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Groundwater
& Environmental Services, Inc.

A Full Service Environmental Consulting and Contracting Company

DISCHARGE INVESTIGATION CORRECTIVE ACTION REPORT FOR THE POST MAIN GASOLINE STATION FORT MONMOUTH, MONMOUTH COUNTY N.J.

JULY 3, 1990

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TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 PROJECT HISTORY

Pursuant to a request by E - Systems Inc./SAI on October 25, 1989, Groundwater & Environmental Services conducted a one week Pilot Study/Phase I investigation at the Post Main Gas Station, located in Fort Monmouth, Monmouth County, N.J. (Figure 1).

These efforts were conducted in response to an inadvertent loss of several thousand gallons of free-phase gasoline product. This loss was discovered during the routine installation of Phase Two Vapor Recovery System components. A pressure test was immediately conducted on the tanks and the product delivery system. Results of the pressure test indicated that the leakage occurred due to a supply line loss to the fuel pumps. The purpose of the one week pilot study was to recover free gasoline product that had been discharged to the subsurface. The estimated loss of gasoline was 11,000 gallons.

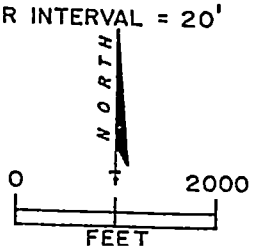
Based on the results of the one week pilot study, and at the request of E-systems Inc. GES began a Phase One investigation of the subject site. Initial investigative and remedial efforts included the recovery of 2,100 gallons of free-phase product from the spill area, the installation of two product recovery points and the installation of four groundwater monitoring wells.

GES was contracted by E-systems Inc., to perform a Phase Two and Phase Three site investigation at the Post Main gasoline station. Investigative efforts included the installation of an additional four monitoring wells in an effort to determine the horizontal extent of the free and dissolved-phase product plumes, sampling of all non-product bearing wells, weekly liquid level collection, data analysis, DICAR report generation and weekly report updates. Recovery efforts included the installation of two dual pump recovery systems in an effort to recover free product.

FIGURE 1
SITE LOCATION
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

QUADRANGLE LOCATION

SOURCE: USGS 7.5 MINUTE SERIES
TOPOGRAHIC QUADRANGLE 1954
LONG BRANCH, NEW JERSEY
CONTOUR INTERVAL = 20'



1.2 CURRENT STATUS

In an effort to further delineate the horizontal extent of the contaminant plume two additional groundwater monitoring wells (MW-9, MW-10) were installed on May 1, 1990, and sampled downgradient from the tank field area.

During the routine inspection and maintenance of the dual pump recovery systems on May 25, 1990, a change in the density of the groundwater was observed. Replacement floats were ordered to to meet the specific needs of the groundwater conditions at the site. Pending the dual pump recovery system repair, all product bearing wells will be pumped on a weekly basis.

2.0 SITE DESCRIPTION

The Post Main gasoline service station is situated on Saltzman Avenue which is a thoroughfare through the actual base of Fort Monmouth (Figure 2). The station has six, ten thousand gallon underground storage tanks (N.J. UST registration number 0081533, Tank numbers 185 through 190) which store various grades of gasoline product. These products are distributed from two pumping islands.

Already existing at the site were three, three inch diameter monitoring wells installed within the immediate vicinity of the tank field area and a twenty four inch diameter telephone utility manhole located within Saltzman Avenue also in close proximity to the tank field.

Topography at the site is relatively flat, and sloping to the southeast.

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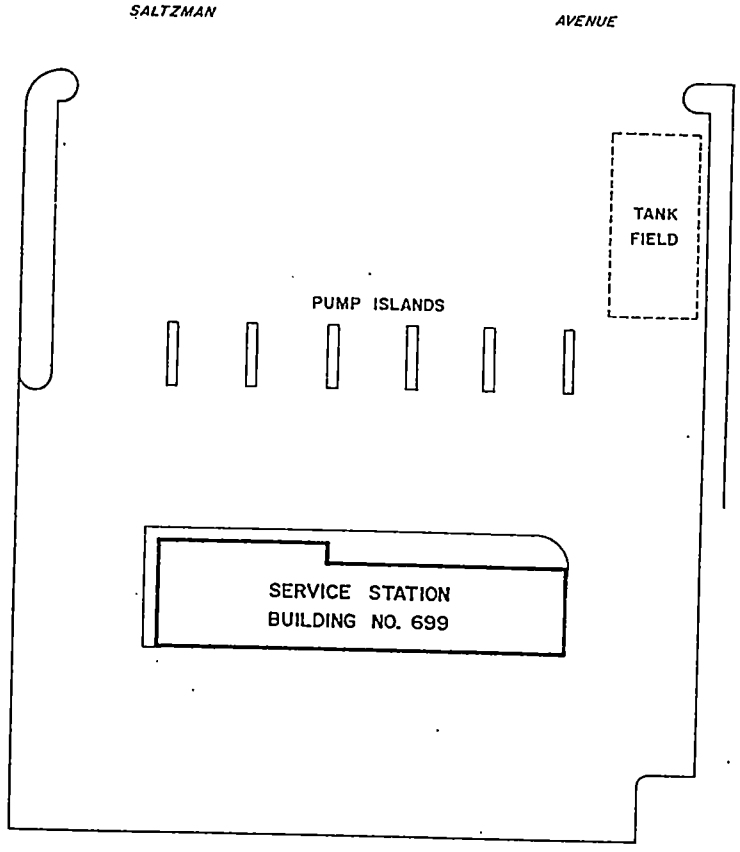

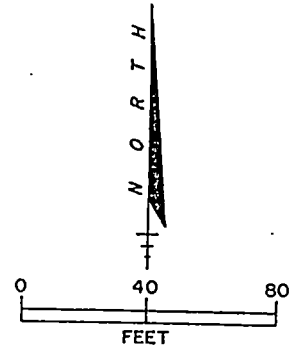

FIGURE 2
GENERALIZED SITE PLAN
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

2.1 REGIONAL GEOLOGY

The following geologic information was compiled from a review of available publications for the Fort Monmouth area. The site lies within the Atlantic Coastal Plain Physiographic Province. This province is underlain by a wedge of Quaternary and Cretaceous age unconsolidated sediments of marine, estuarine and beach complex origins. The sediments consist of interbedded sand and clay strata that dip gently and increase in thickness to the southeast. The formations present in this area include the Hornerstown Sand and the Tinton Sand.

The total area of outcrop of the Hornerstown Sand in Monmouth County is about 35 square miles. It consists chiefly of a dark-green clayey glauconitic sand. The Hornerstown Sand unconformably overlies the Tinton Sand and dips to the southeast at 50 to 60 feet per mile. It is estimated at 25 feet thick and increases to about 100 feet toward the southeast. This massive and extensively burrowed facies originated in an inner to mid shelf environment. The Hornerstown has been regarded as the basal formation in the Tertiary of New Jersey. However, recent paleontological data indicate that the basal beds are Cretaceous in age. The Hornerstown is transgressive over the regressively related formations below.

The Tinton Formation is the only indurated unit in the Upper Cretaceous section of New Jersey. It is very thin and is more limited in extent than the Red Bank Formation upon which it lies. It is a brownish-green-argillaceous, medium to coarse, quartz and glauconitic sandstone interbedded with layers and lenses of gray claystone. The Formation is interpreted as an innershelf facies. In fact, it was once regarded as an upper member of the Red Bank.

2.2 HYDROGEOLOGY

The following hydrogeologic information was compiled from a review of available publications of the Fort Monmouth area. The interbedded sequences of sand and clay of the Atlantic Coastal Plain store and transmit water under both confined and unconfined conditions. The intermittent clay strata serve as semi-confining beds where present. The Atlantic Coastal Plain receives recharge from precipitation and vertical leakage between aquifers through semi-confining beds.

The general flow of groundwater in the Atlantic Coastal Plain is southeasterly, following the dip of the strata. Local flow variations have been reported in the vicinity of pumping wells and surface bodies. The Hornerstown Sand, being mostly clayey probably serves as an aquiclude either independently or in conjunction with adjacent formations. It serves as an aquiclude independently where the sand member of the Red Bank Sand is present, separating this aquifer from the overlying Vincentown Formation. Down dip, where the aquifer in the Red Bank Sand has been removed, the Hornerstown Sand serves as a composite aquiclude with the Navesink Formation and the lower member of the Red Bank Sand, separating the Mount Laurel Sand from the Vincentown or Kirkwood aquifers. Although considered an aquiclude, the Hornerstown Sand may yield enough water in some parts of the outcrop to satisfy domestic needs.

Due to the limited areal extent and variable thickness of the Tinton bed, it is not considered a significant groundwater source and probably serves as a composite aquiclude with the overlying Hornerstown Formation.

3.0 PURPOSE AND SCOPE OF SERVICES:

3.1 PURPOSE

The purpose of this investigation was to recover as much of the free phase gasoline product as possible and to address the environmental concerns associated with the spill. Specifically, in regards to the groundwater quality beneath the site and its impact on adjacent commercial and residential areas.

3.2 SCOPE OF SERVICES

To accomplish the objectives of the investigation, the following scope of services were performed:

3.2.1 Free Phase Product Removal

On October 25, 1989, GES deployed one shallow well Scavenger pump and one float type Scavenger pump into an already existing, on site 3" monitoring well and a telephone utility manhole. Due to the slow recovery rate of free product, GES proposed to install two additional 4" recovery wells. On October 27, 1989, the two 4" recovery wells were installed to a depth of 8 feet. Installation of the recovery wells were accomplished with the use of a backhoe, under the supervision of a New Jersey licensed well driller. After the wells were allowed to equilibriate, free product was pumped from the wells and stored in a 1500 gallon Buff-Hill storage tank.

In order to increase free phase product accumulation and expedite free-product recovery even further, GES deployed a dual-pump (one water/ one free product) recovery system in MW-4 on December 28, 1989, in an attempt to create a cone of depression which will establish control of the water table and preclude any free-phase product migration. On March 21, 1990 an additional dual pump recovery system was installed in MW-3 to further expedite the rate of free product recovery. The groundwater from the systems was discharged to the sanitary sewer with the permission of the Northeast Monmouth County Regional Sewer Authority. On May 25, 1990, due to a problem with the floats operating the dual pump recovery systems both systems were shutdown.

3.2.2 Monitoring Well Installation

The locations of the monitoring wells were selected by a GES hydrogeologist in order to assess the groundwater conditions below the site and to evaluate the potential migration of the free-phase and dissolved contaminate plume and its impact on neighbouring sites. The monitoring wells were installed at the locations shown in Figure 3. All wells were constructed in accordance with NJDEP monitoring well specifications for unconsolidated formations.

The total depths and screened intervals of the wells were chosen in the field by observing where groundwater was first encountered. The screened intervals for the wells were designed to be 2 feet above and 10 feet below the water level, in order to account for water level fluctuations.

The total depths of MW-1, MW-3, MW-5, MW-6, MW-7, MW-8, MW-9 and MW-10 are 15.00 feet below grade. The total depth of MW-2 is 17.00 feet below grade and the total depth of MW-4 is 20.00 feet below grade. Well logs, detailing the lithologies recorded from the well installation are presented in Appendix B.

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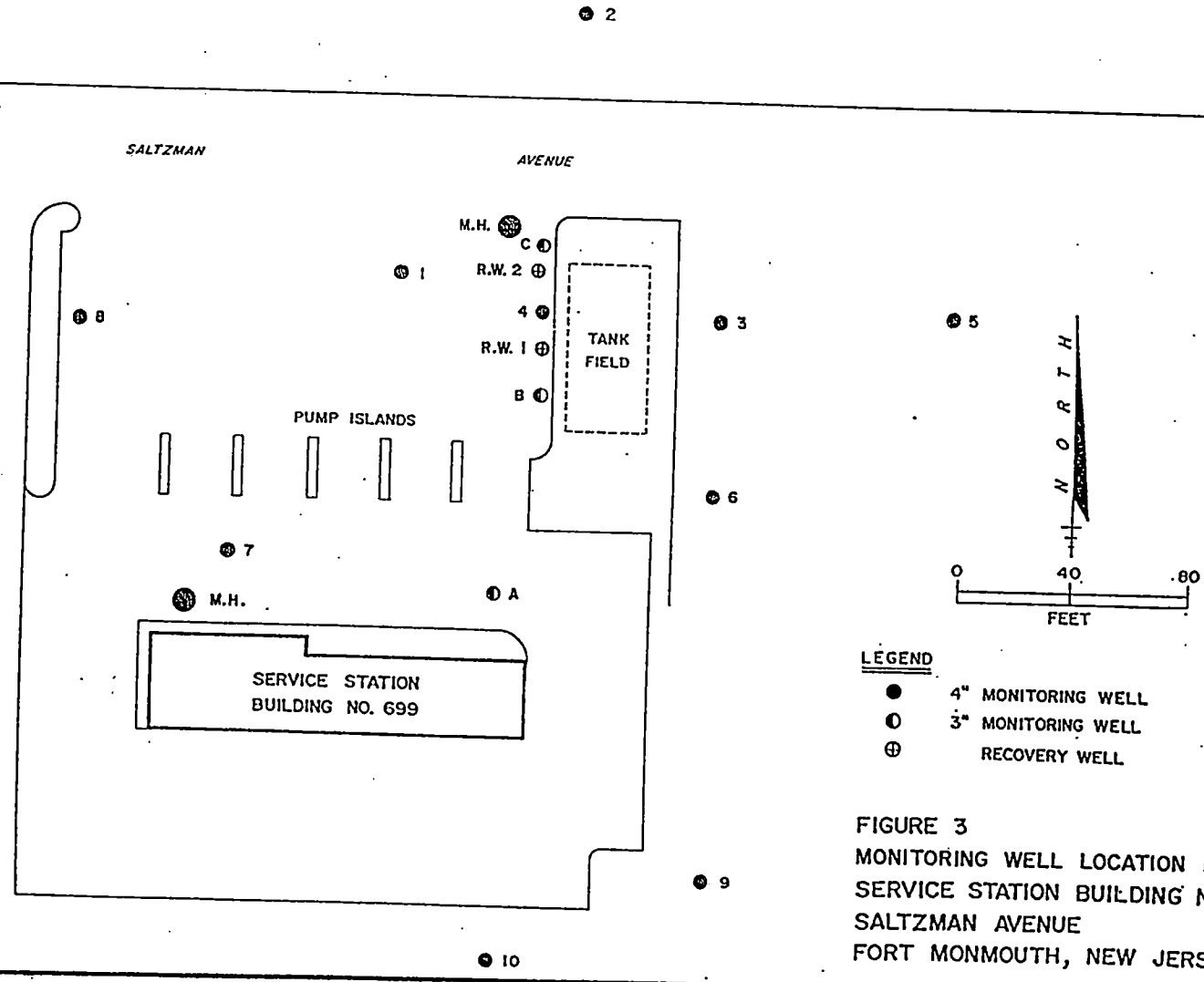

FIGURE 3
MONITORING WELL LOCATION PLAN
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

3.2.3 Elevation Survey

On December 11, 1989, Flannery, Webb and Hansen, P.A., a New Jersey certified land surveyor, conducted an elevation survey to provide vertical control for the eight monitoring wells installed as of December 1989. On May 14, 1990 the two additional monitoring wells (MW-9 & MW-10) were surveyed. Static liquid levels within all wells were measured from the elevation of the PVC casing after installation and immediately prior to purging and sampling. Elevations of liquid levels (including product thickness, if any) were calculated from these measurements and the wellhead elevations surveyed and adjustments were estimated for the density of free product depressing the water table. From this data, adjusted groundwater contour maps, free product isopleth maps and groundwater contour maps excluding wells that contain free product were constructed to assess groundwater flow direction.

3.2.4 Groundwater Sampling and Analysis

Collection of groundwater samples for the purpose of laboratory analysis was performed on all site wells that were devoid of free product. On December 15, 1990, GES collected groundwater samples from monitoring wells MW-2, MW-5, MW-6, MW-7, MW-8 and MW-A. Groundwater samples were collected from MW-9 and MW-10 on May 30, 1990. The groundwater samples and quality assurance samples were analyzed for EPA Method 624 + 15 volatile organic compounds modified to include xylenes, methyl tert-butyl ether (MTBE) and tert-butyl alcohol (TBA), in accordance with the NJDEP procedures. Chain of custody was initiated at the time of collection for all samples and maintained until the samples were relinquished to the laboratory. All sample collection, handling and documentation procedures were performed in accordance with NJDEP requirements as presented in Appendix A.

Laboratory analytical services for this project were provided by Northeastern Analytical Corporation of Marlton, New Jersey, a New Jersey certified laboratory (Certification # 03117)

3.2.5 Water Well Usage

A well survey of all domestic wells located within a 1000 feet of the site was performed by the NJDEP Division of Water Resources on January 24, 1990. In addition, all water withdrawal points located within a five mile radius were obtained from the New Jersey Geological Survey and plotted.

3.2.6 Utilities

On February 2, 1989, GES conducted a utilities investigation for the purpose of identifying and locating all underground utilities associated with the site.

4.0 INVESTIGATIVE FINDINGS:

4.1 FREE PRODUCT RECOVERY

Since the Phase One investigation\one week pilot study report, GES deployed three, free-phase product recovery pumps in an attempt to increase the recovery rate of free product. The total free product recovered utilizing the free phase recovery pumps was 4,506 gallons. On December 28, 1989 the dual pump recovery system placed in MW-4 was initiated in an effort to demonstrate hydraulic control over the contaminant plume and increase free product recovery. A second dual pump recovery system placed in MW-3 was activated on March 21, 1990, to expedite the rate of free product recovery even further. The total recovered free product to date totals 6,733 gallons.

The system is currently inoperable due to the changes in the density of the groundwater effecting the floats that operate the recovery systems. Changes in the density of the groundwater is probably occurring due to degradation of the free product and conditions created during pumping of the monitoring wells. The density of the groundwater in monitoring wells MW-3 and MW-4 has characteristics of both gasoline and water. The density of the groundwater is thus lower than the normal density of water. The groundwater floats are floating below the top of the groundwater eliciting the product pumps to pump the groundwater into the product recovery tanks. Currently, GES has ordered floats from our manufacturer that will cover a wide range of density differences in the groundwater. We expect the new floats by July 2, 1990, and will immediately install the floats and activate the system. Figures 4 through 6 are the isopleth maps depicting product thicknesses from June 6, 1990 through June 20, 1990 when no free product was being pumped from the monitoring wells.

4.2 SUBSURFACE CONDITIONS

Subsurface materials encountered during the installation of MW-1 through MW-10 are detailed on the boring logs presented in Appendix B. At seven of the ten locations (MW-1, MW-3, MW-4, MW-5, MW-6, MW-7 and MW-8) the ground surface is underlain by 1 to 2 feet of asphalt, gravel and concrete. At MW-2, MW-9 and MW-10 the ground surface is underlain by 3 feet of loose unconsolidated fill. This layer consists of a brown silty clay with little fine sand. Sediments of the Hornerstown Sand were found underlying these sediments. The Sediments consisted of green (glauconitic) to orange brown medium to fine sand mixed with clay. Hornerstown sediments were encountered to the completion depths of all site wells.

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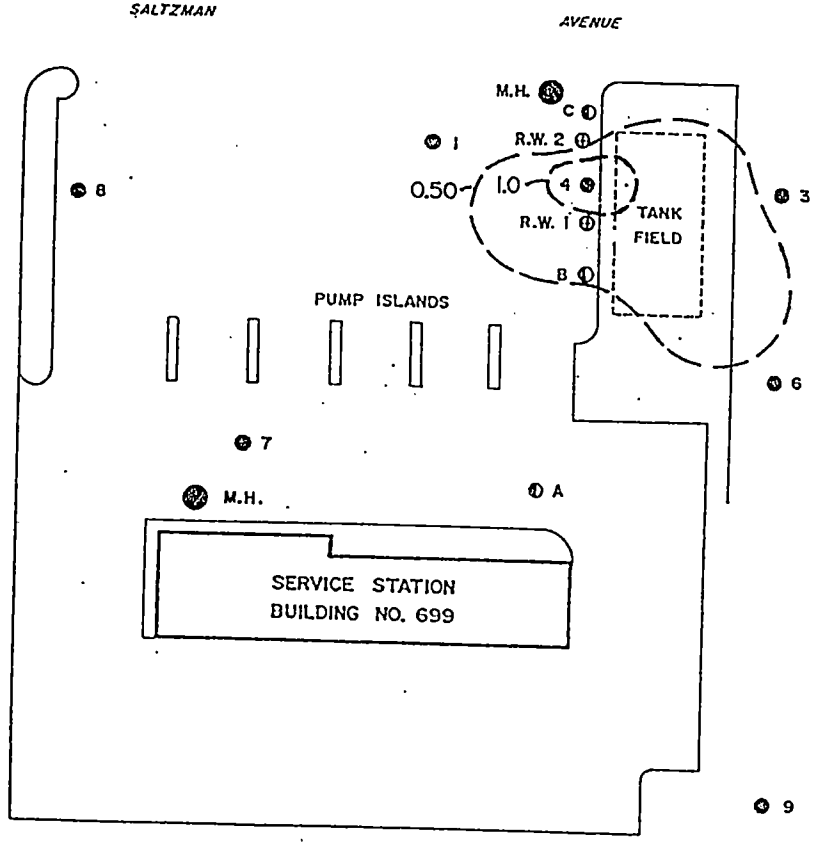
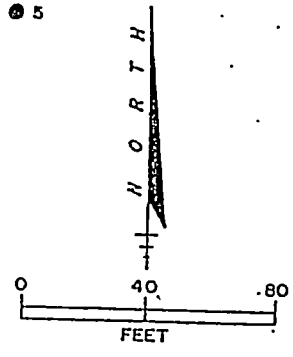
3	0.49
4	1.83
RW 1	0.48
RW 2	0.30
C	0.14





LEGEND

- 4" MONITORING WELL
- 3" MONITORING WELL

FIGURE 4
ISOPLETH MAP
PRODUCT THICKNESS
6 JUNE 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

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3	0.69
4	0.37
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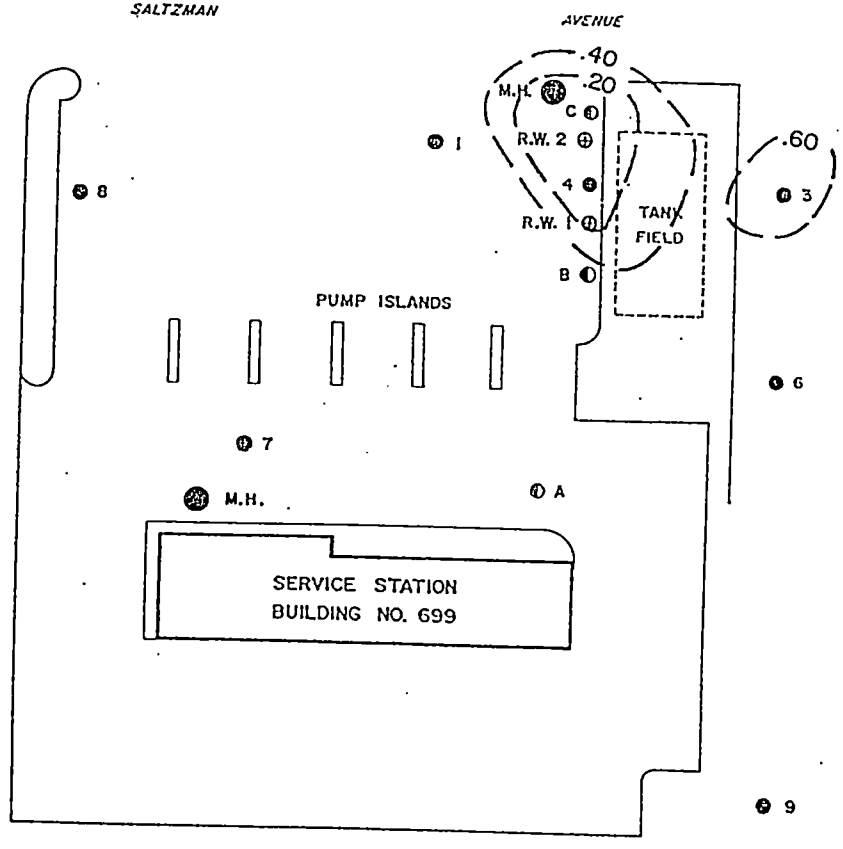
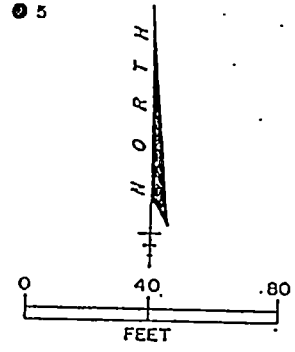
RW2	0.9
C	0.08





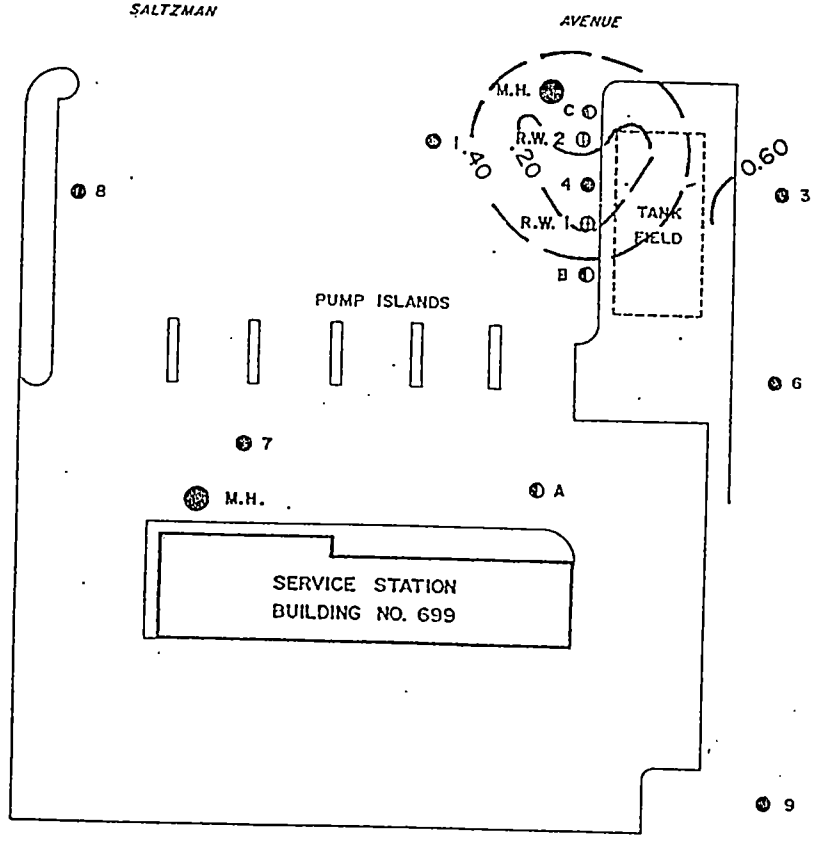
LEGEND

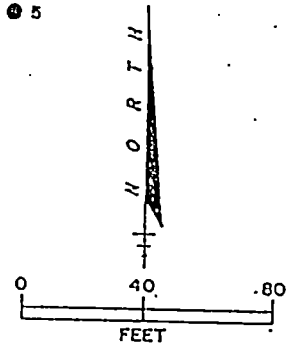
- 4" MONITORING WELL
- 3" MONITORING WELL

FIGURE 5
ISOPLETH MAP
PRODUCT THICKNESS
14 JUNE 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

M.W.	PROD. THICK.
1	0.42
3	0.69
4	0.37
RW1	0.21
RW2	0.09
C	0.08





LEGEND

- ● 4" MONITORING WELL
- ◐ 3" MONITORING WELL

FIGURE 6
ISOPLETH MAP
PRODUCT THICKNESS
20 JUNE 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

4.3 GROUNDWATER CONDITIONS

Starting November 27, 1989, static liquid levels within the thirteen wells were measured from the surveyed points weekly. Free product was observed in wells MW-1, MW-3, MW-4, MW-B, MW-C, RW-1 and RW-2 ranging from .03 to 2.12 feet in thickness. Relative elevations of the groundwater levels were calculated from the static water levels and relative elevation survey data and adjusted for the presence of free product (if any). Groundwater gradient maps were constructed from these adjusted levels. All liquid level data sheets to date are included in Appendix C. All groundwater gradient maps developed as part of this report can be found in Appendix D.

Groundwater gradient maps 1 through 31 are the adjusted groundwater contour maps constructed from liquid levels measured weekly. Groundwater gradient map 1 indicates groundwater as flowing south towards Husky Brook with water table depression occurring in monitoring wells MW-1, MW-3 and MW-4 in response to free product pumping. In groundwater gradient maps 2 through 5 groundwater flow is convoluted in response to an increase in pumping of free product and in 6 through 28 in response to groundwater pumping from monitoring well 4 and monitoring well 3 creating a cone of depression around these wells. Groundwater gradient maps 29 through 31 are the adjusted groundwater contour maps constructed during the period that the dual pump recovery system was shut down pending repair. These maps indicate that groundwater flow is to the south-southeast with water table depression occurring around the tankfield area in response to the presence of free product.

Groundwater gradient maps 31 through 34 were constructed from liquid levels measured from June 6, 1990 to June 20, 1990 and exclude the wells that contain free product. These maps indicate that groundwater flows to the south-southeast towards Husky Brook.

Well yields in the monitoring wells ranged from 0.5 to 1.5 gallons per minute. These well yields were observed during well development and pumping activities.

4.4 GROUNDWATER ANALYTICAL RESULTS

On December 15, 1989, and May 30, 1990, GES collected groundwater samples from eight monitoring wells for the purpose of laboratory analyses. All monitoring wells were purged immediately prior to sample collection. All sample collection, handling and documentation procedures are presented in Appendix A.

Table 1 summarizes the results of the laboratory analysis performed on the groundwater samples and quality assurance samples collected on December 15, 1989. Table 1A summarizes the results of the groundwater samples collected on May 30, 1990. The full lab report is presented in Appendix E.

VOCs detected in sample MW-2 was acetone below the limit of reliable quantitation at (9ppb). One unknown was also in detected in the library search at an cstimated concentration of 6 (ppb).

VOCs detected in sample MW-5 were methylene chloride below the limit of reliable quantitation at (1 ppb), acetone at a concentration of (910 ppb), chloroform at a concentration of (73 ppb), Bromodichloromethane (14 ppb) and dibromochloromethane below the limit of reliable quantitation at (1 ppb).

VOCs detected in sample MW-6 were methylene chloride below the limit of reliable quantitation at (280 ppb), acetone (2,300 ppb), benzene (740 ppb), toluene (8,700 ppb), ethylbenzene (2,500 ppb), total xylenes (13,000 ppb). VOCs detected in the library search were 2-methylbutane at an estimated concentration of (550 ppb) and one unknown at an estimated concentration of (740 ppb). Total benzene, toluene, ethylbenzene and xylenes (BTEX) compounds were detected at a concentration of (24,940 ppb).

TABLE 1

ANALYTICAL SUMMARY DATA
FORT MONMOUTH
MONMOUTH COUNTY, NEW JERSEY

15 DECEMBER 1990

(all concentrations in parts per billion)

LOCATION	TOTAL BTEX	MTBE	TBA	VOCs*
MW-2	ND	ND	ND	15
MW-5	ND	ND	ND	999
MW-6	24,900	ND	ND	3870
MW-7	1	ND	ND	352
MW-8	ND	ND	ND	105
MW-A	18,500	1,100	960	6289
FIELD BLANK	ND	ND	ND	28
TRIP BLANK	ND	ND	ND	65

ND - not detected

MTBE - Methyl Tert-Butyl Ether

BTEX - Benzene, Toluene, Ethylbenzene, Xylenes

TBA - Tert-Butyl Alcohol

*VOCs - all volatile organic compounds except BTEX, MTBE and TBA

TABLE 1A

ANALYTICAL SUMMARY DATA
FORT MONMOUTH
MONMOUTH COUNTY, NEW JERSEY

30 MAY 1990

(all concentrations in parts per billion)

LOCATION	TOTAL BTEX	MTBE	TBA	VOCs*
MW-9	ND	ND	ND	ND
MW-10	ND	ND	ND	66
FIELD BLANK	ND	ND	ND	4
TRIP BLANK	ND	ND	ND	4

ND - not detected

MTBE - Methyl Tert-Butyl Ether

BTEX - Benzene, Toluene, Ethylbenzene, Xylenes

TBA - Tert-Butyl Alcohol

*VOCs - all volatile organic compounds except BTEX, MTBE and TBA

VOCs detected in sample MW-7 were methylene chloride below the limit of reliable quantitation at (1 ppb), acetone (270 ppb) and ethylbenzene detected below the limits of reliable quantitation at (1 ppb). VOCs detected in the library search were 2-methylbutane at an estimated concentration of (18 ppb), 2,3-dimethylbutane at an estimated concentration of (9 ppb), 2,3-dimethylpentane at an estimated concentration of (9 ppb), an unknown alkane at an estimated concentration of (18 ppb) and four unknowns at a total estimated concentration of (27 ppb). Total BTEX compounds were detected below the limit of reliable concentration at (1 ppb).

VOCs detected in sample MW-8 was acetone (91 ppb), 1,1,1,-trichloroethane was detected below the limit of reliable quantitation at (1 ppb). VOCs detected in the library search were 2-methylbutane at an estimated concentration of (7 ppb) and one unknown at an estimated concentration of (6 ppb).

VOCs detected in sample MW-A were acetone (1,400 ppb), TBA (960 ppb), MTBE (1,100 ppb) 1,1,1, trichloroethane was detected below the limits of reliable quantitation at (15 ppb), benzene (2,100 ppb), toluene (3,900 ppb), ethylbenzene (3,000 ppb) and total xylenes (9,500 ppb). VOCs detected in the library search were 2-methylbutane at an estimated concentration of (910 ppb), 1,2-dimethylcyclopropane at an estimated concentration of (110 ppb), 2-methyl-1-butene at an estimated concentration of (190 ppb), methylcyclopentane at an estimated concentration of (530 ppb), 2,3-dimethylbutane at an estimated concentration of (66 ppb), an unknown alkane at an estimated concentration of (98 ppb), 2,3-dimethylbutane at an estimated concentration of (170 ppb), 2-butanol isomer at an estimated concentration of (280 ppb), 1-methyl-3-(1-methylethyl)-benzene at an estimated concentration of (190 ppb), 1,2,4-trimethylbenzene at an estimated concentration of (290 ppb) and two unknowns at a total estimated concentration of (1090 ppb). Total BTEX compounds were detected at a concentration of (18,500 ppb).

VOCs detected in the field blank from the December 15, 1990 sampling event were methylene chloride detected below the limits of reliable quantitation at (3 ppb) and acetone (25 ppb). VOCs detected in the trip blank from the December 15, 1990 sampling event were methylene chloride detected below the limits of reliable quantitation at (2 ppb) and acetone (37 ppb).

No VOCs were detected in sample MW-9. One volatile organic compound (Tetrachloroethene) was detected in sample MW-10 at (66 ppb). No BTEX compounds were detected in either of these samples.

VOCs detected in the field blank and trip blank collected on May, 30 1990 were methylene chloride, detected below limits of reliable quantitation at a concentration of 4 ppb.

The analytical results from the December 15, 1989 sampling event detected methylene chloride below the limits of reliable quantitation in the six monitoring wells and the field and trip blank, as well as the method blank. Methylene chloride was also detected in the field and trip blank during the May 30, 1990 sampling event and may be contributed to laboratory contamination. Acetone was also detected in the six monitoring wells and the field and trip blank during the December 15, 1989 sampling event, as well as the method blank and may be attributed to laboratory contamination and improper field decontamination procedures.

Figure 7 is a site location map displaying the laboratory results of BTEX, MTBE and TBA concentrations collected during the December 15, 1989 sampling event.

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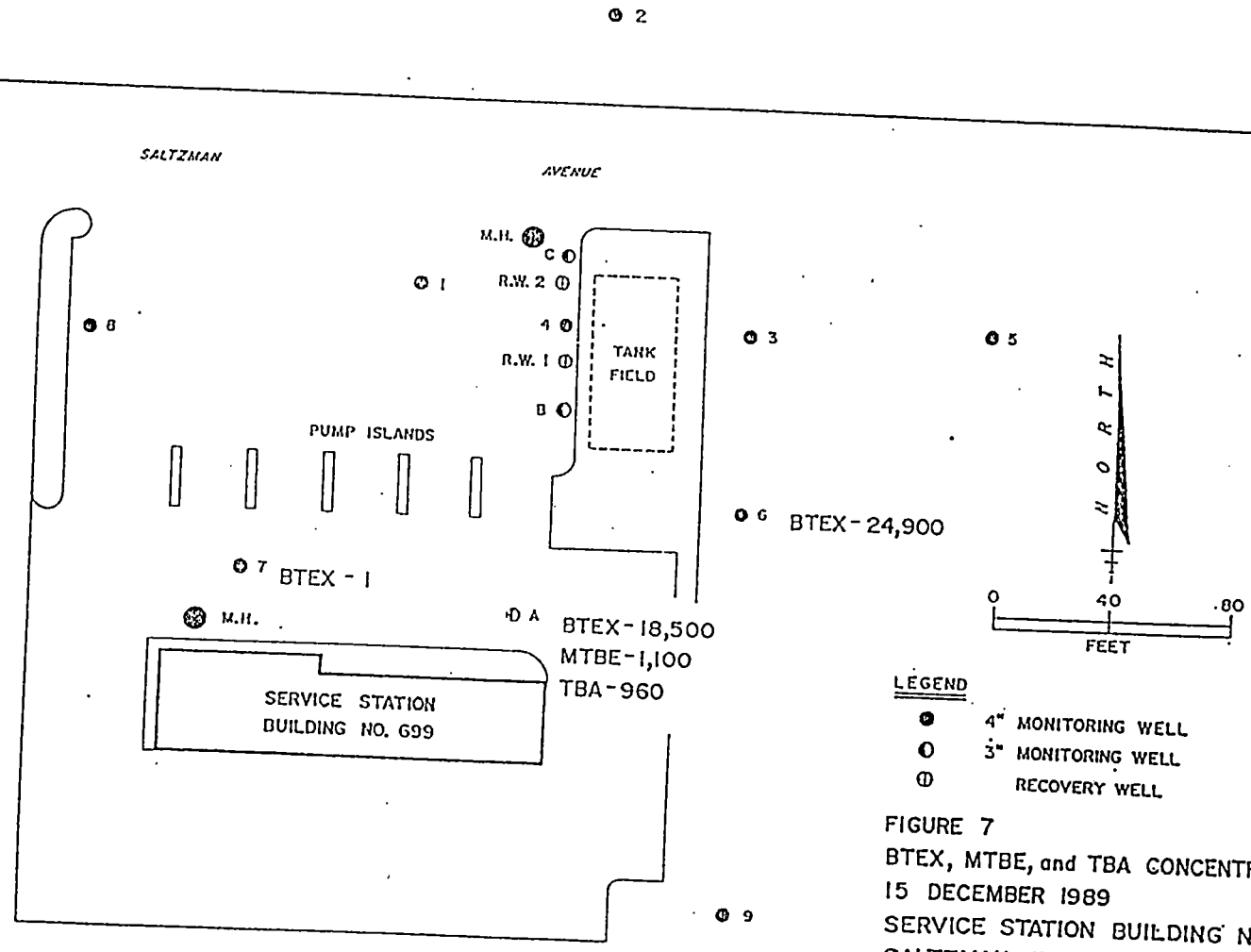


FIGURE 7
BTEX, MTBE, and TBA CONCENTRATIONS
15 DECEMBER 1989
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

4.5 LOCAL WATER USAGE

Public water is provided to Fort Monmouth by the New Jersey American Water Company. The New Jersey Geological Survey (NJGS) reports no water withdrawal points within a one mile radius of the site. The nearest water withdrawal point is located 1.5 miles to the south east of the site.

Approximate distances of all industrial water withdrawal points within a five mile radius are presented in Appendix F. This information was obtained from a computer search provided by the NJGS and includes well depths, listed yield capacities and geologic formations. Well records provided by the NJDEP Bureau of Water Allocation show no domestic wells located within a 1000 foot radius of the site.

4.6 PUBLIC UTILITIES

Underground utilities in the area of Fort Monmouth include: N.J. Bell Telephone Company, N.J. Natural Gas Company, Jersey Central Power and Light, U.S. Sprint, New Jersey American Water Company and the Northeast Regional Monmouth County Sewer Authority. A site plan showing the locations of the underground utilities is provided in Figure 8.

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

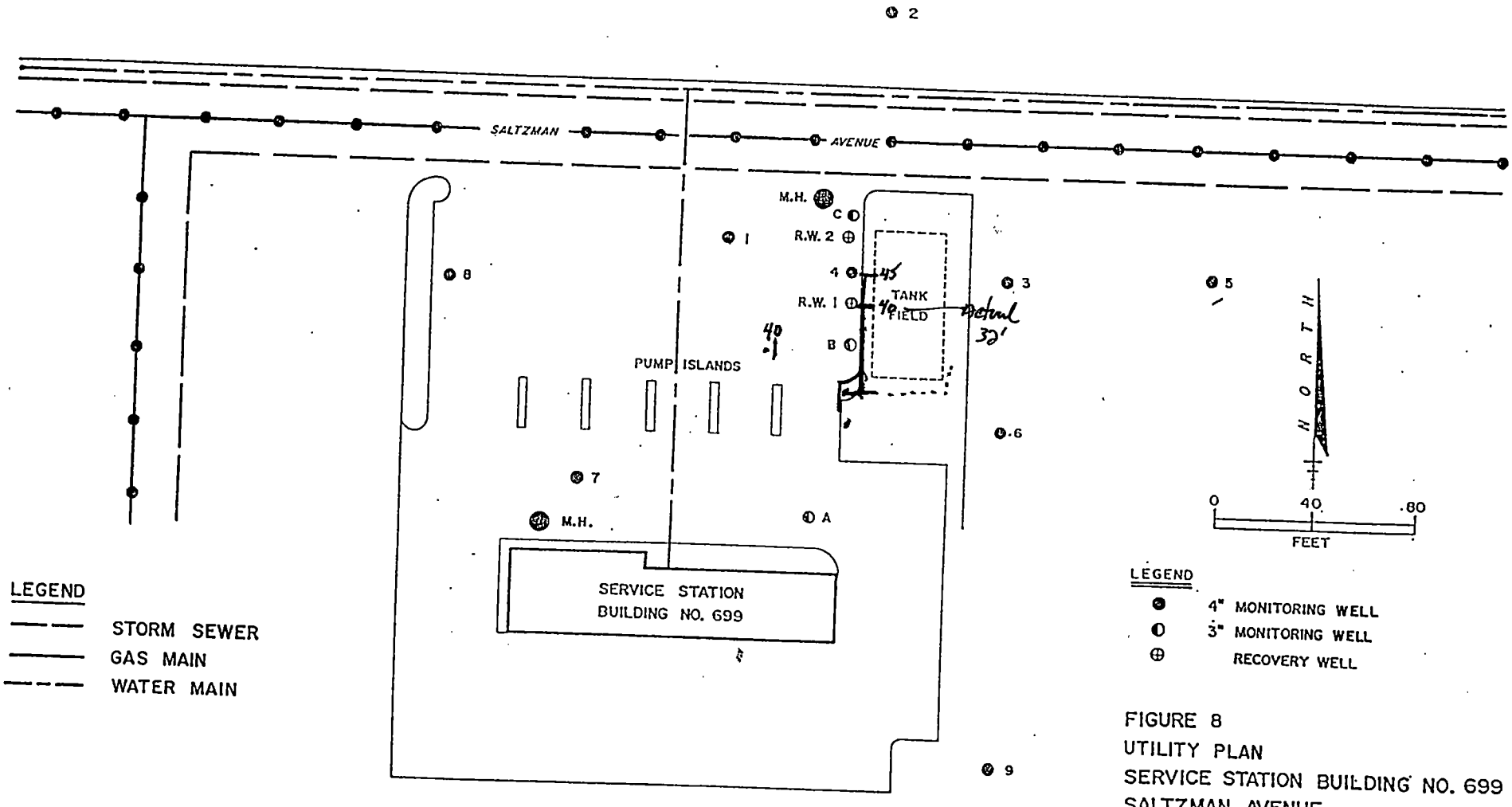


FIGURE 8
UTILITY PLAN
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

5.0 SUMMARY

Results of the GES Phase One, Phase Two & Phase Three investigation of the Post Main gasoline station indicate that a gasoline release to the subsurface has occurred due to a supply line loss. The subsurface is underlain by sediments of the Hornerstown Formation. Groundwater flow is to the south-southeast towards Husky brook. Monitoring wells and recovery points MW-1, MW-3, MW-4, MW-B, MW-C, RW-1 and RW-2 contain free product. Three, free phase recovery pumps and two dual recovery pumps were utilized in the removal of free product from the site. The total free product recovered to date totals 6,733 gallons. Dissolved, gasoline related volatile organic compounds were detected in the downgradient monitoring wells MW-6, MW-7 & MW-A at the site. A well search conducted by the NJGS indicates that no water withdrawal points are located within 2500 feet of the site. Well records obtained by the NJDEP Bureau of Water Allocation indicate that no domestic wells are located within 1000 feet of the site.

APPENDIX A
SITE SPECIFIC
QUALITY ASSURANCE AND QUALITY CONTROL

POST MAIN GASOLINE STATION
FORT MONMOUTH, N.J.

SOIL SAMPLING PROCEDURES
WELL DRILLING AND INSTALLATION PROCEDURES
GROUNDWATER SAMPLING PROCEDURES
LABORATORY ANALYTICAL METHODS

TABLE OF CONTENTS

1.0 SAMPLE COLLECTION PROCEDURES

The following information details the soil sample collection procedures utilized during the field operations at the Post Main Gasoline station located in Fort Monmouth, New Jersey. These procedures represent methods used to address the validity of soil samples collected at the site and cover the means whereby borings were advanced and sampled.

Soil borings for lithologic identification and groundwater monitoring well installation were advanced using a truck mounted hollow stem auger rig. Soil samples were collected ahead of the auger flights using a 140 pound drop hammer to drive split spoons into the sediment. Soil samples were collected using split spoon samplers and because the samples were used for lithologic purposes only, the sampler was rinsed with distilled water between samples and steam cleaned between wells.

Equipment:

1. Impact soil sampling device (drill rig or equivalent).
2. Soil boring device (drill rig with hollow stem augers).
3. Steam cleaner, potable water and electricity source.
4. Stainless steel 2" OD split spoon samplers.
5. Disposable fiber brush.
6. Distilled water.
7. 2 mm plastic sheeting, two plastic pails, latex gloves, paper towels, aluminium foil, oil/water interface probe, shovel and indelible marker.

Procedure:

1. All downhole drilling equipment and the rear of the drilling/sampling device were steam cleaned using potable water. Steam cleaning took place at a designated location appropriate for the steam cleaning equipment.

2. The split spoon samplers and stainless steel sampling equipment were scrubbed clean and rinsed with distilled water.

3. The ground surface was cleared of surface debris and a 2 square foot section of asphalt was removed by jackhammer. The drilling/sampling device was then set up over the boring location.

4. The augers were advanced to the desired sample depth.

5. The subsurface materials encountered during boring were logged by the geologist/hydrogeologist as they were brought to the surface.

6. A rinsed split spoon sampler was used to collect the soil sample from the desired sample zone ahead of the auger flights. The split spoon was advanced two feet and then retrieved from the borehole.

7. The soil was then removed from the split spoon using a gloved hand. After removal of the soil the spoon was washed with a solution of distilled water and liquinox.

8. After the sampling was completed, the auger flights were advanced to the proper depth above the next sample interval. The sampling process described above was then repeated for all subsequent sampling depths.

9. At the completion of the boring, all drilling equipment was removed and a monitoring well was constructed in the borehole to NJDEP specifications for wells completed in unconsolidated deposits.

10. The drilling/sampling equipment was moved to the steam cleaning area and the process described above was repeated for all subsequent soil boring locations.

2.0 MONITORING WELL INSTALLATION PROCEDURES

The following information details the monitoring well installation procedures utilized during the field operations at the Post Main Gasoline station, located in Fort Monmouth, New Jersey. These procedures were used during the installation of MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9 and MW-10. Wells were constructed to NJDEP standard specifications for monitoring wells completed in unconsolidated deposits.

Equipment:

1. Drill rig equipped with 10 inch OD (8 inch ID), hollow stem augers.
2. Steam cleaner, potable water, electric source.
3. 2 millimeter plastic sheeting.
4. Water level indicator (interface probe).
5. Schedule 40, 4 inch ID PVC riser pipe, (flush threaded).
6. Schedule 40, 4 inch, ID PVC, 0.020 slot screen, (flush threaded).
7. PVC well plugs
8. #2 washed gravel filter pack.
9. Bentonite pellets.
10. Cement, (portland type #1).
11. Protective inner locking cap, with steel flushmount cover.

Personnel:

1. New Jersey licensed well driller.
2. Driller's helper.
3. Geologist/hydrogeologist.

Procedures:

1. The geologist/hydrogeologist selects well locations.

2. The drill rig and all down-hole equipment are steam cleaned with potable water, at a designated location, away from well locations.

3. The drill rig is set up over the well location, and a 10 inch diameter boring is drilled, using hollow stem augers.

4. The geologist logs all cuttings, and determines first water.

6. The borehole is drilled to a minimum of ten feet below groundwater.

7. PVC screen is set inside hollow-stem augers from ten feet below, to 2 feet above first groundwater.

8. A PVC riser pipe is set inside the hollow stem augers, from the top of the screen to the ground surface.

9. As augers are retrieved from the borehole, the annular space around the screen is filled with #2 gravel filter pack to a minimum of 1 foot above the top of the screen.

10. A minimum of 1 foot thickness of bentonite pellets are added atop the filter pack, potable water is then added to the pellets. Pellets are allowed to hydrate for a minimum time of one hour to create a seal.

11. After the seal is set, the remaining annular space around the PVC riser pipe is grouted with a neat cement mixture.

12. The well is finished at the ground surface with a locking protective cap, steel casing, steel manhole cover and cement collar.

13. The drill rig, and all down-hole equipment are steam cleaned at the designated decontamination area, and then moved to the next well location.

14. Above procedures are followed for all subsequently installed monitoring wells.

3.0 GROUNDWATER SAMPLING PROCEDURES

The following information details the groundwater sample collection procedures utilized for obtaining samples from each of the monitoring wells installed on the property at the Post Main Gasoline station, located in Fort Monmouth, New Jersey. Trip and Field Blanks were prepared in accordance with the procedures described in section 4.0 of this Appendix. These procedures represent methods that were used to address the validity of the collection and handling procedures for water data.

Equipment:

1. Interface probe.
2. Electric powered centrifugal pump with dedicated intake and discharge hoses.
3. Disposable polypropylene rope.
4. Dedicated and lab cleaned teflon bailers with bottom valves.
5. Two plastic pails
6. Potable water.
7. Distilled water.
8. Liquinox/distilled water solution.
9. Acetone
10. Disposable fiber brush.
11. Laboratory cleaned, 40 milliliter glass vials with teflon lined septum screw caps.
12. Sample cooler and ice packs.
13. Disposable latex gloves, labels, indelible marker, chain of custody forms.

Personnel:

1. Two Environmental technicians.

1. The water level in the well was directly measured using an interface probe. Prior to use the interface tape and probe were cleaned by wiping with a paper cloth, washing in a liquinox/distilled water solution, and rinsing in distilled water.

2. Once the depth to groundwater was established, the volume of standing water in the well was calculated using the relationship that a 4 inch diameter well contains 0.653 gallons per foot.

3. The intake hose was lowered into the well, and connected to the centrifugal pump.

4. The discharge hose was placed in a 55 gallon drum and the well water was discharged to the drum. Prior to each use, the intake hose was changed with a new length of polyethylene tubing, and discarded after each use.

5. Three to five times the standing water volume in the well was then pumped to the drum.

6. After purging the well, the water level was allowed to recover to static water level.

7. The wells were sampled using a teflon bailer (bottom valve) suspended from a dedicated section of polypropylene rope. The bailer was cleaned in the lab by washing in a liquinox/distilled water solution, rinsing with distilled water, rinsing in acetone, air drying, and rinsing in distilled water. The water samples were collected 2 to 3 feet below the air/water interface. The contents of the first bailer discarded, and the remaining bails constituted the sample.

8. The volume collected in the bailer was poured directly into the appropriate glassware (40 milliliter vials for volatile analyses) and all containers capped.

9. A label was affixed to each sample container showing the project name, sample number, depth, date and samplers initials.

10. The sample containers were placed in a storage cooler at 4 degrees Centigrade (wet ice) for transport to the laboratory.

15. Chain of custody was filled out for the sample.

16. At the completion of sampling, all sampling equipment was cleaned using the methods described in Item 1. The well was capped and locked. Sampling of all subsequent wells was done in accordance with the procedures described above.

4.0 TRIP AND FIELD BLANKS

For each day of groundwater sampling, a trip blank and field blank were prepared and accompanied the samples collected during that days sampling event. The trip and field blanks were prepared for each day of sampling and for each matrix sampled.

4.1 Trip Blanks

The trip blanks consisted of laboratory cleaned sample containers filled with analyte free water. The trip blanks originated in the laboratory and remained unopened. The trip blanks were handled, stored and transported along with and in the same manner as the samples collected during the day's sampling. The trip blanks were analyzed for VOC+15.

4.2 Field Blanks

The field blanks consisted of two sets of containers; one empty and one full with analyte free water. The water was transferred through the clean sampler from the full bottles into the empty bottles prior to the day's field sampling. The field blank was prepared in the most contaminated location on the site, if such a location was established. The field blanks were analyzed for all parameters sampled for during the day's sampling event.

5.0 ANALYTICAL METHODOLOGY

All laboratory services required for the analyses of samples collected during the investigation of the Post Main Gasoline station were supplied by Northeastern Analytical Corp. of Marlton, New Jersey.

Analytical methodologies, sample containers, preservation, holding times and sample container preparation followed for the parameters to be analyzed in the project were according to the following table.

TABLE OF ANALYTICAL METHODS

ANALYTICAL PARAMETER	SAMPLE CONTAINER	PRESERVATION	TIME	HOLDING METHOD
Volatile Organics (VOC). Aqueous	Glass, 40 ml vial, plastic screw cap, teflon lined septum.	Cool, 4 deg. C. dark	10 days	USEPA-CLP Statement of work for organic Analysis. 10-86

APPENDIX B

WELL PERMITS
SOIL BORING LOGS AND
WELL CONSTRUCTION DIAGRAMS

DWR 138 (2/86) 15041

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

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

38

Permit No. 0923805 -1
0923809 -1
0923810 -1
0923811 -1

PERMIT TO DRILL WELL

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

COORD #: 29. 13. 6, 29

Owner US Army
Address 167 Riverside Dr
Fort Monmouth NJ 07703-5000

Name of Facility Fort Monmouth Service Station
Address Bldg 699, Saltzman Ave
Fort Monmouth NJ 07703-5000

Driller TONY KULL
Address 437 Newman Springs Rd
Lincroft NJ 07757

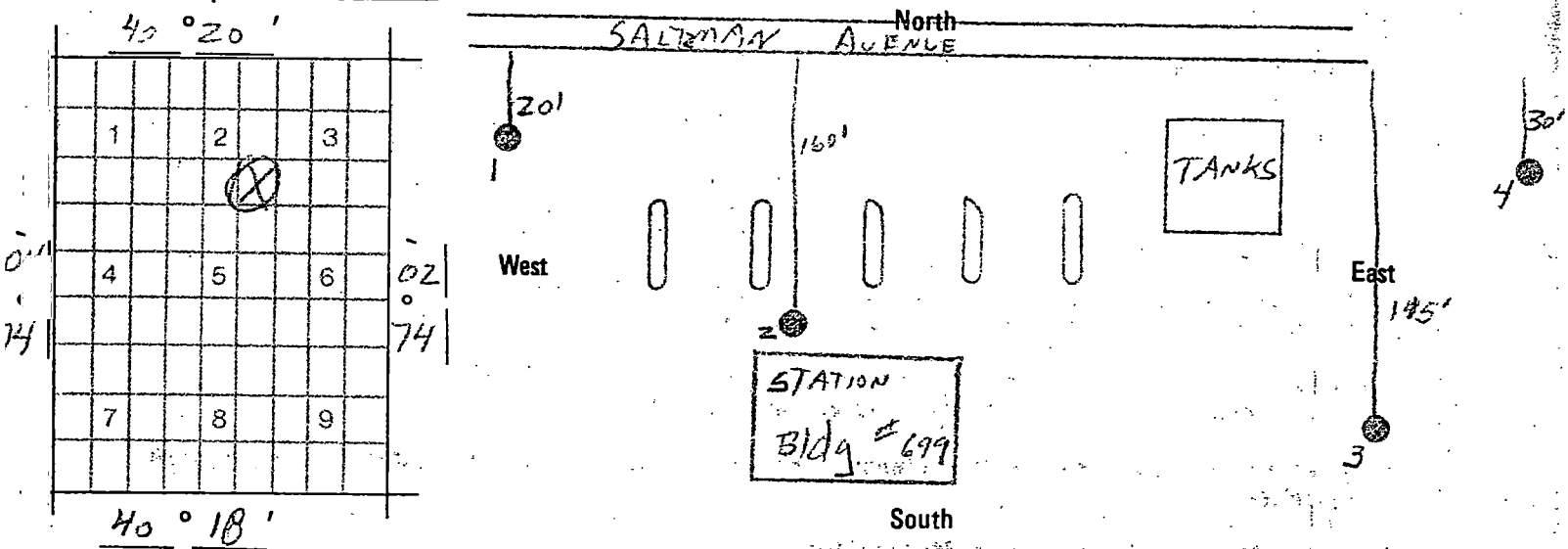
Diameter of Well	10 Inches	Proposed Depth of Well	30 Feet
Proposed Capacity of Pump	0 GPM	Method of Drilling (cable-tool,rotary,etc.)	Auger
Use of Well (See Reverse)	Monitoring (4)		
Drinking Water Supply?	yes (see #6 on reverse)		no

LOCATION OF WELL

Lot #	Block#	Municipality	County
TAX EXEMPT		OCEANPORT	MONMOUTH

State Atlas Map No. 29

Draw sketch showing distance and relations of well site to nearest public roads, streets, septic systems, etc.



REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS PERTAINING TO THIS PERMIT. APPROVAL OF THIS PERMIT IS SUBJECT TO ACCEPTANCE OF AND COMPLIANCE WITH THE FOLLOWING ADDITIONAL CONDITIONS.

- ☐ **DOMESTIC/PUBLIC NON-COMMUNITY** Water Supply Wells shall comply with N.J.A.C. 7:10-12.1 et. seq.
- ☐ **PUBLIC COMMUNITY** Water Supply Wells shall obtain construction and operation permits from the Bureau of Safe Drinking Water in accordance with N.J.A.C. 7:10-11.2 and be constructed in compliance with N.J.A.C. 7:10-11.3.
- ☐ **DOMESTIC IRRIGATION SUPPLY** - No piping from the well for which the permit applies shall enter any building.
- ☐ **HEAT PUMP WELLS** - Wells must be a minimum of 50 feet apart and the water must be returned to the same aquifer as the production well. A two hour pump test must be performed on the return well at a rate of 1½ times the estimated return flow of water.
- ☐ **INDUSTRIAL SUPPLY** - A physical connection control permit shall be obtained pursuant to the provisions of N.J.A.C. 7:10-10-1 et. seq.
- ☐ **REPLACEMENT WELL** - Existing well must be sealed by a certified New Jersey licensed well driller upon abandonment.
- ☒ MONITORING PURPOSES ONLY ☐ IRRIGATION PURPOSES ONLY ☐ TEST PURPOSES ONLY
- ☐ PINELANDS - Well must be drilled over 100' deep or a clay layer at least 4' in thickness must be encountered.
- ☐ GEOPHYSICAL LOGS of this well must be made. Permanent pumping equipment *SHALL NOT* be installed until such logs are made.
- ☐ SAMPLES of cuttings required every _____ feet or change in material.
- ☐ RESULTS of a volatile organic scan must be obtained prior to using the water and submitted to _____
- ☐ MINIMUM distance requirements as per N.J.A.C. 7:10-12.13 have not been met - see attached additional condition(s).
- ☐ _____

This Space for Approval Stamp

WELL PERMIT APPROVED
Dept. of Environmental Protection
Water Resources/Water Allocation
NOV 21 1989

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

Date 11/21/89

Signature of Driller Anthony J. Kull

Signature of Owner Anthony J. Kull For Owner

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

DWR-133 (2/89) 13548

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

2923677 - 1
2923 678 - 2
Permit No. 2923 679 - 3
2923 680 - 4

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

PERMIT TO DRILL WELL

B8

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

COORD #: 29.13.6,65

Owner US Army
Address 167 Riverside Dr
Fort Monmouth, NJ 07703-5000

Name of Facility Fort Monmouth Service Station
Address Bldg. 699, Saltzman Ave
Oceanport NJ 07703-
Fort Monmouth 5000

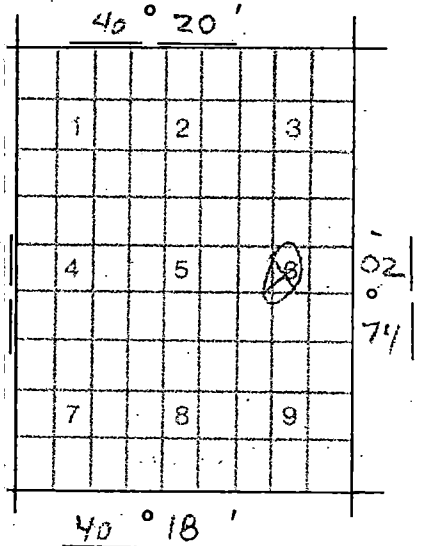
Driller BL Myers
Address RD 2 Box 190F
Wermole PA 19343

Diameter of Well	10 Inches	Proposed Depth of Well	30 Feet
Proposed Capacity of Pump	0 GPM	Method of Drilling (cable-tool,rotary,etc.)	Auger
Use of Well (See Reverse)	Monitoring (4)		
Drinking Water Supply?	yes (see #6 on reverse)		no

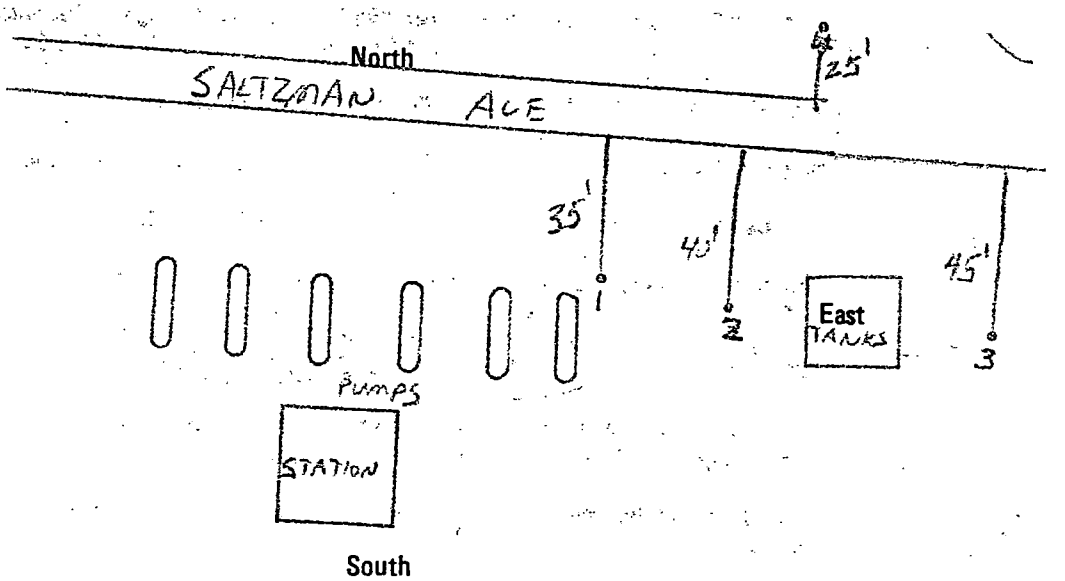
LOCATION OF WELL

Lot #	Block#	Municipality	County
TAX EXEMPT		Oceanport	Monmouth

State Atlas Map No. 29



Draw sketch showing distance and relations of well site to nearest public roads, streets, septic systems, etc.



E REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS PERTAINING TO THIS PERMIT. APPROVAL OF THIS PERMIT IS DE SUBJECT TO ACCEPTANCE OF AND COMPLIANCE WITH THE FOLLOWING ADDITIONAL CONDITIONS.

- ☐ **DOMESTIC/PUBLIC NON-COMMUNITY** Water Supply Wells shall comply with N.J.A.C. 7:10-12.1 et. seq.
- ☐ **PUBLIC COMMUNITY** Water Supply Wells shall obtain construction and operation permits from the Bureau of Safe Drinking Water in accordance with N.J.A.C. 7:10-11.2 and be constructed in compliance with N.J.A.C. 7:10-11.3.
- ☐ **DOMESTIC IRRIGATION SUPPLY** - No piping from the well for which the permit applies shall enter any building.
- ☐ **HEAT PUMP WELLS** - Wells must be a minimum of 50 feet apart and the water must be returned to the same aquifer as the production well. A two hour pump test must be performed on the return well at a rate of 1½ times the estimated return flow of water.
- ☐ **INDUSTRIAL SUPPLY** - A physical connection control permit shall be obtained pursuant to the provisions of N.J.A.C. 7:10-10-1 et. seq.
- ☐ **REPLACEMENT WELL** - Existing well must be sealed by a certified New Jersey licensed well driller upon abandonment.
- ☒ MONITORING PURPOSES ONLY ☐ IRRIGATION PURPOSES ONLY ☐ TEST PURPOSES ONLY
- ☐ PINELANDS - Well must be drilled over 100' deep or a clay layer at least 4' in thickness must be encountered.
- ☐ GEOPHYSICAL LOGS of this well must be made. Permanent pumping equipment *SHALL NOT* be installed until such logs are made.
- ☐ SAMPLES of cuttings required every _____ feet or change in material.
- ☐ RESULTS of a volatile organic scan must be obtained prior to using the water and submitted to _____
- ☐ MINIMUM distance requirements as per N.J.A.C. 7:10-12.13 have not been met - see attached additional condition(s).
- ☐ _____
- _____

This Space for Approval Stamp

WELL PERMIT APPROVED
Dept. of Environmental Protection
Water Resources/Water Allocation
OCT 31 1989

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

Date 10/31/89

Signature of Driller _____

Signature of Owner Anthony P. Hall FOR OWNER

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

DWR-133M (9/89) SERIAL # 02627

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

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

PERMIT TO DRILL WELL

Permit No. 29946-38

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

COORD # 29 .13 .6 65

Owner US Army
Address 167 Riverside Dr
Fort Monmouth, NJ 07703-5000

Name of Facility Fort Monmouth Service Station
Address Bldg. 699, Saltzman Ave
Fort Monmouth, NJ 07703-5000

Driller BL Myers J1472
Address RD 2 Box 160F
Glenmoore PA 19343

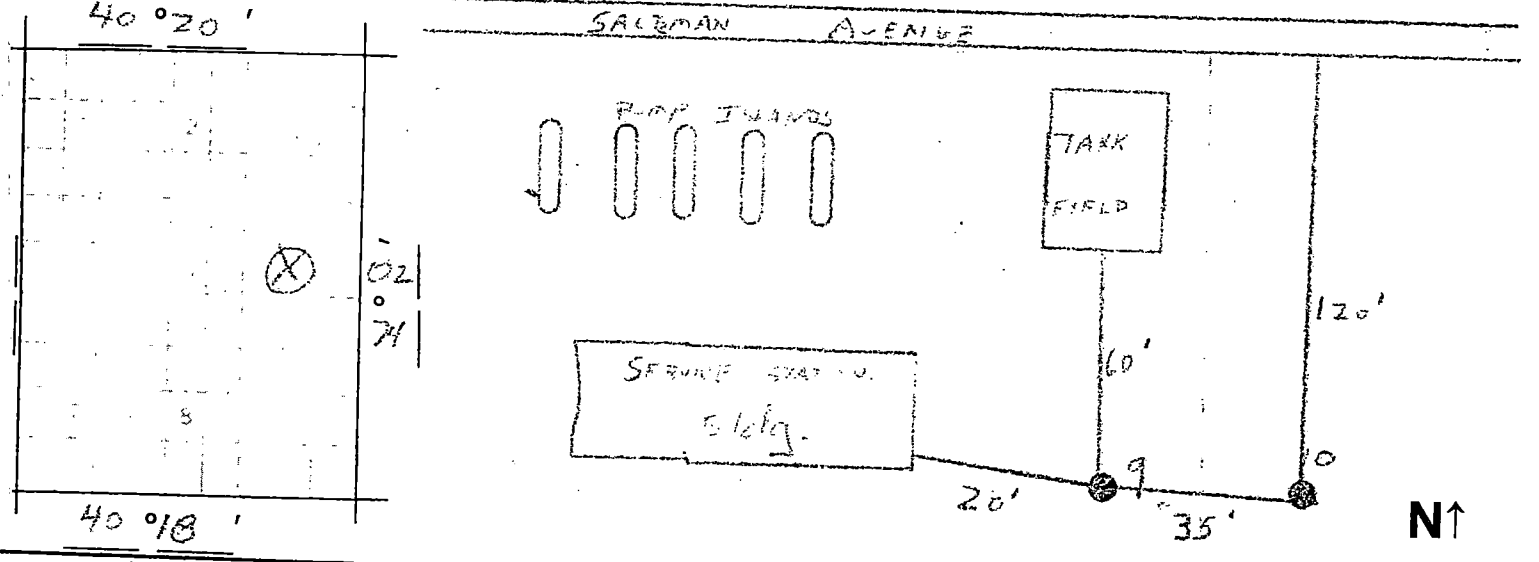
Diameter of Well(s)	10 Inches	Proposed Depth of Well(s)	30 Feet
# of Wells Applied for (max. 10)	2	Will pumping equipment be installed? YES ☐ NO ☐	
Type of Well (see reverse)	Monitoring	If yes, give pump capacity	GPM

LOCATION OF WELL(S)

Lot #	Block#	Municipality	County
TAX EXEMPT		Oceanport	Monmouth

State Atlas Map No. 29

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



- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☒ For monitoring purposes only
- ☐ Only pure bentonite drilling muds are to be used for installation

FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED

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

Case I.D. Number: _____

This Space for Approval Stamp

APR 26 1990

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

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

Date 4/11/90

Signature of Driller [signature] J1472

Signature of Owner [signature] for Owner

COPIES: Water Allocation – White and Pink

Project Fort Monmouth Owner E- Systems, Inc.

Location Fort Monmouth Eatontown Permit No 2923677-1

Well Number 1 Total Depth 15' Diameter 10"

Casing Elevation Water Level: Initial 4' Static

Screen Diameter 4" Length 13' Slot Size .020"

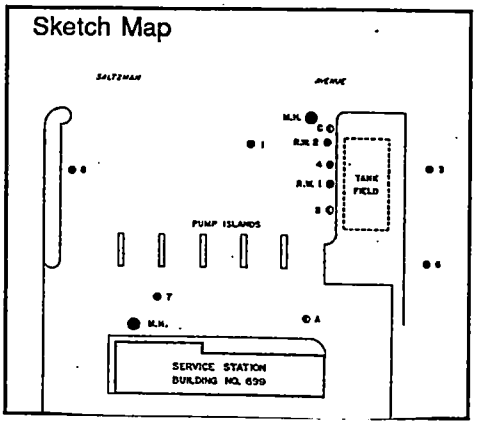
Casing Diameter 4" Length 2' Type Sch .40 PVC

Drilling Method Auger Sample Method Continuous Split Spoon

Completion Details Flush mount, cement collar, Inner locking cap

Driller B.L. Myers Log By J. Gallagher Date Drilled 11/2/89

Sketch Map



Depth (Ft)	Well Constr	HNu ppm	Lithological Description		Comments
1			ASPHALT & BALLAST		
2			SAND	Dark green medium (-) to fine SAND trace silt.	
3				Orange-tan-brown medium to fine SAND, little clay.	PHC odor, slightly moist
4					
5				Dark green fine SAND, trace silt alternating with orange brown medium to fine SAND.	
6					PHC odor, saturated
7					
8					
9			CLAY	Gray-orange: CLAY, trace fine sand	
10			SAND	Orange-brown medium to fine SAND some clay, trace silt. Changing to Dark green-orange-medium to fine sand, little clay at 11.0'	
11					
12					PHC odor, saturated
13		10			
14					
15			END HOLE		
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Project Fort Monmouth Owner E-Systems, Inc

Location Fort Monmouth Eatontown Permit No 2923678-9

Well Number 2 Total Depth 17' Diameter 10"

Casing Elevation Water Level: Initial 5' Static

Screen Diameter 4" Length 15.5' Slot Size .020"

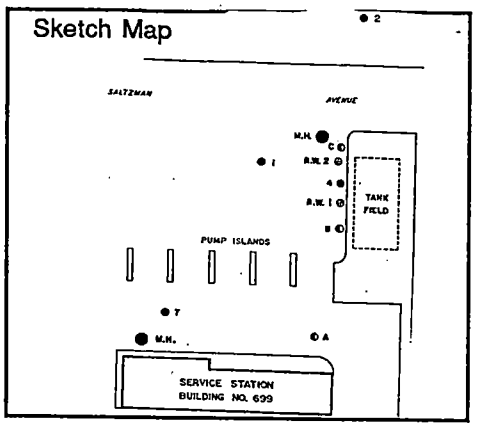
Casing Diameter 4" Length 1.5' Type Sch .40 PVC

Drilling Method Auger Sample Method Split Spoon every 5'

Completion Details Flush mount, cement collar, Inner locking cap

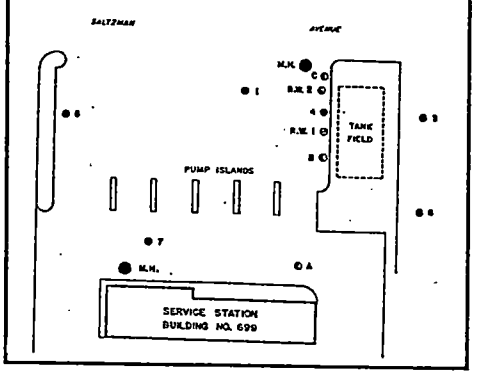
Driller B.L. Myers Log By J. Gallagher Date Drilled 11/2/89

Sketch Map



Depth (Ft)	Well Constr	HNu ppm	Lithological Description		Comments
1–3			SAND	Dark brown to black SAND trace clay and silt	
4–5		0	SAND	Dark green to black fine SAND, little silt, trace clay.	Slightly moist, no odor.
6–8				Dark green-fine SAND, some clay	Saturated
9–11		0			
12–13			CLAY	Black CLAY, little silt, trace fine sand	Saturated
14–15		0			
16–17			END HOLE		
18–25					

Sketch Map



Project Fort Monmouth Owner E-Systems, Inc.

Location Fort Monmouth Eatontown Permit No 2923679-1

Well Number 3 Total Depth 15' Diameter 10"

Casing Elevation Water Level: Initial 4' Static

Screen Diameter 4" Length 13' Slot Size .020"

Casing Diameter 4" Length 2' Type Sch .40 PVC

Drilling Method Auger Sample Method Split Spoon every 5'

Completion Details Flush mount, with manhole cover, Inner locking cap

Driller B.L. Myers Log By J. Gallagher Date Drilled 11/2/89

Depth (Ft)	Well Constr	HNu ppm	Lithological Description		Comments
1			ASPHALT, BALLAST STONE		
2			SAND	Dark green SAND, some clay.	PHC odor
3			SAND	Dark green-gray medium to fine SAND, little clay	
4					Water encountered @ 4'
5					
8					
7					
8					
9					
10					
11					
12					
13			SAND	Dark green-orange med to fine SAND, some clay.	
14					
15					
16			END HOLE		
17					
18					
19					
20					
21					
22					
23					
24					
25					

Project Fort Monmouth Owner E-System, Inc.

Location Fort Monmouth Eatontown Permit No 2923680-7

Well Number 4 Total Depth 20' Diameter 10"

Casing Elevation Water Level: Initial 3' Static

Screen Diameter 4" Length 18' Slot Size .020"

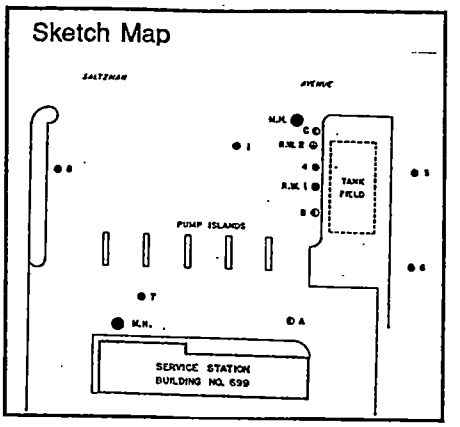
Casing Diameter 4" Length 2' Type Sch .40 PVC

Drilling Method Auger Sample Method Continuous Split Spoon

Completion Details Flush mount, with manhole, Inner locking cap

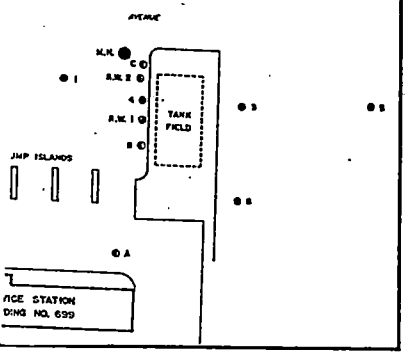
Driller B.L. Myers Log By J. Gallagher Date Drilled 11/2/89

Sketch Map



Depth (Ft)	Well Constr	HNu ppm	Lithological Description		Comments
1			ASPHALT, BALLAST		
2			SAND	Dark green SAND, some clay, odor	PHC odor
3			SAND	Dark green fine SAND, little clay	Saturated PHC odor
4					
5		185			
6					
7					
8					
9					
10					
11		170	SAND	Dark green to orange medium to fine SAND little clay	Saturated PHC odor
12					
13					
14					
15					
16			CLAY	Black CLAY, little fine sand	Saturated, PHC odor
17					
18					
19					
20			END HOLE		
21					
22					
23					
24					
25					

Sketch Map



Project Fort Monmouth Owner E-Systems, Inc.

Location Fort Monmouth Eatontown Permit No 2923808-1

Well Number 5 Total Depth 15' Diameter 10"

Casing Elevation Water Level: Initial 5.0' Static

Screen Diameter 4" Length 12' Slot Size .020"

Casing Diameter 4" Length 3' Type Sch .40 PVC

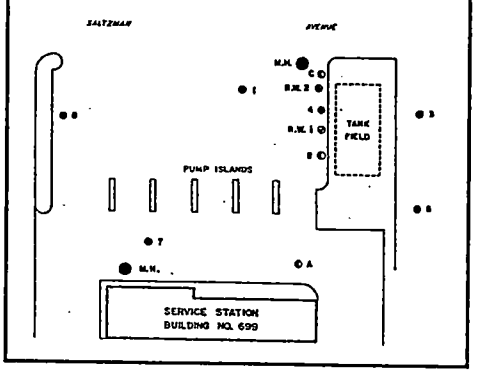
Drilling Method Auger Sample Method Split Spoon

Completion Details Flush mount, with manhole cover, inner locking cap

Driller B.L. Myers Log By J. Gallagher Date Drilled 11/30/89

Depth (Ft)	Well Constr	HNu ppm	Lithological Description	Comments
1			ASPHALT	
2			SILT Dark Brown-Black SILT, some clay, trace fine sand	No odor or sheen
3			SAND Dark green-orange fine SAND, little(-) clay	Blows 3,4,4,10
4				No odor or sheen
5				Groundwater encountered @ 5'
6				
7				Blows 2,4,4,5
8				
9				
10				
11			Black coarse (-) to fine SAND	
12				No odor
13			SAND Dark green fine SAND, some (-) clay	Blows 4,4,6,8
14				
15				
16			END HOLE @ 15'	
17				
18				
19				
20				
21				
22				
23				
24				
25				

Sketch Map



Project Fort Monmouth Owner E-Systems, Inc.

Location Fort Monmouth Eatontown Permit No 2923809-9

Well Number 6 Total Depth 15' Diameter 10"

Casing Elevation Water Level: Initial 4.5' Static

Screen Diameter 4" Length 14' Slot Size .020"

Casing Diameter 4" Length 1' Type Sch .40 PVC

Drilling Method Auger Sample Method Split Spoon

Completion Details Flush mount, with manhole cover, Inner locking cap

Driller B.L. Myers Log By J. Gallagher Date Drilled 12/1/89

Depth (Ft)	Well Constr	HNu ppm	Lithological Description	Comments
1			ASPHALT	
2			FINE SAND Dark green fine SAND, little clay	
3			Dark green fine SAND, some clay	PHC odor water contacted at 4.5' Blows 7,4,4,5
4				
5				
6				
7				
8			Light green-brown med (-) to fine SAND, trace clay	
9				
10				
11				
12				
13			Dark green-Black fine SAND little clay	Blows 5,4,5,8
14				
15				
16			END HOLE @ 15'	
17				
18				
19				
20				
21				
22				
23				
24				
25				

Project Fort Monmouth Owner E-Systems, Inc.

Location Fort Monmouth Eatontown Permit No 2923810-2

Well Number 7 Total Depth 15' Diameter 10"

Casing Elevation Water Level: Initial 3' Static

Screen Diameter 4" Length 12' Slot Size .020"

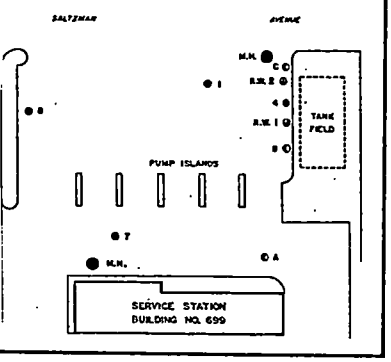
Casing Diameter 4" Length 3' Type Sch .40 PVC

Drilling Method Auger Sample Method Split Spoon

Completion Details Flush mount, with manhole cover, Inner locking cap

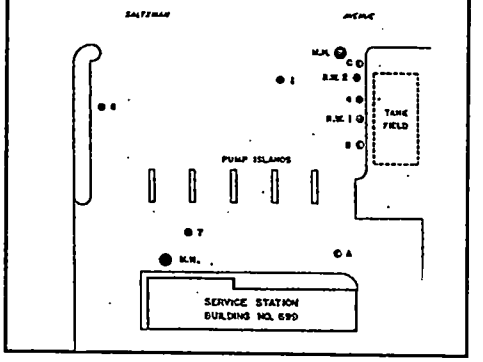
Driller B.L. Myers Log By J. Gallagher Date Drilled 12/1/89

Sketch Map



Depth (Ft)	Well Constr	HNu ppm	Lithological Description	Comments
1			ASPHALT	
2			SILT & SAND: Black SILT & Fine SAND, Some gravel, trace cobbles	
3			Fine SAND: Dark-green-black fine SAND, Trace Clay fine (-) gravel	Blows 7,8,7,8 Water @ 3'
4				
5				
6			Fine SAND: Light gray to orange med (-) to fine SAND, little clay	
7			Green fine SAND, some clay	Blows 3,3,4,4, Saturated PHC odor
8				
9				
10				
11				
12				
13				
14				
15				
16			END HOLE @ 15'	
17				
18				
19				
20				
21				
22				
23				
24				
25				

Sketch Map



Project Fort Monmouth Owner E-Systems, Inc.

Location Fort Monmouth Eatontown Permit No 2923811-1

Well Number 8 Total Depth 15' Diameter 10"

Casing Elevation Water Level: Initial 4' Static

Screen Diameter 4" Length 13' Slot Size .020"

Casing Diameter 4" Length 2' Type Sch .40 PVC

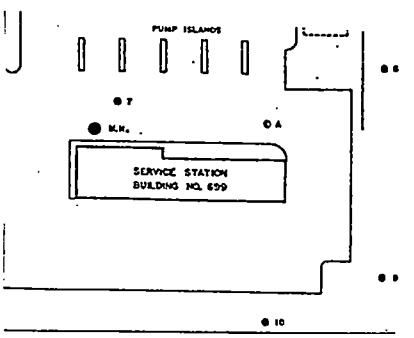
Drilling Method Auger Sample Method Split Spoon

Completion Details Flush mount, with manhole cover, Inner locking cap

Driller B.L. Myers Log By J. Gallagher Date Drilled 12/1/89

Depth (Ft)	Well Constr	HNu ppm	Lithological Description	Comments
1			ASPHALT	
2			Fine SAND — Light brown coarse (-) to fine SAND, little coarse to fine gravel, trace cobbles	
3				
4			Fine SAND — Light brown-green Fine SAND, little Silt, trace clay	PHC odor Blows 8,8,4,5
5				
8			Dark green-gray med to fine SAND	water encountered @ 4'
7				
8			Light brown-orange Fine SAND, trace clay	odor
9				
10				
11				odor
12				
13			SAND — Dark green-orange med to fine SAND, some clay.	
14				
15				
16			END HOLE @ 15'	
17				
18				
19				
20				
21				
22				
23				
24				
25				

Sketch Map



Project Fort Monmouth Owner E-Systems, Inc.

Location Fort Monmouth Eatontown Permit No 2924639

Well Number 9 Total Depth 15' Diameter 10"

Casing Elevation Water Level: Initial 5.0' Static

Screen Diameter 4" Length 13' Slot Size .020"

Casing Diameter 4" Length 2' Type Sch .40 PVC

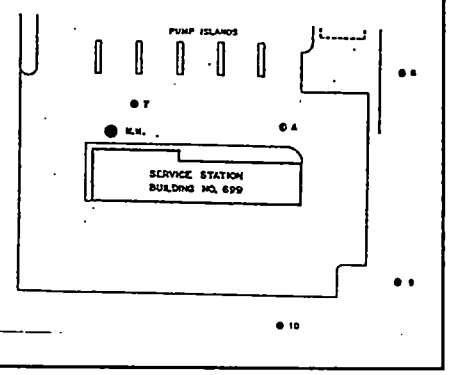
Drilling Method Auger Sample Method Split Spoon

Completion Details Flush mount, with manhole cover, Inner locking cap

Driller B.L. Myers Log By J. Gallagher Date Drilled 5/1/90

Depth (Ft)	Well Constr	HNu ppm	Lithological Description	Comments
1-4			0-2' SAND Brown-black Silt, medium (-) to fine SAND trace fine Gravel	No odor slightly moist
			2-4' SAND Brown fine SAND, trace Silt	
		0	4-8' SAND Light Brown fine SAND, some Silt little Clay	Groundwater encountered @ 4'
5-8			SAND Green-brown SAND, some clay	No odor or sheen
9		0	9-10' CLAY Gray, some orange fine Sand	
10-12			10-12' SAND Green-gray to orange coarse to fine SAND, some Clay	
13-14		0	12-15' CLAY Light-brown, some fine Sand	
15			END HOLE @ 15'	
16-25				

Sketch Map



Project Fort Monmouth Owner E-Systems, Inc.

Location Fort Monmouth Eatontown Permit No 2924640

Well Number 10 Total Depth 15' Diameter 10"

Casing Elevation Water Level: Initial 5.0' Static

Screen Diameter 4" Length 13' Slot Size .020"

Casing Diameter 4" Length 2' Type Sch .40 PVC

Drilling Method Auger Sample Method Split Spoon

Completion Details Flush mount, with manhole cover, Inner locking cap

Driller B.L. Myers Log By J. Gallagher Date Drilled 5/1/90

Depth (Ft)	Well Constr	HNu ppm	Lithological Description	Comments
1			0-2' SAND Brown, fine SAND little Gravel	No odor or sheen
2			2-3' SILT Black SILT & fine Sand, trace Gravel	
3				
4			3-4' SILT Brown, fine Sand, some SILT trace Clay	Groundwater encountered @4'
5		0		
6			4-7' SAND Light green coarse to fine SAND little Clay	
7				
8		0	7-12' CLAY Orange CLAY & fine Sand	Saturated, no odor
9				
10			12-15' CLAY Light green CLAY, some fine Sand	
11				
12			Black CLAY, little Sand	No odor
13		0		
14				
15				
16			END HOLE @ 15'	
17				
18				
19				
20				
21				
22				
23				
24				
25				

APPENDIX C

LIQUID LEVEL DATA SHEETS

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
11/27/89

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	4.32	3.19	11.70	12.83	1.13	12.49
MW#2	16.88	2.59	0	14.29	0	0	0
MW#3	15.99	4.49	3.03	11.50	12.96	1.46	12.52
MW#4	16.00	4.03	3.65	11.97	12.35	0.38	12.24
MW#5	15.67	2.85	0	12.82	0	0	0

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
12/4/89

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	3.69	3.48	12.33	12.54	0.21	12.48
MW#2	16.88	3.55	0	12.74	0	0	0
MW#3	15.99	4.94	3.17	11.05	12.82	1.77	12.23
MW#4	16.00	4.27	3.82	11.73	12.18	0.45	12.06
MW#5	15.68	2.79	0	12.89	0	0	0
MW#6	15.97	3.34	0	12.63	0	0	0
MW#7	16.17	3.53	0	12.64	0	0	0
MW#8	16.39	3.80	0	12.59	0	0	0
RW-1	16.11	3.92	3.70	12.19	12.41	0.22	12.34
RW-2	16.24	4.02	3.83	12.22	12.41	0.13	12.31
A	15.67	3.00	0	12.67	0	0	0
B	16.45	6.67	5.12	9.78	11.38	1.60	10.90
C	15.86	3.25	3.92	12.61	11.94	0.72	13.08

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
12/8/89

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	3.98	3.73	12.04	12.29	0.25	12.22
MW#2	16.88	4.14	0	12.74	0	0	0
MW#3	15.99	5.48	3.43	10.51	12.56	2.05	11.95
MW#4	16.00	4.68	3.98	11.32	12.02	0.70	11.81
MW#5	15.68	3.09	0	12.59	0	0	0
MW#6	15.97	3.67	0	12.30	0	0	0
MW#7	16.17	3.79	0	12.38	0	0	0
MW#8	16.39	4.01	0	12.38	0	0	0
RW-1	16.11	4.18	3.91	11.93	12.20	0.27	12.12
RW-2	16.24	4.25	4.01	11.99	12.23	0.24	12.16
A	15.67	3.29	0	12.38	0	0	0
B	16.45	5.34	4.00	11.11	12.45	1.34	10.90
C	15.86	4.23	3.51	11.63	12.35	0.72	12.13

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
12/15/89

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	4.72	3.72	11.30	12.30	1.00	12.22
MW#2	16.88	4.42	0	12.66	0	0	0
MW#3	15.99	5.72	3.60	10.27	12.39	2.12	11.75
MW#4	16.00	4.59	4.36	11.41	11.64	0.23	11.57
MW#5	15.68	3.25	0	12.43	0	0	0
MW#6	15.97	3.92	0	12.05	0	0	0
MW#7	16.17	4.00	0	12.17	0	0	0
MW#8	16.39	4.21	0	12.18	0	0	0
RW-1	16.11	4.34	4.14	11.77	11.97	0.20	11.91
RW-2	16.24	4.48	4.28	11.76	11.96	0.20	11.90
A	15.67	3.10	0	12.38	0	0	0
B	16.45	5.35	4.21	11.1	12.24	1.14	11.90
C	15.86	3.99	3.80	11.87	12.06	0.19	12.00

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
12/28/89

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	5.26	4.28	10.76	11.74	0.98	11.45
MW#2	16.88	5.04	0	11.84	0	0	0
MW#3	15.99	6.22	4.21	9.77	11.78	2.01	11.18
MW#4	16.00	6.55	4.40	9.45	11.60	2.15	10.96
MW#5	15.68	3.79	0	11.89	0	0	0
MW#6	15.97	4.48	0	11.49	0	0	0
MW#7	16.17	4.45	0	11.72	0	0	0
MW#8	16.39	4.64	0	11.75	0	0	0
RW-1	16.11	4.85	4.52	11.26	11.59	0.33	11.49
RW-2	16.24	4.98	4.79	11.26	11.45	0.19	11.39
A	15.67	4.02	0	11.65	0	0	0
B	16.45	6.01	4.77	10.44	11.52	1.24	11.31
C	15.86	5.48	4.50	10.38	11.36	0.98	11.48

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
1/6/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	5.80	4.46	10.22	11.56	1.34	11.16
MW#2	16.88	4.96	0	11.92	0	0	0
MW#3	15.99	5.04	4.75	10.95	11.24	0.29	11.15
MW#4	16.00	0	0	0	0	0	0
MW#5	15.68	3.57	0	12.11	0	0	0
MW#6	15.97	4.42	0	11.55	0	0	0
MW#7	16.17	4.55	0	11.62	0	0	0
MW#8	16.39	4.74	0	11.65	0	0	0
RW-1	16.11	5.35	4.88	10.76	11.23	0.47	11.09
RW-2	16.24	5.55	5.20	10.69	11.04	0.35	10.94
A	15.67	4.05	0	11.62	0	0	0
B	16.45	6.20	5.01	10.25	11.44	1.19	11.08
C	15.86	0	0	0	0	0	0

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
1/17/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	4.60	4.30	11.42	11.72	0.30	11.63
MW#2	16.88	3.84	0	13.04	0	0	0
MW#3	15.99	4.55	4.33	11.44	11.66	0.22	11.59
MW#4	16.00	0	0	0	0	0	0
MW#5	15.68	2.98	0	12.70	0	0	0
MW#6	15.97	3.88	0	12.09	0	0	0
MW#7	16.17	4.16	0	12.01	0	0	0
MW#8	16.39	4.34	0	12.05	0	0	0
RW-1	16.11	5.15	4.45	10.96	11.66	0.70	11.45
RW-2	16.24	4.90	4.87	11.34	11.37	0.03	11.36
A	15.67	3.60	0	12.07	0	0	0
B	16.45	5.70	4.67	10.75	11.78	1.03	11.47
C	15.86	4.83	4.30	11.03	11.56	0.53	11.40

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
1/23/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	4.76	3.88	11.26	12.14	0.88	11.88
MW#2	16.88	2.59	0	14.29	0	0	0
MW#3	15.99	4.23	3.79	11.76	12.20	0.44	12.07
MW#4	16.00	0	0	0	0	0	0
MW#5	15.68	2.56	0	13.12	0	0	0
MW#6	15.97	2.40	0	13.57	0	0	0
MW#7	16.17	3.96	0	12.21	0	0	0
MW#8	16.39	4.20	0	12.19	0	0	0
RW-1	16.11	4.59	4.11	11.52	12.00	0.48	11.86
RW-2	16.24	4.83	4.55	11.41	11.69	0.28	11.61
A	15.67	0.00	0	0	0	0	0
B	16.45	4.78	4.50	11.67	11.95	0.28	11.87
C	15.86	4.40	4.01	11.46	11.85	0.39	11.73

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
2/2/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adj Water Elev.
MW#1	16.02	4.60	4.3	11.42	11.72	0.3	11.63
MW#2	16.88	3.84	0	13.04	0	0	0
MW#3	15.99	4.55	4.33	11.44	11.66	0.22	11.59
MW#4	16.00	0	0	0	0	0	0
MW#5	15.68	2.98	0	12.70	0	0	0
MW#6	15.97	3.88	0	12.09	0	0	0
MW#7	16.17	4.16	0	12.01	0	0	0
MW#8	16.39	4.34	0	12.05	0	0	0
RW-1	16.11	5.15	4.45	10.96	11.66	0.7	11.45
RW-2	16.24	4.90	4.87	11.34	11.37	0.03	11.36
A	15.67	3.60	0	12.07	0	0	0
B	16.45	5.70	4.67	10.75	0	1.03	11.47
C	15.86	4.83	4.3	11.03	11.56	0.53	11.40

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
2/8/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adj Water Elev.
MW#1	16.02	3.60	3.54	12.42	12.48	0.06	12.46
MW#2	16.88	2.84	0	14.04	0	0	0
MW#3	15.99	3.53	3.41	12.46	12.58	0.12	12.54
MW#4	16.00	Pumping					
MW#5	15.68	2.20	0	13.48	0	0	0
MW#6	15.97	3.04	0	12.93	0	0	0
MW#7	16.17	3.35	0	12.82	0	0	0
MW#8	16.39	3.61	0	12.78	0	0	0
RW-1	16.11	4.26	3.66	11.85	12.45	0.60	12.27
RW-2	16.24	4.30	4.11	11.94	12.13	0.19	12.07
A	15.67	2.73	0	12.94	0	0	0
B	16.45						
C	15.86	3.61	3.59	12.25	12.27	0.02	12.26

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
2/12/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adj Water Elev.
MW#1	16.02	3.56	3.51	12.46	12.51	0.05	12.50
MW#2	16.88	2.27	0	14.61	0	0	0
MW#3	15.99	3.44	3.27	12.55	12.72	0.17	12.67
MW#4	16.00	0	0	0	0	0	0
MW#5	15.68	1.9	0	13.78	0	0	0
MW#6	15.97	2.89	0	13.08	0	0	0
MW#7	16.17	3.32	0	12.85	0	0	0
MW#8	16.39	3.59	0	12.80	0	0	0
RW-1	16.11	4.21	3.99	11.90	12.12	0.22	12.05
RW-2	16.24	4.17	3.69	12.07	12.55	0.48	12.41

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
2/15/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adj Water Elev.
MW#1	16.02	3.62	3.54	12.4	12.48	0.08	12.46
MW#2	16.88	2.76	0	14.12	0	0	0
MW#3	15.99	3.64	3.42	12.35	12.57	0.22	12.50
MW#4	16.00						
MW#5	15.68	2.09	0	13.59	0	0	0
MW#6	15.97	2.98	0	12.99	0	0	0
MW#7	16.17	3.33	0	12.84	0	0	0
MW#8	16.39	3.61	0	12.78	0	0	0
RW-1	16.11	3.89	3.6	12.22	12.51	0.29	12.42
RW-2	16.24	4.23	4.03	12.01	12.21	0.2	12.15
A	15.67						
B	16.45						
C	15.86						

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
2/16/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adj Water Elev.
MW#1	16.02	3.51	3.50	12.51	12.52	0.01	12.52
MW#2	16.88	2.50	0	14.38	0	2.50	0
MW#3	15.99	3.49	3.11	12.50	12.88	0.38	12.77
MW#4	16.00	0	0	0	0	0	0
MW#5	15.68	1.99	0	13.69	0	1.99	0
MW#6	15.97	0	0	15.97	0	0	0
MW#7	16.17	3.27	0	12.90	0	3.27	0
MW#8	16.39	3.55	0	12.84	0	3.55	0
RW-1	16.11	4.01	3.53	12.10	12.58	0.48	12.44
RW-2	16.24	3.95	3.44	12.29	12.8	0.51	12.65
A	15.67						
B	16.45						
C	15.86						

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
2/24/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adj Water Elev.
MW#1	16.02	3.93	3.81	12.09	12.21	0.12	12.17
MW#2	16.88	3.37	0	13.51	0	0	0
MW#3	15.99	4.22	3.62	11.77	12.37	0.6	12.19
MW#4	16.00	0	0	0	0	0	0
MW#5	15.68	2.73	0	12.95	0	0	0
MW#6	15.97	3.39	0	12.58	0	0	0
MW#7	16.17	3.58	0	12.59	0	0	0
MW#8	16.39	3.87	0	12.52	0	0	0
RW-1	16.11	4.34	3.9	11.77	12.21	0.44	12.08
RW-2	16.24	4.51	4.25	11.73	11.99	0.26	11.91
A	15.67	0	0	0	0	0	0
B	16.45	0	0	0	0	0	0
C	15.86	0	0	0	0	0	0

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
3/4/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adj Water Elev.
MW#1	16.02	4.26	4.15	11.76	11.87	0.11	11.84
MW#2	16.88	4.21	0	12.67	0	0	0
MW#3	15.99	Pumping	-	-	-	-	-
MW#4	16.00	-	-	-	-	-	-
MW#5	15.68	3.41	0	12.27	0	0	0
MW#6	15.97	4.63	0	11.34	0	0	0
MW#7	16.17	3.91	0	12.26	0	0	0
MW#8	16.39	4.17	0	12.22	0	0	0
RW-1	16.11	4.75	4.41	11.79	11.70	0.34	11.60
RW-2	16.24	4.95	4.72	11.29	11.52	0.23	11.45
A	15.67	-	-	-	-	-	-
B	16.45	-	-	-	-	-	-
C	15.86	4.37	4.35	11.49	11.51	0.02	11.50

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
3/11/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adj Water Elev.
MW#1	16.02	4.55	4.45	11.47	11.57	0.1	11.54
MW#2	16.88	4.53	0	12.35	0	0	0
MW#3	15.99	0	0	0	0	0	0
MW#4	16.00	0	0	0	0	0	0
MW#5	15.68	3.78	0	11.90	0	0	0
MW#6	15.97	4.42	0	11.55	0	0	0
MW#7	16.17	4.14	0	12.03	0	0	0
MW#8	16.39	4.35	0	12.04	0	0	0
RW-1	16.11	-	-	-	-	-	-
RW-2	16.24	5.29	5.1	10.95	11.14	0.19	11.08
A	15.67	3.15	0	12.52	0	0	0
B	16.45	-	-	-	-	-	-
C	15.86	4.73	0	11.13	0	0	0

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
3/17/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adj Water Elev.
MW#1	16.02	4.64	4.53	11.38	11.49	0.11	11.46
MW#2	16.88	4.57	-	12.31	-	-	-
MW#3	15.99	-	-	-	-	-	-
MW#4	16.00	-	-	-	-	-	-
MW#5	15.68	3.91	-	11.77	-	-	-
MW#6	15.97	4.53	-	11.44	-	-	-
MW#7	16.17	4.23	-	11.94	-	-	-
MW#8	16.39	4.43	-	11.96	-	-	-
RW-1	16.11	5.32	4.94	10.79	11.17	0.38	11.06
RW-2	16.24	5.52	5.18	10.72	11.06	0.34	10.96
A	15.67	3.87	-	11.8	-	-	-
B	16.45	-	-	-	-	-	-
C	15.86	5.35	4.64	10.51	11.22	0.71	11.01

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
3/24/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adj Water Elev.
MW#1	16.02	5.69	5.56	10.33	10.46	0.13	10.42
MW#2	16.88	4.43	0	12.45	0	0	0
MW#3	15.99	-	-	-	-	-	-
MW#4	16.00	-	-	-	-	-	-
MW#5	15.68	3.59	0	12.09	0	0	0
MW#6	15.97	4.26	0	11.71	0	0	0
MW#7	16.17	4.76	0	11.41	0	0	0
MW#8	16.39	4.53	0	11.86	0	0	0
RW-1	16.11	5.22	4.74	10.89	11.37	0.48	11.23
RW-2	16.24	5.39	5.09	10.85	11.15	0.3	11.06
A	15.67	-	-	-	-	-	-
B	16.45	-	-	-	-	-	-
C	15.86	-	-	-	-	-	-

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
3/31/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adj Water Elev.
MW#1	16.02	4.55	4.47	11.47	11.55	0.08	11.53
MW#2	16.88	3.74	-	13.14	-	-	-
MW#3	15.99	-	-	-	-	-	-
MW#4	16.00	-	-	-	-	-	-
MW#5	15.68	3.36	-	12.32	-	-	-
MW#6	15.97	-	-	15.97	-	-	-
MW#7	16.17	4.15	-	12.02	-	-	-
MW#8	16.39	4.53	-	11.86	-	-	-
RW-1	16.11	-	-	-	-	-	-
RW-2	16.24	5.07	4.88	11.17	11.36	0.19	11.3
A	15.67	-	-	-	-	-	-
B	16.45	-	-	-	-	-	-
C	15.86	4.76	4.17	11.1	11.69	0.59	11.51

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
4/5/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	4.13	3.76	11.89	12.26	0.37	12.15
MW#2	16.88	2.16	0	14.72	0	0	14.72
MW#3	15.99	Pumping	-	-	-	-	
MW#4	16.00	-	-	-	-	-	
MW#5	15.68	2.53	-	13.15	0	0	13.15
MW#6	15.97	3.04	-	12.93	0	0	12.93
MW#7	16.17	3.82	-	12.35	0	0	12.35
MW#8	16.39	4.07	-	12.32	0	0	12.32
RW-1	16.11	-	-	-	-	-	
RW-2	16.24	4.27	4.02	11.97	12.22	0.25	12.15
A	15.67						
B	16.45						
C	15.86						

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
4/11/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	3.88	3.45	12.14	12.57	0.43	12.44
MW#2	16.88	2.54	0	14.34	0	0	14.34
MW#3	15.99	-	-	-	-	-	-
MW#4	16.00	-	-	-	-	-	-
MW#5	15.68	2.48	-	13.20	0	0	13.20
MW#6	15.97	3.02	-	12.95	0	0	12.95
MW#7	16.17	3.47	-	12.70	0	0	12.70
MW#8	16.39	3.74	-	12.65	0	0	12.65
RW-1	16.11	4.11	3.37	12.00	12.00	0.74	12.52
RW-2	16.24	4.14	3.79	12.1	12.45	0.35	12.34
A	15.67	-	-	-	-	-	-
B	16.45	-	-	-	-	-	-
C	15.86	3.19	3.00	12.67	12.86	0.19	12.80

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
4/19/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	3.79	3.34	12.23	12.68	0.45	12.55
MW#2	16.88	2.96	0	13.92	0	0	0
MW#3	15.99	-	-	-	-	-	-
MW#4	16.00	-	-	-	-	-	-
MW#5	15.68	2.63	-	13.05	0	0	0
MW#6	15.97	2.99	-	12.98	0	0	0
MW#7	16.17	3.35	-	12.82	0	0	0
MW#8	16.39	3.62	-	12.77	0	0	0
RW-1	16.11	-	-	-	-	-	-
RW-2	16.24	3.98	3.76	12.26	12.48	0.22	12.41
A	15.67	-	-	-	-	-	-
B	16.45	-	-	-	-	-	-
C	15.86	3.47	3.34	12.39	12.52	0.13	12.48

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
4/25/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	3.82	3.35	12.20	12.67	0.47	12.53
MW#2	16.88	3.41	0	13.47	0	0	0
MW#3	15.99	8.42	3.80	7.57	12.19	4.62	10.80
MW#4	16.00	11.50	11.25	4.50	4.75	0.25	4.68
MW#5	15.68	2.82	-	12.86	0	0	0
MW#6	15.97	3.22	-	12.75	0	0	0
MW#7	16.17	3.34	-	12.83	0	0	0
MW#8	16.39	3.62	-	12.77	0	0	0
RW-1	16.11	4.00	3.41	12.11	12.70	0.59	12.52
RW-2	16.24	4.02	3.79	12.22	12.45	0.23	12.38
A	15.67	-	-	-	-	-	-
B	16.45	-	-	-	-	-	-
C	15.86	-	-	-	-	-	-

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
5/2/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	4.21	3.71	11.81	12.31	0.50	12.16
MW#2	16.88	4.18	0	12.70	0	0	0
MW#3	15.99	4.74	4.22	11.25	11.77	0.52	11.61
MW#4	16.00	0	0	0	0	0	0
MW#5	15.68	3.29	0	12.39	0	0	0
MW#6	15.97	3.69	0	12.28	0	0	0
MW#7	16.17	3.70	0	12.47	0	0	0
MW#8	16.39	3.94	0	12.45	0	0	0
RW-1	16.11	4.22	3.85	11.89	12.26	0.37	12.15
RW-2	16.24	4.35	4.21	11.89	12.03	0.14	11.99
A	15.67	0	0	0	0	0	0
B	16.45	0	0	0	0	0	0
C	15.86	3.85	3.83	12.01	12.03	0.02	12.02
MW#9	16.17	3.84	0	12.33	16.17	3.84	0
MW#10	16.04	3.63	0	12.41	16.04	3.63	0

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
5/9/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	4.04	3.59	11.98	12.43	0.45	12.30
MW#2	16.88	3.52	0	13.36	0	0	0
MW#3	15.99	4.32	3.92	11.67	12.07	0.4	11.95
MW#4	16.00	0	0	0	0	0	0
MW#5	15.68	2.94	0	12.74	0	0	0
MW#6	15.97	3.31	0	12.66	0	0	0
MW#7	16.17	3.60	0	12.57	0	0	0
MW#8	16.39	3.88	0	12.51	0	0	0
MW#9	16.17	3.57	0	12.60	0	0	0
MW#10	16.04	3.34	0	12.70	0	0	0
RW-1	16.11	3.50	0	12.61	0	0	0
RW-2	16.24	3.91	0	12.33	0	0	0
A	15.67	0	0	0	0	0	0
B	16.45	0	0	0	0	0	0
C	15.86	3.64	3.63	12.22	12.23	0.01	12.23

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
5/18/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	3.54	3.12	12.48	12.90	0.42	12.77
MW#2	16.88	0.92	0	15.96	0	0	0
MW#3	15.99	2.94	2.75	13.05	13.24	0.19	13.18
MW#4	16.00	12.09	11.95	3.91	4.05	0.14	4.01
MW#5	15.68	1.91	-	13.77	0	0	0
MW#6	15.97	2.26	-	13.71	0	0	0
MW#7	16.17	3.24	-	12.93	0	0	0
MW#8	16.39	3.44	-	12.95	0	0	0
RW-1	16.11	-	-	-	-	-	-
RW-2	16.24	3.71	3.41	12.53	12.83	0.3	12.74
MW#9	16.17	2.09	0	14.08	0	0	0
MW#10	16.04	2.49	0	13.55	0	0	0
A	15.67	-	-	0	-	-	-
B	16.45	-	-	0	-	-	-
C	15.86	3.19	3.02	12.67	-	-	-

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
5/23/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	3.69	3.22	12.33	12.80	0.47	12.66
MW#2	16.88	3.01	0	13.87	0	0	0
MW#3	15.99	3.66	3.40	12.33	12.59	0.26	12.51
MW#4	16.00	6.28	5.01	9.72	10.99	1.27	10.61
MW#5	15.68	2.64	-	13.04	0	0	0
MW#6	15.97	2.96	-	13.01	0	0	0
MW#7	16.17	3.22	-	12.95	0	0	0
MW#8	16.39	3.50	-	12.89	0	0	0
RW-1	16.11	3.66	3.33	12.45	12.78	0.33	12.68
RW-2	16.24	3.86	3.69	12.38	12.55	0.17	12.50
MW#9	16.17	3.21	0	12.96	0	0	0
MW#10	16.04	2.99	0	13.05	0	0	0
A	15.67	-	-	0	0	0	0
B	16.45	-	-	0	0	0	0
C	15.86	3.42	3.25	12.44	12.61	0.17	12.56

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
5/30/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	3.53	3.10	12.49	12.92	0.43	12.79
MW#2	16.88	1.12	0	15.76	0	0	0
MW#3	15.99	3.10	2.82	12.89	13.17	0.28	13.09
MW#4	16.00	12.22	11.72	3.78	4.28	0.50	4.13
MW#5	15.68	1.63	-	14.05	0	0	0
MW#6	15.97	2.00	-	13.97	0	0	0
MW#7	16.17	2.96	-	13.21	0	0	0
MW#8	16.39	3.29	-	13.10	0	0	0
RW-1	16.11	3.60	3.29	12.51	12.82	0.31	12.73
RW-2	16.24	3.87	3.65	12.37	12.59	0.22	12.52
MW#9	16.17	1.35	0	14.82	0	0	0
MW#10	16.04	2.05	0	13.99	0	0	0
A	15.67	-	-	0	0	0	0
B	16.45	-	-	0	0	0	0
C	15.86	0	0	0	0	0	0

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
6/6/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	3.25	2.91	12.77	13.11	0.34	13.01
MW#2	16.88	2.29	0	14.59	0	0	0
MW#3	15.99	3.67	3.18	12.32	12.81	0.49	12.66
MW#4	16.00	5.01	3.18	10.99	12.82	1.83	12.27
MW#5	15.68	2.82	0	12.86	0	0	0
MW#6	15.97	3.01	0	12.96	0	0	0
MW#7	16.17	2.98	0	13.19	0	0	0
MW#8	16.39	3.56	0	12.83	0	0	0
RW-1	16.11	3.34	2.86	12.77	13.25	0.48	13.11
RW-2	16.24	3.44	3.14	12.80	13.1	0.30	13.01
MW#9	16.17	3.49	0	12.68	0	0	0
MW#10	16.04	3.20	0	12.84	0	0	0
A	15.67	0	0	0	0	0	0
B	16.45	0	0	0	0	0	0
C	15.86	3.96	3.82	11.9	12.04	0.14	12.00

LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
6/14/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	3.70	3.28	12.32	12.74	0.42	12.61
MW#2	16.88	4.05	0	12.83	0	0	0
MW#3	15.99	4.25	3.56	11.74	12.43	0.69	12.20
MW#4	16.00	4.75	4.38	11.25	11.62	0.37	11.51
MW#5	15.68	3.29	0	12.39	0	0	0
MW#6	15.97	3.54	0	12.43	0	0	0
MW#7	16.17	3.41	0	12.76	0	0	0
MW#8	16.39	3.66	0	12.71	0	0	0
MW#9	16.17	4.04	0	12.13	0	0	0
MW#10	16.04	3.68	0	12.36	0	0	0
RW-1	16.11	3.59	3.38	12.66	12.73	0.21	12.67
RW-2	16.24	3.74	3.65	12.56	12.59	0.09	12.56
A	15.67	0	0	0	0	0	0
B	16.45	0	0	0	0	0	0
C	15.86	3.34	3.26	12.57	12.60	0.08	12.58

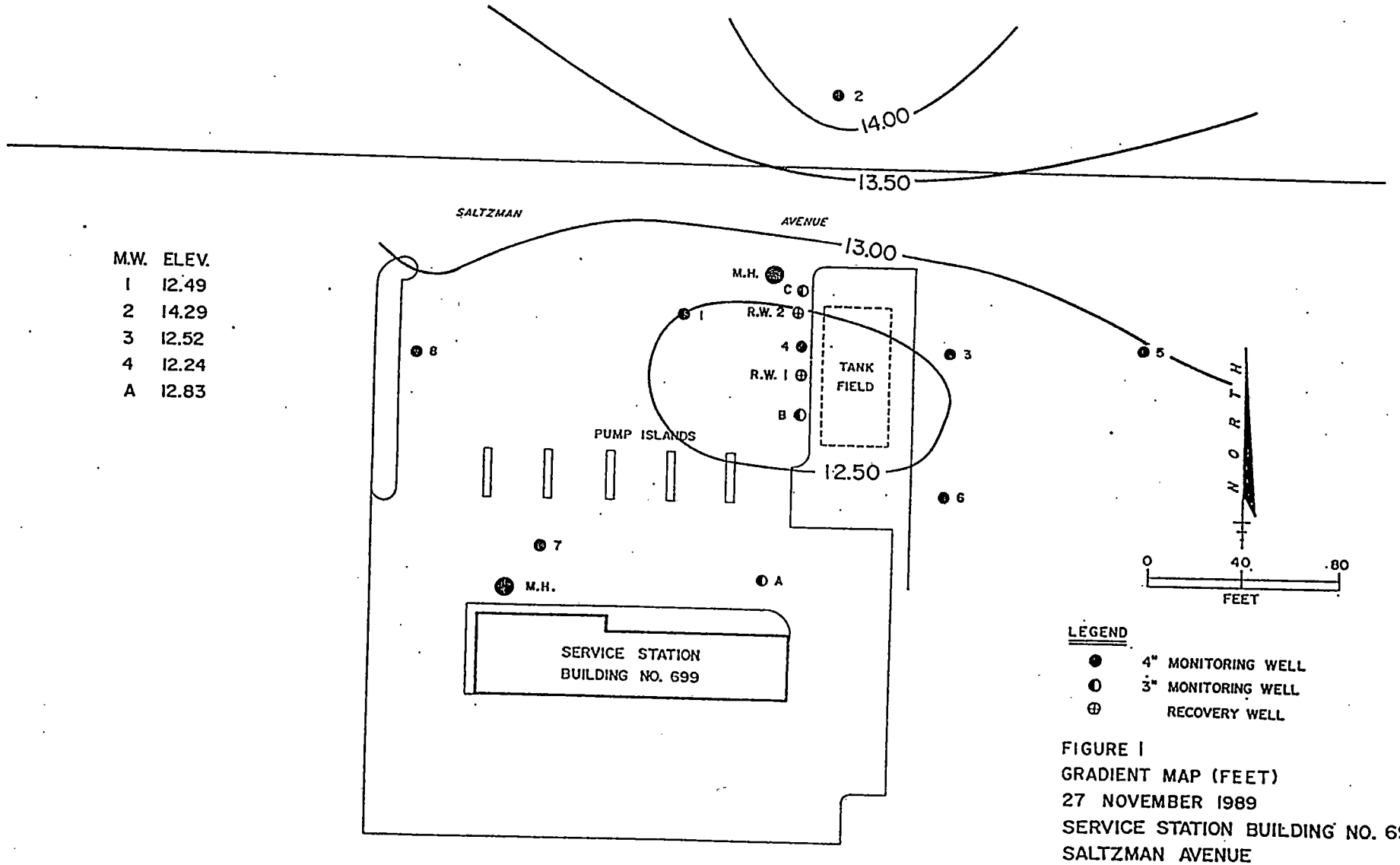
LIQUID LEVEL DATA
FORT MONMOUTH #0079-0001
6/20/90

Well #	Casing Elev.	DTW	DTP	Water Elev.	Product Elev.	Prod Thickness	Adjusted Water
MW#1	16.02	4.09	3.58	11.93	12.44	0.51	12.29
MW#2	16.88	4.39	0	12.49	0	0	0
MW#3	15.99	4.67	3.86	11.32	12.13	0.81	11.89
MW#4	16.00	7.32	6.83	8.68	9.17	0.49	9.02
MW#5	15.68	3.66	0	12.02	0	0	0
MW#6	15.97	3.89	0	12.08	0	0	0
MW#7	16.17	3.65	0	12.52	0	0	0
MW#8	16.39	3.91	0	12.48	0	0	0
MW#9	16.17	4.37	0	11.80	0	0	0
MW#10	16.04	3.98	0	12.06	0	0	0
RW-1	16.11	3.99	3.79	12.12	12.32	0.20	12.26
RW-2	16.24	4.18	4.12	12.06	12.12	0.06	12.10
A	15.67	0	0	0	0	0	0
B	16.45	0	0	0	0	0	0
C	15.86	3.72	3.68	12.14	12.18	0.04	12.17

APPENDIX D

GROUNDWATER GRADIENT MAPS

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.



