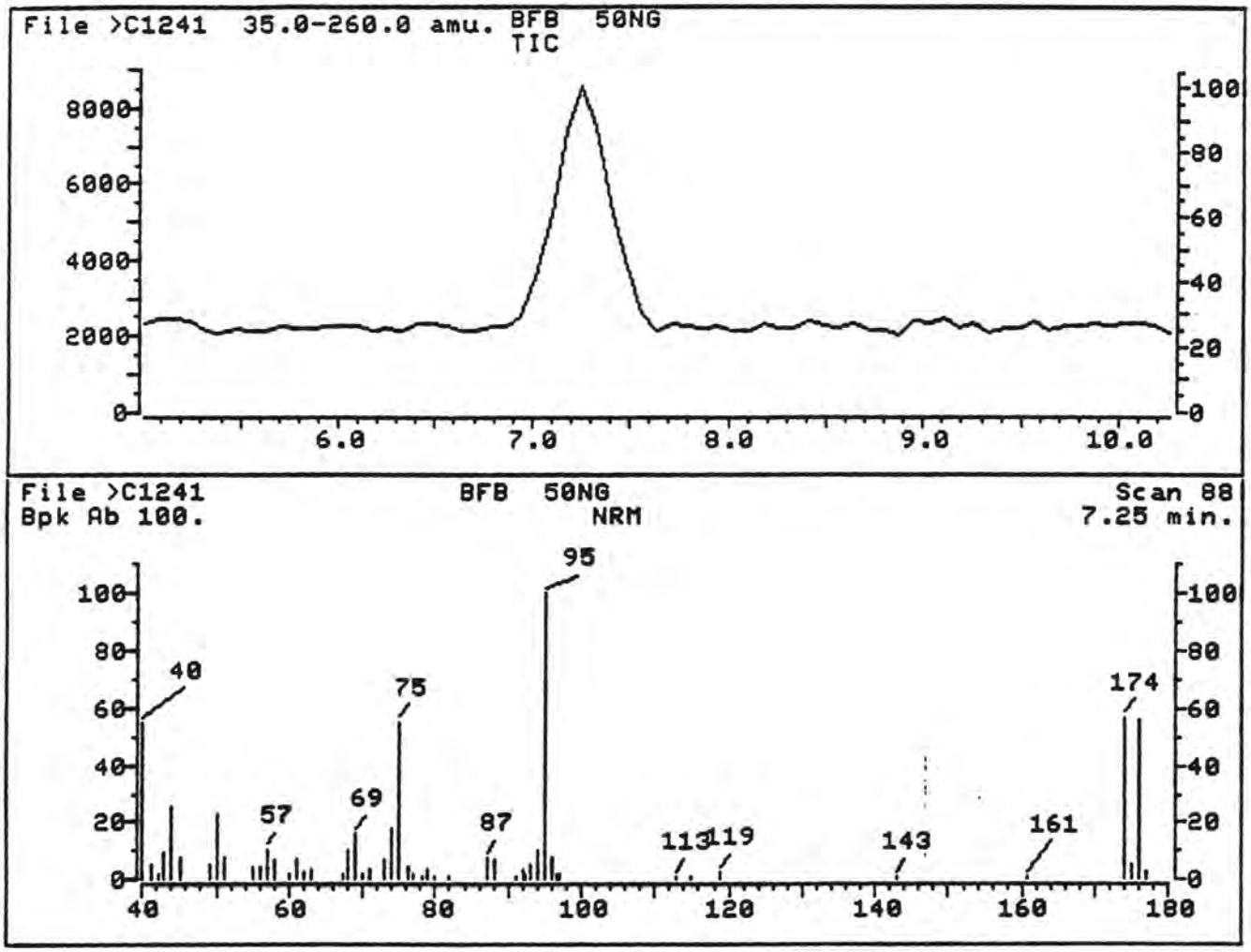
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.84	22.84	Ok
75	30-60% of mass 95	55.08	55.08	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.38	7.38	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	56.62	56.62	Ok
175	5-9% of mass 174	4.87	8.61	Ok
176	95-101% of mass 174	55.64	98.28	Ok
177	5-9% of mass 176	3.13	5.63	Ok

Injection Date: 11/01/91
Injection Time: 08:10
Data File: >C1241
Scan: 88

>C1241 BFB 50NG
88 NRM

File: >C1241 Scan #: 88 Retn. time: 7.25

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.00	2.646	51.00	7.451	69.00	15.877	81.90	1.462	97.00	1.741
36.90	5.014	55.10	4.596	70.10	2.159	87.00	7.521	112.80	.905
38.90	3.969	56.10	4.039	70.90	3.830	88.00	7.173	115.00	.696
40.00	54.526	57.00	10.306	73.00	7.033	91.00	1.323	118.90	2.507
41.10	5.153	58.00	7.242	74.00	17.967	92.00	3.482	142.80	1.045
42.10	2.089	60.20	2.298	75.00	55.084	92.40	2.228	160.90	.836
43.00	9.401	61.00	6.825	76.10	4.805	93.10	4.875	174.00	56.616
44.00	25.627	62.10	3.134	76.90	2.019	94.00	10.097	174.80	4.875
45.10	7.521	62.90	3.482	78.30	.975	95.00	100.000	175.90	55.641
49.00	5.084	67.20	1.950	78.90	3.343	96.10	7.382	177.00	3.134
50.10	22.841	68.00	10.446	79.90	1.114	96.80	1.741		


File >C1241 35.0-260.0 amu. BFB 50NG
TIC
8000
6000
4000
2000
0
100
80
60
40
20
0
6.0
7.0
8.0
9.0
10.0
File >C1241
Bpk Ab 100.
BFB 50NG
NRM
Scan 88
7.25 min.
95
40
75
174
57
69
87
113
119
143
161
100
80
60
40
20
0
40
60
80
100
120
140
160
180

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

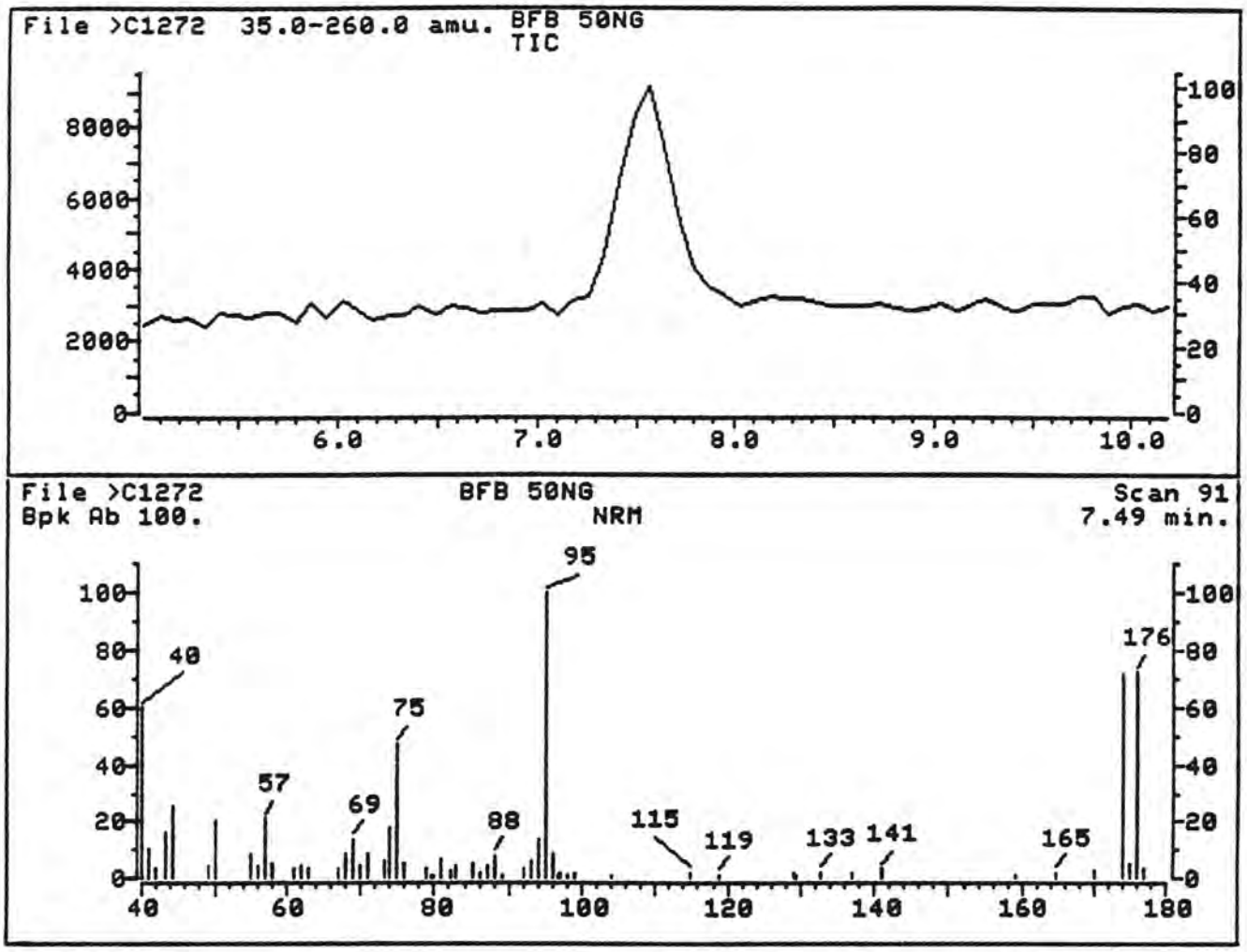
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	20.66	20.66	Ok
75	30-60% of mass 95	47.05	47.05	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.80	8.80	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	71.67	71.67	Ok
175	5-9% of mass 174	5.33	7.43	Ok
176	95-101% of mass 174	72.07	100.56	Ok
177	5-9% of mass 176	3.95	5.49	Ok

