921970
US EPA RECORDS CENTER REGION 5
497221

(CARSTAB CORP, OH)

SAMPLING DATA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

MAY 2 1991

TO: Tom Geishecker
Emergency Response

REPLY TO ATTENTION OF:

From : Linda Martin
Site Assessment Manager

RE: Possible Removal Action

Please find attached a copy of a memo we have recieved from our FIT contactor regarding a possible removal action for the Carstab Corp Site in Reading, Ohio. Please notify us as to any removal decision that is made. If you have any questions, please feel free to contact me (3-9486).

Printed on Recycled Paper

PAGES 3-5 REDACTED

Exemption 4,
Deliberative Process
5 U.S.C. §552(b)(4)
Confidential Business Information

Reissuing Permit To Alaska Processors Proposed

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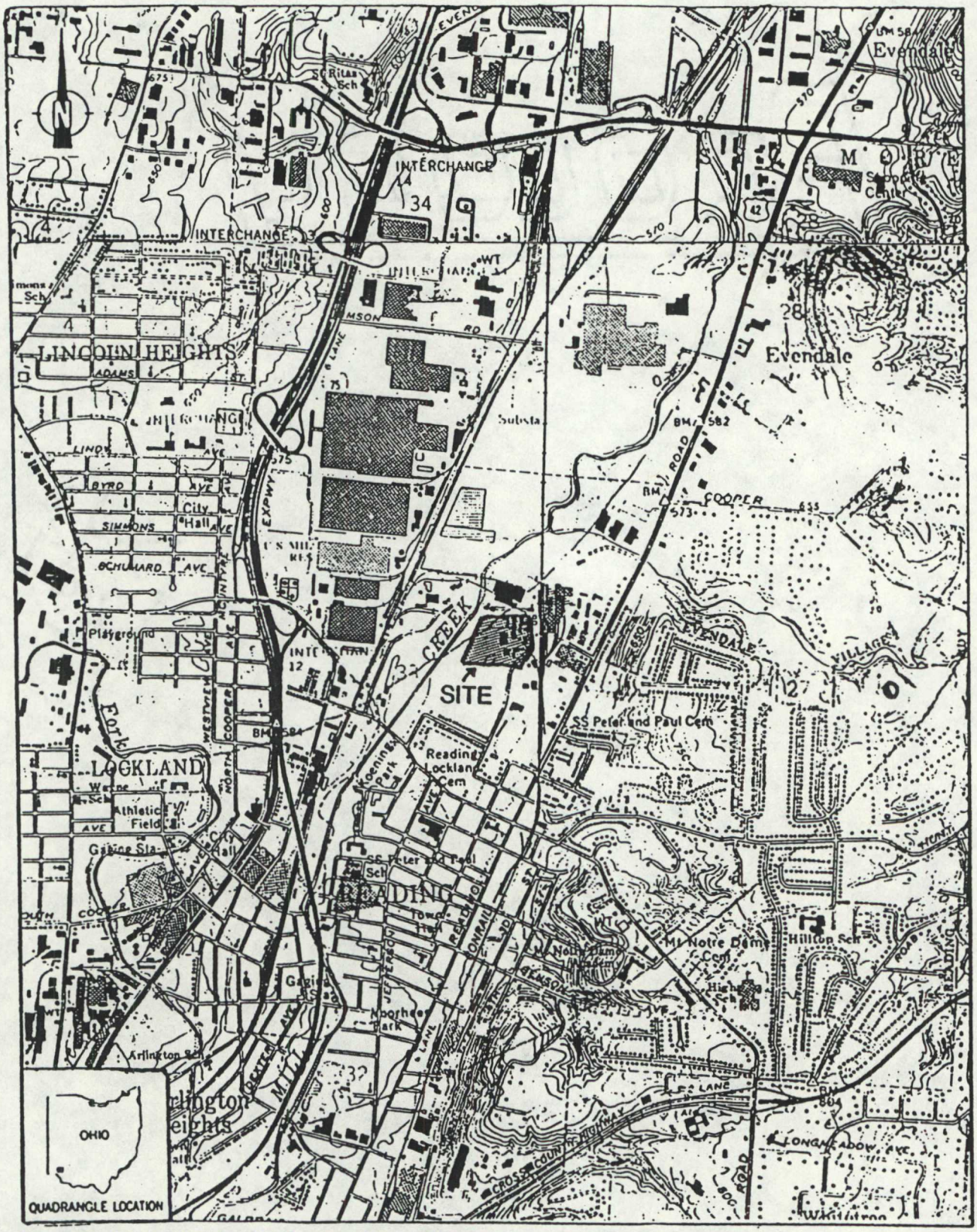
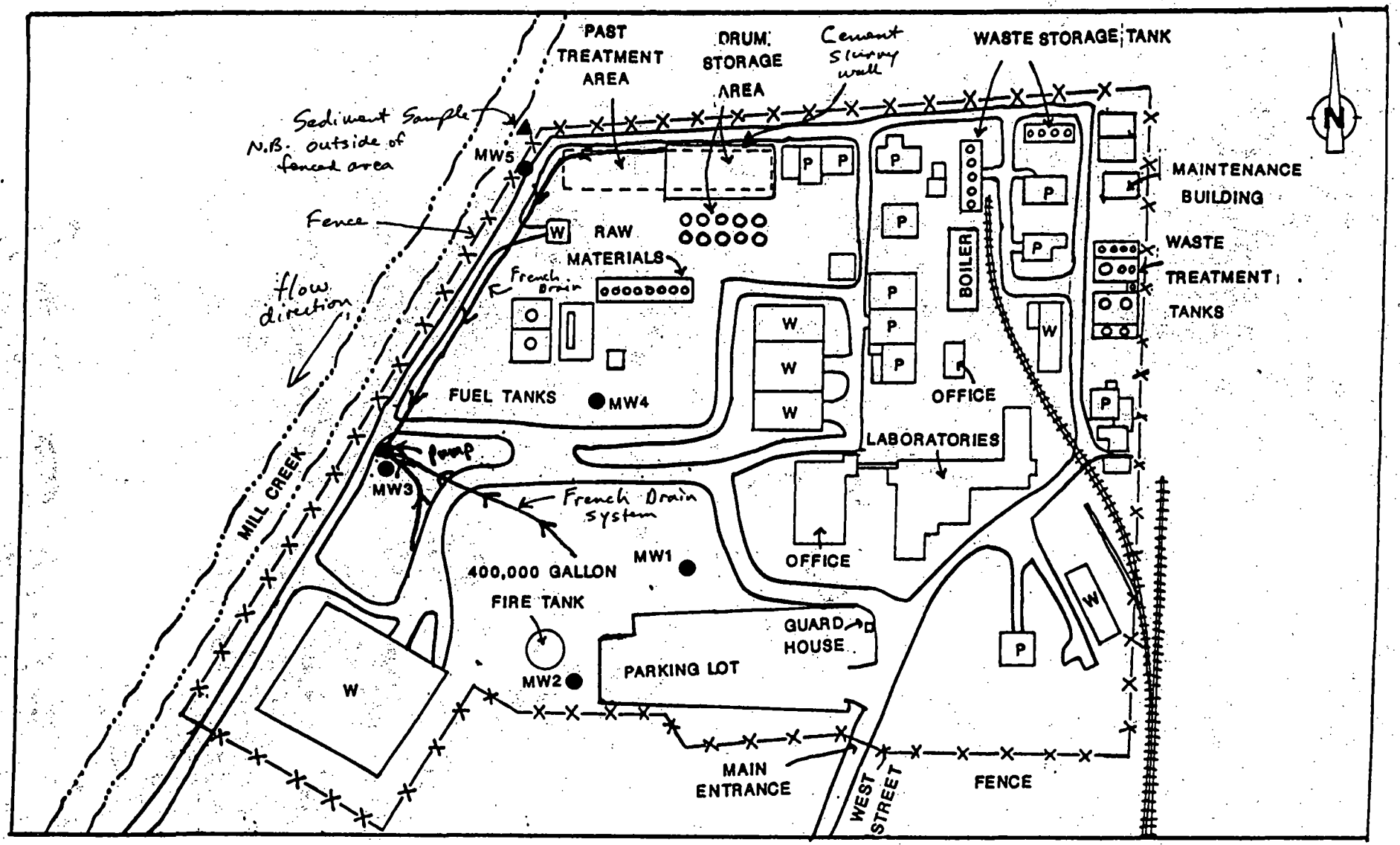
0013-9211/89/50+.50



SOURCE: USGS, Glendale, OH Quadrangle, 7.5 Minute Series, 1965, photorevised 1982, Cincinnati East, OH Quadrangle, 7.5 Minute Series, 1961, photorevised 1981.

SCALE
0 0.5 1 MILE

FIGURE 2-1 SITE LOCATION



Note: P denotes Production Building

W denotes Warehouse

FIGURE 3-1 SITE FEATURES

PAGES 9-28 REDACTED

Exemption 4,
Deliberative Process
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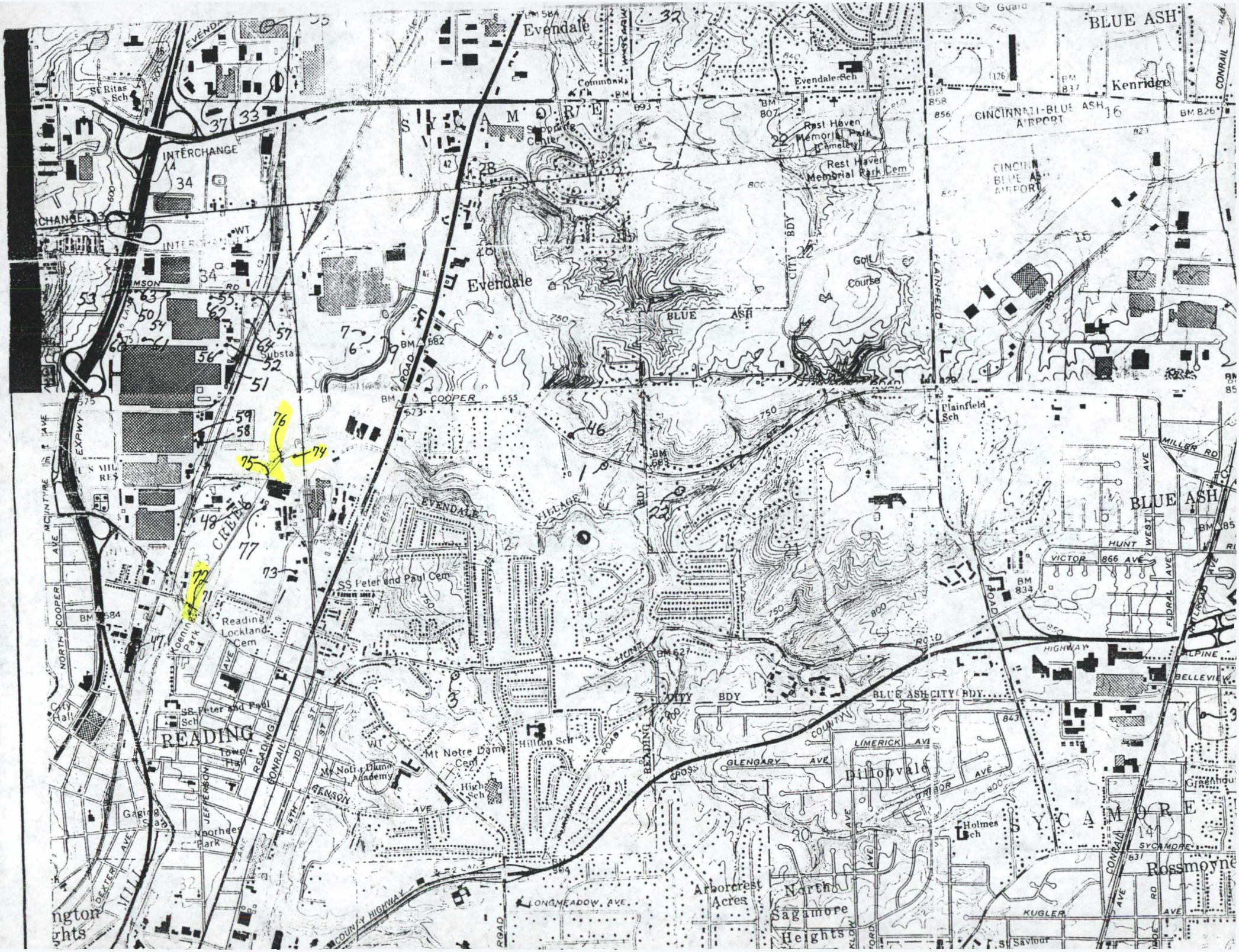


Evendale
BLUE ASH
Kenridge
CONRAIL
Evendale Sch
Community Ch
St Ritas Sch
SYCAMORE
Shopping Center
Rest Haven Memorial Park Cemetery
Rest Haven Memorial Park Cem
CINCINNATI-BLUE ASH AIRPORT
INTERCHANGE
Golf Course
CITY BDY
FLAINFIELD
Plainfield Sch
COOPER
EVENDALE VILLAGE
BLUE ASH
MILLER RD
HUNT
VICTOR AVE
WEST AVE
FLORAL AVE
SS Peter and Paul Cem
Reading Lockland Cem
Koening Park
NORTH COOPER AVE
EXPWY
CREEK
READING
City Hall
SS Peter and Paul Sch
Town Hall
Mt Notre Dame Cem
Mt Notre Dame Academy
High Sch
Hillton Sch
BLUE ASH CITY BDY
HIGHWAY
ALPINE
BELLEVIEW
LIMERICK AVE
GLENGARY AVE
Dillonvale
TRIBOR AVE
Holmes Sch
SYCAMORE
Rossmoyne
Arborcrest Acres
North Sagamore Heights
LONGMEADOW AVE
COUNTY HIGHWAY
KUGLER AVE
St Saviour
Gaging Sta
Voorhees Park
JEFFERSON AVE
DEXTER AVE

ORIGINAL

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus, Ohio

PLEASE USE PENCIL OR TYPEWRITER. DO NOT USE INK.

No. 230003

72

County HAMILTON Township ~~Symmes~~ Section of Township

Owner CITY READING Address READING, OHIO

Location of property COLUMBIA AVE. & Koenig

CONSTRUCTION DETAILS	BAILING OR PUMPING TEST
Casing diameter 12" Length of casing 131'	Pumping rate ? G.P.M. Duration of test hrs.
Type of screen WIRE WOUND Length of screen 20'	Drawdown ? ft. Date ?
Type of pump BYRON JACKSON	Developed capacity 250 GPM
Capacity of pump SOLD BY KOEHNE	Static level—depth to water 107' ft.
Depth of pump setting 146'	Pump installed by J. KOEHNE
Date of completion AUG 1957	

A. R. Posey Co.

City of Reading, Ohio
Service Department

Aug. 25, 1958

Columbia Street
Reading
Posey & Son
230003

City of Reading
7/1/57
Sept 12, 1957

#13 Well, In Koenig Park, 100' W. of Koenig & Riesenberg Lanes.

LOG as of Sept. 12, 1957

#13

Diameter 12"

0' --- 15'	--- 15'	Clay
15' -- 21'	--- 6'	Dry Sand and Gravel
21' -- 32'	--- 11'	Blue Clay
32' -- 45'	--- 13'	Med. Brown Sand
45' -- 53'	--- 8'	Med. Gray Sand
53' -- 58'	--- 5'	Blue Clay
58' -- 61'	--- 3'	Sharp Gravel
61' -- 70'	--- 9'	Fine grey Sand
70' -- 76'	--- 6'	Fine Gray Sand, Some Gravel
76' -- 85'	--- 9'	Blue Clay
85' -- 95'	--- 10'	Fine Sand Mixed With Clay
95' -- 103'	-- 8'	Course Sand, little Gravel
103' - 106'	-- 3'	Fine Sand
106' - 114'	-- 7'	Blue Clay
114' - 126'	-- 12'	Med. Brown Sand
126' - 131'	-- 5'	Med. sand and Some Gravel
131' - 133'	-- 2'	B lue Clay
133' - 141'	-- 8'	Med. Course sand and & Some Gravel
141' - 146'	-- 5'	Med. Sand
146' - 150'	-- 4'	Med. Fine Sand
150'		Blue

Hole drilled to 152' in PIPE [illegible]

550
150'
72

Municipal

WELL LOG AND DRILLING REPORT

NO. 142780

County Hamilton Township Sycamore Section of Township

Owner City of Reading, Ohio Address 431 Pike Street

Location of property Reading Wells Field

CONSTRUCTION DETAILS	BAILING OR PUMPING TEST
Casing diameter 12" Length of casing 138' 24'6" OA	Pumping rate 508 G.P.M.
Type of screen Cook Length of screen	Duration of test 8 Hrs.
Type of pump Deming Turbine	Drawdown 24 ft. Date 2-14-56
Capacity of pump	Developed capacity 400 GPM
Depth of pump setting 156' OA-	Static level - depth to water 100 Ft.
Date of completion	Pump installed by Jos. Koehne Sons

WELL LOG			SKETCH SHOWING LOCATION
Formation	From	To	N.
Top Soil	0	2	
Dry Gravel, Blue Clay & Stray Rock	2	20	
Blue Clay	20	31	
Yellow Clay	31	35	
Blue Clay & Gravel	35	45	
Yellow Loom	45	83	
Fine Brown Sand	83	107	
Fine Gray Sand	107	157	W. E.
Fine Gray Sand & Some Gravel	157	160	
Clay	160		
			S.

Drilling Firm Jos. Koehne Sons Date Feb. 15, 1956

Address 1826 Sherman Ave. Norwood, O. Copied by j.c.

74

Municipal

WELL LOG AND DRILLING REPORT

NO. 51741

County Hamilton Township Sycamore Section of Township

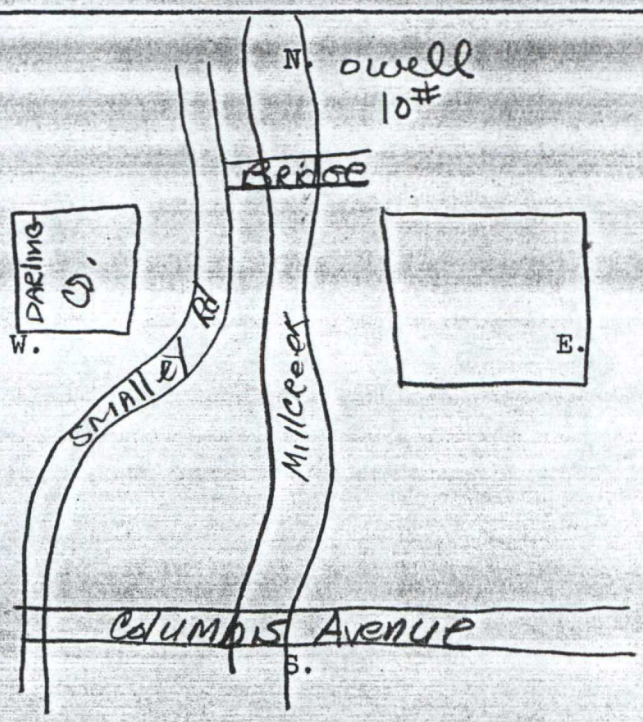
Owner City of Reading Address Walnut St. Reading 15, O.

Location of property Reading Well Fie ld #10

CONSTRUCTION DETAILS	BAILING OR PUMPING TEST
Casing diameter 12" Length of casing 152'	Pumping rate 400 G.P.M.
Type of screen Cook Length of screen 20	Duration of test 4 Hrs.
Type of pump Deming	Drawdown 32 ft. Date
Capacity of pump 400 GPM	Developed capacity 400 GPM
Depth of pump setting 140' to pump bowl	Static level - depth to water 99 Ft.
Date of completion	Pump installed by Jos. Koehne Sons

WELL LOG		
Formation	From	To
Yellow Sandy Clay	0	16
Blue Clay	16	49
Muddy Sand	49	59
Sand & Some Gravel	59	104
Gray Sand	104	148
Gray Sand & Some Gravel	148	161
Gravel	161	172
Clay	172	

SKETCH SHOWING LOCATION



Drilling Firm Jos. Koehne Sons Date July 12, 1954

Address 1826 Sherman Ave. Norwood 12, O. Copied by j.c.

75

Municipal

WELL LOG AND DRILLING REPORT

NO. 142795

County Hamilton Township Sycamore Section of Township

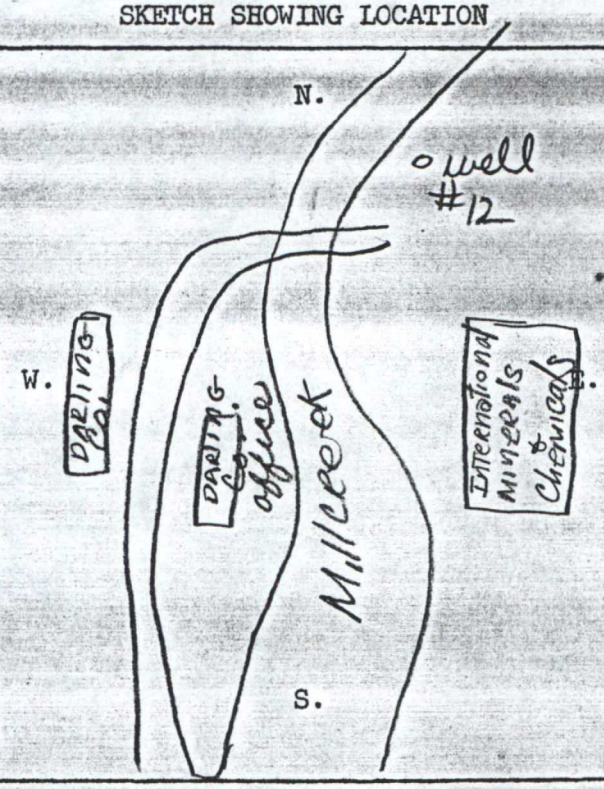
Owner City of Reading Address Reading, Ohio

Location of property Reading Well Field #12

CONSTRUCTION DETAILS	BAILING OR PUMPING TEST
Casing diameter 12" Length of casing 144&10"	Pumping rate G.P.M.
Type of screen Cook Length of screen 20'6" OA	Duration of test Hrs.
Type of pump Cook	Drawdown ft. Date
Capacity of pump 350 GPM	Developed capacity 350 GPM
Depth of pump setting 155'	Static level - depth to water ground level 96 Ft.
Date of completion	Pump installed by Jos Koehne Sons

WELL LOG		
Formation	From	To
Clay	0	14
Blue Clay	14	51
Yellow Loom	51	84
Fine Brown Sand	84	105
Fine Gray Sand	105	163
Cook WW Red Brass Screen Slot size No.16		

SKETCH SHOWING LOCATION



Drilling Firm Jos. Koehne Sons Date Jan.28,1957

Address 1826 Sherman Ave. Norwood, O. Copied by j.c.

76

ecology and environment, inc.
1 TECH VIEW DRIVE CINCINNATI, OHIO 45215
International Specialists in the Environment

PHONE: (513) 733-3107
TELECOPIER: (513) 733-3422

TELECOPIER TRANSMISSION FORM

DATE: 05.27.91 TIME: 13:21 TOTAL NO. OF PAGES 2
(Inc. Transmission Form)

TO: Ohio Department of Natural Resources / Groundwater

COMPANY: ODNR

TELECOPIER PHONE NO.: (614) 447-9503

FROM: S. Serhan

SPECIAL INSTRUCTIONS:

FOR OPERATOR'S USE ONLY

JOB CHARGE: 2T 1051

SENT BY: Serhan

ecology and environment, inc.
ONE TECHVIEW DRIVE, CINCINNATI, OHIO 45215, TEL. (513) 733-3107
International Specialists in the Environment

Ohio Department of Natural Resources,
Division of Water
1562 W. First Ave.
Columbus, Ohio
Attention: Groundwater

Sirs:

I would like to request copies of the municipal well logs for the City of Reading, Ohio. We require logs for both operating and abandoned wells. We Also need a description of the physical location of each well. Please reply with an estimate of costs for the requested materials. I am looking forward to your reply.

Sincerely,

Sammy Sirhan

Sammy Sirhan

recycled paper

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* Where about Pristine Inc, located from the CARSTAB site (CSS)/

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PAGE 37 REDACTED

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5 U.S.C. §552(b)(4)
Confidential Business Information

EPA

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

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
OH	D000724138

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Carstab Corporation	1560 West St

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Reading	Oh	45215	Hamilton	061	02

09 COORDINATES LATITUDE	LONGITUDE	
39°14'00"	84°25'30"	Quad #179 NW

10 DIRECTIONS TO SITE (Starting from nearest public road)
Site is located south of Pristine and Cincinnati Drum. Mill Creek flows west of the site. A railroad track is on the east side of the site. Koenig Park is also east of the site.

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)
Morton-Thiokol Corp.	P.O. Box 1000

03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER
Newtown	Pa.	18940	( )

07 OPERATOR (If known and different from owner)	08 STREET (Business, mailing, residential)
Ed Wolffe (Developmental Engineer Mgr)	2000 West St.

09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
Reading	Oh	45215	(513) 733-2213

13 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☐ A. RCRA 3001 DATE RECEIVED: __/__/__ (MONTH DAY YEAR) ☒ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: 6/8/81 (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES ☐ NO DATE 5/14/85 (MONTH DAY YEAR)
Last inspection Bruce Midole

BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)
☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
1948 (BEGINNING YEAR) | Present (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Organics (toxic/flammable/ignitable)
Acid (corrosive/Toxic/flammable)
Heavy metals (Toxic)

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Groundwater (population/environment)
Surface water (environment)

V. PRIORITY ASSESSMENT

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

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency, Organization)	03 TELEPHONE NUMBER
Scott Shane	OEPA	(513) 449-6357

04 PERSON RESPONSIBLE FOR ASSESSMENT	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NUMBER	08 DATE
Scott Shane	OEPA		(513) 449-6357	5/23/86 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
OH	D006724138

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

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

TONS unk
CUBIC YARDS
NO. OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

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

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	unk	unk	sludge dredge from old lagoons
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	unk	unk	detected in leachate samples
IOC	INORGANIC CHEMICALS			
ACD	ACIDS	961	gal/day	discharged in limestone pit
BAS	BASES			
MES	HEAVY METALS	unk	unk	heavy metals detected in monitoring wells

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	Chromium	7440-47-3	MW-3 taken 6/10/80	550	ug/l
MES	Arsenic	7440-38-2		270	ug/l
OCC	dichlorobenzene	25321-22-6		6.1	mg/l
OCC	cyclohexanone	108-94-1		1.1	mg/l
OCC	benzene	71-43-2		.02	mg/l

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

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

OEPA hazardous files
NOTIS
Interview with Ed Wolffe of Carstab

EPA FORM 2070-12 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
OH	D000724138

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION — 02 ☒ OBSERVED (DATE: 6/10/80) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 19,503
04 NARRATIVE DESCRIPTION
Heavy metals and organic compounds were detected in monitoring wells on site. Samples taken 6/10/80 detected chromium (550 ug/l) and arsenic (270 ug/l) above drinking water standards. Dichlorobenzene (6.1 mg/l) cyclohexane (1.1 mg/l) and benzene (.02 mg/l) were detected in monitoring well-1. Contamination occurred in sand + gravel layer between 2 clay layers

01 ☐ B. SURFACE WATER CONTAMINATION — 02 ☒ OBSERVED (DATE: 1/10/83) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0
04 NARRATIVE DESCRIPTION
Mill Creek runs along west side of the site. Leachate samples on the bank detected organics leaching into the creek. Some compounds detected were benzene (570 ug/l), ethyl benzene (720 ug/l) and 1,2 dichloroethane (77 ug/l). Mill Creek is not used as a drinking water source or recreational

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED:
04 NARRATIVE DESCRIPTION
N/A

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED:
04 NARRATIVE DESCRIPTION
N/A

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED:
04 NARRATIVE DESCRIPTION
N/A

01 ☐ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE:) ☒ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: 2 (Acres)
04 NARRATIVE DESCRIPTION
Acids and organics were disposed of in limestone pits in 1978. Potential for soil contamination from leaching into the soil.

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE:) ☒ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 19,503
04 NARRATIVE DESCRIPTION
Readings well field is located 500 ft north of the site. Contaminants have been detected in the wells but sources causing contamination cannot be determined at this time

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☒ OBSERVED (DATE: 1978) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: UNK
04 NARRATIVE DESCRIPTION
In 1978 Nelacron (Carstab) workers were exposed to dimethyltin dichloride in building #27. Had symptoms of anxiety, impotence, loss of sex drive, loss of memory and anger. They built a different process + closed building #27.

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE:) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED:
04 NARRATIVE DESCRIPTION
N/A

EPA

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

I. IDENTIFICATION
01 STATE: OH | 02 SITE NUMBER: D000724138

II. HAZARDOUS CONDITIONS AND INCIDENTS (continued)

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

N/A

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

N/A

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

N/A

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

N/A

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

Leachate ~~coming~~ from the site ~~allegedly~~ contributed to the contamination of Mill Creek

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

N/A

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

N/A

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

N/A

III. TOTAL POPULATION POTENTIALLY AFFECTED: 19,503

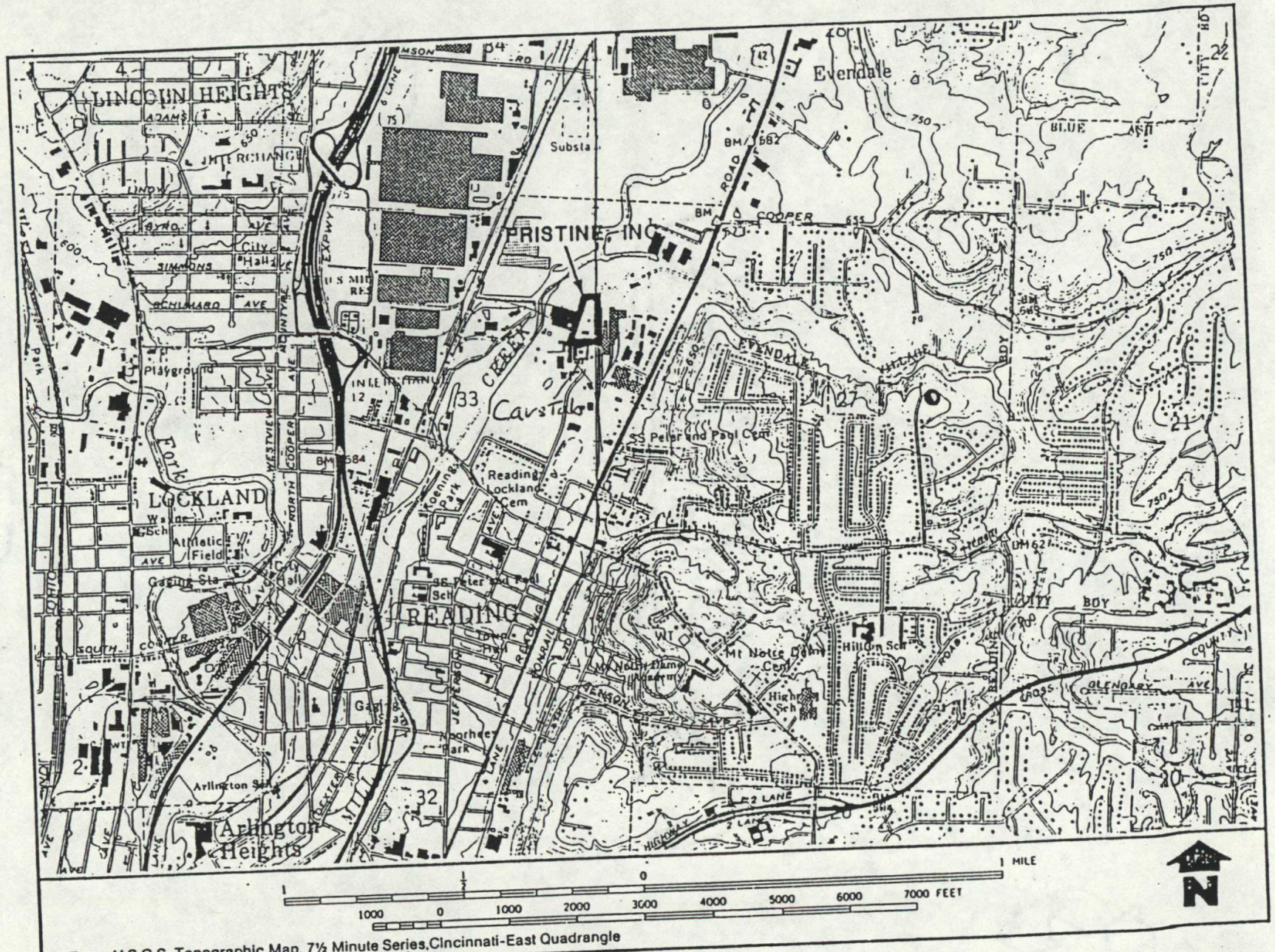
IV. COMMENTS

Carstab has resolved the contamination problem by installing a slurry wall to contain the contaminants and a drainage collection system to pump ~~and collect~~ that contaminants (leachate) and pipe it to Metropolitan Sewer District.

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

Ohio EPA hazardous files
Interview with Ed Wolffe - Carstab Developmental Engineer
Ohio population report Census - 1980

EPA FORM 2070-12 (7-81)



From: U.S.G S. Topographic Map, 7½ Minute Series, Cincinnati-East Quadrangle

FIGURE 1-2
VICINITY MAP
PRISTINE, INC.

ecology and environment, inc.
Technical Assistance Team
Region V

TITLE SITE LOCATION MAP	FIGURE # 1
SITE CARSTAB CORPORATION SITE	SCALE 1:24,000
DRAWN BY/DATE	CITY CINCINNATI STATE OHIO	PAN #

info from OEPA on Carstab

SAA file

GROUNDWATER TREATMENT FACILITY
Carstab Division
Morton Thiokol, Inc.

To preclude the discharge of groundwater flowing under the Carstab plant site into the Mill Creek, a collection system has been installed (see site map - Figure 2). It is the purpose of the groundwater treatment facility to condition the water thus collected so it can be discharged to the Municipal Sewer District of Greater Cincinnati. Such collection and treatment will run continuously so long as the system is cost-effective in preventing any adverse effect on the quality of the creek. This facility is the first water treatment unit at this plant site.

The quality of the recovered groundwater has been demonstrated to be such that elimination of the possibility of generating hydrogen sulfide renders it compatible with the main plant sewage discharge to the MSD (see Table 1). Addition of hydrogen peroxide oxidizes the sulfur-containing materials to liberate elemental sulfur, eliminating the possibility of sulfide release if the stream becomes acidic. The treatment plant accomplishes this addition.

A description of the collection and treatment system keyed to the diagram presented as Figure 1 follows:

Groundwater is collected by a drainline (A) running at a depth of about 20 feet for 750 feet along the NW edge of the site and by a purge well (B) placed at a known depression on the site (see site map - Figure 2). These waters are pumped to the treatment building (C). The flow varies with the season from 2.5 to 15 GPM with an average of about 10 gpm. Flow is continuous.

The recovered groundwater (D) enters the treatment building (C) and passes through a totalizing flow meter (E) and an indicating pH meter (F). The rate of flow is then determined by a flow meter (G). A signal from this instrument is transmitted to the controller (H) which sends a proportional signal to the peroxide pump (I). Hydrogen peroxide (35 or 50%) is pumped from the weighed drum (J) and introduced into the flowing stream of recovered groundwater. Peroxide flow averages 34 lbs./day if 35% material is used, 24 lbs./day for 50%. A pump (K) takes a small (0.1 gal/day) continuous alloquate (L) of the treated water to provide a sample for analysis as required.

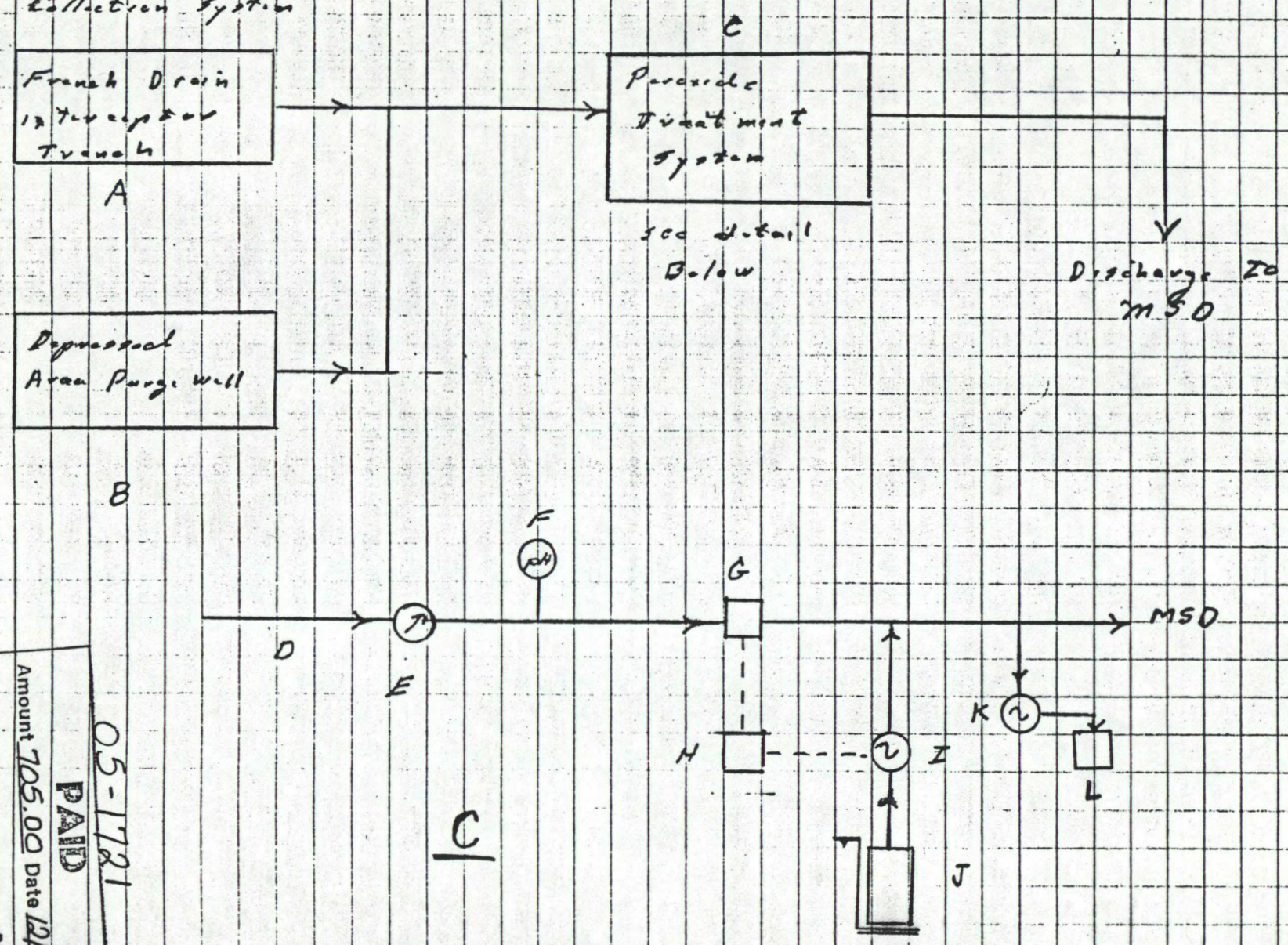
The volume of water treated, the pH and the peroxide usage are recorded daily. Analysis is provided as required by the MSD (see letters attached).

GROUNDWATER TREATMENT FACILITY (CONT'D)

Spares for all pumps are maintained on site. As power is provided by two trunk lines with automatic switches, power outages of more than a few seconds have never occurred.

As the groundwater flows through the 570 feet of two-inch pipe to the sewer, the sulfides are oxidized to elemental sulfur (volume of pipe ≅93 gallons - minimum time in pipe ≅6 minutes). The normal flow of plant effluent is 170 gpm.

ELW:cg
12/3/85



Ground water Collection and Treatment System

Fig 1

Appendix C

05-1721
PAID
Amount 705.00 Date 12/9/85
Check # 45040 Date 12/5/85

TABLE 1

The composition of the groundwater as recovered is as follows:

	mg/L
BOD	100 - 200
COD	250 - 450
Sulfide	25 - 50
TKN	100 - 200
Suspended Solids	10 - 30
Metals	
Tin	0.1 - 0.3
Lead	0.1 - 0.15
Arsenic	0.01 - 0.30
Cadmium	<.006
Chromium	<0.1
Zinc	<2.0
Specific Organic Contaminants	
Toluene	<1.0
Diisobutyl ketone	2.0
Cyclohexanone	20.0
2-Ethylhexanol	0.5
1,2-dichlorobenzene	<1.0
Aniline and substituted aniline	20.0
Heptanoic Acid	2.0
Benzoic Acid	5.0

Original file

CASE NARRATIVE
VOLATILE FRACTION

CASE NO. EOH0022
SDG NO. 13585
SAMPLE NO.(s) for SDG: S1,S2,S3,S4,S5,S6,S7,S8,S9,S10
DCL SET NO.: 91-E-1582
DCL SAMPLE NO.: 91-13585 through 91-13594

EPA-CLP CONTRACT NO. Ecology and Environmental: 19005
DATACHEM LABORATORIES

I certify that this data package in in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, and verified by the following signature.

James Baxter
James Baxter, Laboratory Director Date: 6/21/91

I. 1. Case EOH0022: DataChem Laboratories has received a total of ten soil samples for Case EOH0022. This report includes data for the ten soil samples listed above which have been assigned the SDG designation 13585. DataChem Laboratories expects to be paid for all analyses listed above.

I. 2. Volatile Analysis: All samples in this SDG were analyzed and reported for the volatile fraction using the soil protocol specified in the SOW 2/88. All of the surrogate recoveries and internal standard area responses met the QC criteria specified in the protocol.

I. 3. Matrix Spike and Matrix Spike Duplicate Analyses The soil matrix spike and matrix spike duplicate analyses for the volatile fraction were performed using sample S10.

Case Narrative Authorized by: Shirley Johnson Date: 6/21/91

2B
SOIL VOLATILE SURROGATE RECOVERY

Lab Name: DATACHRM LABS Contract: 19005

Lab Code: DATAC Case No.: EOH0022 SAS No.: _____ SDG No.: 13585

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
01	VBLK01	104.	106.	103.		0
02	S13585	114.	96.	97.		0
03	S13586	105	102.	105.		0
04	S13587	106.	104.	105.		0
05	S13588	107.	102.	108.		0
06	S13589	113.	98.	104.		0
07	S13590	112	102	104.		0
08	S13591	109	103.	103.		0
09	S13592	107	106.	105.		0
10	S13593	106	101	108.		0
11	S13594	~~113~~	~~102~~	~~107~~.		0
12	S13594MS	101	96.	108.		0
13	S13594MSD	103	94	107.		0
14	VBLK02	98	99	109		0
15	S13594	105	97	106.		0
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS
S1 (TOL) = Toluene-d8	(81-117)
S2 (BFB) = Bromofluorobenzene	(74-121)
S3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

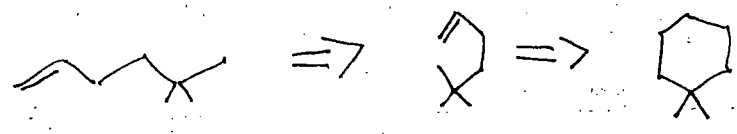
00005

page __ of __

FORM II VOA-2

1/87 Rev.

5,5-DIMETHYL-1HEXENE



3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix Spike - EPA Sample No.: S10 Level:(low/med) Low

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	55	0	54	98	59-172
Trichloroethene	55	0	54	98	62-137
Benzene	55	0	58	105	66-142
Toluene	55	0	46	84	59-139
Chlorobenzene	55	0	57	103	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	55	54	98	~~10~~ 0	22	59-172
Trichloroethene	55	53	96	2.0	24	62-137
Benzene	55	57	104	1.0	21	66-142
Toluene	55	46	84	~~-12~~ 0	21	59-139
Chlorobenzene	55	56	101	2	21	60-133

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

* Values outside of QC limits

RPD:_____ out of _____ outside limits
Spike Recovery:_____ out of _____ outside limits

COMMENTS: _____

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S1

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13585

Sample wt/vol: 5 (g/mL) G Lab File ID: AC15S13585

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 10. Date Analyzed: 06/14/91

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	11.	U
74-83-9	Bromomethane	11.	U
75-01-4	Vinyl Chloride	11.	U
75-00-3	Chloroethane	11.	U
75-09-2	Methylene Chloride	4.	J
67-64-1	Acetone	37.	
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene	6.	U
75-34-3	1,1-Dichloroethane	6.	U
540-59-0	1,2-Dichloroethene (total)	6.	U
67-66-3	Chloroform	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	11.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	11.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene	6.	U
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	6.	U
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
108-10-1	4-Methyl-2-Pentanone	11.	U
591-78-6	2-Hexanone	11.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	6.	U
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

S1

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: ECH0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13585

Sample wt/vol: 5 (g/mL) G Lab File ID: AC155/3585

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 10. Date Analyzed: 06/14/91

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

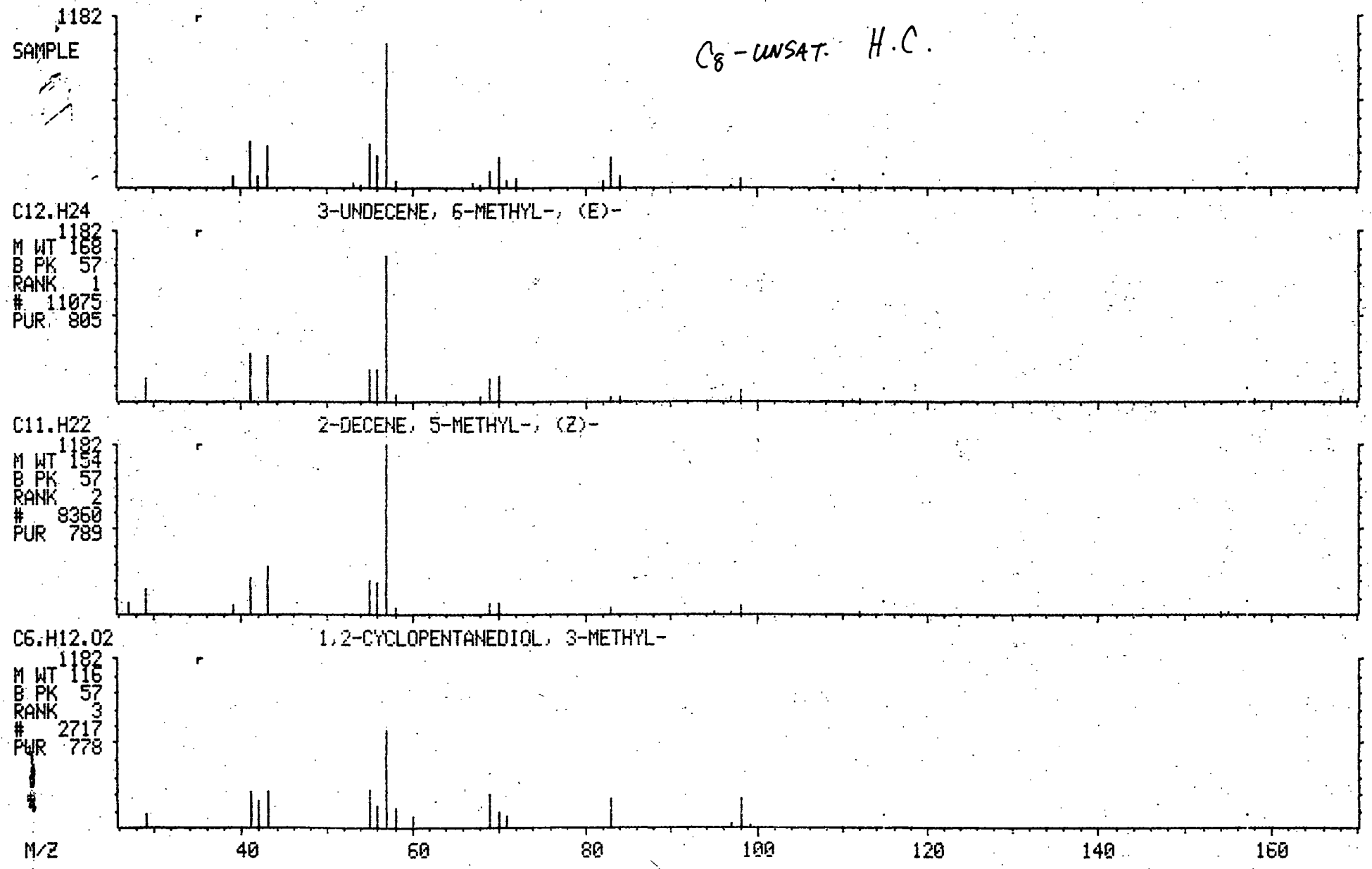
	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		C8-UNSATURATED HYDROCARBON	27:33	19.	JB
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

LIBRARY SEARCH
06/14/91 22:00:00 + 27:33
SAMPLE: S1 91-13585
CONDS.: MS-A CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AC15513585 #1653
CALI: AC15513585 # 2

BASE M/Z: 57
RIC: 12111.

00030



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S2

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H00022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13586

Sample wt/vol: 5 (g/mL) G Lab File ID: AC16S13586

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 9 Date Analyzed: 06/14/91

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	11.	U
74-83-9	Bromomethane	11.	U
75-01-4	Vinyl Chloride	11.	U
75-00-3	Chloroethane	11.	U
75-09-2	Methylene Chloride	3.0	J
67-64-1	Acetone	35.	
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	29.	
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	11.	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
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	11.	U
591-78-6	2-Hexanone	11.	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
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S2

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H00022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13586

Sample wt/vol: 5 (g/mL) G Lab File ID: AC16 S13586

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 9 Date Analyzed: 06/14/91

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C8-UNSATURATED HYDROCARBON	27:32	29.	JB
2.				
3.				
4.				
5.				
6.				
7.				
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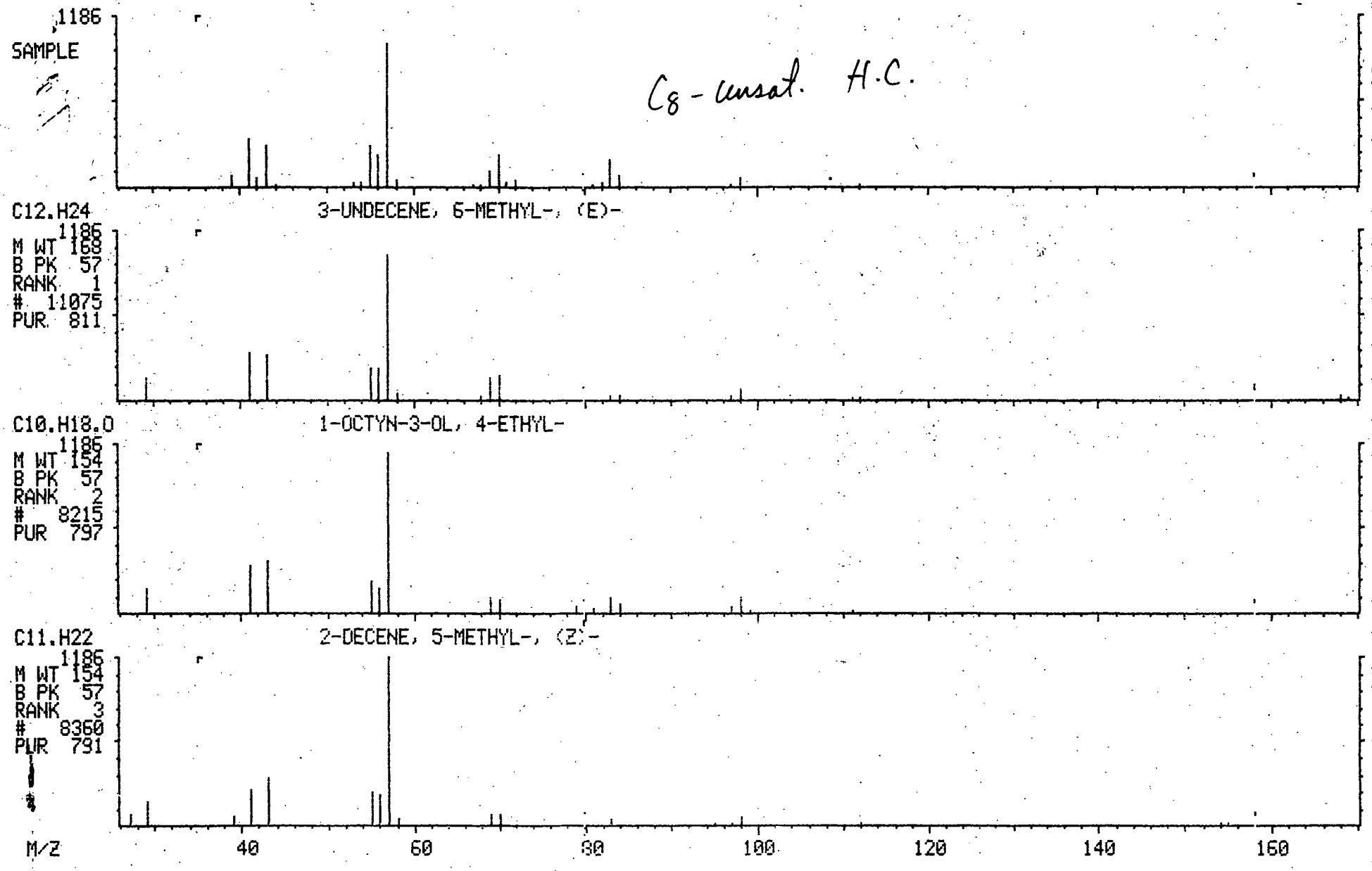
27.				
28.				
29.				
30.				

LIBRARY SEARCH
06/14/91 22:44:00 + 27:32
SAMPLE: S2 91-13586
CONDS.: MS-A CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AC16S13586 #1652
CALI: AC16S13586 # 2

BASE M/Z: 57
RIC: 25247.

00050



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S3

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: EOH0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13587

Sample wt/vol: 5 (g/mL) G Lab File ID: AC17S13587

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 14. Date Analyzed: 06/14/91

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	12.	u
74-83-9	Bromomethane	12.	u
75-01-4	Vinyl Chloride	12.	u
75-00-3	Chloroethane	12.	u
75-09-2	Methylene Chloride	6.	u
67-64-1	Acetone	190.	
75-15-0	Carbon Disulfide	6.	u
75-35-4	1,1-Dichloroethene	6.	u
75-34-3	1,1-Dichloroethane	6.	u
540-59-0	1,2-Dichloroethene (total)	6.	u
67-66-3	Chloroform	6.	u
107-06-2	1,2-Dichloroethane	6.	u
78-93-3	2-Butanone	47.	/
71-55-6	1,1,1-Trichloroethane	6.	u
56-23-5	Carbon Tetrachloride	6.	u
108-05-4	Vinyl Acetate	12.	u
75-27-4	Bromodichloromethane	6.	u
78-87-5	1,2-Dichloropropane	6.	u
10061-01-5	cis-1,3-Dichloropropene	6.	u
79-01-6	Trichloroethene	6.	u
124-48-1	Dibromochloromethane	6.	u
79-00-5	1,1,2-Trichloroethane	6.	u
71-43-2	Benzene	6.	u
10061-02-6	trans-1,3-Dichloropropene	6.	u
75-25-2	Bromoform	6.	u
108-10-1	4-Methyl-2-Pentanone	12.	u
591-78-6	2-Hexanone	12.	u
127-18-4	Tetrachloroethene	6.	u
79-34-5	1,1,2,2-Tetrachloroethane	6.	u
108-88-3	Toluene	6.	u
108-90-7	Chlorobenzene	6.	u
100-41-4	Ethylbenzene	6.	u
100-42-5	Styrene	6.	u
1330-20-7	Xylene (total)	6.	u

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S3

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13587

Sample wt/vol: 5 (g/mL) G Lab File ID: AC17S13587

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 14 Date Analyzed: 06/14/91

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		C8-UNSATURATED HYDROCARBON	27:33	33.	JB
2.					
3.					
4.					
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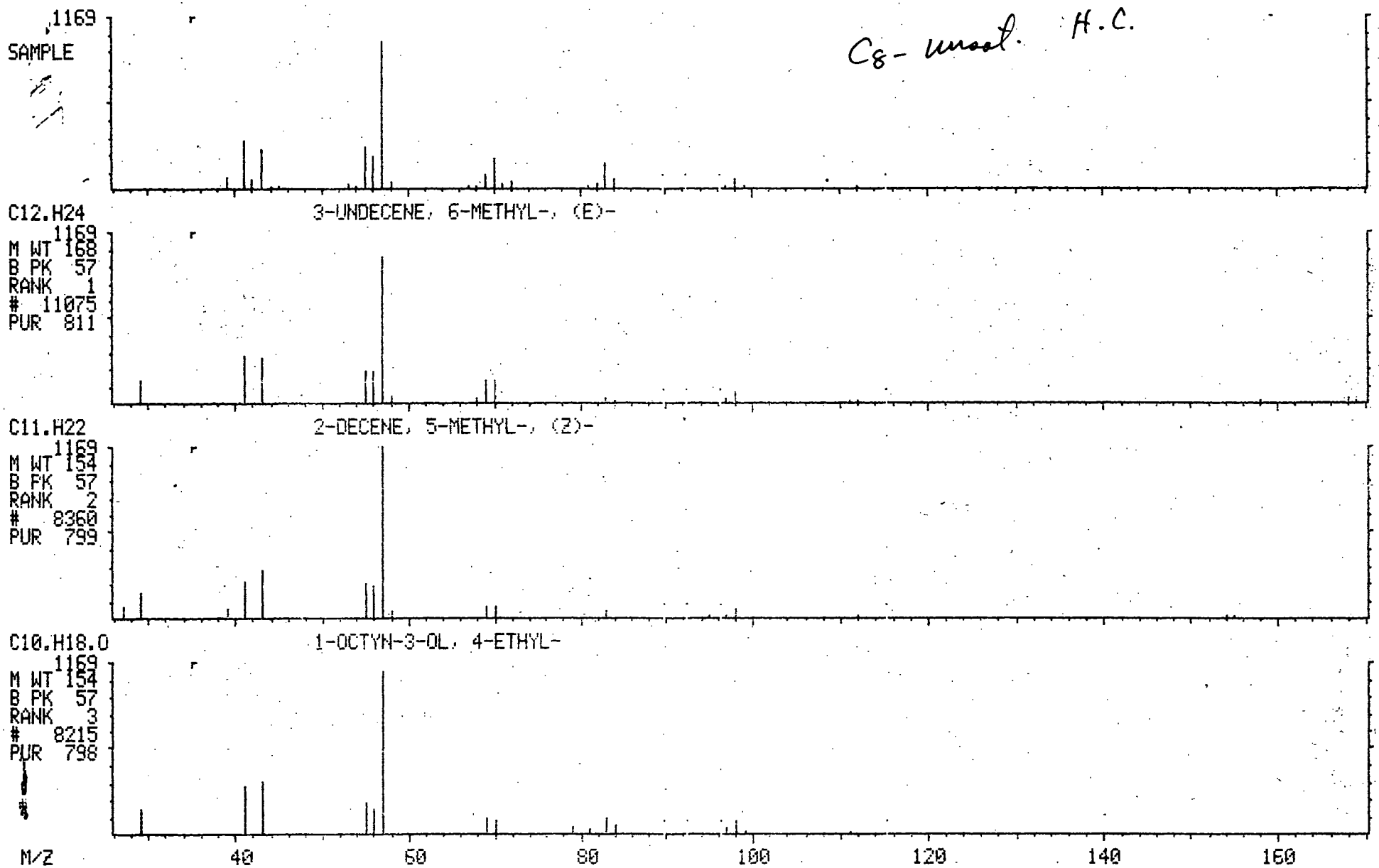
LIBRARY SEARCH
06/14/91 23:21:00 + 27:33
SAMPLE: S3 91-13587
CONDS.: MS-A CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AC17S13587 #1653
CALI: AC17S13587 # 2

BASE M/Z: 57
RIC: 22591.

23000

C8- unsat. H.C.



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S4

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: EOHØØ22 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13588

Sample wt/vol: 5 (g/mL) G Lab File ID: AC18S13588

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 24. Date Analyzed: 06/14/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13.	U
74-83-9	Bromomethane	13.	U
75-01-4	Vinyl Chloride	13.	U
75-00-3	Chloroethane	13.	U
75-09-2	Methylene Chloride	4.	J
67-64-1	Acetone	190.	
75-15-0	Carbon Disulfide	7.	U
75-35-4	1,1-Dichloroethene	7.	U
75-34-3	1,1-Dichloroethane	7.	U
540-59-0	1,2-Dichloroethene (total)	7.	U
67-66-3	Chloroform	7.	U
107-06-2	1,2-Dichloroethane	7.	U
78-93-3	2-Butanone	13.	U
71-55-6	1,1,1-Trichloroethane	7.	U
56-23-5	Carbon Tetrachloride	7.	U
108-05-4	Vinyl Acetate	13.	U
75-27-4	Bromodichloromethane	7.	U
78-87-5	1,2-Dichloropropane	7.	U
10061-01-5	cis-1,3-Dichloropropene	7.	U
79-01-6	Trichloroethene	7.	U
124-48-1	Dibromochloromethane	7.	U
79-00-5	1,1,2-Trichloroethane	7.	U
71-43-2	Benzene	7.	U
10061-02-6	trans-1,3-Dichloropropene	7.	U
75-25-2	Bromoform	7.	U
108-10-1	4-Methyl-2-Pentanone	13.	U
591-78-6	2-Hexanone	13.	U
127-18-4	Tetrachloroethene	7.	U
79-34-5	1,1,2,2-Tetrachloroethane	7.	U
108-88-3	Toluene	7.	U
108-90-7	Chlorobenzene	7.	U
100-41-4	Ethylbenzene	7.	U
100-42-5	Styrene	7.	U
1330-20-7	Xylene (total)	7.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S4

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H00022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13588

Sample wt/vol: 5 (g/mL) G Lab File ID: AC18S13588

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 24. Date Analyzed: 06/14/91

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C8- UNSATURATED HYDROCARBON	27:34	36.	JB
2.				
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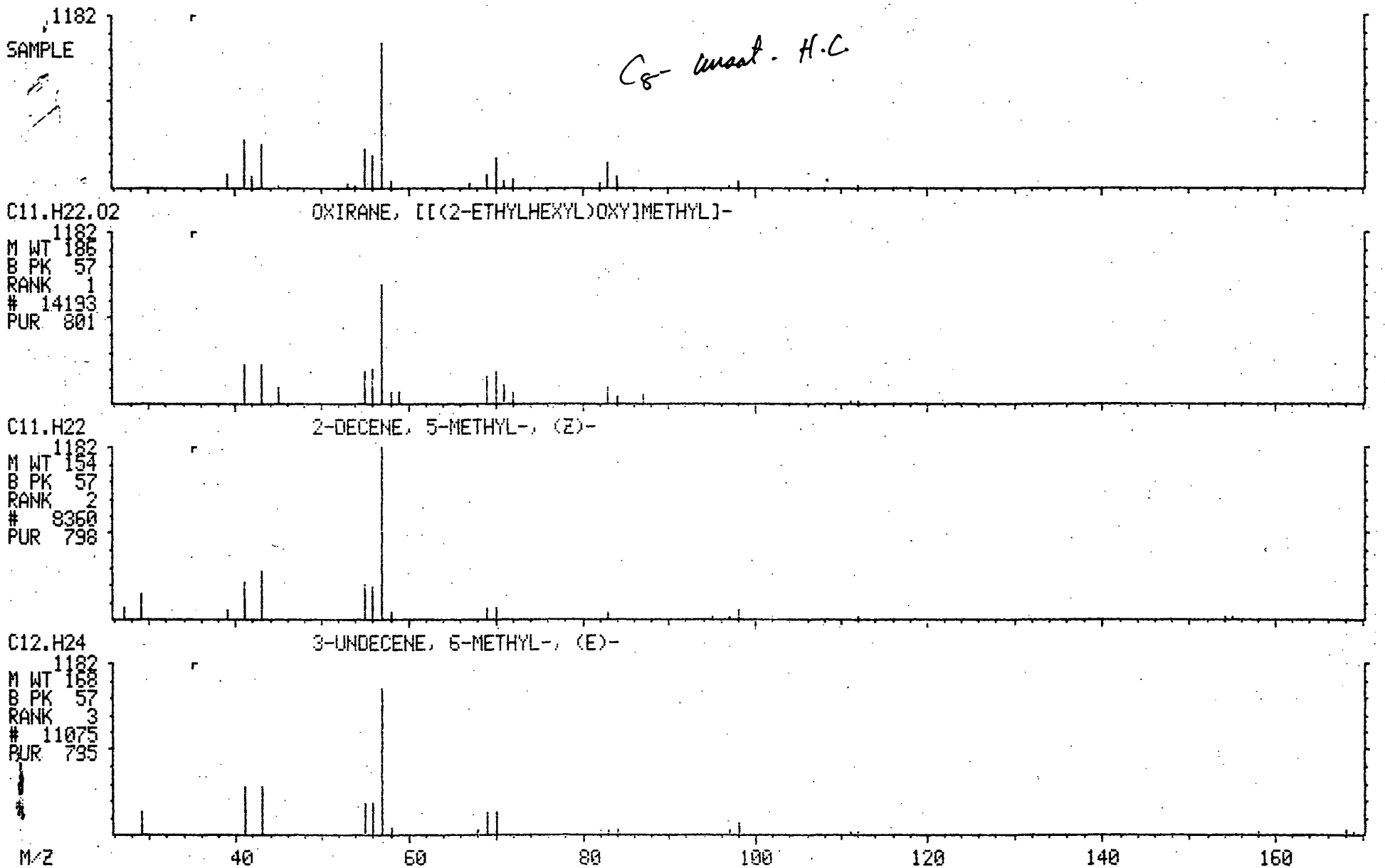
LIBRARY SEARCH
06/14/91 23:59:00 + 27:34
SAMPLE: S4 91-13588
CONDS.: MS-A CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AC18513588 #1654
CALI: AC18513588 # 2

BASE M/Z: 57
RIC: 21183.