M.W.	ELEV.
1	12.49
2	14.29
3	12.52
4	12.24
A	12.83

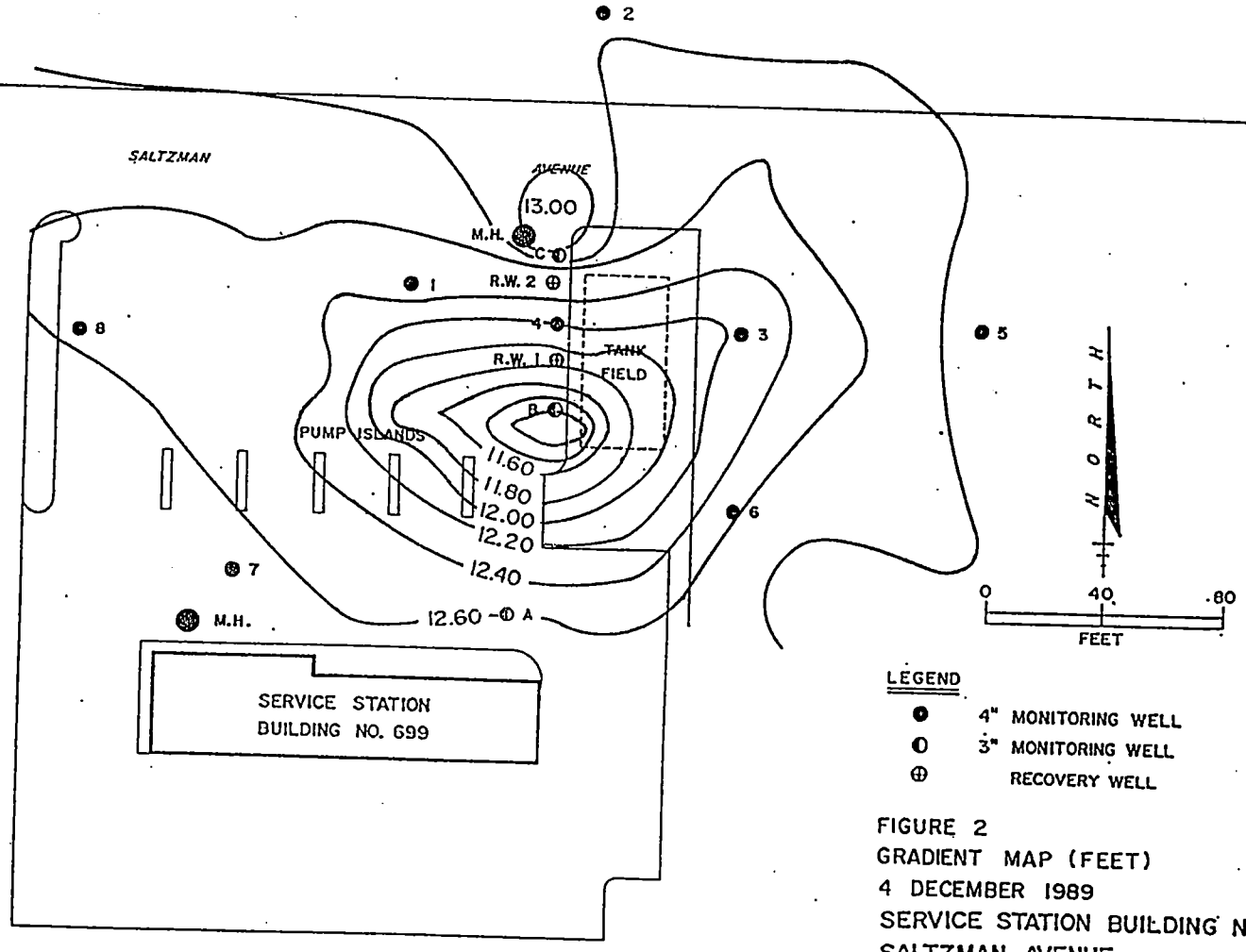
LEGEND

- 4" MONITORING WELL
- 3" MONITORING WELL
- RECOVERY WELL

FIGURE 1
GRADIENT MAP (FEET)
27 NOVEMBER 1989
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC

M.W.	ELEV.
1	12.48
2	12.74
3	12.23
4	12.06
5	12.89
6	12.63
7	12.64
8	12.59
RW1	12.34
RW2	12.31
A	12.67
B	10.90
C	13.08



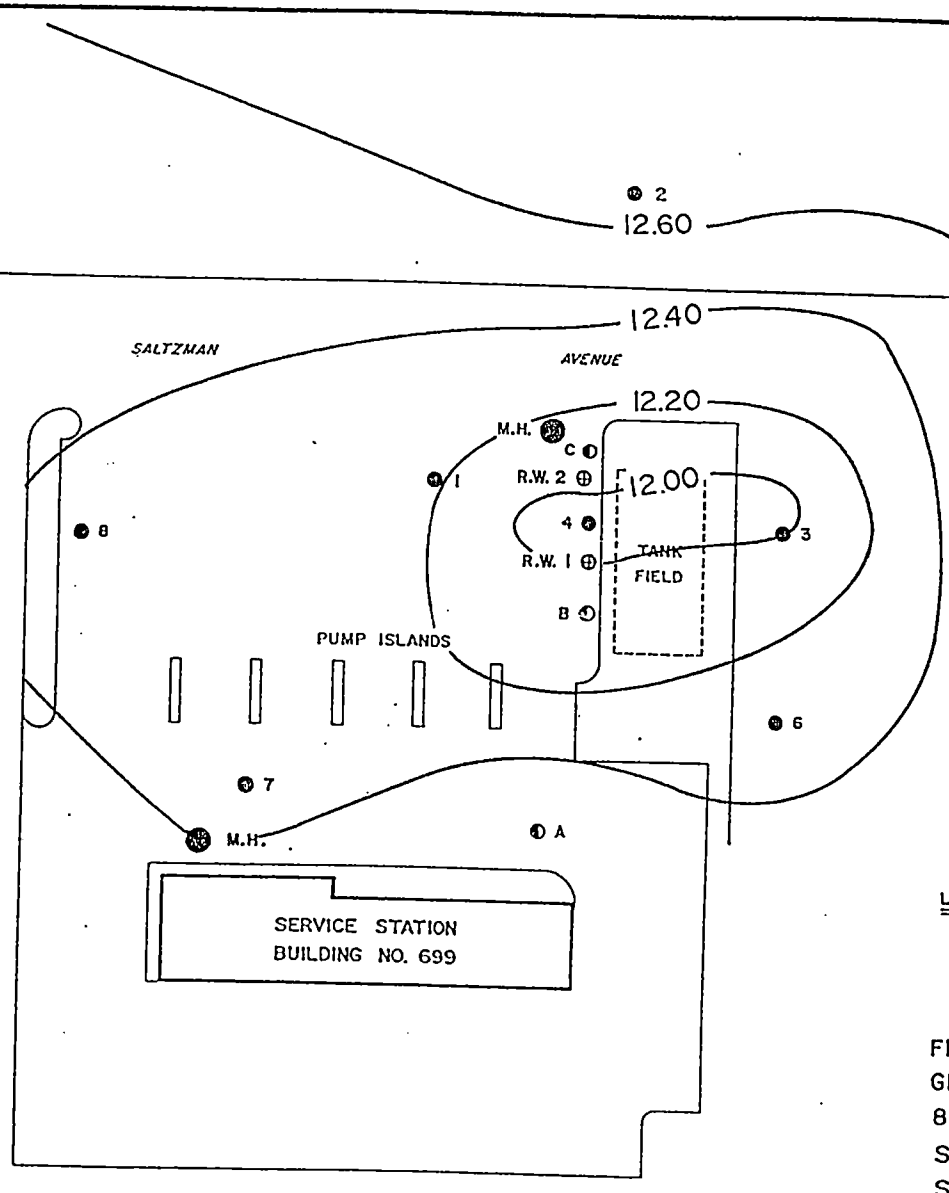
LEGEND

- 4" MONITORING WELL
- 3" MONITORING WELL
- RECOVERY WELL

FIGURE 2
GRADIENT MAP (FEET)
4 DECEMBER 1989
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

M.W.	ELEV.
1	12.22
2	12.74
3	11.95
4	11.81
5	12.59
6	12.30
7	12.38
8	12.38
A	12.38
B	12.05
C	12.13
RW1	12.12
RW2	12.16



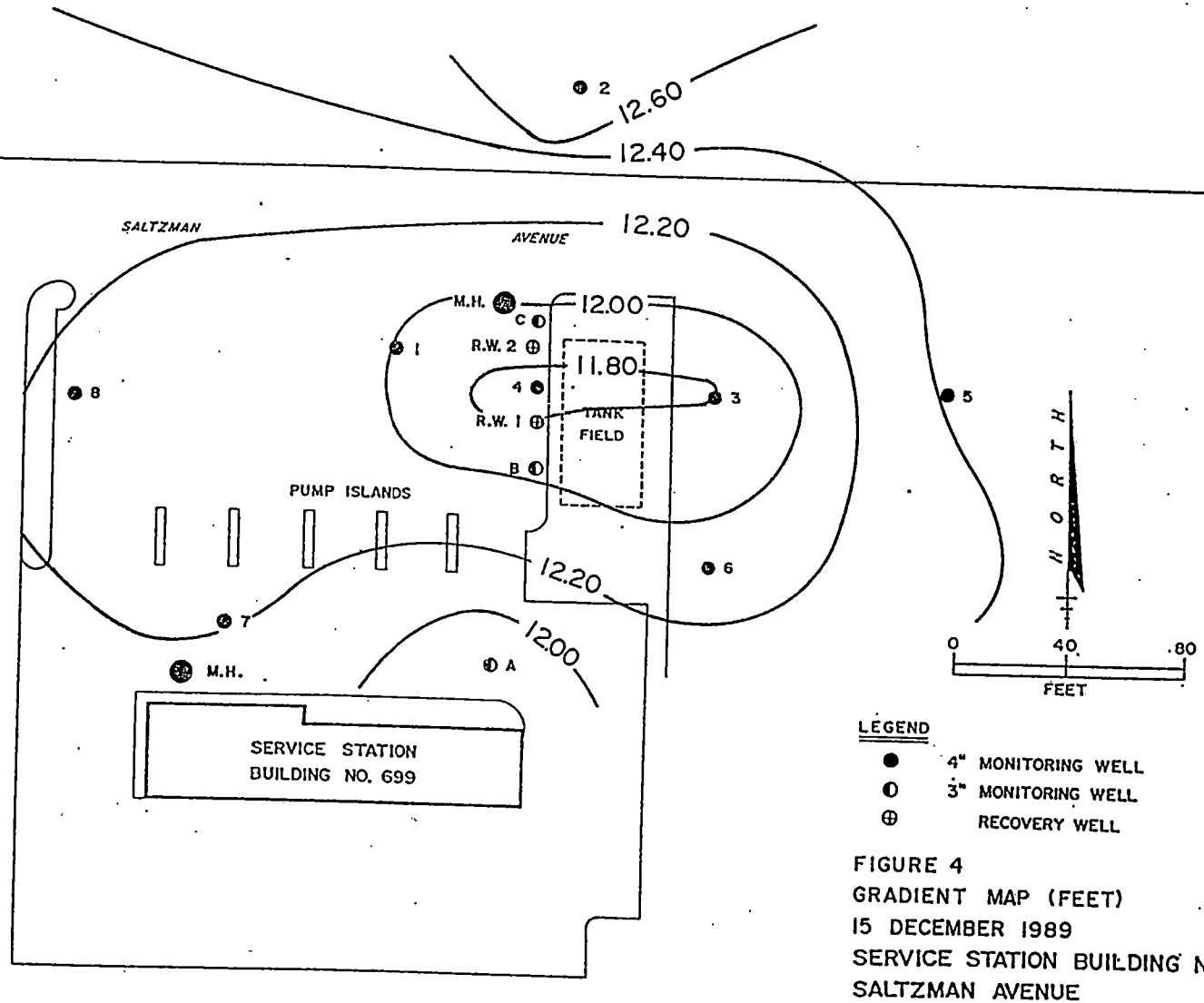
LEGEND

- ● 4" MONITORING WELL
- ◐ 3" MONITORING WELL
- ⊕ RECOVERY WELL

FIGURE 3
GRADIENT MAP (FT.)
8 DECEMBER 1989
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

M.W.	ELEV.
1	12.22
2	12.66
3	11.75
4	11.57
5	12.43
6	12.05
7	12.17
8	12.18
RW1	11.91
RW2	11.90
A	12.57
B	11.90
C	12.00



LEGEND

- ● 4" MONITORING WELL
- ◐ 3" MONITORING WELL
- ⊕ RECOVERY WELL

FIGURE 4
GRADIENT MAP (FEET)
15 DECEMBER 1989
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

MW	ELEV.
1	11.45
2	11.84
3	11.18
4	10.96
5	11.89
6	11.49
7	11.72
8	11.75
RW-1	11.49
RW-2	11.39
A	11.65
B	11.31
C	11.48

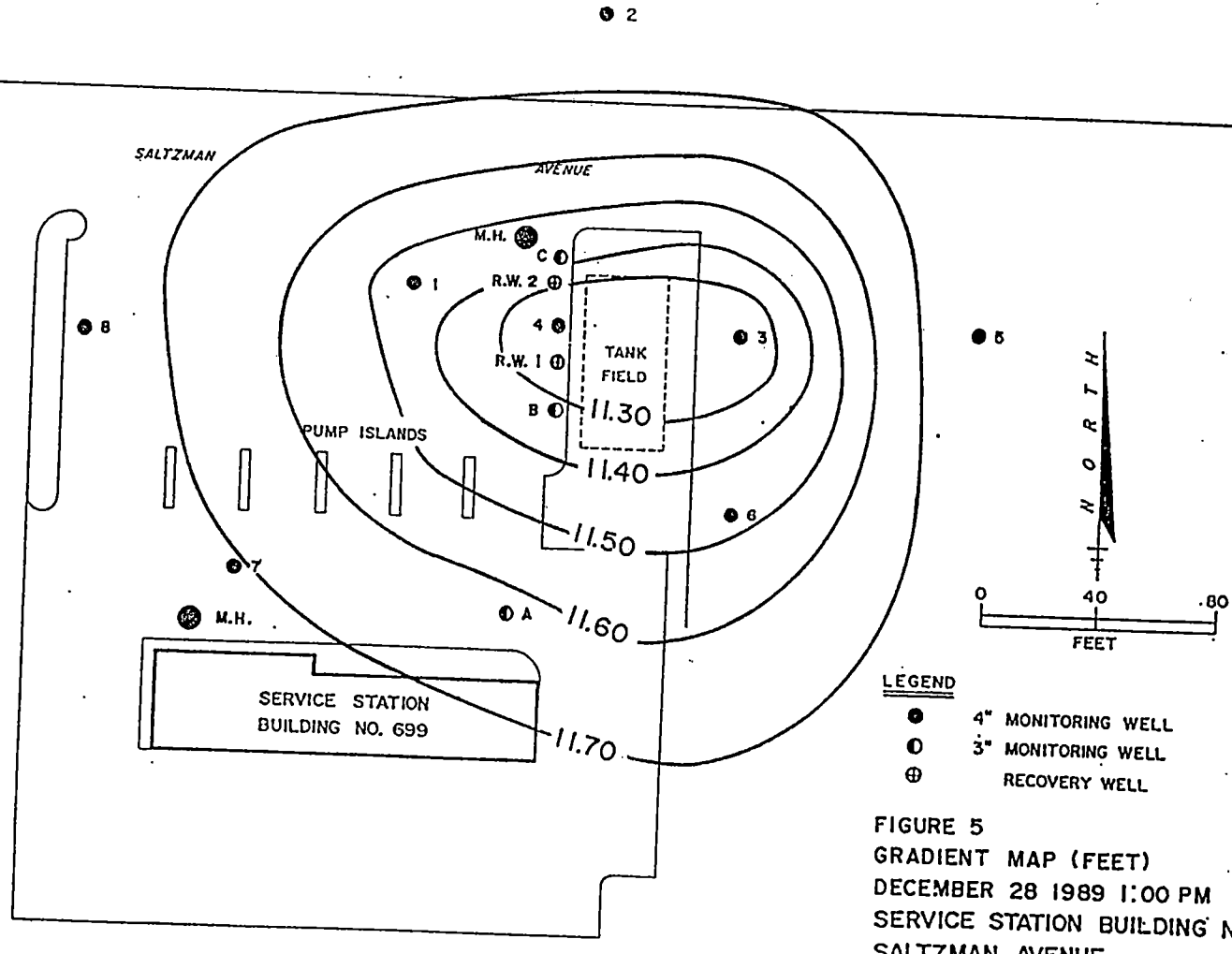


FIGURE 5
GRADIENT MAP (FEET)
DECEMBER 28 1989 1:00 PM
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

M.W.	ELEV.
1	11.16
2	11.92
3	11.15
5	12.11
6	11.55
7	11.62
8	11.65
RW-1	11.09
RW-2	10.94
A	11.62
B	11.08
C	——

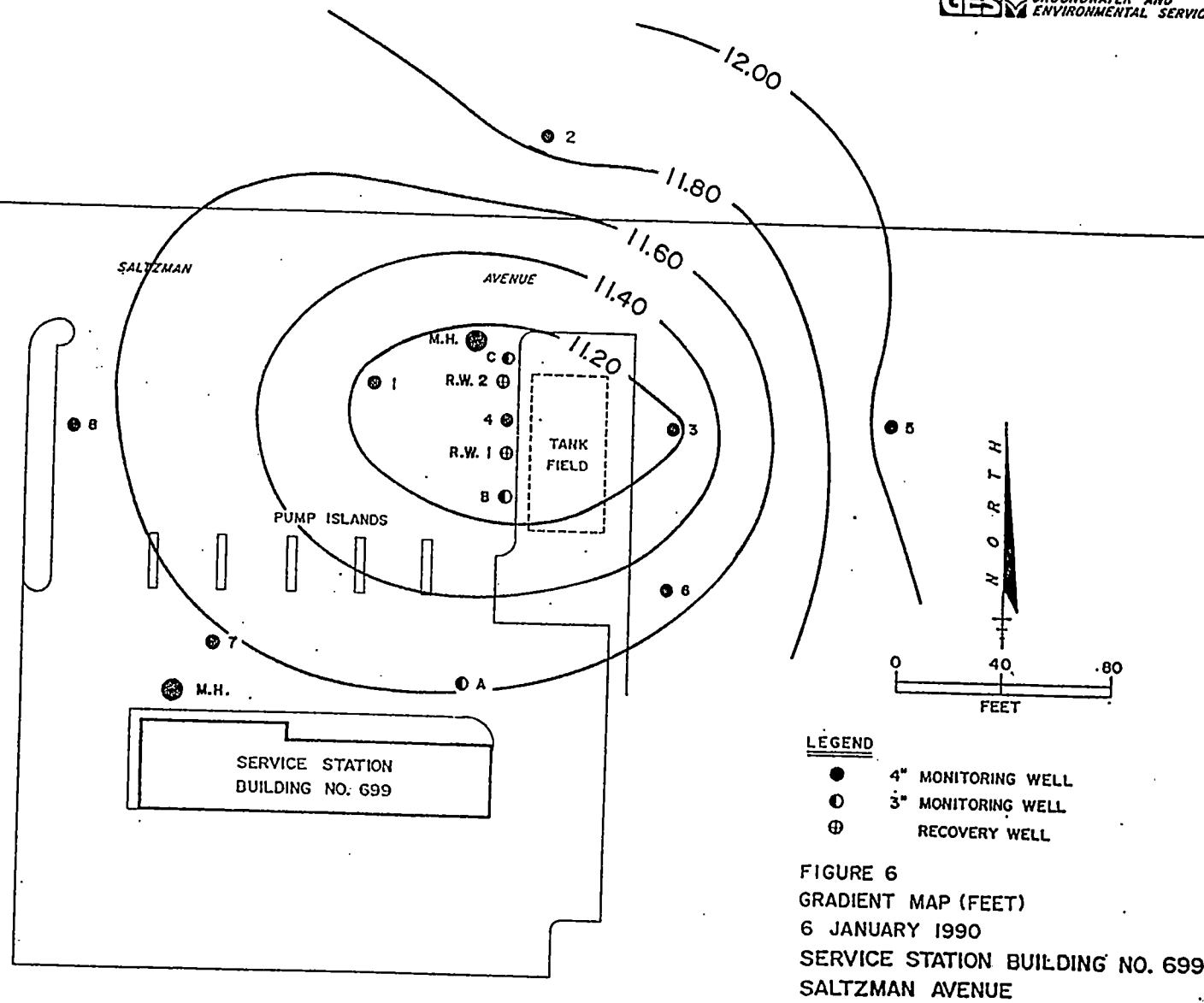
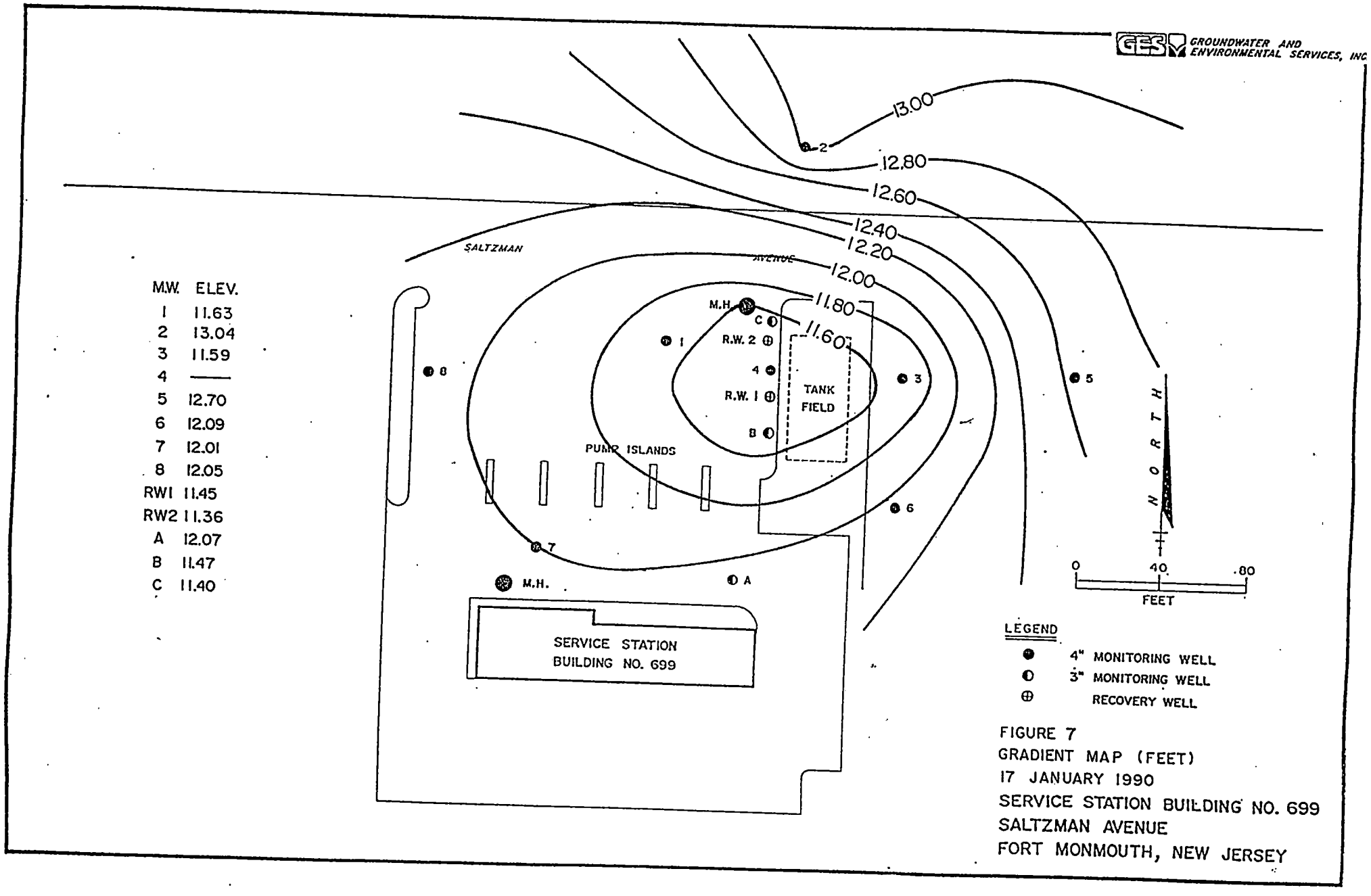


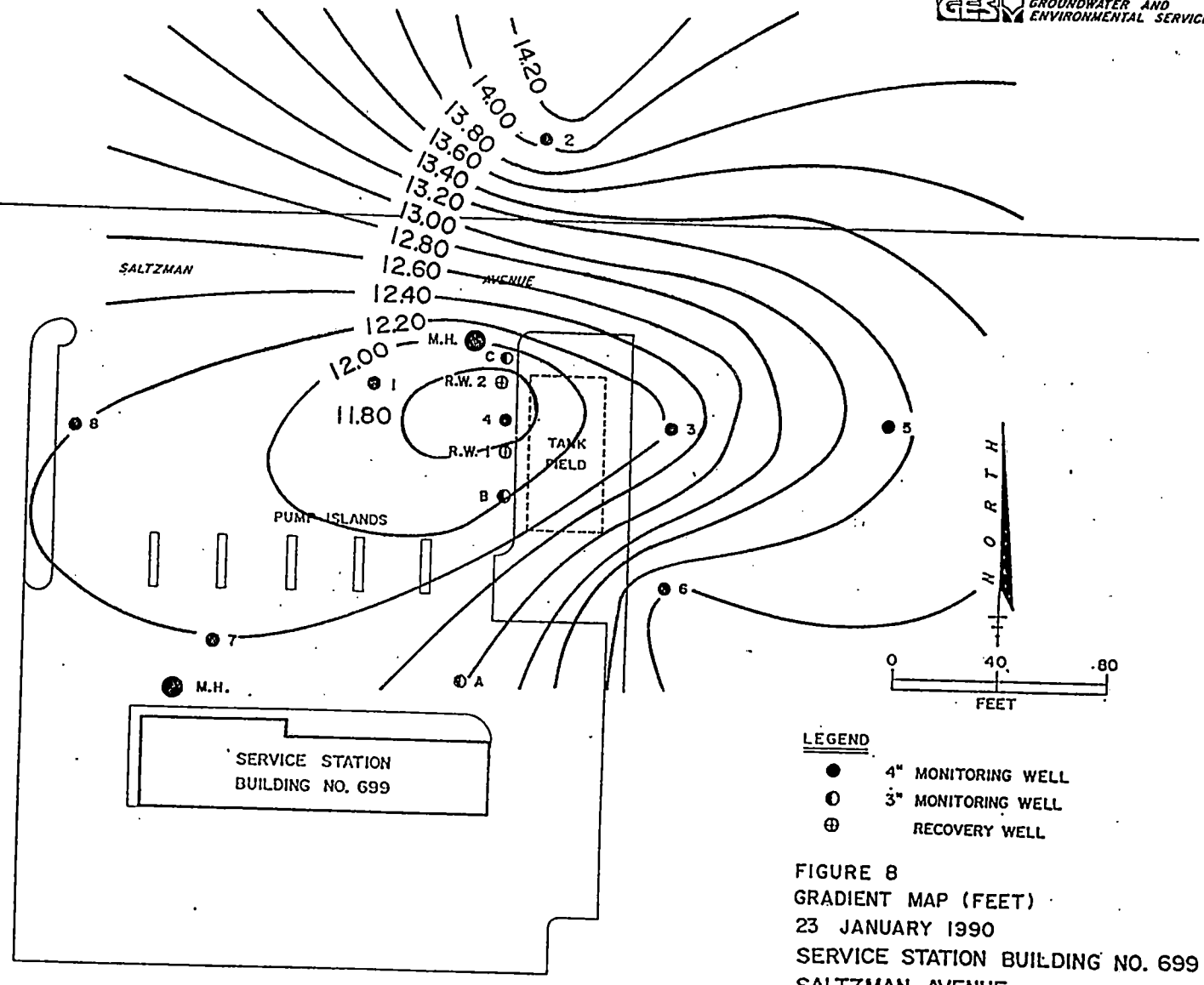
FIGURE 6
GRADIENT MAP (FEET)
6 JANUARY 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY



M.W.	ELEV.
1	11.63
2	13.04
3	11.59
4	——
5	12.70
6	12.09
7	12.01
8	12.05
RW1	11.45
RW2	11.36
A	12.07
B	11.47
C	11.40

FIGURE 7
GRADIENT MAP (FEET)
17 JANUARY 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, IN



M.W.	ELEV.
1	11.88
2	14.29
3	12.07
4	——
5	13.12
6	13.57
7	12.21
8	12.19
RW 1	11.86
RW2	11.61

LEGEND

- ● 4" MONITORING WELL
- ◐ 3" MONITORING WELL
- ⊕ RECOVERY WELL

FIGURE 8
GRADIENT MAP (FEET)
23 JANUARY 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, IN

M.W.	ELEV.
1	11.63
2	13.04
3	11.59
4	——
5	12.70
6	12.09
7	12.01
8	12.05
RWI	11.45
RW2	11.36
A	12.07
B	11.47
C	11.40

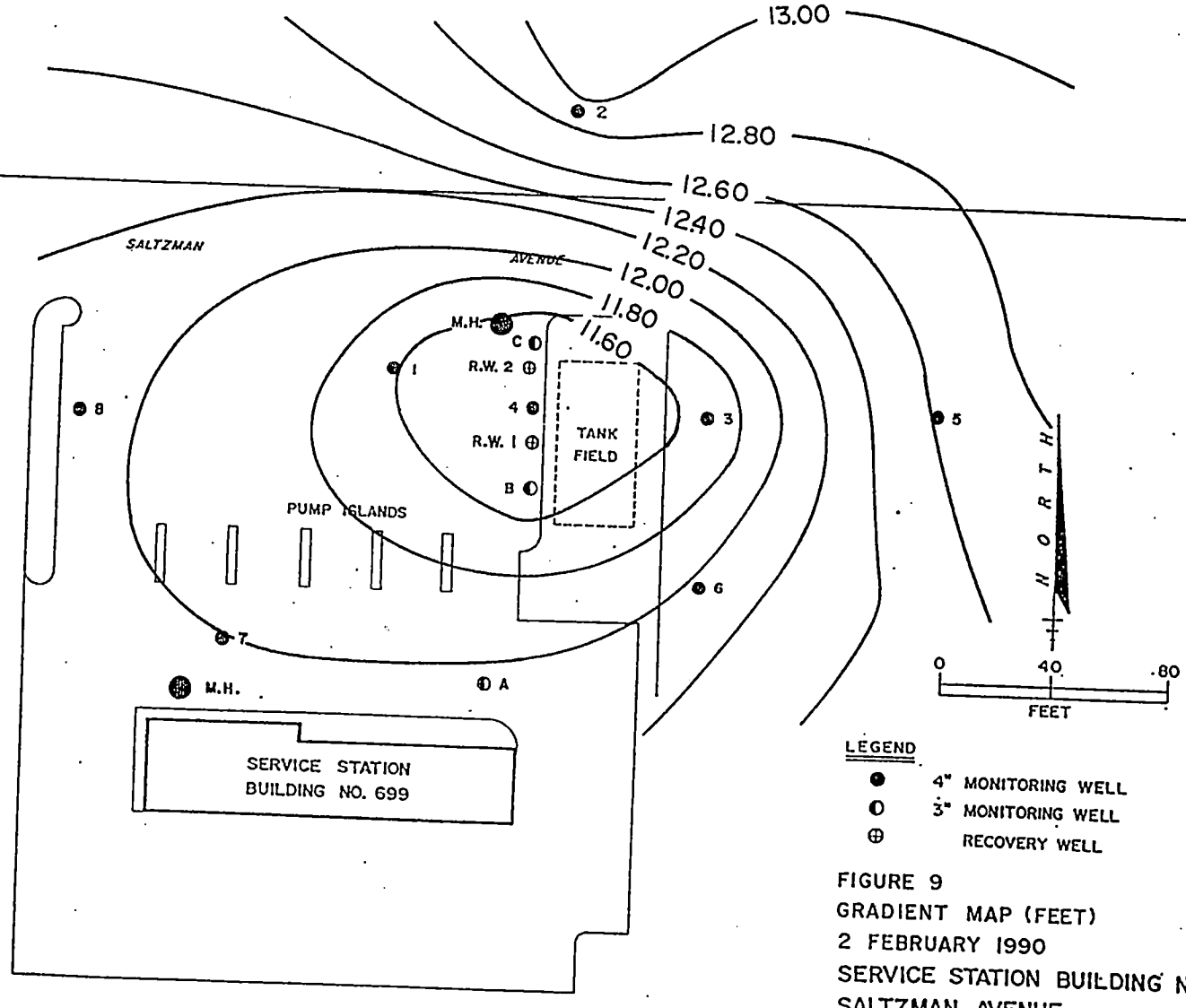
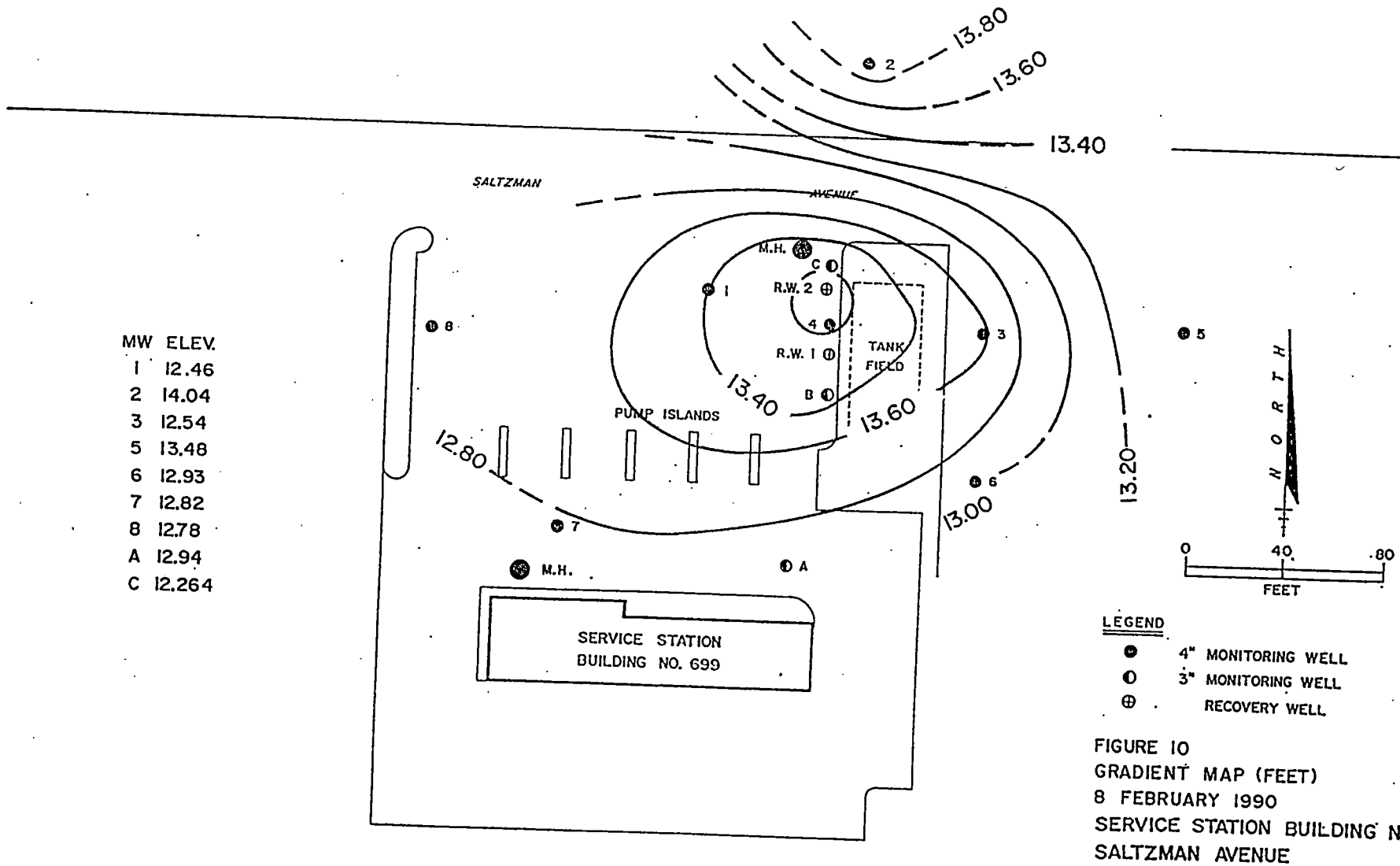


FIGURE 9
GRADIENT MAP (FEET)
2 FEBRUARY 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, I



MW	ELEV.
1	12.46
2	14.04
3	12.54
5	13.48
6	12.93
7	12.82
8	12.78
A	12.94
C	12.264

LEGEND

- 4" MONITORING WELL
- 3" MONITORING WELL
- RECOVERY WELL

FIGURE 10
GRADIENT MAP (FEET)
8 FEBRUARY 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, IN

MW	ELEV.
1	12.50
2	14.61
3	12.67
5	13.78
6	13.08
7	12.85
8	12.80
RW1	12.05
RW2	12.40

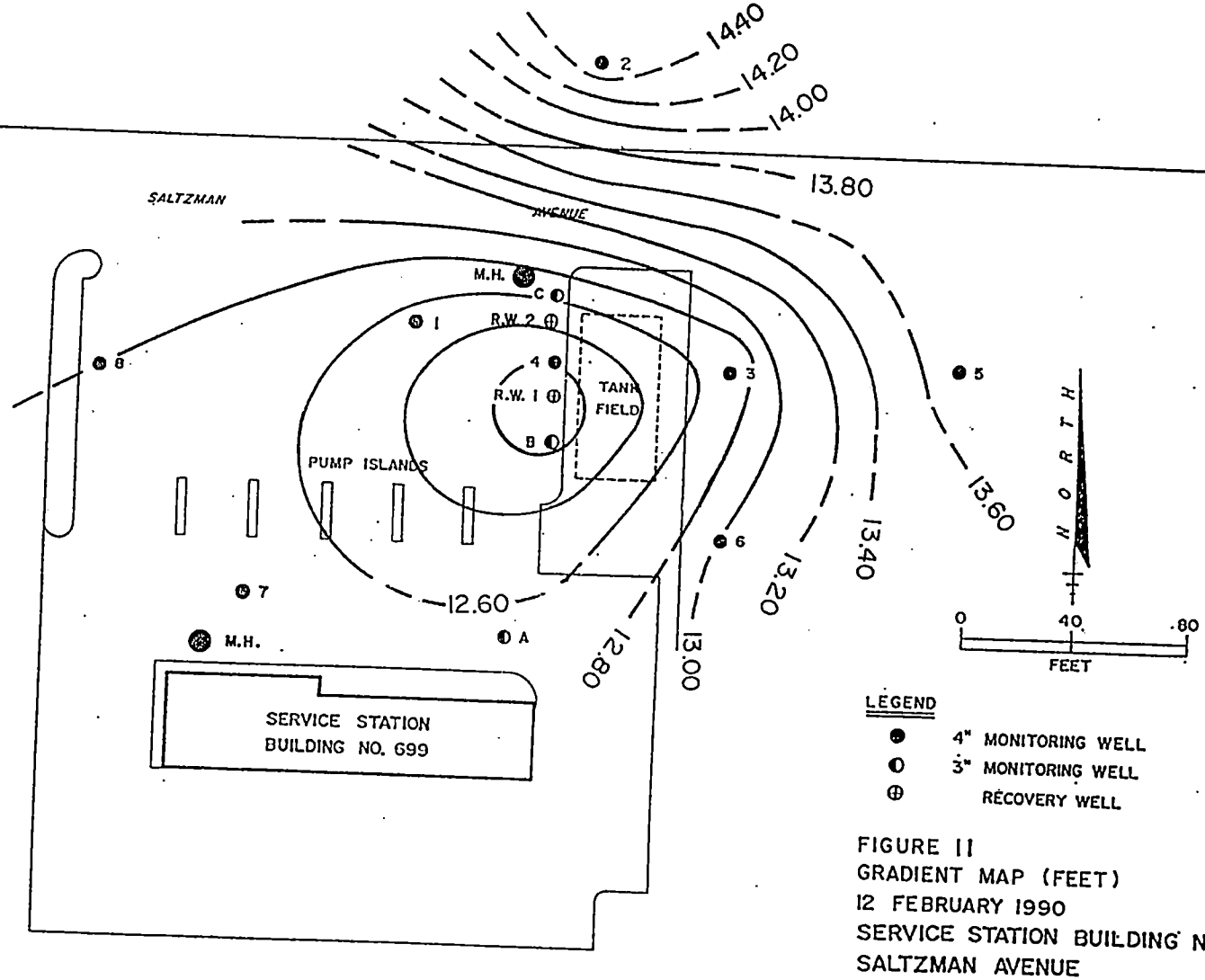


FIGURE 11
GRADIENT MAP (FEET)
12 FEBRUARY 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GROUNDWATER AND ENVIRONMENTAL SERVICES, I

MW	ELEV.
1	12.46
2	14.12
3	12.50
5	13.59
6	12.99
7	12.84
8	12.78
RW 1	12.42
RW 2	12.15

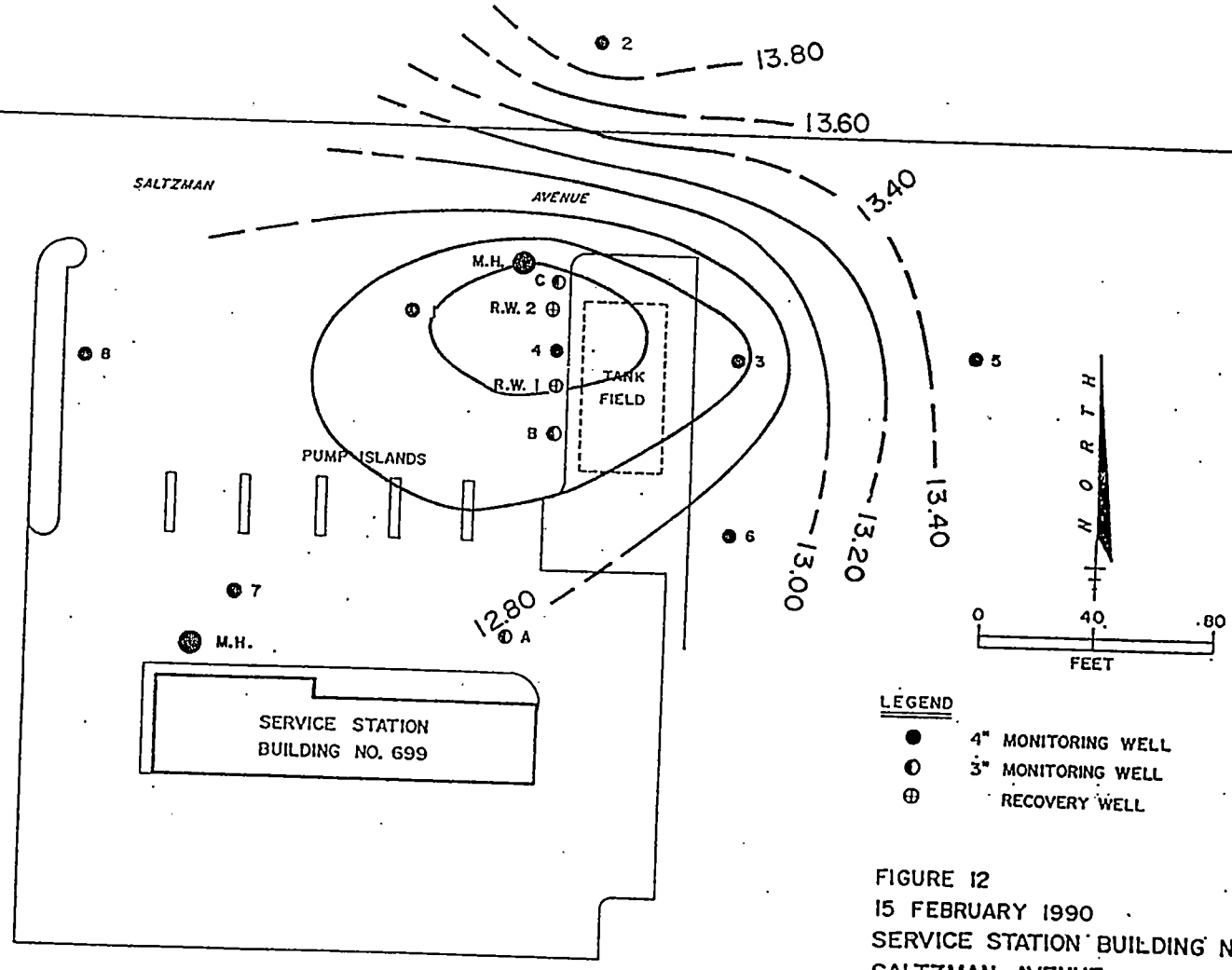
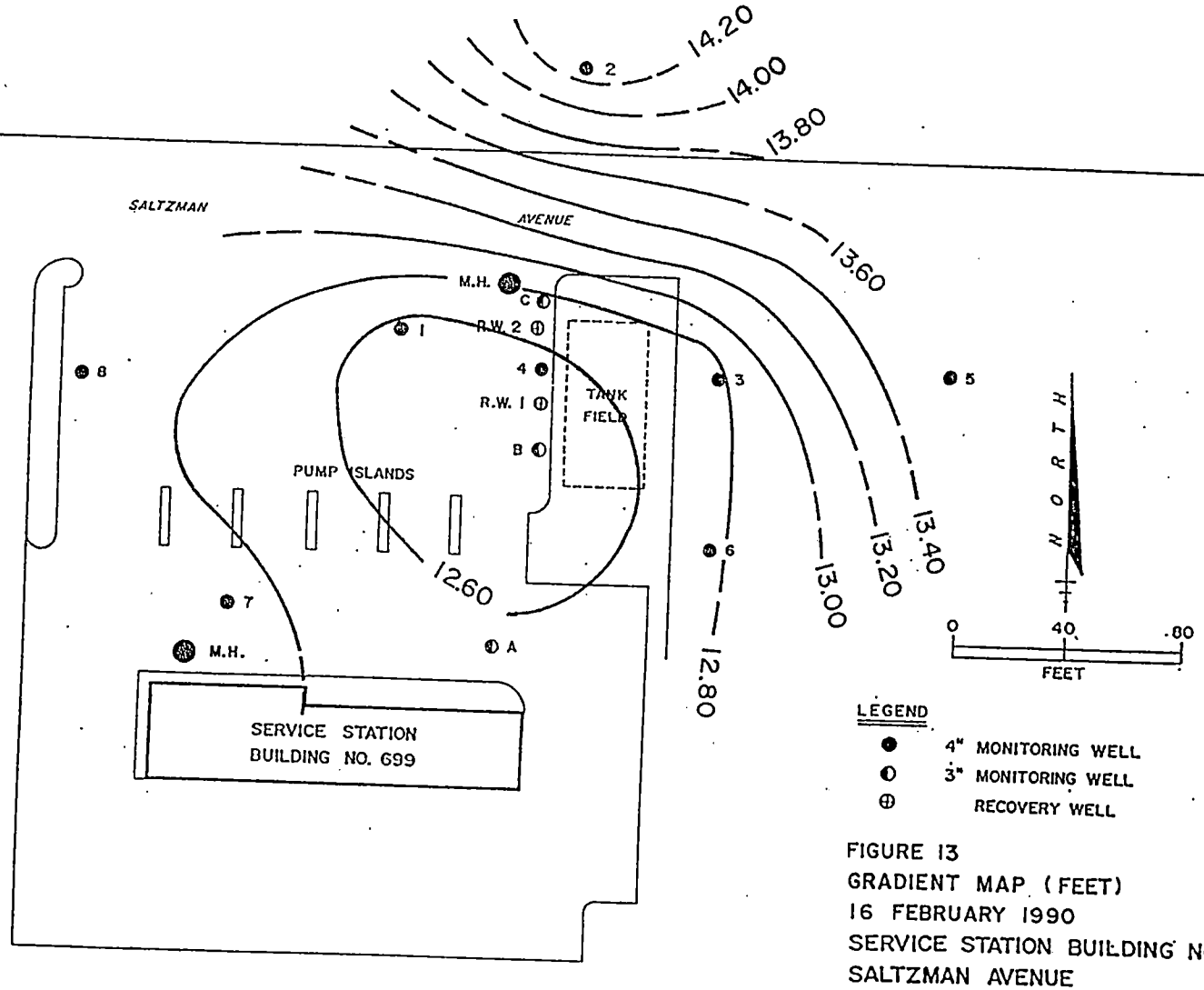


FIGURE 12
15 FEBRUARY 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GROUNDWATER AND ENVIRONMENTAL SERVICES, I



MW	ELEV.
1	12.52
2	14.38
3	12.77
5	13.69
7	12.90
8	12.84
RW 1	12.44
RW2	12.65

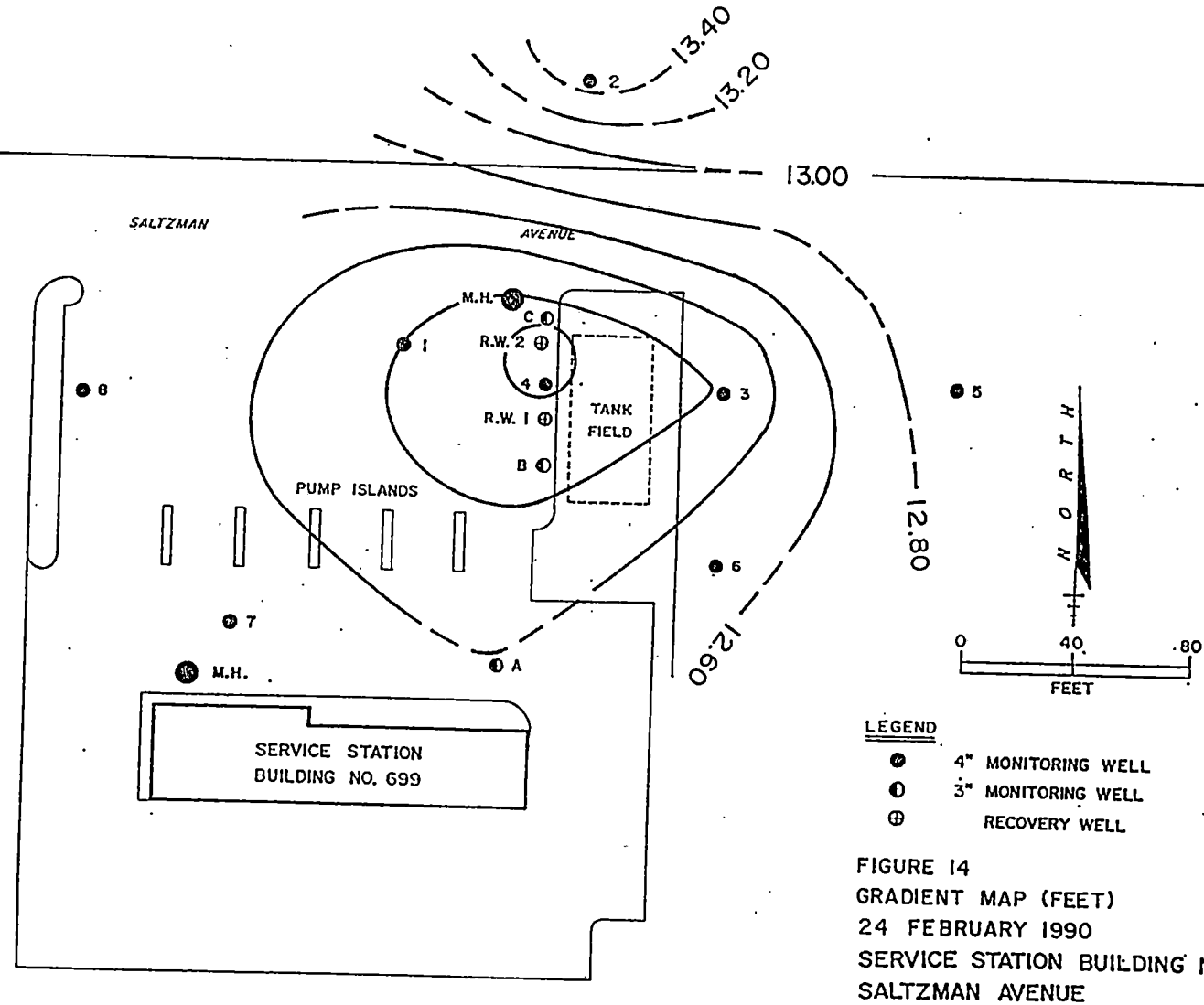
LEGEND

- 4" MONITORING WELL
- 3" MONITORING WELL
- RECOVERY WELL

FIGURE 13
GRADIENT MAP (FEET)
16 FEBRUARY 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, IN

MW	ELEV.
1	12.17
2	13.51
3	12.19
5	12.95
6	12.58
7	12.59
8	12.52
RW1	12.08
RW2	11.91



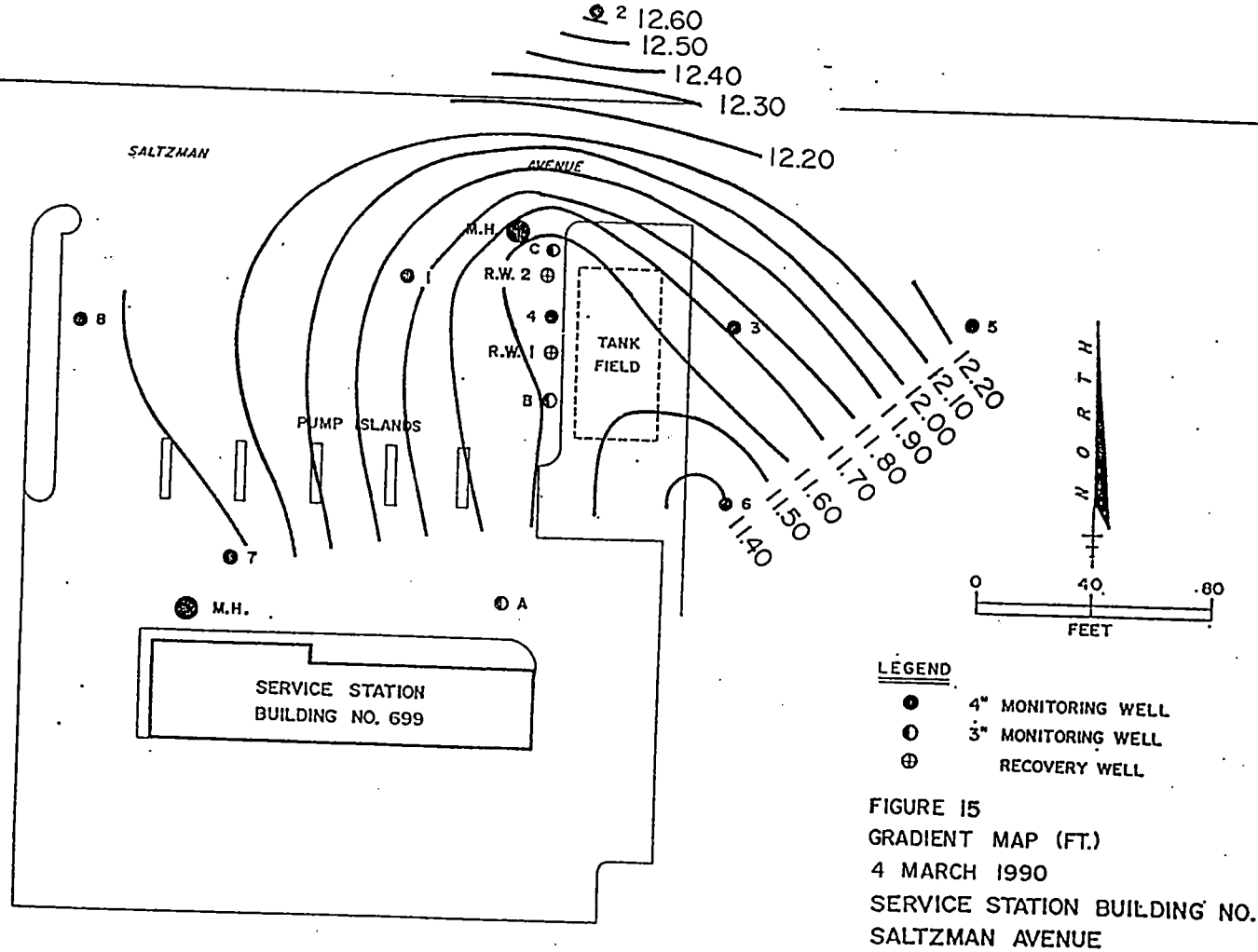
LEGEND

- 4" MONITORING WELL
- 3" MONITORING WELL
- RECOVERY WELL

FIGURE 14
GRADIENT MAP (FEET)
24 FEBRUARY 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

MW	ADJ. WATER ELEV.
1	11.84
2	12.67
3	-
4	-
5	12.27
6	11.34
7	12.26
8	12.22
RW1	11.60
RW2	11.45
A	-
B	-
C	11.50



LEGEND

- ● 4" MONITORING WELL
- ◐ 3" MONITORING WELL
- ⊕ RECOVERY WELL

FIGURE 15
GRADIENT MAP (FT.)
4 MARCH 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

MW	ELEV
1	11.54
2	12.35
5	11.90
6	11.55
7	12.03
8	12.04
RW2	11.08
A	12.52
C	11.13

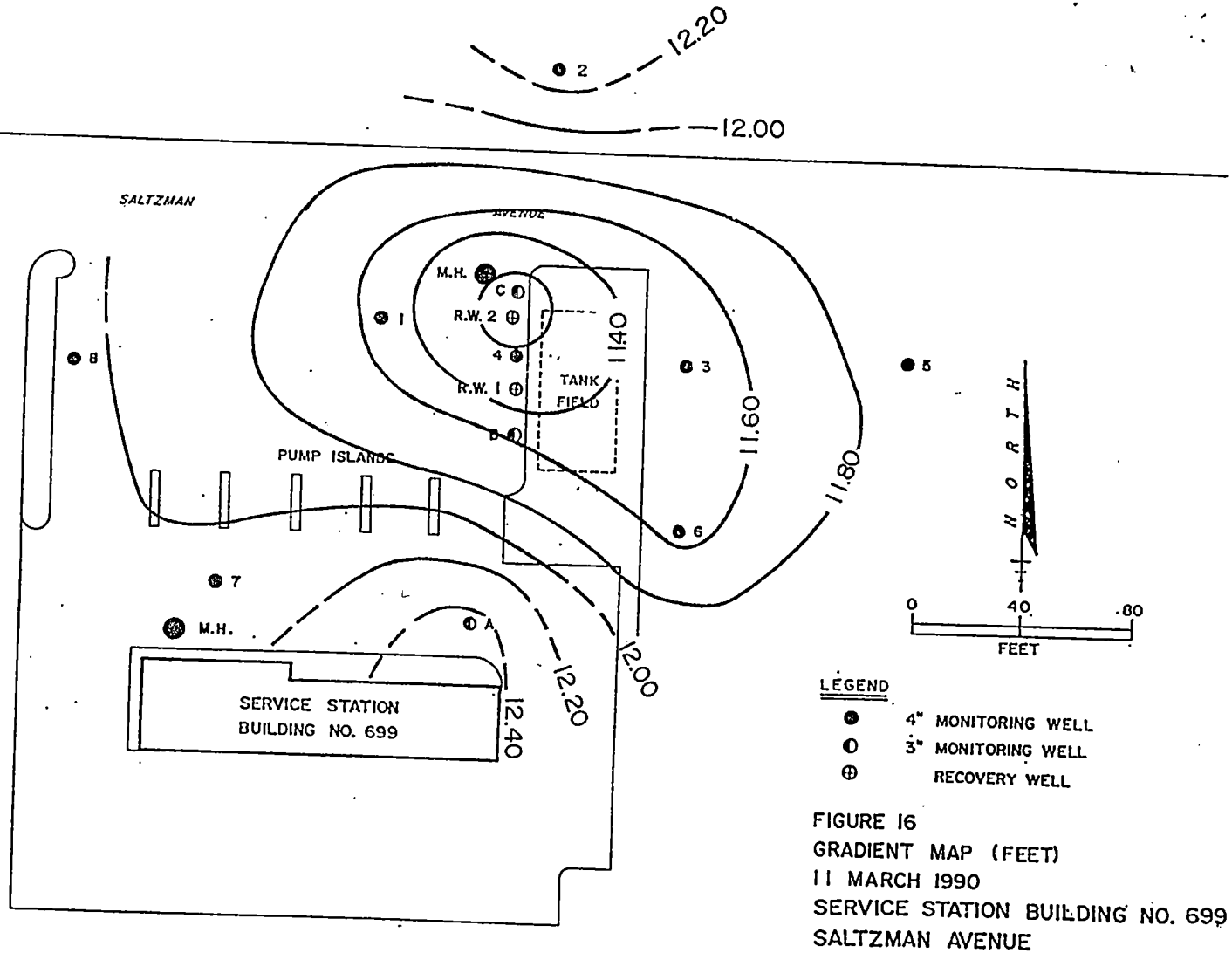
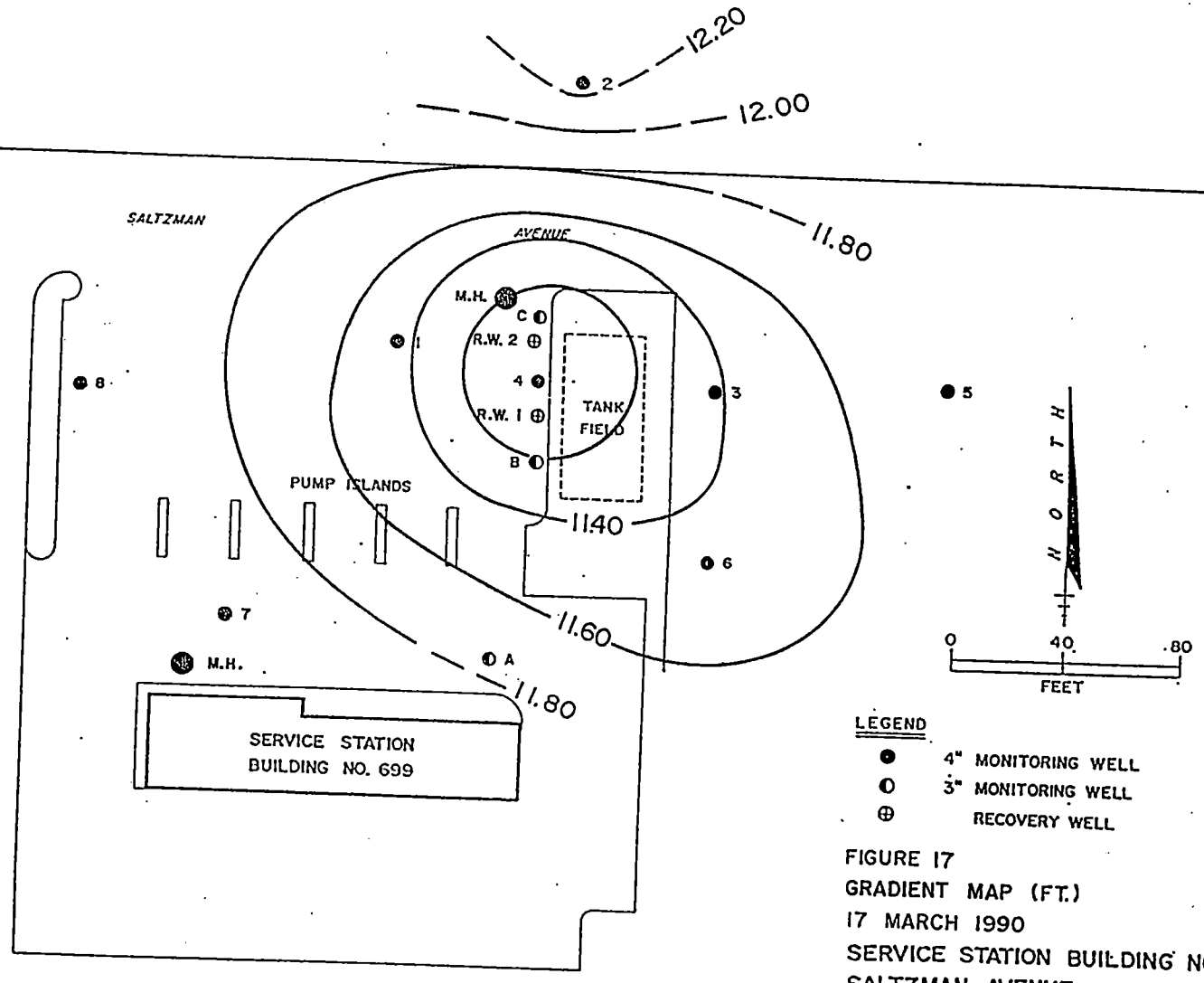


FIGURE 16
GRADIENT MAP (FEET)
11 MARCH 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, II

MW	ELEV.
1	11.46
2	12.31
5	11.77
6	11.44
7	11.94
8	11.96
RW1	11.06
RW2	10.96
A	11.80
C	11.01

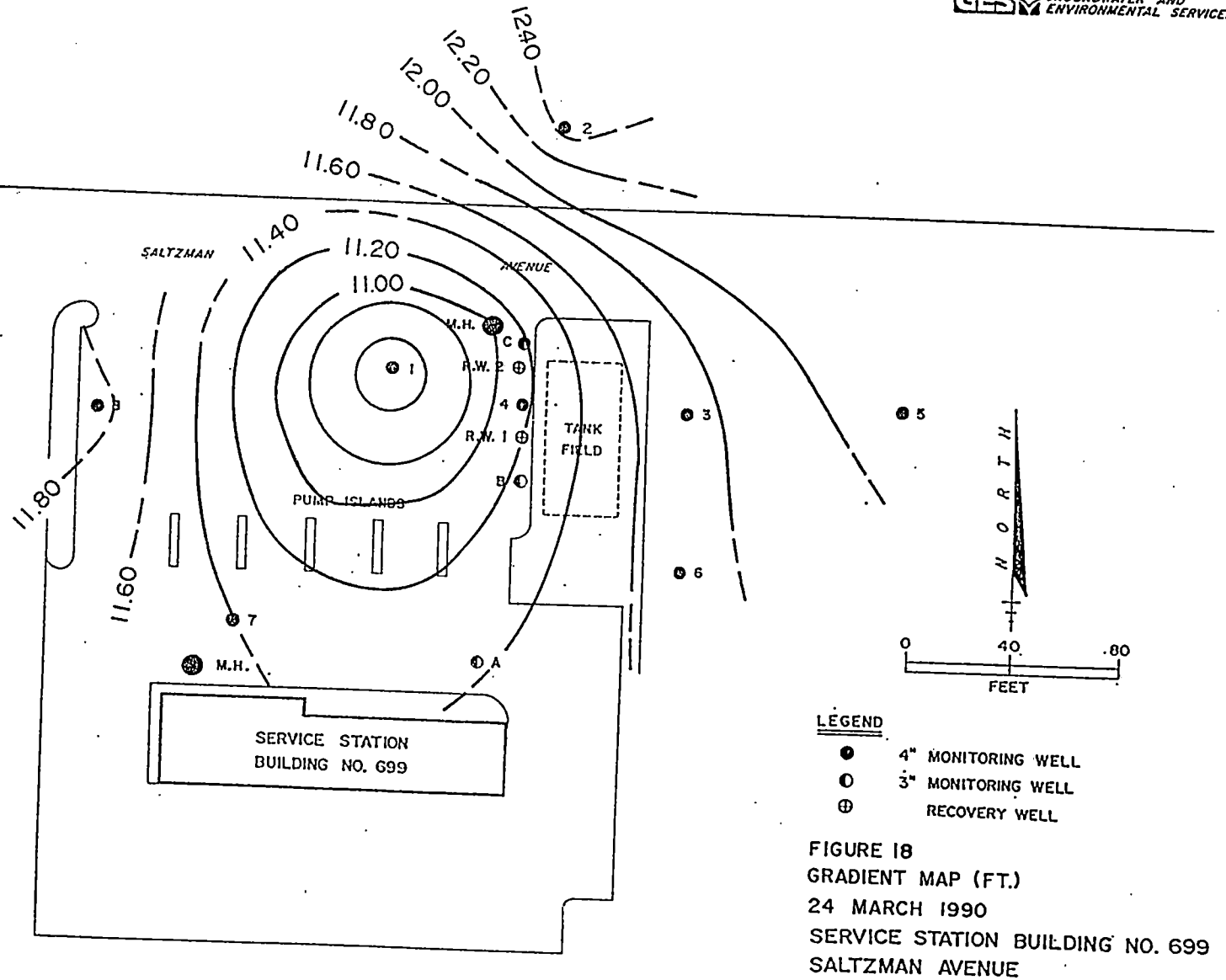


LEGEND

- ● 4" MONITORING WELL
- ◐ 3" MONITORING WELL
- ⊕ RECOVERY WELL

FIGURE 17
GRADIENT MAP (FT.)
17 MARCH 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.



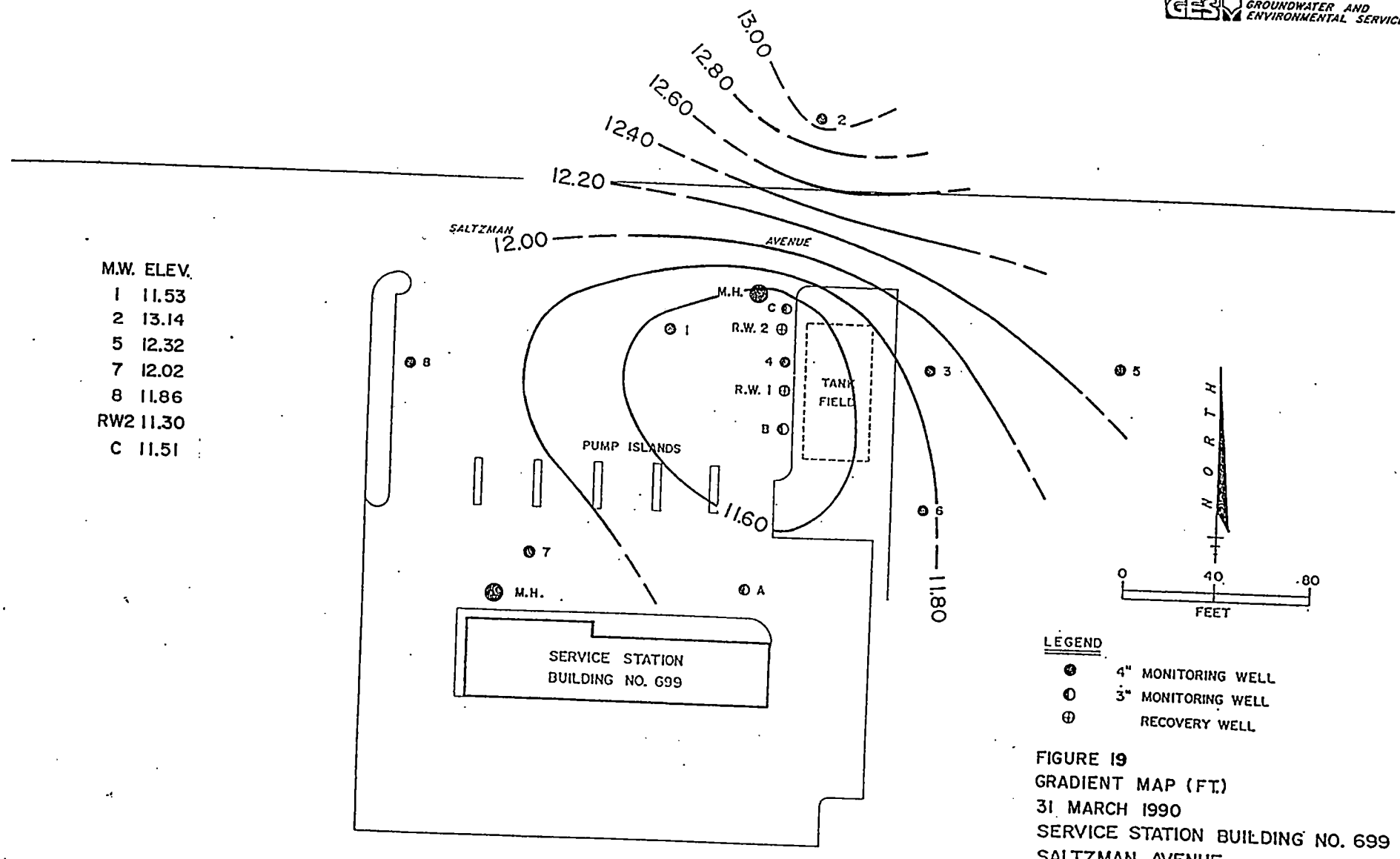
M.W.	ELEV.
1	10.42
2	12.45
5	12.09
6	11.71
7	11.41
8	11.86
RW1	11.23
RW2	11.06

LEGEND

- 4" MONITORING WELL
- 3" MONITORING WELL
- RECOVERY WELL

FIGURE 18
GRADIENT MAP (FT.)
24 MARCH 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.



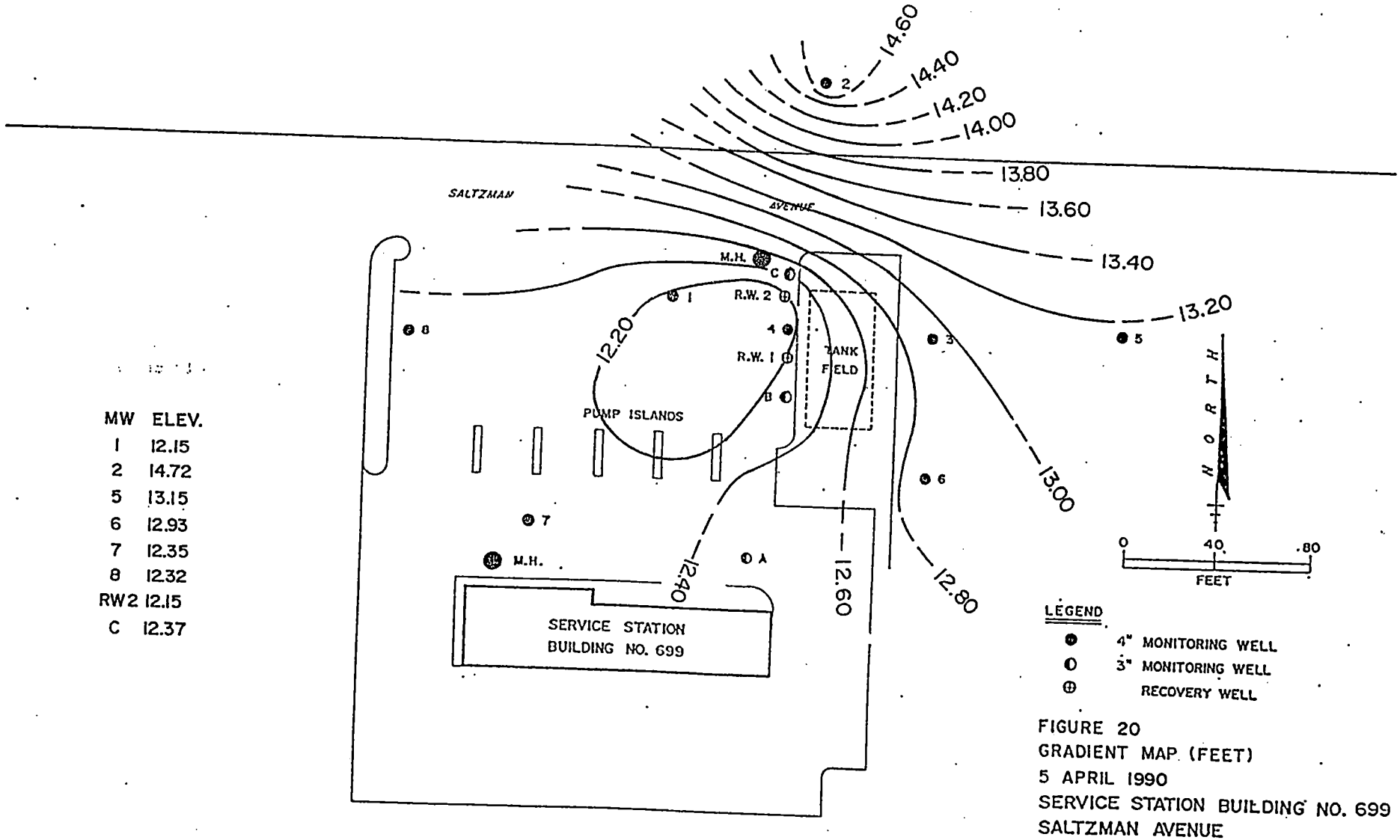
M.W.	ELEV.
1	11.53
2	13.14
5	12.32
7	12.02
8	11.86
RW2	11.30
C	11.51

LEGEND

- 4" MONITORING WELL
- 3" MONITORING WELL
- RECOVERY WELL

FIGURE 19
GRADIENT MAP (FT.)
31 MARCH 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, IN

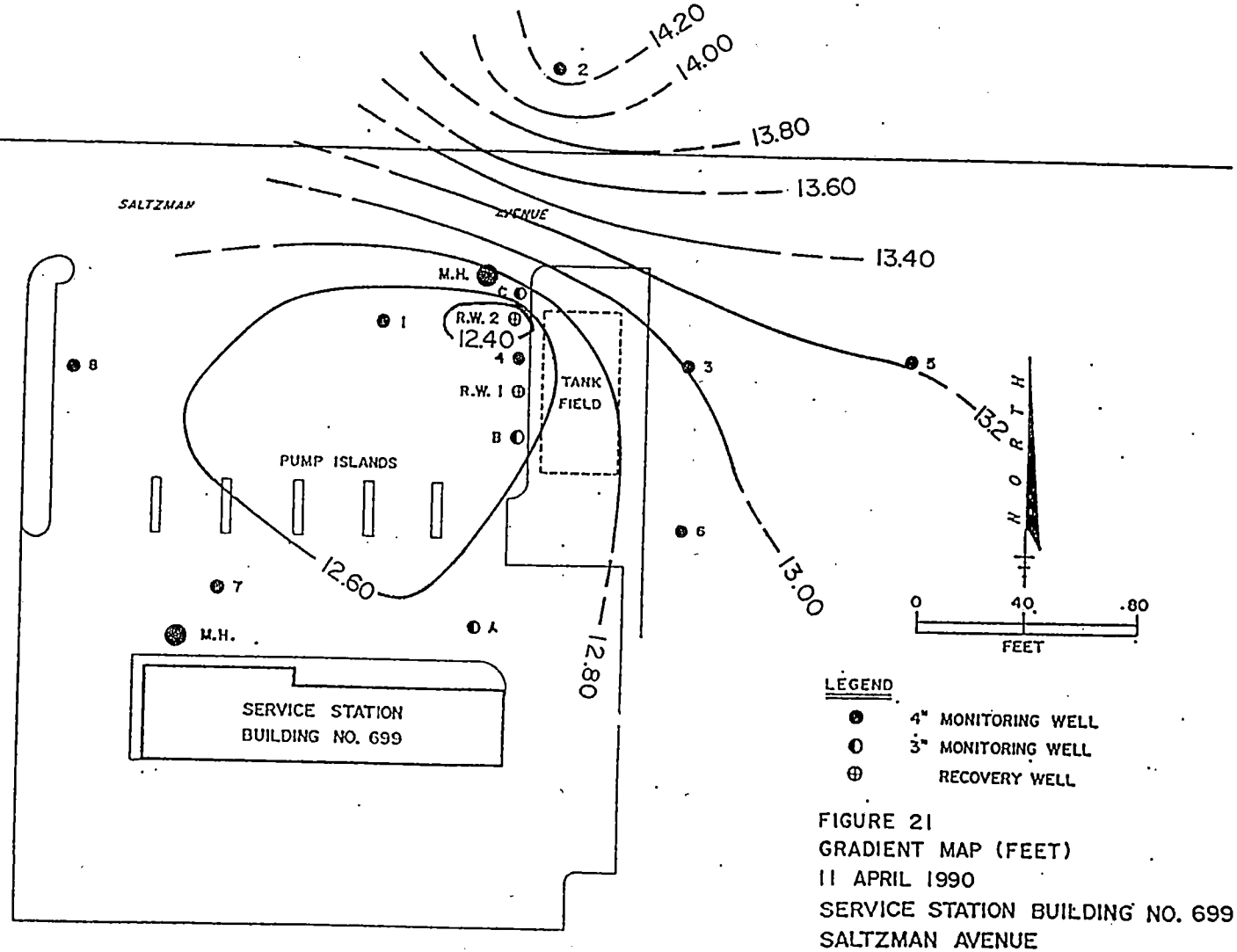


MW	ELEV.
1	12.15
2	14.72
5	13.15
6	12.93
7	12.35
8	12.32
RW2	12.15
C	12.37

FIGURE 20
GRADIENT MAP (FEET)
5 APRIL 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

M.W.	ELEV.
1	12.44
2	14.34
3	—
4	—
5	13.20
6	12.95
7	12.70
8	12.65
RW 1	12.52
RW2	12.34
A	—
B	—
C	12.80

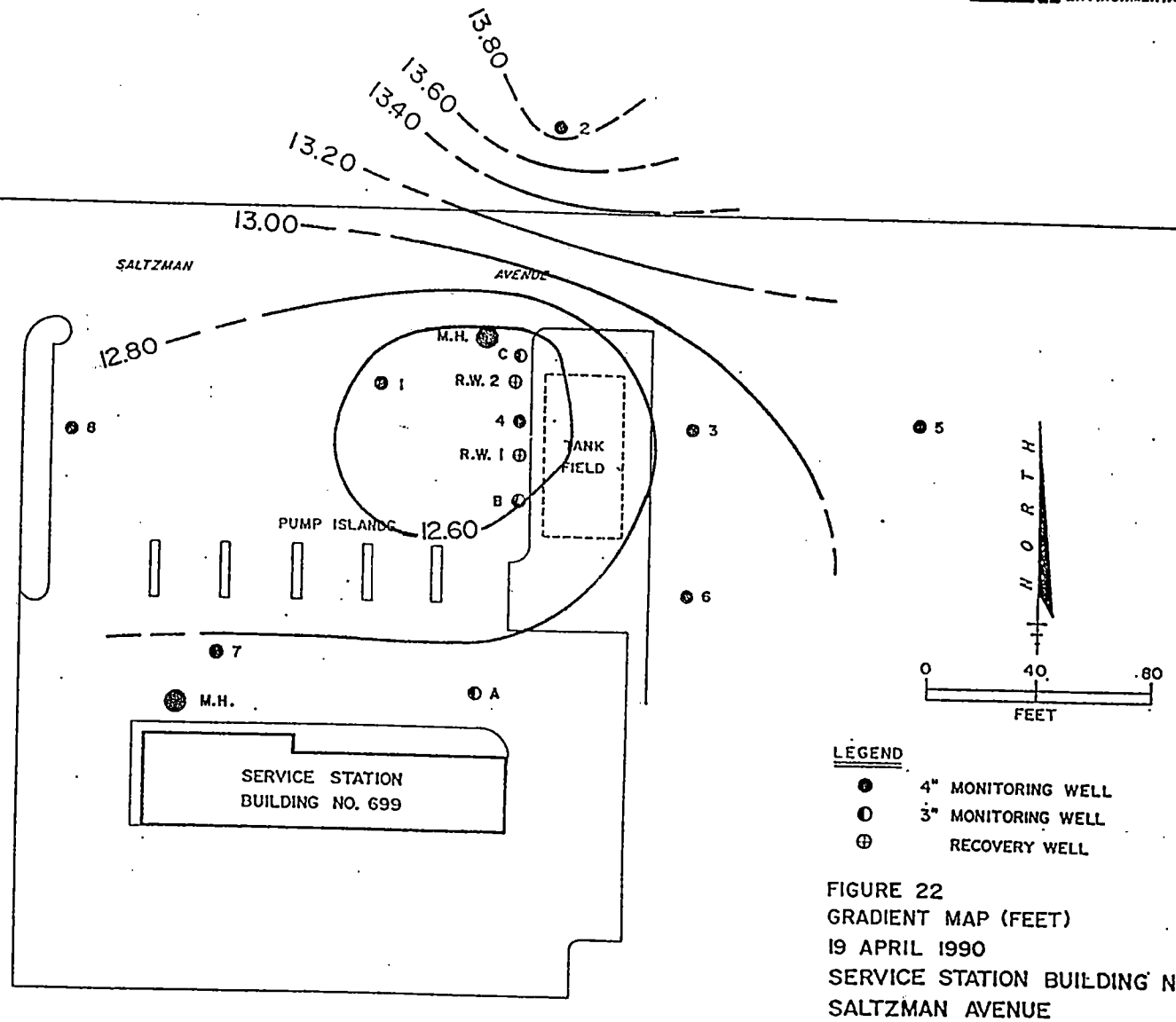


LEGEND

- 4" MONITORING WELL
- 3" MONITORING WELL
- RECOVERY WELL

FIGURE 21
GRADIENT MAP (FEET)
11 APRIL 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.



MW	ELEV.
1	12.55
2	13.92
5	13.05
6	12.98
7	12.82
8	12.77
RW2	12.41
C	12.48

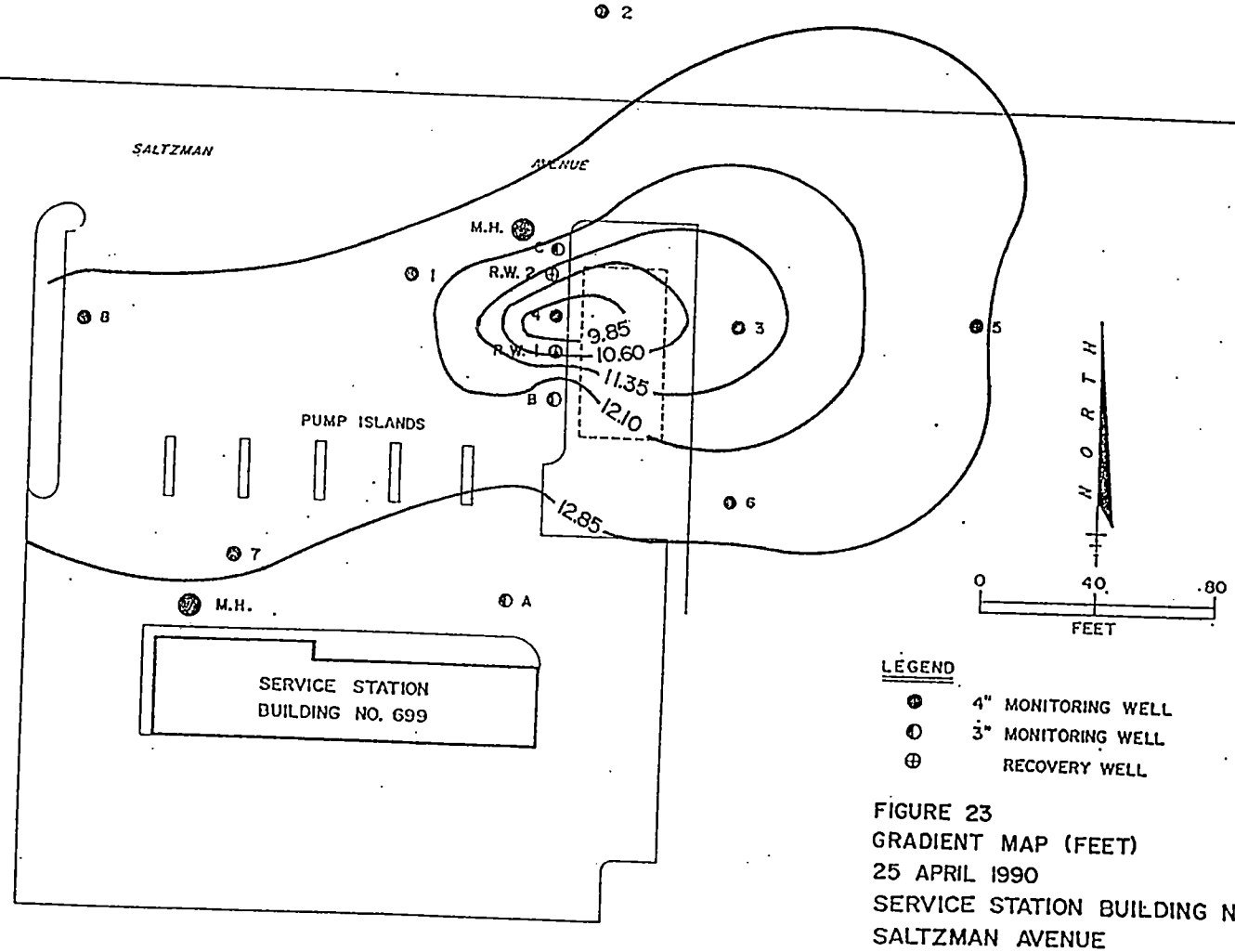
LEGEND

- ● 4" MONITORING WELL
- ◐ 3" MONITORING WELL
- ⊕ RECOVERY WELL

FIGURE 22
GRADIENT MAP (FEET)
19 APRIL 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

MW	ELEV.
1	12.53
2	13.47
3	10.80
4	4.68
5	12.86
6	12.75
7	12.83
8	12.77
RW 1	12.52
RW 2	12.38



LEGEND

- 4" MONITORING WELL
- 3" MONITORING WELL
- RECOVERY WELL

FIGURE 23
GRADIENT MAP (FEET)
25 APRIL 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

MW	ELEV.
1	12.16
2	12.70
3	11.61
5	12.39
6	12.28
7	12.47
8	12.45
RW1	12.15
RW2	11.99
C	12.02

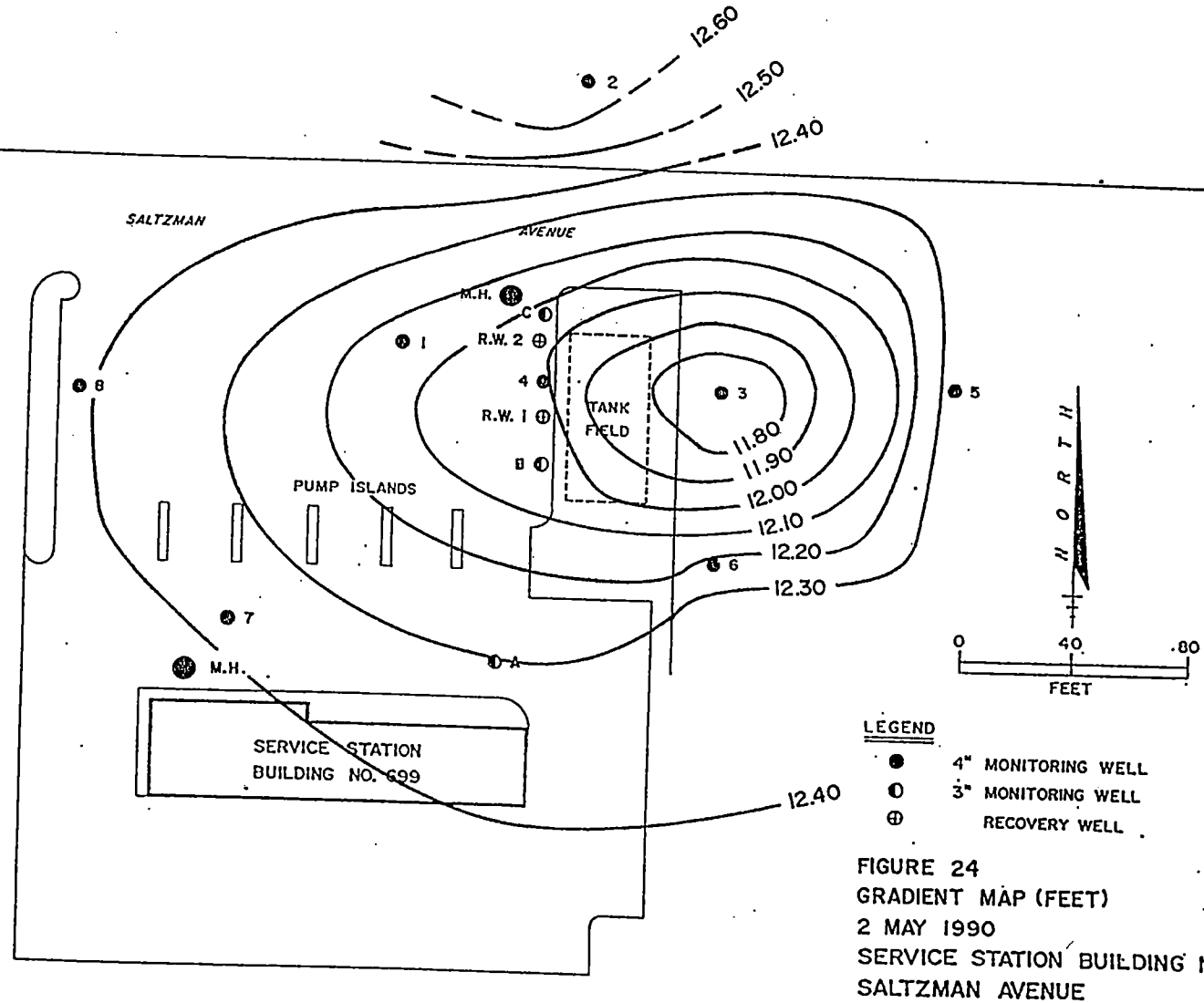


FIGURE 24
GRADIENT MAP (FEET)
2 MAY 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

M.W.	ELEV.
1	12.30
2	13.36
3	11.95
5	12.74
6	12.66
7	12.57
8	12.51
9	12.60
10	12.70
R.W.	
1	12.61
2	12.33
C	12.23

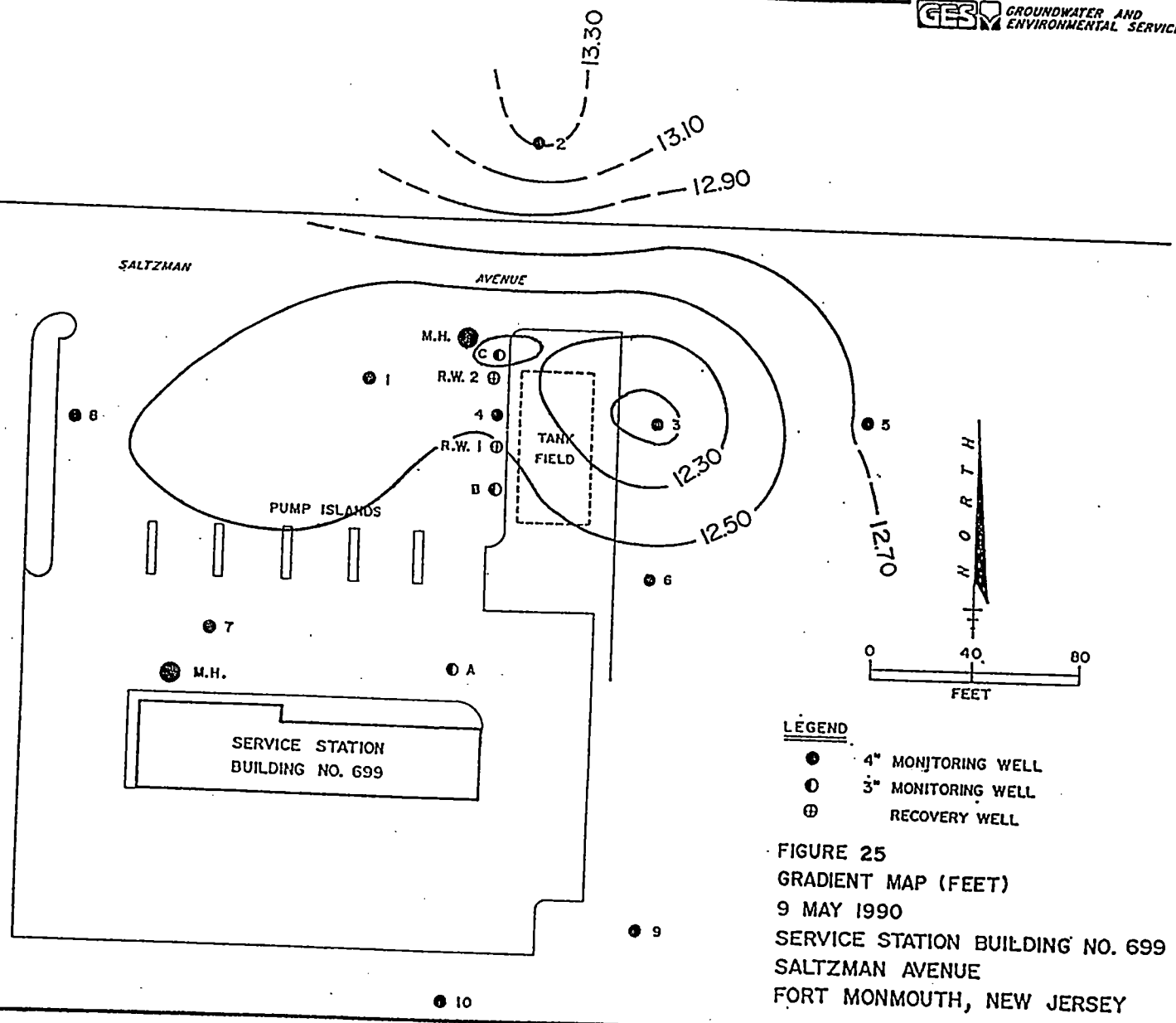
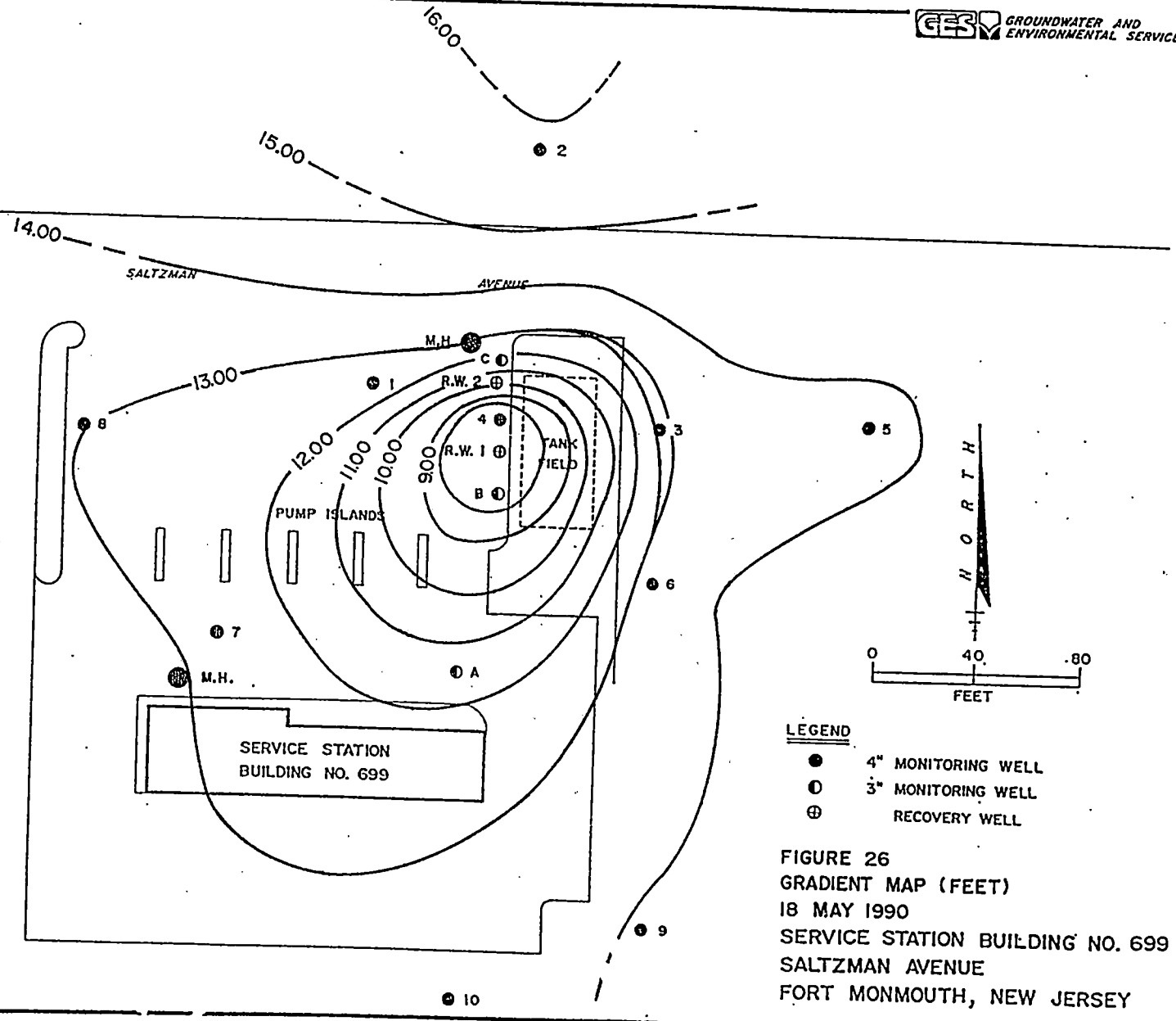


FIGURE 25
GRADIENT MAP (FEET)
9 MAY 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.



MW	ELEV.
1	12.77
2	15.96
3	13.18
4	4.01
5	13.77
6	13.71
7	12.93
8	12.95
RW2	12.74
9	14.08
10	13.55
C	12.67

FIGURE 26
GRADIENT MAP (FEET)
18 MAY 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC

MW	ELEV.
1	12.66
2	13.87
3	12.51
4	10.61
5	13.04
6	13.01
7	12.95
8	12.89
9	12.96
10	13.05
RW1	12.68
RW2	12.50
C	12.56

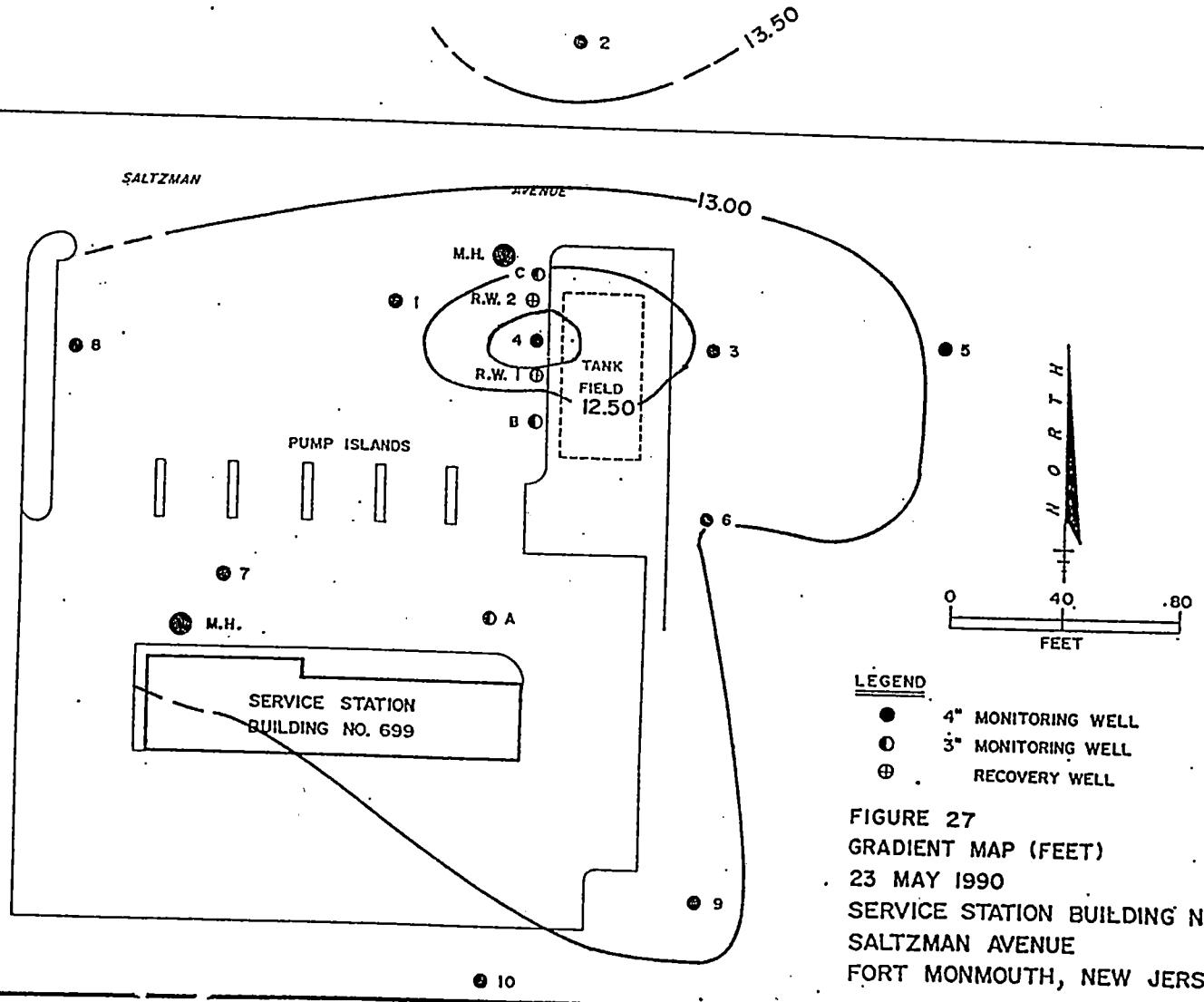


FIGURE 27
GRADIENT MAP (FEET)
23 MAY 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, IN

MW	ELEV.
1	12.79
2	15.76
3	13.09
5	14.05
6	13.97
7	13.21
8	13.10
9	14.82
10	13.99
RW 1	12.73
RW2	12.52

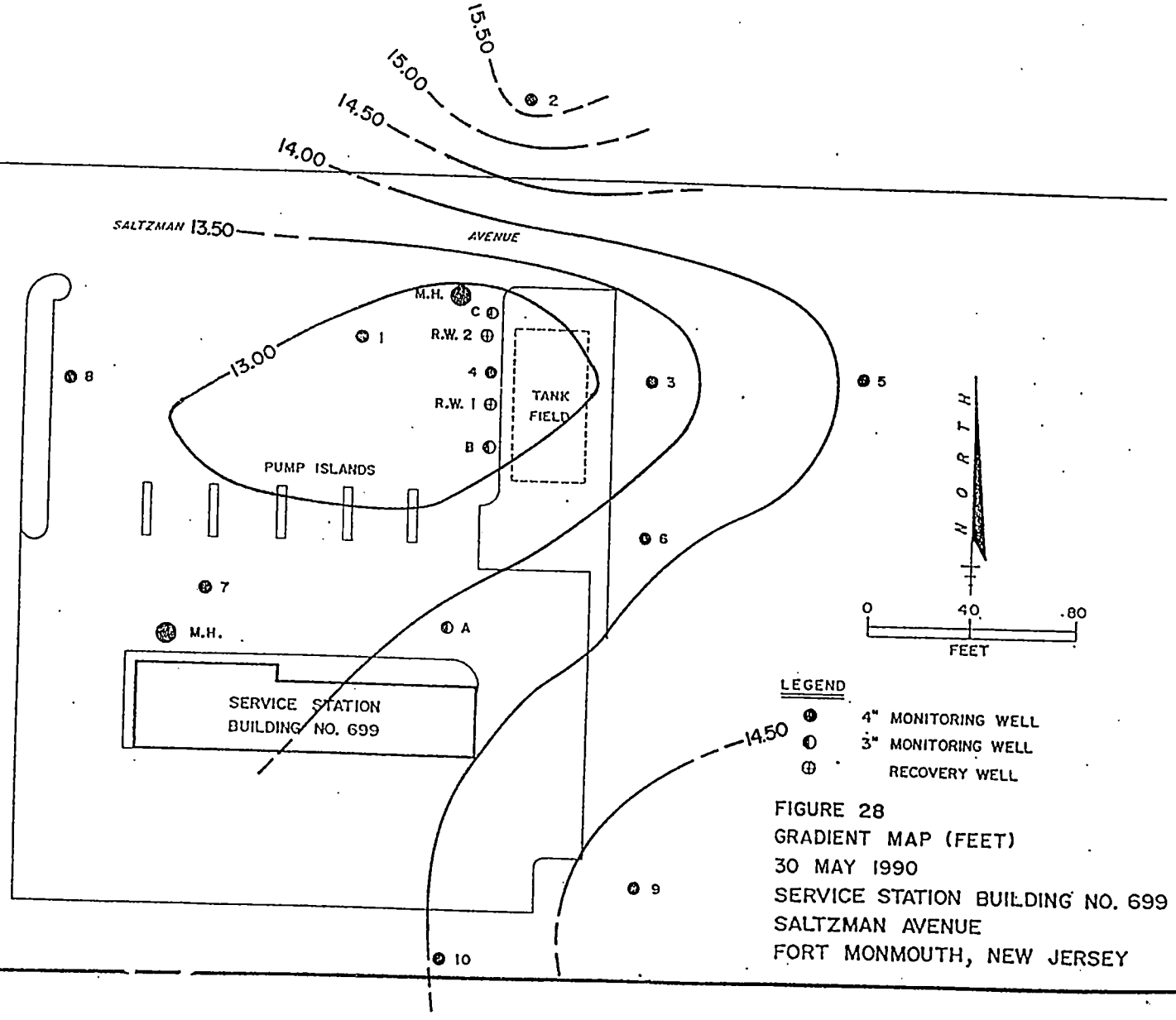
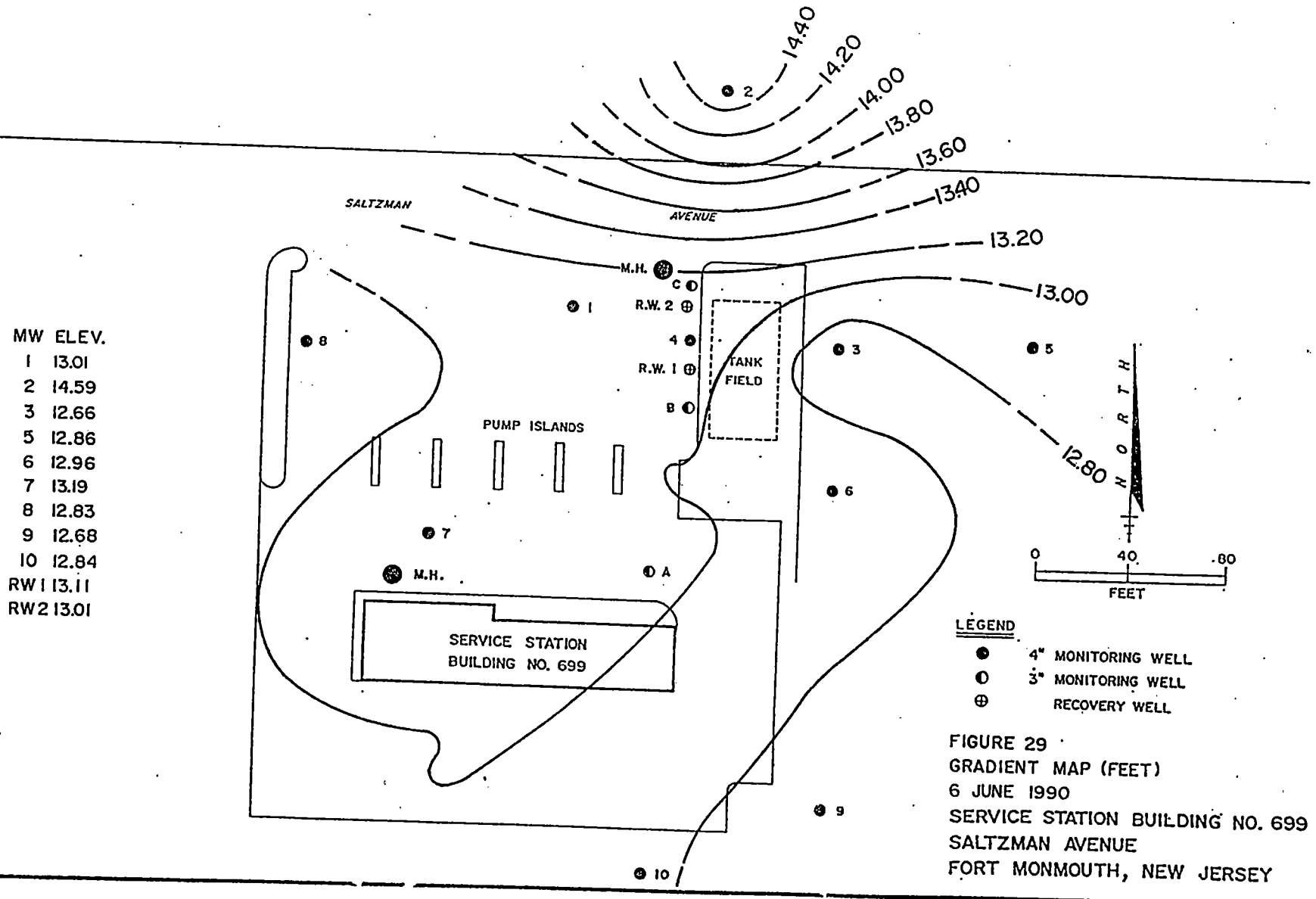


FIGURE 28
GRADIENT MAP (FEET)
30 MAY 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.