Injection Date: 11/04/91
Injection Time: 20:57
Data File: >C1272
Scan: 91

>C1272 BFB 50NG
91 NRM

File: >C1272 Scan #: 91 Retn. time: 7.49

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.00	4.278	58.10	5.650	78.90	3.551	93.00	5.892	129.40	.888
38.10	6.215	61.00	3.471	79.50	1.291	94.00	13.721	132.80	2.260
38.80	3.390	62.00	4.600	80.00	1.453	95.00	100.000	137.00	1.937
40.00	59.726	62.90	3.228	80.90	7.264	96.00	8.797	141.00	3.390
41.00	10.331	67.10	3.874	82.10	2.341	96.80	1.453	159.20	1.130
42.00	3.551	68.10	8.959	82.80	4.036	97.10	2.260	164.80	2.018
43.10	16.546	69.10	14.044	85.10	5.004	98.00	1.049	170.00	2.663
44.10	25.182	70.10	4.681	86.10	1.856	99.10	1.695	173.90	71.671
49.10	4.197	71.10	8.636	87.00	4.681	104.00	1.049	175.00	5.327
50.00	20.662	73.10	6.053	88.00	7.990	114.80	2.098	175.90	72.074
55.10	8.878	74.00	18.241	89.10	1.049	118.90	1.130	176.90	3.955
56.10	4.762	75.00	47.054	92.00	3.551	129.00	2.018	206.90	2.179
57.00	21.065	76.00	5.165						


File >C1272 35.0-260.0 amu. BFB 50NG
TIC
8000
6000
4000
2000
0
100
80
60
40
20
0
6.0
7.0
8.0
9.0
10.0
File >C1272
Bpk Ab 100.
BFB 50NG
NRM
Scan 91
7.49 min.
100
80
60
40
20
0
40
57
69
75
88
95
115
119
133
141
165
176
40
60
80
100
120
140
160
180

Roux Associates, Inc.
Test Report No. NAC91L-3336
Certification No. 03117
November 22, 1991

H. RAW QC DATA PACKAGE (Continued)

1. Volatile Organics by GC/MS (Continued)

b. Method Blank Chromatograms, Quantitation Reports and Mass Spectra

NORTHEASTERN ANALYTICAL CORPORATION

VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:METHOD BLANK | LAB FILE ID:>C1245

DATE RECEIVED:NA | DATE ANALYZED:911101

SAMPLE WT/VOL:5.0ML | LEVEL:LOW

CAS NO.		MDL	CONC. ug/
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
107-02-8	Acrolein	20	U
107-13-1	Acrylonitrile	20	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	Trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
110-75-8	2-Chloroethylvinylether	10	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-02-7	m&p Xylenes	10	U
110-75-8	O-Xylenes	5	U

U; Not Detected

QUANT REPORT

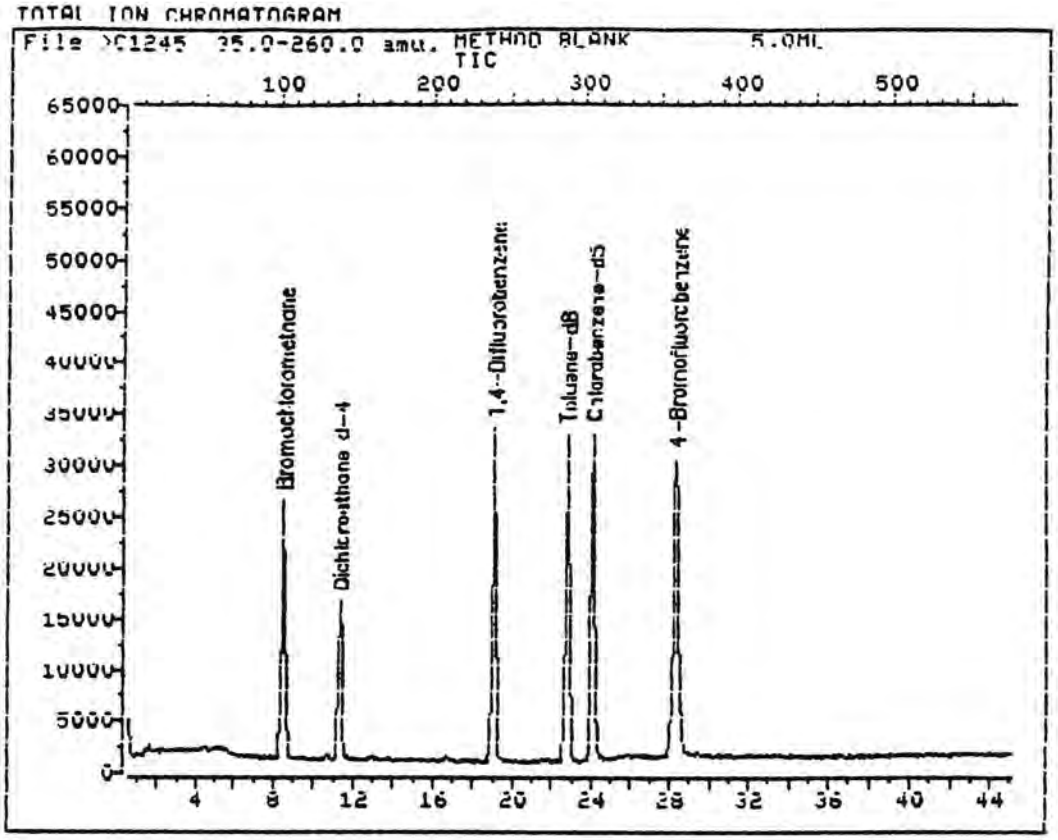
Operator ID: MALUS Quant Rev: 6 Quant Time: 911101 13:04
Output File: >C1245::D4 Injected at: 911101 12:00
Data File: >C1245::D2 Dilution Factor: 1.00000
Name: METHOD BLANK
Misc: 5.0ML

ID File: ID_CCC::WT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 13:35

	Compound	R.T.	Scan#	Area	Conc	Units	c
1)	*Bromochloromethane	8.49	104	39547	50.00	ug/L	8
17)	1,2-Dichloroethane-d4	11.34	141	64229	51.63	ug/L	9
27)	*1,4-Difluorobenzene	19.06	241	149408	50.00	ug/L	6
38)	*Chlorobenzene-d5	24.08	306	116854	50.00	ug/L	9.
44)	Toluene-d8	22.77	289	151616	51.62	ug/L	9(
50)	Bromofluorobenzene	28.32	361	122091	53.51	ug/L	9(

* Compound is ISTD

TOTAL ION CHROMATOGRAM

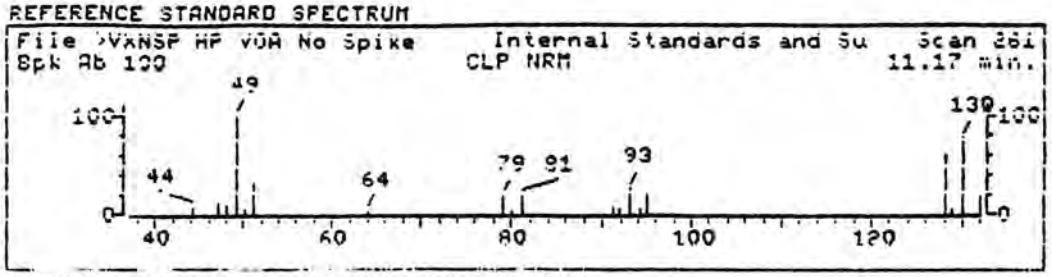


Data File: >C1245::D2 Quant Output File: ^C1245::D4
Name: METHOD BLANK
Misc: 5.0ML

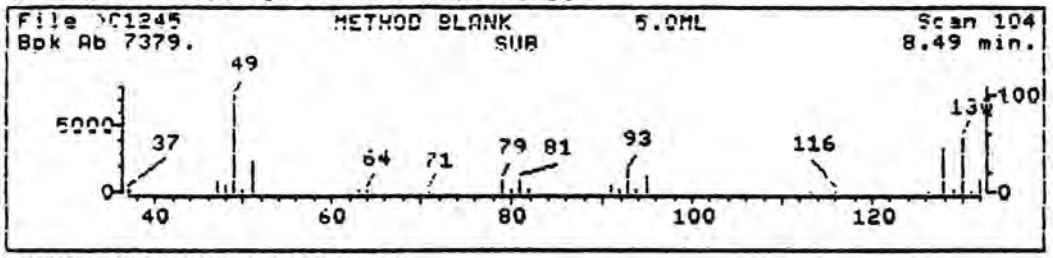
Id File: ID_CCC::QT
Title: HP VOA Standards For 5 Point Calibration Curve Rev. E
Last Calibration: 911015 13:35

Operator ID: MALUS
Quant Time: 911101 13:04
Injected at: 911101 12:00

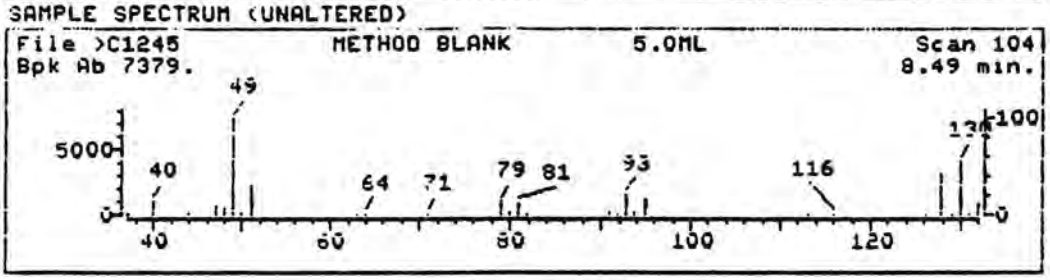
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



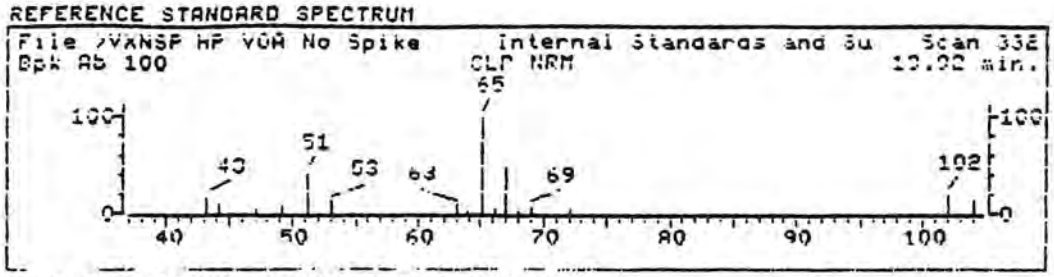
SAMPLE SPECTRUM (UNALTERED)