00084



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

55

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13589

Sample wt/vol: 5 (g/mL) G Lab File ID: AC19513589

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 11. Date Analyzed: 06/15/91

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	11.	U
74-83-9	Bromomethane	11.	U
75-01-4	Vinyl Chloride	11.	U
75-00-3	Chloroethane	11.	U
75-09-2	Methylene Chloride	2.	J
67-64-1	Acetone	140.	
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene	6.	U
75-34-3	1,1-Dichloroethane	6.	U
540-59-0	1,2-Dichloroethene (total)	6.	U
67-66-3	Chloroform	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	11.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	11.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene	6.	U
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	6.	U
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
108-10-1	4-Methyl-2-Pentanone	11.	U
591-78-6	2-Hexanone	11.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	6.	U
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

55

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13589

Sample wt/vol: 5 (g/mL) G Lab File ID: AC19S13589

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 11. Date Analyzed: 06/15/91

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN FLUOROCARBON	26:37	13.	J
2.	C8- UNSATURATED HYDROCARBON	27:35	31.	JB
3.				
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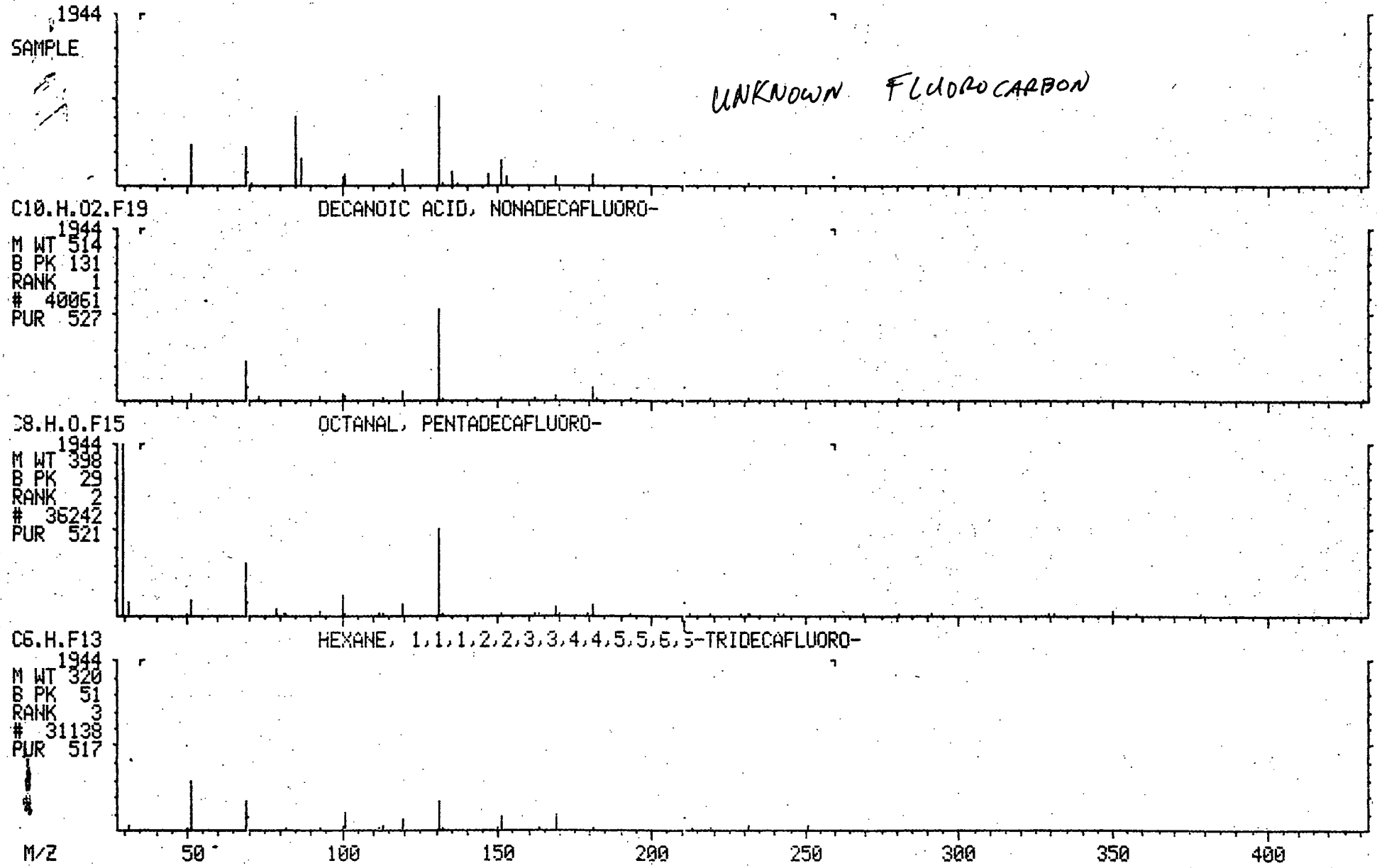
LIBRARY SEARCH
06/15/91 0:38:00 + 26:37
SAMPLE: S5 91-13589
CONDS.: MS-A CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AC19513589 #1597
CALI: AC19513589 # 2

BASE M/Z: 131
RIC: 6303.

10100

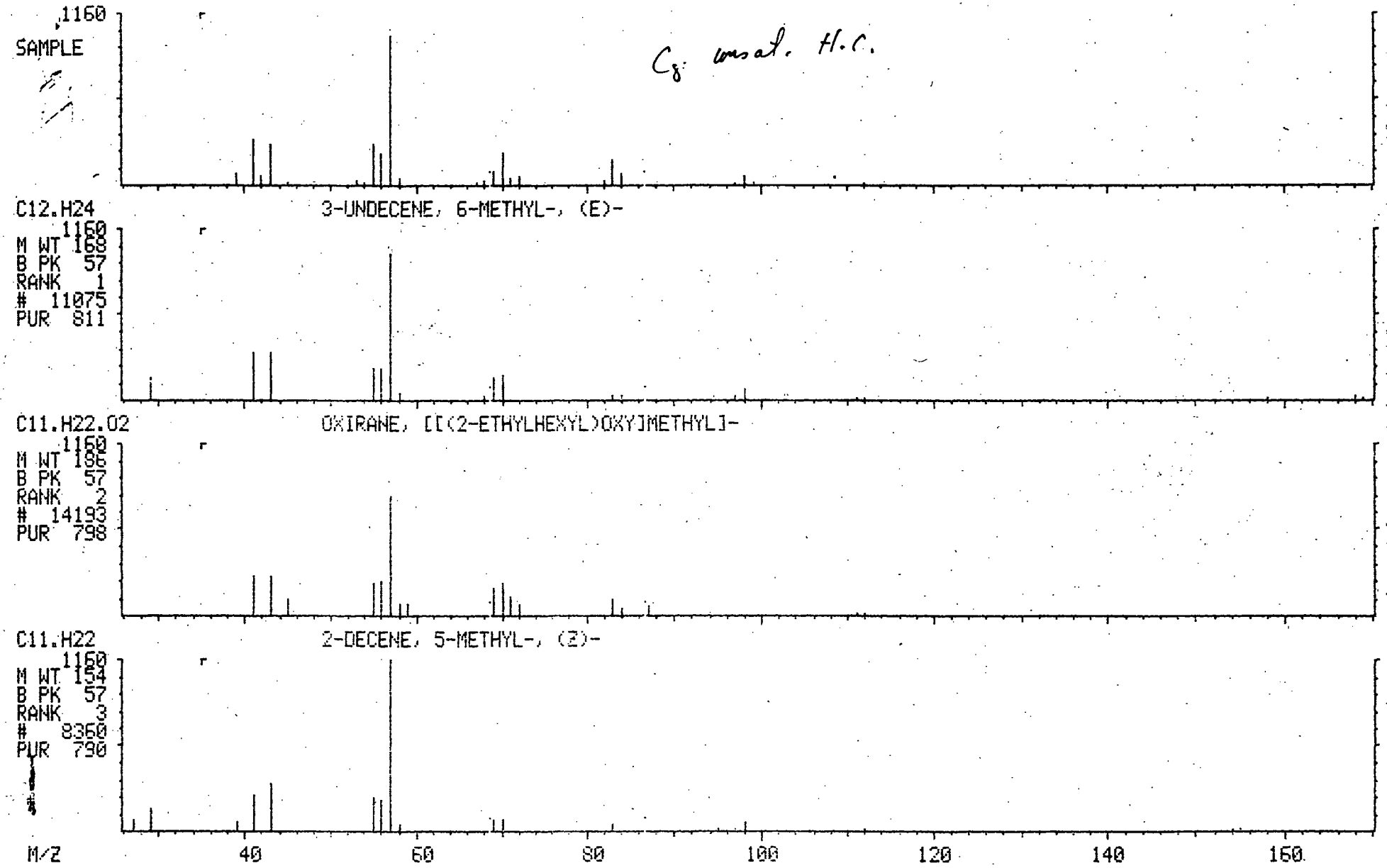


LIBRARY SEARCH
06/15/91 0:38:00 + 27:35
SAMPLE: S5 91-13589
CONDS.: MS-A CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AC19513589 #1655
CALI: AC19513589 # 2

BASE M/Z: 57
RIC: 22655.

00103



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

56

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: EOH00022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13590

Sample wt/vol: 5 (g/mL) G Lab File ID: AC20513590

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 8. Date Analyzed: 06/15/91

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	11.	U
74-83-9	Bromomethane	11.	U
75-01-4	Vinyl Chloride	11.	U
75-00-3	Chloroethane	11.	U
75-09-2	Methylene Chloride	4.	J
67-64-1	Acetone	19.	
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	11.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	11.	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
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	11.	U
591-78-6	2-Hexanone	11.	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
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S6

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13590

Sample wt/vol: 5 (g/mL) G Lab File ID: AC20513590

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 8 Date Analyzed: 06/15/91

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 2

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C8 - UNSATURATED HYDROCARBON	27:34	31.	JB
2.	UNKNOWN FLUOROCARBON	26:37	13.	J
3.				
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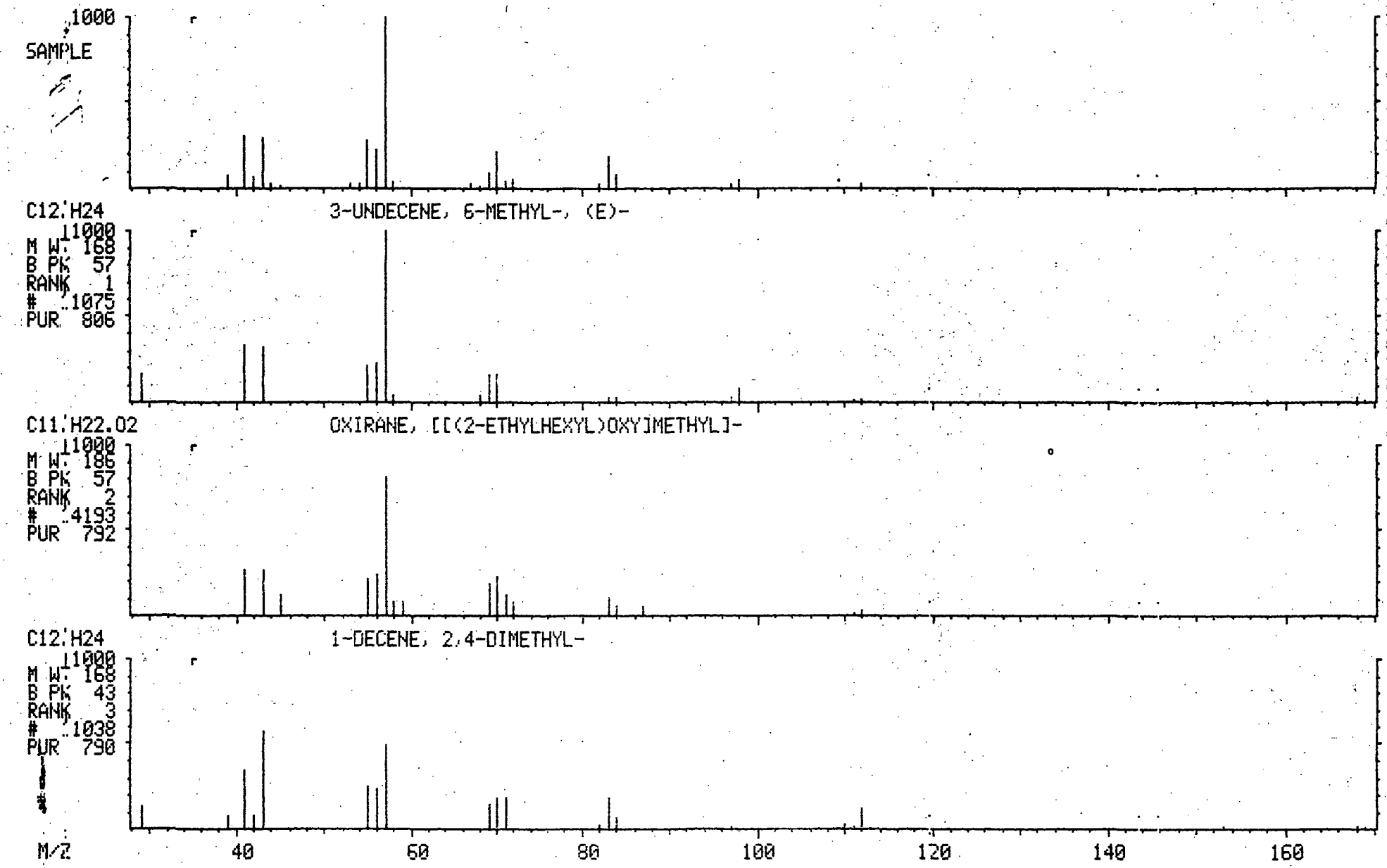
LIBRARY SEARCH
06/15/91 1:15:00 + 27:34
SAMPLE: S6 91-13590
CONDS.: MS-A CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AC20S13590 #1654 BASE M/Z: 57
CALI: AC20S13590 # 2 RIC: 21983.



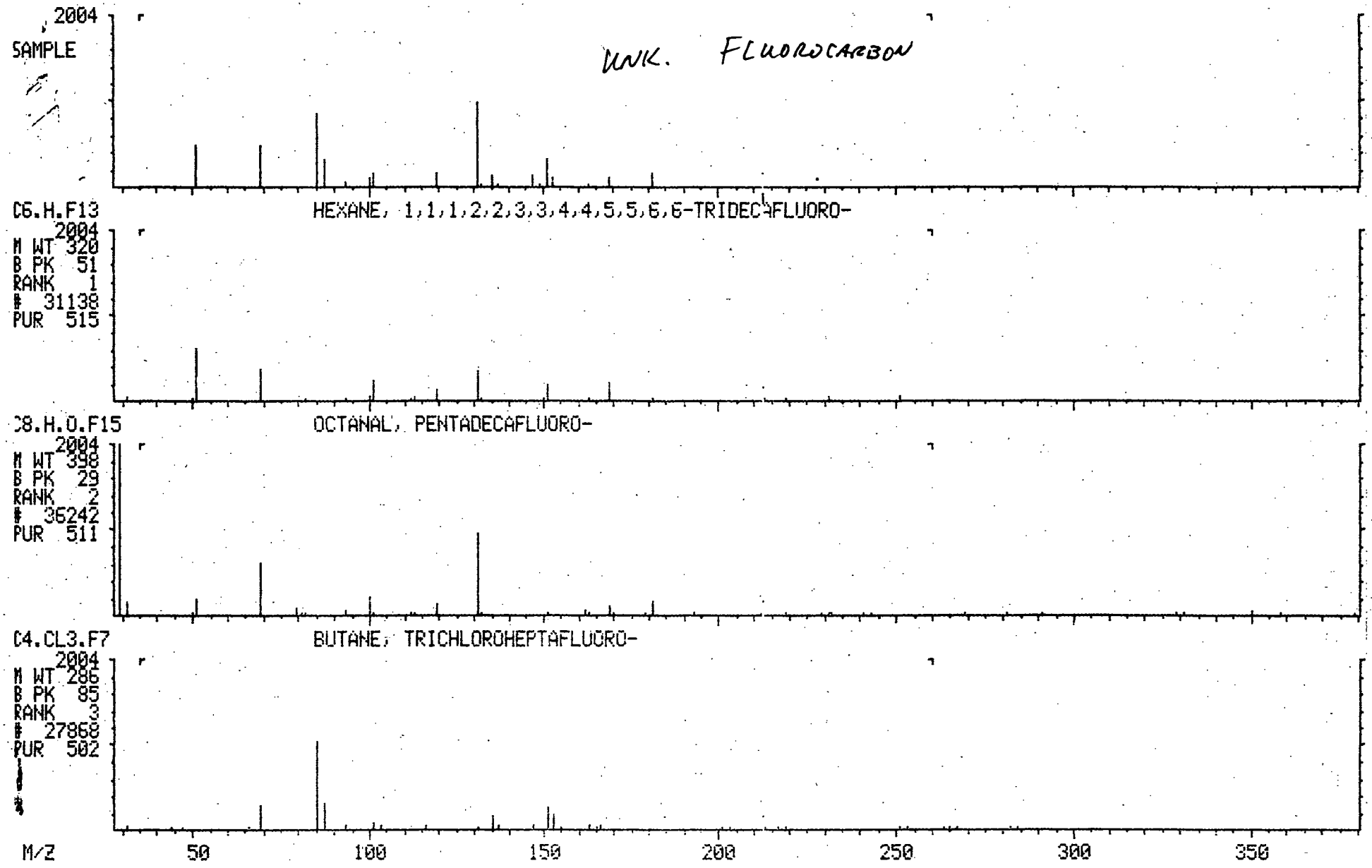
02100

LIBRARY SEARCH
06/15/91 1:15:00 + 26:37
SAMPLE: S6 91-13590
CONDS.: MS-A CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AC20513590 #1597
CALI: AC20513590 # 2

BASE M/Z: 131
RIC: 6823.

22100



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S7

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13591

Sample wt/vol: 5 (g/mL) G Lab File ID: AC21S13591

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 14. Date Analyzed: 06/15/91

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12.	U
74-83-9	Bromomethane	12.	U
75-01-4	Vinyl Chloride	12.	U
75-00-3	Chloroethane	12.	U
75-09-2	Methylene Chloride	2.	J
67-64-1	Acetone	71.	
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene	6.	U
75-34-3	1,1-Dichloroethane	6.	U
540-59-0	1,2-Dichloroethene (total)	6.	U
67-66-3	Chloroform	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	12.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	12.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene	6.	U
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	6.	U
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
108-10-1	4-Methyl-2-Pentanone	12.	U
591-78-6	2-Hexanone	12.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	6.	U
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S7

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13591

Sample wt/vol: 5 (g/mL) G Lab File ID: AC21513591

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 14. Date Analyzed: 06/15/91

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C8-UNSATURATED HYDROCARBON	27.34	40.	JB
2.				
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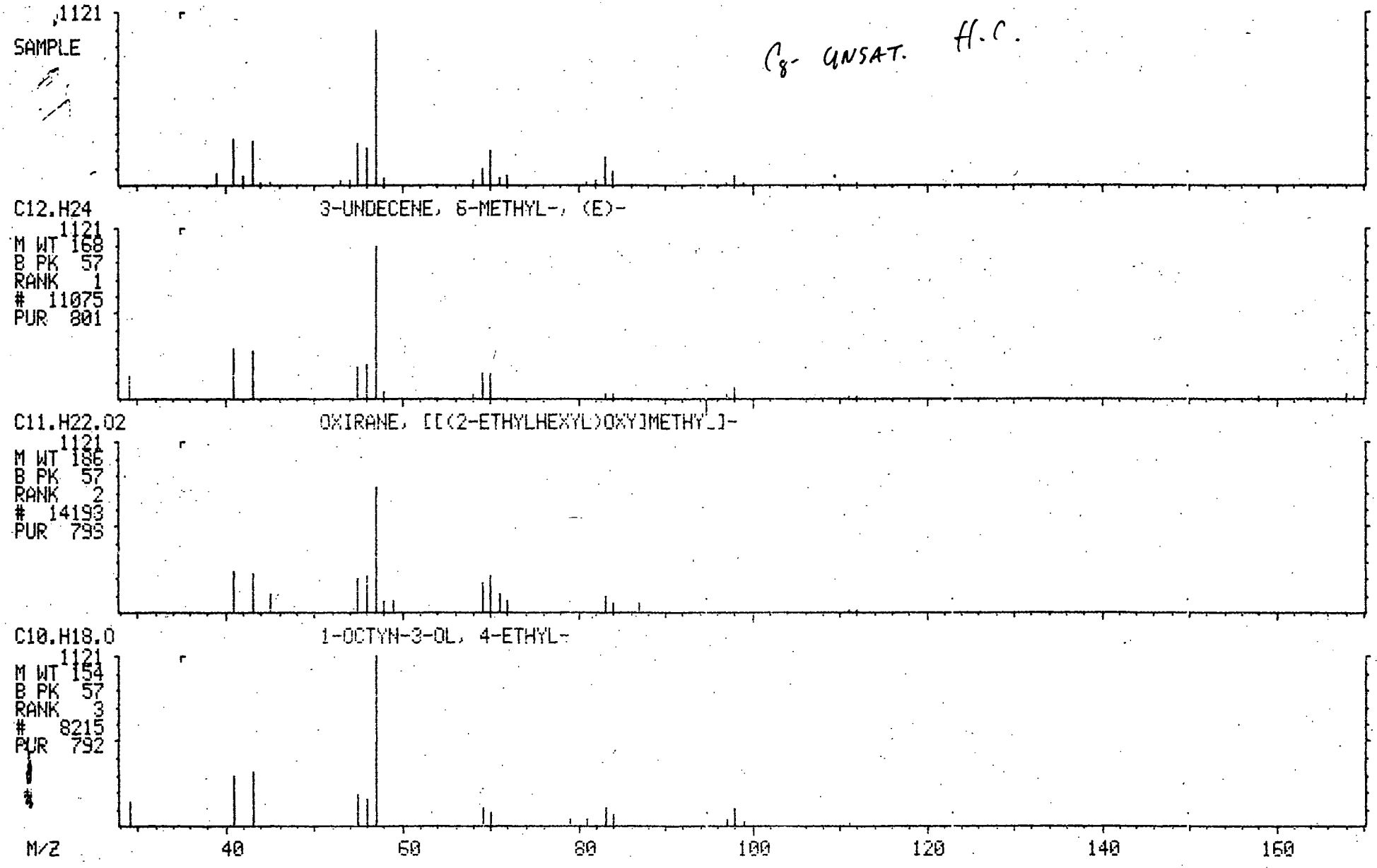
LIBRARY SEARCH
06/15/91 1:53:00 + 27:34
SAMPLE: S7 91-13591
CONDS.: MS-A CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AC21S13591 #1654
CALI: AC21S13591 # 2

BASE M/Z: 57
RIC: 23199.

00139



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

58

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: EOH0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13592

Sample wt/vol: 5 (g/mL) G Lab File ID: AC22S13592

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 18. Date Analyzed: 06/15/91

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	12.	U
74-83-9	Bromomethane	12.	U
75-01-4	Vinyl Chloride	12.	U
75-00-3	Chloroethane	12.	U
75-09-2	Methylene Chloride	24.	
67-64-1	Acetone	30.	
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene	6.	U
75-34-3	1,1-Dichloroethane	6.	U
540-59-0	1,2-Dichloroethene (total)	6.	U
67-66-3	Chloroform	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	12.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	12.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene	6.	U
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	6.	U
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6.	U
108-10-1	4-Methyl-2-Pentanone	12.	U
591-78-6	2-Hexanone	12.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	6.	U
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

58

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13592

Sample wt/vol: 5 (g/mL) G Lab File ID: AC22513592

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 18. Date Analyzed: 06/15/91

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 3

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN FLUOROCARBON	23:58	13.	J
2.	UNKNOWN	25:41	23.	J
3.	C8- UNSATURATED HYDROCARBON	27:34	52.	JB
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
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22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

LIBRARY SEARCH
06/15/91 2:32:00 + 23:58
SAMPLE: S8 91-13592
CONDS.: MS-A CASE: EOH0022
#1438 - #1449 X1.00

DATA: AC22513592 #1438
CALI: AC22513592 # 2

BASE M/Z: 69
RIC: 6823.

60156

2947
SAMPLE

UNK. FLUORO CARBON

C6.H.F13 HEXANE, 1,1,1,2,2,3,3,4,4,5,5,6,6-TRIDECAFLUORO-
2947
M WT 320
B PK 51
RANK 1
31138
PUR 634

C8.H.O.F15 OCTANAL, PENTADECAFLUORO-
2947
M WT 398
B PK 29
RANK 2
36242
PUR 545

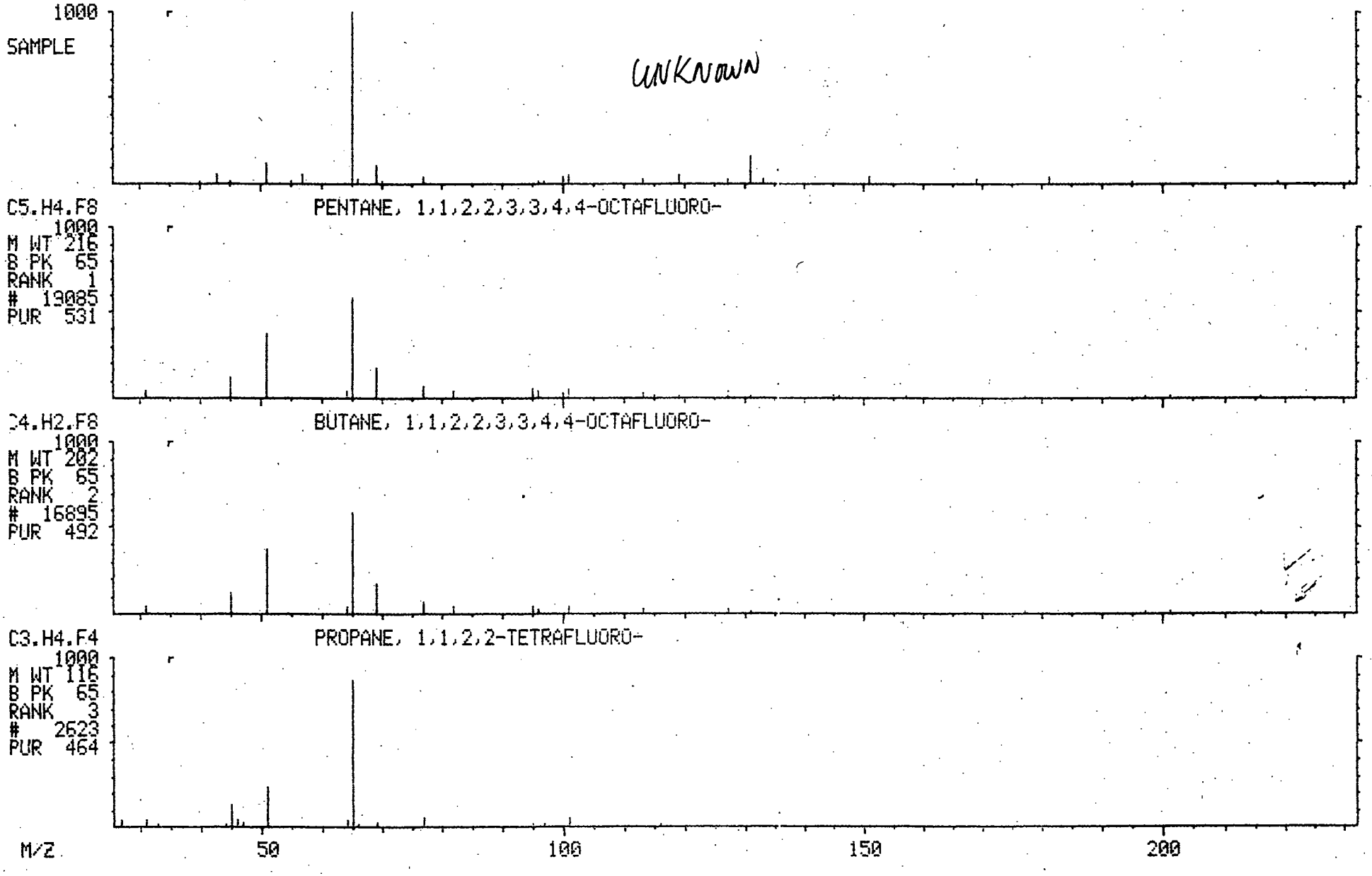
C10.H.O2.F19 DECANOIC ACID, NONADECAFLUORO-
2947
M WT 514
B PK 69
RANK 3
40061
PUR 541

M/Z 50 100 150 200 250 300 350 400

LIBRARY SEARCH
06/15/91 2:32:00 + 25:41
SAMPLE: S8 91-13592
CONDS.: MS-A CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AC22513592 #1541
CALI: AC22513592 # 2

BASE M/Z: 65
RIC: 11759.



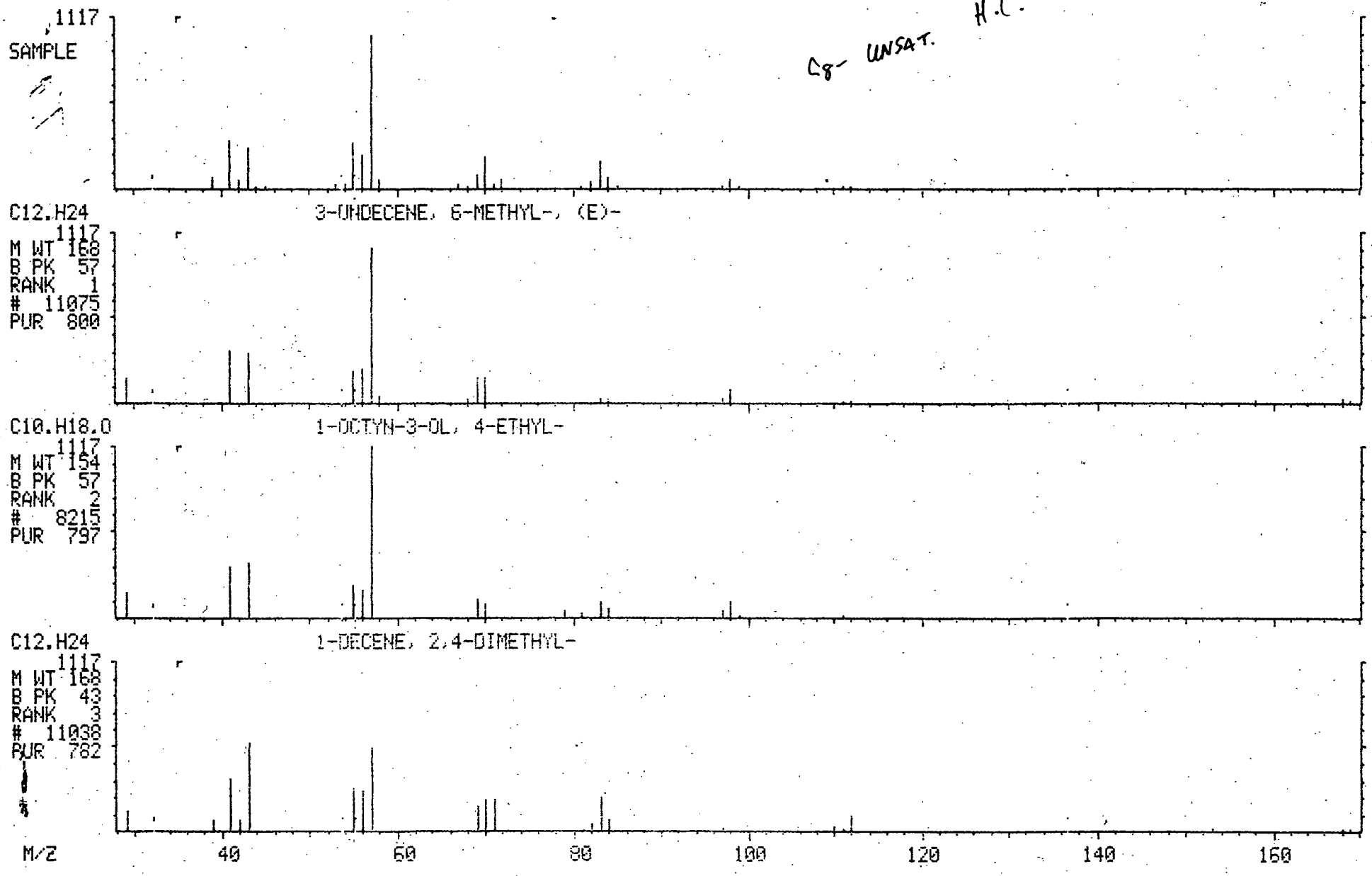
LIBRARY SEARCH
06/15/91 2:32:00 + 27:34
SAMPLE: S8 9:-13592
CONDS.: MS-A CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AC22S13592 #1654
CALI: AC22S13592 # 2

BASE M/Z: 57
RIC: 31391.

00100

C8- UNSAT. H.C.



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S9

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: EOHØØ22 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13593

Sample wt/vol: 5 (g/mL) G Lab File ID: AC23513593

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 23 Date Analyzed: 06/15/91

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	13.	U
74-83-9	Bromomethane	13.	U
75-01-4	Vinyl Chloride	13.	U
75-00-3	Chloroethane	13.	U
75-09-2	Methylene Chloride	6.	U
67-64-1	Acetone	46.	
75-15-0	Carbon Disulfide	6.	U
75-35-4	1,1-Dichloroethene	6.	U
75-34-3	1,1-Dichloroethane	6.	U
540-59-0	1,2-Dichloroethene (total)	6.	U
67-66-3	Chloroform	6.	U
107-06-2	1,2-Dichloroethane	6.	U
78-93-3	2-Butanone	13.	U
71-55-6	1,1,1-Trichloroethane	6.	U
56-23-5	Carbon Tetrachloride	6.	U
108-05-4	Vinyl Acetate	13.	U
75-27-4	Bromodichloromethane	6.	U
78-87-5	1,2-Dichloropropane	6.	U
10061-01-5	cis-1,3-Dichloropropene	6.	U
79-01-6	Trichloroethene	6.	U
124-48-1	Dibromochloromethane	6.	U
79-00-5	1,1,2-Trichloroethane	6.	U
71-43-2	Benzene	6.	U
10061-02-6	trans-1,3-Dichloropropene	6.	U
75-25-2	Bromoform	6	U
108-10-1	4-Methyl-2-Pentanone	13.	U
591-78-6	2-Hexanone	13.	U
127-18-4	Tetrachloroethene	6.	U
79-34-5	1,1,2,2-Tetrachloroethane	6.	U
108-88-3	Toluene	5.	J
108-90-7	Chlorobenzene	6.	U
100-41-4	Ethylbenzene	6.	U
100-42-5	Styrene	6.	U
1330-20-7	Xylene (total)	6.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S9

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13593

Sample wt/vol: 5 (g/mL) G Lab File ID: AC23S13593

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 23 Date Analyzed: 06/15/91

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C8-UNSATURATED HYDROCARBON	27:29	39.	JB
2.				
3.				
4.				
5.				
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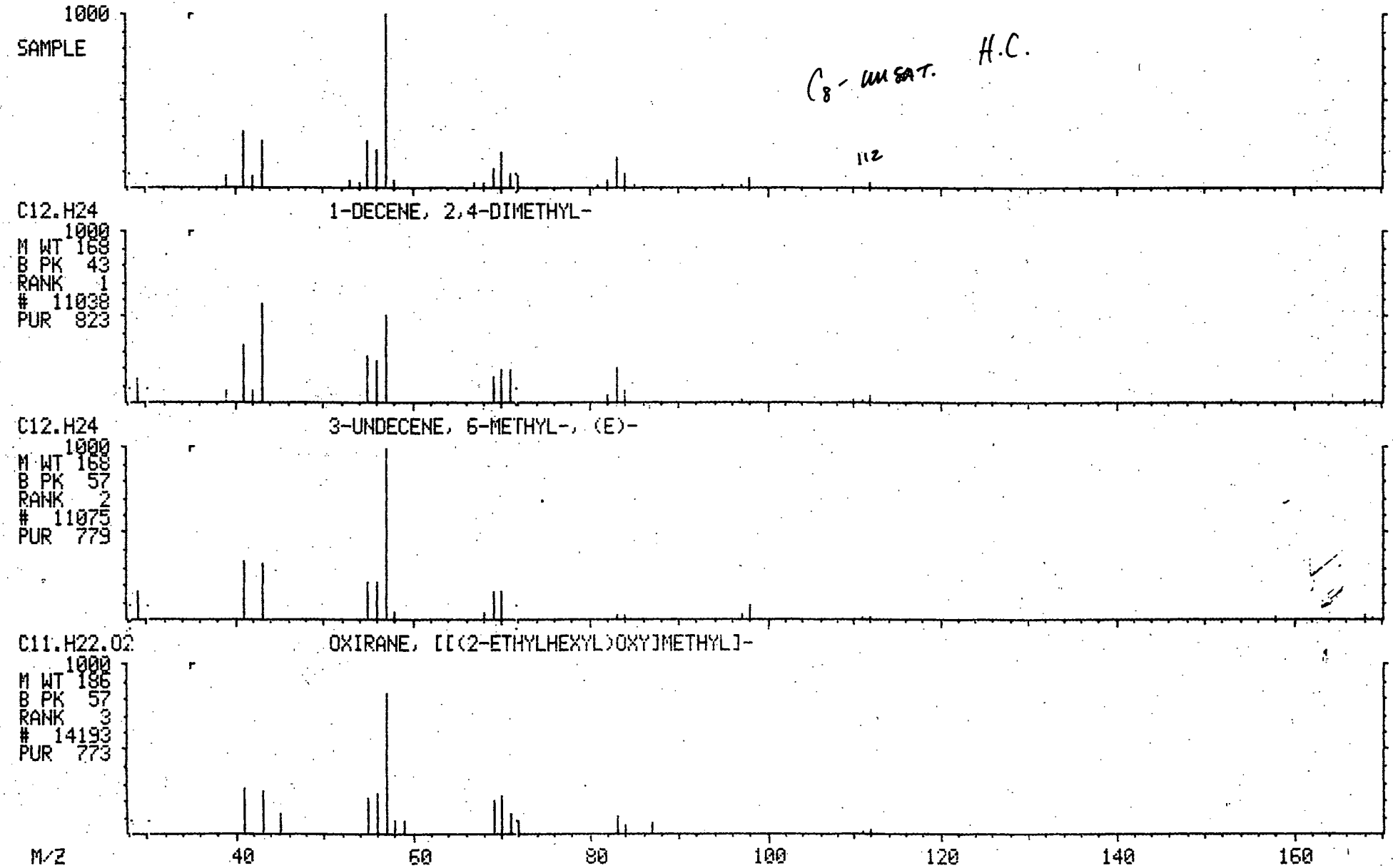
27.				
28.				
29.				
30.				

LIBRARY SEARCH
06/15/91 3:11:00 + 27:29
SAMPLE: S9 91-13593
CONDS.: MS-A CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AC23513593 #1649
CALI: AC23513593 # 2

BASE M/Z: 57
RIC: 23775.

00177



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

510

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13594

Sample wt/vol: 5 (g/mL) G Lab File ID: AC29513594

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 9 Date Analyzed: 06/15/91

Column: (pack/cap) CAP Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	11.	U
74-83-9	Bromomethane	11.	U
75-01-4	Vinyl Chloride	11.	U
75-00-3	Chloroethane	11.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	11.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	15.	B
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	11.	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
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	11.	U
591-78-6	2-Hexanone	11.	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
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

510

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13594

Sample wt/vol: 5 (g/mL) G Lab File ID: AC29513594

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. 9 Date Analyzed: 06/15/91

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	C8 - UNSATURATED HYDROCARBON	27:34	~~21~~ 23.	JB
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
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28.				
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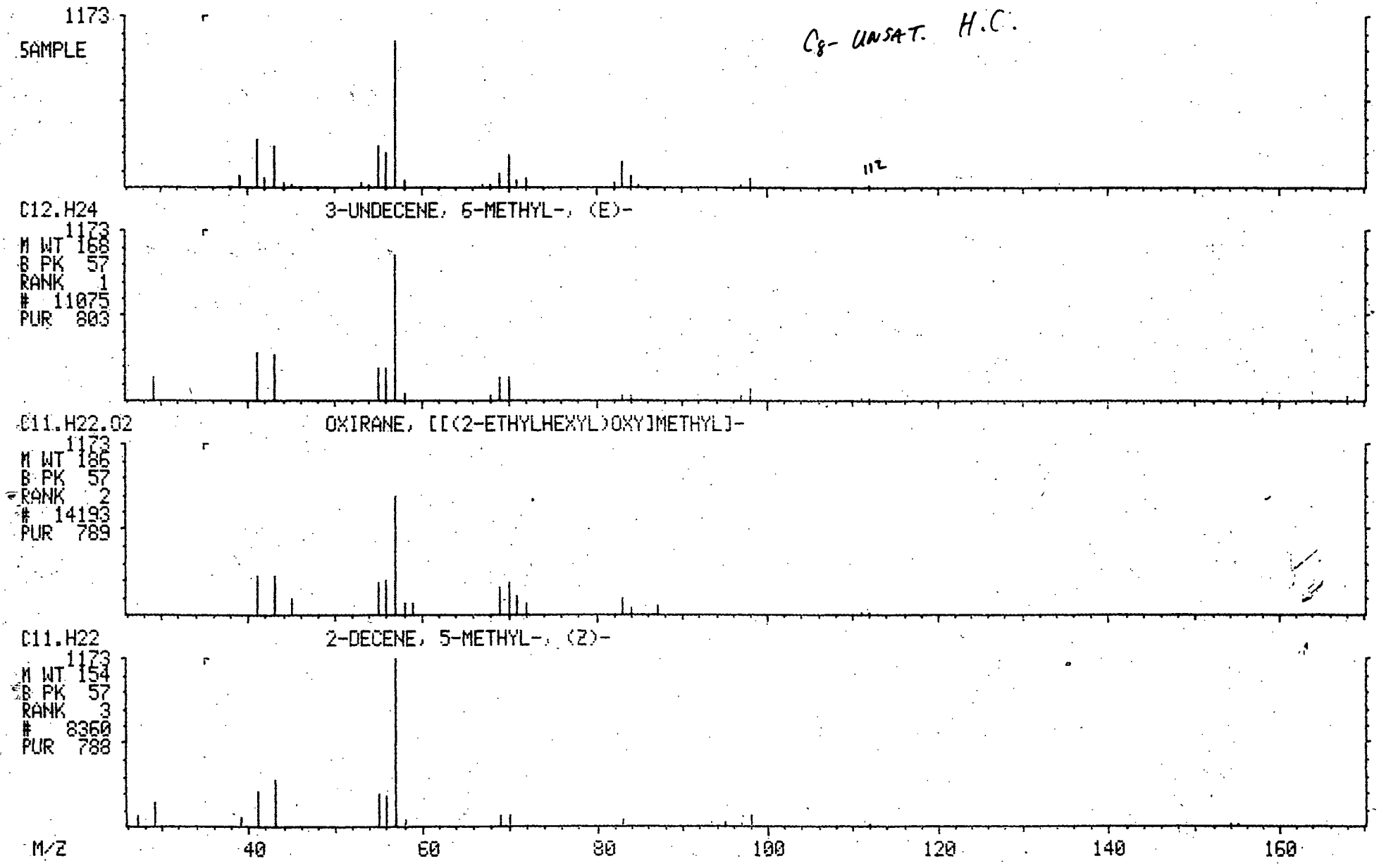
30.				

LIBRARY SEARCH
06/15/91 16:09:00 + 27:34
SAMPLE: S10 91-13594
CONDS.: MS-A CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AC29S13594 #1654
CALI: AC29S13594 # 2

BASE M/Z: 57
RIC: 19039.



Con Lab File

CASE NARRATIVE
SEMI-VOLATILE FRACTION

CASE NO. EOH0022
SDG NO. 13585
SAMPLE NO.(s) for SDG: S1,S2,S3,S4,S5,S6,S7,S8,S9,S10
DCL SET NO.: 91-E-1582
DCL SAMPLE NO.: 91-13585 through 91-13594

EPA-CLP CONTRACT NO: Ecology and Environmental :19005
DATACHEM LABORATORIES

I certify that this data package in in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, and verified by the following signature.

James Baxter
James Baxter, Laboratory Director Date: 6/21/91

I. 1. Case EOH0022: DataChem Laboratories has received a total of ten soil samples for Case EOH0022. This report includes data for the ten soil samples listed above which have been assigned the SDG designation 13585. DataChem Laboratories expects to be paid for all analyses listed above.

I. 2. Semivolatile Analysis: All samples in this SDG were analyzed and reported for the BNA fraction using the soil protocol specified in the SOW 2/88. All of the surrogate recoveries and internal standard area responses met the QC criteria except for internal standard perylene-d12 which was out of Q.C. limits for sample S3 (91-13587). This sample was not reanalyzed.

I. 3. Matrix Spike and Matrix Spike Duplicate Analyses The soil matrix spike and matrix spike duplicate analyses for the BNA fraction were performed using sample S10.

Case Narrative Authorized by: Shirley Johnson Date: 6/21/91

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: EOH0022 SAS No.: _____ SDG No.: 13585

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
01	S1	46.	73.	107.	53.	67.	105.		0
02	S2	51.	76.	91.	56.	61.	100.		0
03	S3	39.	66.	113.	50.	60.	101.		0
04	S4	55.	66.	79.	60.	59.	90.		0
05	S5	44.	63.	77.	48.	55.	84.		0
06	S6	49.	61.	80.	53.	54.	75.		0
07	S7	49.	82	111.	55.	68.	125. *		1
08	S8	55.	64.	71.	57.	58.	91.		0
09	S9	58.	70.	88.	64.	63.	99.		0
10	S10	49.	76.	117.	56.	66.	114.		0
11	S10MS	49.	79.	122.	54.	67.	129. *		1
12	S10MSD	48.	73.	102.	54.	66.	138. *		1
13	SBLK01	42.	68.	88.	57.	64.	83.		0
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(23-120)
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)
S3 (TPH)	= Terphenyl-d14	(18-137)
S4 (PHL)	= Phenol-d6	(24-113)
S5 (2FP)	= 2-Fluorophenol	(25-121)
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)

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

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: EOH0022 SAS No.: _____ SDG No.: 13585

Matrix Spike - EPA Sample No.: S10 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
Phenol	220	0	111.	51.	26- 90
2-Chlorophenol	220	0	128.	58.	25-102
1,4-Dichlorobenzene	110	0	65.	59.	28-104
N-Nitroso-di-n-prop.(1)	110	0	59.	54.	41-126
1,2,4-Trichlorobenzene	110	0	84.	76.	38-107
4-Chloro-3-methylphenol	220	0	159.	72.	26-103
Acenaphthene	110	0	78.	71.	31-137
4-Nitrophenol	220	0	239.	109.	11-114
2,4-Dinitrotoluene	110	0	81.	74.	28- 89
Pentachlorophenol	220	0	284.	129. *	17-109
Pyrene	110	3.0	125.	111.	35-142

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Phenol	220	116.	53.	-3.8	35	26- 90
2-Chlorophenol	220	125.	57.	1.7	50	25-102
1,4-Dichlorobenzene	110	66.	60.	-1.7	27	28-104
N-Nitroso-di-n-prop.(1)	110	58.	53.	1.9	38	41-126
1,2,4-Trichlorobenzene	110	86.	78.	-2.6	23	38-107
4-Chloro-3-methylphenol	220	165.	75.	-4.1	33	26-103
Acenaphthene	110	83.	76.	-6.8	19	31-137
4-Nitrophenol	220	269.	122. *	-11.3	50	11-114
2,4-Dinitrotoluene	110	87.	79.	-6.5	47	28- 89
Pentachlorophenol	220	277.	126. *	2.4	47	17-109
Pyrene	110	105.	92.	18.7	36	35-142

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

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

RPD: 0 out of 11 outside limits
Spike Recovery: 3 out of 22 outside limits

COMMENTS: _____

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S1

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H002 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13585

Sample wt/vol: 30 (g/mL) G Lab File ID: AD23S13585

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 10. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370.	u
111-44-4	bis(2-Chloroethyl)ether	370.	u
95-57-8	2-Chlorophenol	370.	u
541-73-1	1,3-Dichlorobenzene	370.	u
106-46-7	1,4-Dichlorobenzene	370.	u
100-51-6	Benzyl alcohol	370.	u
95-50-1	1,2-Dichlorobenzene	370.	u
95-48-7	2-Methylphenol	370.	u
108-60-1	bis(2-Chloroisopropyl)ether	370.	u
106-44-5	4-Methylphenol	370.	u
621-64-7	N-Nitroso-di-n-propylamine	370.	u
67-72-1	Hexachloroethane	370.	u
98-95-3	Nitrobenzene	370.	u
78-59-1	Isophorone	370.	u
88-75-5	2-Nitrophenol	370.	u
105-67-9	2,4-Dimethylphenol	370.	u
65-85-0	Benzoic acid	1800.	u
111-91-1	bis(2-Chloroethoxy)methane	370.	u
120-83-2	2,4-Dichlorophenol	370.	u
120-82-1	1,2,4-Trichlorobenzene	370.	u
91-20-3	Naphthalene	370.	u
106-47-8	4-Chloroaniline	370.	u
87-68-3	Hexachlorobutadiene	370.	u
59-50-7	4-Chloro-3-methylphenol	370.	u
91-57-6	2-Methylnaphthalene	370.	u
77-47-4	Hexachlorocyclopentadiene	370.	u
88-06-2	2,4,6-Trichlorophenol	370.	u
95-95-4	2,4,5-Trichlorophenol	1800.	u
91-58-7	2-Chloronaphthalene	370.	u
88-74-4	2-Nitroaniline	1800.	u
131-11-3	Dimethylphthalate	370.	u
208-96-8	Acenaphthylene	370.	u
606-20-2	2,6-Dinitrotoluene	370.	u

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S1

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E1-J022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13585

Sample wt/vol: 30 (g/ml) G Lab File ID: AD23S13585

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 10. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1800.	u
83-32-9	Acenaphthene	370.	u
51-28-5	2,4-Dinitrophenol	1800.	u
100-02-7	4-Nitrophenol	1800.	u
132-64-9	Dibenzofuran	370.	u
121-14-2	2,4-Dinitrotoluene	370.	u
84-66-2	Diethylphthalate	370.	u
7005-72-3	4-Chlorophenyl-phenylether	370.	u
86-73-7	Fluorene	370.	u
100-01-6	4-Nitroaniline	1800.	u
534-52-1	4,6-Dinitro-2-methylphenol	1800.	u
86-30-6	N-Nitrosodiphenylamine (1)	370.	u
101-55-3	4-Bromophenyl-phenylether	370.	u
118-74-1	Hexachlorobenzene	370.	u
87-86-5	Pentachlorophenol	1800.	u
85-01-8	Phenanthrene	50.	J
120-12-7	Anthracene	370.	u
84-74-2	Di-n-butylphthalate	370.	u
206-44-0	Fluoranthene	130.	J
129-00-0	Pyrene	150.	J
85-68-7	Butylbenzylphthalate	370.	u
91-94-1	3,3'-Dichlorobenzidine	730.	u
56-55-3	Benzo(a)anthracene	370.	u
218-01-9	Chrysene	370.	u
117-81-7	bis(2-Ethylhexyl)phthalate	370.	u
117-84-0	Di-n-octylphthalate	370.	u
205-99-2	Benzo(b)fluoranthene	370.	u
207-08-9	Benzo(k)fluoranthene	370.	u
50-32-8	Benzo(a)pyrene	370.	u
193-39-5	Indeno(1,2,3-cd)pyrene	370.	u
53-70-3	Dibenz(a,h)anthracene	370.	u
191-24-2	Benzo(g,h,i)perylene	370.	u

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S1

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13585

Sample wt/vol: 30 (g/mL) G Lab File ID: AD23513585

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 10. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

Number TICs found: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATION PRODUCT	6:40	66000.	AJB
2.	ALDOL CONDENSATION Product	7:28	97000.	AJB
3.	ALDOL CONDENSATION PRODUCT	8:55	1200.	AJB
4.	BROMO HEXANE ISOMER	9:17	660.	AJB
5.	ALDOL CONDENSATION PRODUCT	9:32	330.	AJB
6.	ALDOL CONDENSATION PRODUCT	10:26	510.	AJ
7.	ALDOL CONDENSATION PRODUCT	11:42	770.	AJ
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

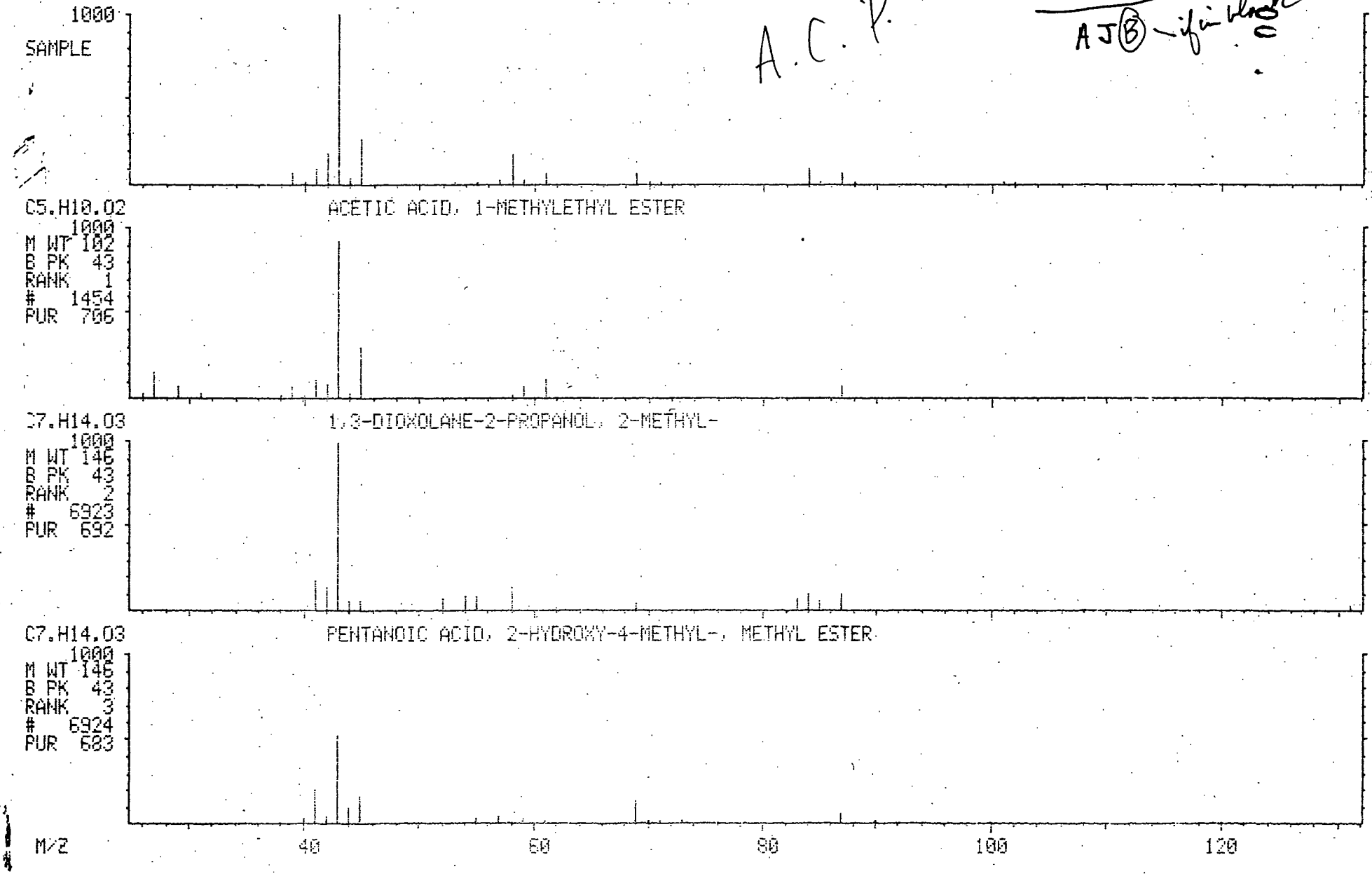
MID LIBRARY SEARCH
06/15/91 1:56:00 + 6:40
SAMPLE: S1 91-13585
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD23S13585 # 415 BASE M/Z: 43
CALI: AD23S13585 # 2 RIC: 61951.

A.C.P.

QUALIFIERS
AJ(B) - if in blank

00353

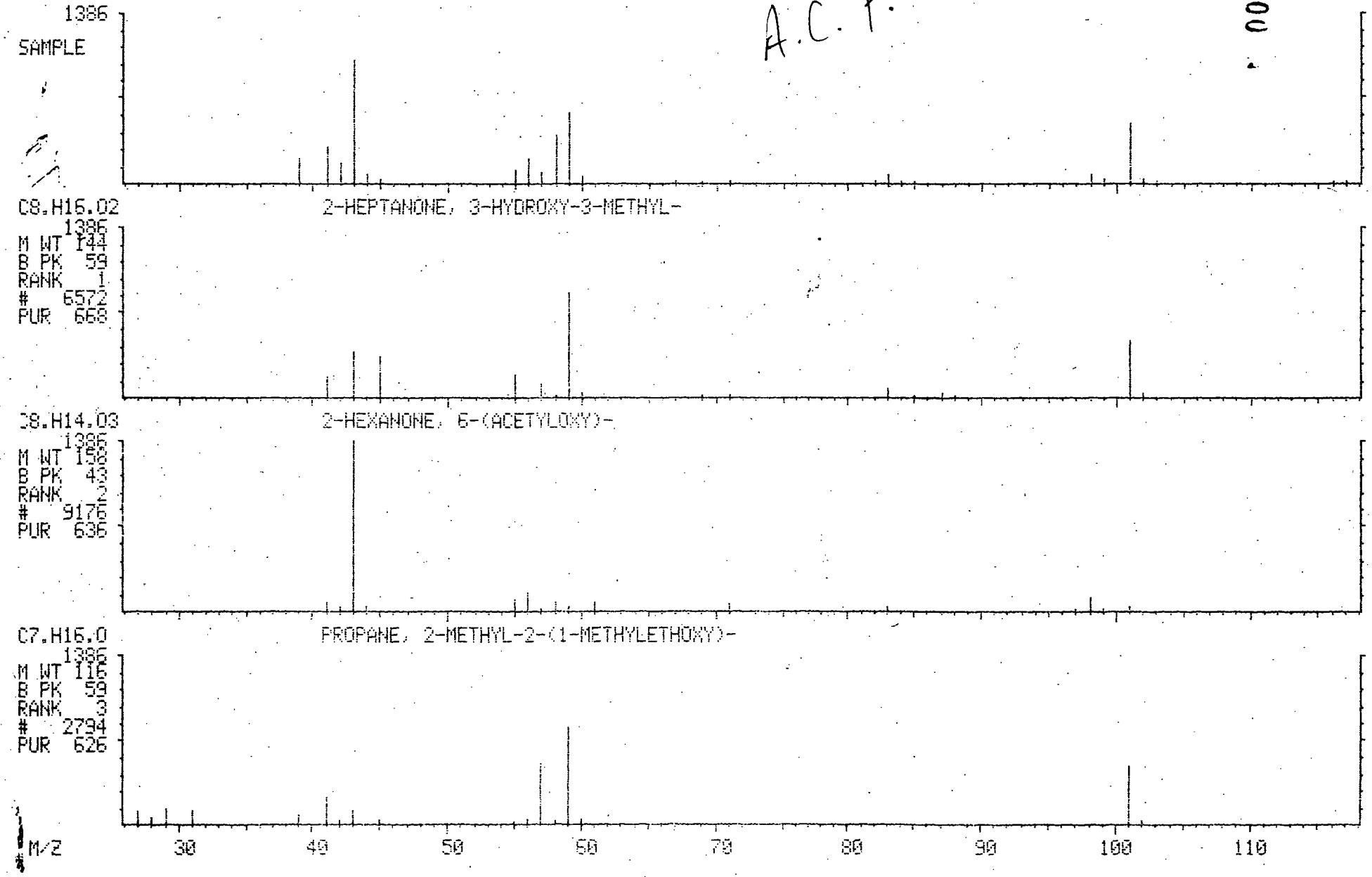


MID LIBRARY SEARCH
06/15/91 1:56:00 + 7:28
SAMPLE: S1 91-13585
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD23513585 # 464 BASE M/Z: 43
CALI: AD23513585 # 2 RIC: 406015.

A.C.P.

00355

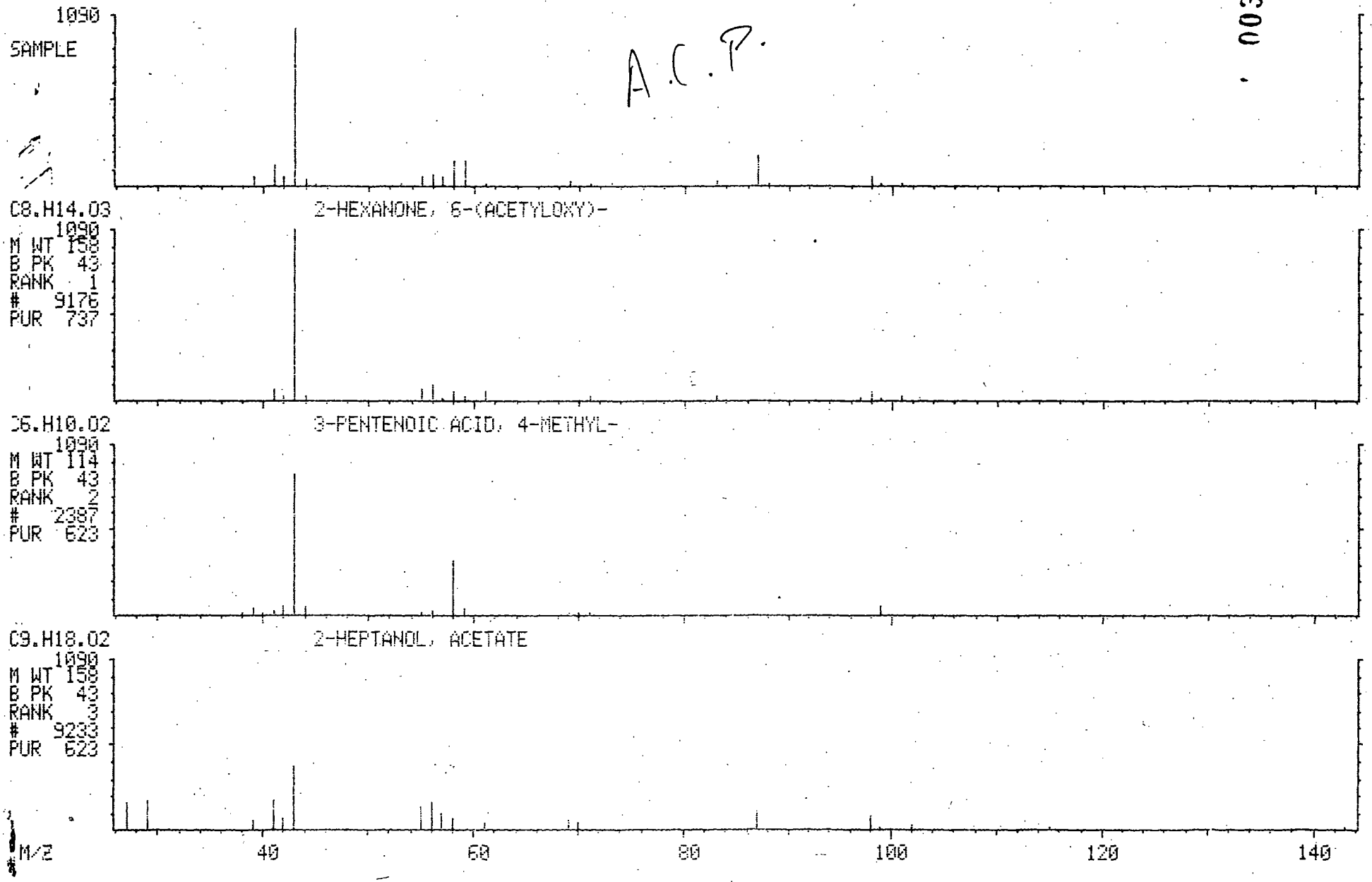


MID LIBRARY SEARCH
06/15/91 1:56:00 + 8:55
SAMPLE: S1 91-13585
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD23S13585 # 555 BASE M/Z: 43
CALI: AD23S13585 # 2 RIC: 63167.