MW	ELEV.
1	13.01
2	14.59
3	12.66
5	12.86
6	12.96
7	13.19
8	12.83
9	12.68
10	12.84
RW1	13.11
RW2	13.01

LEGEND

- 4" MONITORING WELL
- 3" MONITORING WELL
- RECOVERY WELL

FIGURE 29
GRADIENT MAP (FEET)
6 JUNE 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, IN

MW	ELEV.
1	12.61
2	12.83
3	12.20
4	11.51
5	12.39
6	12.43
7	12.76
8	12.71
9	12.13
10	12.36
RW1	12.66
RW2	12.56
C	12.57

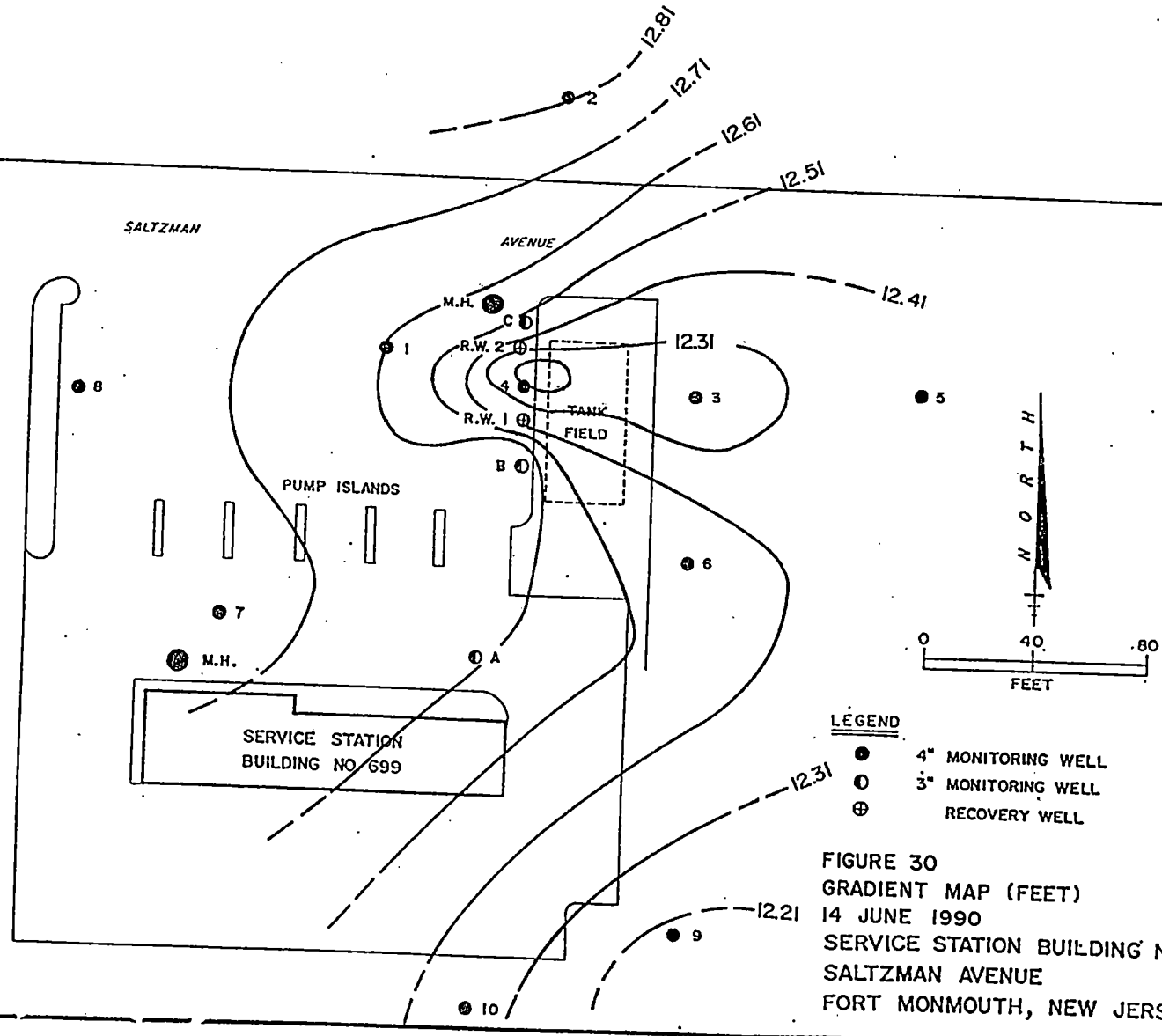


FIGURE 30
GRADIENT MAP (FEET)
14 JUNE 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

M.W.	ELEV.
1	12.28
2	12.49
3	11.88
4	9.02
5	12.02
6	12.08
7	12.52
8	12.48
9	11.80
10	12.06

R.W.	ELEV.
1	12.26
2	12.10
C	12.16

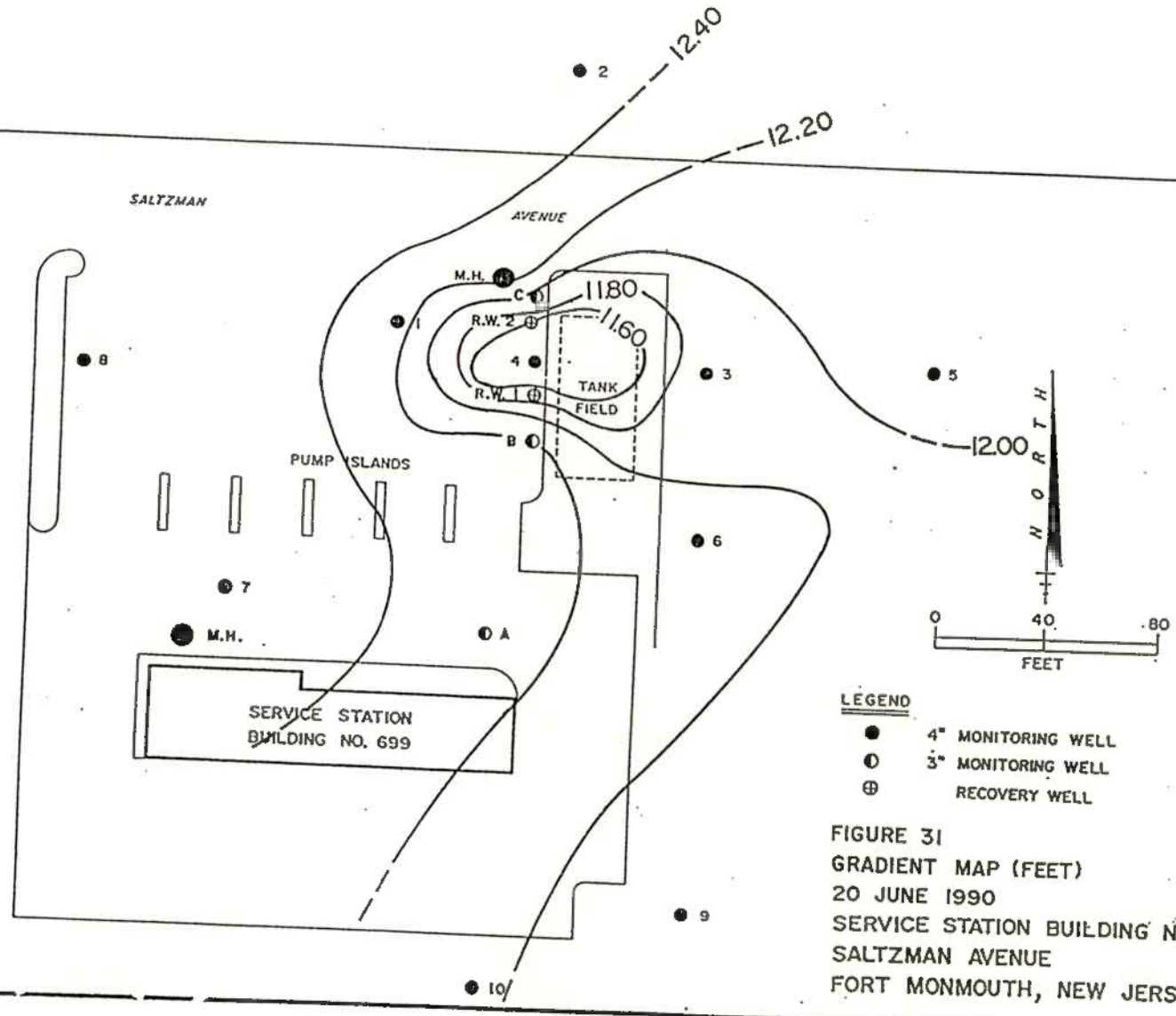
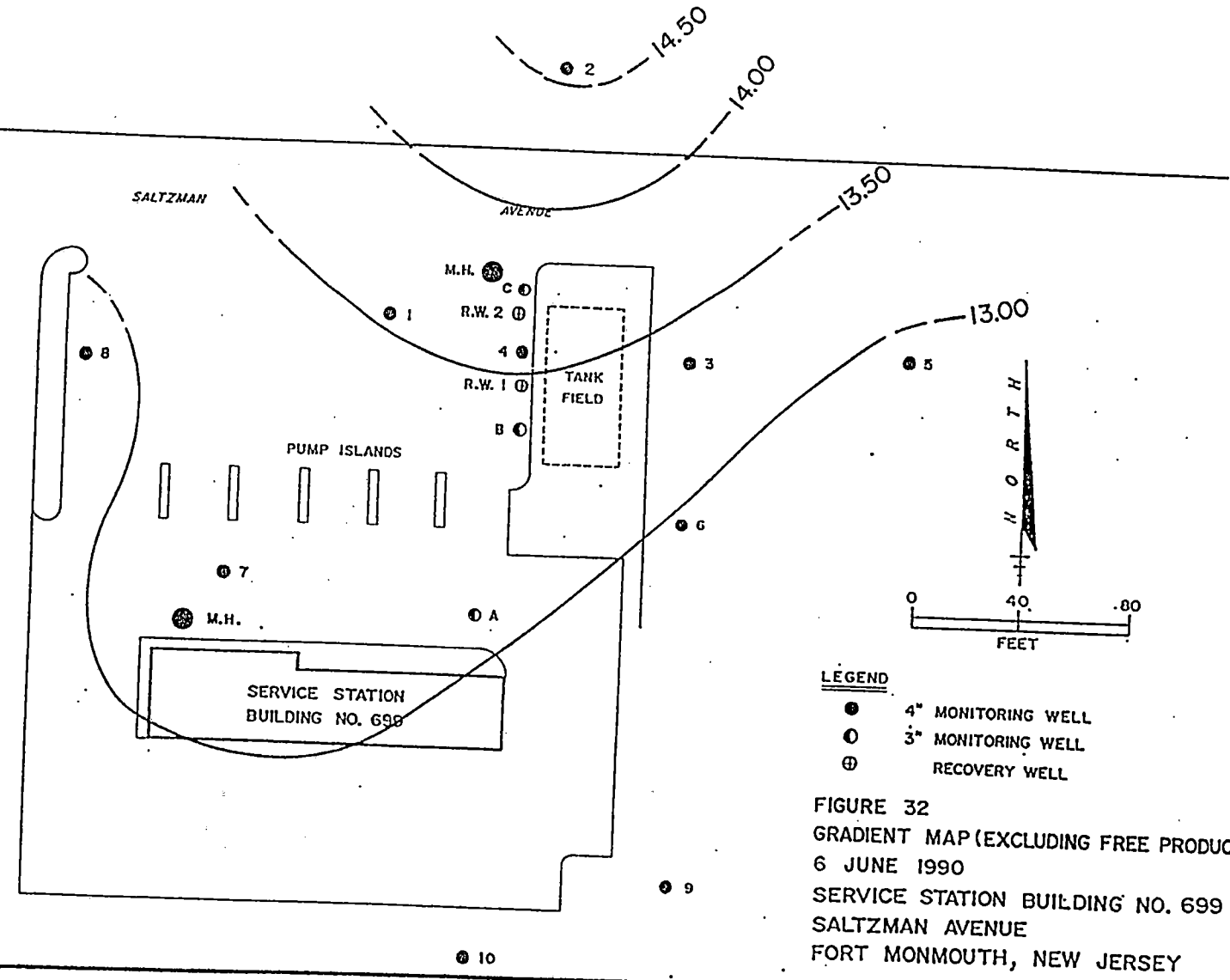


FIGURE 31
GRADIENT MAP (FEET)
20 JUNE 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

M.W.	ELEV.
2	12.86
5	12.86
6	12.96
7	13.19
8	12.83
9	12.68
10	12.84



LEGEND

- ● 4" MONITORING WELL
- ◐ 3" MONITORING WELL
- ⊕ RECOVERY WELL

FIGURE 32
GRADIENT MAP (EXCLUDING FREE PRODUCT)
6 JUNE 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.

M.W.	ELEV.
2	12.83
5	12.39
6	12.43
7	12.76
8	12.71
9	12.13
10	12.36

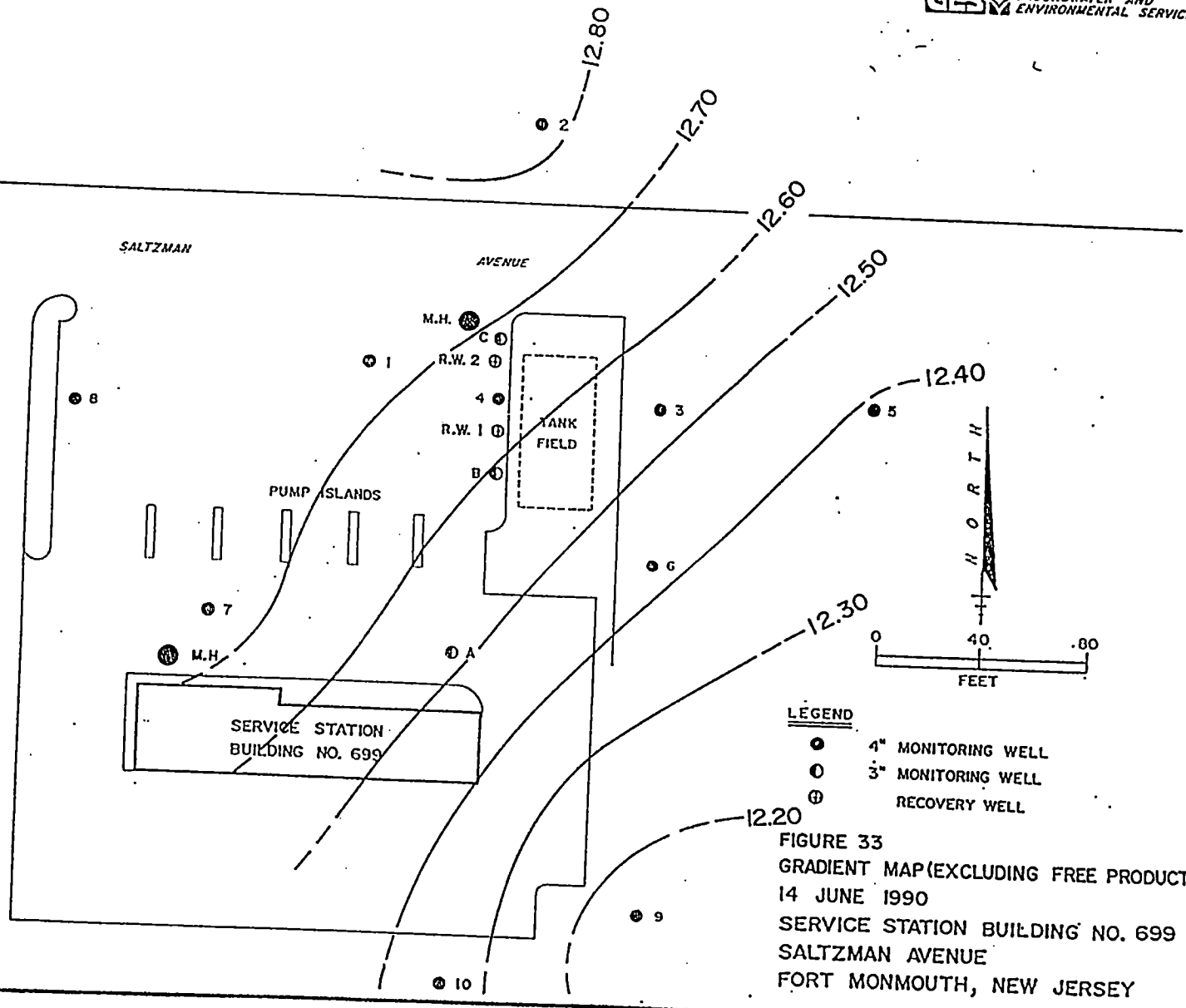
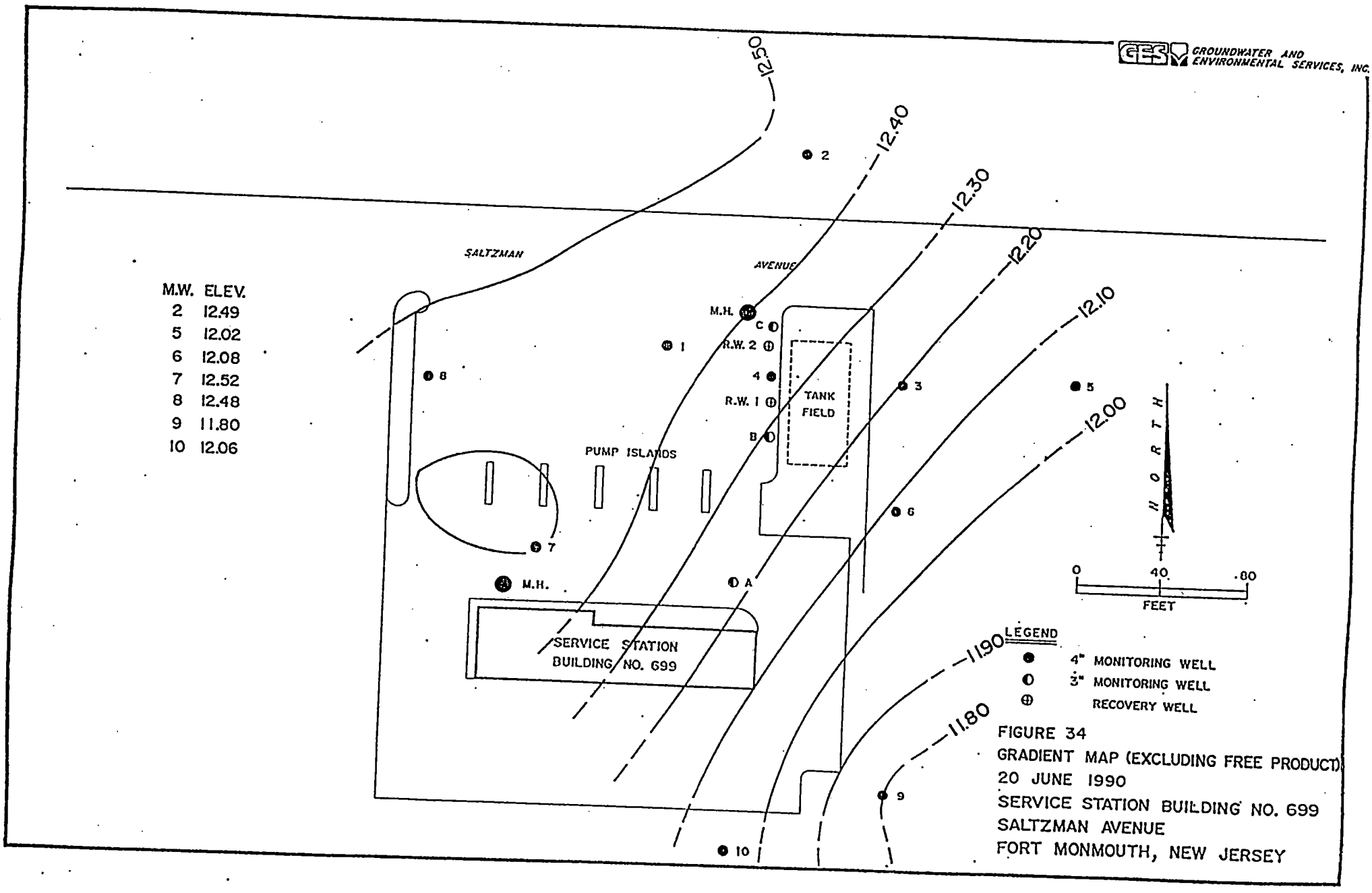


FIGURE 33
GRADIENT MAP (EXCLUDING FREE PRODUCT)
14 JUNE 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

GES GROUNDWATER AND ENVIRONMENTAL SERVICES, INC.



M.W.	ELEV.
2	12.49
5	12.02
6	12.08
7	12.52
8	12.48
9	11.80
10	12.06

FIGURE 34
GRADIENT MAP (EXCLUDING FREE PRODUCT)
20 JUNE 1990
SERVICE STATION BUILDING NO. 699
SALTZMAN AVENUE
FORT MONMOUTH, NEW JERSEY

DISCHARGE INVESTIGATION CORRECTIVE ACTION REPORT FOR THE POST MAIN GASOLINE STATION FORT MONMOUTH, MONMOUTH COUNTY, NJ

JULY 3, 1990

APPENDIX E

NORTHEASTERN ANALYTICAL, INC.
LABORATORY REPORT
MONITORING WELL SAMPLES
AND BLANKS

Northeastern Analytical Corp.

ANALYTICAL REPORT

for

GROUNDWATER & ENVIRONMENTAL SERVICES, INC.
437 Newman Springs Road
Suite B-1
Lincroft, New Jersey 07738

Attention: Mr. James Gallagher

TEST REPORT NO. NAC89L-2337

PROJECT: Ft. Monmouth
0079-0001

Client Designation	NAC Designation	Date Received	Matrix
MW-2	89L-2337-1	12-15-89	Aqueous
MW-5	89L-2337-2	12-15-89	Aqueous
MW-6	89L-2337-3	12-15-89	Aqueous
MW-7	89L-2337-4	12-15-89	Aqueous
MW-8	89L-2337-5	12-15-89	Aqueous
MW-A	89L-2337-6	12-15-89	Aqueous
Field Blank	89L-2337-7	12-15-89	Aqueous
Trip Blank	89L-2337-8	12-15-89	Aqueous

Laboratory Name: Northeastern Analytical Corp.

Certification No: 03117

Paul P. Painter

Name: Paul P. Painter

Title: Laboratory Manager

Date: December 29, 1989

TABLE OF CONTENTS

File: 26L\TEST\89L-2337

I. SAMPLING INFORMATION

Not submitted.

II. CHAIN OF CUSTODY DOCUMENTATION

84L-2337

CHAIN OF CUSTODY RECORD

PROJECT NO.	PROJECT NAME
0079-0001	FT MONMOUTH

SAMPLERS: (Signature) Chip Dzenis

NO.	DATE	TIME	COMP	GRAB	STATION AND LOCATION	ANALYSIS: EPA 624 + 15	ANALYSIS: MTBE	ANALYSIS: TBA	ANALYSIS: XYLENES	REMARKS	PRESERVATION
1	12/15/89				MW 2	X	X	X	X	1Z BACKUP	ICE
2					MW 5						
3					MW 6						
4					MW 7						
5					MW 8						
6					MW A						
7					FIELD BLANK						
8					TRIP BLANK					1I BACKUP	

RELINQUISHED BY	DATE	TIME	RECEIVED BY	RELINQUISHED BY	DATE	TIME	RECEIVED BY
Chip Dzenis	12/15/89	3:25	J. Koutsoudis	J. Koutsoudis	12/15/89	17:05	
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY LABORATORY:

REMARKS:

DISTRIBUTION:

GES Groundwater & Environmental Services, Inc.
437 Newman Springs Rd. • Suite B-1
Lincroft, NJ 07738
(201) 530-4787
CHIP DZENIS

III. METHODOLOGY SUMMARY

- 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, 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.

Samples were prepared for analysis as prescribed in Method 8240 from SW846.

IV. LABORATORY CHRONICLE

A. Date of Sampling: 12-15-89

B. Date of Receipt/Refrigeration: 12-15-89

C. Date of Analysis:

Parameter	Date Analyzed
Volatile Organics	12-22 & 12-29-89
. Re-analysis	01-03-90

V. NON-COMPLIANCE/QA REPORT

Sample 89L-2337-3 was re-run for Volatile Organics analysis on 1-3-89 at a 1:100 dilution due to the high amount of analyte in the sample.

Supervisor Review and Approval: Paul D. Painter

VI. ANALYTICAL RESULTS

. Volatile Organics

Parameter	Sample Designation 89L-2337-1 MW-2	Detection Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	5.0
Acetone	9J,B	10
Carbon Disulfide	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
t-Butyl Alcohol	ND	50
trans-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
Methyl t-Butyl Ether	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	10
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
4-methyl-2-pentanone	ND	10
2-Hexanone	ND	10
Tetrachloroethene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
Total Xylenes	ND	10
2-Chloroethylvinyl Ether	ND	10
Total Dichlorobenzenes	ND	10
Units	(ug/l)	(ug/l)

ND: Not Detected.
J: Detected, but below the limit of reliable quantitation.
B: Acetone detected in method blank @ 3 ug/l.

VI. ANALYTICAL RESULTS (Continued)

- Volatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: 89L-2337-1, MW-2

Tentatively Identified Compounds	Retention Time, Minutes	Estimated Concentration, ug/l
Unknown	10.12	6J

J: Estimated concentration.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 89L-2337-2 MW-5	Detection Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	1J,B	5.0
Acetone	910B_1	10
Carbon Disulfide	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
t-Butyl Alcohol	ND	50
trans-1,2-Dichloroethene	ND	5.0
Chloroform	73	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
Methyl t-Butyl Ether	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	10
Bromodichloromethane	14	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	1J	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
4-methyl-2-pentanone	ND	10
2-Hexanone	ND	10
Tetrachloroethene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
Total Xylenes	ND	10
2-Chloroethylvinyl Ether	ND	10
Total Dichlorobenzenes	ND	10
Units	(ug/l)	(ug/l)

ND: Not Detected.
J: Detected, but below the limit of reliable quantitation.
B: Methylene Chloride detected in method blank @ 3 ug/l.
B_1: Acetone detected in method blank @ 3 ug/l.

VI. ANALYTICAL RESULTS (Continued)

- Volatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: 89L-2337-2, MW-5

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

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 89L-2337-3 MW-6	Detection Limit ♦
Chloromethane	ND	1,000
Bromomethane	ND	1,000
Vinyl Chloride	ND	1,000
Chloroethane	ND	1,000
Methylene Chloride	280J,B	500
Acetone	2,300	1,000
Carbon Disulfide	ND	500
1,1-Dichloroethene	ND	500
1,1-Dichloroethane	ND	500
t-Butyl Alcohol	ND	5,000
trans-1,2-Dichloroethene	ND	500
Chloroform	ND	500
1,2-Dichloroethane	ND	500
2-Butanone	ND	1,000
Methyl t-Butyl Ether	ND	1,000
1,1,1-Trichloroethane	ND	500
Carbon Tetrachloride	ND	500
Vinyl Acetate	ND	1,000
Bromodichloromethane	ND	500
1,2-Dichloropropane	ND	500
cis-1,3-Dichloropropene	ND	500
Trichloroethene	ND	500
Dibromochloromethane	ND	500
1,1,2-Trichloroethane	ND	500
Benzene	740	500
trans-1,3-Dichloropropene	ND	500
Bromoform	ND	500
4-methyl-2-pentanone	ND	1,000
2-Hexanone	ND	1,000
Tetrachloroethene	ND	500
1,1,2,2-Tetrachloroethane	ND	500
Toluene	8,700	500
Chlorobenzene	ND	500
Ethylbenzene	2,500	500
Styrene	ND	500
Total Xylenes	13,000	1,000
2-Chloroethylvinyl Ether	ND	1,000
Total Dichlorobenzenes	ND	1,000
Units	(ug/l)	(ug/l)

ND: Not Detected.
♦: Elevated detection limit due to high amount of analyte in sample
J: Detected, but below the limit of reliable quantitation.
B: Methylene Chloride detected in method blank 0.3 ug/l

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: 89L-2337-3, MW-6

Tentatively Identified Compounds	Retention Time, Minutes	Estimated Concentration, ug/l
2-methylbutane	11.55	550J
Unknown	35.86	740J

J: Estimated concentration.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 89L-2337-4 MW-7	Detection Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	1J,B	5.0
Acetone	270B_1	10
Carbon Disulfide	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
t-Butyl Alcohol	ND	50
trans-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
Methyl t-Butyl Ether	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	10
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
4-methyl-2-pentanone	ND	10
2-Hexanone	ND	10
Tetrachloroethene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	1J	5.0
Styrene	ND	5.0
Total Xylenes	ND	10
2-Chloroethylvinyl Ether	ND	10
Total Dichlorobenzenes	ND	10
Units	(ug/l)	(ug/l)

ND: Not Detected.

J: Detected, but below the limit of reliable quantitation.

B: Methylene Chloride detected in method blank @ 3 ug/l.

B_1: Acetone detected in method blank @ 3 ug/l.

VI. ANALYTICAL RESULTS (Continued)

- Volatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: 89L-2337-4, MW-7

Tentatively Identified Compounds	Retention Time, Minutes	Estimated Concentration, ug/l
2-methylbutane	11.53	18J
Unknown	14.01	7J
2,3-dimethylbutane	15.79	9J
Unknown	16.61	7J
Unknown	16.95	6J
Unknown	19.20	7J
2,3-dimethylpentane	20.33	9J
Unknown Alkane	22.77	18J

J: Estimated concentration.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 89L-2337-5 MW-8	Detection Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	5.0
Acetone	91B	10
Carbon Disulfide	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
t-Butyl Alcohol	ND	50
trans-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
Methyl t-Butyl Ether	ND	10
1,1,1-Trichloroethane	1J	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	10
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
4-methyl-2-pentanone	ND	10
2-Hexanone	ND	10
Tetrachloroethene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
Total Xylenes	ND	10
2-Chloroethylvinyl Ether	ND	10
Total Dichlorobenzenes	ND	10
Units	(ug/l)	(ug/l)

ND: Not Detected.
J: Detected, but below the limit of reliable quantitation.
B: Acetone detected in method blank @ 3 ug/l.

VI. ANALYTICAL RESULTS (Continued)

- Volatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: 89L-2337-5, MW-8

Tentatively Identified Compounds	Retention Time, Minutes	Estimated Concentration, ug/l
2-methylbutane	11.52	7J
Unknown	22.06	6J

J: Estimated concentration.

VI. ANALYTICAL RESULTS (Continued)

Volatile Organics (Continued)

Parameter	Sample Designation 89L-2337-6 MW-A	Detection Limit ♦
Chloromethane	ND	100
Bromomethane	ND	100
Vinyl Chloride	ND	100
Chloroethane	ND	100
Methylene Chloride	ND	50
Acetone	1,400B	100
Carbon Disulfide	ND	50
1,1-Dichloroethene	ND	50
1,1-Dichloroethane	ND	50
t-Butyl Alcohol	960	500
trans-1,2-Dichloroethene	ND	50
Chloroform	ND	50
1,2-Dichloroethane	ND	50
2-Butanone	ND	100
Methyl t-Butyl Ether	1,100	100
1,1,1-Trichloroethane	15J	50
Carbon Tetrachloride	ND	50
Vinyl Acetate	ND	100
Bromodichloromethane	ND	50
1,2-Dichloropropane	ND	50
cis-1,3-Dichloropropene	ND	50
Trichloroethene	ND	50
Dibromochloromethane	ND	50
1,1,2-Trichloroethane	ND	50
Benzene	2,100	50
trans-1,3-Dichloropropene	ND	50
Bromoform	ND	50
4-methyl-2-pentanone	ND	100
2-Hexanone	ND	100
Tetrachloroethene	ND	50
1,1,2,2-Tetrachloroethane	ND	50
Toluene	3,900	50
Chlorobenzene	ND	50
Ethylbenzene	3,000	50
Styrene	ND	50
Total Xylenes	9,500	100
2-Chloroethylvinyl Ether	ND	100
Total Dichlorobenzenes	ND	100
Units	(ug/l)	(ug/l)

ND: Not Detected.

♦: Elevated detection limit due to high amount of analyte in sample.

J: Detected, but below the limit of reliable quantitation.

B: Acetone detected in method blank @ 3 ug/l.

VI. ANALYTICAL RESULTS (Continued)

- Volatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: 89L-2337-6, MW-A

Tentatively Identified Compounds	Retention Time, Minutes	Estimated Concentration, ug/l
2-methylbutane	11.54	910J
1,2-dimethylcyclopropane	12.78	110J
2-methyl-1-butene	13.64	190J
Methylcyclopentane	14.57	530J
Unknown	15.46	290J
2,3-dimethylbutane	15.81	66J
Unknown	16.58	140J
Unknown Alkane	18.52	98J
2,3-dimethyl-2-butanol	19.14	170J
2-butanol isomer	20.31	280J
1-methyl-3-(1-methylethyl)-benzene	29.46	190J
Unknown	32.80	470J
Unknown	35.83	620J
Ethylmethylbenzene	36.91	520J
1,2,4-trimethylbenzene	44.17	290J

J: Estimated concentration.

VI. ANALYTICAL RESULTS (Continued)

- Volatile Organics (Continued)

Parameter	Sample Designation 89L-2337-7 Field Blank	Detection Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	3J,B	5.0
Acetone	$25B_1$	10
Carbon Disulfide	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
t-Butyl Alcohol	ND	50
trans-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
Methyl t-Butyl Ether	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	10
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
4-methyl-2-pentanone	ND	10
2-Hexanone	ND	10
Tetrachloroethene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
Total Xylenes	ND	10
2-Chloroethylvinyl Ether	ND	10
Total Dichlorobenzenes	ND	10
Units	(ug/l)	(ug/l)

ND: Not Detected.
J: Detected, but below the limit of reliable quantitation.
B: Methylene Chloride detected in method blank @ 3 ug/l.
B_1: Acetone detected in method blank @ 3 ug/l.

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: 89L-2337-7, Field Blank

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

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation 89L-2337-8 Trip Blank	Detection Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	2J,B	5.0
Acetone	$37B_1$	10
Carbon Disulfide	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
t-Butyl Alcohol	ND	50
trans-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
Methyl t-Butyl Ether	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	10
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
4-methyl-2-pentanone	ND	10
2-Hexanone	ND	10
Tetrachloroethene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
Total Xylenes	ND	10
2-Chloroethylvinyl Ether	ND	10
Total Dichlorobenzenes	ND	10
Units	(ug/l)	(ug/l)

ND: Not Detected.
J: Detected, but below the limit of reliable quantitation.
B: Methylene Chloride detected in method blank @ 2 ug/l.
B_1: Acetone detected in method blank @ 7 ug/l.

VI. ANALYTICAL RESULTS (Continued)

- Volatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: 89L-2337-8, Trip Blank

Tentatively Identified Compounds	Retention Time, Minutes	Estimated Concentration, ug/l
1-propanol	10.19	11J
1,1,2-trichloro-1,2,2-trifluoroethane	11.93	15J

J: Estimated concentration.

VI. ANALYTICAL RESULTS (Continued)

- Volatile Organics (Continued)

Parameter	Sample Designation: Method Blank 8912221127	Method Blank 8912291111	Detection Limit
Chloromethane	ND	ND	10
Bromomethane	ND	ND	10
Vinyl Chloride	ND	ND	10
Chloroethane	ND	ND	10
Methylene Chloride	2J	3J	5.0
Acetone	7J	3J	10
Carbon Disulfide	ND	ND	5.0
1,1-Dichloroethene	ND	ND	5.0
1,1-Dichloroethane	ND	ND	5.0
t-Butyl Alcohol	ND	ND	50
trans-1,2-Dichloroethene	ND	ND	5.0
Chloroform	ND	ND	5.0
1,2-Dichloroethane	ND	ND	5.0
2-Butanone	ND	ND	10
Methyl t-Butyl Ether	ND	ND	10
1,1,1-Trichloroethane	ND	ND	5.0
Carbon Tetrachloride	ND	ND	5.0
Vinyl Acetate	ND	ND	10
Bromodichloromethane	ND	ND	5.0
1,2-Dichloropropane	ND	ND	5.0
cis-1,3-Dichloropropene	ND	ND	5.0
Trichloroethene	ND	ND	5.0
Dibromochloromethane	ND	ND	5.0
1,1,2-Trichloroethane	ND	ND	5.0
Benzene	ND	ND	5.0
trans-1,3-Dichloropropene	ND	ND	5.0
Bromoform	ND	ND	5.0
4-methyl-2-pentanone	ND	ND	10
2-Hexanone	ND	ND	10
Tetrachloroethene	ND	ND	5.0
1,1,2,2-Tetrachloroethane	ND	ND	5.0
Toluene	ND	ND	5.0
Chlorobenzene	ND	ND	5.0
Ethylbenzene	ND	ND	5.0
Styrene	ND	ND	5.0
Total Xylenes	ND	ND	10
2-Chloroethylvinyl Ether	ND	ND	10
Total Dichlorobenzenes	ND	ND	10
Units	(ug/l)	(ug/l)	(ug/l)

ND: Not Detected.
J: Detected, but below the limit of reliable quantitation.

VI. ANALYTICAL RESULTS (Continued)

- Volatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: Method Blank, 8912221127

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

Sample Designation: Method Blank, 8912291111

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

VI. ANALYTICAL RESULTS (Continued)

. Volatile Organics (Continued)

Parameter	Sample Designation: Method Blank 9001031217	Detection Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	3J	5.0
Acetone	ND	10
Carbon Disulfide	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
t-Butyl Alcohol	ND	50
trans-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	10
Methyl t-Butyl Ether	ND	10
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Vinyl Acetate	ND	10
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
4-methyl-2-pentanone	ND	10
2-Hexanone	ND	10
Tetrachloroethene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
Total Xylenes	ND	10
2-Chloroethylvinyl Ether	ND	10
Total Dichlorobenzenes	ND	10
Units	(ug/l)	(ug/l)

ND: Not Detected.

VI. ANALYTICAL RESULTS (Continued)

- Volatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: Method Blank, 9001031217

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

VII. QUALITY ASSURANCE DATA

Volatile Organic Surrogate Recoveries

Sample Designation	% Recovery Toluene-D8	Bromofluorobenzene	1,2-Dichloroethane-D4
89L-2337-1	110	104	83
89L-2337-2	104	97	81
89L-2337-3	101	98	77
89L-2337-4	97	90	75*
89L-2337-5	102	92	80
89L-2337-6	92	104	86
89L-2337-7	106	95	77
89L-2337-8	105	99	98
Method Blank 8912221127	106	99	96
Method Blank 8912291111	104	98	78
Method Blank 9001031217	101	90	78
Control Limits	(88-110)	(86-115)	(76-114)

* Value outside SW846 Control Limits.

VIII. STATEMENT OF AUTHENTICATION

LABORATORY AUTHENTICATION STATEMENT FOR NJPDES COMPLIANCE MONITORING

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

Paul P. Painter
Laboratory Manager

Appendix 1: Volatile Organic Compounds Data Package

Sample Identification

NAC Designation	Client Designation
89L-2337-1	MW-2
89L-2337-2	MW-5
89L-2337-3	MW-6
89L-2337-4	MW-7
89L-2337-5	MW-8
89L-2337-6	MW-A
89L-2337-7	Field Blank
89L-2337-8	Trip Blank

89L-2337-1 Sample Data Package

QUANT REPORT

Operator ID: RICK
Output File: ^A3822::D3
Data File: >A3822::D4
Name: 89L-2337-1(FORT M.)
Misc: 891229 13:03 5ML

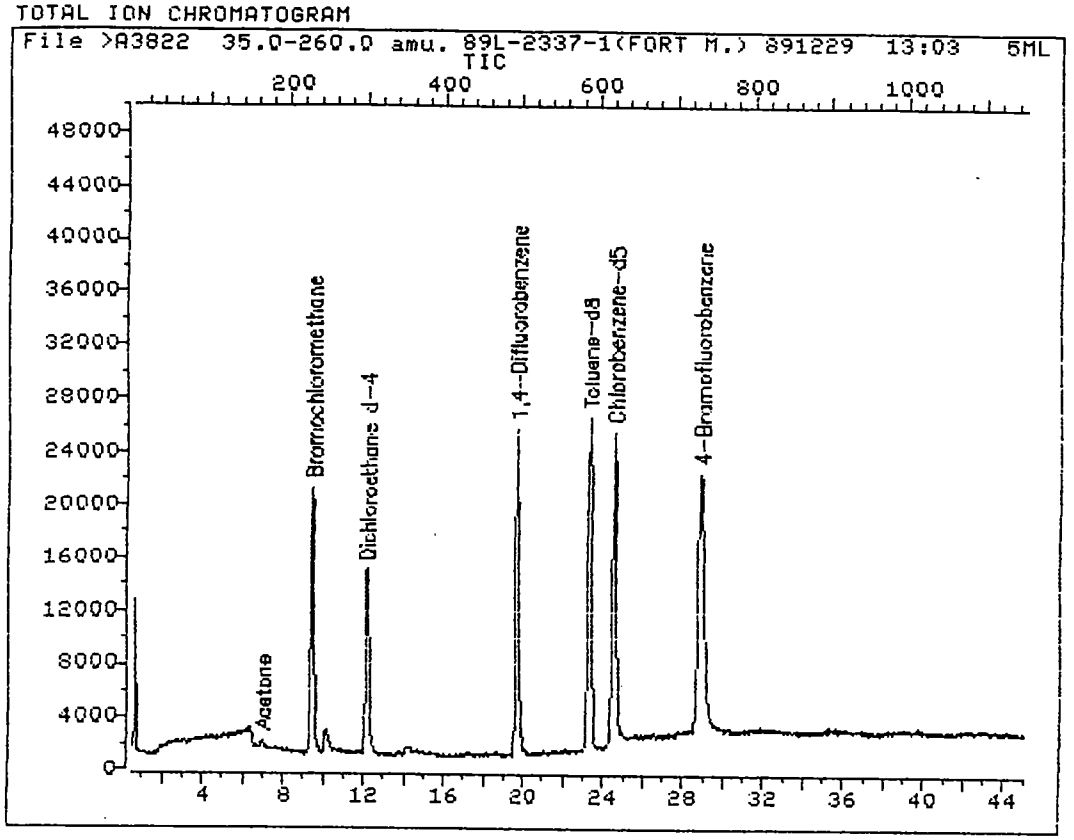
Quant Rev: 6 Quant Time: 891229 13:47
Injected at: 891229 12:57
Dilution Factor: 1.00000

ID File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.43	231	34526	50.00	ug/L	89
9)	Acetone	6.98	168	3648	9.45	ug/L	91
16)	1,2-Dichloroethane-d4	12.14	301	67142	41.41	ug/L	92
24)	*1,4-Difluorobenzene	19.66	495	125628	50.00	ug/L	69
34)	*Chlorobenzene-d5	24.54	621	92492	50.00	ug/L	97
40)	Toluene-d8	23.30	589	113548	54.88	ug/L	99
46)	Bromofluorobenzene	28.89	733	79802	52.10	ug/L	95

* Compound is ISTD

TOTAL ION CHROMATOGRAM

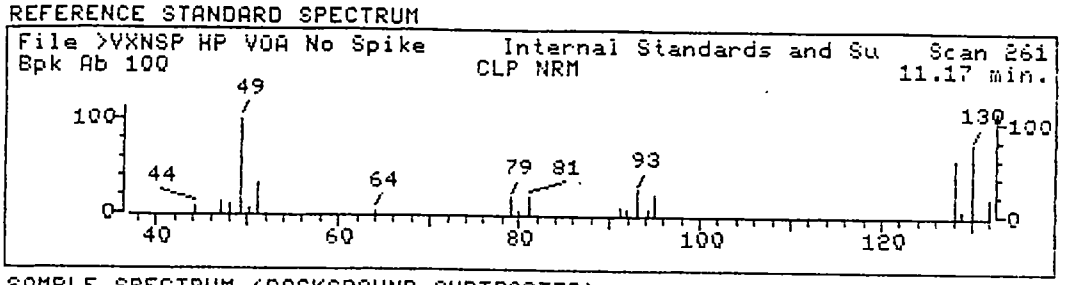


Data File: >A3822::D4 Quant Output File: ^A3822::D3
Name: 89L-2337-1(FORT M.)
Misc: 891229 13:03 5ML

Id File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

Operator ID: RICK
Quant Time: 891229 13:47
Injected at: 891229 12:57

REFERENCE STANDARD SPECTRUM



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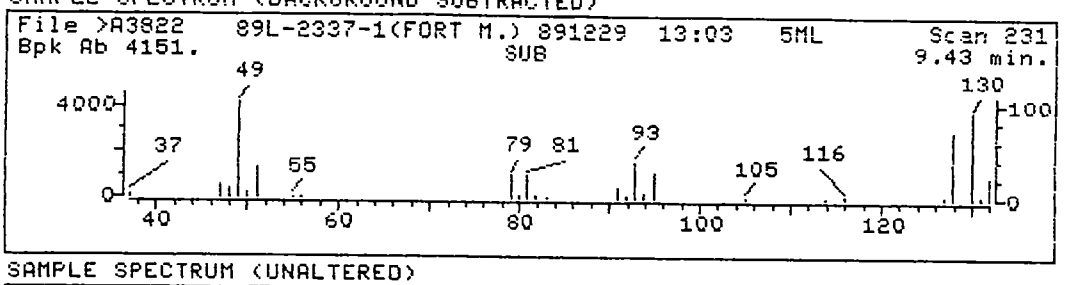

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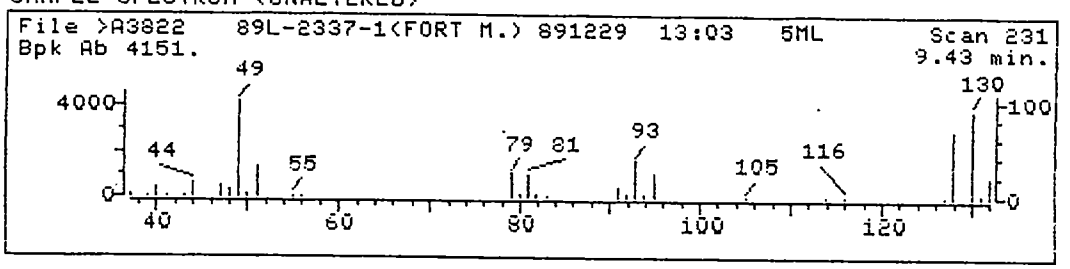
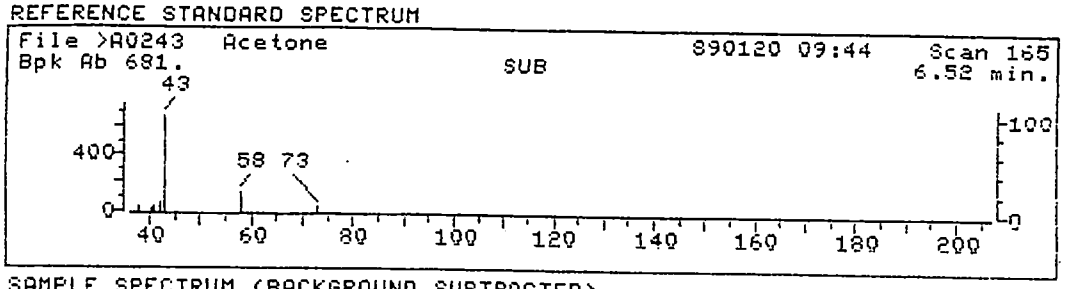


Data File: >A3822::D4
Name: 89L-2337-1(FORT M.)
Misc: 891229 13:03 5ML
Quant Time: 891229 13:47
Injected at: 891229 12:57

Quant Output File: ^A3822::D3
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 231
Retention Time: 9.43 min.
Quant Ion: 128.0
Area: 34526
Concentration: 50.00 ug/L
q-value: 89

REFERENCE STANDARD SPECTRUM



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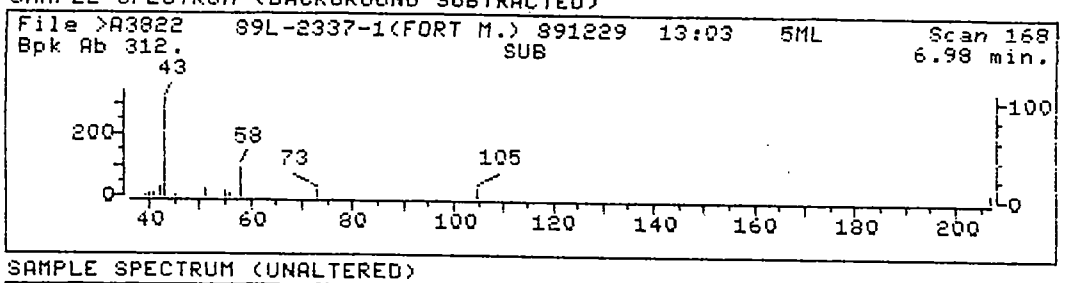

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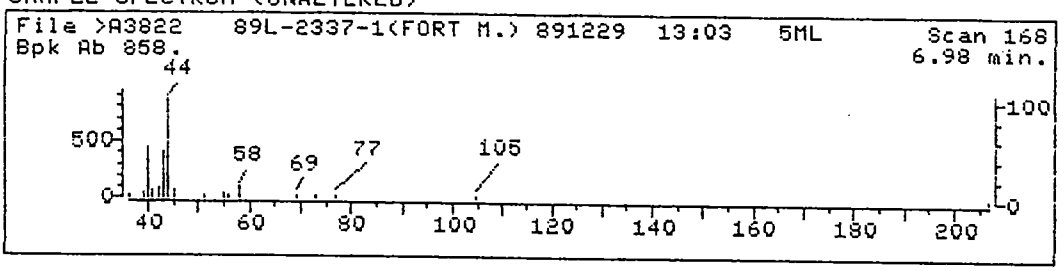


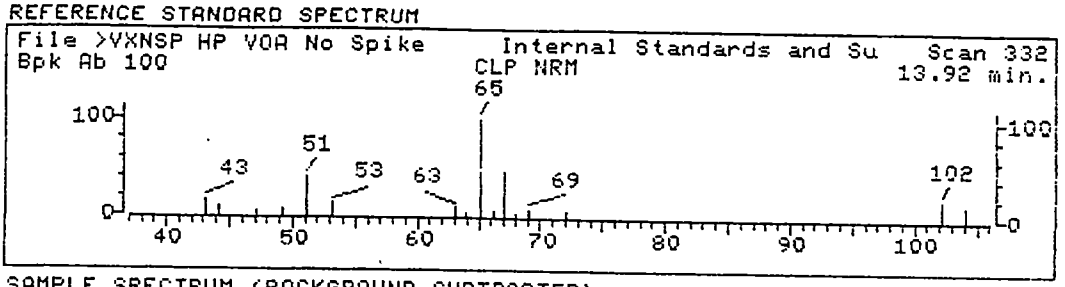
Data File: >A3822::D4
Name: 89L-2337-1(FORT M.)
Misc: 891229 13:03 5ML
Quant Time: 891229 13:47
Injected at: 891229 12:57

Quant Output File: ^A3822::D3

Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 9
Compound Name: Acetone
Scan Number: 168
Retention Time: 6.98 min.
Quant Ion: 43.0
Area: 3648
Concentration: 9.45 ug/L
q-value: 91

REFERENCE STANDARD SPECTRUM



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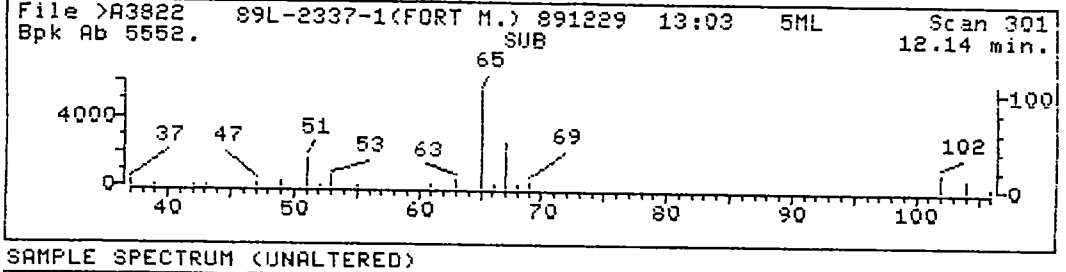

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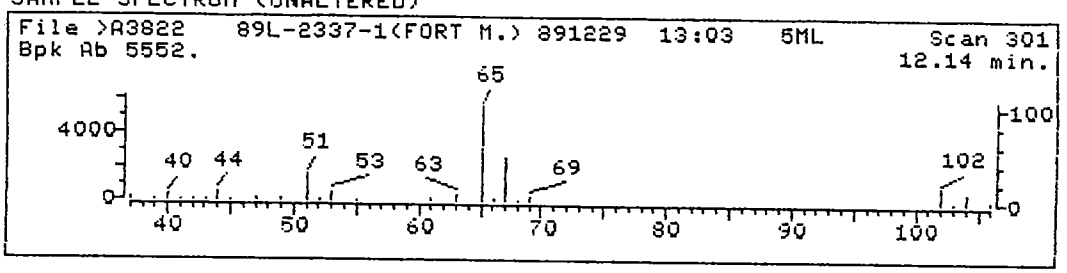


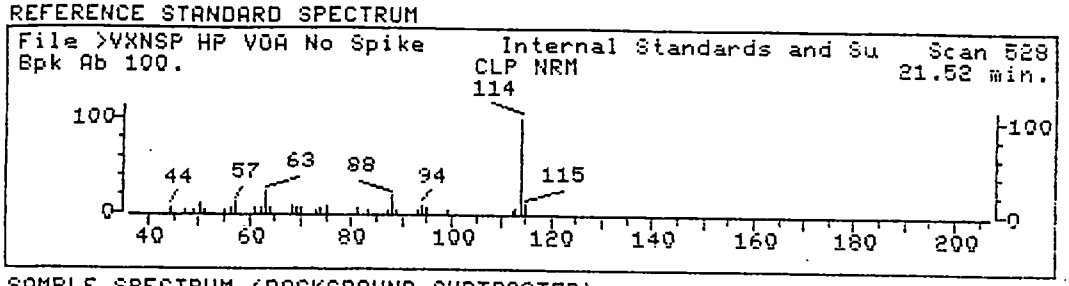
Data File: >A3822::D4
Name: 89L-2337-1(FORT M.)
Misc: 891229 13:03 5ML
Quant Time: 891229 13:47
Injected at: 891229 12:57

Quant Output File: ^A3822::D3

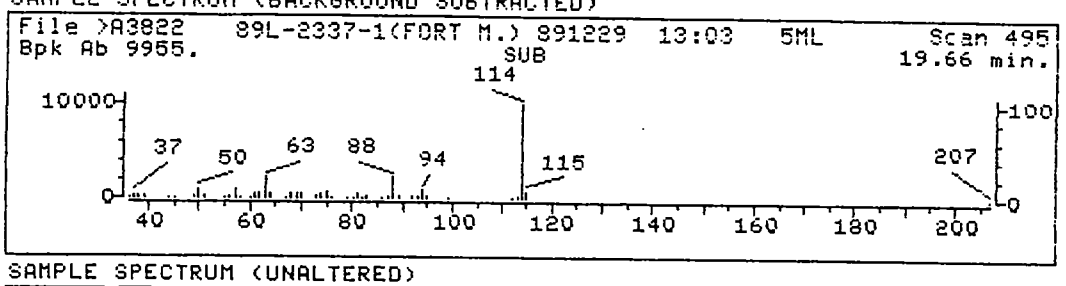
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 16
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 301
Retention Time: 12.14 min.
Quant Ion: 65.0
Area: 67142
Concentration: 41.41 ug/L
q-value: 92

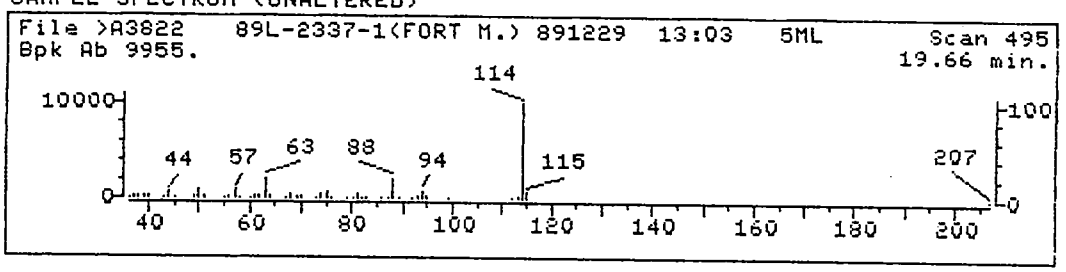
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

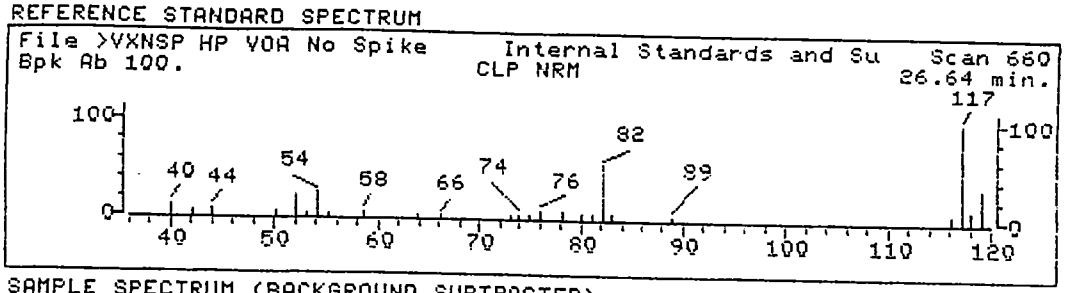


Data File: >A3822::D4
Name: 89L-2337-1(FORT M.)
Misc: 891229 13:03 5ML
Quant Time: 891229 13:47
Injected at: 891229 12:57

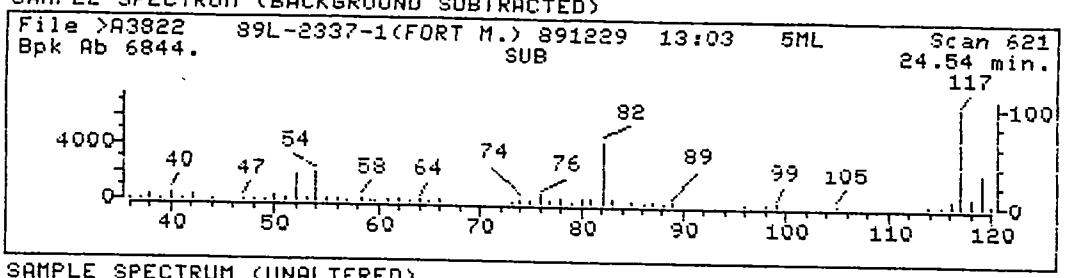
Quant Output File: ^A3822::D3
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 24 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 495
Retention Time: 19.66 min.
Quant Ion: 114.0
Area: 125628
Concentration: 50.00 ug/L
q-value: 69

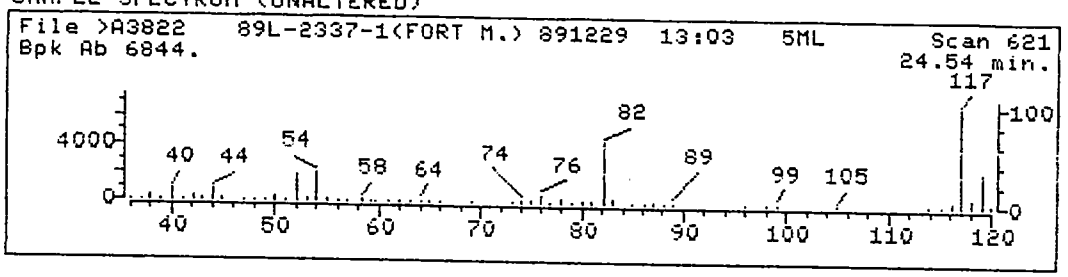
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



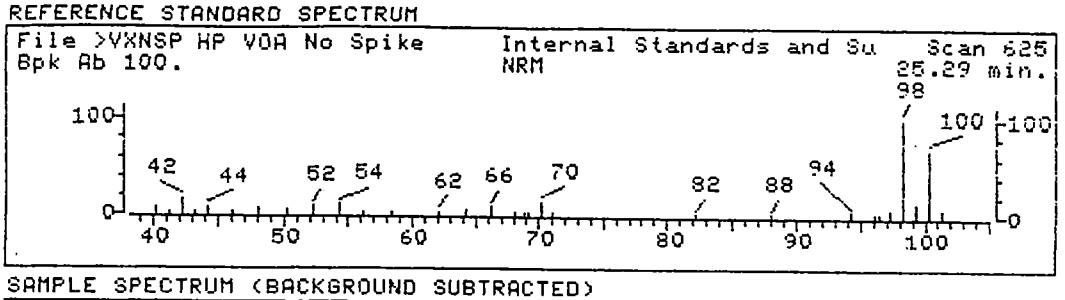
Data File: >A3822::D4
Name: 89L-2337-1(FORT M.)
Misc: 891229 13:03 5ML
Quant Time: 891229 13:47
Injected at: 891229 12:57

Quant Output File: ^A3822::D3

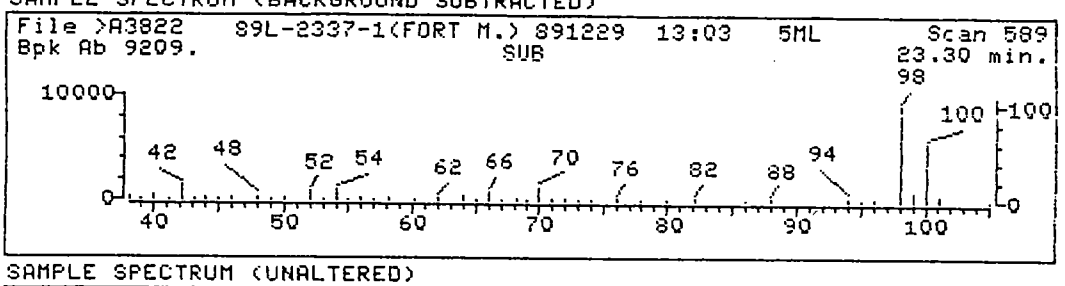
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 34 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 621
Retention Time: 24.54 min.
Quant Ion: 117.0
Area: 92492
Concentration: 50.00 ug/L
q-value: 97

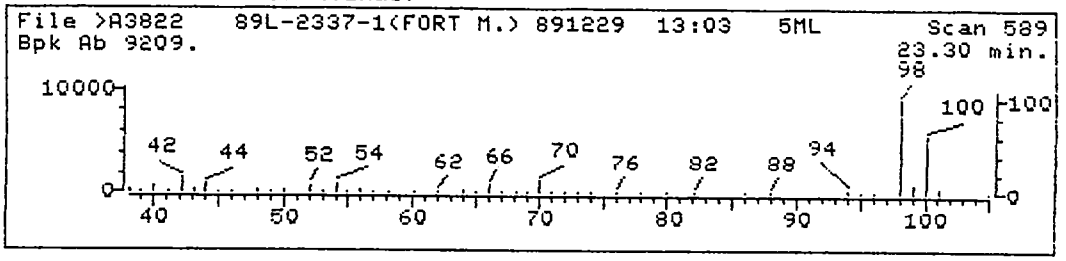
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



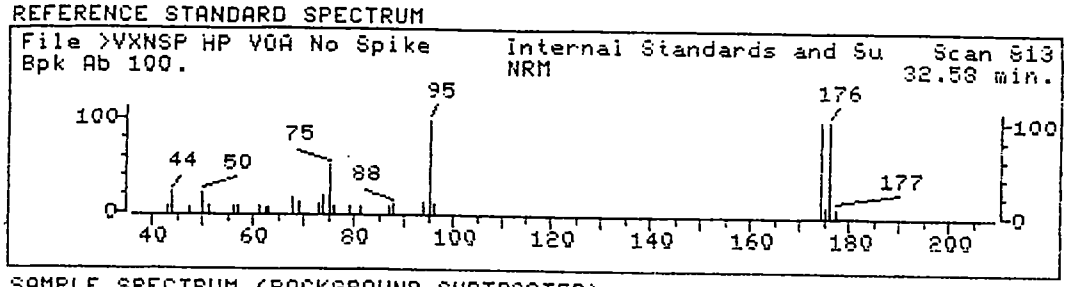
Data File: >A3822::D4
Name: 89L-2337-1(FORT M.)
Misc: 891229 13:03 5ML
Quant Time: 891229 13:47
Injected at: 891229 12:57

Quant Output File: ^A3822::D3

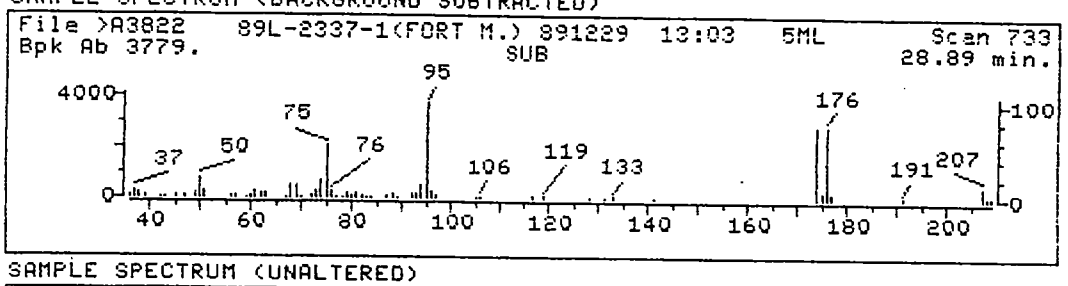
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 40
Compound Name: Toluene-d8
Scan Number: 589
Retention Time: 23.30 min.
Quant Ion: 98.0
Area: 113548
Concentration: 54.88 ug/L
q-value: 99

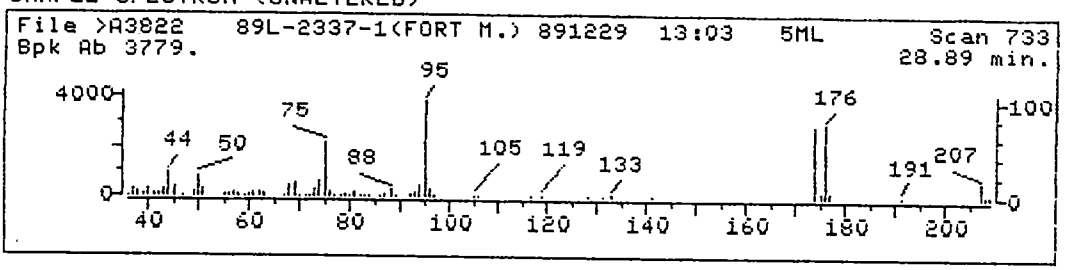
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >A3822::D4
Name: 89L-2337-1(FORT M.)
Misc: 891229 13:03 5ML
Quant Time: 891229 13:47
Injected at: 891229 12:57

Quant Output File: ^A3822::D3

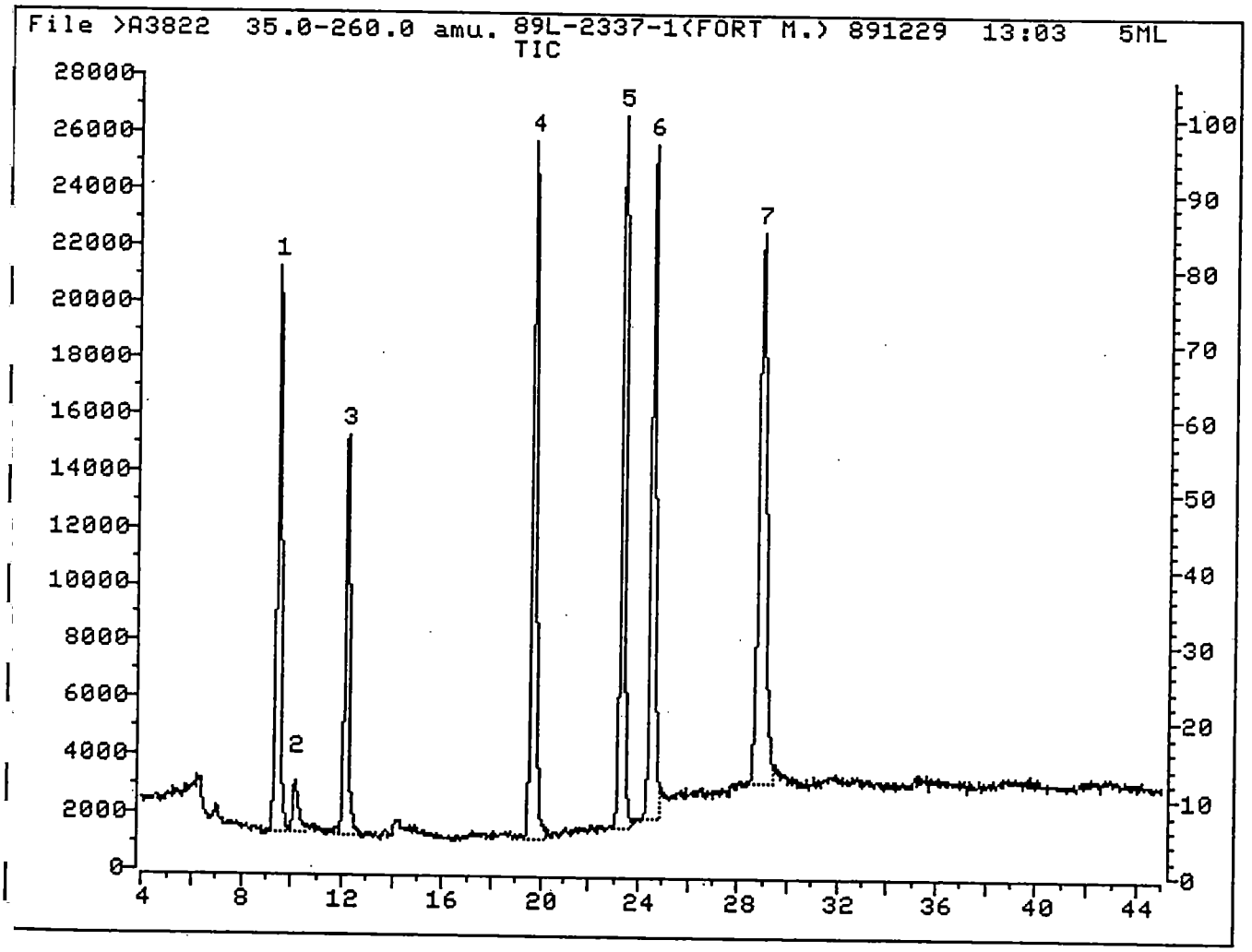
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 46
Compound Name: Bromofluorobenzene
Scan Number: 733
Retention Time: 28.89 min.
Quant Ion: 95.0
Area: 79802
Concentration: 52.10 ug/L
q-value: 95

>A3822 89L-2337-1(FORT M.) 891229 13:03 5ML
35.0| 260.0 TIC
Upslope: .20 Area Reject: 2.00 % Max Peaks: 7 Bunching: 1
Dnslope: 0.00 Results File VDIR77 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area		corr. % max.	% of total
1	9.43	225	231	245	19905	298179	236629	IS	58.06	13.205
2	10.12	245	249	259	1795	70931	27813	I	6.82	1.552
3	12.18	295	302	314	13914	225691	169338	SS	41.55	9.450
4	19.66	488	495	510	24507	375900	313295	IS	76.87	17.483
5	23.30	581	589	600	25060	389182	317344	SS	77.86	17.709
6	24.54	612	621	630	23672	401697	319971	IS	78.50	17.856
7	28.89	722	733	746	19443	583729	407586	SS	100.00	22.745

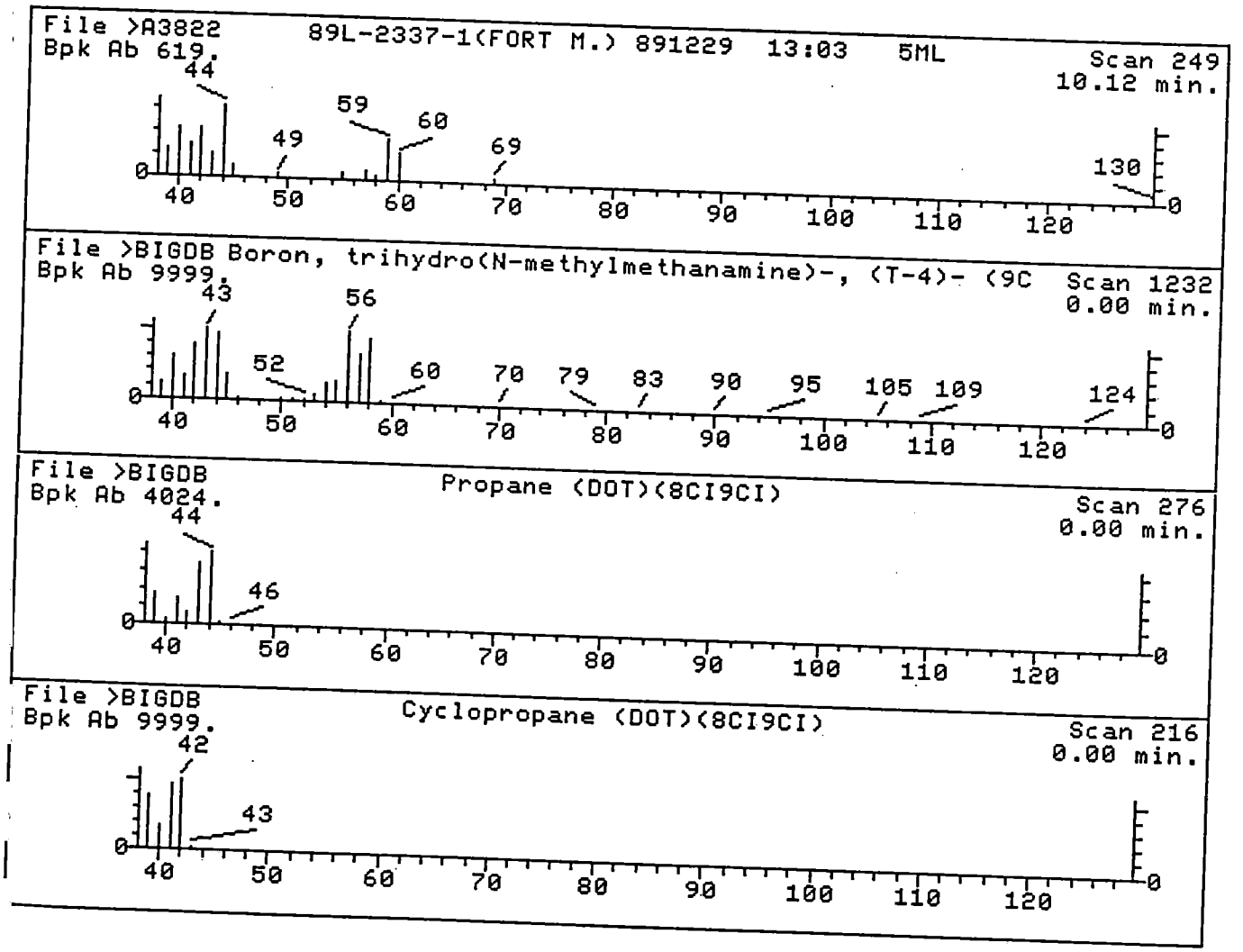
Sum of corrected areas: 1791976.



1. Boron, trihydro(N-methylmethanamine)-, (T-4)- (9CI) 59 C2H10BN
2. Propane (DOT)(8CI9CI) 44 C3H8
3. Cyclopropane (DOT)(8CI9CI) 42 C3H6
4. 1-Propanol (ACN)(9CI) 60 C3H8O

Sample file: >A3822 Spectrum #: 249
Search speed: 1 Tilting option: S No. of ion ranges searched: 53

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	36*	74942	1232	"BIGDB	26	97	3	0	86	29	14	13
2.	28*	74986	276	"BIGDB	20	55	1	0	224	37	10	14
3.	15*	75194	216	"BIGDB	22	53	0	0	48	58	3	16
4.	11*	71238	127	"BIGDB	27	46	0	0	530	62	2	19



$$\text{Conc} = \frac{27813}{1.0} \times \frac{50}{236629} = 5.9\ \mu g/l$$

Northeastern Analytical Corp.

89L-2337-2 Sample Data Package

QUANT REPORT

Operator ID: RICK
Output File: ^A3823::D2
Data File: >A3823::D4
Name: 89L-2337-2(GROUND W)
Misc: 891229 13:45 5ML

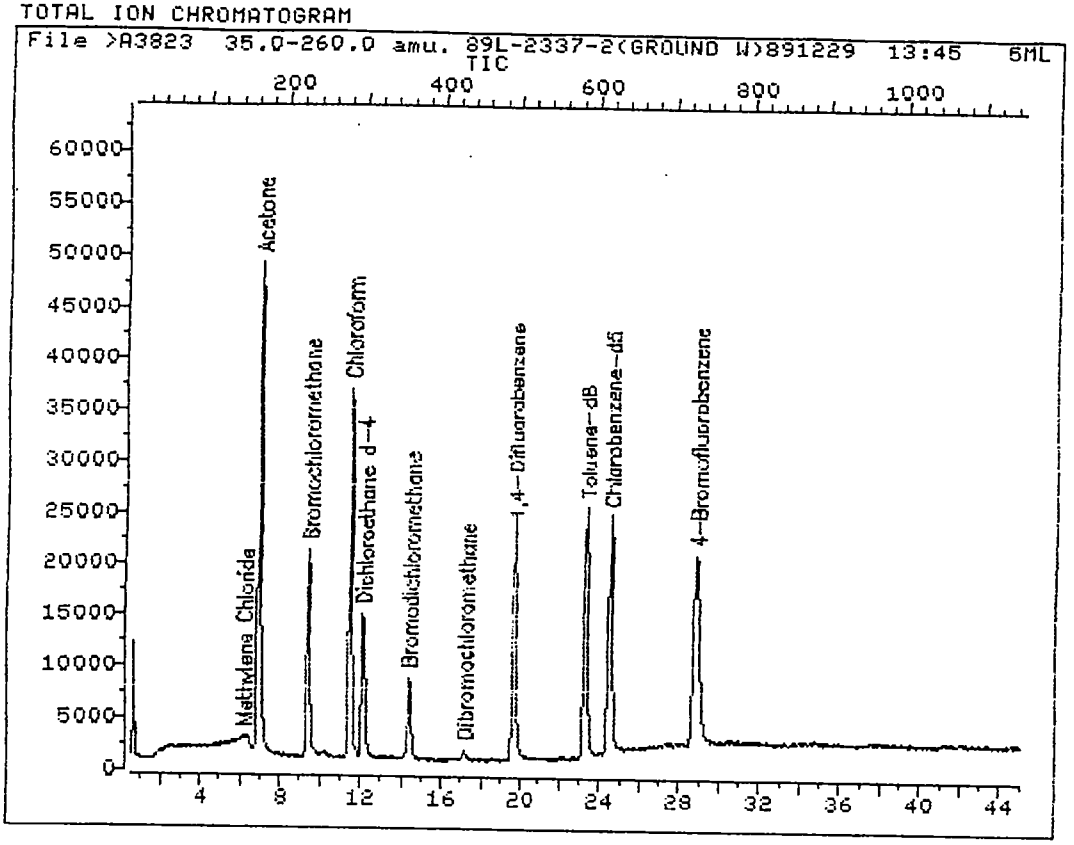
Quant Rev: 6 Quant Time: 891229 14:41
Injected at: 891229 13:47
Dilution Factor: 1.00000

ID File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.43	231	35501	50.00	ug/L	91
6)	Methylene Chloride	6.21	148	821	1.17	ug/L	87
9)	Acetone	6.95	167	360575	908.59	ug/L	76
15)	Chloroform	11.48	284	163445	73.17	ug/L	92
16)	1,2-Dichloroethane-d4	12.14	301	67226	40.32	ug/L	92
23)	Bromodichloromethane	14.39	359	31992	13.55	ug/L	90
24)	*1,4-Difluorobenzene	19.62	494	125652	50.00	ug/L	69
28)	Dibromochloromethane	17.18	431	1853	1.15	ug/L	93
34)	*Chlorobenzene-d5	24.50	620	93372	50.00	ug/L	95
40)	Toluene-d8	23.30	589	108661	52.02	ug/L	97
46)	Bromofluorobenzene	28.88	733	74644	48.27	ug/L	95

* Compound is ISTD

TOTAL ION CHROMATOGRAM

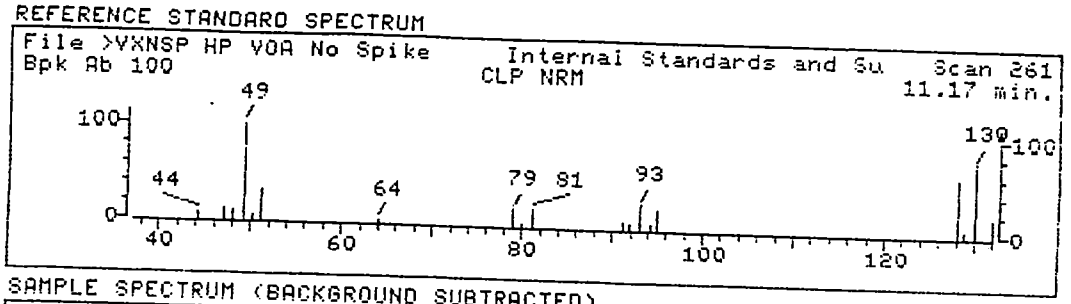


Data File: >A3823::D4 Quant Output File: ^A3823::D2
Name: 89L-2337-2(GROUND W)
Misc: 891229 13:45 5ML

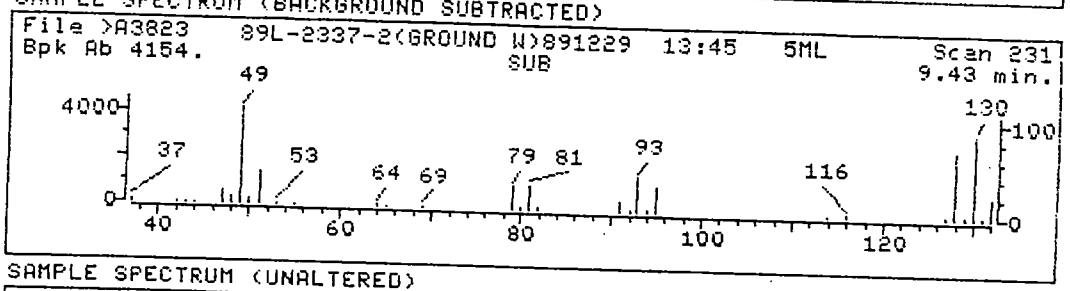
Id File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

Operator ID: RICK
Quant Time: 891229 14:41
Injected at: 891229 13:47

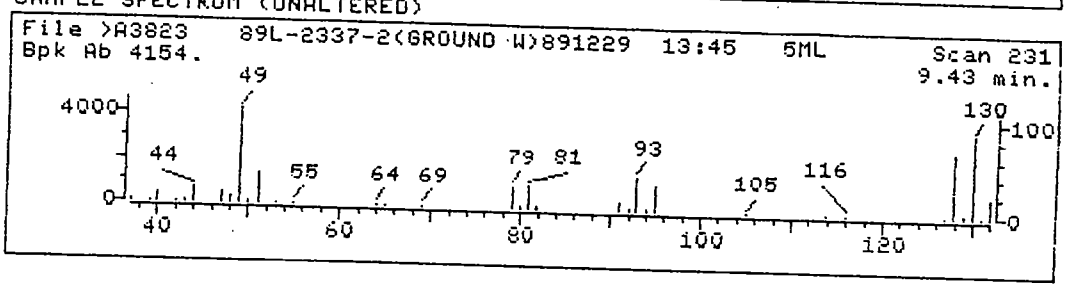
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



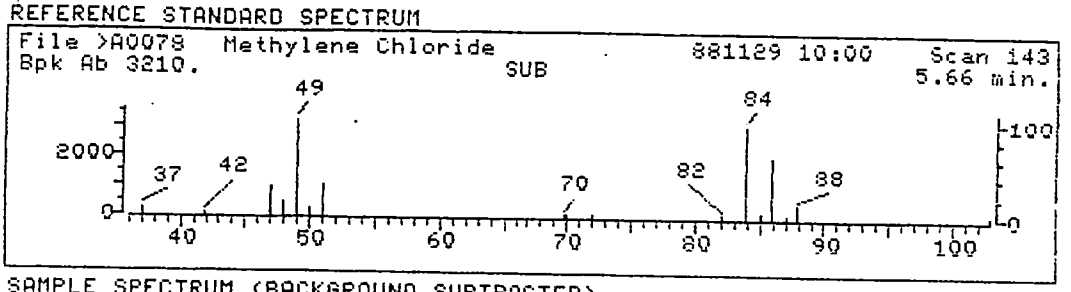
Data File: >A3823::D4
Name: 89L-2337-2(GROUND W)
Misc: 891229 13:45 5ML
Quant Time: 891229 14:41
Injected at: 891229 13:47

Quant Output File: ^A3823::D2

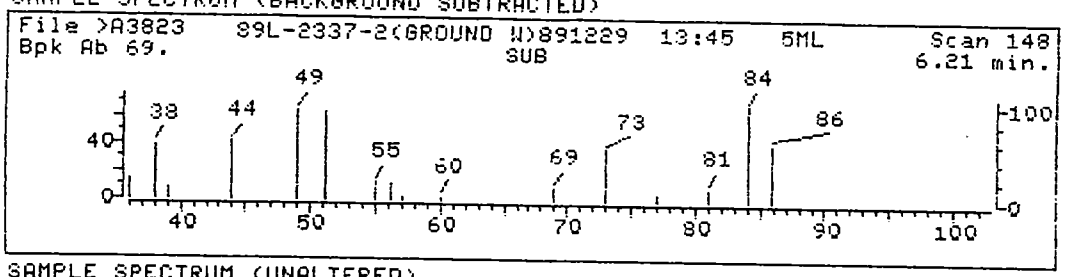
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 231
Retention Time: 9.43 min.
Quant Ion: 128.0
Area: 35501
Concentration: 50.00 ug/L
q-value: 91

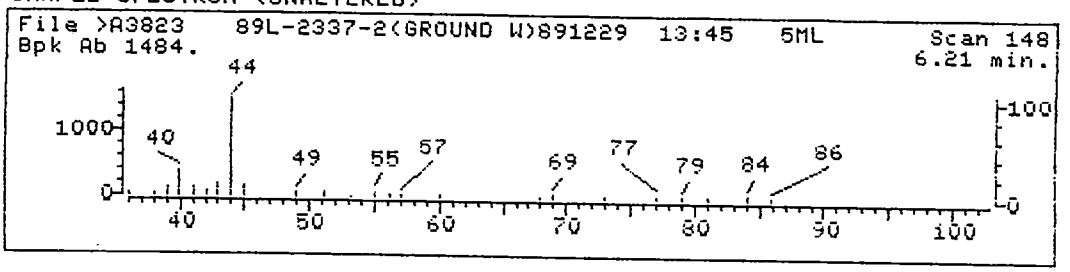
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



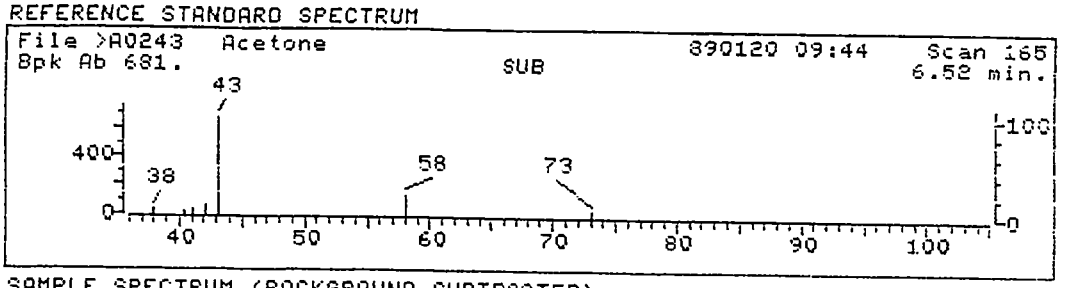
Data File: >A3823::D4
Name: 89L-2337-2(GROUND W)
Misc: 891229 13:45 5ML
Quant Time: 891229 14:41
Injected at: 891229 13:47

Quant Output File: ^A3823::D2

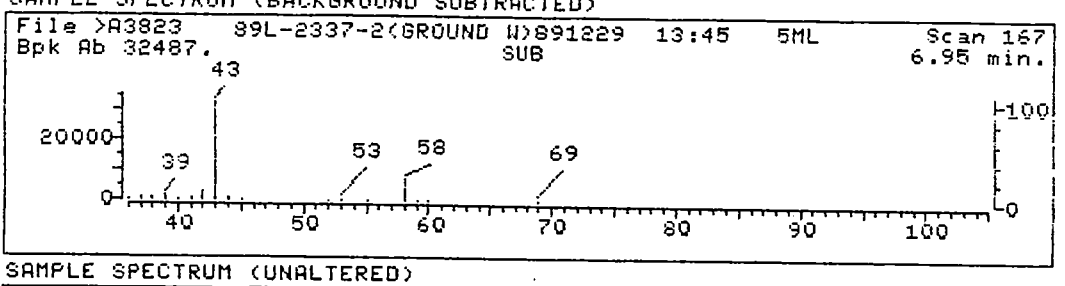
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 148
Retention Time: 6.21 min.
Quant Ion: 84.0
Area: 821
Concentration: 1.17 ug/L
q-value: 87

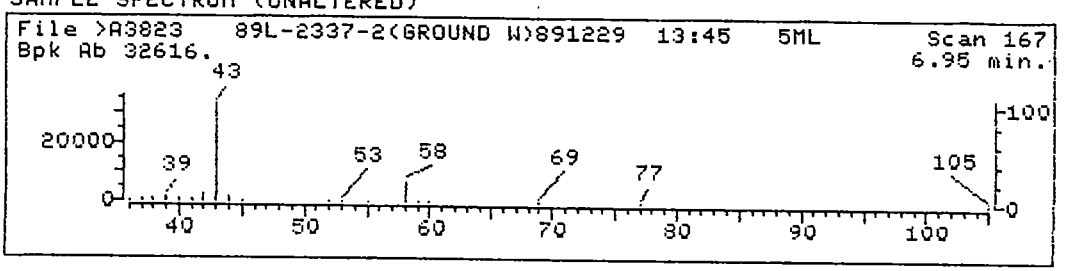
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



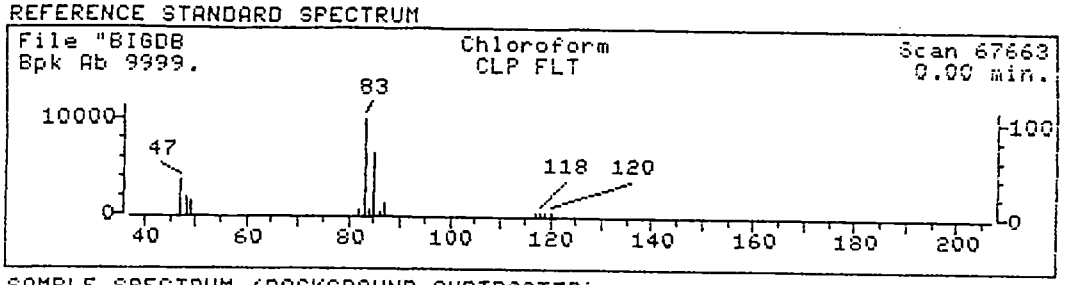
Data File: >A3823::D4
Name: 89L-2337-2(GROUND W)
Misc: 891229 13:45 5ML
Quant Time: 891229 14:41
Injected at: 891229 13:47

Quant Output File: ^A3823::D2

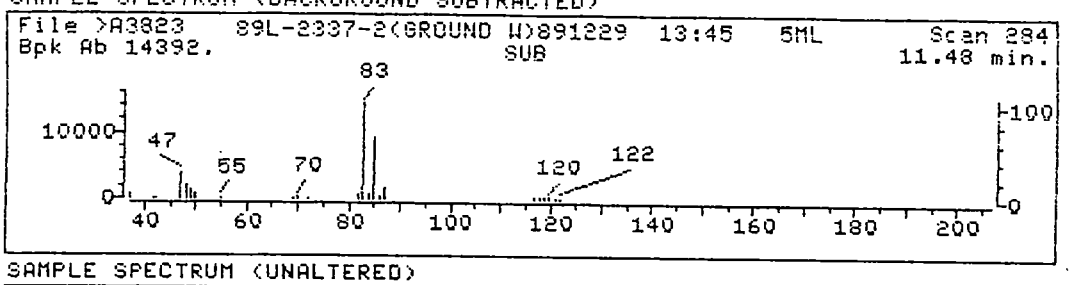
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 9
Compound Name: Acetone
Scan Number: 167
Retention Time: 6.95 min.
Quant Ion: 43.0
Area: 360575
Concentration: 908.59 ug/L
q-value: 76

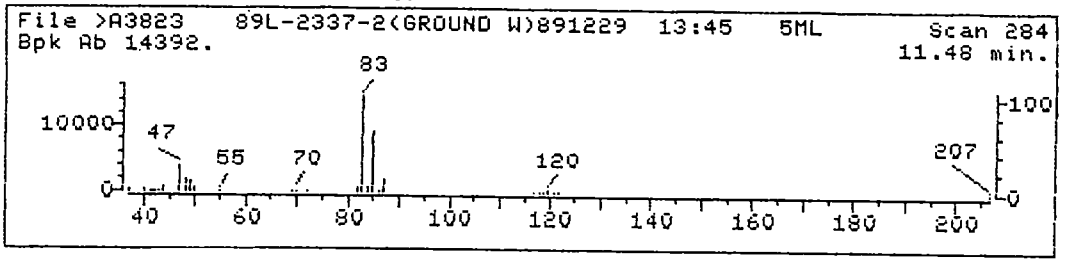
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



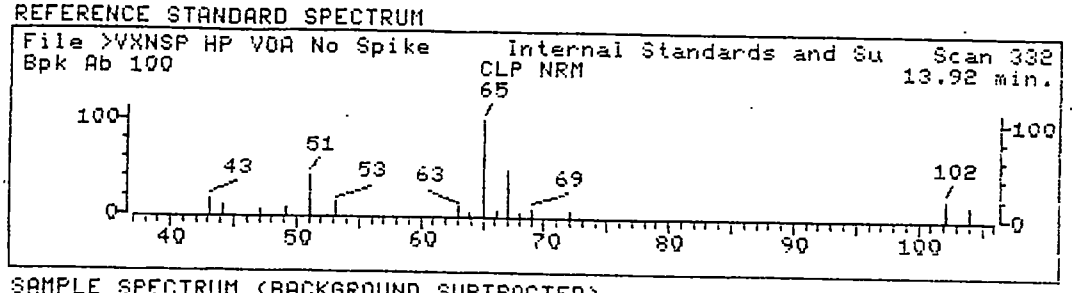
Data File: >A3823::D4
Name: 89L-2337-2(GROUND W)
Misc: 891229 13:45 5ML
Quant Time: 891229 14:41
Injected at: 891229 13:47

Quant Output File: ^A3823::D2

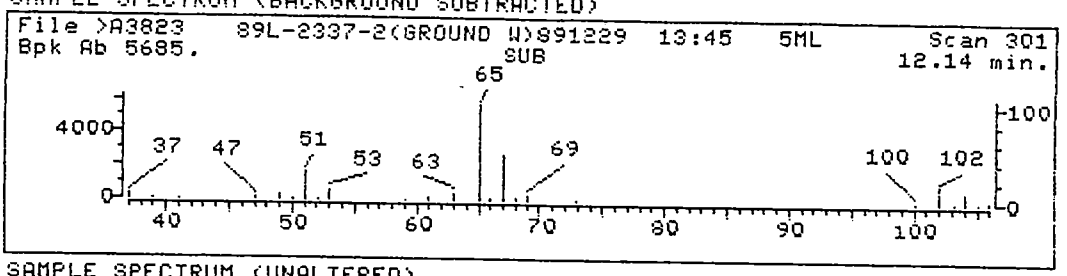
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 15
Compound Name: Chloroform
Scan Number: 284
Retention Time: 11.48 min.
Quant Ion: 83.0
Area: 163445
Concentration: 73.17 ug/L
q-value: 92

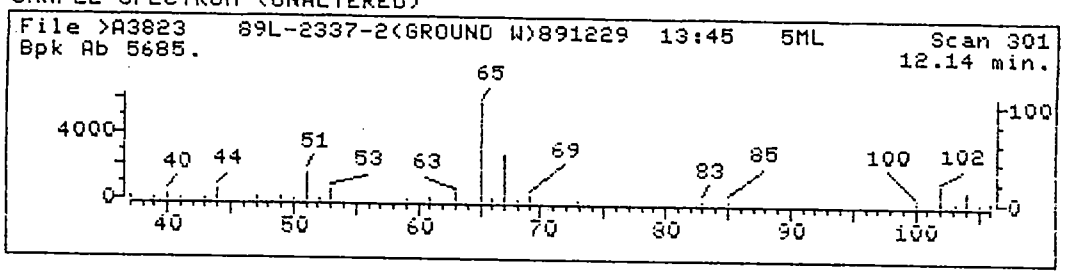
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



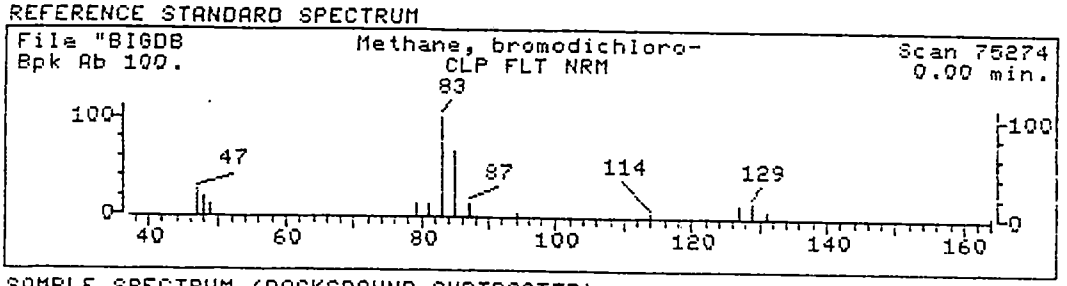
Data File: >A3823::D4
Name: 89L-2337-2(GROUND W)
Misc: 891229 13:45 5ML
Quant Time: 891229 14:41
Injected at: 891229 13:47

Quant Output File: ^A3823::D2

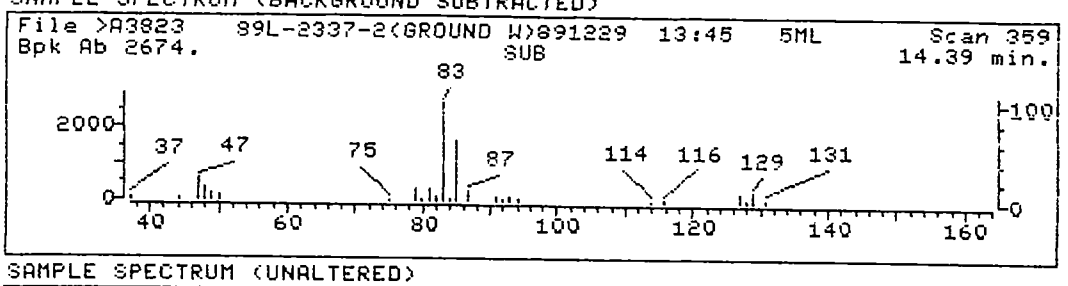
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 16
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 301
Retention Time: 12.14 min.
Quant Ion: 65.0
Area: 67226
Concentration: 40.32 ug/L
q-value: 92

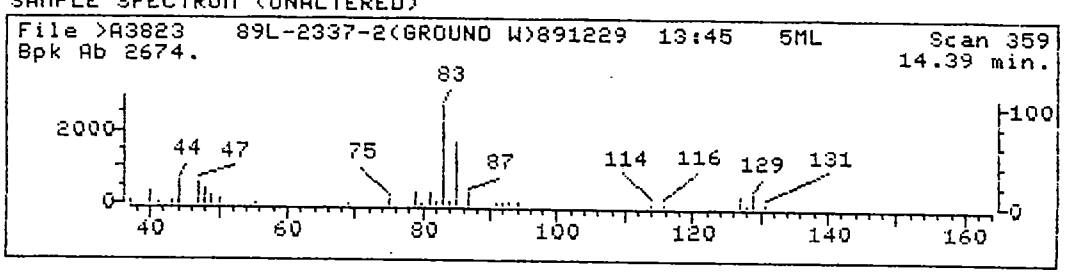
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



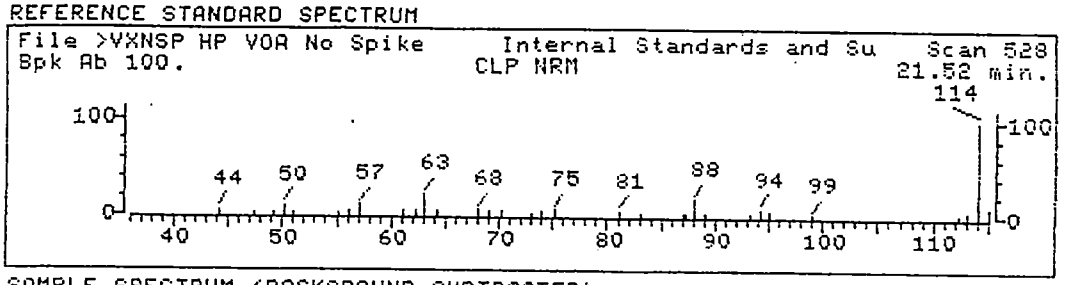
Data File: >A3823::D4
Name: 89L-2337-2(GROUND W)
Misc: 891229 13:45 5ML
Quant Time: 891229 14:41
Injected at: 891229 13:47

Quant Output File: ^A3823::D2

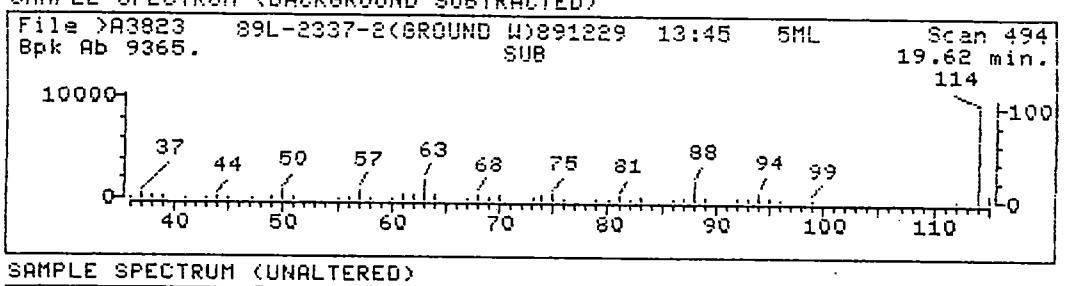
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 23
Compound Name: Bromodichloromethane
Scan Number: 359
Retention Time: 14.39 min.
Quant Ion: 83.0
Area: 31992
Concentration: 13.55 ug/L
q-value: 90

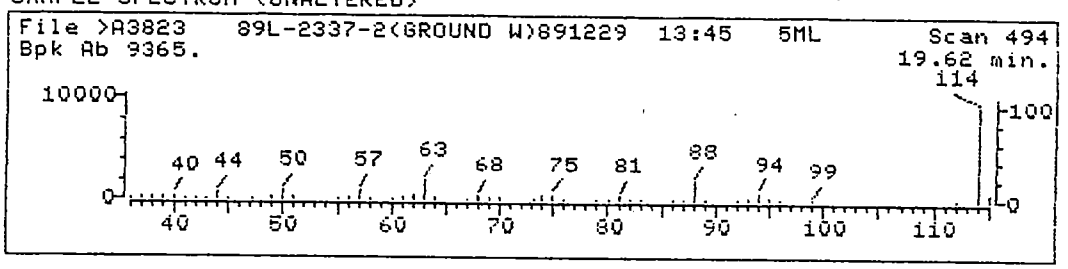
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

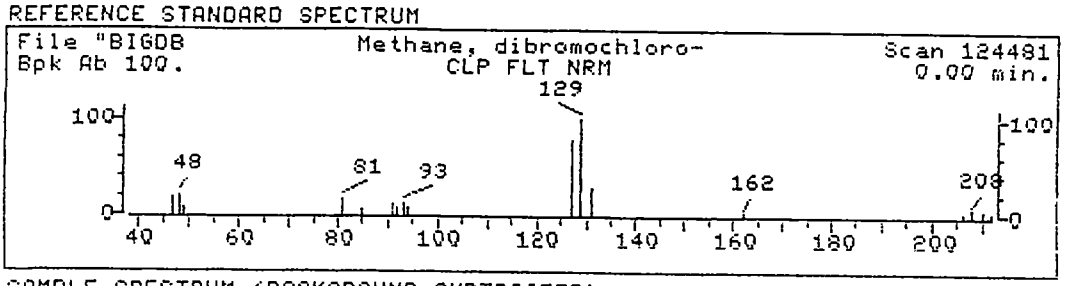


Data File: >A3823::D4
Name: 89L-2337-2(GROUND W)
Misc: 891229 13:45 5ML
Quant Time: 891229 14:41
Injected at: 891229 13:47

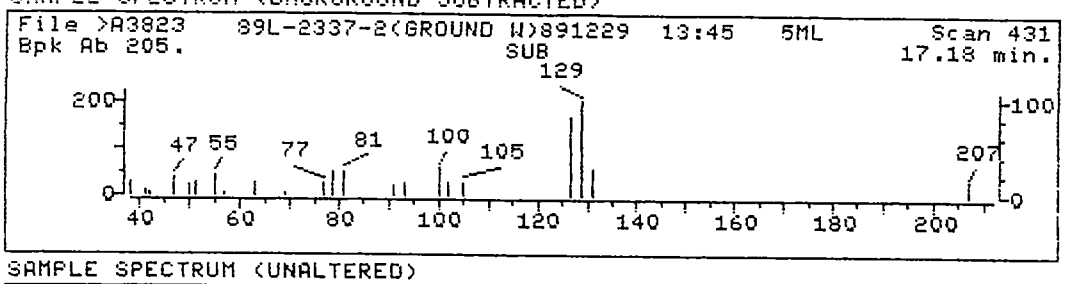
Quant Output File: ^A3823::D2
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 24 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 494
Retention Time: 19.62 min.
Quant Ion: 114.0
Area: 125652
Concentration: 50.00 ug/L
q-value: 69

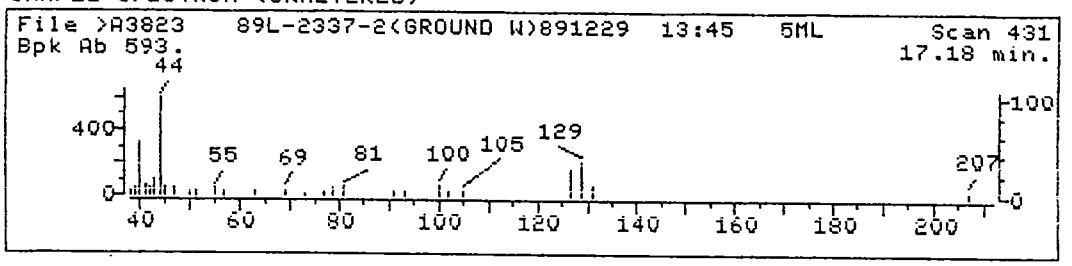
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

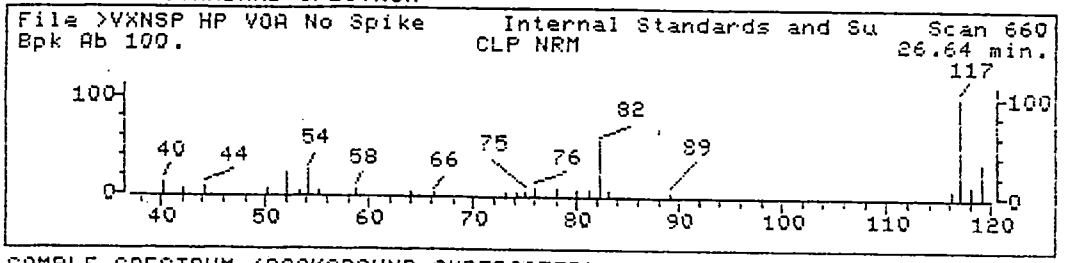


Data File: >A3823::D4
Name: 89L-2337-2(GROUND W)
Misc: 891229 13:45 5ML
Quant Time: 891229 14:41
Injected at: 891229 13:47

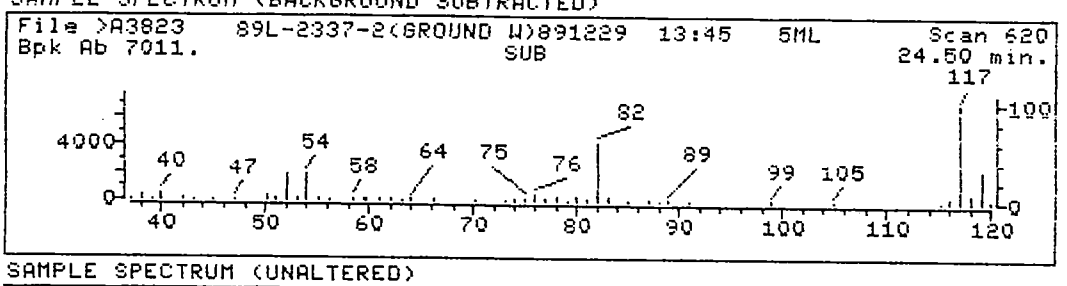
Quant Output File: ^A3823::D2
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 28
Compound Name: Dibromochloromethane
Scan Number: 431
Retention Time: 17.18 min.
Quant Ion: 127.0
Area: 1853
Concentration: 1.15 ug/L
q-value: 93

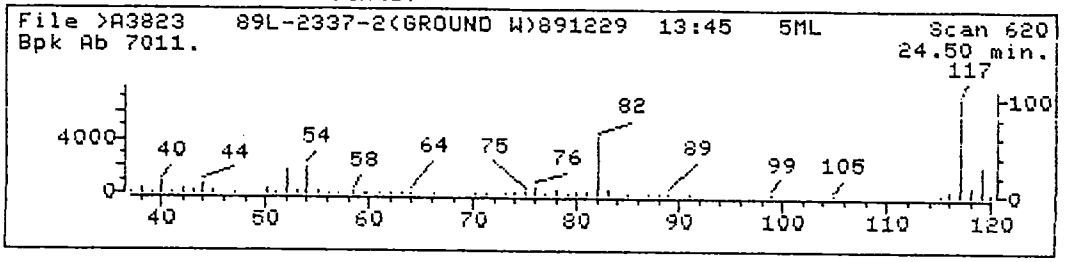
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



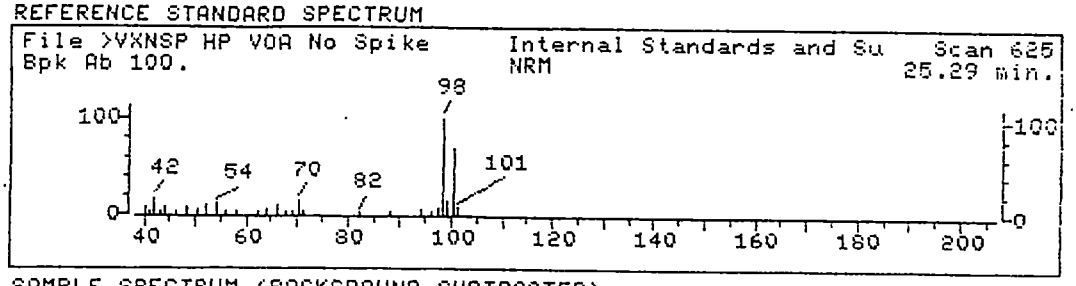
Data File: >A3823::D4
Name: 89L-2337-2(GROUND W)
Misc: 891229 13:45 5ML
Quant Time: 891229 14:41
Injected at: 891229 13:47

Quant Output File: ^A3823::D2

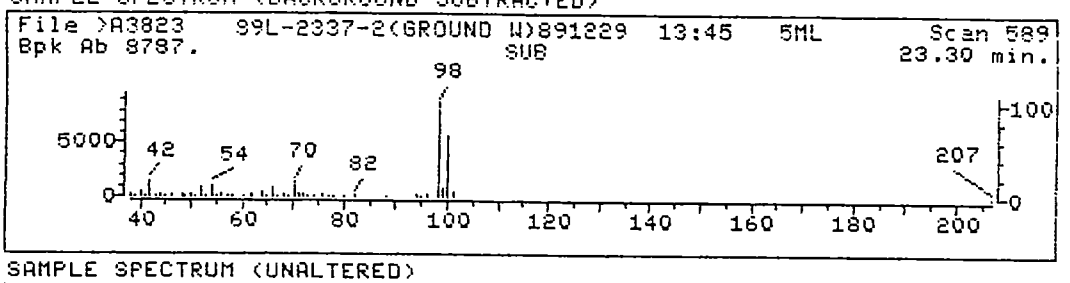
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 34 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 620
Retention Time: 24.50 min.
Quant Ion: 117.0
Area: 93372
Concentration: 50.00 ug/L
q-value: 95

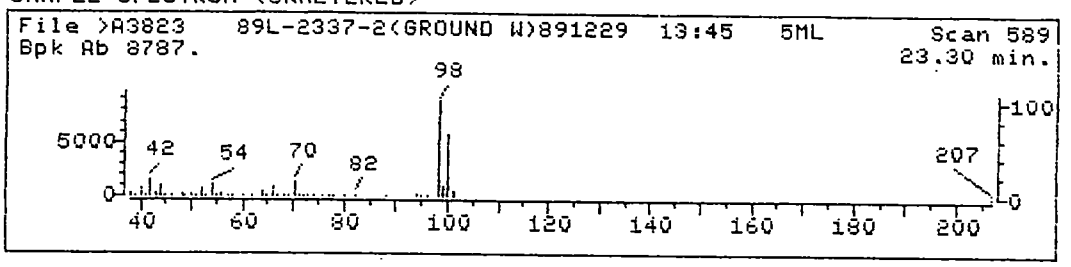
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



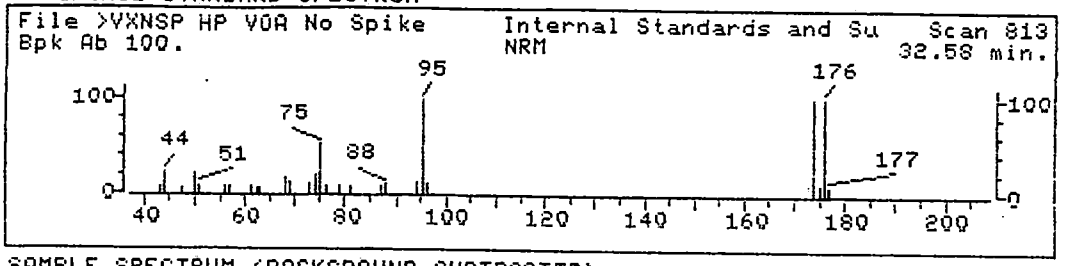
Data File: >A3823::D4
Name: 89L-2337-2(GROUND W)
Misc: 891229 13:45 5ML
Quant Time: 891229 14:41
Injected at: 891229 13:47

Quant Output File: ^A3823::D2

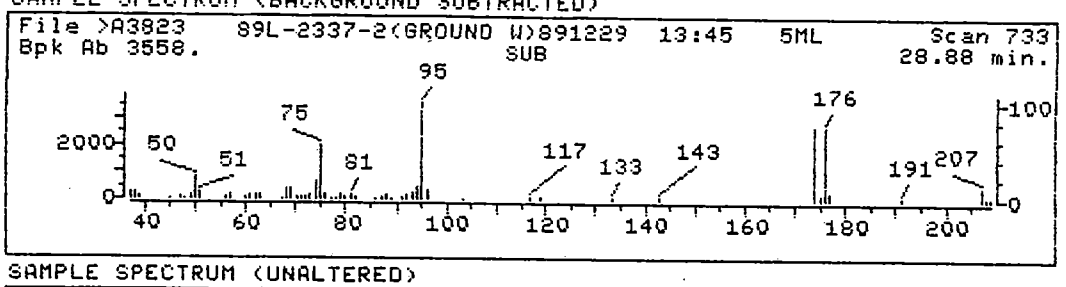
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 40
Compound Name: Toluene-d8
Scan Number: 589
Retention Time: 23.30 min.
Quant Ion: 98.0
Area: 108661
Concentration: 52.02 ug/L
q-value: 97

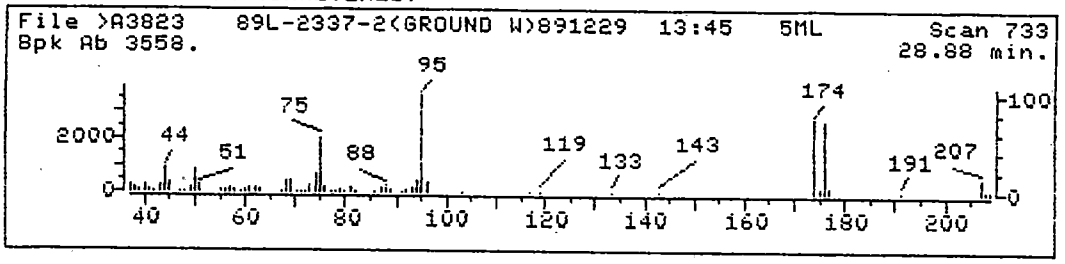
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >A3823::D4
Name: 89L-2337-2(GROUND W)
Misc: 891229 13:45 5ML
Quant Time: 891229 14:41
Injected at: 891229 13:47

Quant Output File: ^A3823::D2

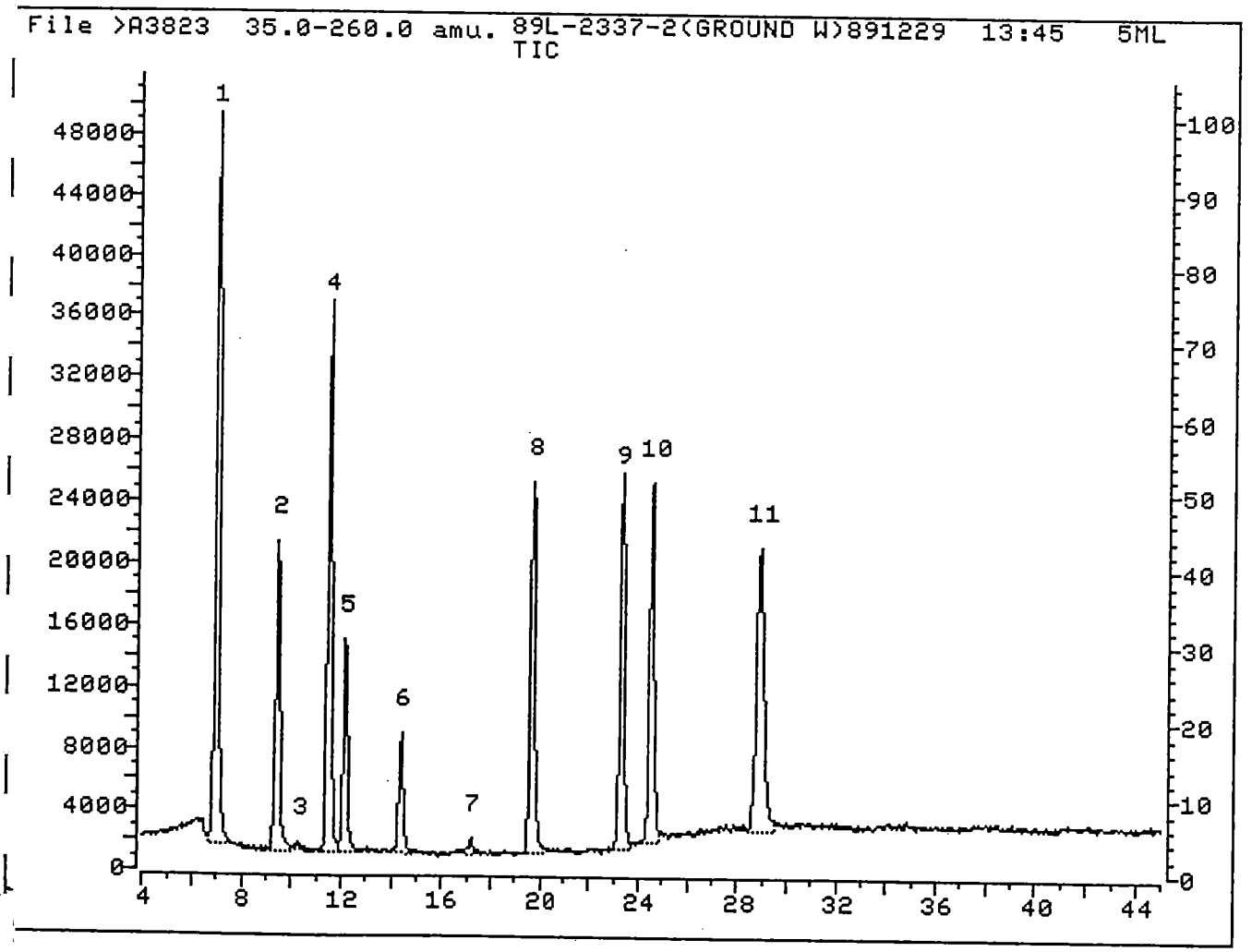
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 46
Compound Name: Bromofluorobenzene
Scan Number: 733
Retention Time: 28.88 min.
Quant Ion: 95.0
Area: 74644
Concentration: 48.27 ug/L
q-value: 95

>A3823 89L-2337-2(GROUND W)891229 13:45 5ML
35.0| 260.0 TIC
Upslope: .20 Area Reject: 1.00 % Max Peaks: 11 Bunching: 1
Dnslope: 0.00 Results File VDIR77 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area		corr. % max.	% of total
1	6.95	161	167	184	47629	626400	531014	TC	100.00	18.945
2	9.43	224	231	246	20054	317591	249842	IS	47.05	8.914
3	10.28	246	253	255	467	35015	6118	≤10	1.15	.218
4	11.48	276	284	295	35739	465625	409878	TC	77.19	14.623
5	12.14	295	301	313	13870	221166	168955	SS	31.82	6.028
6	14.39	354	359	367	7753	130831	94427	TC	17.78	3.369
7	17.18	425	431	435	1076	39054	12462	TC	2.35	.445
8	19.66	488	495	507	24224	365752	311824	FS	58.72	11.125
9	23.30	581	589	600	24443	379155	309136	SS	58.22	11.029
10	24.54	613	621	630	23342	398003	313986	IS	59.13	11.202
11	28.88	722	733	748	18328	569231	395251	SS	74.43	14.102

Sum of corrected areas: 2802893.