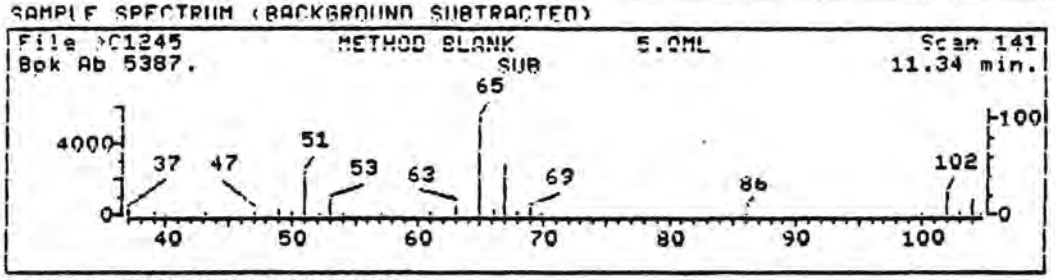
Data File: >C1245::D2 Quant Output File: ^C1245::D4
Name: METHOD BLANK
Misc: 5.0ML
Quant Time: 911101 13:04 Quant ID File: ID_CCC::WI
Injected at: 911101 12:00 Last Calibration: 911015 13:35

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 104
Retention Time: 8.49 min.
Quant Ion: 128.0
Area: 39547
Concentration: 50.00 ug/L
q-value: 80

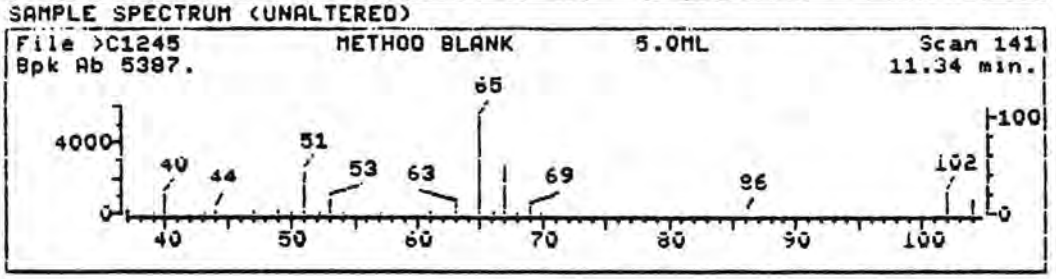
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



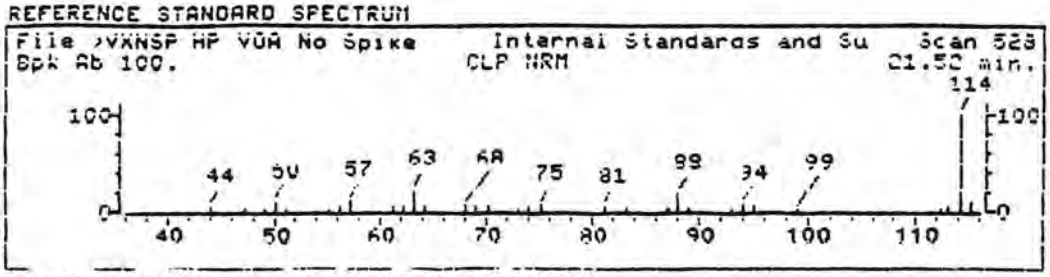
SAMPLE SPECTRUM (UNALTERED)



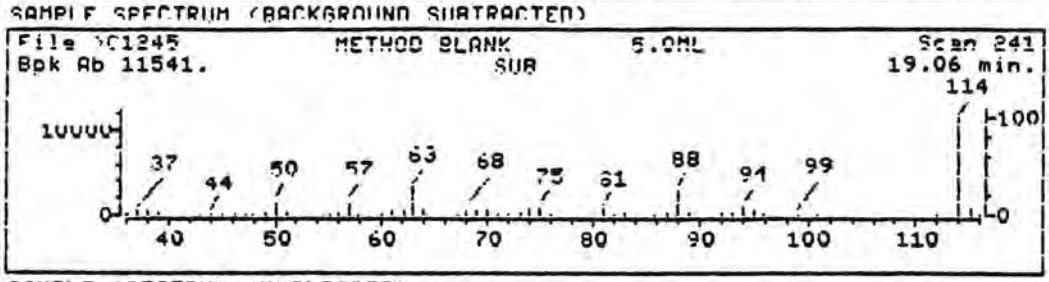
Data File: >C1245::D2 Quant Output File: ^C1245::D4
Name: METHOD BLANK
Misc: 5.0ML
Quant Time: 911101 13:04 Quant ID File: ID_CCC::QT
Injected at: 911101 12:00 Last Calibration: 911015 13:35

Compound No: 17
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 141
Retention Time: 11.34 min.
Quant Ion: 65.0
Area: 64229
Concentration: 51.63 ug/L
q-value: 98

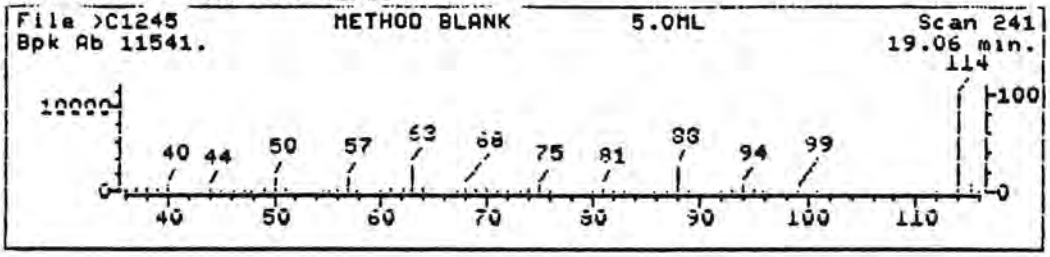
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



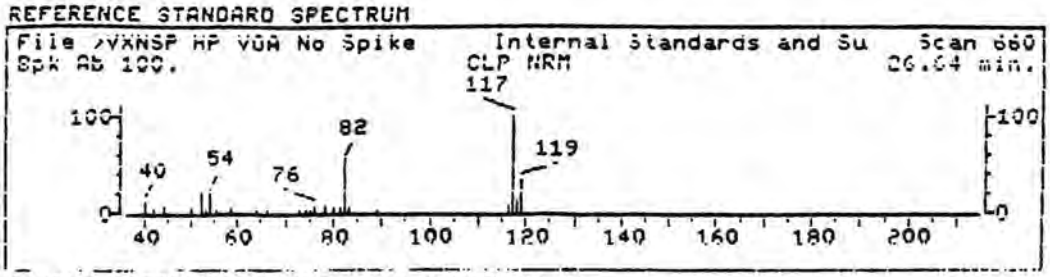
SAMPLE SPECTRUM (UNALTERED)



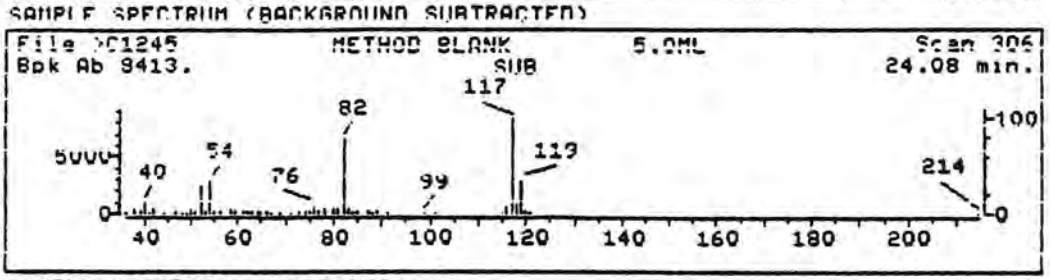
Data File: >C1245::D2 Quant Output File: ^C1245::D4
Name: METHOD BLANK
Misc: 5.0ML
Quant Time: 911101 13:04 Quant ID File: ID_CCC::QT
Injected at: 911101 12:00 Last Calibration: 911015 13:35

Compound No: 27 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 241
Retention Time: 19.06 min.
Quant Ion: 114.0
Area: 149408
Concentration: 50.00 ug/L
q-value: 68

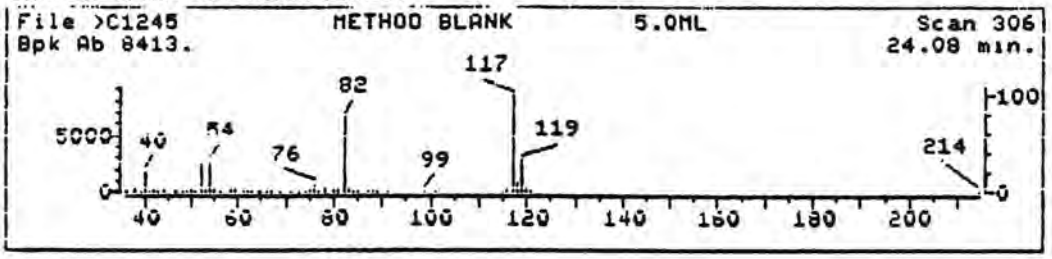
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



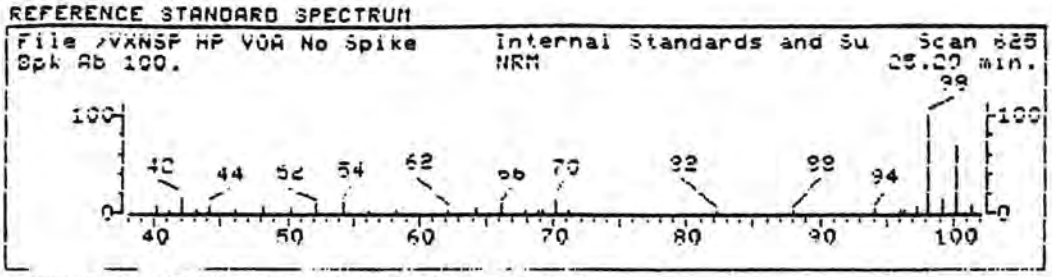
Data File: >C1245::D2
Name: METHOD BLANK
Misc: 5.0ML
Quant Time: 911101 13:04
Injected at: 911101 12:00