A.C.P.

00357

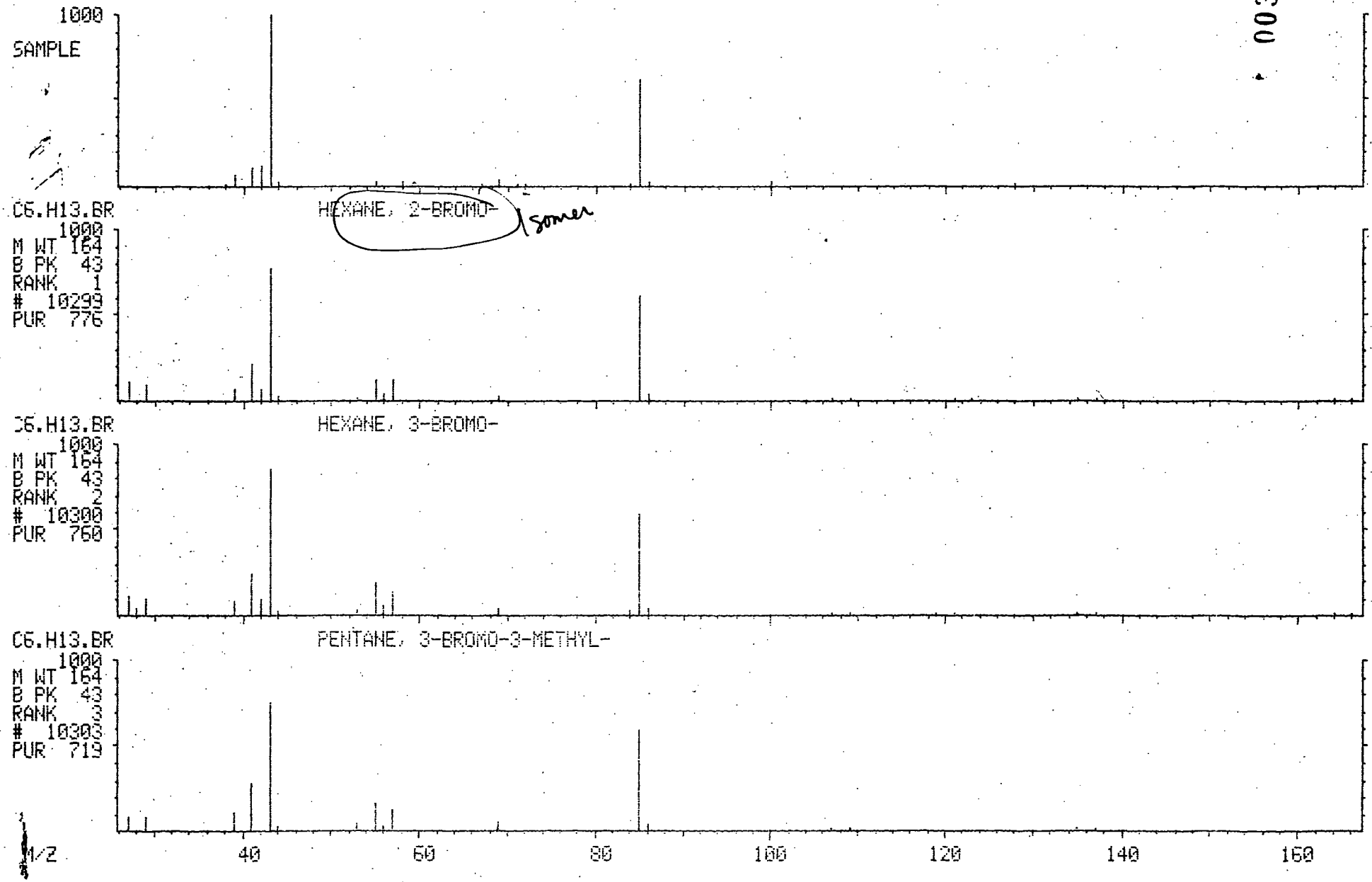


MID LIBRARY SEARCH
06/15/91 1:56:00 + 9:17
SAMPLE: S1 91-13585
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD23513585 # 577
CALI: AD23513585 # 2

BASE M/Z: 43
RIC: 15519.

00359

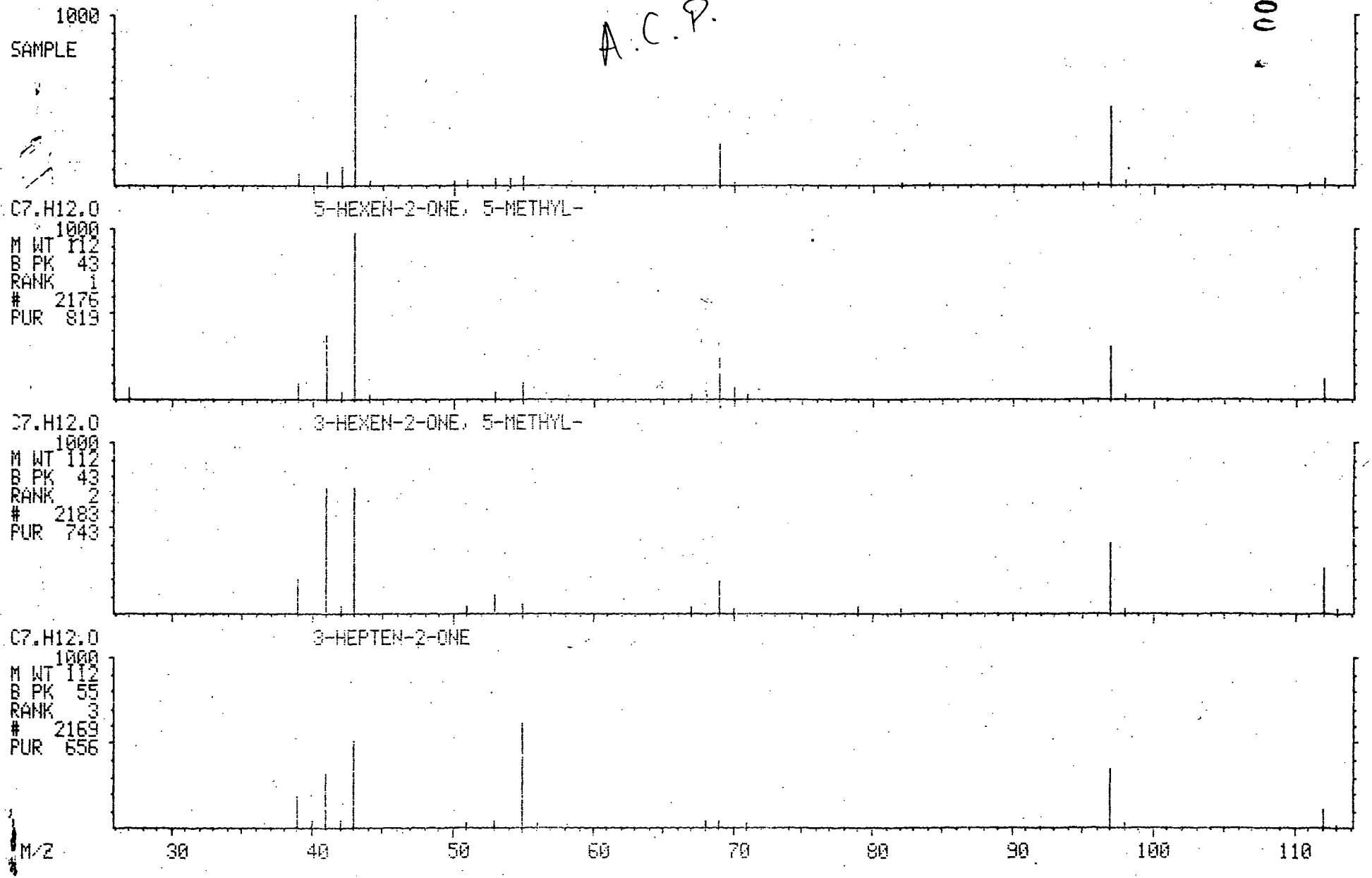


MID LIBRARY SEARCH
06/15/91 1:56:00 + 9:32
SAMPLE: S1 91-13585
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD23513585 # 593 BASE M/Z: 43
CALI: AD23513585 # 2 RIC: 16703.

A.C.P.

00361



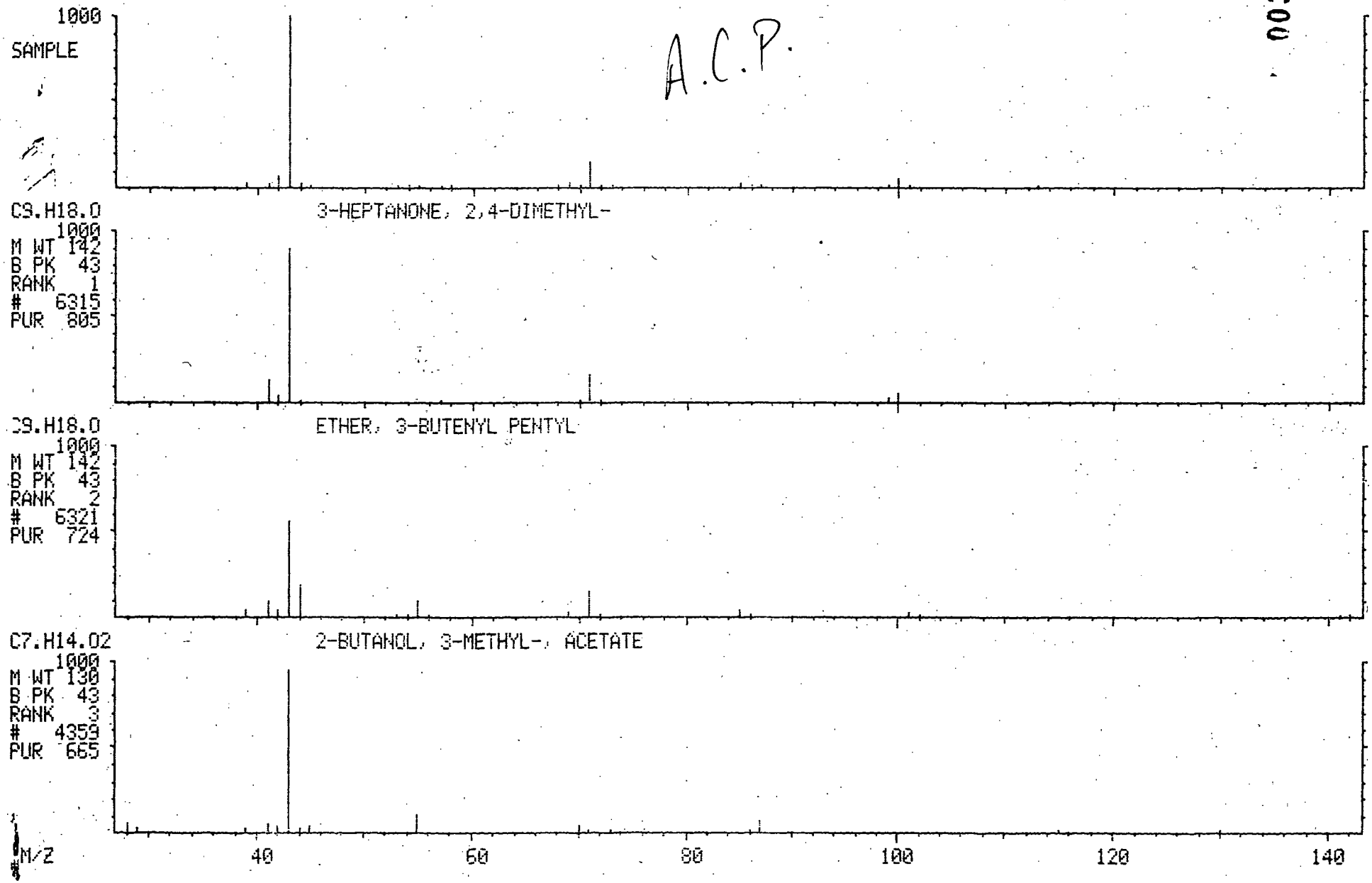
MID LIBRARY SEARCH
06/15/91 1:56:00 + 10:26
SAMPLE: S1 91-13585
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD23513585 # 649
CALI: AD23513585 # 2

BASE M/Z: 43
RIC: 24607.

00363

A.C.P.



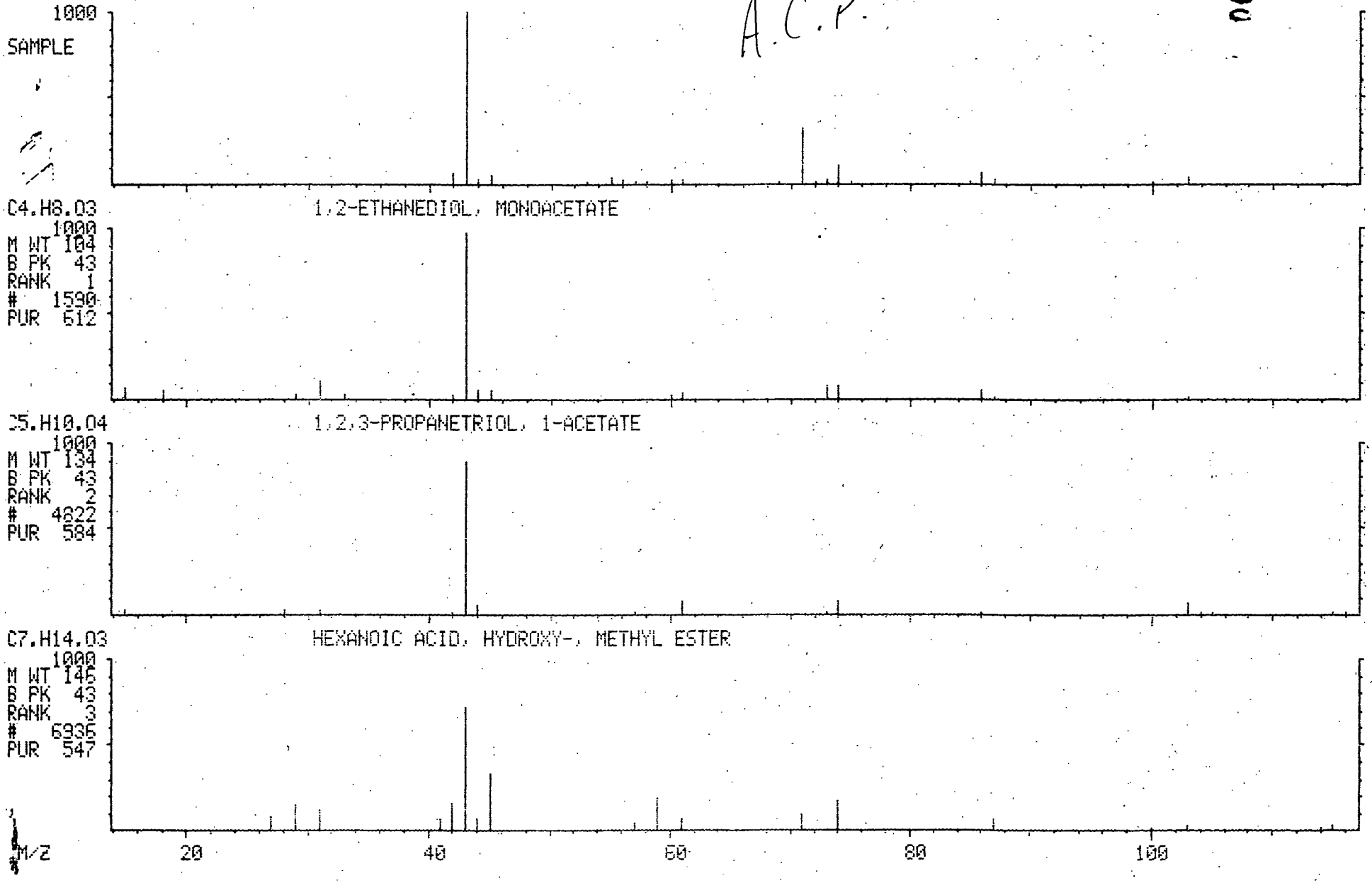
MID LIBRARY SEARCH
06/15/91 1:56:00 + 11:42
SAMPLE: S1 91-13585
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD23S13585 # 728
CALI: AD23S13585 # 2

BASE M/Z: 43
RIC: 30847.

A.C.P.

00365



1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S2

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13586

Sample wt/vol: 30 (g/mL) G Lab File ID: AD30S13586

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 9 Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	360.	u
111-44-4	bis(2-Chloroethyl)ether	360.	u
95-57-8	2-Chlorophenol	360.	u
541-73-1	1,3-Dichlorobenzene	360.	u
106-46-7	1,4-Dichlorobenzene	360.	u
100-51-6	Benzyl alcohol	360.	u
95-50-1	1,2-Dichlorobenzene	360.	u
95-48-7	2-Methylphenol	360.	u
108-60-1	bis(2-Chloroisopropyl)ether	360.	u
106-44-5	4-Methylphenol	360.	u
621-64-7	N-Nitroso-di-n-propylamine	360.	u
67-72-1	Hexachloroethane	360.	u
98-95-3	Nitrobenzene	360.	u
78-59-1	Isophorone	360.	u
88-75-5	2-Nitrophenol	360.	u
105-67-9	2,4-Dimethylphenol	360.	u
65-85-0	Benzoic acid	1800.	u
111-91-1	bis(2-Chloroethoxy)methane	360.	u
120-83-2	2,4-Dichlorophenol	360.	u
120-82-1	1,2,4-Trichlorobenzene	360.	u
91-20-3	Naphthalene	360.	u
106-47-8	4-Chloroaniline	360.	u
87-68-3	Hexachlorobutadiene	360.	u
59-50-7	4-Chloro-3-methylphenol	360.	u
91-57-6	2-Methylnaphthalene	360.	u
77-47-4	Hexachlorocyclopentadiene	360.	u
88-06-2	2,4,6-Trichlorophenol	360.	u
95-95-4	2,4,5-Trichlorophenol	1800.	u
91-58-7	2-Chloronaphthalene	360.	u
88-74-4	2-Nitroaniline	1800.	u
131-11-3	Dimethylphthalate	~~3600.~~ 360.	u
208-96-8	Acenaphthylene	360.	u
606-20-2	2,6-Dinitrotoluene	360.	u

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SZ

Lab Name: DATACHEM LABS Contract: 19085

Lab Code: DATAC Case No.: 91-0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13586

Sample wt/vol: 30 (g/ml) G Lab File ID: AD30S13586

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 9. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	1800.	U
83-32-9	Acenaphthene	360.	U
51-28-5	2,4-Dinitrophenol	1800.	U
100-02-7	4-Nitrophenol	1800.	U
132-64-9	Dibenzofuran	360.	U
121-14-2	2,4-Dinitrotoluene	360.	U
84-66-2	Diethylphthalate	360.	U
7005-72-3	4-Chlorophenyl-phenylether	360.	U
86-73-7	Fluorene	360.	U
100-01-6	4-Nitroaniline	1800.	U
534-52-1	4,6-Dinitro-2-methylphenol	1800.	U
86-30-6	N-Nitrosodiphenylamine (1)	360.	U
101-55-3	4-Bromophenyl-phenylether	360.	U
118-74-1	Hexachlorobenzene	360.	U
87-86-5	Pentachlorophenol	1800.	U
85-01-8	Phenanthrene	30.	J
120-12-7	Anthracene	360.	U
84-74-2	Di-n-butylphthalate	360.	U
206-44-0	Fluoranthene	85.	J
129-00-0	Pyrene	81.	J
85-68-7	Butylbenzylphthalate	360.	U
91-94-1	3,3'-Dichlorobenzidine	730.	U
56-55-3	Benzo(a)anthracene	360.	U
218-01-9	Chrysene	360.	U
117-81-7	bis(2-Ethylhexyl)phthalate	410.	B
117-84-0	Di-n-octylphthalate	360.	U
205-99-2	Benzo(b)fluoranthene	360.	U
207-08-9	Benzo(k)fluoranthene	360.	U
50-32-8	Benzo(a)pyrene	360.	U
193-39-5	Indeno(1,2,3-cd)pyrene	360.	U
53-70-3	Dibenz(a,h)anthracene	360.	U
191-24-2	Benzo(g,h,i)perylene	360.	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S2

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E040022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13586

Sample wt/vol: 30 (g/mL) G Lab File ID: AD30S13586

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 9. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

Number TICs found: 12

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

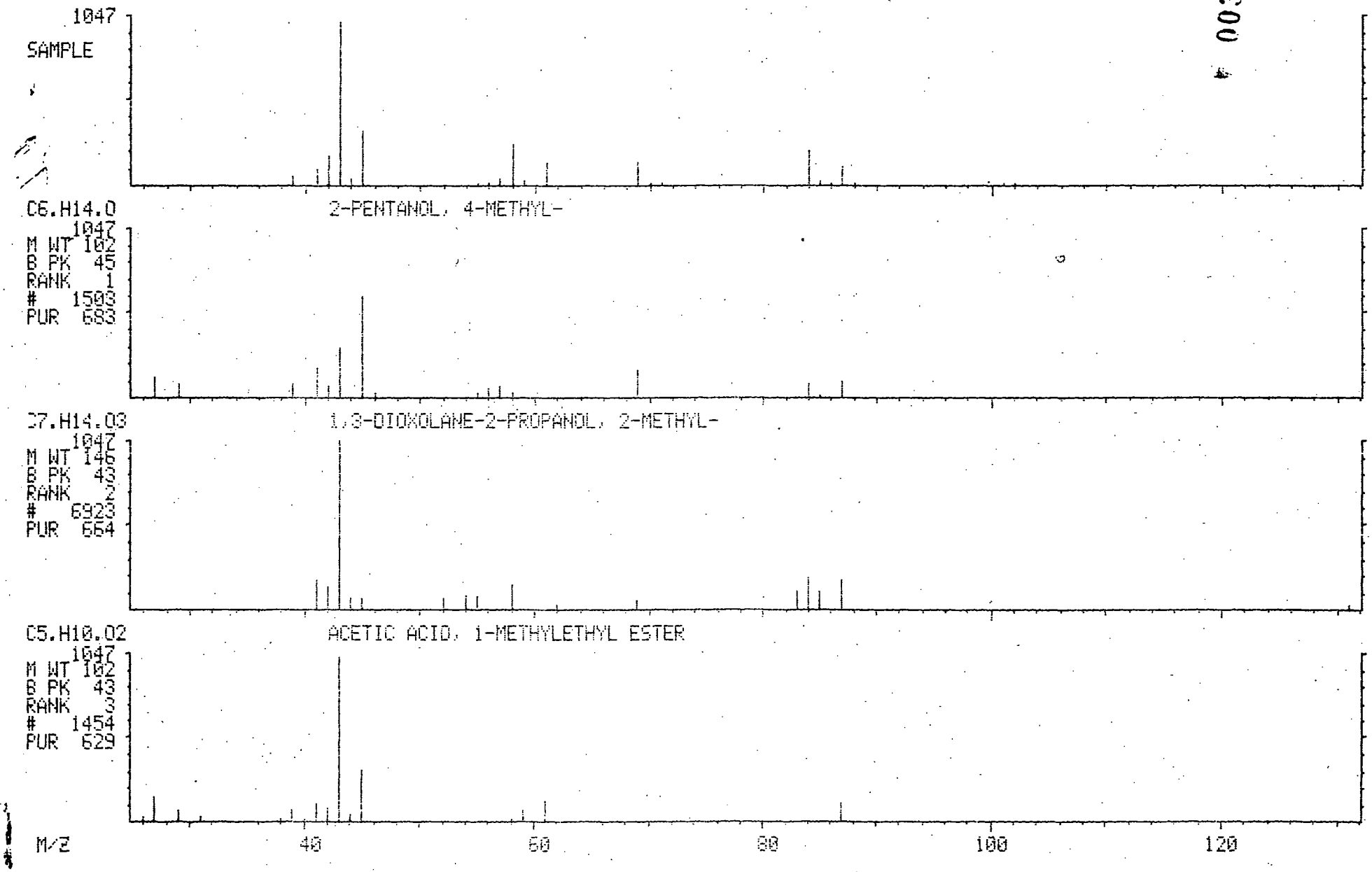
	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL CONDENSATION PRODUCT	6:45	4800.	AJB
2.		ALDOL CONDENSATION PRODUCT	7:31	55000.	AJB
3.		ALDOL CONDENSATION PRODUCT	8:29	300.	AJ
4.		ALDOL CONDENSATION PRODUCT	8:59	1000.	AJB
5.		ALDOL CONDENSATION PRODUCT	9:20	710.	AJB
6.		ALDOL CONDENSATION PRODUCT	9:36	250.	AJ
7.		ALDOL CONDENSATION PRODUCT	10:31	460.	AJ
8.		ALDOL CONDENSATION PRODUCT	11:47	1200.	AJ
9.		SUBSTITUTE BENZENE	22:14	230.	AJ
10.		SUBSTITUTED BENZENE	29:15	160.	AJ
11.		SUBSTITUTED BENZENE	30:22	160.	AJ
12.		SUBSTITUTED BENZENE	30:07	360.	AJ
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

FORM I SV-TIC 1/87 Rev.

MID LIBRARY SEARCH
06/15/91 21:24:00 + 6:45
SAMPLE: S2 91-13586
CONDS.: MS-B CASE: EDH0022
ENHANCED (S 15B 2N 0T)

DATA: AD30513586 # 420 BASE M/Z: 43
CALI: AD30513586 # 2 RIC: 68943.

00396

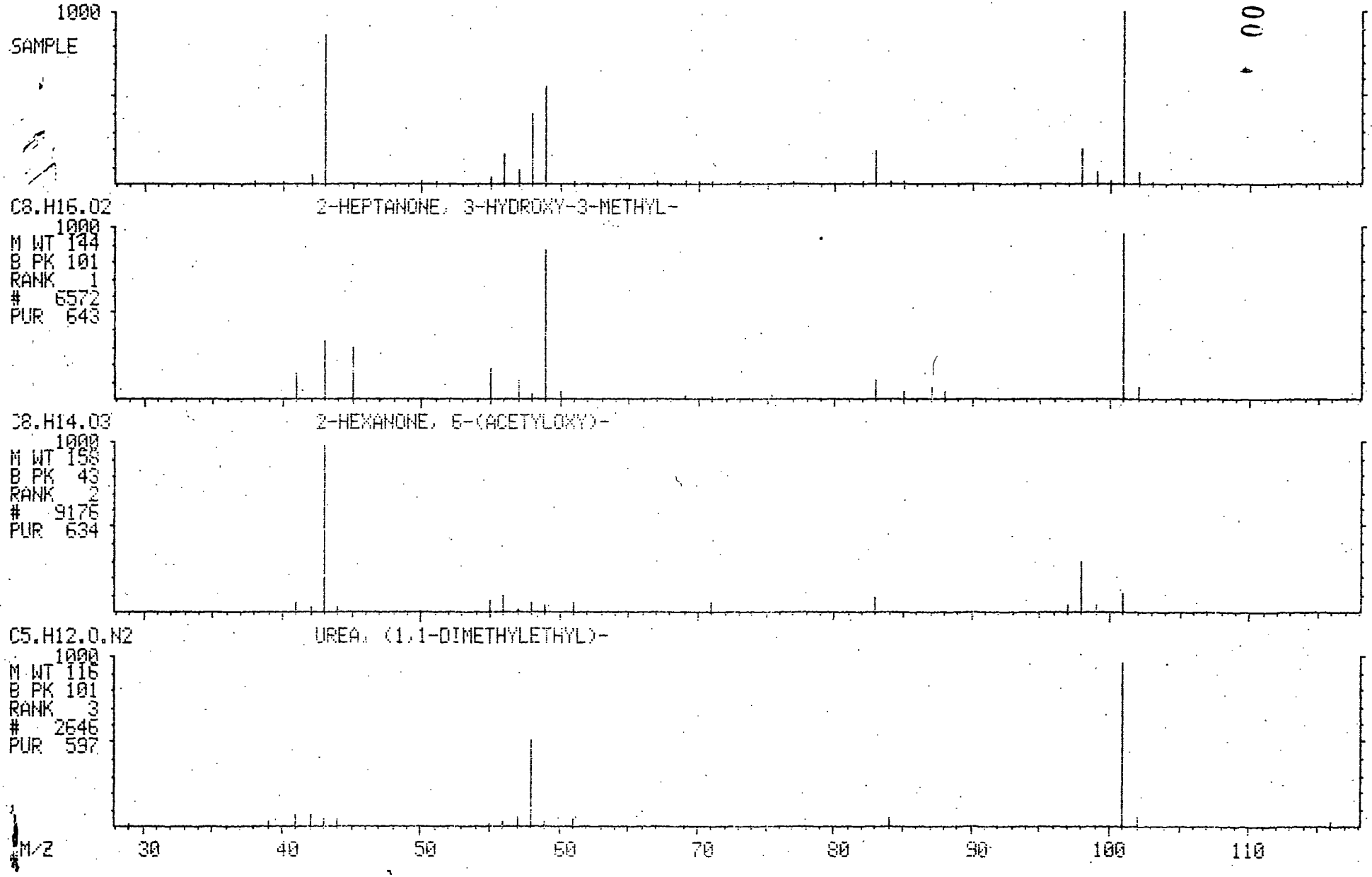


MID LIBRARY SEARCH
06/15/91 21:24:00 + 7:31
SAMPLE: S2 91-13586
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD30513586 # 468
CALI: AD30513586 # 2

BASE M/Z: 101
RIC: 335359.

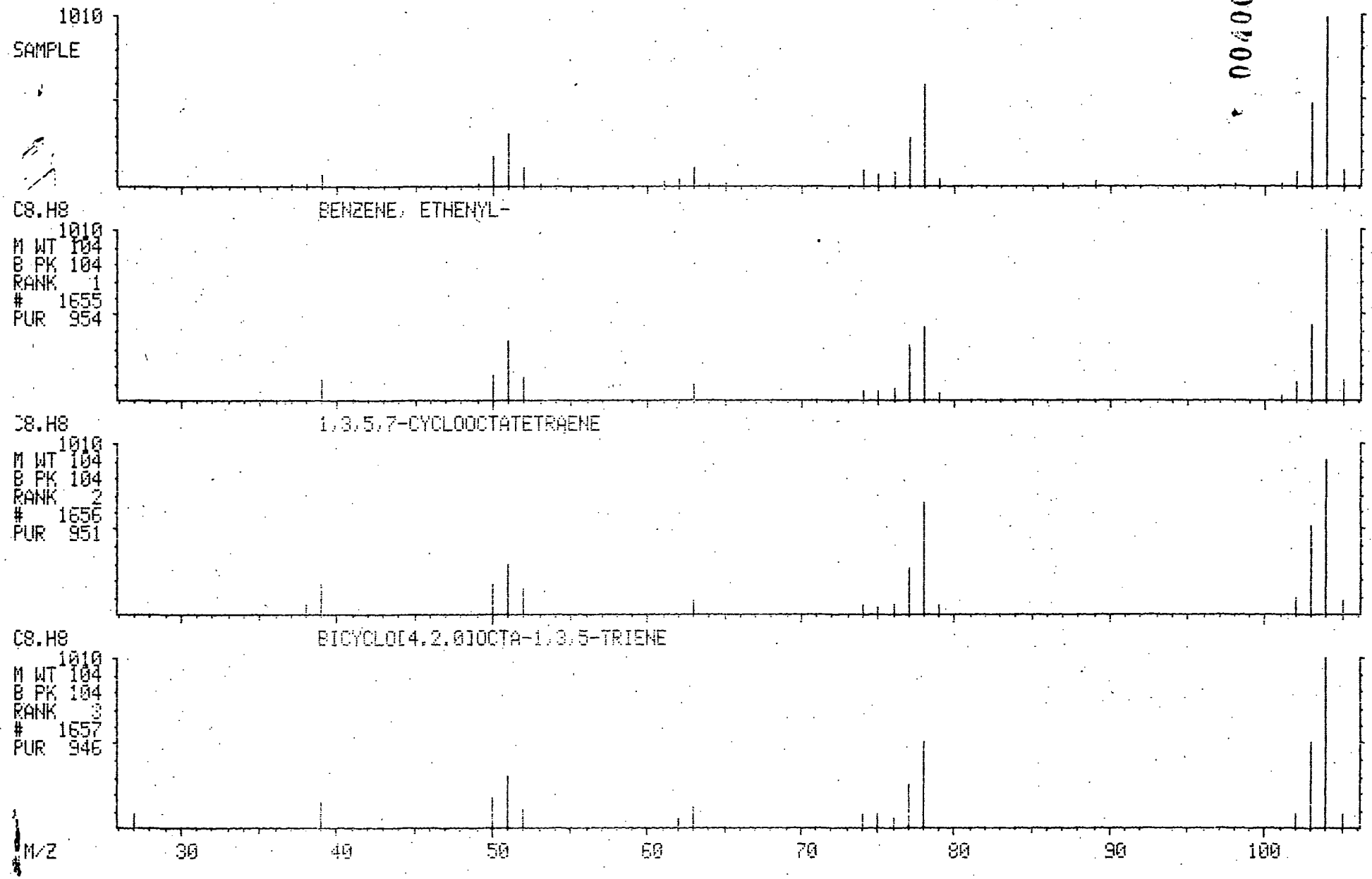
00398



MID LIBRARY SEARCH
06/15/91 21:24:00 + 8:29
SAMPLE: S2 91-13586
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD30S13586 # 528
CALI: AD30S13586 # 2

BASE M/Z: 104
RIC: 21439.

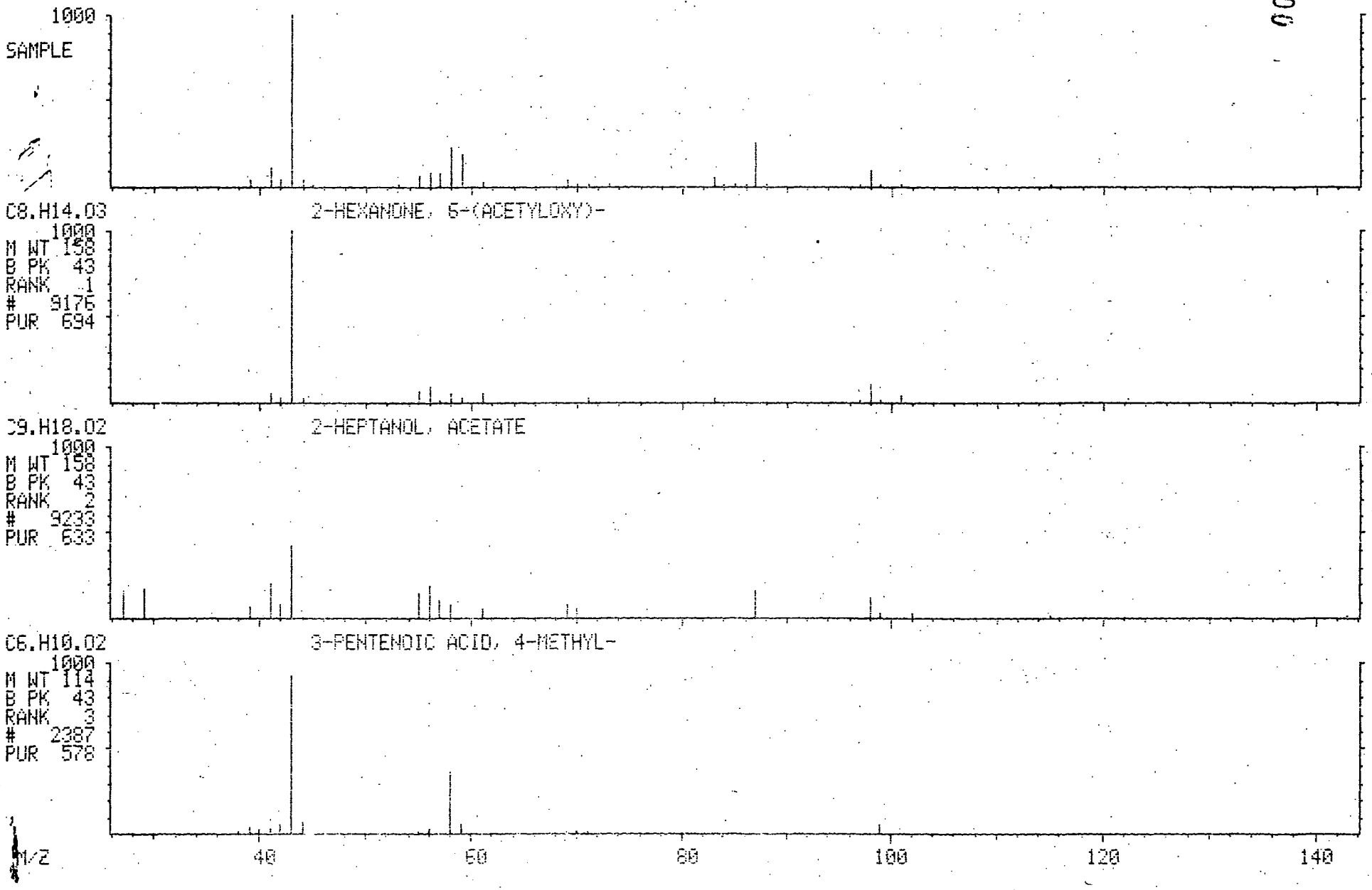


00400

MID LIBRARY SEARCH
06/15/91 21:24:00 + 8:59
SAMPLE: S2 91-13586
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 158 2N 0T)

DATA: AD30513586 # 559 BASE M/Z: 43
CALI: AD30513586 # 2 RIC: 82943.

00402

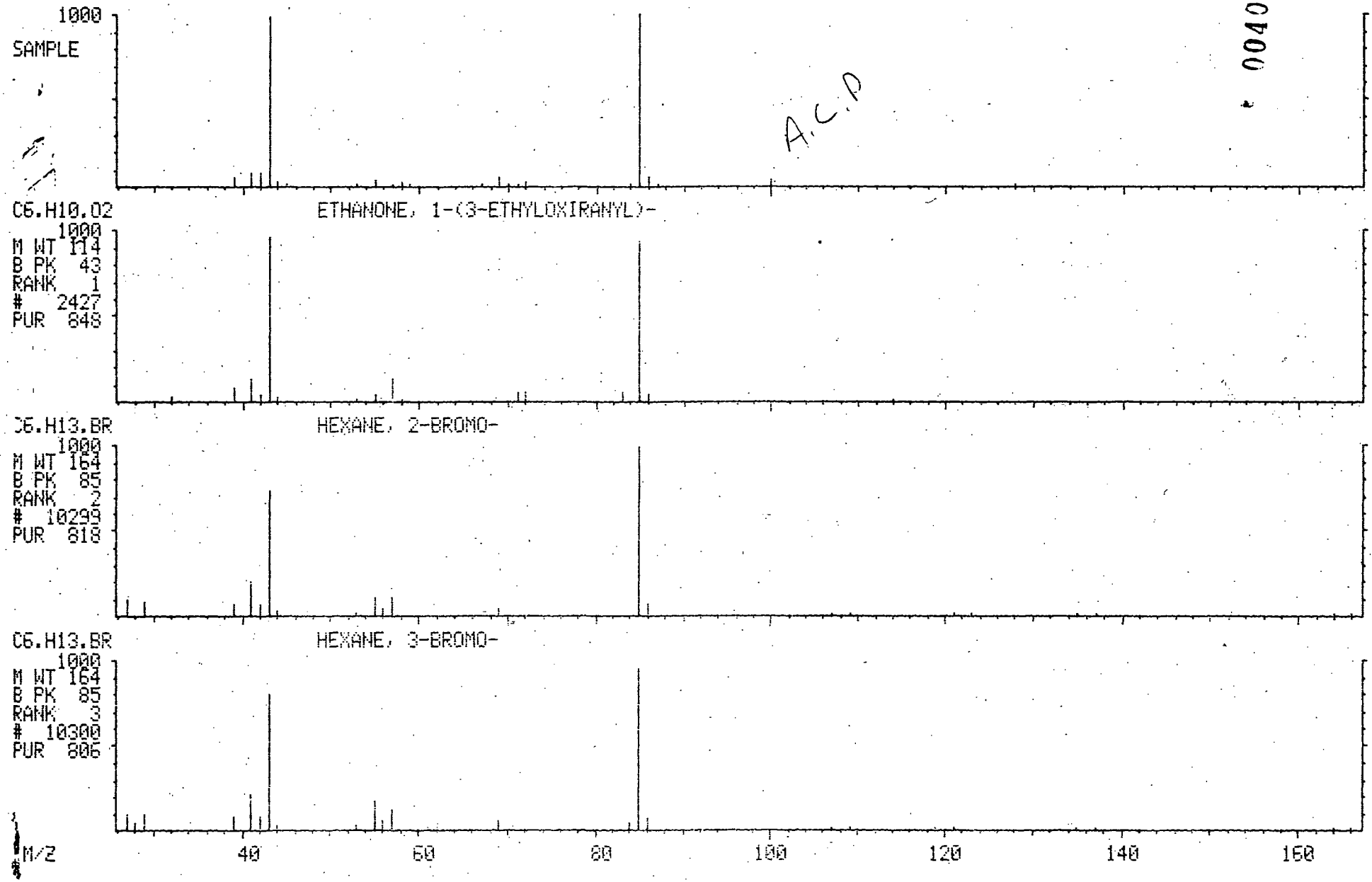


MID LIBRARY SEARCH
06/15/91 21:24:00 + 9:20
SAMPLE: S2 91-13586
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD30513586 # 581 BASE M/Z: 85
CALI: AD30513586 # 2 RIC: 28447.

A.C.P

00404



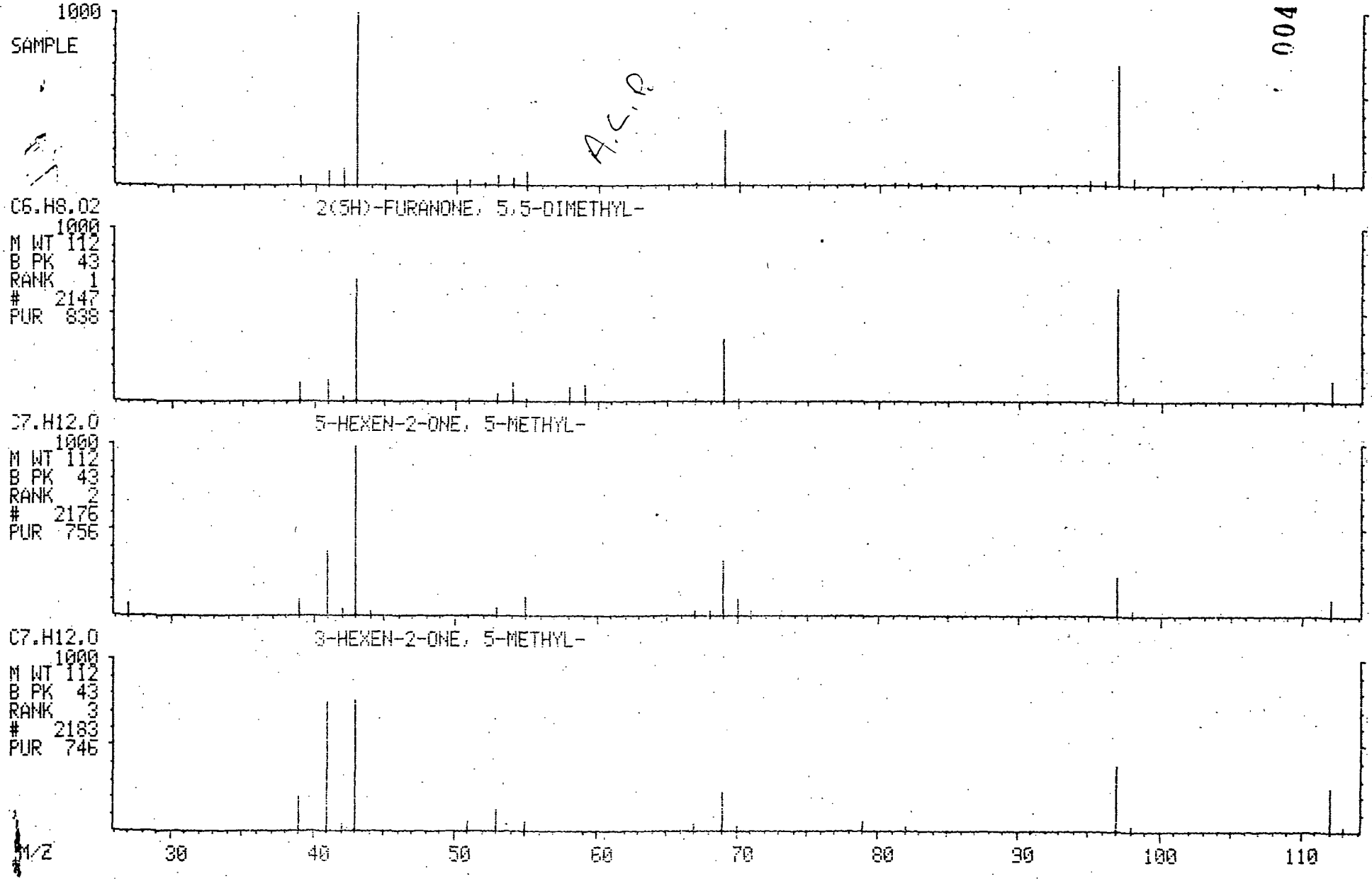
MID LIBRARY SEARCH
06/15/91 21:24:00 + 9:36
SAMPLE: S2 91-13586
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD30513586 # 597
CALI: AD30513586 # 2

BASE M/Z: 43
RIC: 18207.

00406

A.L.P.



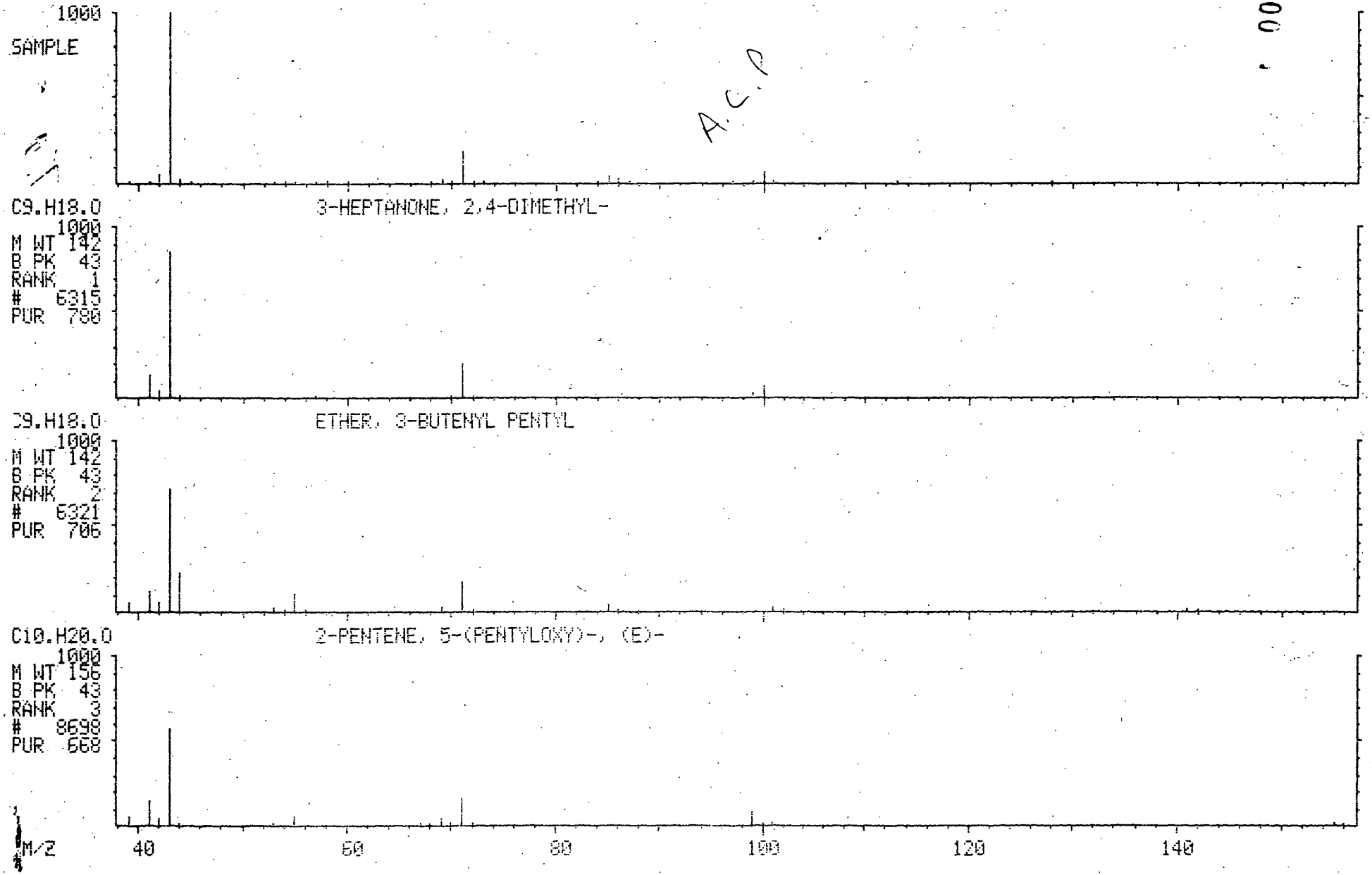
MID LIBRARY SEARCH
06/15/91 21:24:00 + 10:31
SAMPLE: S2 91-13586
CONDS.: MS-B CASE: EDH0022
ENHANCED (S 15B 2N 0T)

DATA: AD30513586 # 654
CALI: AD30513586 # 2

BASE M/Z: 43
RIC: 38783.

00408

A.C.P

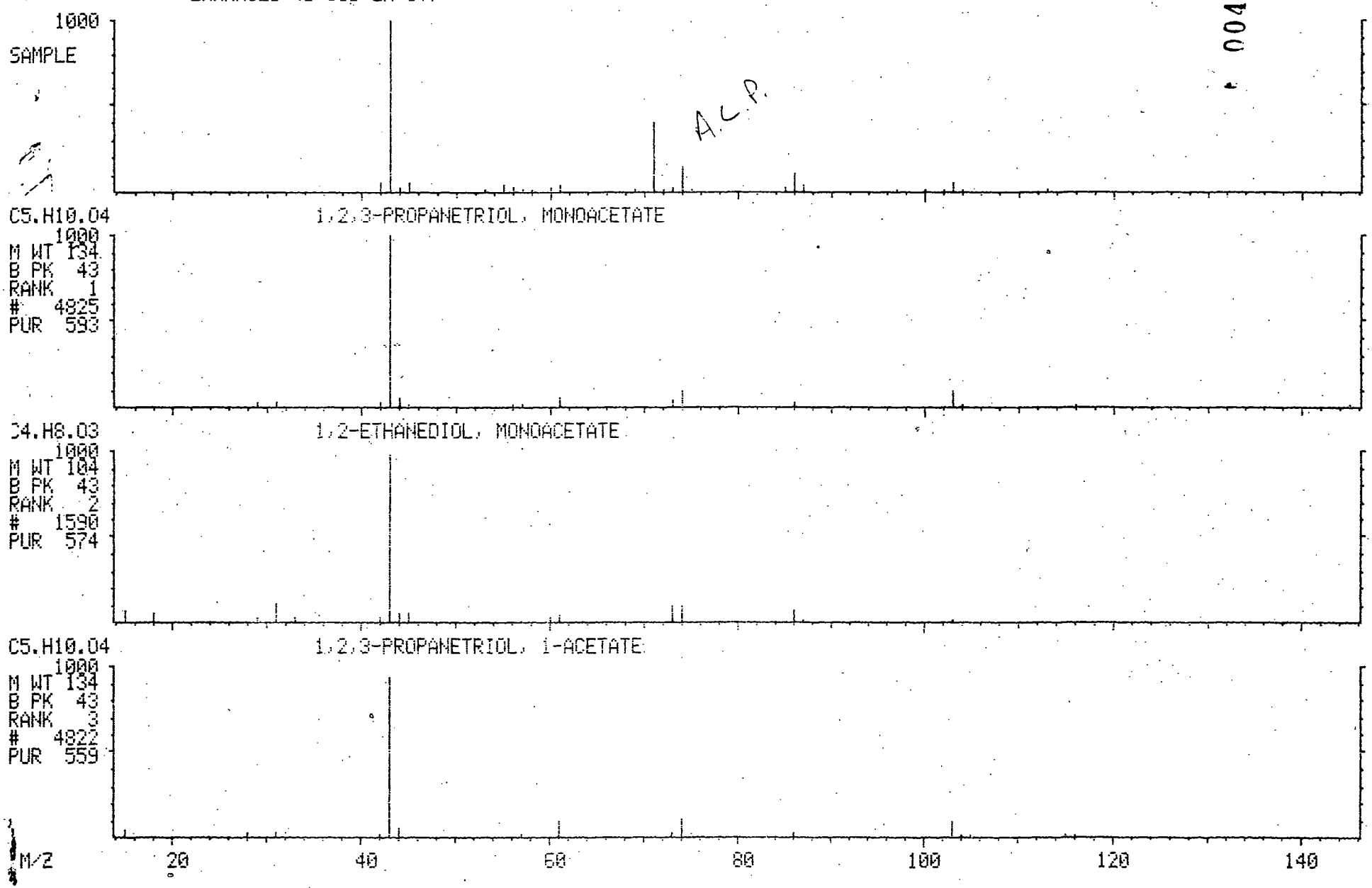


MID LIBRARY SEARCH
06/15/91 21:24:00 + 11:47
SAMPLE: S2 91-13586
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD30513586 # 733
CALI: AD30513586 # 2

BASE M/Z: 43
RIC: 81151.

00410



MID LIBRARY SEARCH
06/15/91 21:24:00 + 22:14
SAMPLE: S2 91-13586
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD30513586 #1383
CALI: AD30513586 # 2

BASE M/Z: 104
RIC: 18047.

00412

(Substitute Benzene)

1063
SAMPLE

C16.H16 BENZENE, 1,1'-(1,2-CYCLOBUTANEDIYL)BIS-, TRANS-
1063
M WT 208
B PK 104
RANK 1
17898
PUR 939

C16.H16 BENZENE, 1,1'-(1,2-CYCLOBUTANEDIYL)BIS-, CIS-
1063
M WT 208
B PK 104
RANK 2
17896
PUR 921

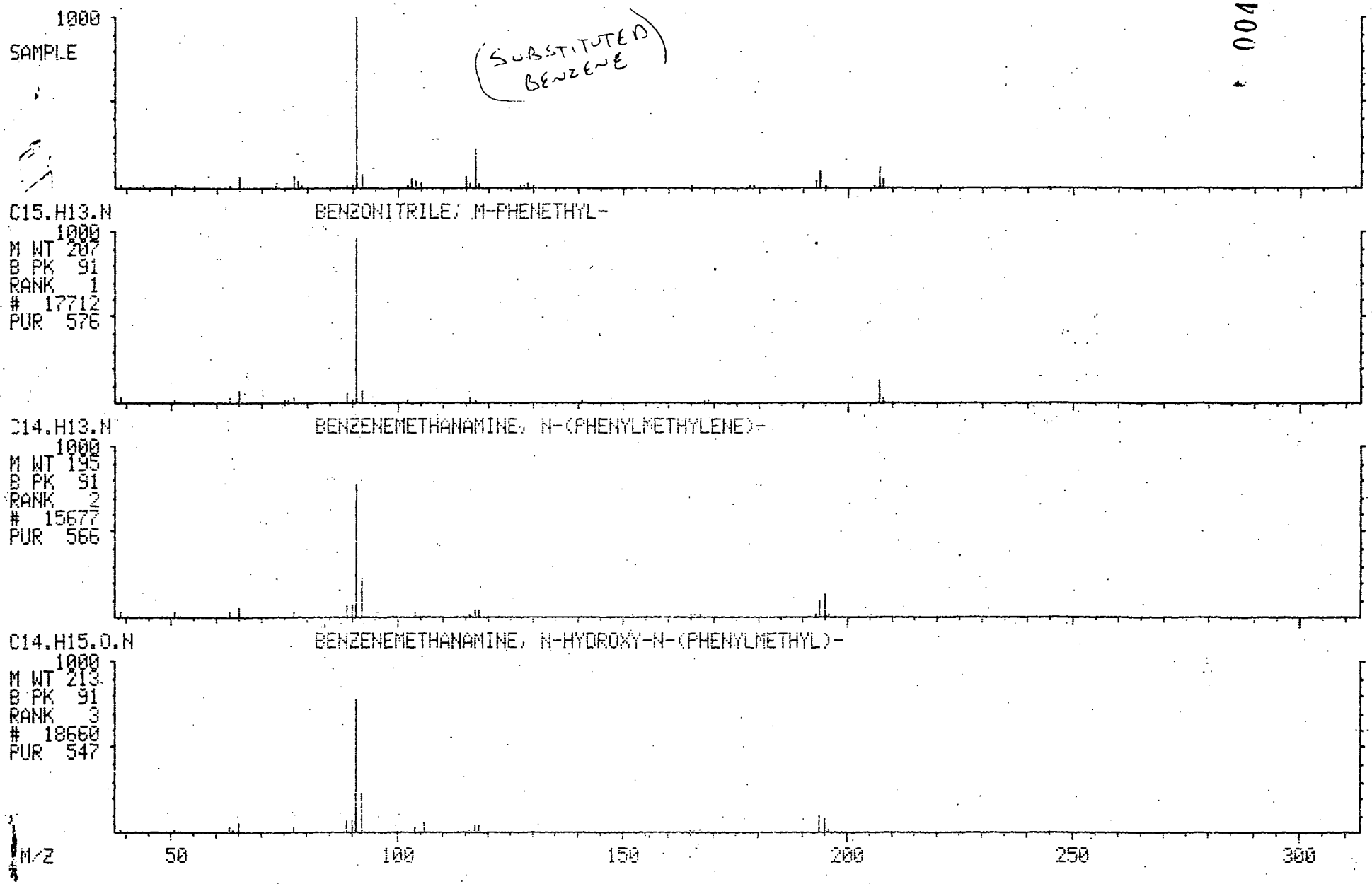
C16.H16 CYCLOBUTANE, 1,3-DIPHENYL-, TRANS-
1063
M WT 208
B PK 104
RANK 3
17899
PUR 842

M/Z 40 60 80 100 120 140 160 180 200

MID LIBRARY SEARCH
06/15/91 21:24:00 + 29:15
SAMPLE: S2 91-13586
CONDS.: MS-B CASE: EDH0022
ENHANCED (S 15B 2N 0T)

DATA: AD30513586 #1819 BASE M/Z: 91
CALI: AD30513586 # 2 RIC: 12359.

00414

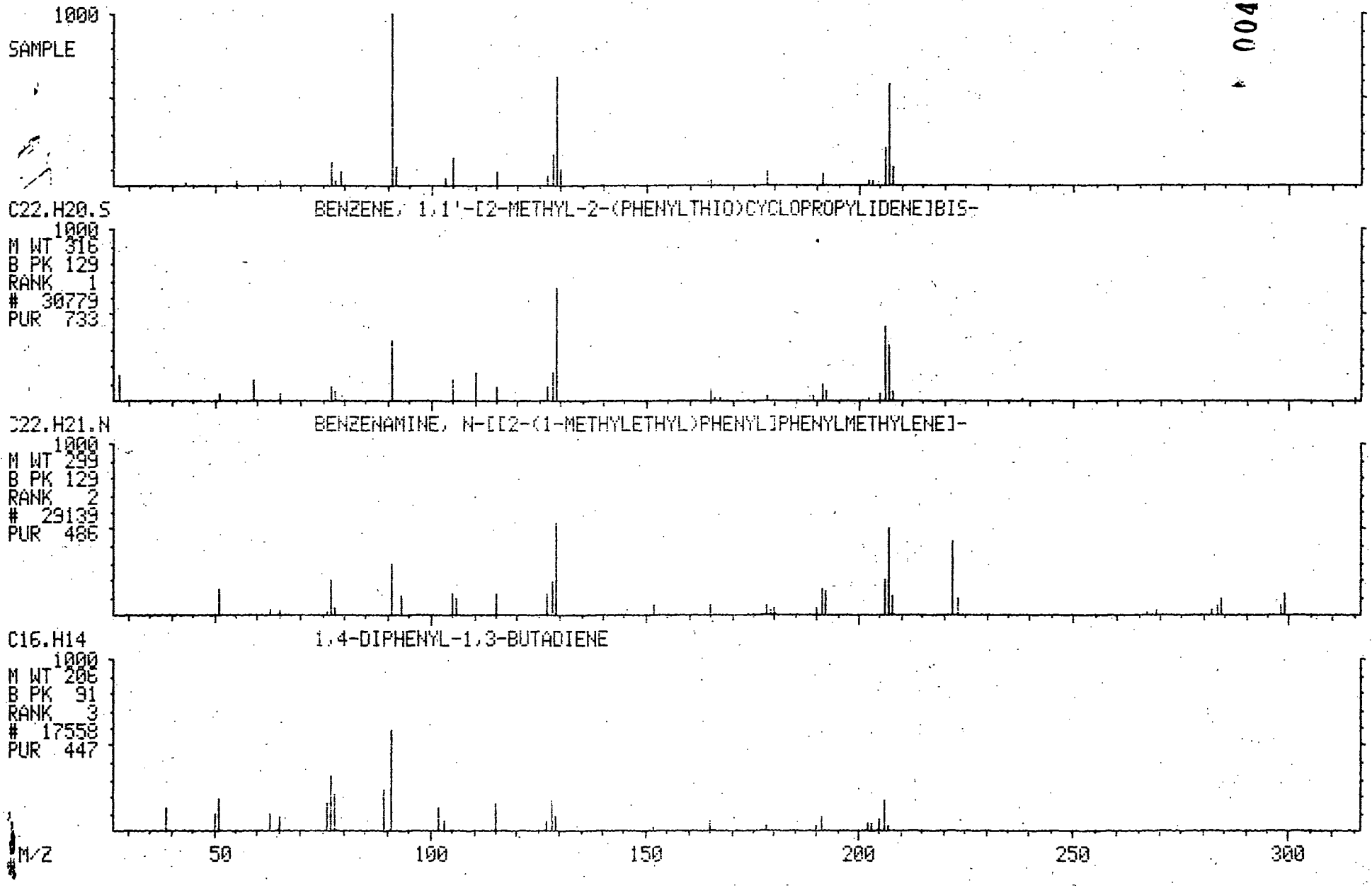


MID LIBRARY SEARCH
06/15/91 21:24:00 + 30:22
SAMPLE: S2 91-13586
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD30513586 #1889
CALI: AD30513586 # 2

BASE M/Z: 91
RIC: 4567.