Northeastern Analytical Corp.

89L-2337-3 Sample Data Package

QUANT REPORT

Operator ID: RICK
Output File: ^A3850::D1
Data File: >A3850::D2
Name: 89L-2337-3 (FORT M.)
Misc: 900103 17:25 50uL/5ML

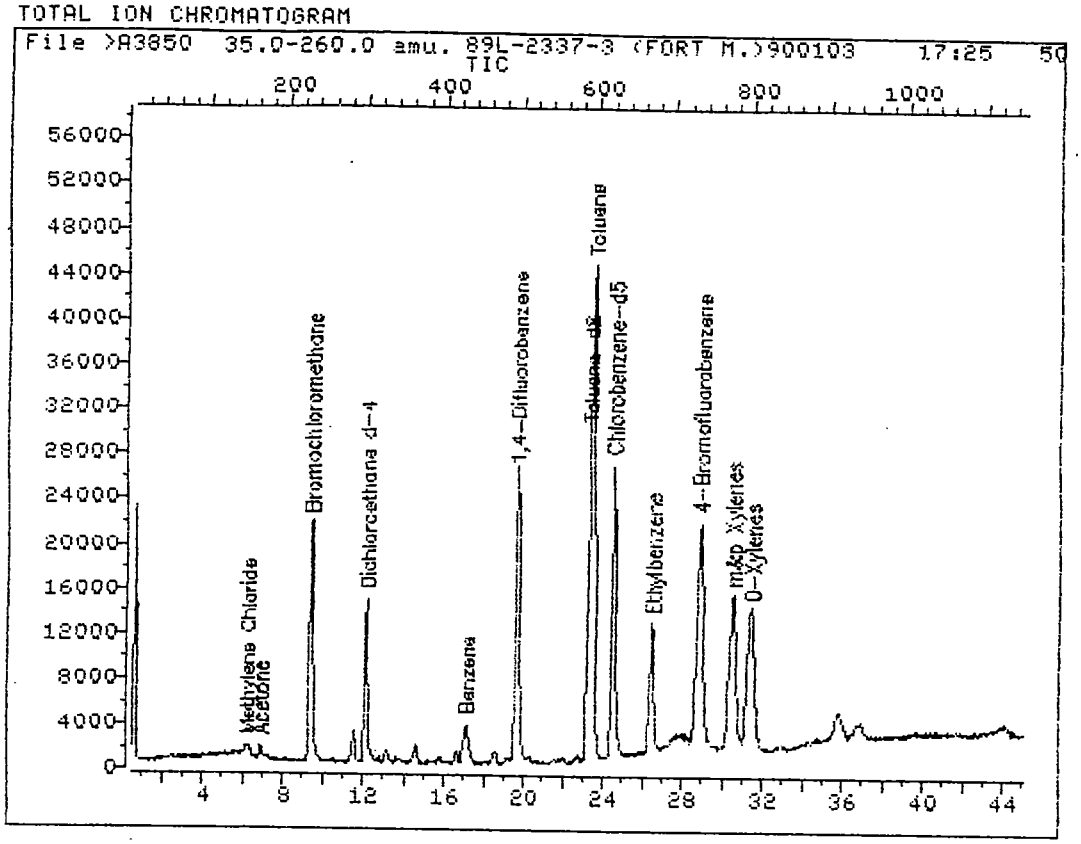
Quant Rev: 6 Quant Time: 900103 18:10
Injected at: 900103 17:25
Dilution Factor: 1.00000

ID File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.42	231	37297	50.00	ug/L	87
6)	Methylene Chloride	6.24	149	2069	2.80	ug/L	80
9)	Acetone	6.94	167	9595	23.01	ug/L	77
16)	1,2-Dichloroethane-d4	12.17	302	67706	38.65	ug/L	94
24)	*1,4-Difluorobenzene	19.65	495	135822	50.00	ug/L	69
30)	Benzene	17.13	430	14873	7.42	ug/L	91
34)	*Chlorobenzene-d5	24.54	621	101611	50.00	ug/L	96
39)	Toluene	23.53	595	113471	86.75	ug/L	96
40)	Toluene-d8	23.33	590	115300	50.72	ug/L	92
42)	Ethylbenzene	26.51	672	19545	25.49	ug/L	97
44)	m&p Xylenes	30.51	775	46698	101.85	ug/L	99
45)	O-Xylenes	31.48	800	46974	27.39	ug/L	90
46)	Bromofluorobenzene	28.92	734	82033	48.75	ug/L	94

* Compound is ISTD

TOTAL ION CHROMATOGRAM

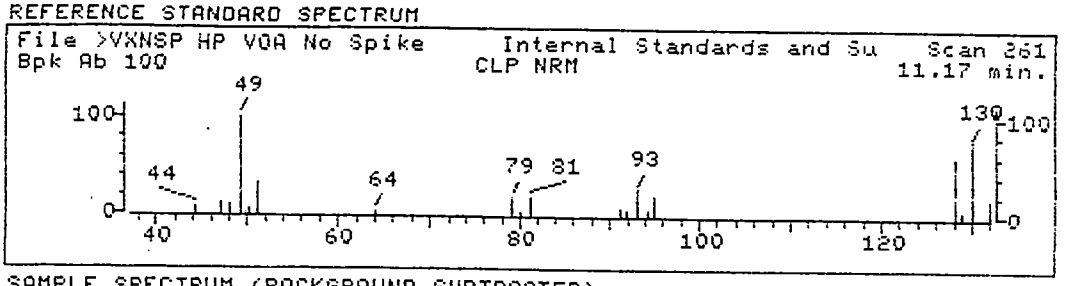


Data File: >A3850::D2 Quant Output File: ^A3850::D1
Name: 89L-2337-3 (FORT M.)
Misc: 900103 17:25 50uL/5ML

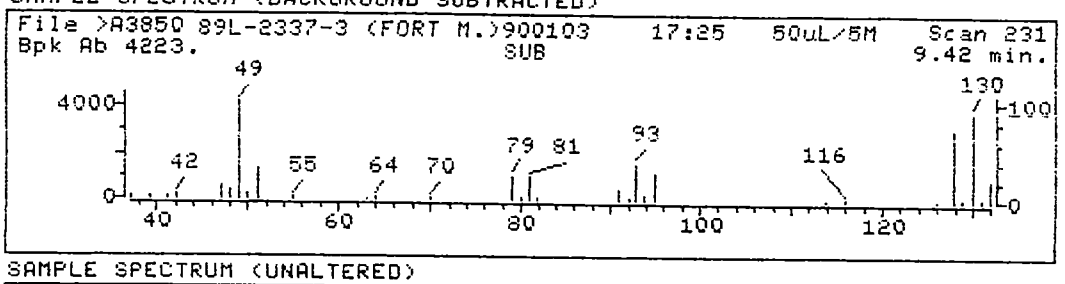
Id File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

Operator ID: RICK
Quant Time: 900103 18:10
Injected at: 900103 17:25

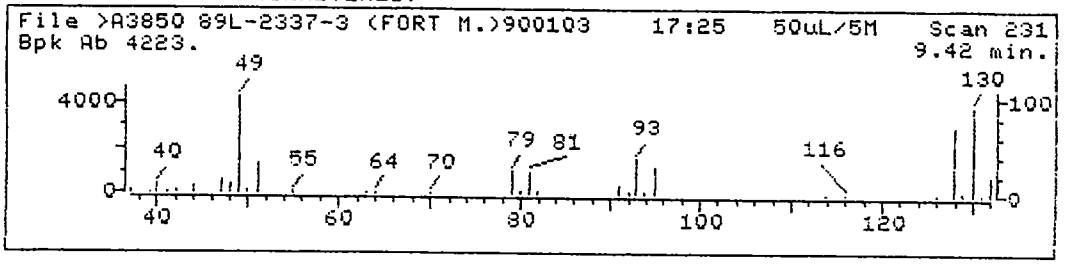
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



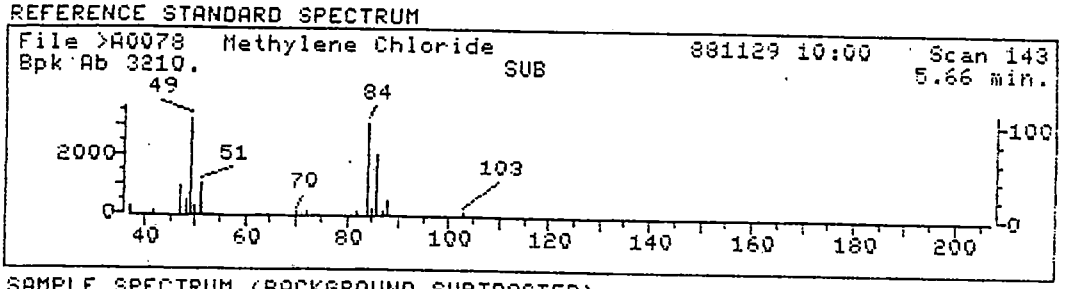
SAMPLE SPECTRUM (UNALTERED)



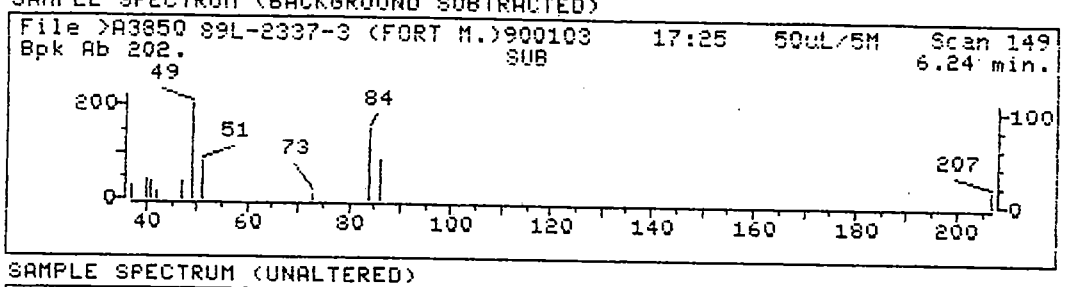
Data File: >A3850::D2 Quant Output File: ^A3850::D1
Name: 89L-2337-3 (FORT M.)
Misc: 900103 17:25 50uL/5ML
Quant Time: 900103 18:10 Quant ID File: ID_UST::D4
Injected at: 900103 17:25 Last Calibration: 891218 16:36

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 231
Retention Time: 9.42 min.
Quant Ion: 128.0
Area: 37297
Concentration: 50.00 ug/L
q-value: 87

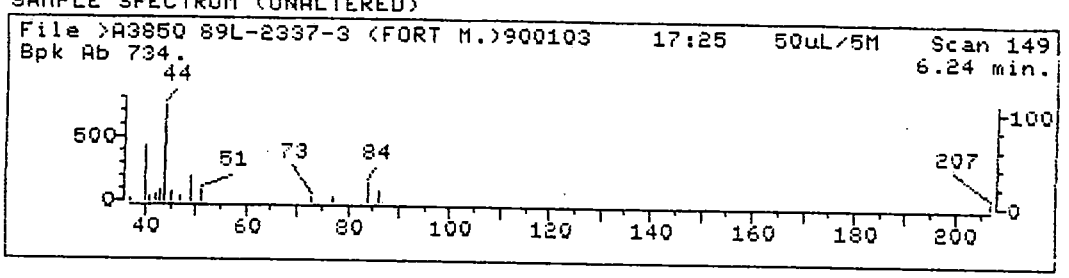
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



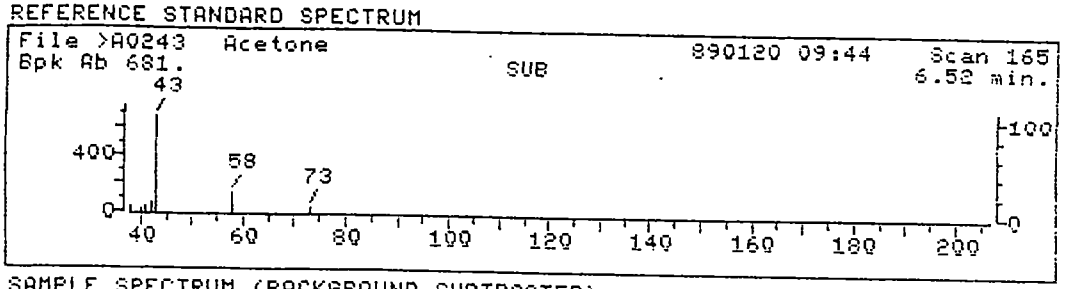
SAMPLE SPECTRUM (UNALTERED)



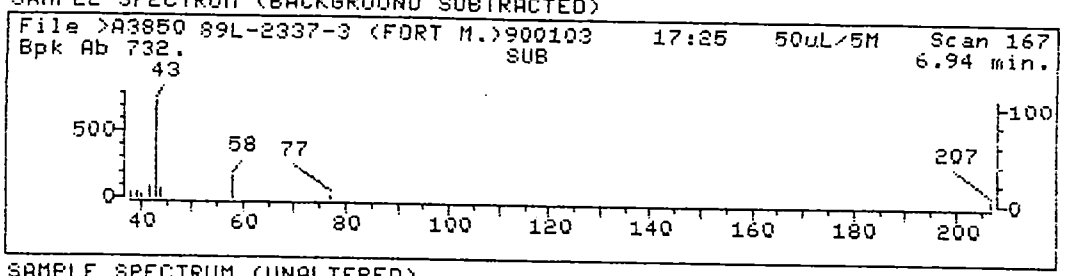
Data File: >A3850::D2
Quant Output File: ^A3850::D1
Name: 89L-2337-3 (FORT M.)
Misc: 900103 17:25 50uL/5ML
Quant Time: 900103 18:10
Quant ID File: ID_UST::D4
Injected at: 900103 17:25
Last Calibration: 891218 16:36

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 149
Retention Time: 6.24 min.
Quant Ion: 84.0
Area: 2069
Concentration: 2.80 ug/L x 100 = 280. ug/L
q-value: 80

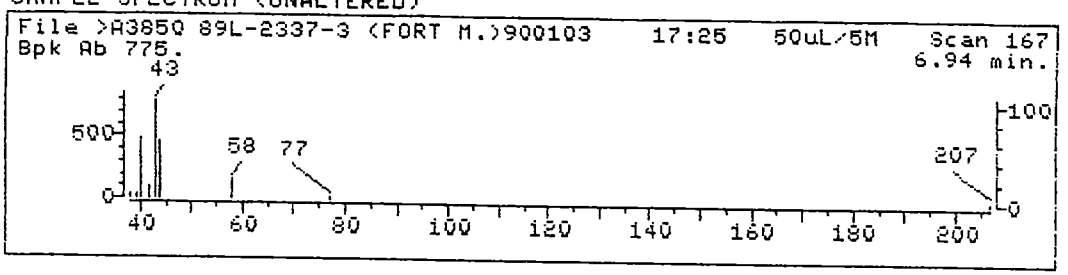
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



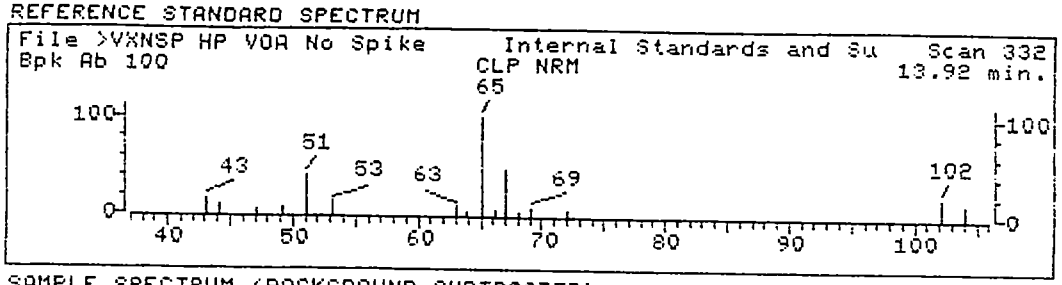
SAMPLE SPECTRUM (UNALTERED)



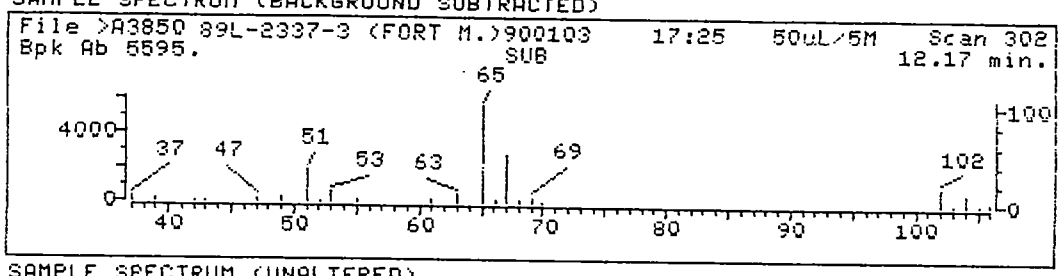
Data File: >A3850::D2 Quant Output File: ^A3850::D1
Name: 89L-2337-3 (FORT M.)
Misc: 900103 17:25 50uL/5ML
Quant Time: 900103 18:10 Quant ID File: ID_UST::D4
Injected at: 900103 17:25 Last Calibration: 891218 16:36

Compound No: 9
Compound Name: Acetone
Scan Number: 167
Retention Time: 6.94 min.
Quant Ion: 43.0
Area: 9595
Concentration: 23.01 ug/L X 100 = 2,300. ug/L
q-value: 77

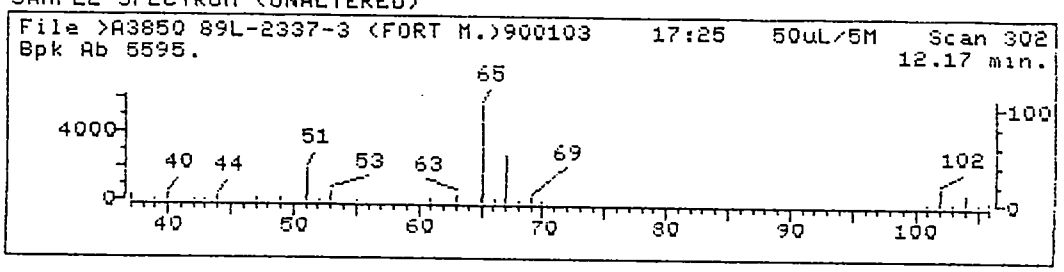
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



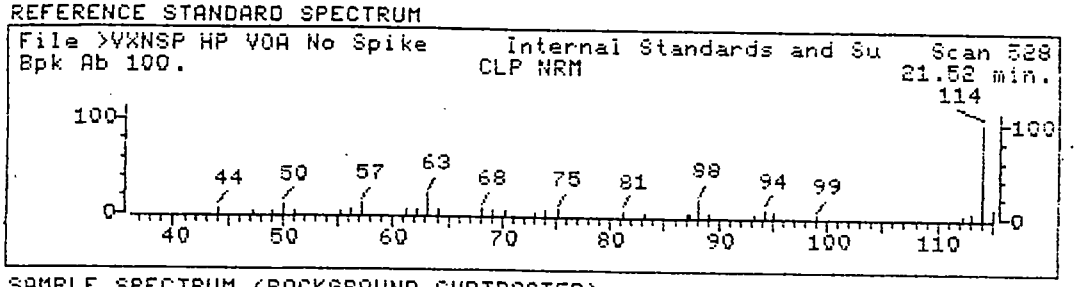
SAMPLE SPECTRUM (UNALTERED)



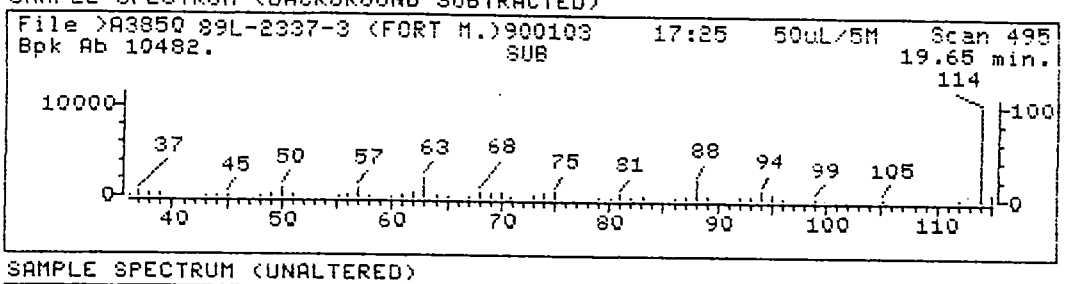
Data File: >A3850::D2 Quant Output File: ^A3850::D1
Name: 89L-2337-3 (FORT M.)
Misc: 900103 17:25 50uL/5ML
Quant Time: 900103 18:10 Quant ID File: ID_UST::D4
Injected at: 900103 17:25 Last Calibration: 891218 16:36

Compound No: 16
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 302
Retention Time: 12.17 min.
Quant Ion: 65.0
Area: 67706
Concentration: 38.65 ug/L
q-value: 94

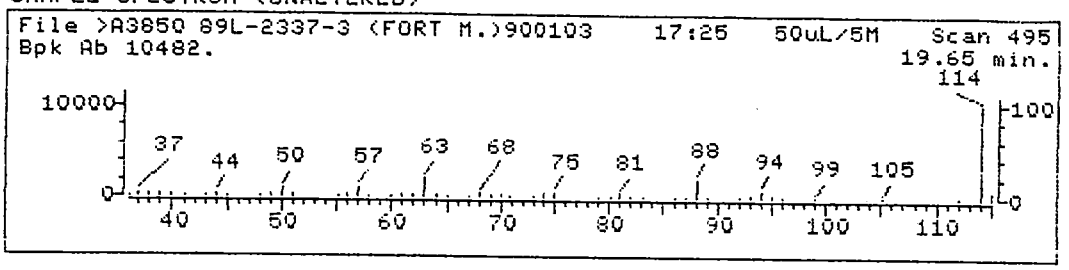
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



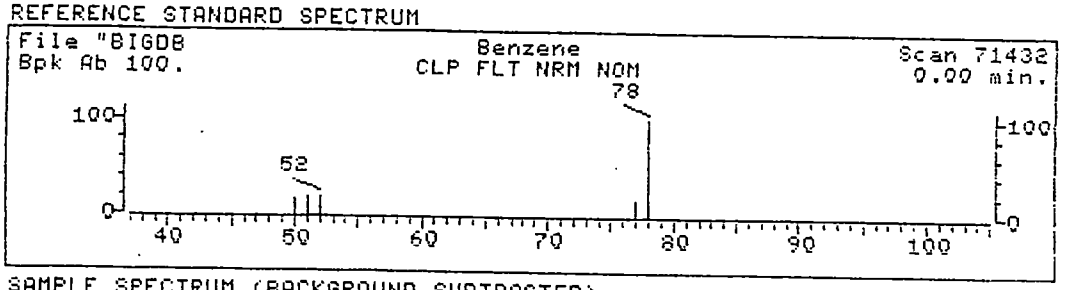
SAMPLE SPECTRUM (UNALTERED)



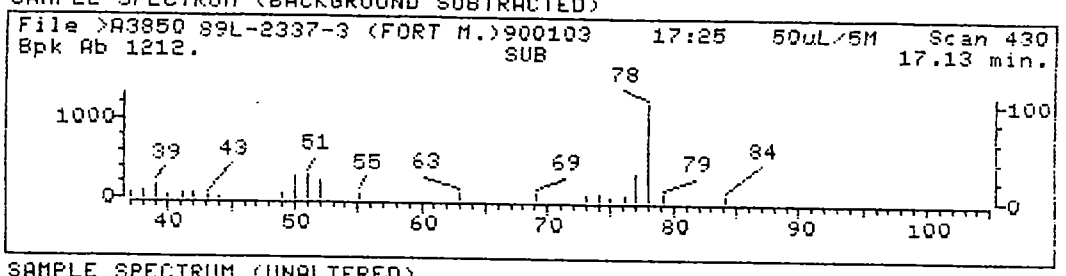
Data File: >A3850::D2 Quant Output File: ^A3850::D1
Name: 89L-2337-3 (FORT M.)
Misc: 900103 17:25 50uL/5ML
Quant Time: 900103 18:10 Quant ID File: ID_UST::D4
Injected at: 900103 17:25 Last Calibration: 891218 16:36

Compound No: 24 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 495
Retention Time: 19.65 min.
Quant Ion: 114.0
Area: 135822
Concentration: 50.00 ug/L
q-value: 69

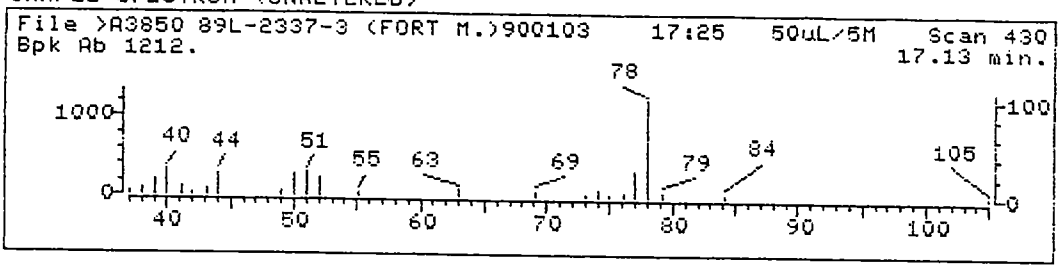
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

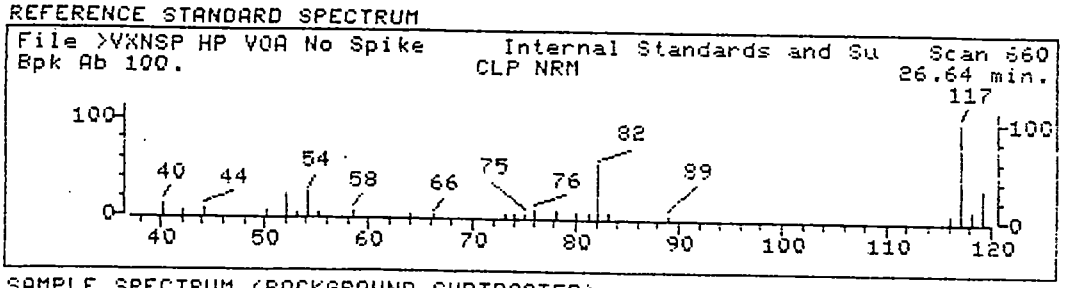


Data File: >A3850::D2 Quant Output File: ^A3850::D1
Name: 89L-2337-3 (FORT M.)
Misc: 900103 17:25 50uL/5ML
Quant Time: 900103 18:10 Quant ID File: ID_UST::D4
Injected at: 900103 17:25 Last Calibration: 891218 16:36

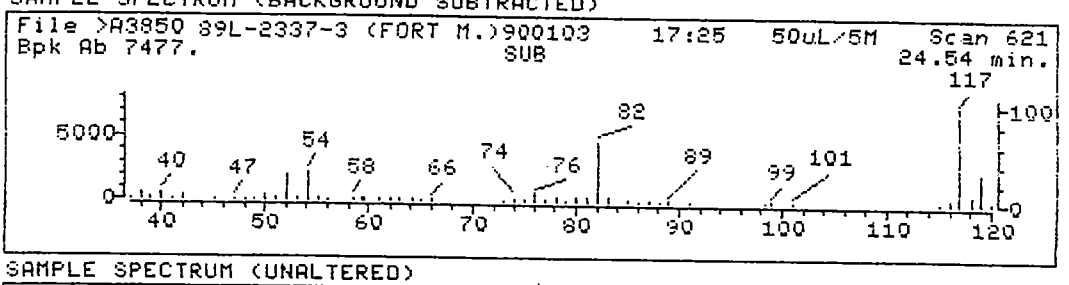
Compound No: 30
Compound Name: Benzene
Scan Number: 430
Retention Time: 17.13 min.
Quant Ion: 78.0
Area: 14873
Concentration: 7.42 ug/L
q-value: 91

7.42 ug/L x 100 = 740. ug/L

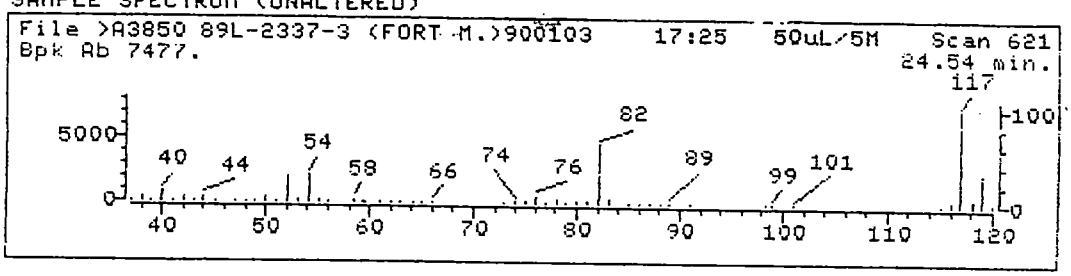
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



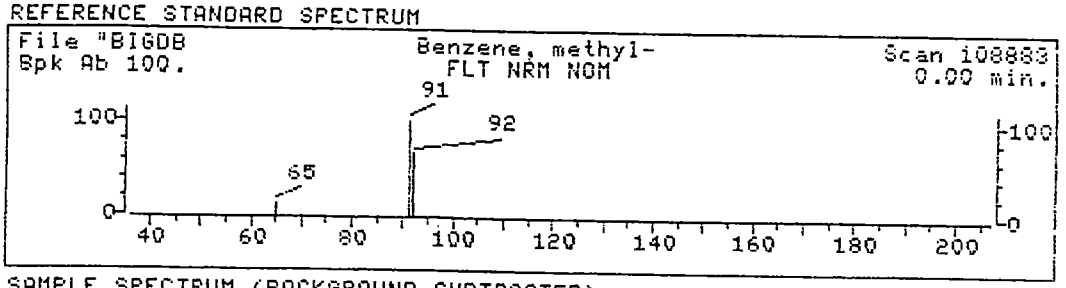
SAMPLE SPECTRUM (UNALTERED)



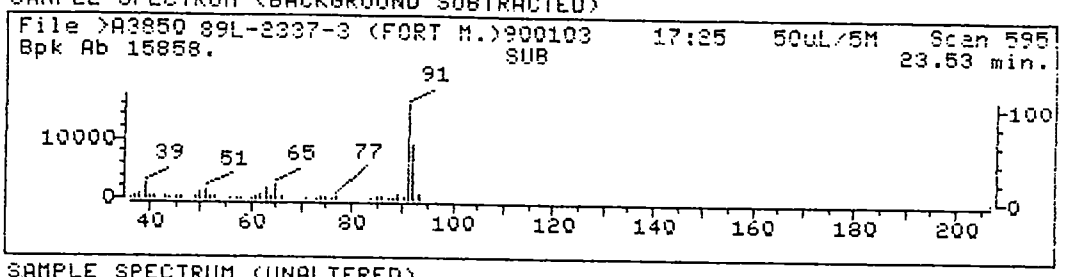
Data File: >A3850::D2 Quant Output File: ^A3850::D1
Name: 89L-2337-3 (FORT M.)
Misc: 900103 17:25 50uL/5ML
Quant Time: 900103 18:10 Quant ID File: ID_UST::D4
Injected at: 900103 17:25 Last Calibration: 891218 16:36

Compound No: 34 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 621
Retention Time: 24.54 min.
Quant Ion: 117.0
Area: 101611
Concentration: 50.00 ug/L
q-value: 96

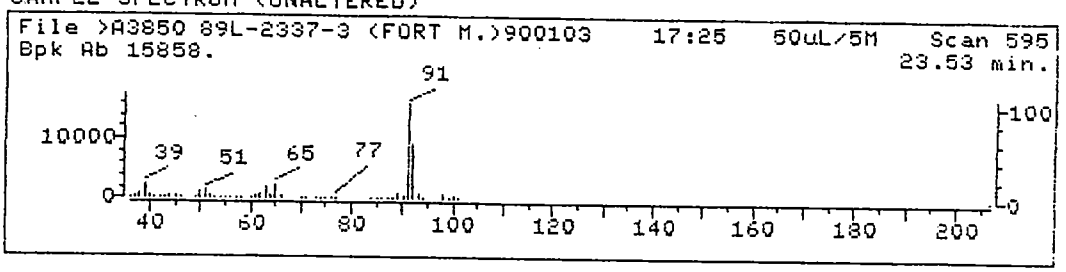
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



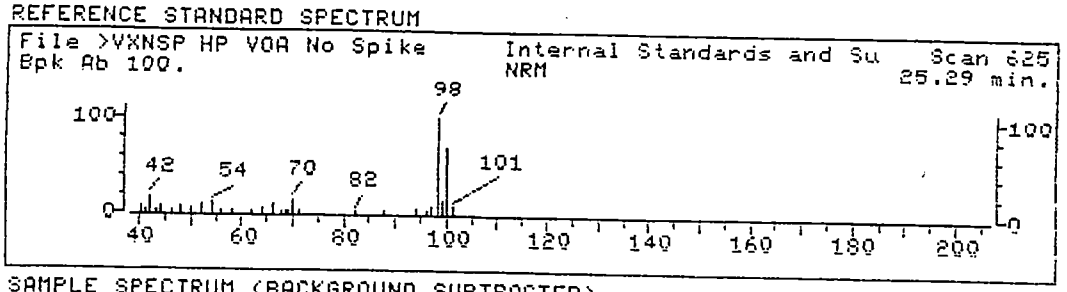
SAMPLE SPECTRUM (UNALTERED)



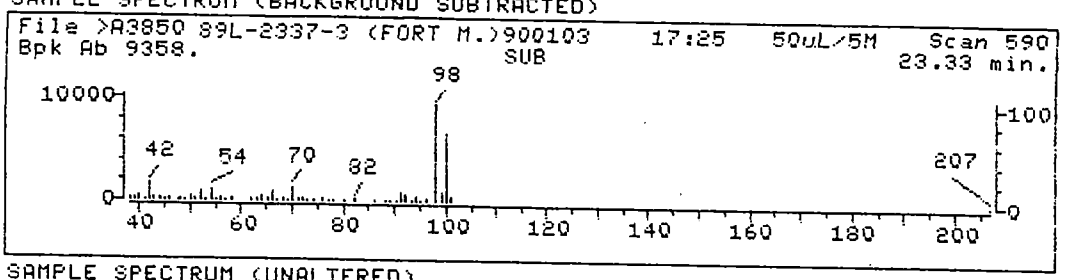
Data File: >A3850::D2 Quant Output File: ^A3850::D1
Name: 89L-2337-3 (FORT M.)
Misc: 900103 17:25 50uL/5ML
Quant Time: 900103 18:10 Quant ID File: ID_UST::D4
Injected at: 900103 17:25 Last Calibration: 891218 16:36

Compound No: 39
Compound Name: Toluene
Scan Number: 595
Retention Time: 23.53 min.
Quant Ion: 92.0
Area: 113471
Concentration: 86.75 ug/L X100 = 8,700. ug/L
q-value: 96

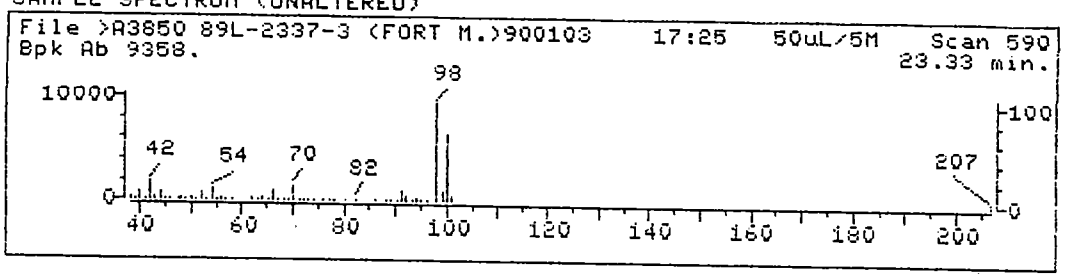
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

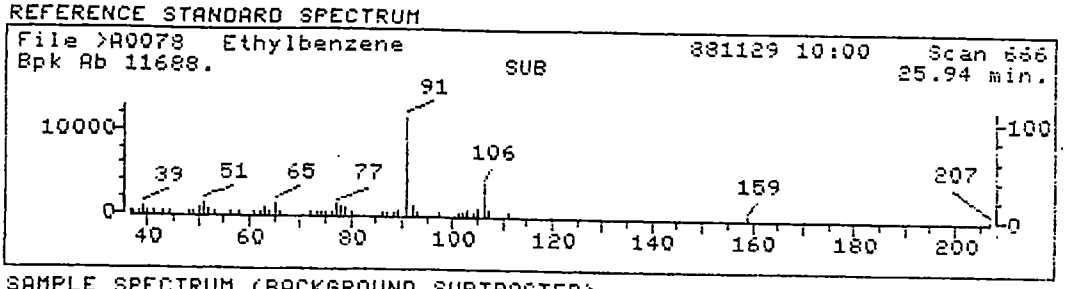


Data File: >A3850::D2
Name: 89L-2337-3 (FORT M.)
Misc: 900103 17:25 50uL/5ML
Quant Time: 900103 18:10
Injected at: 900103 17:25

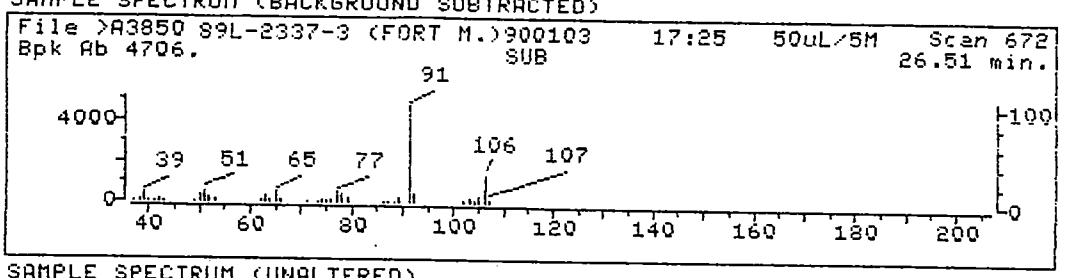
Quant Output File: ^A3850::D1
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 40
Compound Name: Toluene-d8
Scan Number: 590
Retention Time: 23.33 min.
Quant Ion: 98.0
Area: 115300
Concentration: 50.72 ug/L
q-value: 92

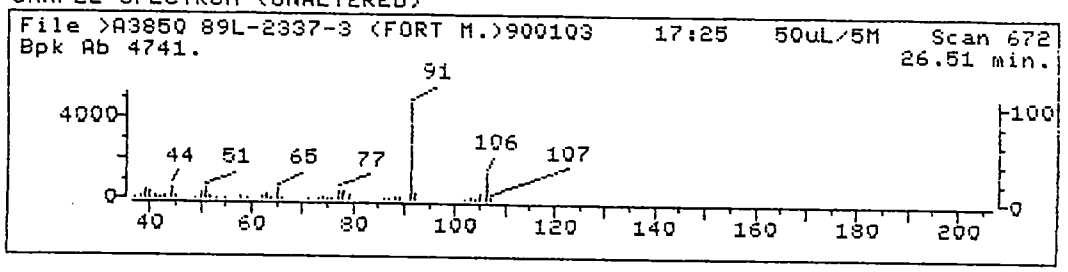
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



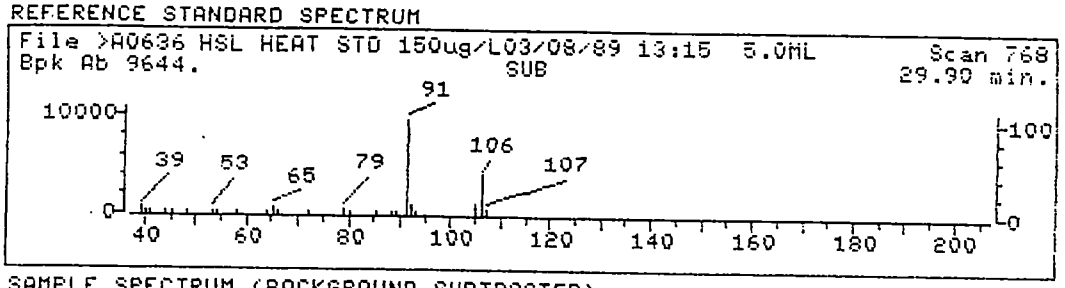
SAMPLE SPECTRUM (UNALTERED)



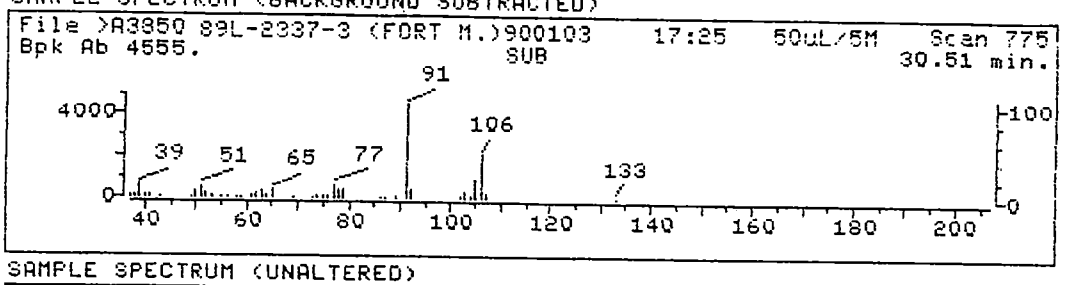
Data File: >A3850::D2 Quant Output File: ^A3850::D1
Name: 89L-2337-3 (FORT M.)
Misc: 900103 17:25 50uL/5ML
Quant Time: 900103 18:10 Quant ID File: ID_UST::D4
Injected at: 900103 17:25 Last Calibration: 891218 16:36

Compound No: 42
Compound Name: Ethylbenzene
Scan Number: 672
Retention Time: 26.51 min.
Quant Ion: 106.0
Area: 19545
Concentration: 25.49 ug/L X100 = 2,500. ug/L
q-value: 97

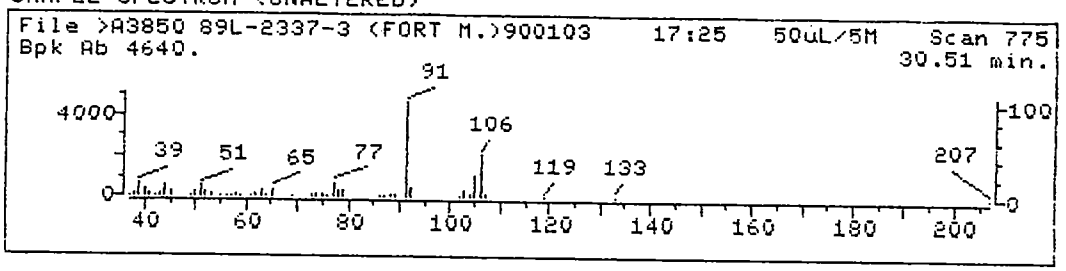
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



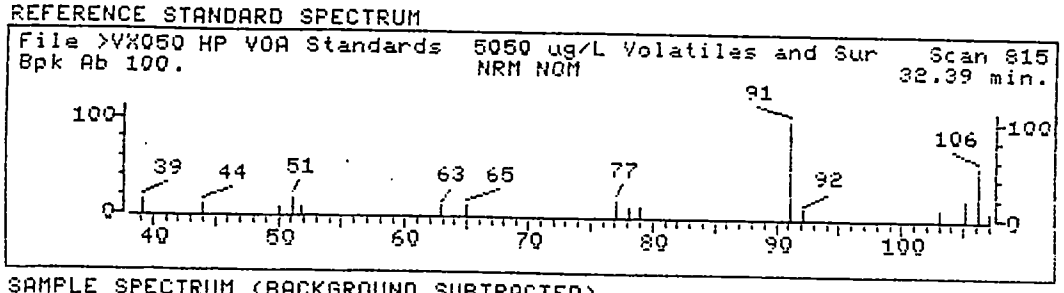
SAMPLE SPECTRUM (UNALTERED)



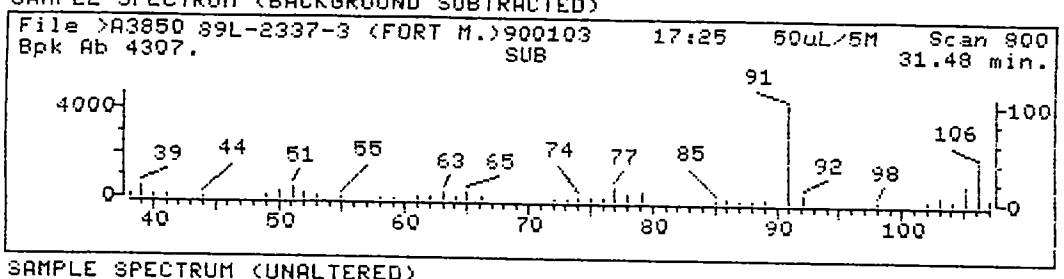
Data File: >A3850::D2 Quant Output File: ^A3850::D1
Name: 89L-2337-3 (FORT M.)
Misc: 900103 17:25 50uL/5ML
Quant Time: 900103 18:10 Quant ID File: ID_UST::D4
Injected at: 900103 17:25 Last Calibration: 891218 16:36

Compound No: 44
Compound Name: m&p Xylenes
Scan Number: 775
Retention Time: 30.51 min.
Quant Ion: 106.0
Area: 46698
Concentration: 101.85 ug/L X100 = 10,000. ug/L
q-value: 99

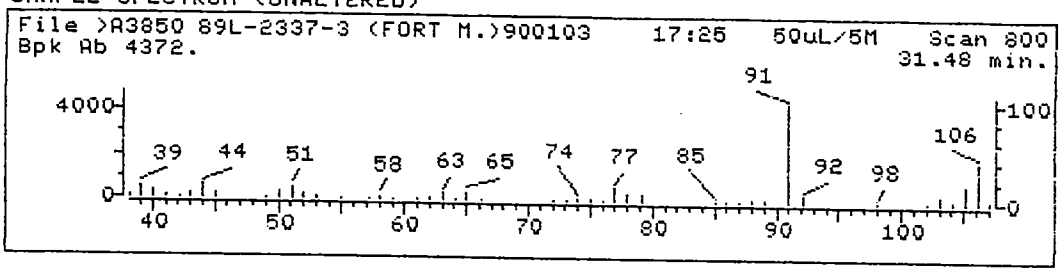
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



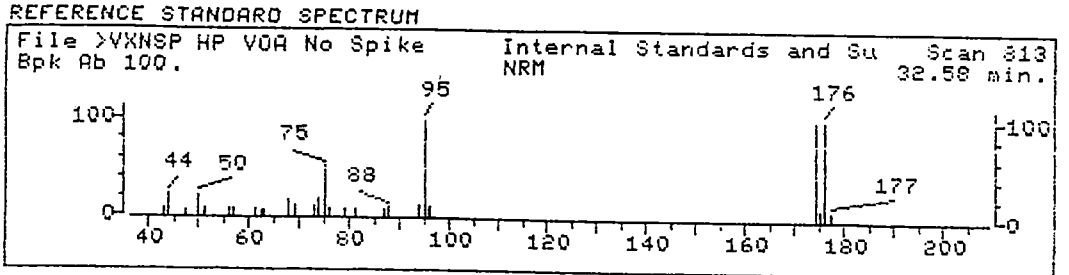
SAMPLE SPECTRUM (UNALTERED)



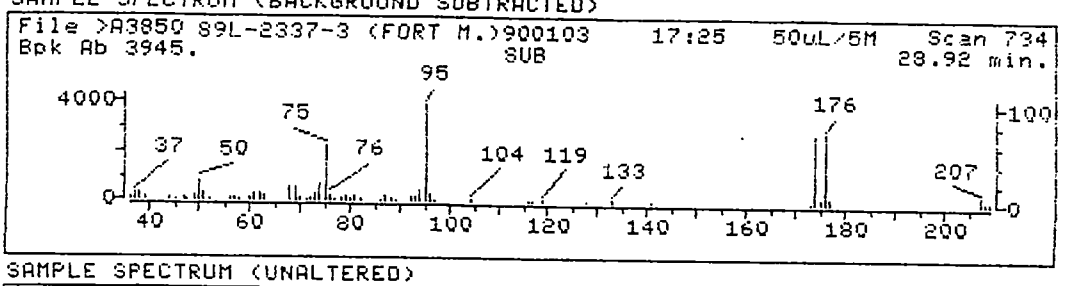
Data File: >A3850::D2 Quant Output File: ^A3850::D1
Name: 89L-2337-3 (FORT M.)
Misc: 900103 17:25 50uL/5ML
Quant Time: 900103 18:10 Quant ID File: ID_UST::D4
Injected at: 900103 17:25 Last Calibration: 891218 16:36

Compound No: 45
Compound Name: O-Xylenes
Scan Number: 800
Retention Time: 31.48 min.
Quant Ion: 106.0
Area: 46974
Concentration: 27.39 ug/L x100 = 2,700. ug/L
q-value: 90

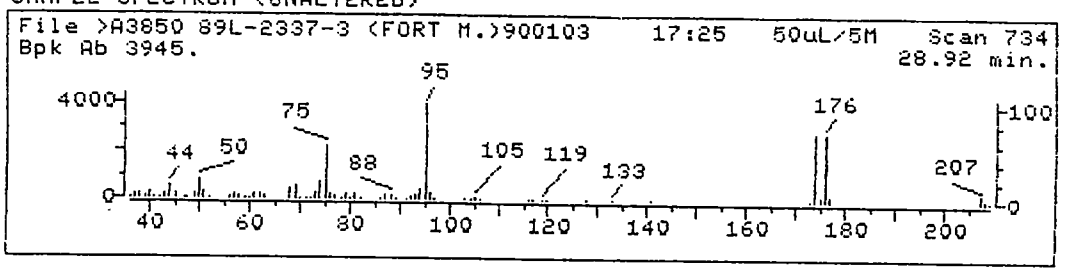
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



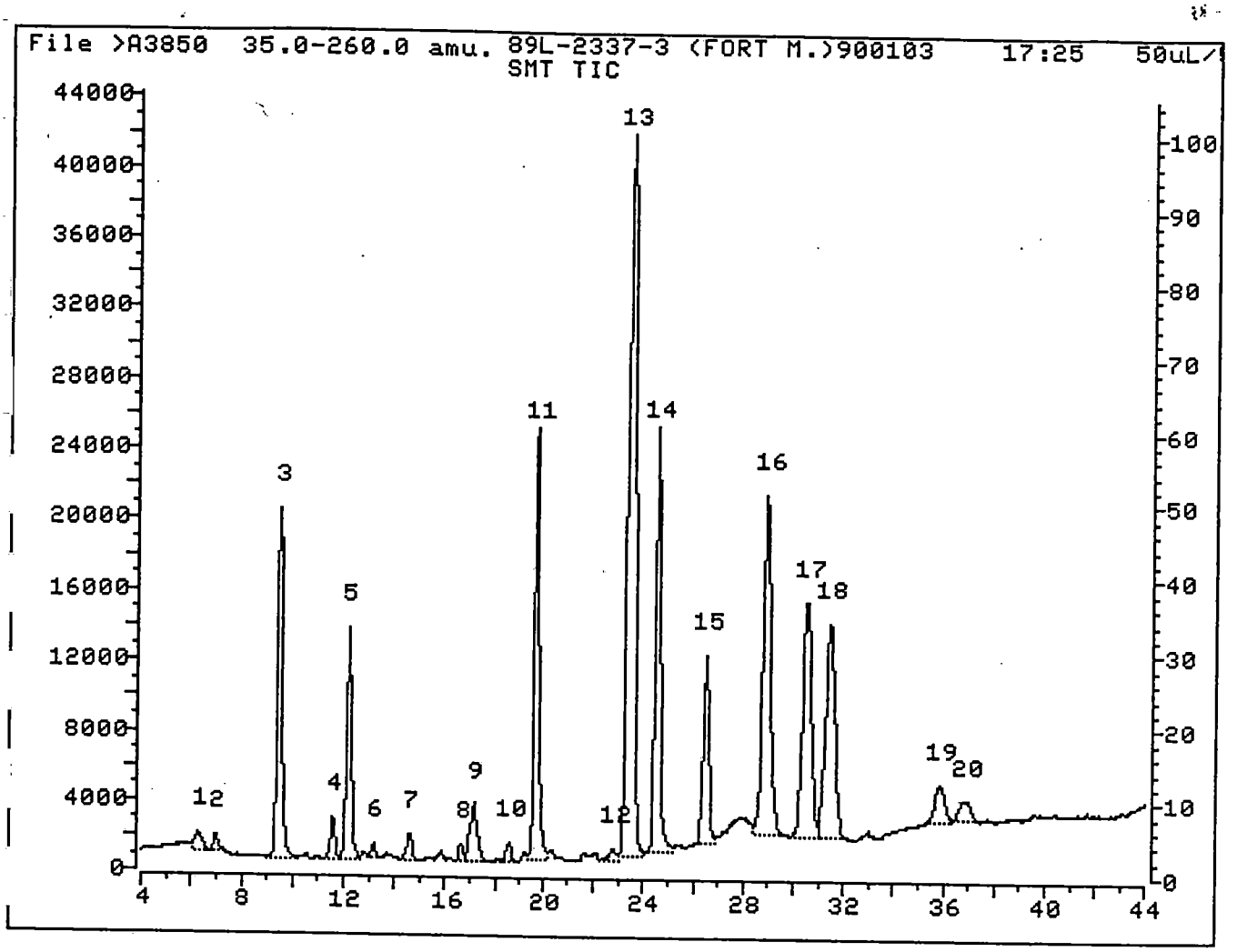
Data File: >A3850::D2 Quant Output File: ^A3850::D1
Name: 89L-2337-3 (FORT M.)
Misc: 900103 17:25 50uL/5ML
Quant Time: 900103 18:10 Quant ID File: ID_UST::D4
Injected at: 900103 17:25 Last Calibration: 891218 16:36

Compound No: 46
Compound Name: Bromofluorobenzene
Scan Number: 734
Retention Time: 28.92 min.
Quant Ion: 95.0
Area: 82033
Concentration: 48.75 ug/L
q-value: 94

>A3850 89L-2337-3 (FORT M.)900103 17:25 50uL/5ML
35.0| 260.0 SMT TIC
Upslope: .10 Area Reject: 1.00 % Max Peaks: 20 Bunching: 1
Dnslope: 0.00 Results File VDIR82 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	6.24	143	149	162	1026	69929	22307 TC	2.66	.641
2	6.94	162	167	173	886	38046	10476 TC	1.25	.301
3	9.46	224	232	251	19862	313864	266461 FS	31.82	7.662
4	11.55	277	286	294	2396	57259	29394 I	3.51	.845
5	12.17	294	302	314	13155	207144	172074 SS	20.55	4.948
6	13.18	322	328	336	851	34802	9967 <10%	1.19	.287
7	14.61	356	365	371	1515	44864	21566 <10%	2.58	.620
8	16.63	412	417	421	925	25765	11097 <10%	1.33	.319
9	17.13	421	430	443	3214	99427	63125 TC	7.54	1.815
10	18.57	459	467	474	1010	37830	13766 <10%	1.64	.396
11	19.69	487	496	509	24517	389676	348783 FS	41.65	10.029
12	22.79	567	576	581	563	38513	9674 <10%	1.16	.278
13	23.49	582	594	609	41060	903118	837346 SSFTC	100.00	24.077
14	24.54	613	621	639	24143	434913	354344 FS	42.32	10.189
15	26.51	663	672	682	10755	250365	168193 TC	20.09	4.836
16	28.92	722	734	751	19177	575030	410489 SS	49.02	11.803
17	30.55	760	776	788	13343	465094	320923 TC	38.33	9.228
18	31.44	788	799	815	12180	460564	320779 TC	38.31	9.223
19	35.86	904	913	925	2000	211422	52311 V	6.25	1.504
20	36.90	930	940	952	1166	202540	34774 <10%	4.15	1.000

Sum of corrected areas: 3477849.


File >A3850 35.0-260.0 amu. 89L-2337-3 (FORT M.)900103 17:25 50uL/
SMT TIC
44000
40000
36000
32000
28000
24000
20000
16000
12000
8000
4000
0
100
90
80
70
60
50
40
30
20
10
0
4
8
12
16
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24
28
32
36
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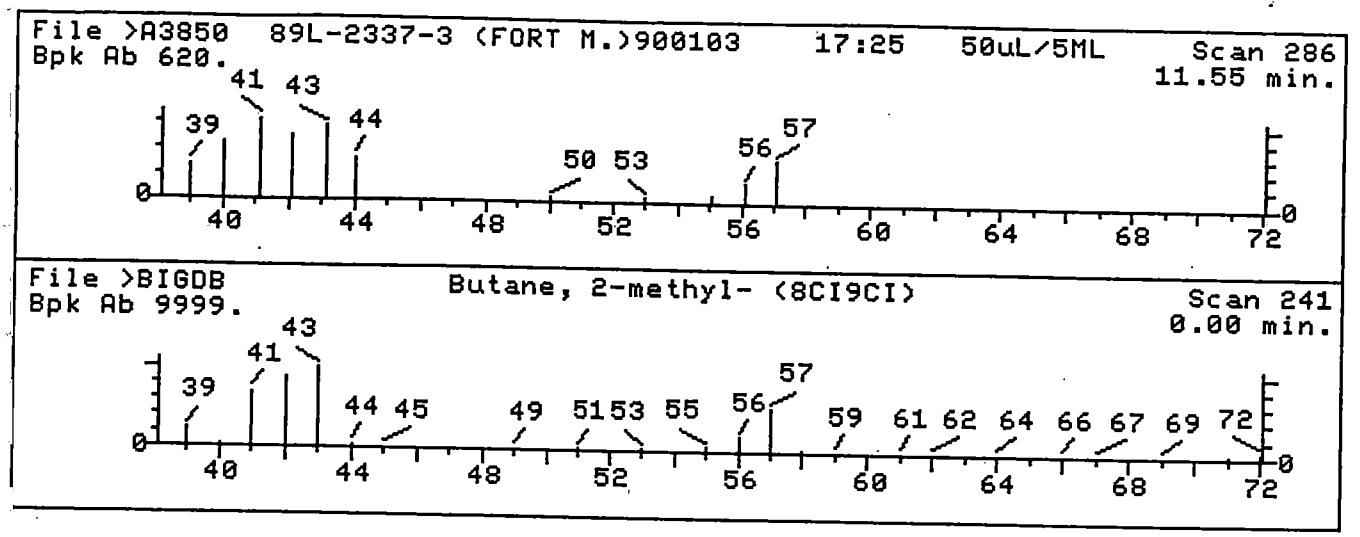
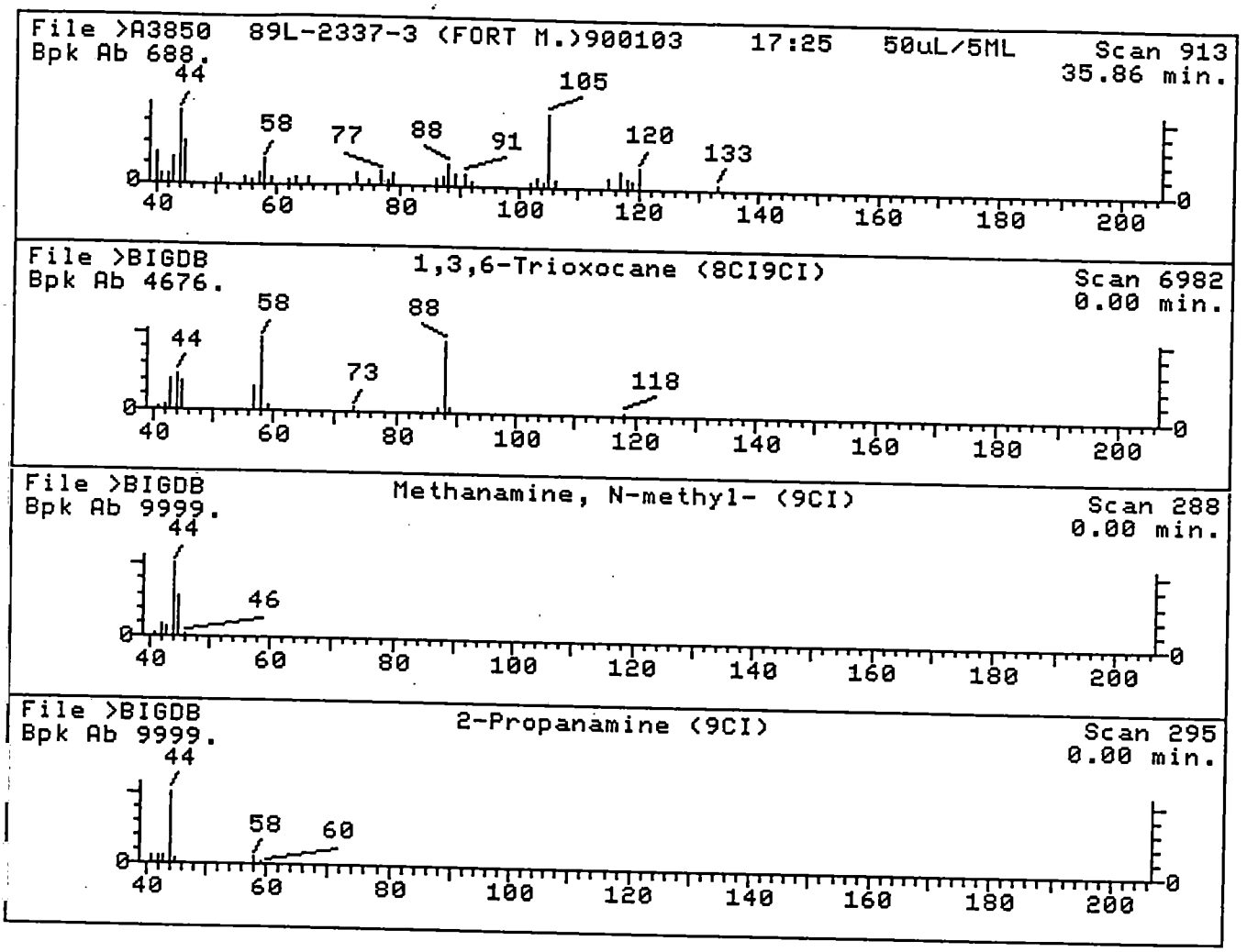


1. Butane, 2-methyl- (8CI9CI) 72 C5H12

Sample file: >A3850 Spectrum #: 286
Search speed: 1 Tilting option: S No. of ion ranges searched: 50

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	28*	78784	241	"BIGDB	32	54	2	0	92	44	8	16

CORRECTED TOTAL ION AREA OF UNKNOWN= 29394.00
CORRECTED TOTAL ION AREA OF INTERNAL= 266461.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 100.00
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 550.00



1.	1,3,6-Trioxocane (8CI9CI)	118 C5H10O3
2.	Methanamine, N-methyl- (9CI)	45 C2H7N
3.	2-Propanamine (9CI)	59 C3H9N
4.	Acetamide, N-(1-methylpropyl)- (9CI)	115 C6H13NO
5.	Pentanal (9CI)	86 C5H10O

Sample file: >A3850 Spectrum #: 913
Search speed: 1 Tilting option: S No. of ion ranges searched: 58

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	25*	1779197	6982	"BIGDB	37	74	3	0	159	50	7	13
2.	11*	124403	288	"BIGDB	23	26	1	0	83	63	2	14
3.	11*	75310	295	"BIGDB	28	45	1	0	98	63	2	15
4.	11*	1189055	6429	"BIGDB	20	64	2	0	98	62	2	13
5.	11*	110623	1238	"BIGDB	27	71	2	0	92	63	2	14

CORRECTED TOTAL ION AREA OF UNKNOWN= 52311.00
CORRECTED TOTAL ION AREA OF INTERNAL= 354344.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 100.00
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 740.00

Northeastern Analytical Corp.

89L-2337-4 Sample Data Package

QUANT REPORT

Operator ID: MALOS
Output File: ^A3824::D2
Data File: >A3824::D4
Name: 89L-2337-4(FORT M.)
Misc: 891229 14:40 5ML

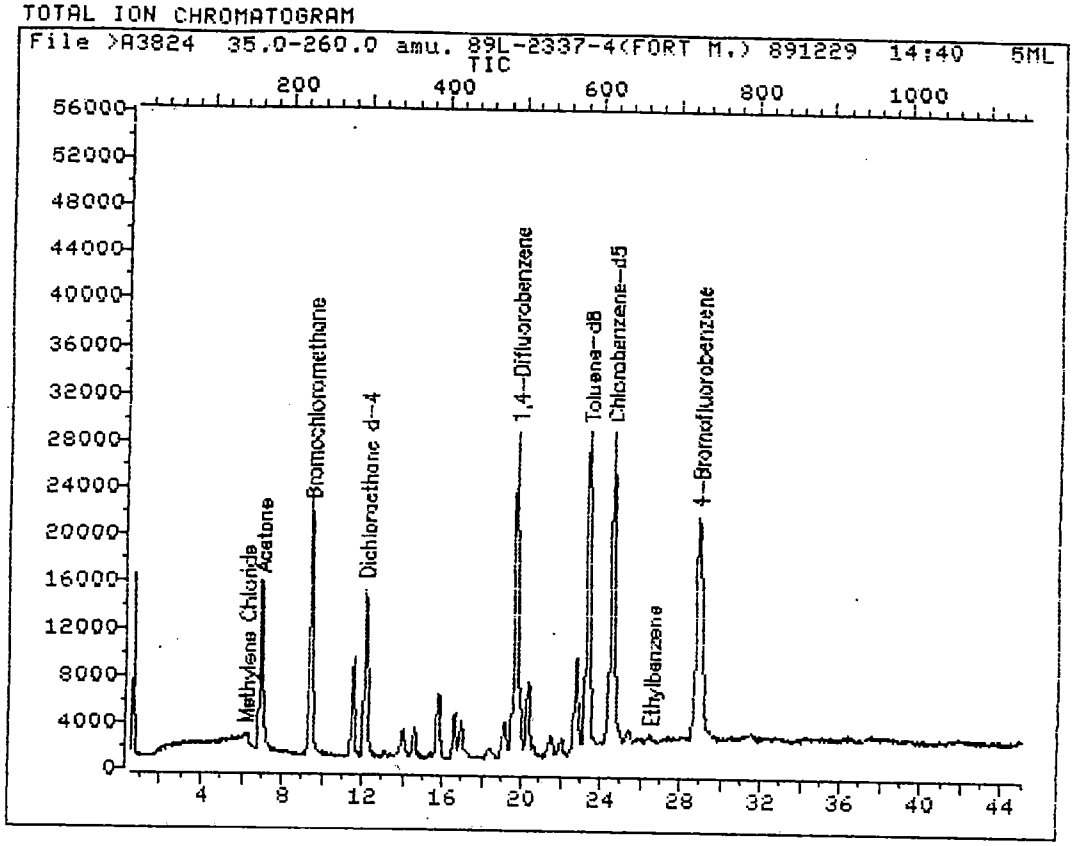
Quant Rev: 6 Quant Time: 891229 15:28
Injected at: 891229 14:40
Dilution Factor: 1.00000

ID File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.40	230	38477	50.00	ug/L	80
6)	Methylene Chloride	6.22	148	821	1.08	ug/L	84
9)	Acetone	6.99	168	116546	270.96	ug/L	76
16)	1,2-Dichloroethane-d4	12.15	301	67736	37.48	ug/L	93
24)	*1,4-Difluorobenzene	19.67	495	138024	50.00	ug/L	69
34)	*Chlorobenzene-d5	24.51	620	105399	50.00	ug/L	97
40)	Toluene-d8	23.31	589	114712	48.65	ug/L	98
42)	Ethylbenzene	26.53	672	958	1.20	ug/L	72
46)	Bromofluorobenzene	28.86	732	78249	44.83	ug/L	95

* Compound is ISTD

TOTAL ION CHROMATOGRAM



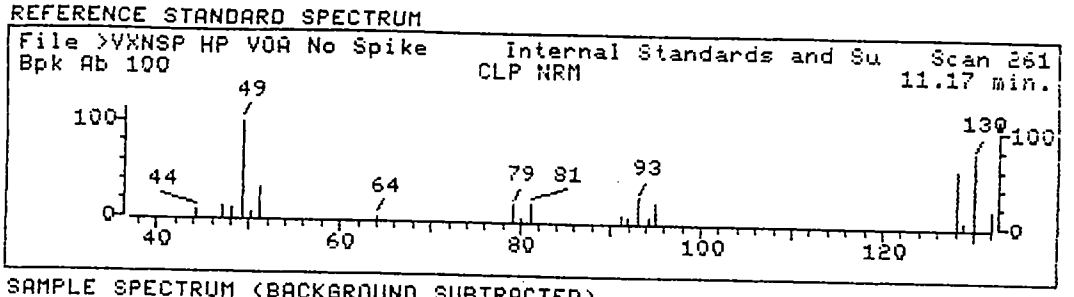
Data File: >A3824::D4
Name: 89L-2337-4(FORT M.)
Misc: 891229 14:40 5ML

Quant Output File: ^A3824::D2

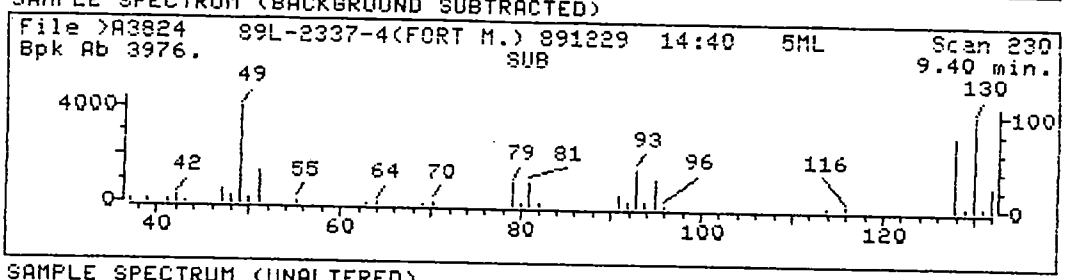
Id File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

Operator ID: MALOS
Quant Time: 891229 15:28
Injected at: 891229 14:40

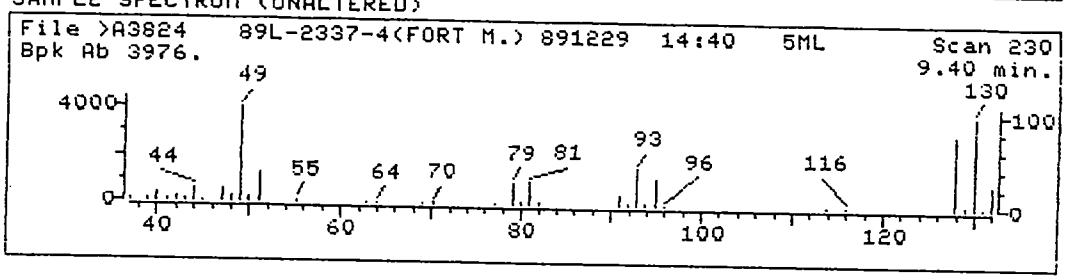
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



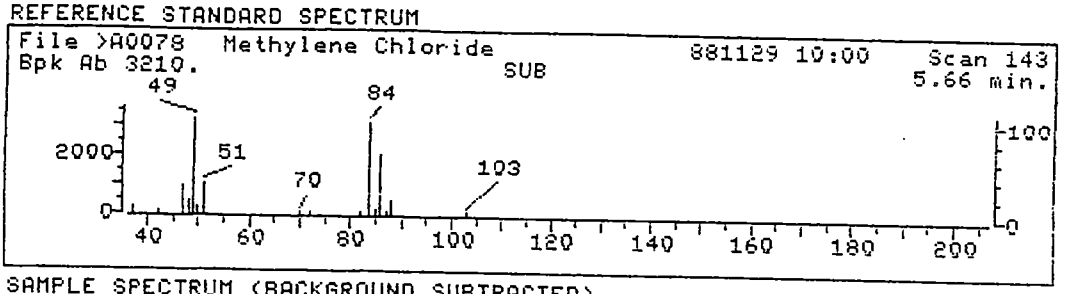
Data File: >A3824::D4
Name: 89L-2337-4(FORT M.)
Misc: 891229 14:40 5ML
Quant Time: 891229 15:28
Injected at: 891229 14:40

Quant Output File: ^A3824::D2

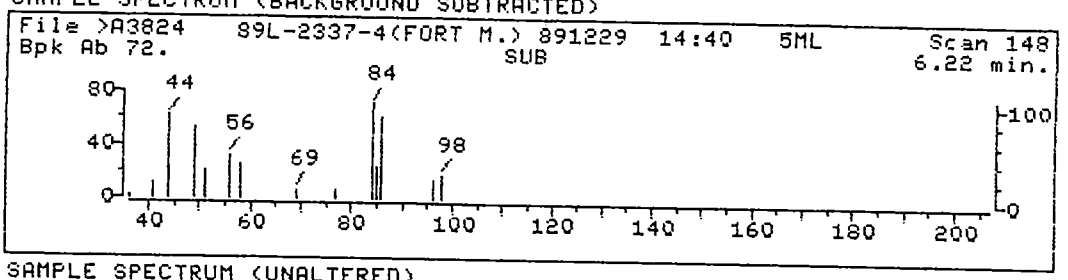
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 230
Retention Time: 9.40 min.
Quant Ion: 128.0
Area: 38477
Concentration: 50.00 ug/L
q-value: 80

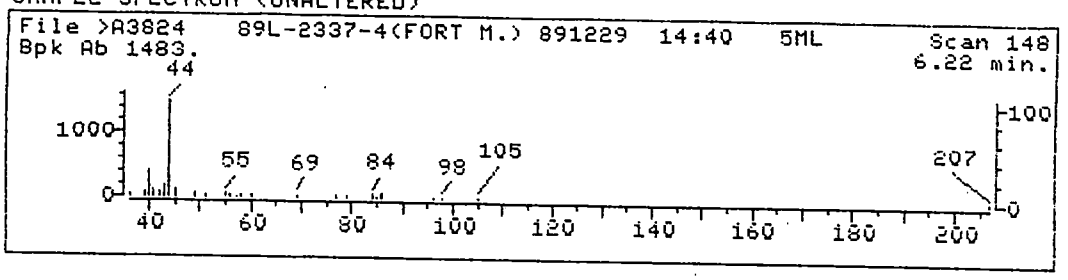
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



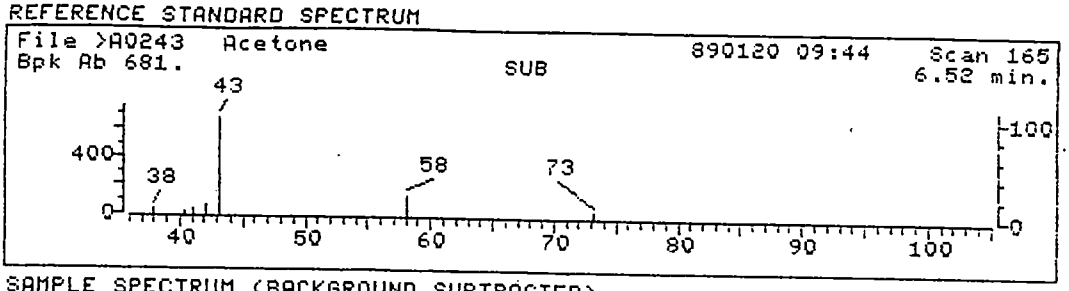
Data File: >A3824::D4
Name: 89L-2337-4(FORT M.)
Misc: 891229 14:40 5ML
Quant Time: 891229 15:28
Injected at: 891229 14:40

Quant Output File: ^A3824::D2

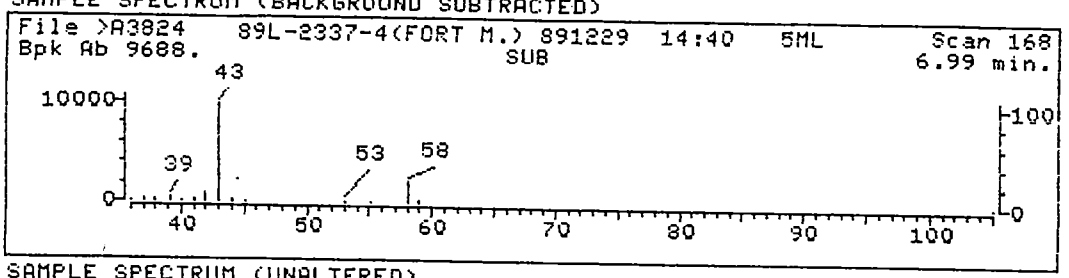
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 148
Retention Time: 6.22 min.
Quant Ion: 84.0
Area: 821
Concentration: 1.08 ug/L
q-value: 84.

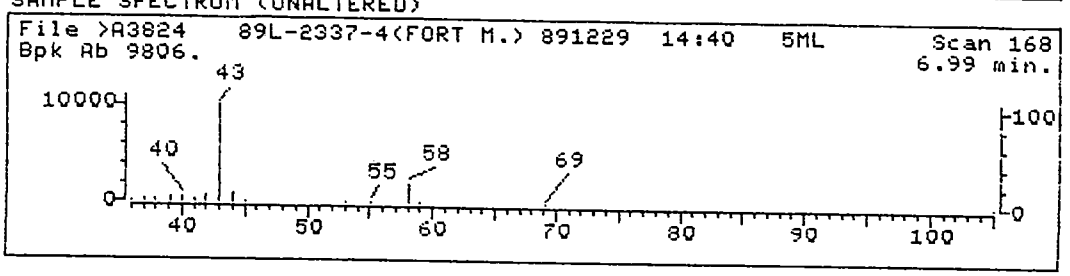
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



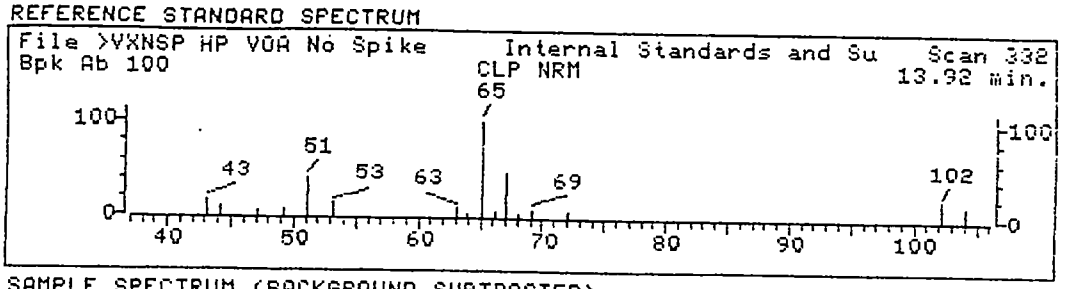
Data File: >A3824::D4
Name: 89L-2337-4(FORT M.)
Misc: 891229 14:40 5ML
Quant Time: 891229 15:28
Injected at: 891229 14:40

Quant Output File: ^A3824::D2

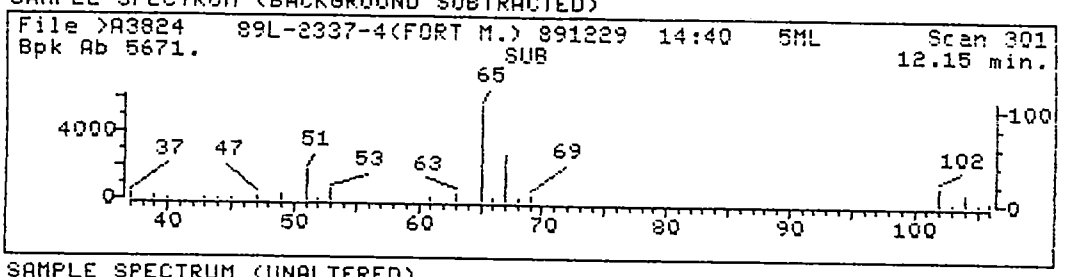
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 9
Compound Name: Acetone
Scan Number: 168
Retention Time: 6.99 min.
Quant Ion: 43.0
Area: 116546
Concentration: 270.96 ug/L
q-value: 76

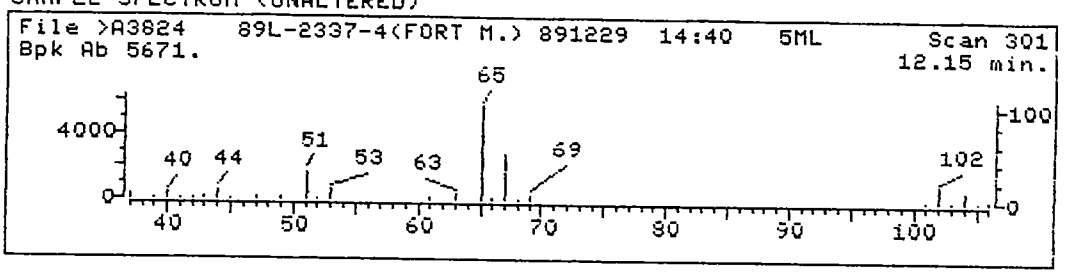
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



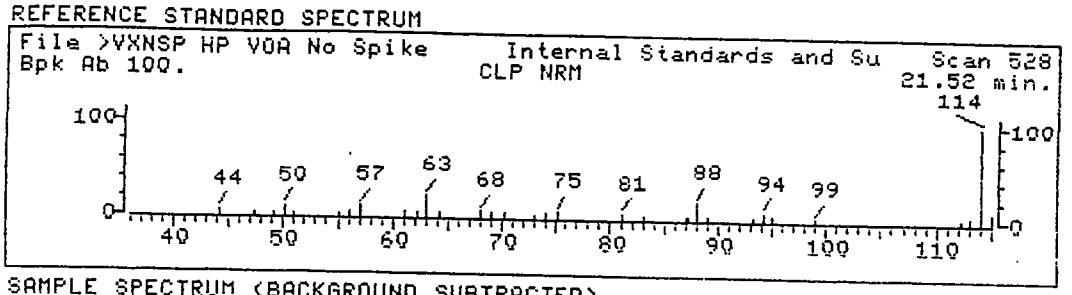
Data File: >A3824::D4
Name: 89L-2337-4(FORT M.)
Misc: 891229 14:40 5ML
Quant Time: 891229 15:28
Injected at: 891229 14:40

Quant Output File: ^A3824::D2

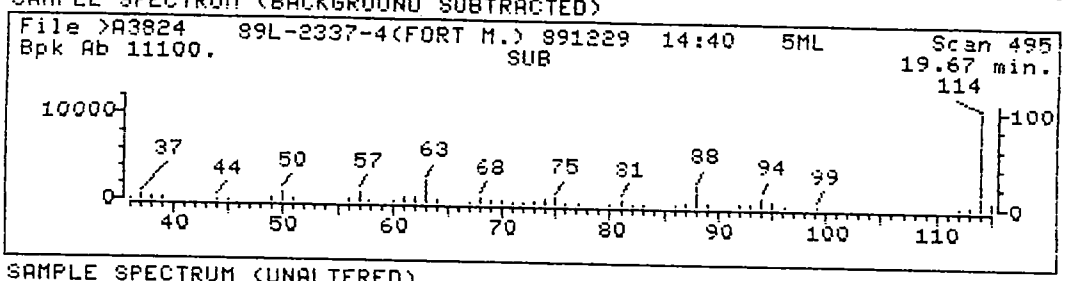
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 16
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 301
Retention Time: 12.15 min.
Quant Ion: 65.0
Area: 67736
Concentration: 37.48 ug/L
q-value: 93

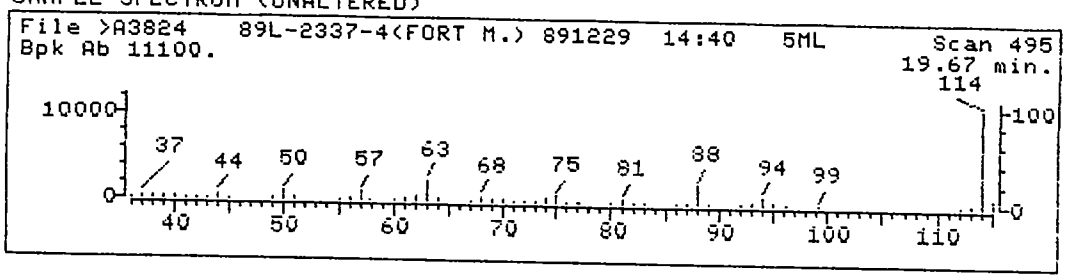
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



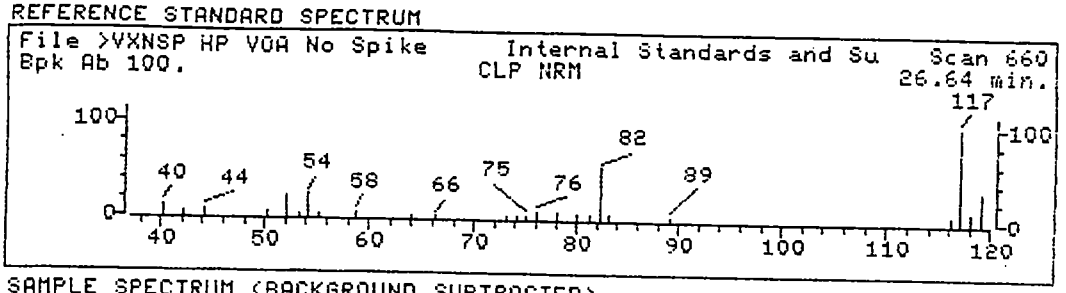
Data File: >A3824::D4
Name: 89L-2337-4(FORT M.)
Misc: 891229 14:40 5ML
Quant Time: 891229 15:28
Injected at: 891229 14:40

Quant Output File: ^A3824::D2

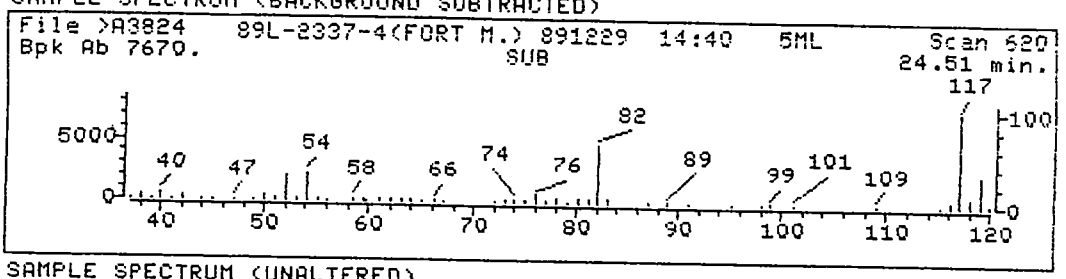
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 24 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 495
Retention Time: 19.67 min.
Quant Ion: 114.0
Area: 138024
Concentration: 50.00 ug/L
q-value: 69

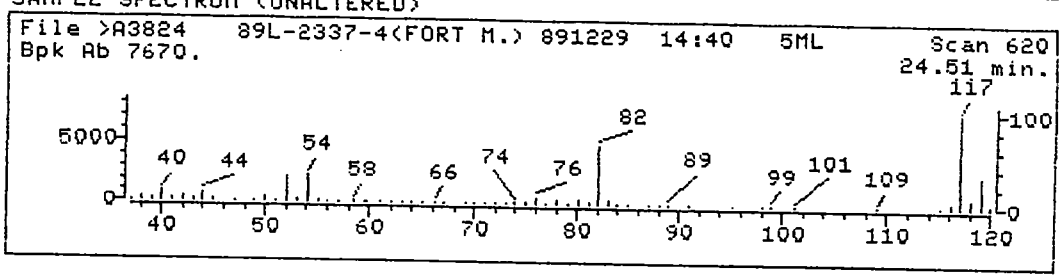
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



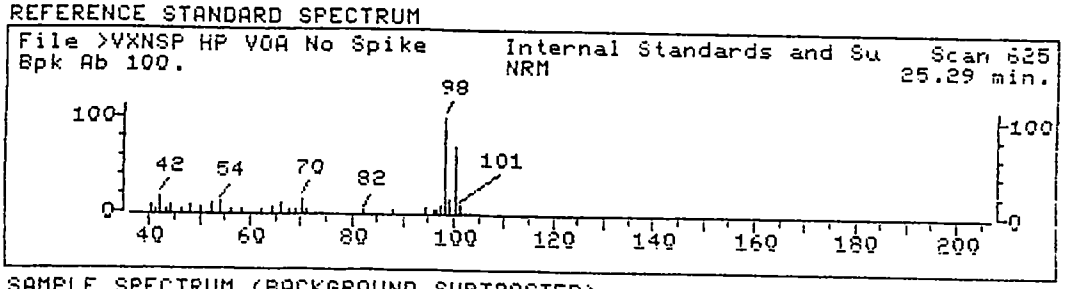
Data File: >A3824::D4
Name: 89L-2337-4(FORT M.)
Misc: 891229 14:40 5ML
Quant Time: 891229 15:28
Injected at: 891229 14:40

Quant Output File: ^A3824::D2

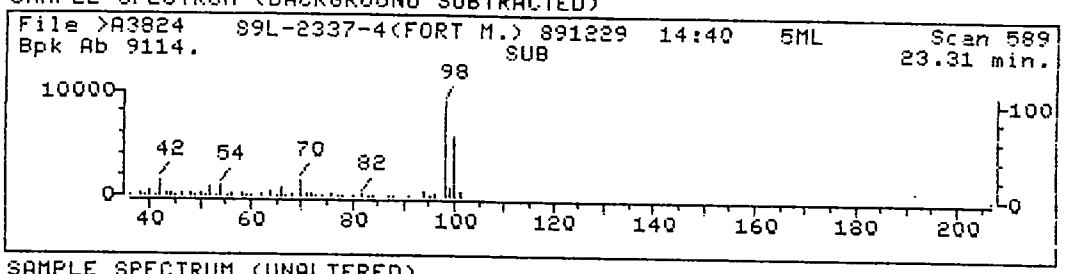
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 34 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 620
Retention Time: 24.51 min.
Quant Ion: 117.0
Area: 105399
Concentration: 50.00 ug/L
q-value: 97

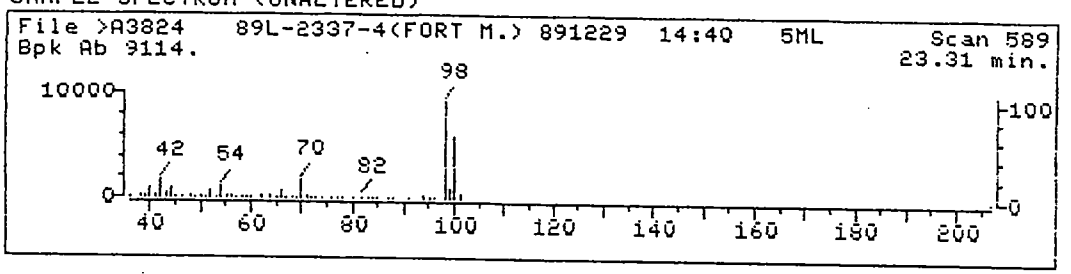
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



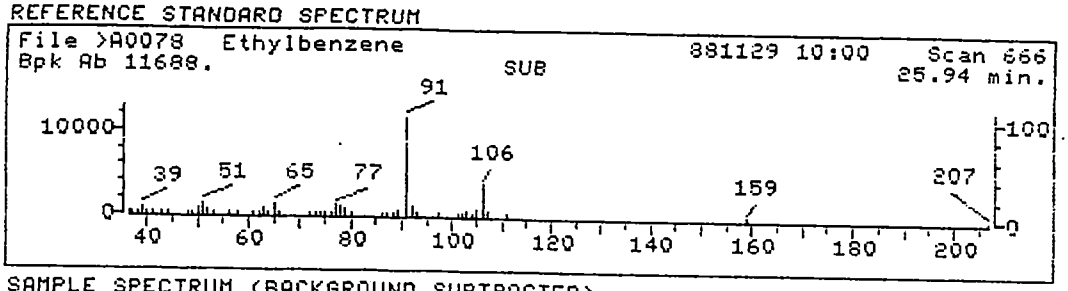
Data File: >A3824::D4
Name: 89L-2337-4(FORT M.)
Misc: 891229 14:40 5ML
Quant Time: 891229 15:28
Injected at: 891229 14:40

Quant Output File: ^A3824::D2

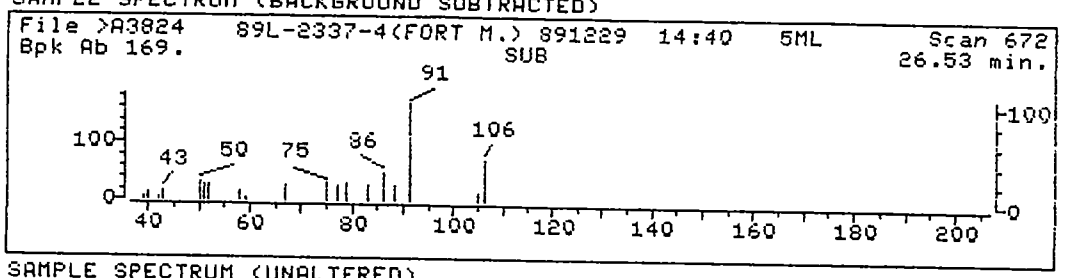
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 40
Compound Name: Toluene-d8
Scan Number: 589
Retention Time: 23.31 min.
Quant Ion: 98.0
Area: 114712
Concentration: 48.65 ug/L
q-value: 98

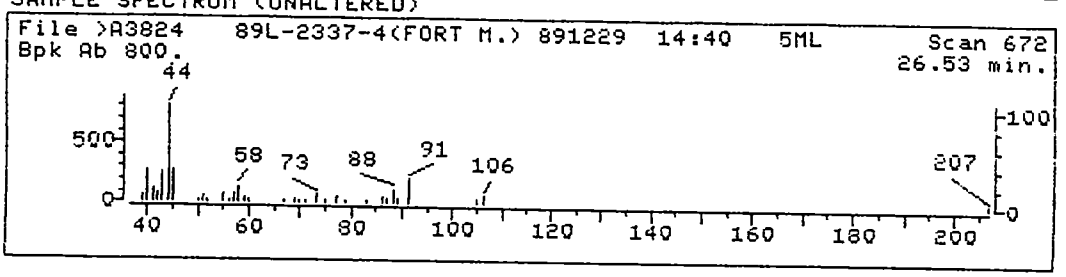
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



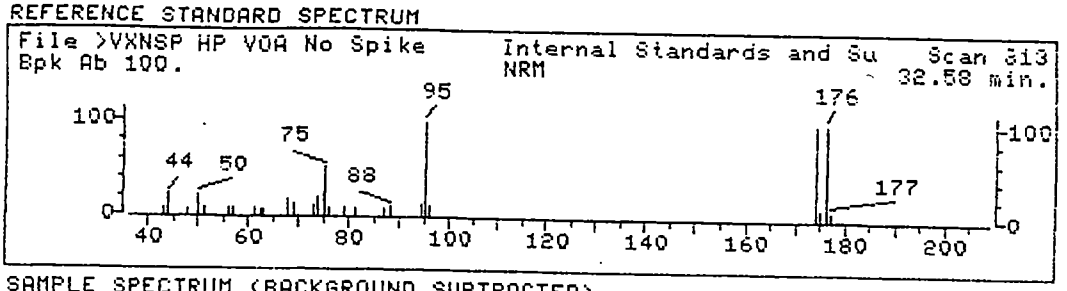
Data File: >A3824::D4
Name: 89L-2337-4(FORT M.)
Misc: 891229 14:40 5ML
Quant Time: 891229 15:28
Injected at: 891229 14:40

Quant Output File: ^A3824::D2

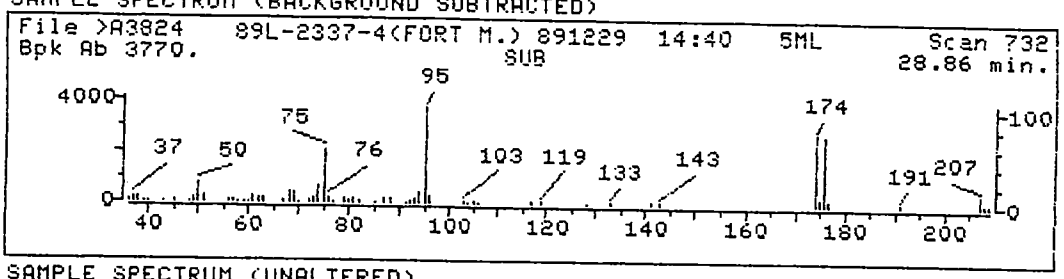
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 42
Compound Name: Ethylbenzene
Scan Number: 672
Retention Time: 26.53 min.
Quant Ion: 106.0
Area: 958
Concentration: 1.20 ug/L
q-value: 72

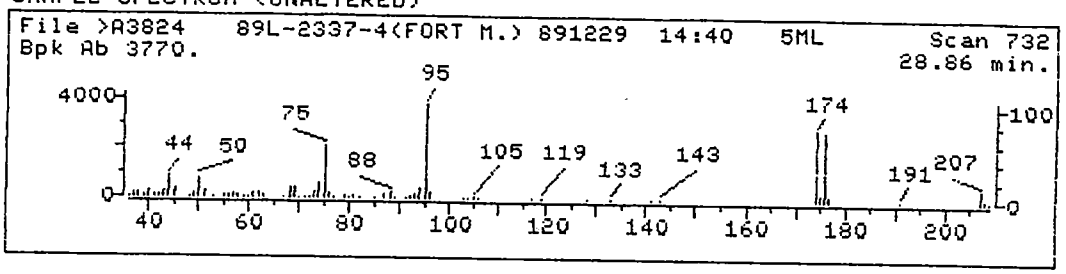
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >A3824::D4
Name: 89L-2337-4(FORT M.)
Misc: 891229 14:40 5ML
Quant Time: 891229 15:28
Injected at: 891229 14:40

Quant Output File: ^A3824::D2

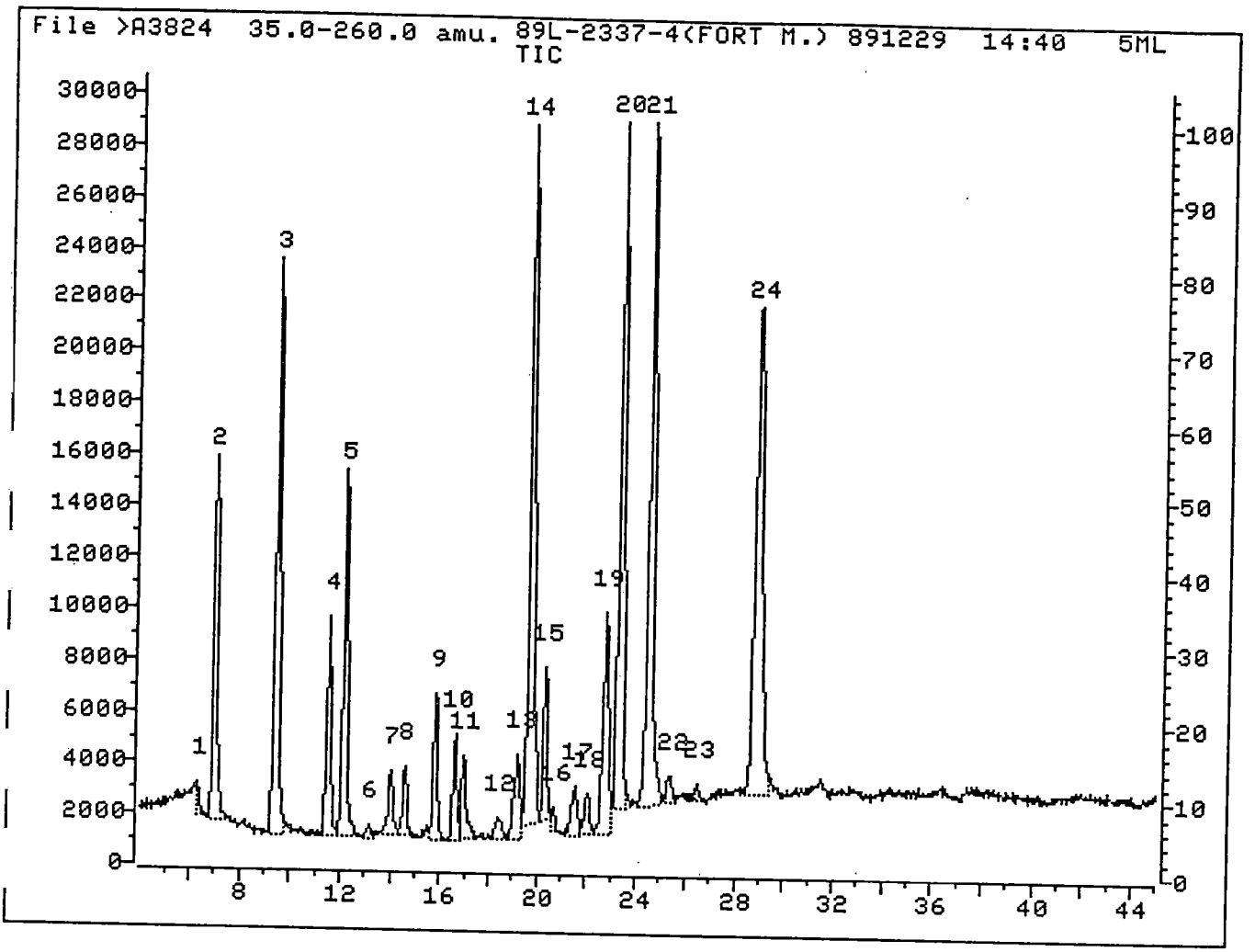
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 46
Compound Name: Bromofluorobenzene
Scan Number: 732
Retention Time: 28.86 min.
Quant Ion: 95.0
Area: 78249
Concentration: 44.83 ug/L
q-value: 95

>A3824 89L-2337-4(FORT M.) 891229 14:40 5ML
35.0| 260.0 TIC
Upslope: .15 Area Reject: 1.00 % Max Peaks: 24 Bunching: 1
Dnslope: 0.00 Results File VDIR77 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	6.33	149	151	158	1212	50420	9121 TC	2.25	.325
2	6.95	162	167	181	14217	247470	171553 K	42.27	6.114
3	9.44	224	231	240	22368	319003	272378 IS	67.12	9.707
4	11.53	279	285	295	8536	141876	96664 1	23.82	3.445
5	12.15	295	301	312	14210	214968	166932 SS	41.13	5.949
6	13.16	321	327	331	492	32661	6203 ⊿10%	1.53	.221
7	14.01	339	349	356	2493	85518	35683 2	8.79	1.272
8	14.59	356	364	369	2664	70596	32455 ⊿10%	8.00	1.157
9	15.79	390	395	403	5666	98678	66119 3	16.29	2.356
10	16.61	408	416	421	4124	81969	49231 4	12.13	1.754
11	16.95	421	425	440	3178	99687	44537 5	10.97	1.587
12	18.39	456	462	469	803	53003	16609 ⊿10%	4.09	.592
13	19.20	474	483	488	3239	93947	53757 6	13.25	1.916
14	19.67	488	495	507	27270	451452	370127 IS	91.21	13.190
15	20.33	507	512	518	5898	116664	65063 7	16.03	2.319
16	20.68	518	521	526	878	37959	8589 ⊿10%	2.12	.306
17	21.53	533	543	549	1907	84656	32544 ⊿10%	8.02	1.160
18	22.07	549	557	564	1561	75662	23536 ⊿10%	5.80	.839
19	22.77	564	575	582	8598	201289	138720 8	34.18	4.944
20	23.31	582	589	597	26684	429032	341488 SS	84.15	12.170
21	24.51	610	620	635	26539	531583	377517 VS	93.03	13.453
22	25.41	635	643	649	1009	107460	17113 ⊿10%	4.22	.610
23	26.45	669	670	675	649	44628	4338 TC	1.07	.155
24	28.90	722	733	747	18929	586042	405816 SS	100.00	14.462

Sum of corrected areas: 2806093.