Quant Output File: ^C1245::D4

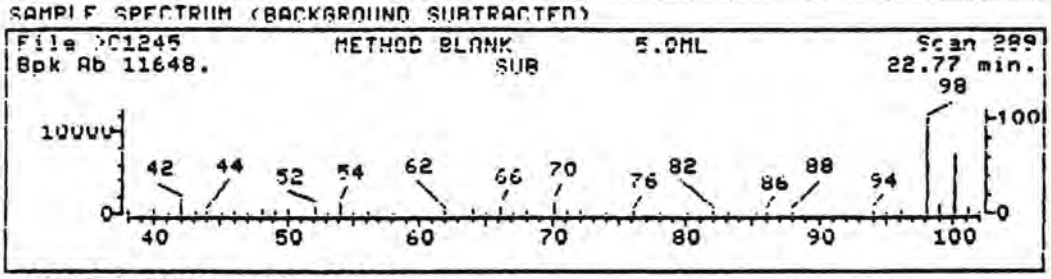
Quant ID File: ID_CCC::WT
Last Calibration: 911015 13:35

Compound No: 38 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 306
Retention Time: 24.08 min.
Quant Ion: 117.0
Area: 116854
Concentration: 50.00 ug/L
q-value: 97

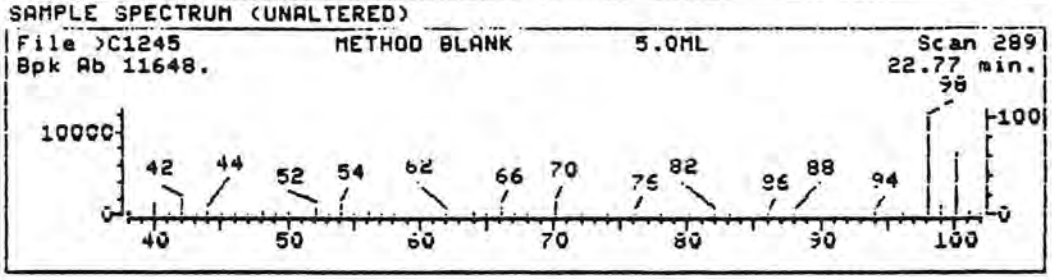
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



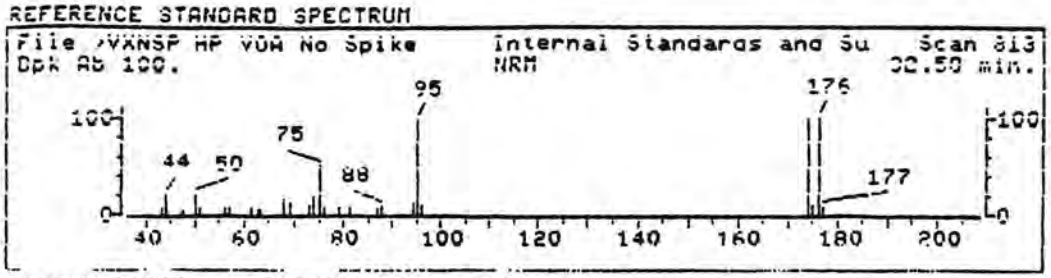
Data File: >C1245::D2
Name: METHOD BLANK
Misc: 5.0ML
Quant Time: 911101 13:04
Injected at: 911101 12:00

Quant Output File: ^C1245::D4

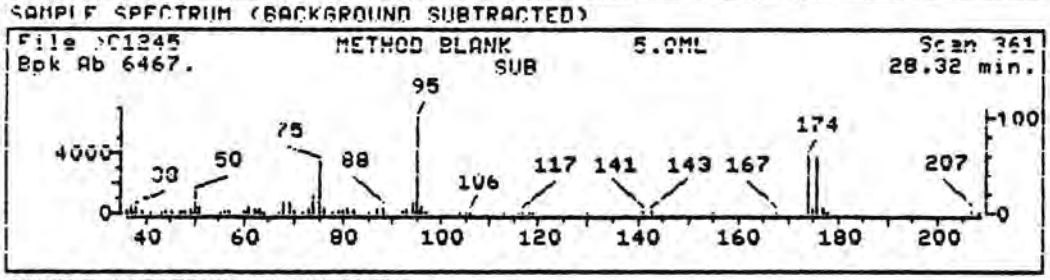
Quant ID File: ID_CCC::W1
Last Calibration: 911015 13:35

Compound No: 44
Compound Name: Toluene-d8
Scan Number: 289
Retention Time: 22.77 min.
Quant Ion: 98.0
Area: 151616
Concentration: 51.62 ug/L
q-value: 98

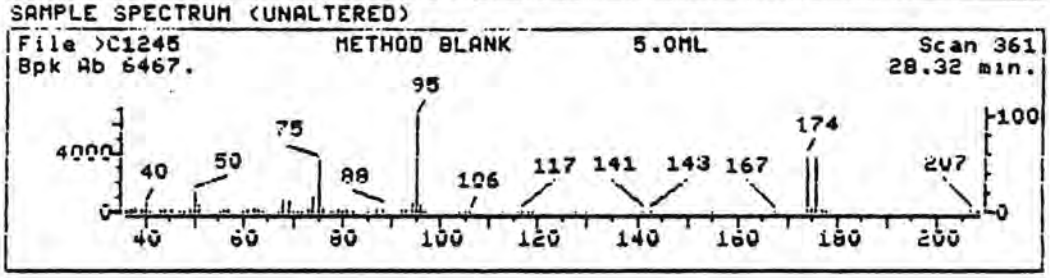
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C1245::D2 Quant Output File: ^C1245::D4
Name: METHOD BLANK
Misc: 5.0ML
Quant Time: 911101 13:04 Quant ID File: ID_CCC::QT
Injected at: 911101 12:00 Last Calibration: 911015 13:35

Compound No: 50
Compound Name: Bromofluorobenzene
Scan Number: 361
Retention Time: 28.32 min.
Quant Ion: 95.0
Area: 122091
Concentration: 53.51 ug/L
q-value: 96

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE UNKNOWN IDENTIFICATIION

LAB SAMPLE ID:METHOD BLANK
LAB FILE ID:>C1245

DATE RECEIVED:NA
DATE ANALYZED:911101

SAMPLE WT/VOL:5.0ML
LEVEL:LOW

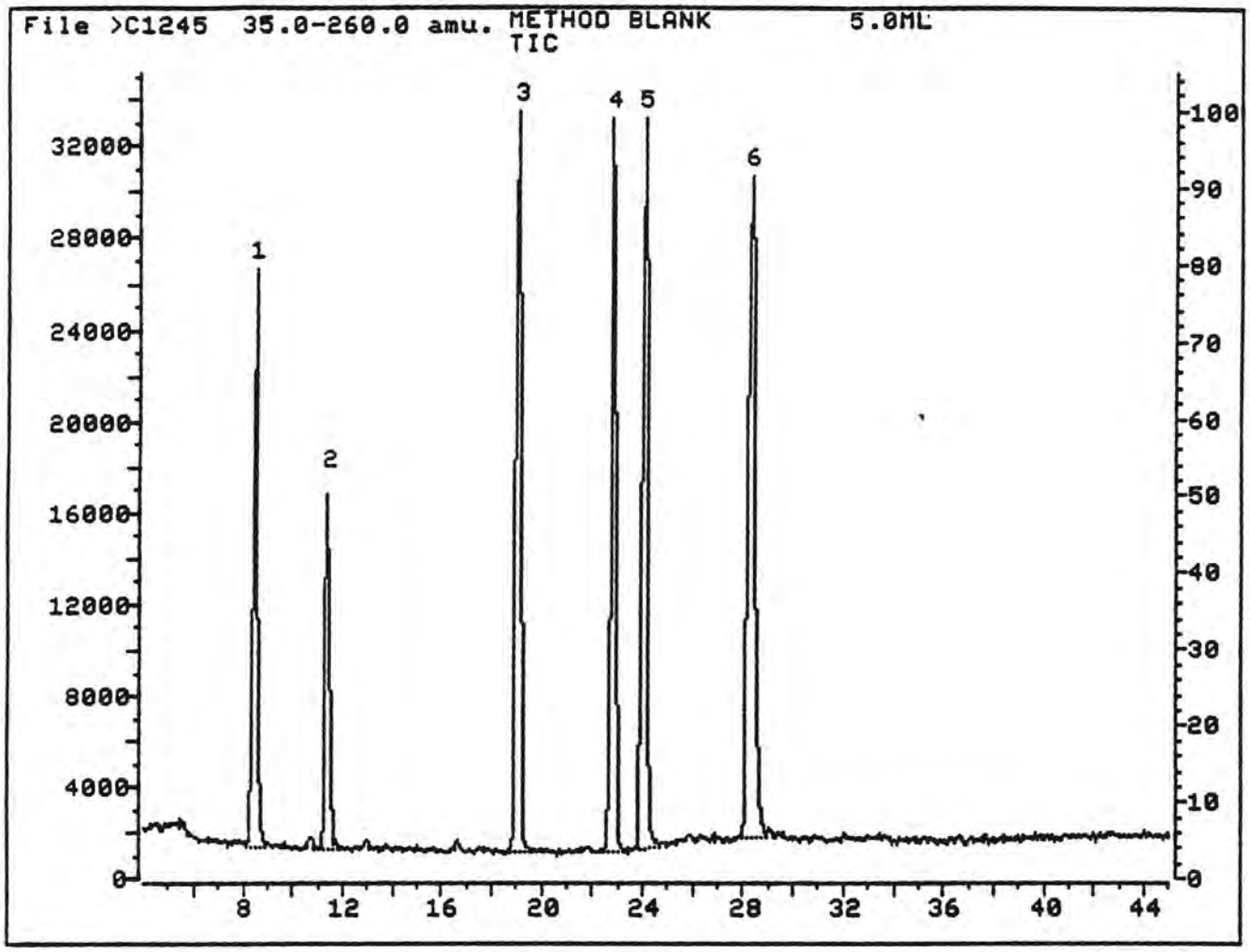
COMPOUND	RET TIME(MIN)	CONC
NONE FOUND		

SAMPLE INTEGRATION SUMMARY

SAMPLE NAME AND AMT: METHOD BLANK 5.0ML
SAMPLE DATA FILE: >C1245

PEAK NO.	RET. TIME	SCAN	AREA	IDENTIFICATION
1	8.49	104	313768	IS
2	11.34	141	185348	SS
3	19.06	241	409537	IS
4	22.77	289	436909	SS
5	24.08	306	427975	IS
6	28.32	361	558800	SS

IS = INTERNAL STANDARD
SS = SURROGATE
TC = TARGET COMPOUND
UK = UNKNOWN
<10% = UNKNOWN LESS THEN 10% OF INTERNAL STANDARD