00416

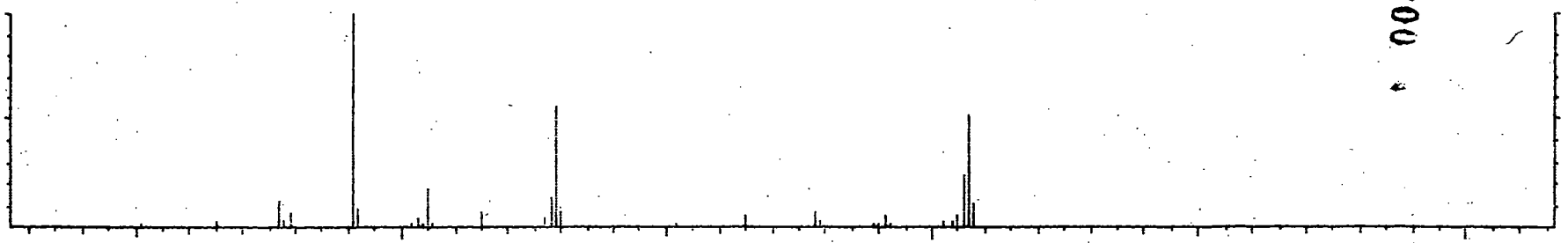


MID LIBRARY SEARCH
06/15/91 21:24:00 + 30:07
SAMPLE: S2 91-13586
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD30513586 #1873 BASE M/Z: 91
CALI: AD30513586 # 2 RIC: 10383.

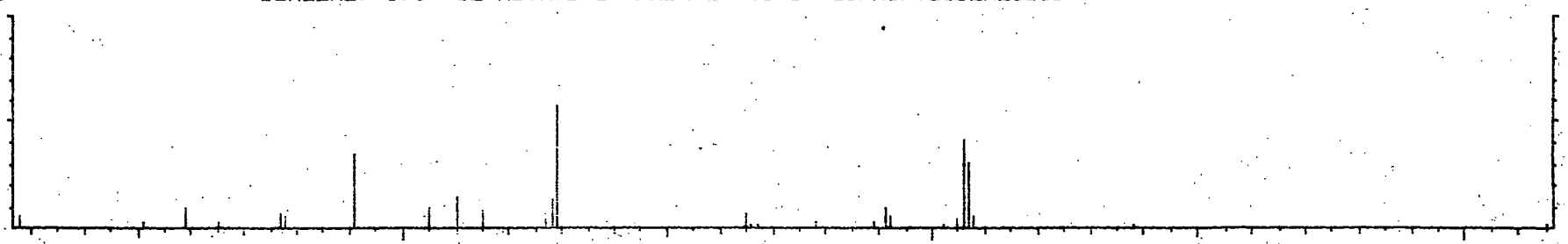
00418

SAMPLE



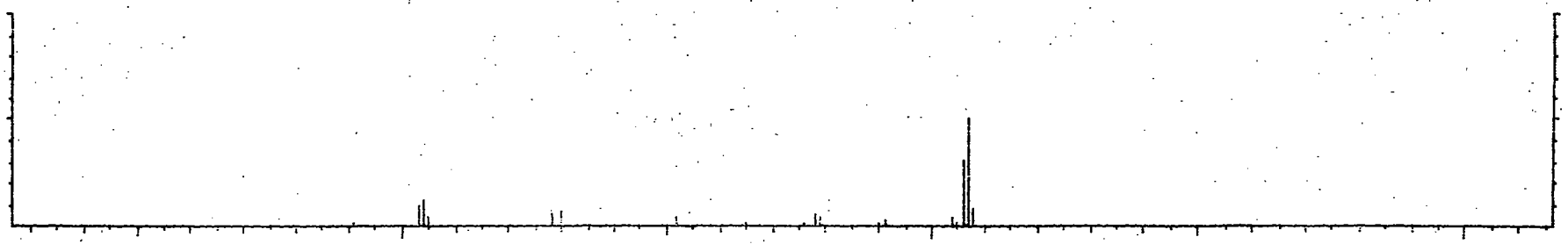
C22.H20.S BENZENE, 1,1'-[2-METHYL-2-(PHENYLTHIO)CYCLOPROPYLIDENE]BIS-

M WT 316
B PK 129
RANK 1
30779
PUR 783



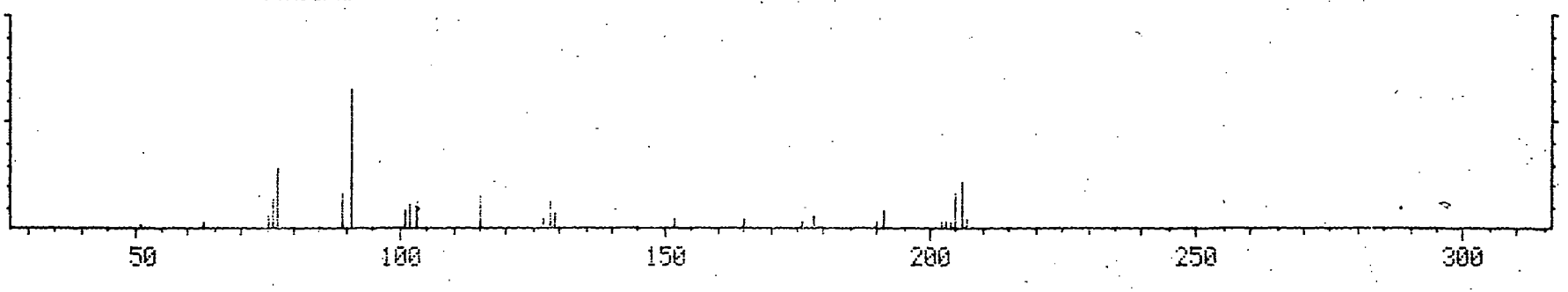
C15.H13.N 1H-INDOLE, 5-METHYL-2-PHENYL-

M WT 207
B PK 207
RANK 2
17711
PUR 555



C16.H14 BENZENE, 1,1'-(1-CYCLOBUTENE-1,2-DIYL)BIS-

M WT 206
B PK 91
RANK 3
17561
PUR 521



M/Z 50 100 150 200 250 300

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S3

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H002 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13587

Sample wt/vol: 30 (g/mL) G Lab File ID: AD22513587

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 14. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	380.	u
111-44-4	bis(2-Chloroethyl)ether	380.	u
95-57-8	2-Chlorophenol	380.	u
541-73-1	1,3-Dichlorobenzene	380.	u
106-46-7	1,4-Dichlorobenzene	380.	u
100-51-6	Benzyl alcohol	380.	u
95-50-1	1,2-Dichlorobenzene	380.	u
95-48-7	2-Methylphenol	380.	u
108-60-1	bis(2-Chloroisopropyl)ether	380.	u
106-44-5	4-Methylphenol	380.	u
621-64-7	N-Nitroso-di-n-propylamine	380.	u
67-72-1	Hexachloroethane	380.	u
98-95-3	Nitrobenzene	380.	u
78-59-1	Isophorone	380.	u
88-75-5	2-Nitrophenol	380.	u
105-67-9	2,4-Dimethylphenol	380.	u
65-85-0	Benzoic acid	1900.	u
111-91-1	bis(2-Chloroethoxy)methane	380.	u
120-83-2	2,4-Dichlorophenol	380.	u
120-82-1	1,2,4-Trichlorobenzene	380.	u
91-20-3	Naphthalene	380.	u
106-47-8	4-Chloroaniline	380.	u
87-68-3	Hexachlorobutadiene	380.	u
59-50-7	4-Chloro-3-methylphenol	380.	u
91-57-6	2-Methylnaphthalene	380.	u
77-47-4	Hexachlorocyclopentadiene	380.	u
88-06-2	2,4,6-Trichlorophenol	380.	u
95-95-4	2,4,5-Trichlorophenol	1900.	u
91-58-7	2-Chloronaphthalene	380.	u
88-74-4	2-Nitroaniline	1900.	u
131-11-3	Dimethylphthalate	380.	u
208-96-8	Acenaphthylene	380.	u
606-20-2	2,6-Dinitrotoluene	380.	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S3

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: 91-3022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13587

Sample wt/vol: 30 (g/ml) G Lab File ID: AD22513587

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 14. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1900.	U
83-32-9	Acenaphthene	380.	U
51-28-5	2,4-Dinitrophenol	1900.	U
100-02-7	4-Nitrophenol	1900.	U
132-64-9	Dibenzofuran	380.	U
121-14-2	2,4-Dinitrotoluene	380.	U
84-66-2	Diethylphthalate	380.	U
7005-72-3	4-Chlorophenyl-phenylether	380.	U
86-73-7	Fluorene	380.	U
100-01-6	4-Nitroaniline	1900.	U
534-52-1	4,6-Dinitro-2-methylphenol	1900.	U
86-30-6	N-Nitrosodiphenylamine (1)	380.	U
101-55-3	4-Bromophenyl-phenylether	380.	U
118-74-1	Hexachlorobenzene	380.	U
87-86-5	Pentachlorophenol	1900.	U
85-01-8	Phenanthrene	190.	J
120-12-7	Anthracene	380.	U
84-74-2	Di-n-butylphthalate	380.	U
206-44-0	Fluoranthene	310.	J
129-00-0	Pyrene	380.	U
85-68-7	Butylbenzylphthalate	380.	U
91-94-1	3,3'-Dichlorobenzidine	770.	U
56-55-3	Benzo(a)anthracene	140.	J
218-01-9	Chrysene	180.	J
117-81-7	bis(2-Ethylhexyl)phthalate	210.	JB
117-84-0	Di-n-octylphthalate	380.	U
205-99-2	Benzo(b)fluoranthene	380.	U
207-08-9	Benzo(k)fluoranthene	380.	U
50-32-8	Benzo(a)pyrene	380.	U
193-39-5	Indeno(1,2,3-cd)pyrene	380.	U
53-70-3	Dibenz(a,h)anthracene	380.	U
191-24-2	Benzo(g,h,i)perylene	380.	U

← NO QUALIFIER

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S3

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0400022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13587

Sample wt/vol: 30 (g/mL) G Lab File ID: AD22S13587

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 14. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 6.0 Dilution Factor: 1.0

Number TICs found: 8

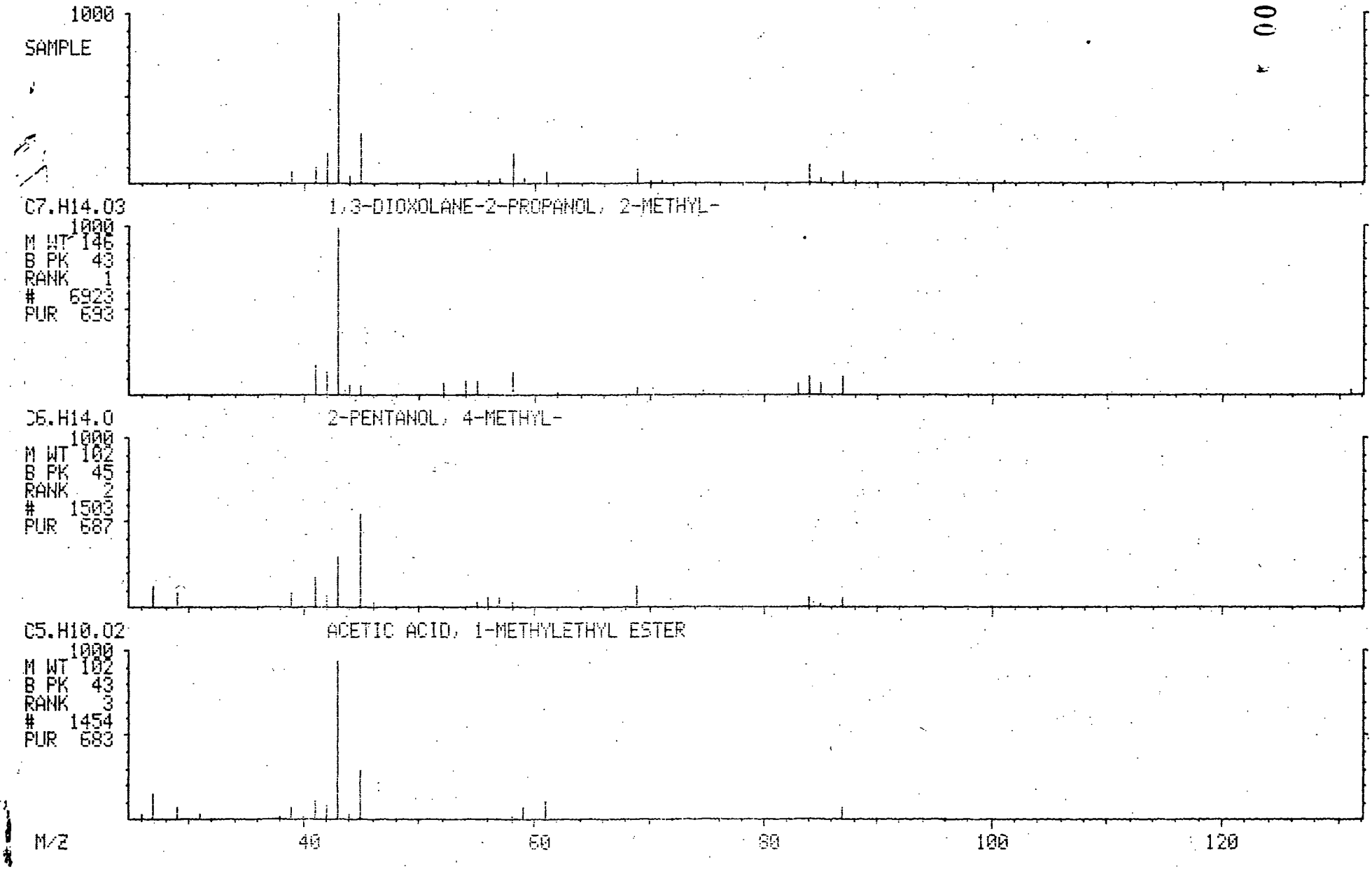
CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL CONDENSATION PRODUCT	6:42	6500	AJB
2.		ALDOL CONDENSATION PRODUCT	7:03	450	AJB
3.		ALDOL CONDENSATION PRODUCT	7:29	57,000	AJB
4.		ALDOL CONDENSATION PRODUCT	8:58	1100.	AJB
5.		ALDOL CONDENSATION PRODUCT	9:19	710.	AJ
6.		ALDOL CONDENSATION PRODUCT	9:35	220.	AJ
7.		ALDOL CONDENSATION PRODUCT	11:45	900.	AJ
8.		UNKNOWN PNA	29:42	4300.	AJ
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

MID LIBRARY SEARCH
06/15/91 1:01:00 + 6:42
SAMPLE: S3 91-13587
CONDS.: MS-B CASE: EDH0022
ENHANCED (S 15B 2N 0T)

DATA: AD22S13587 # 417 BASE M/Z: 43
CALI: AD22S13587 # 2 RIC: 57471.

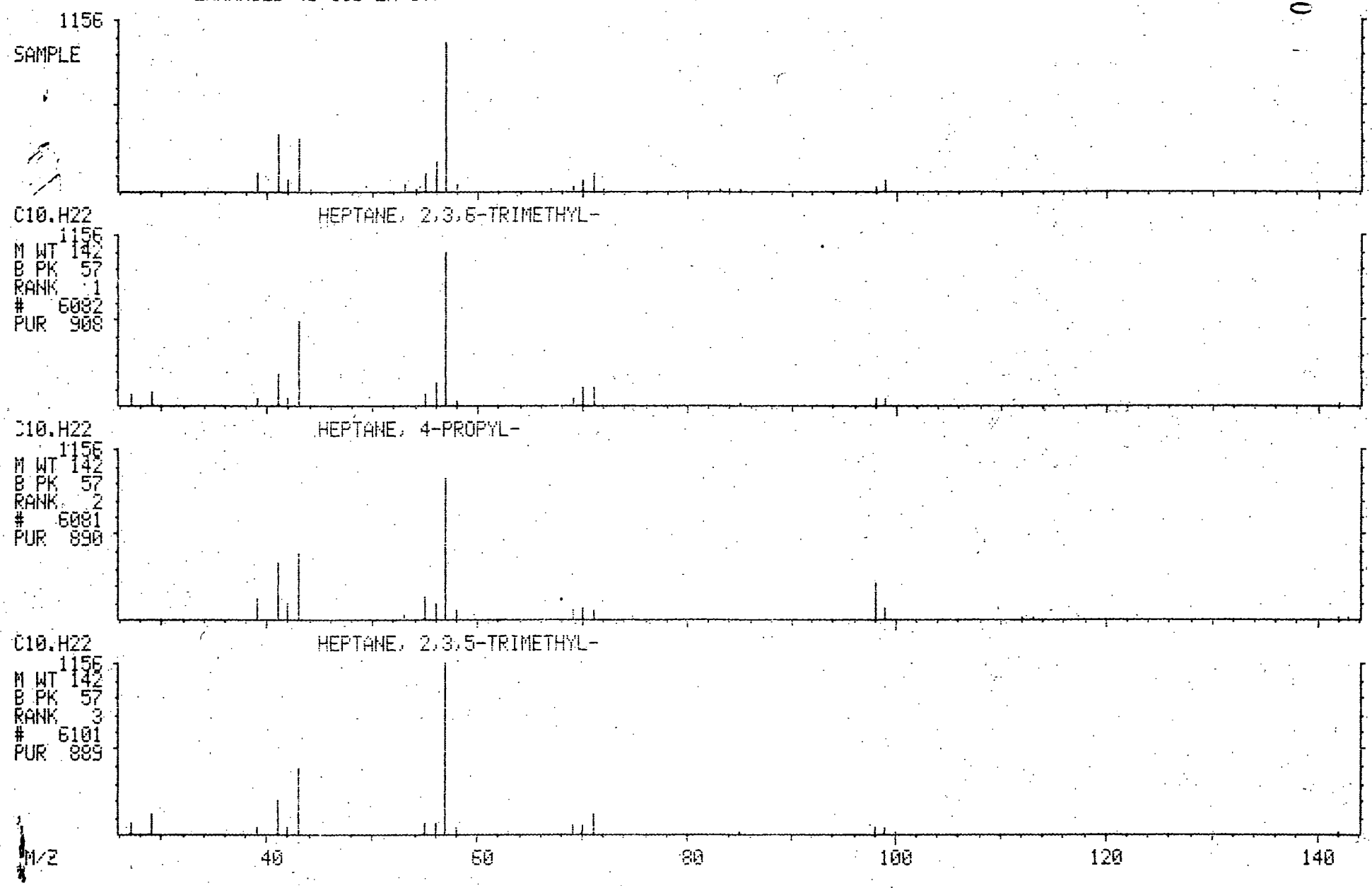
00455



MID LIBRARY SEARCH
06/15/91 1:01:00 + 7:03
SAMPLE: S3 91-13587
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD22513587 # 439 BASE M/Z: 57
CALI: AD22513587 # 2 RIC: 21759.

00457

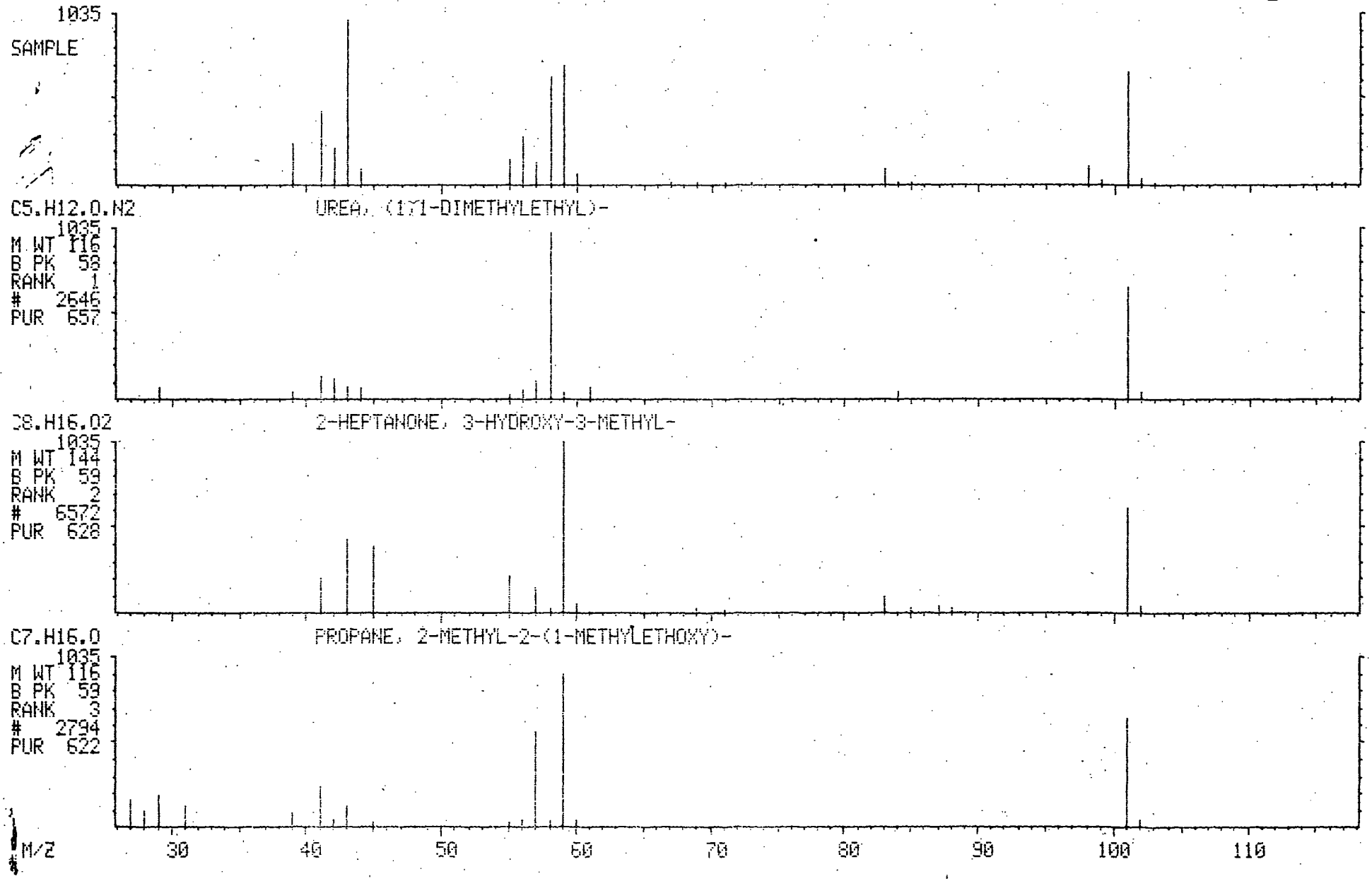


MID LIBRARY SEARCH
06/15/91 1:01:00 + 7:29
SAMPLE: S3 91-13587
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD22S13587 # 466
CALI: AD22S13587 # 2

BASE M/Z: 43
RIC: 335359.

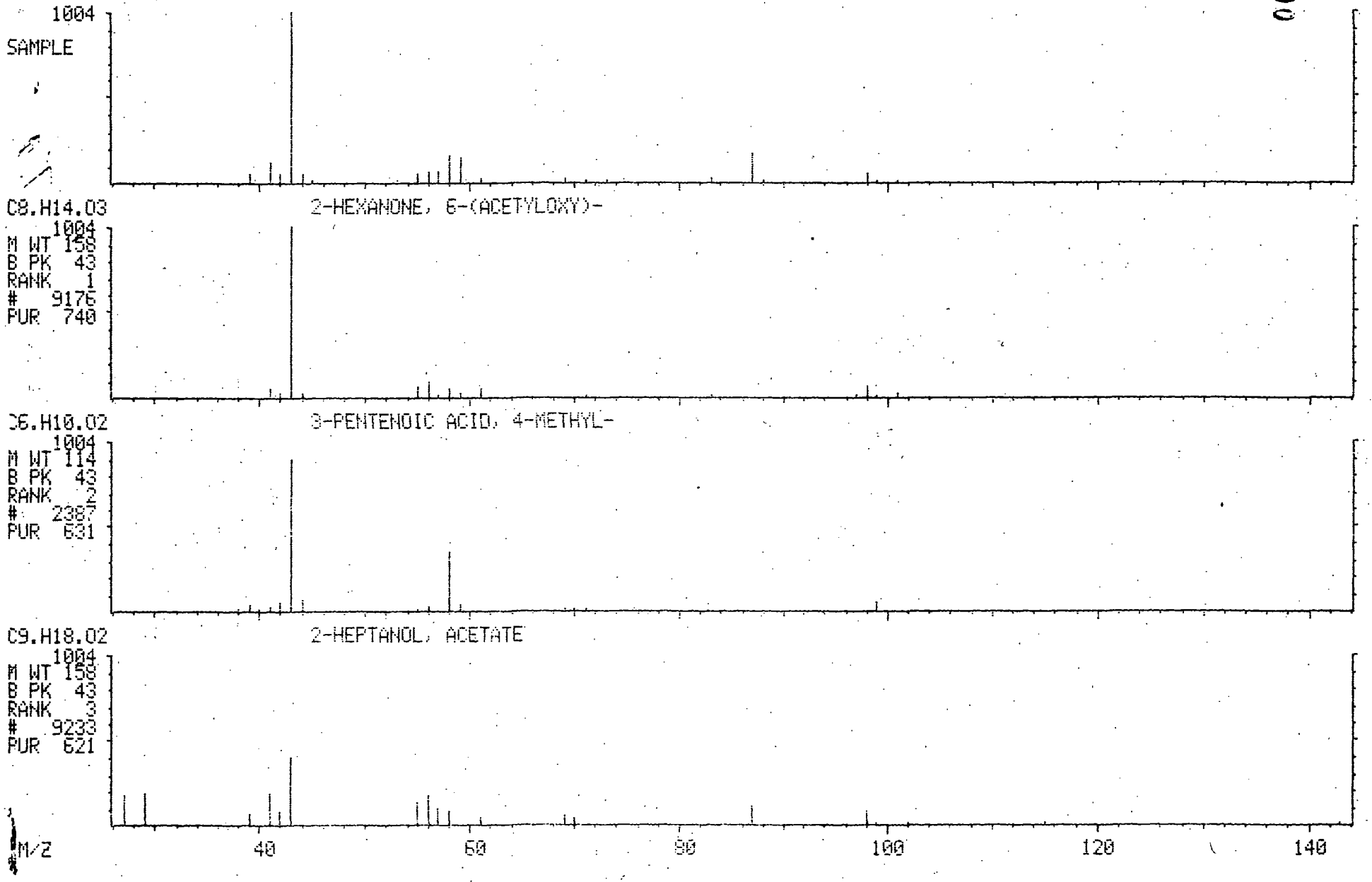
00459



MID LIBRARY SEARCH
06/15/91 1:01:00 + 8:58
SAMPLE: S3 91-13587
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD22513587 # 558 BASE M/Z: 43
CALI: AD22513587 # 2 RIC: 53503.

00461

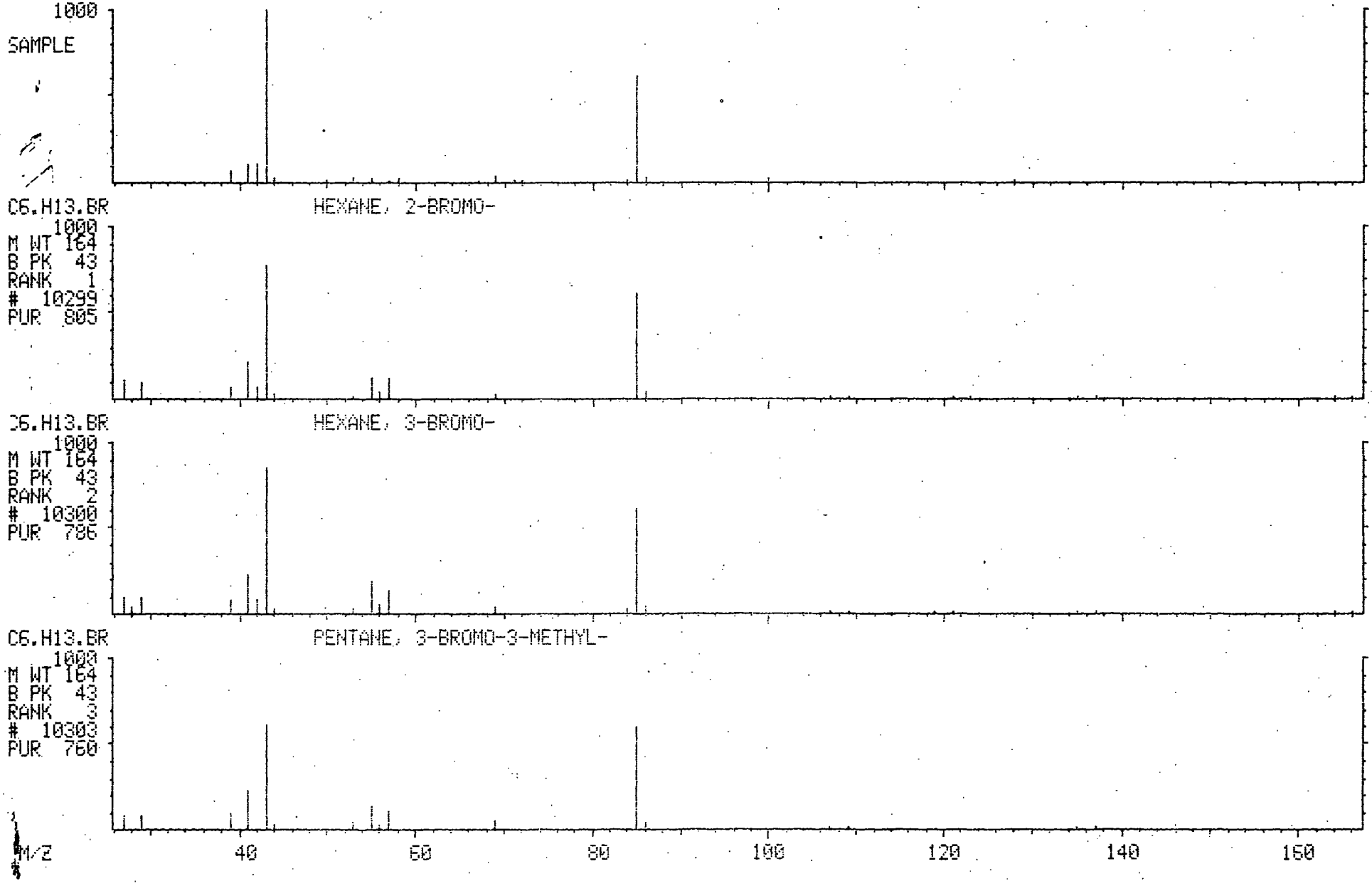


MID LIBRARY SEARCH
06/15/91 1:01:00 + 9:19
SAMPLE: S3 91-13587
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD22513587 # 580
CALI: AD22513587 # 2

BASE M/Z: 43
RIC: 17279.

00463

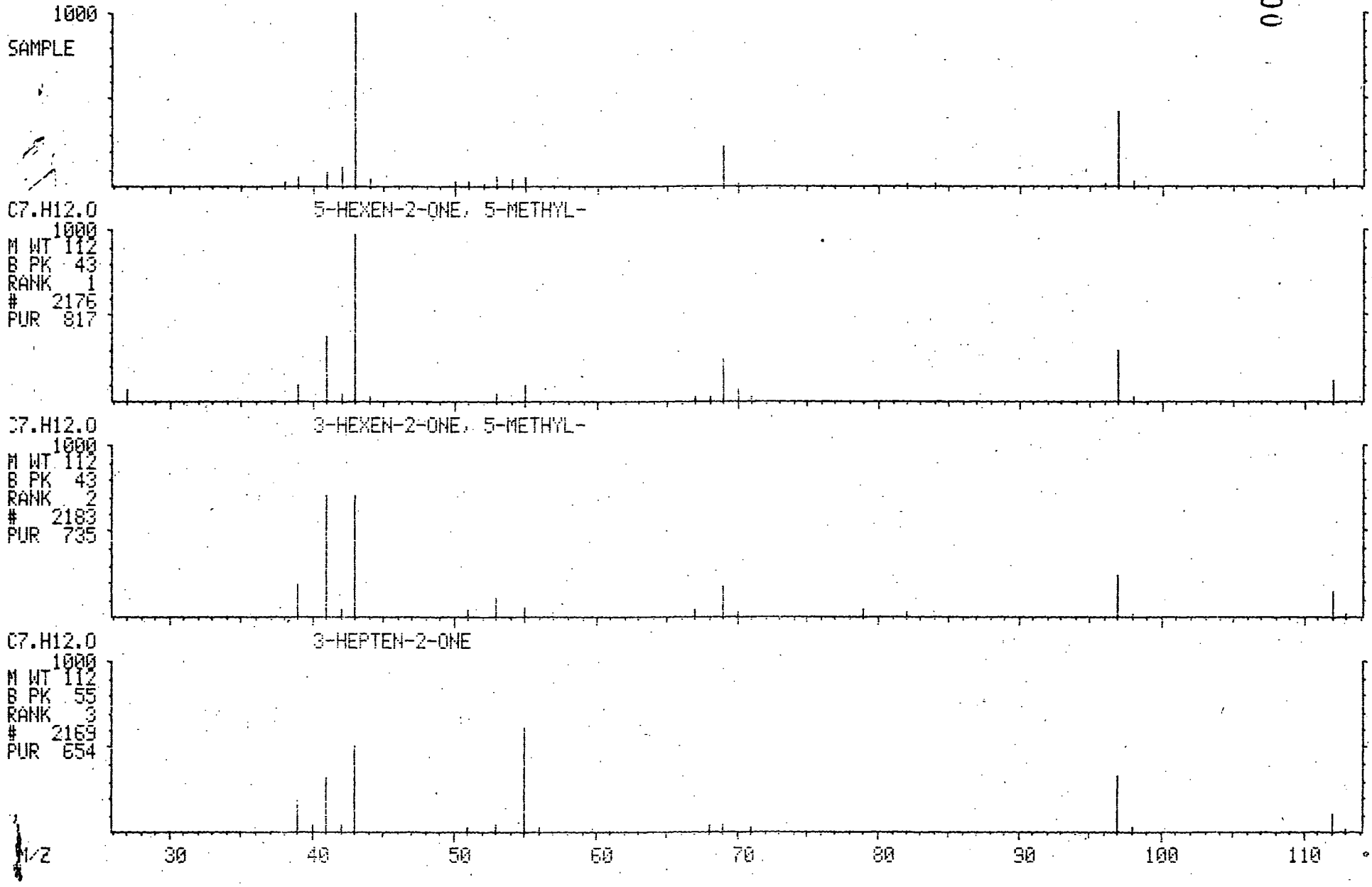


MID LIBRARY SEARCH
06/15/91 1:01:00 + 9:35
SAMPLE: S3 91-13587
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD22S13587 # 596
CALI: AD22S13587 # 2

BASE M/Z: 43
RIC: 11327.

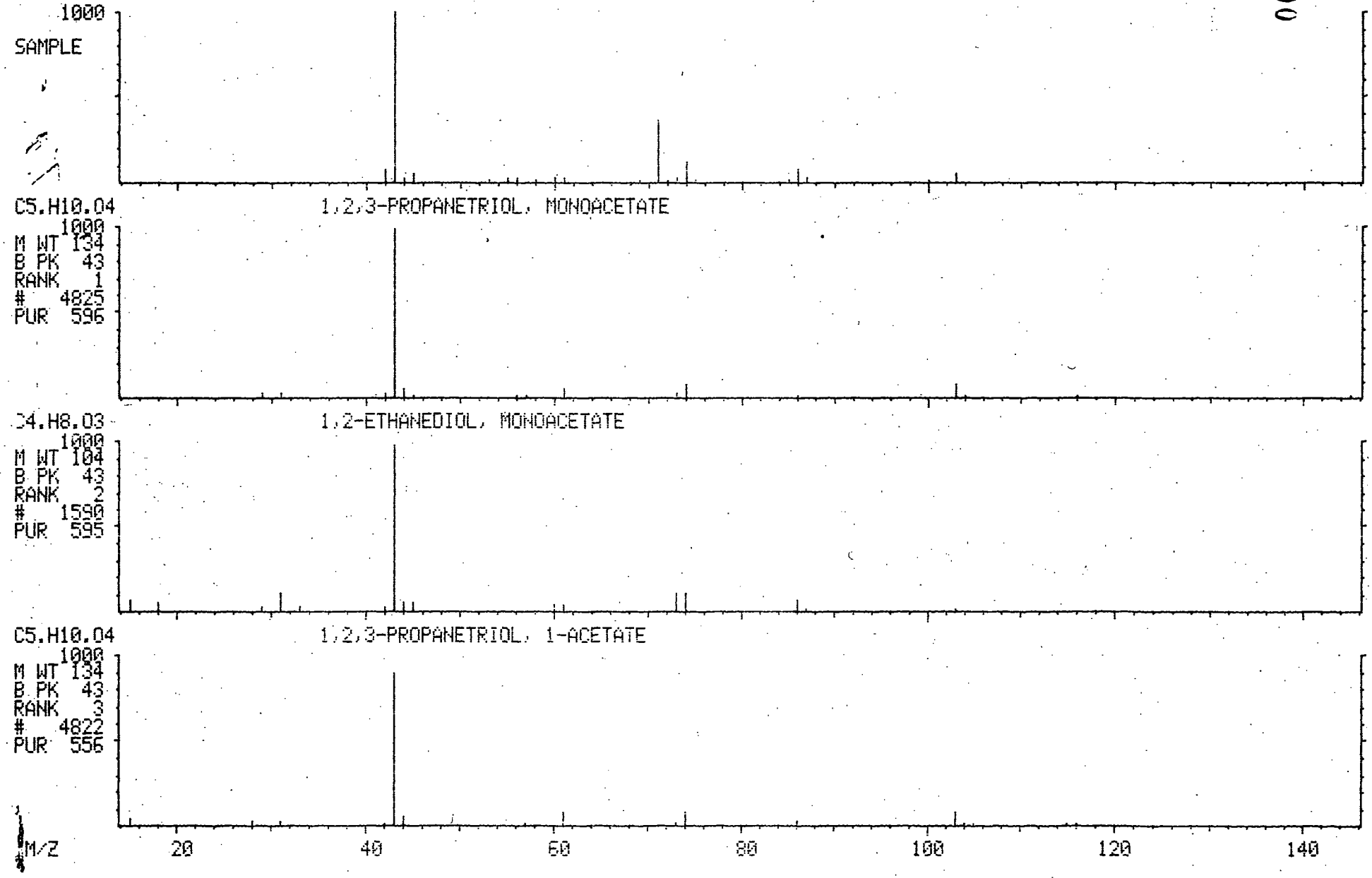
00465



MID LIBRARY SEARCH
06/15/91 1:01:00 + 11:45
SAMPLE: S3 91-13587
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD22513587 # 731 BASE M/Z: 43
CALI: AD22513587 # 2 RIC: 27679.

00467

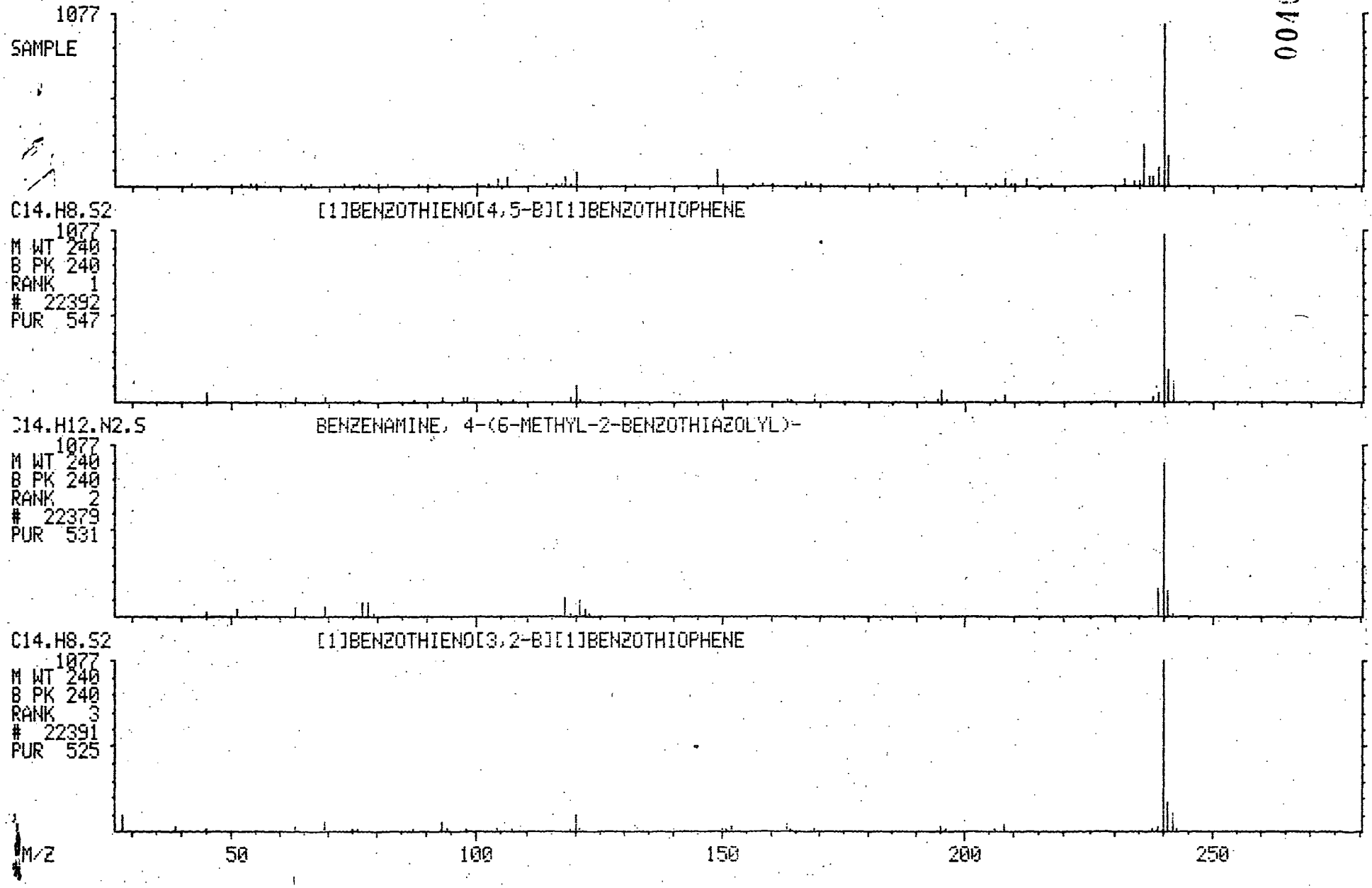


MID LIBRARY SEARCH
06/15/91 1:01:00 + 29:42
SAMPLE: S3 91-13587
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD22513587 #1847
CALI: AD22513587 # 2

BASE M/Z: 240
RIC: 18719.

00469



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S4

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H002 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13588

Sample wt/vol: 30 (g/mL) G Lab File ID: AD32S13588

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 24 Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	430.	u
111-44-4	bis(2-Chloroethyl)ether	430.	u
95-57-8	2-Chlorophenol	430.	u
541-73-1	1,3-Dichlorobenzene	430.	u
106-46-7	1,4-Dichlorobenzene	430.	u
100-51-6	Benzyl alcohol	430.	u
95-50-1	1,2-Dichlorobenzene	430.	u
95-48-7	2-Methylphenol	430.	u
108-60-1	bis(2-Chloroisopropyl)ether	430.	u
106-44-5	4-Methylphenol	430.	u
621-64-7	N-Nitroso-di-n-propylamine	430.	u
67-72-1	Hexachloroethane	430.	u
98-95-3	Nitrobenzene	430.	u
78-59-1	Isophorone	430.	u
88-75-5	2-Nitrophenol	430.	u
105-67-9	2,4-Dimethylphenol	430.	u
65-85-0	Benzoic acid	2100.	u
111-91-1	bis(2-Chloroethoxy)methane	430.	u
120-83-2	2,4-Dichlorophenol	430.	u
120-82-1	1,2,4-Trichlorobenzene	430.	u
91-20-3	Naphthalene	430.	u
106-47-8	4-Chloroaniline	430.	u
87-68-3	Hexachlorobutadiene	430.	u
59-50-7	4-Chloro-3-methylphenol	430.	u
91-57-6	2-Methylnaphthalene	430.	u
77-47-4	Hexachlorocyclopentadiene	430.	u
88-06-2	2,4,6-Trichlorophenol	430.	u
95-95-4	2,4,5-Trichlorophenol	2100.	u
91-58-7	2-Chloronaphthalene	430.	u
88-74-4	2-Nitroaniline	2100.	u
131-11-3	Dimethylphthalate	430.	u
208-96-8	Acenaphthylene	430.	u
606-20-2	2,6-Dinitrotoluene	430.	u

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S4

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: EOH0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13588

Sample wt/vol: 30 (g/mL) G Lab File ID: AD32S13588

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 24. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2100.	u
83-32-9	Acenaphthene	430.	u
51-28-5	2,4-Dinitrophenol	2100.	u
100-02-7	4-Nitrophenol	2100.	u
132-64-9	Dibenzofuran	430.	u
121-14-2	2,4-Dinitrotoluene	430.	u
84-66-2	Diethylphthalate	430.	u
7005-72-3	4-Chlorophenyl-phenylether	430.	u
86-73-7	Fluorene	430.	
100-01-6	4-Nitroaniline	2100.	u
534-52-1	4,6-Dinitro-2-methylphenol	2100.	u
86-30-6	N-Nitrosodiphenylamine (1)	430.	u
101-55-3	4-Bromophenyl-phenylether	430.	u
118-74-1	Hexachlorobenzene	430.	u
87-86-5	Pentachlorophenol	2100.	u
85-01-8	Phenanthrene	230.	J
120-12-7	Anthracene	430.	
84-74-2	Di-n-butylphthalate	430.	
206-44-0	Fluoranthene	530.	
129-00-0	Pyrene	490.	
85-68-7	Butylbenzylphthalate	430.	u
91-94-1	3,3'-Dichlorobenzidine	870.	u
56-55-3	Benzo(a)anthracene	430.	u
218-01-9	Chrysene	290.	J
117-81-7	bis(2-Ethylhexyl)phthalate	440.	B
117-84-0	Di-n-octylphthalate	430.	u
205-99-2	Benzo(b)fluoranthene	490.	
207-08-9	Benzo(k)fluoranthene	430.	u
50-32-8	Benzo(a)pyrene	280.	J
193-39-5	Indeno(1,2,3-cd)pyrene	430.	u
53-70-3	Dibenz(a,h)anthracene	430.	u
191-24-2	Benzo(g,h,i)perylene	430.	u

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S4

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E040022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13588

Sample wt/vol: 30 (g/mL) G Lab File ID: AD32S13588

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 24. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

Number TICs found: 8

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

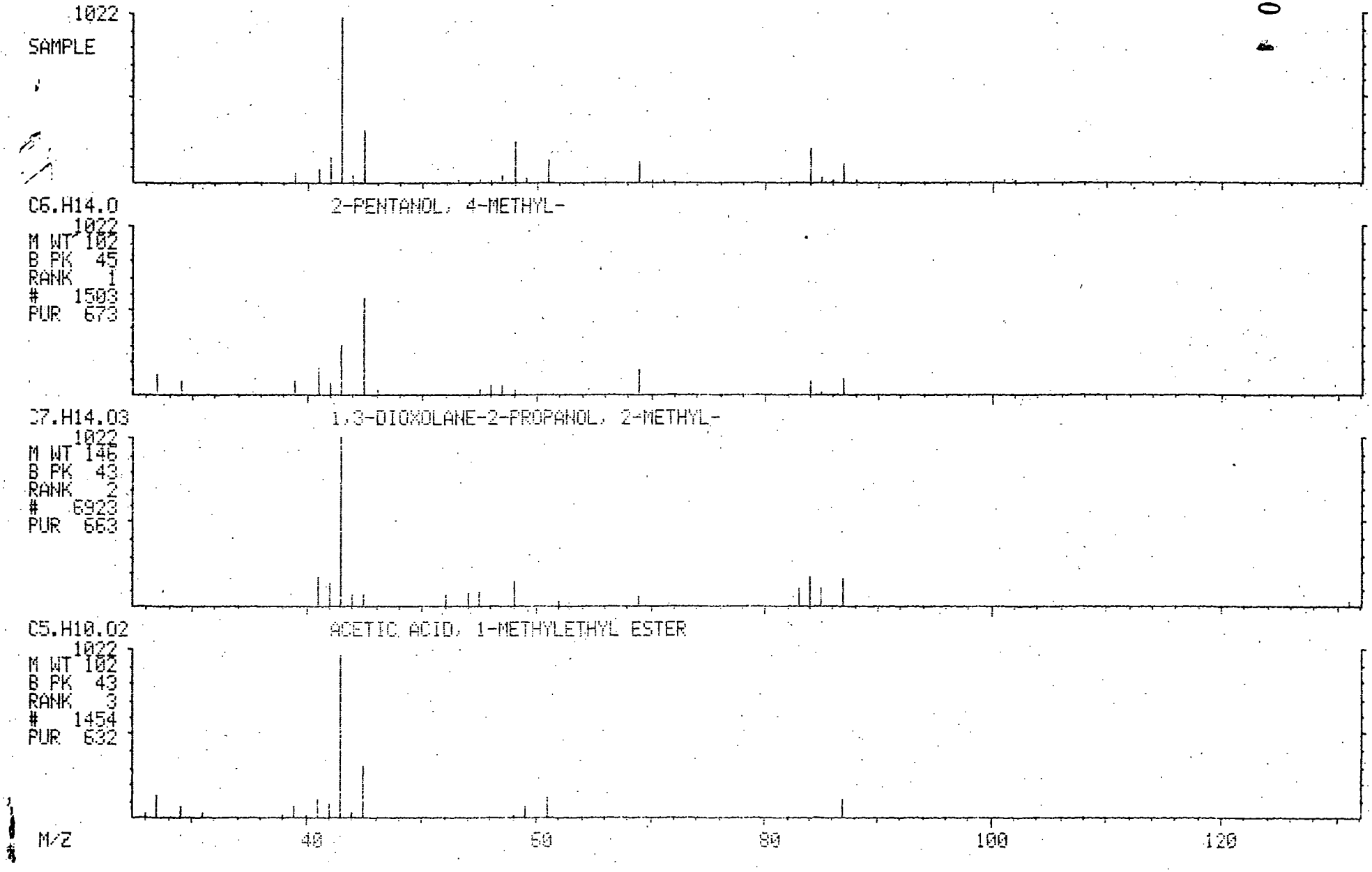
	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL CONDENSATION PRODUCT	6:38	5600.	AJB
2.		ALDOL CONDENSATION PRODUCT	7:24	59000.	AJB
3.		ALDOL CONDENSATION PRODUCT	8:53	1200.	AJB
4.		BROMO HEXANE ISOMER	9:15	630.	AJ
5.		ALDOL CONDENSATION PRODUCT	9:30	670.	AJ
6.		ALDOL CONDENSATION PRODUCT	10:24	310.	AJ
7.		ALDOL CONDENSATION PRODUCT	11:40	650.	AJ
8.		UNKNOWN P.N.A.	29:37	4600.	J
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

MID LIBRARY SEARCH
06/15/91 23:13:00 + 6:38
SAMPLE: S4 91-13588
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD32513588 # 413
CALI: AD32513588 # 2

BASE M/Z: 43
RIC: 69113.

00513

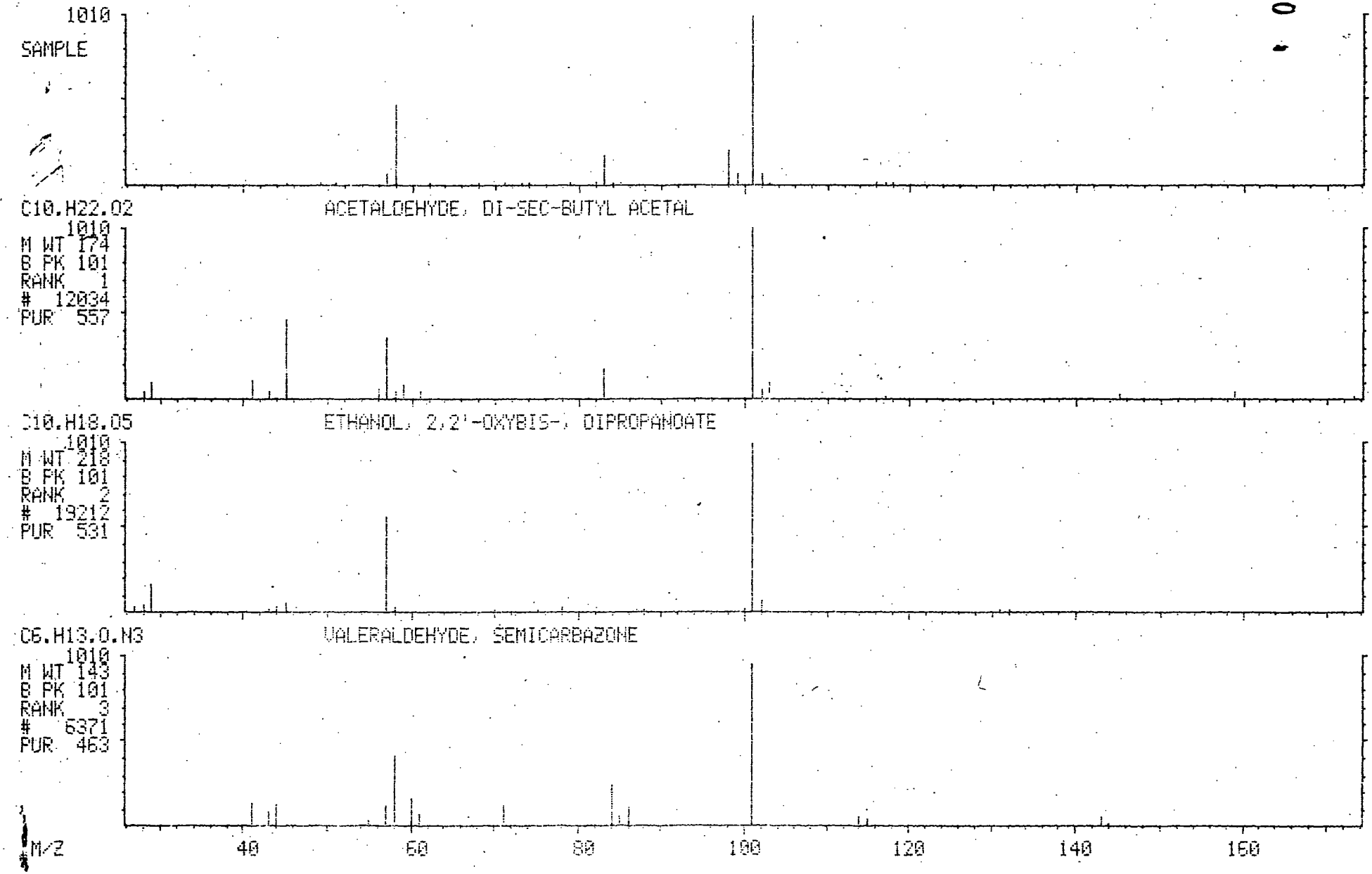


MID LIBRARY SEARCH
06/15/91 23:13:00 + 7:24
SAMPLE: S4 91-13588
CONDS.: MS-B CASE: EDH0022
ENHANCED (S 15B 2N 0T)

DATA: AD32513588 # 460
CALI: AD32513588 # 2

BASE M/Z: 101
RIC: 165375.

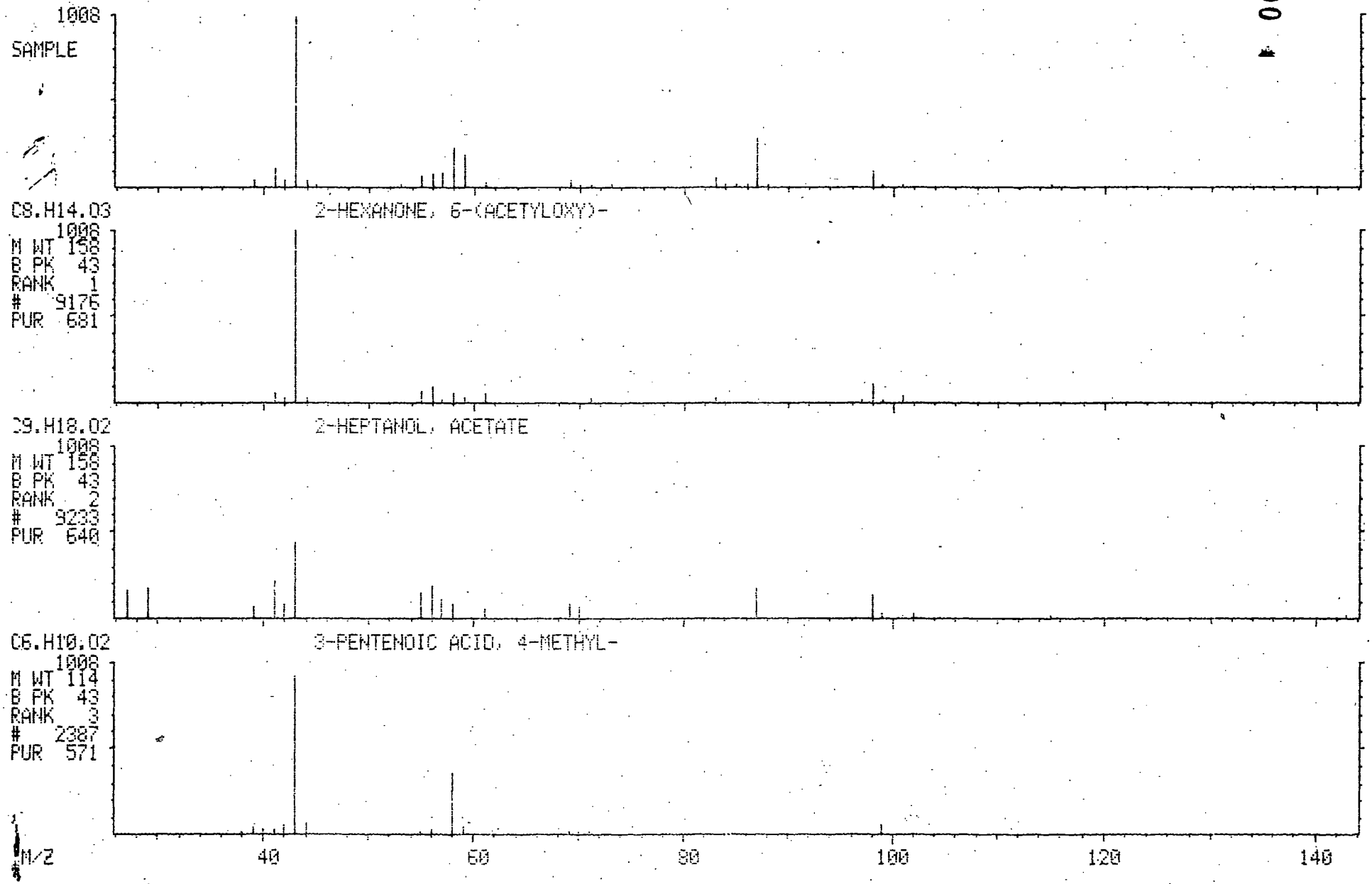
00515



MID LIBRARY SEARCH
06/15/91 23:13:00 + 8:53
SAMPLE: S4 91-13588
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD32513588 # 553 BASE M/Z: 43
CALI: AD32513588 # 2 RIC: 79359.

00517

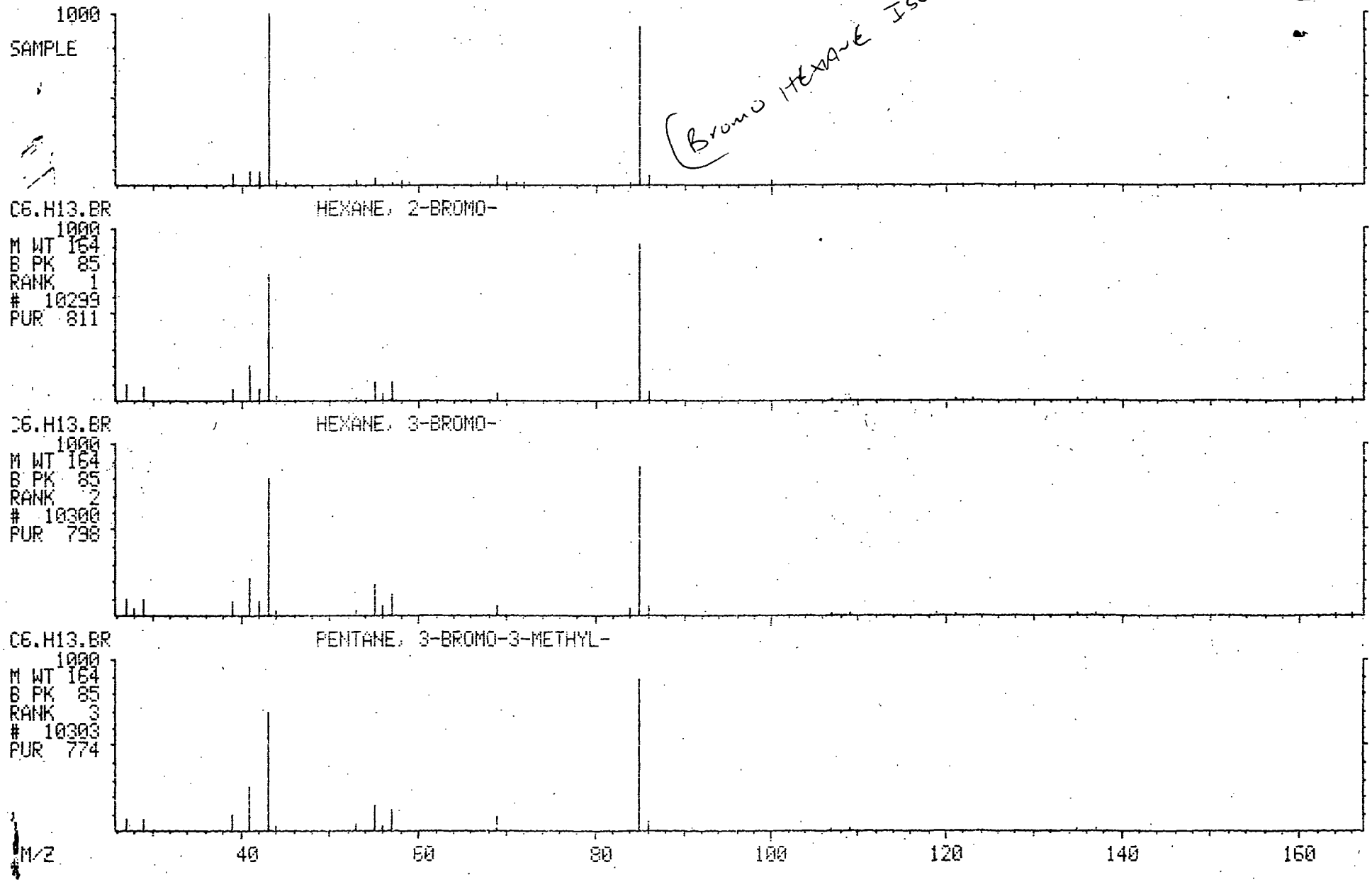


MID LIBRARY SEARCH
06/15/91 23:13:00 + 9:15
SAMPLE: S4 91-13588
CONDS.: MS-B CASE: EDH0022
ENHANCED (S 15B 2N 0T)

DATA: AD32513588 # 575 BASE M/Z: 43
CALI: AD32513588 # 2 RIC: 20127.