File >A3824 35.0-260.0 amu. 89L-2337-4(FORT M.) 891229 14:40 5ML
TIC
30000
28000
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22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
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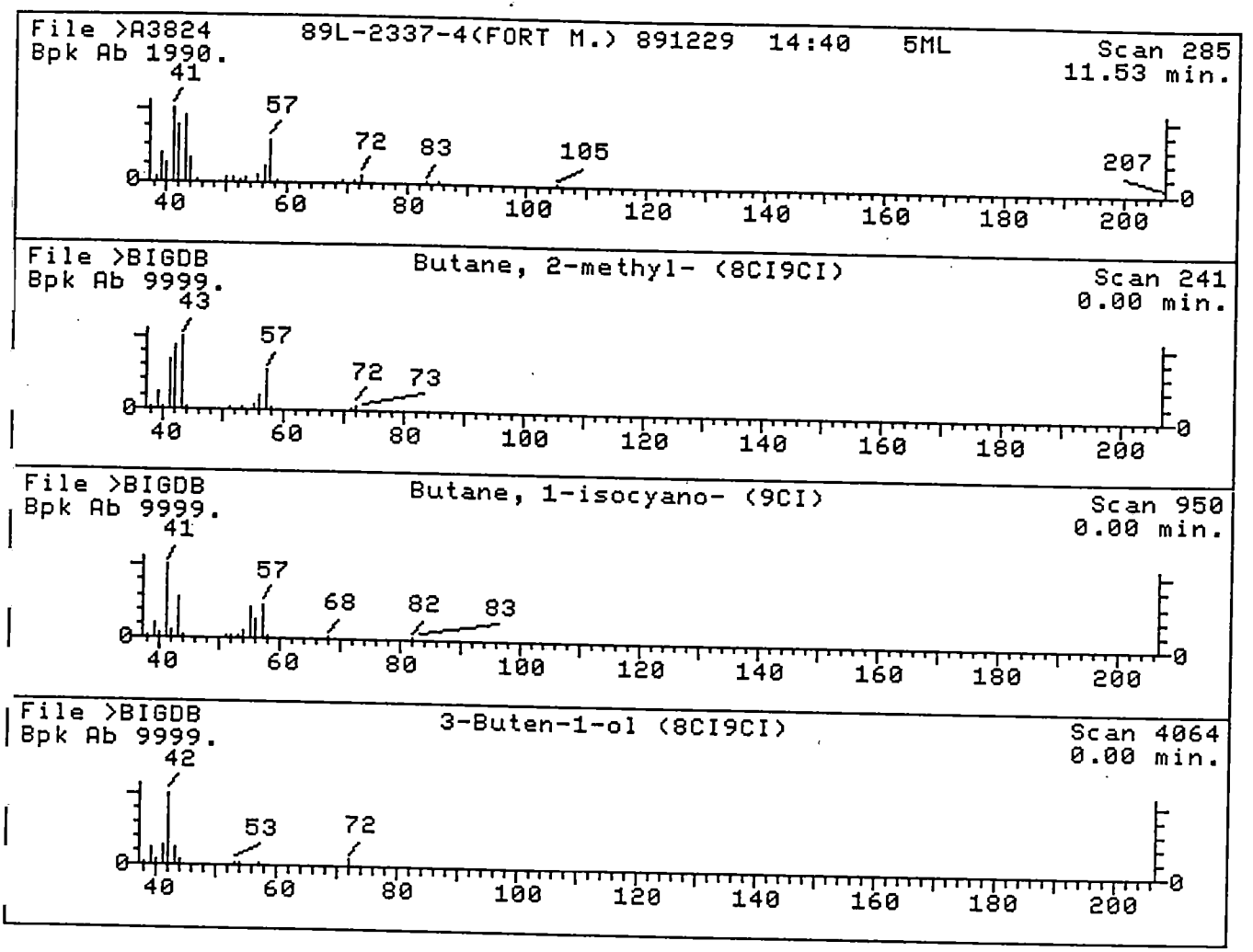
23
24

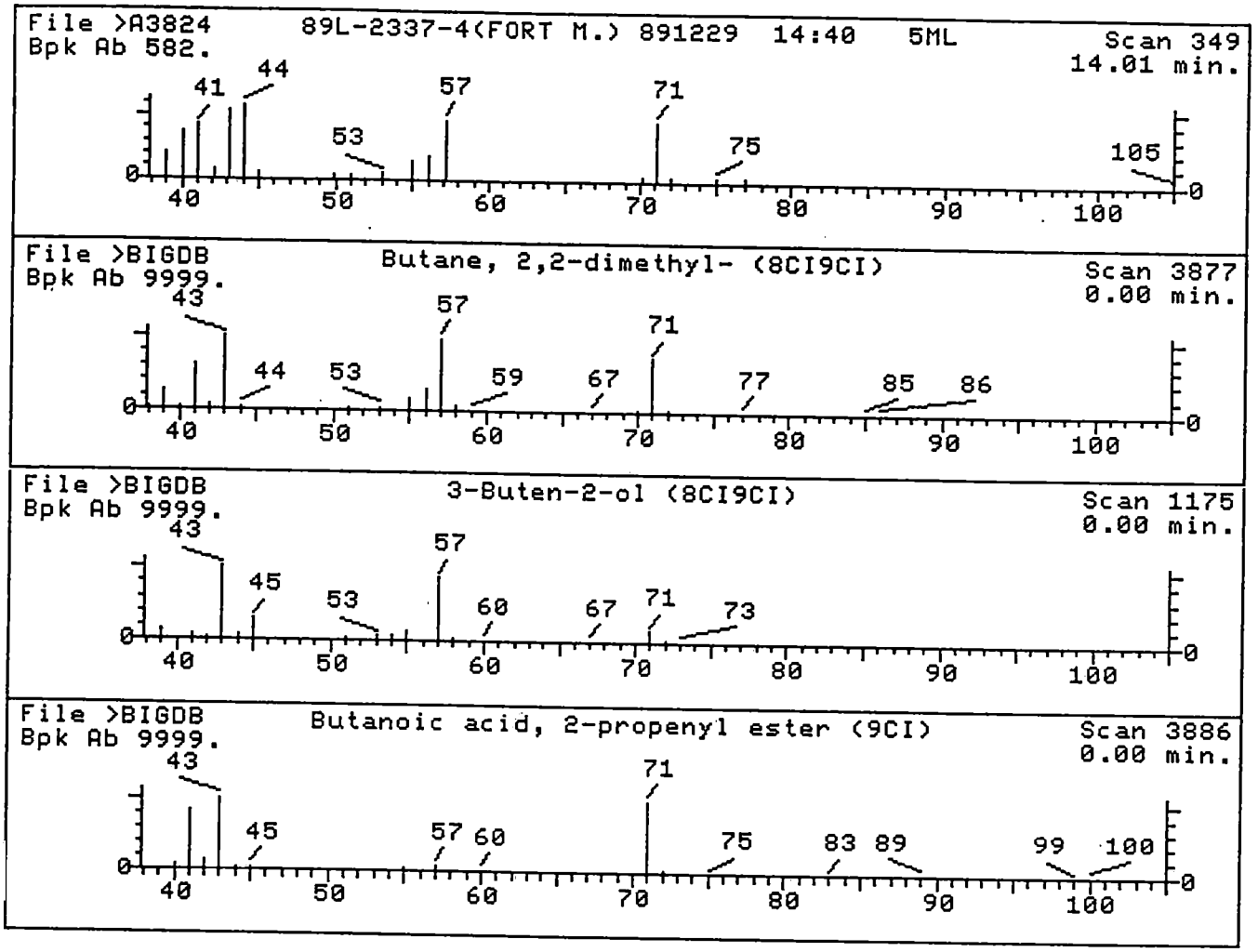


1. Butane, 2-methyl- (8CI9CI) — 72 C5H12
2. Butane, 1-isocyano- (9CI) — 83 C5H9N
3. 3-Buten-1-ol (8CI9CI) — 72 C4H8O
4. Cyclopropane (DOT)(8CI9CI) — 42 C3H6

Sample file: >A3824 Spectrum #: 285
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	70*	78784	241	"BIGDB	47	39	0	0	88	18	32	56
2.	15*	2769644	950	"BIGDB	23	61	2	0	87	60	3	13
3.	11*	627270	4064	"BIGDB	28	54	1	0	76	63	2	15
4.	11*	75194	216	"BIGDB	22	68	1	0	73	62	2	14

CORRECTED TOTAL ION AREA OF UNKNOWN= 96664.00
CORRECTED TOTAL ION AREA OF INTERNAL= 272378.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 1.000
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 18.00

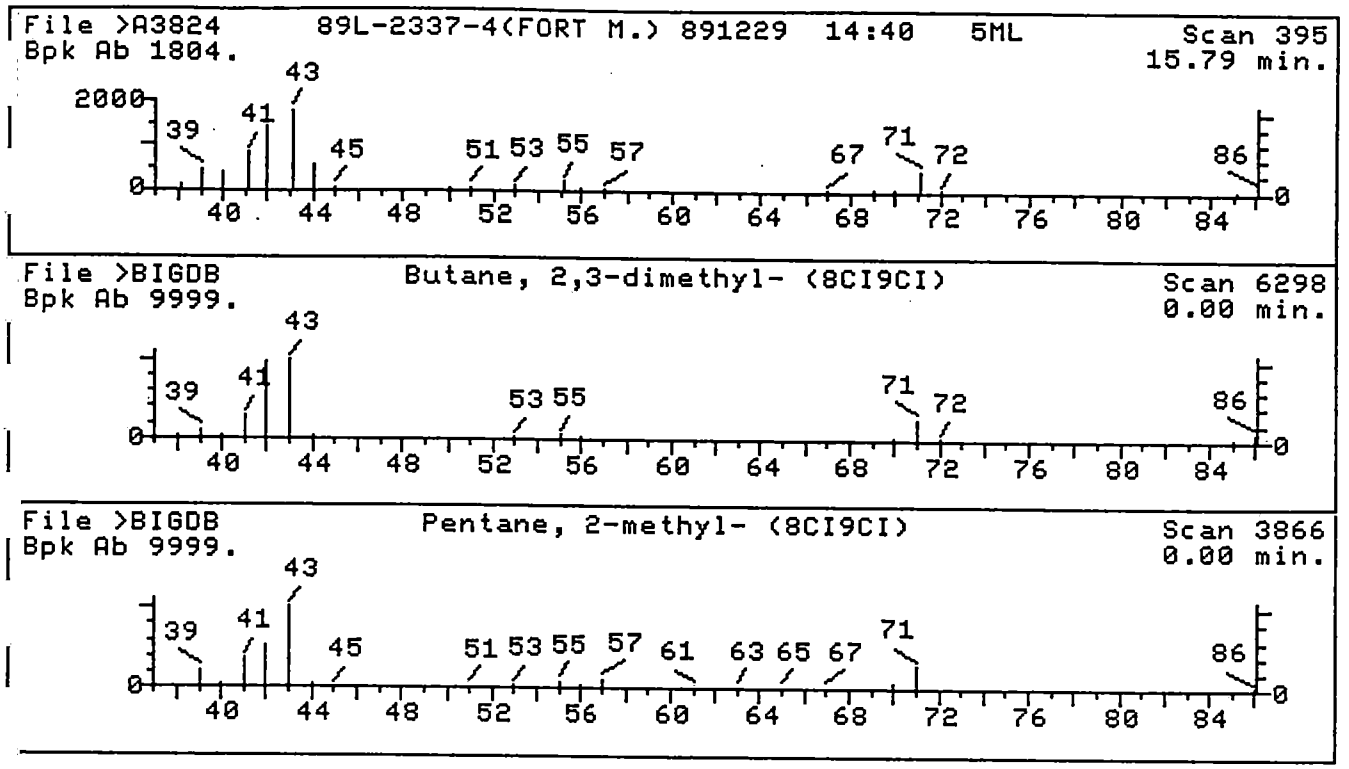


1.	Butane, 2,2-dimethyl- (8CI9CI)	86 C6H14
2.	3-Buten-2-ol (8CI9CI)	72 C4H8O
3.	Butanoic acid, 2-propenyl ester (9CI)	128 C7H12O2
4.	2-Propenamide (9CI)	71 C3H5NO

Sample file: >A3824 Spectrum #: 349
Search speed: 1 Tilting option: S No. of ion ranges searched: 57

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	36	75832	3877	"BIGDB	51	41	1	0	82	31	12	19
2.	20*	598323	1175	"BIGDB	22	63	2	0	92	54	5	13
3.	15	2051787	3886	"BIGDB	39	47	2	0	78	56	3	13
4.	15*	79061	3865	"BIGDB	26	72	3	0	111	58	3	13

CORRECTED TOTAL ION AREA OF UNKNOWN= 35683.00
CORRECTED TOTAL ION AREA OF INTERNAL= 272378.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 1.000
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 6.60

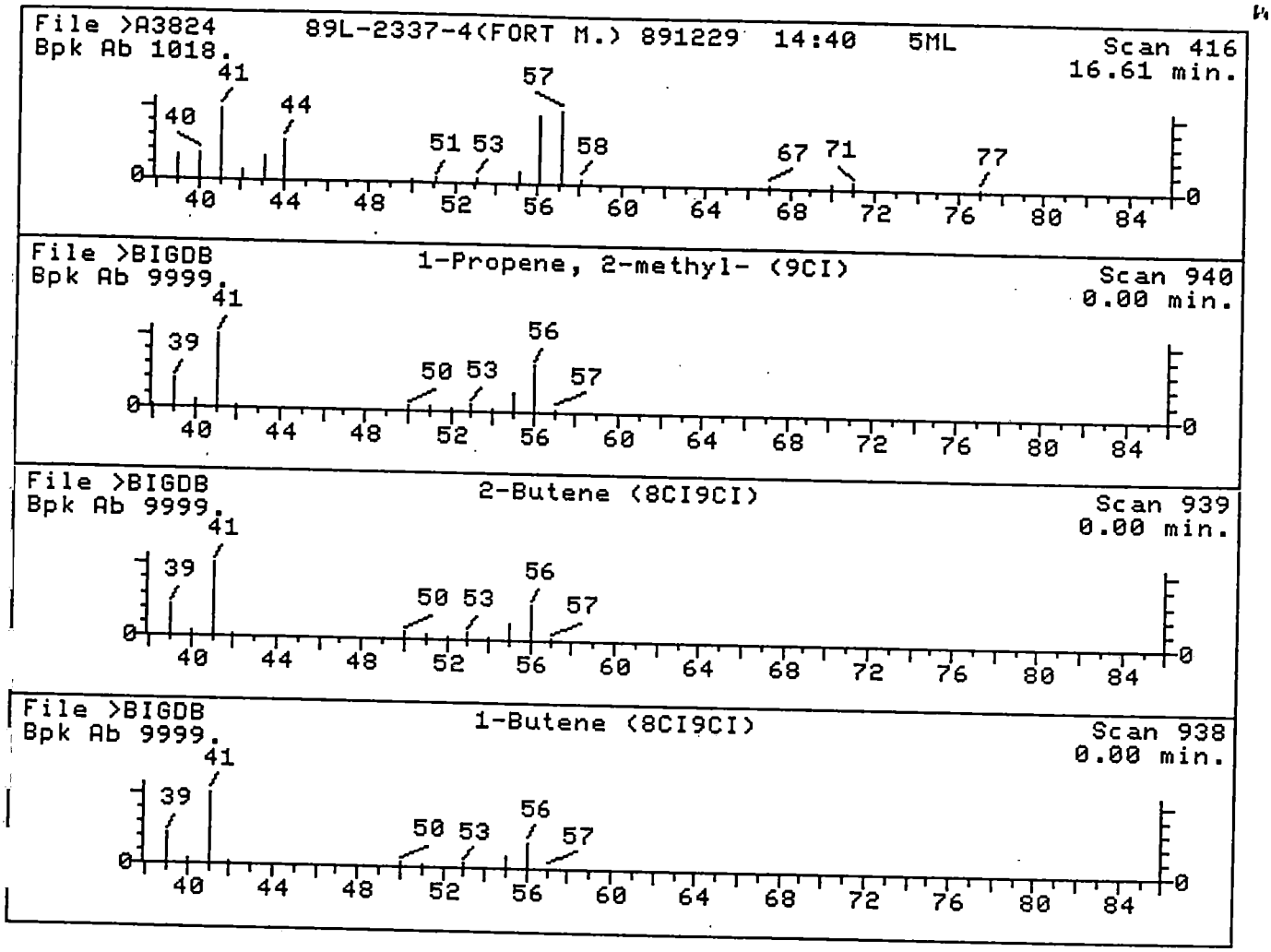


1. Butane, 2,3-dimethyl- (8CI9CI) 86 C6H14
2. Pentane, 2-methyl- (8CI9CI) 86 C6H14

Sample file: >A3824 Spectrum #: 395
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	31*	79298	6298	"BIGDB	24	58	0	0	63	38	10	17
2.	27*	107835	3866	"BIGDB	22	64	2	0	86	38	10	13

CORRECTED TOTAL ION AREA OF UNKNOWN= 66119.00
CORRECTED TOTAL ION AREA OF INTERNAL= 370127.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 1.000
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 8.90

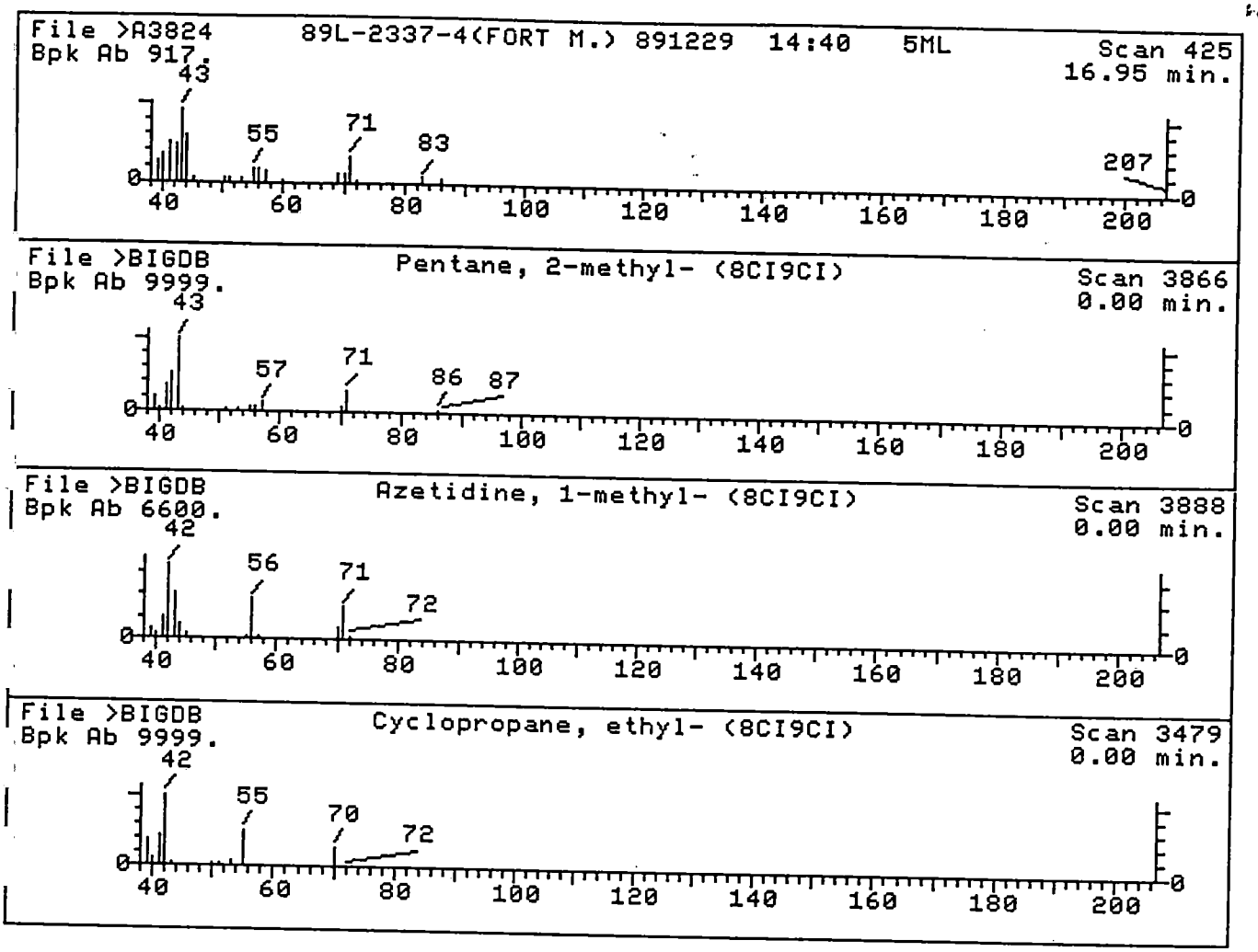


1.	1-Propene, 2-methyl- (9CI)	56 C4H8
2.	2-Butene (8CI9CI)	56 C4H8
3.	1-Butene (8CI9CI)	56 C4H8
4.	Oxirane, (1-methylethyl)- (9CI)	86 C5H10O
5.	Cyclobutane (8CI9CI)	56 C4H8

Sample file: >A3824 Spectrum #: 416
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	26*	115117	940	"BIGDB	24	49	2	0	67	41	8	14
2.	26*	107017	939	"BIGDB	27	54	2	0	70	45	8	14
3.	25*	106989	938	"BIGDB	22	57	2	0	71	45	8	13
4.	20*	1438148	969	"BIGDB	23	53	2	0	91	51	5	13
5.	20*	287230	941	"BIGDB	23	56	2	0	82	53	5	13

CORRECTED TOTAL ION AREA OF UNKNOWN= 49231.00
CORRECTED TOTAL ION AREA OF INTERNAL= 370127.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 1.000
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 6.70

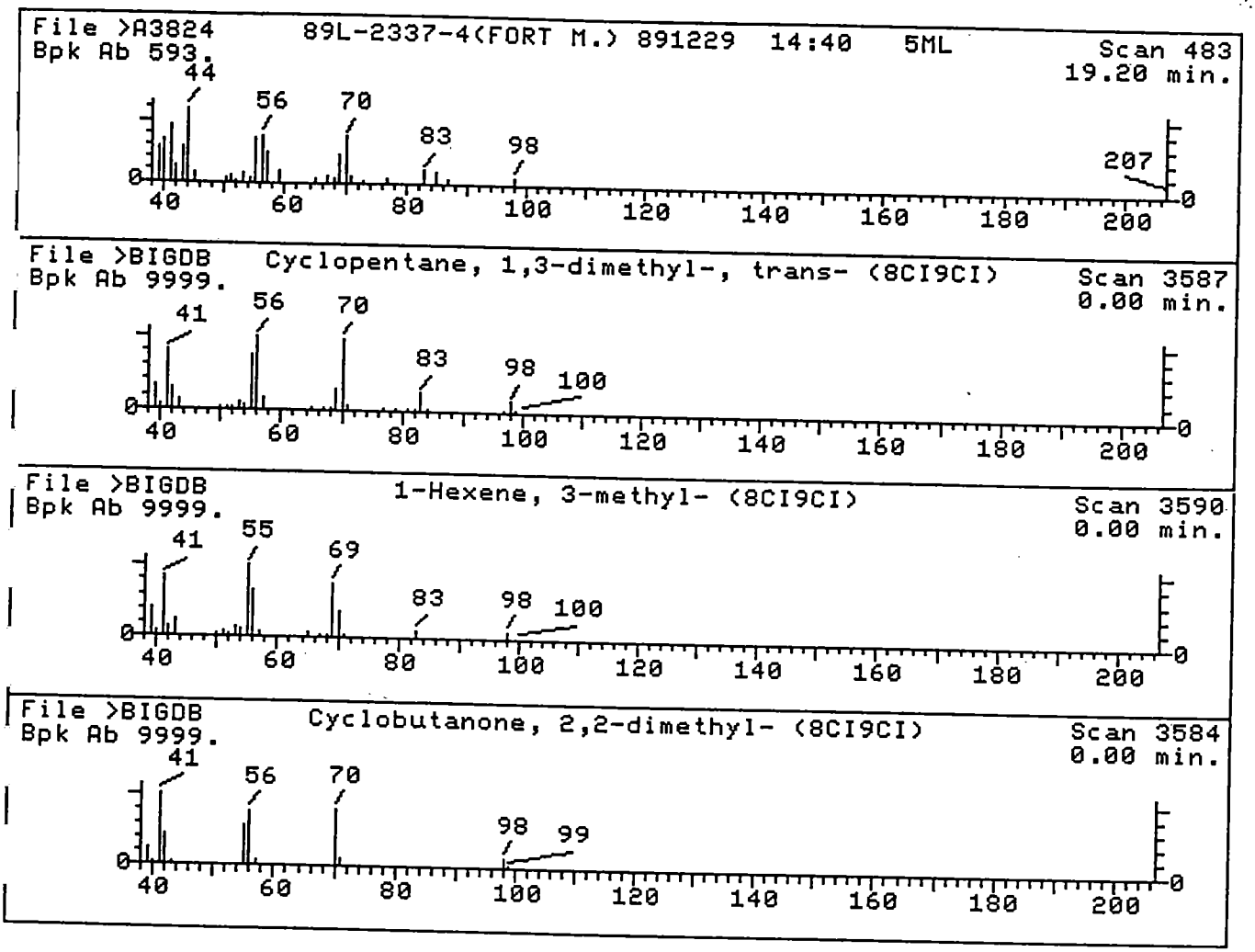


1. Pentane, 2-methyl- (8CI9CI) 86 C6H14
2. Azetidine, 1-methyl- (8CI9CI) 71 C4H9N
3. Cyclopropane, ethyl- (8CI9CI) 70 C5H10

Sample file: >A3824 Spectrum #: 425
Search speed: 1 Tilting option: S No. of ion ranges searched: 57

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	35*	107835	3866	"BIGDB	36	50	0	0	94	47	11	39
2.	26*	4923799	3888	"BIGDB	24	77	1	0	53	44	8	14
3.	11*	1191964	3479	"BIGDB	27	44	1	0	37	64	2	15

CORRECTED TOTAL ION AREA OF UNKNOWN= 44537.00
CORRECTED TOTAL ION AREA OF INTERNAL= 370127.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 1.000
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 6.00

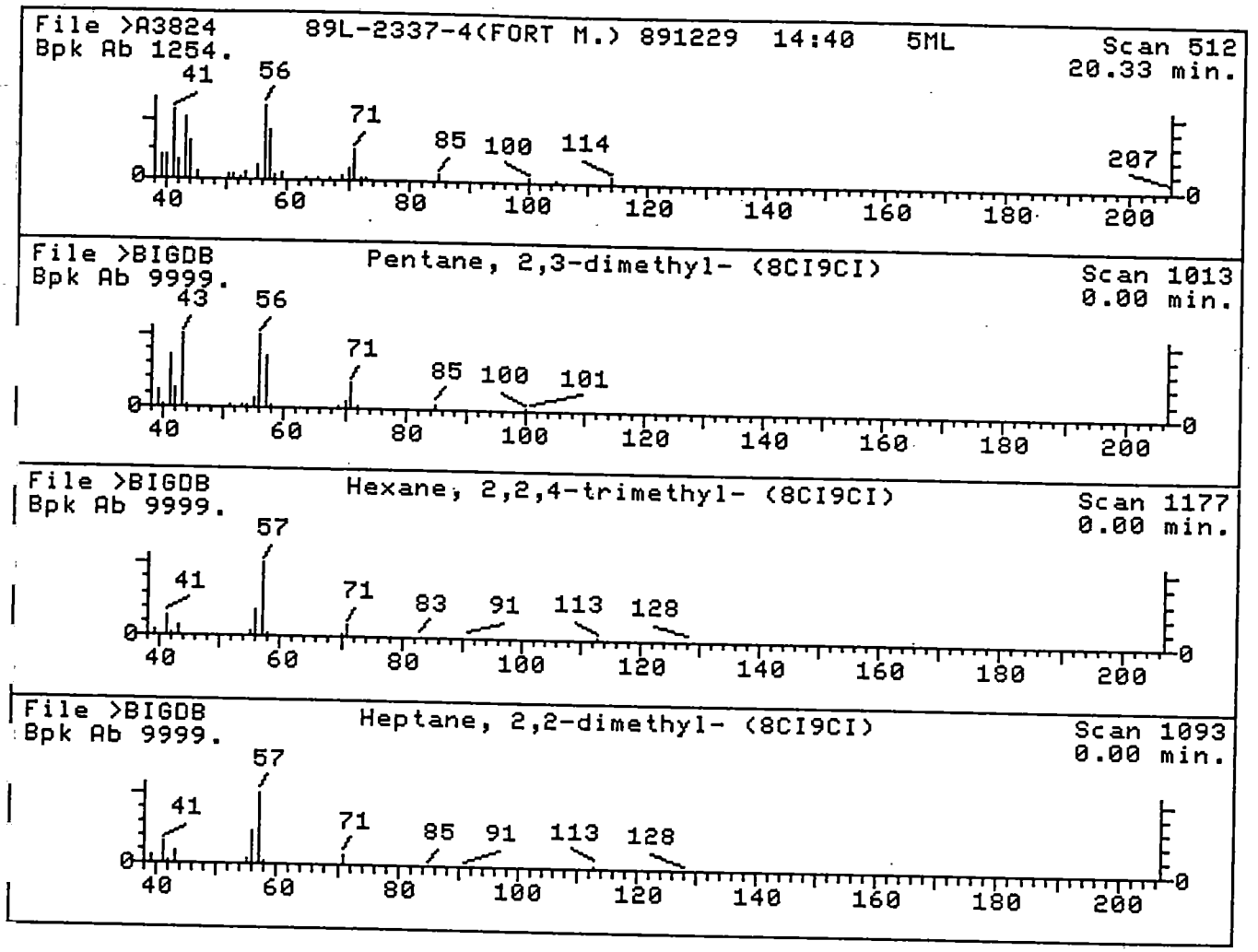


1. Cyclopentane, 1,3-dimethyl-, trans- (8CI9CI)	98	C7H14
2. 1-Hexene, 3-methyl- (8CI9CI)	98	C7H14
3. Cyclobutanone, 2,2-dimethyl- (8CI9CI)	98	C6H10O
4. Cyclopropane, butyl- (9CI)	98	C7H14
5. Butanamide (9CI)	87	C4H9NO

Sample file: >A3824 Spectrum #: 483
Search speed: 1 Tilting option: S No. of ion ranges searched: 57

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	29*	1759586	3587	"BIGDB	56	46	3	2	69	40	10	15
2.	15*	3404613	3590	"BIGDB	39	68	1	2	58	59	3	14
3.	11*	1192149	3584	"BIGDB	36	49	1	0	52	64	2	19
4.	11*	930574	3583	"BIGDB	32	76	1	0	58	62	2	17
5.	11*	541355	1602	"BIGDB	23	71	3	0	106	65	2	12

CORRECTED TOTAL ION AREA OF UNKNOWN= 53757.00
CORRECTED TOTAL ION AREA OF INTERNAL= 370127.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 1.000
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 7.30

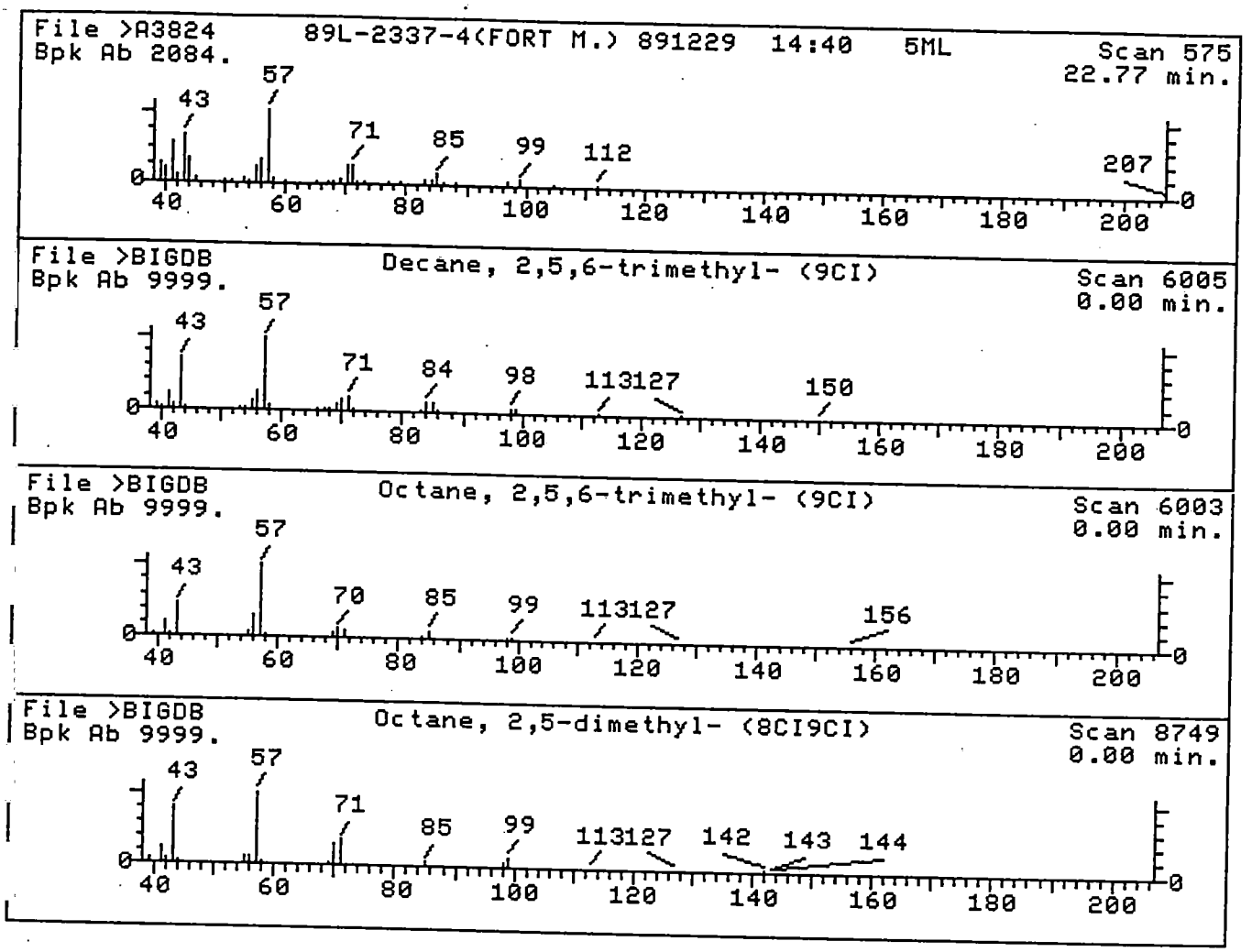


1.	Pentane, 2,3-dimethyl- (8CI9CI)	100	C7H16
2.	Hexane, 2,2,4-trimethyl- (8CI9CI)	128	C9H20
3.	Heptane, 2,2-dimethyl- (8CI9CI)	128	C9H20
4.	Aziridine, 2-ethyl- (8CI9CI)	71	C4H9N
5.	Oxetane, 2,3,4-trimethyl-, (2.alpha.,3.alpha.,4.beta.)- (9CI)	100	C6H12O

Sample file: >A3824 Spectrum #: 512
Search speed: 1 Tilting option: S No. of ion ranges searched: 57

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	71*	565593	1013	"BIGDB	59	36	0	0	81	31	32	72
2.	29	16747265	1177	"BIGDB	37	40	2	0	259	34	12	12
3.	26	1071267	1093	"BIGDB	36	43	2	0	219	38	10	12
4.	25*	2549679	3510	"BIGDB	20	78	2	0	68	45	8	13
5.	20*	32347129	957	"BIGDB	24	53	0	0	100	54	5	17

CORRECTED TOTAL ION AREA OF UNKNOWN= 65063.00
CORRECTED TOTAL ION AREA OF INTERNAL= 370127.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 1.000
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 8.80



1. Decane, 2,5,6-trimethyl- (9CI) 184 C13H28
2. Octane, 2,5,6-trimethyl- (9CI) 156 C11H24
3. Octane, 2,5-dimethyl- (8CI9CI) 142 C10H22
4. 3-Hexanone, 2,4-dimethyl- (8CI9CI) 128 C8H16O
5. Methanamine, N-pentylidene- (9CI) 99 C6H13N

Sample file: >A3824 Spectrum #: 575
Search speed: 1 Tilting option: S No. of ion ranges searched: 57

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	51	62108230	6005	"BIGDB	65	36	2	0	92	23	22	23
2.	37	62016142	6003	"BIGDB	43	44	2	0	100	28	14	14
3.	35	15869893	8749	"BIGDB	43	49	2	0	70	28	14	12
4.	32	18641708	6120	"BIGDB	52	33	2	0	85	38	10	18
5.	28*	10599754	3487	"BIGDB	26	49	2	0	115	38	10	14

CORRECTED TOTAL ION AREA OF UNKNOWN= 138720.0
CORRECTED TOTAL ION AREA OF INTERNAL= 377517.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 1.000
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 18.00

89L-2337-5 Sample Data Package

QUANT REPORT

Operator ID: RICK
Output File: ^A3825::D4
Data File: >A3825::D4
Name: 89L-2337-5(FORT M.)
Misc: 891229 15:32 5ML

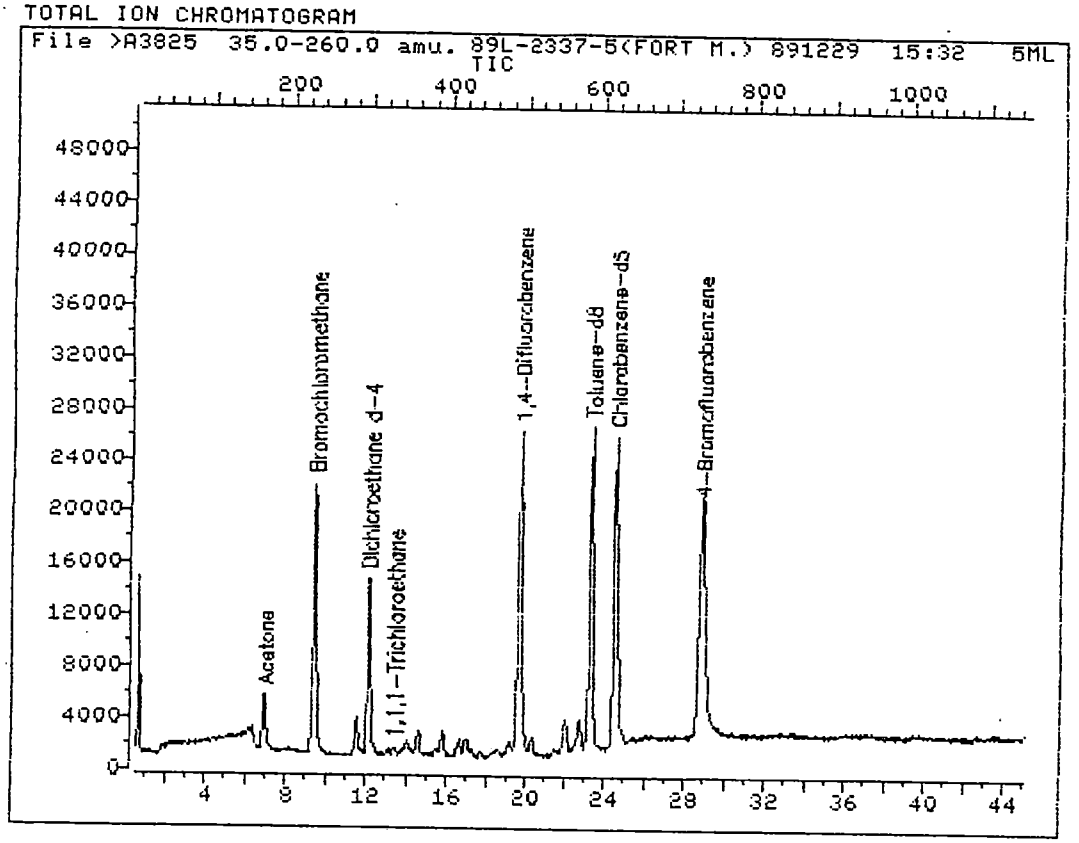
Quant Rev: 6 Quant Time: 900102 11:40
Injected at: 891229 15:31
Dilution Factor: 1.00000

ID File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.42	231	35786	50.00	ug/L	93
9)	Acetone	6.98	168	36404	91.00	ug/L	76
16)	1,2-Dichloroethane-d4	12.14	301	66971	39.85	ug/L	91
20)	1,1,1-Trichloroethane	13.42	334	2880	1.36	ug/L	79
24)	*1,4-Difluorobenzene	19.66	495	126521	50.00	ug/L	69
34)	*Chlorobenzene-d5	24.50	620	97524	50.00	ug/L	94
40)	Toluene-d8	23.30	589	111561	51.14	ug/L	93
46)	Bromofluorobenzene	28.85	732	74390	46.06	ug/L	93

* Compound is ISTD

TOTAL ION CHROMATOGRAM



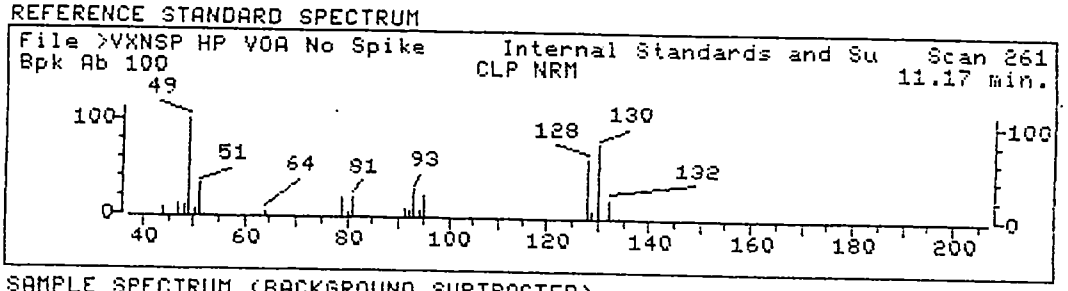
Data File: >A3825::D4
Name: 89L-2337-5(FORT M.)
Misc: 891229 15:32 5ML

Quant Output File: ^A3825::D4

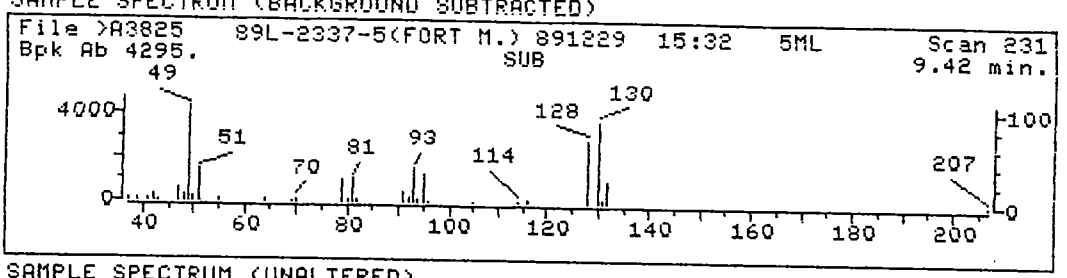
Id File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

Operator ID: RICK
Quant Time: 900102 11:40
Injected at: 891229 15:31

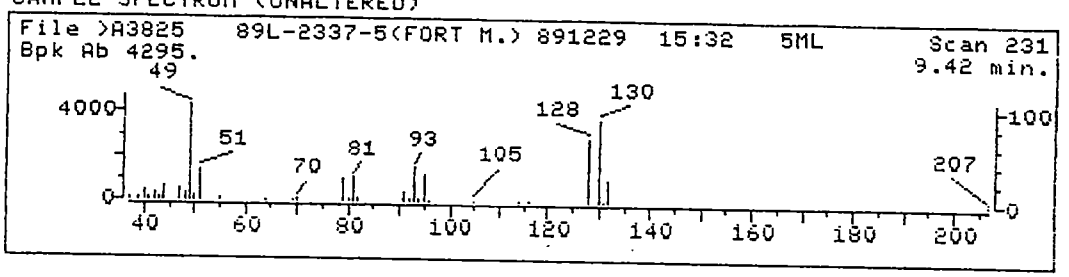
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



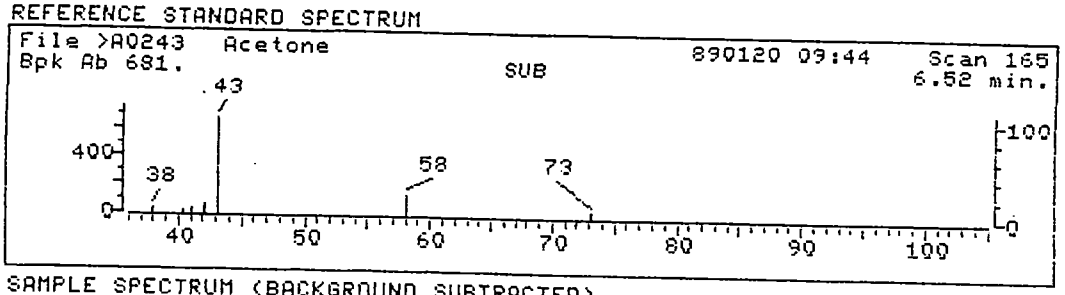
Data File: >A3825::D4
Name: 89L-2337-5(FORT M.)
Misc: 891229 15:32 5ML
Quant Time: 900102 11:40
Injected at: 891229 15:31

Quant Output File: ^A3825::D4

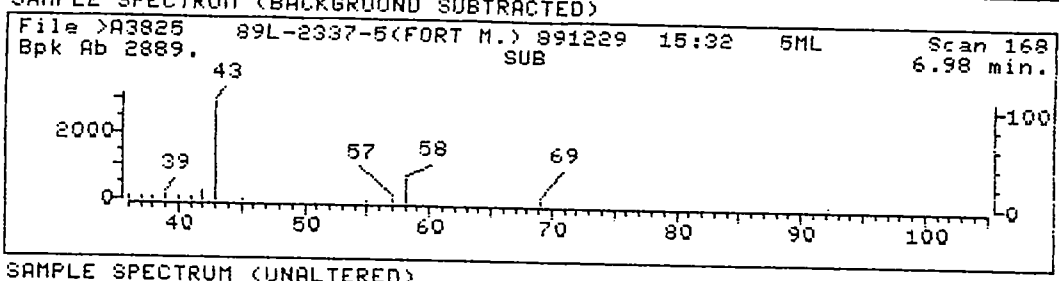
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 231
Retention Time: 9.42 min.
Quant Ion: 128.0
Area: 35786
Concentration: 50.00 ug/L
q-value: 93

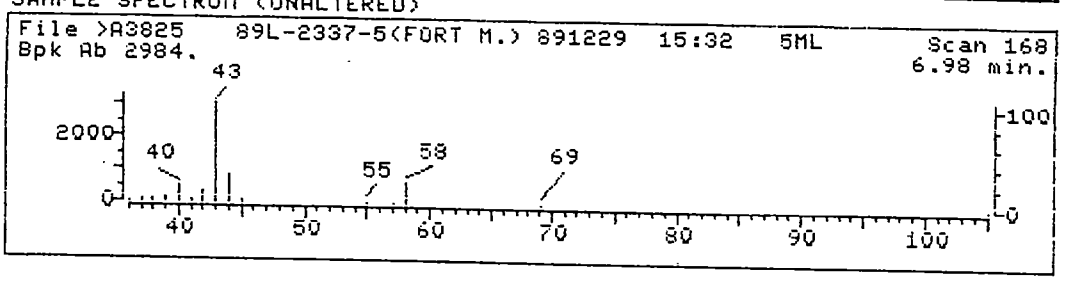
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



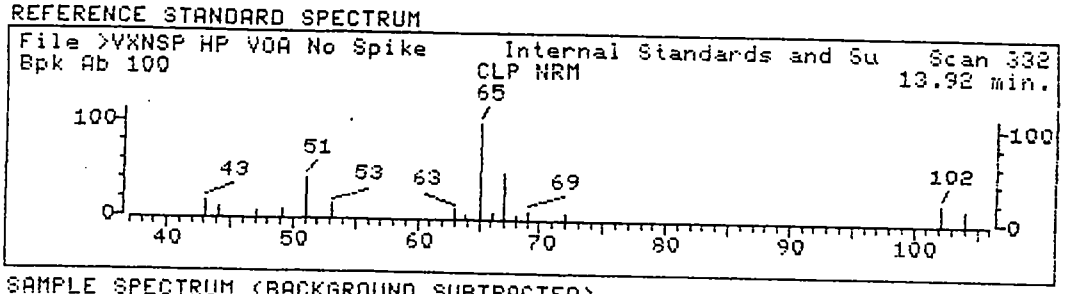
Data File: >A3825::D4
Name: 89L-2337-5(FORT M.)
Misc: 891229 15:32 5ML
Quant Time: 900102 11:40
Injected at: 891229 15:31

Quant Output File: ^A3825::D4

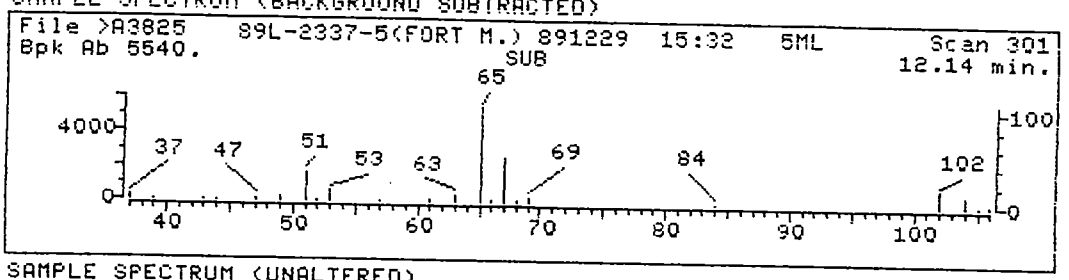
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 9
Compound Name: Acetone
Scan Number: 168
Retention Time: 6.98 min.
Quant Ion: 43.0
Area: 36404
Concentration: 91.00 ug/L
q-value: 76

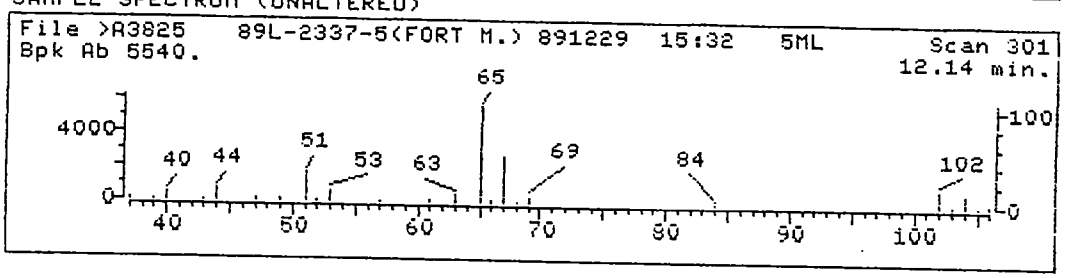
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



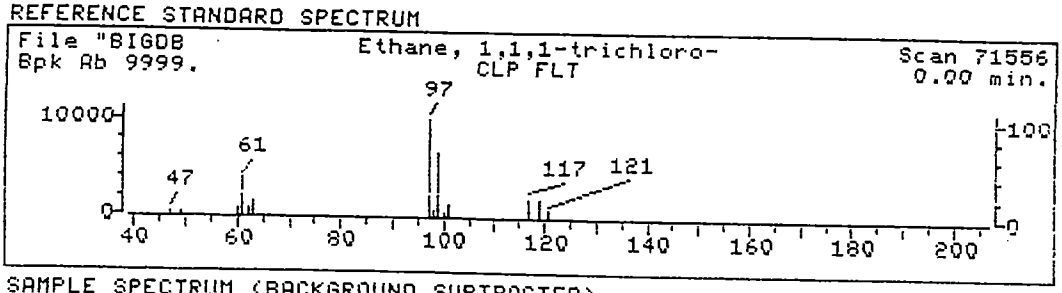
Data File: >A3825::D4
Name: 89L-2337-5(FORT M.)
Misc: 891229 15:32 5ML
Quant Time: 900102 11:40
Injected at: 891229 15:31

Quant Output File: ^A3825::D4

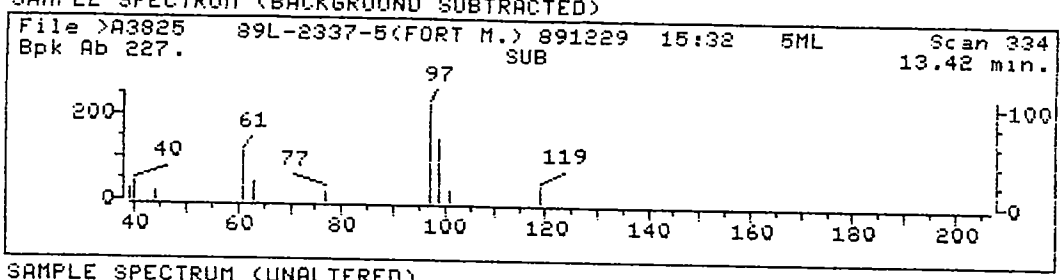
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 16
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 301
Retention Time: 12.14 min.
Quant Ion: 65.0
Area: 66971
Concentration: 39.85 ug/L
q-value: 91

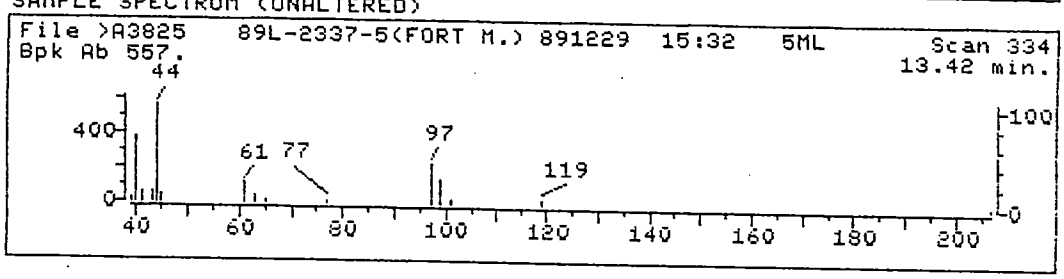
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



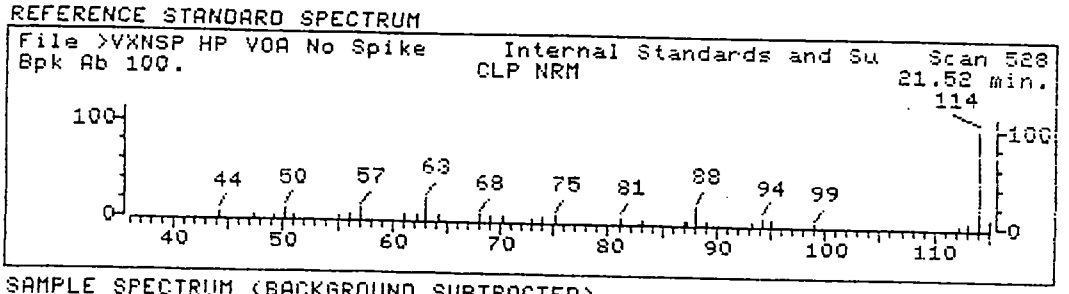
Data File: >A3825::D4
Name: 89L-2337-5(FORT M.)
Misc: 891229 15:32 5ML
Quant Time: 900102 11:40
Injected at: 891229 15:31

Quant Output File: ^A3825::D4

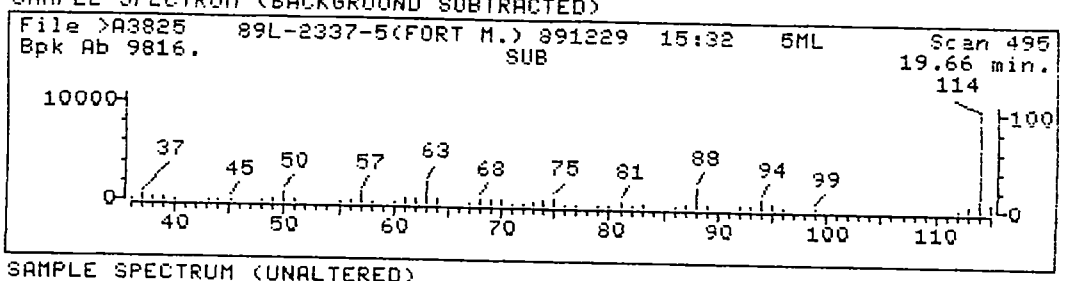
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 20
Compound Name: 1,1,1-Trichloroethane
Scan Number: 334
Retention Time: 13.42 min.
Quant Ion: 97.0
Area: 2880
Concentration: 1.36 ug/L
q-value: 79

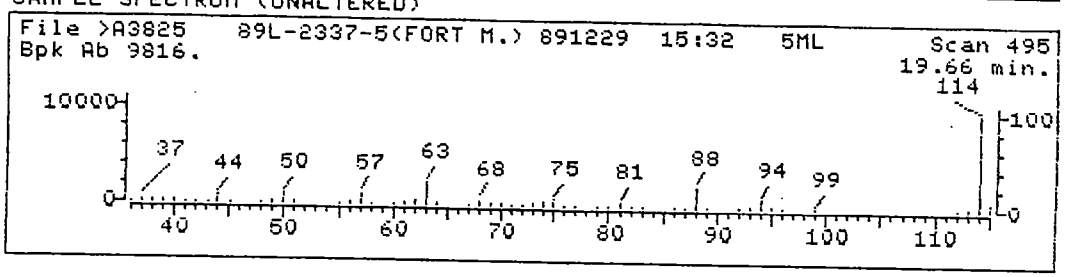
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



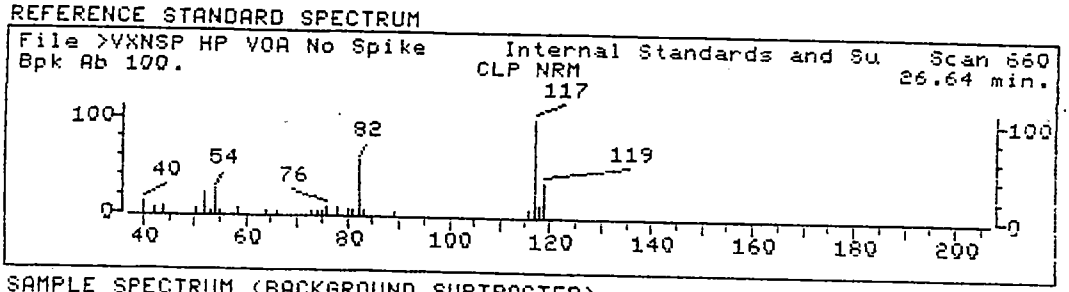
Data File: >A3825::D4
Name: 89L-2337-5(FORT M.)
Misc: 891229 15:32 5ML
Quant Time: 900102 11:40
Injected at: 891229 15:31

Quant Output File: ^A3825::D4

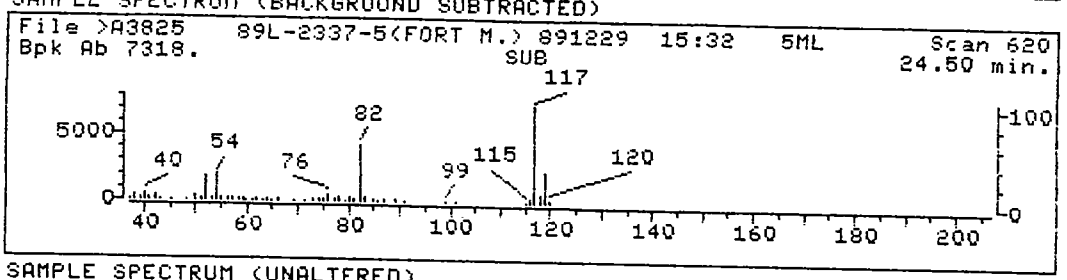
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 24 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 495
Retention Time: 19.66 min.
Quant Ion: 114.0
Area: 126521
Concentration: 50.00 ug/L
q-value: 69

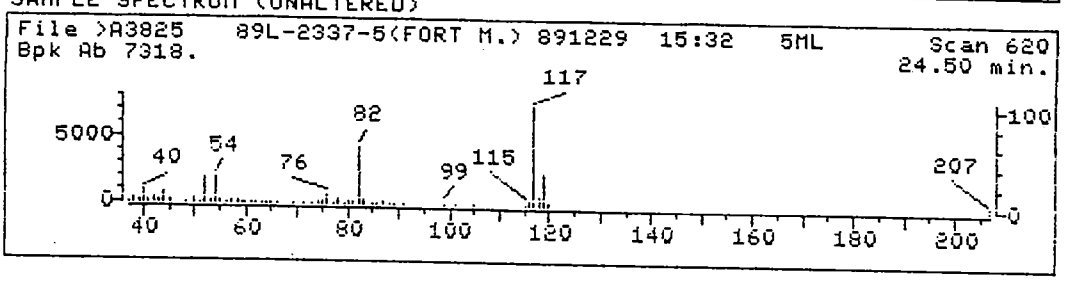
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



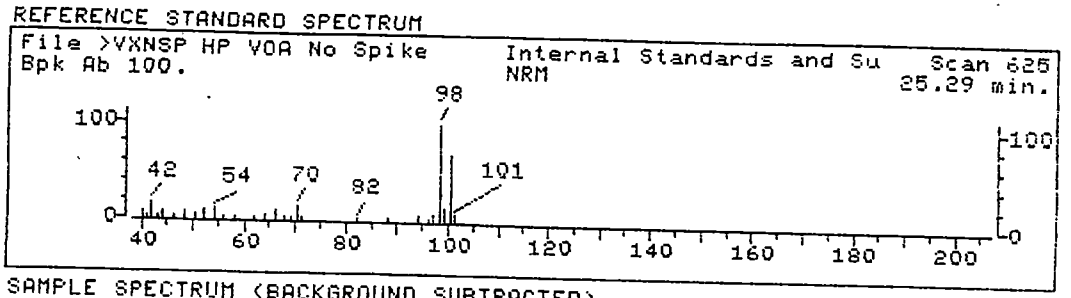
Data File: >A3825::D4
Name: 89L-2337-5(FORT M.)
Misc: 891229 15:32 5ML
Quant Time: 900102 11:40
Injected at: 891229 15:31

Quant Output File: ^A3825::D4

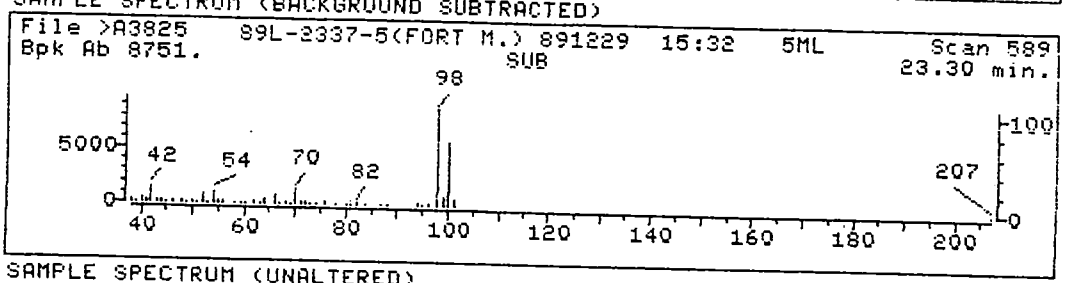
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 34 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 620
Retention Time: 24.50 min.
Quant Ion: 117.0
Area: 97524
Concentration: 50.00 ug/L
q-value: 94

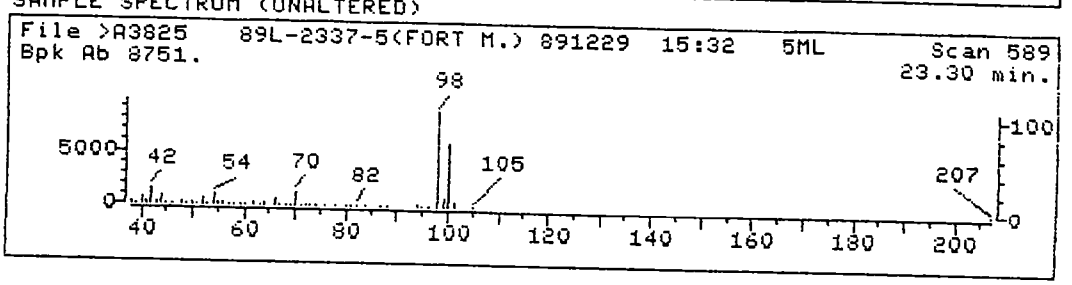
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



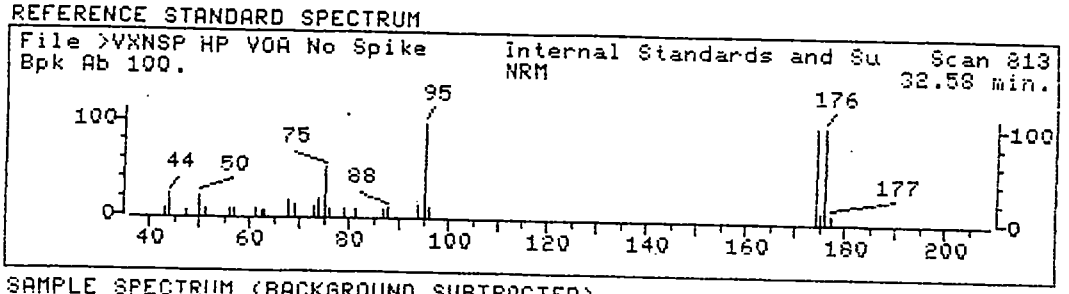
Data File: >A3825::D4
Name: 89L-2337-5(FORT M.)
Misc: 891229 15:32 5ML
Quant Time: 900102 11:40
Injected at: 891229 15:31

Quant Output File: ^A3825::D4

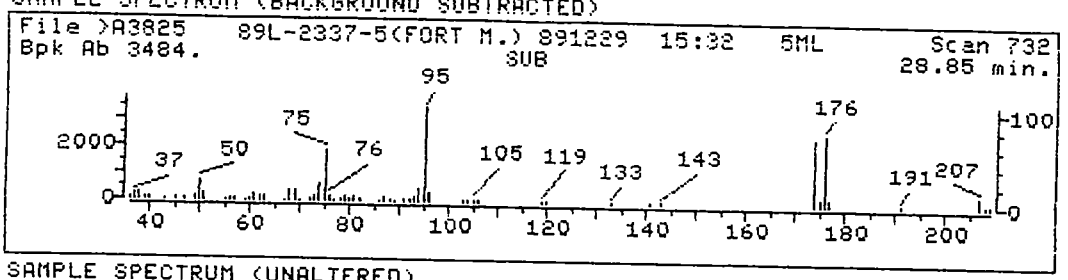
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 40
Compound Name: Toluene-d8
Scan Number: 589
Retention Time: 23.30 min.
Quant Ion: 98.0
Area: 111561
Concentration: 51.14 ug/L
q-value: 93

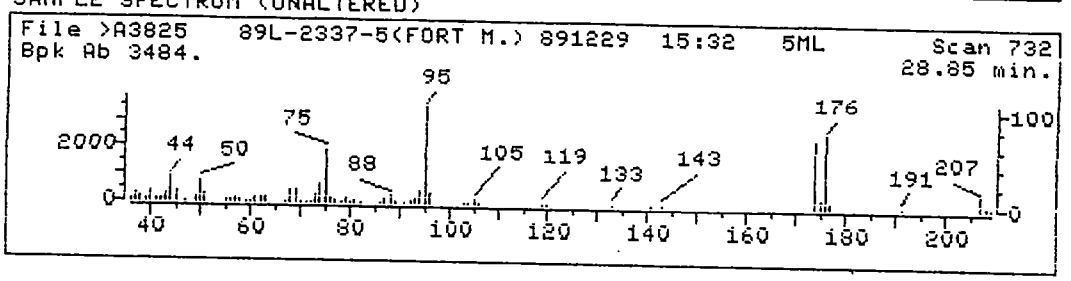
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >A3825::D4
Name: 89L-2337-5(FORT M.)
Misc: 891229 15:32 5ML
Quant Time: 900102 11:40
Injected at: 891229 15:31

Quant Output File: ^A3825::D4

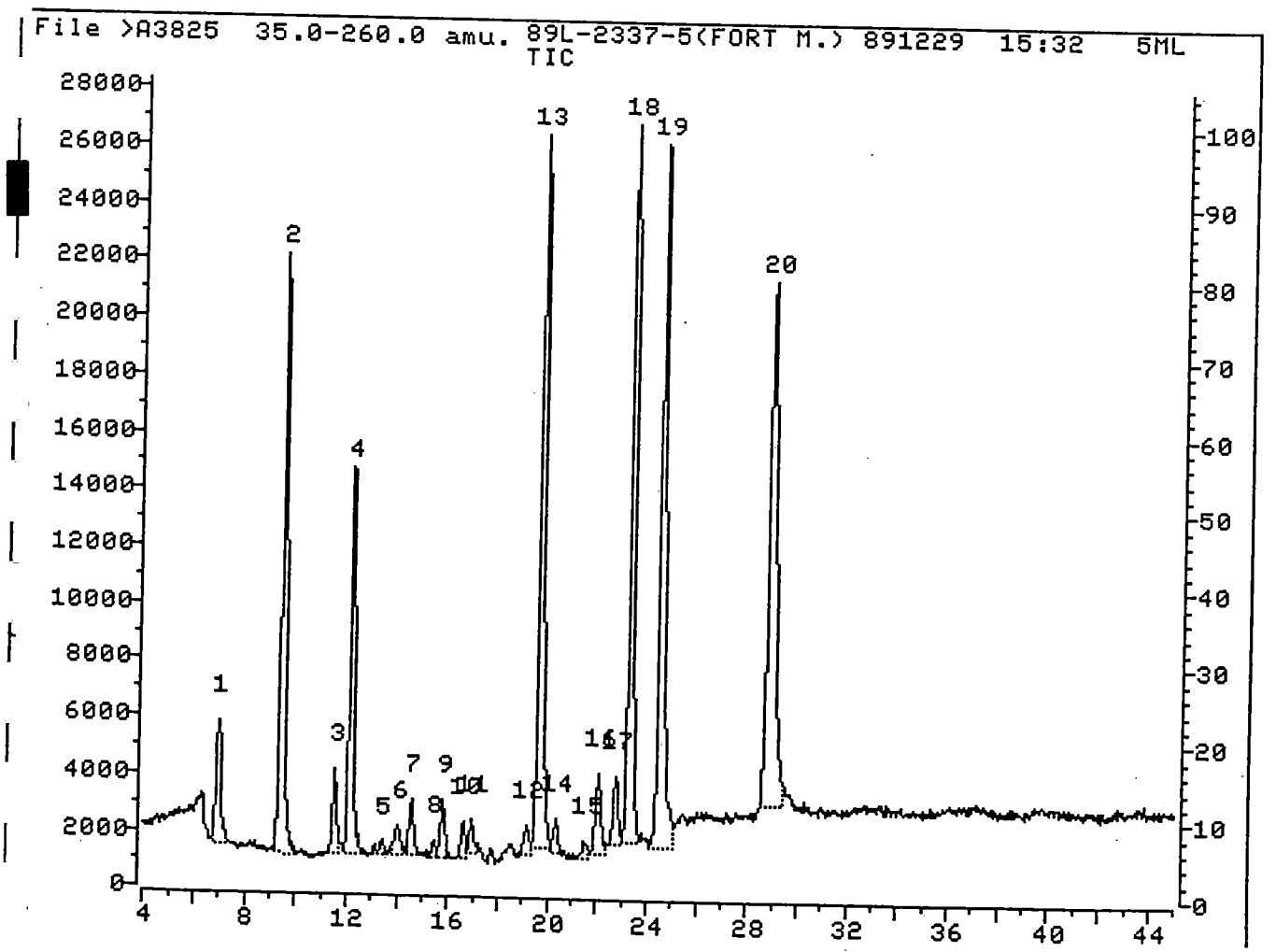
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

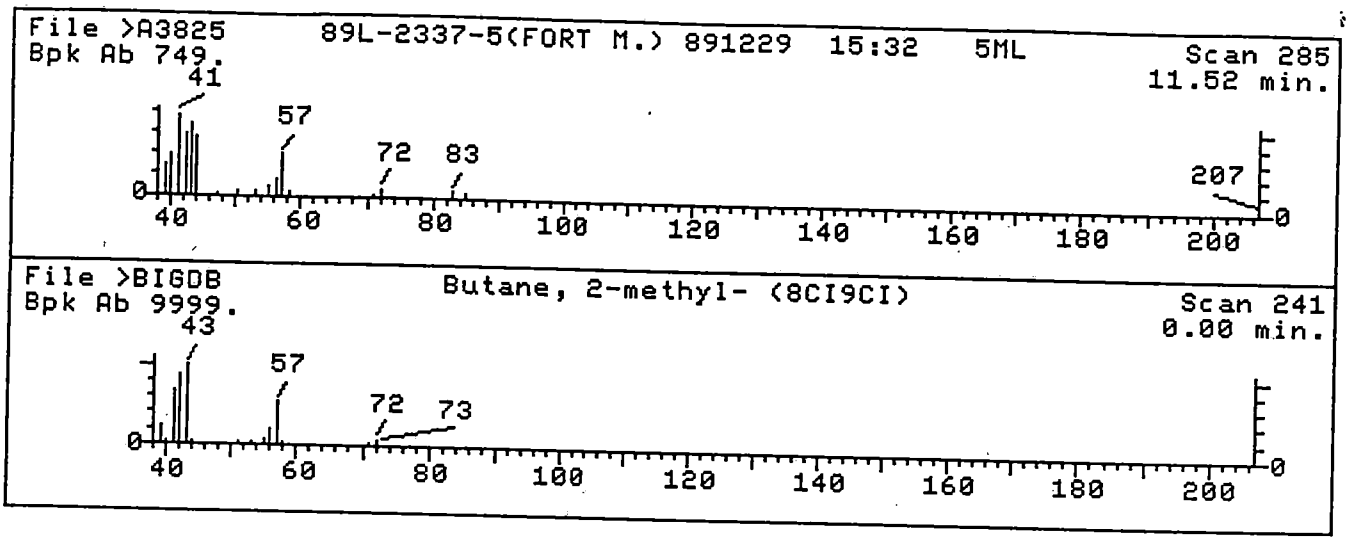
Compound No: 46
Compound Name: Bromofluorobenzene
Scan Number: 732
Retention Time: 28.85 min.
Quant Ion: 95.0
Area: 74390
Concentration: 46.06 ug/L
q-value: 93

>A3825 89L-2337-5(FORT M.) 891229 15:32 5ML
35.0| 260.0 TIC
Upslope: .20 Area Reject: 1.00 % Max Peaks: 20 Bunching: 1
Dnslope: 0.00 Results File VDIR82 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	6.94	162	167	181	4349	122552	55791 TC	14.55	2.641
2	9.42	225	231	244	21045	310688	256009 IS	66.78	12.119
3	11.52	280	285	290	2946	62427	33126 I	8.64	1.568
4	12.14	296	301	314	13524	218922	166337 SS	43.39	7.874
5	13.42	330	334	340	507	34748	5801 TC	1.51	.275
6	14.04	345	350	359	967	58415	15216 <10%	3.97	.720
7	14.58	359	364	370	1909	55825	21870 <10%	5.70	1.035
8	15.47	381	387	390	602	31721	7234 <10%	1.89	.342
9	15.78	391	395	401	2005	51388	22741 <10%	5.93	1.077
10	16.63	410	417	421	1309	46015	15983 <10%	4.17	.757
11	16.94	421	425	432	1130	49566	13712 <10%	3.58	.649
12	19.15	477	482	486	989	42642	13062 <10%	3.41	.618
13	19.66	487	495	508	24847	401403	321792 IS	83.93	15.233
14	20.32	508	512	517	1260	44310	14688 <10%	3.83	.695
15	21.52	537	543	547	610	37960	8677 <10%	2.26	.411
16	22.06	549	557	564	2783	90721	39359 2	10.27	1.863
17	22.76	569	575	582	2330	87590	33433 <10%	8.72	1.583
18	23.30	582	589	600	25037	401650	321482 SS	83.85	15.218
19	24.50	610	620	635	24532	462339	362793 IS	94.63	17.174
20	28.89	723	733	746	18283	556532	383387 SS	100.00	18.149

Sum of corrected areas: 2112493.



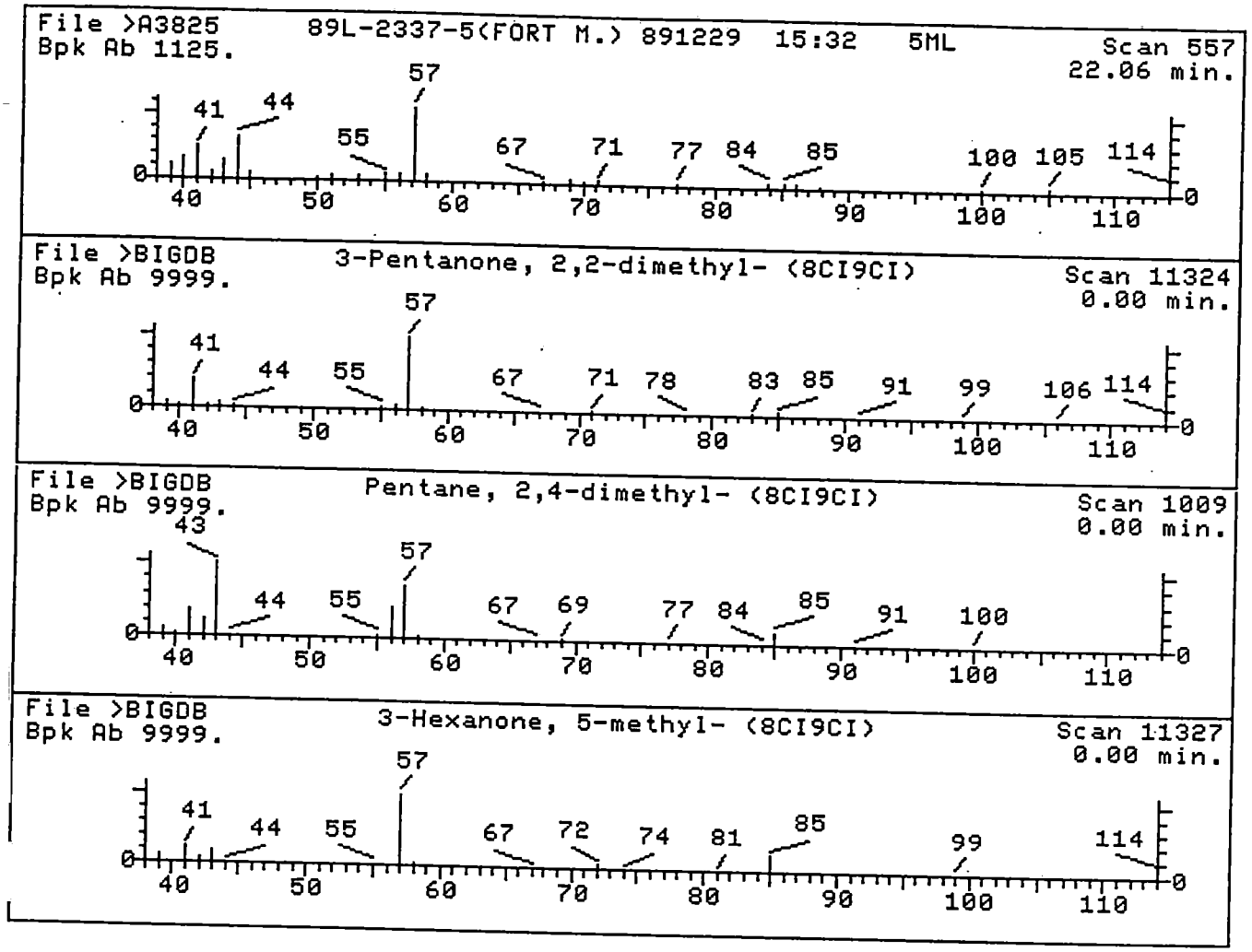


1. Butane, 2-methyl- (8CI9CI) 72 C5H12

Sample file: >A3825 Spectrum #: 285
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	30*	78784	241	"BIGDB	42	44	1	0	88	49	10	24

CORRECTED TOTAL ION AREA OF UNKNOWN= 33126.00
CORRECTED TOTAL ION AREA OF INTERNAL= 256009.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 1.000
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 6.50



1.	3-Pentanone, 2,2-dimethyl- (8CI9CI)	114 C7H14O
2.	Pentane, 2,4-dimethyl- (8CI9CI)	100 C7H16
3.	3-Hexanone, 5-methyl- (8CI9CI)	114 C7H14O
4.	3-Heptanone (8CI9CI)	114 C7H14O
5.	3-Hexanone, 4-methyl- (8CI9CI)	114 C7H14O

Sample file: >A3825 Spectrum #: 557
Search speed: 1 Tilting option: S No. of ion ranges searched: 57

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	31*	564045	11324	"BIGDB	39	38	1	0	100	41	12	22
2.	28*	108087	1009	"BIGDB	32	52	2	0	122	44	8	16
3.	28*	623563	11327	"BIGDB	29	57	2	0	100	40	10	14
4.	28*	106354	11319	"BIGDB	29	59	2	0	100	40	10	14
5.	27*	17042169	6066	"BIGDB	22	57	2	0	100	40	10	13

CORRECTED TOTAL ION AREA OF UNKNOWN= 39359.00
CORRECTED TOTAL ION AREA OF INTERNAL= 321792.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 1.000
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 6.10

89L-2337-6 Sample Data Package

QUANT REPORT

Operator ID: RICK
Output File: ^A3827::D1
Data File: >A3827::D4
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL

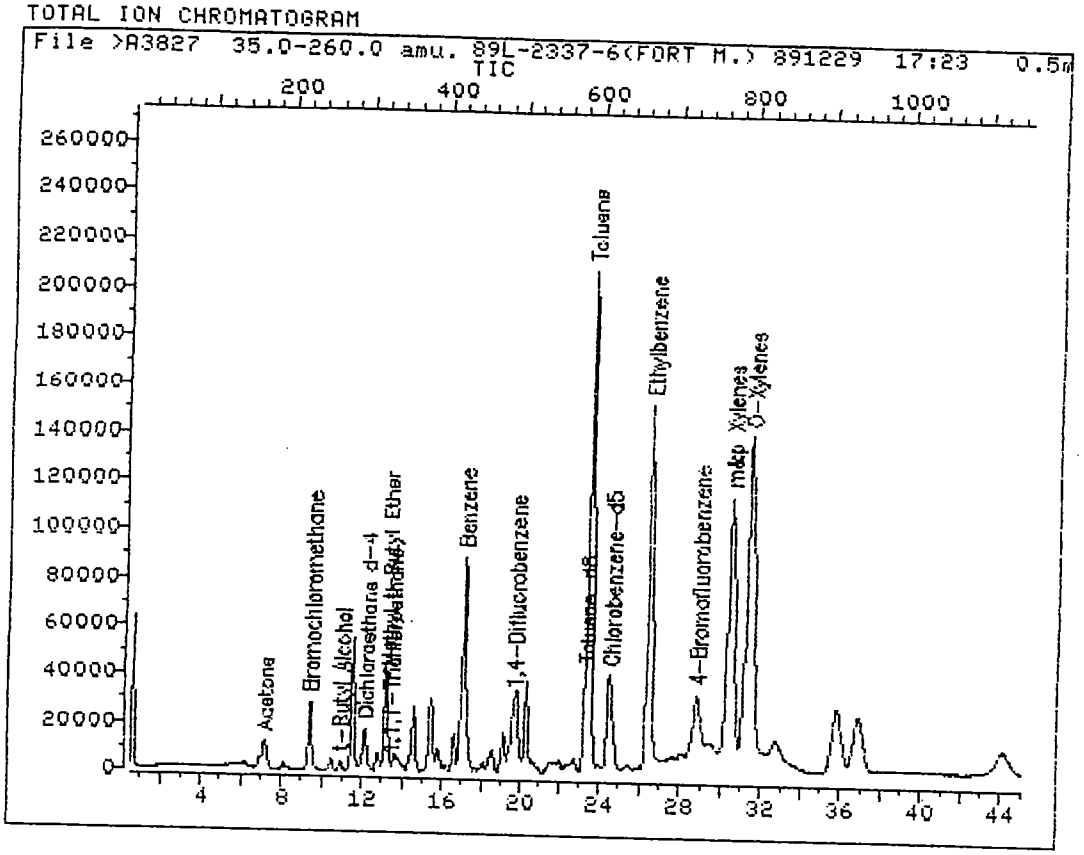
Quant Rev: 6 Quant Time: 900103 10:37
Injected at: 891229 17:24
Dilution Factor: 1.00000

ID File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.41	231	32893	50.00	ug/L	84
9)	Acetone	7.20	174	49882	135.66	ug/L	68
13)	t-Butyl Alcohol	10.92	270	20039	96.11	ug/L	87
16)	1,2-Dichloroethane-d4	12.16	302	66450	43.01	ug/L	92
19)	Methyl t-Butyl Ether	13.25	330	174210	109.64	ug/L	98
20)	1,1,1-Trichloroethane	13.44	335	2844	1.46	ug/L	79
24)	*1,4-Difluorobenzene	19.65	495	128640	50.00	ug/L	69
30)	Benzene	17.09	429	402238	212.01	ug/L	95
34)	*Chlorobenzene-d5	24.53	621	112172	50.00	ug/L	96
39)	Toluene	23.49	594	556674	385.53	ug/L	97
40)	Toluene-d8	23.29	589	114887	45.78	ug/L	92
42)	Ethylbenzene	26.47	671	255563	301.98	ug/L	99
44)	m&p Xylenes	30.47	774	349311	690.10	ug/L	94
45)	O-Xylenes	31.44	799	498962	263.56	ug/L	88
46)	Bromofluorobenzene	28.88	733	96130	51.75	ug/L	96

* Compound is ISTD

TOTAL ION CHROMATOGRAM

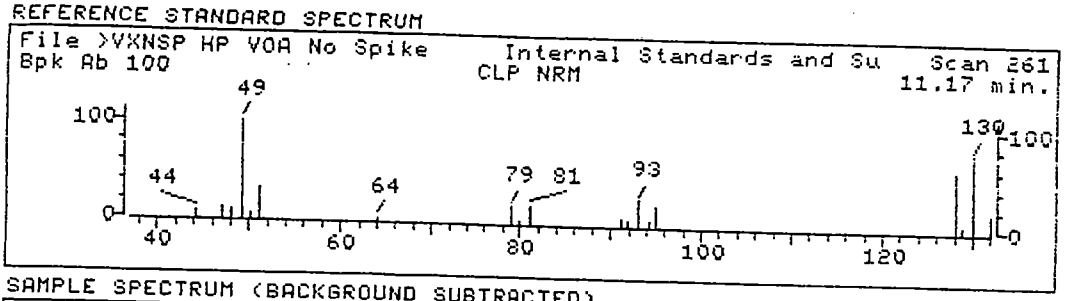


Data File: >A3827::D4 Quant Output File: ^A3827::D1
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL

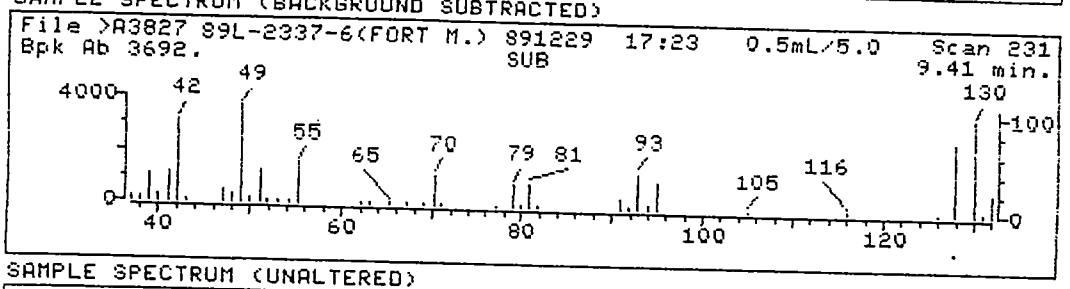
Id File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

Operator ID: RICK
Quant Time: 900103 10:37
Injected at: 891229 17:24

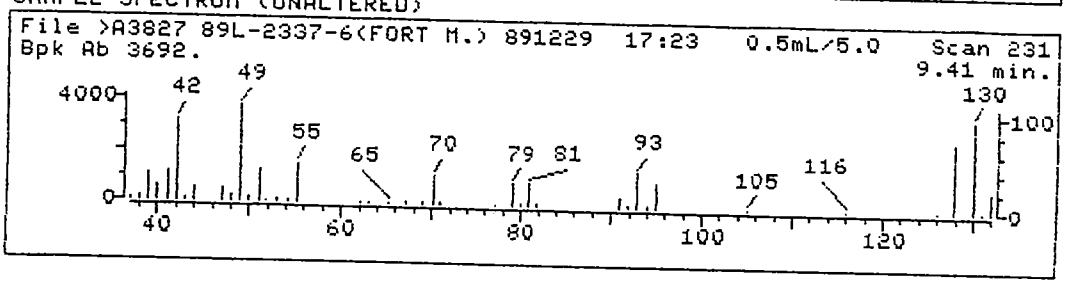
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

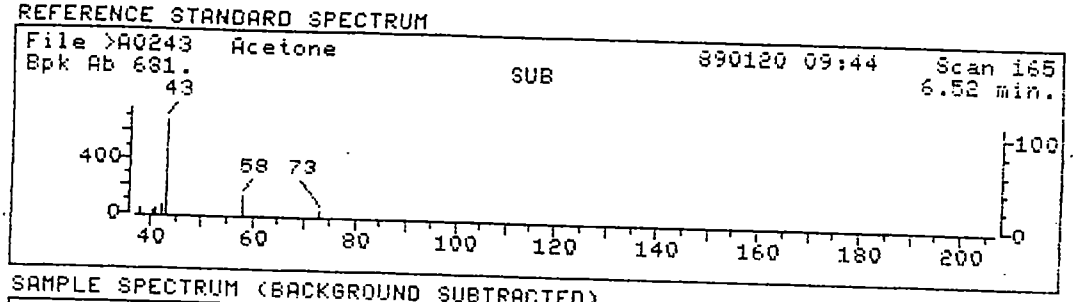


Data File: >A3827::D4
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL
Quant Time: 900103 10:37
Injected at: 891229 17:24

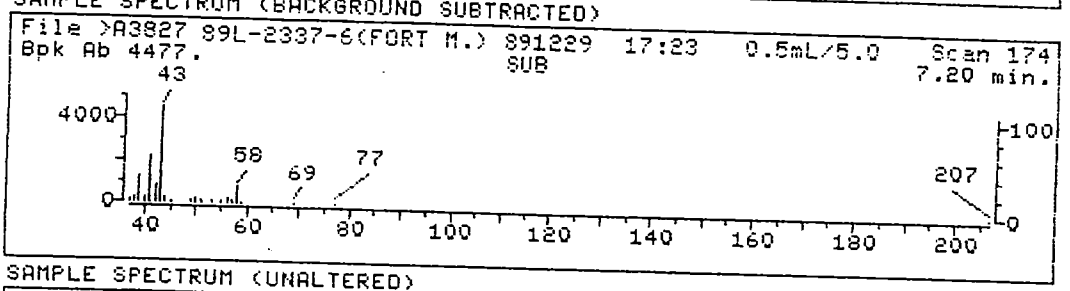
Quant Output File: ^A3827::D1
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 231
Retention Time: 9.41 min.
Quant Ion: 128.0
Area: 32893
Concentration: 50.00 ug/L
q-value: 84

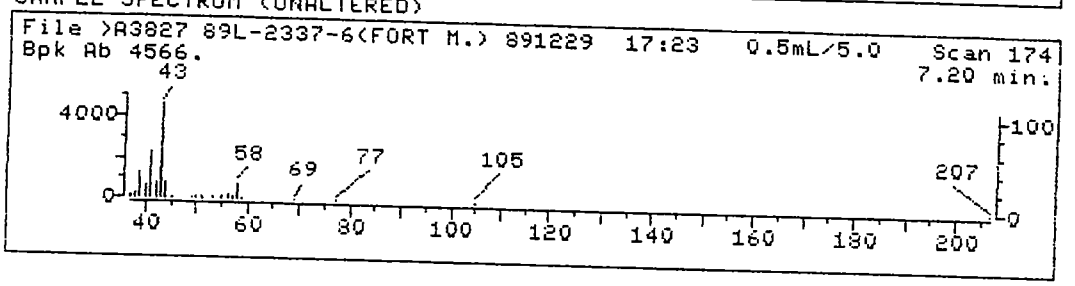
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >A3827::D4
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL
Quant Time: 900103 10:37
Injected at: 891229 17:24

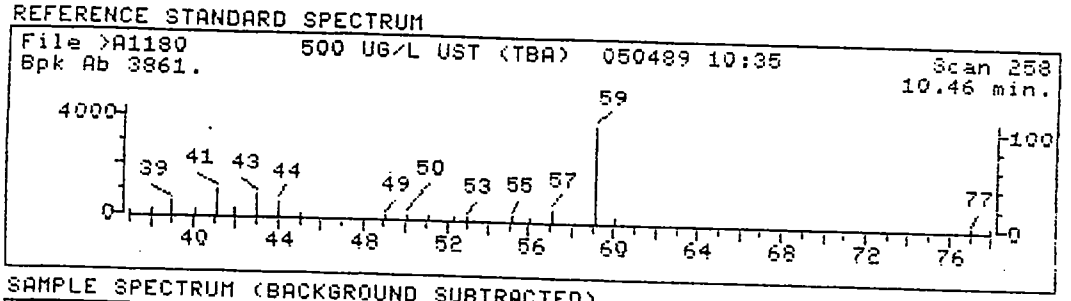
Quant Output File: ^A3827::D1
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 9
Compound Name: Acetone
Scan Number: 174
Retention Time: 7.20 min.
Quant Ion: 43.0
Area: 49882
Concentration: 135.66 ug/L

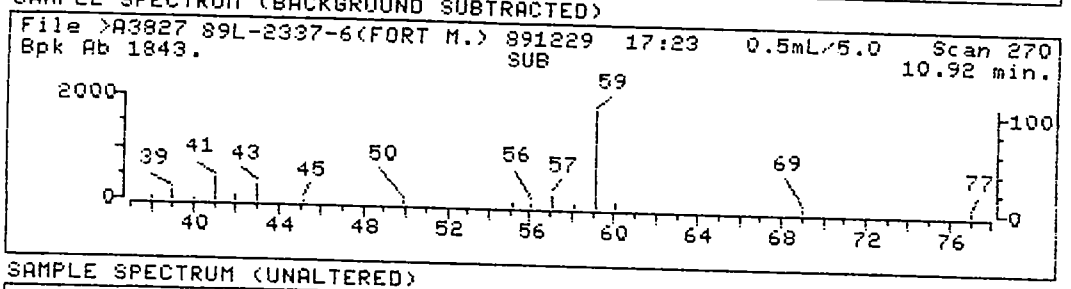
$\times 10 = 1,400$ ug/L

q-value: 68

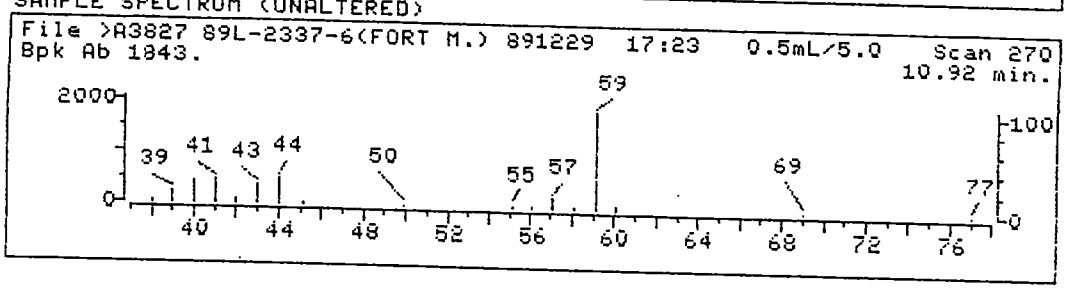
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

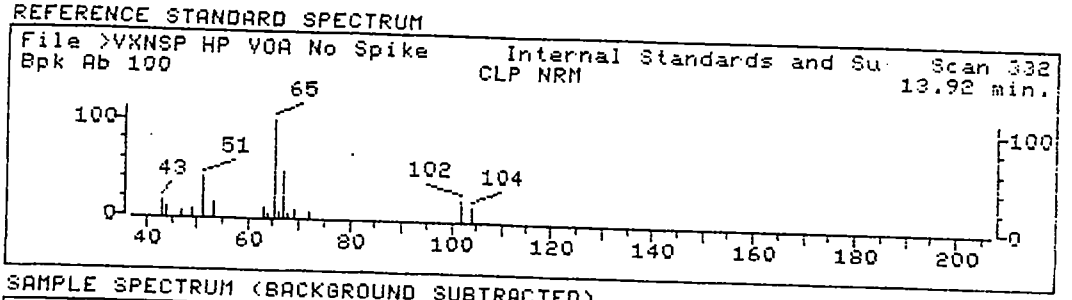


Data File: >A3827::D4
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL
Quant Time: 900103 10:37
Injected at: 891229 17:24

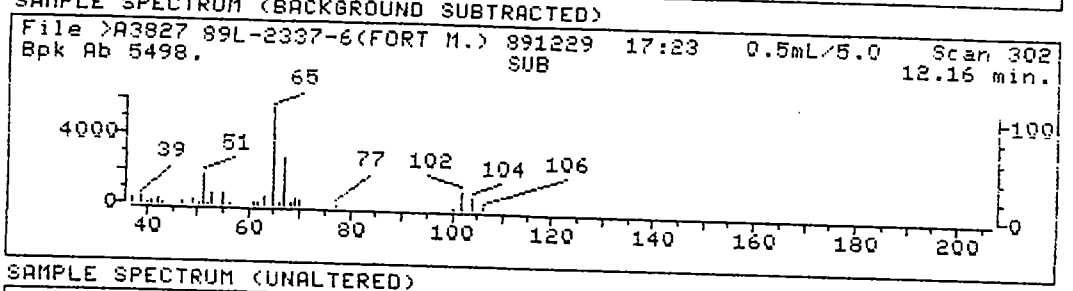
Quant Output File: ^A3827::D1
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 13
Compound Name: t-Butyl Alcohol
Scan Number: 270
Retention Time: 10.92 min.
Quant Ion: 59.0
Area: 20039
Concentration: 96.11 ug/L x10 = 960. ug/L
q-value: 87

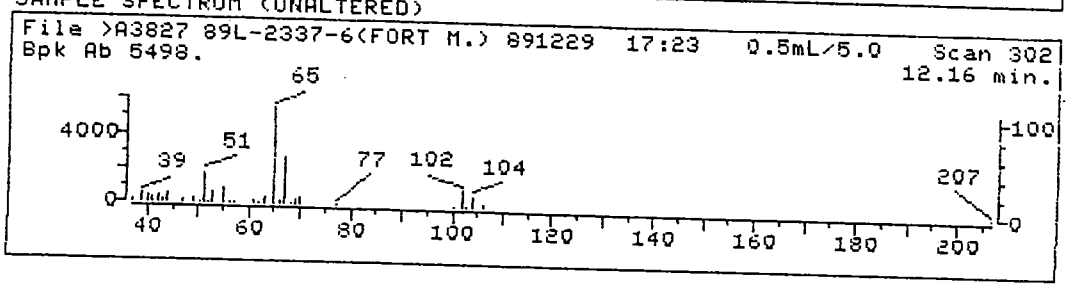
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

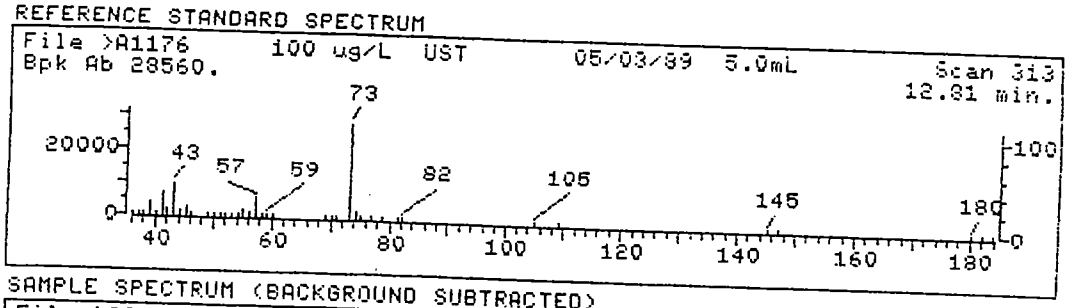


Data File: >A3827::D4
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL
Quant Time: 900103 10:37
Injected at: 891229 17:24

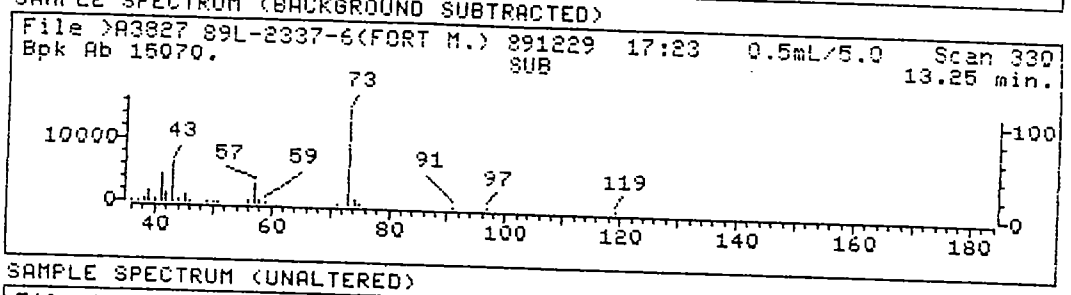
Quant Output File: ^A3827::D1
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 16
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 302
Retention Time: 12.16 min.
Quant Ion: 65.0
Area: 66450
Concentration: 43.01 ug/L
q-value: 92

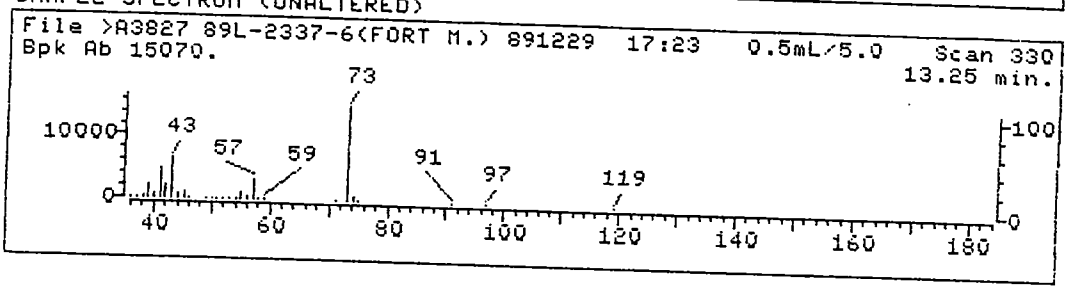
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

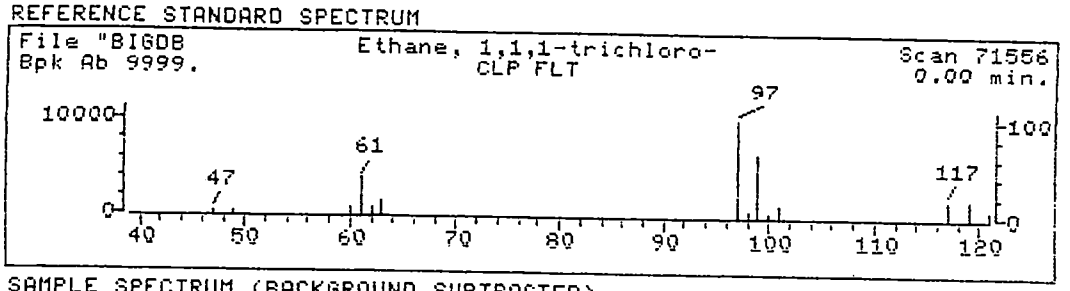


Data File: >A3827::D4
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL
Quant Time: 900103 10:37
Injected at: 891229 17:24

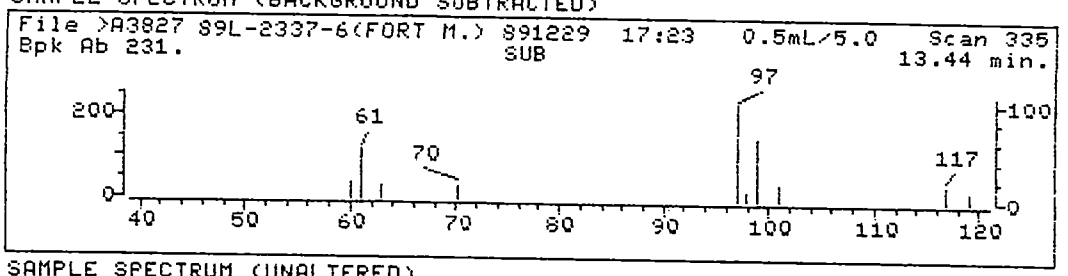
Quant Output File: ^A3827::D1
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 19
Compound Name: Methyl t-Butyl Ether
Scan Number: 330
Retention Time: 13.25 min.
Quant Ion: 73.0
Area: 174210
Concentration: 109.64 ug/L x 10 = 1,100. ug/L
q-value: 98

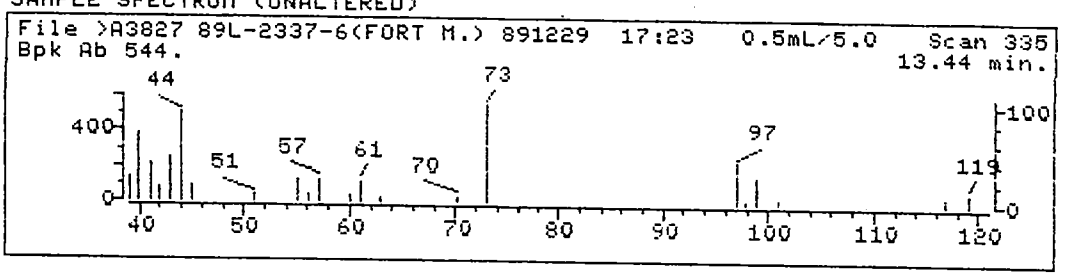
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



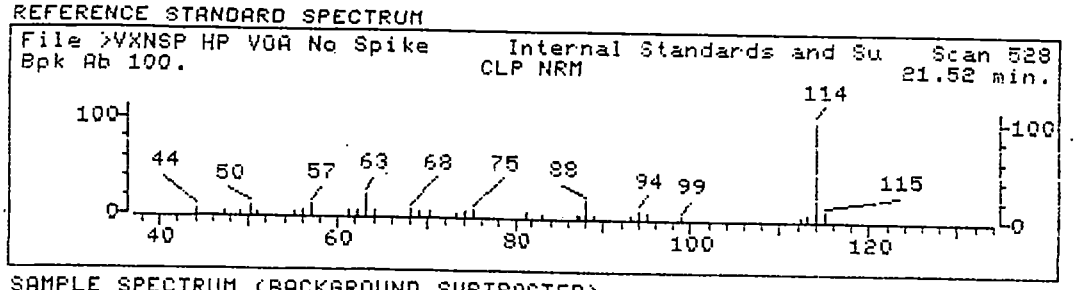
SAMPLE SPECTRUM (UNALTERED)



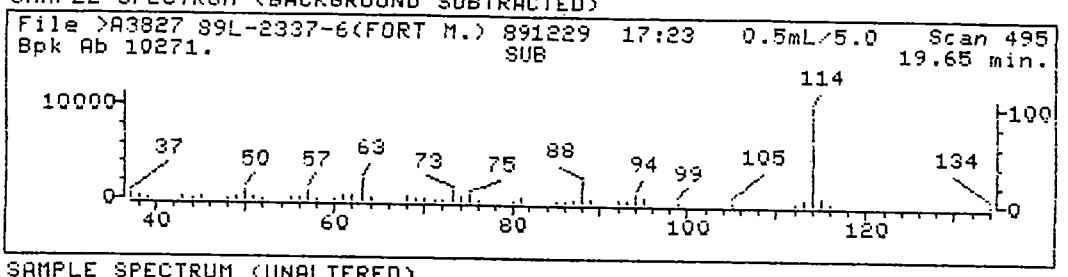
Data File: >A3827::D4 Quant Output File: ^A3827::D1
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL
Quant Time: 900103 10:37 Quant ID File: ID_UST::D4
Injected at: 891229 17:24 Last Calibration: 891218 16:36

Compound No: 20
Compound Name: 1,1,1-Trichloroethane
Scan Number: 335
Retention Time: 13.44 min.
Quant Ion: 97.0
Area: 2844
Concentration: 1.46 ug/L x 10 = 15 ug/L
q-value: 79