File >C1245 35.0-260.0 amu. METHOD BLANK 5.0ML
TIC
1
2
3
4
5
6
32000
28000
24000
20000
16000
12000
8000
4000
0
100
90
80
70
60
50
40
30
20
10
0
8
12
16
20
24
28
32
36
40
44

NORTHEASTERN ANALYTICAL CORPORATION

VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:METHOD BLANK

LAB FILE ID:>C1274

DATE RECEIVED:NA

DATE ANALYZED:911104

SAMPLE WT/VOL:5ML

LEVEL:LOW

CAS NO.		MDL	CONC. ug/
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
107-02-8	Acrolein	20	U
107-13-1	Acrylonitrile	20	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	Trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
110-75-8	2-Chloroethylvinylether	10	U
75-25-2	Bromoform	5	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-02-7	m&p Xylenes	10	U
110-75-8	O-Xylenes	5	U

U; Not Detected

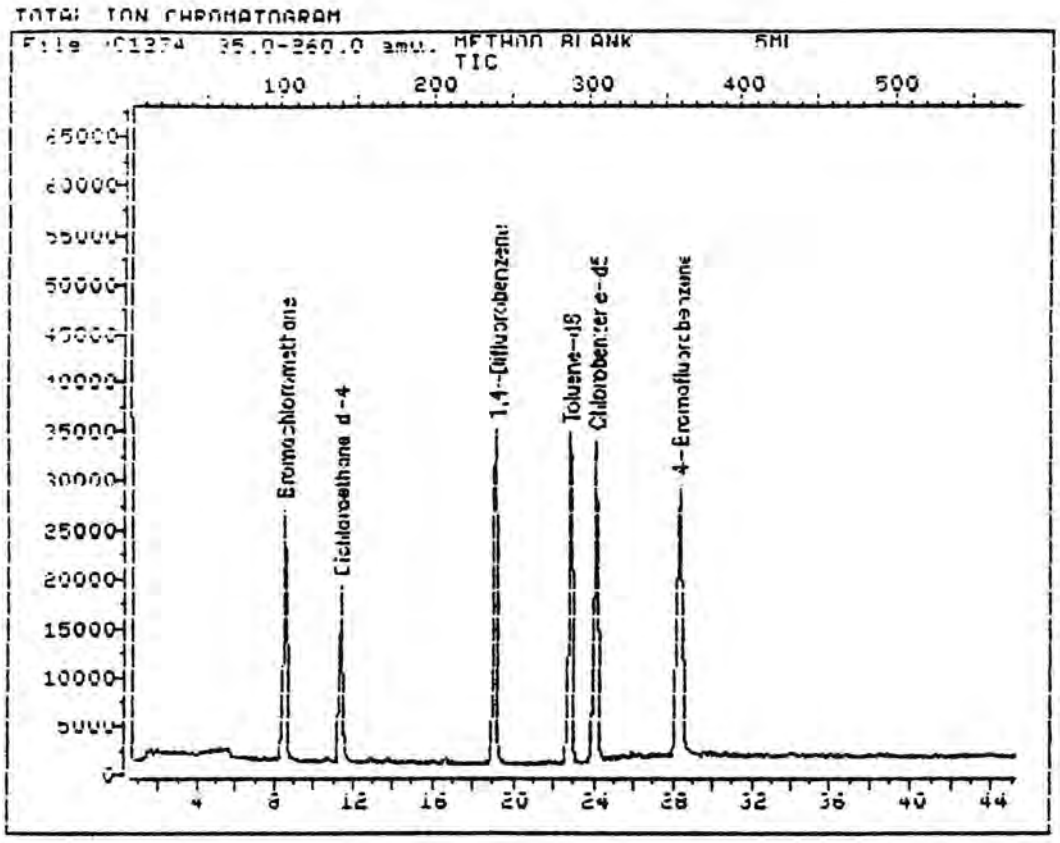
QUANT REPORT

Operator ID: MALUS Quant Rev: 6 Quant Time: 911104 23:13
Output File: C:\12/4::02 Injected at: 911104 22:27
Data File: C:\12/4::04 Dilution Factor: 1.00000
Name: METHOD BLANK
Misc: 5ML

ID File: ID_CCC::WI
Title: HP 00A Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 15:55

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.49	104	43226	50.00	ug/L	89
17)	1,2-Dichloroethane-d4	11.34	141	76101	55.96	ug/L	92
27)	*1,4-Difluorobenzene	19.06	241	161158	50.00	ug/L	69
38)	*Chlorobenzene-d5	24.08	306	125489	50.00	ug/L	94
44)	Toluene-d8	22.72	289	158923	50.39	ug/L	94
50)	Bromofluorobenzene	28.32	361	113147	46.18	ug/L	95

* Compound is ISTD

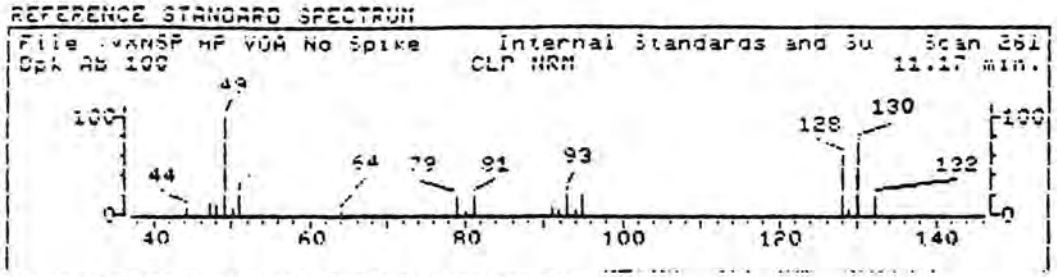


Data File: >L12/4::D4 Quant Output File: ^L12/4::D2
Name: METHOD BLANK
Misc: 5ML

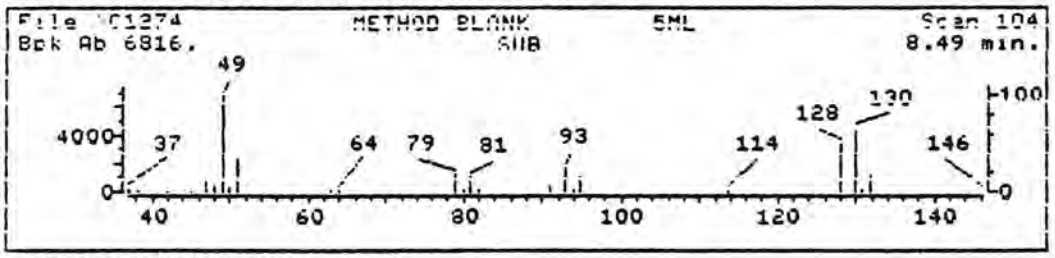
Id File: ID_LCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 13:35

Operator ID: MALUS
Quant Time: 911104 23:13
Injected at: 911104 22:27

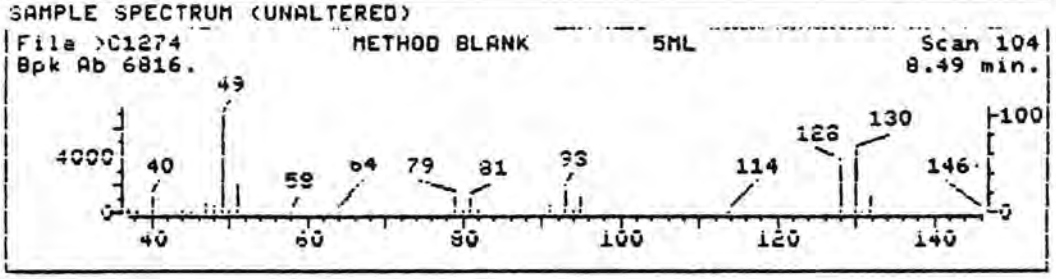
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



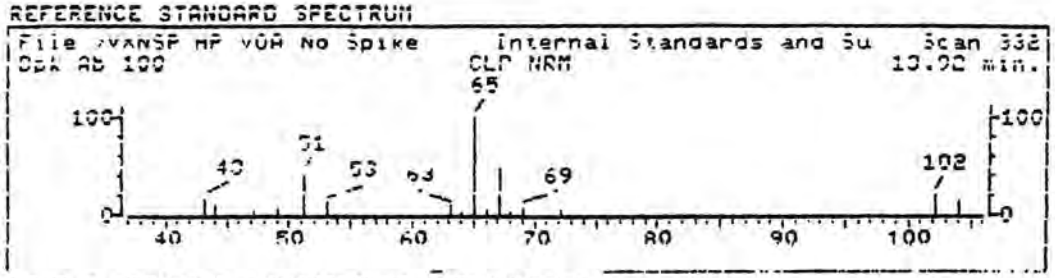
SAMPLE SPECTRUM (UNALTERED)



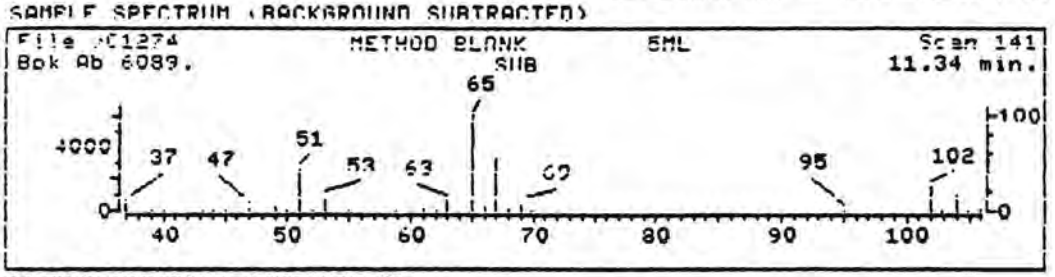
Data File: >C1274::04 Quant Output File: ^C1274::02
Name: METHOD BLANK
Misc: 5ML
Quant Time: 911104 23:13 Quant ID File: ID_CLP::QT
Injected at: 911104 22:27 Last Calibration: 911015 15:55

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 104
Retention Time: 8.49 min.
Quant Ion: 128.0
Area: 45226
Concentration: 50.00 ug/L
q-value: 89