00519

(Bromo Hexane Isomer)

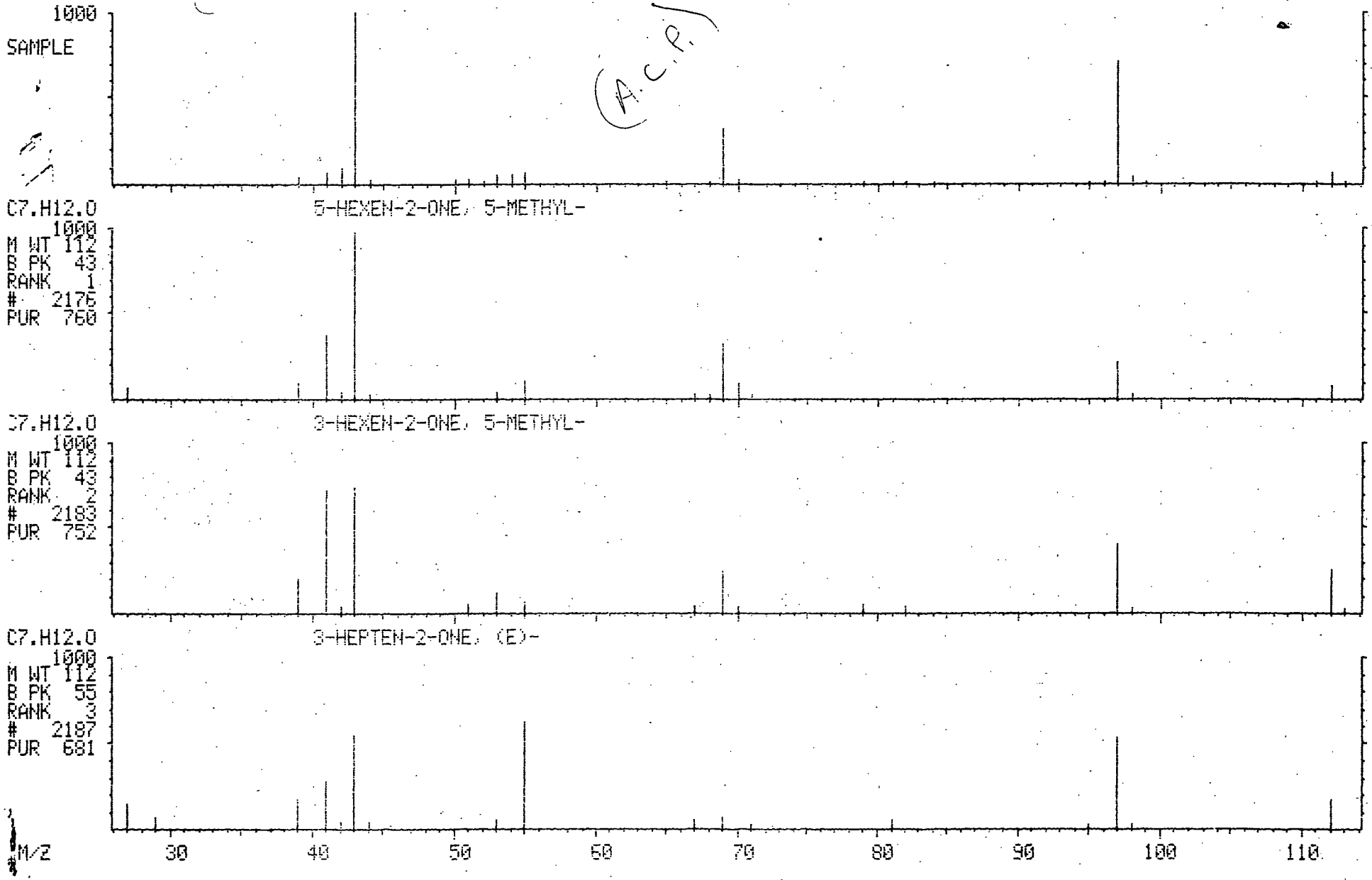


MID LIBRARY SEARCH
06/15/91 23:13:00 + 9:30
SAMPLE: S4 91-13588
CONDS.: MS-B CASE: EDH0022
ENHANCED (S 15B 2N 0T)

DATA: AD32513588 # 591 BASE M/Z: 43
CALI: AD32513588 # 2 RIC: 47295.

00521

(A.C.P.)



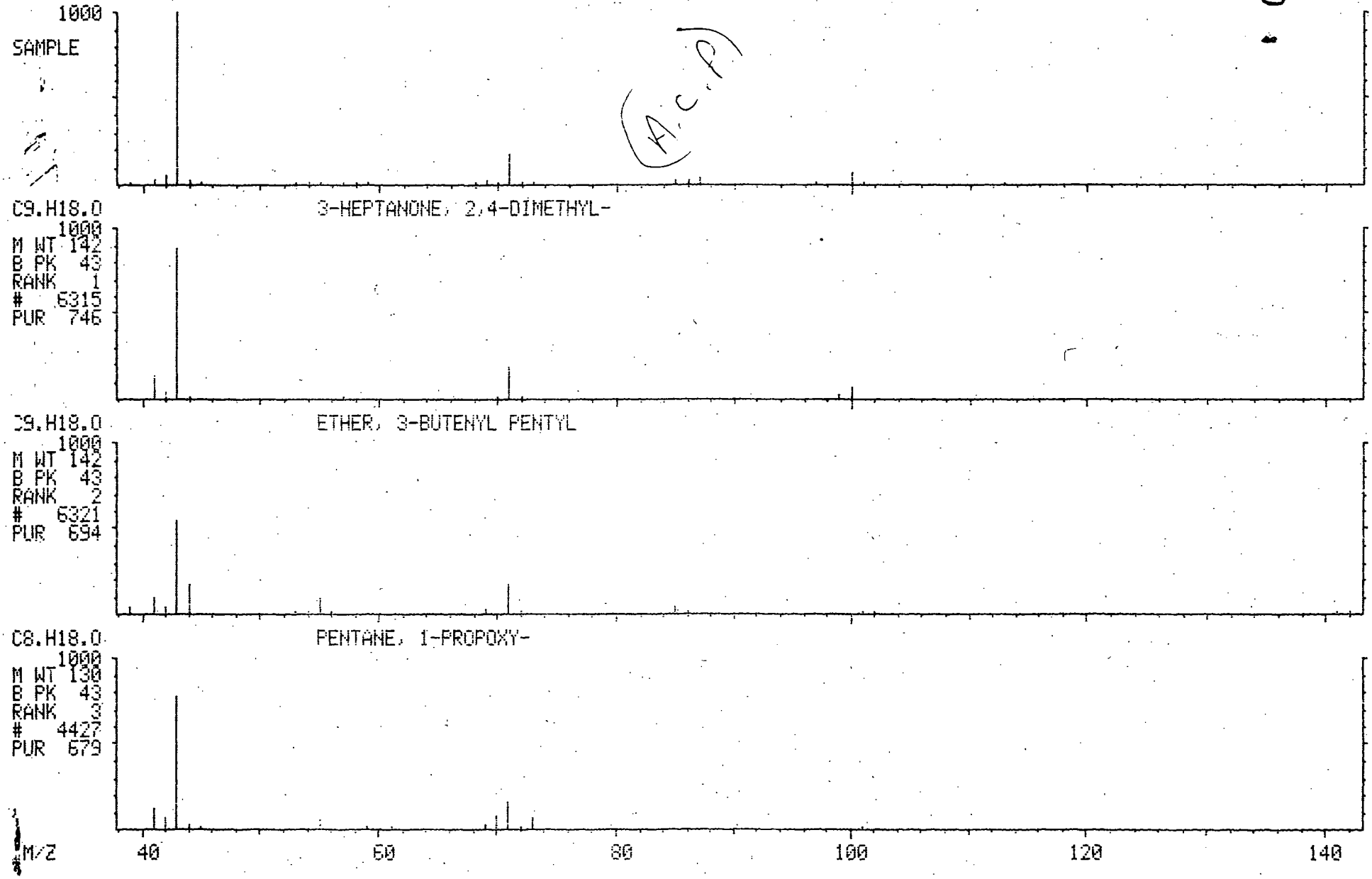
MID LIBRARY SEARCH
06/15/91 23:13:00 + 10:24
SAMPLE: S4 91-13588
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD32513588 # 647
CALI: AD32513588 # 2

BASE M/Z: 43
RIC: 21503.

00523

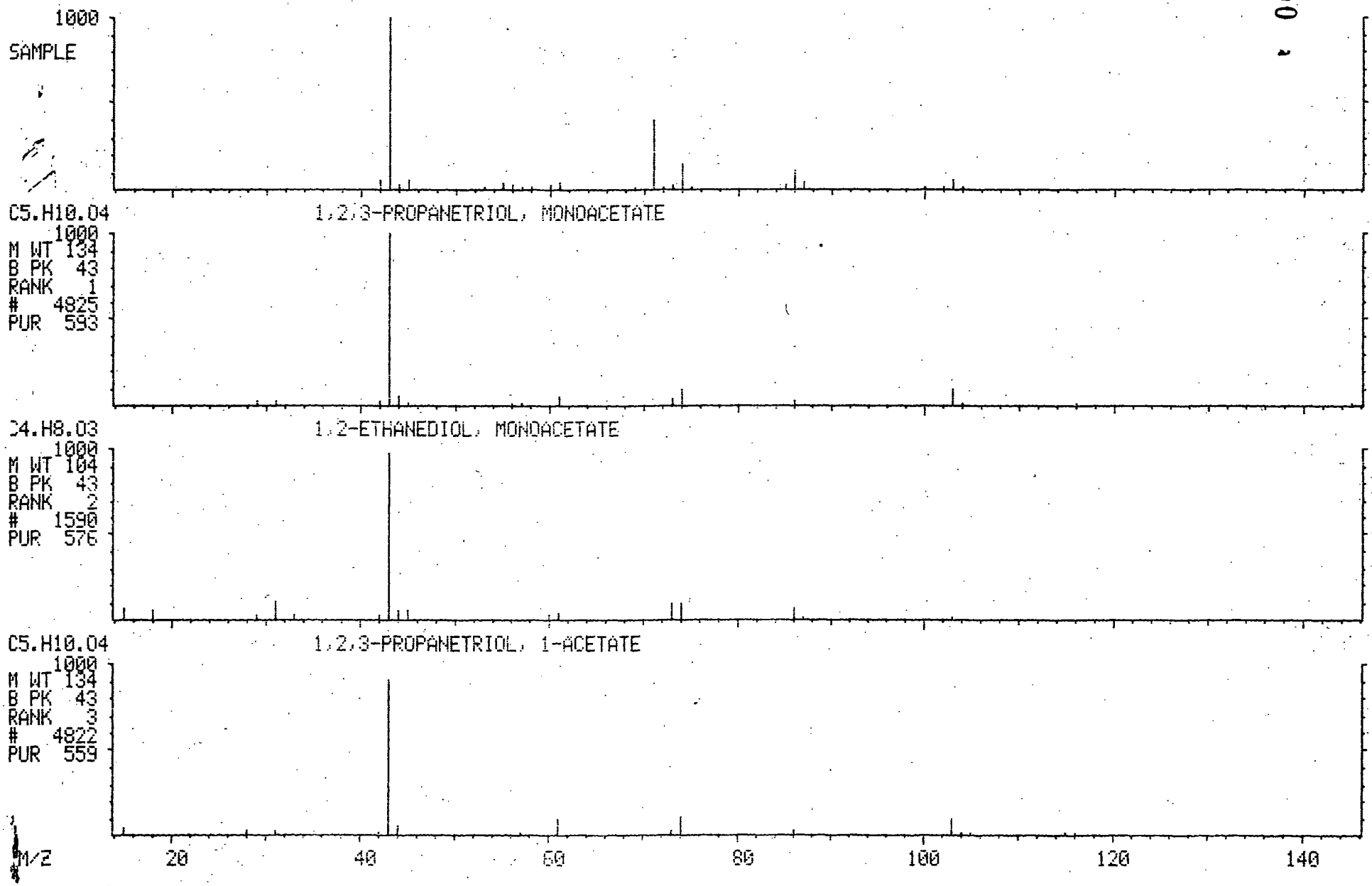
(A.C.P)



MID LIBRARY SEARCH
06/15/91 23:13:00 + 11:40
SAMPLE: S4 91-13588
CONDS.: MS-B CASE: EDH0022
ENHANCED (S 15B 2N 0T)

DATA: AD32513588 # 726 BASE M/Z: 43
CALI: AD32513588 # 2 RIC: 37439.

00525



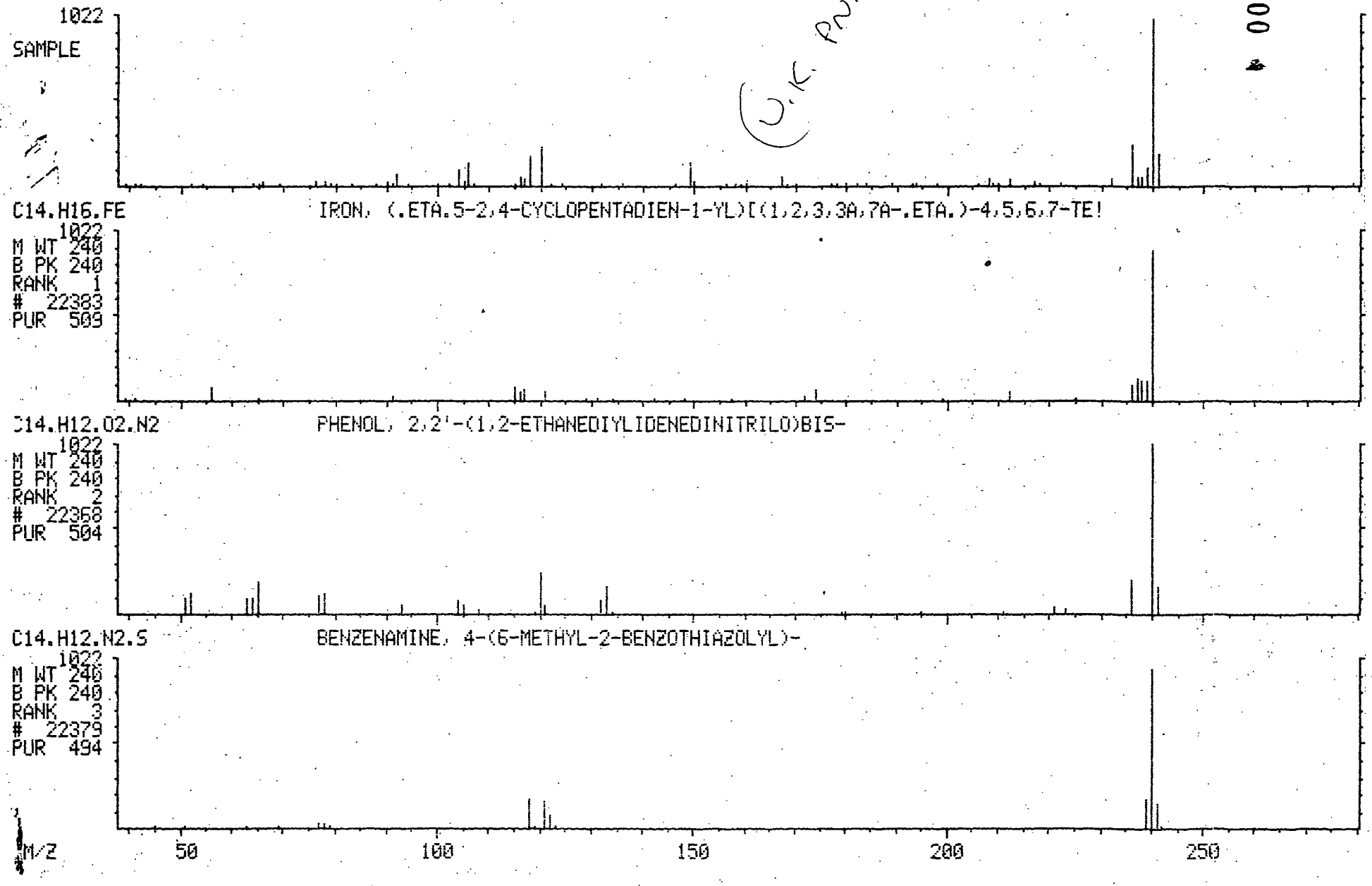
MID LIBRARY SEARCH
06/15/91 23:13:00 + 29:37
SAMPLE: S4 91-13588
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD32513588 #1842
CALI: AD32513588 # 2

BASE M/Z: 240
RIC: 34751.

00527

(U.K. PNA)



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

55

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H002 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13589

Sample wt/vol: 30 (g/mL) G Lab File ID: AD34513589

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 11. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/16/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	370.	
111-44-4	bis(2-Chloroethyl)ether	370.	u
95-57-8	2-Chlorophenol	370.	u
541-73-1	1,3-Dichlorobenzene	370.	u
106-46-7	1,4-Dichlorobenzene	370.	u
100-51-6	Benzyl alcohol	370.	u
95-50-1	1,2-Dichlorobenzene	370.	u
95-48-7	2-Methylphenol	370.	u
108-60-1	bis(2-Chloroisopropyl)ether	370.	u
106-44-5	4-Methylphenol	370.	u
621-64-7	N-Nitroso-di-n-propylamine	370.	u
67-72-1	Hexachloroethane	370.	u
98-95-3	Nitrobenzene	370.	u
78-59-1	Isophorone	370.	u
88-75-5	2-Nitrophenol	370.	u
105-67-9	2,4-Dimethylphenol	370.	u
65-85-0	Benzoic acid	1800.	u
111-91-1	bis(2-Chloroethoxy)methane	370.	u
120-83-2	2,4-Dichlorophenol	370.	u
120-82-1	1,2,4-Trichlorobenzene	370.	u
91-20-3	Naphthalene	370.	u
106-47-8	4-Chloroaniline	370.	u
87-68-3	Hexachlorobutadiene	370.	u
59-50-7	4-Chloro-3-methylphenol	370.	u
91-57-6	2-Methylnaphthalene	370.	u
77-47-4	Hexachlorocyclopentadiene	370.	u
88-06-2	2,4,6-Trichlorophenol	370.	u
95-95-4	2,4,5-Trichlorophenol	1800.	u
91-58-7	2-Chloronaphthalene	370.	u
88-74-4	2-Nitroaniline	1800.	u
131-11-3	Dimethylphthalate	370.	u
208-96-8	Acenaphthylene	370.	u
606-20-2	2,6-Dinitrotoluene	370.	u

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S5

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: EOH0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13589

Sample wt/vol: 30 (g/mL) G Lab File ID: AD34S13589

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 11. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/16/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1800.	u
83-32-9	Acenaphthene	370.	u
51-28-5	2,4-Dinitrophenol	1800.	u
100-02-7	4-Nitrophenol	1800.	u
132-64-9	Dibenzofuran	370.	u
121-14-2	2,4-Dinitrotoluene	370.	u
84-66-2	Diethylphthalate	40.	~~u~~ J
7005-72-3	4-Chlorophenyl-phenylether	370.	u
86-73-7	Fluorene	52.	J
100-01-6	4-Nitroaniline	1800.	u
534-52-1	4,6-Dinitro-2-methylphenol	1800.	u
86-30-6	N-Nitrosodiphenylamine (1)	370.	u
101-55-3	4-Bromophenyl-phenylether	370.	u
118-74-1	Hexachlorobenzene	370.	u
87-86-5	Pentachlorophenol	1800.	u
85-01-8	Phenanthrene	600.	
120-12-7	Anthracene	370.	u
84-74-2	Di-n-butylphthalate	370.	u
206-44-0	Fluoranthene	1300.	
129-00-0	Pyrene	1100.	
85-68-7	Butylbenzylphthalate	370.	u
91-94-1	3,3'-Dichlorobenzidine	740.	u
56-55-3	Benzo(a)anthracene	650.	
218-01-9	Chrysene	650.	
117-81-7	bis(2-Ethylhexyl)phthalate	620.	B
117-84-0	Di-n-octylphthalate	370.	u
205-99-2	Benzo(b)fluoranthene	1200.	
207-08-9	Benzo(k)fluoranthene	370.	u
50-32-8	Benzo(a)pyrene	700.	
193-39-5	Indeno(1,2,3-cd)pyrene	370.	u
53-70-3	Dibenz(a,h)anthracene	370.	u
191-24-2	Benzo(g,h,i)perylene	430.	~~u~~ NO QUALIFIER

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S5

Lab Name: DATACHEM LABS Contract: _____

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13589

Sample wt/vol: 30 (g/mL) G Lab File ID: AD34S13589

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 11. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/16/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATION PRODUCT	6:14	3700.	AJB
2.	ALDOL CONDENSATION PRODUCT	7:02	43000.	AJB
3.	ALDOL CONDENSATION PRODUCT	8:32	840.	AJ
4.	ALDOL CONDENSATION PRODUCT	9:54	680.	AJB
5.	ALDOL CONDENSATION PRODUCT	9:10	370.	AJ
6.	ALDOL CONDENSATION PRODUCT	10:04	280.	AJ
7.	ALDOL CONDENSATION PRODUCT	11:19	360.	AJ
8.	UNKNOWN PNA	29:17	7000.	AJ
9.				
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11.				
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13.				
14.				
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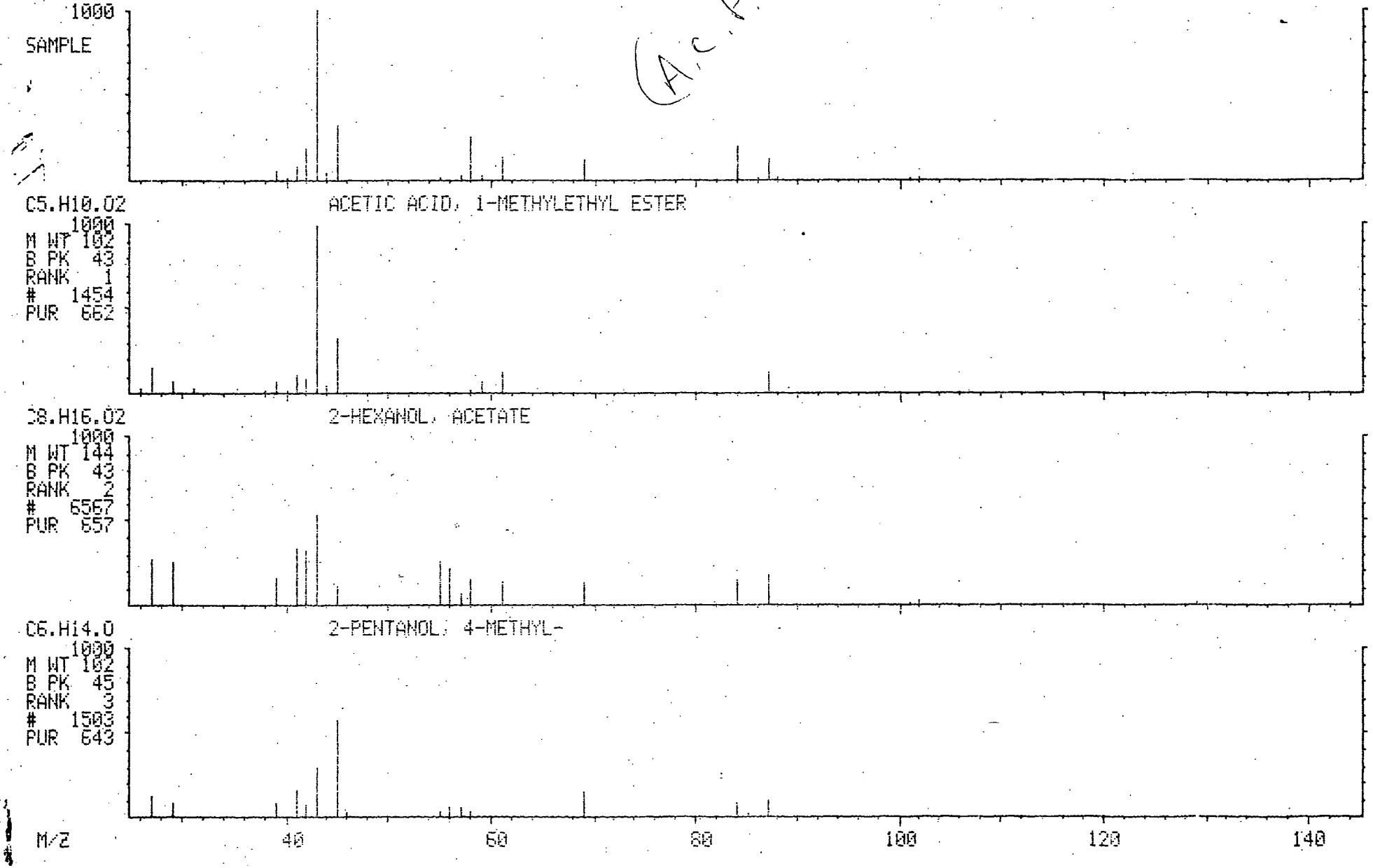
MID LIBRARY SEARCH
06/16/91 1:02:00 + 6:14
SAMPLE: S5 91-13589
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD34513589 # 388
CALI: AD34513589 # 2

BASE M/Z: 43
RIC: 59903.

00579

(A.C.P.)

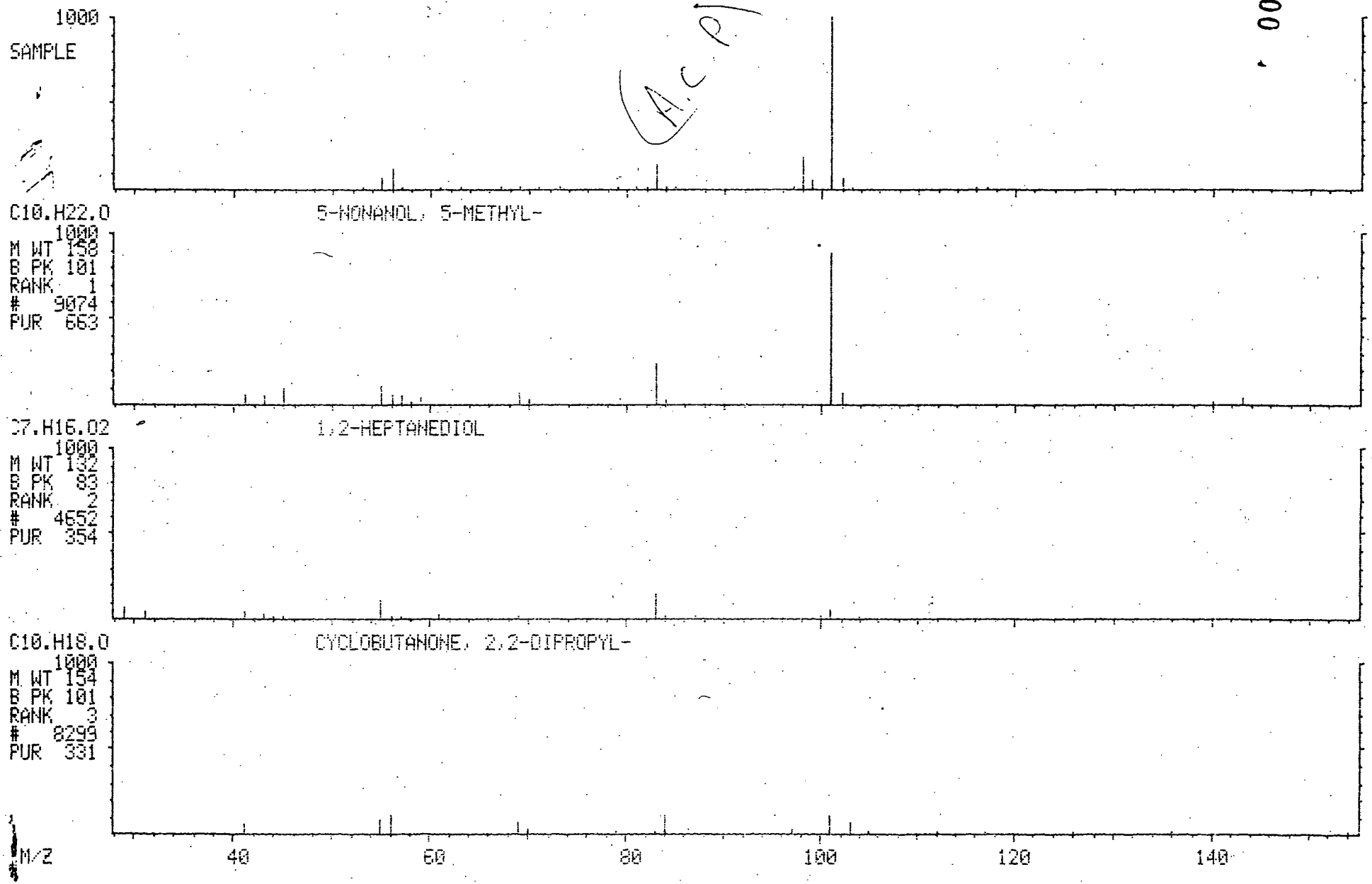


MID LIBRARY SEARCH
06/16/91 1:02:00 + 7:02
SAMPLE: S5 91-13589
CONDS.: MS-B CASE: EDH0022
ENHANCED (S 15B 2N 0T)

DATA: AD34513589 # 438
CALI: AD34513589 # 2

BASE M/Z: 101
RIC: 79103.

00581



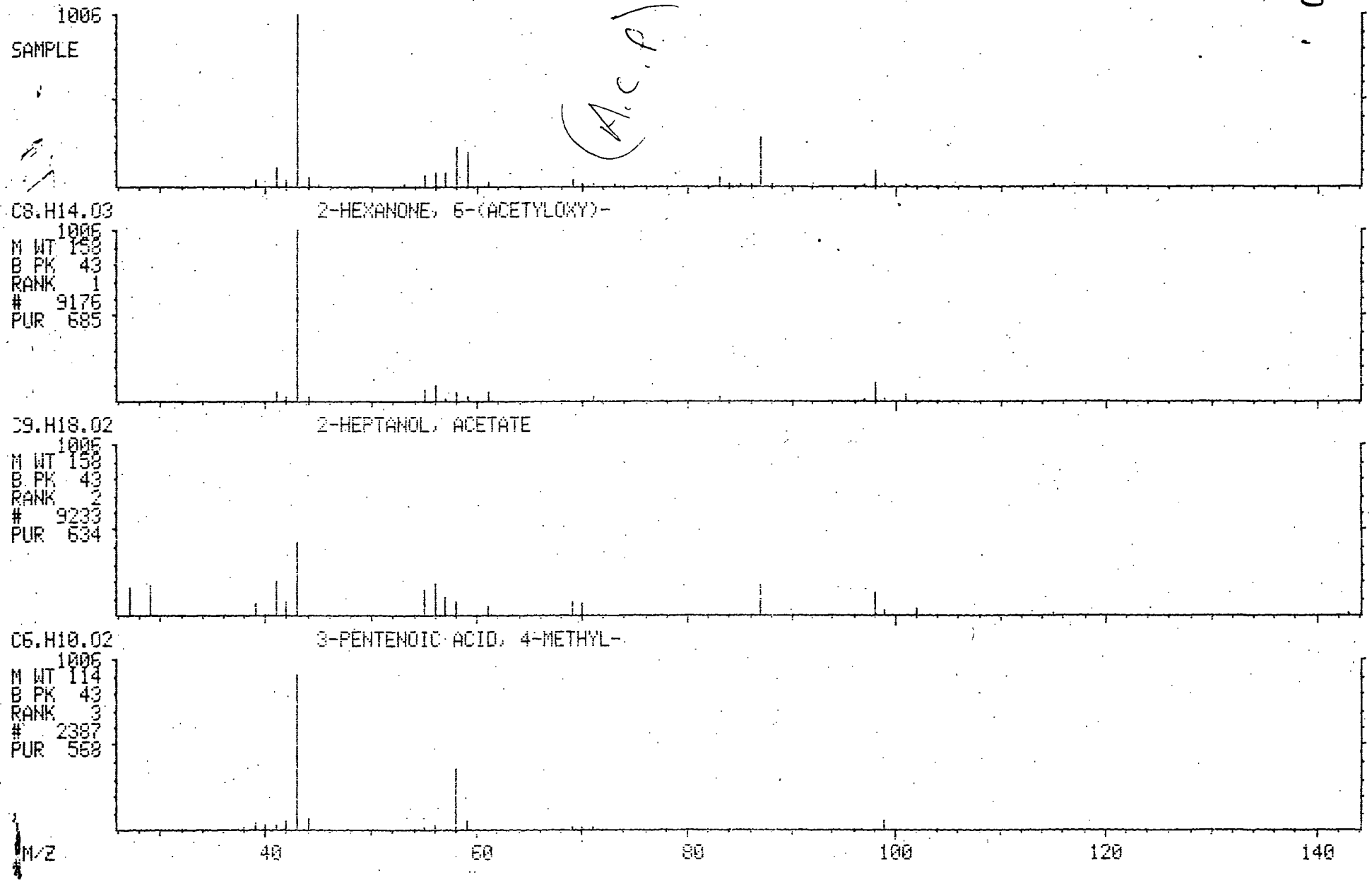
MID LIBRARY SEARCH
06/16/91 1:02:00 + 8:32
SAMPLE: S5 91-13589
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD34513589 # 531
CALI: AD34513589 # 2

BASE M/Z: 43
RIC: 71167.

00583

(A.C.P)



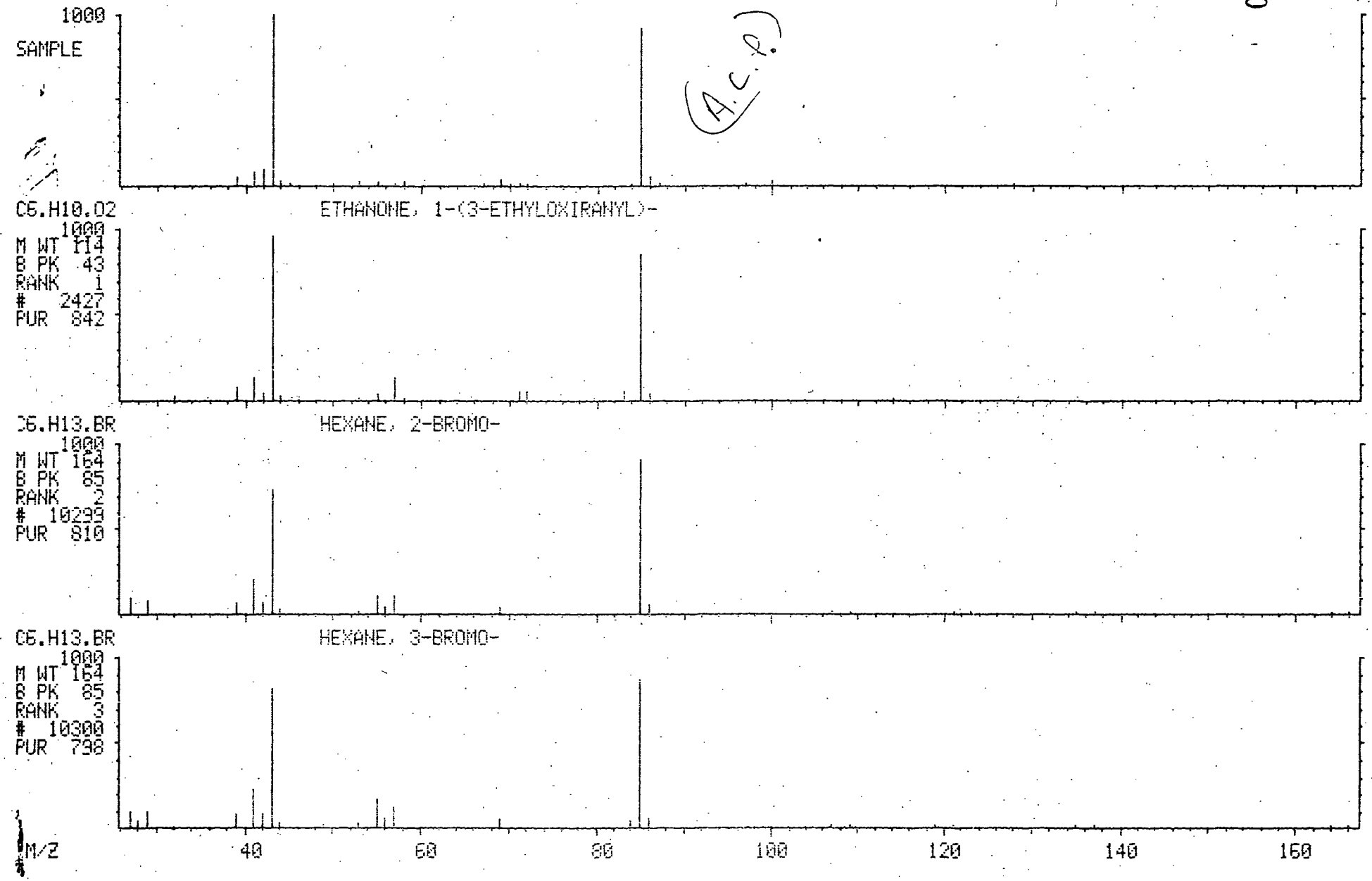
MID LIBRARY SEARCH
06/16/91 1:02:00 + 8:54
SAMPLE: S5 91-13589
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD34513589 # 554
CALI: AD34513589 # 2

BASE M/Z: 43
RIC: 28127.

00585

(A.C.P.)



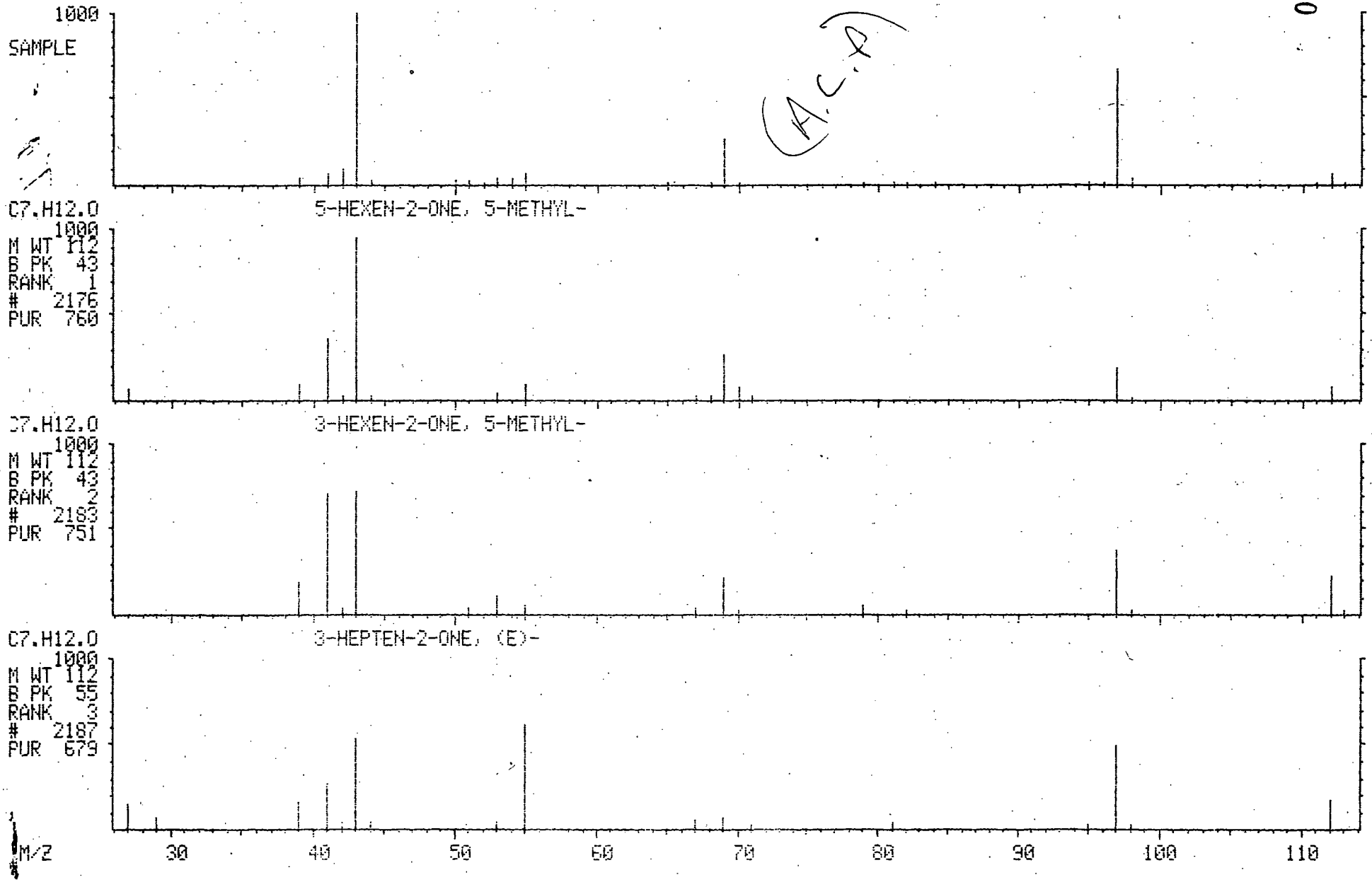
MID LIBRARY SEARCH
06/16/91 1:02:00 + 9:10
SAMPLE: S5 91-13589
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD34513589 # 570
CALI: AD34513589 # 2

BASE M/Z: 43
RIC: 31807.

00587

(A.C.P)

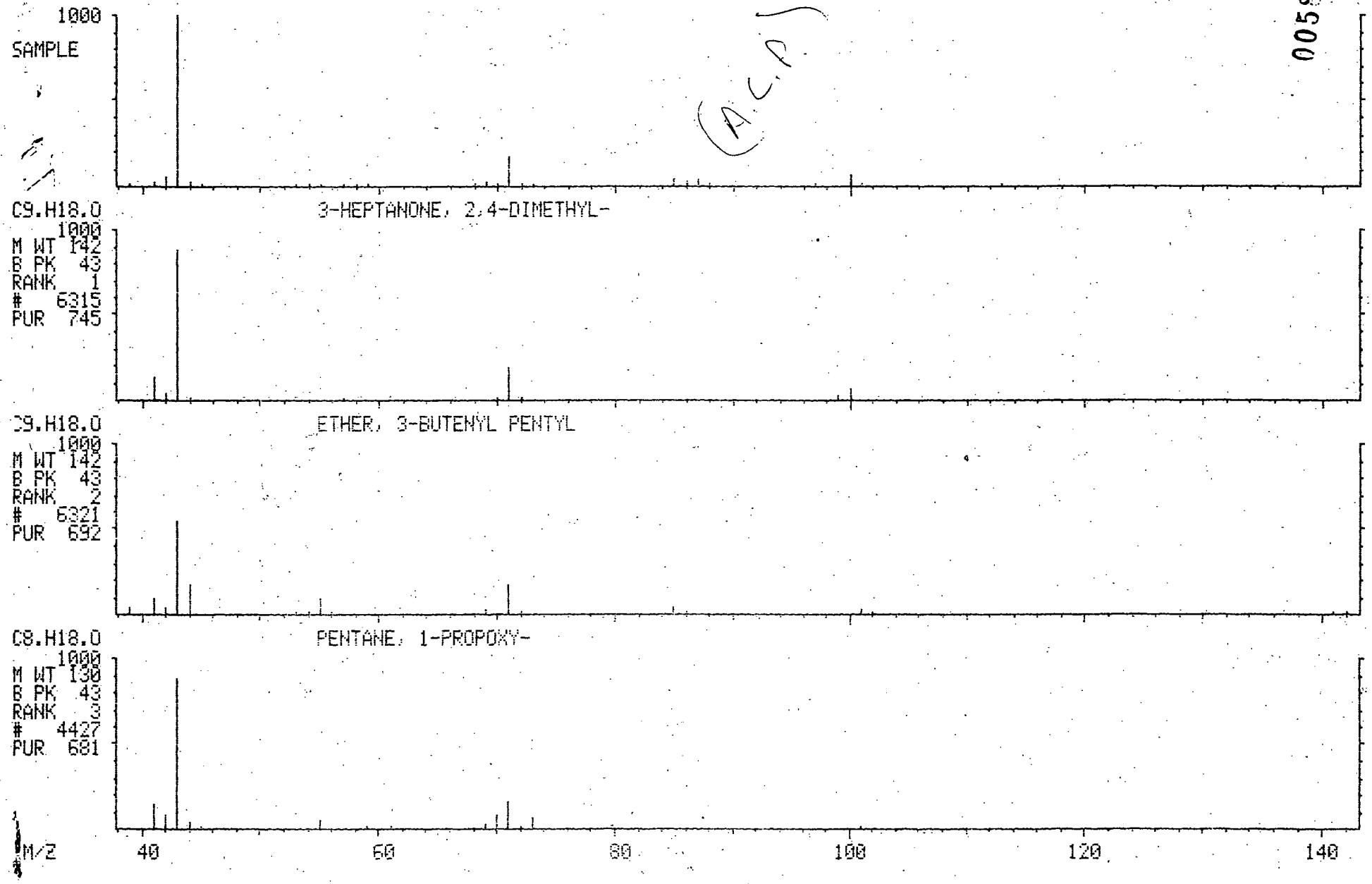


MID LIBRARY SEARCH
06/16/91 1:02:00 + 10:04
SAMPLE: S5 91-13589
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD34513589 # 626 BASE M/Z: 43
CALI: AD34513589 # 2 RIC: 23871.

00589

(A.C.P.)

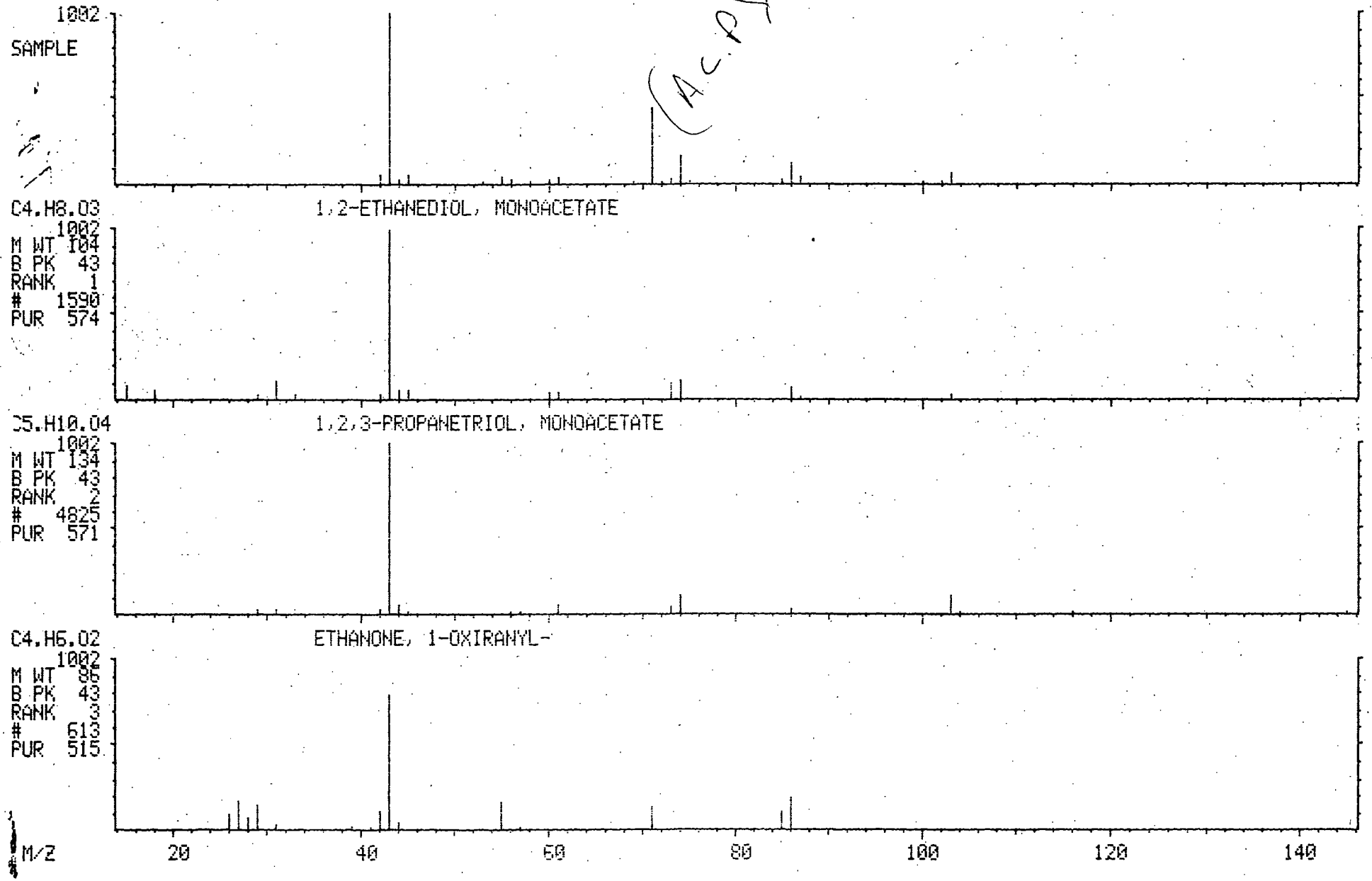


MID LIBRARY SEARCH
06/16/91 1:02:00 + 11:19
SAMPLE: S5 91-13589
CONDS.: MS-B CASE: EDH0022
ENHANCED (S 15B 2N 0T)

DATA: AD34513589 # 704
CALI: AD34513589 # 2

BASE M/Z: 43
RIC: 24639.

00591



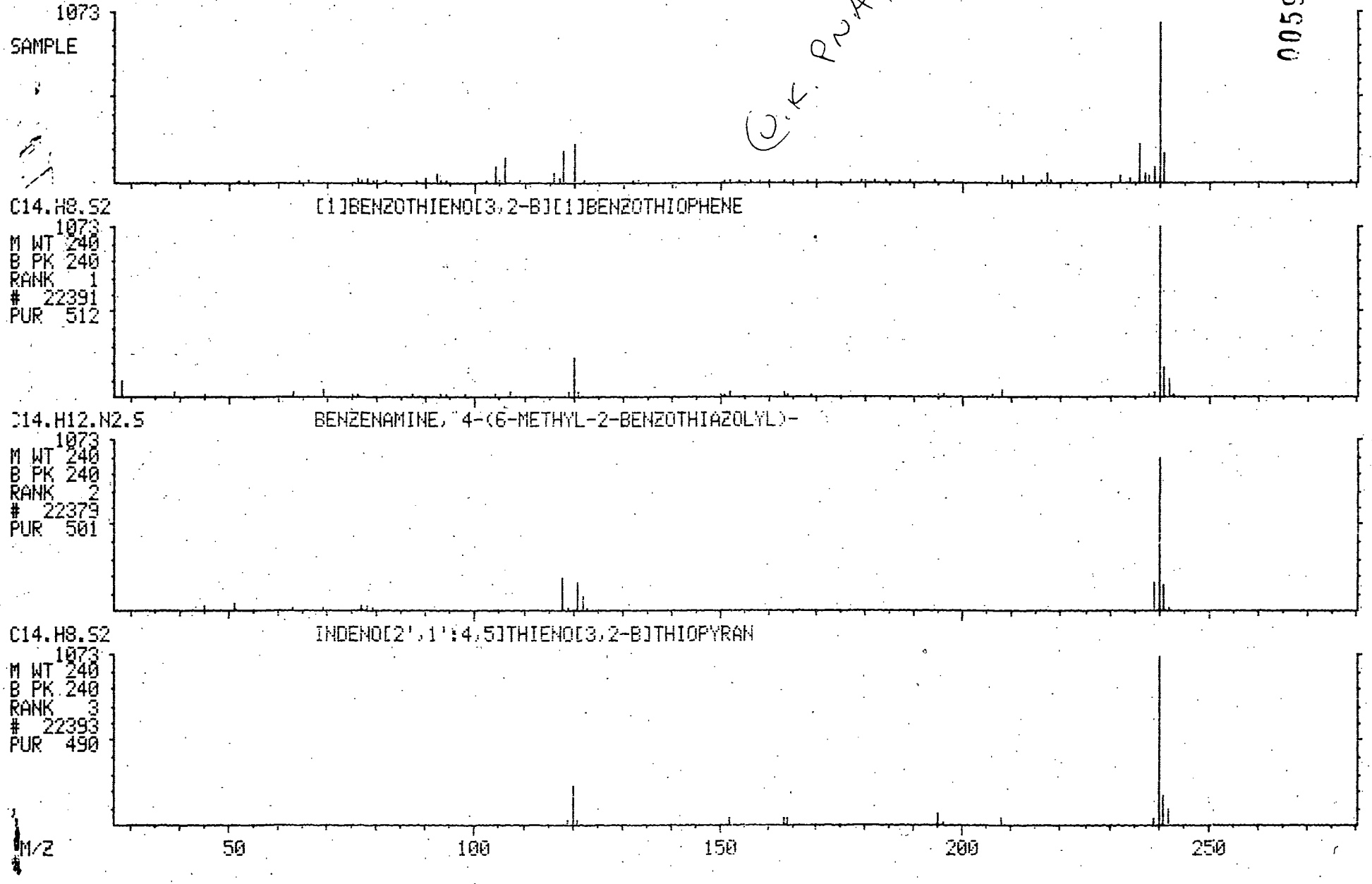
MID LIBRARY SEARCH
06/16/91 1:02:00 + 29:17
SAMPLE: S5 91-13589
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD34S13589 #1821
CALI: AD34S13589 # 2

BASE M/Z: 240
RIC: 38847.

00593

(U.K. PNA)



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S6

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H002 2 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13590

Sample wt/vol: 30 (g/mL) G Lab File ID: AD35513590

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 8. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/16/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	360.	u
111-44-4	bis(2-Chloroethyl)ether	360.	u
95-57-8	2-Chlorophenol	360.	u
541-73-1	1,3-Dichlorobenzene	360.	u
106-46-7	1,4-Dichlorobenzene	360.	u
100-51-6	Benzyl alcohol	360.	u
95-50-1	1,2-Dichlorobenzene	360.	u
95-48-7	2-Methylphenol	360.	u
108-60-1	bis(2-Chloroisopropyl)ether	360.	u
106-44-5	4-Methylphenol	360.	u
621-64-7	N-Nitroso-di-n-propylamine	360.	u
67-72-1	Hexachloroethane	360.	u
98-95-3	Nitrobenzene	360.	u
78-59-1	Isophorone	360.	u
88-75-5	2-Nitrophenol	360.	u
105-67-9	2,4-Dimethylphenol	360.	u
65-85-0	Benzoic acid	1700.	u
111-91-1	bis(2-Chloroethoxy)methane	360.	u
120-83-2	2,4-Dichlorophenol	360.	u
120-82-1	1,2,4-Trichlorobenzene	360.	u
91-20-3	Naphthalene	360.	u
106-47-8	4-Chloroaniline	360.	u
87-68-3	Hexachlorobutadiene	360.	u
59-50-7	4-Chloro-3-methylphenol	360.	u
91-57-6	2-Methylnaphthalene	360.	u
77-47-4	Hexachlorocyclopentadiene	360.	u
88-06-2	2,4,6-Trichlorophenol	360.	u
95-95-4	2,4,5-Trichlorophenol	1700.	u
91-58-7	2-Chloronaphthalene	360.	u
88-74-4	2-Nitroaniline	1700.	u
131-11-3	Dimethylphthalate	360.	u
208-96-8	Acenaphthylene	360.	u
606-20-2	2,6-Dinitrotoluene	360.	u

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S6

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: EC40022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13590

Sample wt/vol: 30 (g/mL) G Lab File ID: AD35S13590

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 8. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/16/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
99-09-2	3-Nitroaniline	1700.	U
83-32-9	Acenaphthene	94.	J
51-28-5	2,4-Dinitrophenol	1700.	U
100-02-7	4-Nitrophenol	1700.	U
132-64-9	Dibenzofuran	60.	J
121-14-2	2,4-Dinitrotoluene	360.	U
84-66-2	Diethylphthalate	29.	J
7005-72-3	4-Chlorophenyl-phenylether	360.	U
86-73-7	Fluorene	120.	J
100-01-6	4-Nitroaniline	1700.	U
534-52-1	4,6-Dinitro-2-methylphenol	1700.	U
86-30-6	N-Nitrosodiphenylamine (1)	360.	U
101-55-3	4-Bromophenyl-phenylether	360.	U
118-74-1	Hexachlorobenzene	360.	U
87-86-5	Pentachlorophenol	1700.	U
85-01-8	Phenanthrene	1000.	
120-12-7	Anthracene	230.	J
84-74-2	Di-n-butylphthalate	360.	U
206-44-0	Fluoranthene	1700.	
129-00-0	Pyrene	1900.	
85-68-7	Butylbenzylphthalate	360.	U
91-94-1	3,3'-Dichlorobenzidine	720.	U
56-55-3	Benzo(a)anthracene	910.	
218-01-9	Chrysene	930.	
117-81-7	bis(2-Ethylhexyl)phthalate	510.	B
117-84-0	Di-n-octylphthalate	360.	U
205-99-2	Benzo(b)fluoranthene	1400.	
207-08-9	Benzo(k)fluoranthene	360.	U
50-32-8	Benzo(a)pyrene	500.	
193-39-5	Indeno(1,2,3-cd)pyrene	360.	U
53-70-3	Dibenz(a,h)anthracene	360.	U
191-24-2	Benzo(g,h,i)perylene	460.	

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S6

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E040022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13590

Sample wt/vol: 30 (g/mL) G Lab File ID: AD35913590

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 8. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/16/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

Number TICs found: 9

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATION PRODUCT	6:14	5000.	AJB
2.	ALDOL CONDENSATION PRODUCT	7:07	57000.	AJB
3.	ALDOL CONDENSATION PRODUCT	8:32	1000.	AJ
4.	ALDOL CONDENSATION PRODUCT	8:53	1300.	AJB
5.	ALDOL CONDENSATION PRODUCT	9:07	540.	AJ
6.	ALDOL CONDENSATION PRODUCT	10:03	410.	AJ
7.	ALDOL CONDENSATION PRODUCT	11:19	980.	AJ
8.	SUBSTITUTED BENZENE	22:30	3200.	J
9.	UNKNOWN PNA	26:31	15000.	J
10.				
11.				
12.				
13.				
14.				
15.				
16.				
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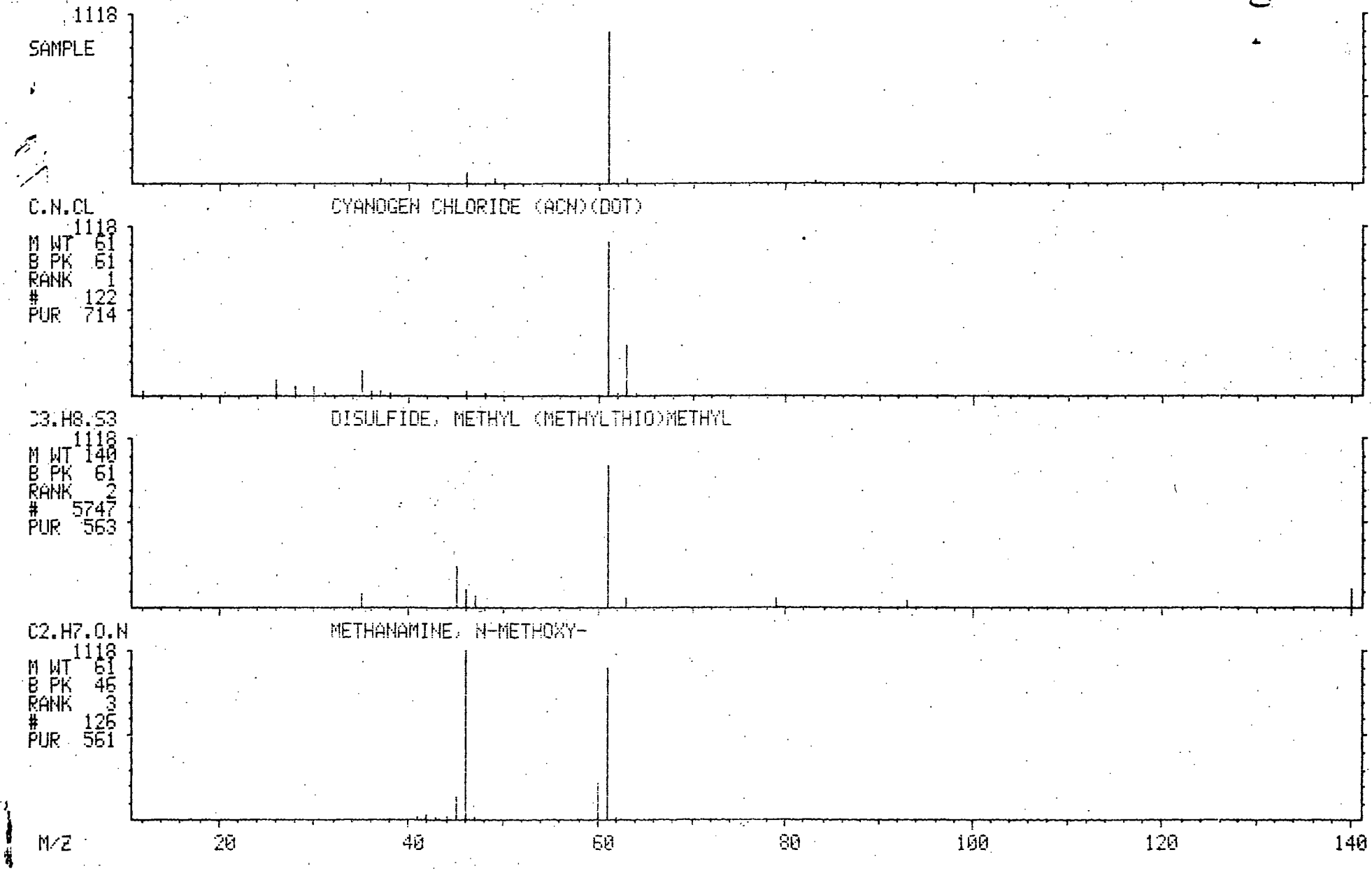
MID LIBRARY SEARCH
06/16/91 1:56:00 + 6:14
SAMPLE: S6 91-13590
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD35513590 # 388
CALI: AD35513590 # 2

BASE M/Z: 61
RIC: 2259.

00655

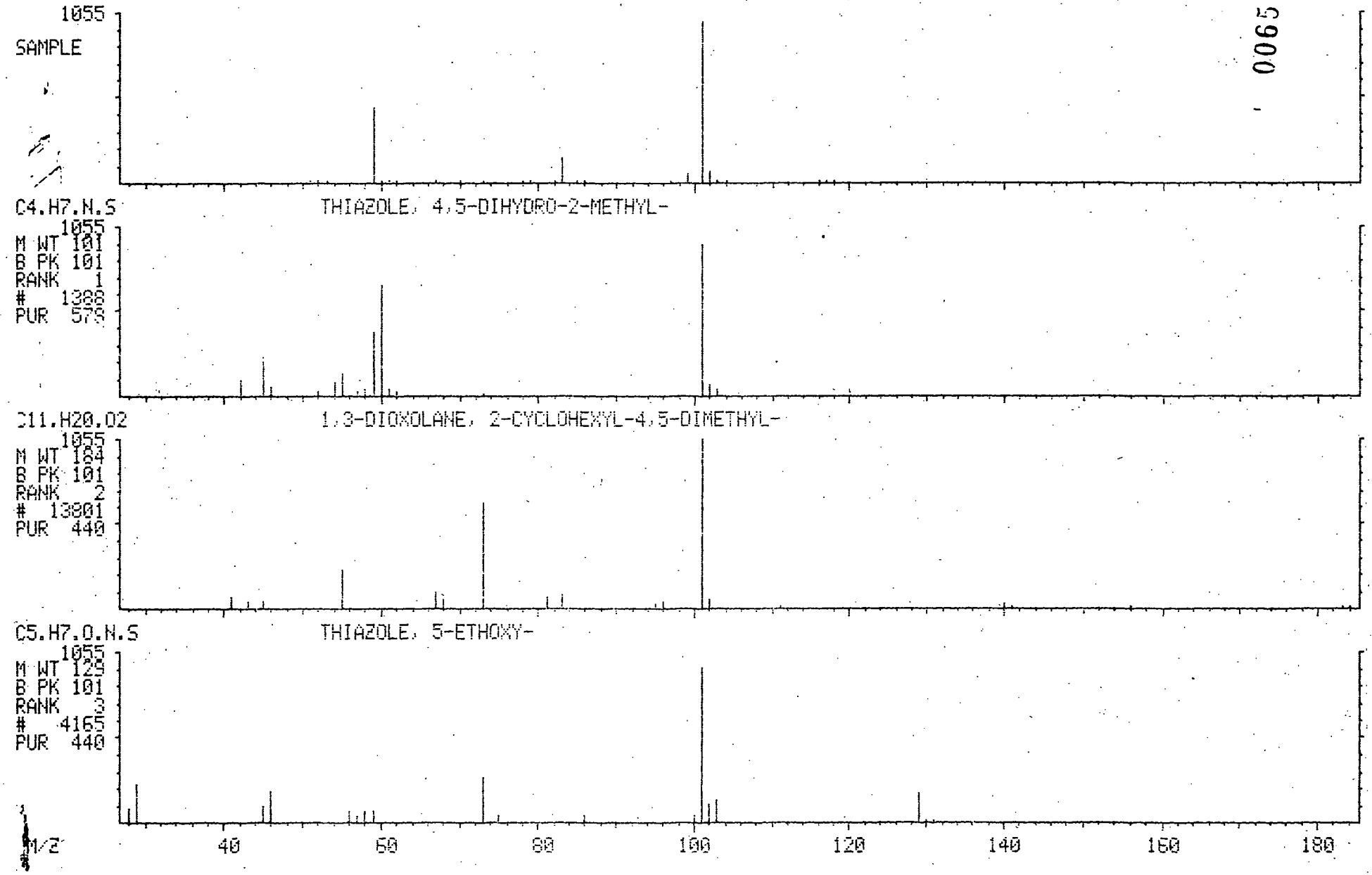


MID LIBRARY SEARCH
06/16/91 1:56:00 + 7:02
SAMPLE: S6 91-13590
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD35513590 # 438
CALI: AD35513590 # 2

BASE M/Z: 101
RIC: 145407.