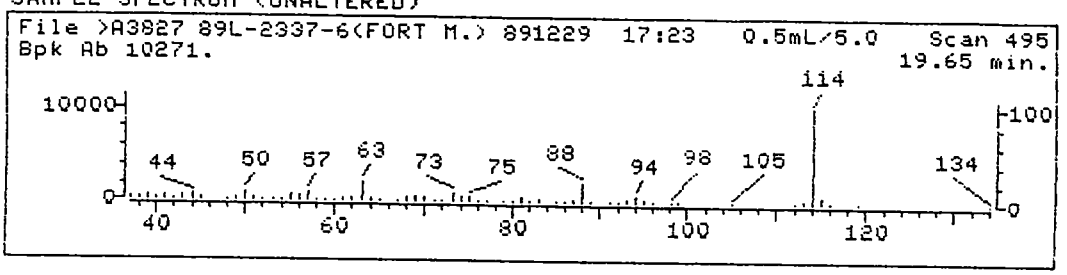
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

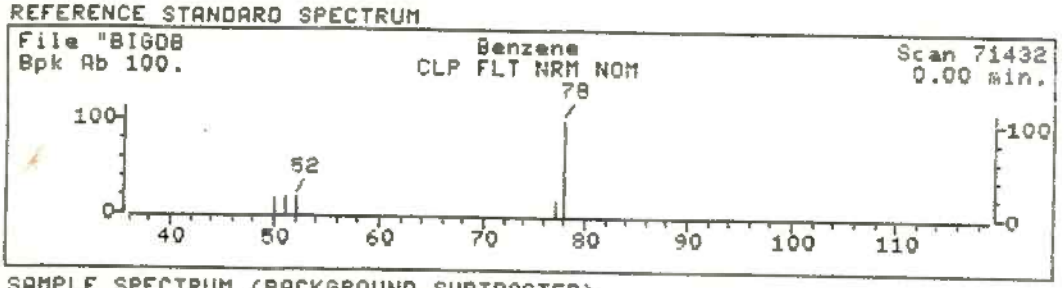


Data File: >A3827::D4
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL
Quant Time: 900103 10:37
Injected at: 891229 17:24

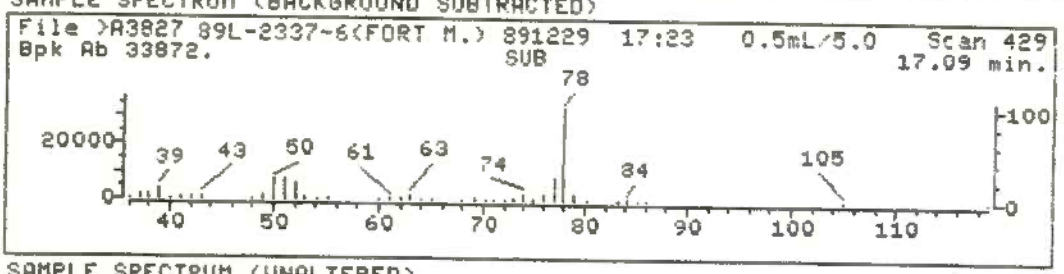
Quant Output File: ^A3827::D1
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 24 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 495
Retention Time: 19.65 min.
Quant Ion: 114.0
Area: 128640
Concentration: 50.00 ug/L
q-value: 69

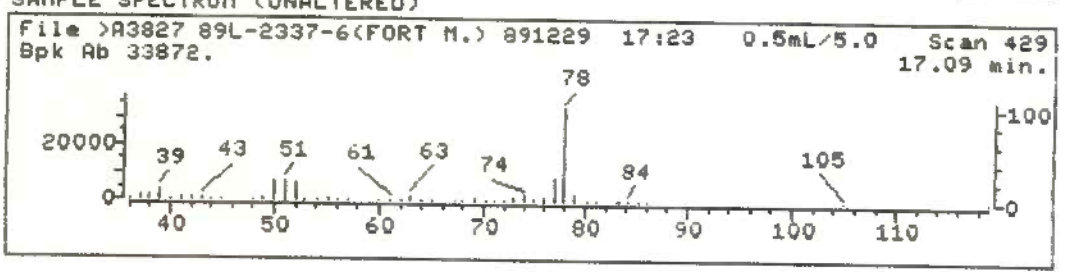
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



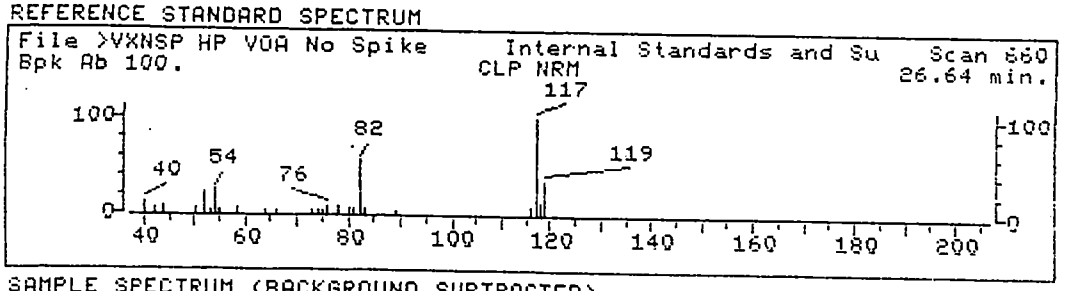
SAMPLE SPECTRUM (UNALTERED)



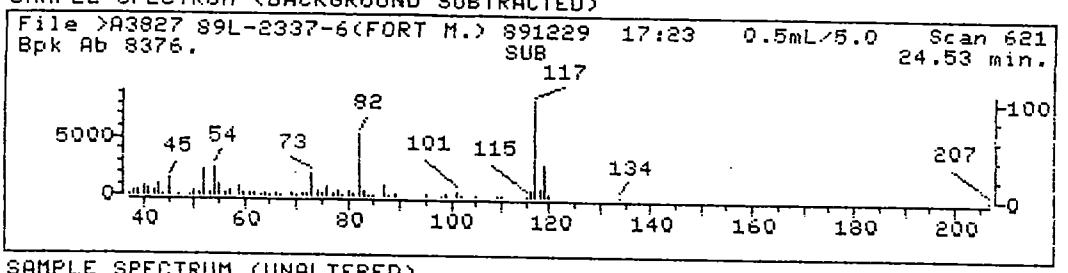
Data File: >A3827::D4 Quant Output File: ^A3827::D1
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL
Quant Time: 900103 10:37 Quant ID File: ID_UST::D4
Injected at: 891229 17:24 Last Calibration: 891218 16:36

Compound No: 30
Compound Name: Benzene
Scan Number: 429
Retention Time: 17.09 min.
Quant Ion: 78.0
Area: 402238
Concentration: 212.01 ug/L X10 = 2,100. ug/L
q-value: 95

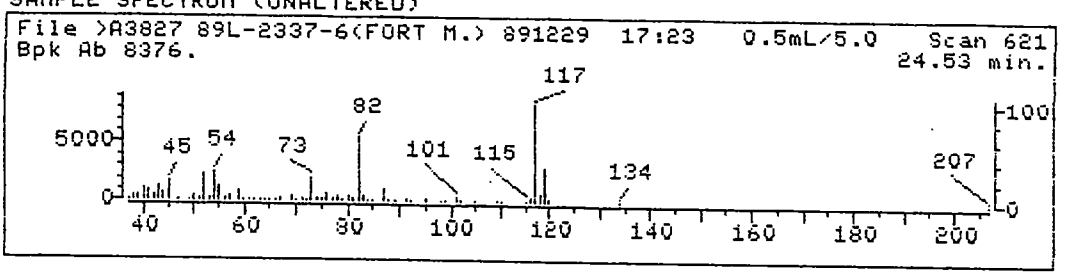
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



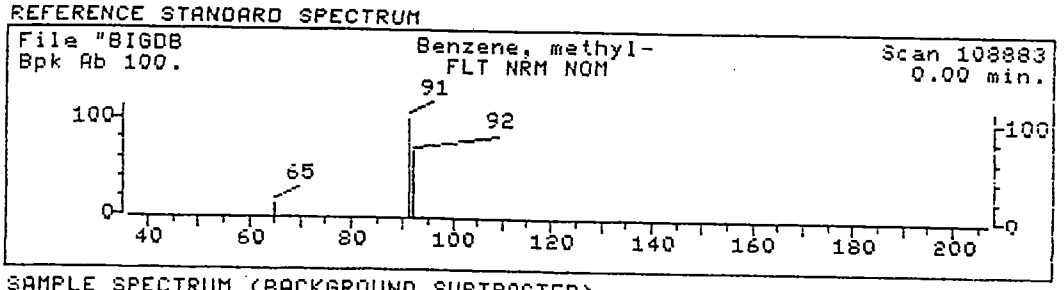
SAMPLE SPECTRUM (UNALTERED)



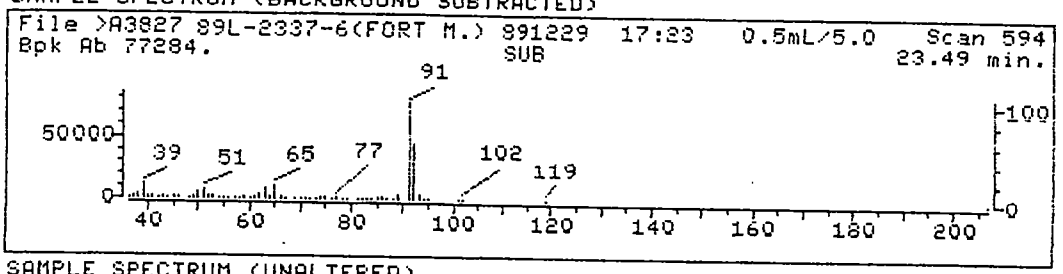
Data File: >A3827::D4 Quant Output File: ^A3827::D1
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL
Quant Time: 900103 10:37 Quant ID File: ID_UST::D4
Injected at: 891229 17:24 Last Calibration: 891218 16:36

Compound No: 34 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 621
Retention Time: 24.53 min.
Quant Ion: 117.0
Area: 112172
Concentration: 50.00 ug/L
q-value: 96

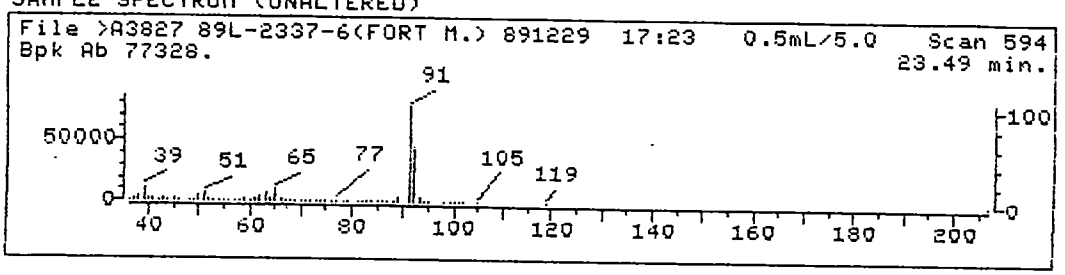
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



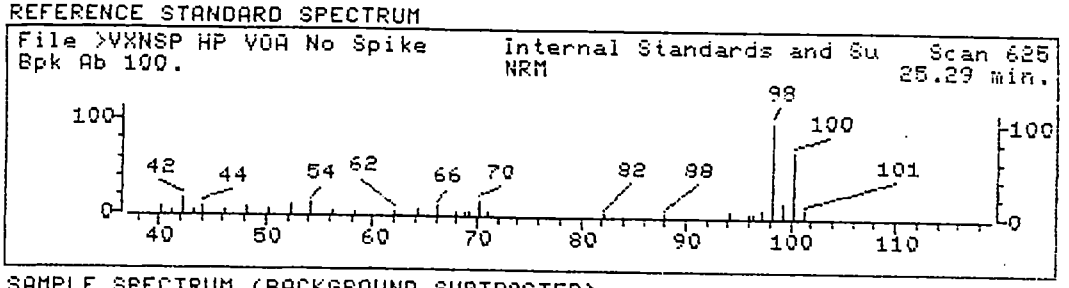
SAMPLE SPECTRUM (UNALTERED)



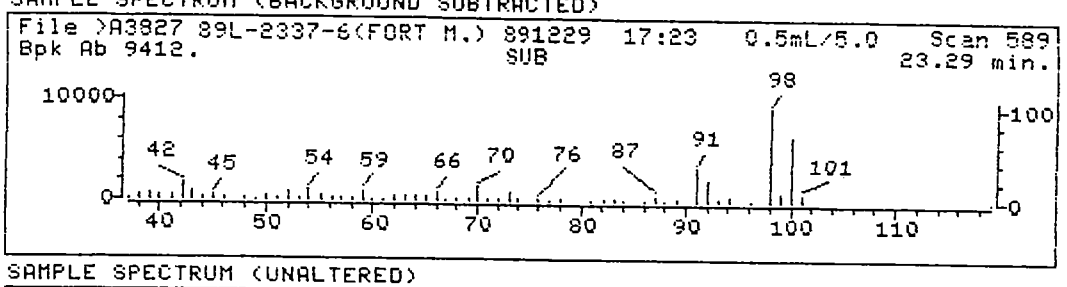
Data File: >A3827::D4 Quant Output File: ^A3827::D1
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL
Quant Time: 900103 10:37 Quant ID File: ID_UST::D4
Injected at: 891229 17:24 Last Calibration: 891218 16:36

Compound No: 39
Compound Name: Toluene
Scan Number: 594
Retention Time: 23.49 min.
Quant Ion: 92.0
Area: 556674
Concentration: 385.53 ug/L X 10 = 3,900. ug/L
q-value: 97

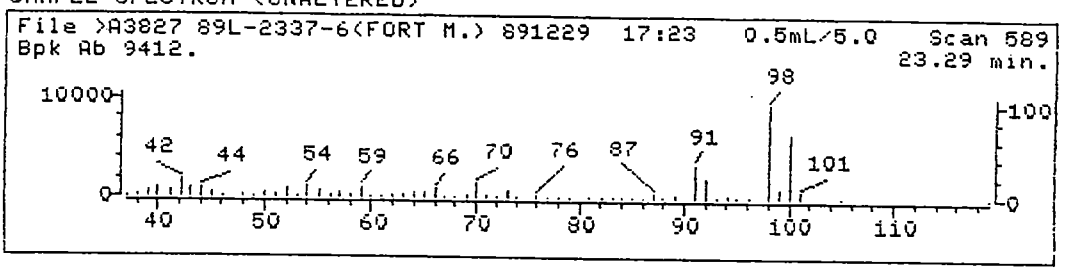
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



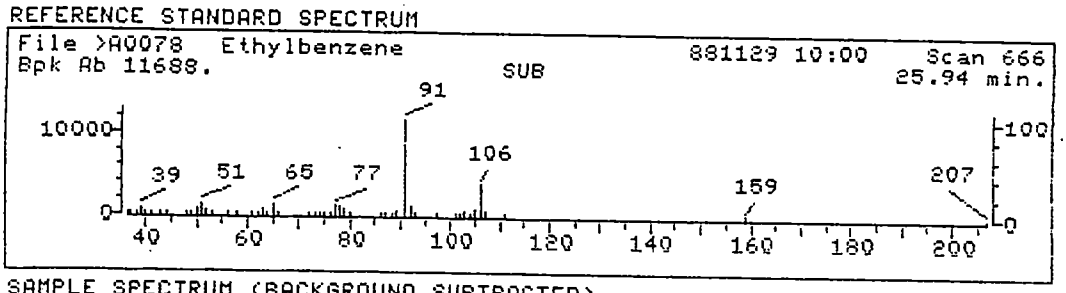
SAMPLE SPECTRUM (UNALTERED)



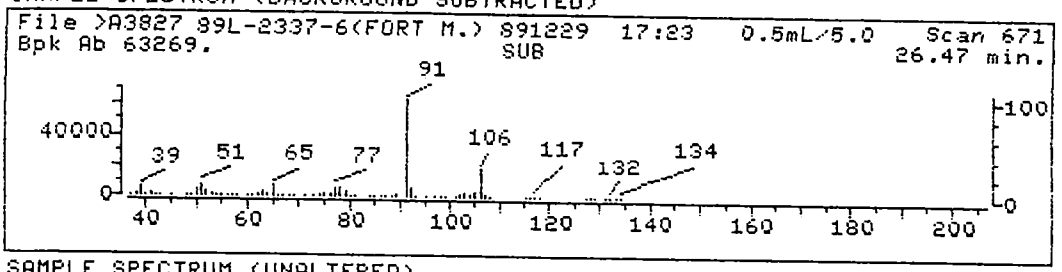
Data File: >A3827::D4 Quant Output File: ^A3827::D1
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL
Quant Time: 900103 10:37 Quant ID File: ID_UST::D4
Injected at: 891229 17:24 Last Calibration: 891218 16:36

Compound No: 40
Compound Name: Toluene-d8
Scan Number: 589
Retention Time: 23.29 min.
Quant Ion: 98.0
Area: 114887
Concentration: 45.78 ug/L
q-value: 92

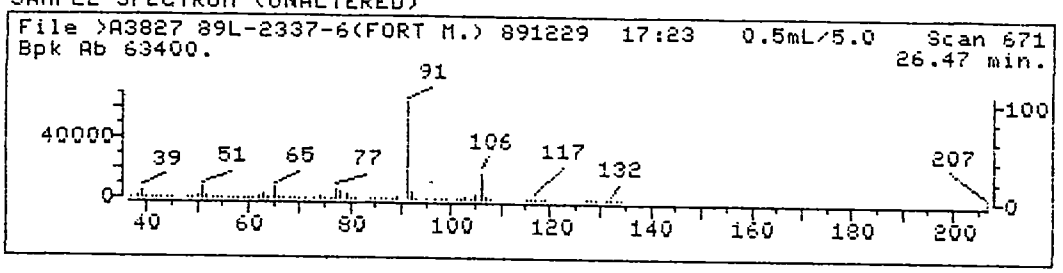
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



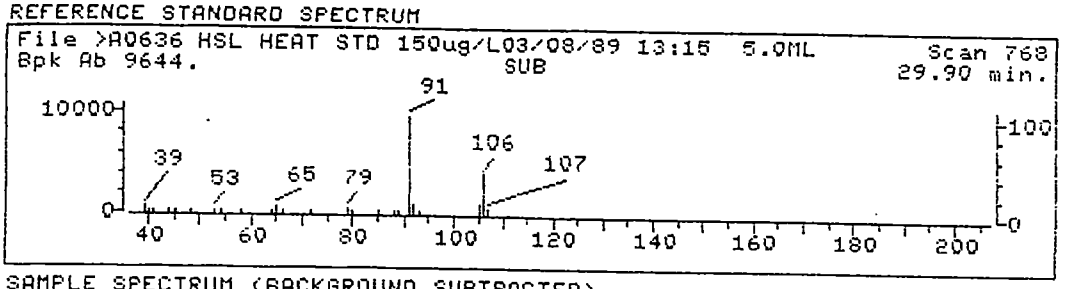
SAMPLE SPECTRUM (UNALTERED)



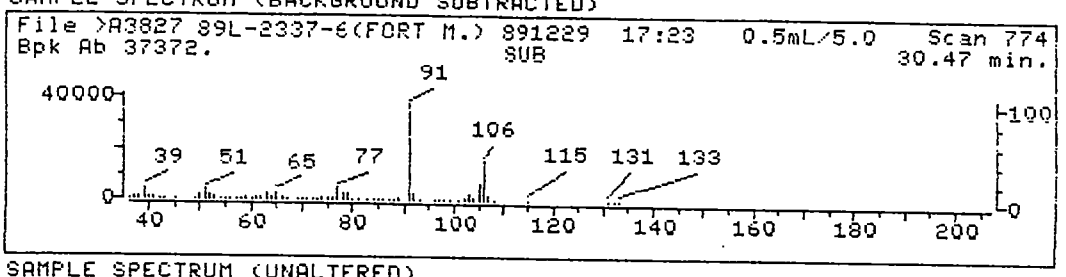
Data File: >A3827::D4 Quant Output File: ^A3827::D1
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL
Quant Time: 900103 10:37 Quant ID File: ID_UST::D4
Injected at: 891229 17:24 Last Calibration: 891218 16:36

Compound No: 42
Compound Name: Ethylbenzene
Scan Number: 671
Retention Time: 26.47 min.
Quant Ion: 106.0
Area: 255563
Concentration: 301.98 ug/L X 10 = 3000. ug/L
q-value: 99

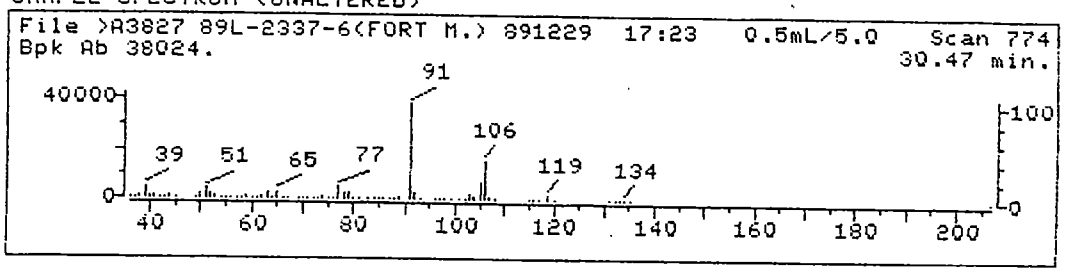
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

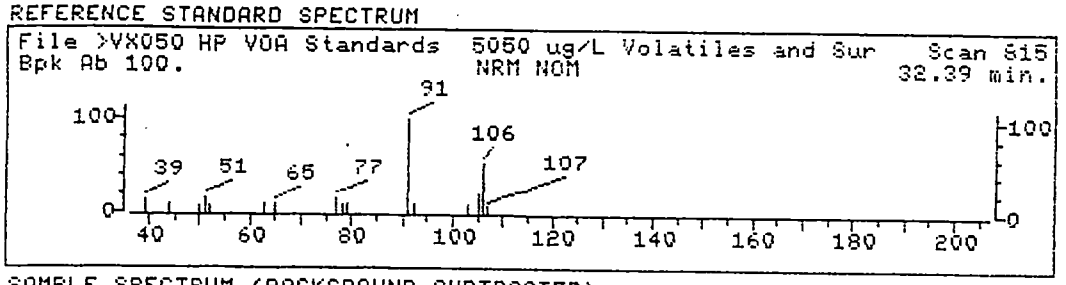


Data File: >A3827::D4
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL
Quant Time: 900103 10:37
Injected at: 891229 17:24

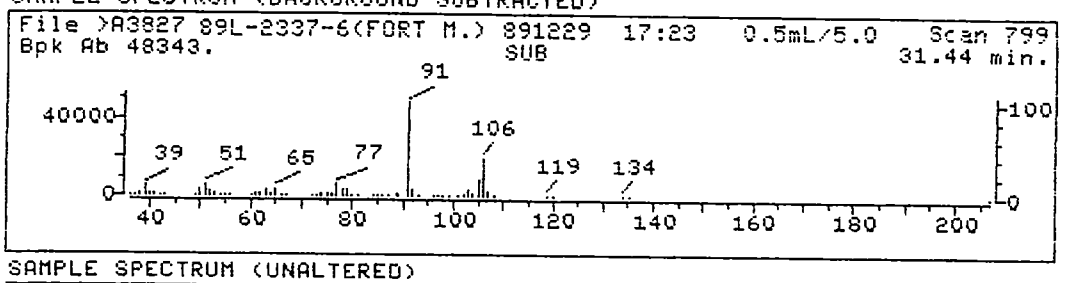
Quant Output File: ^A3827::D1
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 44
Compound Name: m&p Xylenes
Scan Number: 774
Retention Time: 30.47 min.
Quant Ion: 106.0
Area: 349311
Concentration: 690.10 ug/L X 10 = 6,900 ug/L
q-value: 94

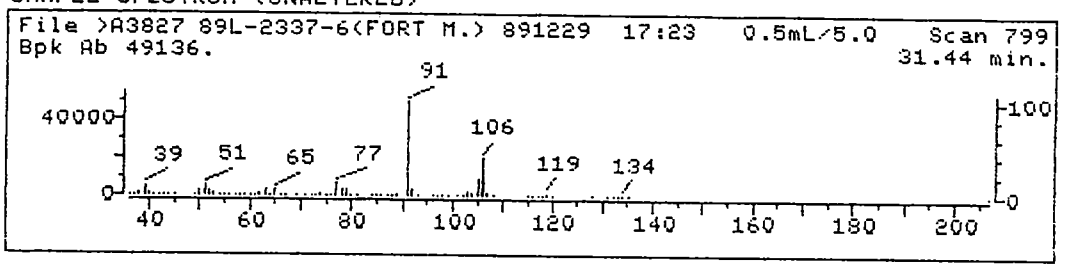
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



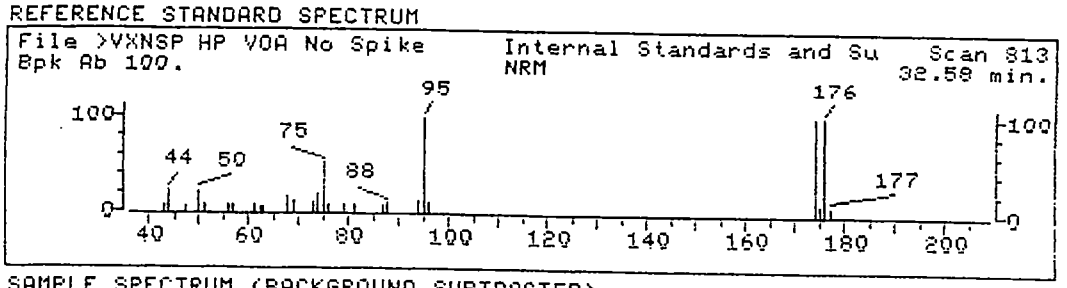
SAMPLE SPECTRUM (UNALTERED)



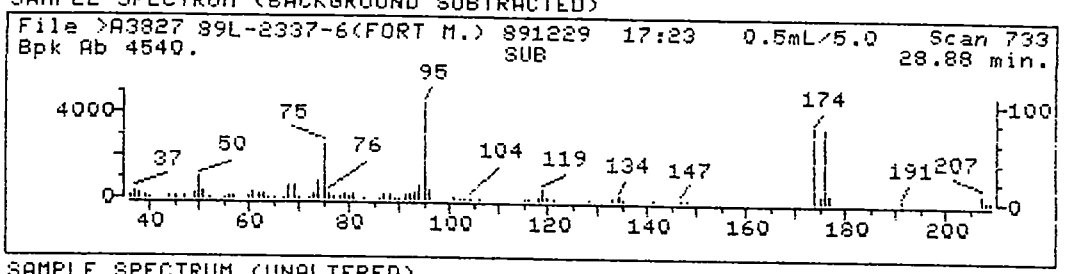
Data File: >A3827::D4 Quant Output File: ^A3827::D1
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL
Quant Time: 900103 10:37 Quant ID File: ID_UST::D4
Injected at: 891229 17:24 Last Calibration: 891218 16:36

Compound No: 45
Compound Name: O-Xylenes
Scan Number: 799
Retention Time: 31.44 min.
Quant Ion: 106.0
Area: 498962
Concentration: 263.56 ug/L X 10 = 2600. ug/L
q-value: 88

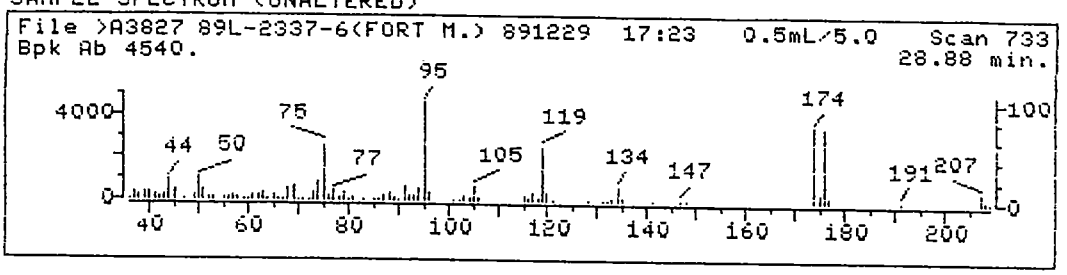
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



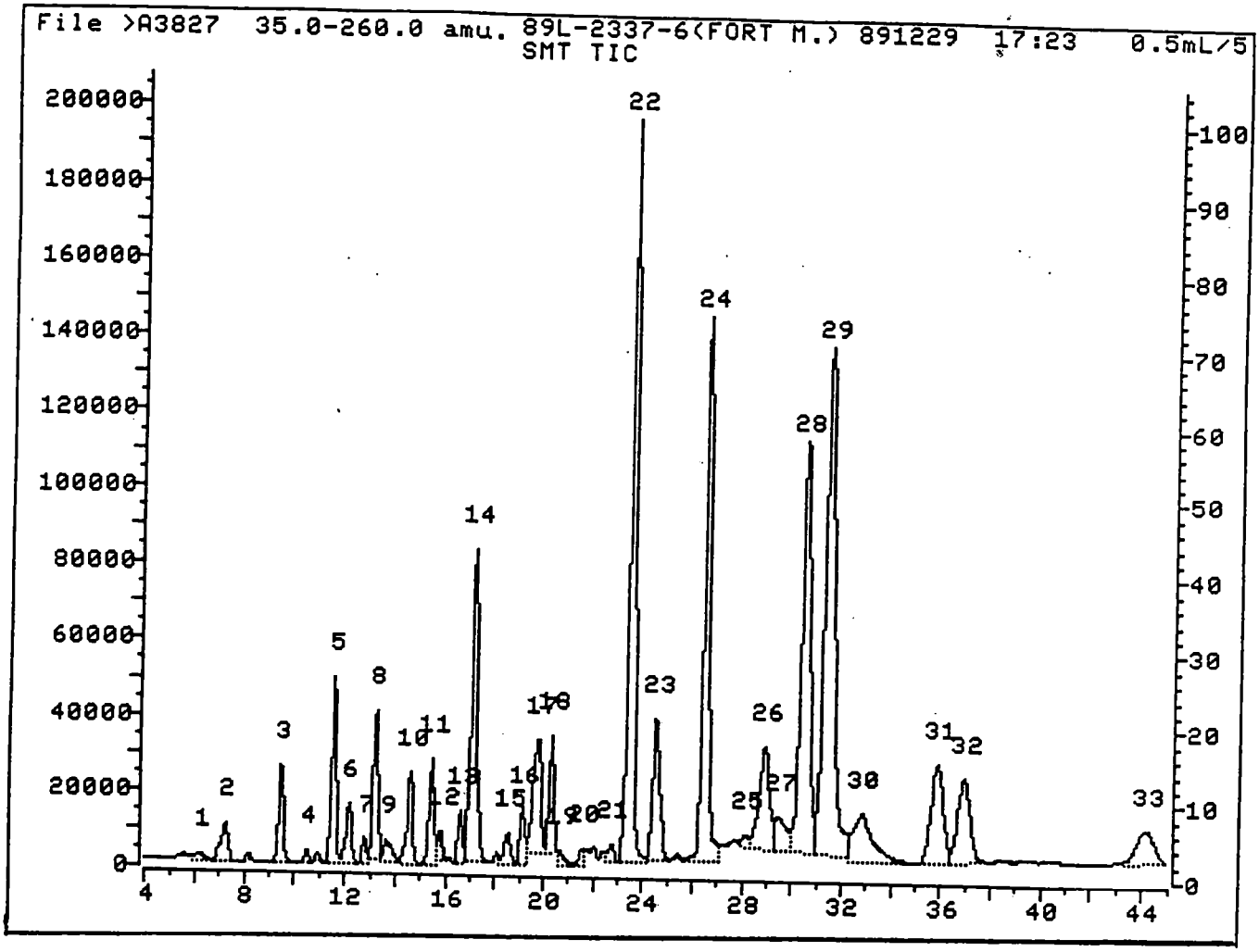
Data File: >A3827::D4 Quant Output File: ^A3827::D1
Name: 89L-2337-6(FORT M.)
Misc: 891229 17:23 0.5mL/5.0mL
Quant Time: 900103 10:37 Quant ID File: ID_UST::D4
Injected at: 891229 17:24 Last Calibration: 891218 16:36

Compound No: 46
Compound Name: Bromofluorobenzene
Scan Number: 733
Retention Time: 28.88 min.
Quant Ion: 95.0
Area: 96130
Concentration: 51.75 ug/L
q-value: 96

>A3827 89L-2337-6(FORT M.) 891229 17:23 0.5mL/5.0mL
35.0| 260.0 SMT TIC
Upslope: .01 Area Reject: 1.00 % Max Peaks: 33 Bunching: 1
Dnslope: 0.00 Results File VDIR82 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	6.19	140	148	161	1856	120036	42923	1.13	.191
2	7.20	161	174	188	10230	286992	202414 TC	5.34	.903
3	9.41	223	231	249	25324	408088	334916 FS	8.84	1.494
4	10.50	249	259	265	3579	87892	42868	1.13	.191
5	11.54	277	286	293	49217	654715	606636 ✓ 1	16.01	2.706
6	12.16	293	302	312	15292	306997	236764 SS	6.25	1.056
7	12.78	312	318	322	6324	111010	74051 ✓ 2	1.95	.330
8	13.21	322	329	336	38920	625527	534950 TC 3	14.12	2.386
9	13.64	336	340	354	5579	204057	128067 ✓ 3	3.38	.571
10	14.57	354	364	373	24251	422738	352461 ✓ 4	9.30	1.572
11	15.46	373	387	392	27406	454740	384459 ✓ 5	10.15	1.715
12	15.81	392	396	402	7514	151514	88680 ✓ 6	2.34	.396
13	16.58	410	416	421	14002	231286	183557 ✓ 7	4.85	.819
14	17.09	421	429	443	81958	1463472	1336006 TC	35.27	5.960
15	18.52	458	466	474	7946	212821	131299 ✓ 8	3.47	.586
16	19.14	474	482	487	14391	291912	225667 ✓ 9	5.96	1.007
17	19.80	487	499	506	29520	901096	668186 FS	17.64	2.981
18	20.31	506	512	519	30467	539172	372704 ✓ 10	9.84	1.663
19	20.65	519	521	533	3678	125380	56032 <10%	1.48	.250
20	21.58	533	545	547	4185	130664	61319 <10%	1.62	.274
21	22.75	569	575	582	4198	172145	72862	1.92	.325
22	23.49	582	594	611	194582	3177337	2955779 TC+FS	78.03	13.185
23	24.49	611	620	636	37014	951114	714419 FS	18.86	3.187
24	26.47	651	671	687	143017	2679670	2337840 TC	61.72	10.429
25	28.10	706	713	719	3018	308324	69751 <10%	1.84	.311
26	28.88	719	733	743	27145	1197528	777614 SS	20.53	3.469
27	29.46	743	748	760	8592	557495	276369 ✓ 11	7.30	1.233
28	30.47	760	774	786	108119	3056315	2652414 TC	70.02	11.832
29	31.40	786	798	821	133840	4281807	3787925 TC	100.00	16.897
30	32.80	821	834	880	12377	1296594	674733 ✓ 12	17.81	3.010
31	35.83	891	912	926	26019	1239127	884126 ✓ 13	23.34	3.944
32	36.91	926	940	964	21782	1183206	740418 ✓ 14	19.55	3.303
33	44.17	1102	1127	1145	8669	964767	409375 ✓ 15	10.81	1.826

Sum of corrected areas: 22417592.


File >A3827 35.0-260.0 amu. 89L-2337-6(FORT M.) 891229 17:23 0.5mL/5
SMT TIC
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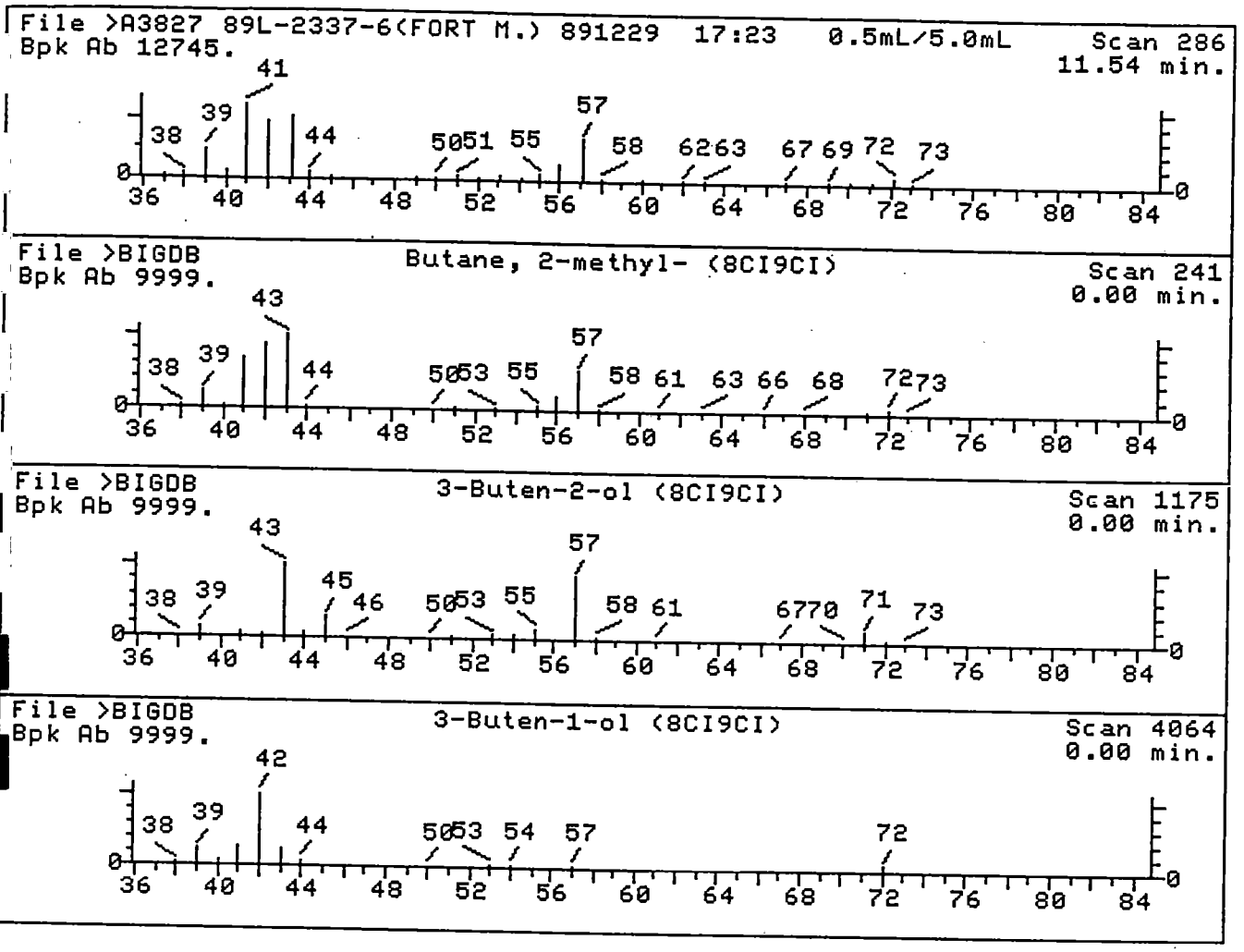
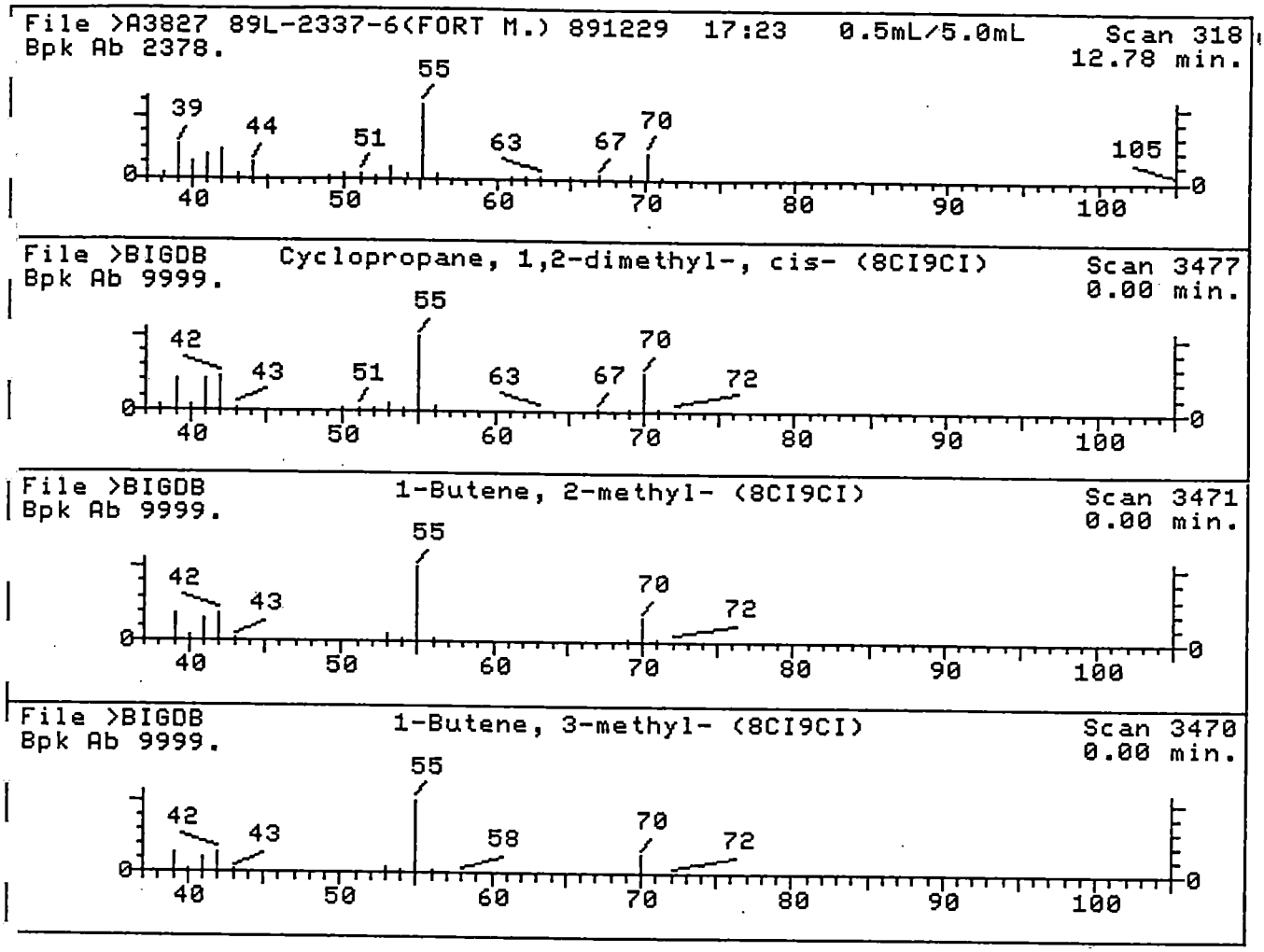


1. Butane, 2-methyl- (8CI9CI) 72 C5H12
2. 3-Buten-2-ol (8CI9CI) 72 C4H8O
3. 3-Buten-1-ol (8CI9CI) 72 C4H8O
4. Pentane (ACN)(DOT)(8CI9CI) 72 C5H12

Sample file: >A3827 Spectrum #: 286
Search speed: 1 Tilting option: S No. of ion ranges searched: 55

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83*	78784	241	"BIGDB	47	39	0	0	83	7	54	56
2.	25*	598323	1175	"BIGDB	26	59	2	0	65	47	7	14
3.	18*	627270	4064	"BIGDB	38	44	1	0	77	59	4	21
4.	15*	109660	242	"BIGDB	21	63	1	0	99	59	3	14

ORRECTED TOTAL ION AREA OF UNKNOWN= 606636.0
ORRECTED TOTAL ION AREA OF INTERNAL= 334916.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 10.00
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 910.00

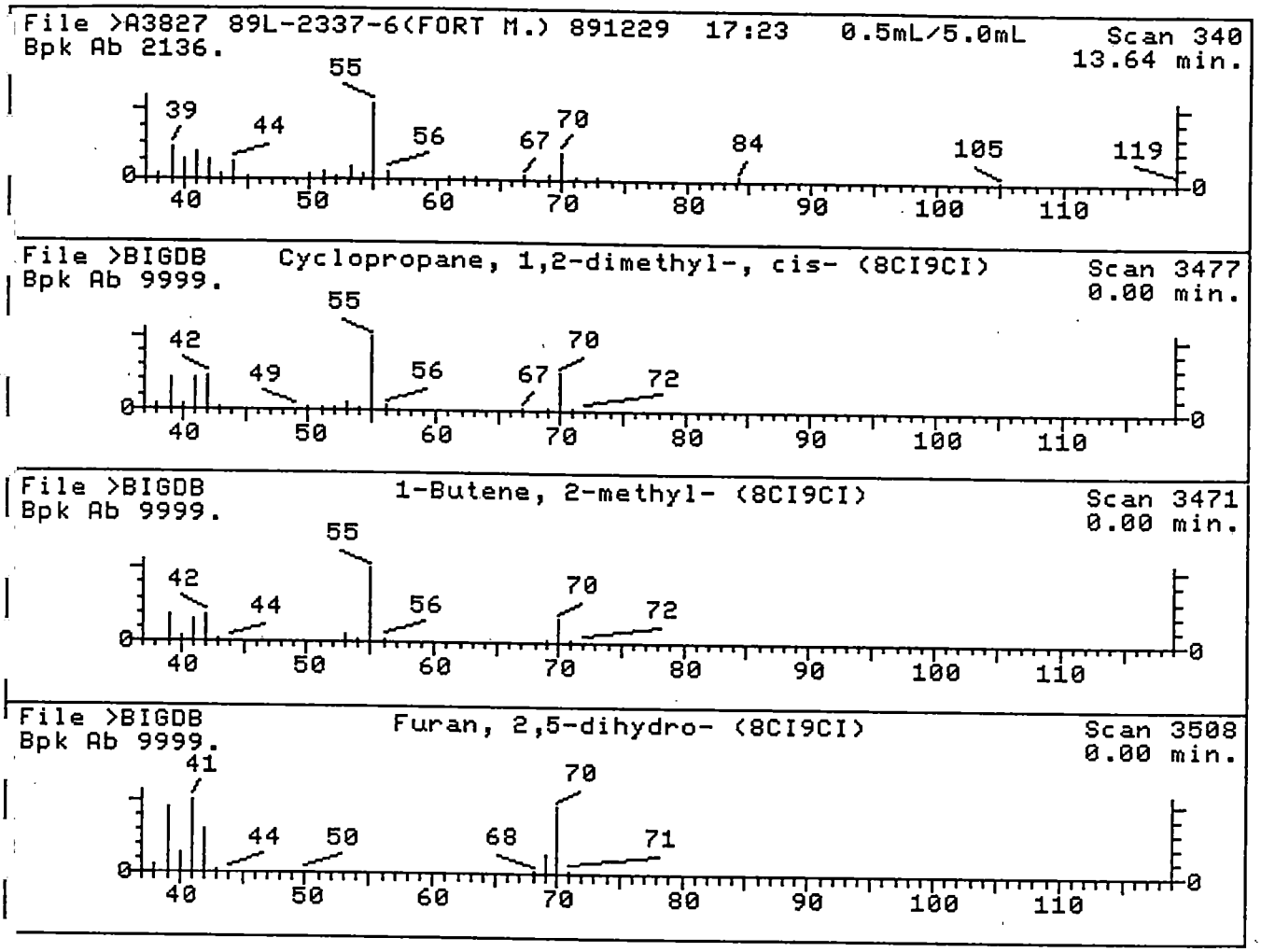


1. Cyclopropane, 1,2-dimethyl-, cis- (8CI9CI) 70 C5H10
2. 1-Butene, 2-methyl- (8CI9CI) 70 C5H10
3. 1-Butene, 3-methyl- (8CI9CI) 70 C5H10
4. 2-Pentene, (E)- (8CI9CI) 70 C5H10
5. 2-Pentene, (Z)- (8CI9CI) 70 C5H10

Sample file: >A3827 Spectrum #: 318
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	80*	930187	3477	"BIGDB	67	24	0	0	70	25	47	80
2.	74*	563462	3471	"BIGDB	53	27	0	0	100	28	37	72
3.	67*	563451	3470	"BIGDB	52	28	0	0	100	38	28	71
4.	62*	646048	3476	"BIGDB	53	27	0	0	86	47	20	72
5.	50*	627203	3474	"BIGDB	45	35	0	0	81	47	14	60

CORRECTED TOTAL ION AREA OF UNKNOWN= 74051.00
CORRECTED TOTAL ION AREA OF INTERNAL= 334916.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 10.00
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 110.00

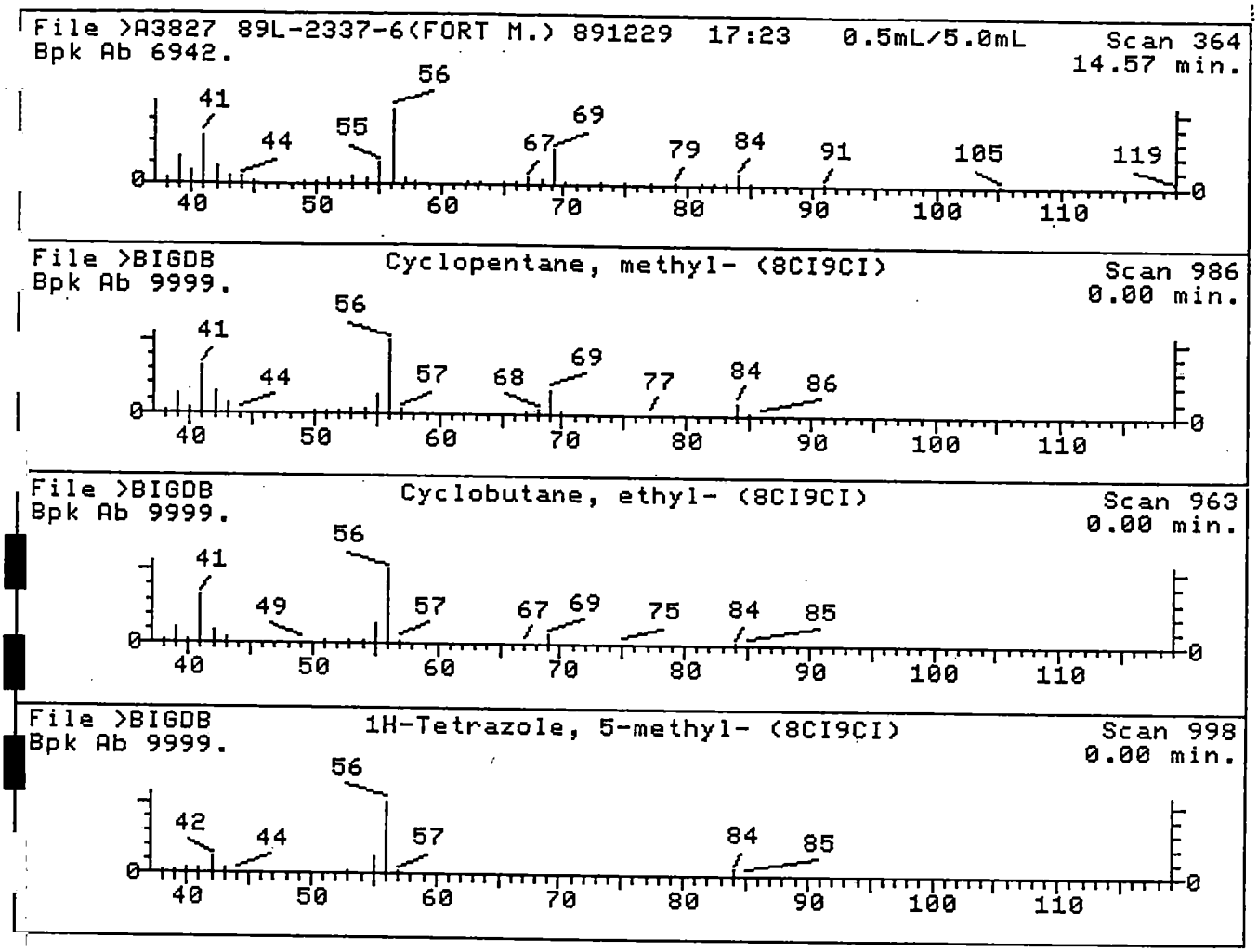


1. Cyclopropane, 1,2-dimethyl-, cis- (8CI9CI) 70 C5H10
2. 1-Butene, 2-methyl- (8CI9CI) 70 C5H10
3. Furan, 2,5-dihydro- (8CI9CI) 70 C4H6O
4. 1-Butene, 3-methyl- (8CI9CI) 70 C5H10
5. 1-Propen-1-one, 2-methyl- (9CI) 70 C4H6O

Sample file: >A3827 Spectrum #: 340
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	37*	930187	3477	"BIGDB	48	43	2	0	71	43	12	28
2.	32*	563462	3471	"BIGDB	41	39	1	0	100	45	12	23
3.	31*	1708298	3508	"BIGDB	39	44	2	0	35	41	8	19
4.	31*	563451	3470	"BIGDB	42	38	2	0	139	45	12	22
5.	30*	598265	3472	"BIGDB	26	67	3	0	70	35	12	13

CORRECTED TOTAL ION AREA OF UNKNOWN= 128067.0
CORRECTED TOTAL ION AREA OF INTERNAL= 334916.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 10.00
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 190.00

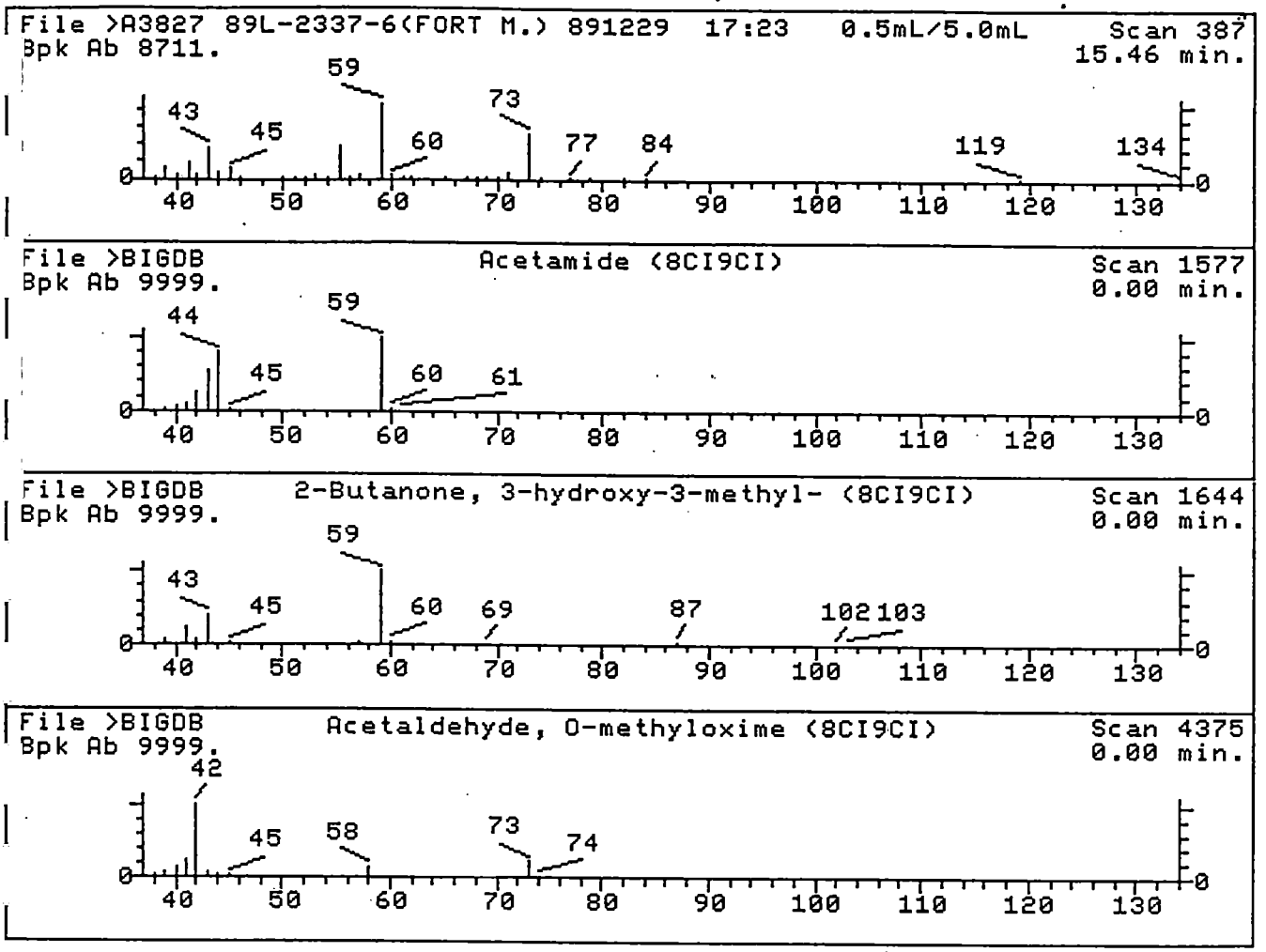


1. Cyclopentane, methyl- (8CI9CI) 84 C6H12
2. Cyclobutane, ethyl- (8CI9CI) 84 C6H12
3. 1H-Tetrazole, 5-methyl- (8CI9CI) 84 C2H4N4
4. Cyclopropane, (1-methylethyl)- (9CI) 84 C6H12
5. Cyclohexane(DOT (8CI9CI) 84 C6H12

Sample file: >A3827 Spectrum #: 364
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83*	96377	986	"BIGDB	64	23	0	0	79	15	51	78
2.	68*	4806615	963	"BIGDB	45	38	0	0	98	24	30	57
3.	66*	4076362	998	"BIGDB	37	47	0	0	71	17	31	42
4.	53*	3638355	962	"BIGDB	34	49	0	0	86	28	24	33
5.	42	110827	5712	"BIGDB	47	46	2	0	72	24	17	13

CORRECTED TOTAL ION AREA OF UNKNOWN= 352461.0
CORRECTED TOTAL ION AREA OF INTERNAL= 334916.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 10.00
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 530.00

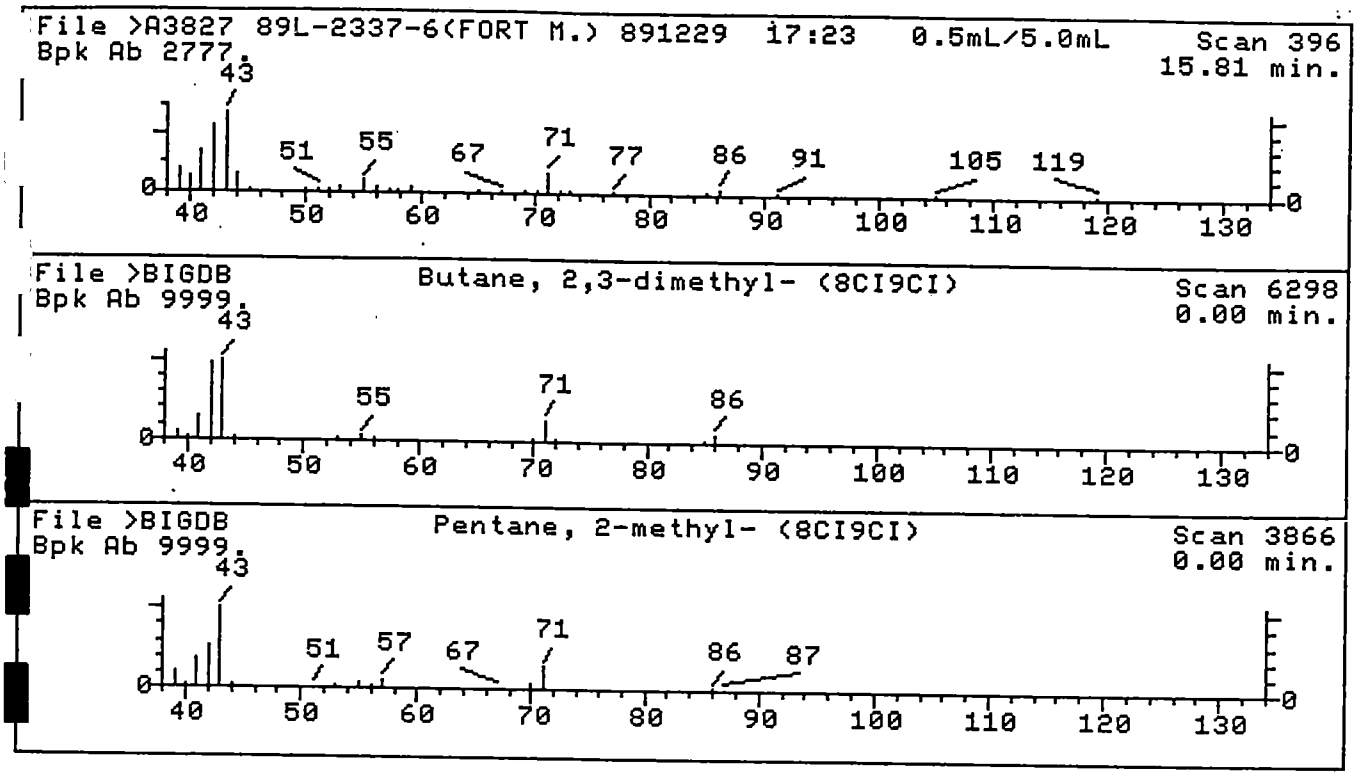


1.	Acetamide (8CI9CI)	59 C2H5NO
2.	2-Butanone, 3-hydroxy-3-methyl- (8CI9CI)	102 C5H10O2
3.	Acetaldehyde, O-methyloxime (8CI9CI)	73 C3H7NO
4.	1,3-Dioxolane (8CI9CI)	74 C3H6O2

Sample file: >A3827 Spectrum #: 387
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	27*	60355	1577	"BIGDB	22	53	2	0	75	40	10	13
2.	25	115220	1644	"BIGDB	38	43	2	0	92	43	8	13
3.	15*	33581430	4375	"BIGDB	24	60	3	0	267	60	3	12
4.	11*	646060	4378	"BIGDB	20	44	2	0	49	63	2	13

CORRECTED TOTAL ION AREA OF UNKNOWN= 384459.0
CORRECTED TOTAL ION AREA OF INTERNAL= 668186.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 10.00
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 290.00

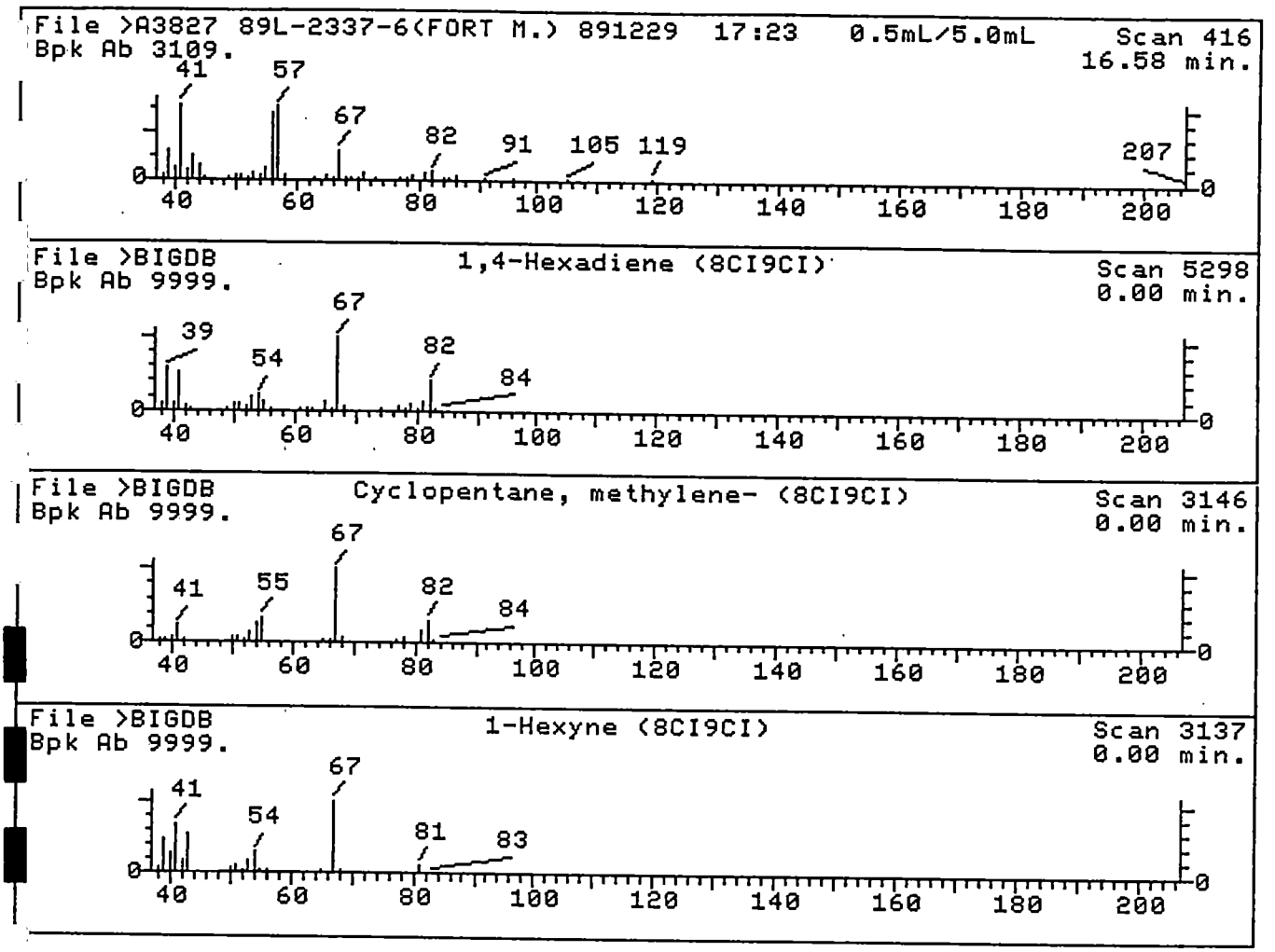


1. Butane, 2,3-dimethyl- (8CI9CI) 86 C6H14
2. Pentane, 2-methyl- (8CI9CI) 86 C6H14

Sample file: >A3827 Spectrum #: 396
Search speed: 1 Tilting option: S No. of ion ranges searched: 57

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	52	79298	6298	"BIGDB	36	46	1	0	67	18	20	13
2.	24*	107835	3866	"BIGDB	24	62	3	0	100	42	8	12

CORRECTED TOTAL ION AREA OF UNKNOWN= 88680.00
CORRECTED TOTAL ION AREA OF INTERNAL= 668186.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 10.00
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 66.00

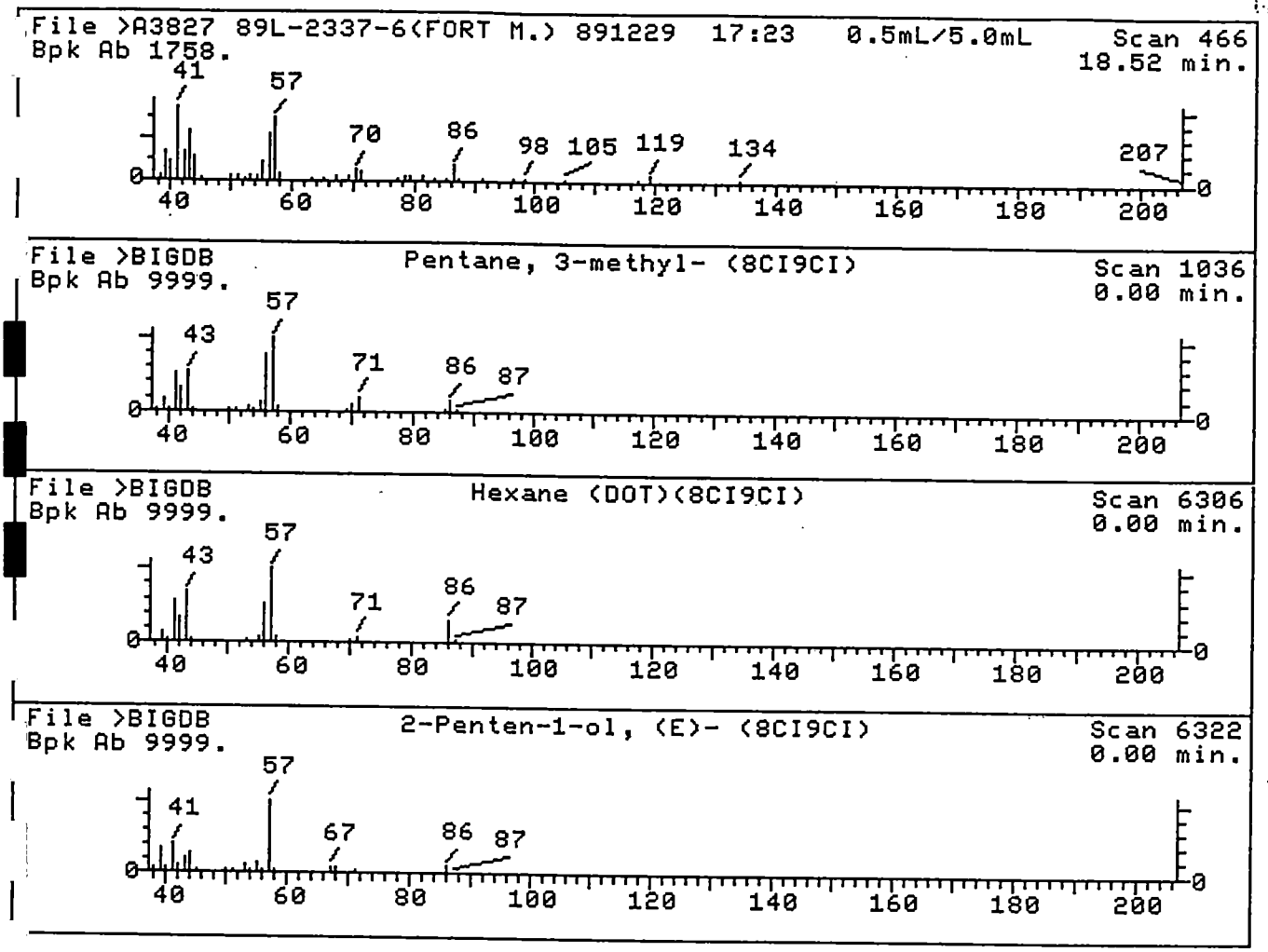


1.	1,4-Hexadiene (8CI9CI)	82 C6H10
2.	Cyclopentane, methylene- (8CI9CI)	82 C6H10
3.	1-Hexyne (8CI9CI)	82 C6H10
4.	1-Propene, 2-methyl- (9CI)	56 C4H8
5.	Cyclopentene, 4-methyl- (8CI9CI)	82 C6H10

Sample file: >A3827 Spectrum #: 416
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	32*	592450	5298	"BIGDB	49	38	2	2	29	43	12	23
2.	30*	1528309	3146	"BIGDB	48	25	2	2	40	48	10	22
3.	26*	693027	3137	"BIGDB	38	45	2	2	40	38	10	12
4.	25*	115117	940	"BIGDB	34	39	2	0	100	47	7	17
5.	25*	1759815	3147	"BIGDB	42	27	1	2	40	47	7	17

CORRECTED TOTAL ION AREA OF UNKNOWN= 183557.0
CORRECTED TOTAL ION AREA OF INTERNAL= 668186.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 10.00
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 140.00

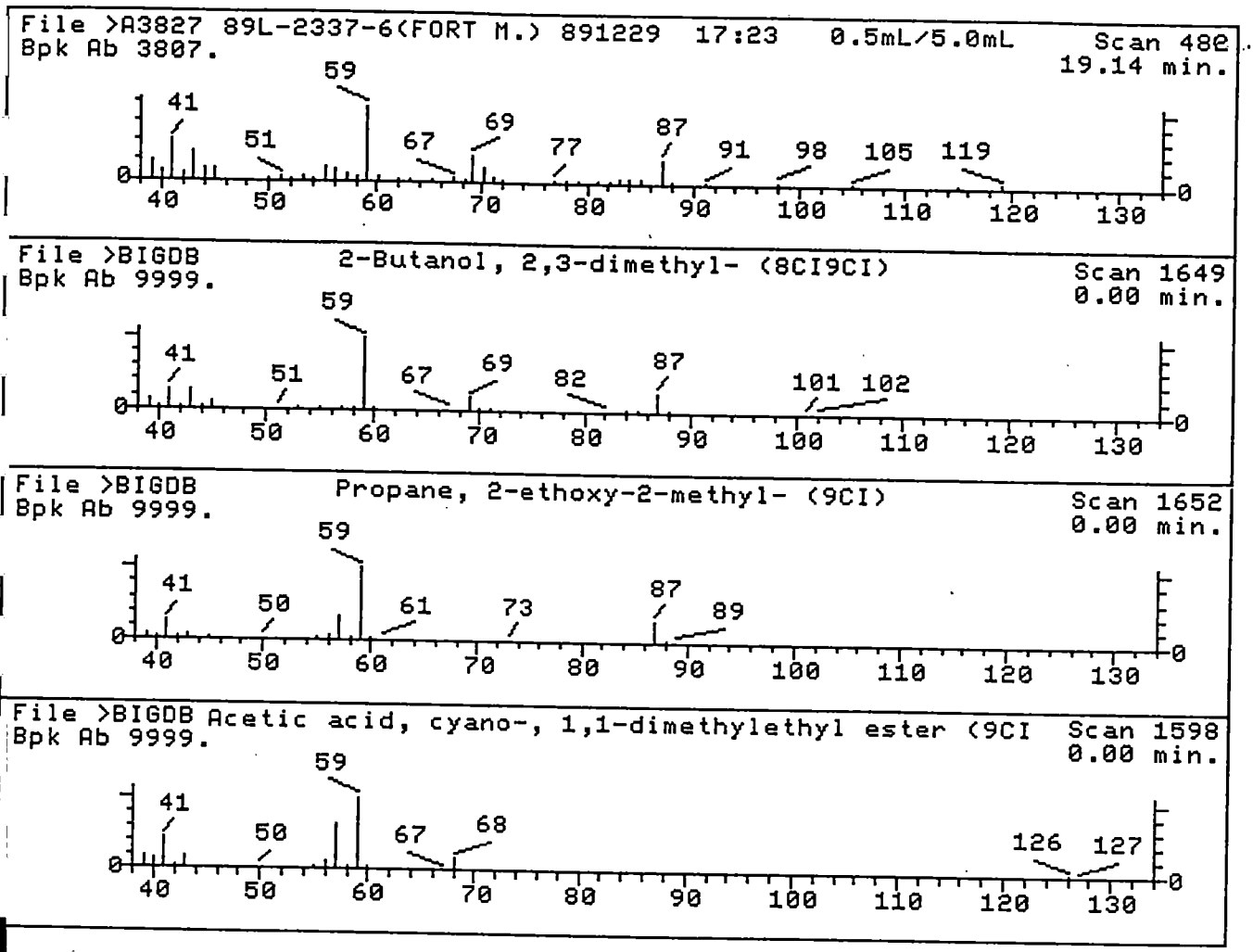


1.	Pentane, 3-methyl- (8CI9CI)	86 C6H14
2.	Hexane (DOT)(8CI9CI)	86 C6H14
3.	2-Penten-1-ol, (E)- (8CI9CI)	86 C5H10O
4.	3-Buten-1-ol, 3-methyl- (8CI9CI)	86 C5H10O
5.	1-Propene, 2-methyl- (9CI)	56 C4H8

Sample file: >A3827 Spectrum #: 466
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	41*	96140	1036	"BIGDB	48	45	1	0	81	41	14	34
2.	30*	110543	6306	"BIGDB	30	59	0	0	67	48	10	22
3.	20*	1576961	6322	"BIGDB	28	63	2	0	85	53	5	14
4.	20*	763326	6316	"BIGDB	37	73	2	0	71	51	5	14
5.	15*	115117	940	"BIGDB	38	35	0	0	73	63	3	44

CORRECTED TOTAL ION AREA OF UNKNOWN= 131299.0
CORRECTED TOTAL ION AREA OF INTERNAL= 668186.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 10.00
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 98.00

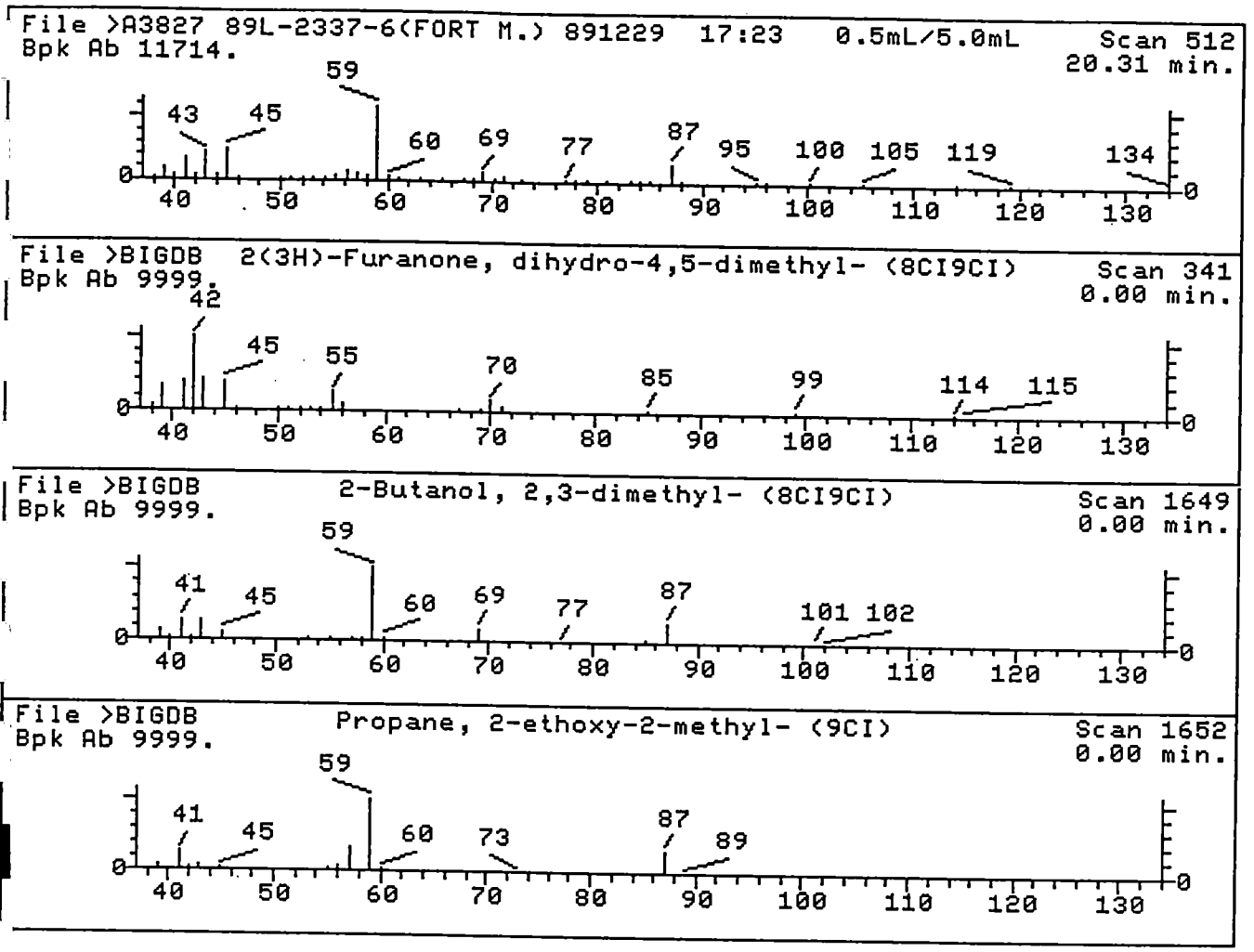


1.	2-Butanol, 2,3-dimethyl- (8CI9CI)	102 C6H14O
2.	Propane, 2-ethoxy-2-methyl- (9CI)	102 C6H14O
3.	Acetic acid, cyano-, 1,1-dimethylethyl ester (9CI)	141 C7H11NO2
4.	Butane, 2-methoxy- (9CI)	88 C5H12O
5.	1-Propanamine (9CI)	59 C3H9N

Sample file: >A3827 Spectrum #: 482
Search speed: 1 Tilting option: S No. of ion ranges searched: 57

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	53	594605	1649	"BIGDB	44	45	0	0	100	24	22	25
2.	35	637923	1652	"BIGDB	37	44	2	0	100	30	14	12
3.	27	1116989	1598	"BIGDB	39	43	2	0	76	38	10	13
4.	27*	6795875	1610	"BIGDB	28	64	1	0	79	41	8	15
5.	25*	107108	97	"BIGDB	23	40	2	0	0	48	7	13

CORRECTED TOTAL ION AREA OF UNKNOWN= 225667.0
CORRECTED TOTAL ION AREA OF INTERNAL= 668186.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 10.00
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 170.00

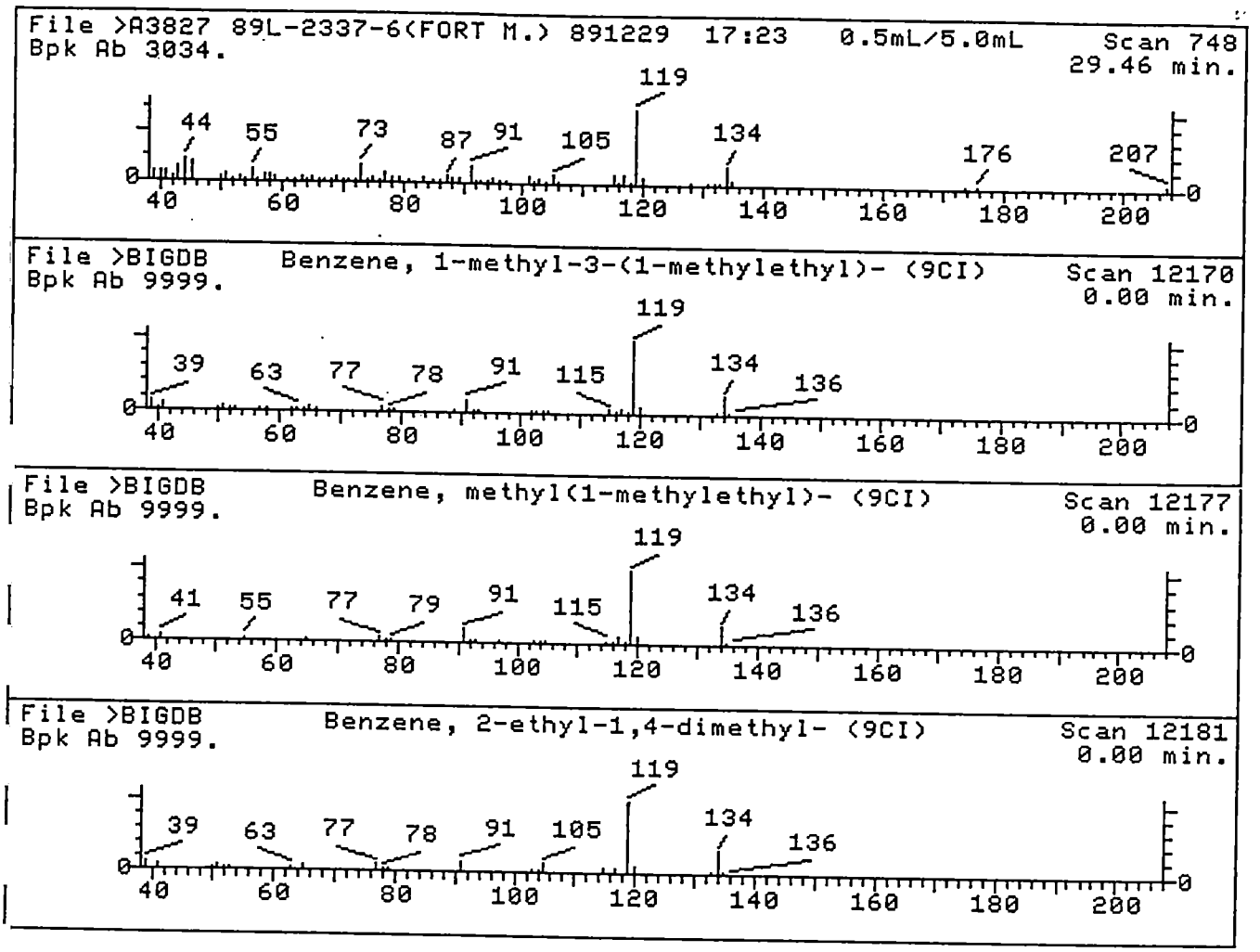


1. 2(3H)-Furanone, dihydro-4,5-dimethyl- (8CI9CI) 114 C6H10O2
2. 2-Butanol, 2,3-dimethyl- (8CI9CI) 102 C6H14O
3. Propane, 2-ethoxy-2-methyl- (9CI) 102 C6H14O
4. 2-Pentanol, 2-methyl- (8CI9CI) 102 C6H14O
5. 2-Butanone, 3-ethoxy-3-methyl- (9CI) 130 C7H14O2

Sample file: >A3827 Spectrum #: 512
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	41*	6971637	341	"BIGDB	39	51	2	2	65	23	17	12
2.	39	594605	1649	"BIGDB	46	43	1	0	91	28	14	16
3.	38	637923	1652	"BIGDB	42	39	1	0	83	27	14	15
4.	34	590363	1648	"BIGDB	51	39	2	0	100	33	12	17
5.	31	36687997	1658	"BIGDB	32	20	0	0	90	40	10	17

CORRECTED TOTAL ION AREA OF UNKNOWN= 372704.0
CORRECTED TOTAL ION AREA OF INTERNAL= 668186.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 10.00
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 280.00

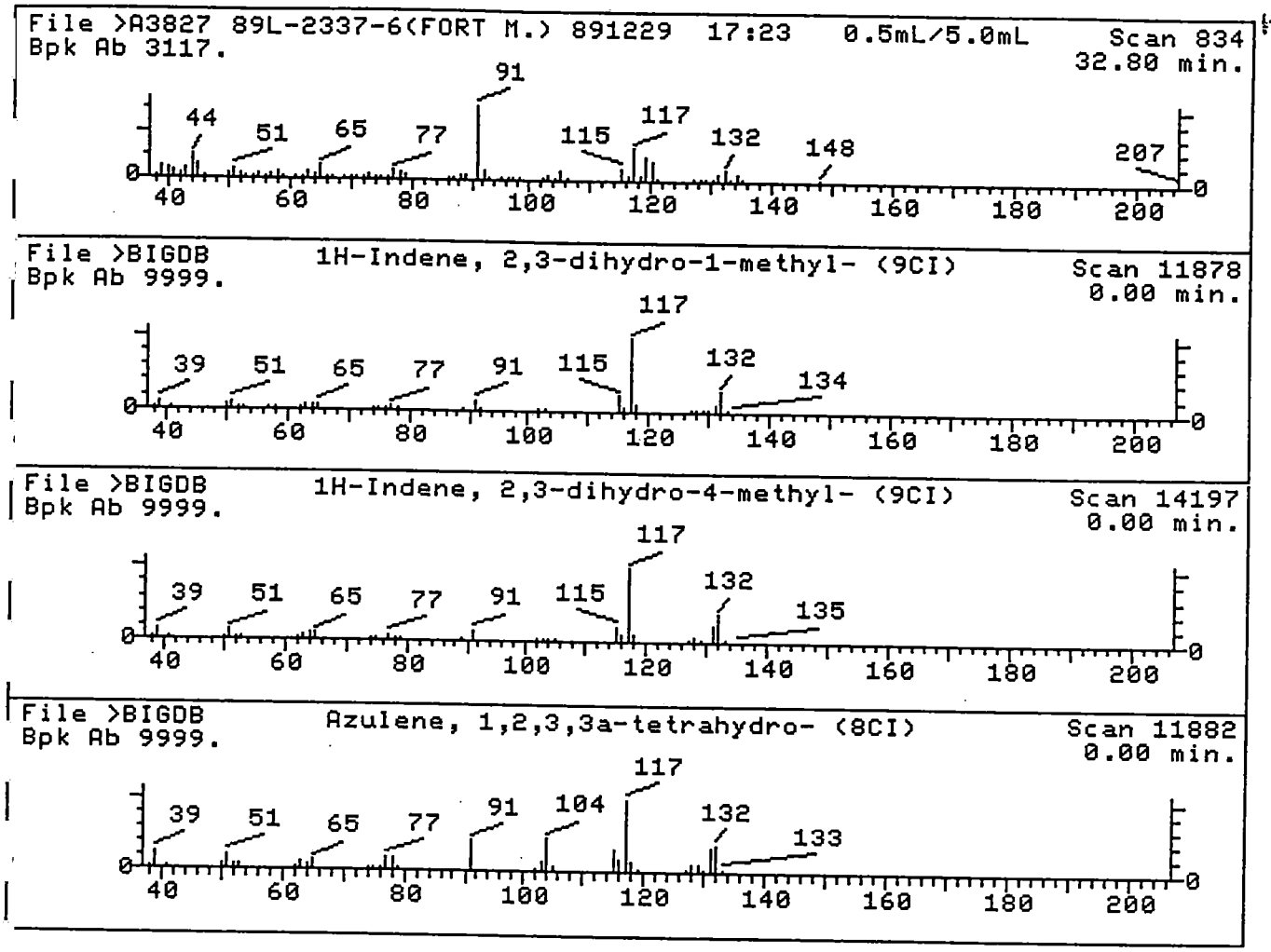


1.	Benzene, 1-methyl-3-(1-methylethyl)- (9CI)	134 C10H14
2.	Benzene, methyl(1-methylethyl)- (9CI)	134 C10H14
3.	Benzene, 2-ethyl-1,4-dimethyl- (9CI)	134 C10H14
4.	Benzene, 1-methyl-2-(1-methylethyl)- (9CI)	134 C10H14
5.	Benzene, 4-ethyl-1,2-dimethyl- (9CI)	134 C10H14

Sample file: >A3827 Spectrum #: 748
Search speed: 1 Tilting option: S No. of ion ranges searched: 57

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	94*	535773	12170	"BIGDB	74	15	0	0	95	15	64	95
2.	93*	25155151	12177	"BIGDB	78	12	1	0	85	15	64	93
3.	92*	1758889	12181	"BIGDB	80	14	0	1	75	15	64	92
4.	87*	527844	12169	"BIGDB	84	8	1	1	97	11	55	86
5.	87*	934805	12173	"BIGDB	72	21	0	0	84	15	55	89

CORRECTED TOTAL ION AREA OF UNKNOWN= 276369.0
CORRECTED TOTAL ION AREA OF INTERNAL= 714419.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 10.00
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 190.00

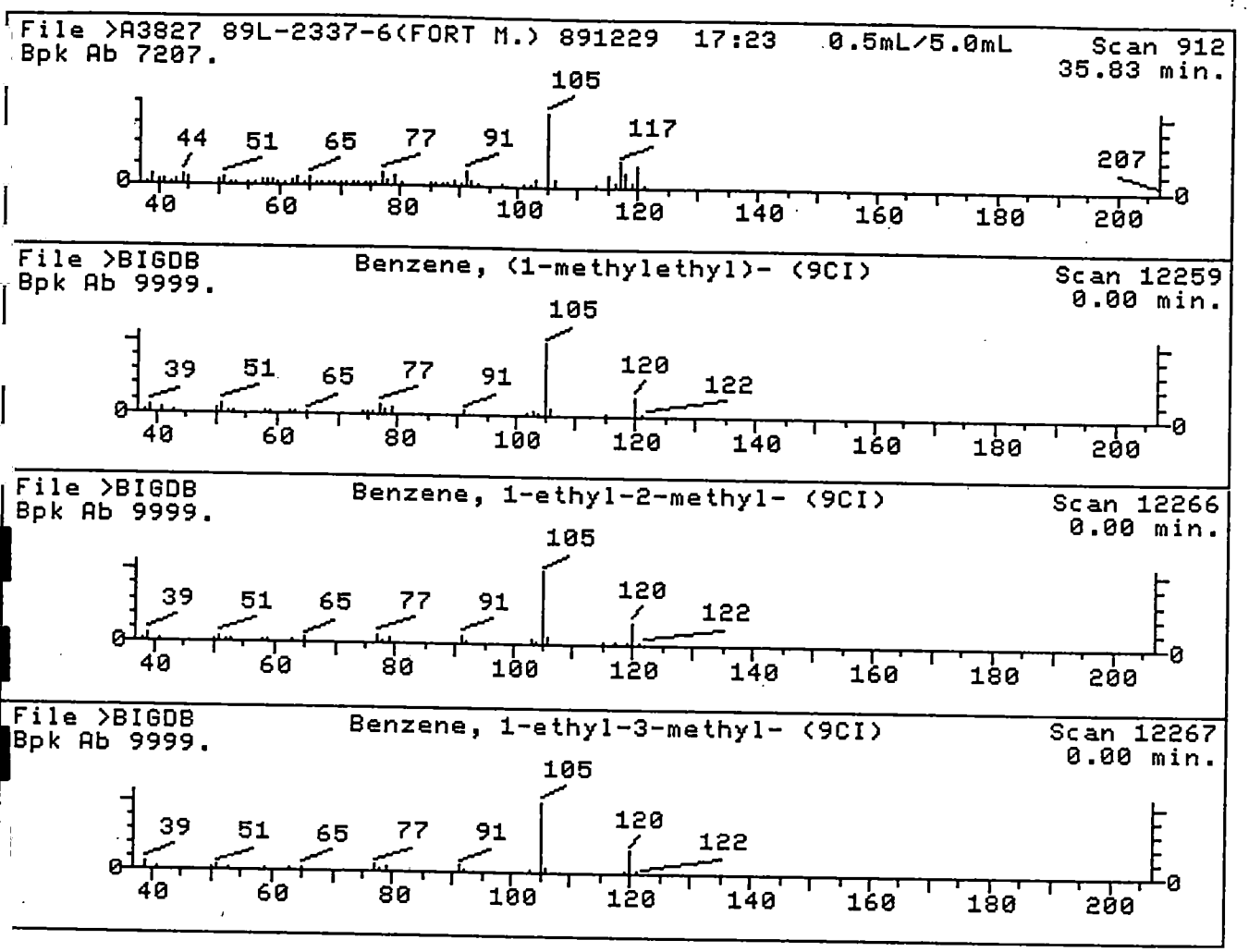


1.	1H-Indene, 2,3-dihydro-1-methyl- (9CI)	132 C10H12
2.	1H-Indene, 2,3-dihydro-4-methyl- (9CI)	132 C10H12
3.	Azulene, 1,2,3,3a-tetrahydro- (8CI)	132 C10H12
4.	Benzene, 1-ethenyl-3-ethyl- (9CI)	132 C10H12
5.	Benzene, 2-butenyl- (9CI)	132 C10H12

Sample file: >A3827 Spectrum #: 834
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	61*	767588	11878	"BIGDB	51	31	0	0	43	42	18	66
2.	56*	824226	14197	"BIGDB	54	38	0	0	32	46	14	66
3.	30*	33877871	11882	"BIGDB	54	45	2	1	42	46	10	26
4.	28*	7525624	11881	"BIGDB	30	50	1	0	38	42	8	16
5.	26*	1560061	14202	"BIGDB	45	49	0	0	26	59	7	53

CORRECTED TOTAL ION AREA OF UNKNOWN= 674733.0
CORRECTED TOTAL ION AREA OF INTERNAL= 714419.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 10.00
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 470.00

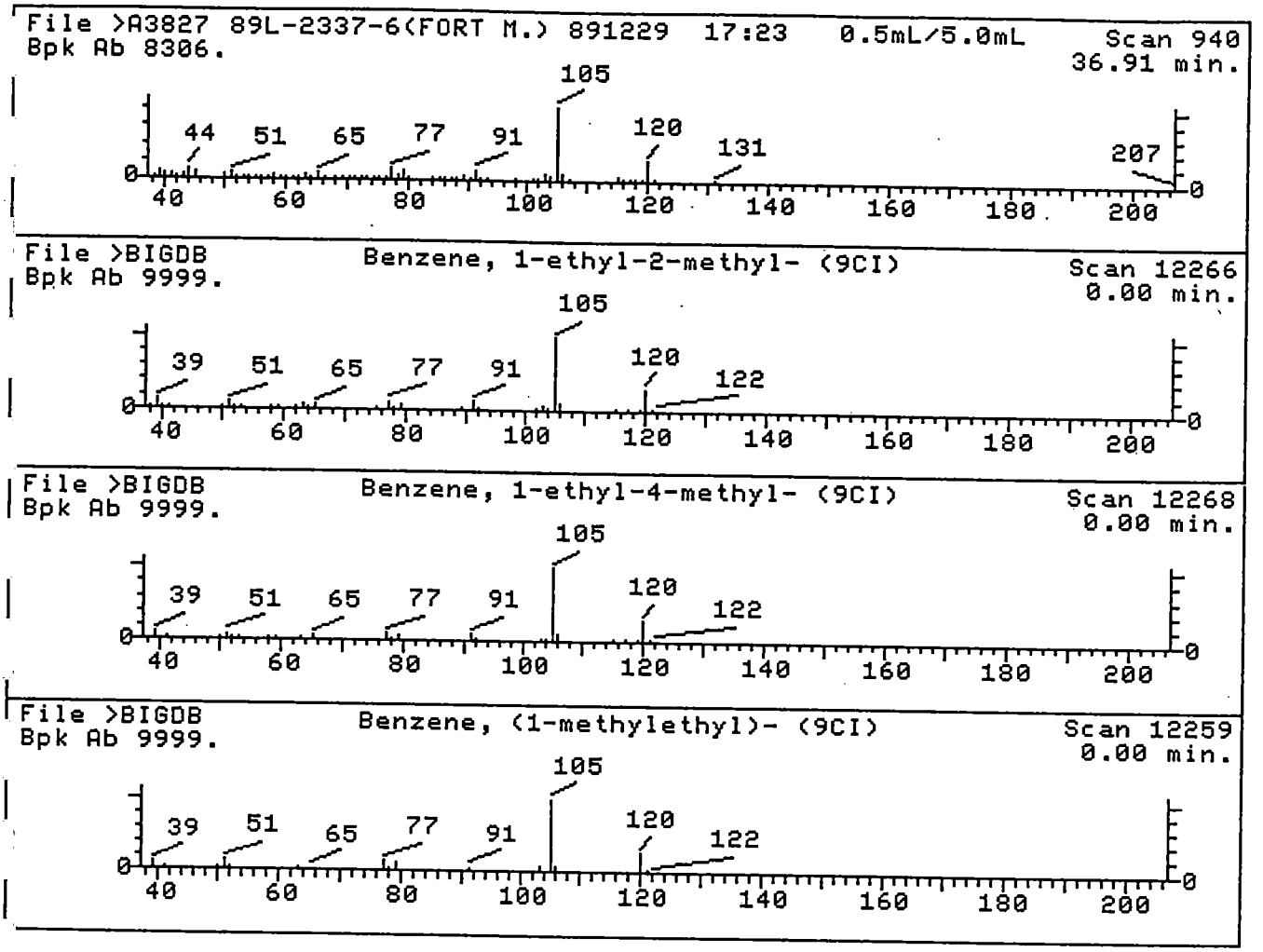


1.	Benzene, (1-methylethyl)- (9CI)	120 C9H12
2.	Benzene, 1-ethyl-2-methyl- (9CI)	120 C9H12
3.	Benzene, 1-ethyl-3-methyl- (9CI)	120 C9H12
4.	Benzene, 1-ethyl-4-methyl- (9CI)	120 C9H12
5.	Benzene, 1,1'-(1-methyl-1,2-ethanediyl)bis- (9CI)	196 C15H16

Sample file: >A3827 Spectrum #: 912
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	69*	98828	12259	"BIGDB	60	27	1	0	99	32	26	60
2.	69*	611143	12266	"BIGDB	53	32	0	0	95	31	26	65
3.	65*	620144	12267	"BIGDB	60	27	1	2	99	35	24	56
4.	64*	622968	12268	"BIGDB	40	45	0	0	98	34	22	49
5.	29	5814857	9857	"BIGDB	55	44	1	0	95	43	8	17

CORRECTED TOTAL ION AREA OF UNKNOWN= 884126.0
CORRECTED TOTAL ION AREA OF INTERNAL= 714419.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 10.00
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 620.00

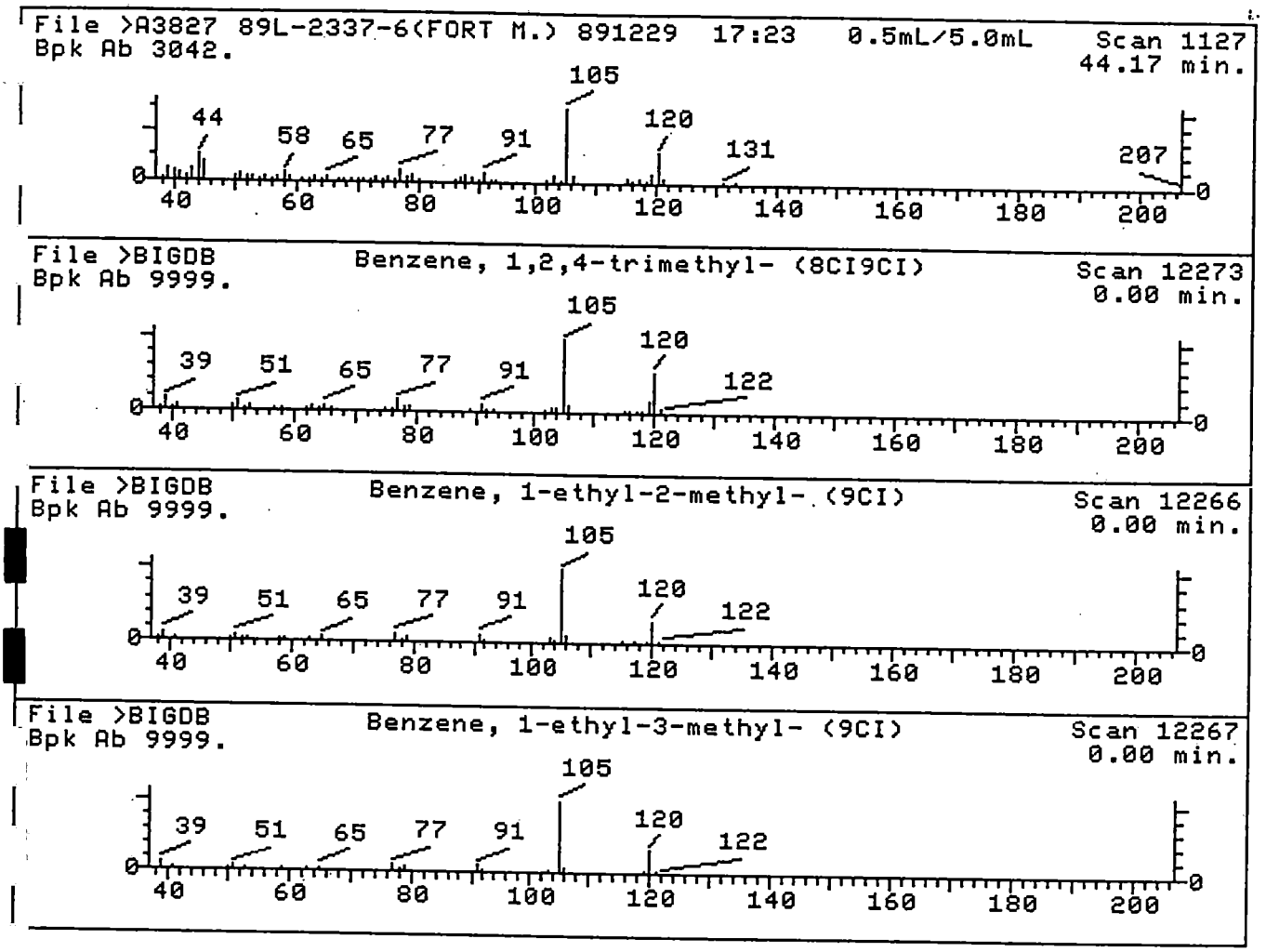


1.	Benzene, 1-ethyl-2-methyl- (9CI)	120 C9H12
2.	Benzene, 1-ethyl-4-methyl- (9CI)	120 C9H12
3.	Benzene, (1-methylethyl)- (9CI)	120 C9H12
4.	Benzene, 1-ethyl-3-methyl- (9CI)	120 C9H12
5.	Benzene, 1,1'-(1-methyl-1,2-ethanediyl)bis- (9CI)	196 C15H16

Sample file: >A3827 Spectrum #: 940
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	97*	611143	12266	"BIGDB	80	5	0	0	89	10	68	97
2.	92*	622968	12268	"BIGDB	67	18	0	0	79	14	64	92
3.	86*	98828	12259	"BIGDB	69	18	1	0	87	10	59	77
4.	74*	620144	12267	"BIGDB	57	30	2	0	84	14	39	43
5.	59	5814857	9857	"BIGDB	71	28	1	0	90	24	27	35

CORRECTED TOTAL ION AREA OF UNKNOWN= 740418.0
CORRECTED TOTAL ION AREA OF INTERNAL= 714419.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 10.00
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 520.00



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

Sample file: >A3827 Spectrum #: 1127
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	92*	95636	12273	"BIGDB	81	14	1	0	68	17	60	92
2.	86*	611143	12266	"BIGDB	70	15	1	0	100	20	50	86
3.	86*	620144	12267	"BIGDB	70	17	1	0	100	19	50	80
4.	81*	622968	12268	"BIGDB	64	21	0	0	92	32	40	83
5.	75*	98828	12259	"BIGDB	72	15	0	-3	100	25	41	71

CORRECTED TOTAL ION AREA OF UNKNOWN= 409375.0
ORRECTED TOTAL ION AREA OF INTERNAL= 714419.0
ONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 10.00
EMI-QUANTITATION OF UNKNOWN(UG/L)= 290.00

89L-2337-7 Sample Data Package

QUANT REPORT

Operator ID: RICK
Output File: ^A3821::D3
Data File: >A3821::D4 FORT.m
Name: 89L-2337-7(GROUND W)
Misc: 891229 12:03 5ML

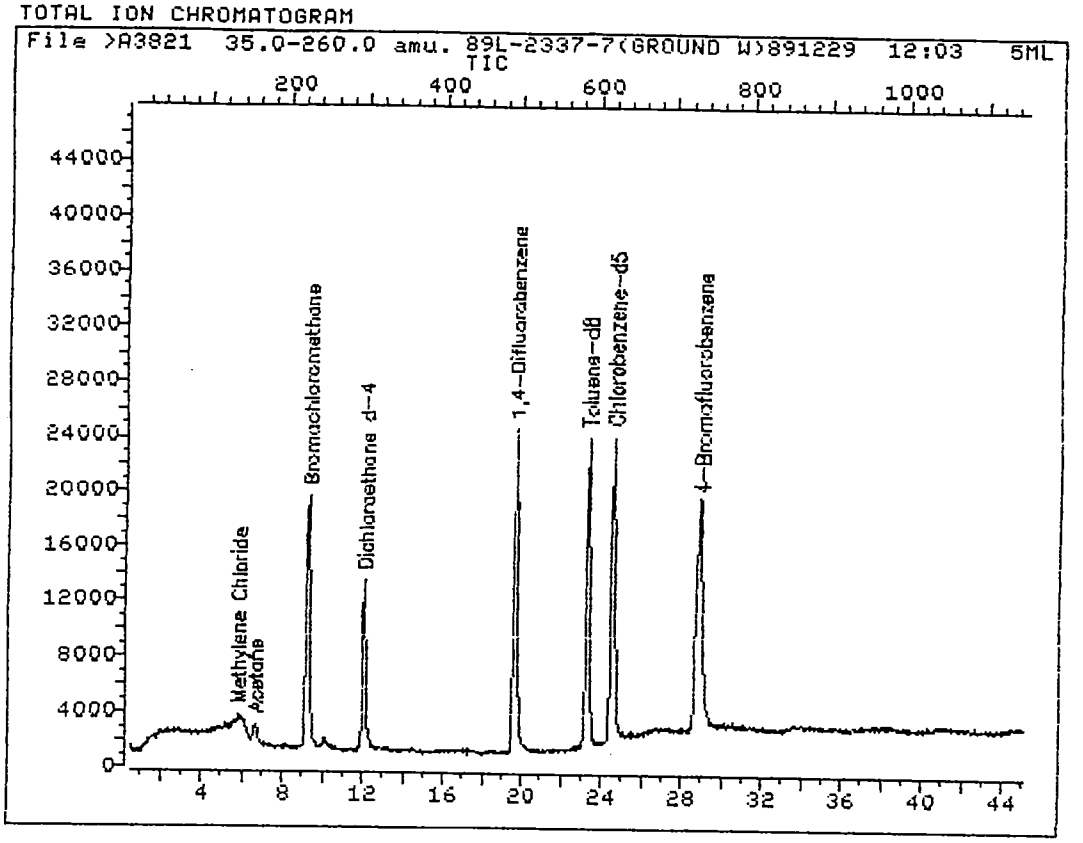
Quant Rev: 6 Quant Time: 891229 12:51
Injected at: 891229 12:02
Dilution Factor: 1.00000

ID File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.27	227	33465	50.00	ug/L	92
6)	Methylene Chloride	5.82	138	2230	3.37	ug/L	88
9)	Acetone	6.67	160	9399	25.12	ug/L	81
16)	1,2-Dichloroethane-d4	12.06	299	60446	38.46	ug/L	91
24)	*1,4-Difluorobenzene	19.66	495	120004	50.00	ug/L	69
34)	*Chlorobenzene-d5	24.54	621	87460	50.00	ug/L	98
40)	Toluene-d8	23.30	589	103552	52.93	ug/L	96
46)	Bromofluorobenzene	28.93	734	68584	47.35	ug/L	93

* Compound is ISTD

TOTAL ION CHROMATOGRAM



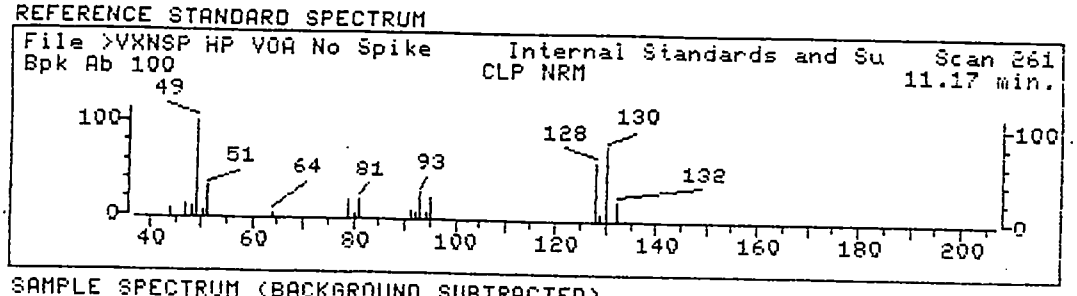
Data File: >A3821::D4 F
Name: 89L-2337-7(GROUND W)
Misc: 891229 12:03 5ML

Quant Output File: ^A3821::D3

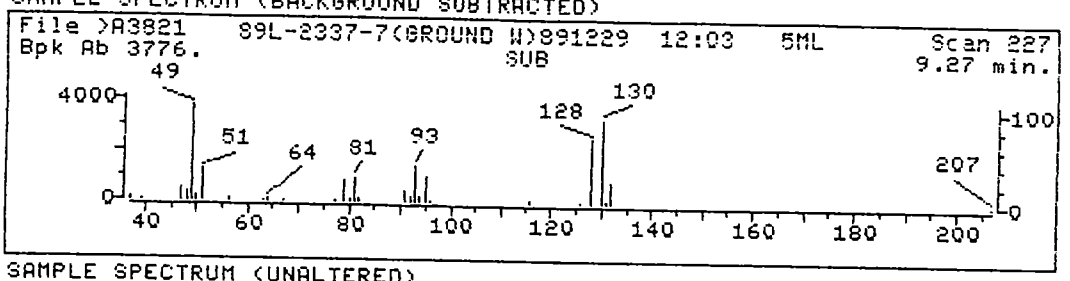
Id File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

Operator ID: RICK
Quant Time: 891229 12:51
Injected at: 891229 12:02

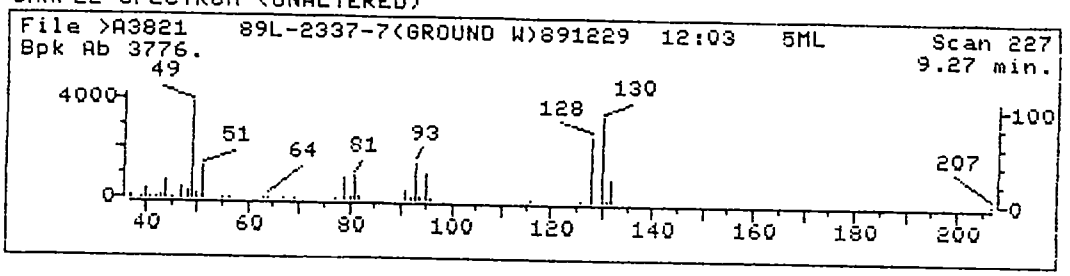
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