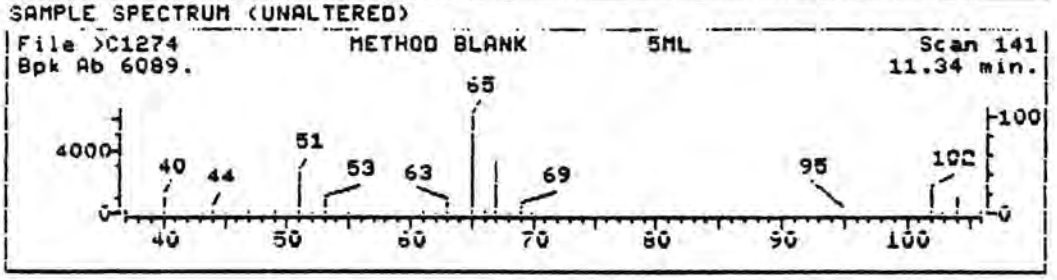
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



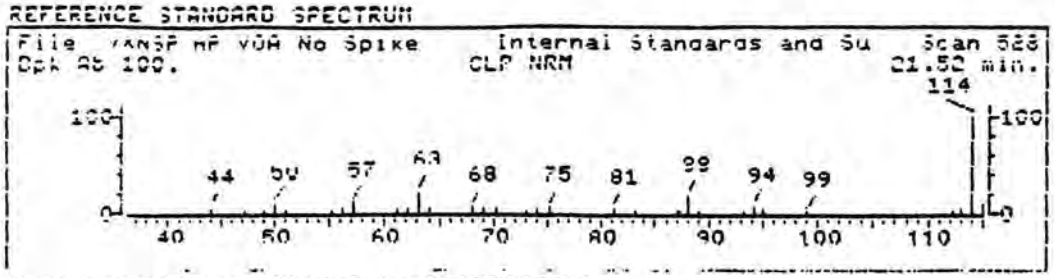
SAMPLE SPECTRUM (UNALTERED)



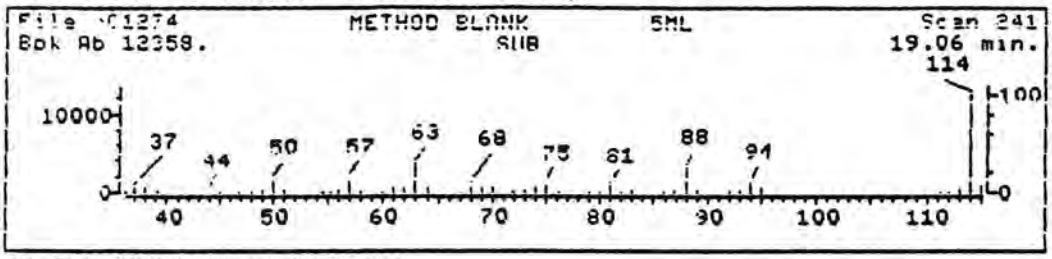
Data File: >C1274::D4 Quant Output File: >C1274::D2
Name: METHOD BLANK
Misc: 5ML
Quant Time: 911104 23:13 Quant ID File: ID_CCC::WT
Injected at: 911104 22:27 Last Calibration: 911015 15:35

Compound No: 17
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 141
Retention Time: 11.34 min.
Quant Ion: 65.0
Area: 76101
Concentration: 55.96 ug/L
q-Value: 92

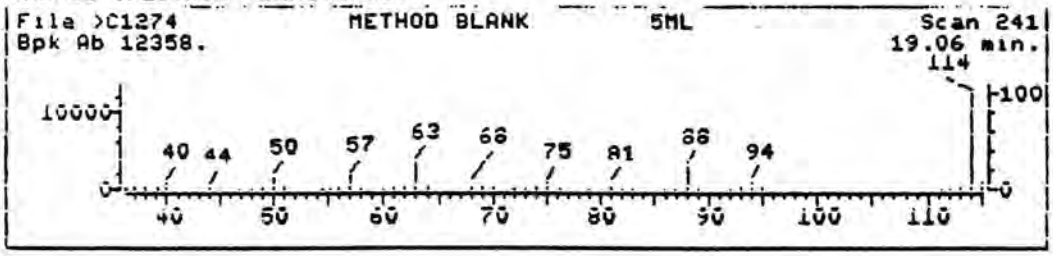
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



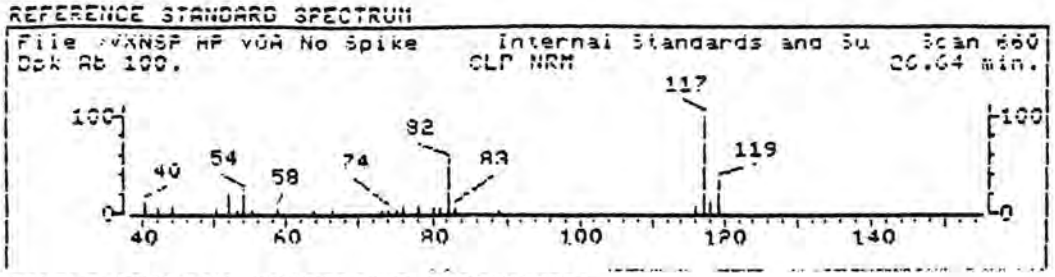
SAMPLE SPECTRUM (UNALTERED)



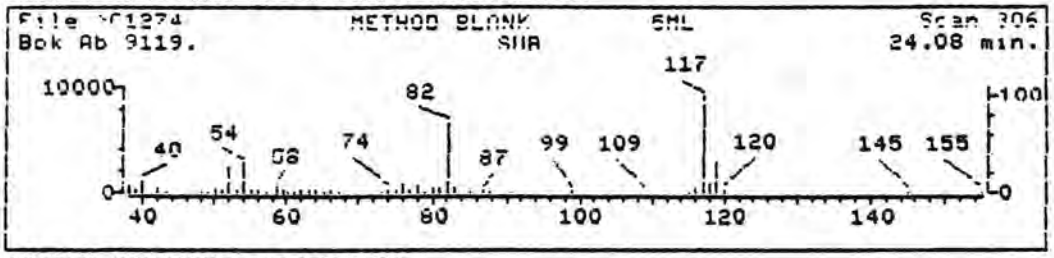
Data File: >C1274::D4 Quant Output File: >C1274::D2
Name: METHOD BLANK
Misc: 5ML
Quant Time: 911104 23:13 Quant ID File: ID_CLP::WI
Injected at: 911104 22:27 Last Calibration: 911015 13:55

Compound No: 27 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 241
Retention Time: 19.06 min.
Quant Ion: 114.0
Area: 161158
Concentration: 50.00 ug/L
q-value: 69

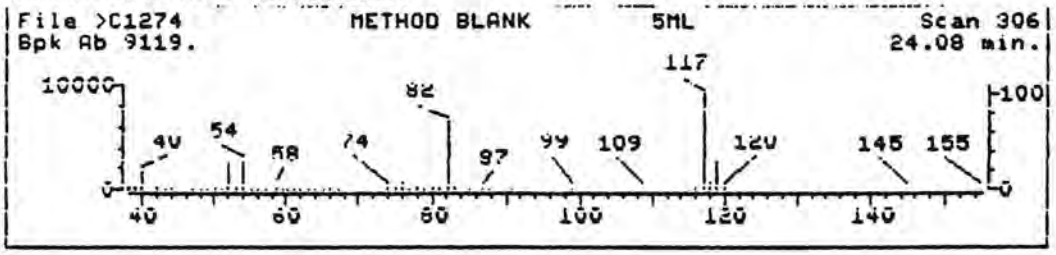
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

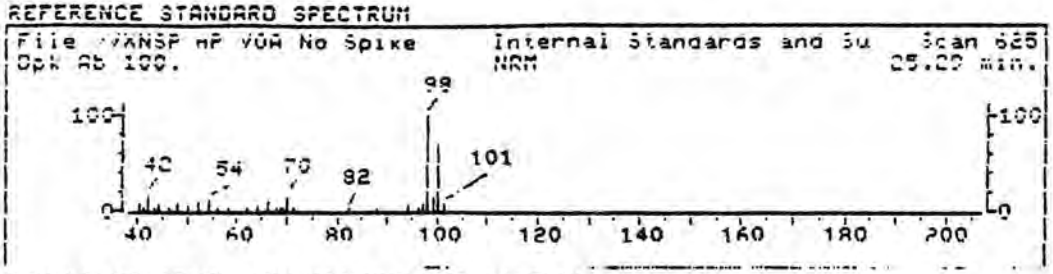


Data File: >C1274::D4
Name: METHOD BLANK
Misc: 5ML
Quant Time: 911104 23:13
Injected at: 911104 22:27

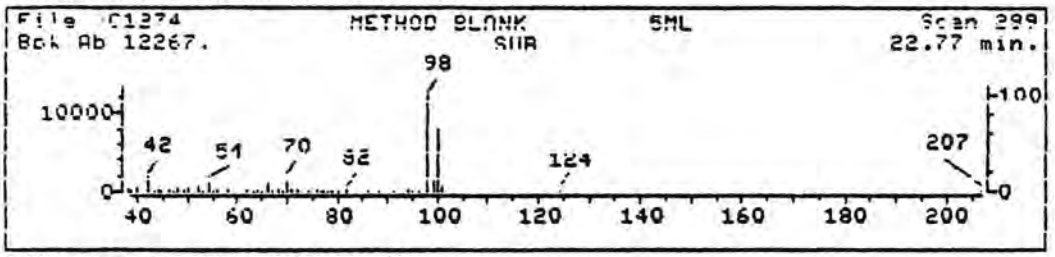
Quant Output File: ^C1274::D2
Quant ID File: ID_CLP::QT
Last Calibration: 911015 13:55

Compound No: 58 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 306
Retention Time: 24.08 min.
Quant Ion: 117.0
Area: 125489
Concentration: 50.00 ug/L
q-value: 94

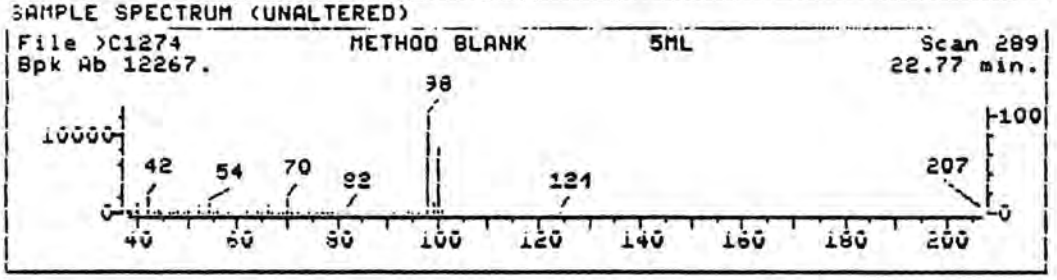
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