00657

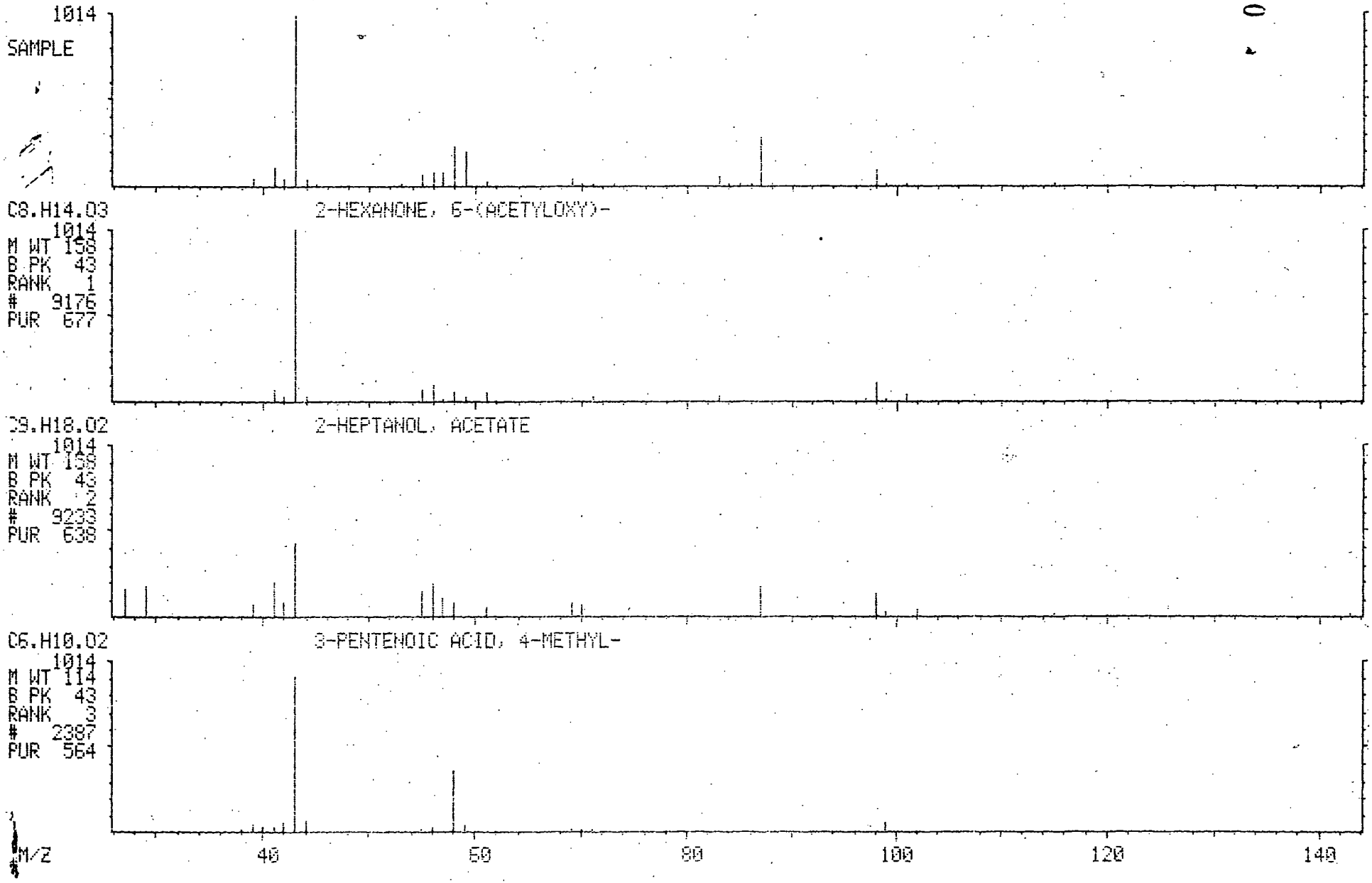


MID LIBRARY SEARCH
06/16/91 1:56:00 + 8:32
SAMPLE: S6 91-13590
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 158 2N 0T)

DATA: AD35513590 # 531
CALI: AD35513590 # 2

BASE M/Z: 43
RIC: 87039.

00659

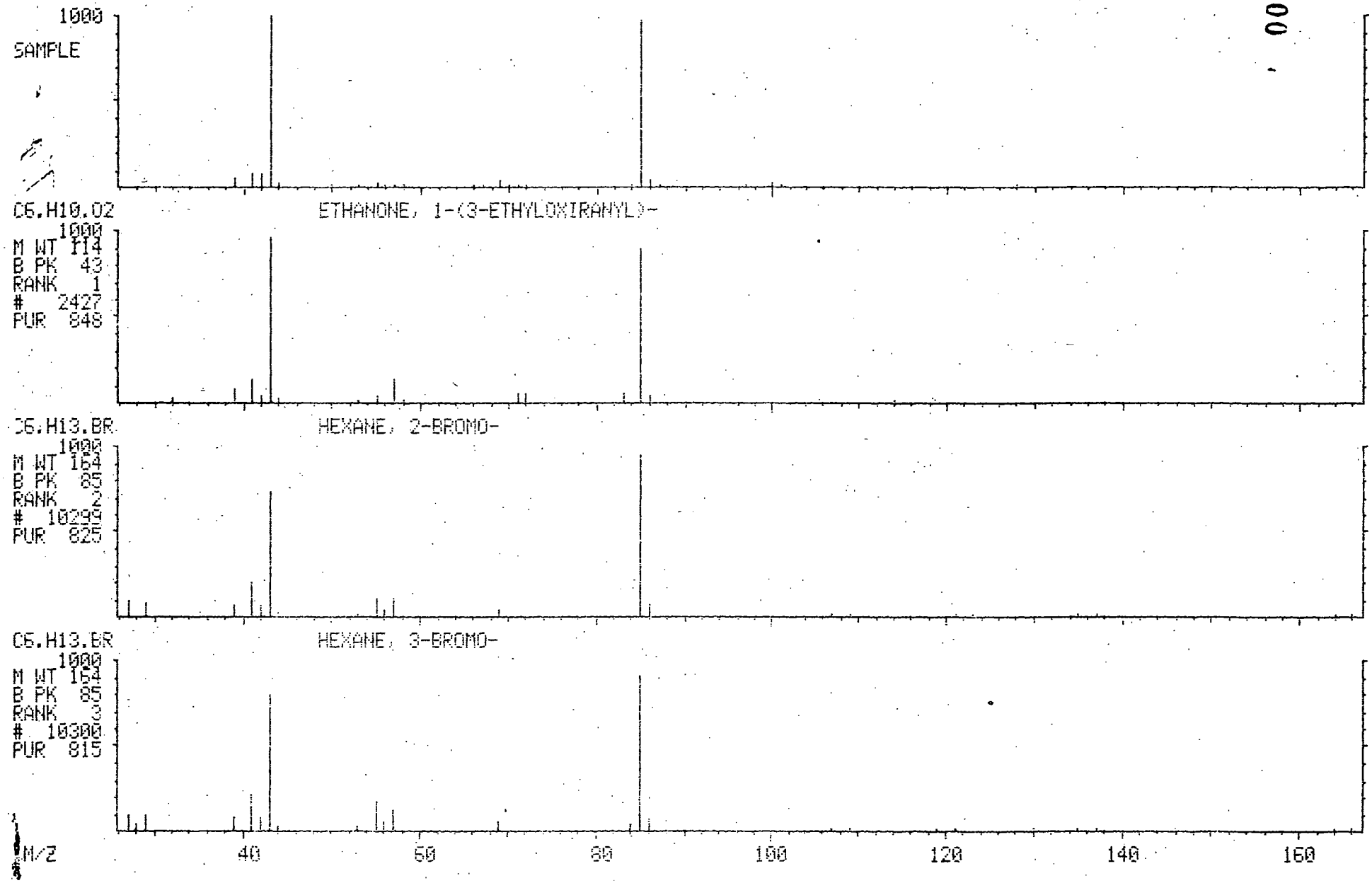


MID LIBRARY SEARCH
06/16/91 1:56:00 + 8:53
SAMPLE: S6 91-13590
CONDS.: MS-B CASE: EDH0022
ENHANCED (S 15B 2N 0T)

DATA: AD35S13590 # 553
CALI: AD35S13590 # 2

BASE M/Z: 43
RIC: 56959.

19900

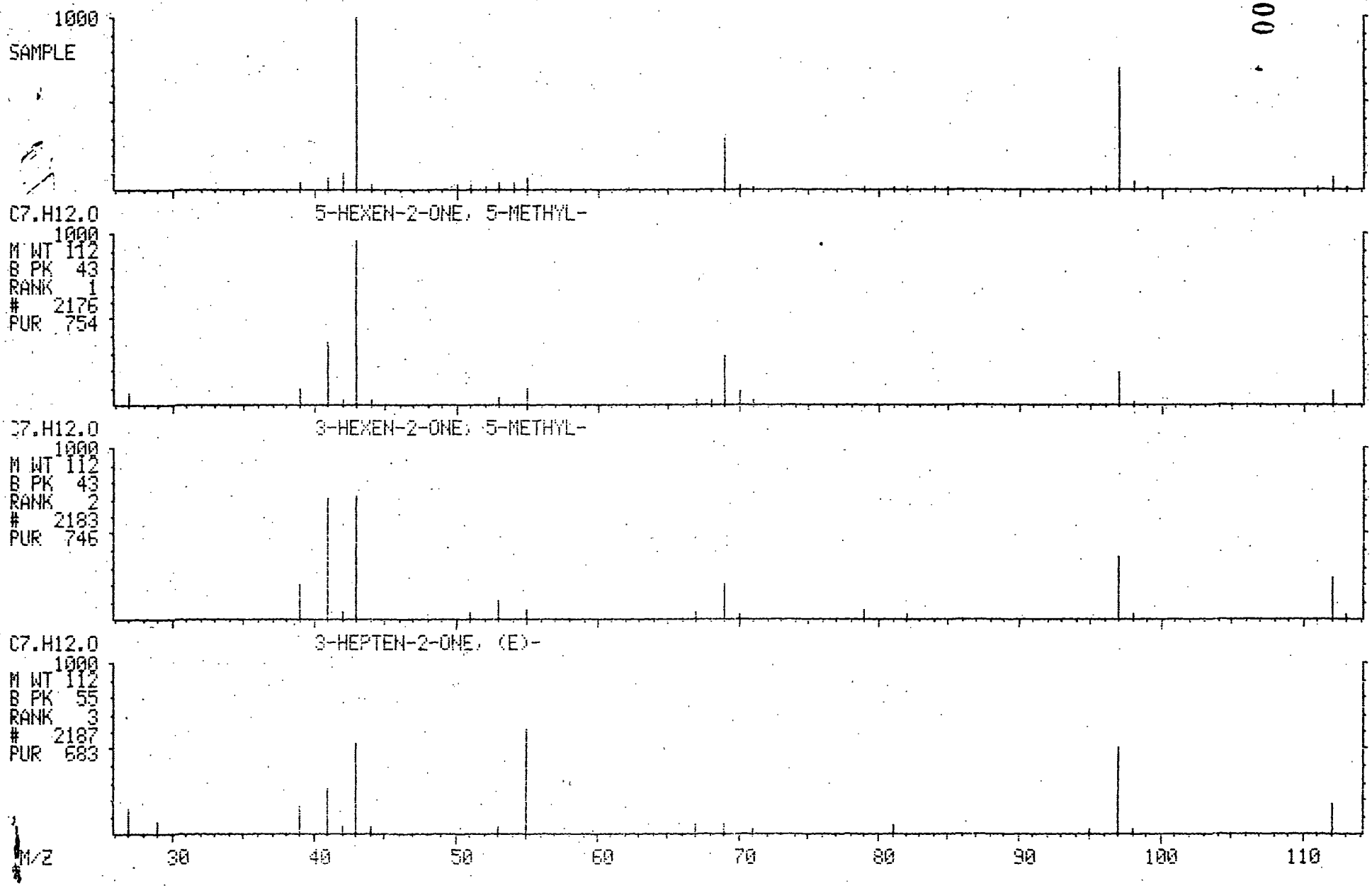


MID LIBRARY SEARCH
06/16/91 1:56:00 + 9:09
SAMPLE: S6 91-13590
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD35S13590 # 569
CALI: AD35S13590 # 2

BASE M/Z: 43
RIC: 48447.

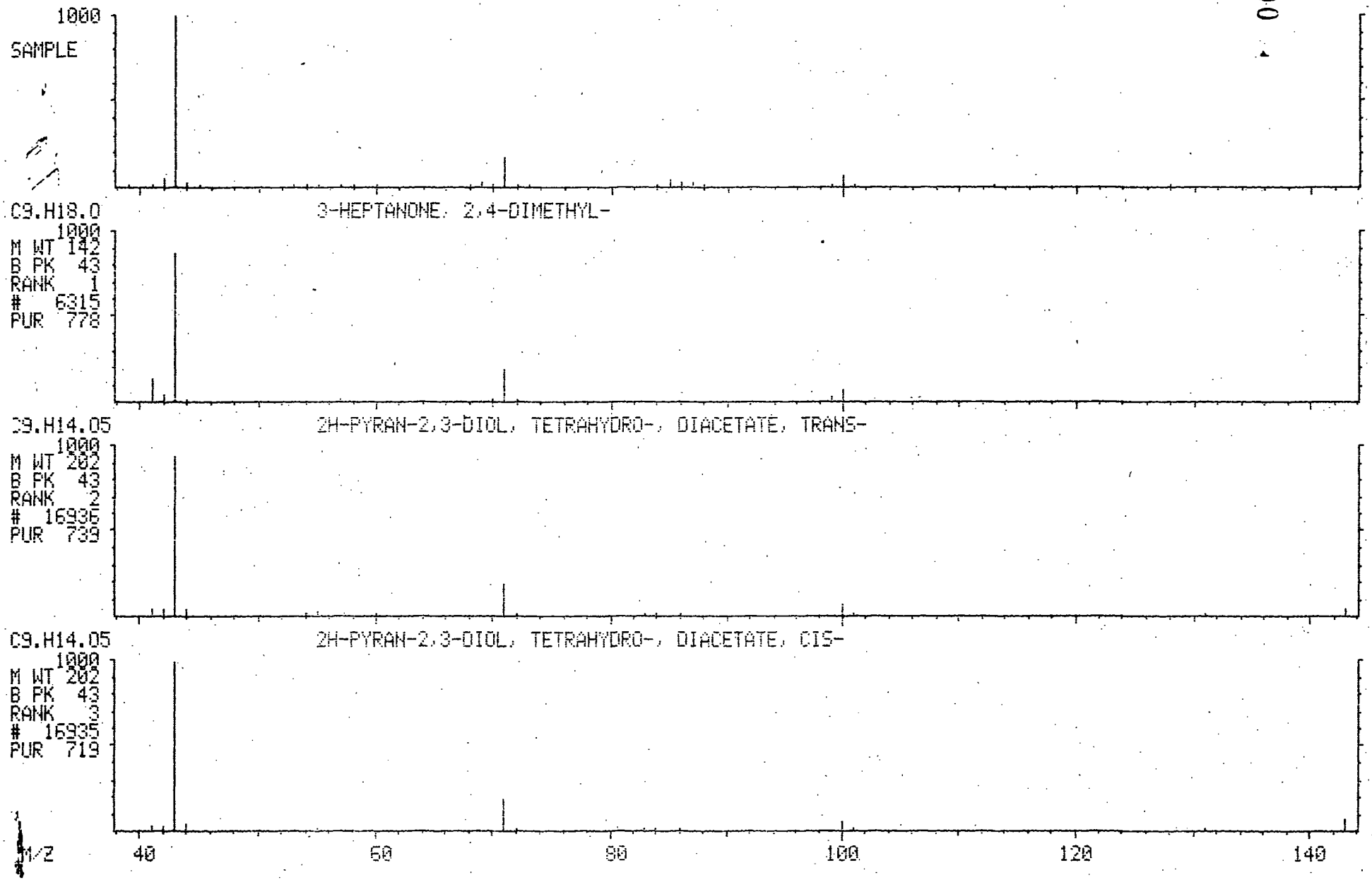
00663



MID LIBRARY SEARCH
06/16/91 1:56:00 + 10:03
SAMPLE: S6 91-13590
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD35S13590 # 625 BASE M/Z: 43
CALI: AD35S13590 # 2 RIC: 37119.

00665

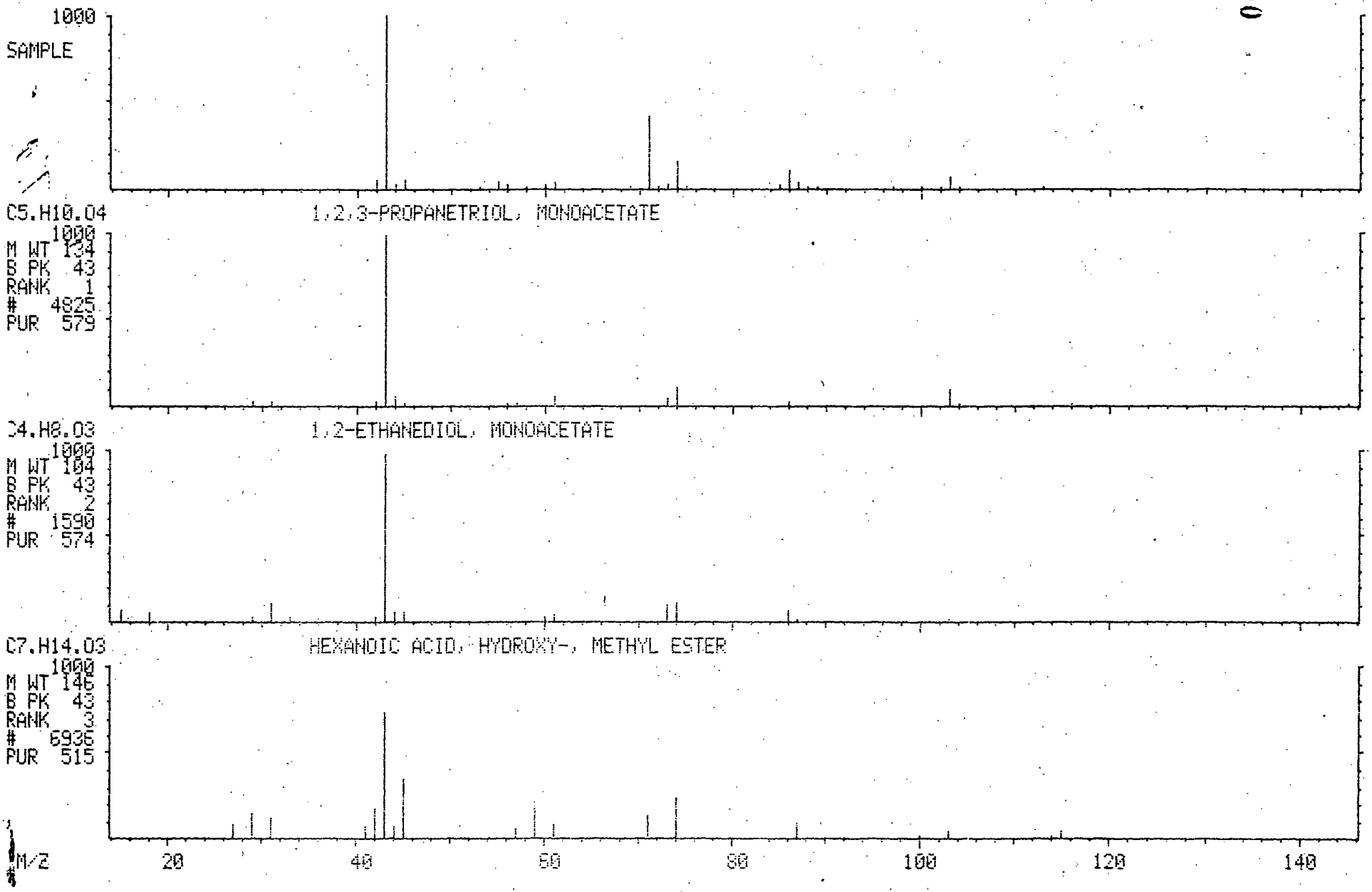


MID LIBRARY SEARCH
06/16/91 1:56:00 + 11:19
SAMPLE: S6 91-13590
CONDS.: MS-B CASE: EDH0022
ENHANCED (S 15B 2N 0T)

DATA: AD35513590 # 704
CALI: AD35513590 # 2

BASE M/Z: 43
RIC: 71935.

00667

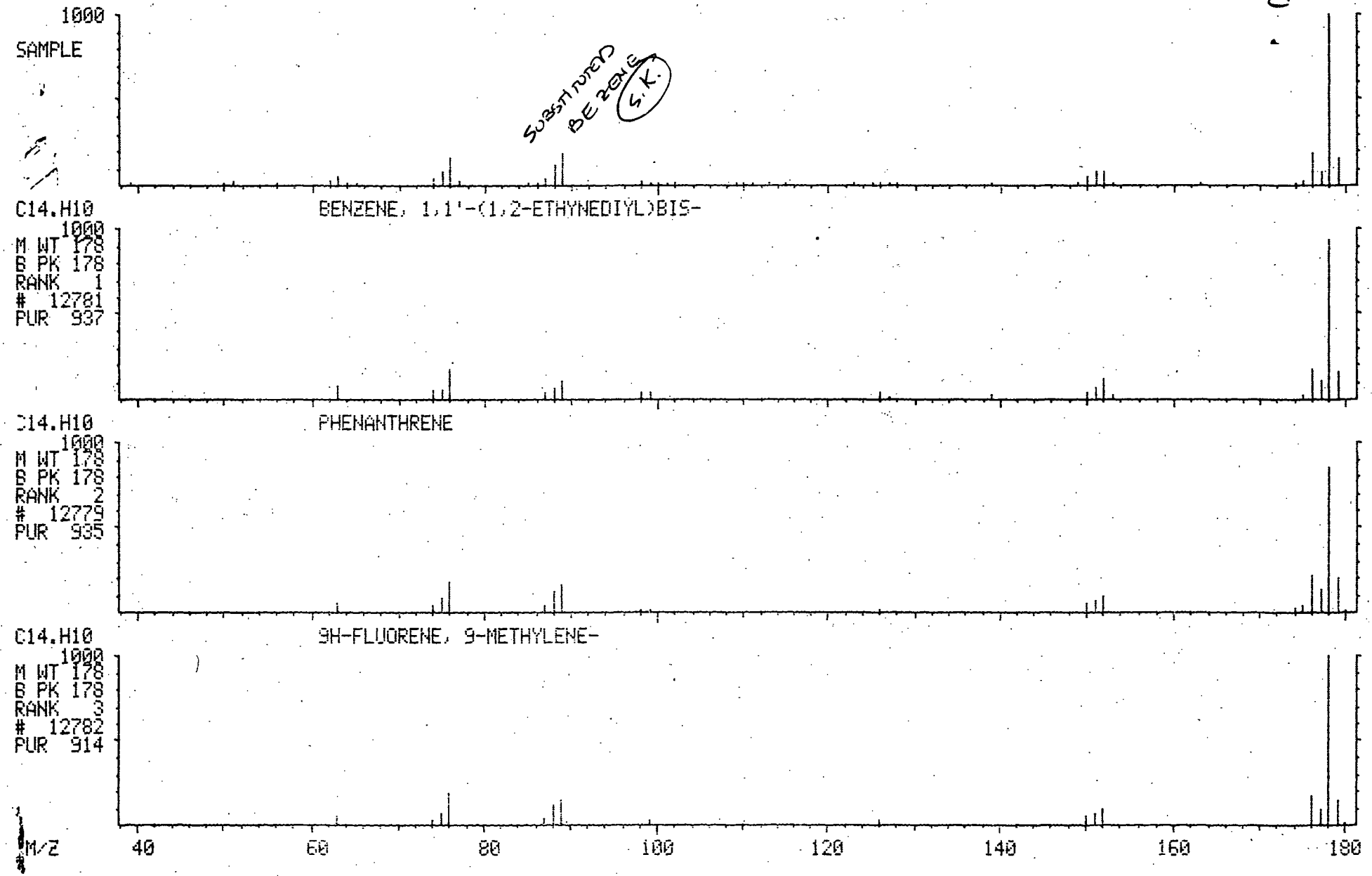


MID LIBRARY SEARCH
06/16/91 1:56:00 + 22:30
SAMPLE: S6 91-13590
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD35513590 #1400
CALI: AD35513590 # 2

BASE M/Z: 178
RIC: 25023.

00690

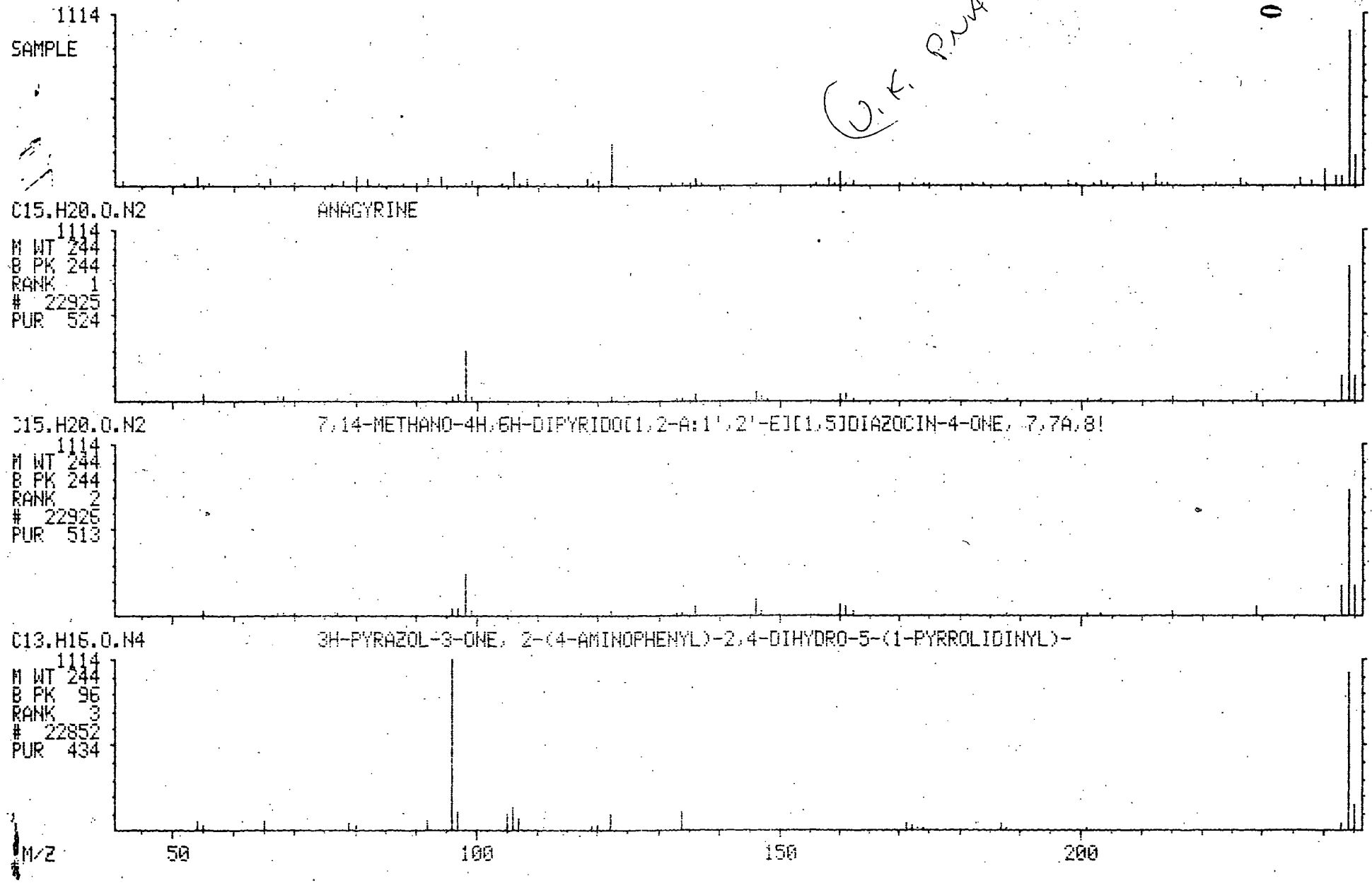


MID LIBRARY SEARCH
06/16/91 1:56:00 + 26:31
SAMPLE: S6 91-13590
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD35S13590 #1649 BASE M/Z: 244
CALI: AD35S13590 # 2 RIC: 103295.

00671

(U.K. PNA)



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S7

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H002 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13591

Sample wt/vol: 30 (g/mL) G Lab File ID: AD21513591

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 14. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	380.	U
111-44-4	bis(2-Chloroethyl)ether	380.	U
95-57-8	2-Chlorophenol	380.	U
541-73-1	1,3-Dichlorobenzene	380.	U
106-46-7	1,4-Dichlorobenzene	380.	U
100-51-6	Benzyl alcohol	380.	U
95-50-1	1,2-Dichlorobenzene	380.	U
95-48-7	2-Methylphenol	380.	U
108-60-1	bis(2-Chloroisopropyl)ether	380.	U
106-44-5	4-Methylphenol	380.	U
621-64-7	N-Nitroso-di-n-propylamine	380.	U
67-72-1	Hexachloroethane	380.	U
98-95-3	Nitrobenzene	380.	U
78-59-1	Isophorone	380.	U
88-75-5	2-Nitrophenol	380.	U
105-67-9	2,4-Dimethylphenol	380.	U
65-85-0	Benzoic acid	1900.	U
111-91-1	bis(2-Chloroethoxy)methane	380.	U
120-83-2	2,4-Dichlorophenol	380.	U
120-82-1	1,2,4-Trichlorobenzene	380.	U
91-20-3	Naphthalene	380.	U
106-47-8	4-Chloroaniline	380.	U
87-68-3	Hexachlorobutadiene	380.	U
59-50-7	4-Chloro-3-methylphenol	380.	U
91-57-6	2-Methylnaphthalene	380.	U
77-47-4	Hexachlorocyclopentadiene	380.	U
88-06-2	2,4,6-Trichlorophenol	380.	U
95-95-4	2,4,5-Trichlorophenol	1900.	U
91-58-7	2-Chloronaphthalene	380.	U
88-74-4	2-Nitroaniline	1900.	U
131-11-3	Dimethylphthalate	380.	U
208-96-8	Acenaphthylene	380.	U
606-20-2	2,6-Dinitrotoluene	380.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S7

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13591

Sample wt/vol: 30 (g/mL) G Lab File ID: AD21S13591

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 14 Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1900.	u
83-32-9	Acenaphthene	380.	u
51-28-5	2,4-Dinitrophenol	1900.	u
100-02-7	4-Nitrophenol	1900.	u
132-64-9	Dibenzofuran	380.	u
121-14-2	2,4-Dinitrotoluene	380.	u
84-66-2	Diethylphthalate	35.	~~u~~ J
7005-72-3	4-Chlorophenyl-phenylether	380.	u
86-73-7	Fluorene	380.	u
100-01-6	4-Nitroaniline	1900.	u
534-52-1	4,6-Dinitro-2-methylphenol	1900.	u
86-30-6	N-Nitrosodiphenylamine (1)	380.	u
101-55-3	4-Bromophenyl-phenylether	380.	u
118-74-1	Hexachlorobenzene	380.	u
87-86-5	Pentachlorophenol	1900.	u
85-01-8	Phenanthrene	54.	u
120-12-7	Anthracene	380.	u
84-74-2	Di-n-butylphthalate	380.	u
206-44-0	Fluoranthene	110.	J
129-00-0	Pyrene	120.	J
85-68-7	Butylbenzylphthalate	380.	u
91-94-1	3,3'-Dichlorobenzidine	770.	u
56-55-3	Benzo(a)anthracene	380.	u
218-01-9	Chrysene	380.	u
117-81-7	bis(2-Ethylhexyl)phthalate	270.	JB
117-84-0	Di-n-octylphthalate	380.	u
205-99-2	Benzo(b)fluoranthene	380.	u
207-08-9	Benzo(k)fluoranthene	380.	u
50-32-8	Benzo(a)pyrene	380.	u
193-39-5	Indeno(1,2,3-cd)pyrene	380.	u
53-70-3	Dibenz(a,h)anthracene	380.	u
191-24-2	Benzo(g,h,i)perylene	380.	u

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S7

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E040022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13591

Sample wt/vol: 30 (g/mL) G Lab File ID: AD21513591

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 14. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

Number TICs found: 8

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATION PRODUCT	6:43	6500.	AJB
2.	ALDOL CONDENSATION PRODUCT	7:30	98000.	AJB
3.	ALDOL CONDENSATION PRODUCT	8:58	1200.	AJB
4.	ALDOL CONDENSATION PRODUCT	9:19	1100.	AJ
5.	ALDOL CONDENSATION PRODUCT	10:30	570.	AJ
6.	ALDOL CONDENSATION PRODUCT	11:45	1200.	AJ
7.	HYDROCARBON (UNKNOWN)	21:08	190.	J
8.	UNKNOWN PNA	29:42	3600.	J
9.				
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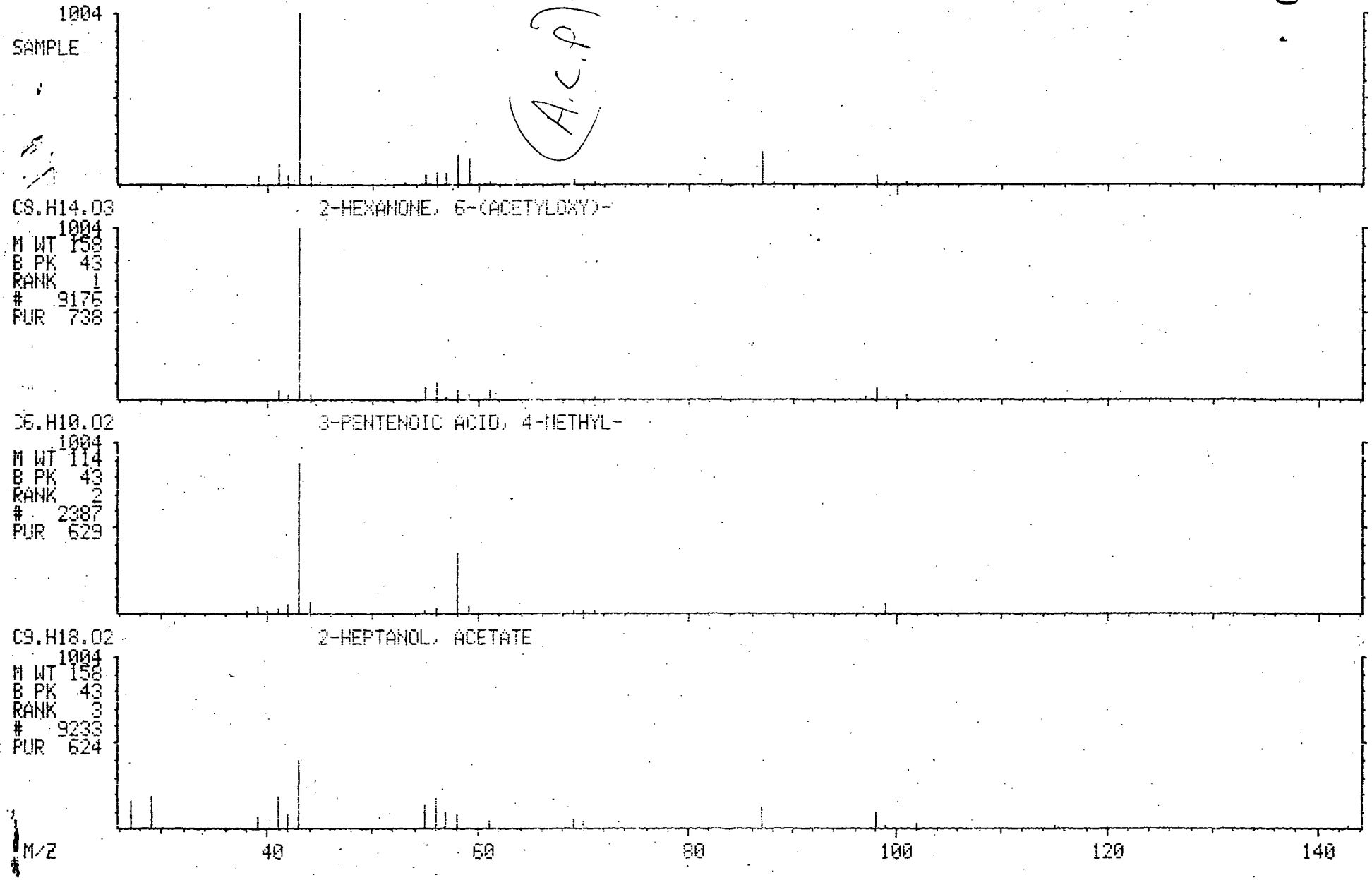
MID LIBRARY SEARCH
06/15/91 0:06:00 + 8:58
SAMPLE: 57 91-13591
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD21S13591 # 558
CALI: AD21S13591 # 2

BASE M/Z: 43
RIC: 60287.

00710

(A.C.P.)

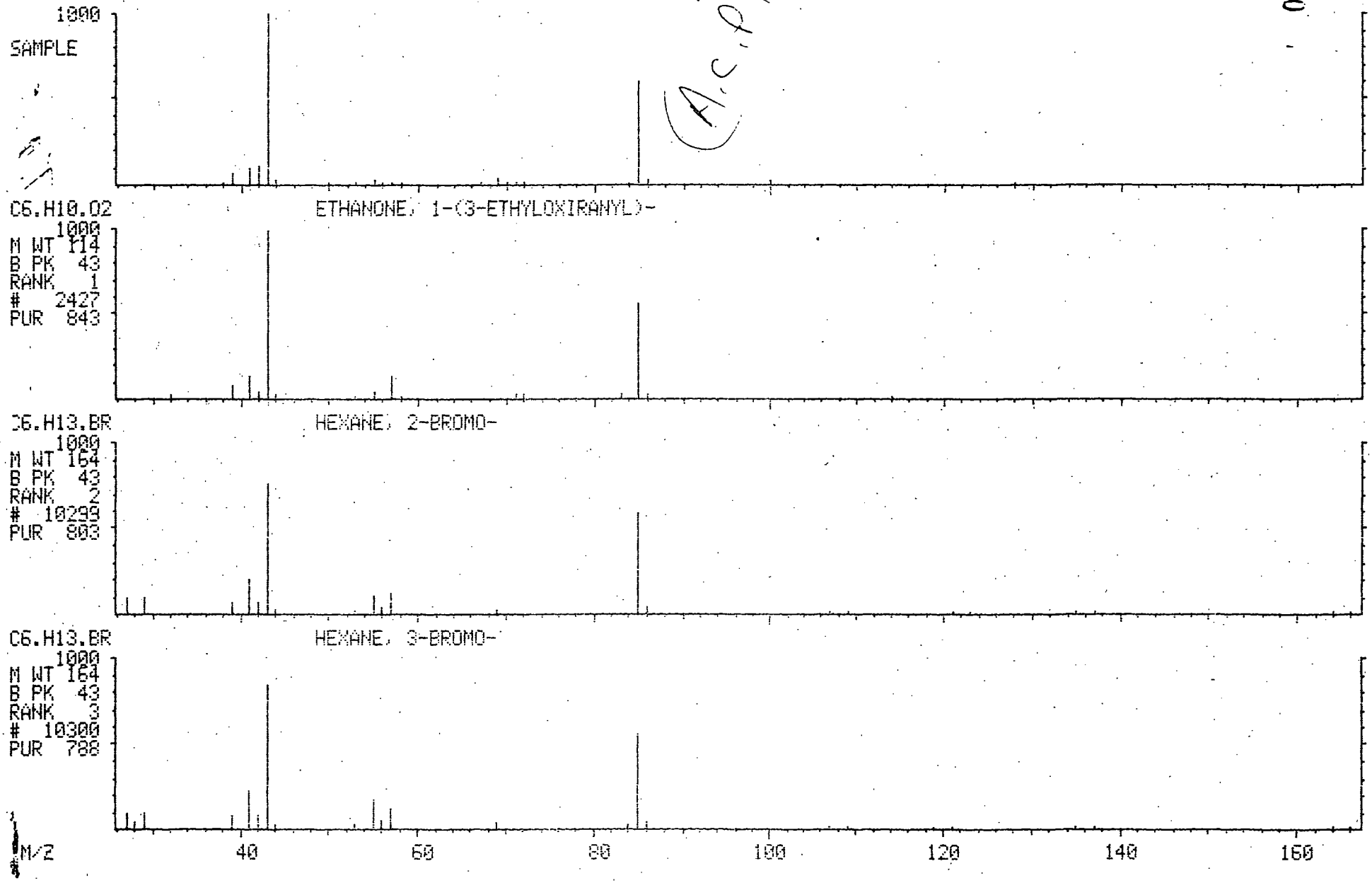


MID LIBRARY SEARCH
06/15/91 0:06:00 + 9:19
SAMPLE: S7 91-13591
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD21S13591 # 580 BASE M/Z: 43
CALI: AD21S13591 # 2 RIC: 25023.

00712

(A.C.P)



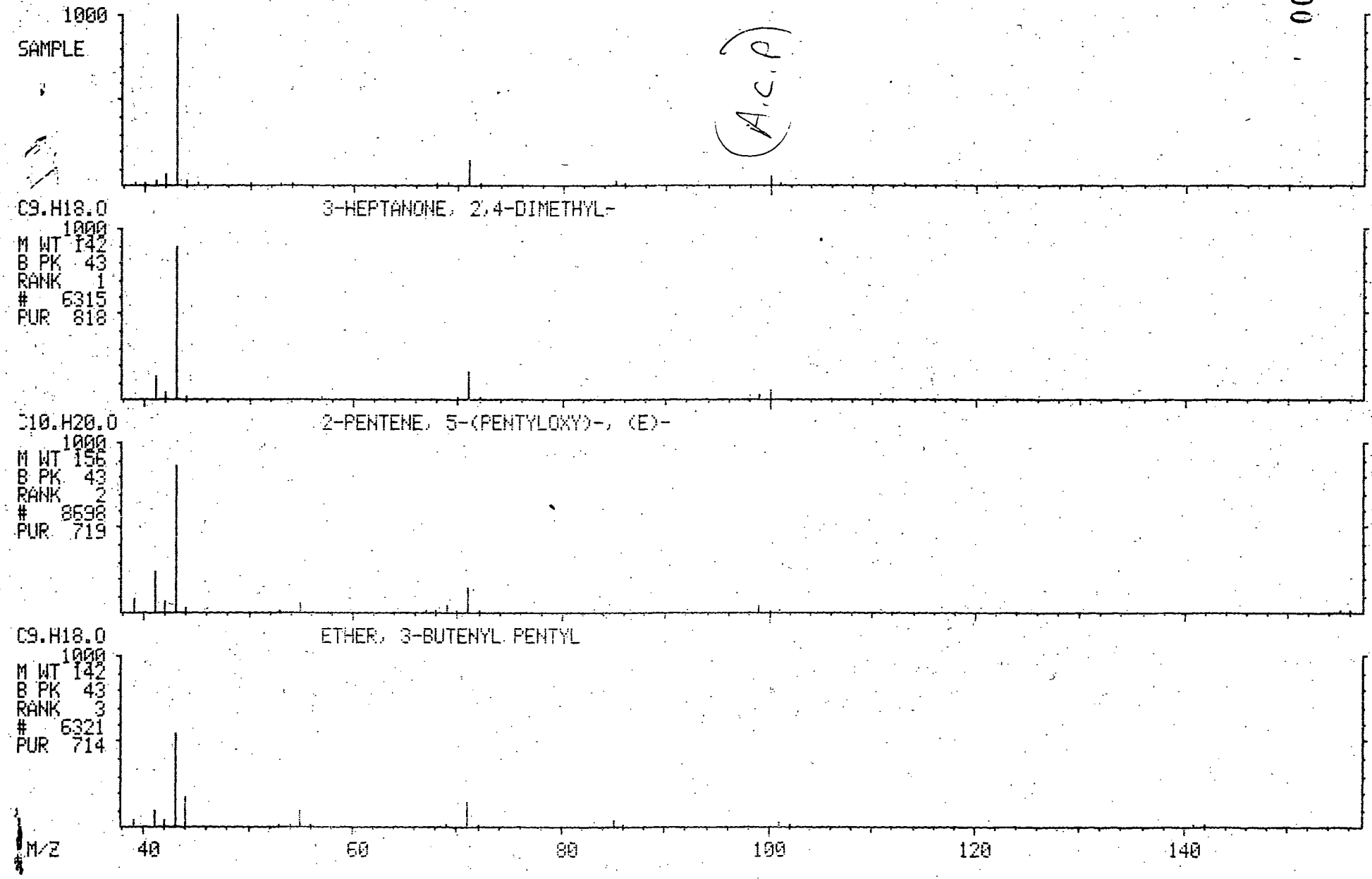
MID LIBRARY SEARCH
06/15/91 0:06:00 + 10:30
SAMPLE: S7 91-13591
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD21S13591 # 653
CALI: AD21S13591 # 2

BASE M/Z: 43
RIC: 26911.

00714

(A.C.P)

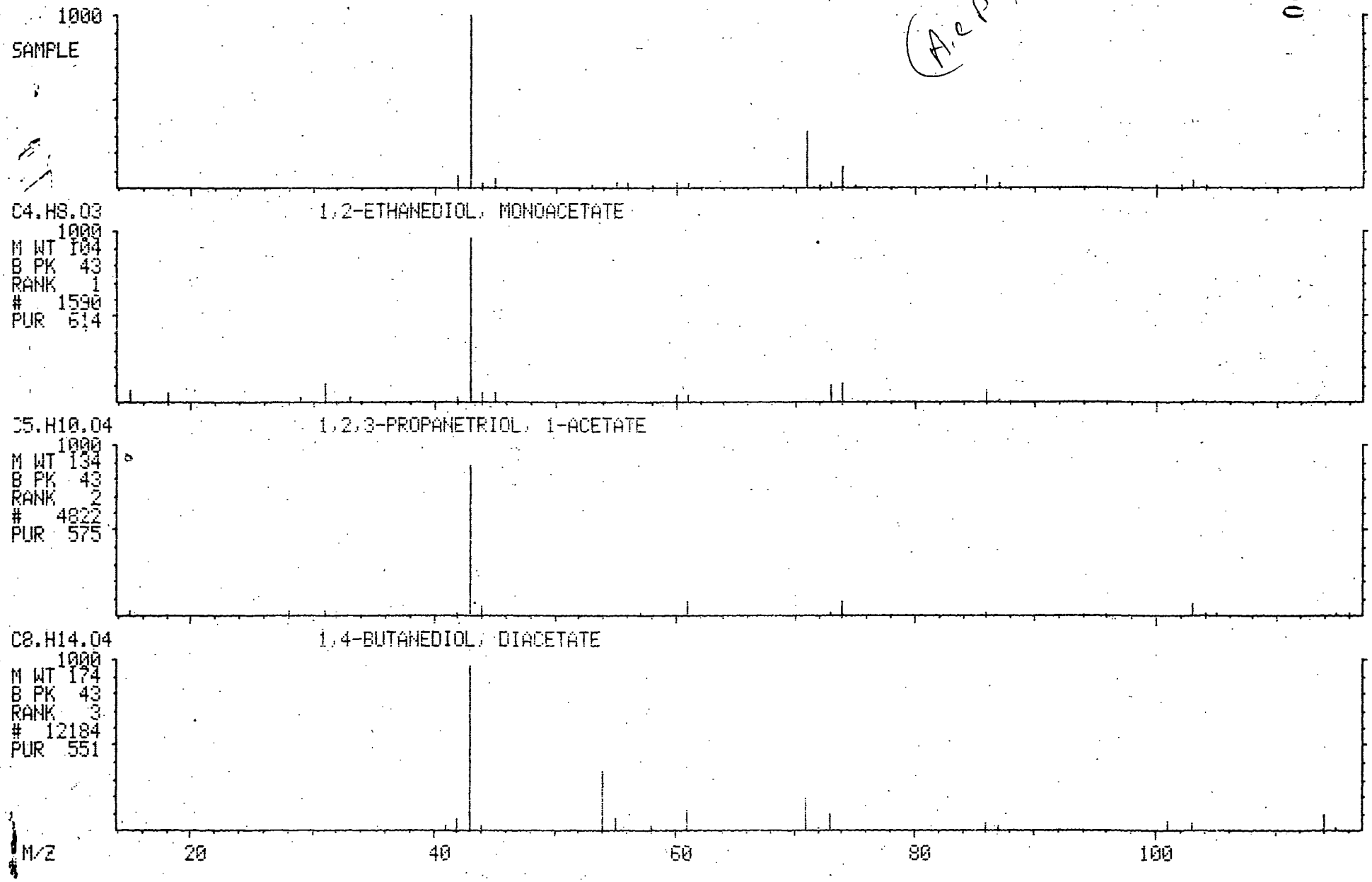


MID LIBRARY SEARCH
06/15/91 0:06:00 + 11:45
SAMPLE: S7 91-13591
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD21S13591 # 731 BASE M/Z: 43
CALI: AD21S13591 # 2 RIC: 48703.

00716

(A.c P)

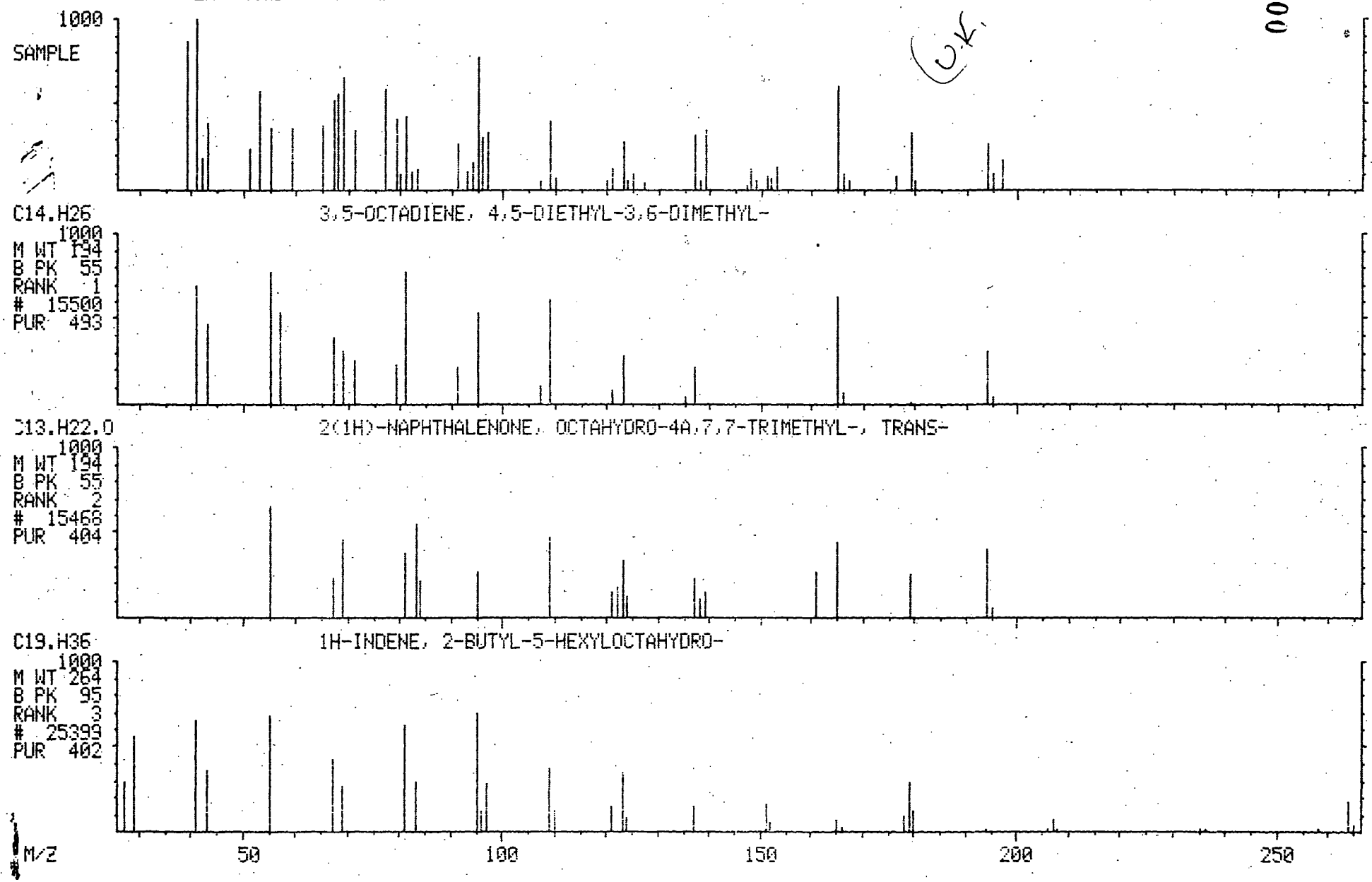


MID LIBRARY SEARCH
06/15/91 0:06:00 + 21:08
SAMPLE: S7 91-13591
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD21513591 #1315 BASE M/Z: 41
CALI: AD21513591 # 2 RIC: 9615.

(C.K. HC)

00718



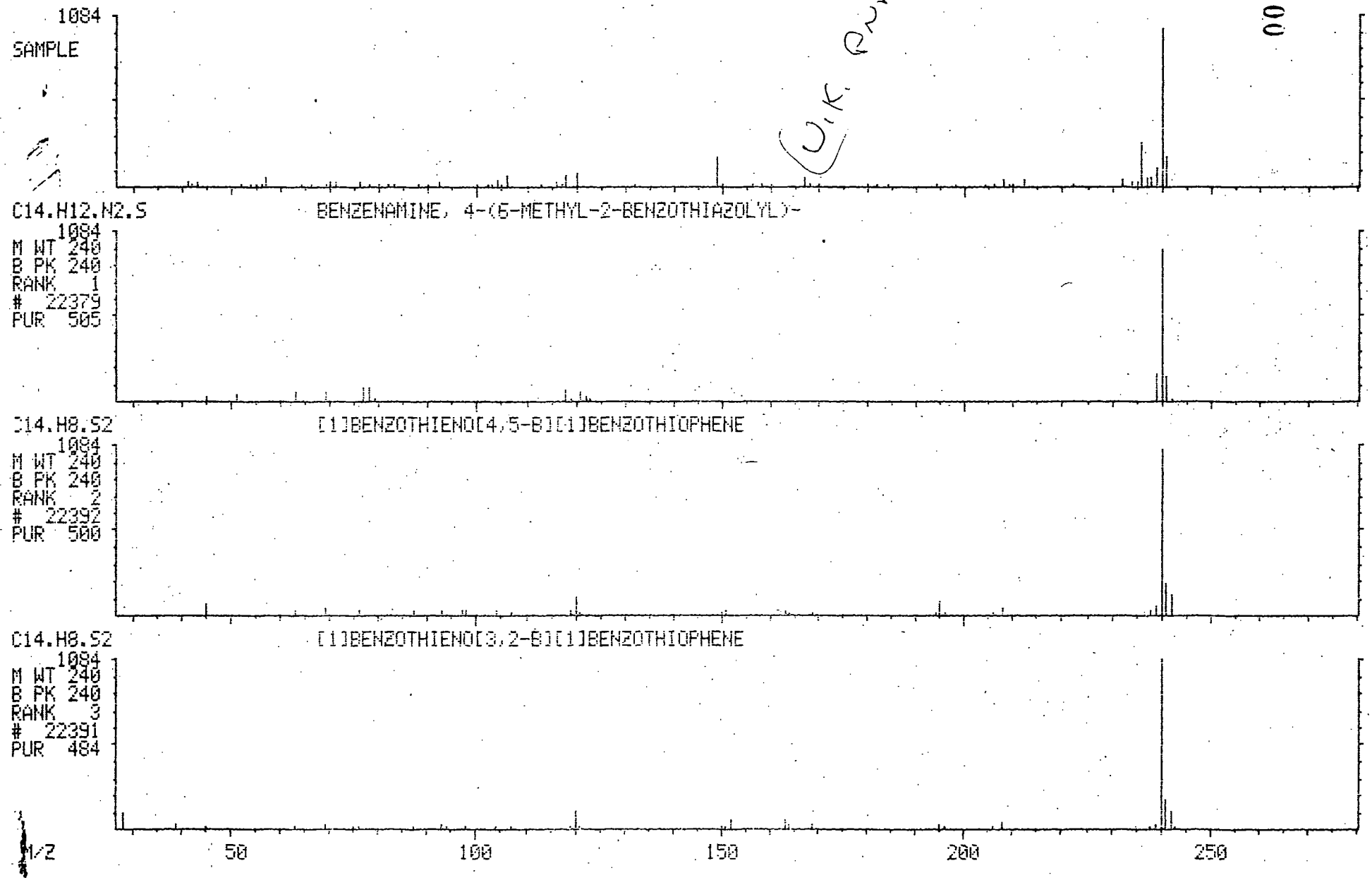
MID LIBRARY SEARCH
06/15/91 0:06:00 + 29:42
SAMPLE: S7 91-13591
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD21513591 #1847
CALI: AD21513591 # 2

BASE M/Z: 240
RIC: 26047.

00220

(U.K. RNA)



1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S8

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H00022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13592

Sample wt/vol: 30 (g/mL) G Lab File ID: AD33S13592

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 18. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/16/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2000.	U
83-32-9	Acenaphthene	400.	U
51-28-5	2,4-Dinitrophenol	2000.	U
100-02-7	4-Nitrophenol	2000.	U
132-64-9	Dibenzofuran	400.	U
121-14-2	2,4-Dinitrotoluene	400.	U
84-66-2	Diethylphthalate	400.	U
7005-72-3	4-Chlorophenyl-phenylether	400.	U
86-73-7	Fluorene	400.	U
100-01-6	4-Nitroaniline	2000.	U
534-52-1	4,6-Dinitro-2-methylphenol	2000.	U
86-30-6	N-Nitrosodiphenylamine (1)	400.	U
101-55-3	4-Bromophenyl-phenylether	400.	U
118-74-1	Hexachlorobenzene	400.	U
87-86-5	Pentachlorophenol	2000.	U
85-01-8	Phenanthrene	140.	J
120-12-7	Anthracene	400.	U
84-74-2	Di-n-butylphthalate	400.	U
206-44-0	Fluoranthene	380	J
129-00-0	Pyrene	270.	J
85-68-7	Butylbenzylphthalate	400.	U
91-94-1	3,3'-Dichlorobenzidine	400.	U
56-55-3	Benzo(a)anthracene	400.	U
218-01-9	Chrysene	170.	J
117-81-7	bis(2-Ethylhexyl)phthalate	510.	B
117-84-0	Di-n-octylphthalate	400.	U
205-99-2	Benzo(b)fluoranthene	270.	J
207-08-9	Benzo(k)fluoranthene	400.	U
50-32-8	Benzo(a)pyrene	160.	J
193-39-5	Indeno(1,2,3-cd)pyrene	400.	U
53-70-3	Dibenz(a,h)anthracene	400.	U
191-24-2	Benzo(g,h,i)perylene	400.	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S8

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E040022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13592

Sample wt/vol: 30 (g/mL) G Lab File ID: AD33S13592

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 18. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/16/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

Number TICs found: 8

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL CONDENSATION PRODUCT	6.40	5000.	AJB
2.		ALDOL CONDENSATION PRODUCT	7.25	54000.	AJB
3.		ALDOL CONDENSATION PRODUCT	8.55	1000.	AJB
4.		BROMO HEXANE ISOMER	9.17	940.	J
5.		ALDOL CONDENSATION PRODUCT	9.32	540.	AJ
6.		ALDOL CONDENSATION PRODUCT	10.27	440.	AJ
7.		ALDOL CONDENSATION PRODUCT	11.43	1100.	AJ
8.		UNKNOWN P.N.A.	29.39	4000.	J
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S8

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H002 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13592

Sample wt/vol: 30 (g/mL) G Lab File ID: AD33S13592

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 18 Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/16/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	400.	u
111-44-4	bis(2-Chloroethyl)ether	400.	u
95-57-8	2-Chlorophenol	400.	u
541-73-1	1,3-Dichlorobenzene	400.	u
106-46-7	1,4-Dichlorobenzene	400.	u
100-51-6	Benzyl alcohol	400.	u
95-50-1	1,2-Dichlorobenzene	400.	u
95-48-7	2-Methylphenol	400.	u
108-60-1	bis(2-Chloroisopropyl)ether	400.	u
106-44-5	4-Methylphenol	400.	u
621-64-7	N-Nitroso-di-n-propylamine	400.	u
67-72-1	Hexachloroethane	400.	u
98-95-3	Nitrobenzene	400.	u
78-59-1	Isophorone	400.	u
88-75-5	2-Nitrophenol	400.	u
105-67-9	2,4-Dimethylphenol	400.	u
65-85-0	Benzoic acid	2000.	u
111-91-1	bis(2-Chloroethoxy)methane	400.	u
120-83-2	2,4-Dichlorophenol	400.	u
120-82-1	1,2,4-Trichlorobenzene	400.	u
91-20-3	Naphthalene	400.	u
106-47-8	4-Chloroaniline	400.	u
87-68-3	Hexachlorobutadiene	400.	u
59-50-7	4-Chloro-3-methylphenol	400.	u
91-57-6	2-Methylnaphthalene	400.	u
77-47-4	Hexachlorocyclopentadiene	400.	u
88-06-2	2,4,6-Trichlorophenol	400.	u
95-95-4	2,4,5-Trichlorophenol	2000.	u
91-58-7	2-Chloronaphthalene	400.	u
88-74-4	2-Nitroaniline	2000.	u
131-11-3	Dimethylphthalate	400.	u
208-96-8	Acenaphthylene	400.	u
606-20-2	2,6-Dinitrotoluene	400.	u

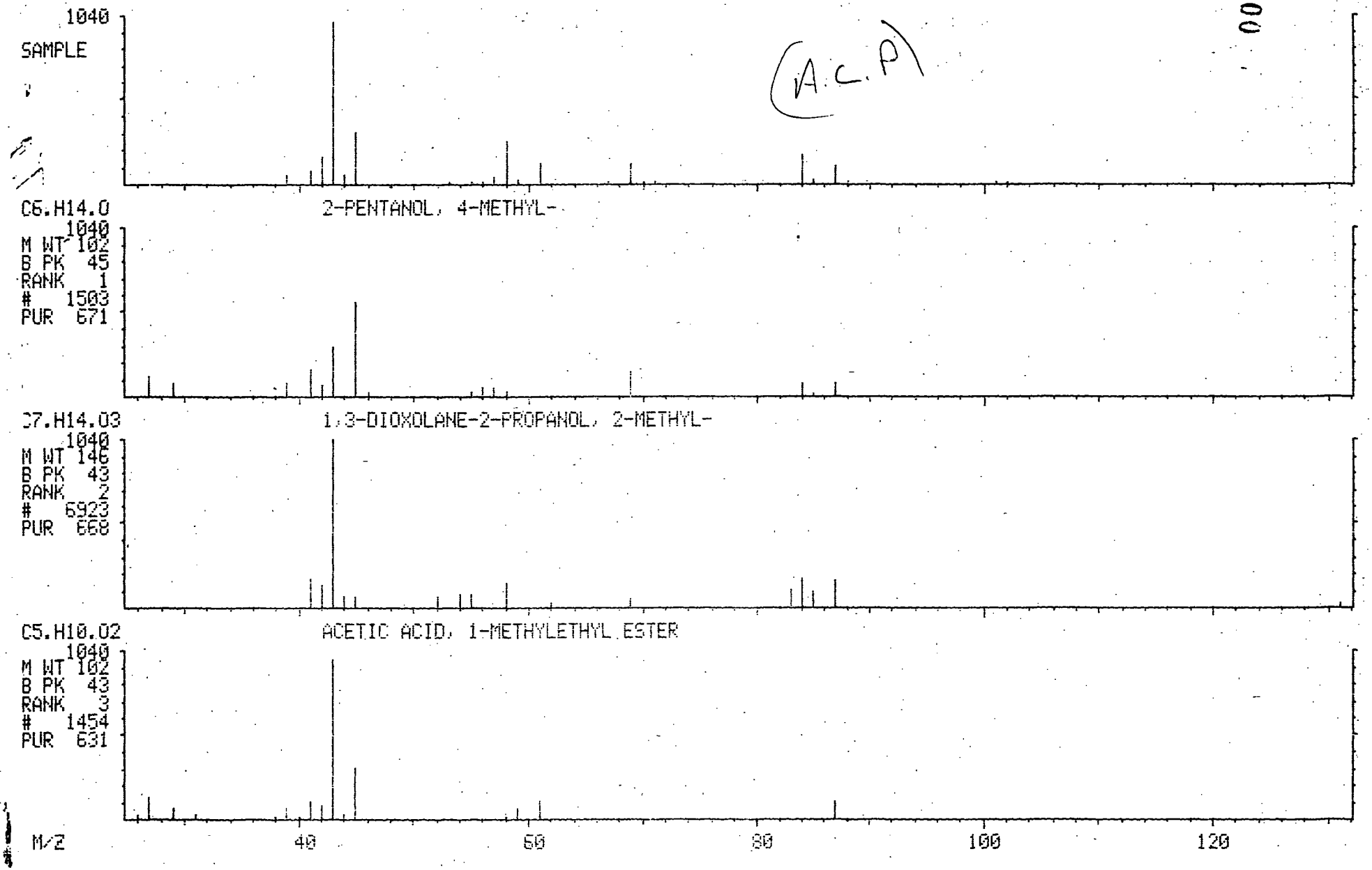
MID LIBRARY SEARCH
06/16/91 0:07:00 + 6:40
SAMPLE: S8 91-13592
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD33513592 # 415
CALI: AD33513592 # 2

BASE M/Z: 43
RIC: 64511.