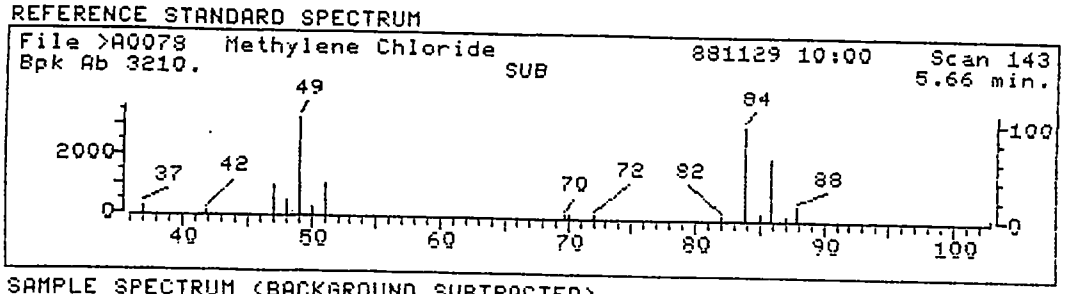
Data File: >A3821::D4
Name: 89L-2337-7(GROUND W)
Misc: 891229 12:03 5ML
Quant Time: 891229 12:51
Injected at: 891229 12:02

Quant Output File: ^A3821::D3

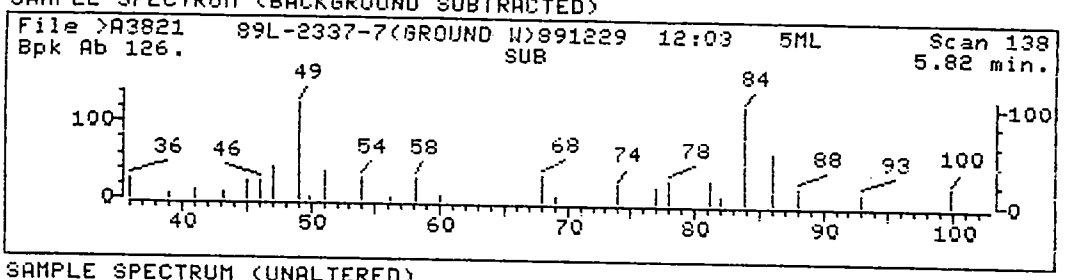
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 227
Retention Time: 9.27 min.
Quant Ion: 128.0
Area: 33465
Concentration: 50.00 ug/L
q-value: 92

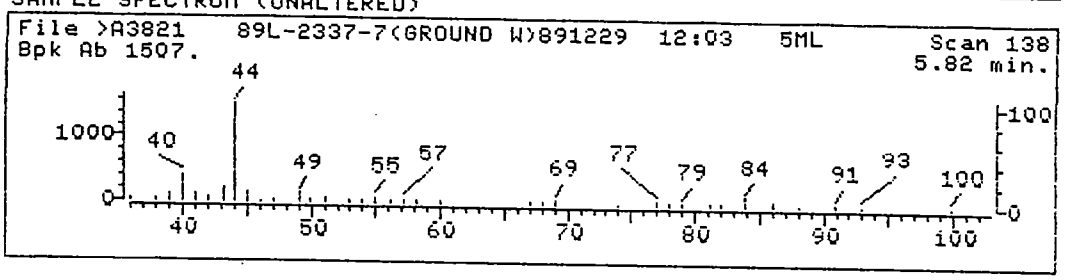
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



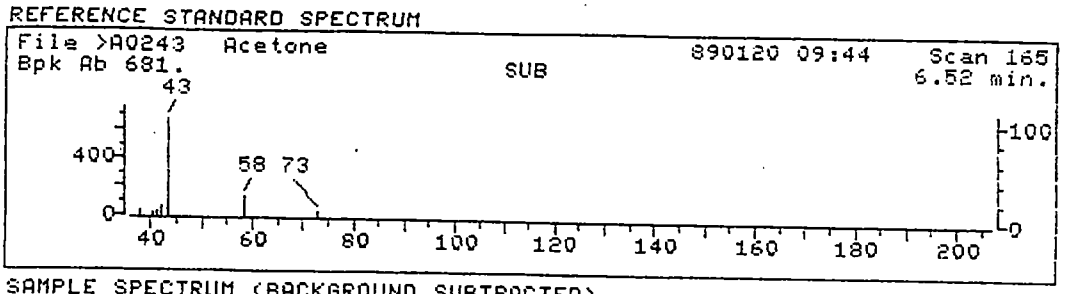
Data File: >A3821::D4
Name: 89L-2337-7(GROUND W)
Misc: 891229 12:03 5ML
Quant Time: 891229 12:51
Injected at: 891229 12:02

Quant Output File: ^A3821::D3

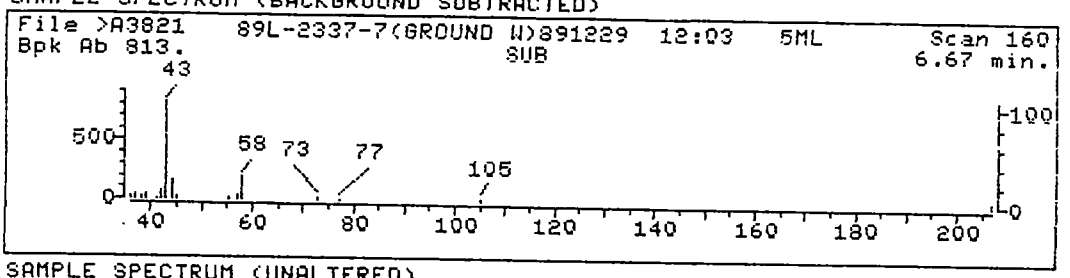
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 138
Retention Time: 5.82 min.
Quant Ion: 84.0
Area: 2230
Concentration: 3.37 ug/L
q-value: 88

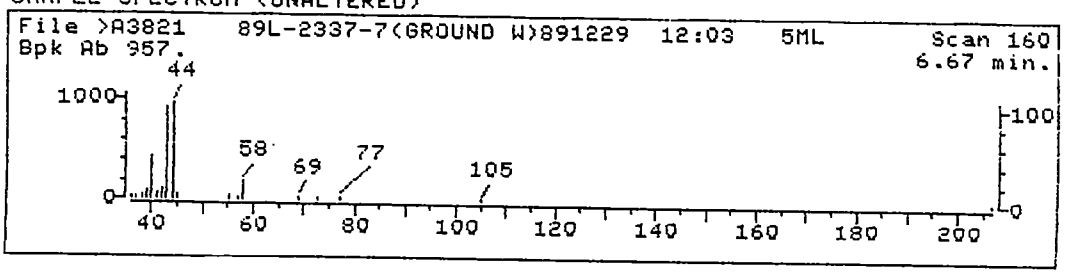
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



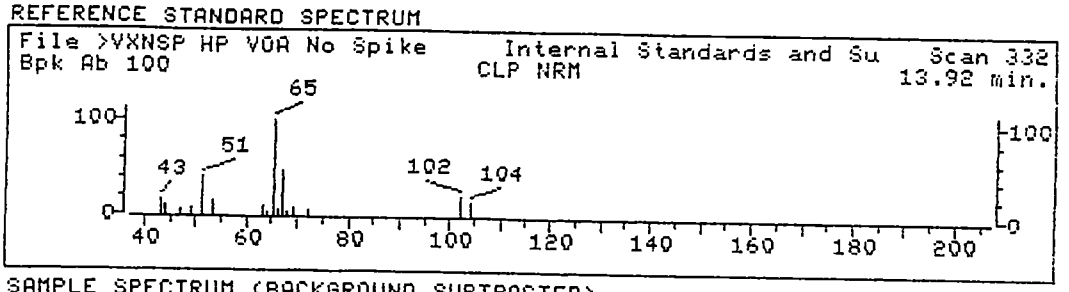
Data File: >A3821::D4
Name: 89L-2337-7(GROUND W)
Misc: 891229 12:03 5ML
Quant Time: 891229 12:51
Injected at: 891229 12:02

Quant Output File: ^A3821::D3

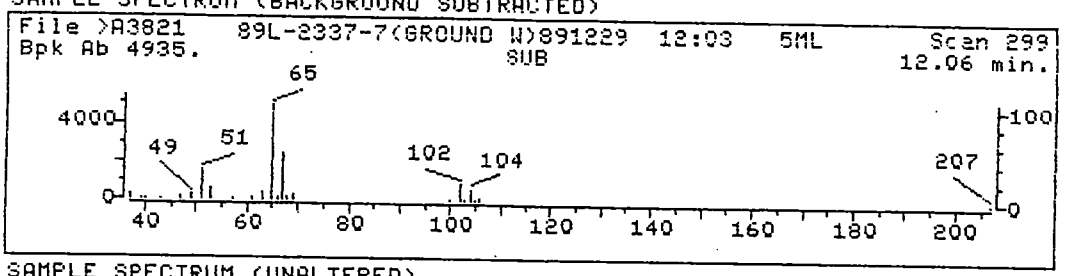
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 9
Compound Name: Acetone
Scan Number: 160
Retention Time: 6.67 min.
Quant Ion: 43.0
Area: 9399
Concentration: 25.12 ug/L
q-value: 81

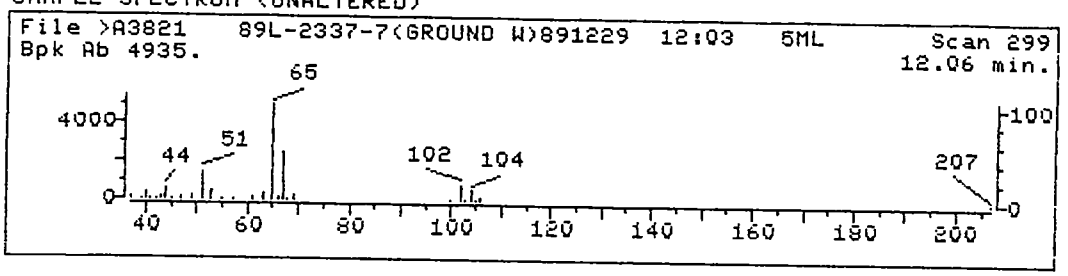
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

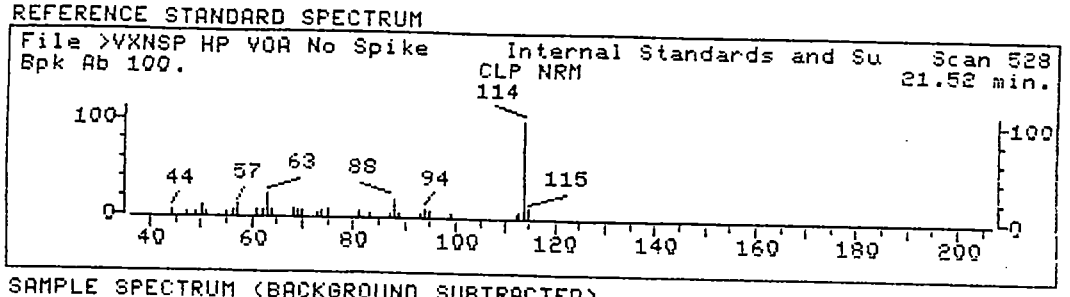


Data File: >A3821::D4
Name: 89L-2337-7(GROUND W)
Misc: 891229 12:03 5ML
Quant Time: 891229 12:51
Injected at: 891229 12:02

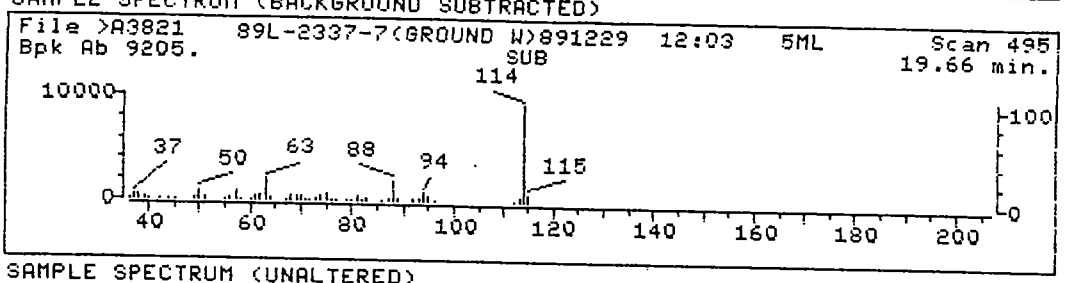
Quant Output File: ^A3821::D3
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 16
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 299
Retention Time: 12.06 min.
Quant Ion: 65.0
Area: 60446
Concentration: 38.46 ug/L
q-value: 91

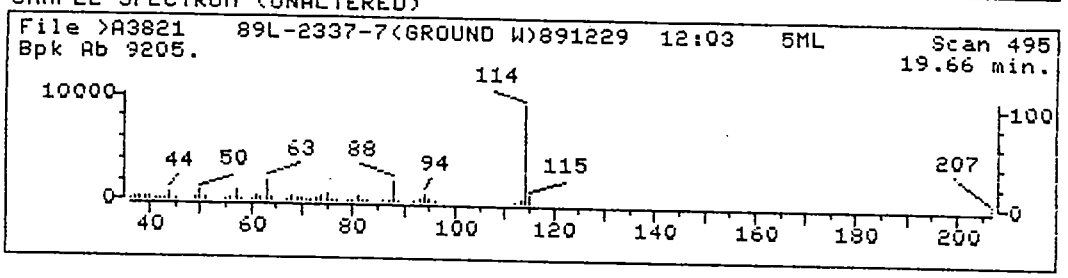
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



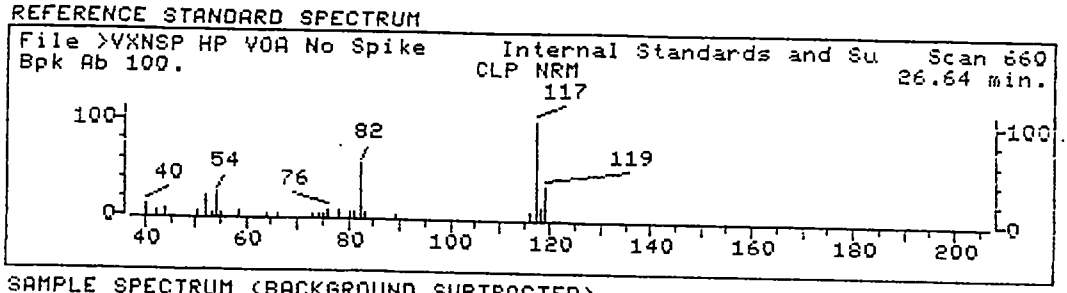
Data File: >A3821::D4
Name: 89L-2337-7(GROUND W)
Misc: 891229 12:03 5ML
Quant Time: 891229 12:51
Injected at: 891229 12:02

Quant Output File: ^A3821::D3

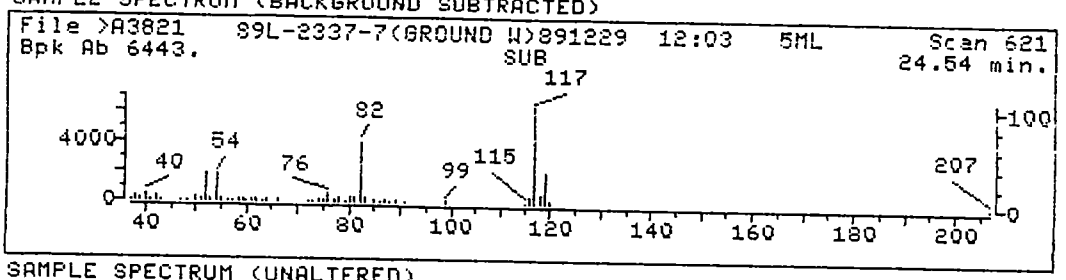
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 24 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 495
Retention Time: 19.66 min.
Quant Ion: 114.0
Area: 120004
Concentration: 50.00 ug/L
q-value: 69

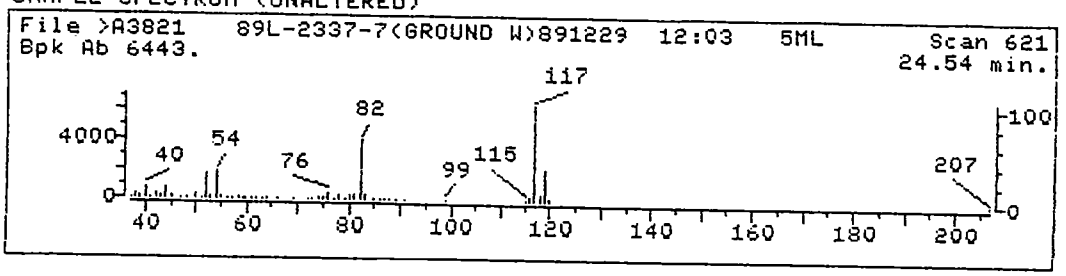
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



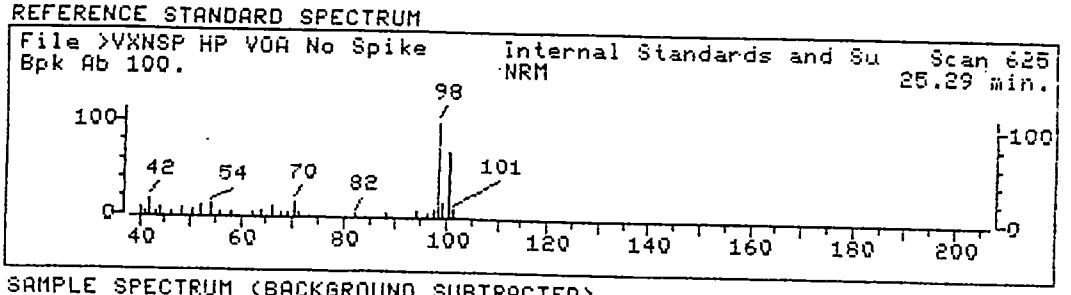
Data File: >A3821::D4
Name: 89L-2337-7(GROUND W)
Misc: 891229 12:03 5ML
Quant Time: 891229 12:51
Injected at: 891229 12:02

Quant Output File: ^A3821::D3

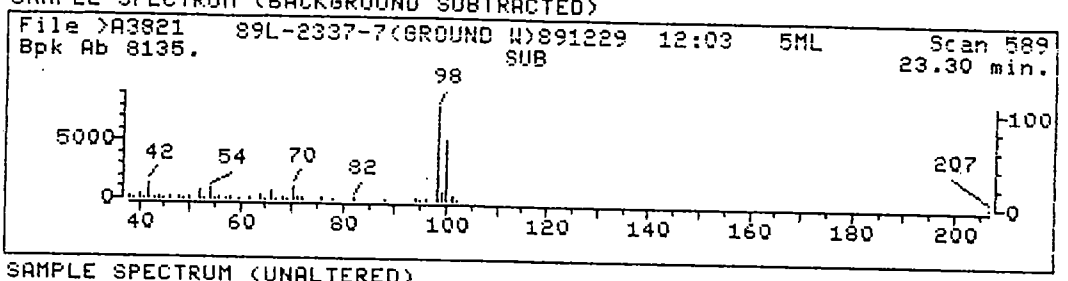
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 34 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 621
Retention Time: 24.54 min.
Quant Ion: 117.0
Area: 87460
Concentration: 50.00 ug/L
q-value: 98

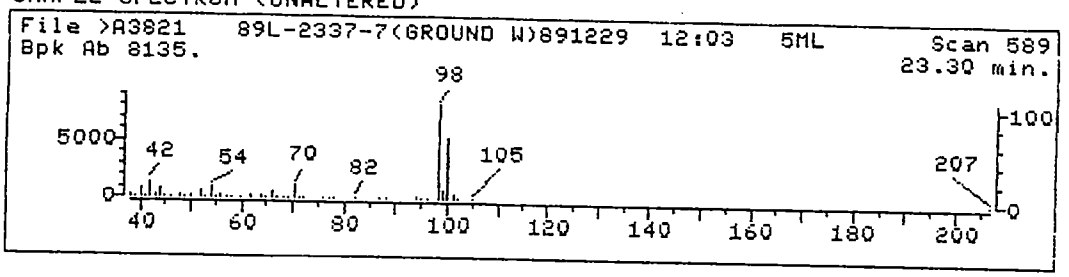
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



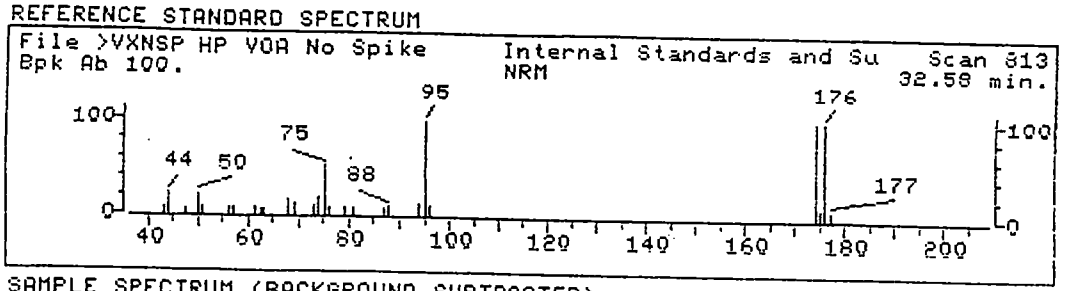
Data File: >A3821::D4
Name: 89L-2337-7(GROUND W)
Misc: 891229 12:03 5ML
Quant Time: 891229 12:51
Injected at: 891229 12:02

Quant Output File: ^A3821::D3

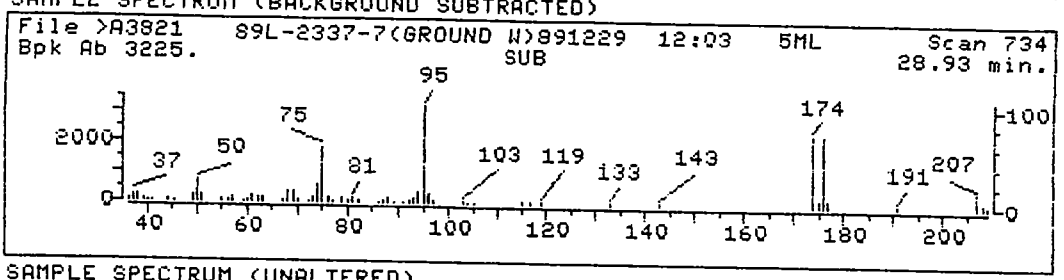
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 40
Compound Name: Toluene-d8
Scan Number: 589
Retention Time: 23.30 min.
Quant Ion: 98.0
Area: 103552
Concentration: 52.93 ug/L
q-value: 96

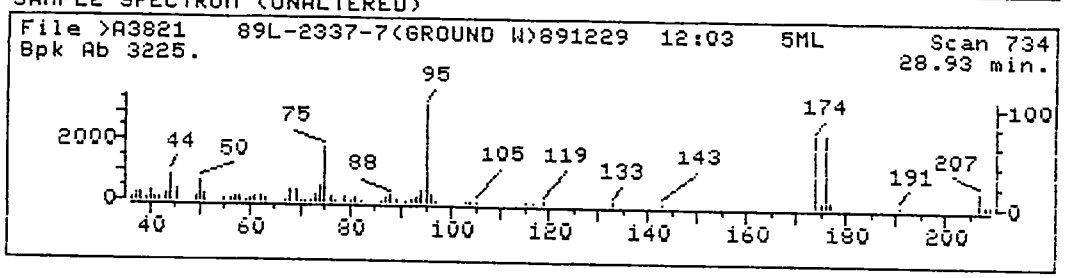
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >A3821::D4
Name: 89L-2337-7(GROUND W)
Misc: 891229 12:03 5ML
Quant Time: 891229 12:51
Injected at: 891229 12:02

Quant Output File: ^A3821::D3

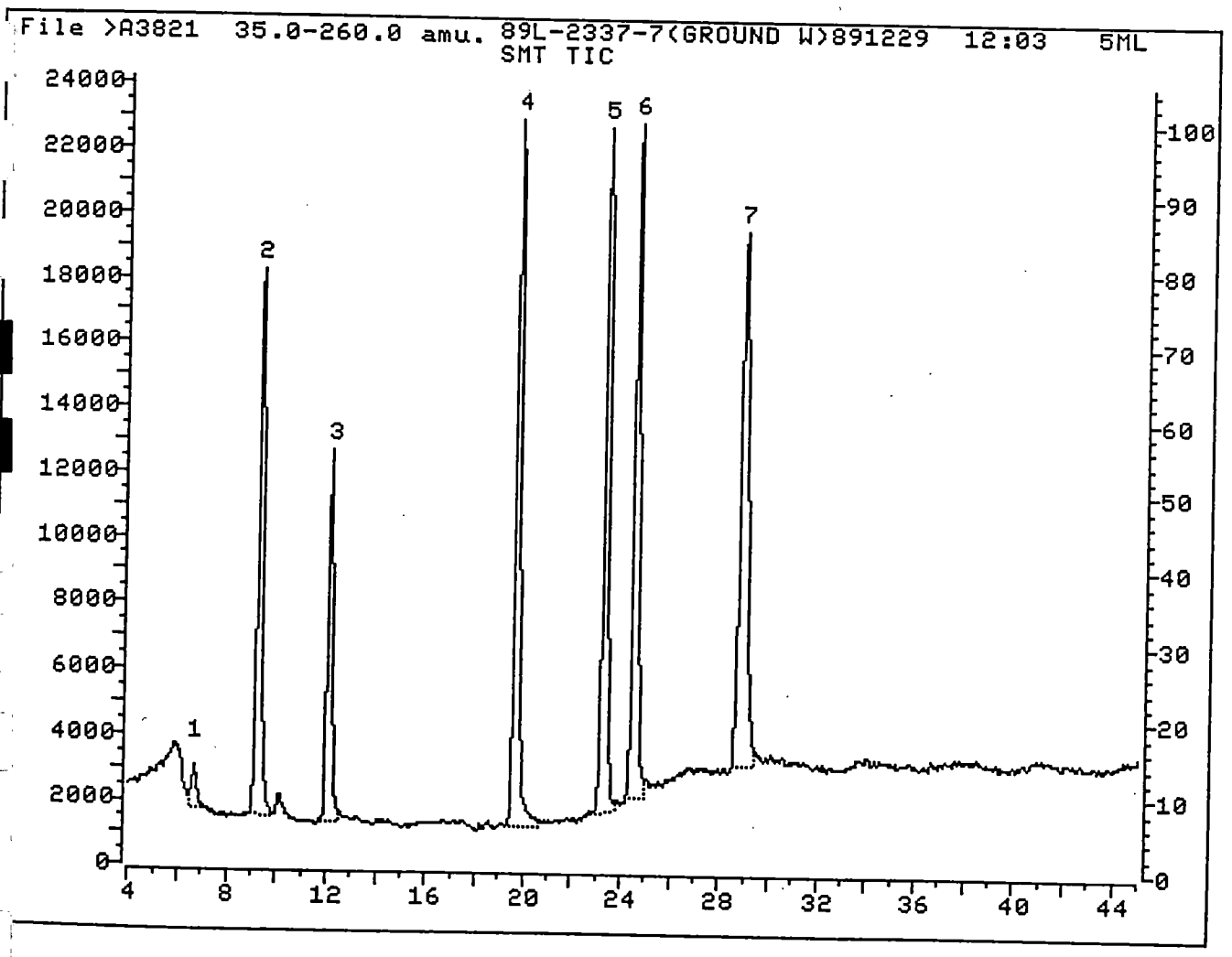
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 46
Compound Name: Bromofluorobenzene
Scan Number: 734
Retention Time: 28.93 min.
Quant Ion: 95.0
Area: 68584
Concentration: 47.35 ug/L
q-value: 93

>A3821 89L-2337-7(GROUND W)891229 12:03 5ML
35.0| 260.0 SMT TIC
Upslope: .20 Area Reject: 4.00 % Max Peaks: 7 Bunching: 1
Dnslope: 0.00 Results File VDIR77 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area		corr. % max.	% of total
1	6.67	155	160	172	1289	87514	19280	TC	5.55	1.167
2	9.27	219	227	241	16728	308574	228658	IS	65.83	13.839
3	12.10	292	300	310	11306	209822	151558	SS	43.63	9.173
4	19.66	485	495	520	21734	420335	314577	IS	90.56	19.039
5	23.30	581	589	601	21009	377115	292473	SS	84.20	17.701
6	24.54	613	621	632	20679	397152	298371	IS	85.89	18.058
7	28.89	723	733	747	16365	531282	347372	SS	100.00	21.024

Sum of corrected areas: 1652289.



89L-2337-8 Sample Data Package

QUANT REPORT

Operator ID: RICK
Output File: ^A3807::QT
Data File: >A3807::D4
Name: 89L-2337-8(GRDWATER)
Misc: 891222 17:00 5.0mL

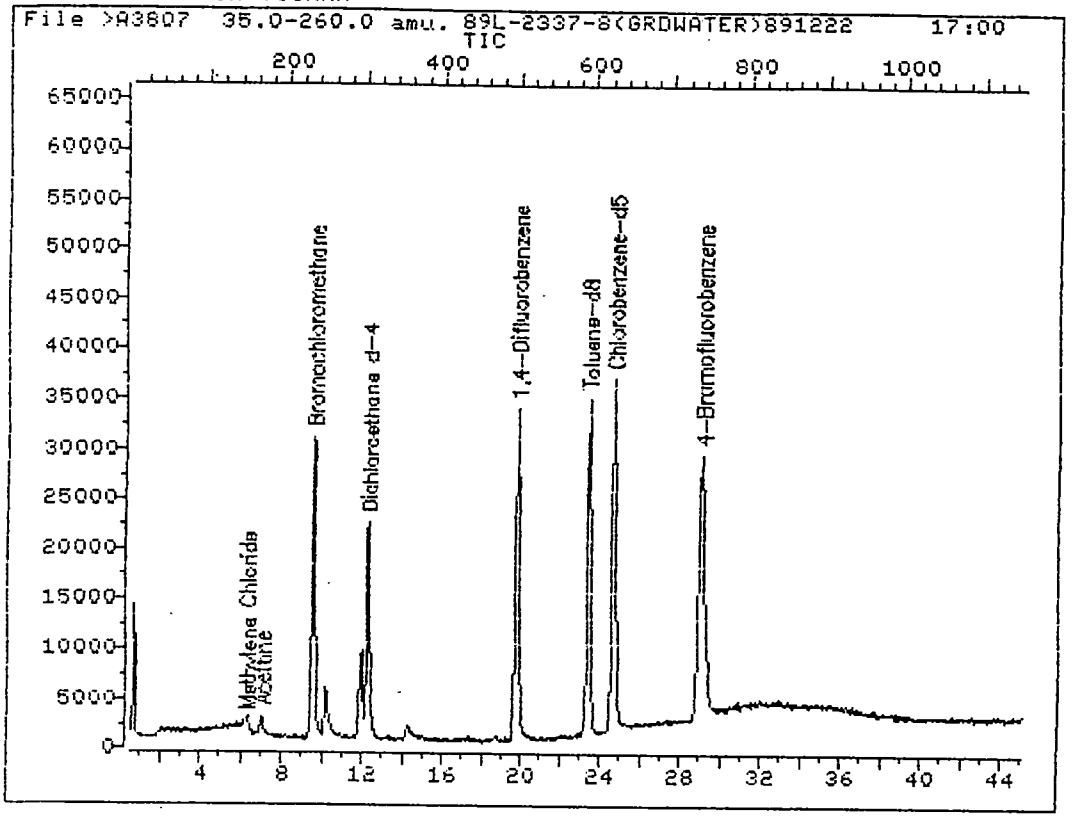
Quant Rev: 6 Quant Time: 891222 19:43
Injected at: 891222 17:00
Dilution Factor: 1.00000

ID File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.53	234	45223	50.00	ug/L	84
6)	Methylene Chloride	6.31	151	1345	1.50	ug/L	65
9)	Acetone	7.05	170	18779	37.15	ug/L	81
16)	1,2-Dichloroethane-d4	12.28	305	103662	48.81	ug/L	86
24)	*1,4-Difluorobenzene	19.76	498	148528	50.00	ug/L	70
34)	*Chlorobenzene-d5	24.64	624	122362	50.00	ug/L	98
40)	Toluene-d8	23.40	592	143610	52.47	ug/L	92
46)	Bromofluorobenzene	29.06	738	99795	49.25	ug/L	94

* Compound is ISTD

TOTAL ION CHROMATOGRAM

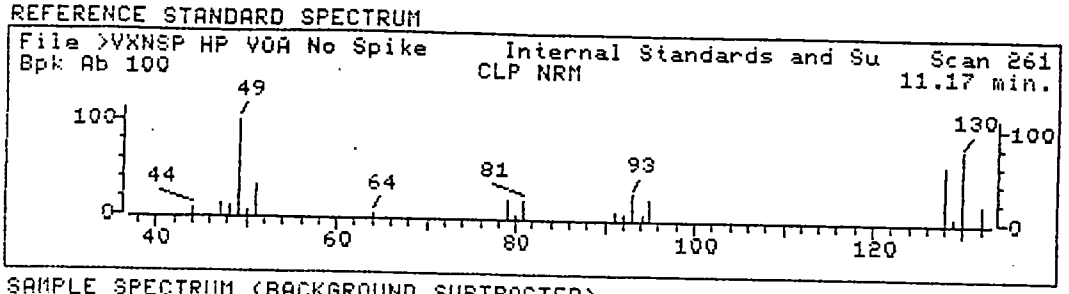


Data File: >A3807::D4 Quant Output File: ^A3807::QT
Name: 89L-2337-8(GRDWATER)
Misc: 891222 17:00 5.0mL

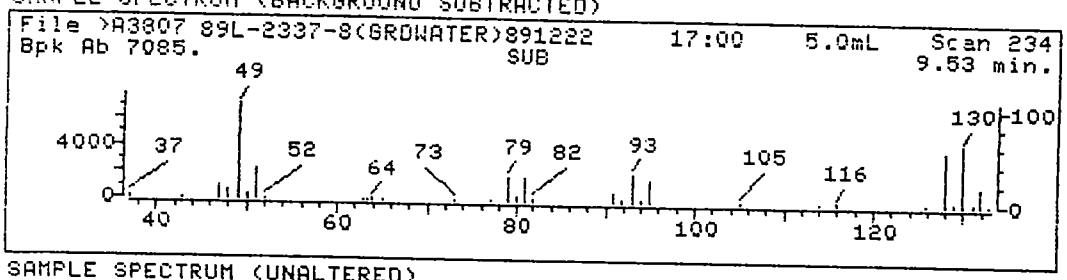
Id File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

Operator ID: RICK
Quant Time: 891222 19:43
Injected at: 891222 17:00

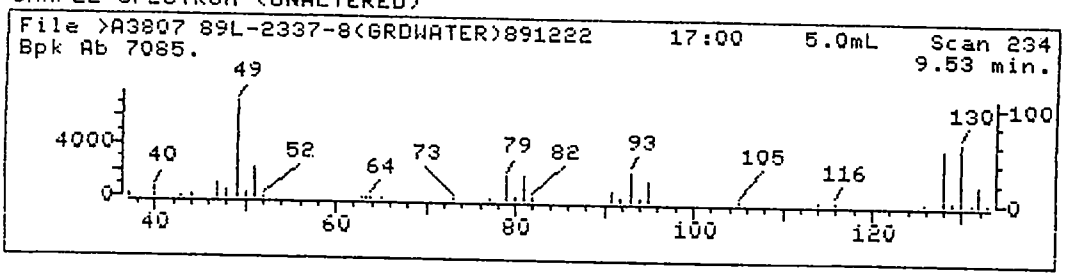
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

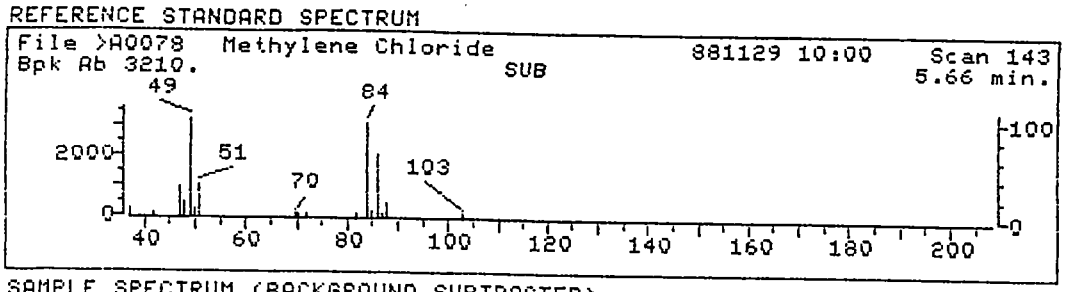


Data File: >A3807::D4
Name: 89L-2337-8(GRDWATER)
Misc: 891222 17:00 5.0mL
Quant Time: 891222 19:43
Injected at: 891222 17:00

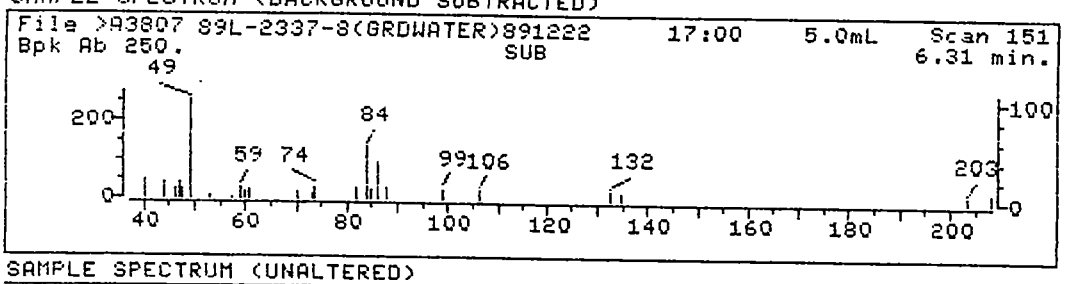
Quant Output File: ^A3807::QT
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 234
Retention Time: 9.53 min.
Quant Ion: 128.0
Area: 45223
Concentration: 50.00 ug/L
q-value: 84

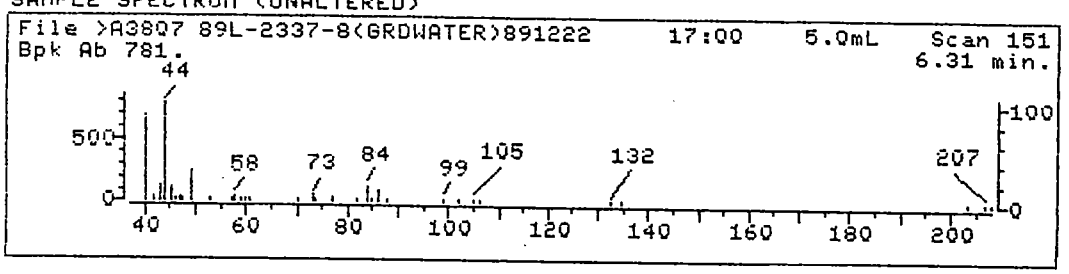
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



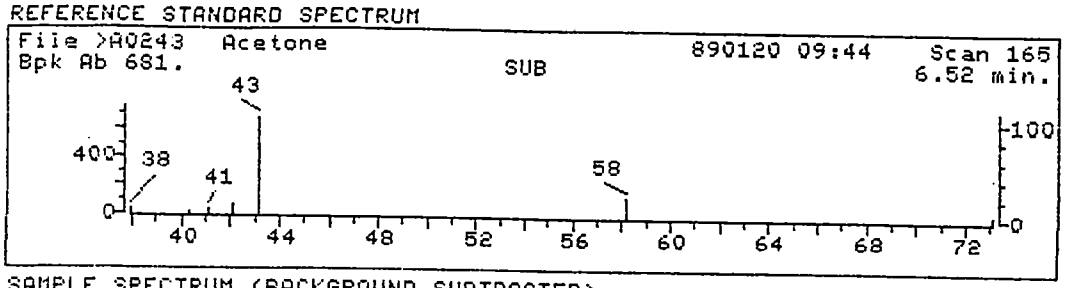
SAMPLE SPECTRUM (UNALTERED)



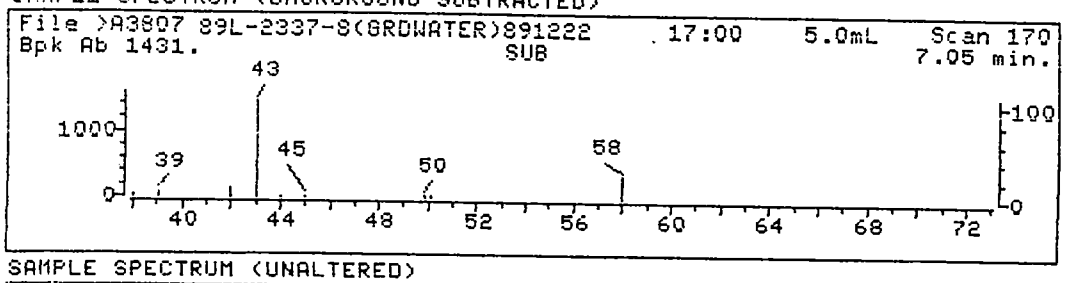
Data File: >A3807::D4 Quant Output File: ^A3807::QT
Name: 89L-2337-8(GRDWATER)
Misc: 891222 17:00 5.0mL
Quant Time: 891222 19:43 Quant ID File: ID_UST::D4
Injected at: 891222 17:00 Last Calibration: 891218 16:36

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 151
Retention Time: 6.31 min.
Quant Ion: 84.0
Area: 1345
Concentration: 1.50 ug/L
q-value: 65

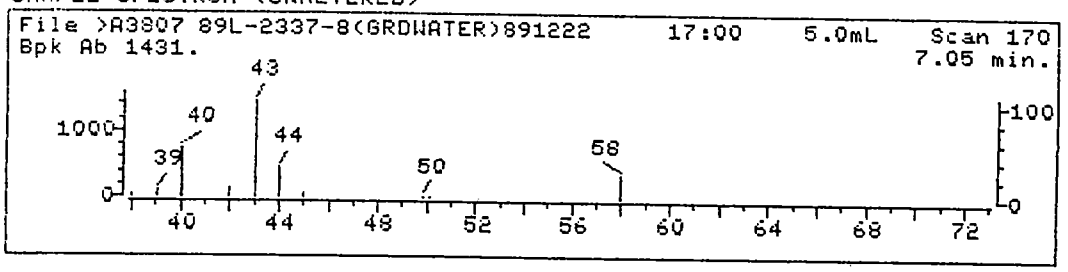
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



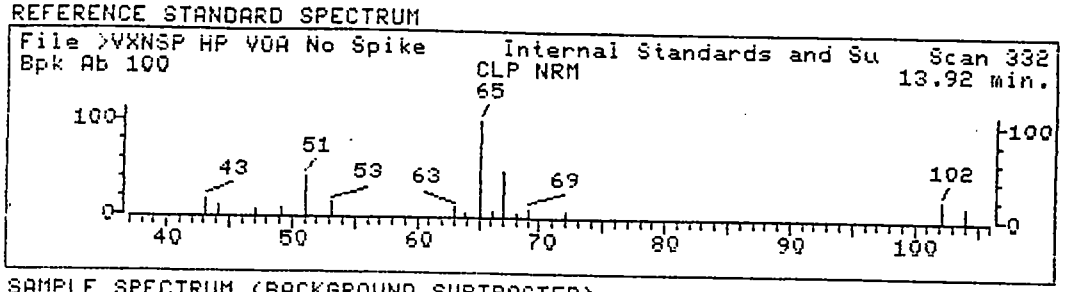
SAMPLE SPECTRUM (UNALTERED)



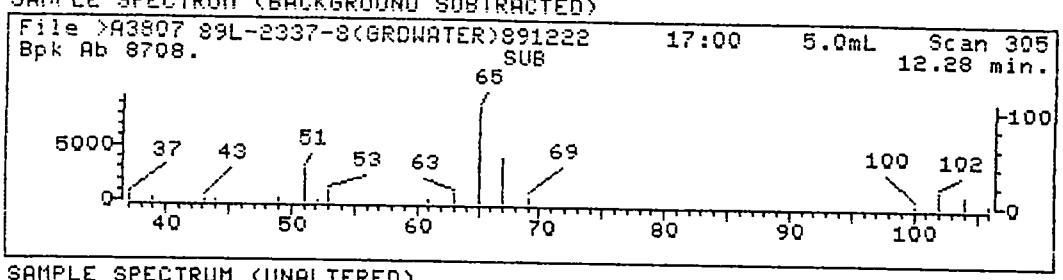
Data File: >A3807::D4 Quant Output File: ^A3807::QT
Name: 89L-2337-8(GRDWATER)
Misc: 891222 17:00 5.0mL
Quant Time: 891222 19:43 Quant ID File: ID_UST::D4
Injected at: 891222 17:00 Last Calibration: 891218 16:36

Compound No: 9
Compound Name: Acetone
Scan Number: 170
Retention Time: 7.05 min.
Quant Ion: 43.0
Area: 18779
Concentration: 37.15 ug/L
q-value: 81

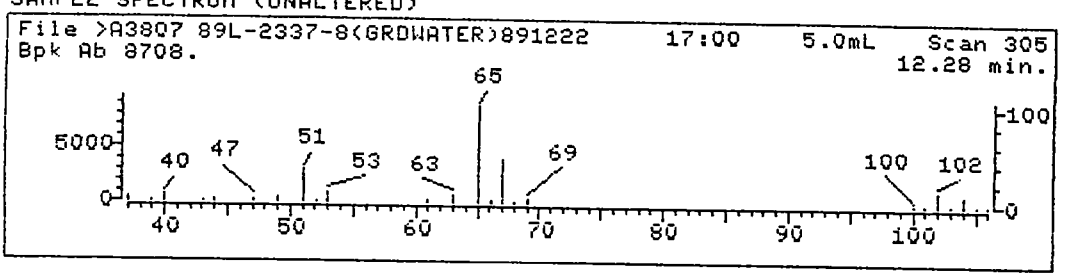
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



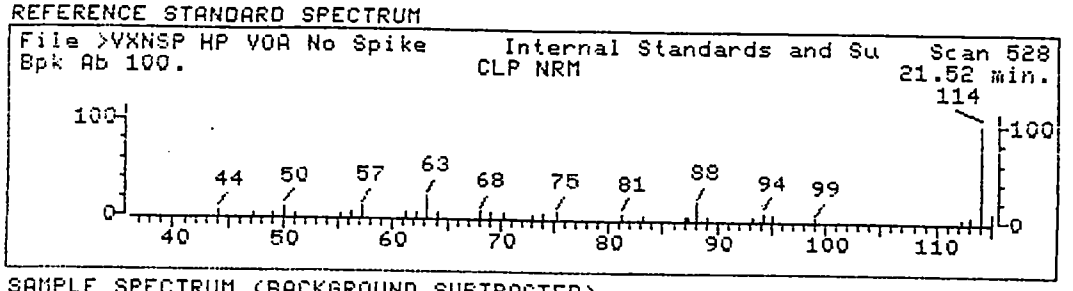
SAMPLE SPECTRUM (UNALTERED)



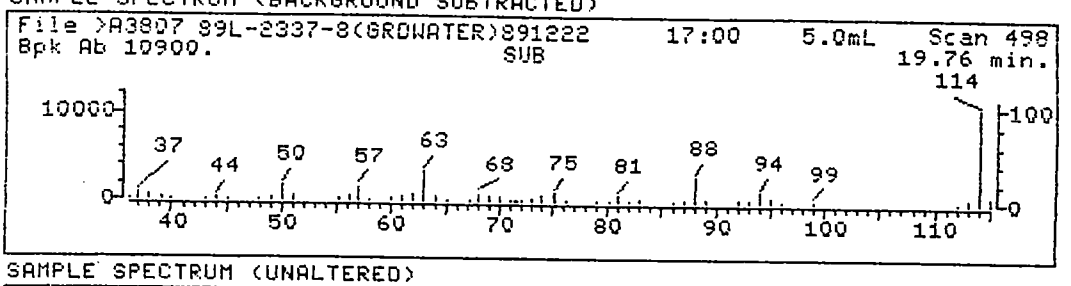
Data File: >A3807::D4 Quant Output File: ^A3807::QT
Name: 89L-2337-8(GRDWATER)
Misc: 891222 17:00 5.0mL
Quant Time: 891222 19:43 Quant ID File: ID_UST::D4
Injected at: 891222 17:00 Last Calibration: 891218 16:36

Compound No: 16
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 305
Retention Time: 12.28 min.
Quant Ion: 65.0
Area: 103662
Concentration: 48.81 ug/L
q-value: 86

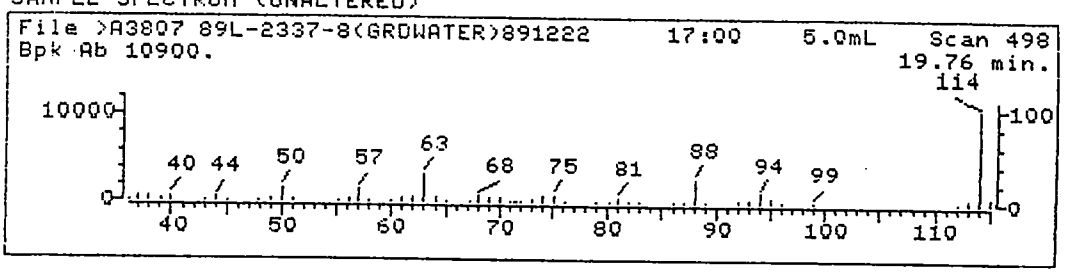
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



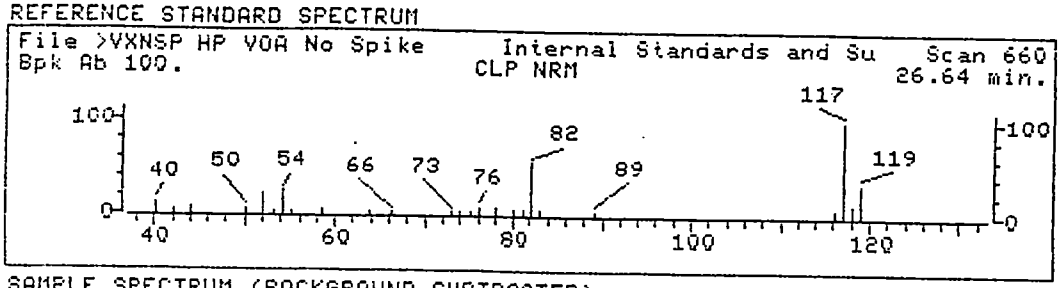
SAMPLE SPECTRUM (UNALTERED)



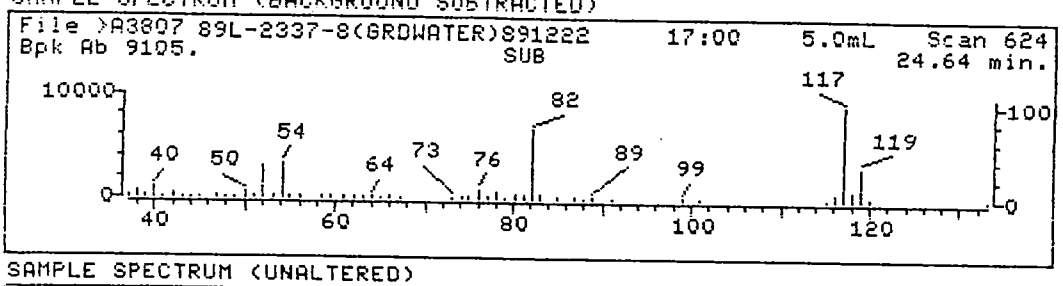
Data File: >A3807::D4
Quant Output File: ^A3807::QT
Name: 89L-2337-8(GRDWATER)
Misc: 891222 17:00 5.0mL
Quant Time: 891222 19:43
Quant ID File: ID_UST::D4
Injected at: 891222 17:00
Last Calibration: 891218 16:36

Compound No: 24 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 498
Retention Time: 19.76 min.
Quant Ion: 114.0
Area: 148528
Concentration: 50.00 ug/L
q-value: 70

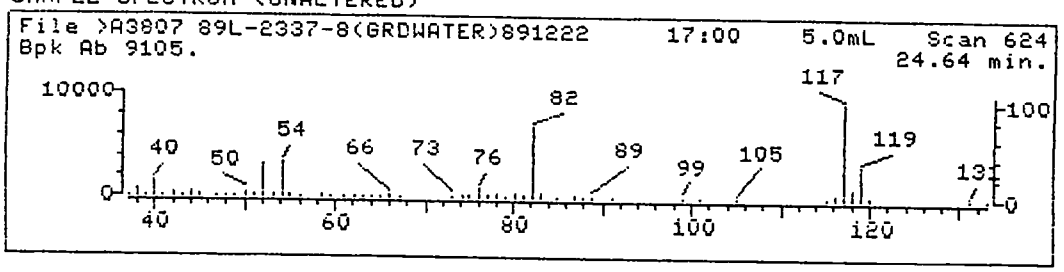
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

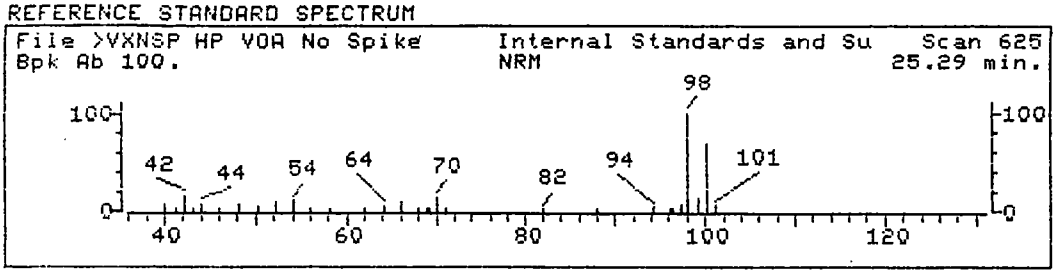


Data File: >A3807::D4
Name: 89L-2337-8(GRDWATER)
Misc: 891222 17:00 5.0mL
Quant Time: 891222 19:43
Injected at: 891222 17:00

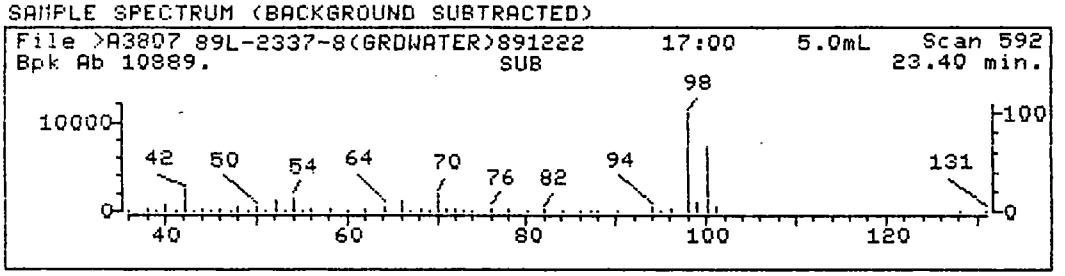
Quant Output File: ^A3807::QT
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 34 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 624
Retention Time: 24.64 min.
Quant Ion: 117.0
Area: 122362
Concentration: 50.00 ug/L
q-value: 98

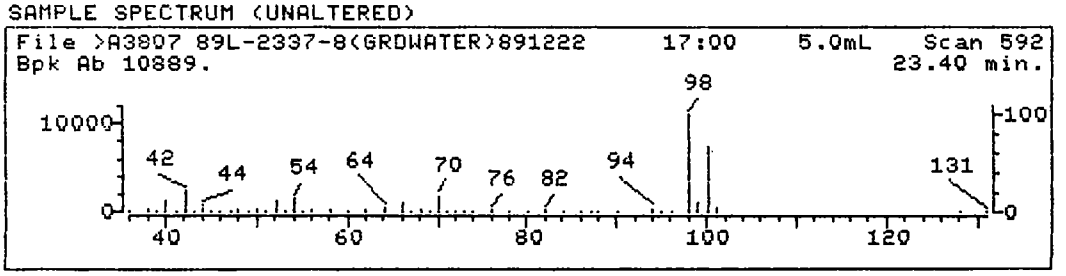
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



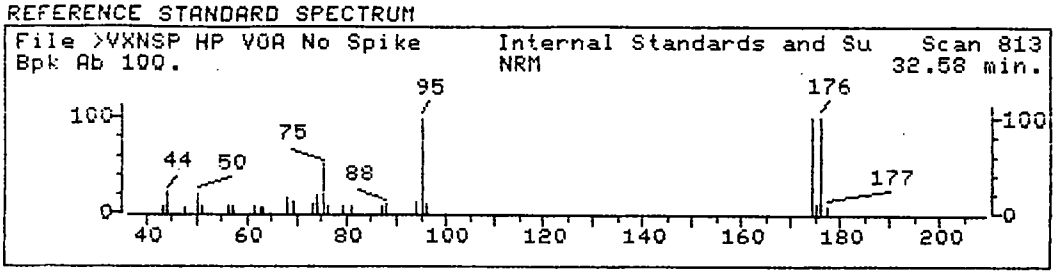
SAMPLE SPECTRUM (UNALTERED)



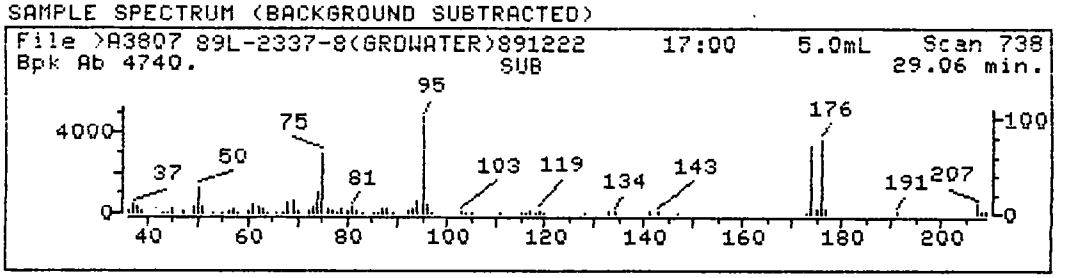
Data File: >A3807::D4 Quant Output File: ^A3807::QT
Name: 89L-2337-8(GRDWATER)
Misc: 891222 17:00 5.0mL
Quant Time: 891222 19:43 Quant ID File: ID_UST::D4
Injected at: 891222 17:00 Last Calibration: 891218 16:36

Compound No: 40
Compound Name: Toluene-d8
Scan Number: 592
Retention Time: 23.40 min.
Quant Ion: 98.0
Area: 143610
Concentration: 52.47 ug/L
q-value: 92

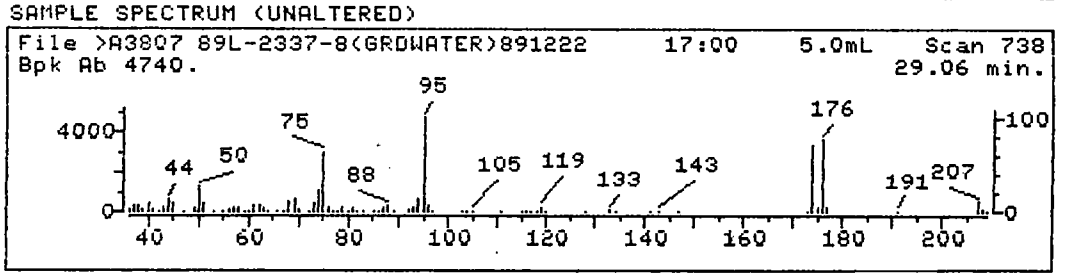
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



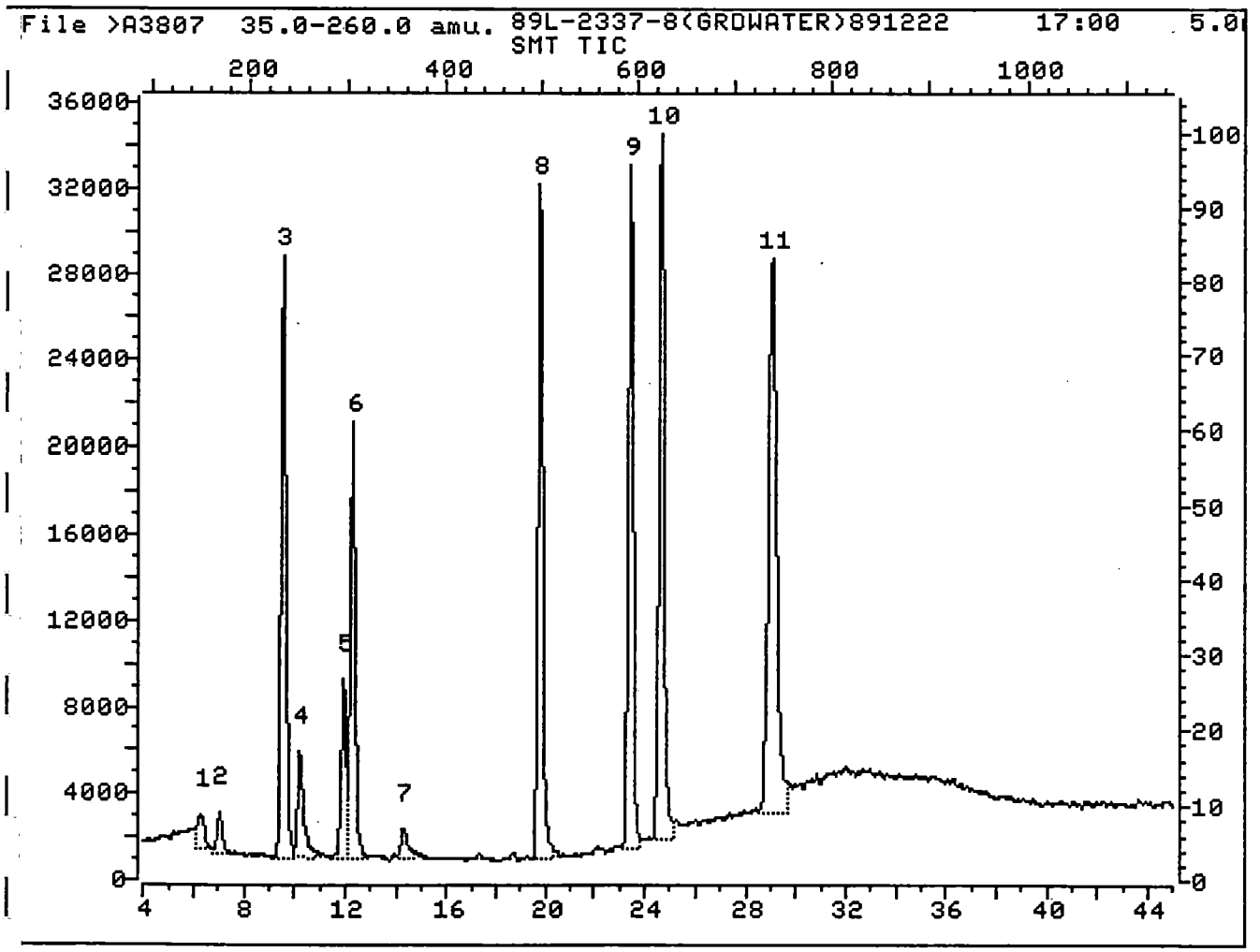
Data File: >A3807::D4 Quant Output File: ^A3807::QT
Name: 89L-2337-8(GRDWATER)
Misc: 891222 17:00 5.0mL
Quant Time: 891222 19:43 Quant ID File: ID_UST::D4
Injected at: 891222 17:00 Last Calibration: 891218 16:36

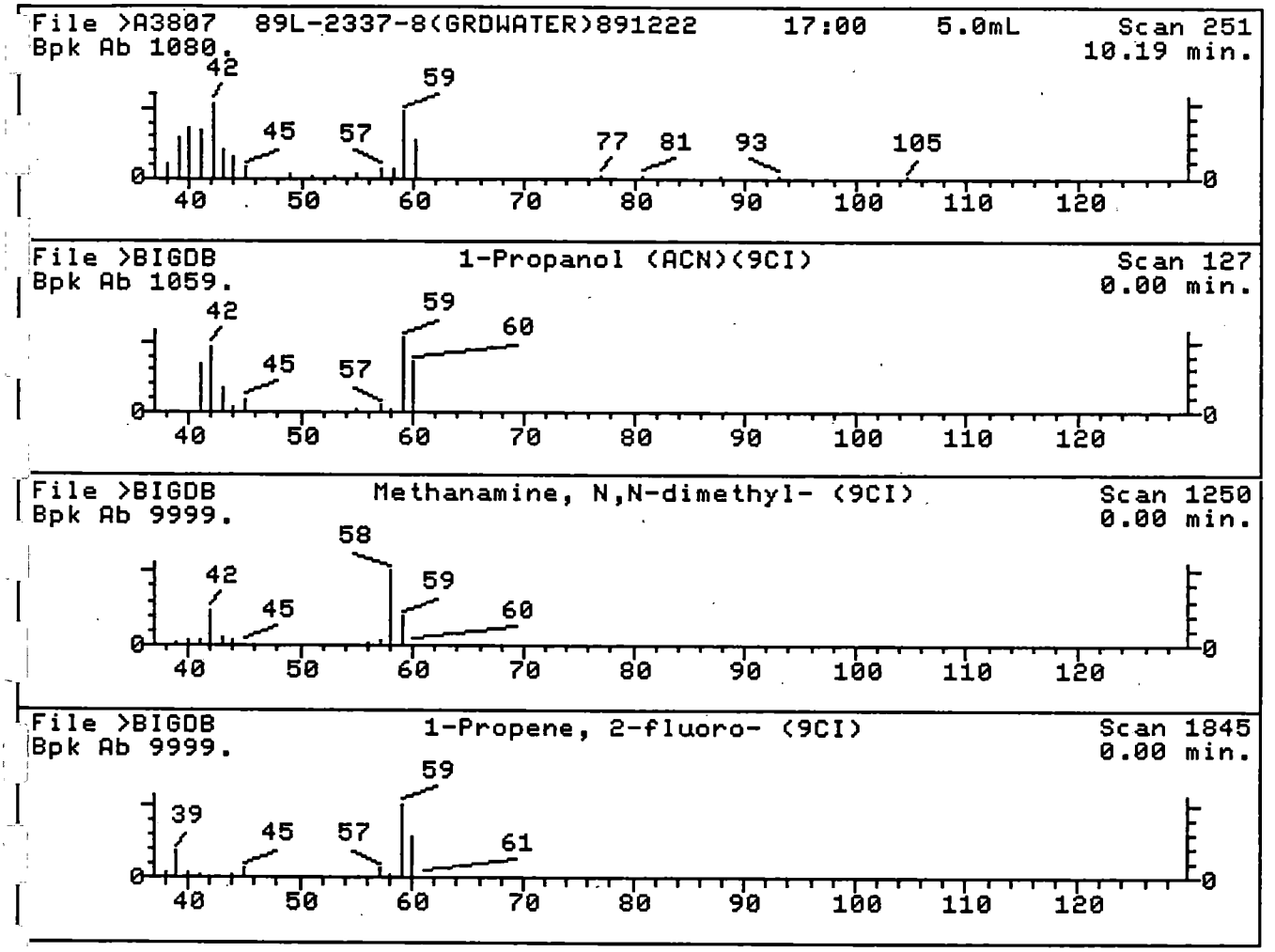
Compound No: 46
Compound Name: Bromofluorobenzene
Scan Number: 738
Retention Time: 29.06 min.
Quant Ion: 95.0
Area: 99795
Concentration: 49.25 ug/L
q-value: 94

>A3807 89L-2337-8(GRDWATER)891222 17:00 5.0mL
35.0| 260.0 SMT TIC
Upslope: .01 Area Reject: 1.00 % Max Peaks: 11 Bunching: 1
Dnslope: 0.00 Results File VDIR77 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area		corr. % max.	% of total
1	6.31	145	151	162	1570	87659	30669	TC	5.27	1.087
2	7.05	162	170	182	1858	85880	25336	TC	4.35	.898
3	9.53	224	234	246	27849	422869	369707	IS	63.49	13.107
4	10.19	246	251	267	4851	134455	81026	1	13.91	2.873
5	11.93	289	296	300	8260	136378	109103	2	18.74	3.868
6	12.28	300	305	321	20019	310921	259420	SS	44.55	9.197
7	14.30	350	357	368	1358	70397	27729	<10%	4.76	.983
8	19.76	490	498	513	31185	481307	426354	IS	73.21	15.116
9	23.44	584	593	603	31674	501463	433825	SS	74.50	15.380
10	24.64	615	624	638	32644	578854	475127	IS	81.59	16.845
11	29.06	724	738	753	25653	797293	582341	SS	100.00	20.646

Sum of corrected areas: 2820637.



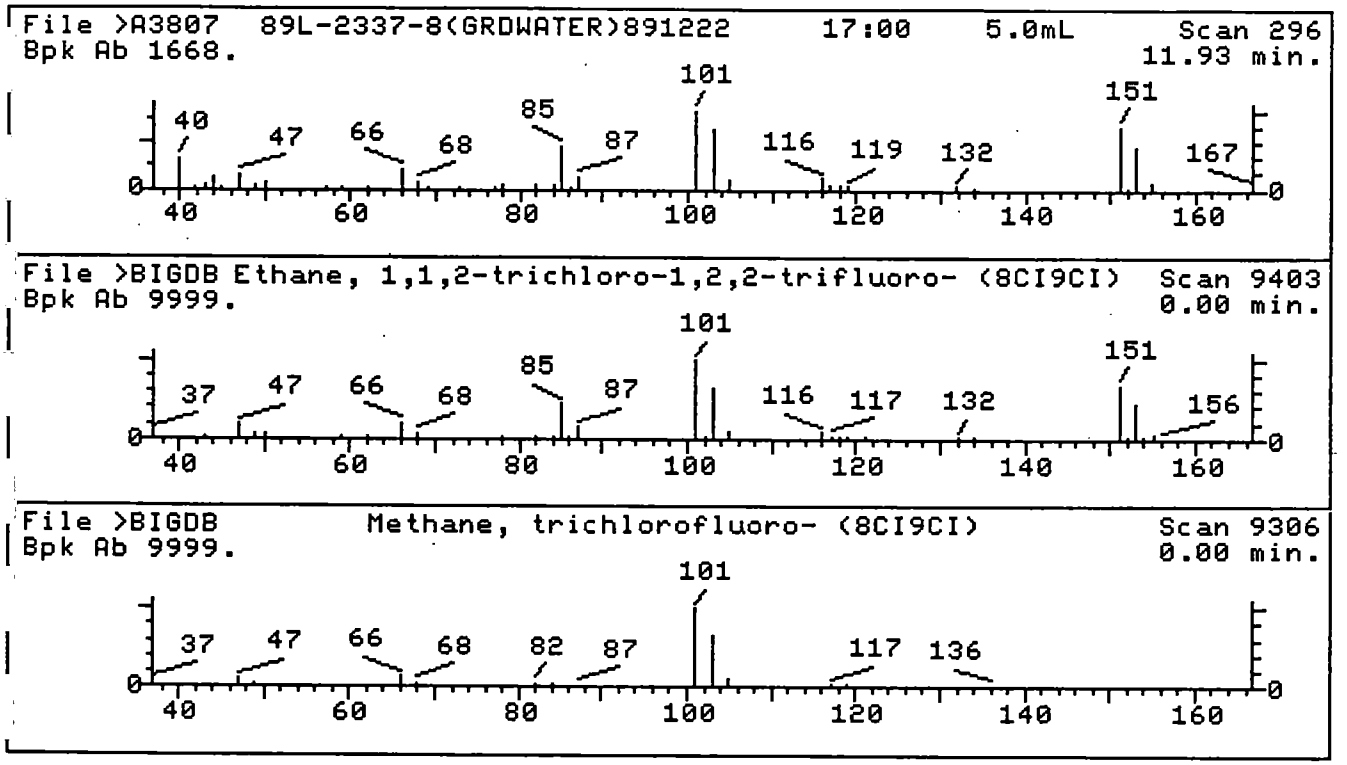


1.	1-Propanol (ACN)(9CI)	60 C3H8O
2.	Methanamine, N,N-dimethyl- (9CI)	59 C3H9N
3.	1-Propene, 2-fluoro- (9CI)	60 C3H5F
4.	1-Propene, 3-fluoro- (9CI)	60 C3H5F
5.	Cyclopropane (DOT)(8CI9CI)	42 C3H6

Sample file: >A3807 Spectrum #: 251
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	62*	71238	127	"BIGDB	37	36	0	0	715	29	25	42
2.	27*	75503	1250	"BIGDB	22	60	2	0	167	40	10	13
3.	20*	1184607	1845	"BIGDB	32	60	2	0	87	54	5	15
4.	20*	818928	1843	"BIGDB	25	69	2	0	80	53	5	14
5.	11*	75194	216	"BIGDB	25	65	0	0	68	65	2	18

CORRECTED TOTAL ION AREA OF UNKNOWN= 81026.00
CORRECTED TOTAL ION AREA OF INTERNAL= 369707.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 1.000
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 11.00



1. Ethane, 1,1,2-trichloro-1,2,2-trifluoro- (8CI9CI) 186 C2Cl3F3
2. Methane, trichlorofluoro- (8CI9CI) 136 CCl3F

Sample file: >A3807 Spectrum #: 296
Search speed: 1 Tilting option: S No. of ion ranges searched: 56

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	89	76131	9403	"BIGDB	112	26	1	0	97	5	66	69
2.	20	75694	9306	"BIGDB	57	39	2	0	100	54	5	19

CORRECTED TOTAL ION AREA OF UNKNOWN= 109103.0
CORRECTED TOTAL ION AREA OF INTERNAL= 369707.0
CONCENTRATION OF INTERNAL STD = 50UG/L DILUTION FACTOR= 1.000
SEMI-QUANTITATION OF UNKNOWN(UG/L)= 15.00

GC/MS Tune and Mass Calibration Summary

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

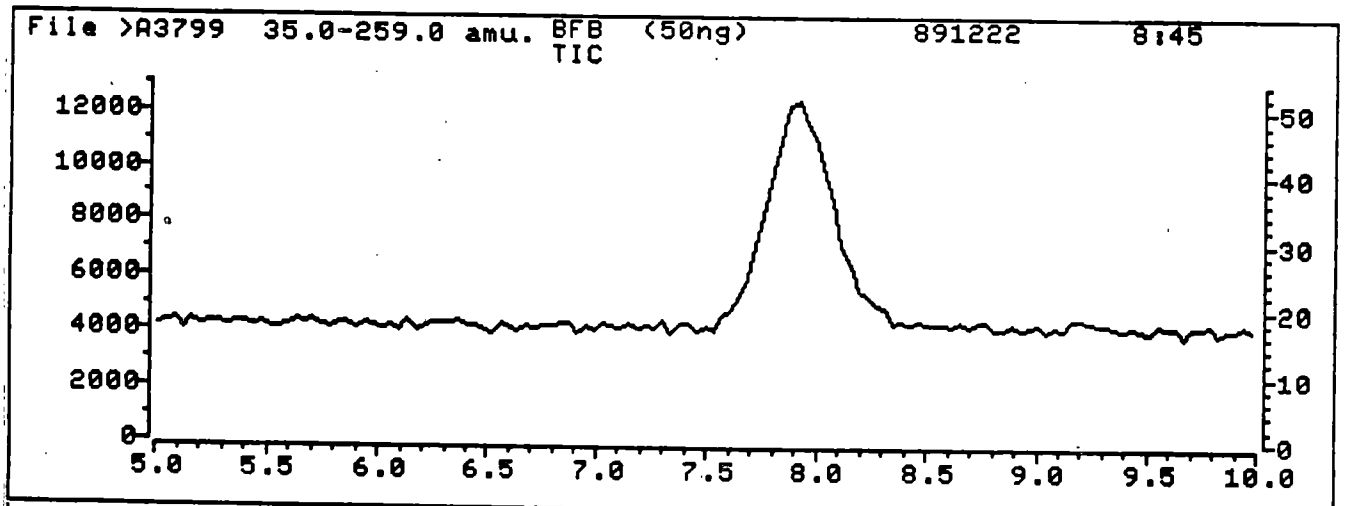
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	23.49	23.49	Ok
75	30-60% of mass 95	53.99	53.99	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.23	6.23	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	76.24	76.24	Ok
175	5-9% of mass 174	5.79	7.60	Ok
176	95-101% of mass 174	75.19	98.61	Ok
177	5-9% of mass 176	5.23	6.95	Ok

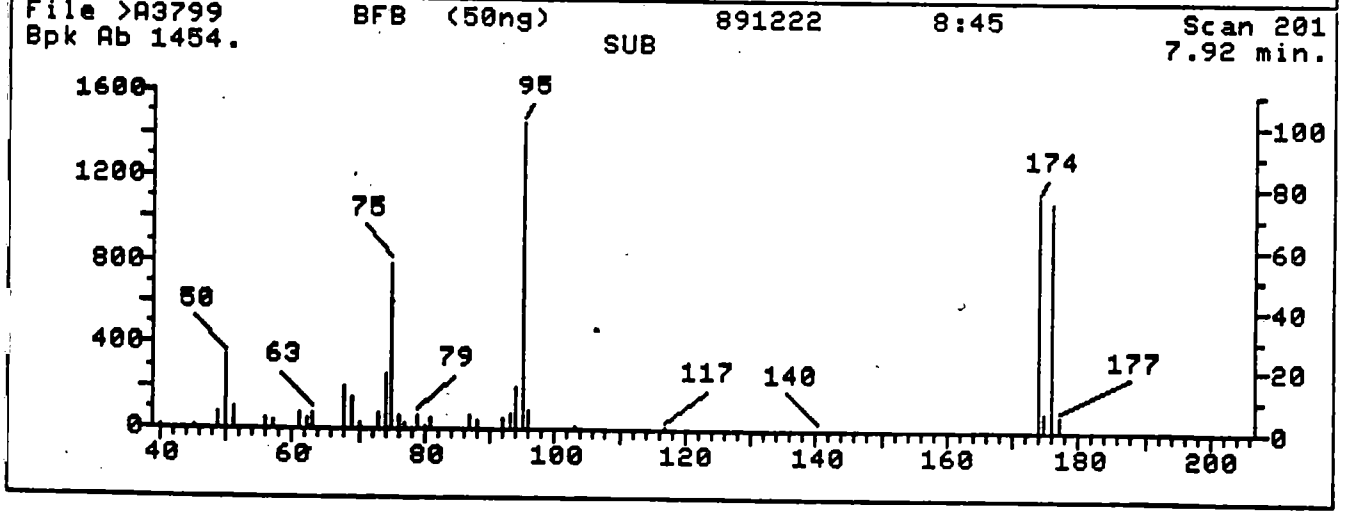
Injection Date: 12/22/89
Injection Time: 08:43
Data File: >A3799
Scan: 201

>A3799 BFB (50ng) 891222 8:45
201 SUB NRM

File: >A3799 Scan #: 201 Retn. time: 7.92

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.10	8.074	57.10	2.696	73.00	5.640	88.10	2.627	116.90	.660
38.00	5.021	58.10	.385	74.00	18.047	92.00	3.645	117.10	.399
39.20	.275	61.00	5.268	75.00	53.989	93.10	5.076	140.10	.220
40.00	1.238	62.10	3.631	76.00	4.195	94.00	13.343	173.95	76.245
45.10	1.045	63.10	5.392	77.00	1.802	95.10	100.000	174.85	5.791
49.00	5.007	68.00	13.961	78.90	4.539	96.00	6.231	175.95	75.186
50.00	23.494	69.00	10.646	80.10	.922	97.10	.358	176.95	5.227
51.10	7.235	70.10	1.719	81.00	3.618	100.00	.385	207.05	1.499
56.00	3.893	72.00	.165	86.90	4.154	103.00	1.417		





GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

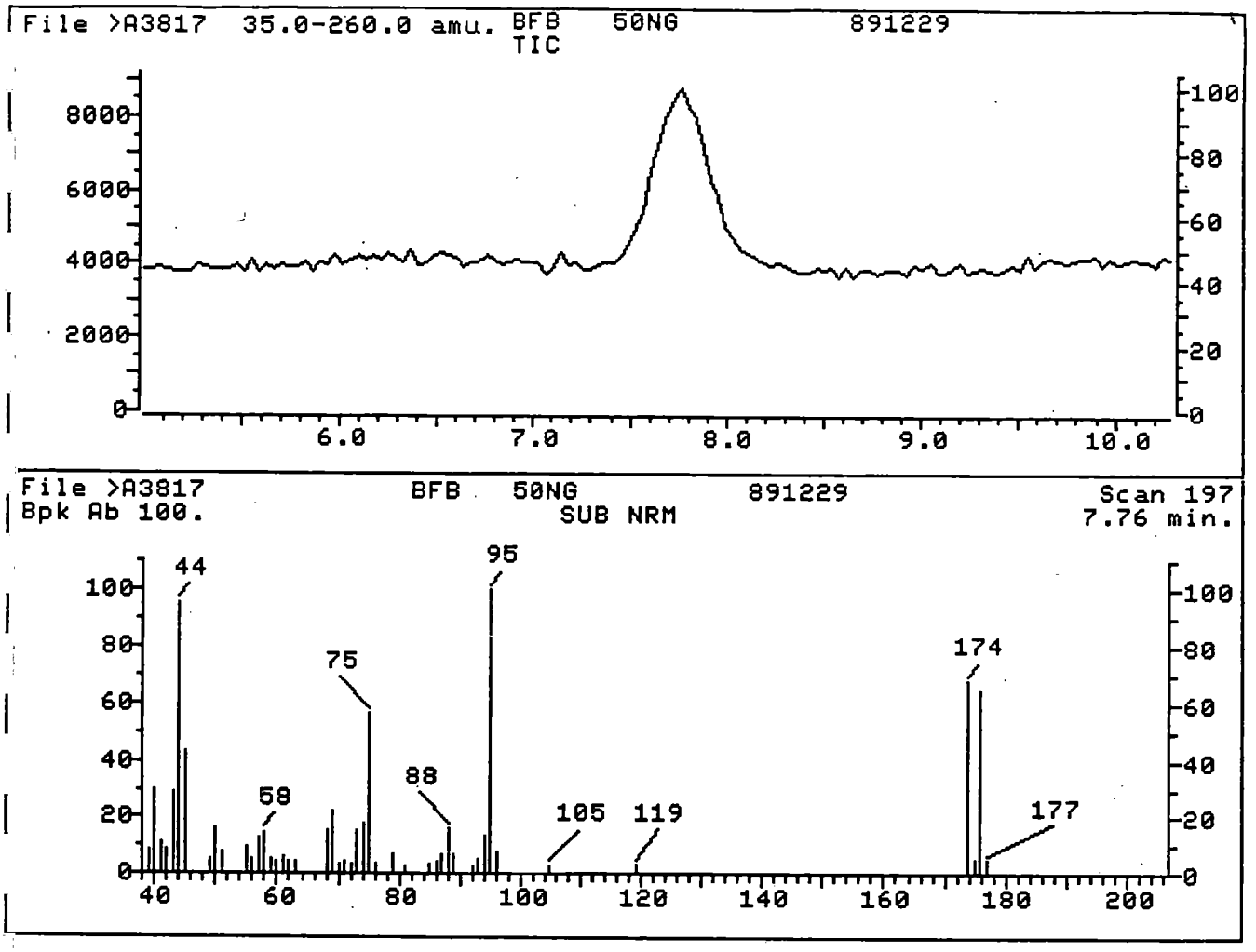
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	16.49	16.49	Ok
75	30-60% of mass 95	56.11	56.11	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.58	7.58	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	67.96	67.96	Ok
175	5-9% of mass 174	5.21	7.67	Ok
176	95-101% of mass 174	65.21	95.96	Ok
177	5-9% of mass 176	4.93	7.56	Ok

Injection Date: 12/29/89
Injection Time: 08:49
Data File: >A3817
Scan: 197

>A3817 BFB 50NG 891229
197 SUB NRM

File: >A3817 Scan #: 197 Retn. time: 7.76

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.00	3.981	49.10	4.929	62.00	4.550	76.00	3.602	94.00	13.270
37.10	8.910	50.00	16.493	63.00	4.076	78.90	6.635	95.00	100.000
38.00	5.877	51.00	8.152	68.00	15.071	80.90	2.844	96.10	7.583
39.00	8.720	55.00	9.289	69.00	21.991	85.00	3.602	104.90	2.938
39.90	29.384	56.00	5.592	70.00	3.412	86.00	4.645	119.00	3.412
41.10	11.469	57.00	12.891	71.00	4.739	87.00	6.635	173.85	67.962
42.00	8.626	58.00	14.692	72.00	3.318	88.00	16.019	174.85	5.213
43.00	29.100	58.90	5.213	73.00	15.071	89.00	7.204	175.85	65.213
44.00	95.355	60.00	4.360	74.00	18.104	92.00	3.128	176.85	4.929
45.00	43.318	61.00	6.351	75.00	56.114	93.00	5.498		


File >A3817 35.0-260.0 amu. BFB 50NG 891229
TIC
8000
6000
4000
2000
0
100
80
60
40
20
0
6.0
7.0
8.0
9.0
10.0
File >A3817 BFB 50NG 891229 Scan 197
Bpk Ab 100. SUB NRM 7.76 min.
44
95
75
174
88
58
105
119
177
100
80
60
40
20
0
40
60
80
100
120
140
160
180
200

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

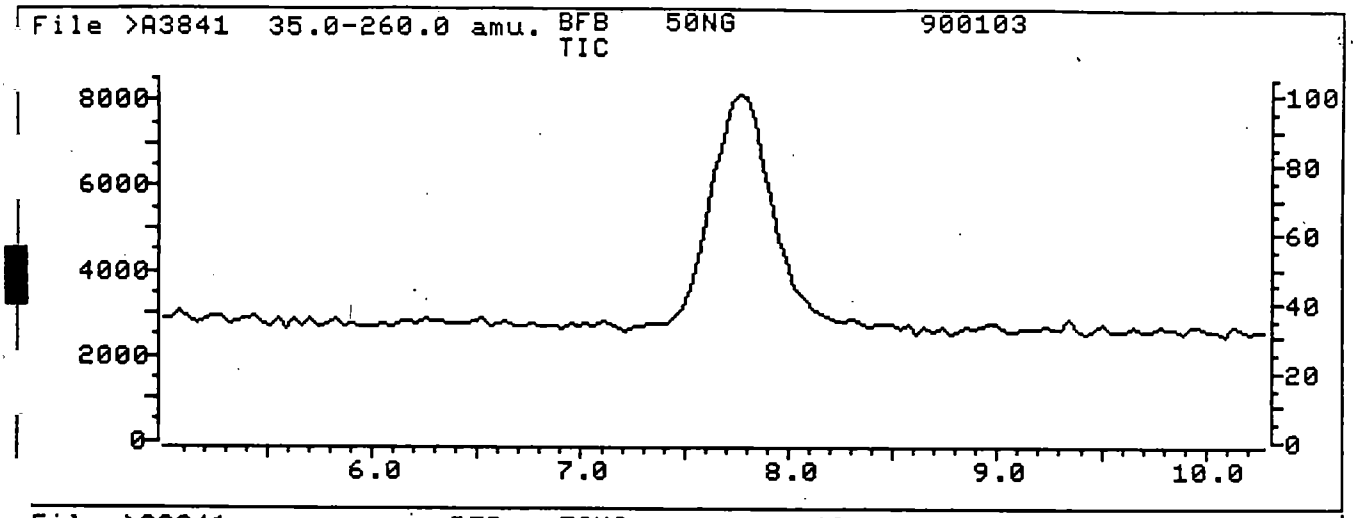
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
50	15-40% of mass 95	24.74	24.74	Ok
75	30-60% of mass 95	58.92	58.92	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.75	7.75	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	78.15	78.15	Ok
175	5-9% of mass 174	4.76	6.09	Ok
176	95-101% of mass 174	77.78	99.52	Ok
177	5-9% of mass 176	5.23	6.72	Ok

Injection Date: 01/03/90
Injection Time: 08:24
Data File: >A3841
Scan: 198

>A3841 BFB 50NG 900103
198 NRM

File: >A3841 Scan #: 198 Retn. time: 7.80

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.10	7.843	50.00	24.743	63.00	3.828	81.00	4.575	104.90	2.054
38.10	5.322	51.00	8.497	68.00	12.792	86.00	3.175	131.00	3.548
39.00	5.135	55.10	4.108	69.00	20.448	87.00	7.376	133.00	1.774
40.00	32.586	56.00	3.361	70.20	3.175	88.00	16.246	173.85	78.151
41.00	5.415	57.00	7.563	72.10	3.735	89.10	5.696	174.85	4.762
42.10	6.443	58.00	12.698	73.00	13.912	93.00	5.042	175.85	77.778
43.00	17.740	58.90	3.828	74.00	18.394	94.00	12.792	176.85	5.229
44.00	67.974	60.00	2.428	75.00	58.917	95.00	100.000	206.95	3.175
45.10	29.972	61.00	5.322	76.00	6.349	96.00	7.750	218.85	2.334
49.00	6.909	62.00	6.349	79.00	4.855				


File >A3841 35.0-260.0 amu. BFB 50NG 900103
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4000
2000
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100
80
60
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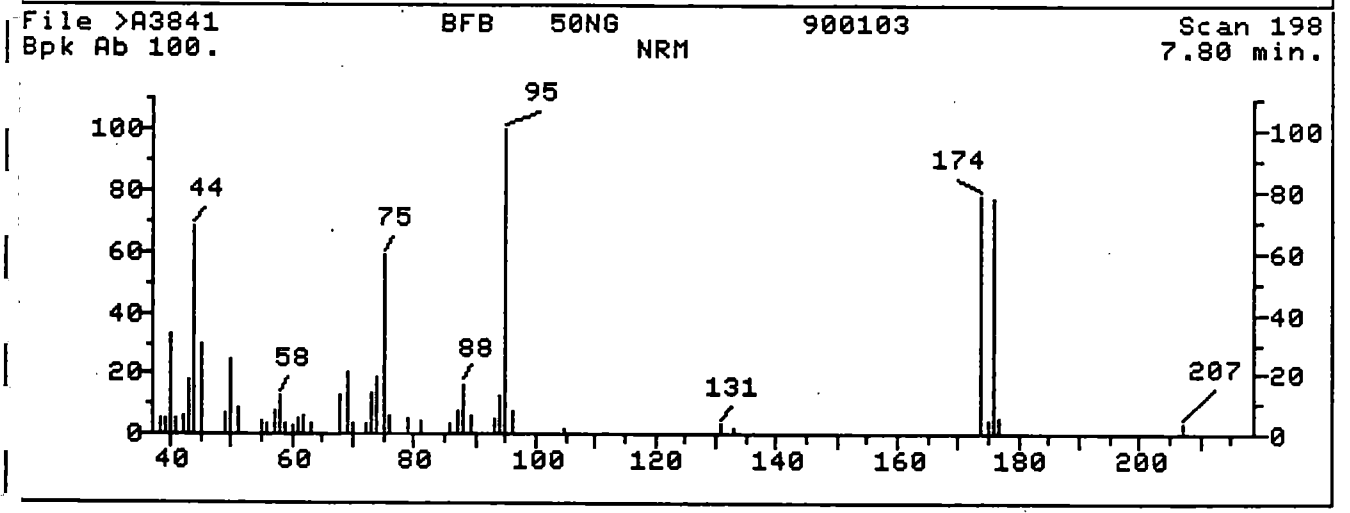
File >A3841 BFB 50NG 900103 Scan 198
Bpk Ab 100. NRM 7.80 min.
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75
174
58
88
131
207
100
80
60
40
20
0
40
60
80
100
120
140
160
180
200

GC/MS Quality Assurance Data

WATER VOLATILE MATRIX SPIKE / DUPLICATE RECOVERY

QC BATCH: Ag 87

MATRIX SPIKE SAMPLE: 892337-1

ANALYSIS DATE: 1/3/90

COMPOUND	SPIKE ADDED (ug/l)	SAMPLE CONCENTRATION (ug/l)	MS CONCENTRATION (ug/l)	MS % REC.	QC LIMITS REC.
1,1-Dichloroethene	50.	N.D	46.	92.	61-145
Trichloroethene	↓	↓	52.	104.	71-120
Benzene	↓	↓	57.	114.	76-127
Toluene	↓	↓	56.	112.	76-125
Chlorobenzene	↓	↓	51.	102.	75-130

COMPOUND	SPIKE ADDED (ug/l)	MSD CONCENTRATION (ug/l)	MSD % REC.	RPD	QC LIMITS RPD	QC LIMITS % REC.
1,1-Dichloroethene	50.	50.	100.	8.	14	61-145
Trichloroethene	↓	53.	106.	2.	14	71-120
Benzene	↓	59.	118.	3.	11	76-127
Toluene	↓	55.	110.	2.	13	76-125
Chlorobenzene	↓	52.	104	2.	13	75-130

* Values Outside of QC Limits

RPD: 0 out of 5 outside limits.

SPIKE RECOVERY: 0 out of 10 outside limits.

COMMENTS: _____

MATRIX SPIKE/MATRIX DUPLICATE RECOVERY

QC SAMPLE #: 89L2337-1

QC BATCH #: Ag 87

	COMPOUND	SPIKE ADDED (ug/L)	SAMPLE RESULT	MS CONC.	% REC.	MSD CONC.	% REC.	RPD
2	Chloromethane	50.	ND	46.	92.	60.	120.	26.
3	Bromomethane			48.	96.	56.	112.	15.
4	Vinyl Chloride			50.	100.	56.	112.	11.
5	Chloroethane			48.	96.	57.	114.	17.
6	Methylene Chloride			38.	76.	47.	94.	21.
7	1,1-Dichloroethene			46.	92.	50.	100.	8.
8	1,1-Dichloroethane			54.	108.	56.	112.	4.
9	Trans-1,2-Dichloroethene			53.	106.	53.	106.	0.
10	Chloroform			56.	112.	57.	114.	2.
11	1,2-Dichloroethane-d4			52.	104.	51.	102.	2.
12	1,2-Dichloroethane			56.	112.	58.	116.	4.
13	1,1,1-Trichloroethane			54.	108.	55.	110.	2.
14	Carbon Tetrachloride			55.	110.	54.	108.	2.
15	Bromodichloromethane			55.	110.	52.	104.	6.
17	1,2-Dichloropropane			58.	116.	59.	118.	2.
18	cis-1,3-Dichloropropene			51.	102.	53.	106.	4.
19	Trichloroethene			52.	104.	53.	106.	2.
20	Dibromochloromethane			49.	98.	49.	98.	0
21	1,1,2-Trichloroethane			60.	120.	59.	118.	2.
22	Benzene			57	114.	59.	118.	3.
23	trans-1,3-Dichloropropene			52.	104.	52.	104.	0.
24	2-Chloroethylvinylether			0.	0	0	0	0
25	Bromoform			42.	84.	42.	84.	0
27	Tetrachloroethene			51.	102.	49.	98.	4.
28	1,1,2,2-Tetrachloroethane			55.	110.	53.	106.	4.
29	Toluene			56.	112.	55.	110.	2.
30	Toluene-d8			50.	100.	49.	98.	2.
31	Chlorobenzene			51.	102.	52.	104.	2.
32	Ethylbenzene			49.	98.	53.	106.	8.
33	Bromofluorobenzene	↓	↓	48.	96.	47.	94.	2.

QUANT REPORT

Operator ID: MALOS
Output File: ^C1893::D1
Data File: >C1893::D3
Name: 89L-2337-1MS
Misc: 900103 5ML AQ87

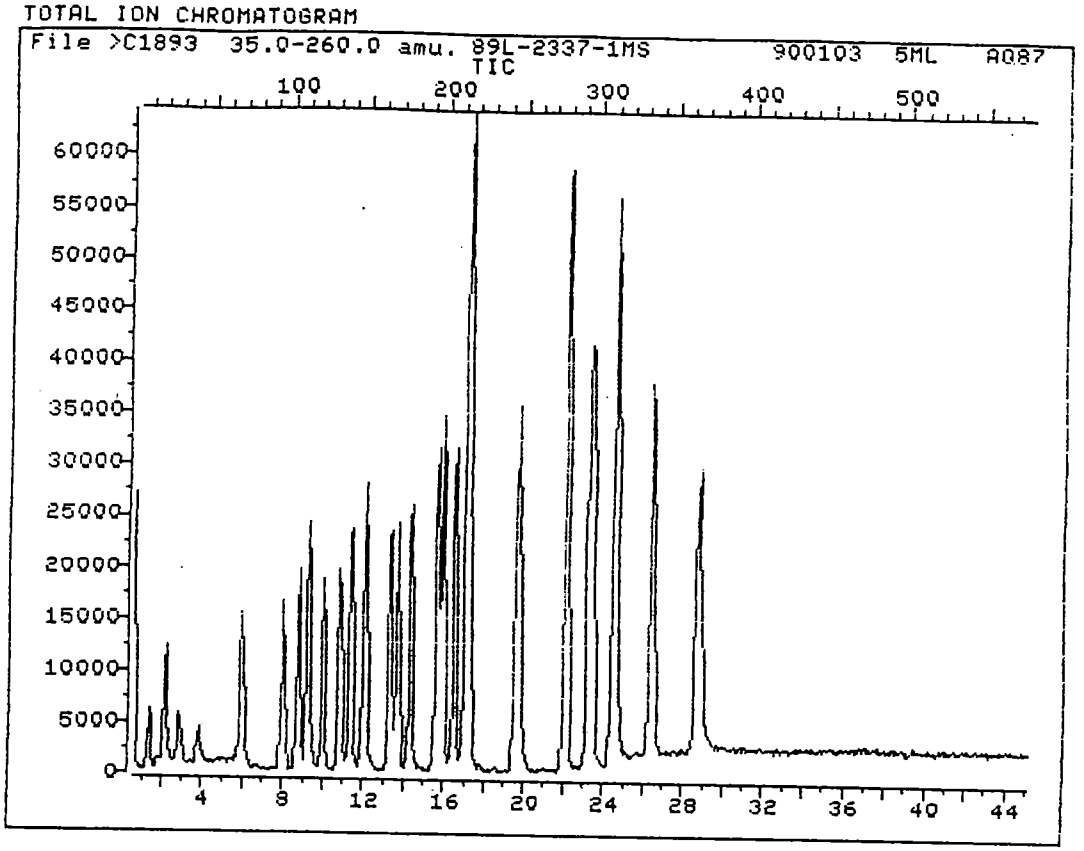
Quant Rev: 6 Quant Time: 900103 18:05
Injected at: 900103 17:11
Dilution Factor: 1.00000

ID File: ID_VCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 17:58

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.23	113	39833	50.00	ug/L	77
2)	Chloromethane	1.36	11	38438	46.45	ug/L	93
3)	Bromomethane	2.21	22	43957	47.86	ug/L	86
4)	Vinyl Chloride	2.83	30	42593	50.02	ug/L	92
5)	Chloroethane	3.83	43	28154	48.14	ug/L	99
6)	Methylene Chloride	5.91	70	47309	38.25	ug/L	93
7)	Acetone	6.69	80	4020	10.31	ug/L	74
9)	1,1-Dichloroethene	8.77	107	48385	45.68	ug/L	91
10)	1,1-Dichloroethane	10.01	123	106188	54.40	ug/L	94
11)	Trans-1,2-Dichloroethene	10.78	133	53747	53.49	ug/L	95
12)	Chloroform	11.32	140	120482	55.62	ug/L	93
13)	1,2-Dichloroethane-d4	12.01	149	78818	52.19	ug/L	93
14)	1,2-Dichloroethane	12.09	150	84838	56.12	ug/L	98
16)	1,1,1-Trichloroethane	13.33	166	96760	54.13	ug/L	81
17)	Carbon Tetrachloride	13.64	170	89296	55.50	ug/L	85
19)	Bromodichloromethane	14.33	179	117566	55.01	ug/L	96
20)	*1,4-Difluorobenzene	19.58	247	169640	50.00	ug/L	70
21)	1,2-Dichloropropane	15.64	196	77089	58.15	ug/L	93
22)	cis-1,3-Dichloropropene	15.87	199	125614	51.02	ug/L	96
23)	Trichloroethene	16.49	207	70043	52.31	ug/L	89
24)	Dibromochloromethane	17.03	214	69039	49.31	ug/L	95
25)	1,1,2-Trichloroethane	17.19	216	69239	60.33	ug/L	98
26)	Benzene	17.03	214	165524	57.16	ug/L	89
27)	trans-1,3-Dichloropropene	17.19	216	67337M	52.06	ug/L	96
29)	Bromoform	19.74	249	55549	42.18	ug/L	94
30)	*Chlorobenzene-d5	24.45	310	138114	50.00	ug/L	93
33)	Tetrachloroethene	22.05	279	57171	50.77	ug/L	95
34)	1,1,2,2-Tetrachloroethane	22.05	279	100178	55.41	ug/L	96
35)	Toluene	23.44	297	107635	56.07	ug/L	96
36)	Toluene-d8	23.21	294	172423	50.27	ug/L	97
37)	Chlorobenzene	24.60	312	131014	51.10	ug/L	93
38)	Ethylbenzene	26.38	335	64720	49.48	ug/L	97
42)	Bromofluorobenzene	28.77	366	119838	47.83	ug/L	96

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >C1893::D3 Quant Output File: ^C1893::D1
Name: 89L-2337-1MS
Misc: 900103 5ML AQ87

Id File: ID_VCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 17:58

Operator ID: MALOS
Quant Time: 900103 18:05
Injected at: 900103 17:11

QUANT REPORT

Operator ID: MALOS
Output File: ^C1894::D1
Data File: >C1894::D3
Name: 89L-2337-1MSD
Misc: 900103 5ML AQ87

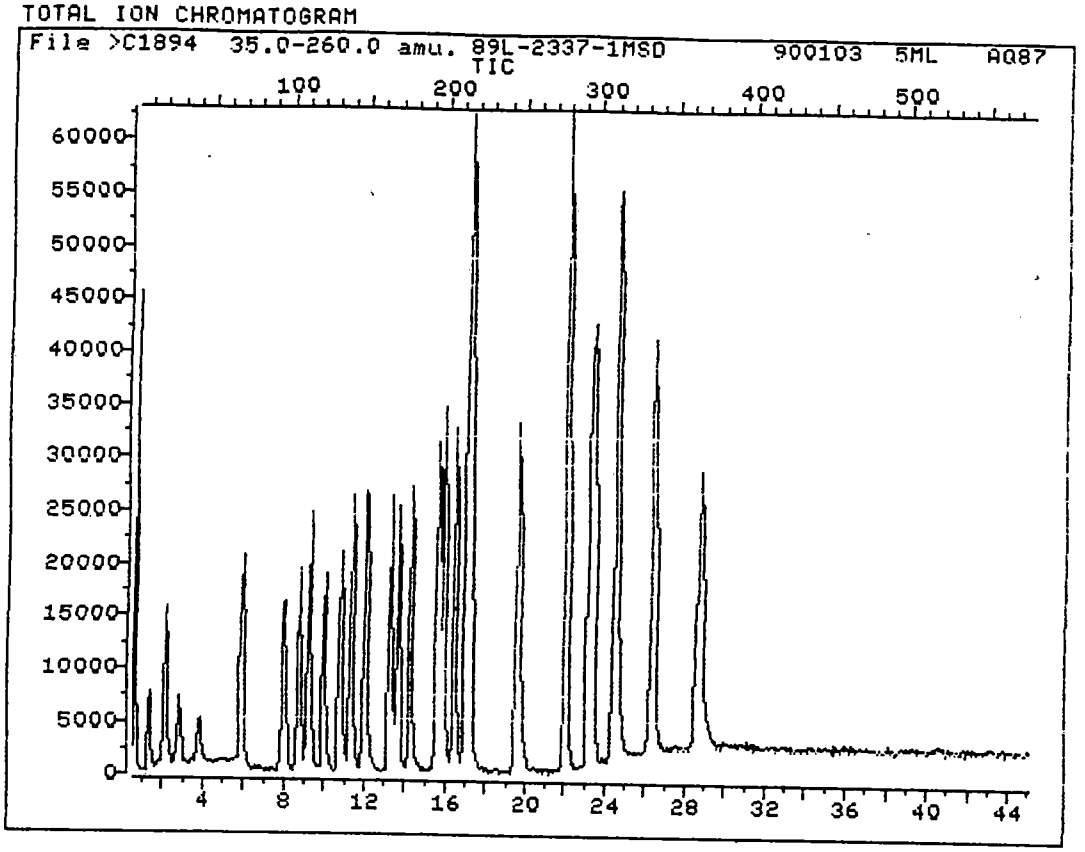
Quant Rev: 6 Quant Time: 900103 20:03
Injected at: 900103 18:01
Dilution Factor: 1.00000

ID File: ID_VCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 17:58

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.26	114	39986	50.00	ug/L	75
2)	Chloromethane	1.38	12	49915	60.09	ug/L	87
3)	Bromomethane	2.16	22	51886	56.27	ug/L	89
4)	Vinyl Chloride	2.85	31	47659	55.75	ug/L	96
5)	Chloroethane	3.85	44	33575	57.19	ug/L	89
6)	Methylene Chloride	5.94	71	58411	47.05	ug/L	85
7)	Acetone	6.71	81	3769	9.63	ug/L	91
9)	1,1-Dichloroethene	8.72	107	52723	49.58	ug/L	88
10)	1,1-Dichloroethane	10.03	124	110436	56.36	ug/L	91
11)	Trans-1,2-Dichloroethene	10.80	134	53401	52.94	ug/L	89
12)	Chloroform	11.34	141	123962	57.01	ug/L	93
13)	1,2-Dichloroethane-d4	12.04	150	76549	50.50	ug/L	96
14)	1,2-Dichloroethane	12.11	151	87770	57.83	ug/L	95
15)	2-Butanone	12.11	151	3617	6.22	ug/L	89
16)	1,1,1-Trichloroethane	13.27	166	99113	55.23	ug/L	78
17)	Carbon Tetrachloride	13.66	171	87175	53.97	ug/L	85
19)	Bromodichloromethane	14.28	179	112553	52.46	ug/L	93
20)	*1,4-Difluorobenzene	19.53	247	161155	50.00	ug/L	68
21)	1,2-Dichloropropane	15.59	196	74478	59.14	ug/L	93
22)	cis-1,3-Dichloropropene	15.90	200	123559	52.83	ug/L	94
23)	Trichloroethene	16.44	207	67584	53.14	ug/L	98
24)	Dibromochloromethane	17.06	215	65307	49.10	ug/L	98
25)	1,1,2-Trichloroethane	17.21	217	63793	58.51	ug/L	94
26)	Benzene	16.98	214	161360	58.66	ug/L	93
27)	trans-1,3-Dichloropropene	17.21	217	64475M	52.47	ug/L	94
29)	Bromoform	19.76	250	52402	41.88	ug/L	98
30)	*Chlorobenzene-d5	24.47	311	140352	50.00	ug/L	95
33)	Tetrachloroethene	22.07	280	56203	49.11	ug/L	91
34)	1,1,2,2-Tetrachloroethane	22.07	280	97834	53.26	ug/L	97
35)	Toluene	23.39	297	108246	55.49	ug/L	92
36)	Toluene-d8	23.23	295	169582	48.66	ug/L	93
37)	Chlorobenzene	24.55	312	135646	52.06	ug/L	89
38)	Ethylbenzene	26.40	336	70098	52.74	ug/L	97
42)	Bromofluorobenzene	28.72	366	120692	47.41	ug/L	93

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >C1894::D3 Quant Output File: ^C1894::D1
Name: 89L-2337-1MSD
Misc: 900103 5ML AQ87

Id File: ID_VCC::QT
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 17:58

Operator ID: MALOS
Quant Time: 900103 20:03
Injected at: 900103 18:01

Method Blank Summary

QUANT REPORT

Operator ID: LODGE
Output File: ^A3802::QT
Data File: >A3802::D4
Name: METHOD BLANK
Misc: 891222 11:25 5.0mL

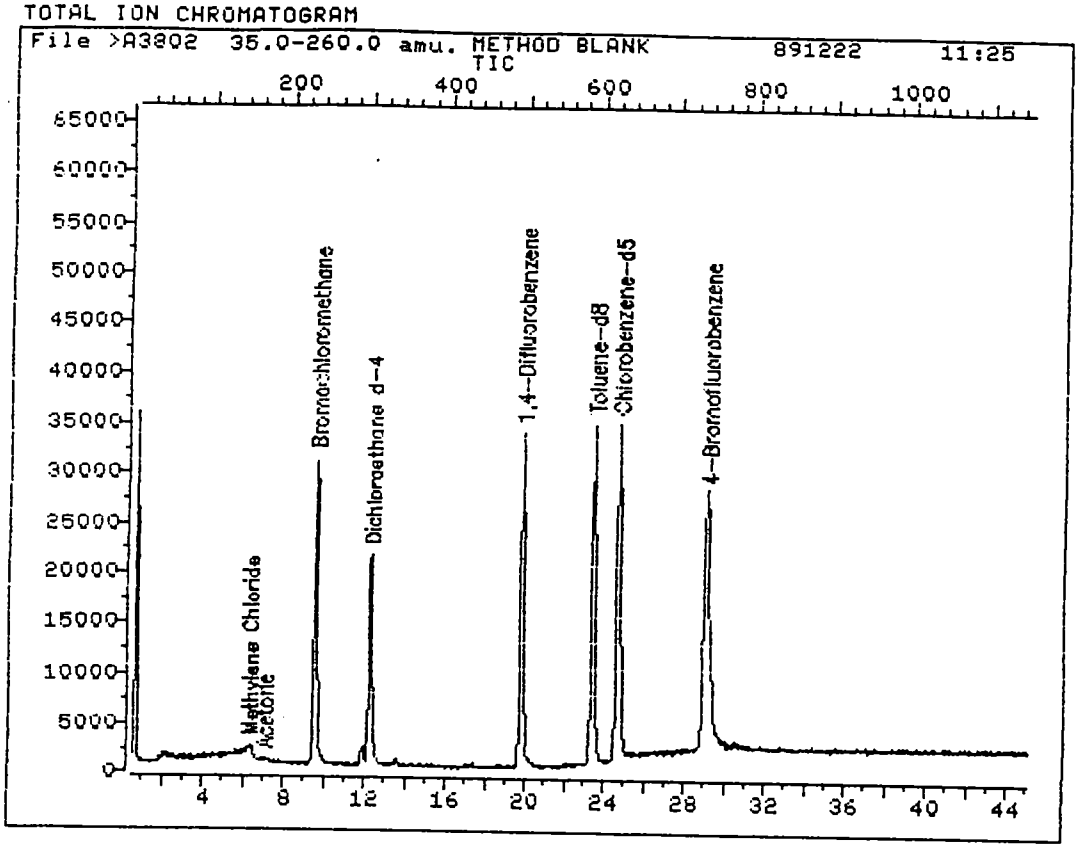
Quant Rev: 6
Quant Time: 891222 12:57
Injected at: 891222 11:27
Dilution Factor: 1.00000

ID File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.53	234	43621	50.00	ug/L	80
6)	Methylene Chloride	6.31	151	1642	1.90	ug/L	81
9)	Acetone	7.05	170	3204	6.57	ug/L	67
16)	1,2-Dichloroethane-d4	12.28	305	98646	48.15	ug/L	84
24)	*1,4-Difluorobenzene	19.76	498	143437	50.00	ug/L	68
34)	*Chlorobenzene-d5	24.64	624	114718	50.00	ug/L	99
40)	Toluene-d8	23.44	593	136581	53.22	ug/L	92
46)	Bromofluorobenzene	29.10	739	93959	49.46	ug/L	94

* Compound is ISTD

TOTAL ION CHROMATOGRAM

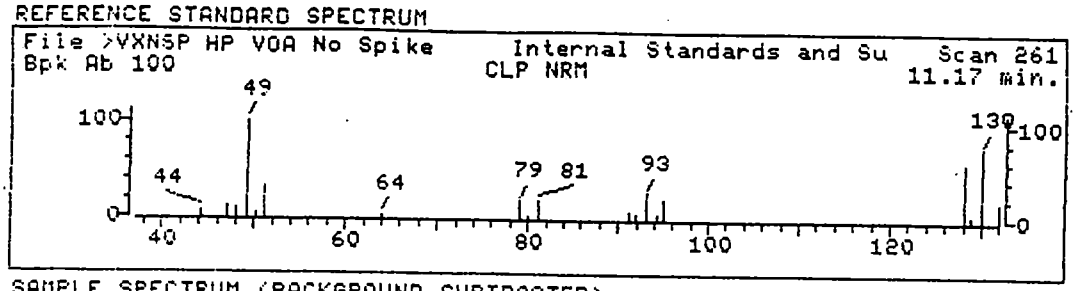


Data File: >A3802::D4 Quant Output File: ^A3802::QT
Name: METHOD BLANK
Misc: 891222 11:25 5.0mL

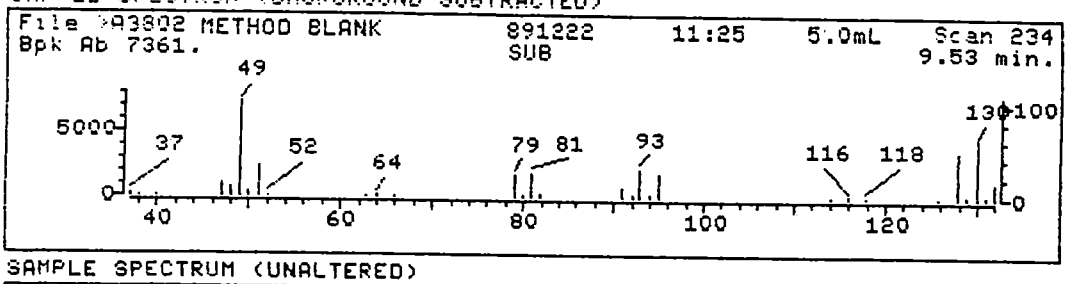
Id File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