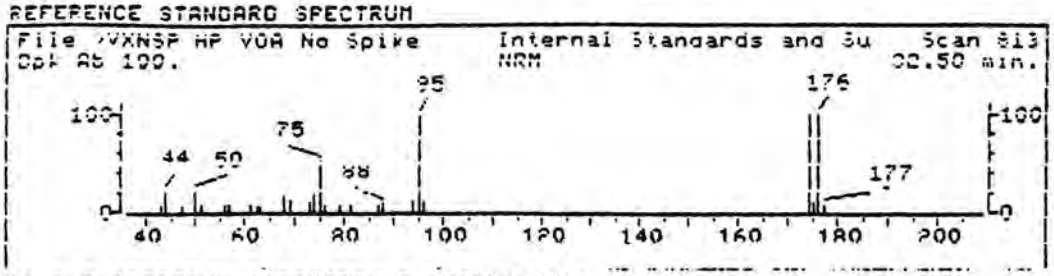
Data File: >C1274::D4
Name: METHOD BLANK
Misc: 5ML
Quant Time: 911104 23:13
Injected at: 911104 22:27

Quant Output File: >C1274::D2

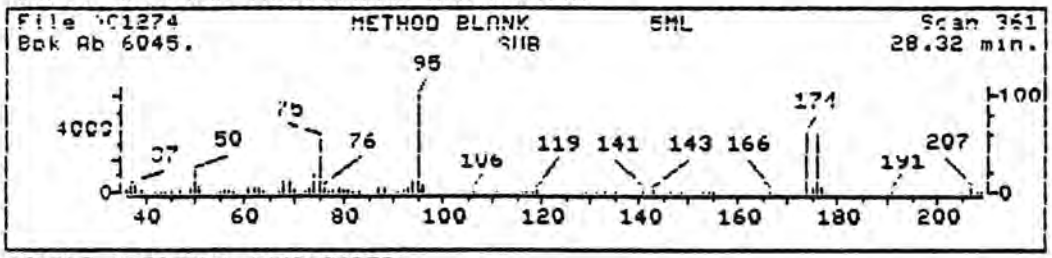
Quant ID File: ID_CCC::QI
Last Calibration: 911015 13:35

Compound No: 44
Compound Name: Toluene-d8
Scan Number: 289
Retention Time: 22.77 min.
Quant Ion: 98.0
Area: 158923
Concentration: 50.39 ug/L
q-value: 94

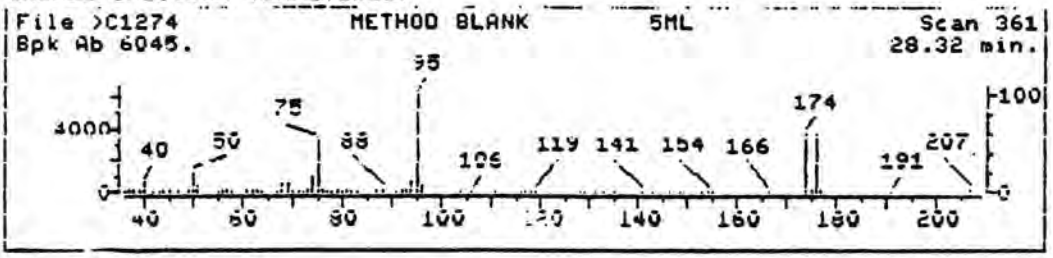
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C1274::D4
Name: METHOD BLANK
Misc: 5ML
Quant Time: 911104 23:13
Injected at: 911104 22:27

Quant Output File: ^C1274::D2
Quant ID File: ID_CCC::QT
Last Calibration: 911015 13:35

Compound No: 50
Compound Name: Bromofluorobenzene
Scan Number: 361
Retention Time: 28.32 min.
Quant Ion: 95.0
Area: 113147
Concentration: 46.18 ug/L
q-value: 95

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE UNKNOWN IDENTIFICATIION

LAB SAMPLE ID:METHOD BLANK LAB FILE ID:>C1274

DATE RECEIVED:NA DATE ANALYZED:911104

SAMPLE WT/VOL:5ML LEVEL:LOW

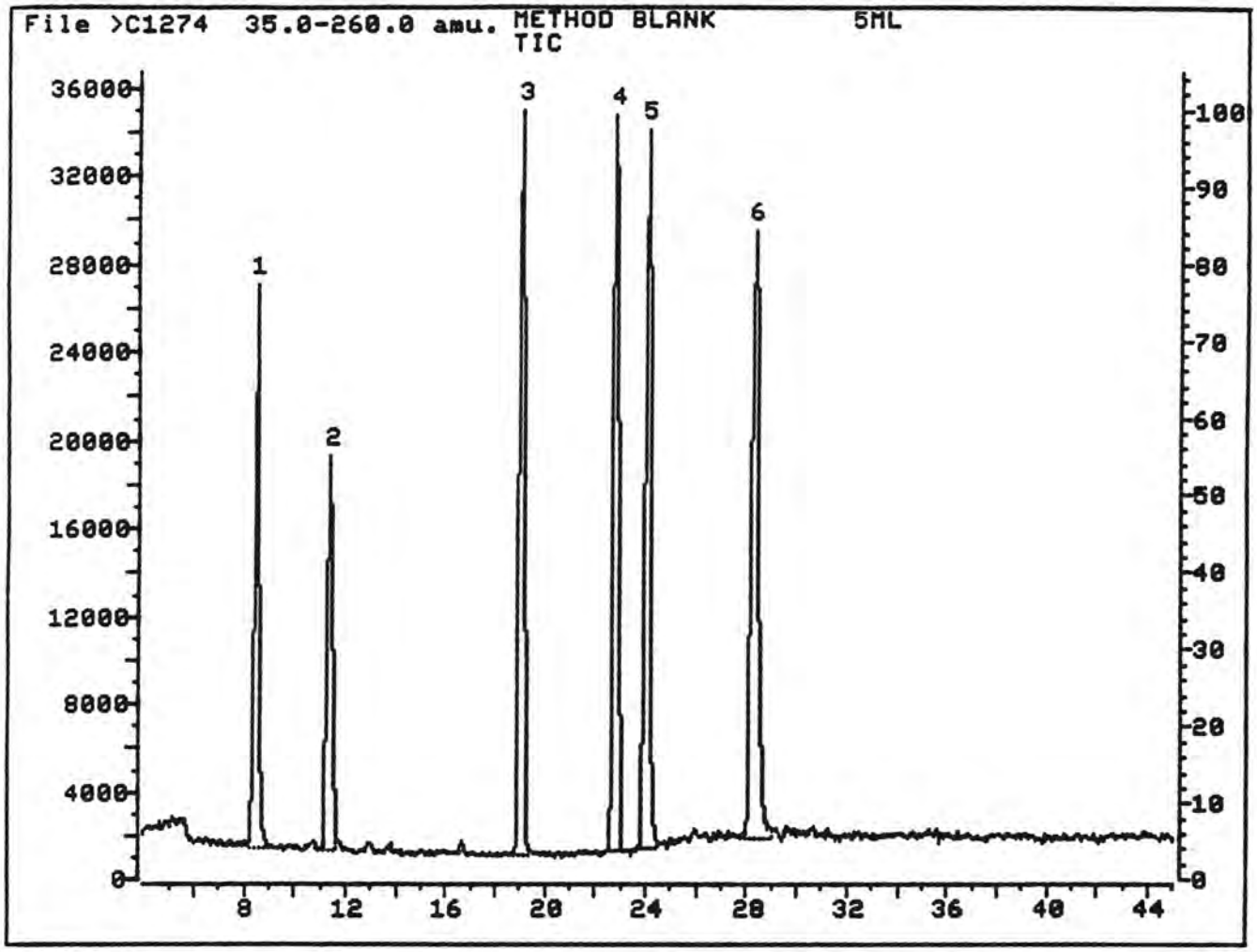
COMPOUND	RET TIME(MIN)	CONC
NONE FOUND		

SAMPLE INTEGRATION SUMMARY

SAMPLE NAME AND AMT: METHOD BLANK 5ML
SAMPLE DATA FILE: >C1274

PEAK NO.	RET. TIME	SCAN	AREA	IDENTIFICATION
1	8.49	104	333134	IS
2	11.34	141	219386	SS
3	19.06	241	419002	IS
4	22.77	289	447134	SS
5	24.08	306	443372	IS
6	28.32	361	542727	SS

IS = INTERNAL STANDARD
SS = SURROGATE
TC = TARGET COMPOUND
UK = UNKNOWN
<10% = UNKNOWN LESS THEN 10% OF INTERNAL STANDARD


File >C1274 35.0-260.0 amu. METHOD BLANK 5ML
TIC
36000
32000
28000
24000
20000
16000
12000
8000
4000
0
100
90
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
8
12
16
20
24
28
32
36
40
44