00761

(A.C.P)



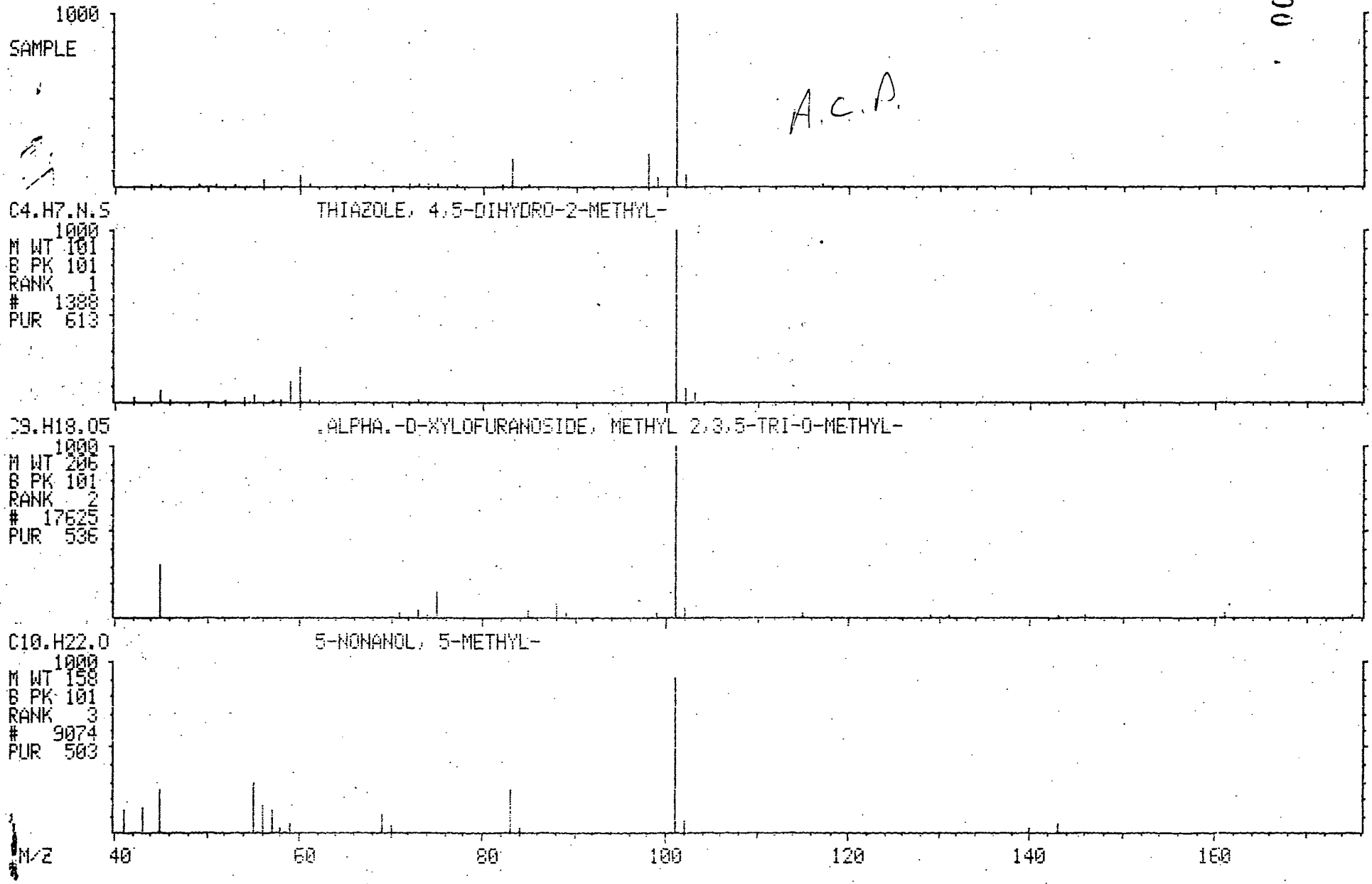
MID LIBRARY SEARCH
06/16/91 0:07:00 + 7:25
SAMPLE: S8 91-13592
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD33S13592 # 461
CALI: AD33S13592 # 2

BASE M/Z: 101
RIC: 131583.

00753

A.C.P.

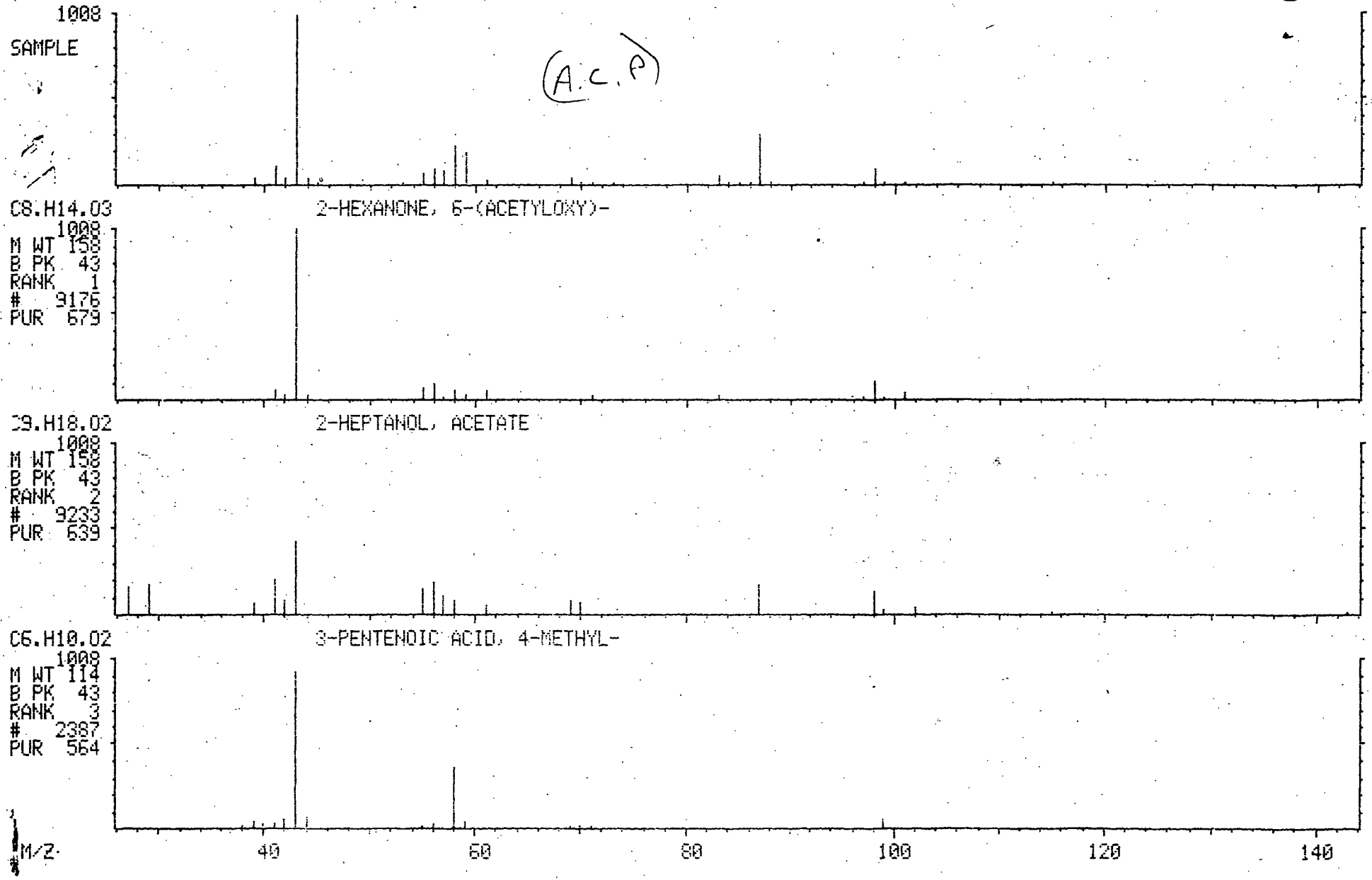


MID LIBRARY SEARCH
06/16/91 0:07:00 + 8:55
SAMPLE: S8 91-13592
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD33513592 # 555
CALI: AD33513592 # 2

BASE M/Z: 43
RIC: 81535.

00765

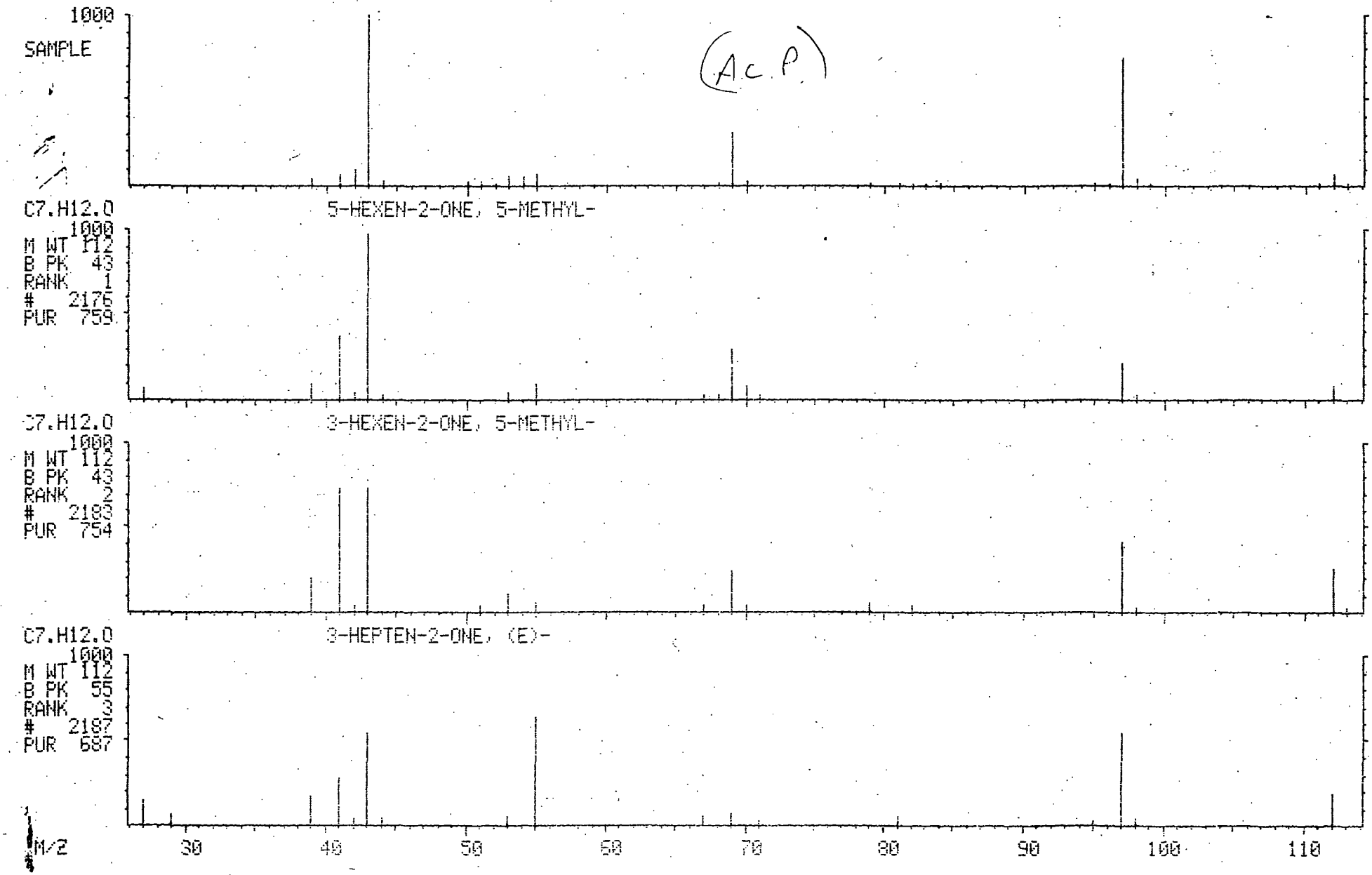


MID LIBRARY SEARCH
06/16/91 0:07:00 + 9:32
SAMPLE: S8 91-13592
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD33S13592 # 593
CALI: AD33S13592 # 2

BASE M/Z: 43
RIC: 37375.

00769

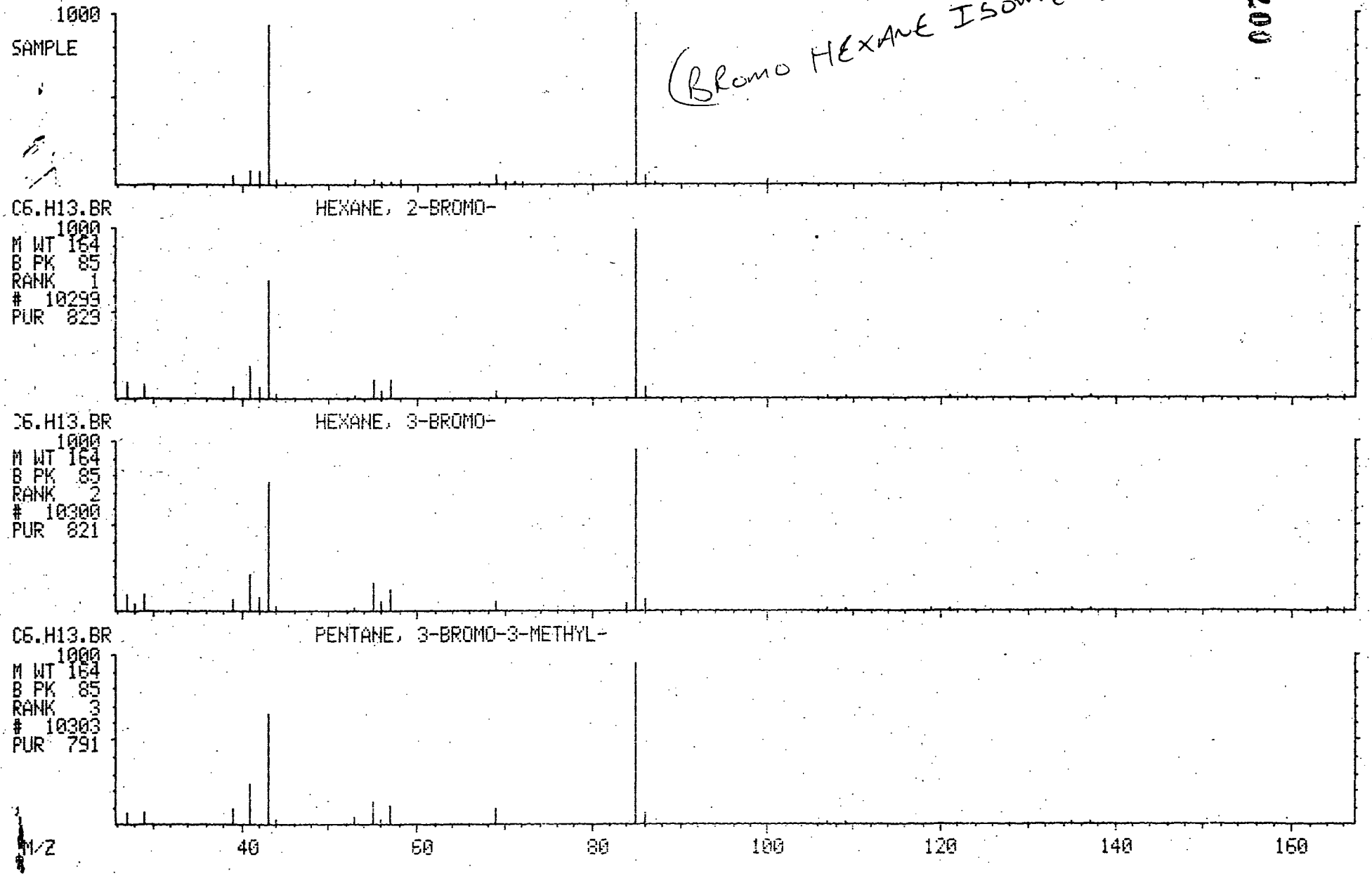


MID LIBRARY SEARCH
06/16/91 0:07:00 + 9:17
SAMPLE: S8 91-13592
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD33513592 # 577 BASE M/Z: 85
CALI: AD33513592 # 2 RIC: 32447.

(Bromo Hexane Isomer)

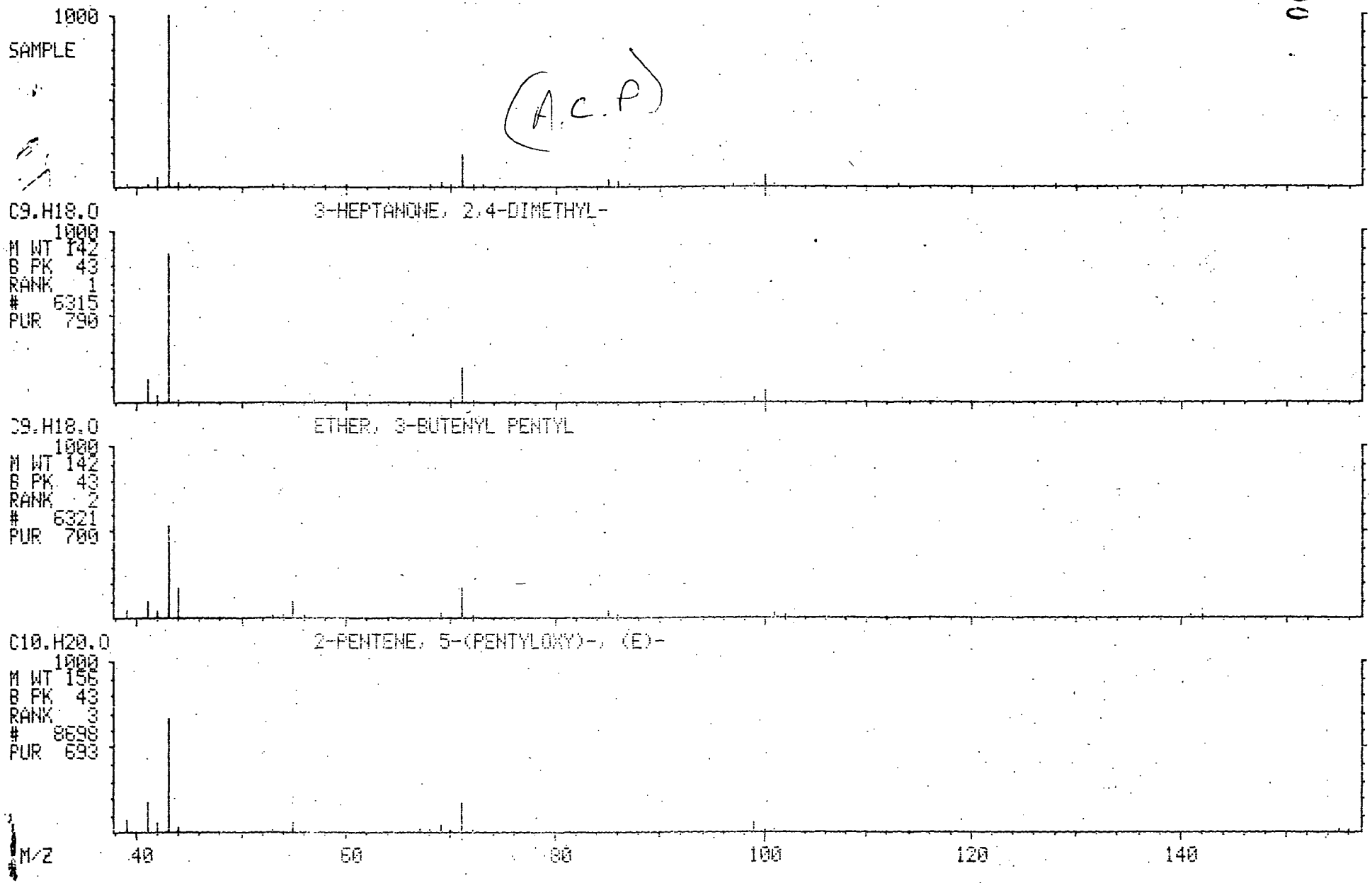
00757



MID LIBRARY SEARCH
06/16/91 0:07:00 + 10:27
SAMPLE: S8 ' 91-13592
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD33513592 # 650 BASE M/Z: 43
CALI: AD33513592 # 2 RIC: 35327.

00771

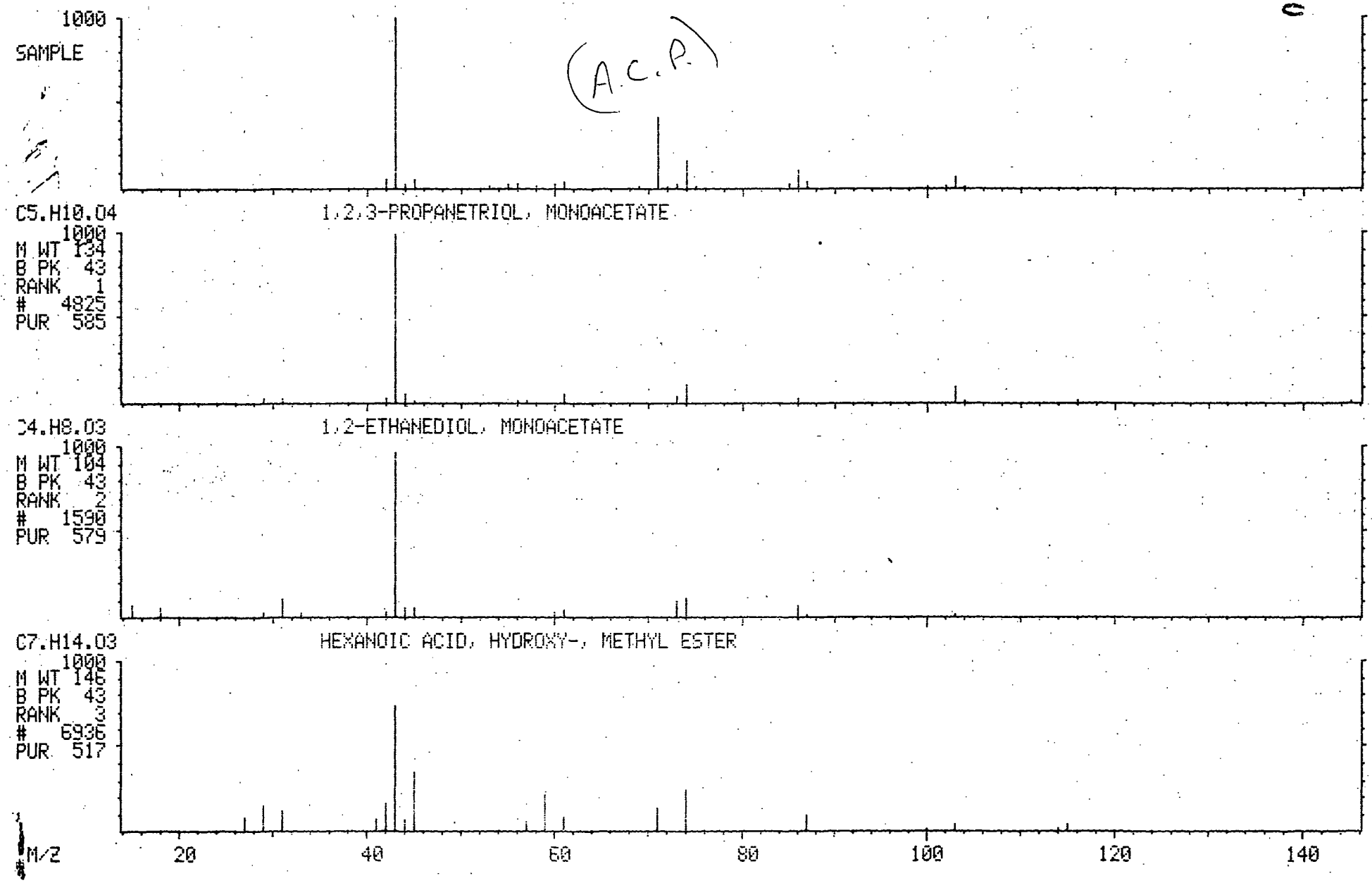


MID LIBRARY SEARCH
06/16/91 0:07:00 + 11:43
SAMPLE: S8 91-13592
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD33S13592 # 729
CALI: AD33S13592 # 2

BASE M/Z: 43
RIC: 57471.

00773

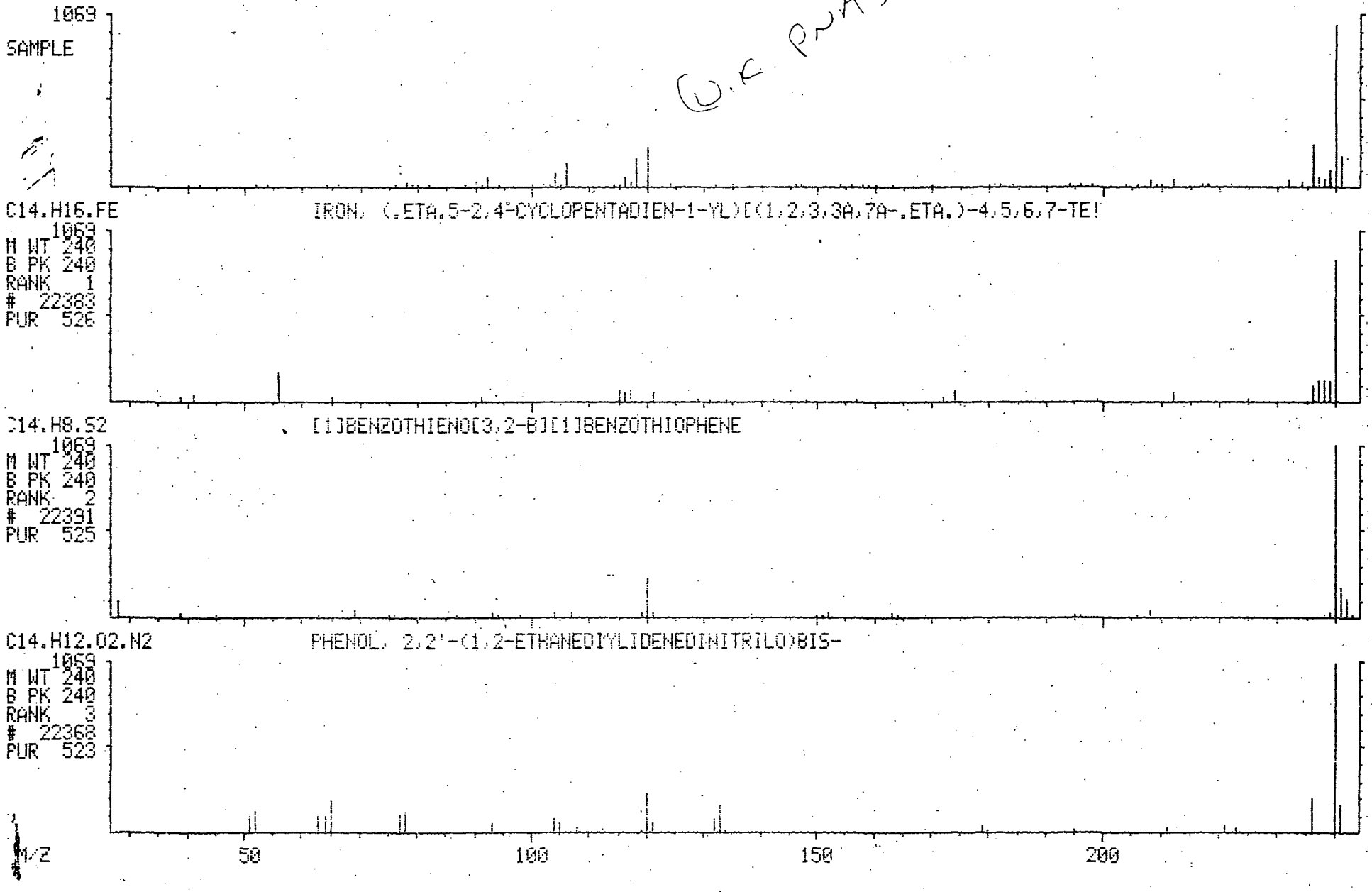


MID LIBRARY SEARCH
06/16/91 0:07:00 + 29:39
SAMPLE: S8 91-13592
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD33S13592 #1844 BASE M/Z: 240
CALI: AD33S13592 # 2 RIC: 45503.

00775

(U.K. PNA)



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S9

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H002 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13593

Sample wt/vol: 30 (g/mL) G Lab File ID: AD31S13593

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 23. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

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

CAS NO.	COMPOUND		Q
108-95-2	Phenol	430.	U
111-44-4	bis(2-Chloroethyl)ether	430.	U
95-57-8	2-Chlorophenol	430.	U
541-73-1	1,3-Dichlorobenzene	430.	U
106-46-7	1,4-Dichlorobenzene	430.	U
100-51-6	Benzyl alcohol	430.	U
95-50-1	1,2-Dichlorobenzene	430.	U
95-48-7	2-Methylphenol	430.	U
108-60-1	bis(2-Chloroisopropyl)ether	430.	U
106-44-5	4-Methylphenol	430.	U
621-64-7	N-Nitroso-di-n-propylamine	430.	U
67-72-1	Hexachloroethane	430.	U
98-95-3	Nitrobenzene	430.	U
78-59-1	Isophorone	430.	U
88-75-5	2-Nitrophenol	430.	U
105-67-9	2,4-Dimethylphenol	430.	U
65-85-0	Benzoic acid	2100	U
111-91-1	bis(2-Chloroethoxy)methane	430.	U
120-83-2	2,4-Dichlorophenol	430.	U
120-82-1	1,2,4-Trichlorobenzene	430.	U
91-20-3	Naphthalene	430.	U
106-47-8	4-Chloroaniline	430.	U
87-68-3	Hexachlorobutadiene	430.	U
59-50-7	4-Chloro-3-methylphenol	430.	U
91-57-6	2-Methylnaphthalene	430.	U
77-47-4	Hexachlorocyclopentadiene	430.	U
88-06-2	2,4,6-Trichlorophenol	430.	U
95-95-4	2,4,5-Trichlorophenol	2100.	U
91-58-7	2-Chloronaphthalene	430.	U
88-74-4	2-Nitroaniline	2100.	U
131-11-3	Dimethylphthalate	430.	U
208-96-8	Acenaphthylene	430.	U
606-20-2	2,6-Dinitrotoluene	430.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

59

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: EOH0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13593

Sample wt/vol: 30 (g/mL) G Lab File ID: AD31S13593

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 23 Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	2100.	U
83-32-9	Acenaphthene	430.	U
51-28-5	2,4-Dinitrophenol	2100.	U
100-02-7	4-Nitrophenol	2100.	U
132-64-9	Dibenzofuran	430.	U
121-14-2	2,4-Dinitrotoluene	430.	U
84-66-2	Diethylphthalate	430.	U
7005-72-3	4-Chlorophenyl-phenylether	430.	U
86-73-7	Fluorene	430.	U
100-01-6	4-Nitroaniline	2100.	U
534-52-1	4,6-Dinitro-2-methylphenol	2100.	U
86-30-6	N-Nitrosodiphenylamine (1)	430.	U
101-55-3	4-Bromophenyl-phenylether	430.	U
118-74-1	Hexachlorobenzene	430.	U
87-86-5	Pentachlorophenol	2100.	U
85-01-8	Phenanthrene	170.	J
120-12-7	Anthracene	430.	U
84-74-2	Di-n-butylphthalate	430.	U
206-44-0	Fluoranthene	370.	J
129-00-0	Pyrene	320.	J
85-68-7	Butylbenzylphthalate	430.	U
91-94-1	3,3'-Dichlorobenzidine	860.	U
56-55-3	Benzo(a)anthracene	170.	J
218-01-9	Chrysene	190.	J
117-81-7	bis(2-Ethylhexyl)phthalate	570.	
117-84-0	Di-n-octylphthalate	430.	U
205-99-2	Benzo(b)fluoranthene	430.	U
207-08-9	Benzo(k)fluoranthene	430.	U
50-32-8	Benzo(a)pyrene	430.	U
193-39-5	Indeno(1,2,3-cd)pyrene	430.	U
53-70-3	Dibenz(a,h)anthracene	430.	U
191-24-2	Benzo(g,h,i)perylene	430.	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

S9

Lab Name: DATA CHEM LABS Contract: 19005

Lab Code: DATAC Case No.: EOH0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13593

Sample wt/vol: 30 (g/mL) G Lab File ID: AD31513593

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 23 Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONIC Date Analyzed: 06/15/91

GPC Cleanup: (Y/N) ___ pH: 6.0 Dilution Factor: 1.0

Number TICs found: 9

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	ALDOL CONDENSATION PRODUCT	6:43	6200.	AJB
2.	ALDOL CONDENSATION PRODUCT	7:30	35000.	AJB
3.	ALDOL CONDENSATION PRODUCT	8:58	1200.	AJB
4.	BROMO, HEXANE ISOMER	9:19	1300.	J
5.	ALDOL CONDENSATION PRODUCT	9:36	440.	AJ
6.	ALDOL CONDENSATION PRODUCT	10:30	640.	AJ
7.	ALDOL CONDENSATION PRODUCT	11:45	1000.	AJ
8.	TRICHLORO BIPHENYL ISOMER	23:41	1400.	J
9.	UNKNOWN PNA	29:42	4900.	J
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
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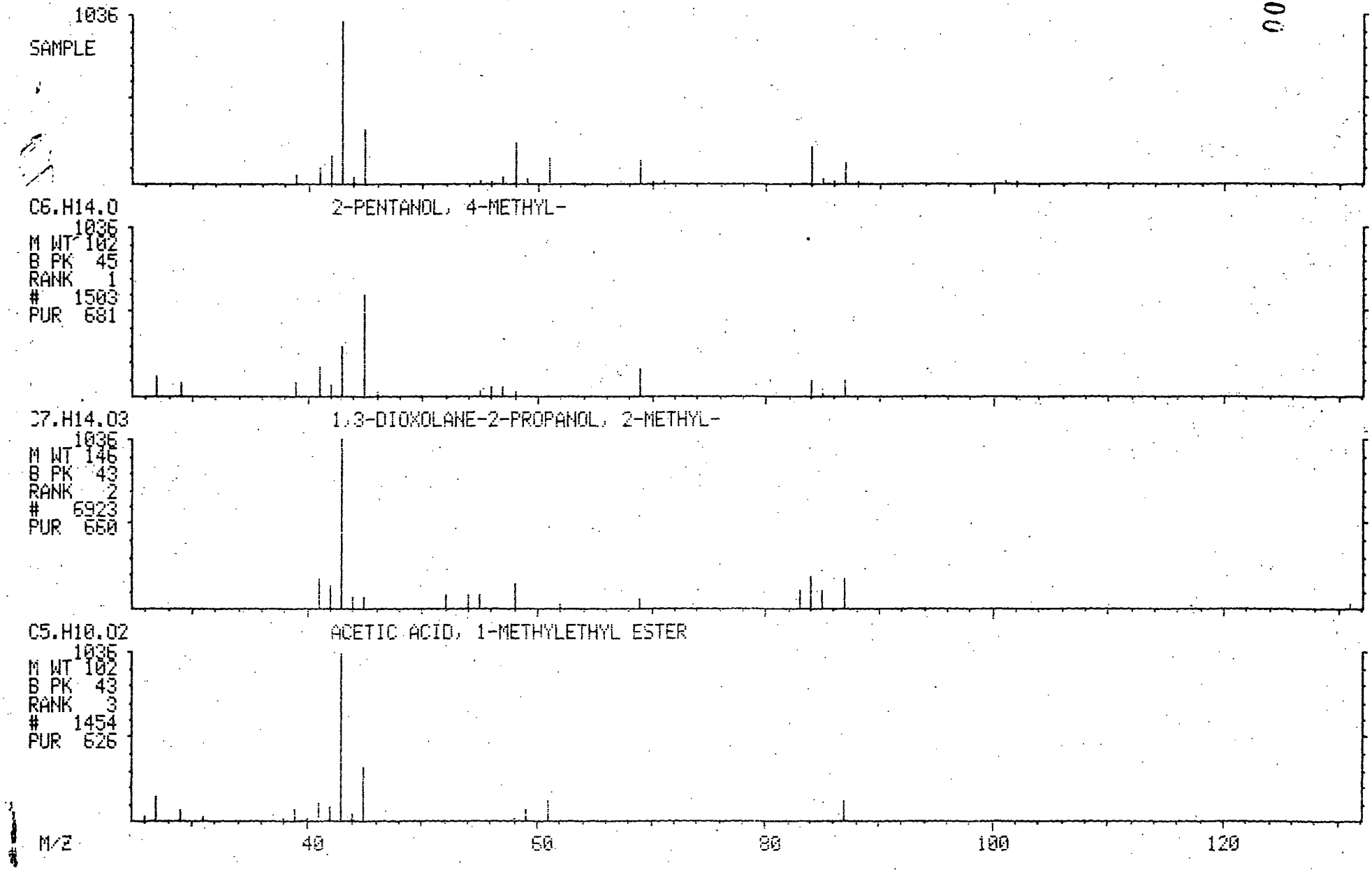
27.				
28.				
29.				
30.				

MID LIBRARY SEARCH
06/15/91 22:18:00 + 6:43
SAMPLE: S9 91-13593
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD31513593 # 418 BASE M/Z: 43
CALI: AD31513593 # 2 RIC: 67711.

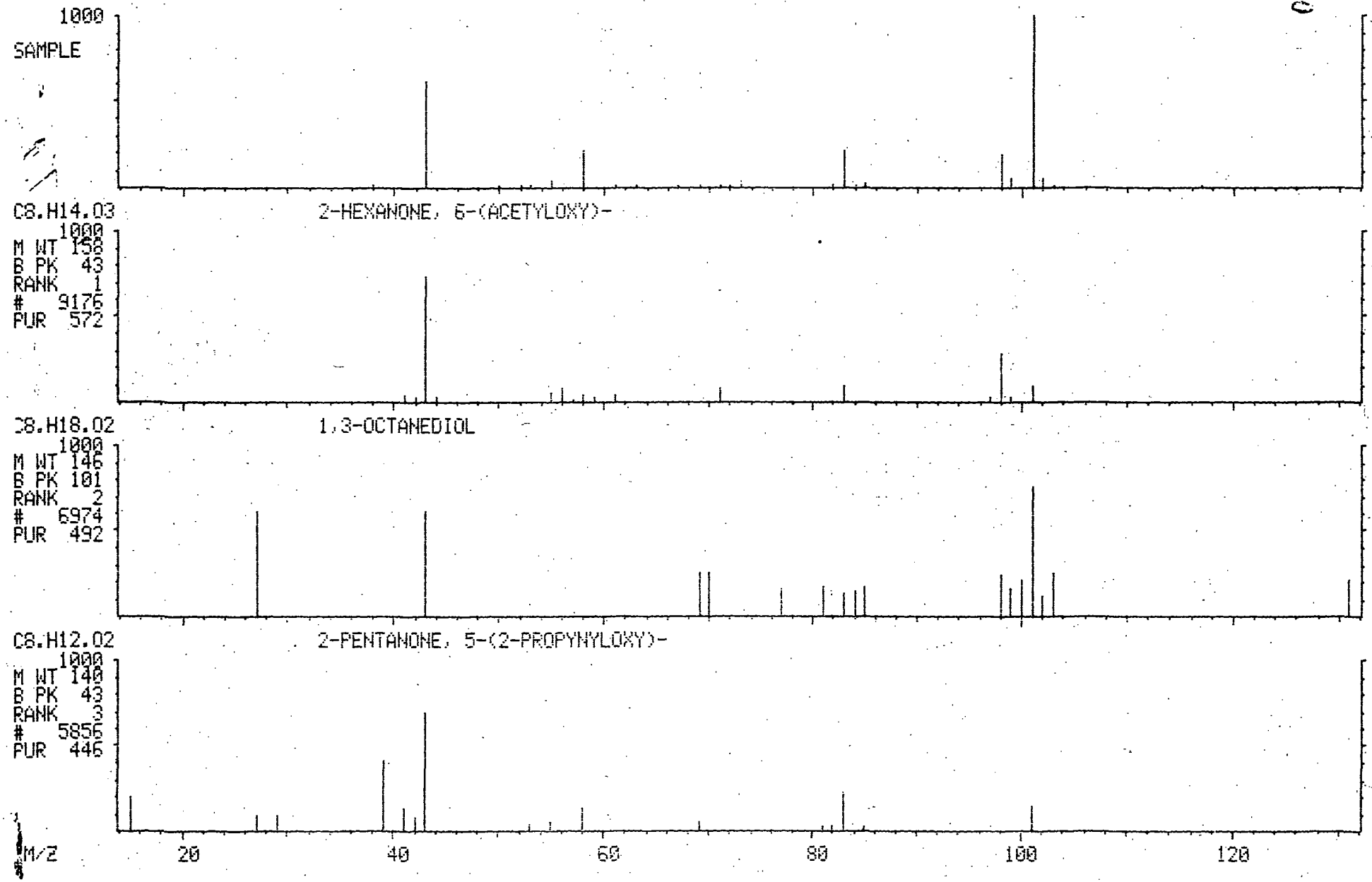
13900



MID LIBRARY SEARCH
06/15/91 22:18:00 + 7:30
SAMPLE: S9 91-13593
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD31513593 # 467 BASE M/Z: 101
CALI: AD31513593 # 2 RIC: 174591.

00815

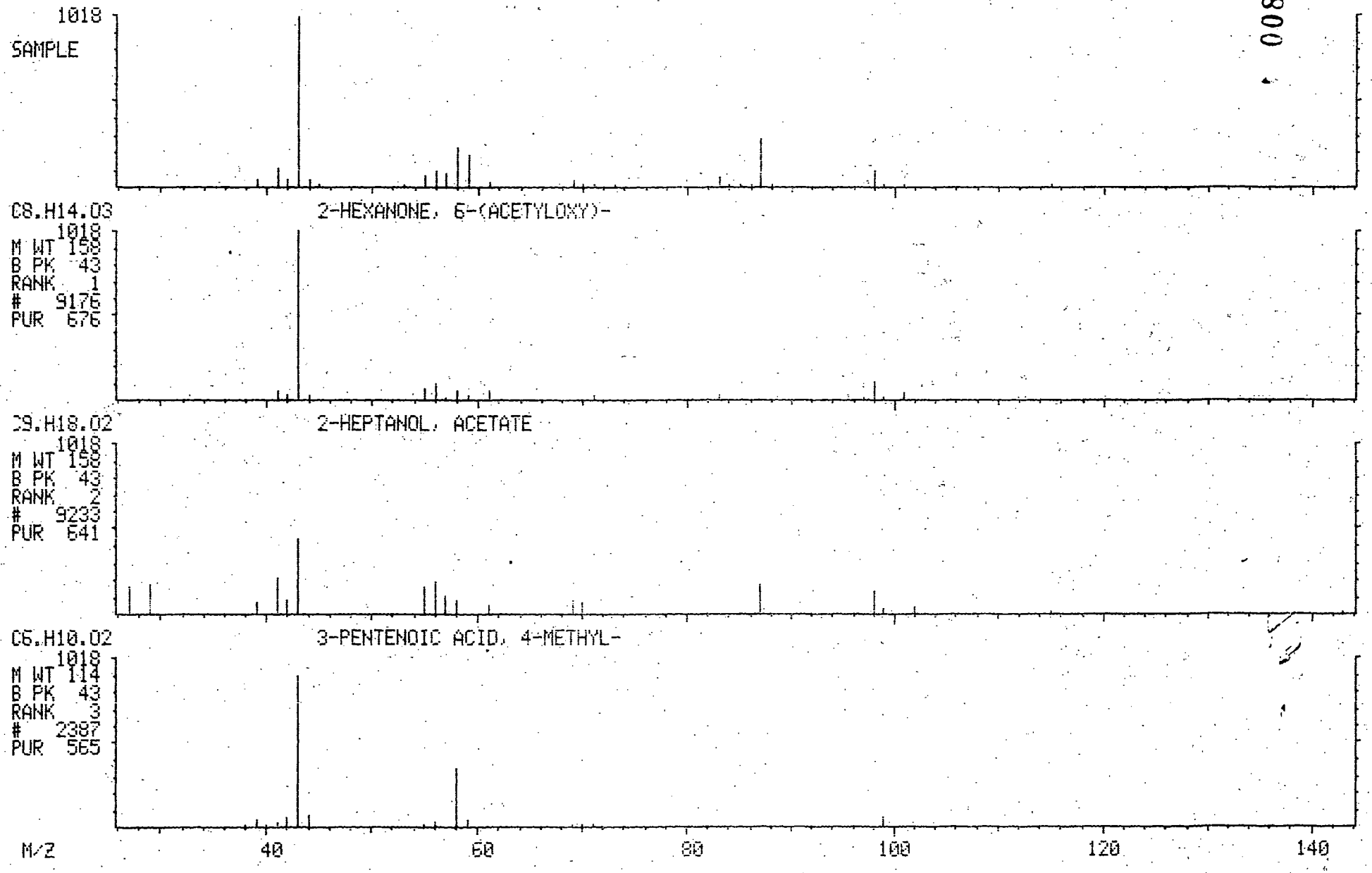


MID LIBRARY SEARCH
06/15/91 22:18:00 + 8:58
SAMPLE: S9 91-13593
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD31513593 # 558
CALI: AD31513593 # 2

BASE M/Z: 43
RIC: 82815.

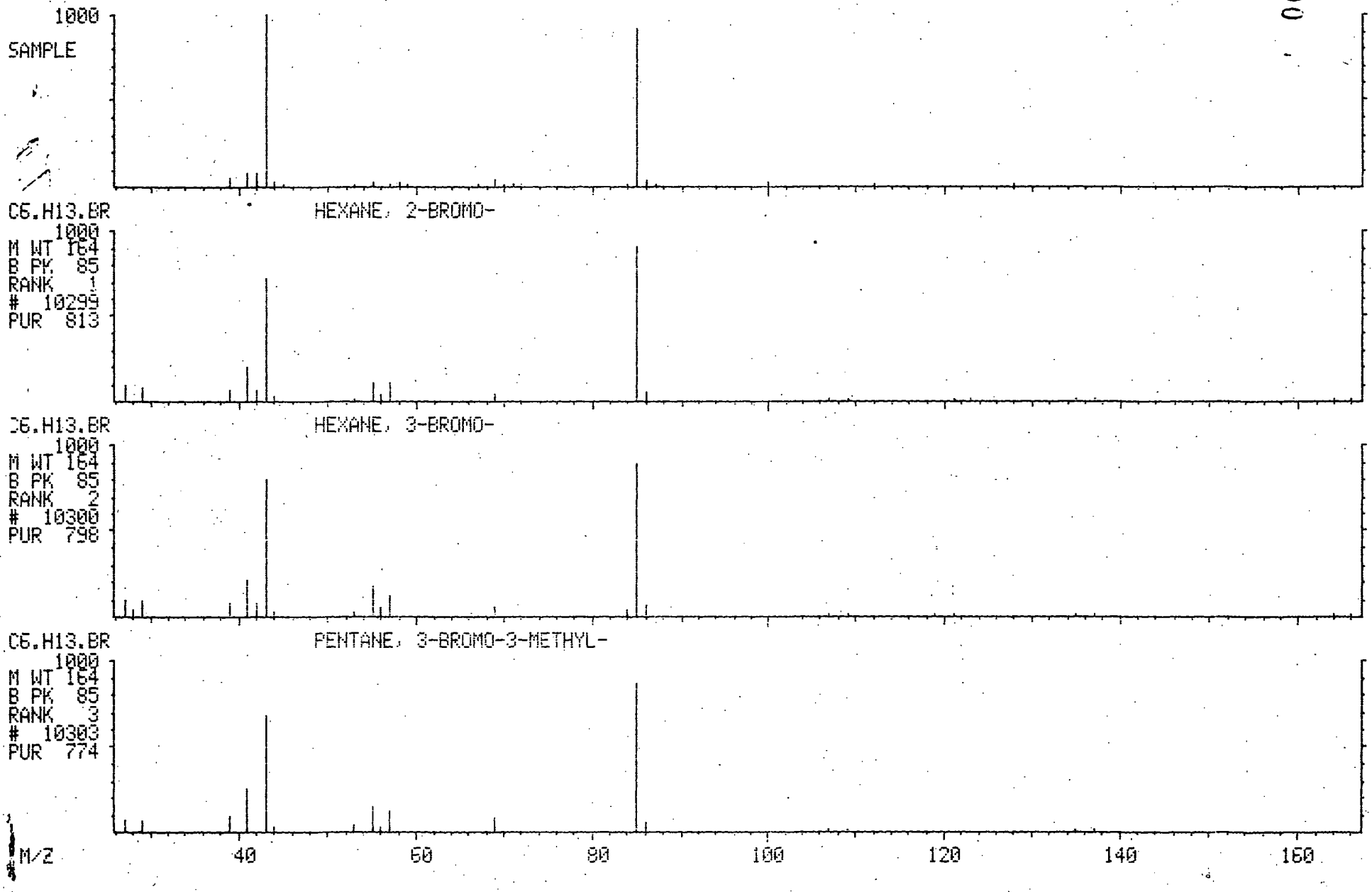
00817



MID LIBRARY SEARCH
06/15/91 22:18:00 + 9:19
SAMPLE: S9 91-13593
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD31513593 # 580 BASE M/Z: 43
CALI: AD31513593 # 2 RIC: 37887.

61800

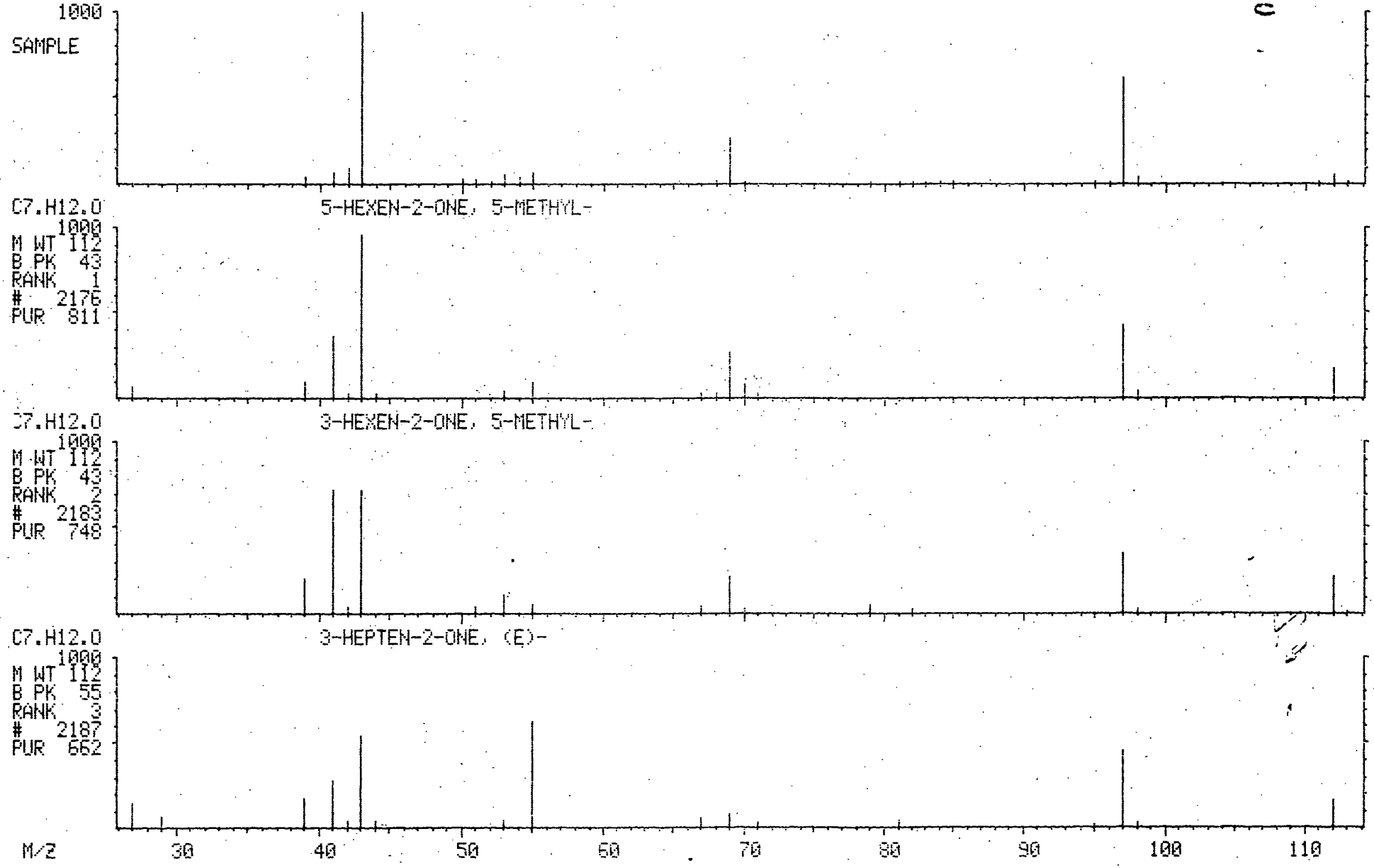


MID LIBRARY SEARCH
06/15/91 22:18:00 + 9:36
SAMPLE: S9 91-13593
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD31513593 # 597
CALI: AD31513593 # 2

BASE M/Z: 43
RIC: 24767.

12800

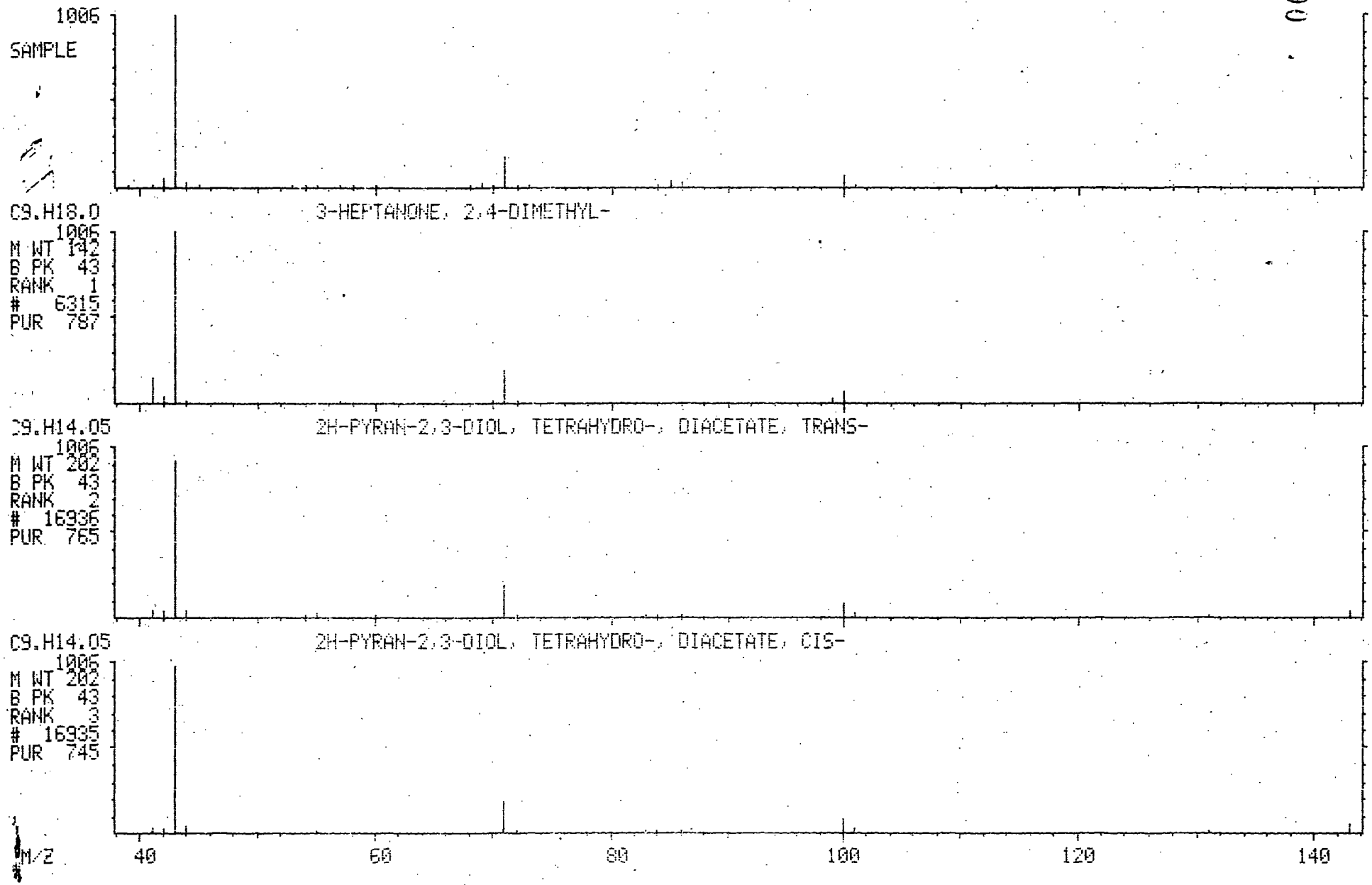


MID LIBRARY SEARCH
06/15/91 22:10:00 + 10:30
SAMPLE: 59 91-13593
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD31S13593 # 653
CALI: AD31S13593 # 2

BASE M/Z: 43
RIC: 43839.

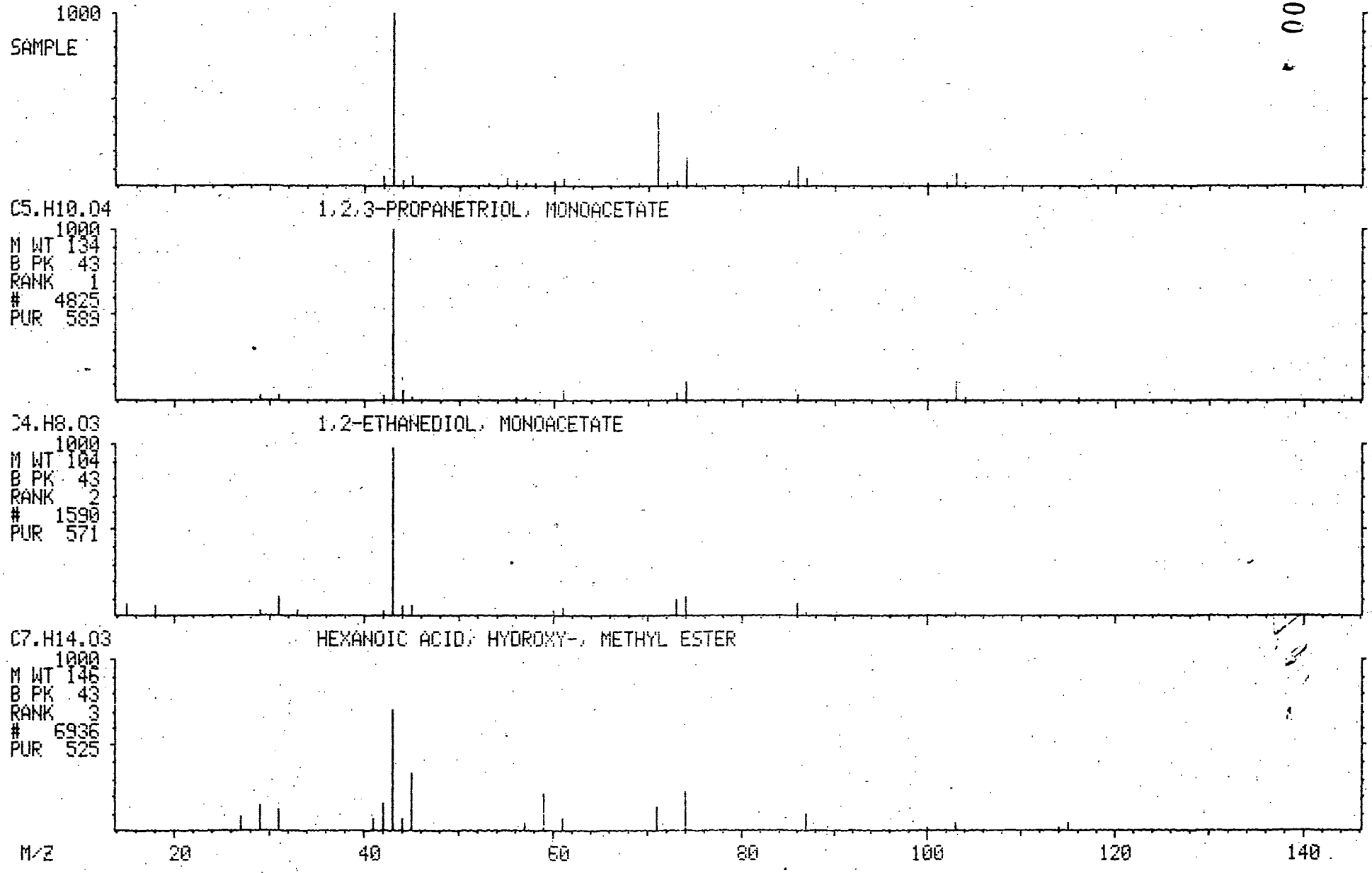
00823



MID LIBRARY SEARCH
06/15/91 22:18:00 + 11:45
SAMPLE: S9 91-13593
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD31513593 # 731 BASE M/Z: 43
CALI: AD31513593 # 2 RIC: 59455.