Operator ID: LODGE
Quant Time: 891222 12:57
Injected at: 891222 11:27

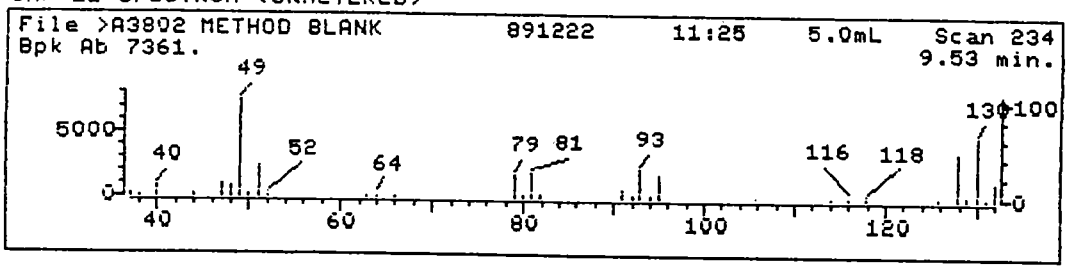
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



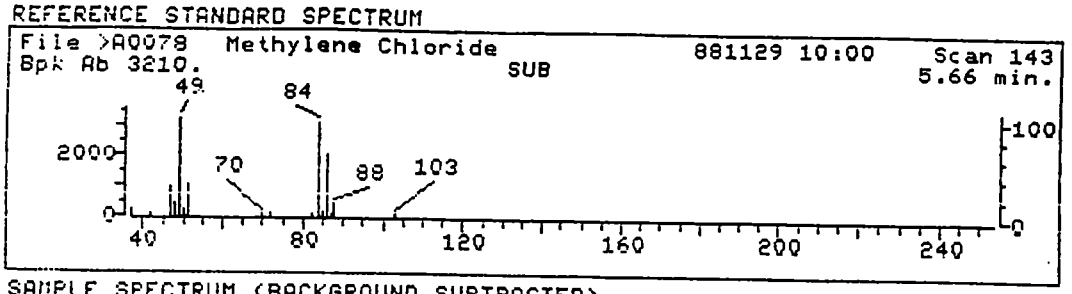
SAMPLE SPECTRUM (UNALTERED)



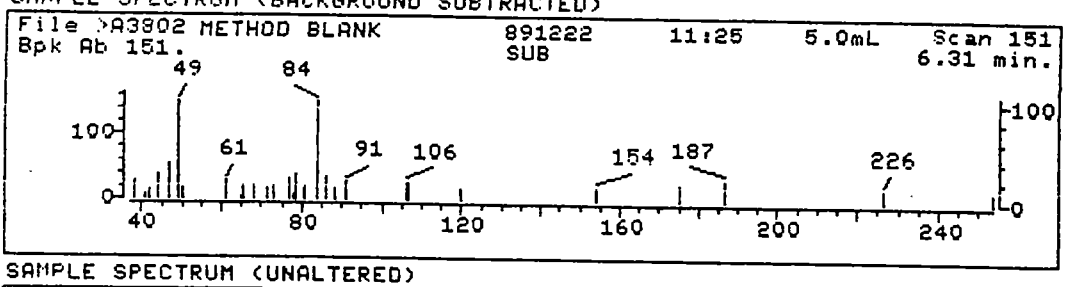
Data File: >A3802::D4 Quant Output File: ^A3802::QT
Name: METHOD BLANK
Misc: 891222 11:25 5.0mL
Quant Time: 891222 12:57 Quant ID File: ID_UST::D4
Injected at: 891222 11:27 Last Calibration: 891218 16:36

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 234
Retention Time: 9.53 min.
Quant Ion: 128.0
Area: 43621
Concentration: 50.00 ug/L
q-value: 80

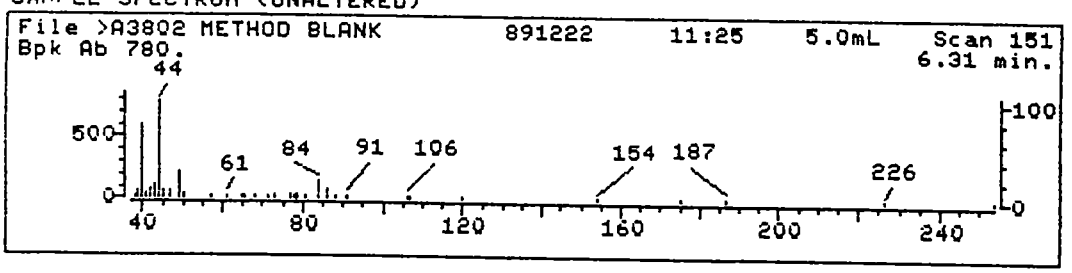
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



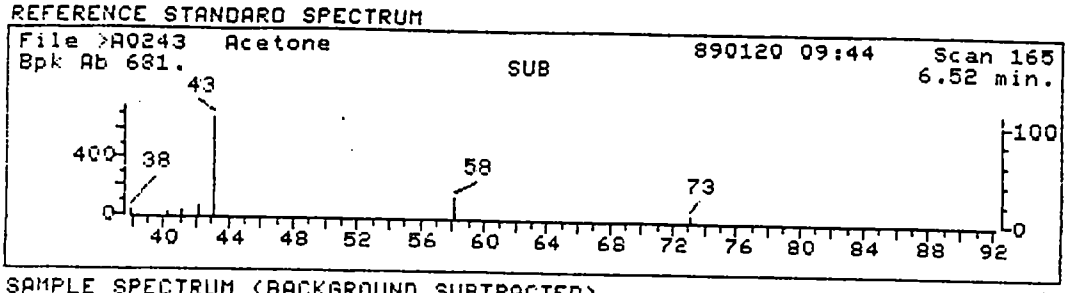
SAMPLE SPECTRUM (UNALTERED)



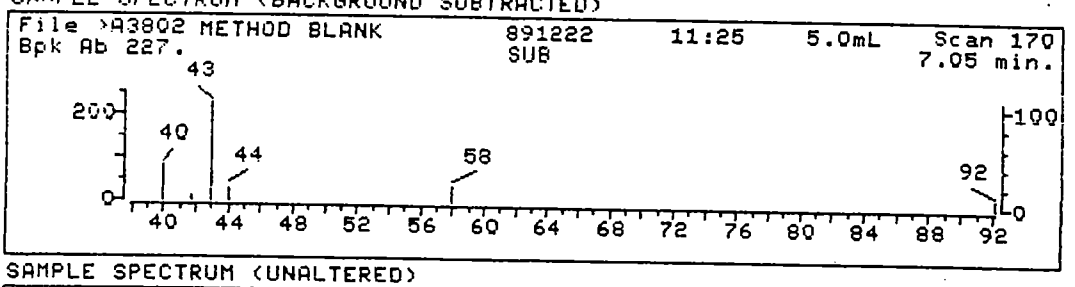
Data File: >A3802::D4 Quant Output File: ^A3802::QT
Name: METHOD BLANK
Misc: 891222 11:25 5.0mL
Quant Time: 891222 12:57 Quant ID File: ID_UST::D4
Injected at: 891222 11:27 Last Calibration: 891218 16:36

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 151
Retention Time: 6.31 min.
Quant Ion: 84.0
Area: 1642
Concentration: 1.90 ug/L
q-value: 81

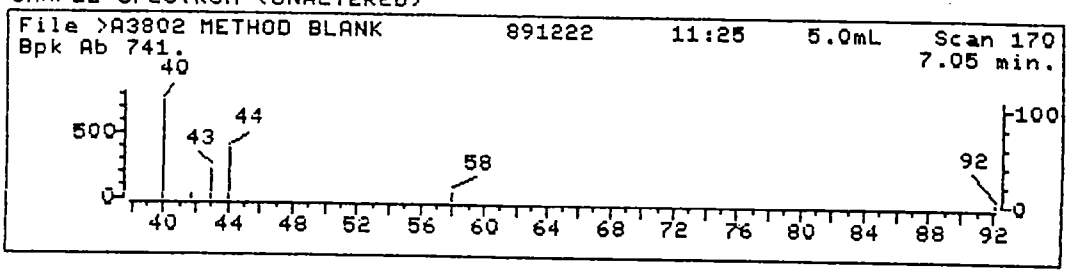
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



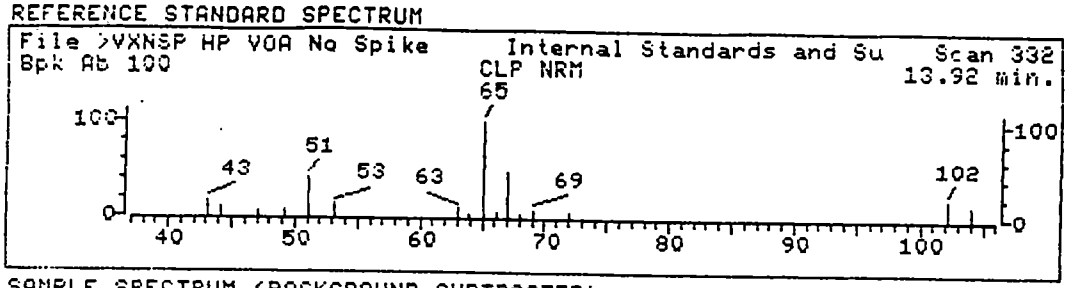
Data File: >A3802::D4
Name: METHOD BLANK
Misc: 891222 11:25 5.0mL
Quant Time: 891222 12:57
Injected at: 891222 11:27

Quant Output File: ^A3802::QT

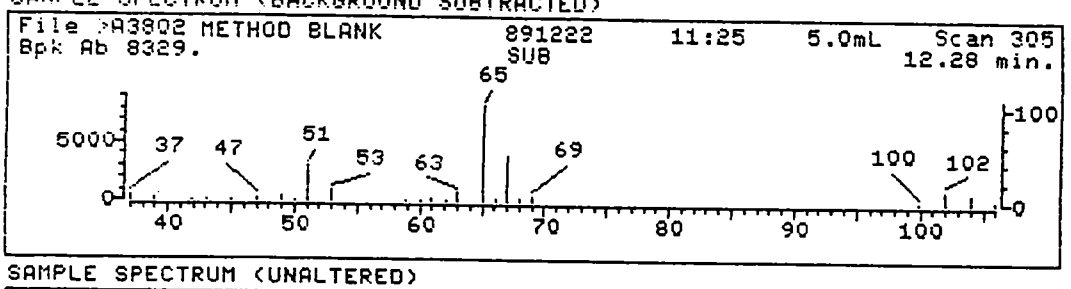
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 9
Compound Name: Acetone
Scan Number: 170
Retention Time: 7.05 min.
Quant Ion: 43.0
Area: 3204
Concentration: 6.57 ug/L
q-value: 67

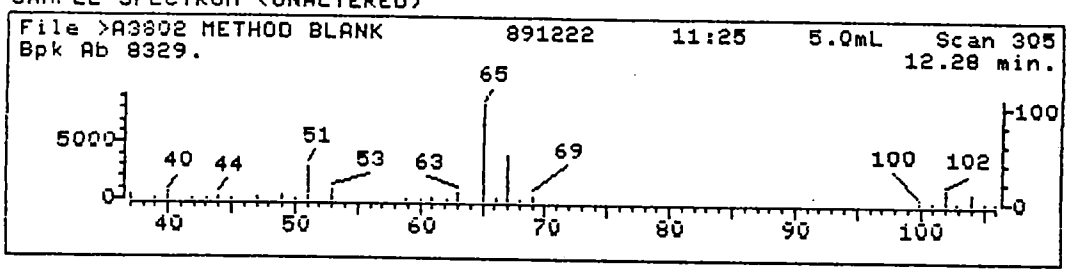
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



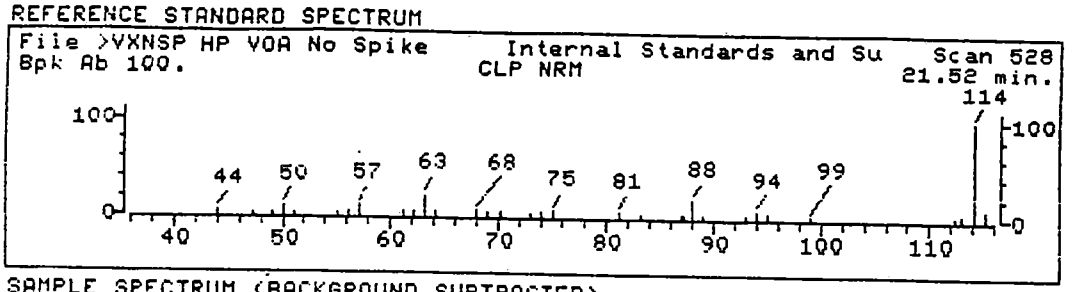
SAMPLE SPECTRUM (UNALTERED)



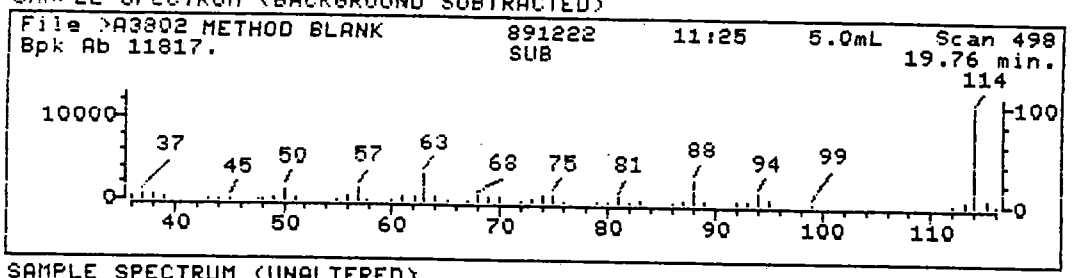
Data File: >A3802::D4 Quant Output File: ^A3802::QT
Name: METHOD BLANK
Misc: 891222 11:25 5.0mL
Quant Time: 891222 12:57 Quant ID File: ID_UST::D4
Injected at: 891222 11:27 Last Calibration: 891218 16:36

Compound No: 16
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 305
Retention Time: 12.28 min.
Quant Ion: 65.0
Area: 98646
Concentration: 48.15 ug/L
q-value: 84

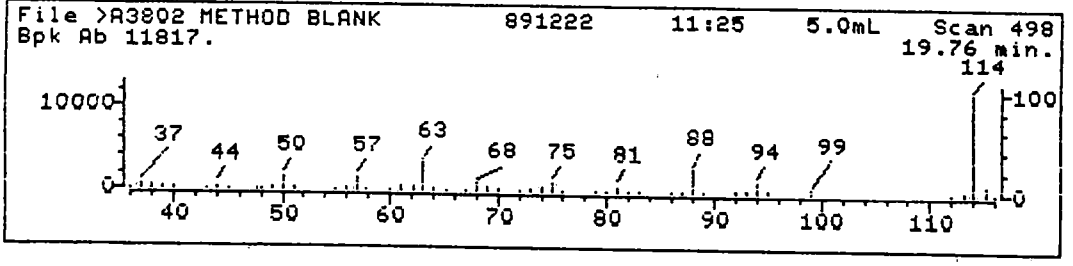
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



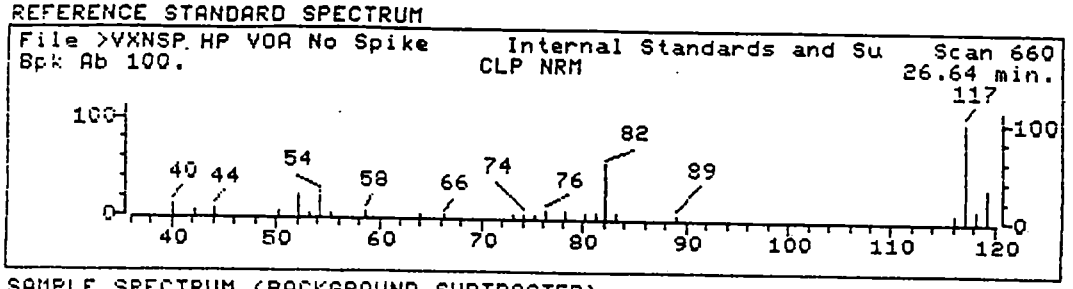
SAMPLE SPECTRUM (UNALTERED)



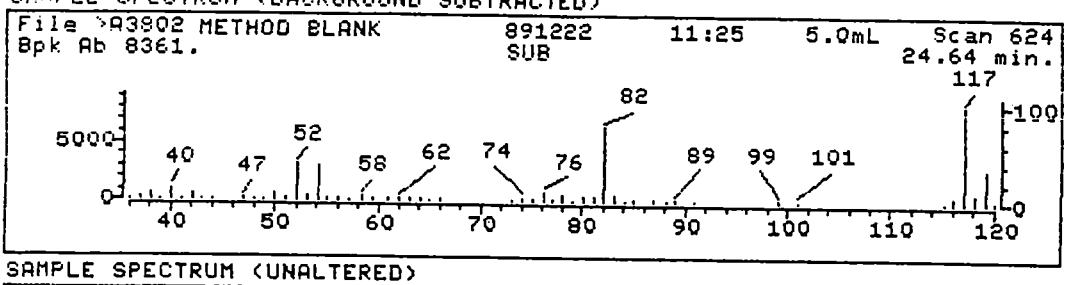
Data File: >A3802::D4 Quant Output File: ^A3802::QT
Name: METHOD BLANK
Misc: 891222 11:25 5.0mL
Quant Time: 891222 12:57 Quant ID File: ID_UST::D4
Injected at: 891222 11:27 Last Calibration: 891218 16:36

Compound No: 24 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 498
Retention Time: 19.76 min.
Quant Ion: 114.0
Area: 143437
Concentration: 50.00 ug/L
q-value: 68

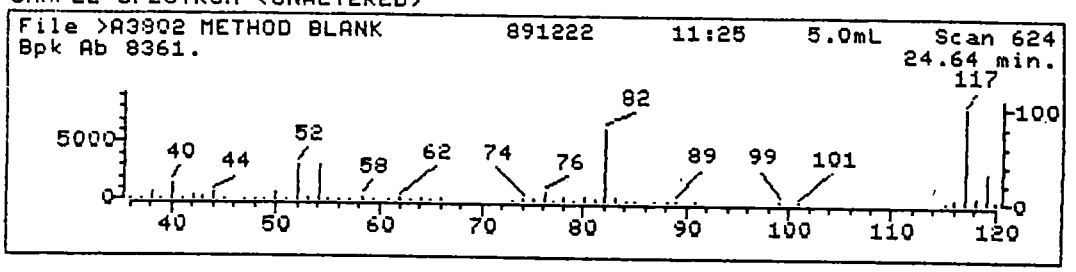
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

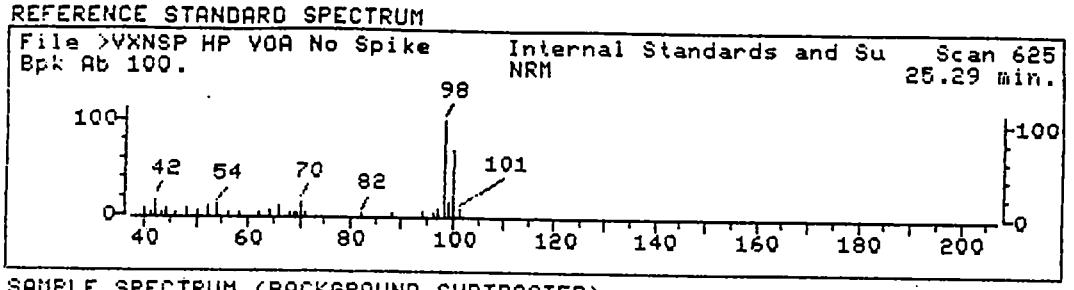


Data File: >A3802::D4
Name: METHOD BLANK
Misc: 891222 11:25 5.0mL
Quant Time: 891222 12:57
Injected at: 891222 11:27

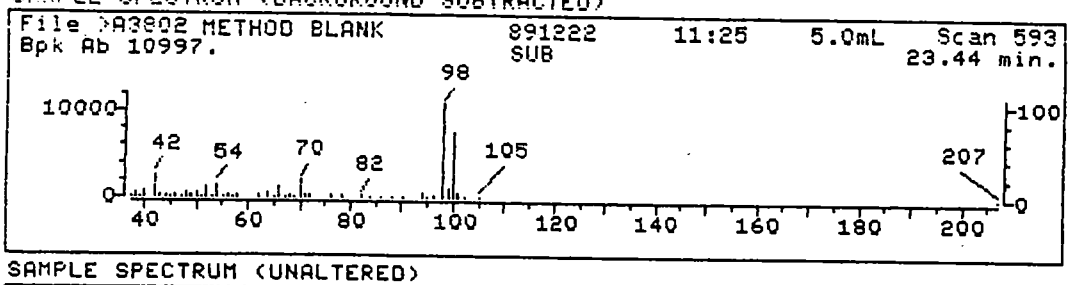
Quant Output File: ^A3802::QT
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 34 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 624
Retention Time: 24.64 min.
Quant Ion: 117.0
Area: 114718
Concentration: 50.00 ug/L
q-value: 99

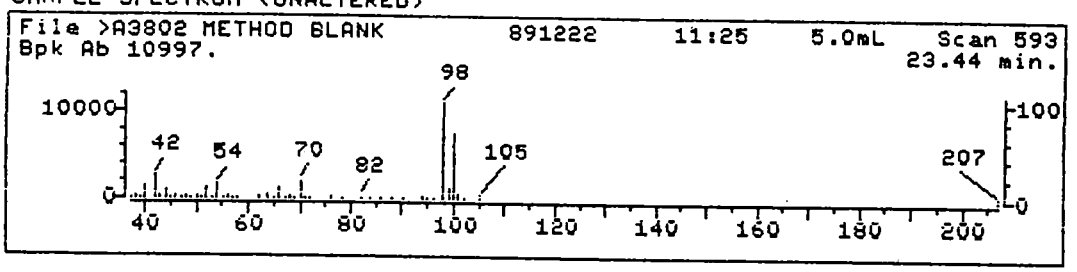
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



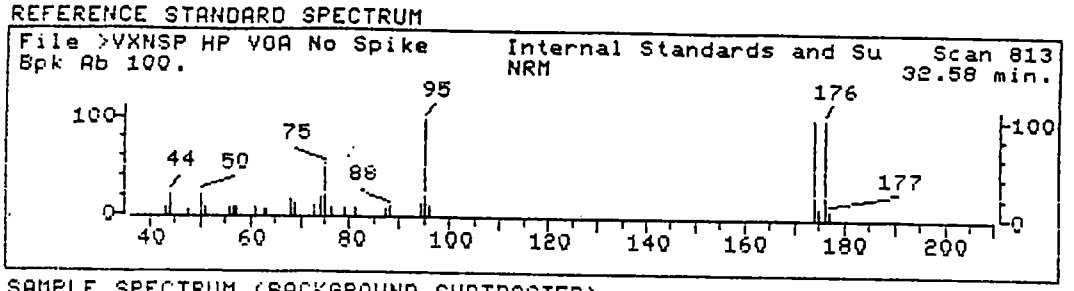
Data File: >A3802::D4
Name: METHOD BLANK
Misc: 891222 11:25 5.0mL
Quant Time: 891222 12:57
Injected at: 891222 11:27

Quant Output File: ^A3802::QT

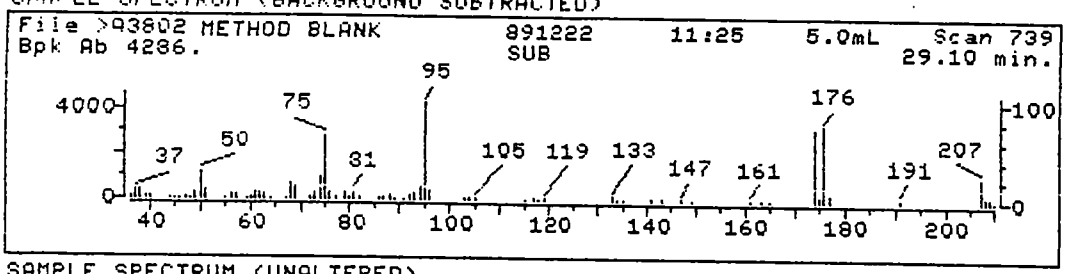
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 40
Compound Name: Toluene-d8
Scan Number: 593
Retention Time: 23.44 min.
Quant Ion: 98.0
Area: 136581
Concentration: 53.22 ug/L
q-value: 92

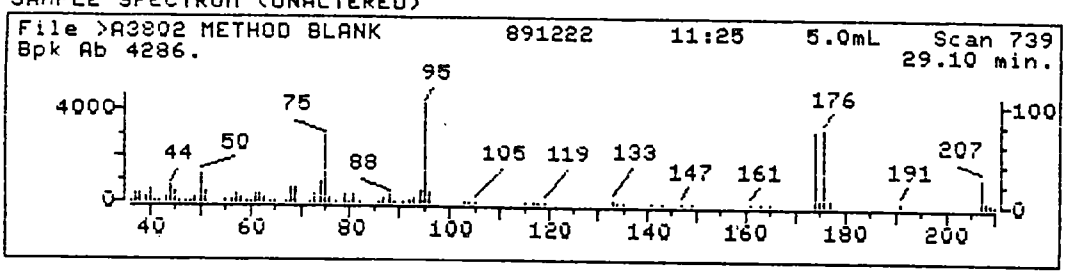
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



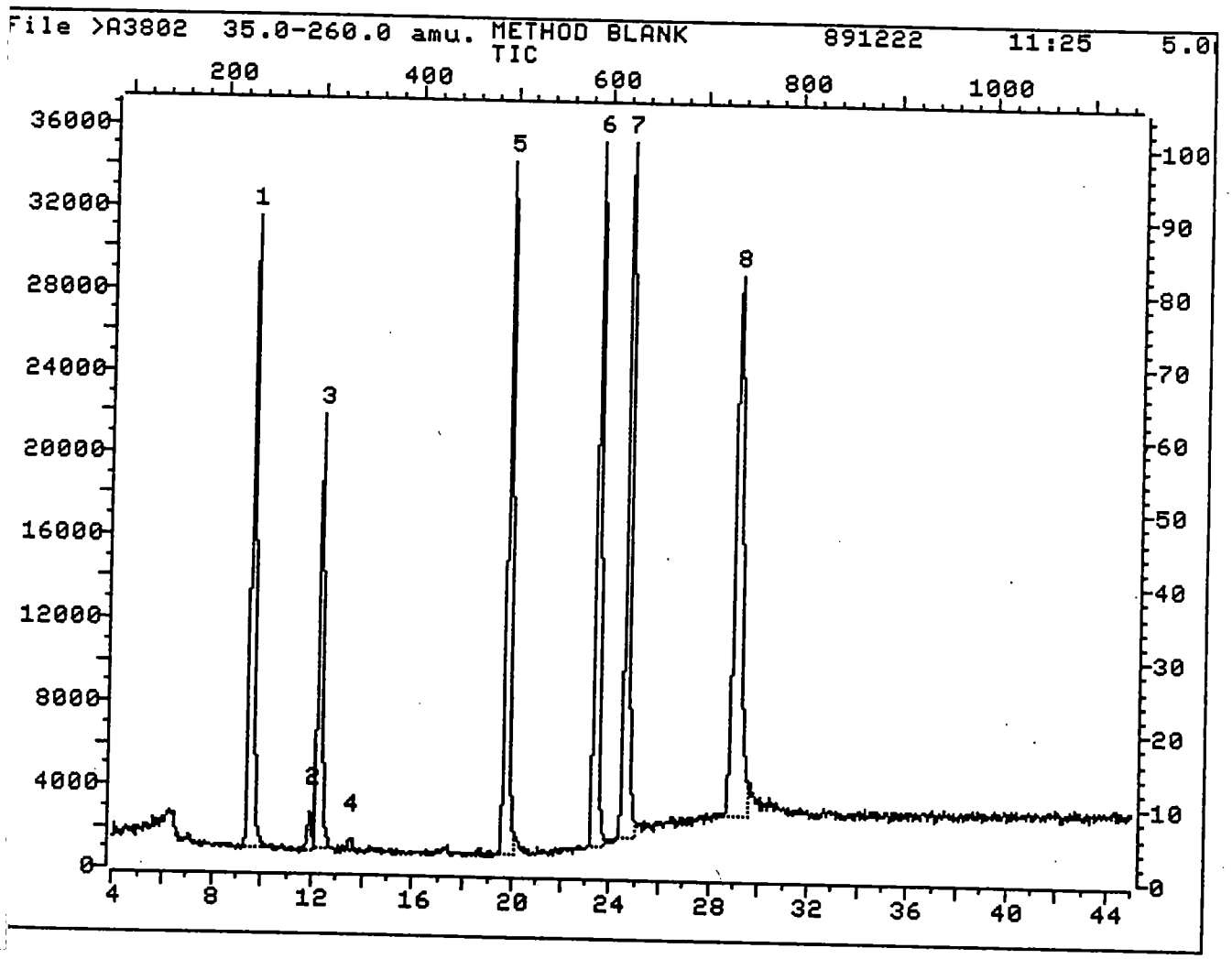
Data File: >A3802::D4 Quant Output File: ^A3802::QT
Name: METHOD BLANK
Misc: 891222 11:25 5.0mL
Quant Time: 891222 12:57 Quant ID File: ID_UST::D4
Injected at: 891222 11:27 Last Calibration: 891218 16:36

Compound No: 46
Compound Name: Bromofluorobenzene
Scan Number: 739
Retention Time: 29.10 min.
Quant Ion: 95.0
Area: 93959
Concentration: 49.46 ug/L
q-value: 94

>A3802 METHOD BLANK 891222 11:25 5.0mL
35.0| 260.0 TIC
Upslope: .20 Area Reject: 1.00 % Max Peaks: 8 Bunching: 1
Dnslope: 0.00 Results File VDIR77 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	9.53	226	234	244	30424	401814	358312 IS	63.08	14.451
2	11.93	288	296	299	1830	46248	22815 <10%	4.02	.920
3	12.28	299	305	317	20800	293017	246803 SS	43.45	9.954
4	13.52	332	337	343	591	31585	7414 <10%	1.31	.299
5	19.76	491	498	508	33390	444293	407747 IS	71.78	16.445
6	23.44	585	593	603	33983	480137	423642 SS	74.58	17.086
7	24.64	616	624	634	33509	521849	444696 IS	78.28	17.935
8	29.06	727	738	751	25942	737467	568061 SS	100.00	22.910

Sum of corrected areas: 2479490.



QUANT REPORT

Operator ID: RICK
Output File: ^A3820::D3
Data File: >A3820::D4
Name: METHOD BLANK
Misc: 891229 11:11 5ML

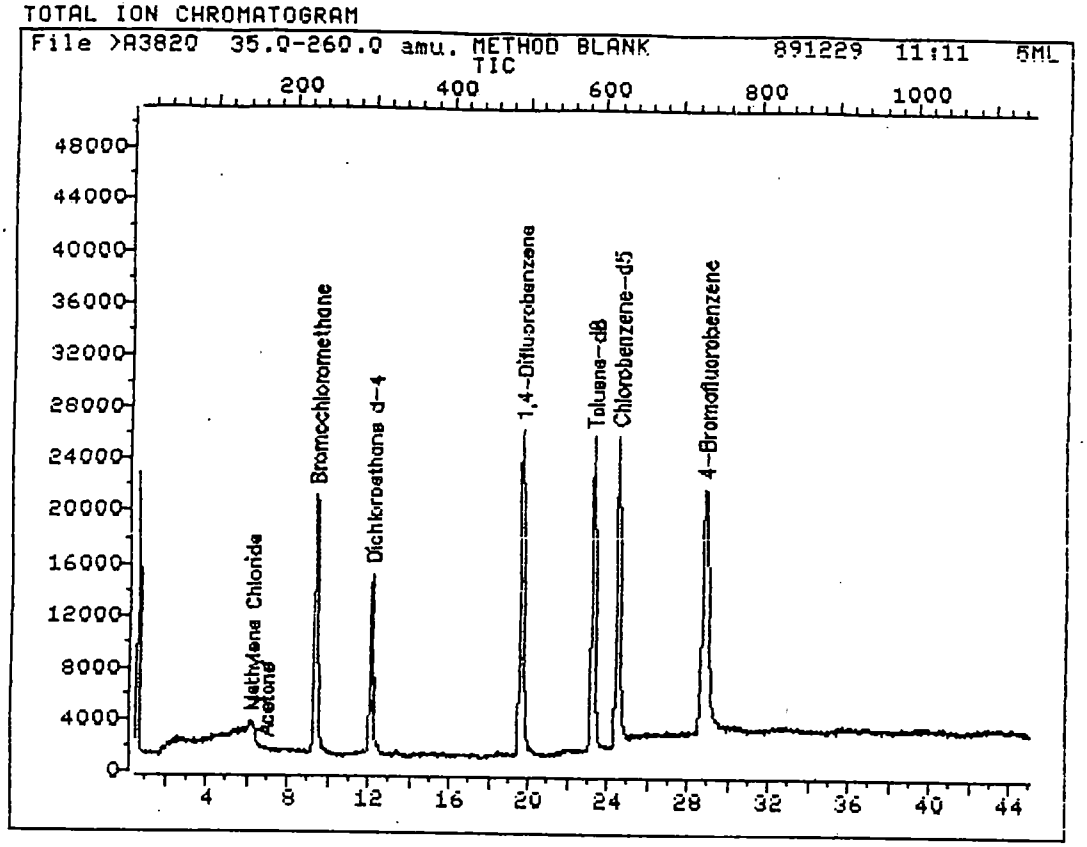
Quant Rev: 6 Quant Time: 891229 11:58
Injected at: 891229 11:11
Dilution Factor: 1.00000

ID File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.41	231	35889	50.00	ug/L	91
6)	Methylene Chloride	6.23	149	2253	3.17	ug/L	90
9)	Acetone	6.97	168	1046	2.61	ug/L	99
16)	1,2-Dichloroethane-d4	12.16	302	65773	39.02	ug/L	92
24)	*1,4-Difluorobenzene	19.64	495	128057	50.00	ug/L	70
34)	*Chlorobenzene-d5	24.53	621	93946	50.00	ug/L	99
40)	Toluene-d8	23.29	589	109704	52.20	ug/L	91
46)	Bromofluorobenzene	28.87	733	76294	49.04	ug/L	97

* Compound is ISTD

TOTAL ION CHROMATOGRAM

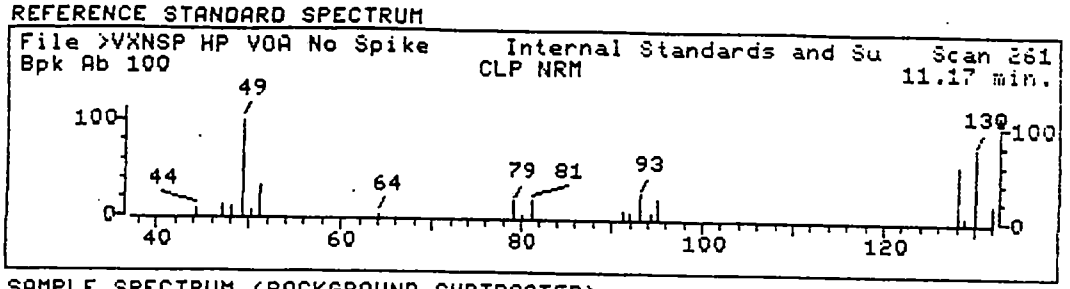


Data File: >A3820::D4 Quant Output File: ^A3820::D3
Name: METHOD BLANK
Misc: 891229 11:11 5ML

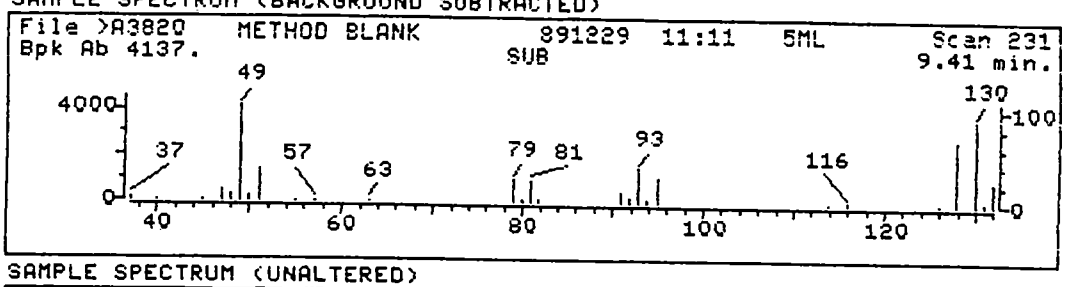
Id File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

Operator ID: RICK
Quant Time: 891229 11:58
Injected at: 891229 11:11

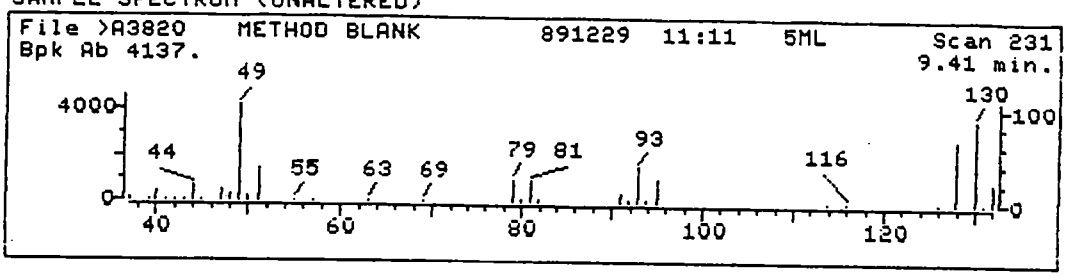
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



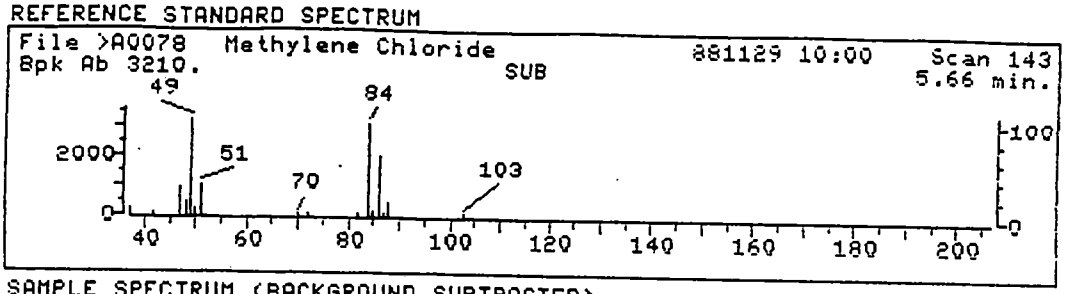
Data File: >A3820::D4
Name: METHOD BLANK
Misc: 891229 11:11 5ML
Quant Time: 891229 11:58
Injected at: 891229 11:11

Quant Output File: ^A3820::D3

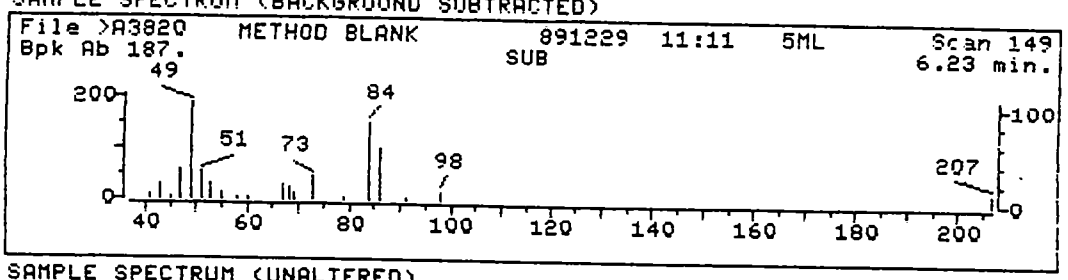
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 231
Retention Time: 9.41 min.
Quant Ion: 128.0
Area: 35889
Concentration: 50.00 ug/L
q-value: 91

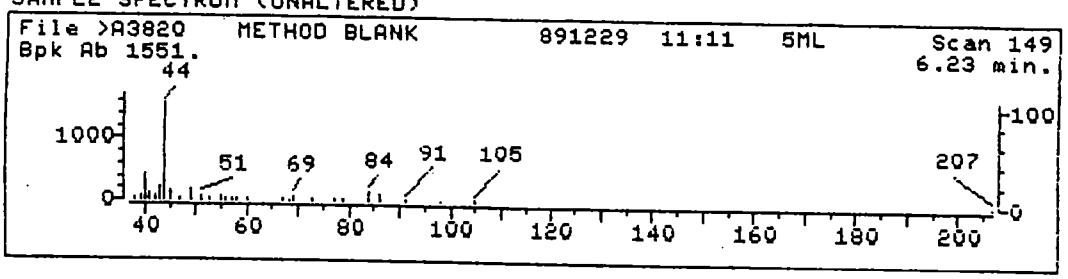
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



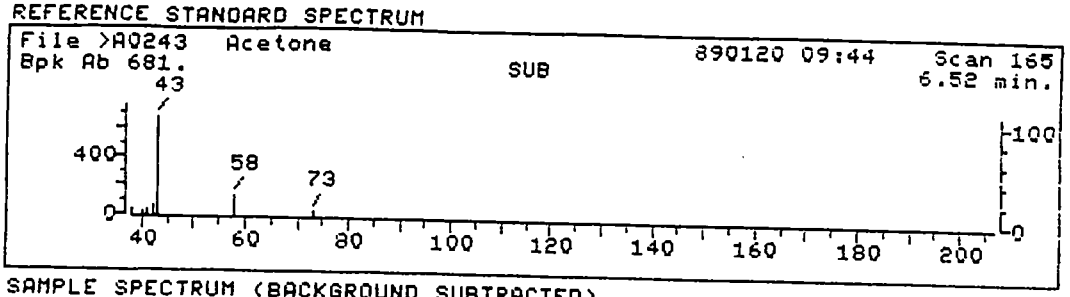
Data File: >A3820::D4
Name: METHOD BLANK
Misc: 891229 11:11 5ML
Quant Time: 891229 11:58
Injected at: 891229 11:11

Quant Output File: ^A3820::D3

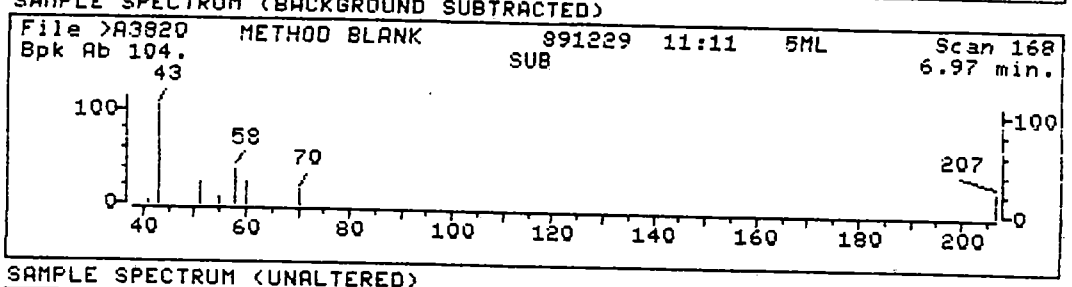
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 149
Retention Time: 6.23 min.
Quant Ion: 84.0
Area: 2253
Concentration: 3.17 ug/L
q-value: 90

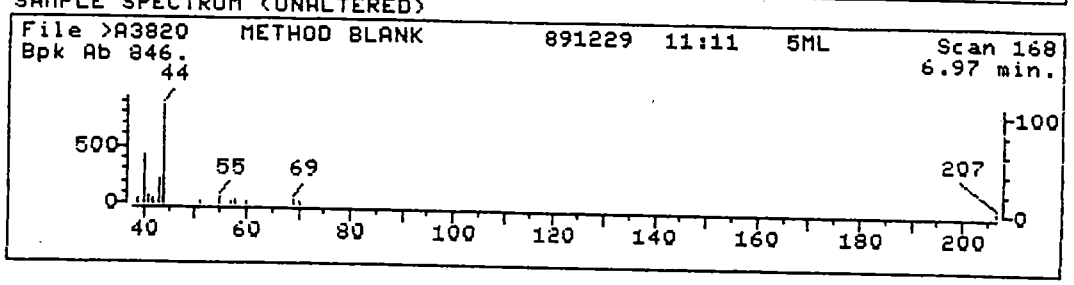
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



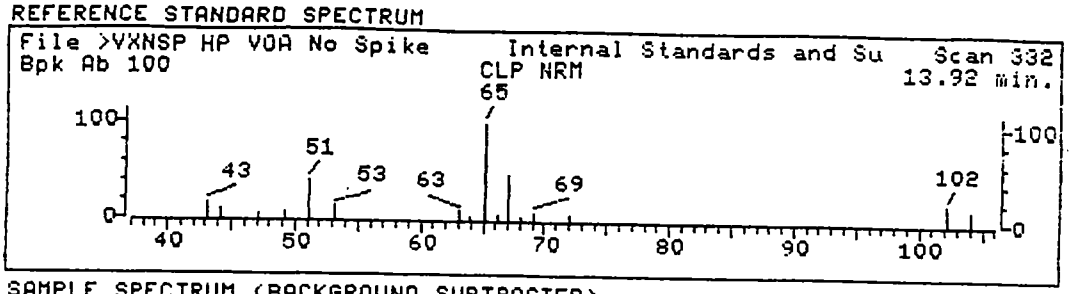
Data File: >A3820::D4
Name: METHOD BLANK
Misc: 891229 11:11 5ML
Quant Time: 891229 11:58
Injected at: 891229 11:11

Quant Output File: ^A3820::D3

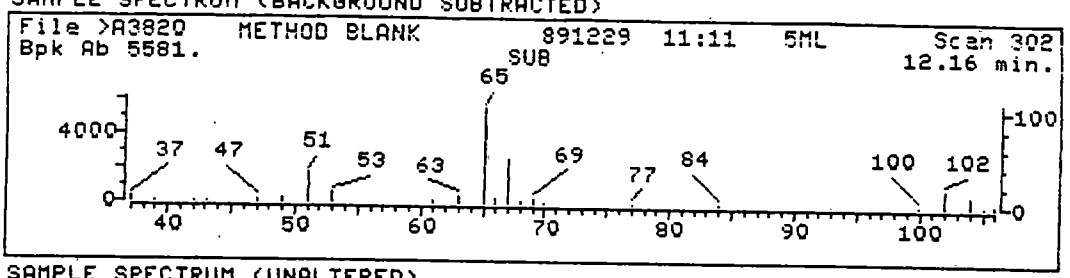
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 9
Compound Name: Acetone
Scan Number: 168
Retention Time: 6.97 min.
Quant Ion: 43.0
Area: 1046
Concentration: 2.61 ug/L
q-value: 99

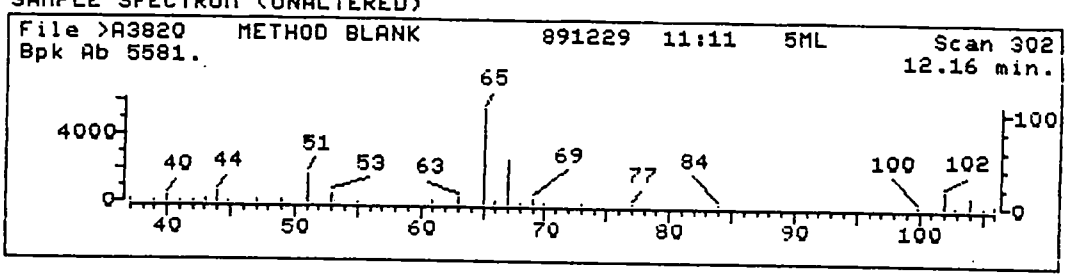
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



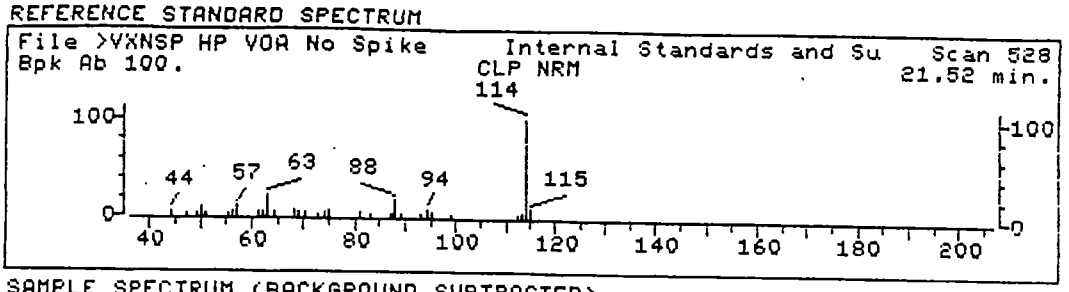
Data File: >A3820::D4
Name: METHOD BLANK
Misc: 891229 11:11 5ML
Quant Time: 891229 11:58
Injected at: 891229 11:11

Quant Output File: ^A3820::D3

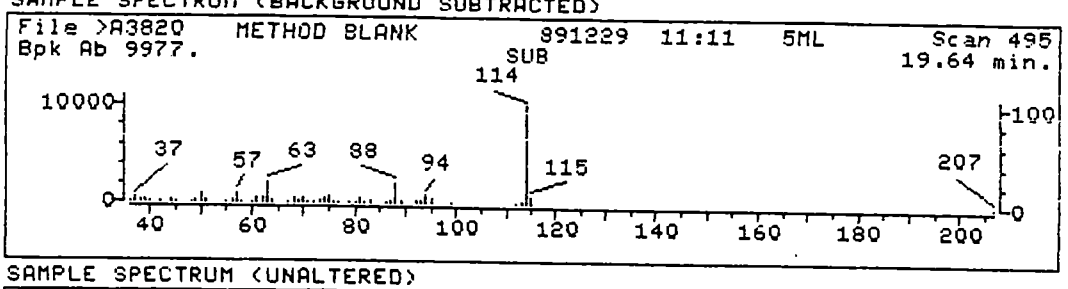
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 16
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 302
Retention Time: 12.16 min.
Quant Ion: 65.0
Area: 65773
Concentration: 39.02 ug/L
q-value: 92

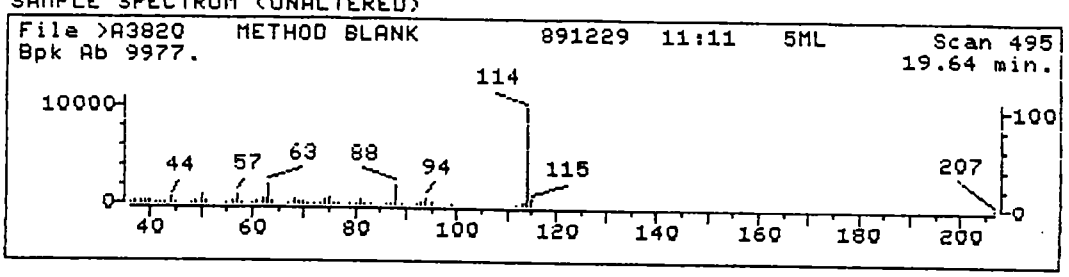
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



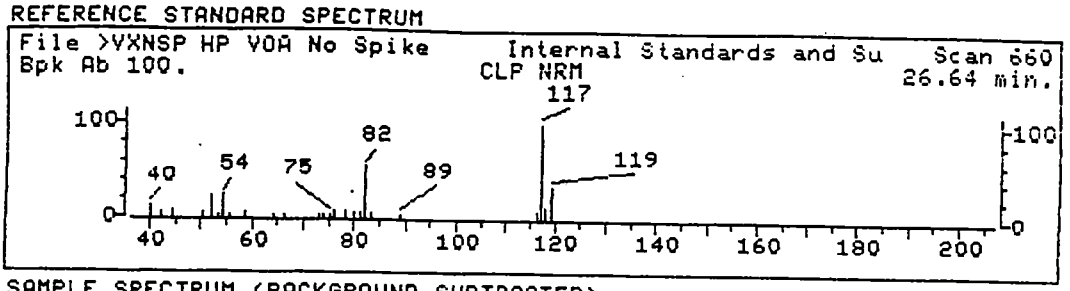
Data File: >A3820::D4
Name: METHOD BLANK
Misc: 891229 11:11 5ML
Quant Time: 891229 11:58
Injected at: 891229 11:11

Quant Output File: ^A3820::D3

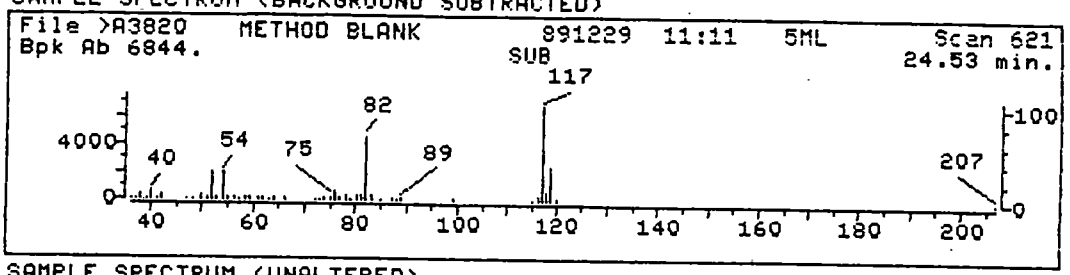
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 24 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 495
Retention Time: 19.64 min.
Quant Ion: 114.0
Area: 128057
Concentration: 50.00 ug/L
q-value: 70

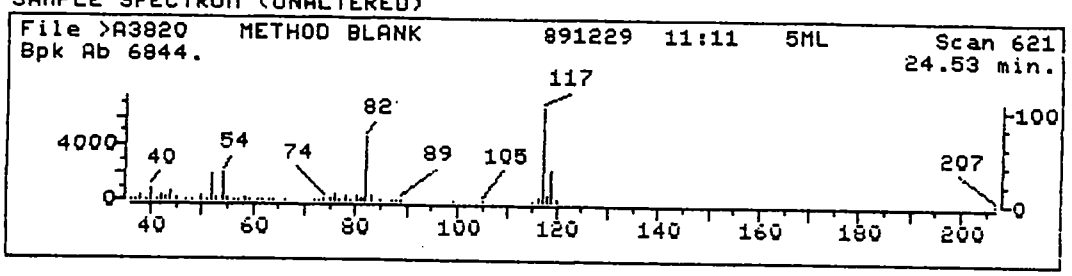
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



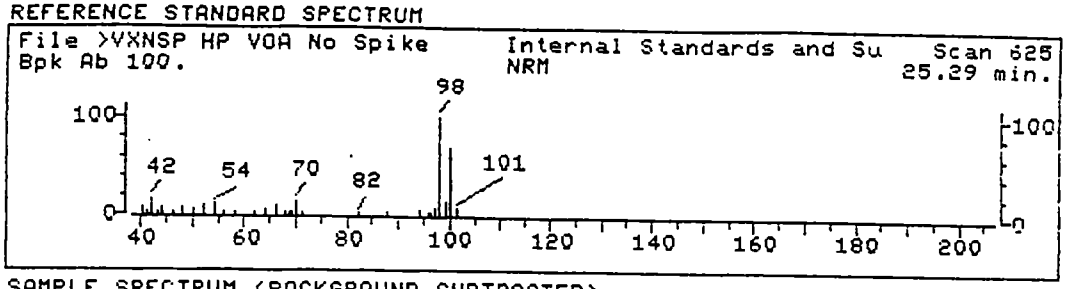
Data File: >A3820::D4
Name: METHOD BLANK
Misc: 891229 11:11 5ML
Quant Time: 891229 11:58
Injected at: 891229 11:11

Quant Output File: ^A3820::D3

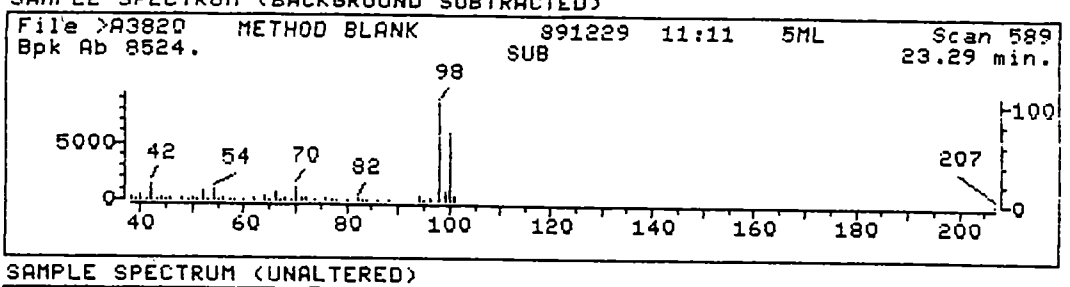
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 34 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 621
Retention Time: 24.53 min.
Quant Ion: 117.0
Area: 93946
Concentration: 50.00 ug/L
q-value: 99

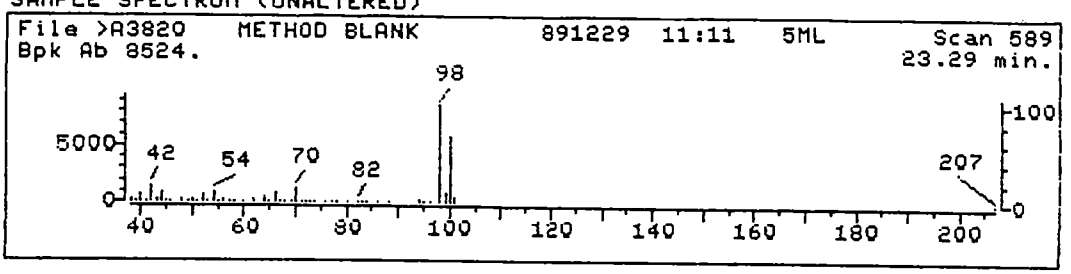
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



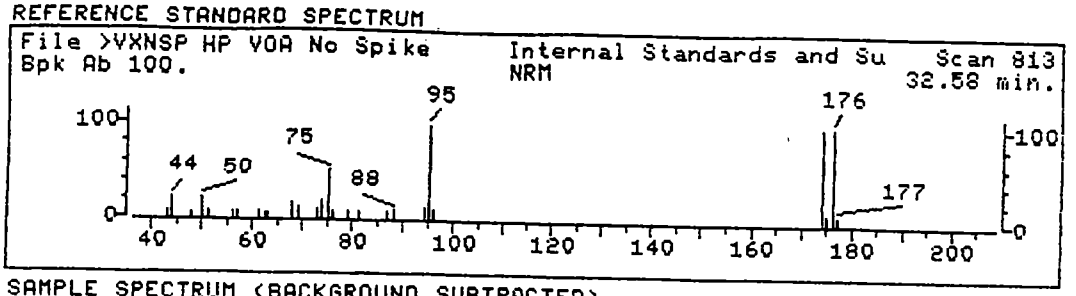
Data File: >A3820::D4
Name: METHOD BLANK
Misc: 891229 11:11 5ML
Quant Time: 891229 11:58
Injected at: 891229 11:11

Quant Output File: ^A3820::D3

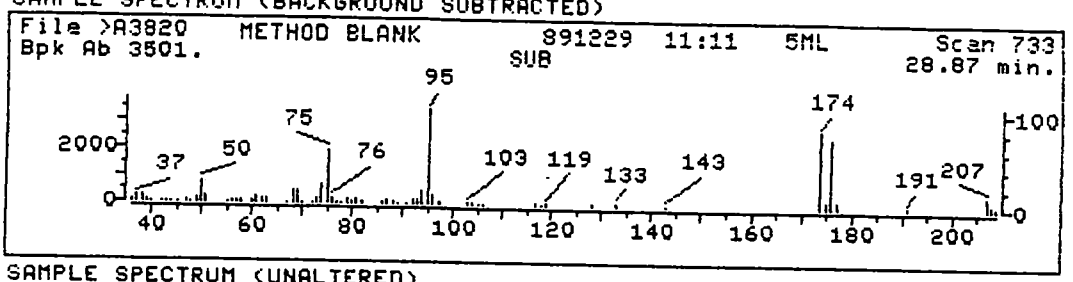
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 40
Compound Name: Toluene-d8
Scan Number: 589
Retention Time: 23.29 min.
Quant Ion: 98.0
Area: 109704
Concentration: 52.20 ug/L
q-value: 91

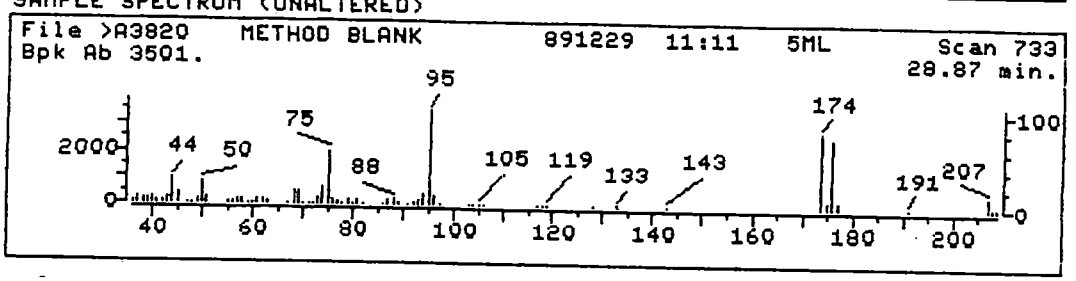
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >A3820::D4
Name: METHOD BLANK
Misc: 891229 11:11 5ML
Quant Time: 891229 11:58
Injected at: 891229 11:11

Quant Output File: ^A3820::D3

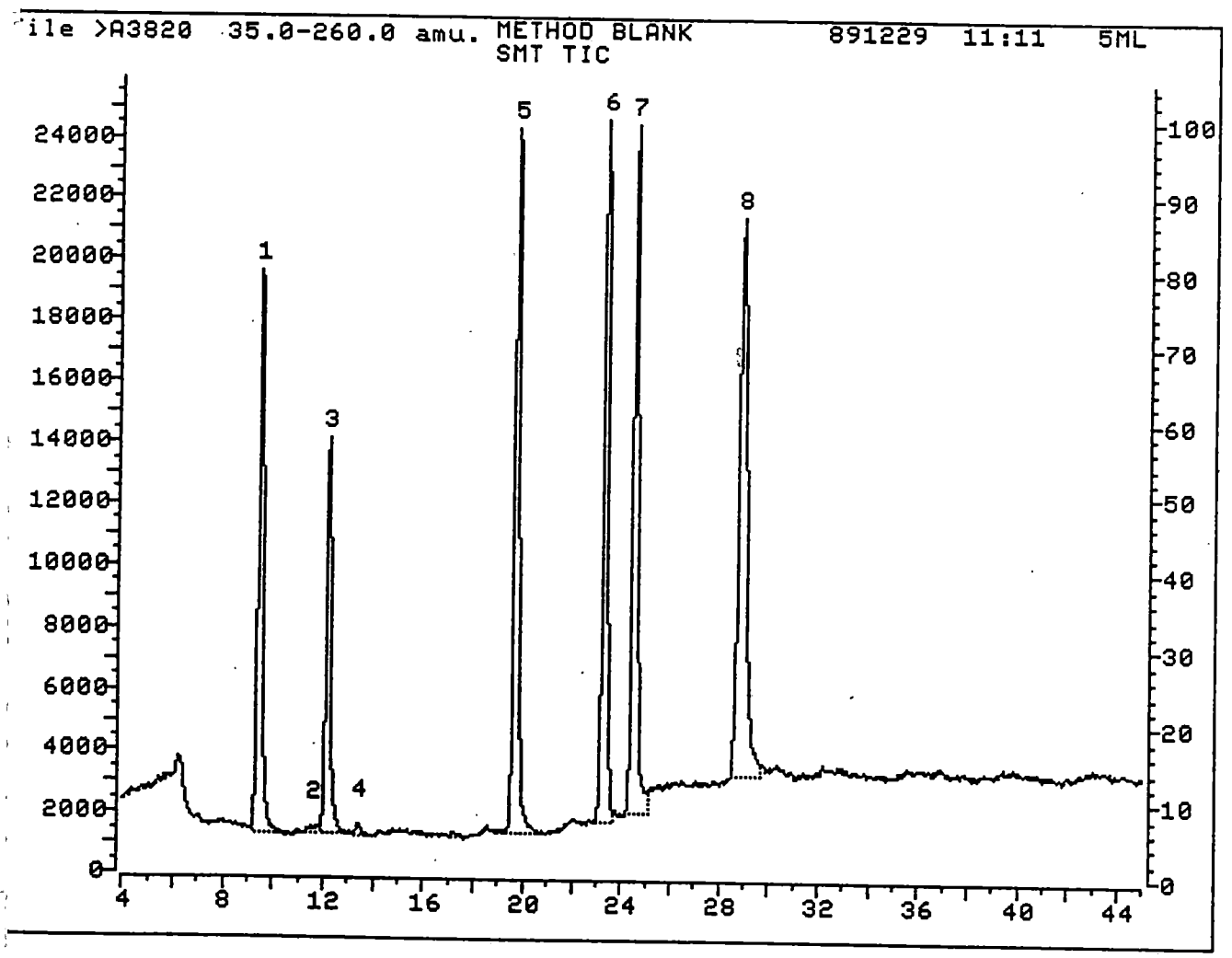
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 46
Compound Name: Bromofluorobenzene
Scan Number: 733
Retention Time: 28.87 min.
Quant Ion: 95.0
Area: 76294
Concentration: 49.04 ug/L
q-value: 97

>A3820 METHOD BLANK 891229 11:11 5ML
35.0| 260.0 SMT TIC
Upslope: .20 Area Reject: 1.00 % Max Peaks: 8 Bunching: 1
Dnslope: 0.00 Results File VDIR82 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	9.41	224	231	252	18281	334673	246421	60.66	13.693
2	11.54	276	286	289	239	44420	4280	1.05	.238
3	12.16	295	302	322	12812	253810	169729	41.78	9.431
4	13.40	328	334	347	456	61635	7687	1.89	.427
5	19.64	487	495	522	22954	435153	322218	79.32	17.905
6	23.33	581	590	600	22853	392410	311428	76.67	17.305
7	24.53	613	621	636	22396	444091	331637	81.64	18.428
8	28.87	723	733	754	18166	646495	406215	100.00	22.572

Sum of corrected areas: 1799615.



QUANT REPORT

Operator ID: MALOS
Output File: ^A3845::D1
Data File: >A3845::D4
Name: METHOD BLANK
Misc: 900103 12:17 5ML

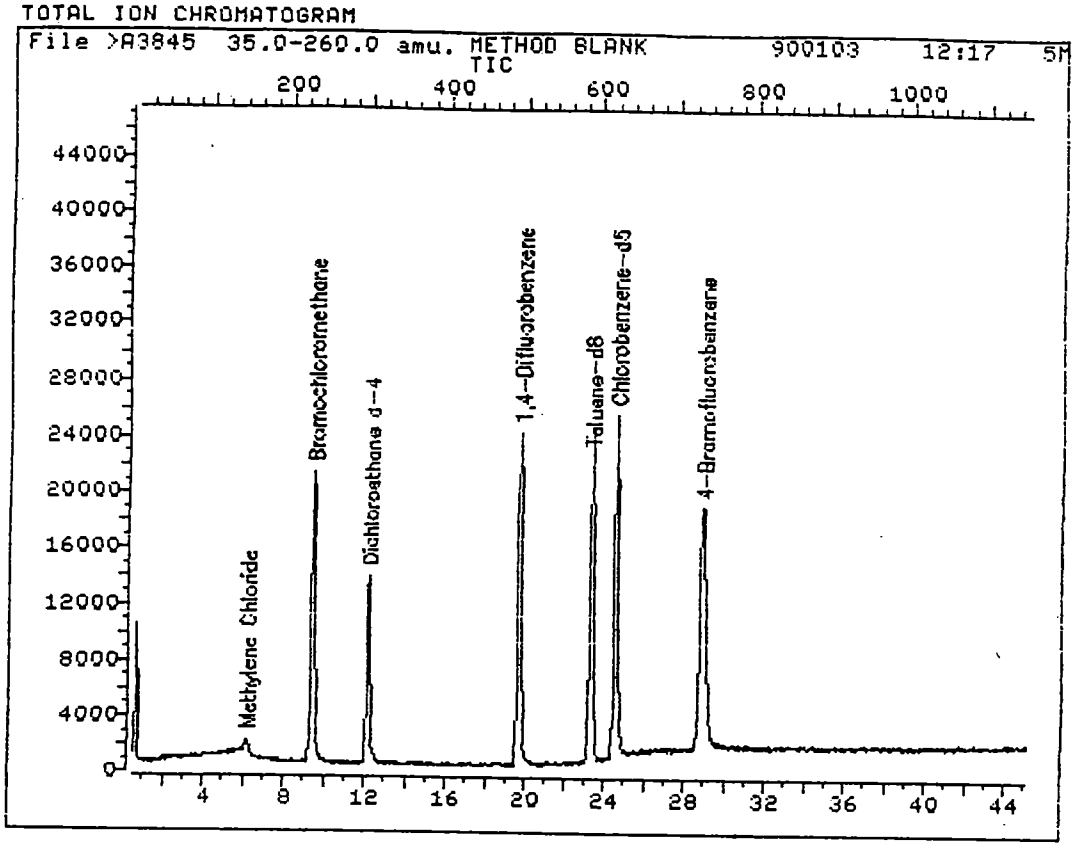
Quant Rev: 6 Quant Time: 900103 13:05
Injected at: 900103 12:17
Dilution Factor: 1.00000

ID File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	9.41	231	34733	50.00	ug/L	92
6)	Methylene Chloride	6.19	148	1853	2.70	ug/L	90
16)	1,2-Dichloroethane-d4	12.16	302	63299	38.80	ug/L	90
24)	*1,4-Difluorobenzene	19.68	496	121228	50.00	ug/L	69
34)	*Chlorobenzene-d5	24.52	621	94840	50.00	ug/L	94
40)	Toluene-d8	23.28	589	106956	50.41	ug/L	98
46)	Bromofluorobenzene	28.90	734	70545	44.92	ug/L	94

* Compound is ISTD

TOTAL ION CHROMATOGRAM

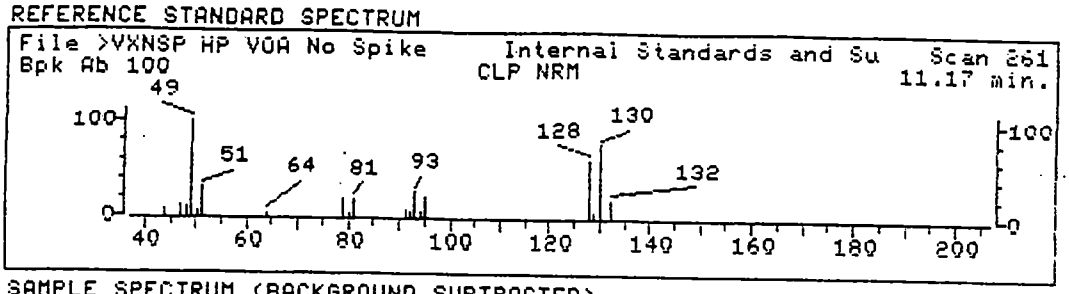


Data File: >A3845::D4 Quant Output File: ^A3845::D1
Name: METHOD BLANK
Misc: 900103 12:17 5ML

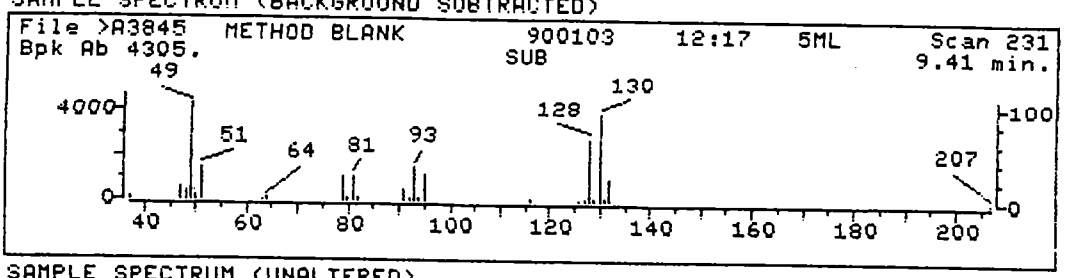
Id File: ID_UST::D4
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E
Last Calibration: 891218 16:36

Operator ID: MALOS
Quant Time: 900103 13:05
Injected at: 900103 12:17

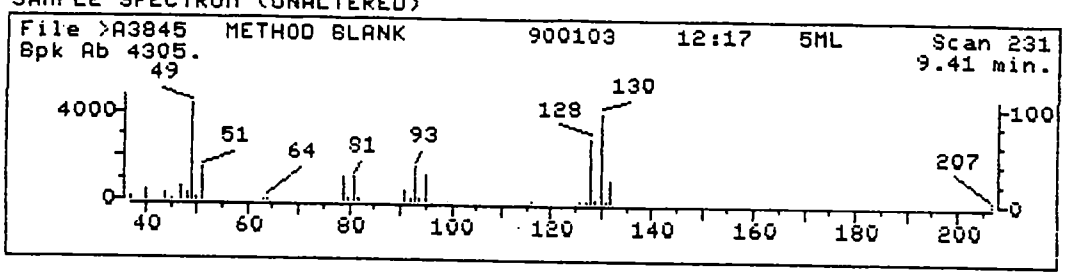
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



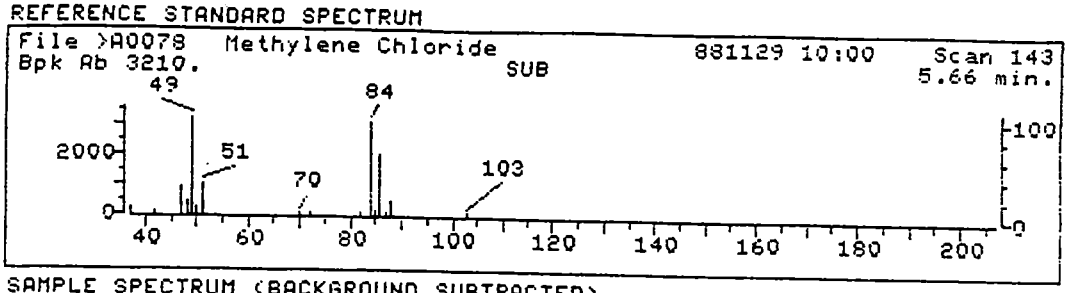
Data File: >A3845::D4
Name: METHOD BLANK
Misc: 900103 12:17 5ML
Quant Time: 900103 13:05
Injected at: 900103 12:17

Quant Output File: ^A3845::D1

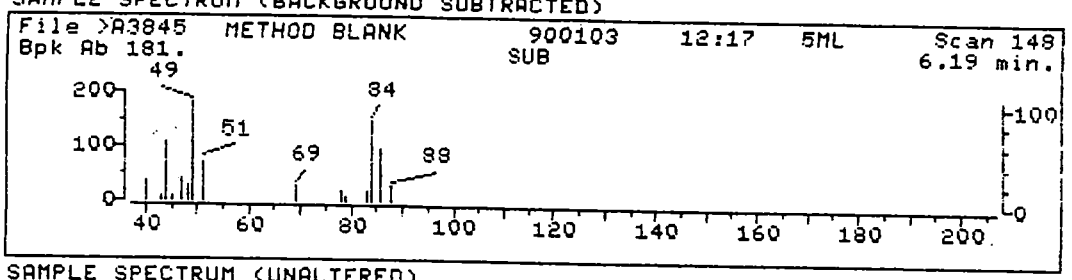
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 1 (ISTD)
Compound Name: Bromochloromethane
Scan Number: 231
Retention Time: 9.41 min.
Quant Ion: 128.0
Area: 34733
Concentration: 50.00 ug/L
q-value: 92

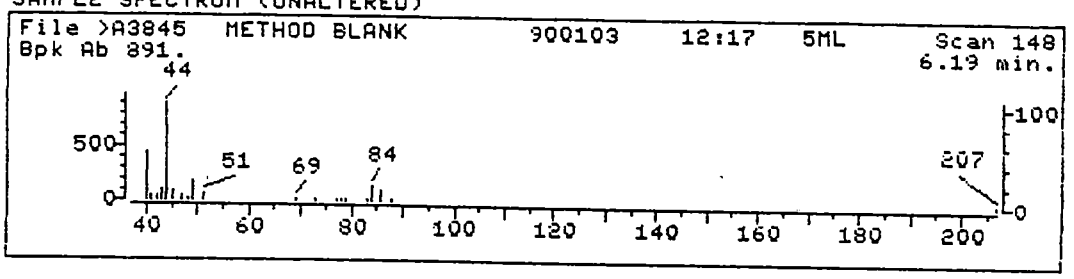
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



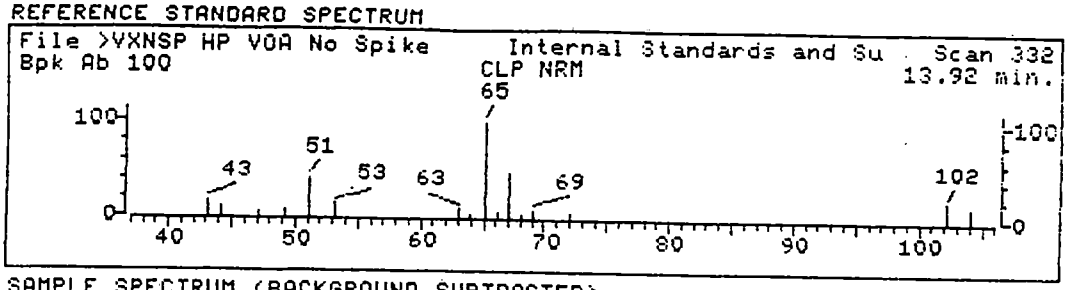
Data File: >A3845::D4
Name: METHOD BLANK
Misc: 900103 12:17 5ML
Quant Time: 900103 13:05
Injected at: 900103 12:17

Quant Output File: ^A3845::D1

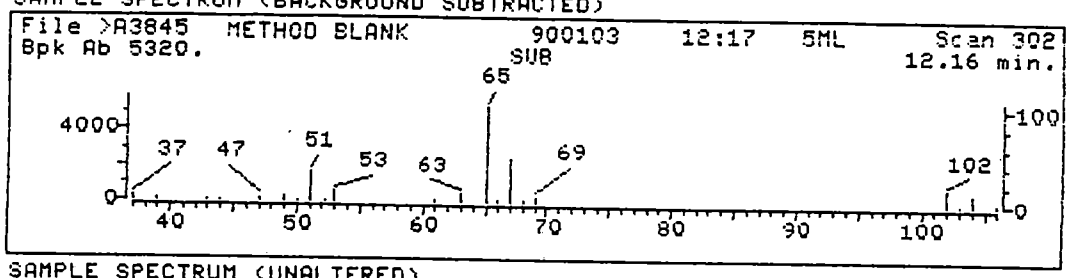
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 6
Compound Name: Methylene Chloride
Scan Number: 148
Retention Time: 6.19 min.
Quant Ion: 84.0
Area: 1853
Concentration: 2.70 ug/L
q-value: 90

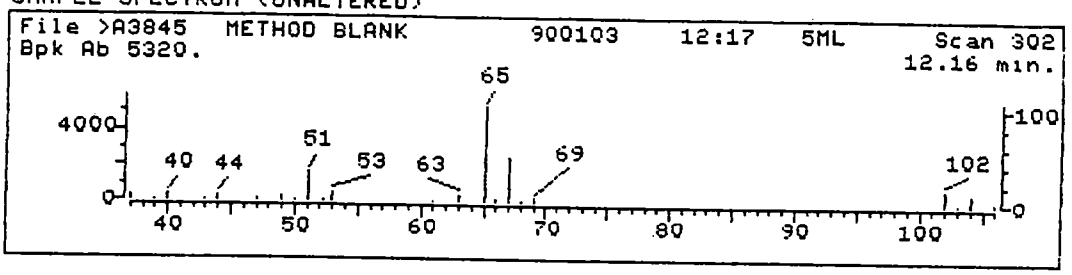
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



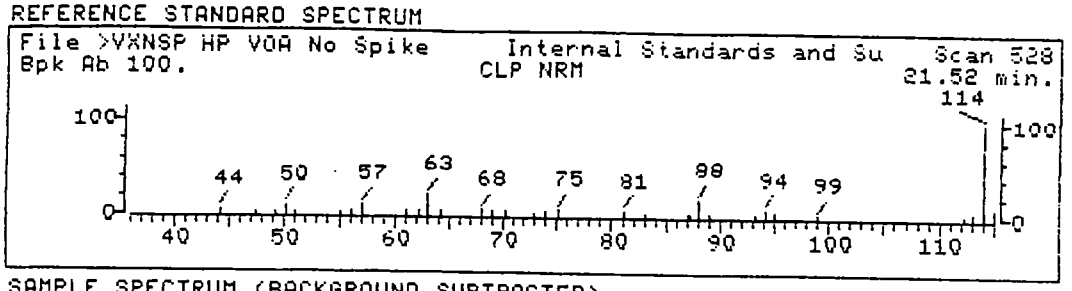
Data File: >A3845::D4
Name: METHOD BLANK
Misc: 900103 12:17 5ML
Quant Time: 900103 13:05
Injected at: 900103 12:17

Quant Output File: ^A3845::D1

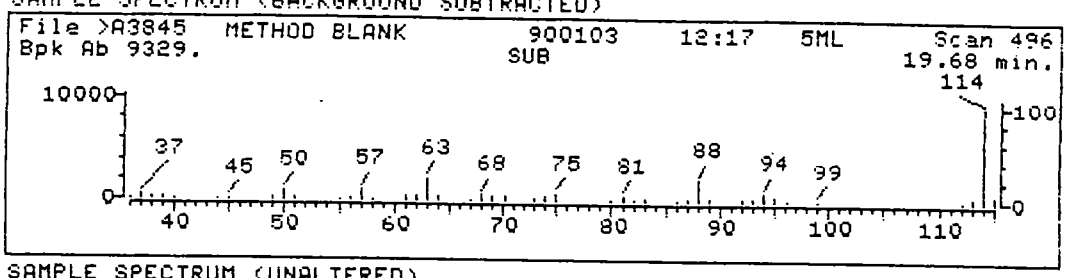
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 16
Compound Name: 1,2-Dichloroethane-d4
Scan Number: 302
Retention Time: 12.16 min.
Quant Ion: 65.0
Area: 63299
Concentration: 38.80 ug/L
q-value: 90

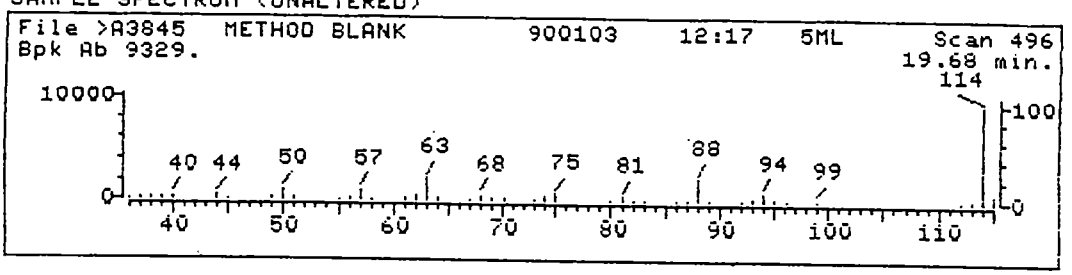
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

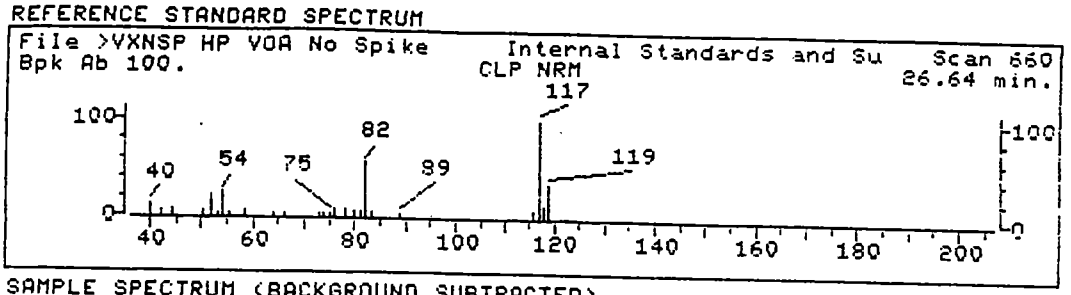


Data File: >A3845::D4
Name: METHOD BLANK
Misc: 900103 12:17 5ML
Quant Time: 900103 13:05
Injected at: 900103 12:17

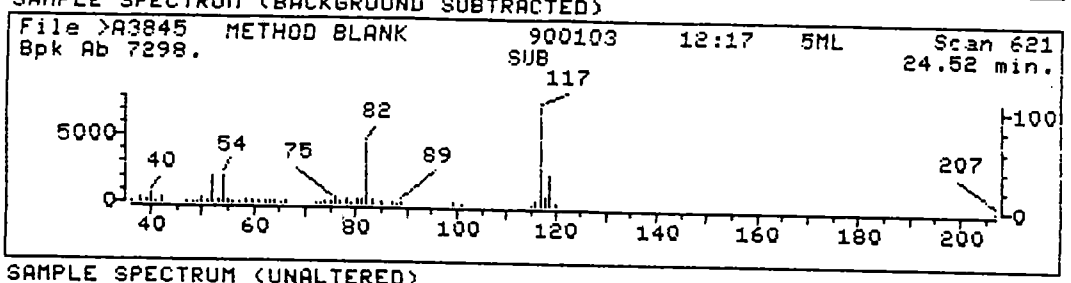
Quant Output File: ^A3845::D1
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 24 (ISTD)
Compound Name: 1,4-Difluorobenzene
Scan Number: 496
Retention Time: 19.68 min.
Quant Ion: 114.0
Area: 121228
Concentration: 50.00 ug/L
q-value: 69

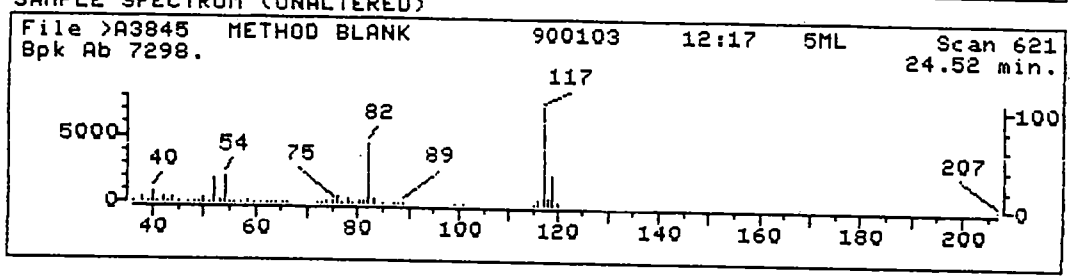
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



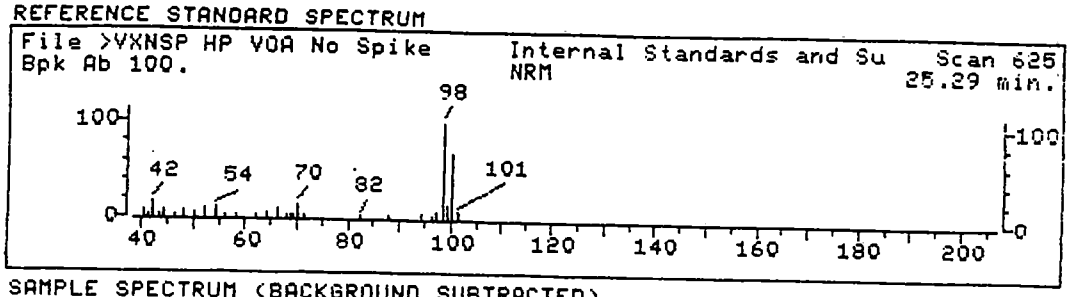
Data File: >A3845::D4
Name: METHOD BLANK
Misc: 900103 12:17 5ML
Quant Time: 900103 13:05
Injected at: 900103 12:17

Quant Output File: ^A3845::D1

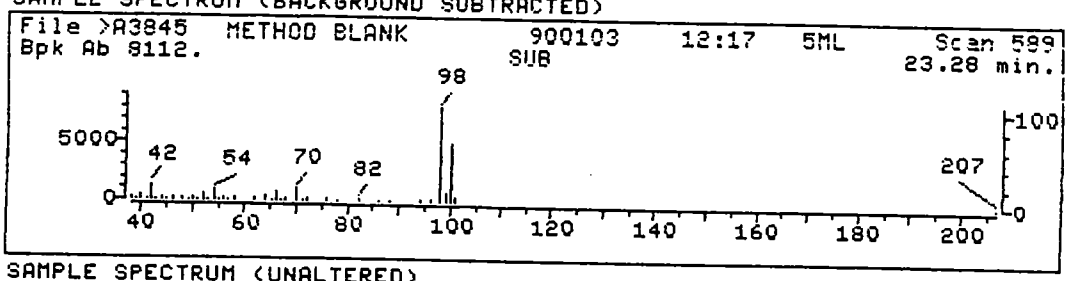
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 34 (ISTD)
Compound Name: Chlorobenzene-d5
Scan Number: 621
Retention Time: 24.52 min.
Quant Ion: 117.0
Area: 94840
Concentration: 50.00 ug/L
q-value: 94

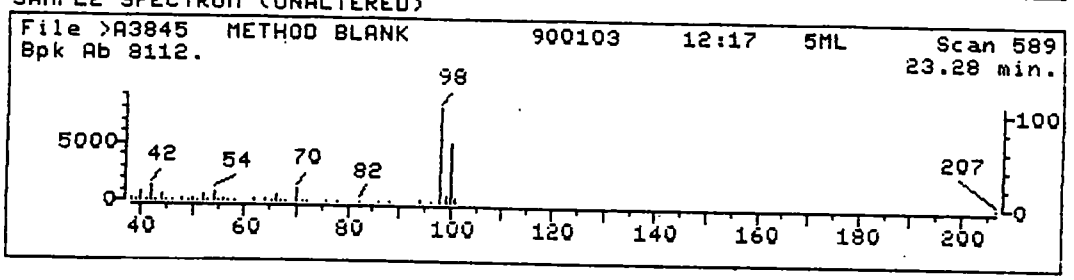
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



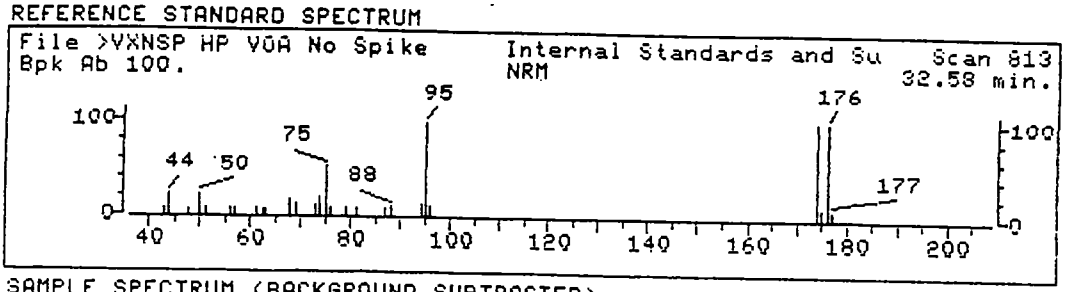
Data File: >A3845::D4
Name: METHOD BLANK
Misc: 900103 12:17 5ML
Quant Time: 900103 13:05
Injected at: 900103 12:17

Quant Output File: ^A3845::D1

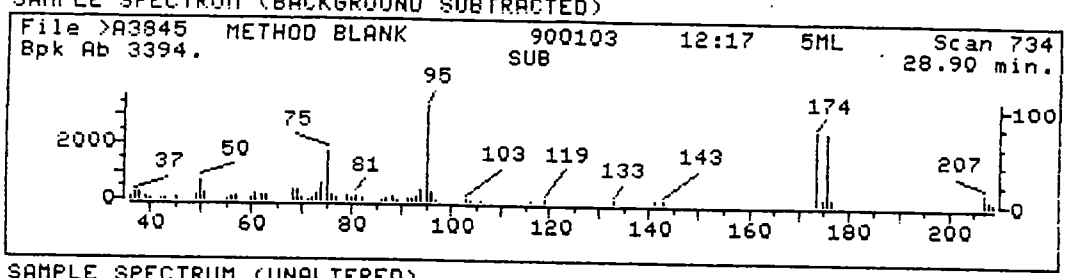
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 40
Compound Name: Toluene-d8
Scan Number: 589
Retention Time: 23.28 min.
Quant Ion: 98.0
Area: 106956
Concentration: 50.41 ug/L
q-value: 98

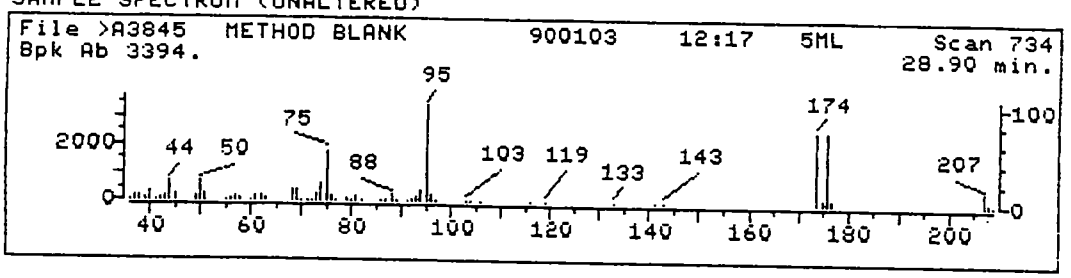
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >A3845::D4
Name: METHOD BLANK
Misc: 900103 12:17 5ML
Quant Time: 900103 13:05
Injected at: 900103 12:17

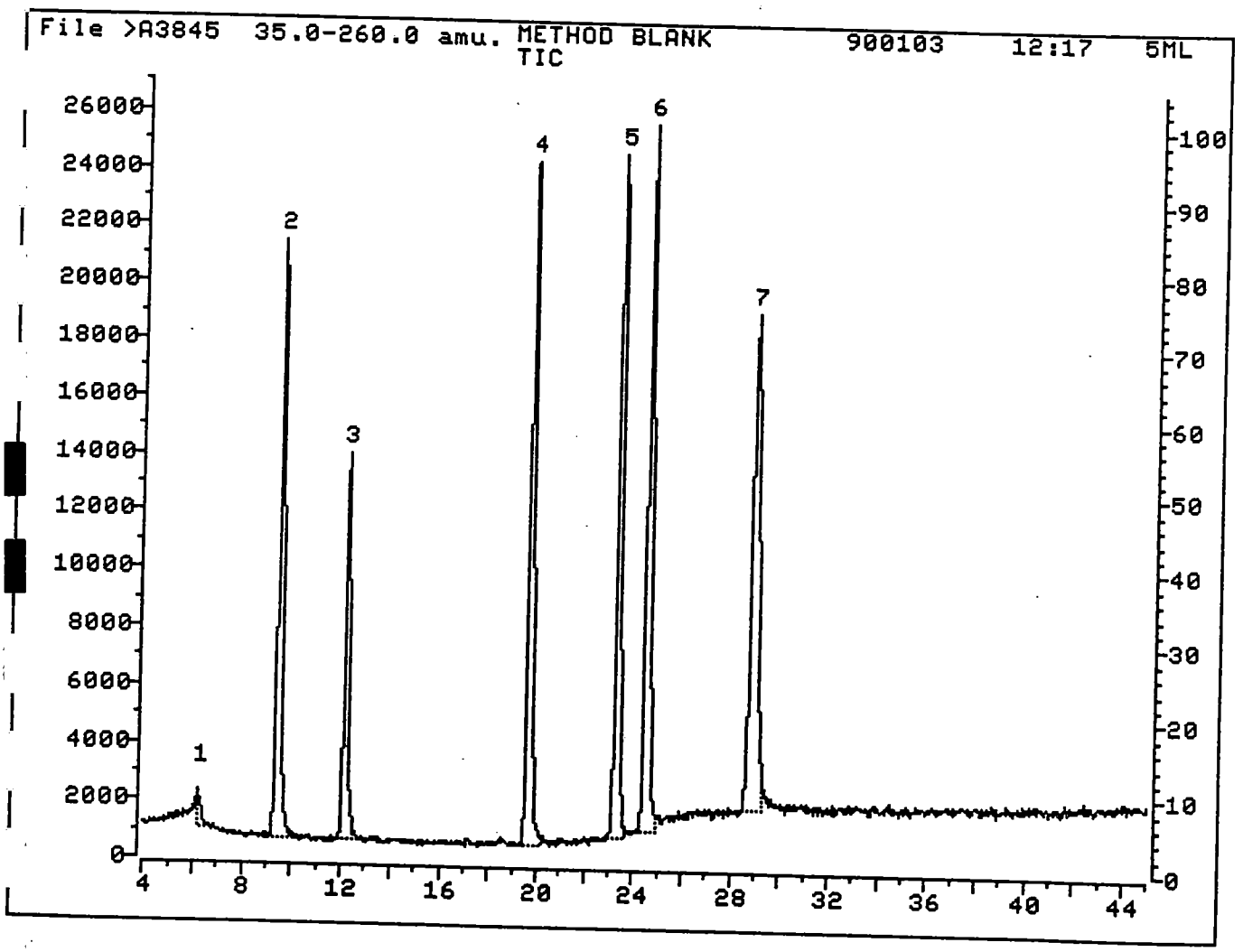
Quant Output File: ^A3845::D1
Quant ID File: ID_UST::D4
Last Calibration: 891218 16:36

Compound No: 46
Compound Name: Bromofluorobenzene
Scan Number: 734
Retention Time: 28.90 min.
Quant Ion: 95.0
Area: 70545
Concentration: 44.92 ug/L
q-value: 94

>A3845 METHOD BLANK 900103 12:17 5ML
35.0| 260.0 TIC
Upslope: .20 Area Reject: 1.00 % Max Peaks: 7 Bunching: 1
Dnslope: 0.00 Results File VDIR77 Sorted by Time/Area INT

Peak #	R.T. min.	first scan	max scan	last scan	peak height	raw area	corr. area	corr. % max.	% of total
1	6.19	147	148	159	1325	43072	14273 TC	4.04	.837
2	9.41	225	231	244	20716	282510	248067 IS	70.27	14.549
3	12.16	291	302	311	13302	191029	157822 SS	44.71	9.256
4	19.68	488	496	509	23751	339995	308101 IS	87.28	18.070
5	23.32	582	590	600	23764	339641	299737 SS	84.91	17.579
6	24.52	613	621	632	24558	377097	324055 IS	91.79	19.005
7	28.86	723	733	744	17154	452728	353023 SS	100.00	20.704

Sum of corrected areas: 1705078.



NAC Northeastern Analytical Corp.

Appendix 2:

- Sample Preservation
- Sample Preparation

INSTRUCTIONS:

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

PRESERVATIVE CHECKLIST
ENTER DATA TO INDICATE COMPLIANCE WITH NJDEP REQUIREMENTS

pH ≤ 2											pH ≥ 12	TEMP	SAMPLES	
COD	NH3	TKN	TOX	VOA	PHENOL	TOC	PHC/O&G	METALS	HARD	TPO_4	CN	C	NAC #	REMARKS
				X								9°	2337-1	
				X									-2	
				X									-3	
				X									-4	
				X									-5	
				X									-6	
				X									-7	Field Blank
				60									-8	Trip Blank

SPECIAL INSTRUCTIONS/NONCOMPLIANCE AND QA NOTATIONS

Sample Preparation	Sample Preparation Chemist		Date
	Name (please print)	Signature	
1. Base/Neutrals			
2. Acids			
3. Pesticides			
4. Herbicides			
5. PCB's			
6. Metals			
7. Other			
8. Other			
9. Other			

Sample Preparation	Analyst		Date
	Name (please print)	Signature	
1. Base/Neutrals			
2. Acids			
3. Pesticides			
4. Herbicides			
5. PCB's			
6. Metals			
7. Volatiles	X Rick MALOS	Rick Malos	12-29-89
8. TOC			
9. TOX			
10. Phenols (total)			
11. Cyanide (total)			
12. Other			
13. Other			
14. Other			
15. Other			

NAC Northeastern Analytical Corp.

June 19, 1990

Groundwater & Environmental Services, Inc.
151 Industrial Highway
Eatontown, New Jersey 07724

Attention: Mr. Anthony Kull

Reference: Test Report No. NAC90L-1265
Project: Ft. Monmouth
#0079-0001

This test report covers the analysis of three (3) aqueous samples, one (1) field blank and one (1) trip blank submitted to Northeastern Analytical Corporation (NAC) on May 3, 1990. The following analyses were performed on selected samples:

- Volatile Organics

The report is organized as follows:

- Methodology
- Analytical Results
- Quality Assurance Data

If you have any questions concerning this analysis, please do not hesitate to contact your account representative.

Respectfully submitted,

Northeastern Analytical Corp.

Paul P. Painter
Laboratory Manager

dlv
Attachment: Chain of Custody
File: 39L\TEST\90L-1265

I. METHODOLOGY

- EPA Method 601 - Purgeable Halocarbons, Federal Register, Vol. 40, No. 136, July, 1988.
- EPA Method 602 - Purgeable Aromatics, Federal Register, Vol. 40, No. 136, July, 1988.
- EPA Method 624 - Purgeables, Federal Register, Vol. 40, No. 136, July, 1988.

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE ORGANIC ANALYSIS DATA SHEET

SAMPLE WT/VOL: 5ML

LAB SAMPLE ID: 90L-1265-1 MW #9

LEVEL: LOW

LAB FILE ID: >A5974

DATE SAMPLED *5/30/90

DATE ANALYZED * 6/06/90

CAS NO.	COMPOUND	MDL x 1.000	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	50	U
107-13-1	Acrylonitrile	50	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
75-65-0	t-Butyl Alcohol	50	U
540-59-0	Trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-02-2	1,2-Dichloroethane	5	U
1634-04-4	Methyl t-Butyl Ether	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
133-02-7	Xylenes (Total)	10	U

U - Not Detected.

II. ANALYTICAL RESULTS (Continued)

- Volatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: 90L-1265-1, MW #9

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

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE ORGANIC ANALYSIS DATA SHEET

SAMPLE WT/VOL: 5ML
LAB SAMPLE ID: 90L-1265-2 MW #10
LEVEL: LOW
LAB FILE ID: >A5975
DATE SAMPLED *5/30/90
DATE ANALYZED * 6/06/90

CAS NO.	COMPOUND	MDL x 1.000	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	50	U
107-13-1	Acrylonitrile	50	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
75-65-0	t-Butyl Alcohol	50	U
540-59-0	Trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-02-2	1,2-Dichloroethane	5	U
1634-04-4	Methyl t-Butyl Ether	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	66
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
133-02-7	Xylenes (Total)	10	U

U - Not Detected.

II. ANALYTICAL RESULTS (Continued)

- Volatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: 90L-1265-2, MW #10

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

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE ORGANIC ANALYSIS DATA SHEET

SAMPLE WT/VOL: 5ML
LAB SAMPLE ID: 90L-1265-4
Field Blank
LEVEL: LOW
LAB FILE ID: >A5972
DATE SAMPLED *5/30/90
DATE ANALYZED * 6/06/90

CAS NO.	COMPOUND	MDL x 1.000	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	4 J
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
75-65-0	t-Butyl Alcohol	50	U
540-59-0	Trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-02-2	1,2-Dichloroethane	5	U
1634-04-4	Methyl t-Butyl Ether	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
133-02-7	Xylenes (Total)	10	U

U - Not Detected.
J - Detected, but below the limit of reliable quantitation.

II. ANALYTICAL RESULTS (Continued)

- Volatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: 90L-1265-4, Field Blank

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

NORTHEASTERN ANALYTICAL CORPORATION
VOLATILE ORGANIC ANALYSIS DATA SHEET

SAMPLE WT/VOL: 5ML

LAB SAMPLE ID: 90L-1265-5
Trip Blank

LEVEL: LOW

LAB FILE ID: >A5973

DATE SAMPLED *5/30/90

DATE ANALYZED * 6/06/90

CAS NO.	COMPOUND	MDL x 1.000	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	4 J
107-02-8	Acrolein	50	U
107-13-1	Acrylonitrile	50	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
75-65-0	t-Butyl Alcohol	50	U
540-59-0	Trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-02-2	1,2-Dichloroethane	5	U
1634-04-4	Methyl t-Butyl Ether	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
133-02-7	Xylenes (Total)	10	U

U - Not Detected.
J - Detected, but below the limit of reliable quantitation.

II. ANALYTICAL RESULTS (Continued)

- Volatile Organics (Continued)

EPA/NIH/NBS Library Search

Sample Designation: 90L-1265-5, Trip Blank

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

902-1265

CHAIN OF CUSTODY RECORD

(11) [redacted]

PROJECT NO.	PROJECT NAME
93-79 6001	FT. MONMOUTH [redacted]

SAMPLERS: (Signature)
BRIAN BRITTAIN

NO.	DATE	TIME	COMP	GRAB	STATION AND LOCATION	EPA 624 + B	XYLENES	MTBE	IRA	601-602	REMARKS	PRESERVATION
2 1	5-30-90	12:15		X	MW#10						1+1+1	ICE
4 2		12:30		X	MW# 9						1+1+1	
3 3		12:00		X	Field BLANK						1+1	
4 4		10:37		X	C-DRUM				X		1+1	
5 5					TRIP BLANK	X	X	X	X		1	

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
[signature]	5-31-90	11:10	[signature]	[signature]	5/31/90	1300	[signature]
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY LABORATORY

REMARKS:

DISTRIBUTION:

GES Groundwater & Environmental Services, Inc.
151 Industrial Way East • Building C
Eatontown, NJ 07724
(201) 389-6500 • FAX (201) 389-6566

APPENDIX F

NJDEP WELL RADIUS PLOT
AND LOCAL WATER USAGE

BJE TO VIS

Fort Monmouth

WATER WITHDRAWAL POINTS AND NJGS CASE INDEX SITES WITHIN 5.0 MILES OF:

LATITUDE 401844
LONGITUDE 740246

DRAFT

SCALE: 1:63,360
(1 Inch = 1 Mile)

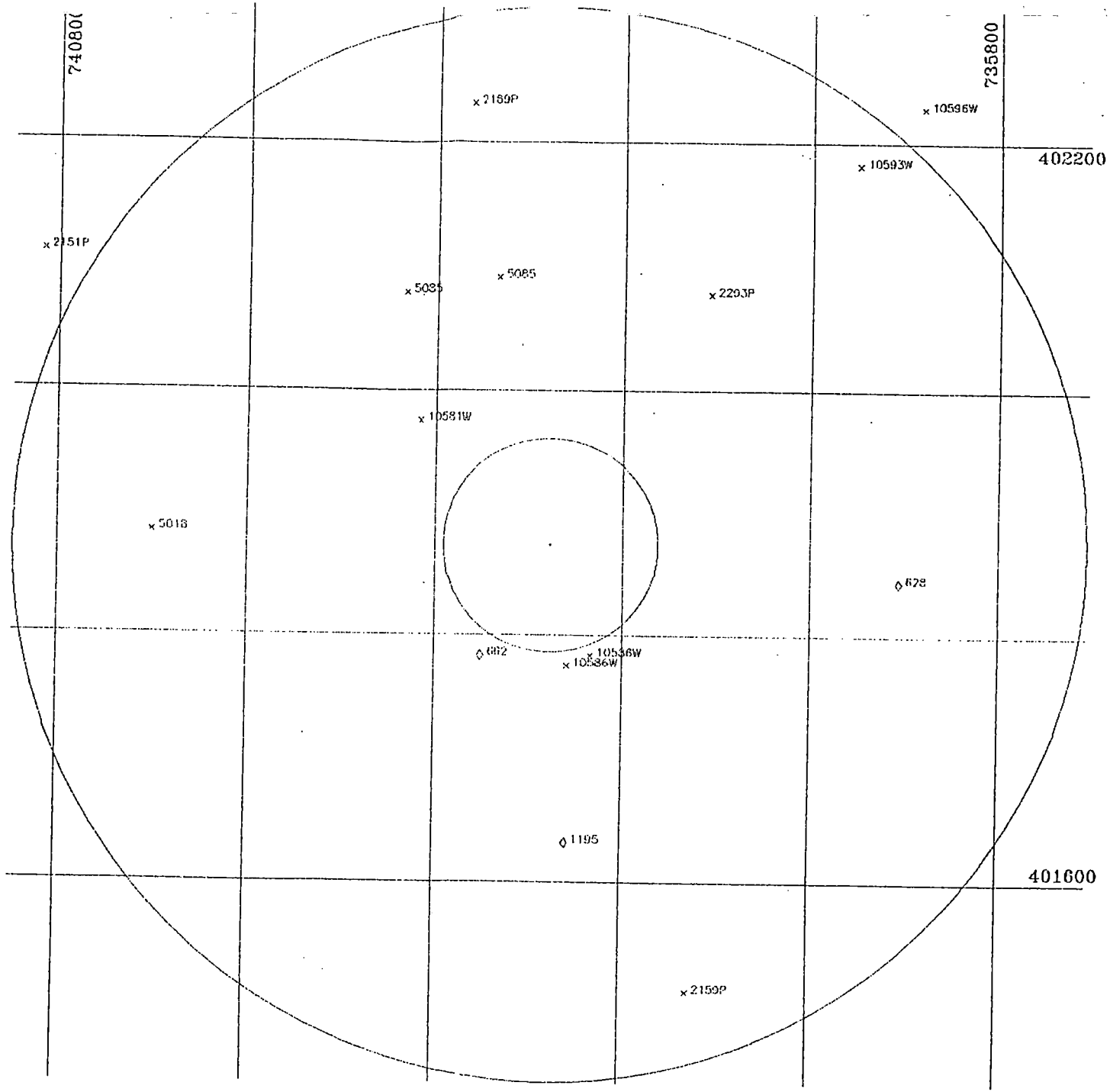
× WATER WITHDRAWAL POINTS
◊ NJGS CASE INDEX SITES
1 MILE AND 5 MILE RADII INDICATED

NJGS CASE INDEX DATA RETRIEVED FROM:
NEW JERSEY GEOLOGICAL SURVEY
ON 12/22/87

PLOT PRODUCED BY:
NJDEP
DIVISION OF WATER RESOURCES
BUREAU OF WATER ALLOCATION
CN-029
TRENTON, NJ 08625

DATE: 01/24/90

SUBJECT TO REVISION



Page 1 of PRELIMINARY SURVEY OF WATER WITHDRAWAL POINTS WITHIN 5.0 MILES OF 401944 LAT. 740246 LON. (IN ORDER BY DECREASING LONGITUDE) - 01/24/90

NUMBER	NAME	SOURCE ID	USCID	LAT	LON	LLACC	DISTANCE	COUNTY	MUN	DEPTH	GEO1	GEO2	CAPACITY
2151P	AAYM HOLLOW COUNTRY CLUB	2905164	1	402004	740810	S	5.5	25	31	600	GKROB		750
5018	NEW JERSEY-AMERICAN WATER CO.	SWIMMING RIVER		401950	740700		3.7	25	31		SCNAV		
5025	RED BANK BOROUGH	2900079	4 1950	402045	740420		2.7	25	40	692	GKROB		1000
10681W	PHILIP MINERS AND COMPANY	2921219		401945	740410		1.7	25	36		GKET		50
2169P	NAVESINK COUNTRY CLUB	2909335	1-78	402219	740337		4.2	25	31	615	GKROB		1000
5085	RED BANK BOROUGH	2907941	5-1975	402954	740520		2.5	25	40	769	GKROB		1000
10758W	OLD ORCHARD COUNTRY CLUB	4900001	1	401745	740235	F	1.1	25	11	425	GKET		100
10758W	OLD ORCHARD COUNTRY CLUB	IRRIGATION	BROOK	401750	740220	I	1.1	25	11		SCSNR		1000
2174F	HOLLYWOOD GOLF CLUB	2900945	1	401507	740117	I	4.3	25	37	166	GIVT		600
2197P	ALHSON COUNTRY CLUB	2904513	2	402045	740105		2.6	25	42	333	GKET		600
10743W	GOLDSMITH, BARRY	2931307		402400	735950	T	4.5	25	42				
10674W	PINE, THOMAS	4900994		402017	735849	T	5.3	25	42				

Number of Observations: 12

NUMBER	NAME	SOURCEID	LOCID	LAT	LON	LLACC	DISTANCE	COUNTY	MUN	DEPTH	GEO1	GEO2	CAPACITY
1038IW	PHILLIP ROMERS AND COMPANY	2921219		401945	740410		1.7	25	36		GKET		50
1058GW	OLD ORCHARD COUNTRY CLUB	TURTLE MILL	BROOK	401750	740220	T	1.1	25	11		SDEMR		1000
	OLD ORCHARD COUNTRY CLUB	4900001	1	401745	740235	F	1.1	25	11	425	GKET		100
1059JW	GOLDSMITH, BARRY	2921315		402149	735930	T	4.5	25	42				
1059GW	KANE, THOMAS	2920998		402217	735849	T	5.3	25	42				
2151P	BAMM HOLLOW COUNTRY CLUB	2905164	1	402106	740810	S	5.5	25	31	600	GKROB		750
2159P	HOLLYWOOD GOLF CLUB	2900945	1	401907	740117	T	4.3	25	37	166	GTVT		600
2169P	NAVESINK COUNTRY CLUB	2909335	1-78	402219	740037		4.2	25	31	615	GKROB		1000
2293P	RUMSON COUNTRY CLUB	2904513	2	402046	740105		2.8	25	42	533	GKET		600
5412	NEW JERSEY-AMERICAN WATER CO.	SWIMMING RIVER		401850	740700		3.7	25	31		SDWV		
5485	RED BANK BOROUGH	2900079	4 1980	402047	740420		2.7	25	46	692	GKROB		1000
	RED BANK BOROUGH	2907941	5-1975	402054	740320		2.5	25	40	469	GKROB		1000

Number of Observations: 11