H. RAW QC DATA PACKAGE (Continued)

1. Volatile Organics by GC/MS (Continued)

c. Matrix Spike/Matrix Spike Duplicate Chromatograms and Quantitation Reports

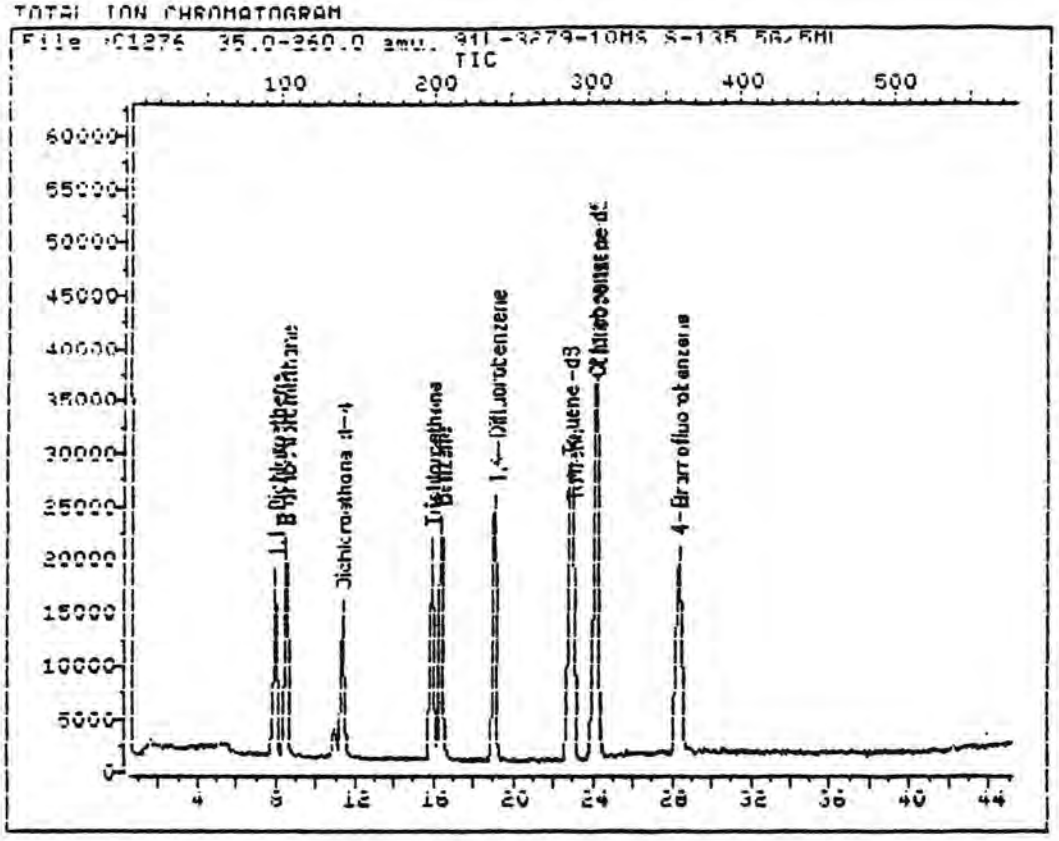
QUANT REPORT

Operator ID: MHLUS Quant Rev: o Quant Time: 911105 01:04
Output File: "L12/6::02 Injected at: 911105 00:18
Data File: L12/o::04 Dilution Factor: 1.00000
Name: 91L-12/9-10M5 5-155
Misc: 56/5ML

ID File: 10SLLL::QI
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 15:56

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.49	104	54354	50.00	UG/KG	85
12)	1,1-Dichloroethene	7.95	97	41858	44.03	UG/KG	94
17)	1,2-Dichloroethane-d4	11.54	141	6357/8	58.83	UG/KG	99
27)	*1,4-Difluorobenzene	19.06	241	122380	50.00	UG/KG	67
30)	Trichloroethene	15.90	200	4/8/0	47.78	UG/KG	89
33)	Benzene	16.36	206	120401	55.91	UG/KG	95
38)	*Chlorobenzene-d5	24.08	306	89924	50.00	UG/KG	98
43)	Toluene	23.00	292	64440	51.60	UG/KG	92
44)	Toluene-d8	22.77	289	124905	55.27	UG/KG	99
45)	Chlorobenzene	24.16	307	86521	50.87	UG/KG	95
50)	Bromofluorobenzene	28.32	361	81752	46.56	UG/KG	92

* Compound is ISTD



Data File: >L12/6::D4 Quant Output File: ^L12/6::D2
Name: 91L-32/9-10MS S-135
Misc: 5G/5ML

Id File: IDSLCL::W1
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 13:36

Operator ID: MALUS
Quant Time: 911105 01:04
Injected at: 911105 00:18

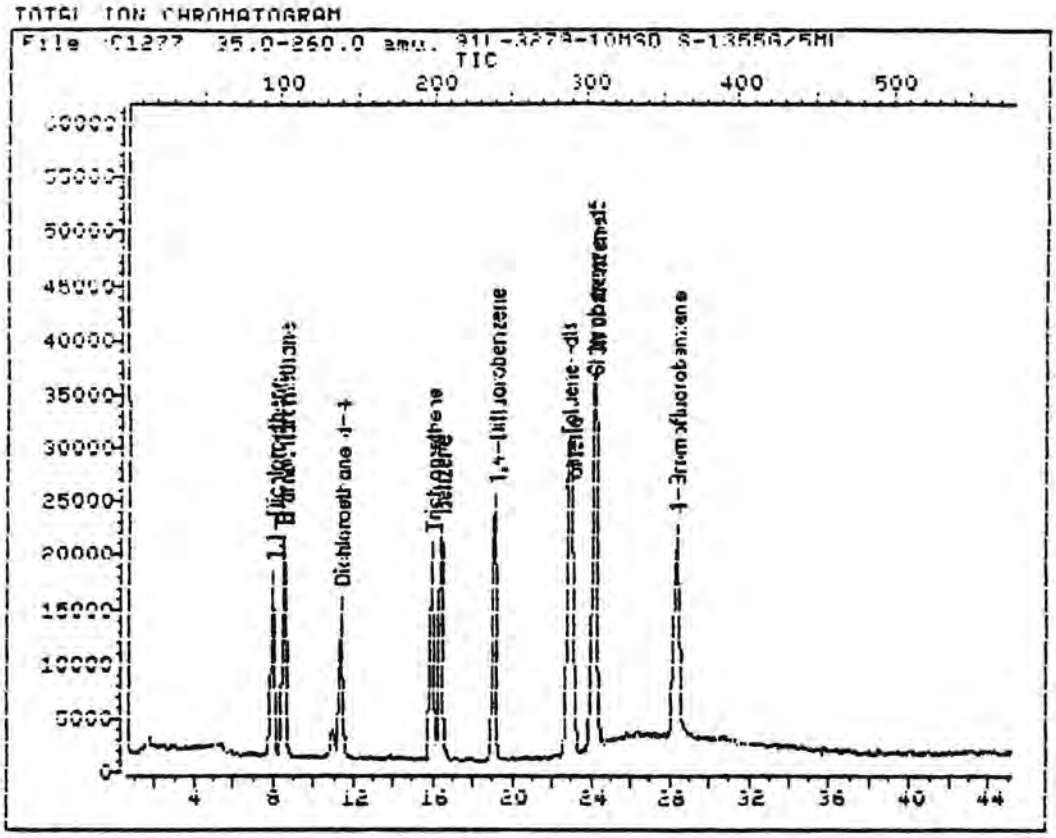
QUANT REPORT

Operator ID: MALUS Quant Rev: 6 Quant Time: 911105 01:55
Output File: [illegible] Injected at: 911105 01:07
Data File: [illegible] Dilution Factor: 1.00000
Name: 91L-52/9-10MSD 5-155
Misc: 56/5ML

ID File: 105LCC::01
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 15:36

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.49	104	55821	50.00	UG/KG	86
12)	1,1-Dichloroethene	7.95	97	40218	42.97	UG/KG	96
17)	1,2-Dichloroethane-d4	11.54	141	62249	58.50	UG/KG	97
27)	*1,4-Difluorobenzene	19.06	241	118158	50.00	UG/KG	70
30)	Trichloroethene	15.90	200	45047	46.57	UG/KG	92
33)	Benzene	16.56	206	114503	55.07	UG/KG	93
38)	*Chlorobenzene-d5	24.08	306	88272	50.00	UG/KG	99
43)	Toluene	23.00	292	63743	52.00	UG/KG	96
44)	Toluene-d8	22.77	289	12/264	57.56	UG/KG	95
45)	Chlorobenzene	24.16	307	84555	50.77	UG/KG	89
50)	Bromofluorobenzene	28.33	361	81177	47.10	UG/KG	93

* Compound is ISTD



Data File: >C12//::D4 Quant Output File: ^C12//::D2
Name: 91L-3279-10M5D S-135
Misc: 5G/5ML

Id File: IDSCCC::WI
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 911015 13:36

Operator ID: MALOS
Quant Time: 911105 01:53
Injected at: 911105 01:07

RECYCLING TODAY FOR TOMORROW 491-1444

General Environmental Services, Inc.

9 GARRISON AVENUE
WYANDANCH, NEW YORK 11798
(516) 491-1444
FAX: (516) 491-0509

JOB TICKET # № 92112

RECEIVED FROM Land Air & Water

Date 11-06-91

Job Site Amtrak Sunnyside Yard, Queens (See directions)

TANK SIZE 1000 gal gas tank - H2O approx 500 gals

MARK (DRIVER) NONE (HELPER) 16 (TRUCK NO.)

630 AM (TIME STARTED) ____ (TIME FINISHED)

The service mentioned below.

1 ☐ DIG UP FUEL STORAGE TANK 2 ☐ CUT MANWAY

3 ☐ PUMP OUT AND SQUEEGEE CLEAN .....GAL, FUEL STORAGE TANK BY A VACUUM METHOD.

4 ☐ NEW GASKET BOLTS & NUTS

5 ☐ BACKFILL DIRT

6 ☑ PUMP OUT ..... GAL. TANK BY A STICK LINE METHOD

7 ☐ STEAM CLEAN SUCTION AND RETURN LINES

8 ☑ OTHER WORK DONE Removal & disposal of gas/water, and transporting portal to portal

INCHES IN TANK BEFORE CLEANING 48 GALLONS 336

INCHES IN TANK AFTER CLEANING 0 GALLONS

GRADE OF OIL: #2 ☐ #4 ☐ #6

AMOUNT OF SLUDGE REMOVED _____ GALS.

GALS. OF GOOD OIL PUT BACK IN TANK _____ GALS.

DIAMETER OF TANK IN INCHES _____

The signature below should be signed only by the owner, super, engineer, of the building, or by the employee of the above mentioned Oil Company.

This signature will indicate that the tank, or the work that has been done, has been inspected, (and manhole if worked on) and properly secured, and been left in a complete safe condition

This ticket should only be signed if the work area is completely satisfactory

CHARGES FOR LABOR AND EQUIPMENT WILL BE BILLED ON A PORTAL TO PORTAL BASIS.

	DESCRIPTION	PRICE	AMOUNT	
336	Disposal of gas/water	.90/gal	302	40
4	Vacuum truck w/operator (estim 4 hrs)	85/hr	340	00
		NYS TAX:	54	60
		TOTAL AMOUNT DUE	697	00

TERMS: Net 10 days, maximum rate of interest allowable by law will be charged after this date. In the event this order is not paid in accordance to the terms of sale, and collection action becomes necessary, this order is subject to an Additional 25% collection fee on the unpaid balance.

RECEIVED AND READ BY X _____

PRINT NAME W. Lamprecht

THE PERSON WHO SIGNS ABOVE HAS THE OPTION OF INSPECTING VACUUM TRUCK AND PRODUCT IN VACUUM TRUCK BEFORE IT LEAVES PREMISES.

SHIP BILL TO/COD Land Air & Water

ATTN. Don

TEL. 874-2112

JOB OK BY _____

P.O. # _____