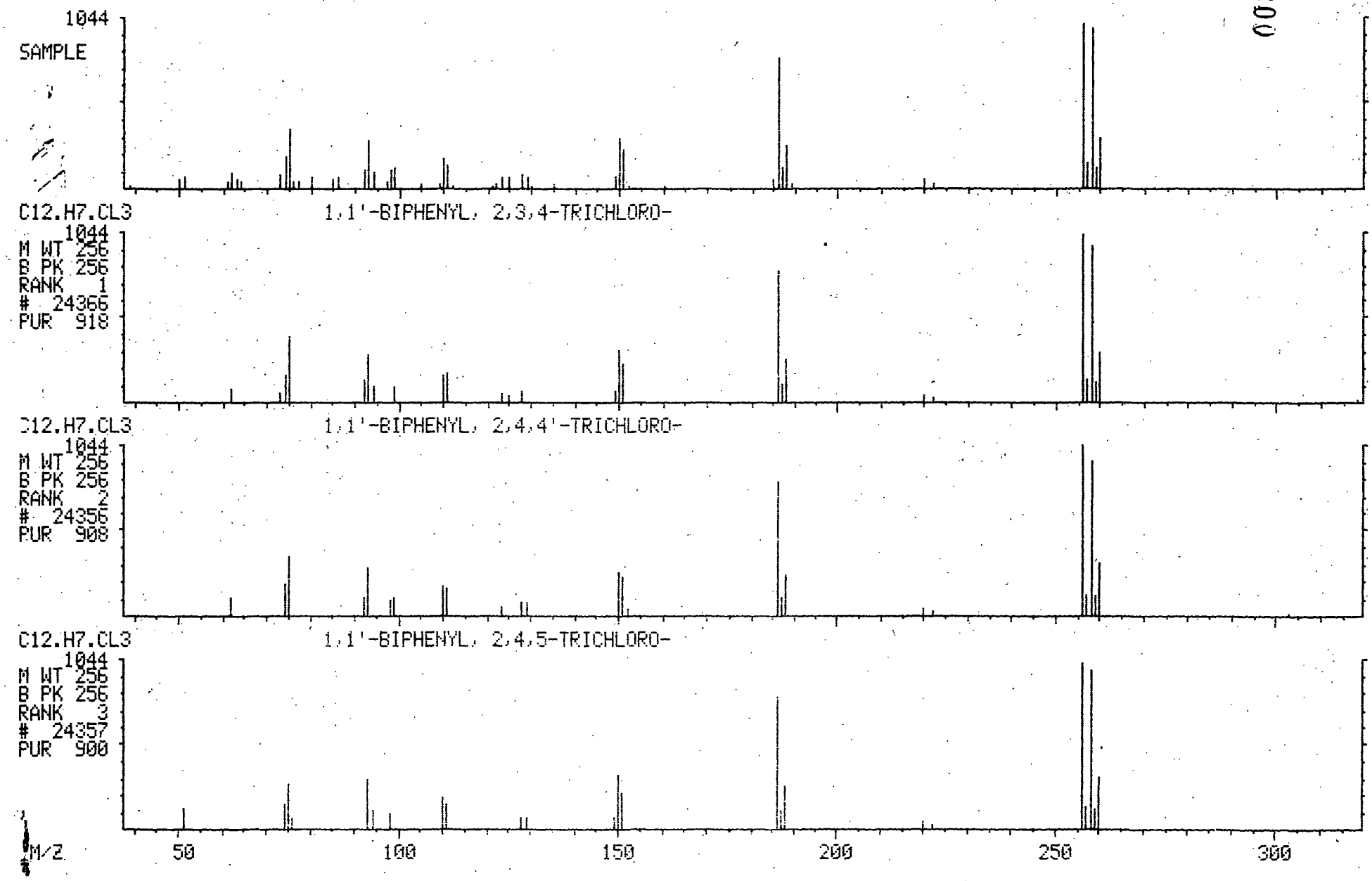
00825



MID LIBRARY SEARCH
06/15/91 22:18:00 + 23:41
SAMPLE: S9 91-13593
CONDS.: MS-B CASE: EDH0022
ENHANCED (S 15B 2N 0T)

DATA: AD31513593 #1473
CALI: AD31513593 # 2

BASE M/Z: 256
RIC: 12127.



00827

MID LIBRARY SEARCH
06/15/91 22:18:00 + 29:42
SAMPLE: S9 91-13593
CONDS.: MS-B CASE: EDH0022
ENHANCED (S 15B 2N 0T)

DATA: AD31513593 #1047
CALI: AD31513593 # 2

BASE M/Z: 240
RIC: 31743.

62800

1084
SAMPLE

C14.H12.O2.N2 PHENOL, 2,2'-(1,2-ETHANEDIYLIDENEDINITRILO)BIS-

1084
M WT 240
B PK 240
RANK 1
22368
PUR 527

C14.H16.FE IRON, (.ETA.5-2,4-CYCLOPENTADIEN-1-YL)[(1,2,3,3A,7A-.ETA.)-4,5,6,7-TE!

1084
M WT 240
B PK 240
RANK 2
22383
PUR 516

C14.H8.S2 [1]BENZOTHIENO[3,2-B][1]BENZOTHIOPHENE

1084
M WT 240
B PK 240
RANK 3
22391
PUR 510

M/Z 50 100 150 200 250

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S10

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H002 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13594

Sample wt/vol: 30 (g/mL) G Lab File ID: AD18513594.

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 9 Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/14/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	360.	u
111-44-4	bis(2-Chloroethyl)ether	360.	u
95-57-8	2-Chlorophenol	360.	u
541-73-1	1,3-Dichlorobenzene	360.	u
106-46-7	1,4-Dichlorobenzene	360.	u
100-51-6	Benzyl alcohol	360.	u
95-50-1	1,2-Dichlorobenzene	360.	u
95-48-7	2-Methylphenol	360.	u
108-60-1	bis(2-Chloroisopropyl)ether	360.	u
106-44-5	4-Methylphenol	360.	u
621-64-7	N-Nitroso-di-n-propylamine	360.	u
67-72-1	Hexachloroethane	360.	u
98-95-3	Nitrobenzene	360.	u
78-59-1	Isophorone	360.	u
88-75-5	2-Nitrophenol	360.	u
105-67-9	2,4-Dimethylphenol	360.	u
65-85-0	Benzoic acid	1800.	u
111-91-1	bis(2-Chloroethoxy)methane	360.	u
120-83-2	2,4-Dichlorophenol	360.	u
120-82-1	1,2,4-Trichlorobenzene	360.	u
91-20-3	Naphthalene	360.	u
106-47-8	4-Chloroaniline	360.	u
87-68-3	Hexachlorobutadiene	360.	u
59-50-7	4-Chloro-3-methylphenol	360.	u
91-57-6	2-Methylnaphthalene	360.	u
77-47-4	Hexachlorocyclopentadiene	360.	u
88-06-2	2,4,6-Trichlorophenol	360.	u
95-95-4	2,4,5-Trichlorophenol	1800.	u
91-58-7	2-Chloronaphthalene	360.	u
88-74-4	2-Nitroaniline	1800.	u
131-11-3	Dimethylphthalate	360.	u
208-96-8	Acenaphthylene	360.	u
606-20-2	2,6-Dinitrotoluene	360.	u

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

S10

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E0H0022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13594

Sample wt/vol: 30 (g/mL) G Lab File ID: AD18S13594

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 9. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/14/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	1800.	U
83-32-9	Acenaphthene	360.	U
51-28-5	2,4-Dinitrophenol	1800.	U
100-02-7	4-Nitrophenol	1800.	U
132-64-9	Dibenzofuran	360.	U
121-14-2	2,4-Dinitrotoluene	360.	U
84-66-2	Diethylphthalate	360.	U
7005-72-3	4-Chlorophenyl-phenylether	360.	U
86-73-7	Fluorene	360.	U
100-01-6	4-Nitroaniline	1800.	U
534-52-1	4,6-Dinitro-2-methylphenol	1800.	U
86-30-6	N-Nitrosodiphenylamine (1)	360.	U
101-55-3	4-Bromophenyl-phenylether	360.	U
118-74-1	Hexachlorobenzene	360.	U
87-86-5	Pentachlorophenol	1800.	U
85-01-8	Phenanthrene	52.	J
120-12-7	Anthracene	360.	U
84-74-2	Di-n-butylphthalate	360.	U
206-44-0	Fluoranthene	86.	J
129-00-0	Pyrene	100.	J
85-68-7	Butylbenzylphthalate	360.	U
91-94-1	3,3'-Dichlorobenzidine	730.	U
56-55-3	Benzo(a)anthracene	360.	U
218-01-9	Chrysene	360.	U
117-81-7	bis(2-Ethylhexyl)phthalate	160.	JB
117-84-0	Di-n-octylphthalate	360.	U
205-99-2	Benzo(b)fluoranthene	360.	U
207-08-9	Benzo(k)fluoranthene	360.	U
50-32-8	Benzo(a)pyrene	360.	U
193-39-5	Indeno(1,2,3-cd)pyrene	360.	U
53-70-3	Dibenz(a,h)anthracene	360.	U
191-24-2	Benzo(g,h,i)perylene	360.	U

(1) - Cannot be separated from Diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: S10

Lab Name: DATACHEM LABS Contract: 19005

Lab Code: DATAC Case No.: E040022 SAS No.: _____ SDG No.: 13585

Matrix: (soil/water) SOIL Lab Sample ID: 91-13594

Sample wt/vol: 30 (g/mL) G Lab File ID: AD18513594

Level: (low/med) LOW Date Received: 06/07/91

% Moisture: not dec. _____ dec. 9. Date Extracted: 06/14/91

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 06/14/91

GPC Cleanup: (Y/N) N pH: 5.0 Dilution Factor: 1.0

Number TICs found: 6

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

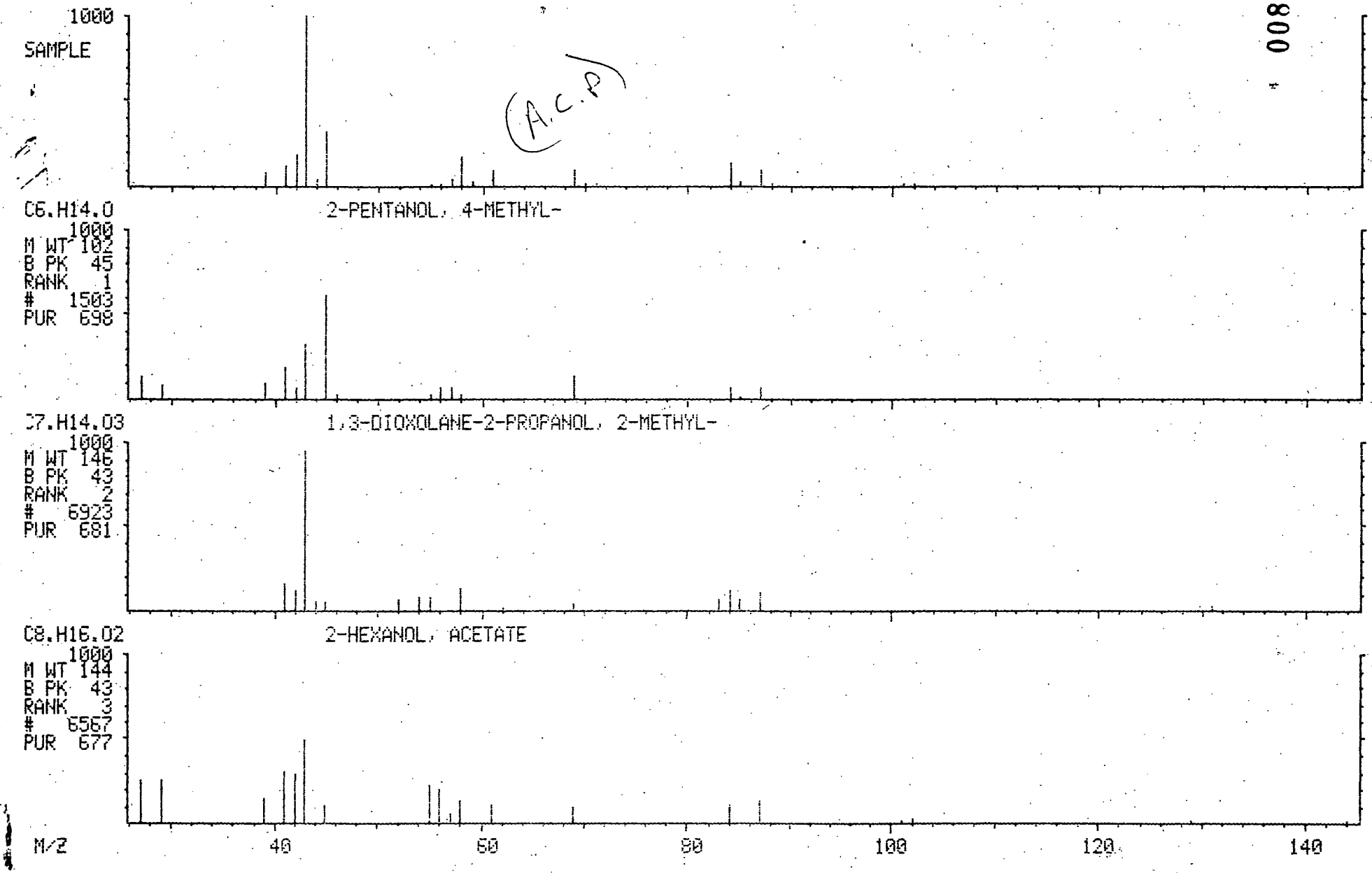
	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		ALDOL CONDENSATION PRODUCT	6:41	5700.	AJB
2.		ALDOL CONDENSATION PRODUCT	7:29	91000.	AJB
3.		ALDOL CONDENSATION PRODUCT	8:57	1000.	AJB
4.		ALDOL CONDENSATION PRODUCT	9:18	810.	AJ
5.		ALDOL CONDENSATION PRODUCT	11:44	760.	AJ
6.		UNKNOWN PNA	29:41	2900.	J
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

MID LIBRARY SEARCH
06/14/91 21:22:00 + 6:41
SAMPLE: S10 91-13594
CONDS.: MS-B CASE: EDH0022
ENHANCED (S 15B 2N 0T)

DATA: AD18S13594 # 416 BASE M/Z: 43
CALI: AD18S13594 # 2 RIC: 48511.

00861

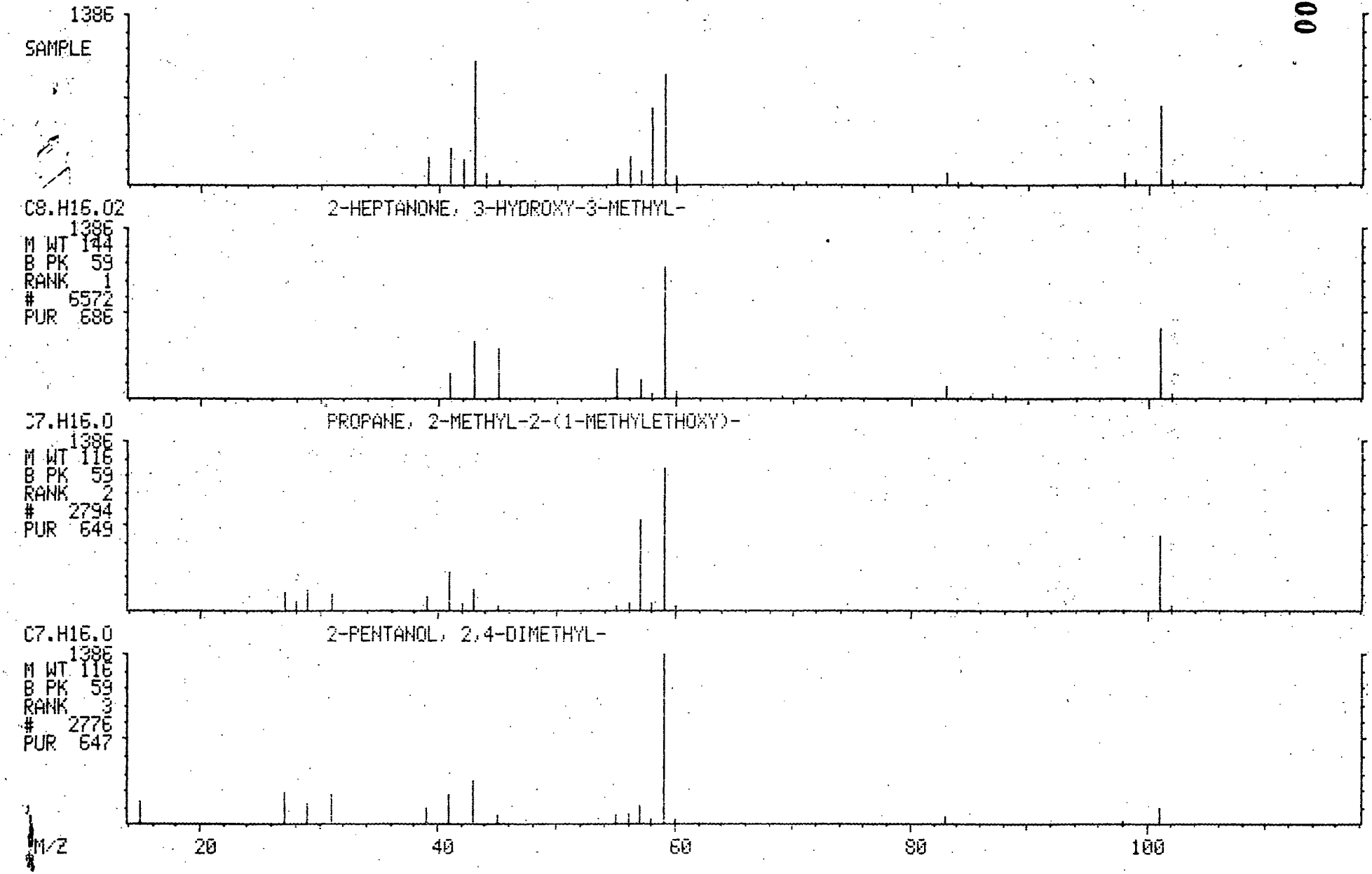
(A.C.P)



MID LIBRARY SEARCH
06/14/91 21:22:00 + 7:29
SAMPLE: S10 91-13594
CONDS.: MS-B CASE: EDH0022
ENHANCED (S 15B 2N 0T)

DATA: AD18S13594 # 465 BASE M/Z: 43
CALI: AD18S13594 # 2 RIC: 563199.

00863

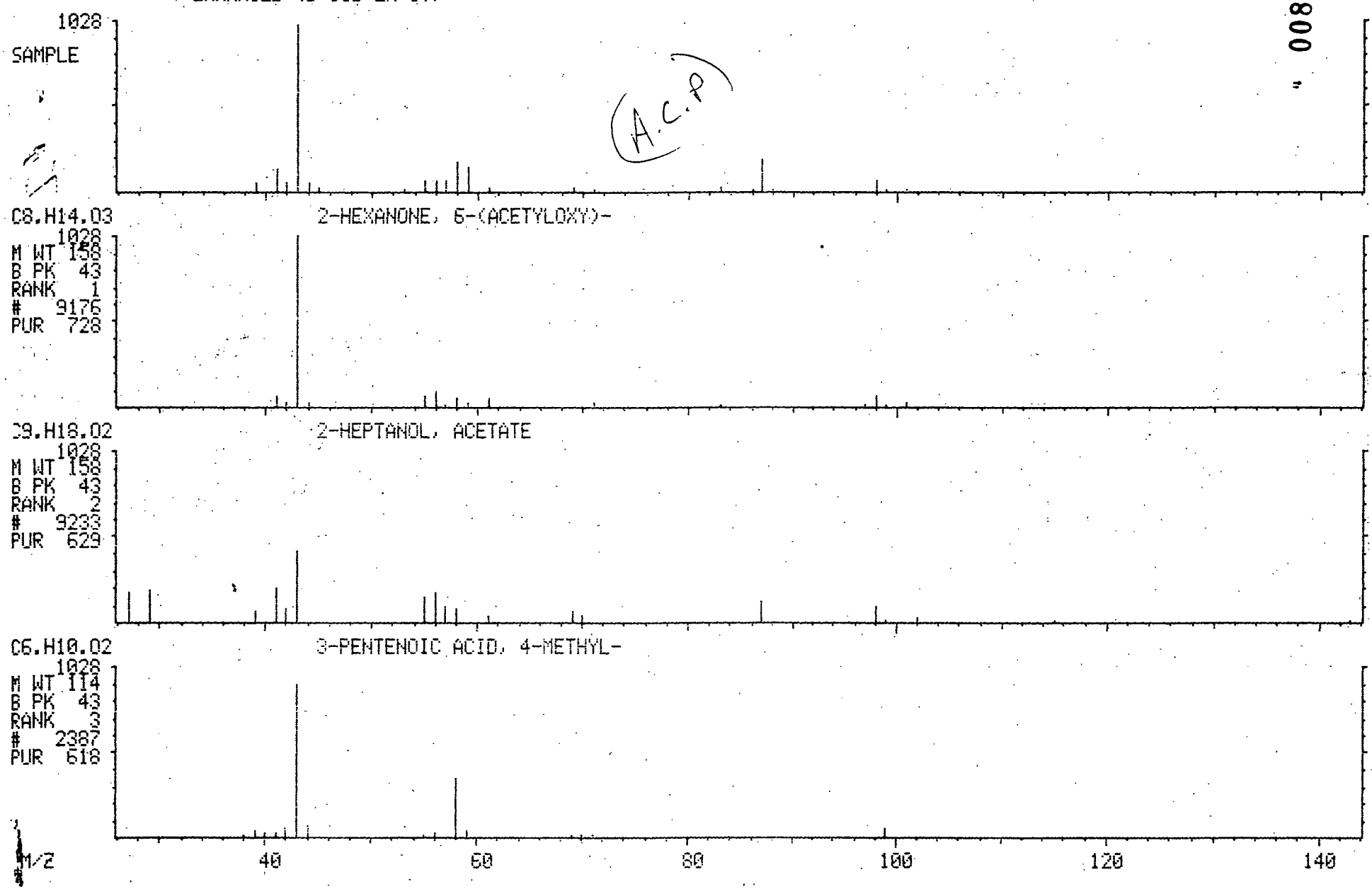


MID LIBRARY SEARCH
06/14/91 21:22:00 + 8:57
SAMPLE: S10 91-13594
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD18S13594 # 557 BASE M/Z: 43
CALI: AD18S13594 # 2 RIC: 54463.

00865

(A.C.P)



MID LIBRARY SEARCH
06/14/91 21:22:00 + 9:18
SAMPLE: S10 91-13594
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

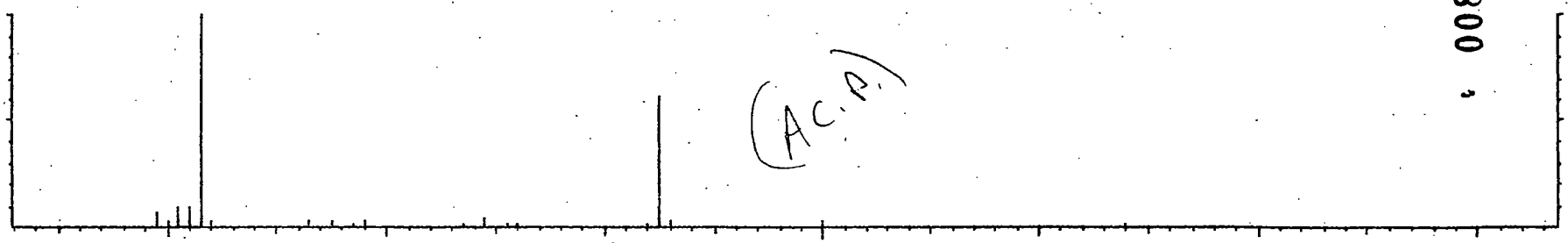
DATA: AD18S13594 # 579
CALI: AD18S13594 # 2

BASE M/Z: 43
RIC: 19135.

00867

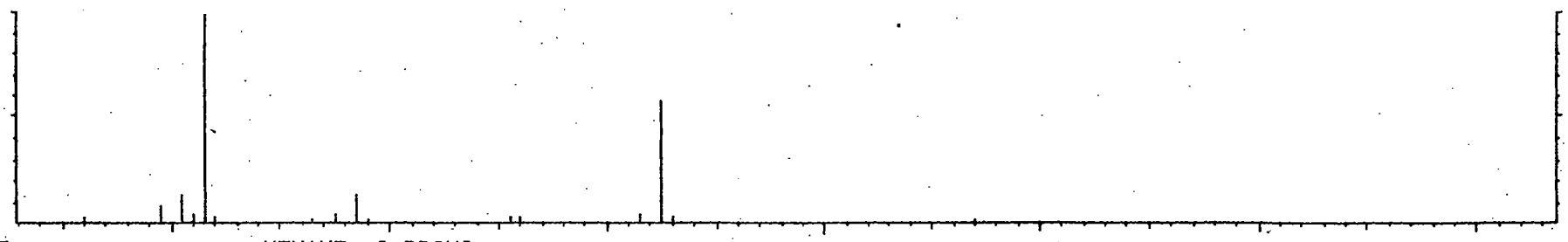
(A.P.)

SAMPLE



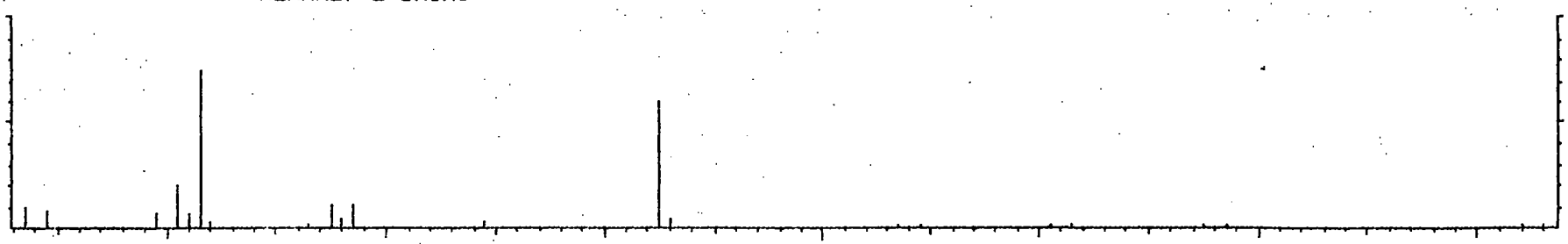
C6.H10.O2 ETHANONE, 1-(3-ETHYLOXIRANYL)-

M WT 114
B PK 43
RANK 1
2427
PUR 844



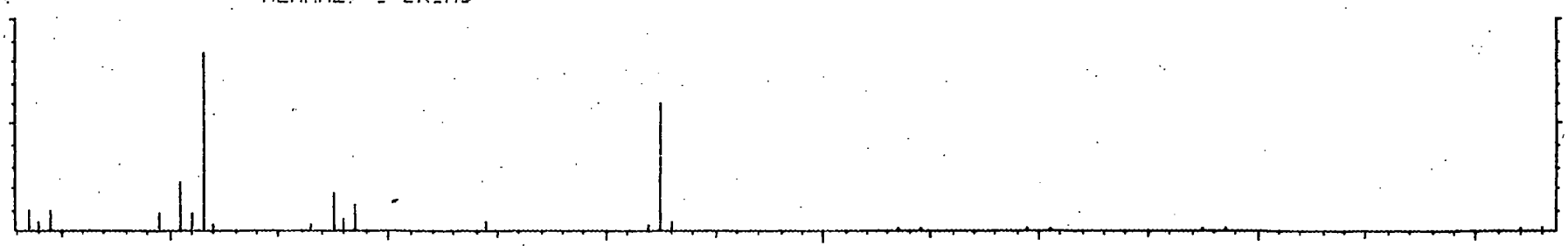
C6.H13.BR HEXANE, 2-BROMO-

M WT 164
B PK 43
RANK 2
10299
PUR 794



C6.H13.BR HEXANE, 3-BROMO-

M WT 164
B PK 43
RANK 3
10300
PUR 774



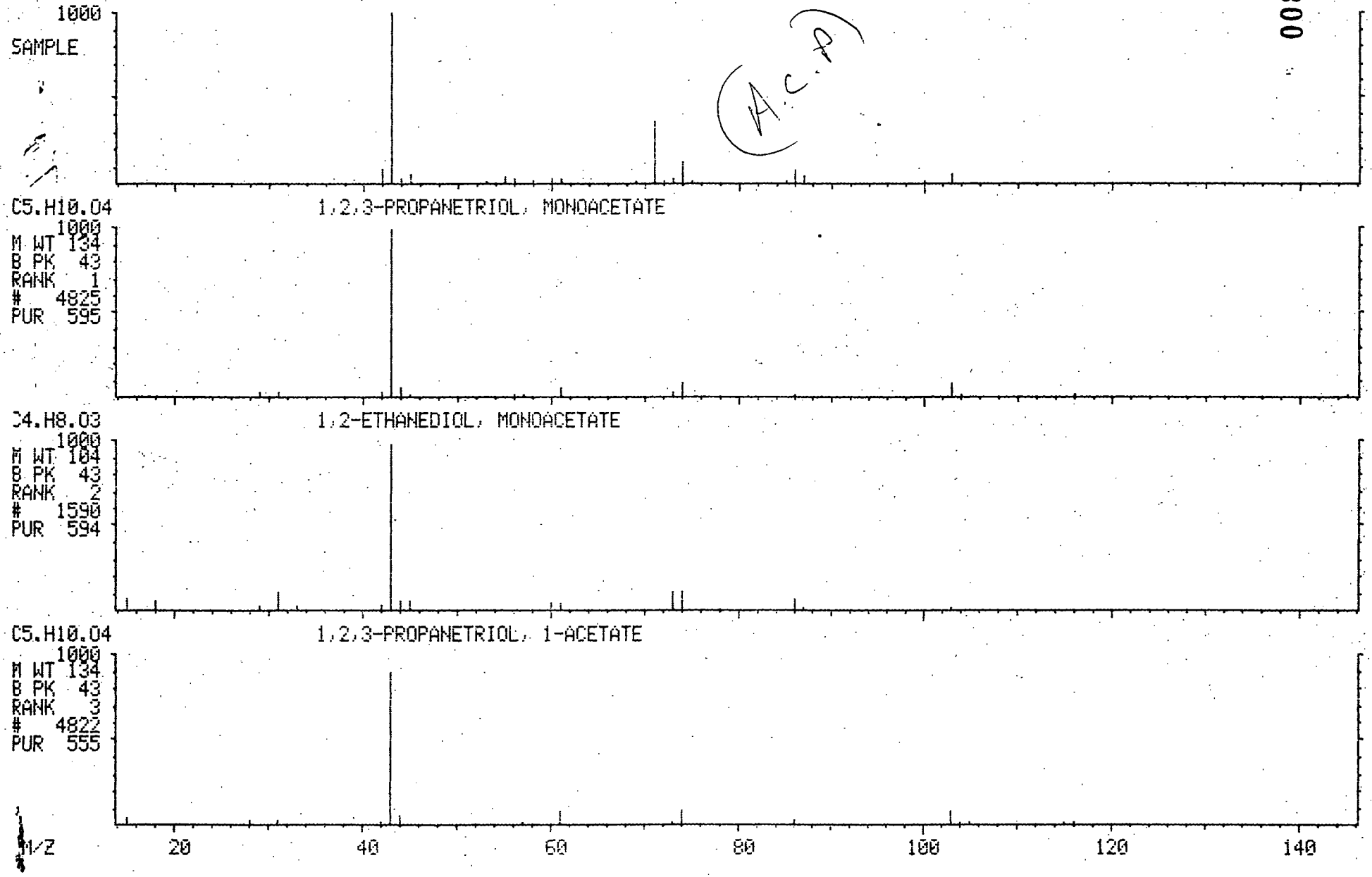
40 60 80 100 120 140 160

MID LIBRARY SEARCH
06/14/91 21:22:00 + 11:44
SAMPLE: S10 91-13594
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD18S13594 # 730 BASE M/Z: 43
CALI: AD18S13594 # 2 RIC: 32127.

00869

(A.C.P)



MID LIBRARY SEARCH
06/14/91 21:22:00 + 29:41
SAMPLE: S10 91-13594
CONDS.: MS-B CASE: EOH0022
ENHANCED (S 15B 2N 0T)

DATA: AD18S13594 #1846
CALI: AD18S13594 # 2

BASE M/Z: 240
RIC: 21599.

00871

(W.K. PMA)

1077
SAMPLE

C14.H8.S2 [1]BENZOTHIENO[4,5-B][1]BENZOTHIOPHENE
1077
M WT 240
B PK 240
RANK 1
22392
PUR 590

C14.H8.S2 [1]BENZOTHIENO[3,2-B][1]BENZOTHIOPHENE
1077
M WT 240
B PK 240
RANK 2
22391
PUR 589

C14.H8.S2 INDENO[2',1':4,5]THIENO[3,2-B]THIOPYRAN
1077
M WT 240
B PK 240
RANK 3
22393
PUR 580

M/Z 50 100 150 200

SAMPLE PLAN — 010 —

SITE NAME: Carstab Corp, site TDD #: T05-9105-009

SAMPLERS: Matt Witaker, Sam Sirhan PROJECT CODE: 2T1051 EOH0022SAA

LAB: To Be provided SAMPLE #s: S1-S6, MW1-MW8, SD1-SD3

DATE OF SAMPLING: June, 1991

DATE SHIPPED: June, 1991

TYPE OF LAB: ____ CRL ____ CLP X COMMERCIAL

GUARANTEED TURNAROUND TIME: _____

MATRIX	NO. OF SAMPLES
Soil/Sediment	Six Samples / Three Samples
Sludge	
Drum/Tanks	
Wipes	
Liquids	
Air	
Other: 8 Groundwater Samples	

PURPOSE OF SAMPLING:

[X] Site Characterization
[X] Extent of Contamination
[ ] Confirm Presence of Suspected Contaminant
[ ] Disposal/Treatment of Materials
[ ] Confirm Efficiency of Existing Treatment Systems
[X] Other: The biological assessment, and Comparison between the eco environment up-stream and down stream from the site

ATTACHMENTS:

[X] Map of Sample Locations
[ ] Chain-of-Custody
[ ] Field Data Sheets
[ ] Drum Logs
[ ] Calibration Sheets
[X] Other: Sampling method and Rationals

PLAN REVIEWED BY: _____

SAMPLING METHODS:

See attached next page.

Methods

- Tools?
- Depth?
- ~~Which composite for which gals~~?
- Mark sample pts?

DECON PROCEDURE:

1- Decon Solution H_2O and spetic of all equipments pre-Sampling activities and after each Sample.
2- Three times rinse with fresh Distill H_2O
3- flushing the pipes of the pumps after each ground water Sample with DI H_2O also

DISPOSAL OF RINSATE AND DECON MATERIALS:

All waste generated on the site after the site assessment visit will be left on site with operator permission

DISPOSAL OF SAMPLES:

N/A.

ADDITIONAL MATERIALS REQUIRED AND LOADED IN RESPONSE VEHICLE:

ATTACHMENT
SAMPLING PLAN

SAMPLING METHODS
SOIL / SEDIMENT

SAMPL ID	TYPE	DEPTH ft	RATIONAL OF LOCATION
S1	GRAB	5-8	@ the NW Corner of CSS. To evaluate the release of pollutants, Contaminants and substances from the waste pits to on-site soils. (using hand auger)
S2	GRAB	5-8	To evaluate any release of pollutants, Contaminant and substances from the waste storage Tanks to the on-site soils (using hand auger)
S3	GRAB		At the SW corner of the site where waste alledgedly was disposed of @ 15' deep pits.
S4	GRAB	5-8	At the East boarder of the site near the waste treatment Tank to evaluate any release to the on-site soil. (using hand auger.
S5	GRAB	5-8	At the baseball field southwest of the site. (using hand auger.
S6	GRAB	surface	As a background sample off-site property.
SD1	Composite	2	At the east bank of Mill Creek along side of the site boarder
SD2	Composite	2	at the west bank of Mill Creek in parallel locations of SD1 locations
SD3	GRAB	2	AD up-stream from the site on Mill creek when the eco-environment less stressed relatively to the site location

SOIL/SEDIMENTS/SLUDGES

No. of Surface Samples 1 No. of Composites 2

No. of Depth Samples 2 No. of Grabs 7

No. of Duplicates N/A

****

ANALYSIS	NO. OF SAMPLES INCL. DUPES & BLANKS		NO. OF CONTAINERS PER SAMPLE	TOTAL NO. OF CONTAINER	
Extractables (Low/Med)	9	x	1	9	8 oz. glass
Volatiles (Low Only)	9	x	2	18	120 ml. glass
All High Hazard Organics		x	1		120 ml. glass
Dioxin		x	1		4 oz. glass
Metals (Low/Med)	9	x	1	9	8 oz. glass
Cyanide (Low)		x	1		8 oz. glass
Cyanide (Med)	METAL SAMPLE SUFFICES				
All High Hazard Inorganics		x	1		120 ml. glass
Compatibility		x	1		8 oz. glass
Disposal		x	1		16 oz. glass

****

TOTAL NO. OF CONTAINERS REQUIRED FOR SOILS/SEDIMENTS/SLUDGES:

18 8 oz. glass
18 120 ml. glass
4 oz. glass
16 oz. glass

ICE REQUIRED AS PRESERVATIVE: ✓ YES ____ NO

LIQUID SAMPLES

No. of Surface Samples _____ No. of Well Samples 8

No. of Duplicates 1 No. of Blanks 1

****

ANALYSIS	NO. OF SAMPLES INCL. DUPES & BLANKS		NO. OF CONTAINERS PER SAMPLE		TOTAL NO. OF CONTAINER		PRESERVATIVE REQUIRED
Extractables (Low)	10	x	2	=	20	80 oz. amber	____ ice
(Medium)		x	8	=		16 oz. glass	
Volatiles (Low Only)	10	x	2	=	20	40 ml. glass	____ ice
All High Hazard Organics		x	1	=		120 ml. glass	
Dioxin (Low)		x	2	=		80 oz. amber	____ ice
Metals (Low)	8	x	1	=	8	1 liter HDPE	____ 5 ml.
(Medium)		x	1	=		16 oz. glass	HNO_3
Cyanide (Low)		x	1	=		1 liter HDPE	____ 5 ml.
(Medium)		x	1	=		16 oz. glass	NaOH
All High Hazard Inorganics		x	1	=		120 ml. glass	
Compatibility		x	1	=		8 oz. glass	
Disposal		x	1	=		16 oz. glass	
		x		=			

****

TOTAL NO. OF CONTAINERS REQUIRED FOR LIQUID SAMPLES:

20	40 ml. glass
	8 oz. glass
	16 oz. glass
8	1 l. HDPE
20	80 oz. amber

WIPE SAMPLES

N/A

NO. OF WIPE SAMPLES		NO. OF BLANKS		TOTAL NO. OF CONTAINERS	
_____	+	_____	=	_____	4 oz. glass

WETTING AGENT:

[ ] Hexane
[ ] Water
[ ] Other _____

****

AIR SAMPLES

COMPOUNDS OR ELEMENTS SAMPLING FOR: N/A

[ ] High Volume Sampling
[ ] Low Volume Sampling
_____ Gillians
_____ Other

[ ] Strip Chart
_____ OVA
_____ HNU
_____ Other
[ ] Other

COLLECTION MEDIA:

[ ] Tube
_____ Collection
_____ Colorimetric

[ ] Filter
_____ Cassette
_____ Hi-Vol
_____ Type
_____ Pore Size
[ ] Other

NO. OF SAMPLE STATIONS		NO. OF BLANKS		TOTAL	COLLECTION MEDIA REQUIRED
_____	+	_____	=	_____	_____
_____	+	_____	=	_____	_____
_____	+	_____	=	_____	_____
_____	+	_____	=	_____	_____

COLLECTION MEDIA IN SERIES: _____YES _____NO

CALIBRATION METHOD (ATTACH CALIBRATION SHEETS): _____

_____

_____

ecology and environment, inc.

208 S. LA SALLE STREET, CHICAGO, ILLINOIS 60604
International Specialists in the Environment

PHONE: (312) 201-3790
TELECOPIER: (312) 201-3827

TELECOPIER TRANSMISSION FORM

DATE: 6/10/91 TIME: 8:50 TOTAL NO. OF PAGES ____
(Inc. Transmission Form)

TO: Tom Spargo

COMPANY: E & E

TELECOPIER PHONE NO.: (513) 777-3422

FROM: JANE MALKIN

SPECIAL INSTRUCTIONS: Attached are bids for analytical you requested. Copies were sent to Gretchen. Any questions, call (312) 201-3807

For Operator's Use Only

JOB CHARGE: 27 1051

SENT BY: JM.

NA:7

PAGES 206-207 REDACTED

Exemption 4,
Deliberative Process
5 U.S.C. §552(b)(4)
Confidential Business Information

ATA CHEM LABORATORIES

FAX TRANSMITTAL COVER SHEET

DATE: 6/5/91

TO: Jane Malkin

COMPANY: Ecology & Environment

FROM: DCL

NUMBER OF PAGES: 2
(Including this page)

ADDITIONAL INFORMATION:

FAX OPERATOR: _____

If you do not receive all of the transmission, please call (513) 733-5336.

4388 Glendale-Milford Road/Cincinnati, Ohio 45242 513-733-5336/FAX: 513-733-5347

A SORENSON COMPANY

PAGE 209 REDACTED

Exemption 4,
Deliberative Process
5 U.S.C. §552(b)(4)
Confidential Business Information

NET NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 West Bartlett Road
Bartlett, IL 60103

Tel: (708) 289-3100
Fax: (708) 289-5445

FAX TRANSMISSION NOTICE

Date: 6/4/91

To: Jane Malkin

Company: EPE FAX NO:

Sender: Diane Billings

You should receive 3 pages, including this notice. If you don't receive all pages, please call the sender immediately. This transmission includes:

- letter/memo
- other
- project notes (Project ID:)
- analytical report(s):
  - Sample No(s):

Comments: Please call back with specifics - CLP needed? OK that we're not inorganic CLP lab? We're not open Sat. - can shipment wait until Mon?

dab/faxtg.frm

PAGE 211 REDACTED

Exemption 4,
Deliberative Process
5 U.S.C. §552(b)(4)
Confidential Business Information

OUP NAME: HSL List

CRIPTION:
L Loading Group for A.A.

Page

TEST CODE	TEST NAME
3020	Aluminum
3040	Antimony
3060	Arsenic
3080	Barium
3100	Beryllium
3140	Cadmium
3160	Calcium
3220	Chromium, Total
3240	Cobalt
3260	Copper
3320	Iron
3380	Lead
3440	Magnesium
3460	Manganese
3480	Mercury
3500	[redacted]
3520	Nickel
3560	Potassium
3580	Selenium
3620	Silver
3640	Sodium
3680	Thallium
3720	[redacted]
3800	Vanadium
3840	Zinc

SENT BY:NET MIDWEST ; 6- 4-81 ; 15:28 ; NET BARTLETT→ 3122013827;# 3/ 3
RCV BY:REGION 05 CHICAGO, IL ; 6- 4-91 3:24AM ; 7082895445→ 3122013827;# 3
RCV BY:ecology & environment ; 6-10-91 10:16AM ; 3122013827→ 5137333422;# 8

Transmission from:

ITAS - Cincinnati
11499 Chester Road
Cincinnati, Ohio 45246

FAX # (513) 782-4644

Voice # (513) 782-4600

From: Bruce Bohrbach

Department:

To: Jean Malkin

Company:

Department:

FAX #: 312-201-3827

Voice #: 312-201-3870

Special Instructions/Comments:

Disposition of Original: ○ Return to Originator ○ Discard

Total Number of Pages including this cover sheet: 13 **FAX Operator:**

INTERNATIONAL TECHNOLOGY CORPORATION

Analytical Services
Business Development
Quotation

Date of Quote: 6-4-91	Laboratory: CINCINNATI	Quote #:
Quoted By: Bruce Rohrbach	Salesperson:	Project/P.O. #:

SECTION I - Client Information

Report To:	[illegible]	Bill To:
ECOLOGY + ENVIRONMENT	Client	
JEAN MALKIN	Customer	
	Facility/Location	
	Address	
	City, State, Zip	
312-201-3870	Contact & Phone	
312-201-3827	Fax #	

Regulatory Segment: ☐ RCRA ☐ CERCLA ☐ CWA ☐ SDWA ☐ Other:

SECTION II - Sample Information

Sample Containers? Y ☒	Expected Date of Arrival:	Duration:
Lab Pickup? Y N	TAT: ☐ Normal ☐ Other:	

☐ Storage ☐ Disposal ☐ Return Notes:

SECTION III - QC and Reporting

QC Requirements: Normal ☐ Other: Report By: ☐ FAX ☐ Phone ☐ Written ☐ Other:

Report QC? Y N:

Report Raw Data? Y N:

Oral Report Due:	Date Written Report Due:	Number of Additional Reports:

Data Package Requirements:

SECTION IV - Follow-Up

Date: By Whom:

Action:

PAGE 215 REDACTED

Exemption 4,
Deliberative Process
5 U.S.C. §552(b)(4)
Confidential Business Information

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.: 2T1051
PROJECT NAME: EOHØØ22
SAMPLERS: (Signature) Sammy Sirhan

COOLER # 1 of 2

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	8 oz glass jars						REMARKS Tag #	REMARKS Custody Seal #
Soil 1	6/6/91	11:00		X	S1	3	3						5-090301-03	170623-25
Soil 2	6/6/91	11:15		X	S2	3	3						5-090304-06	170626-28
Soil 3	6/6/91	11:20		X	S3	3	3						-090307-09	170629-31
Sediment 4	6/6/91	11:45		X	S4	3	3						-090310-12	170632-34
Sediment 5	6/6/91	11:55		X	S5	3	3						-090313-15	170635-37

8 oz glass Jars Lot #

Shipment IS NOT Complete

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Sammy Sirhan	6.7.91 12:00				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks ~~FEDEXED~~ TO Shipped in by Sirhan Cooler Seal of custody # 170653-54	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.: 2T1851
PROJECT NAME: EOHØØ22
SAMPLERS: (Signature)

Cooler #2 of 2

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS							REMARKS: Tag #s	REMARKS: Seal of Custody #
Sediment 6	6/6/91	13:30		X	S6		3						05-090316-18	170638-40
Sediment 7	6/6/91	14:00		X	S7		3						05-090319-21	170641-43
Sediment 8	6/6/91	15:30		X	S8		3						05-090322-24	170644-46
Sediment 9	6/6/91	16:00		X	S9		3						05-090325-27	170647-49
Sediment 10	6/6/91	16:55		X	S10		3						05-090328-30	170650-52

Shipment is Complete

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Sammy Serkin	6.7.91 12:00				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: FED EXED TO COOLER Seal of Custody # 170655-56	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

DATACHEM LABORATORIES
960 WEST LEVOY DRIVE
SALT LAKE CITY, UTAH 84123

****

CASE No. S0787 SDG No. SF0787

CLIENT SAMPLE #	EPA SAMPLE #	LAB SAMPLE #
S1	CC7683	CLP7683
S2	CC7684	CLP7684
S3	CC7685	CLP7685
S4	CC7686	CLP7686
S5	CC7687	CLP7687
S6	CC7688	CLP7688
S7	CC7689	CLP7689
S8	CC7690	CLP7690
S9	CC7691	CLP7691
S10	CC7692	CLP7692
MATRIX DUPLICATE (GFAA, Hg)	CC7683D	CLP7694
MATRIX DUPLICATE (ICP)	CC7684D	CLP7694
MATRIX SPIKE (GFAA, Hg)	CC7683S	CLP7693
MATRIX SPIKE (ICP)	CC7684S	CLP7693

Carstab Lid

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

CC7683

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

Matrix (soil/water): SOIL Lab Sample ID: CLP7683

Level (low/med): LOW Date Received: 06/08/91

% Solids: 92.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7630			P
7440-36-0	Antimony	5.2	U	N	P
7440-38-2	Arsenic	4.8		N	F
7440-39-3	Barium	55.8			P
7440-41-7	Beryllium	0.56	B		P
7440-43-9	Cadmium	0.65	U		P
7440-70-2	Calcium	29600			P
7440-47-3	Chromium	16.7			P
7440-48-4	Cobalt	6.4	B		P
7440-50-8	Copper	18.9			P
7439-89-6	Iron	13600			P
7439-92-1	Lead	28.0		*	F
7439-95-4	Magnesium	10200		*	P
7439-96-5	Manganese	515			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	17.0			P
7440-09-7	Potassium	1030	B		P
7782-49-2	Selenium	0.38	B	W	F
7440-22-4	Silver	0.86	U		P
7440-23-5	Sodium	111	B		P
7440-28-0	Thallium	0.22	U		F
7440-62-2	Vanadium	17.5			P
7440-66-6	Zinc	1870			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

3

U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

CC7684

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

Matrix (soil/water): SOIL Lab Sample ID: CLP7684

Level (low/med): LOW Date Received: 06/08/91

% Solids: 89.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10000			P
7440-36-0	Antimony	10.2	B	N	P
7440-38-2	Arsenic	12.8		NS	F
7440-39-3	Barium	79.1			P
7440-41-7	Beryllium	0.76	B		P
7440-43-9	Cadmium	0.73	B		P
7440-70-2	Calcium	38500			P
7440-47-3	Chromium	16.7			P
7440-48-4	Cobalt	7.8	B		P
7440-50-8	Copper	16.8			P
7439-89-6	Iron	15000			P
7439-92-1	Lead	40.0		*	F
7439-95-4	Magnesium	14000		*	P
7439-96-5	Manganese	713			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	14.5			P
7440-09-7	Potassium	1470			P
7782-49-2	Selenium	0.31	B	W	F
7440-22-4	Silver	0.89	U		P
7440-23-5	Sodium	91.6	B		P
7440-28-0	Thallium	0.29	B		F
7440-62-2	Vanadium	21.2			P
7440-66-6	Zinc	526			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

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U.S. EPA - CLP

1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

CC7685

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

Matrix (soil/water): SOIL Lab Sample ID: CLP7685

Level (low/med): LOW Date Received: 06/08/91

% Solids: 83.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8520			P
7440-36-0	Antimony	13.7	B	N	P
7440-38-2	Arsenic	4.3		N	F
7440-39-3	Barium	71.1			P
7440-41-7	Beryllium	0.51	B		P
7440-43-9	Cadmium	0.72	U		P
7440-70-2	Calcium	75400			P
7440-47-3	Chromium	13.9			P
7440-48-4	Cobalt	5.6	B		P
7440-50-8	Copper	14.2			P
7439-89-6	Iron	12100			P
7439-92-1	Lead	15.1		S*	F
7439-95-4	Magnesium	23100		*	P
7439-96-5	Manganese	508			P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	10.8			P
7440-09-7	Potassium	1500			P
7782-49-2	Selenium	0.24	U	W	F
7440-22-4	Silver	0.95	U		P
7440-23-5	Sodium	127	B		P
7440-28-0	Thallium	0.24	U		F
7440-62-2	Vanadium	18.4			P
7440-66-6	Zinc	44.6			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

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U.S. EPA - CLP

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

CC7686

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

Matrix (soil/water): SOIL Lab Sample ID: CLP7686

Level (low/med): LOW Date Received: 06/08/91

% Solids: 75.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14600			P
7440-36-0	Antimony	14.1	B	N	P
7440-38-2	Arsenic	8.1		NS	F
7440-39-3	Barium	113			P
7440-41-7	Beryllium	0.91	B		P
7440-43-9	Cadmium	0.80	U		P
7440-70-2	Calcium	51300			P
7440-47-3	Chromium	67.9			P
7440-48-4	Cobalt	12.9	B		P
7440-50-8	Copper	54.8			P
7439-89-6	Iron	23700			P
7439-92-1	Lead	75.6		S*	F
7439-95-4	Magnesium	13700		*	P
7439-96-5	Manganese	1050			P
7439-97-6	Mercury	0.16			CV
7440-02-0	Nickel	39.1			P
7440-09-7	Potassium	2150			P
7782-49-2	Selenium	0.36	B	W	F
7440-22-4	Silver	2.1	B		P
7440-23-5	Sodium	165	B		P
7440-28-0	Thallium	0.27	B		F
7440-62-2	Vanadium	26.5			P
7440-66-6	Zinc	164			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: COARSE

Color After: YELLOW Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

CC7687

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

Matrix (soil/water): SOIL Lab Sample ID: CLP7687

Level (low/med): LOW Date Received: 06/08/91

% Solids: 88.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12800			P
7440-36-0	Antimony	8.2	B	N	P
7440-38-2	Arsenic	6.7		NS	F
7440-39-3	Barium	84.9			P
7440-41-7	Beryllium	1.2			P
7440-43-9	Cadmium	0.68	U		P
7440-70-2	Calcium	52500			P
7440-47-3	Chromium	28.0			P
7440-48-4	Cobalt	11.0	B		P
7440-50-8	Copper	20.8			P
7439-89-6	Iron	20700			P
7439-92-1	Lead	37.1		*	F
7439-95-4	Magnesium	11900		*	P
7439-96-5	Manganese	833			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	22.3			P
7440-09-7	Potassium	2210			P
7782-49-2	Selenium	0.23	B	W	F
7440-22-4	Silver	0.90	U		P
7440-23-5	Sodium	153	B		P
7440-28-0	Thallium	0.26	B		F
7440-62-2	Vanadium	25.6			P
7440-66-6	Zinc	88.8			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

CC7688

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

Matrix (soil/water): SOIL Lab Sample ID: CLP7688

Level (low/med): LOW Date Received: 06/08/91

% Solids: 91.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12200			P
7440-36-0	Antimony	19.4		N	P
7440-38-2	Arsenic	6.7		NS	F
7440-39-3	Barium	82.1			P
7440-41-7	Beryllium	1.1			P
7440-43-9	Cadmium	0.66	U		P
7440-70-2	Calcium	58600			P
7440-47-3	Chromium	25.2			P
7440-48-4	Cobalt	10.1	B		P
7440-50-8	Copper	18.8			P
7439-89-6	Iron	19800			P
7439-92-1	Lead	34.5		*	F
7439-95-4	Magnesium	11400		*	P
7439-96-5	Manganese	825			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	19.9			P
7440-09-7	Potassium	2190			P
7782-49-2	Selenium	0.22	B	W	F
7440-22-4	Silver	0.87	U		P
7440-23-5	Sodium	167	B		P
7440-28-0	Thallium	0.22	U		F
7440-62-2	Vanadium	25.0			P
7440-66-6	Zinc	89.7			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

CC7689

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

Matrix (soil/water): SOIL Lab Sample ID: CLP7689

Level (low/med): LOW Date Received: 06/08/91

% Solids: 86.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	16400			P
7440-36-0	Antimony	6.6	B	N	P
7440-38-2	Arsenic	5.3		NS	F
7440-39-3	Barium	106			P
7440-41-7	Beryllium	1.4			P
7440-43-9	Cadmium	0.69	U		P
7440-70-2	Calcium	22600			P
7440-47-3	Chromium	38.5			P
7440-48-4	Cobalt	10.2	B		P
7440-50-8	Copper	16.6			P
7439-89-6	Iron	21200			P
7439-92-1	Lead	28.3		*	F
7439-95-4	Magnesium	9070		*	P
7439-96-5	Manganese	755			P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	22.5			P
7440-09-7	Potassium	2870			P
7782-49-2	Selenium	0.32	B	W	F
7440-22-4	Silver	0.92	U		P
7440-23-5	Sodium	108	B		P
7440-28-0	Thallium	0.26	B		F
7440-62-2	Vanadium	29.2			P
7440-66-6	Zinc	96.0			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

CC7690

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

Matrix (soil/water): SOIL Lab Sample ID: CLP7690

Level (low/med): LOW Date Received: 06/08/91

% Solids: 85.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6230			P
7440-36-0	Antimony	11.9	B	N	P
7440-38-2	Arsenic	4.7		NS	F
7440-39-3	Barium	36.9	B		P
7440-41-7	Beryllium	0.60	B		P
7440-43-9	Cadmium	0.70	U		P
7440-70-2	Calcium	89500			P
7440-47-3	Chromium	17.1			P
7440-48-4	Cobalt	6.1	B		P
7440-50-8	Copper	10.1			P
7439-89-6	Iron	12500			P
7439-92-1	Lead	13.2		S*	F
7439-95-4	Magnesium	20200		*	P
7439-96-5	Manganese	435			P
7439-97-6	Mercury	0.12	U		CV
7440-02-0	Nickel	15.4			P
7440-09-7	Potassium	1330			P
7782-49-2	Selenium	0.23	U	W	F
7440-22-4	Silver	0.93	U		P
7440-23-5	Sodium	173	B		P
7440-28-0	Thallium	0.23	U		F
7440-62-2	Vanadium	17.0			P
7440-66-6	Zinc	72.5			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

CC7691

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

Matrix (soil/water): SOIL Lab Sample ID: CLP7691

Level (low/med): LOW Date Received: 06/08/91

% Solids: 78.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11200			P
7440-36-0	Antimony	18.3		N	P
7440-38-2	Arsenic	5.6		NS	F
7440-39-3	Barium	84.4			P
7440-41-7	Beryllium	0.77	B		P
7440-43-9	Cadmium	0.77	U		P
7440-70-2	Calcium	78000			P
7440-47-3	Chromium	38.6			P
7440-48-4	Cobalt	7.4	B		P
7440-50-8	Copper	16.4			P
7439-89-6	Iron	16200			P
7439-92-1	Lead	45.1		S*	F
7439-95-4	Magnesium	26600		*	P
7439-96-5	Manganese	513			P
7439-97-6	Mercury	0.22			CV
7440-02-0	Nickel	13.6			P
7440-09-7	Potassium	1960			P
7782-49-2	Selenium	0.26	U		F
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	197	B		P
7440-28-0	Thallium	0.26	U		F
7440-62-2	Vanadium	23.4			P
7440-66-6	Zinc	86.1			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

CC7692

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

Matrix (soil/water): SOIL Lab Sample ID: CLP7692

Level (low/med): LOW Date Received: 06/08/91

% Solids: 92.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	18600			P
7440-36-0	Antimony	6.4	B	N	P
7440-38-2	Arsenic	5.0		NS	F
7440-39-3	Barium	133			P
7440-41-7	Beryllium	1.3			P
7440-43-9	Cadmium	0.65	U		P
7440-70-2	Calcium	16700			P
7440-47-3	Chromium	29.1			P
7440-48-4	Cobalt	10.2	B		P
7440-50-8	Copper	16.7			P
7439-89-6	Iron	23000			P
7439-92-1	Lead	23.1		*	F
7439-95-4	Magnesium	7280		*	P
7439-96-5	Manganese	877			P
7439-97-6	Mercury	0.11	U		CV
7440-02-0	Nickel	22.2			P
7440-09-7	Potassium	2860			P
7782-49-2	Selenium	0.37	B	W	F
7440-22-4	Silver	0.87	U		P
7440-23-5	Sodium	99.1	B		P
7440-28-0	Thallium	0.34	B		F
7440-62-2	Vanadium	32.1			P
7440-66-6	Zinc	71.7			P
	Cyanide				NR

Color Before: BROWN Clarity Before: Texture: MEDIUM

Color After: YELLOW Clarity After: Artifacts:

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

CC7683S

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

Matrix (soil/water): SOIL Level (low/med): LOW
% Solids for Sample: 92.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic	75-125	10.6832		4.7503		8.65	68.6	N	F
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead		33.1676		27.9568		4.32	120.6		F
Magnesium									NR
Manganese									NR
Mercury	75-125	0.5924		0.1081	U	0.54	109.7		CV
Nickel									NR
Potassium									NR
Selenium	75-125	10.1297		0.3762	B	10.81	90.2		F
Silver									NR
Sodium									NR
Thallium	75-125	10.4757		0.2162	U	10.81	96.9		F
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

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5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

CC7684S

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

Matrix (soil/water): SOIL Level (low/med): LOW
% Solids for Sample: 89.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony	75-125	48.8268		10.2138	B	111.73	34.6	N	P
Arsenic									NR
Barium	75-125	518.4865		79.1238		446.93	98.3		P
Beryllium	75-125	12.5251		0.7649	B	11.17	105.3		P
Cadmium	75-125	10.1382		0.7349	B	11.17	84.2		P
Calcium									NR
Chromium	75-125	60.2726		16.7023		44.69	97.5		P
Cobalt	75-125	118.5596		7.8381	B	111.73	99.1		P
Copper	75-125	67.1488		16.8205		55.87	90.1		P
Iron									NR
Lead									NR
Magnesium									NR
Manganese		724.7594		713.2747		111.73	10.3		P
Mercury									NR
Nickel	75-125	126.4996		14.5083		111.73	100.2		P
Potassium									NR
Selenium									NR
Silver	75-125	10.5623		0.8939	U	11.17	94.6		P
Sodium									NR
Thallium									NR
Vanadium	75-125	132.1950		21.1941		111.73	99.3		P
Zinc		626.7055		525.5405		111.73	90.5		P
Cyanide									NR

Comments:

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DUPLICATES

EPA SAMPLE NO.

CC7683D

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 92.5 % Solids for Duplicate: 92.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic	2.2	4.7503		4.8649		2.4		F
Barium								NR
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Cobalt								NR
Copper								NR
Iron								NR
Lead	0.6	27.9568		32.4324		14.8	*	F
Magnesium								NR
Manganese								NR
Mercury		0.1081	U	0.1081	U			CV
Nickel								NR
Potassium								NR
Selenium		0.3762	B	0.2724	B	32.0		F
Silver								NR
Sodium								NR
Thallium		0.2162	U	0.2162	U			F
Vanadium								NR
Zinc								NR
Cyanide								NR

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DUPLICATES

EPA SAMPLE NO.

CC7684D

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 89.5 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		10028.6180		9362.9364		6.9		P
Antimony	13.4	10.2138	B	14.1497		32.3		P
Arsenic								NR
Barium	44.7	79.1238		81.3791		2.8		P
Beryllium		0.7649	B	0.7649	B	0.0		P
Cadmium		0.7349	B	0.6704	U	200.0		P
Calcium		38549.2240		35889.2380		7.1		P
Chromium		16.7023		15.9979		4.3		P
Cobalt		7.8381	B	7.6206	B	2.8		P
Copper	5.6	16.8205		17.2674		2.6		P
Iron		15035.6660		15064.7270		0.2		P
Lead								NR
Magnesium		14035.0710		7480.5962		60.9	*	P
Manganese		713.2747		684.2951		4.1		P
Mercury								NR
Nickel	8.9	14.5083		17.4613		18.5		P
Potassium	1117.3	1465.3252		1394.2886		5.0		P
Selenium								NR
Silver		0.8939	U	0.8939	U			P
Sodium		91.6016	B	82.3789	B	10.6		P
Thallium								NR
Vanadium	11.2	21.1941		21.6446		2.1		P
Zinc		525.5405		587.2503		11.1		P
Cyanide								NR

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

ICP ID Number: ICP-B Date: 04/12/91

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.20		200.0	58.0	P
Antimony	206.80		60.0	24.0	P
Arsenic			10.0		NR
Barium	493.40		200.0	1.0	P
Beryllium	313.00		5.0	1.0	P
Cadmium	228.80		5.0	3.0	P
Calcium	315.80		5000.0	48.0	P
Chromium	267.70		10.0	6.0	P
Cobalt	228.60		50.0	5.0	P
Copper	327.40		25.0	5.0	P
Iron	259.90		100.0	19.0	P
Lead			3.0		NR
Magnesium	279.00		5000.0	51.0	P
Manganese	257.60		15.0	1.0	P
Mercury			0.2		NR
Nickel	231.60		40.0	12.0	P
Potassium	766.40		5000.0	697.0	P
Selenium			5.0		NR
Silver	328.00		10.0	4.0	P
Sodium	588.90		5000.0	40.0	P
Thallium			10.0		NR
Vanadium	292.40		50.0	4.0	P
Zinc	213.80		20.0	4.0	P

Comments:

U.S. EPA - CLP

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

ICP ID Number: Date: 04/14/91

Flame AA ID Number:

Furnace AA ID Number: AAS-ZEB

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		NR
Antimony			60.0		NR
Arsenic			10.0		NR
Barium			200.0		NR
Beryllium			5.0		NR
Cadmium			5.0		NR
Calcium			5000.0		NR
Chromium			10.0		NR
Cobalt			50.0		NR
Copper			25.0		NR
Iron			100.0		NR
Lead	283.30	BZ	3.0	1.0	F
Magnesium			5000.0		NR
Manganese			15.0		NR
Mercury			0.2		NR
Nickel			40.0		NR
Potassium			5000.0		NR
Selenium			5.0		NR
Silver			10.0		NR
Sodium			5000.0		NR
Thallium	196.00	BZ	10.0	1.0	F
Vanadium			50.0		NR
Zinc			20.0		NR

Comments:

U.S. EPA - CLP

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

ICP ID Number: Date: 04/14/91

Flame AA ID Number:

Furnace AA ID Number: AAS-ZEC

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		NR
Antimony			60.0		NR
Arsenic	193.70	BZ	10.0	1.0	F
Barium			200.0		NR
Beryllium			5.0		NR
Cadmium			5.0		NR
Calcium			5000.0		NR
Chromium			10.0		NR
Cobalt			50.0		NR
Copper			25.0		NR
Iron			100.0		NR
Lead			3.0		NR
Magnesium			5000.0		NR
Manganese			15.0		NR
Mercury			0.2		NR
Nickel			40.0		NR
Potassium			5000.0		NR
Selenium	196.00	BZ	5.0	1.0	F
Silver			10.0		NR
Sodium			5000.0		NR
Thallium			10.0		NR
Vanadium			50.0		NR
Zinc			20.0		NR

Comments:

U.S. EPA - CLP

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: DATACHEM LABORATORIES Contract: 68-D0-0149

Lab Code: DATAC Case No.: S0787 SAS No.: SDG No.: SF0787

ICP ID Number: Date: 04/16/91

Flame AA ID Number: AAS-CVB

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200.0		NR
Antimony			60.0		NR
Arsenic			10.0		NR
Barium			200.0		NR
Beryllium			5.0		NR
Cadmium			5.0		NR
Calcium			5000.0		NR
Chromium			10.0		NR
Cobalt			50.0		NR
Copper			25.0		NR
Iron			100.0		NR
Lead			3.0		NR
Magnesium			5000.0		NR
Manganese			15.0		NR
Mercury	253.70		0.2	0.2	CV
Nickel			40.0		NR
Potassium			5000.0		NR
Selenium			5.0		NR
Silver			10.0		NR
Sodium			5000.0		NR
Thallium			10.0		NR
Vanadium			50.0		NR
Zinc			20.0		NR

Comments: