RCRA
no code

Med-[illegible]
000605 NB 4/12/87 Med NB

Minnesota Pollution Control Agency

Preliminary Assessment
Executive Summary

Greif Brothers Corporation
MND023010812

February 6, 1987

EPA Region 5 Records Ctr.
385696

Situation

Greif Brothers Corporation is a manufacturer of multiwall bags, located in Rosemount, Minnesota. Since 1962 Greif Brothers have generated ink sludge and solvent wastes. In September, 1981 the Minnesota Pollution Control Agency (MPCA) staff inspected the plant. At that time, 70 barrels of ink waste had been stored in a grassy area southeast of the building. Four areas were observed where ink was dumped on the ground. Approximately two yards of contaminated soil and waste ink was excavated from the dump areas. Lab analysis of the contaminated soils indicate high levels of lead and chromium present. At present, no ground water samples have been obtained.

A Rosemount municipal well and several private wells are located within 1,500' of the plant. Approximately 1,000 persons are utilizing private wells within a three mile radius of the site.

Preliminary and potential Hazard Ranking System (HRS) scores have been calculated for this Site. The preliminary score, based on information currently available and/or on estimates made by MPCA staff, is 15.17. The potential score, which the Site would receive only if releases of hazardous substances from the Site to ground water and surface water were documented, is 37.93.

Inspection Priority Recommendation

The MPCA staff have conducted a Preliminary Assessment for Greif Brothers Corp. (Site). As a result, the Agency staff believe that the Site represents a medium potential hazard to the environment because there is a potential for drinking water wells to be affected by contaminants. In conclusion, the MPCA staff hereby recommend that the Site be assigned a medium priority for inspection since there is a possibility of hazardous waste on site and a potential for ground water contamination.

Phone:_____
520 Lafayette Road North, St. Paul, Minnesota 55155
Regional Offices • Duluth/Brainerd/Detroit Lakes/Marshall/Rochester
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POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE: MND | 02 SITE NUMBER: 023010812

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): Greif Brothers Corp. Norco Division.
02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: 2750 West 145th St.
03 CITY: Rosemount
04 STATE: MN
05 ZIP CODE: 55068
06 COUNTY: DaKota
07 COUNTY CODE: 037
08 CONG DIST: 03
09 COORDINATES LATITUDE: 44°44'18" LONGITUDE: 93°07'15"
10 DIRECTIONS TO SITE (Starting from nearest public road): From St. Paul go south on Hwy 3 to Rosemount. Go East on Co. Rd 33 (145th St.) ~ 1/4 mile, site is on South side of Road just east of R.R. tracks.

III. RESPONSIBLE PARTIES

01 OWNER (If known): Greif Brothers Corporation
02 STREET (Business mailing, residential):
03 CITY: Rosemount
04 STATE:
05 ZIP CODE:
06 TELEPHONE NUMBER: ( )
07 OPERATOR (If known and different from owner): Rich Stadther
08 STREET (Business mailing, residential):
09 CITY:
10 STATE:
11 ZIP CODE:
12 TELEPHONE NUMBER: ( )
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 ___/___/___ (MONTH DAY YEAR) ☐ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION: ☑ YES DATE 9/16/81 (MONTH DAY YEAR) ☐ NO
BY (Check all that apply): ☐ A. EPA ☐ B. EPA CONTRACTOR ☑ C. STATE ☐ D. OTHER CONTRACTOR ☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER MPCA staff (Specify)
CONTRACTOR NAME(S):
02 SITE STATUS (Check one): ☑ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN
03 YEARS OF OPERATION: 1962 ? (BEGINNING YEAR) | operating Now (ENDING YEAR) ☐ UNKNOWN
04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
1. waste ink sludge
2. Petrolium naptha
3. Glues
05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
ground water (population/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 (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT: David J. Koubsky
02 OF (Agency/Organization): MPCA Solid & Hazardous Waste Div.
03 TELEPHONE NUMBER: (612) 296-7818
04 PERSON RESPONSIBLE FOR ASSESSMENT: SAME
05 AGENCY:
06 ORGANIZATION:
07 TELEPHONE NUMBER: ( )
08 DATE: ___/___/87 (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
MND	023010812

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

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

TONS _____

CUBIC YARDS _____

NO OF DRUMS 70

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	3860	Gallons	stored in 65 gal / Drums
OLW	OILY WASTE			
SOL	SOLVENTS	unK		130 gal / yr. 1987
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SLU	Lead	7439921	DR	10,000	mg / Kg
	Chromium	744508		2,200	mg / Kg
			concentrations in		
			excavated soils		

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)

MPCA Files

EPA FORM 2070-12 (7-81)

EPA

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

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MND	023010812

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☑ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE 9-23-81) — ☑ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED 6400 — 04 NARRATIVE DESCRIPTION

Poor storage practices in past (1980) resulted in leaking barrels and alleged on site dumping.

01 ☐ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE ____) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED ____ — 04 NARRATIVE DESCRIPTION

No apparent surface water contamination

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

unKnown

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

unKnown

01 ☑ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE 9-22-81) — ☑ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED unKnown — 04 NARRATIVE DESCRIPTION

Area of disposal is enclosed with a chain link fence. spill area is not directly accessable to public, but is accessable to employees.

01 ☑ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE 9-22-81) — ☐ POTENTIAL — ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED 1/2 (Acres) — 04 NARRATIVE DESCRIPTION

Ink spills on to the soil were observed by MPCA staff. soils tested for owner indicate high levels of lead and chromium (10,000 mg/Kg - 2,200 mg/Kg)

01 ☑ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE ____) — ☑ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED 6400 — 04 NARRATIVE DESCRIPTION

municipal well #3 for Rosemont is ~ 750' West of the site. approx 1800 people are supplied drinking water by private wells in the city of Rosemont

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE ____) — ☐ POTENTIAL — ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED ____ — 04 NARRATIVE DESCRIPTION

unKnown

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE 9-22-86) — ☐ POTENTIAL — ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED ____ — 04 NARRATIVE DESCRIPTION

see section E

EPA

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

I. IDENTIFICATION
01 STATE: MND
02 SITE NUMBER: 023010812

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☑ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE 9-22-81) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Dead grass around ink spots (Dumping area / spill area)

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

unknown

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

see section J.

01 ☑ M. UNSTABLE CONTAINMENT OF WASTES (Spills, runoff/standing liquids, leaking drums) — 02 ☐ OBSERVED (DATE 9-22-81) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

see sections A, E, F

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

No apparent damage.

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

unknown

01 ☑ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE 9-22-81) ☐ POTENTIAL ☑ ALLEGED
04 NARRATIVE DESCRIPTION

Complaint filed with MPCA on 9-3-81 included on site dumping of waste ink chemicals.

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

Private drinking wells exsist approx 1600' E, N.E of site. wells are located in glacial drift.

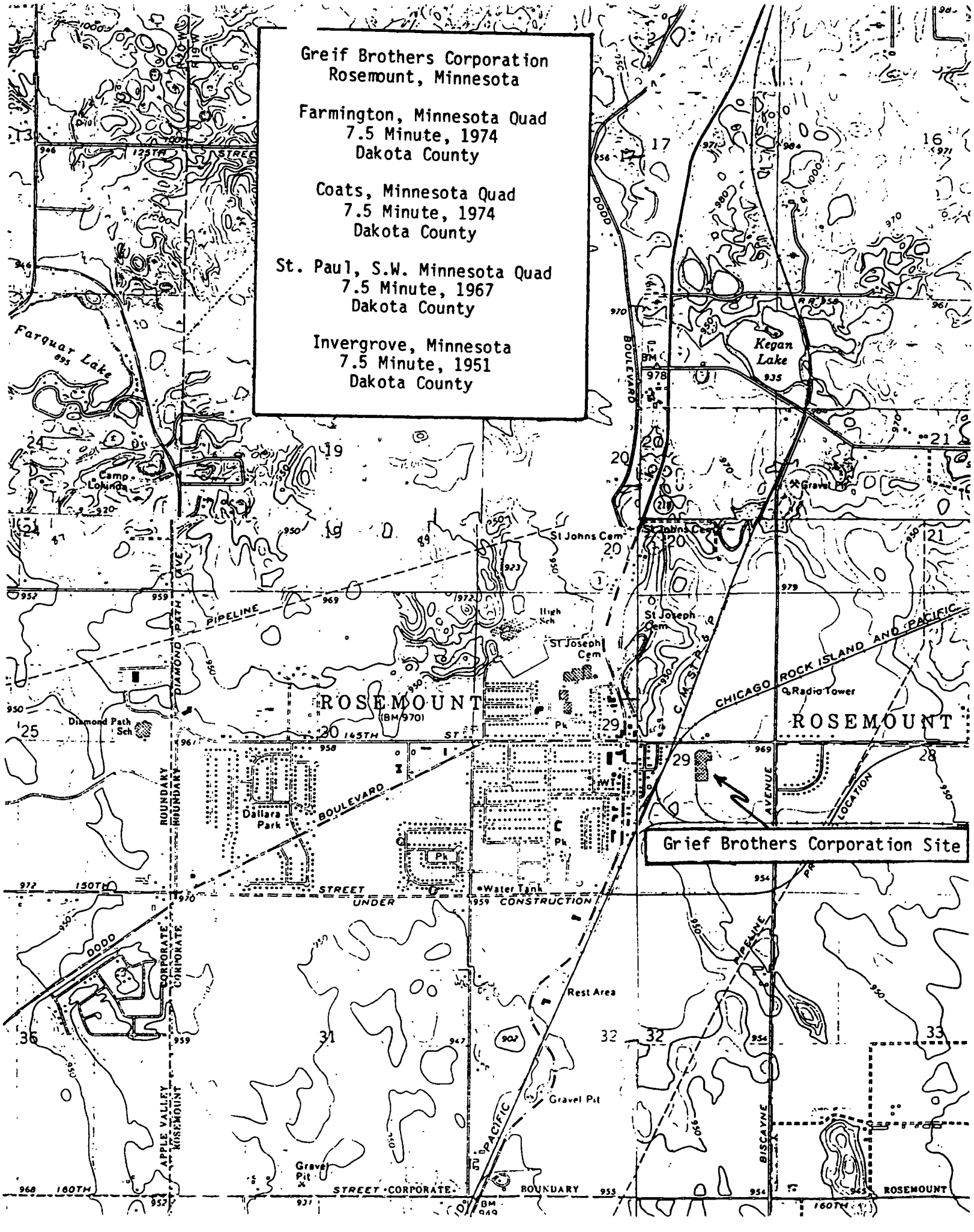
III. TOTAL POPULATION POTENTIALLY AFFECTED: 6400

IV. COMMENTS

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

MPCA files.
Dakota County Health department personnel.
Rosemount City Engineer

EPA FORM 2070-12 (7-81)


Greif Brothers Corporation
Rosemount, Minnesota
Farmington, Minnesota Quad
7.5 Minute, 1974
Dakota County
Coats, Minnesota Quad
7.5 Minute, 1974
Dakota County
St. Paul, S.W. Minnesota Quad
7.5 Minute, 1967
Dakota County
Invergrove, Minnesota
7.5 Minute, 1951
Dakota County
Farquar Lake
Kegan Lake
Camp Lokinda
St Johns Cem
St Joseph Cem
High Sch
PIPELINE
DIAMOND PATH AVE
ROSEMOUNT
(BM 970)
145TH ST
Diamond Path Sch
Dallara Park
BOULEVARD
CHICAGO ROCK ISLAND AND PACIFIC
Radio Tower
Grief Brothers Corporation Site
150TH STREET
UNDER CONSTRUCTION
Water Tank
DODD
CORPORATE
APPLE VALLEY
ROSEMOUNT
Rest Area
Gravel Pit
PACIFIC
BISCAYNE
AVENUE
LOCATION
160TH STREET CORPORATE BOUNDARY
ROSEMOUNT

REGION V FIT - PA DOCUMENTATION PACKAGE

SITE NAME Greif Brothers Corp, Norco Div. AKA(s) _____

ADDRESS 2750 West 145th St.

CITY Rosemount STATE MN ZIP 55068 COUNTY Dakota

USEPA IDENTIFICATION NUMBER MND023010812 Not classified

Dec - 86

DOES THE FACILITY HAVE A RCRA PERMIT YES ____ NO ✓ UNKNOWN ____ 4-20-83

IF THE FACILITY HAS A RCRA PERMIT, DOES IT COVER ALL EXISTING AND FORMER WASTE STORAGE, TRANSPORT, AND/OR DISPOSAL ACTIVITIES AT THE FACILITY YES ____ NO ____ UNKNOWN ____
IF NO, DESCRIBE WHAT AREAS ARE NOT COVERED N/A

POTENTIAL SOURCES OF INFORMATION

	USED	NOT USEFUL	NOT AVAILABLE
1) STATE HAZARDOUS/SOLID WASTE FILES	✓		
2) STATE WATER FILES	✓		
3) STATE AIR FILES			
4) STATE DEPARTMENT OF HEALTH			
5) STATE GEOLOGICAL SURVEY	✓		
6) STATE DEPARTMENT OF NATURAL RESOURCES	✓		
7) STATE FIRE MARSHALL			
8) COUNTY DEPARTMENT OF HEALTH			
9) COUNTY ENGINEER			
10) COUNTY CLERK/RECORDER OF DEEDS			
11) CITY DEPARTMENT OF HEALTH	✓		
12) CITY ENGINEER	✓		
13) CITY FIRE DEPARTMENT/FIRE MARSHALL			
14) CITY WATER/SEWER DEPARTMENT	✓		
15) U.S. SOIL CONSERVATION SERVICE			
16) OTHERS			

FIT PREPARER _____ DATE _____

III WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS	SOURCES
SLU	SLUDGE	3850	Gallons	55 gal / Drum (Ink Sludge)	2
OLW	OILY WASTE				
SOL	SOLVENTS				
PSD	PESTICIDES				
OCC	OTHER ORGANIC CHEMICALS				
IOC	INORGANIC CHEMICALS				
ACD	ACIDS				
BAS	BASES				
MES	HEAVY METALS				

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	SOURCES
SLU	Lead	7439921	DR	10,000	mg/Kg	2
	Chromium	744508		2,200	mg/Kg	

V FEEDSTOCKS (See Appendix for CAS Numbers)

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

WASTE CALCULATION PAGE

$\sim 70 \text{ Drums} \times 55 \frac{\text{gal}}{\text{Drum}} \approx 3850 \text{ gall.}$

A) GROUNDWATER CONTAMINATION

A.1 MONITORING WELLS YES ____ NO ✓ UNKNOWN ____ NUMBER OF WELLS ____

A.2 MONITORING WELLS CONTAMINATED YES ____ NO ✓ UNKNOWN ____

A.3 PRIVATE, PUBLIC, AND/OR COMMERCIAL WELLS CONTAMINATED YES ____ NO ____ unk. ✓

A.4 TYPE(S) OF CONTAMINATION No water samples taken

A.5 BACKGROUND WELL AVAILABLE YES ____ NO ____ UNKNOWN ✓

A.6 IF NO RECORDED CONTAMINATION, IS THERE A POTENTIAL YES ✓ NO ____

WHY? There was some spillage on site 1981, poor disposal practices from Pre 79-81 ground water has never been tested. Some soil excavation 6-82 of contaminated soil

A.7 GROUNDWATER USED FOR DRINKING WATER YES ✓ NO ____

A.8 DISTANCE TO NEAREST WELL 750'/1500' FEET municipal / Residencial

A.9 ESTIMATE OF THE POPULATION ON GROUNDWATER IN A THREE MILE RADIUS OF THE SITE 1500

A.10 TYPES OF AQUIFERS

Static water level 98'

Sand & gravel Drift

TYPE	THICKNESS	DEPTH	AQUIFER OF CONCERN	CONTAMINATED
glacial Drift	184'	0 to 184'	Residential Concern	unknown
Shakopee Limestone	191'	184' to 375'		"
Jordan Sandstone	95'	375' to 470'	municipal Concern	"
St Lawrence Fm.	?	470+ ?		"

Pg 20! 107 USGS water Res mpls/st Paul

A.11 DOES SITE GEOLOGY PREVENT THE MIGRATION OF CONTAMINANTS TO UNDERLYING AQUIFERS YES ✓ NO ✓ UNKNOWN ____ IF YES, WHY Residential well are probably Located in glacial Deposits (Sand and gravel) municipal water source in Jordan lies under 191 feet of Limestone, A probable barrier

A.12 DOES THE CONTAINMENT PROCEDURES UTILIZED AT THE FACILITY PREVENT THE MIGRATION OF CONTAMINANTS TO UNDERLYING AQUIFERS YES ____ NO ✓ UNKNOWN ____

IF YES, WHY in the past No barrels were stockpileled in grassy Area. Presently Barrels are stored on asphalt surface (Ref Dakota County inspections)

SOURCES: 2, 3, 5, 7, ____, ____, ____, ____, ____, ____, ____

B) SURFACE WATER CONTAMINATION

B.1 TYPE OF NEARBY SURFACE WATER(S): 3 small ponds ½ mile North of site

CREEK ____, STREAM ____, AND/OR RIVER ____ (CONTINUOUSLY FLOWING)

POND ✓, LAKE ____, AND/OR SWAMP/MARSH ____

B.2 DISTANCE TO THE NEAREST SURFACE WATER 3,000 FEET

B.3 DOES SURFACE TOPOGRAPHY PREVENT THE MIGRATION OF CONTAMINANTS TO THE SURFACE WATER(S) YES ✓ NO ____. IF YES, WHY site Area is relatively Flat area of alleged dumping drains south. There are some depressed Areas 700' to 1500' S.W. of property. There is no apparent Direct route to the Ponds

B.4 USAGE OF SURFACE WATER

DRINKING WATER YES ____ NO ✓ UNKNOWN ____ None on site

IRRIGATION YES ____ NO ✓ UNKNOWN ____

RECREATION YES ____ NO ✓ UNKNOWN ____

B) SURFACE WATER CONTAMINATION (CONTINUED)

B.5 SURFACE WATER CONTAMINATED YES ____ NO ____ UNKNOWN ✓

B.6 TYPE(S) OF CONTAMINATION AND DATE No surface water on site

B.7 IF NO RECORDED CONTAMINATION, IS THERE A POTENTIAL YES ✓ NO ____
WHY? There was some ink waste spillage on site. Therefor the potential exsist. Soils excavated showed High levels of lead & chromium.

B.8 DISTANCE TO NEAREST DRINKING WATER INTAKE WITHIN THREE MILES: none MILE(S)

B.9 ESTIMATE OF POPULATION USING SURFACE WATER None, INTAKES WITHIN THREE MILES OF THE SITE.

B.10 IS THERE A WILDLIFE PRESERVE (5 ACRE MINIMUM) WHICH COULD BE CONTAMINATED
YES ____ NO ✓

B.11 ARE THERE FEDERALLY ENDANGERED SPECIES PRESENT YES ____ NO ____ UNKNOWN ✓

SOURCES: 1ABCD, 2, ____, ____, ____, ____, ____, ____, ____, ____, ____

C) CONTAMINATION OF AIR

C.1 CITIZEN COMPLAINTS YES ____ NO ✓ DATE(S) ____ NATURE OF COMPLAINT ____

C.2 AIR PROBLEMS AS CONFIRMED BY LOCAL, STATE, AND/OR FEDERAL INVESTIGATORS
YES ____ NO ✓ DATE(S) ____ DESCRIPTION OF EVENT AND METHODOLOGY USED ____

C.3 IF NO CONFIRMED RELEASES, IS THERE A POTENTIAL YES ____ NO ✓. IF YES, WHY ____

C.4 ESIMATE OF POPULATION WITHIN A FOUR MILE RADIUS ____

SOURCES: 2, 3, 8, ____, ____, ____, ____, ____

D) FIRE/EXPLOSIVE CONDITIONS

D.1 HAS A STATE AND/OR LOCAL FIRE MARSHAL CERTIFIED THAT THE SITE IS A FIRE HAZARD OR PRESENTS A EXPLOSION THREAT YES ____ NO ____ DATE ____
AGENCY ____ DESCRIPTION OF EVENT ____

D.2 INCOMPATIBLE WASTES PRESENT YES ____ NO ____ UNKNOWN ✓ Potassium cyanide

D.3 IGNITABLE WASTES PRESENT YES ✓ NO ____ UNKNOWN ____

D.4 IF NO CONFIRMED THREAT, IS THERE A POTENTIAL THREAT YES ____ NO ____
UNKNOWN ____ NATURE OF THE POTENTIAL THREAT ____

D.5 DISTANCE TO NEAREST POPULATION 200 FEET

D.6 ESTIMATE OF POPULATION WITHIN TWO MILES 3500

D.7 DISTANCE TO NEAREST BUILDING 200 FEET

SOURCES: 1A, 1B, 1C, 1D, ____, ____, ____, ____

E) DIRECT CONTACT

E.1 IS SITE ACCESS RESTRICTED RESTRICTED TO NON-FACILITY PERSONNEL YES ✓ NO ___ UNKNOWN ___ IF YES, METHOD chain link fence

E.2 HAVE AND/OR CAN NON-FACILITY PERSONNEL COME EASILY INTO CONTACT WITH HAZARDOUS MATERIAL AT THE FACILITY YES ✓ NO ___ IF YES, HOW grassy area is south of parking it is not secure from employees

E.3 ARE WASTES PROPERLY CONTAINED AT THE FACILITY YES ✓ NO ___ UNKNOWN ___

E.4 ESTIMATE OF THE NUMBER OF INDIVIDUALS WITH ONE MILE OF THE FACILITY 2600

E.5 AS A RESULT OF RECREATIONAL ACTIVITIES, IS DIRECT CONTACT POSSIBLE YES ___ NO ___ UNKNOWN ✓ Not with public

SOURCES: 1ABCD, 2, ___, ___, ___, ___, ___

F) CONTAMINATION OF SOIL

F.1 ANALYTICAL DATA YES ✓ NO ___ IF YES, DATE AND TYPE OF CONTAMINATION 4-30-82 excavated soil lead - 10,000 mg/Kg Chromium 2,200 mg/Kg

F.2 PHOTOGRAPHIC EVIDENCE TO INDICATE CONTAMINATION YES ✓ NO ___ IF YES, DATE AND DESCRIPTION 9-16-81. Disposal area. Areas where ink and Glue waste has been spilled on ground

F.3 IF NO TO F.1 AND F.2, IS THERE A POTENTIAL YES ___ NO ___ UNKNOWN ___ IF YES, DESCRIBE

F.4 AREA AFFECTED OR POTENTIALLY AFFECTED 5 ACRE(S) This is just an arbitrary estimate to include low areas to the S.W.

SOURCES: 2, ___, ___, ___, ___, ___, ___

G) DRINKING WATER CONTAMINATION

SEE SECTIONS A AND B

G.1 TOTAL POPULATION POTENTIALLY AFFECTED 6400 (NOT DOUBLE COUNTED)
1800 households for entire city of Rosemount

SOURCES: SEE SECTIONS A AND B

H) WORKER EXPOSURE/INJURY

H.1 DO SITE CONDITIONS THREATEN FACILITY WORKER AND/OR WORKERS AT ADJACENT FACILITIES YES ___ NO ___ UNKNOWN ✓ IF YES, DESCRIBE

H.2 HAS THERE BEEN DOCUMENTED PROBLEMS YES ___ NO ✓ UNKNOWN ___ IF YES, DESCRIBE

H.3 ESTIMATE OF WORKER POPULATION AFFECTED OR POTENTIALLY AFFECTED Unk

SOURCES: 2, 3, 5, 8, ___, ___, ___

I) POPULATION EXPOSURE/INJURY

I.1 DO SITE CONDITIONS THREATEN NEARBY POPULATION YES ____ NO ✓ UNKNOWN ____
IF YES, DESCRIBE (INCLUDE DATES OF EXPOSURE) ____

I.2 AS A RESULT OF RECREATIONAL ACTIVITIES, IS POPULATION EXPOSURE/INJURY POSSIBLE
YES ____ NO ✓ UNKNOWN ____ IF YES, DESCRIBE ____

I.3 POPULATION AFFECTED OR POTENTIALLY AFFECTED - SAME AS TOTAL POPULATION EXPOSED

SOURCES: 2, 4, ____, ____, ____, ____, ____

J) DAMAGE TO FLORA

J.1 OBSERVED OCCURRENCES OF DAMAGE YES ✓ NO ____ UNKNOWN ____ IF YES, DATE AND EXTENT OF DAMAGE 9-16-81 Several Ink spots ~(4'x4') were observed in grassy Area. Dead grass at these locations (see photos)

J.2 IF NO OR UNKNOWN IN J.1, IS THERE A POTENTIAL FOR SUCH AN OCCURRENCE YES ____
NO ____ UNKNOWN ____ IF YES, DESCRIBE POTENTIAL ____
Storage practices have improved and conform to County Rules & Regs

SOURCES: 2, 3, 6, ____, ____, ____, ____

K) DAMAGE TO FAUNA

K.1 OBSERVED OCCURRENCES OF DAMAGE YES ____ NO ____ UNKNOWN ✓ IF YES, DATE AND EXTENT OF DAMAGE ____

K.2 IF NO OR UNKNOWN TO K.1, IS THERE A POTENTIAL FOR SUCH AN OCCURRENCE YES ____
NO ____ UNKNOWN ✓ IF YES, DESCRIBE POTENTIAL ____
Heavy lead & Chromium consentrations in soil.

SOURCES: 2, ____, ____, ____, ____, ____, ____

L) CONTAMINATION OF FOOD CHAIN

L.1 HAVE GRAIN CROPS BEEN IMPACTED YES ____ NO ✓ UNKNOWN ____

L.2 HAVE LIVESTOCK (CATTLE, CHICKENS, etc.) BEEN IMPACTED YES ____ NO ✓
UNKNOWN ____

L.3 IF YES TO L.1 AND/OR L.2, DESCRIBE IMPACT AND GIVE DATE ____

L.4 IF NO TO L.1 AND OR L.2, IS THERE A POTENTIAL YES ____ NO ____ UNKNOWN ✓
IF YES, DESCRIBE ____

SOURCES: 2, 3, ____, ____, ____, ____, ____

M) UNSTABLE CONTAINMENT OF WASTES

M.1 ARE WASTE STORAGE AND/OR DISPOSAL PRACTICES AT THE FACILITY ADEQUATE YES ✓ NO ____ UNKNOWN ____ IF NO, DESCRIBE NATURE OF THE PROBLEM(S) The are now in compliance with Dakota County.

M.2 IF YES OR UNKNOWN TO M.1, DESCRIBE ANY POTENTIAL PROBLEM(S) Problems would result to past storage practices 1962 to 1982

SEE ALL PREVIOUS SECTIONS, USE MAXIMUM POPULATION THAT IS NOT DOUBLE COUNTED

SOURCES: 2, 3, ____, ____, ____, ____, ____

N) DAMAGE TO OFFSITE PROPERTY

N.1 HAVE OFFSITE PROPERTIES BEEN DAMAGED BY SITE ACTIVITES YES ____ NO ✓ UNKNOWN ____ IF YES, GIVE DATE(S) AND DESCRIBE EVENT(S) ____

SEE ALL PREVIOUS SECTIONS

SOURCES: 2, 3, ____, ____, ____, ____, ____

O) CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs

O.1 DOCUMENTED DAMAGE TO INFRASTRUCTURE YES ____ NO ____ UNKNOWN ✓ IF YES, GIVE DATE(S) AND DESCRIBE EVENT(S) No g.w. test have been taken. We dont know early disposal practices (1962 to 77) Ink sludge contains heavy metals

O.2 IF NO OR UNKNOWN TO O.1, DESCRIBE ANY POTENTIAL PROBLEMS ____

SOURCES: 2, ____, ____, ____, ____, ____, ____

P) ILLEGAL/UNAUTHORIZED DUMPING

P.1 HAVE THERE BEEN EPISODES OF ILLEGAL, UNAUTHORIZED, AND/OR MIDNIGHT DUMPING AT THE FACILITY YES ✓ NO ____ UNKNOWN ____ IF YES, GIVE DATE(S) AND DESCRIBE EVENT(S) unknown amount of Dumping on site. 1981 pictures and public complaints indicate some ink / glue dumping in 1981

P.2 HAS THE FACILITY RECEIVED HAZARDOUS WASTES WITHOUT A PROPER LOCAL, STATE, AND/OR FEDERAL PERMITS WHEN SUCH PERMITS WOULD HAVE NORMALLY BEEN REQUIRED YES ____ NO ____ UNKNOWN ✓ IF YES, GIVE DATE(S) AND DESCRIBE EVENT(S) ____

P.3 WOULD SITE SITE SECUFITY PROMOTE UNAUTHORIZED DUMPING YES ____ NO ✓ UNKNOWN ____ IF POSSIBLE, DESCRIBE Area contained by fense

SOURCES: 2, 3, ____, ____, ____, ____, ____

RECOMMENDED ACTIONS There are photos and complaints of Ink sludge and glue spills on site (1981). There have been No groundwater test in the area. Excavated soil, on site in 1982 had lead contents of 10,000 mg/Kg and Total Chromium of 2200 mg/Kg. Some site clean up was performed in 1982 (4 Barrels soil Removed)

I would recomend a ground water sample be obtained from grassy area where alleged dumping took place.

COMMENTS Greif Brothers have had poor disposal practices from 1962 to 1982, (Correspondence dated 10-8-81 Paragraph 2) Its unknown if on site dumping occured in this period but the possibility exist. A ground water test would clear this site up in a hurry. Closest private well 1500 in glacial till (Possibly) Closest municipal well 750' in bedrock aquifer static ground water at site Area is ~100' below ground surface

PA DOCUMENTATION SHEET

SITE Greif Brothers Corp.
IDENTIFICATION NUMBER MND-023010812

SOURCE NUMBER	DESCRIPTION OF SOURCE
1A, 1B, 1C, 1D	1A) QUAD NAME Farmington SIZE: (7.5) or 15 YEAR 1974 1B) QUAD NAME Coats SIZE: (7.5) or 15 YEAR 1974 1C) QUAD NAME St Paul S.W. SIZE: (7.5) or 15 YEAR 1967 1D) QUAD NAME Invergrove SIZE: (7.5) or 15 YEAR 1951
2	MPCA File includes Photos
3	Dakota County Files Personnel Tim Potts
4	DNR Topo maps 7.5 Quads
5	Rosemount County Engineer - Rich Hestsei
6	state HAZ waste Files
7	USGS Water Resources Manuls for Metro Area
8	Confidential Files

PA DOCUMENTATION SHEET

SITE _____
IDENTIFICATION NUMBER _____

SOURCE NUMBER	DESCRIPTION OF SOURCE

PA DOCUMENTATION SHEET

SITE _____
IDENTIFICATION NUMBER _____

SOURCE NUMBER	DESCRIPTION OF SOURCE

PA DOCUMENTATION SHEET

SITE _____
IDENTIFICATION NUMBER _____

SOURCE NUMBER	DESCRIPTION OF SOURCE

EPA Region 5 Records Ctr.

385695

SCREENING SITE INSPECTION REPORT
FOR
GREIF BROTHERS CORPORATION
ROSEMOUNT, MINNESOTA

U.S. EPA ID#: MND023010812

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EXECUTIVE SUMMARY

On March 27, 28, and 29, 1989, the Minnesota Pollution Control Agency (MPCA) staff conducted a Screening Site Inspection (SSI) at Greif Brothers Corporation (Site). The Site is located in the town of Rosemount, Minnesota, in Dakota County. The legal description is center of the north half of the southeast, Section 29, Township 115 N, Range 19 W.

The Grief Brothers Corporation has been in operation since 1962. The company is a manufacturer of multiwall bags and has generated ink sludge and solvent wastes.

The Site was brought to the attention of the MPCA on September 3, 1981, by a complaint alleging that the Grief Brothers Corporation had disposed an unknown amount of inks and chemicals behind the plant building. It was believed that the wastes were disposed in 55 gallon drums or simply poured out. A site investigation followed in September 1981. At that time, 70 barrels of ink waste were found stored in a grassy area southeast of the building. These were eventually properly stored and removed. Four areas were also observed where ink was dumped on the ground. About two yards of contaminated soil were excavated from which soil samples were taken. The laboratory analysis indicated high levels of lead and chromium. In February 1987, a preliminary assessment was conducted and a SSI was recommended because a municipal well is located within 0.25 miles of the Site (no water samples had been collected to date). The objectives of this SSI were as follows:

1. To determine whether the ground water had been impacted by the dumping of ink sludge.
2. To determine whether the contaminated soils had been completely excavated.

Five soil borings were drilled; one as a background sample and the other four were located within the area of ink sludge dumping/drum storage. Two water samples were collected; one was the Rosemount municipal well #3 and the other was a residential well. All samples were analyzed for the Target Compound List (TCL) compounds and Target Analyte List (TAL) analytes.

The analysis of the water samples did not detect any volatile or semi-volatile organic compounds except in the field blank. Only secondary drinking water standards of iron and manganese were exceeded in one sample.

The soil analysis indicate elevated levels of arsenic, barium, chromium, lead, and manganese in the top 5 feet of SB-2, SB-3, and SB-4. Only Tenatively Identified Compounds (TICs) were found in the analyses for volatile and semi-volatile organic compounds.

1.0 INTRODUCTION

The MPCA, working under a Cooperative Agreement with the U.S. Environmental Protection Agency (EPA) has conducted a SSI at Greif Brothers Corporation in Dakota County, Minnesota (Figure 1.1).

The Site was placed on the EPA Comprehensive Environmental Response, Compensation and Liability Information Systems (CERLIS) inventory on February 13, 1987, and David J. Koubsky conducted a preliminary assessment (PA) on February 6, 1987. This initial evaluation resulted in a preliminary Hazardous Ranking System (HRS) score of 15.17 and a projected score of 37.93. A work plan was prepared by the Site Assessment Unit and was approved by EPA Region V in April 1989. This plan involved the drilling of five soil borings to a depth of 20 feet with hollow stem augers (12 samples) and five water samples, including duplicate and field blanks. Only four water samples were collected because of an access problem.

The purposes of a SSI have been stated by the EPA in a directive outlining Pre-remedial Strategies. The directive states: All sites will receive a SSI to: 1) collect additional data beyond the scope of the PA enabling a more refined preliminary HRS score; 2) establish priorities among sites most likely to qualify for the National Priorities List (NPL); and 3) identify the data requirements for a Listing Site Inspection (LSI).

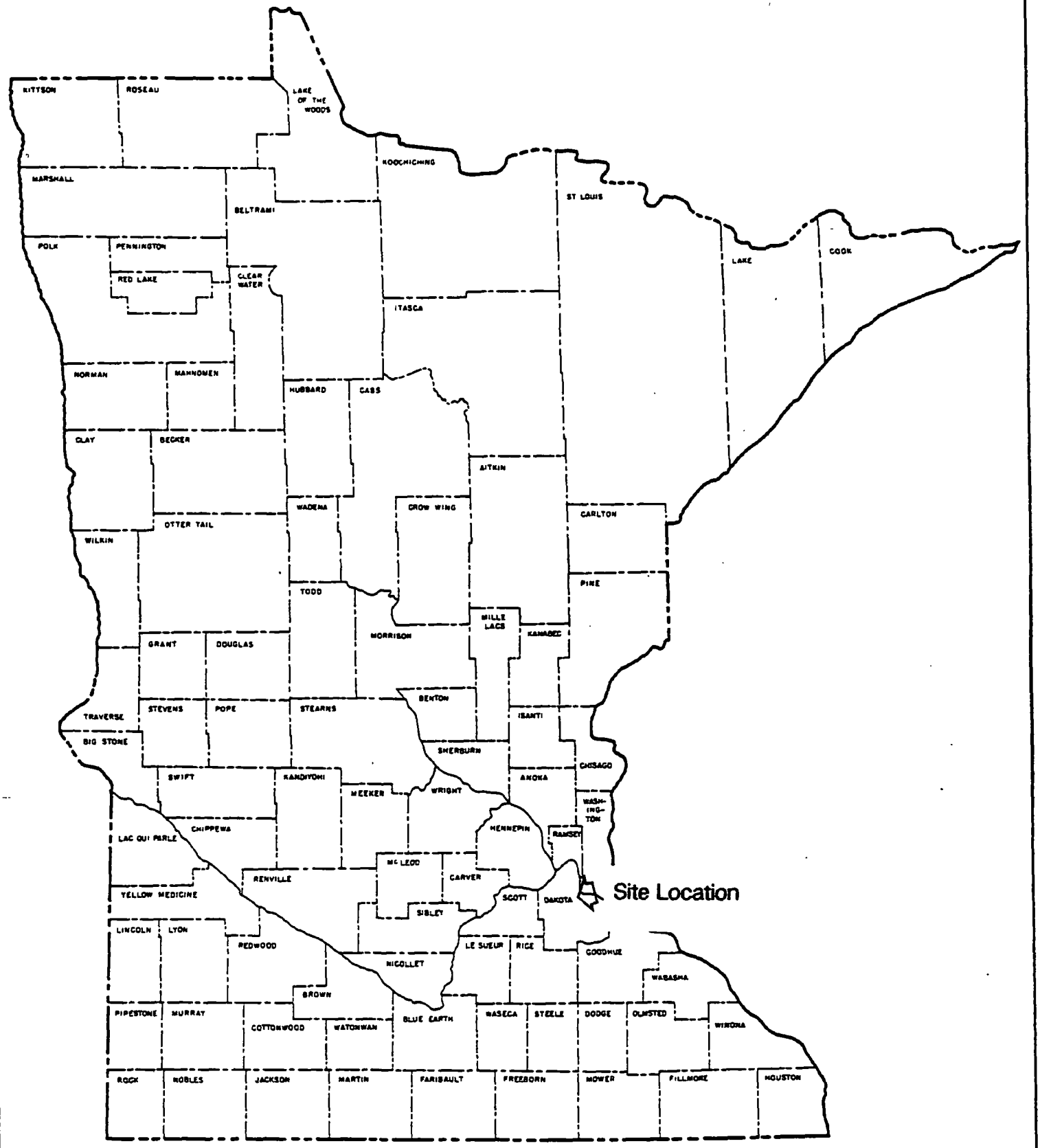


Figure 1.1 - Site Location in Minnesota

2.0 SITE BACKGROUND

2.1 Site Description

The Site is a privately owned company that manufactures multiwalled bags and generates ink sludge and solvent wastes. The Site involves approximately 40 acres and is located in the center of the north half of the southeast, Section 29, Township 115 N, Range 19 W (Figure 2.1).

A main office building is located on the west side of the property. A graveled/grassy area lies to the east of the building and is enclosed by a wire fence. This area is topographically level to surrounding property and at the time of the investigation was partly flooded due to rapidly melting snow.

2.2 Site History

The Grief Brothers Corporation has been in operation since 1962. The company is a manufacturer of multiwall bags and has generated ink sludge and solvent wastes.

On September 3, 1981, a citizen complained that the Grief Brothers Corporation had disposed an unknown amount of inks and chemicals behind the plant building. It was believed that the wastes were disposed in 55 gallon drums or simply poured out. A site investigation followed in September 1981. At that time, 70 barrels of ink waste were found stored in a grassy area southeast of the building. These were eventually properly stored and removed. Four areas were

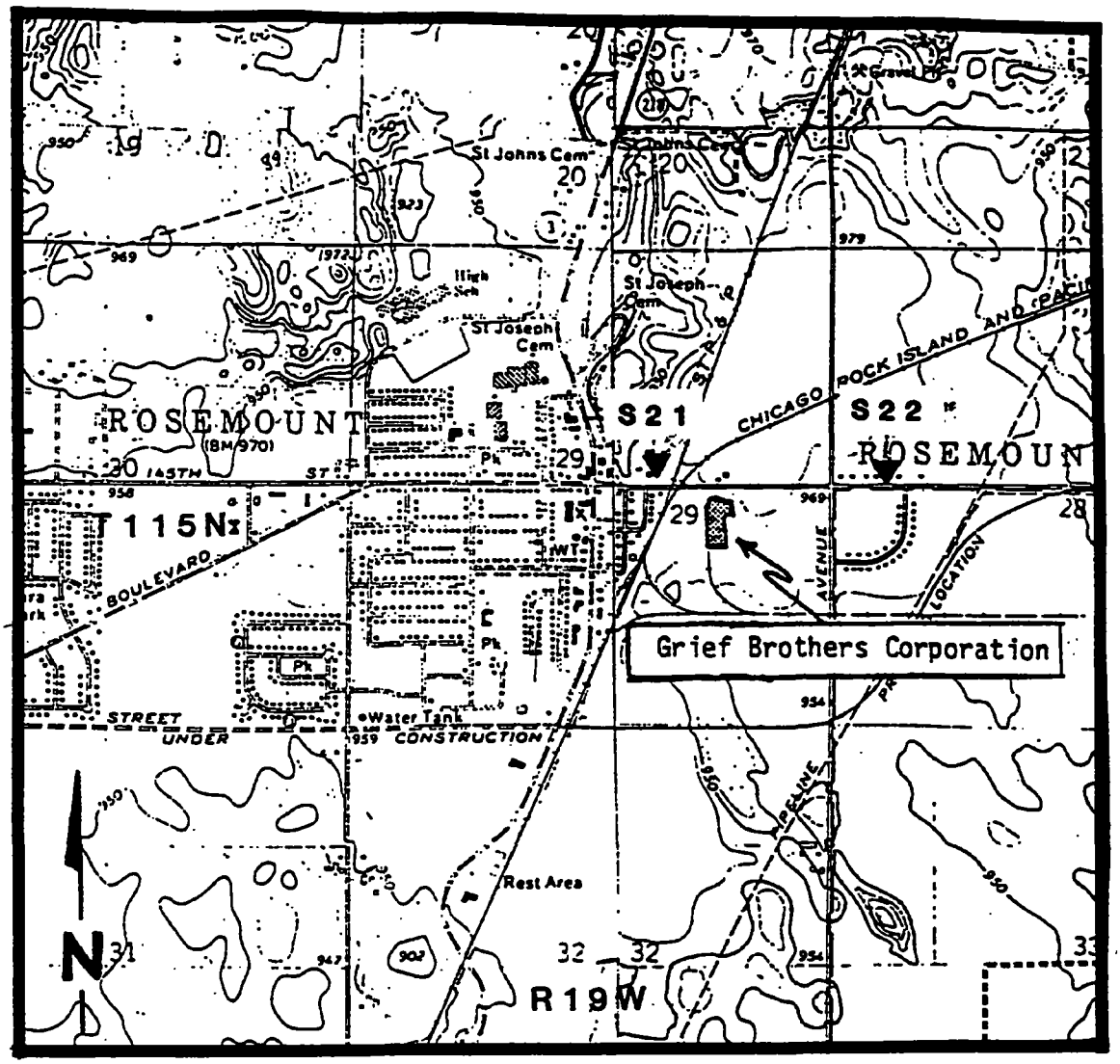


FIGURE 2.1 - SITE LOCATION

also observed where ink was dumped on the ground. About two yards of contaminated soil were excavated from which soil samples were taken. The laboratory analysis indicated high levels of lead (10,000 mg/kg) and chromium (2,200 mg/kg). The bottom of two excavation sites (location is unknown) was analyzed at approximately 1.8 mg/kg of lead and 12 to 3.6 mg/kg of chromium.

The company also uses a water based rubber latex adhesive. However, this material is not considered hazardous based on a letter from the manufacturer, H.B. Fuller Company and an evaluation by the MPCA Hazardous Waste Management Unit (MPCA files).

3.0 HYDROGEOLOGIC SETTING

The Site is located on the south flank of the Twin Cities Basin, a bedrock structure generally centered over the cities of Minneapolis and St. Paul. The Twin Cities Basin lies along the edge of a larger structural basin, the Hollandale Embayment, extending to the south.

Bedrock consists of Precambrian igneous and clastic rock overlain by Paleozoic sedimentary formations. The Paleozoic formations dip gently to the north toward the center of the Twin Cities Basin. These formations are the Mount Simon, Eau Claire, Galesville, Ironton, Franconia, St. Lawrence, and Jordan of the Cambrian Period and the Shakopee, Oneota and St. Peter of the Ordovician Period.

Bedrock valleys, cut by pre-Wisconsin glacial meltwaters, are common throughout the Twin Cities Basin. The valleys, with relief as much as five hundred feet, contained major rivers and streams and were part of a large drainage system

during this time. A major bedrock valley, trending northwest to southeast is located approximately six miles to the northeast of the Site. A minor bedrock valley is located approximately one mile east. Figure 3.1 shows bedrock topography and the locations of the bedrock valleys.

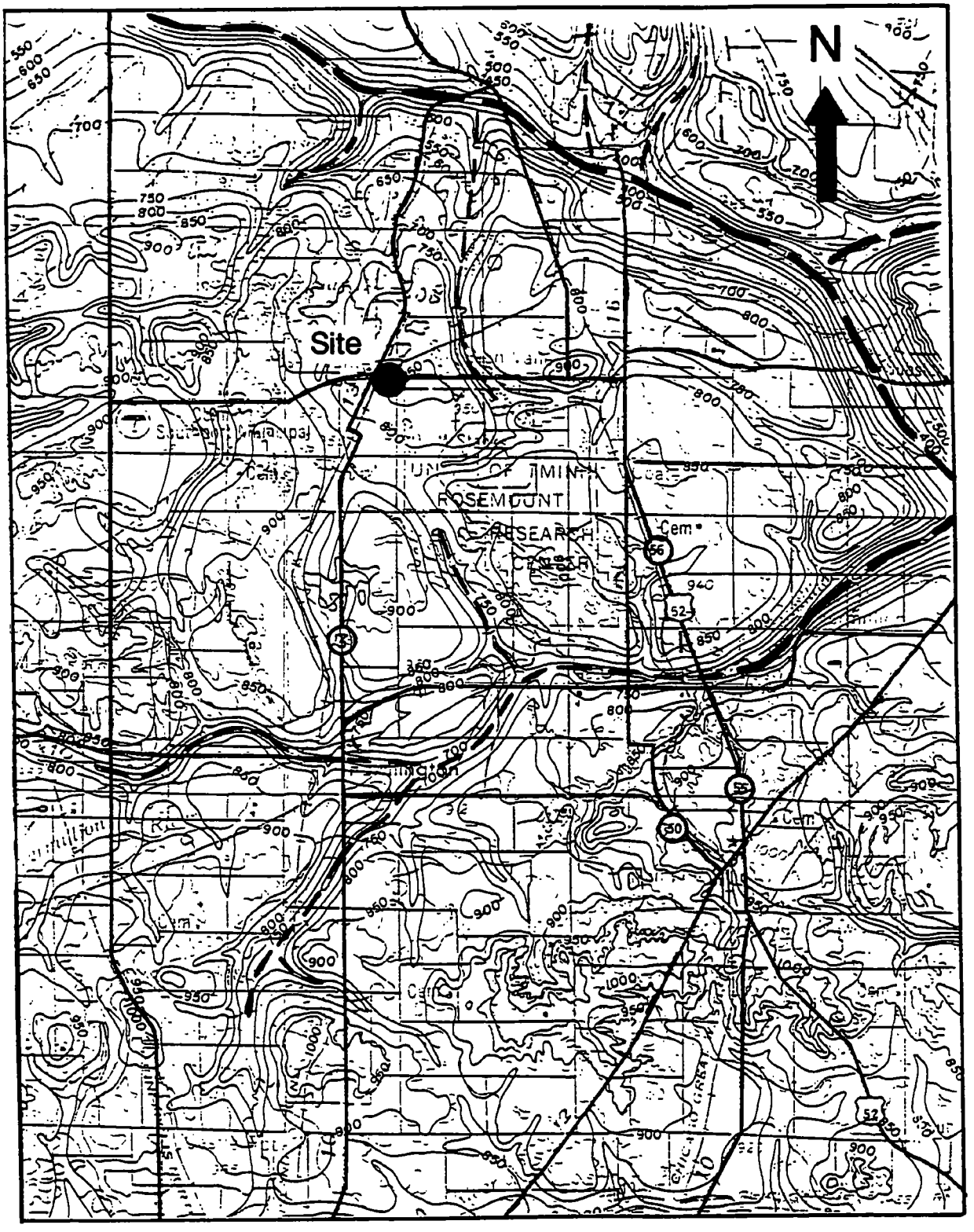
The Site is located near a local bedrock high. Based on topographic and bedrock geology maps of the area, the depth to bedrock is approximately 125 feet. Bedrock immediately beneath the Site is the Oneota Formation, although parts of the St. Peter Formation which have not been eroded may remain.

During Wisconsin time, as glacial ice from the Superior Lobe advanced from the north, the rivers and streams were laden with sediments, which were deposited and eventually filled the valleys. The Superior Lobe ice advanced to a point just north of the Site before it began to retreat, leaving behind hilly, irregular terrain common of terminal moraines.

Wasting of the Superior Lobe ice resulted in the deposit of outwash sands and created broad alluvial plains at the Site and generally south of the terminal moraine area. Soil borings drilled to depths of about twenty feet encountered relatively clean sands, indicating that the Site is located within the boundaries of the alluvial plain.

3.1 Ground Water

Ground water flow direction at the Site was not determined during this investigation. Generally the surficial ground water table within the outwash sands would be expected to flow east, towards the Mississippi River Valley.



(Source: Minnesota Geological Survey, MPCA)

(Scale 1" = 3 Miles)

Highway or County Road
Major Bedrock Valley
Minor Bedrock Valley

Figure 3.1 Bedrock Topography

However, differences in hydraulic conductivity and potentiometric head, created where the outwash filled valleys intersect bedrock formations, may influence the flow direction.

Intermixing of the bedrock aquifers and surficial outwash aquifers may occur where the bedrock valleys exist. Therefore, both the surficial and bedrock aquifers together should be considered the aquifer of concern for the purposes of this investigation. Refer to Figure 3.2 for additional hydrogeologic information.

Soil borings drilled during this investigation did not encounter the ground water table. Based on well logs from the area, the depth to the ground water table beneath the Site is estimated to be 80 feet.

3.2 Surface Water

Surface water drainage patterns are poorly defined in the surrounding area. Surface water is limited to small lakes, ponds or intermittent streams.

To the north, hilly, irregular terrain, typical of a terminal moraine are present. Here, rain water run-off is to depressions which may contain ponds.

At the Site and south, the topography is relatively flat compared to that to the north. This area lies within a broad alluvial plain in which soils contain little clay. Here, rain water either evaporates, is absorbed by plants or infiltrates rapidly into the sandy soils. Little rain water run-off occurs to ponds or streams.

Age		Formation(s)	Thickness, in feet (where not truncated by erosion)	Lithologic characteristics	Water-yielding capability
PALEOZOIC	ORDOVICIAN	Platteville and Glenwood	(mostly eroded)	Platteville—dolomite and dolomitic limestone, gray to brown, interbedded shale. Glenwood—shale, gray to green, basal argillaceous sandstone.	Small quantities of water available to wells; very small areal extent; low hydraulic conductivity, occurs as caprock commonly above water table; relatively poor source of water
		St. Peter	140-180	Sandstone, white to light yellow fine to medium grained, generally well sorted, quartzose, friable, minor amounts of shale particularly near base	Small to moderate quantities of water available to wells; high porosity and hydraulic conductivity throughout most of unit partially above water table in parts of watershed thereby limiting saturated thickness.
		Shakopee and Oneota	130-170	Shakopee—dolomite, light-brown to buff, often sandy, fractured, some interbedded sandstone and shale. Oneota—dolomite, light-brownish-gray to buff, fractured, vuggy; shaly siltstone and sandstone present locally at base.	Small to moderate quantities of water available to wells; largest yields possible from Oneota Fm. where fractures and solution cavities are common; partially above water table in extreme southern part of watershed, thereby limiting saturated thickness.
	CAMBRIAN	Jordan	70-110	Sandstone, yellow to white, medium- to coarse-grained, friable, quartzose, commonly cross-bedded; locally silty at top, locally argillaceous and dolomitic at base.	Large quantities of water available to wells; high porosity and hydraulic conductivity throughout most of unit; may be capable of yielding several thousand gallons per minute.
		St. Lawrence	30-80	Dolomite, buff to gray, silty and argillaceous; commonly glauconitic; minor siltstone.	Small quantities of water available to wells; yields limited by low hydraulic conductivity; acts as confining bed; relatively poor source of water.
		Franconia	110-170	Sandstone, very fine- to coarse-grained, predominantly fine; commonly silty and glauconitic; some shale and dolomite.	Small to large quantities of water available to wells; hydraulic conductivity variable, generally highest in Galesville Fm.; may be capable of yielding several hundred gallons per minute.
		Ironton and Galesville	50-90	Ironton—sandstone, white to gray, medium-grained, moderately well to poorly sorted; commonly silty. Galesville—sandstone, white to gray, predominantly medium-grained and well-sorted; fine-grained near base.	
		Eau Claire	80-180	Shale and sandstone interbedded, gray to green, fossiliferous; glauconitic in part.	Small quantities of water available to wells; acts as confining bed; relatively poor source of water.
		Mount Simon	80-180	Sandstone, white to pink, fine- to coarse-grained, predominantly medium, quartzose; occasional shale, particularly near top; very coarse to conglomeratic near base.	Moderate to large quantities of water available to wells; hydraulic conductivity moderate to high in Mount Simon and Hinckley Fms., low in Fond du Lac Fm.; generally capable of yielding several hundred gallons per minute; highest yields possible where sandstones of Hinckley Fm. occur to supplement yield from Mount Simon Fm.; Fond du Lac Fm. a poorer source of water.
PRECAMBRIAN		Hinckley and Fond du Lac of Winchell (1886 and 1899)	0-several thousand (partly eroded)	Hinckley—sandstone, yellow to red, medium- to coarse-grained, poorly sorted, quartzose; interbedded shale. Fond du Lac ("red clastics")—siltstone, sandstone, and shale, poorly sorted; arkosic in part.	
		Basalt	?	Lava flows; interbedded volcanic sediments.	Small quantities of water available to wells; porosity and hydraulic conductivity limited by size and interconnection of fractures and joints; relatively poor source of water.

* Common completion practice is casing through glacial drift and leaving open hole in bedrock below. Many wells are open to more than one bedrock aquifer, resulting in yields larger than the single-aquifer yields stated above.

(Source: USGS, MPCA)

Figure 3.2 Hydrogeology of Bedrock

4.0 SSI PROCEDURES AND FIELD OBSERVATIONS

4.1 Soil Sampling

Four soil borings were taken from areas that were believed to have been the site of ink sludge dumping. One boring was placed near a pile of scrap metal and drums because of an odor of petroleum products. The location of the five test borings are shown in Figure 4.1 and the total depth and sampling intervals are as follows:

Soil Boring	Total Depth	Sample #	Sample Interval
SB - 1	19′	S01	0 - 19′
SB - 2	20′	S02	3 - 5′
		S03	8 - 10′
		S04	13 - 15′, 18 - 20′
SB - 3	20′	S05	0 - 4′
		S06	5 - 7′ , 8 - 10′
		S07	13 - 15′, 18 - 20′
SB - 4	20′	S08	0 - 4′
		S09	5 - 7′ , 8 - 10′
		S10	13 - 15′, 18 - 20′
SB - 5	20′	S11	.5′- 6′
		S12	6 - 8′, 10 - 12′, 14 - 16′ 18 - 20′

All soil samples were analyzed for TCL compounds and TAL analytes.

4.2 Water Sampling

Two water samples were taken for this investigation. One was the Rosemount municipal well #3, which is located less than 0.25 miles from the Site and the other was a residential well approximately 0.5 miles to the northeast. Figure 4.2. Access to an additional residential well was denied.

All samples were analyzed for TCL compounds and TAL analytes (Special Analytical Services - SAS).

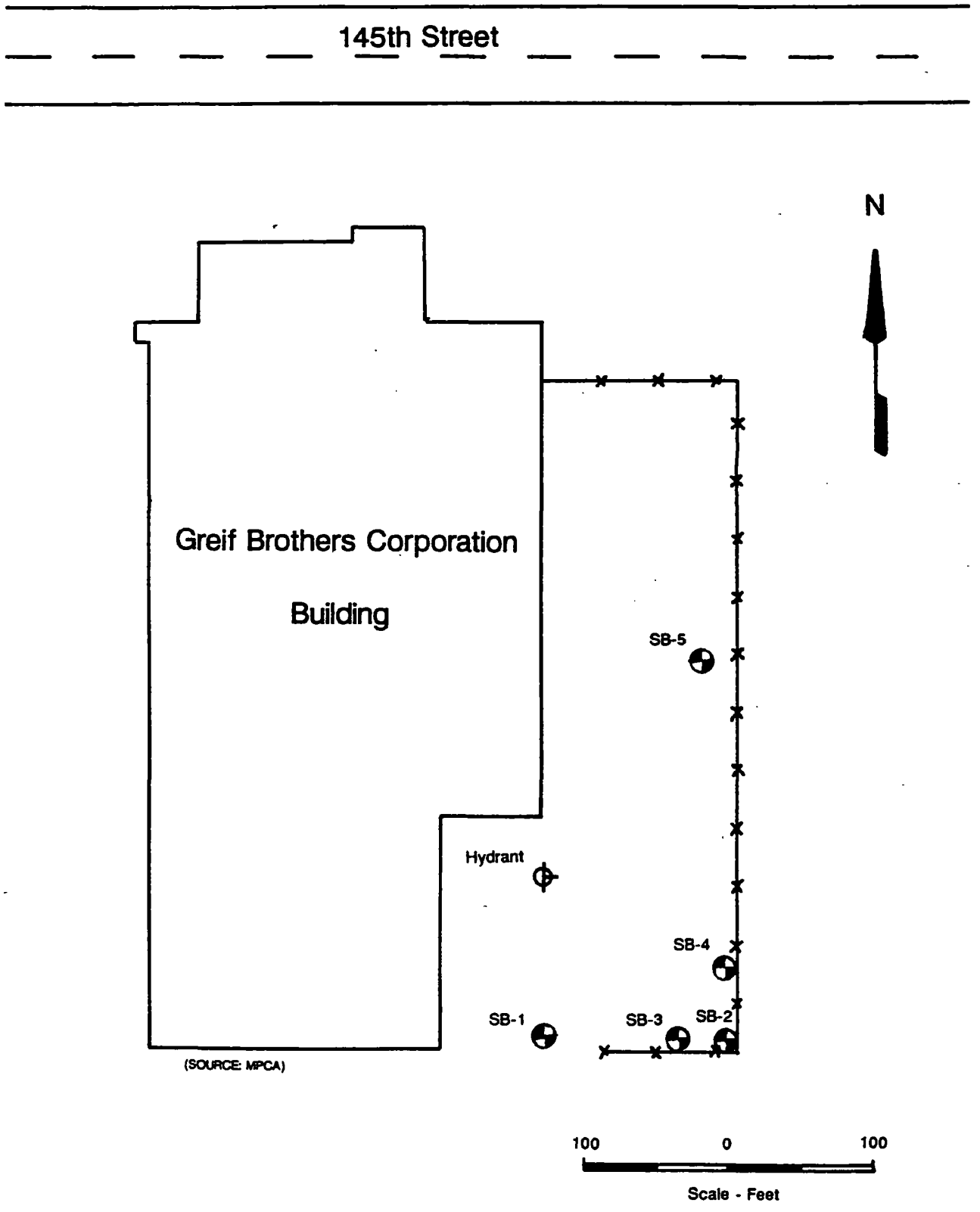


FIGURE 4.1 - SOIL BORING LOCATIONS

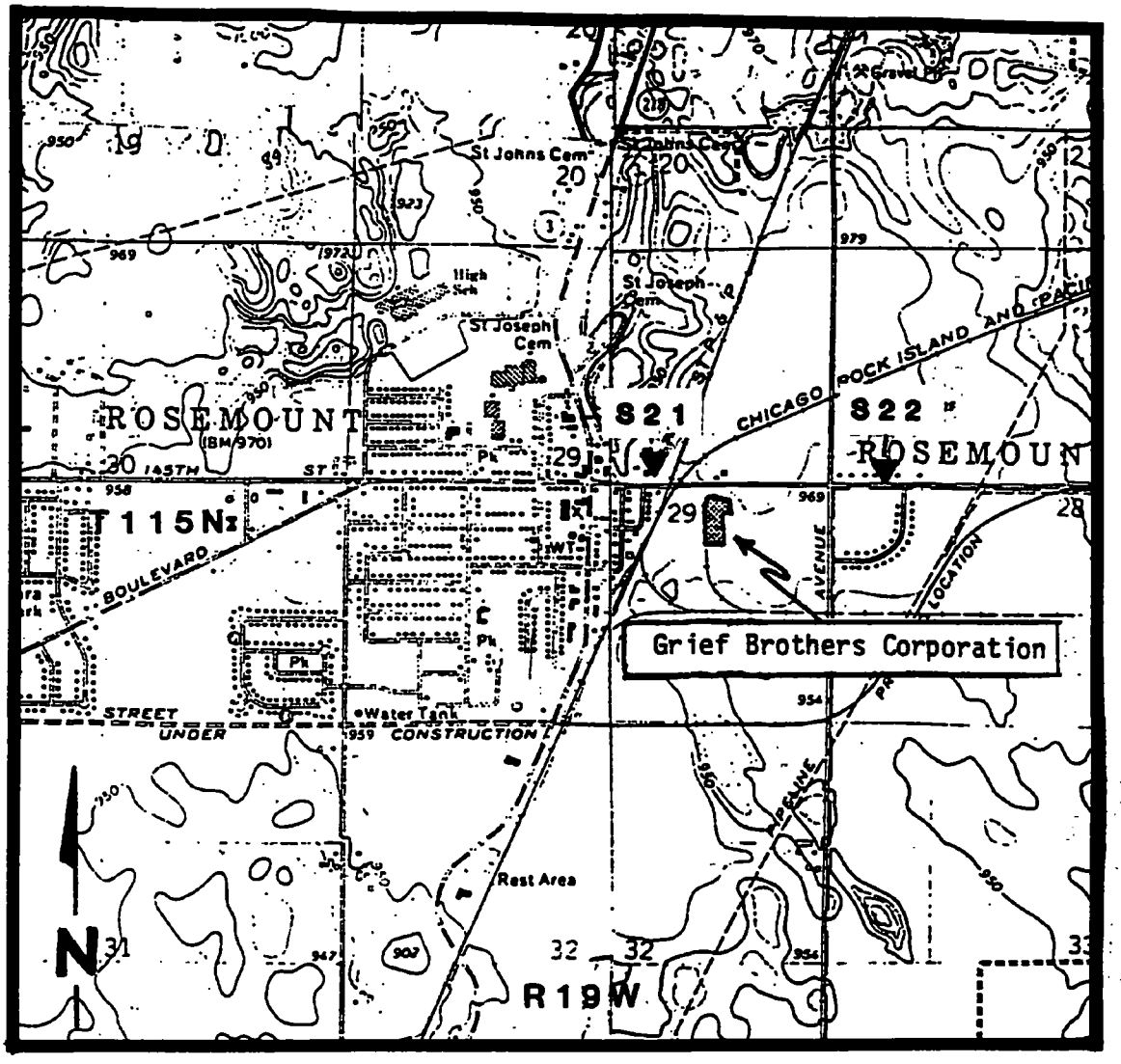


FIGURE 4.2 – Water Sample Locations

5.0 ANALYTICAL RESULTS

The analytical results for both water and soil samples are summarized in Table I. A list of laboratory qualifiers follows the table.

No volatile or semi-volatile organic compounds were detected in the ground water samples. The only detection of contamination was found in the field blank. Most of the levels of inorganics in the ground water samples were below the primary or secondary drinking water standards. The exceptions were iron and manganese (in the Rosemount city well) which exceeded the secondary drinking water standards for these elements. These levels do not pose a health threat, but rather are related to aesthetic concerns.

Three soil samples, S02(MEAJ94), S05(MEAJ9), S08(MEBJ18) contained "significantly elevated" levels of arsenic, barium, lead, and manganese relative to the background soil sample. (A significantly elevated level is five times the background level or if not present in the background sample, three times the detection limit.) The concentrations of chromium are also elevated relative to the background soil sample, but not to the levels deemed "significant". All three soil samples were collected at depths of approximately 0-5 feet from borings located in the area associated with ink sludge dumping. It is possible that the elevated levels of metals are related to the past disposal practices.

The only volatile or semi-volatile organic compounds detected in the soils were TICs, which are also summarized in Table I.

Summary of
Chemical Analysis for
Ground Water
Volatiles

Sample Collection Information and Detected Parameter	Sample Number R01	R02	D01	S21	S22
Date	3/27/89	3/27/89	3/27/89	3/27/89	3/27/89
Time	9:30	9:35	10:46	10:15	11:55
Organic Traffic Report Number	EBQ33	EBQ34	EBQ36	EBQ35	EBQ37
Inorganic Traffic Report Number					
Compound Detected (ug/L ppb unless indicated)					
Chlorform	_____	2	_____	_____	_____
Carbon Tetrachloride	_____	.8J	_____	_____	_____
Trichlorethene	_____	.5J	_____	_____	_____
1-Propene,2-Methyl (TIC)	_____	4J	_____	_____	_____
Cyclohexane (TIC)	_____	4J	_____	_____	_____

TIC = Tenatively Identified Compound

TABLE 1 : CHEMICAL SUMMARY FOR GROUND WATER AND SOIL

Summary of
Chemical Analysis for
Ground Water
Metals

Sample Collection Information and Detected Parameter	Sample Number R02	D01	S21	S22
Date	3/27/89	3/27/89	3/27/89	3/27/89
Time	9:50	11:00	10:30	11:45
Organic Traffic Report Number				
Inorganic Traffic Report Number	MEBJ26	MEBJ28	MEBJ27	MEBJ29
Compound Detected (ug/L ppb unless indicated)				
Barium	_____	63.6	67	48.6B
Calcium	27.7B	64200	66300	70400
Copper	_____	_____	_____	8.9B
Iron	_____	348	389	_____
Lead	_____	_____	_____	2.9
Magnesium	_____	23200	23800	27800
Manganese	_____	56.3	60.2	_____
Potassium	_____	_____	_____	1450B
Selenium	_____	2.7	_____	_____
Sodium	_____	11700	12300	3620
Zinc	_____	9.3B	11.8B	398

Summary of
Chemical Analysis for
Soil
Volatiles

Sample Collection Information and Detected Parameter	Sample Number S01	S02	S03	S04	S05	S06	S07	S08	S09	S10
Date	3/28/89	3/28/89	3/28/89	3/28/89	3/29/89	3/29/89	3/29/89	3/29/89	3/29/89	3/29/89
Time	13:09	14:15	14:30	14:50	9:45	10:10	10:21	10:35	10:55	11:15
Organic Traffic Report Number	EBQ18	EBQ19	EBQ20	EBQ21	EBQ22	EBQ23	EBQ24	EBQ25	EBQ26	EBQ27
Inorganic Traffic Report Number										
Compound Detected (ug/L ppb unless indicated) ug/kg										
Unknown Alcohol (TIC) RT 9.05-9.10	_____	_____	_____	10J	_____	_____	9.0J	_____	_____	9.0J

TIC = Tenatively Identified Compound

Summary of
Chemical Analysis for
Soil
Volatiles

Sample Collection Information and Detected Parameter	Sample Number S11	Sample Number S12
Date	3/29/89	3/29/89
Time	13:15	13:40
Organic Traffic Report Number	EBQ28	EBQ29
Inorganic Traffic Report Number		
Compound Detected (ug/L ppb unless indicated) ug/kg		
Unknown Alcohol (TIC) RT 9.05-9.10	_____	6J

TIC = Tenatively Identified Compound

Summary of
Chemical Analysis for
Soil
Semivolatiles

Sample Collection Information and Detected Parameter	Sample Number S01	S04	S05	S06	S07	S08	S09	S10
Date	3/28/89	3/28/89	3/29/89	3/29/89	3/29/89	3/29/89	3/29/89	3/29/89
Time	13:09	14:50	9:45	10:10	10:21	10:35	10:55	11:15
Organic Traffic Report Number	EBQ18	EBQ21	EBQ22	EBQ23	EBQ24	EBQ25	EBQ26	EBQ27
Inorganic Traffic Report Number								
Compound Detected (ug/L ppb unless indicated) ug/kg								
Unknown Hydrocarbon (TIC) RT 8.0-9.0	_____	300J	_____	_____	_____	_____	_____	_____
Unknown Ketone (TIC) RT 9.0-10.0	_____	900J	_____	300J	300J	_____	_____	_____
Unknown Hydrocarbon (TIC) RT 9.0-10.0	_____	_____	_____	_____	_____	_____	_____	_____
Unknown (TIC) RT 9.0-10.0	_____	_____	_____	_____	400J	_____	_____	900J
Unknown Carbonyl (TIC) RT 9.0-10.0	_____	_____	_____	_____	_____	300J	_____	300J
Unknown (TIC) RT 10.0-11.0	_____	300J	_____	700J	_____	500J	_____	_____
Unknown (TIC) RT 11.0-12.0	_____	300J	_____	_____	_____	400J	_____	_____
Unknown (TIC) RT 13.0-14.0	_____	300J	_____	_____	_____	_____	_____	_____
Unknown (TIC) RT >20 <30	_____	_____	_____	_____	_____	1000J	_____	_____
Unknown (TIC) RT >30 <40	900J	400J	_____	32000J	_____	500J	900J	_____
Unknown (TIC) RT >40	_____	_____	_____	_____	_____	5000J	_____	_____

TIC = Tenatively Identified Compound

Summary of
Chemical Analysis for
Soil
Semivolatiles

Sample Collection Information and Detected Parameter	Sample Number S11	S12
Date	3/29/89	3/29/89
Time	13:15	13:40
Organic Traffic Report Number	EBQ28	EBQ29
Inorganic Traffic Report Number		
Compound Detected (ug/L ppb unless indicated) ug/kg		
Unknown Hydrocarbon (TIC) RT 8.0-9.0	_____	_____
Unknown Ketone (TIC) RT 9.0-10.0	_____	_____
Unknown Hydrocarbon (TIC) RT 9.0-10.0	_____	_____
Unknown (TIC) RT 9.0-10.0	500J	300J
Unknown Carbonyl (TIC) RT 9.0-10.0	_____	_____
Unknown (TIC) RT 10.0-11.0	1200J	300J
Unknown (TIC) RT 11.0-12.0	900J	_____
Unknown (TIC) RT 13.0-14.0	_____	_____
Unknown (TIC) RT >20 <30	500J	301900J
Unknown (TIC) RT >30 <40	400J	800J
Unknown (TIC) RT >40	_____	_____

TIC = Tenatively Identified Compound

Summary of
Chemical Analysis for
Soil
Metals

Sample Collection Information and Detected Parameter	Sample Number S01	S02	S03	S04	S05	S06	S07	S08	S09	S10
Date	3/28/89	3/28/89	3/28/89	3/28/89	3/29/89	3/29/89	3/29/89	3/29/89	3/29/89	3/29/89
Time	13:09	14:15	14:30	14:50	9:45	10:10	10:21	10:35	10:55	11:15
Organic Traffic Report Number										
Inorganic Traffic Report Number	MEAJ93	MEAJ94	MEAJ95	MEAJ96	MEAJ97	MEAJ98	MEAJ99	MEBJ18	MEBJ19	MEBJ20
Compound Detected (ug/L ppb unless indicated) mg/kg										
Aluminum	1950	5730	1380	1570	10400	1640	1460	11900	1530	1720
Arsenic	.98B	3.2B	.55B	.92B	5.2B	.56B	.78B	5.3B	.70B	.64B
Barium	20.9B	75.3B	11.3B	16.1B	136B	13.0B	21.5B	178B	13.1B	18.2B
Beryllium	_____	.40B	_____	_____	.65B	_____	_____	.80B	_____	_____
Calcium	11700	1970	6920	27200	4180B	10100	33900	3060	4060	30300
Chromium	5.9B	11.6	_____	5.5B	15.7	_____	5.9B	16.4	_____	6.5B
Cobalt	_____	7.0B	2.5B	2.9B	9.2B	3.0B	3.4B	9.4B	2.7B	3.8B
Iron	4840	11300	3650	5070	17100	4240	4670	16500	4200	4910
Lead	2.5JB	4.4JB	_____	1.2JB	42.2J	1.0JB	1.1JB	18.3J	1.2JB	1.2JB
Magnesium	3190B	1910B	2530JB	8800	2870	3710B	10700	2320B	2000B	11000
Manganese	142	384	98.9	160	579	99.8	222	714	108B	199
Nickel	6.3B	14.1B	5.9B	6.4B	17.2B	6.1B	6.4B	14.5B	5.7B	6.7B
Vanadium	9.0B	23B	7.5B	7.9B	30.1B	9.0B	7.1B	30.3B	8.0B	8.1B
Zinc	_____	_____	12.8B	_____	_____	_____	_____	_____	_____	_____

Summary of
Chemical Analysis for
Soil
Metals

Sample Collection Information and Detected Parameter	Sample Number S11	S12							
Date	3/29/89	3/29/89							
Time	13:15	13:40							
Organic Traffic Report Number									
Inorganic Traffic Report Number	MEBJ21	MEBJ22							
Compound Detected (ug/L ppb unless indicated) mg/kg									
Aluminum	2550	1160							
Arsenic		.54B							
Barium	20.2B	13.3B							
Calcium	3250B	21500							
Chromium	7.9B								
Cobalt	3.7B	2.9B							
Iron	7120	4000							
Lead	1.6JB	1JB							
Magnesium	2520B	7140							
Manganese	164	125							
Nickel	8.5B	5.9B							
Vanadium	12.7B	6.0B							
Zinc		13.0B							

EPA Contract Laboratory Program (CLP) Qualifiers

Organics:

U - Compound was analyzed for but not detected
J - Compound was detected but numerical value is estimated because certain sample preparation or instrument QC criteria were not met
R - Unusable; compound may or may not be present but it is not possible to determine due to some critical failure in sample preparation or analysis
N - Presumtive evidence of the presence of the compound
NJ- Presumptive evidence of the presence of the compound at an estimated quantity
UJ- Compound was analyzed for but not detected; sample quantitation limit because certain sample preparation or instrument QC criteria were not met
B - Compound was detected in one or more blanks
JB- Compound concentration is estimated because it was 1.) detected in one or more blanks, and 2.) the sample concentration was not sufficiently higher than the blank(s) concentration to consider it a good quantification

Laboratory Blanks

VBlank - Laboratory Volatiles Blank
SBlank - Laboratory Semi-volatiles Blank
PBlank - Pesticide PCB Blank

Inorganics:

Data Qualifiers

U - Element was analyzed for but not detected
J - Element was detected but numerical value is estimated because certain sample prep. or instrument QC criteria were not met
R - Unusable; element may or may not be present but it is not possible to determine due to some critical failure in sample prep. or analysis
Z - No result
B - Concentration found was less than the Contract Required Detection Limit but greater than the Instrument Detection Limit

Quality Control Qualifiers

E - Concentration reported is estimated due to the presence of an interferent
M - Duplicate injection precision levels not met
N - Spiked sample recovery limits not met
S - Reported concentration was obtained using the Method of Standard Additions
W - Post-digestion spike for Furnace-AA analysis is outside control limits, while sample absorbance is less than 50% of spike absorbance
* - Duplicate analyses outside control limits
+ - Correlation coefficient for the Method of Standard Additions is less than the required limit.

(S, W or + are mutally exclusive and cannot appear together)

Method Qualifier

P - ICP (Inductively Coupled Argon Plasma)
A - Flame Aspiration Atomic Absorption Spectrophotmetric
F - Furnace (Graphite) Atomic Absorption Spectrophotometric
CV- Manual Cold Vapor Atomic Absorption Spectrophotometric (Mercury)
AV- Automated Cold Vapor Atomic Absorption Spectrophotometric (Mercury)
AS- Semi-automated Specrophotometric
C - Manual Spectrophotometric
T - Titrimetric
NR- Not Required to be analyzed

6.0 DISCUSSION OF MIGRATION PATHWAYS

6.1 Ground Water

No observed release of contaminants to the ground water, which can be attributed to the Site, was documented during this investigation. A potential for the release of contaminants to the ground water, which can be attributed to the Site exists and is based on:

1.) Heavy metals, at concentrations of more than five times that of background levels, were detected in surface soil samples taken from test borings. Refer to Section 5.0, Analytical Results.

2.) Infiltration of rain water and leaching of the contaminated soil may occur.

3.) No method to contain contaminants from infiltrating into underlying soils is present. Soils underlying the contaminants consist of relatively clean sands with a high permeability.

4.) Contaminants may therefore migrate to the ground water table, transported by rain water infiltrating through soils.

All municipal and residential wells within a three mile radius of the Site should be considered potential targets for the purposes of this investigation. Wells located east appear to be the most susceptible as they are most likely downgradient. However, the buried bedrock valleys which cut into multiple aquifers may allow mixing of the waters and influence the direction of the ground water movement.

Approximately 7500 people obtain water derived from wells within a three mile radius. Three municipal wells in Rosemount serve 6500 residents. The municipal wells are drilled into the Jordan Formation, terminating at depths of about 475 feet. The closest municipal well is located 0.25 mile west of the Site. In

addition to the municipal wells, residential wells provide water to approximately 1000 more residents within a three mile radius.

6.2 Surface Water

The potential for migration of contaminants off the Site via surface water is low. Intervening terrain is prohibitive to migration of contaminants through surface water. The slope of the ground surface at and surrounding the Site is less than 3%.

6.3 Air

No release of contaminants to the air was documented during this investigation. An HNu air monitoring device was used. No readings above ambient conditions were observed.

6.4 Fire and Explosion

A low potential for fire and explosion exists. No exposed flammable or explosive materials present at the Site were noted. No fires or explosions at the Site have been reported.

6.5 Direct Contact

A low potential for direct human contact with hazardous materials exists at the Site. The area has been secured by fencing and is not open to the public. No contact with hazardous material and workers has been reported.

BIBLIOGRAPHY

Bloomgren, B.A., M.A. Jirsa, B.M. Olson, Bedrock Geologic and Topographic Maps of the Seven - County Twin Cities Metropolitan Area, Minnesota, Minnesota Geological Survey, 1986.

Minnesota Pollution Control Agency, Ground Water and Solid Waste Division Files.

APPENDIX A

SITE FOUR MILE RADIUS MAP

B

APPENDIX B

U.S. EPA FORM 2070-13

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MN	MND023010812

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Greif Brothers Corporation	2750 145th Street West

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Rosemount	MN	55068-4998	Dakota	037	03

09 COORDINATES LATITUDE	LONGITUDE	10 TYPE OF OWNERSHIP (Check one)
44°44'18"	93°07'15"	☒ A. PRIVATE ☐ B. FEDERAL ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL ☐ F. OTHER ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION	02 SITE STATUS	03 YEARS OF OPERATION
03 27 89 (MONTH DAY YEAR)	☒ ACTIVE ☐ INACTIVE	1962 (BEGINNING YEAR) Present (ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)

☐ A. EPA ☐ B. EPA CONTRACTOR _____ (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR _____ (Name of firm)
☒ E. STATE ☐ F. STATE CONTRACTOR _____ (Name of firm) ☐ G. OTHER _____ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO
Elizabeth Cody	PCS	MPCA	(612) 296-6973

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Brad Nordberg	Hydrogeologist	MPCA	(612) 296-7391
			( )
			( )
			( )
			( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO
Rich Stadther	Assistant Plant Manager	2750 145th Street West	(612) 423-2216
			( )
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	3/27/89 - 3/30/89	35°F, Cloudy, overcast, damp - 65°F, Sunny

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO
Elizabeth S. Cody	MPCA	(612) 296-6973

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Elizabeth Cody / Mark Hoffman	MPCA		(612) 296-6973	07 14 89 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
	MND023010812

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

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

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

TONS _____

CUBIC YARDS _____

NO OF DRUMS 70

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	3850	gallons	ink sludge
OLW	OILY WASTE			petroleum naptha
SOL	SOLVENTS	unknown		
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

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
	See Table I for analysis				

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)

MPCA State files, GW and Soil analysis by EPA CLP labs

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER MND023010812

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION — 02 [ ] OBSERVED (DATE: ____) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 6400
04 NARRATIVE DESCRIPTION

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

None

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

None

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

None

01 [X] E. DIRECT CONTACT — 02 [ ] OBSERVED (DATE: ____) [X] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 150
04 NARRATIVE DESCRIPTION

Direct contact is most likely limited to the worker population

01 [X] F. CONTAMINATION OF SOIL — 02 [ ] OBSERVED (DATE: ____) [ ] POTENTIAL [ ] ALLEGED
03 AREA POTENTIALLY AFFECTED: 2 (Acres)
04 NARRATIVE DESCRIPTION

Contaminated soil was excavated in 5/82

01 [X] G. DRINKING WATER CONTAMINATION — 02 [ ] OBSERVED (DATE: ____) [ ] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 6400
04 NARRATIVE DESCRIPTION

Most residents of Rosemount are on city water - only 2 residences use private well water.

01 [X] H. WORKER EXPOSURE/INJURY — 02 [ ] OBSERVED (DATE: ____) [ ] POTENTIAL [ ] ALLEGED
03 WORKERS POTENTIALLY AFFECTED: 150
04 NARRATIVE DESCRIPTION

01 [X] I. POPULATION EXPOSURE/INJURY — 02 [ ] OBSERVED (DATE: ____) [X] POTENTIAL [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 150
04 NARRATIVE DESCRIPTION

The only access to the area is from the main road (145th Street). The area is fenced on the east and south sides; the main building is located on the west side of the area. Population potentially exposed would most likely be the worker population

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER MND023010832

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

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

None

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

None

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

None

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES (Spills, Runoff, Standing liquids, Leaking drums) — 02 ☒ OBSERVED (DATE: 9/81) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

Site investigation revealed dumped ink sludge (4 areas) and 2 dump barrels of glue - Contaminated soils were removed in 5/82 - Waste barrels also have been removed

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

None

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

None Known

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

None

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

III. TOTAL POPULATION POTENTIALLY AFFECTED: 6400

IV. COMMENTS

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

MPCA state files, Minnesota Department of Health - Public Water Supply Data 1989, City of Rosemount - Engineering Dept.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
	MND023010812

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A NPDES				
☐ B UIC				
☐ C AIR				
☐ D RCRA				
☐ E RCRA INTERIM STATUS				
☐ F SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☒ A. SURFACE IMPOUNDMENT	unknown	
☐ B. PILES		
☒ C. DRUMS, ABOVE GROUND		55 gal
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☐ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)
- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify)

05 OTHER
- ☐ A. BUILDINGS ON SITE

06 AREA OF SITE
(Acres)

07 COMMENTS

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☒ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ☒ NO

02 COMMENTS

Area is fenced

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

MPCA State Files

EPA FORM 2070-13 (7-81)

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POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER MND023010812

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as appropriate)

	SURFACE	WELL
COMMUNITY	A. ☐	B. ☒
NON-COMMUNITY	C. ☐	D. ☐

02 STATUS

ENDANGERED	AFFECTED	MONITORED
A. ☐	B. ☐	C. ☐
D. ☐	E. ☐	F. ☐

03 DISTANCE TO SITE
A. <.25 (mi)
B. _____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☒ A. ONLY SOURCE FOR DRINKING
☐ B. DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)
☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available)
☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER 6400
03 DISTANCE TO NEAREST DRINKING WATER WELL <.25 (mi)

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
80 (ft)	Estimated to NE	80 (ft)	0.2-1.5 X 10^6 (gpd)	☒ YES ☐ NO

09 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)
Rosemount municipal well #3 - 473' deep, Jordan; ~750' west of Site
Kane residence (2387 W. 145th Ave) - 175'-200' deep, Glacial drift; private use (drinking, etc)
Bill Kane residence (2493 W. 145th Ave) - 296' deep, OPdc; private use (drinking, etc)

10 RECHARGE AREA
☒ YES ☐ NO
COMMENTS: None

11 DISCHARGE AREA
☐ YES ☐ NO
COMMENTS:

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION DRINKING WATER SOURCE
☐ B. IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
☐ C. COMMERCIAL, INDUSTRIAL
☒ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Keegan Lake	☐	1.5 (mi)
Farquar Lake	☐	2.5 (mi)
Long Lake	☐	3.0 (mi)
O'Brien Lake		3.0

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 5400	B. 5900	C. 6400
NO OF PERSONS	NO OF PERSONS	NO OF PERSONS

02 DISTANCE TO NEAREST POPULATION .25 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE: 1500

04 DISTANCE TO NEAREST OFF-SITE BUILDING <.25 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)
The city of Rosemount, population 5409, lies within a two mile radius of the site. The remaining area has scattered residences. A research center lies approximately 2-4 miles to the southeast of the site

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER MND023010812

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-6} - 10^{-8}$ cm/sec ☐ B. $10^{-4} - 10^{-6}$ cm/sec ☒ C. $10^{-4} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☒ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) ☐ D VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
125 (ft)	N.A. (ft)	unknown

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
28 (in)	2.4 (in)	<3 %	south	<3 %

09 FLOOD POTENTIAL: SITE IS IN 1000 YEAR FLOODPLAIN

10 ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE: A. _____ (mi)

OTHER: B. 1.5 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

_____ (mi)

ENDANGERED SPECIES: None known

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS; NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES	AGRICULTURAL LANDS: PRIME AG LAND	AGRICULTURAL LANDS: AG LAND
A. .25 (mi)	B. .25 (mi)	C. _____ (mi)	D. _____ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

the site is located on the north edge of a broad alluvial plain. Topography is relatively flat to the east, south and west of the site. Just north, topography is irregular, containing irregular shaped hills and low areas. this area is part of a terminal moraine.

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

USGS topographic maps - St. Paul, SW, 1972; Inver Grove Hts, 1972; Castes, MN, 1974, Farmington, MN, 1974, MPCA state files, Rosemount city officials

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER MND023010812

II. CURRENT OWNER(S)				PARENT COMPANY (If applicable)			
01 NAME Greif Brothers Corp.		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.) 2750 W. 145th Street		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
05 CITY Rosemount	06 STATE MN	07 ZIP CODE 55068		12 CITY	13 STATE	14 ZIP CODE	
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		12 CITY	13 STATE	14 ZIP CODE	
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		12 CITY	13 STATE	14 ZIP CODE	
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		12 CITY	13 STATE	14 ZIP CODE	

III. PREVIOUS OWNER(S) (List most recent first)			IV. REALTY OWNER(S) (If applicable; list most recent first)		
01 NAME		02 D+B NUMBER	01 NAME		02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
01 NAME		02 D+B NUMBER	01 NAME		02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE
01 NAME		02 D+B NUMBER	01 NAME		02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE
05 CITY	06 STATE	07 ZIP CODE	05 CITY	06 STATE	07 ZIP CODE

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

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER MND 002301081 2

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	14 CITY / 15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER		

OPERATOR'S PARENT COMPANY (If applicable)

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	14 CITY / 15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		
01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	14 CITY / 15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		
01 NAME	02 D+B NUMBER	10 NAME	11 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE
05 CITY / 06 STATE	07 ZIP CODE	14 CITY / 15 STATE	16 ZIP CODE
08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD		

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

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER MND023010812

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE / 07 ZIP CODE	05 CITY	06 STATE / 07 ZIP CODE

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

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER MND023010812

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ D. SPILLED MATERIAL REMOVED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☒ E. CONTAMINATED SOIL REMOVED — 02 DATE 5/82 — 03 AGENCY MPCA
04 DESCRIPTION
Contaminated soils were removed, samples at base of excavation and from excavated soils were analyzed for chromium and lead.

01 ☐ F. WASTE REPACKAGED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☒ G. WASTE DISPOSED ELSEWHERE — 02 DATE _____ — 03 AGENCY Dakota County
04 DESCRIPTION
1962-1970: City Dump, Rosemount; 1971 Phoenix Inc Landfill; 70s on site; 1977 on site; 1980 removal by Jones Chem

01 ☐ H. ON SITE BURIAL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ I. IN SITU CHEMICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ J. IN SITU BIOLOGICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ K. IN SITU PHYSICAL TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ L. ENCAPSULATION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ M. EMERGENCY WASTE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ N. CUTOFF WALLS — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ P. CUTOFF TRENCHES/SUMP — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Q. SUBSURFACE CUTOFF WALL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE | 02 SITE NUMBER MND023010812

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ S. CAPPING/COVERING — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ T. BULK TANKAGE REPAIRED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ U. GROUT CURTAIN CONSTRUCTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ V. BOTTOM SEALED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ W. GAS CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ X. FIRE CONTROL — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Y. LEACHATE TREATMENT — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ Z. AREA EVACUATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 1. ACCESS TO SITE RESTRICTED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 2. POPULATION RELOCATED — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

01 ☐ 3. OTHER REMEDIAL ACTIVITIES — 02 DATE _____ — 03 AGENCY _____
04 DESCRIPTION

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

MPCA State Files

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER MND 0230108 12

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☒ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY/ENFORCEMENT ACTION

The company has had regular county inspections (Dakota County) dating back to 1982 and has been in compliance with the county rules and regulations. There have only been very minor infractions such as no labels on some barrels.

9/81 - 5/82 The PCA required the company to remove the barrels that were stored on site and to have the contaminated soils tested and excavated. (Letter to Mr. J. Flagg, 11/16/81, from Terrance W. Kosen)

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

MPCA files

EPA FORM 2070-13 (7-81)

C

APPENDIX C

SITE PHOTOGRAPHS

Site Greif Brothers Corp

EPA # MND023010812

Date 3/27/89

Time 9:28 (a.m.) p.m.

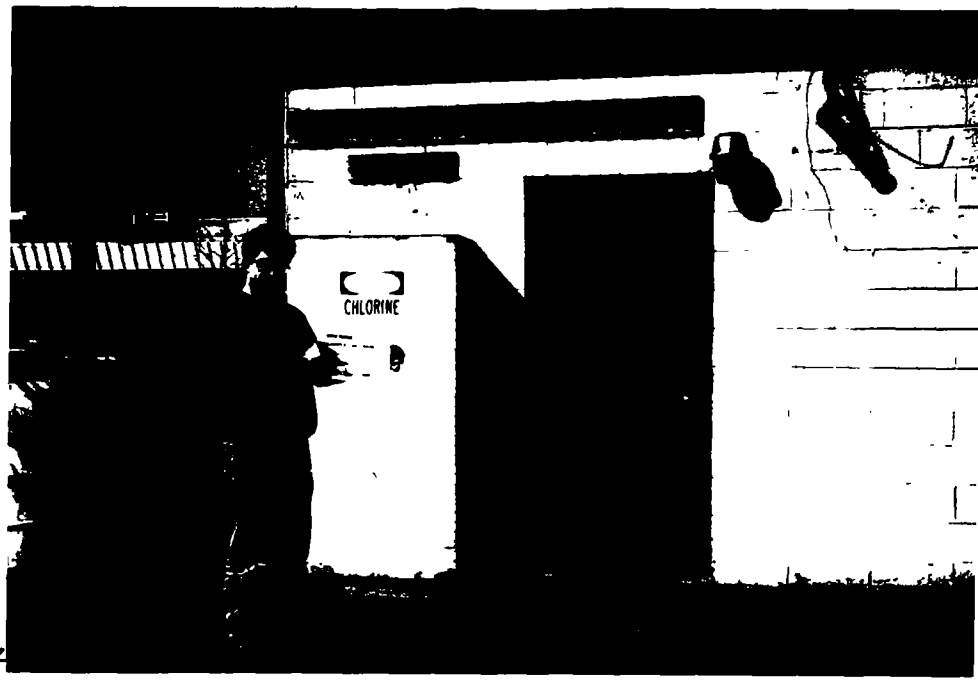
Direction W

Weather Sunny 65°

Photographed by: E. Cody

Sample ID # 89YC18S21
89YC18R02
89YC18D01

Description City of Rosemount Municipal Well #3, outside the housing



Site Greif Brothers Corp

EPA # MND023010812

Date 3/27/89

Time 9:28 (a.m.) p.m.

Direction

Weather

Photographed by: E. Cody

Sample ID# 89YC18S21
89YC18R02
89YC18D01

Description Inside municipal well #3 housing

Site Greif Brothers Corp

EPA # MND023010812

Date 3/27/89

Time 11:10 a.m. p.m.

Direction N

Weather Sunny 70°

Photographed by: E. Cody

Sample ID # 89YC18S22

Description Residential well sampling - 2387 145th Ave, Rosemount, MN

Site Greif Brother Corp

EPA # MND023010812

Date 3/27/89

Time 11:10 a.m. p.m.

Direction N

Weather Sunny 70°

Photographed by: E. Cody

Sample ID# 89YC18S22

Description Residential well Sampling - 2387 145th Ave, Rosemount, MN

Site Greif Brothers Corp

EPA # MND023010812

Date 3/30/89

Time 11:00 a.m. p.m.

Direction

Weather

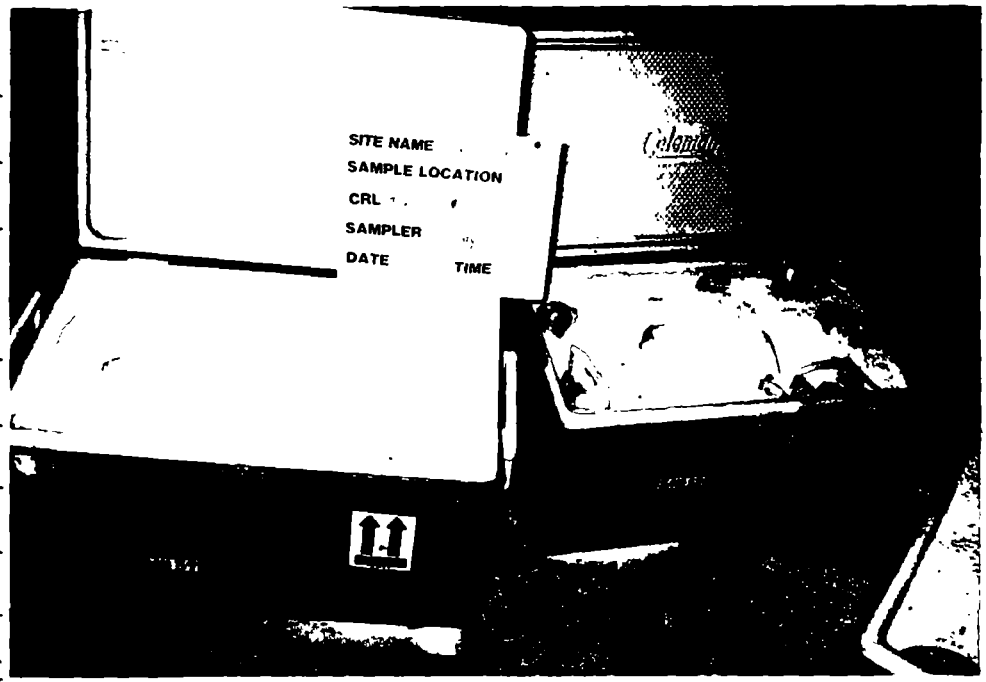
Photographed by: E. Cody

Sample ID #

Description Water samples

Cooler SAU 39 (L) - Organic

Cooler SAU 12 (R) - Inorganic



Site Greif Brothers Corp

EPA # MND023010812

Date 3/30/89

Time 11:00 a.m. p.m.

Direction

Weather

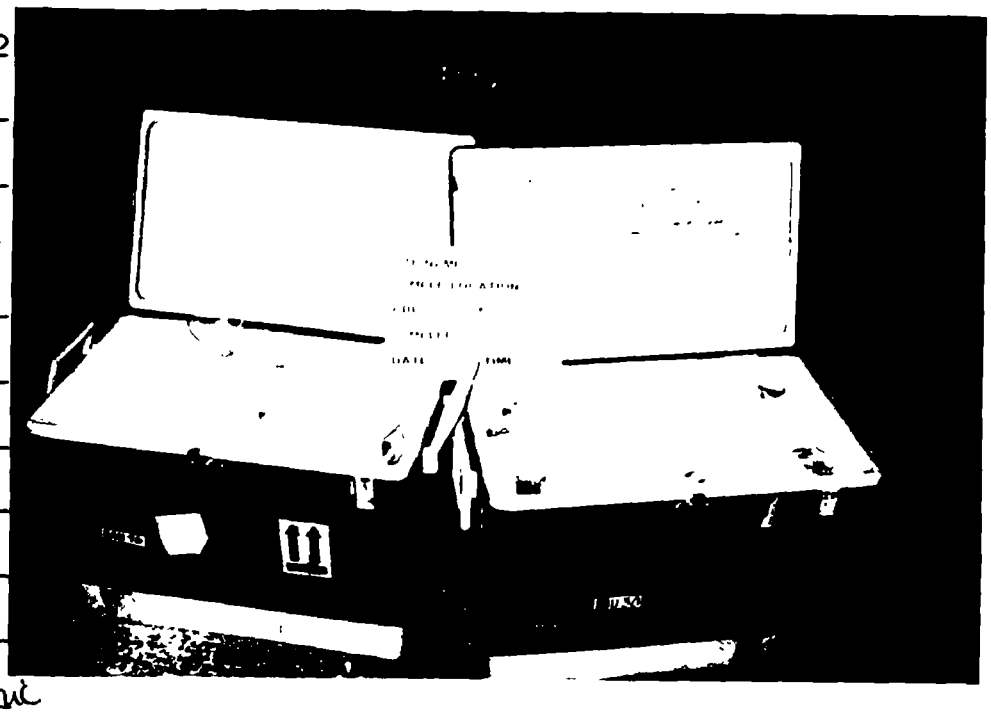
Photographed by: E. Cody

Sample ID#

Description Water samples

Cooler SAU46 (L) - Organic

Cooler SAU 30 (R) - Organic



Site Greif Brothers Corp

EPA # MND023010812

Date 3/28/89

Time 1:09 a.m. p.m.

Direction W

Weather Overcast 35°

Photographed by: E. Cody

Sample ID # 89YC18S01

Description Borehole #1 - Background boring - east side of office building

---

Site Greif Brothers Corp

EPA # MND023010812

Date 3/28/89

Time 1:09 a.m. p.m.

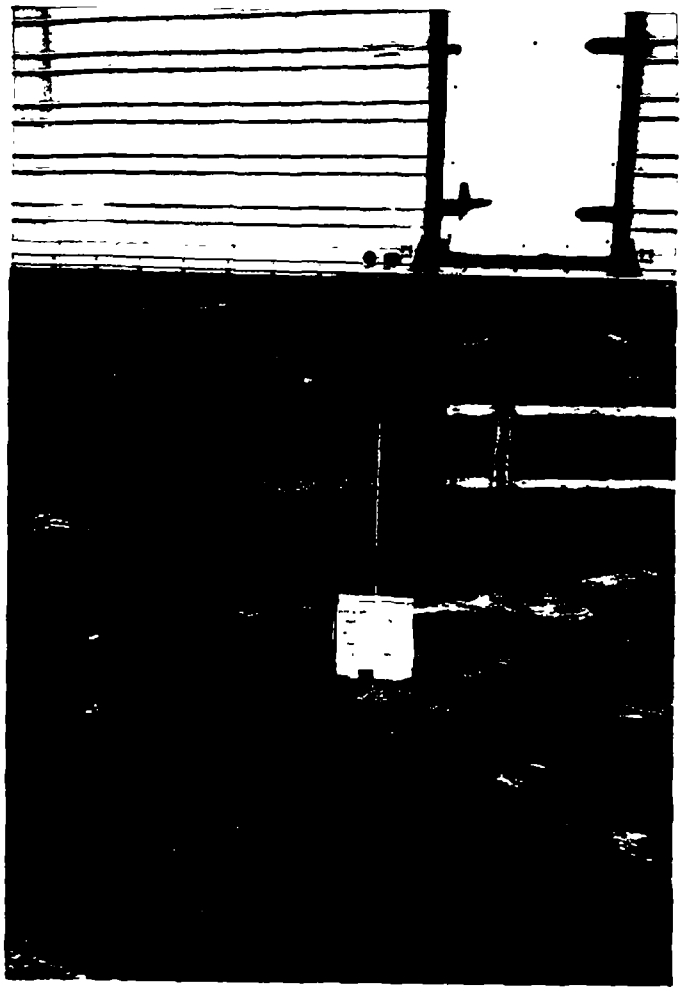
Direction W

Weather Overcast 35°

Photographed by: E. Cody

Sample ID# 89YC18S01

Description Borehole #1 Background boring - east side of office building



Site Greif Brothers Corp

EPA # MND023010812

Date 3/28/89

Time 2:16 a.m. (p.m.)

Direction SE

Weather Overcast 35°

Photographed by: E. Cody

Sample ID # 89YC18S02, 89YC18S03, 89YC18S04

Description Borehole #2 - southeast corner of fence

Site Greif Brothers Corp

EPA # MND023010812

Date 3/28/89

Time 2:16 a.m. (p.m.)

Direction SE

Weather Overcast 35°

Photographed by: E. Cody

Sample ID# 89YC18S02 89YC18S03 89YC18S04

Description Borehole #2 southeast corner of fence (bad exposure on right side of piture)

Site Greif Brothers Corp

EPA # MND023010812

Date 3/29/89

Time 9:45 (a.m.) p.m.

Direction S

Weather Overcast 35°

Photographed by: E. Cody

Sample ID # 89YC18505, 89YC18506, 89YC18507

Description Borehole #3

Site Greif Brothers Corp

EPA # MND023010812

Date 3/29/89

Time 11:30 (a.m.) p.m.

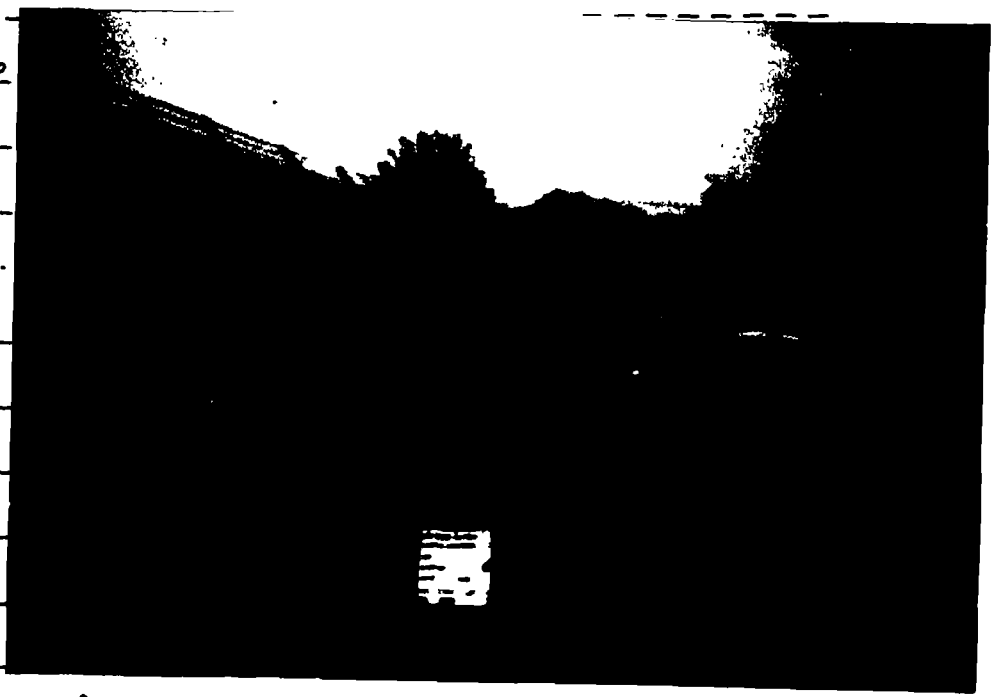
Direction S

Weather Overcast 36°

Photographed by: E. Cody

Sample ID# 89YC18508, 89YC18509, 89YC18510

Description Borehole #4 in foreground Borehole #3 in right background in front of the ponded water



Site Greif Brothers Corp

EPA # MND023010812

Date 3/29/89

Time 11:30 (a.m.) p.m.

Direction SE

Weather Overcast 35°

Photographed by: E. Cody

Sample ID # 89YC18508
89YC18509
89YC18510

Description Borehole #4

Site Greif Brothers Corp

EPA # MND023010812

Date 3/29/89

Time 1:40 a.m. (p.m.)

Direction S

Weather Overcast 35°

Photographed by: E. Cody

Sample ID# 89YC18511
89YC18512

Description Borehole #5

Site Greif Brothers Corp

EPA # MND023010812

Date 3/29/89

Time 1:40 a.m. (p.m.)

Direction SE

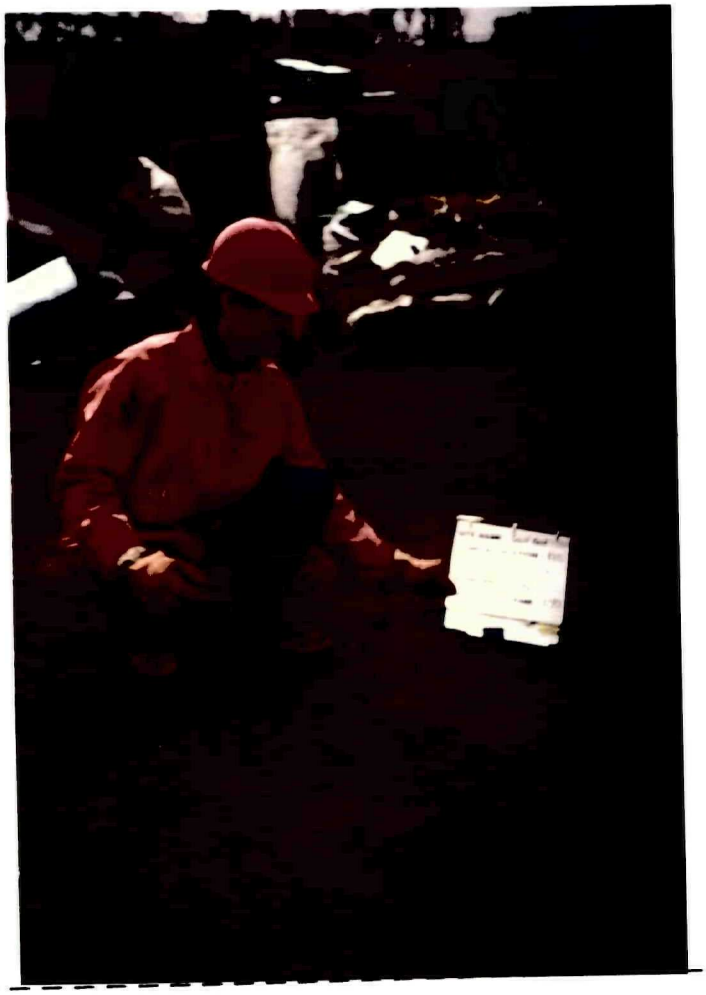
Weather Overcast 35°

Photographed by: E. Cody

Sample ID # 89YC18S11
89YC18S12

Description

Borehole # 5



Site Greif Brothers Corp

EPA # MND023010812

Date 3/30/89

Time 11:00 (a.m.) p.m.

Direction

Weather

Photographed by: E. Cody

Sample ID#

Description Organic

Water samples - Coolers

SAU 46, SAU 30

Site Greif Brothers Corp

EPA # MND023010812

Date 3/30/89

Time 11:00 a.m. p.m.

Direction

Weather

Photographed by: E. Cody

Sample ID #

Description Inorganic Water Samples - Coolers # SAU 39, SAU12

Site Greif Brothers Corp

EPA # MND023010812

Date 3/30/89

Time 11:00 a.m. p.m.

Direction

Weather

Photographed by: E. Cody

Sample ID#

Description Organic soil Samples in Cooler # SAU 25 (Right), Inorganic soil samples in Cooler # SAU 5 (Left)

APPENDIX D

Greif Brothers

Page _____ of _____

COVER SHEET

LABORATORY RESPONSE TO RESULTS OF CONTRACT COMPLIANCE SCREENING (CCS)

Response To: (Check one) ✓ Organcis CCS

_____ Inorganics CCS

Response materials sent to Organics CCS should be sent to the attention of Dipti Singh, SMO.

Response materials sent to Inorganics CCS should be sent to the attention of Jeff Dodd, SMO.

Laboratory Name 3 RIVER

Response Date 5/9/89

Date Screening Results Received at Laboratory 5/3/89

EPA Contract No. 68-W8-0020

Case No. 11688

SDG No. EBQ18

Sample Nos.*

EBQ18-01	EBQ23
EBQ18-08	EBQ24
EBQ18-09	EBQ25
~~EBQ20~~ 4 5/9	EBQ26
EBQ21	
EBQ22	

*Only list sample numbers that require reconciliation.

This form is used to identify materials sent in response to results of Contract Compliance Screening (CCS). A separate form must accompany the response for each Case.

Please indicate (on the attached continuation form) which fractions and/or which criteria correspond with your resubmission. Response materials sent to CCS should also be copied to the Region and to EMSL/LV, each with this blue Cover Sheet.

7/26/88

RECEIVED

MAY 15. 89

MPCA, Ground Water
Solid Waste Div.

COVER SHEET

LABORATORY RESPONSE TO RESULTS OF CONTRACT COMPLIANCE SCREENING (CCS)

Response To: (Check one) _____ Organcis CCS

_____ Inorganics CCS

Response materials sent to Organics CCS should be sent to the attention of Dipti Singh, SMO.

Response materials sent to Inorganics CCS should be sent to the attention of Jeff Dodd, SMO.

Laboratory Name _____ Response Date_____

Date Screening Results Received at Laboratory_____

EPA Contract No. _____

Case No. _____

SDG No. _____

Sample Nos.* _____ _____

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

*Only list sample numbers that require reconciliation.

This form is used to identify materials sent in response to results of Contract Compliance Screening (CCS). A separate form must accompany the response for each Case.

Please indicate (on the attached continuation form) which fractions and/or which criteria correspond with your resubmission. Response materials sent to CCS should also be copied to the Region and to EMSL/LV, each with this blue Cover Sheet.

ORGANICS
LABORATORY RESPONSE TO RESULTS OF CCS.

CASE 11688 SDG# EBG18

SAMPLE	FRACTION	CRITERION	COMMENTS
EBG18-03	LCA	H	ALL PERTINENT FORMS AND PAPERWORK
EBG18-04	LCA	H	CORRECTED AND RESUBMITTED
			NEW DISKETTE CORRECTED + RESUBMITTED
EBG18	PEST	H	CANNOT CORRECT - SAMPLES WERE EXTRACTED
EBG21			OUT OF HOLDING DUE TO GPC MALFUNCTION
EBG22			PROBLEM HAS BEEN CORRECTED.
EBG23			
EBG24			
EBG25			
EBG26			
EBG18	BN17	F, G	DISKETTE AND ALL PERTINENT FORMS
EBG18-03			HAVE BEEN CORRECTED AND RESUBMITTED
EBG18-04			
EBG21			
EBG22			
EBG23			
EBG24			

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EB01BMS

Lab Name: 3RIVER Contract 68-W8-0020

Lab Code 3RIVER Case No 11688 SAS No SDG No. LBQ18

Matrix (soil/water) SOIL Lab Sample ID RA50052

Sample wt/vol: 5. (g/mL) G Lab File ID. C1447

Level (low/med) LOW Date Received 3/31/89

% Moisture: not dec. 6 Date Analyzed 3/31/89

Column. (pack/cap) PACK Dilution Factor. 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS. (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	9.	U
74-83-9	Bromomethane	9.	U
75-01-4	Vinyl Chloride	9	U
75-00-3	Chloroethane	9.	U
75-09-2	Methylene Chloride	5.	BJ
67-64-1	Acetone	46	B
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	50	
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	9.	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	9.	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	44.	
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	51	
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	9.	U
591-78-6	2-Hexanone	9.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	50	
108-90-7	Chlorobenzene	50.	
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylenes (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EBQ18NS

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No. 11688 SAS No. SDG No EBQ18

Matrix (soil/water) SOIL Lab Sample ID PAS0552

Sample wt/vol: 6 (g/mL) G Lab File ID: C1447

Level: (low/med) LOW Date Received: 3/31/89

% Moisture: not dec 6. Date Analyzed: 3/31/89

Column (pack/cap) PACK Dilution Factor 1.00

Number TICs found 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1					
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.					

1
2
3
4
5
6

THREE RIVERS ANALYTICAL LABORATORY INC
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO.[110,10]SOIL
Data file name: SYO:C1447
Injection time 31-MAR-89 16:33:45
Comments
EXTRC 1447, RAS0552MS, EBQ18MS, 11688, SOIL
Dilution factor 1.00

Library entries as follows.

Standards.
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2 Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2 Hexanone
28T Tetrachloroethene
29T 1,1,2,2 Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene
33T Styrene
34T Xylenes (total)

5T Toluene-d8
6T Bromofluorobenzene
7T 1,2-Dichloroethane-d4

N	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
S	18.43	343			STD	0.95	50.0	NG/UL
S	22.68	428			STD	0.94	50.0	NG/UL
1T			Not Found					
T			Not Found					
T			Not Found					
T			Not Found					
T	7.45	124	84. / 128.	2005. / 13409	1	0.66	5.0	NG/UL
T	8.10	137	43. / 128.	24004. / 13409	1	1.00	48.6	NG/UL
T			Not Found					
6T	9.70	169	96. / 128	23867. / 13409.	1	0.85	53.4	NG/UL
T			Not Found					
T			Not Found					
11T			Not Found					
T			Not Found					
T			Not Found					
T			Not Found					
15T			Not Found					
T			Not Found					
T			Not Found					
18T			Not Found					
T			Not Found					
T	15.87	292	130. / 114	29055. / 73335	2	0.87	46.5	NG/UL
21T			Not Found					
22T			Not Found					
T	16.37	302	78. / 114.	78319. / 73335.	2	0.94	53.5	NG/UL
T			Not Found					
25T			Not Found					
T			Not Found					
T			Not Found					
28T			Not Found					
T			Not Found					
T	21.73	409	92. / 117.	54298. / 59136.	3	0.85	52.6	NG/UL
31T	22.78	430	112. / 117.	63813. / 59136.	3	0.92	52.7	NG/UL
32T			Not Found					
T			Not Found					
T			Not Found					
35T	21.53	405	98. / 117.	71116. / 59136.	3	0.95	50.4	NG/UL
T	28.00	534	95. / 117.	38600. / 59136.	3	0.96	49.1	NG/UL
T	12.15	218	65. / 128	24924. / 13409.	1	0.83	48.8	NG/UL

Extended Quantitation Report

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1447
Injection time: 31-MAR-89 16:33:45

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D	624/625
1S				50.0				
2S				50.0				
3S				50.0				
5T	0.753	84 / 128.	1.507	5.0	IA BB RF			1.00
6T	0.818	43. / 128.	1.841	48.6	IA BB RF			1.00
8T	0.980	96. / 128.	1.666	53.4	IA BB RF			1.00
20T	0.861	130 / 114.	0.426	46.5	IA BB RF			1.00
23T	0.888	78 / 114.	0.997	53.5	IA BB RF			1.00
30T	0.958	92 / 117.	0.873	52.6	IA BB RF			1.00
31T	1.004	112. / 117.	1.025	52.7	IA BB RF			1.00
35T	0.949	98. / 117.	1.192	50.4	IA BB RF			1.00
36T	1.235	95. / 117.	0.665	49.1	IA BB RF			1.00
37T	1.227	65 / 128	1.903	48.8	IA BB RF			1.00

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBQ1RMSD

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ1R

Matrix: (soil/water) SOIL Lab Sample ID: RAS0552

Sample wt/vol. 5 (g/mL) G Lab File ID: C1448

Level (low/med) LOW Date Received: 3/31/89

% Moisture not dec. 6. Date Analyzed: 3/31/89

Column (pack/cap) PACK Dilution Factor: 1.00

CAS NO	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	7.	B
67-64-1	Acetone	46.	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	53	
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	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10.	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	48.	
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	56	
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	53.	
108-90-7	Chlorobenzene	54.	
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylenes (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EB018MSD

Lab Name: BRIVER Contract: 68-W8-0020

Lab Code: BRIVER Case No.: 11688 SAS No. SDG No. EBQ18

Matrix: (soil/water) SOIL Lab Sample ID: RA50552

Sample wt/vol: 5 (g/mL) G Lab File ID. C1448

Level: (low/med) LOW Date Received. 3/31/89

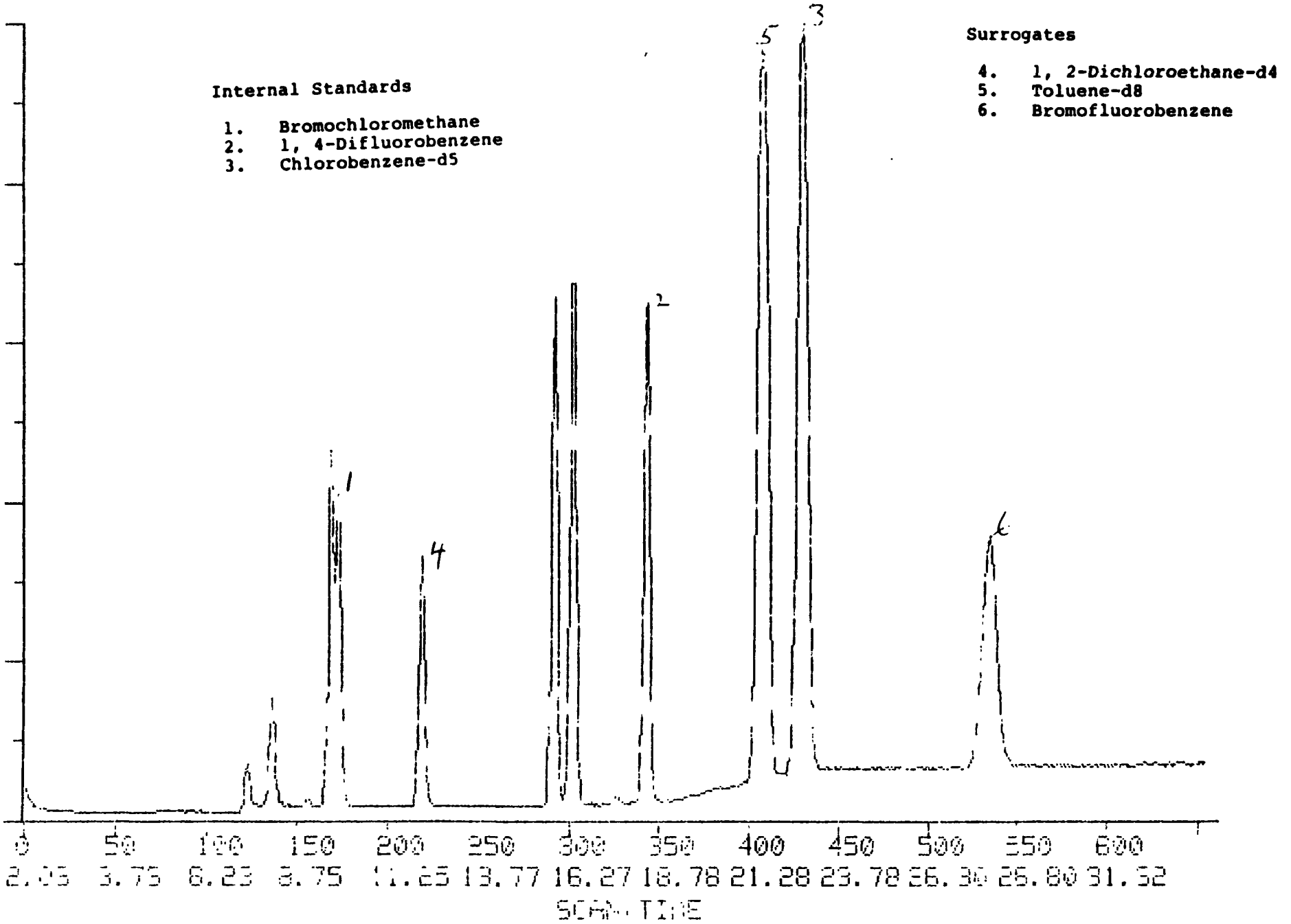
% Moisture not dec. 6. Date Analyzed. 3/31/89

Column. (pack/cap) PACK Dilution Factor 1.00

Number TICs found. 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST CONC.	Q
1					
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					


Internal Standards
1. Bromochloromethane
2. 1, 4-Difluorobenzene
3. Chlorobenzene-d5
Surrogates
4. 1, 2-Dichloroethane-d4
5. Toluene-d8
6. Bromofluorobenzene
0 50 100 150 200 250 300 350 400 450 500 550 600
2.05 3.75 6.23 8.75 11.25 13.77 16.27 18.78 21.28 23.78 26.30 28.80 31.32
SCAN TIME

THREE RIVERS ANALYTICAL LABORATORY INC
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____
_____
_____

Library used: SYO:[110,10]SOIL
Data file name: SYO.C1448
Injection time: 31-MAR-89 17 14:33
Comments:
EXTRC 1448, RAS0552MSD, EBQ18MSD,11688,SOIL
Dilution factor: 1.00

Library entries as follows

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene
33T Styrene
34T Xylenes (total)

5T Toluene-d8
6T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
S	9.85	172			STD	1.00	50.0	NG/UL
S	18 38	342			STD	0.95	50.0	NG/UL
S	22.63	427			STD	0.94	50.0	NG/UL
T			Not Found					
T			Not Found					
T			Not Found					
T			Not Found					
T	7 35	122	84. / 128	2755. / 12485.	1	0.82	7 3	NG/UL
T	8.05	136	43. / 128.	20756. / 12485.	1	1.00	45.1	NG/UL
/T			Not Found					
T	9.65	168	76. / 128	22066. / 12485.	1	0.85	53.0	NG/UL
T			Not Found					
10T			Not Found					
11T			Not Found					
T			Not Found					
T			Not Found					
14T			Not Found					
T			Not Found					
			Not Found					
17T			Not Found					
T			Not Found					
T			Not Found					
T	15 82	291	130 / 114	28606. / 69989	2	0.84	48.0	NG/UL
T			Not Found					
T			Not Found					
T	16 32	301	78 / 114.	77471 / 69989.	2	0 94	55.5	NG/UL
T			Not Found					
T			Not Found					
T			Not Found					
T			Not Found					
T			Not Found					
T			Not Found					
T	21 68	408	92. / 117.	54736 / 59484.	3	0.85	52.7	NG/UL
T	22.78	430	112. / 117.	65222. / 59484.	3	0 96	53.5	NG/UL
T			Not Found					
T			Not Found					
T			Not Found					
T	21 53	405	90. / 117.	71210. / 59484.	3	0.95	50.2	NG/UL
T	27 95	533	95. / 117.	36861. / 59484	3	1.00	46.6	NG/UL
T	12 15	218	65 / 128.	23573. / 12485.	1	0.83	49.6	NG/UL

Extended Quantitation Report

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1448
Injection time 31-MAR-89 17:14 33

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S D	624/625
15				50 0				
25				50 0				
35				50. 0				
5T	0 746	84. / 128.	1 507	7 3	IA BB RF			1 00
6T	0. 817	43. / 128.	1. 841	45. 1	IA BB RF			1 00
8T	0. 980	96. / 128.	1. 666	53. 0	IA BB RF			1 00
20T	0. 861	130 / 114.	0 426	48. 0	IA BB RF			1 00
23T	0. 888	78. / 114.	0. 997	55 5	IA BB RF			1. 00
30T	0 958	92. / 117.	0. 873	52. 7	IA BB RF			1 00
31T	1. 007	112 / 117	1. 025	53. 5	IA BB RF			1. 00
35T	0 951	98. / 117	1. 192	50. 2	IA BB RF			1. 00
36T	1. 235	95. / 117.	0. 665	46. 6	IA BB RF			1 00
37T	1 234	65. / 128.	1. 903	49. 6	IA BB RF			1. 00

2B

SOIL VOLATILE SURROGATE RECOVERY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Level (low/med) LOW

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
1	VBLK01	99	97	91		0
2	EBQ18	100	95	92		0
3	EBQ18MS	101	98	98		0
4	EBQ18MSD	100	93	99		0
5	VBLK02	102	100	95		0
6	EBQ20	101	98	96		0
7	EBQ21	102	96	96		0
8	EBQ22	105	96	96		0
9	EBQ23	102	99	95		0
10	EBQ25	106	94	93		0
11	EBQ24	100	100	97		0
12	VBLK03	98	96	89		0
13	EBQ26	99	96	90		0
14	EBQ27	98	97	91		0
15	EBQ28	101	97	89		0
16	EBQ29	100	97	91		0
17	ZZZZZ	100	98	93		0
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

FORM II VOA-2 1/87 Rev

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: DRIVER Contract: 68-W8-0020

Lab Code DRIVER Case No.: 11688 SAS No.: SDG No EBQ1B

Matrix Spike - EPA Sample No.: EBQ1B 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	47.	0.	50	107.	59-172
Trichloroethene	47	0.	44.	93.	62-137
Benzene	47.	0.	51.	107.	66-142
Toluene	47	0.	50.	105.	59-139
Chlorobenzene	47.	0.	50.	105.	60-133

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
1,1 Dichloroethene	50	53.	106.	1	22	59-172
Trichloroethene	50	48	96	3	24	62-137
Benzene	50.	56	111	4	21	66-142
Toluene	50.	53.	105	0	21	59-139
Chlorobenzene	50.	54.	107.	2.	21	60-133

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

* Values outside of QC limits

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

COMMENTS:

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No. SDG No. EBQ18

Lab File ID: C1444 Lab Sample ID: SOIL BLANK

Date Analyzed: 3/31/89 Time Analyzed: 13:28

Matrix: (soil/water) SOIL Level (low/med) LOW

Instrument ID: EXTRC

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	EBQ18	RAS0552	C1445	14:37
2	EBQ18MS	RAS0552	C1447	16:33
3	EBQ18MSD	RAS0552	C1448	17:14
4				
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6				
7				
8				
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27				
28				
29				
30				

COMMENTS:

5A

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

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID: C1441 BFB Injection Date: 3/31/89

Instrument ID: EXTRC BFB Injection Time: 8:58

Matrix: (soil/water) SOIL Level: (low/med) LOW Column: (pack/cap) PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.5
75	30.0 - 60.0% of mass 95	45.5
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	0.0 (0.0)
174	Greater than 50.0% of mass 95	85.6
175	5.0 - 9.0% of mass 174	[illegible]
176	Greater than 95.0%, but less than 101.0% of mass 174	[illegible]
177	5.0 - 9.0% of [illegible]	[illegible]

[illegible] value is % mass [illegible]

[illegible] MS, MSD, WSTD, and [illegible]

	[illegible]	FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD50	C1443	3/31/89	10:54
2	VBLK01	SOIL BLANK C1444	3/31/89	13:28
3	EBQ18	RAS0552 C1445	3/31/89	11:57
4	EBQ18MS	RAS0552 C1447	3/31/89	15:33
5	EBQ18MSD	RAS0552 C1448	3/31/89	[illegible]
6				
7				
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22				

FORM V VOA 1/87 Rev.

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name 3RIVER Contract: 68-W8-0020

Lab Code. 3RIVER Case No.. 11688 SAS No.: SDG No EBQ18

Lab File ID (Standard). C1443 Date Analyzed 3/31/89

Instrument ID EXTRC Time Analyzed 10 54

Matrix.(soil/water) SOIL Level:(low/med). LOW Column.(pack/cap) PACK

	IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
12 HOUR STD	12914	9.90	70805.	18 43	58527.	22.68
UPPER LIMIT	25828.	10 40	141610.	18.93	117054.	23.18
LOWER LIMIT	6457.	9 40	35403.	17.93	29264	22.18
EPA SAMPLE NO.						
1 VBLK01	14755	9 90	76305	18 43	61859	22 68
2 EBQ18	13677	9 90	73236.	18.43	59700	22 68
3 EBQ18MS	13409	9 90	73335	18.43	59136.	22 68
4 EBQ18MSD	12485.	9 85	69789.	18 38	59484	22 63
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

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

Column used to flag internal standard area values with an asterisk

FORM VIII VOA 1/87 Rev

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBQ18MS

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Matrix: (soil/water) SOIL Lab Sample ID

Sample wt/vol 30. (g/mL) G Lab File ID: B1513

Level: (low/med) LOW Date Received 3/31/89

% Moisture not dec. 6. dec. 0. Date Extracted: 4/ 5/89

Extraction (SepF/Cont/Sonc) SONC Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	6500.	
111-44-4	bis(2-Chloroethyl)ether	700.	U
95-57-8	2-Chlorophenol	8400.	
541-73-1	1,3-Dichlorobenzene	700.	U
106-46-7	1,4-Dichlorobenzene	3100.	
100-51-6	Benzyl Alcohol	700.	U
95-50-1	1,2-Dichlorobenzene	700.	U
95-48-7	2-Methylphenol	700	U
108-60-1	bis(2-Chloroisopropyl)Ether	700.	U
106-44-5	4-Methylphenol	700	U
621-64-7	N-Nitroso-di-n-propylamine	2900	
67-72-1	Hexachloroethane	700	U
98-95-3	Nitrobenzene	700	U
78-59-1	Isophorone	700	U
88-75-5	2-Nitrophenol	700	U
105-67-9	2,4-Dimethylphenol	700	U
65-85-0	Benzoic Acid	3500	U
111-91-1	bis(2-Chloroethoxy)Methane	700	U
120-83-2	2,4-Dichlorophenol	700	U
120-82-1	1,2,4-Trichlorobenzene	5400	
91-20-3	Naphthalene	700	U
106-47-8	4-Chloroaniline	700	U
87-68-3	Hexachlorobutadiene	700.	U
59-50-7	4-Chloro-3-Methylphenol	6900.	
91-57-6	2-Methylnaphthalene	700	U
77-47-4	Hexachlorocyclopentadiene	700	U
88-06-2	2,4,6-Trichlorophenol	700	U
95-95-4	2,4,5-Trichlorophenol	3500.	U
91-58-7	2-Chloronaphthalene	700.	U
88-74-4	2-Nitroaniline	3500.	U
131-11-3	Dimethylphthalate	700	U
208-96-8	Acenaphthylene	700	U
606-20-2	2,6-Dinitrotoluene	700.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBQ18MC

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

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

Sample wt/vol. 30 (g/mL) G Lab File ID. B1513

Level: (low/med) LOW Date Received: 3/31/89

% Moisture: not dec. 6 dec. 0. Date Extracted: 4/ 5/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS. (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3500.	U
83-32-9	Acenaphthene	3300.	
51-28-5	2,4-Dinitrophenol	3500	U
100-02-7	4-Nitrophenol	5400.	
132-64-9	Dibenzofuran	700	U
121-14-2	2,4-Dinitrotoluene	3400	
84-66-2	Diethylphthalate	700	U
7005-72-3	4-Chlorophenyl-phenylether	700	U
86-73-7	Fluorene	700.	U
100-01-6	4-Nitroaniline	3500.	U
534-52-1	4,6-Dinitro-2-Methylphenol	3500	U
86-30-6	N-Nitrosodiphenylamine (1)	700.	U
101-55-3	4-Bromophenyl-phenylether	700.	U
118-74-1	Hexachlorobenzene	700.	U
87-86-5	Pentachlorophenol	7500	
85-01-8	Phenanthrene	700.	U
120-12-7	Anthracene	700.	U
84-74-2	Di-n-butylphthalate	1200.	B
206-44-0	Fluoranthene	700.	U
129-00-0	Pyrene	3700	
85-68-7	Butylbenzylphthalate	700	U
91-94-1	3,3'-Dichlorobenzidine	1400.	U
56-55-3	Benzo(a)anthracene	700.	U
218-01-9	Chrysene	700.	U
117-81-7	bis(2-Ethylhexyl)phthalate	700.	U
117-84-0	Di-n-octylphthalate	700.	U
205-99-2	Benzo(b)fluoranthene	700.	U
207-08-9	Benzo(k)fluoranthene	700.	U
50-32-8	Benzo(a)pyrene	700.	U
193-39-5	Indeno(1,2,3-cd)pyrene	700.	U
53-70-3	Dibenz(a,h)anthracene	700	U
191-24-2	Benzo(g,h,i)perylene	700	U

(1) - Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

EBQ18M6

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No: EBQ18

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

Sample wt/vol. 30 (g/mL) G Lab File ID B1513

Level (low/med) LOW Date Received 3/31/89

% Moisture: not dec. 6. dec 0 Date Extracted: 4/ 5/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 4/13/89

GPC Cleanup. (Y/N) Y pH. 7 4 Dilution Factor: 1 00

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDQ18MSD

Lab Name: SRIVER Contract: 68-W8-0020

Case No: 11688 SAS No.: SDG No. EDQ18

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

Sample wt/vol: 30 (g/mL) G Lab File ID. B1514

Level (low/med) LOW Date Received: 3/31/89

% Moisture: not dec 6 dec 0 Date Extracted 4/ [illegible]

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed [illegible]

GPC Cleanup: (Y/N) N pH [illegible] Dilution Factor [illegible]

CAS No.	Compound	Concentration (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	5400.	
111-44-4	bis(2-Chloroethyl)ether	700	U
95-57-8	2-Chlorophenol	6900	
541-73-1	1,3-Dichlorobenzene	700	U
106-46-7	1,4-Dichlorobenzene	2700	
100-51-6	Benzyl Alcohol	700.	U
95-50-1	1,2-Dichlorobenzene	700.	U
95-48-7	2-Methylphenol	700	U
108-60-1	bis(2-Chloroisopropyl)Ether	700.	U
106-44-5	4-Methylphenol	700.	U
621-64-7	N-Nitroso-di-n-propylamine	2500	
67-72-1	Hexachloroethane	700.	U
98-95-3	Nitrobenzene	700	U
78-59-1	Isophorone	700	U
88-75-5	2-Nitrophenol	700.	U
105-67-9	2,4-Dimethylphenol	700.	U
65-85-0	Benzoic Acid	3500.	U
111-91-1	bis(2-Chloroethoxy)Methane	700	U
120-83-2	2,4-Dichlorophenol	700	U
120-82-1	1,2,4-Trichlorobenzene	4200.	
91-20-3	Naphthalene	700	U
106-47-8	4-Chloroaniline	700	U
87-68-3	Hexachlorobutadiene	700	U
59-50-7	4-Chloro-3-Methylphenol	6400	
91-57-6	2-Methylnaphthalene	700	U
77-47-4	Hexachlorocyclopentadiene	700.	U
88-06-2	2,4,6-Trichlorophenol	700.	U
95-95-4	2,4,5-Trichlorophenol	3500.	U
91-58-7	2-Chloronaphthalene	700.	U
88-74-4	2-Nitroaniline	3500	U
131-11-3	Dimethylphthalate	700	U
208-96-8	Acenaphthylene	700	U
606-20-2	2,6-Dinitrotoluene	[illegible]	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBQ18MSD

Lab Name 3RIVER Contract 68-W8-0020

Lab Code. 3RIVER Case No : 11688 SAS No : SDG No EBQ18

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

Sample wt/vol 30 (g/mL) G Lab File ID: B1514

Level (low/med) LOW Date Received 3/31/89

% Moisture. not dec. 6 dec. 0 Date Extracted 4/ 5/89

Extraction (SepF/Cont/Sonc) SONC Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) Y pH 7.4 Dilution Factor 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3500	U
83-32-9	Acenaphthene	2600.	
51-28-5	2,4-Dinitrophenol	3500	U
100-02-7	4-Nitrophenol	5700	
132-64-9	Dibenzofuran	700	U
121-14-2	2,4-Dinitrotoluene	3000	
84-66-2	Diethylphthalate	700	U
7005-72-3	4-Chlorophenyl-phenylether	700	U
86-73-7	Fluorene	700	U
100-01-6	4-Nitroaniline	3500	U
534-52-1	4,6-Dinitro-2-Methylphenol	3500.	U
86-30-6	N-Nitrosodiphenylamine (1)	700	U
101-55-3	4-Bromophenyl-phenylether	700.	U
118-74-1	Hexachlorobenzene	700	U
87-86-5	Pentachlorophenol	7100	
85-01-8	Phenanthrene	700	U
120-12-7	Anthracene	700	U
84-74-2	Di-n-butylphthalate	2000	B
206-44-0	Fluoranthene	700	U
129-00-0	Pyrene	2900.	
85-68-7	Butylbenzylphthalate	700	U
91-94-1	3,3'-Dichlorobenzidine	1400	U
56-55-3	Benzo(a)anthracene	700	U
218-01-9	Chrysene	700	U
117-81-7	bis(2-Ethylhexyl)phthalate	700	U
117-84-0	Di-n-octylphthalate	700.	U
205-99-2	Benzo(b)fluoranthene	700	U
207-08-9	Benzo(k)fluoranthene	700	U
50-32-8	Benzo(a)pyrene	700	U
193-39-5	Indeno(1,2,3-cd)pyrene	700	U
53-70-3	Dibenz(a,h)anthracene	700	U
191-24-2	Benzo(g,h,i)perylene	700	U

(1) - Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE No.

EB019MSD

Lab Name: 3RIVER Contract 68-W8-0020

Lab Code 3RIVER Case No. 11688 SAS No SDG No LDG18

Matrix (soil/water) SOIL Lab Sample ID

Sample wt/vol 30 (g/mL) G Lab File ID: B1514

Level (low/med) LOW Date Received 3/31/89

% Moisture, not dec 6 dec. 0. Date Extracted: 4/ 5/89

Extraction (SepF/Cont/Sonc) SONC Date Analyzed: 4/13/89

GPC Cleanup (Y/N) Y pH 7.4 Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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2D
SOIL SEMIVOLATILE SURRUGATE RECOVERY

Lab Name 3RIVER Contract 68-W8-0020

Lab Code. 3RIVER Case No 11688 SAS No. SDG No EBQ1H

Level (low/med) LOW

	EPA SAMPLE NO	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
1	SBLK01	46	54	76	78	56	58		0
2	EBQ18	21 *	37	37	54	38	33		0
3	EBQ18MS	40	47	46	61	45	34		0
4	EBQ18MSD	32	36	37	53	35	40		0
5	EBQ21	86	84	100	124 *	86	101		1
6	EBQ23	66	64	72	100	72	71		0
7	EBQ22	37	38	49	54	38	25		0
8	EBQ24	52	62	67	79	59	41		0
9	EBQ25	57	60	76	83	55	77		0
10	EBQ26	29	29 *	45	40	27	28		1
11	EBQ27	65	70	107	91	63	72		0
12	EBQ28	62	63	115	91	62	91		0
13	EBQ29	46	49	65	67	47	49		0
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		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(23-120)
S2 (FBP)	= 2-Fluorobiphenyl	(30-115)
S3 (TPH)	= Terphenyl-d14	(18-137)
S4 (PHL)	= Phenol-d5	(24-113)
S5 (2FP)	= 2-Fluorophenol	(25-121)
S6 (TBP)	= 2,4,6-Tribromophenol	(19-122)

* Column to be used to flag recovery values

[illegible] required QC limits

[illegible]

FORM II SV-2

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No. EBQ18

Matrix Spike - EPA Sample No.: EBQ18 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (UG/KG)	SAMPLE CONCENTRATION (UG/KG)	MS CONCENTRATION (UG/KG)	MS % REC	#	QC LIMITS REC
Phenol	7023.	0.	6505.	93.	*	26- 90
2-Chlorophenol	7023.	0.	8398.	120.	*	25-102
1,4-Dichlorobenzene	3511.	0.	3146	90.		28-104
N-Nitroso-di-n-prop. (1)	3511.	0.	2875.	82.		41-126
1,2,4-Trichlorobenzene	3511.	0.	5431.	155.	*	38-107
4-Chloro-3-Methylphenol	7023.	0.	6904	98.		26-103
Acenaphthene	3511.	0	3256.	93.		31-137
4-Nitrophenol	7023	0.	5443.	78.		11-114
2,4-Dinitrotoluene	3511	0.	3355	96.	*	28- 89
Pentachlorophenol	7023.	0.	7494.	107		17-109
Pyrene	3511.	0.	3721.	106		35-142

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC
Phenol	7063.	5410.	77.		19		35	26- 90
2-Chlorophenol	7063.	6937.	98.		20.		50	25-102
1,4-Dichlorobenzene	3531.	2654.	75.		18.		27	28-104
N-Nitroso-di-n-prop. (1)	3531	2496.	71.		15		38	41-126
1,2,4-Trichlorobenzene	3531.	4269.	121.	*	25.	*	23	38-107
4-Chloro-3-Methylphenol	7063.	6438.	91.		8.		33	26-103
Acenaphthene	3531.	2582.	73.		24.	*	19	31-137
4-Nitrophenol	7063.	5710.	81.		4.		50	11-114
2,4-Dinitrotoluene	3531.	3026.	86.		11.		47	28- 89
Pentachlorophenol	7063.	7060.	100.		7.		47	17-109
Pyrene	3531.	2859.	81.		27.		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: 2 out of 11 outside limits
Spike Recovery: 5 out of 22 outside limits

COMMENTS:

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No. SDG No.: EBQ18

Lab File ID (Standard): B1509 Date Analyzed: 4/13/89

Instrument ID. EXTRB Time Analyzed: 8:58

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	82130	11.38	332668.	14.55	152072.	19.08
	UPPER LIMIT	164260	11.88	665336.	15.05	304144.	19.58
	LOWER LIMIT	41065	10.88	166334.	14.05	76036.	18.58
	EPA SAMPLE NO.						
1	SBLK01	117850.	11.38	497952	14.55	252152	19.10
2	EBQ18	136822	11.30	583264.	14.43	301116.	18.95
3	EBQ18MS	140818.	11.30	528424	14.45	232054	19.00
4	EBQ18MSD	150546.	11.27	598664.	14.43	301536.	18.98
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d8

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

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID (Standard): B1509 Date Analyzed: 4/13/89

Instrument ID: EXTRB Time Analyzed: 8:58

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	189752.	22.88	124659.	29.90	62370	35.80
	UPPER LIMIT	379504	23.38	249118.	30.40	124740.	36.30
	LOWER LIMIT	94876	22.38	62280.	29.40	31185.	35.30
	EPA SAMPLE NO.						
1	SBLK01	330004.	22.92	167606.	29.97	61588.	35.97
2	EBQ18	357528	22.75	225780.	29.68	32340.	35.85
3	EBQ18MS	239546	22.80	141948.	29.80	35966	35.65
4	EBQ18MSD	365476	22.78	240440.	29.77	95128.	35.65
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

Column used to flag internal standard area values with an asterisk

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code 3RIVER Case No : 11688 SAS No. : SDG No LBQ18

Lab File ID (Standard): B1522 Date Analyzed. 4/14/89

Instrument ID: EXTRB Time Analyzed 10:57

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	133860	11 33	516688.	14.50	289856.	19.05
	UPPER LIMIT	267720.	11.83	1033376	15 00	579712.	19.55
	LOWER LIMIT	66930.	10.83	258344.	14.00	144928	18.55
	EPA SAMPLE NO						
1	EBQ21	144336	11.27	547376.	14.42	334124.	18.98
2	EBQ23	138400.	11.30	533616.	14.45	334872.	18 97
3	EBQ22	211864	11.33	838080.	14.50	454392.	19 09
4	EBQ24	159590	11 33	590792.	14 50	305208.	19 08
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d8

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

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1

1/87 Rev

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No. SDG No. EBQ1R

Lab File ID (Standard): B1522 Date Analyzed 4/14/89

Instrument ID: EXTRB Time Analyzed: 10 57

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	379048.	22 85	266440.	29.85	166248.	35 67
	UPPER LIMIT	738096.	23.35	532880.	30.35	332496.	36.17
	LOWER LIMIT	189524	22.35	133220.	29.35	83124.	35.17
	EPA SAMPLE NO.						
1	EBQ21	516288.	22.82	337440	29.88	117857.	35.80
2	EBQ23	487892.	22.77	325630	29.72	138423.	35 65
3	EBQ22	513816.	22.85	180388.	29.83	84605.	35 70
4	EBQ24	340684	22.92	139040.	30.00	88016	36 08
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: BRIVER Contract: 68-W8-0020

Lab Code: BRIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID (Standard): B1529 Date Analyzed 4/17/89

Instrument ID: EXTRB Time Analyzed 8:07

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	135158.	11.32	523104.	14.43	240948.	18.72
	UPPER LIMIT	270316.	11.82	1046208.	14.93	481896.	19.42
	LOWER LIMIT	67579	10.82	261552	13.93	120474	18.42
	EPA SAMPLE NO.						
1	EBQ25	165650	11.28	636600.	14.45	373020.	19.00
2	EBQ26	172910.	11.33	654472.	14.50	389688.	19.07
3	EBQ27	118516.	11.23	450872	14.37	250384	18.72
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d8

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

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No. 11688 SAS No. SDG No.: EBQ18

Lab File ID (Standard): B1529 Date Analyzed: 4/17/89

Instrument ID: EXTRB Time Analyzed: 8:37

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	250276	22.68	150522.	29.60	68780	35.20
	UPPER LIMIT	500552.	23.18	301044.	30.10	137560.	35.70
	LOWER LIMIT	125138.	22.18	75261.	29.10	34390.	34.70
	EPA SAMPLE NO.						
1	EBQ25	497000.	22.80	223176.	29.77	63611.	35.60
2	EBQ26	500096.	22.87	293268.	29.88	110086	35.73
3	EBQ27	326336	22.72	123896.	29.70	38353.	35.45
4							
5							
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22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

Column used to flag internal standard area values with an asterisk

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No EBQ18

Lab File ID (Standard): B1540 Date Analyzed: 4/18/89

Instrument ID. EXTRB Time Analyzed: 9:26

	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
12 HOUR STD	169638	11.30	599968.	14.47	318720.	19.03
UPPER LIMIT	339276	11.80	1199936	14.97	637440	19.52
LOWER LIMIT	84819	10.80	299984.	13.97	159360.	18.52
EPA SAMPLE NO.						
1 EBQ28	153500.	11.25	546608	14.40	337544	18.95
2 EBQ29	177660.	11.35	640472.	14.53	388680	19.10
3						
4						
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22						

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

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

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No . 11688 SAS No.: SDG No : EBQ18

Lab File ID (Standard): B1540 Date Analyzed: 4/18/89

Instrument ID: EXTRB Time Analyzed: 9.26

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	394716.	22.80	237544.	29.77	117644.	35.60
	UPPER LIMIT	789432.	23.30	475088.	30.27	235288.	36.10
	LOWER LIMIT	197358.	22.30	118772.	29.27	58822.	35.10
	EPA SAMPLE NO.						
1	EBQ28	463812.	22.77	153788.	29.78	62822.	35.65
2	EBQ29	499829	23.03	176766.	29.95	59109.	35.85
3							
4							
5							
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22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2

1/87 Rev

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Region V CLP Data Received for Review on 4-17-89

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory

TO: Data User: MPCA

We have reviewed the data for the following case(s).

SITE NAME: Greif Brother SMO Case No. 11688SAS 44148

EPA Data Set No. 8F6015 No. of Samples: 4 D.U./Activity Numbers TFA TFA102

CRL No. 89VC18 R02, D01, S22

SMO Traffic No. MEBJ26 -

CLP Laboratory: Velsai Hrs. Required for Review: ____

Following are our findings:

unreviewed data as per federal agreement

( ) Data are acceptable for use.
( ) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

CASE NARRATIVE

CONTRACT#: 68-W8-0020

CASE #: 11688 SDG#: EBQ18

SMO#: EBQ18 EBQ20 (VOA ONLY)
EBQ21 EBQ22
EBQ23 EBQ24
EBQ25 EBQ26
EBQ27 EBQ28
EBQ29

FRACTION: Check-In Notes

Samples EBQ24, EBQ22 and EBQ21 were very low in volume. There was no Matrix indicated. Sample EBQ18 was designated as Matrix Spike and Matrix Spike Duplicate.

FRACTION: Extraction Notes

BNA and Pesticide/PCB extracts were performed seperately. These samples were extracted by the low level method following Standard CLP Protocol. Please note the following comments:

-GPC clean-up was performed on all BNA soils extracts.

-After a mechanical problem with the GPC. The pesticide/PCB soil samples were lost. As a result a re-extraction of samples took place out of holding time; these extracts were not put through GPC clean-up. All soil extracts were clean.

FRACTION: Volatile Organics

Standard CLP Protocol was followed throughout the analysis.

Please note the following comments or exceptions to the above statement:

The instrument ID on certain forms is presented with the prefix EXTR_. The blank is filled in with the instrument number (A, B or C).

SMO numbers for the continuing calibration runs (VSTD50) have a suffix attached to the number to distinguish them from each other. For example,VSTD50 1 and VSTD50 2. The SMO n;umbers for the blanks have a suffix attached to the number. For example, VBLK01 and VBLK02.We have been experiencing chemistry problems with the RRF of vinyl acetate when purging standard solutions. We are currently addressing the problem and the project officers are aware of this.

After an EPA audit on march 1, 1989, we were informed by our DPO, Chuck Sands, not to include matrix spike and duplicate results on Form 1. However, due to the nature of the software, this cannot be easily done. This problem is now being addressed and should be resolved soon. Until that time, matrix spike and mamtrix spike duplicate results will be reported on form 1.

FRACTION: SemiVolaltile Organics

Please note the following exceptions to the above statement:

All instrument ID on certain forms is presented with the prefix EXTR_. The blank is filled with the instrument number (A, B, or C). For example, EXTRA, EXTRB, EXTRC, etc.

The instrument # is reflected in the filename. For example, B 1511 refers to instrument #B and file #1511. It also appears in the comment line as EXTRB 1511.

The SMO numbers for the continuing calibration runs (SSTD50) have a suffix attached to the number. They are identified by the numbers SSTD50 1, SSTD50 2 AND SSTD50 3.

The SMO numbers for the blanks (SBLK) have a suffix attached to the numbers. The blanks are identified by the numbers SBLK01, SBLK02 and SBLK03.

After EPA audit on March 1, 1989, we were informed by our DPO, Chuck Sands, not to include matrix spike and matrix spike duplicate concentrations on Form 1. However, due to the nature of the software this cannot be easily done. This problem is now being addressed, and should be resolved soon. As for now matrix spike compounds will be reported on Form I.

FRACTION: Pesticides

Please note the following:

The instrument ID on certain forms is presented with the prefix VAR_. The blank is filled in with the instrument number (F or G). For example, VARF, VARG, etc.

The instrument # is reflected in the filename. For example, F257 refers to instrument #F and file #257.

The SMO numbers for the continuing califbration runs (INDA, INDB) have a suffix attached to the number to distinguish them from each other. For example INDA 2, INDA 3, INDB 2, etc.

The SMO numbers for the Laboratory Reagent Blanks (PBLK) have a suffix attached to the number to distinguish them from each other. They are labeled PBLK01 and PBLK02.

Quantitation was performed on the SP2100 column while confirmation was performed on a wide bore capillary column (DB-608).

After an EPA audit on March 1, 1989, we were informed by our Deputy Project Officer, Chuck Sands not include matrix spike and matrix spike duplicate concentrations on Form I. However, due to the nature ofour software this cannot be done. This problem is now being addressed, and should be resolved soon. As for now, matrix spike and matrix spike duplicate concentrations will be reported on Form I.

There was matrix interference with Dibutyl Chlorendate on sample EBQ22, therefore a second Form II was submitted from the confirmation column (DB608).

Please note the following non-compliance: The following samples are out of holding times, EBQ18, EBQ18MS, EBQMSD, EBQ21, EBQ22, EBQ23, EBQ24, EBQ25, and EBQ26. The samples were originally extracted on April 6, 1989 and ran thru GPC on April 10, 1989, however due to a GPC malfunction all the afore mentioned samples were lost. They were re-extracted on April 11, 1989.

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

Gina M Gallucci

Gina M. Gallucci
Lead Chemist

RECEIVED

MAY 01 89

MPCA, Ground Water
& Solid Waste Div.

DATE: April 26. 1989

TO: Minnesota Pollution Control Agency
Site Assessment Unit
Program Development Section
Groundwater and Solid Waste Division
520 Lafayette Road
St. Paul. MN 55155

ATTN: RON SVENSON

Case No.	Contract Lab	SF No.	No. Samples
11688	three river	6015	11

FROM: U.S. EPA
Region V
Central Regional Laboratory
536 S. Clark. 10th Floor
Chicago. IL 60605

SENT BY M. Jalin
ESTA/(EDA)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD/Central Regional Laboratory
DATA TRACKING FORM FOR CONTRACT SAMPLES

CRL Data Set No. SF 6015 CERCLIS No. MID982301012

SMO Case No. 11688 Site Name and Location: Greif Brothers

Name of Contractor or EPA Laboratory: Three River Data User: MPCA

No. of Samples: 11 Date Samples or Data Received: 4-26-89

1. Have chain-of-custody records been received? YES ✓ NO ___
2. Have Traffic Reports or packing lists been received? YES ✓ NO ___
3. If no, are Traffic Report or packing list numbers written on the chain-of-custody record? YES ___ NO ___
4. If no, which traffic report or packing list numbers are missing?

Are basic data forms in? YES ✓ NO ___

Number of samples claimed: 11 Number of samples received: 11

Checked by: A Kearns Date: 4/26/89

Received by Contract Project Management Section: ___ Date: ___

Review Started: ___ Reviewer Signature: ___

Total time spent on review: ___ Date review completed: ___

Copied (xeroxed) by: ___ Date: ___

Mailed to Data User by: A Kearns Date: 4/26/89

DATA USERS:

Please fill in the blanks below and return this form to: Sylvia Griffin, Data Management Coordinator, Region V, SSCRL

Data received by: ___ Date: ___

Q.A. review received by: ___ Date: ___

Inorganic Data Complete [ ], Suitable for Intended Purposes [ ] ✓ [ ] if acceptable.
Organic Data Complete [ ], Suitable for Intended Purposes [ ] List problems below.
Dioxin Data Complete [ ], Suitable for Intended Purposes [ ]
SAS Data Complete [ ], Suitable for Intended Purposes [ ]

See Attached "Missing Data Request Form" [ ]
PROBLEMS: Please indicate reasons (if any) why data are not suitable for your uses. Other problems.

Received by Data Management Coordinator, CRL for File: Date: ___

Signature:

Three Rivers
Analytical Laboratories Inc.

450 William Pitt Way
Pittsburgh, Pennsylvania 15238

Telephone (412) 826-5477
FAX (412) 963-6578
TELEX 812316

RECEIVED
APR 26 1989
US EPA CENTRAL REGIONAL LAB.
536 S. CLARK STREET
CHICAGO, ILLINOIS 60605

DATA CERTIFICATION:

"Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

4/21/89

Vincent A. Pizzitola
Laboratory Manager

CASE NARRATIVE

TRAFFIC REPORT

Three Rivers
Analytical Laboratories Inc.
450
166 William Pitt Way
Pittsburgh, Pennsylvania 15238

Telephone (412) 826-5477
FAX (412) 963-6878
TELEX 812316

USEPA Contract Laboratory Program
Sample Management Office
P.O. Box 818
Alexandria, VA 22313

Sample Delivery Group Cover Sheet

Three Rivers Analytical Laboratories (3River)

Contract No. 68-W8-0020

Unit Price: 924.83

Case Number: 11688 SDG Number: EBQ18 SAS Number:

EPA Sample No.	Date Received	Comments
EBQ18	3/31/89	first sample in SDG
EBQ21	3/31/89	
EBQ20	3/31/89	
EBQ22	3/31/89	
EBQ23	3/31/89	
EBQ24	3/31/89	
EBQ25	3/31/89	
EBQ26	3/31/89	
EBQ27	3/31/89	
EBQ28	3/31/89	
EBQ29	3/31/89	final sample in SDG

Sample Custodian: Dean Radebaugh Date 3-31-89

5

BEFORE COPY LIABILITY

PRESS HARD – PLEASE PRINT

USING A BALL POINT PEN

AIRBILL

PACKAGE TRACKING NUMBER

SERVICE

RECIPIENT'S COPY

Sixth Edition

PHEMA A

Date

Time

Signature

Date 5-31-89

Patient Signature

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Region V CLP Data
Received for Review on 4-26-89

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory

TO: Data User: MPCA

We have reviewed the data for the following case(s).

SITE NAME: Greif Brothers SMO Case No. 11688

EPA Data Set No. SF 6015 No. of Samples: 4 D.U./Activity Numbers TFA / TFA102

CRL No. 89YC18501-S12

SMO Traffic No. EBQ 18, 20-29

CLP Laboratory: Three Rivers Hrs. Required for Review: ____

Following are our findings:

Unreviewed data as per federal agreement

( ) Data are acceptable for use.
( ) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

VOA

QC SUMMARY

2B
SOIL VOLATILE SURROGATE RECOVERY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
1	VBLK01	99	97	91		0
2	EBQ18	100	95	92		0
3	EBQ18MSD	101	98	98		0
4	EBQ18MS	100	93	99		0
5	VBLK02	102	100	95		0
6	EBQ20	101	98	96		0
7	EBQ21	102	96	96		0
8	EBQ22	105	96	96		0
9	EBQ23	102	99	95		0
10	EBQ25	106	94	93		0
11	EBQ24	100	100	97		0
12	VBLK03	98	96	89		0
13	EBQ26	99	96	90		0
14	EBQ27	98	97	91		0
15	EBQ28	101	97	89		0
16	EBQ29	100	97	91		0
17	ZZZZZ	100	98	93		0
18						
19						
20						
21						
22						
23						
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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

1 1

FORM II VOA-2 1/87 Rev.

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Matrix Spike - EPA Sample No.: EBQ18 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	50.	0.	53.	106.	59-172
Trichloroethene	50.	0.	48.	96.	62-137
Benzene	50.	0.	56.	111.	66-142
Toluene	50.	0.	53.	105.	59-139
Chlorobenzene	50.	0.	54.	107.	60-133

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	47.	50.	107.	1.	22	59-172
Trichloroethene	47.	44.	93.	3.	24	62-137
Benzene	47.	51.	107.	4.	21	66-142
Toluene	47.	50.	105.	0.	21	59-139
Chlorobenzene	47.	50.	105.	2.	21	60-133

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

* Values outside of QC limits

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

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID: C1444 Lab Sample ID: SOIL BLANK

Date Analyzed: 3/31/89 Time Analyzed: 13:28

Matrix: (soil/water) SOIL Level: (low/med) LOW

Instrument ID: EXTRC

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	EBQ18	RAS0552	C1445	14:37
2	EBQ18MSD	RAS0552	C1447	16:33
3	EBQ18MS	RAS0552	C1448	17:14
4				
5				
6				
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COMMENTS:

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID: C1451 Lab Sample ID: SOIL BLANK

Date Analyzed: 4/ 3/89 Time Analyzed: 9:38

Matrix: (soil/water) SOIL Level: (low/med) LOW

Instrument ID: EXTRC

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	EBQ20	RAS0553	C1452	10:59
2	EBQ21	RAS0554	C1453	11:35
3	EBQ22	RAS0555	C1455	12:47
4	EBQ23	RAS0556	C1456	13:34
5	EBQ25	RAS0558	C1458	15:58
6	EBQ24	RAS0557	C1459	16:43
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COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID: C1463 Lab Sample ID: SOIL BLANK

Date Analyzed: 4/ 4/89 Time Analyzed: 12:04

Matrix: (soil/water) SOIL Level: (low/med) LOW

Instrument ID: EXTRC

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	EBQ26	RAS0559	C1464	12:57
2	EBQ27	RAS0560	C1465	14:09
3	EBQ28	RAS0561	C1466	14:50
4	EBQ29	RAS0562	C1467	15:31
5	ZZZZZ	HOLD BLK	C1468	16:17
6				
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COMMENTS:

5A

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

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBG18

Lab File ID: C1430 BFB Injection Date: 3/29/89

Instrument ID.: EXTRC BFB Injection Time: 10:24

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.0
75	30.0 - 60.0% of mass 95	44.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.3
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	88.7
175	5.0 - 9.0% of mass 174	6.5 (7.3)1
176	Greater than 95.0%, but less than 101.0% of mass 174	87.7 (98.9)1
177	5.0 - 9.0% of mass 176	6.1 (6.9)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD100		C1433	3/29/89	13:12
2	VSTD50		C1434	3/29/89	13:50
3	VSTD150		C1435	3/29/89	14:32
4	VSTD20		C1436	3/29/89	15:13
5	VSTD200		C1437	3/29/89	15:55
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5A

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

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID: C1441 BFB Injection Date: 3/31/89

Instrument ID.: EXTRC BFB Injection Time: 8:58

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.5
75	30.0 - 60.0% of mass 95	45.5
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.1
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	85.6
175	5.0 - 9.0% of mass 174	6.0 (7.0)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.6 (95.3)1
177	5.0 - 9.0% of mass 176	5.8 (7.0)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD50		C1443	3/31/89	10:54
2	VBLK01	SOIL BLANK	C1444	3/31/89	13:28
3	EBQ18	RAS0552	C1445	3/31/89	14:37
4	EBQ18MSD	RAS0552	C1447	3/31/89	16:33
5	EBQ18MS	RAS0552	C1448	3/31/89	17:14
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5A

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

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID: C1449 BFB Injection Date: 4/ 3/89

Instrument ID.: EXTRC BFB Injection Time: 7:48

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.6
75	30.0 - 60.0% of mass 95	45.4
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	84.4
175	5.0 - 9.0% of mass 174	6.7 (7.9)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.1 (96.1)1
177	5.0 - 9.0% of mass 176	5.8 (7.2)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD50		C1450	4/ 3/89	8:18
2	VBLK02	SOIL BLANK	C1451	4/ 3/89	9:38
3	EBQ20	RAS0553	C1452	4/ 3/89	10:59
4	EBQ21	RAS0554	C1453	4/ 3/89	11:35
5	EBQ22	RAS0555	C1455	4/ 3/89	12:47
6	EBQ23	RAS0556	C1456	4/ 3/89	13:34
7	EBQ25	RAS0558	C1458	4/ 3/89	15:58
8	EBQ24	RAS0557	C1459	4/ 3/89	16:43
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

5A

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

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID: C1460 BFB Injection Date: 4/ 4/89

Instrument ID.: EXTRC BFB Injection Time: 8:22

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) PACK

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.1
75	30.0 - 60.0% of mass 95	45.8
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	82.2
175	5.0 - 9.0% of mass 174	5.6 (6.8)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.5 (99.1)1
177	5.0 - 9.0% of mass 176	5.5 (6.7)2

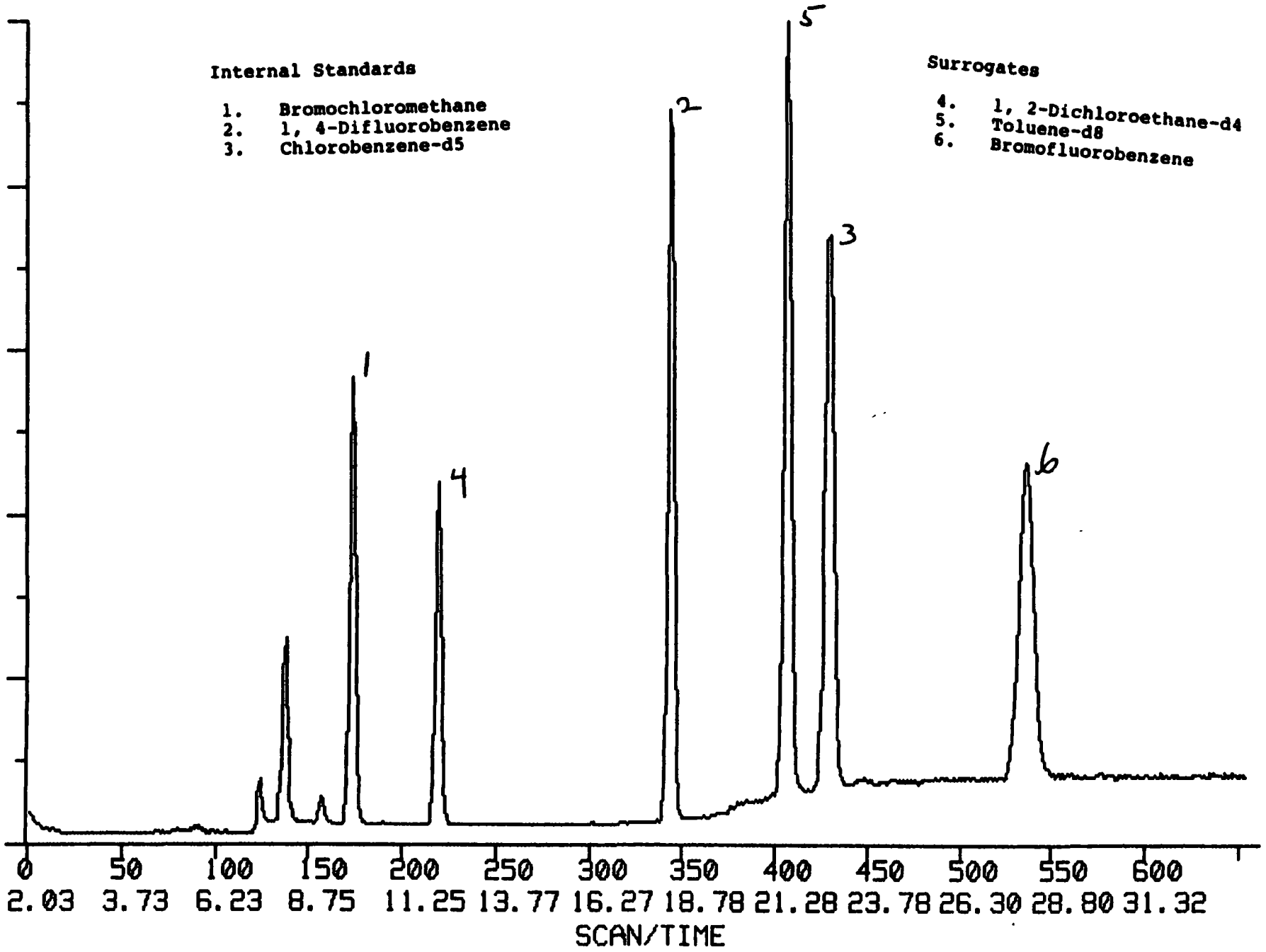
1-Value is % mass 174 2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD50		C1461	4/ 4/89	9:09
2	VBLK03	SOIL BLANK	C1463	4/ 4/89	12:04
3	EBQ26	RAS0559	C1464	4/ 4/89	12:57
4	EBQ27	RAS0560	C1465	4/ 4/89	14:09
5	EBQ28	RAS0561	C1466	4/ 4/89	14:50
6	EBQ29	RAS0562	C1467	4/ 4/89	15:31
7	ZZZZZ	HOLD BLK	C1468	4/ 4/89	16:17
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

VOA
SAMPLE DATA

C1445 EXTRC 1445, RAS0552, EBQ18 CASE 11688, SOIL
31-MAR-89 14:37:39 TIC Maximum current=46671



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1445
Injection time: 31-MAR-89 14:37:39
Comments:
EXTRC 1445, RAS0552, EBQ18 CASE 11688, SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

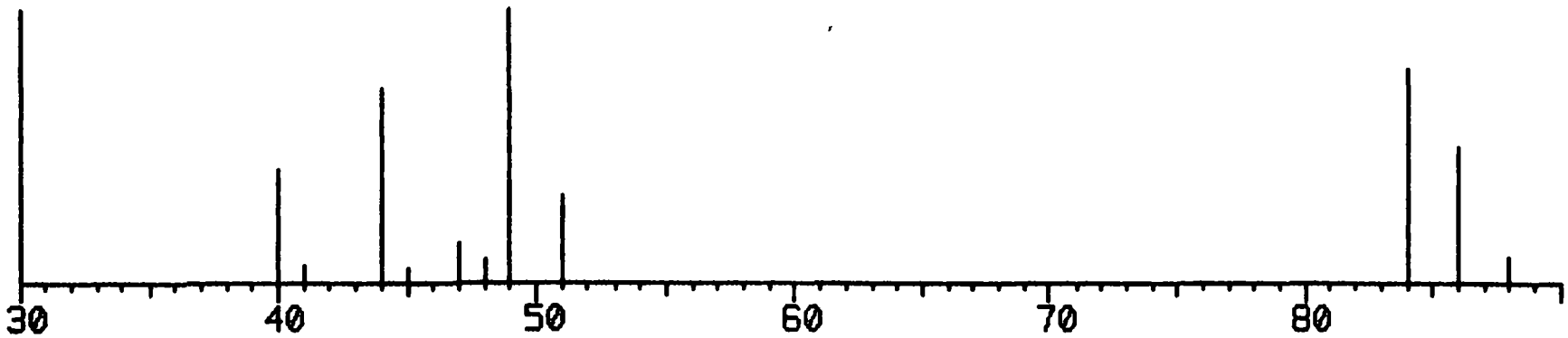
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T	7.45	124	84. / 128.	2451. / 13677.	1	0.82	5.9	NG/UL
6T	8.10	137	43. / 128.	25080. / 13677.	1	1.00	49.8	NG/UL
7T			Not Found					
8T			Not Found					
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T			Not Found					
21T			Not Found					
22T			Not Found					
23T			Not Found					
24T			Not Found					
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T			Not Found					
31T			Not Found					
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T	21.58	406	98. / 117.	71450. / 59700.	3	0.84	50.2	NG/UL
36T	28.05	535	95. / 117.	37565. / 59700.	3	0.96	47.3	NG/UL
37T	12.20	219	65. / 128.	23831. / 13677.	1	0.83	45.8	NG/UL

Extended Quantitation Report

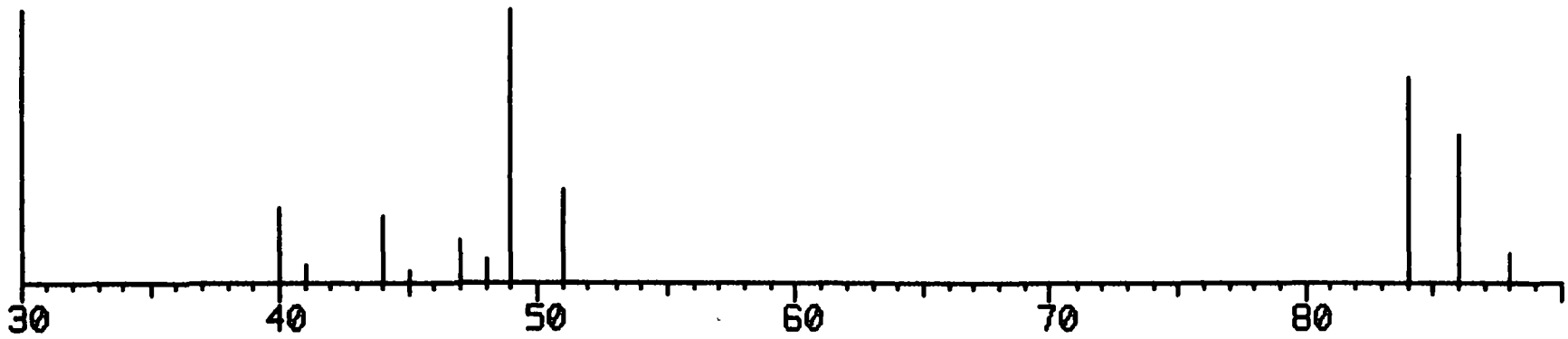
Library used: SYO:[110,10]SOIL
Data file name: SYO:C1445
Injection time: 31-MAR-89 14:37:39

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
5T	0.753	84. / 128.	1.507	5.9	IA BB RF			1.00
6T	0.818	43. / 128.	1.841	49.8	IA BB RF			1.00
35T	0.951	98. / 117.	1.192	50.2	IA BB RF			1.00
36T	1.237	95. / 117.	0.665	47.3	IA BB RF			1.00
37T	1.232	65. / 128.	1.903	45.8	IA BB RF			1.00

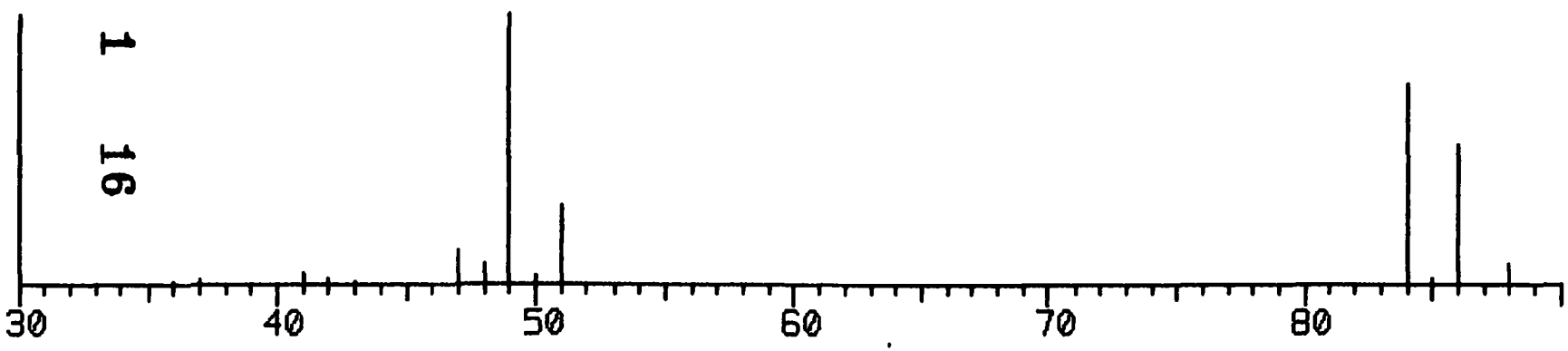
SY0:C1445 EXTRC 1445, RAS0552, EBQ18 CASE 11688 Total
31-MAR-89 14:37:39 Scan 124 Time 7.45 min. 3713
100 % = 896



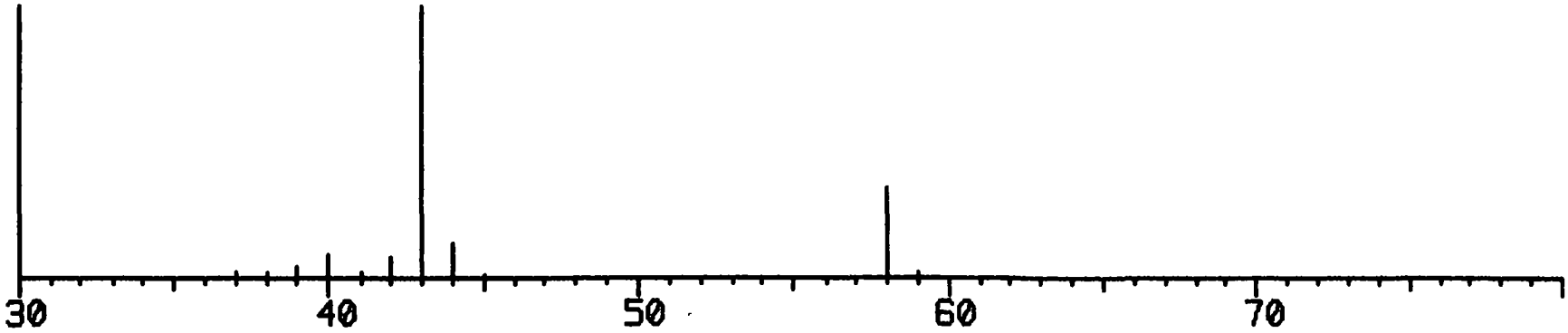
SY0:C1445 EXTRC 1445, RAS0552, EBQ18 CASE 11688 Total
31-MAR-89 14:37:39 Scan 124 Time 7.45 min. 2995
Bkg scans * 1.00 121 100 % = 826



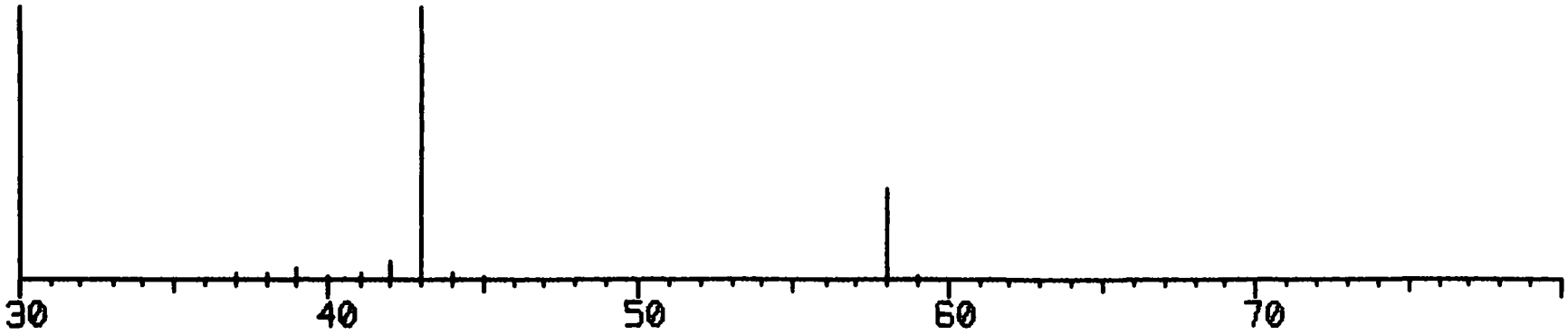
Standard Reference Spectrum: Methylene Chloride



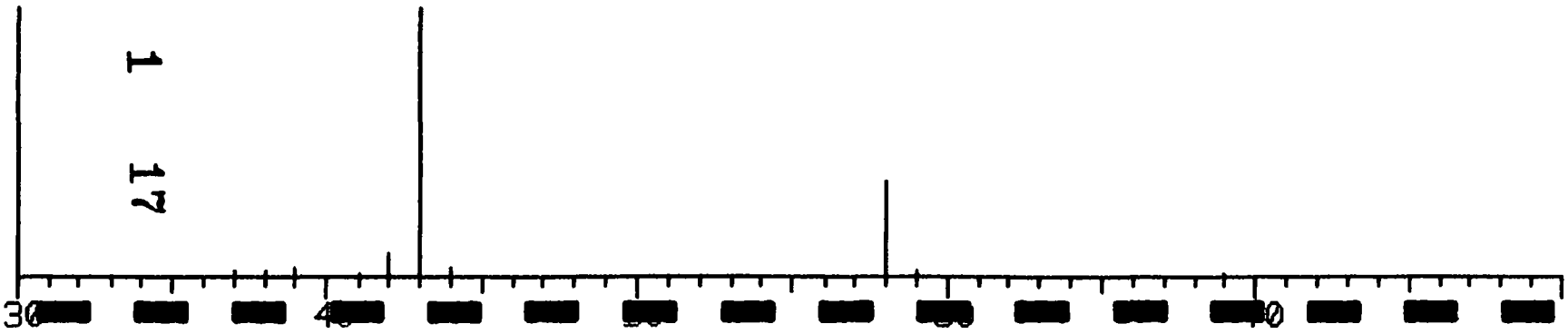
SY0:C1445 EXTRC 1445, RAS0552, EBQ18 CASE Total
31-MAR-89 14:37:39 Scan 137 Time 8.10 min. 11635
100 % = 6784



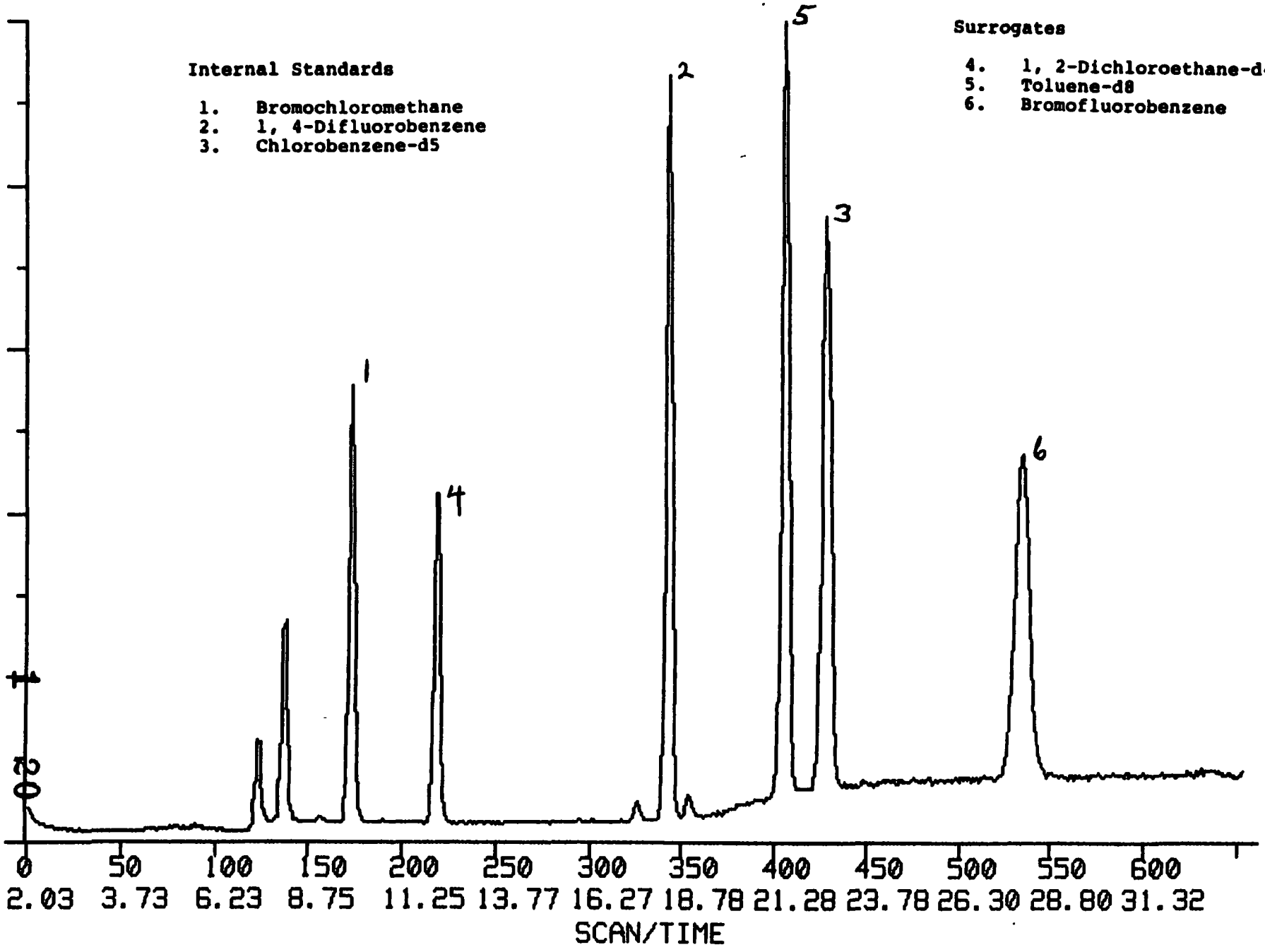
SY0:C1445 EXTRC 1445, RAS0552, EBQ18 CASE Total
31-MAR-89 14:37:39 Scan 137 Time 8.10 min. 10306
Bkg scans * 1.00 133 100 % = 6679



Standard Reference Spectrum: Acetone



C1452 EXTRC 1452, RAS0553, EBQ20 CASE 11688, SOIL
03-APR-89 10:59:18 TIC Maximum current=50829



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1452
Injection time: 03-APR-89 10:59:18
Comments:
EXTRC 1452, RAS0553, EBQ20 CASE 11688, SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

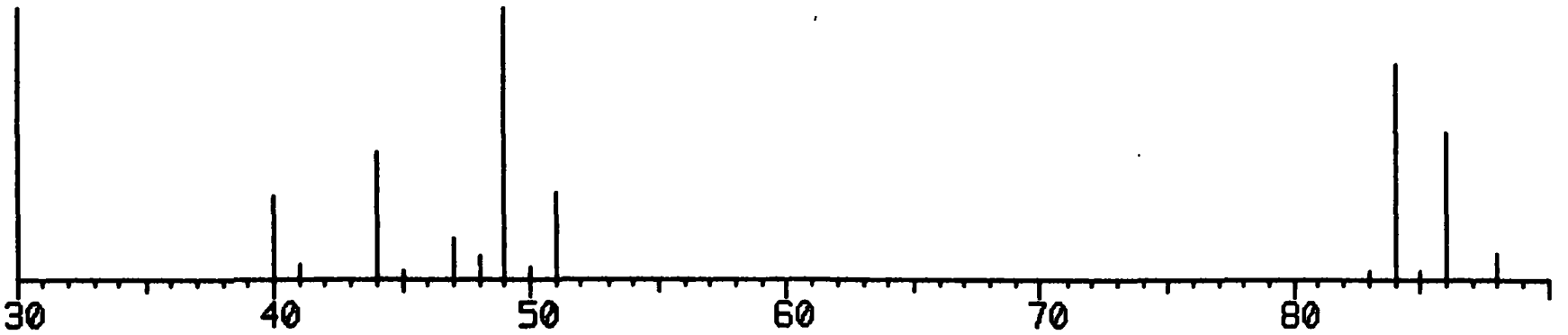
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T	7.40	123	84. / 128.	4641. / 14619.	1	0.82	11.4	NG/UL
6T	8.10	137	43. / 128.	30578. / 14619.	1	1.00	50.6	NG/UL
7T			Not Found					
8T			Not Found					
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T			Not Found					
21T			Not Found					
22T			Not Found					
23T			Not Found					
24T			Not Found					
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T			Not Found					
31T			Not Found					
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T	21.53	405	98. / 117.	78032. / 66500.	3	0.90	50.5	NG/UL
36T	28.00	534	95. / 117.	41680. / 66500.	3	0.96	49.1	NG/UL
37T	12.15	218	65. / 128.	26823. / 14619.	1	0.83	48.1	NG/UL

Extended Quantitation Report

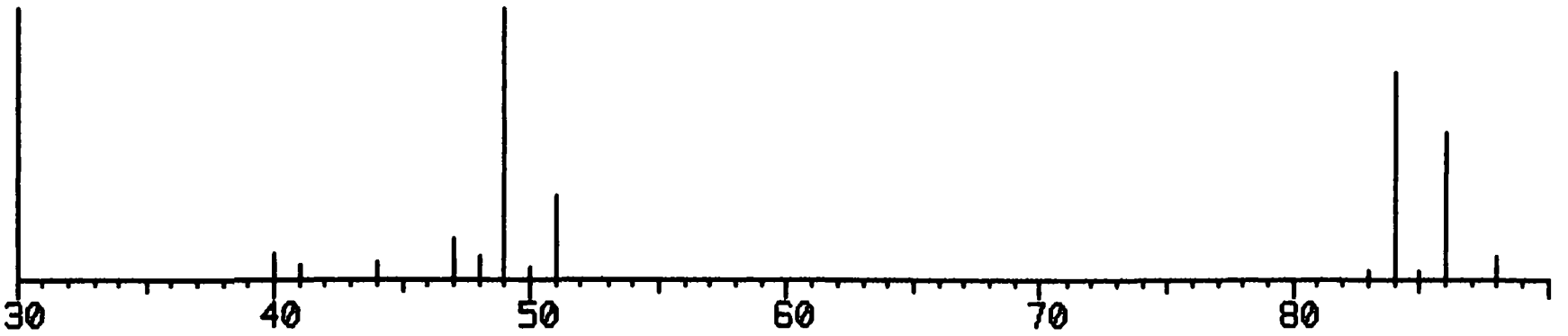
Library used: SY0:[110,10]SOIL
Data file name: SY0:C1452
Injection time: 03-APR-89 10:59:18

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
5T	0.747	84. / 128.	1.391	11.4	IA BB RF			1.00
6T	0.818	43. / 128.	2.066	50.6	IA BB RF			1.00
35T	0.949	98. / 117.	1.161	50.5	IA BB RF			1.00
36T	1.235	95. / 117.	0.638	49.1	IA BB RF			1.00
37T	1.227	65. / 128.	1.909	48.1	IA BB RF			1.00

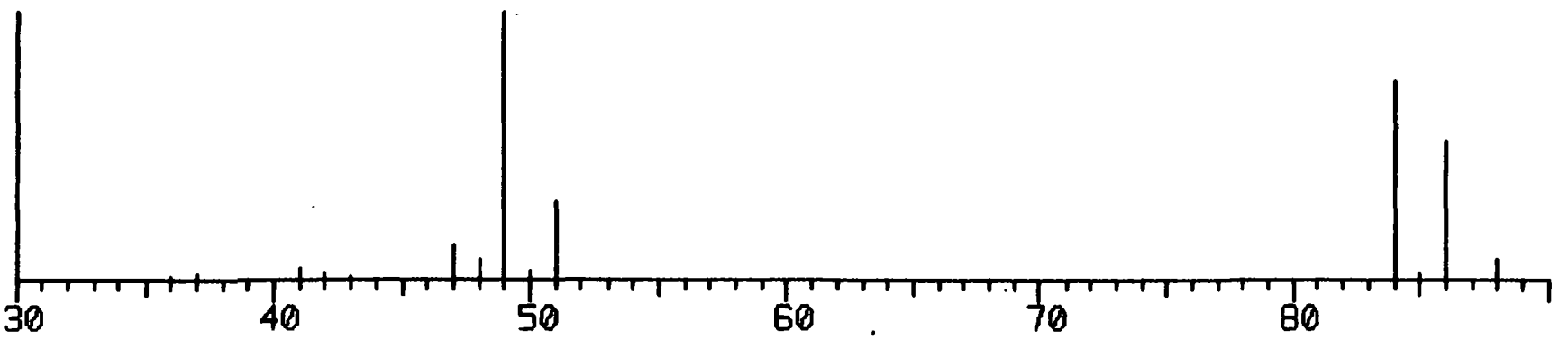
SY0:C1452 EXTRC 1452, RAS0553, EBQ20 CASE 11688 Total
03-APR-89 10:59:18 Scan 123 Time 7.40 min. 6185
100 % = 1584



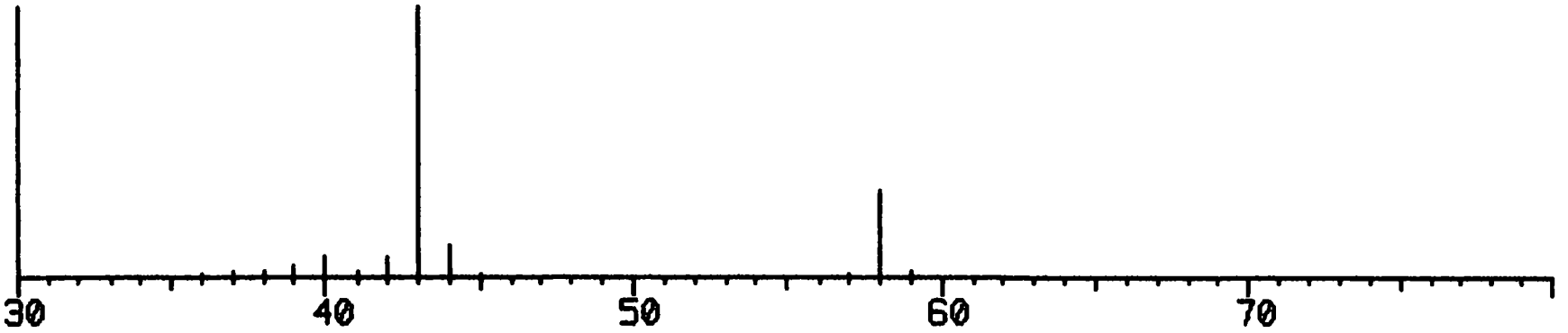
SY0:C1452 EXTRC 1452, RAS0553, EBQ20 CASE 11688 Total
03-APR-89 10:59:18 Scan 123 Time 7.40 min. 5130
Bkg scans * 1.00 120 100 % = 1584



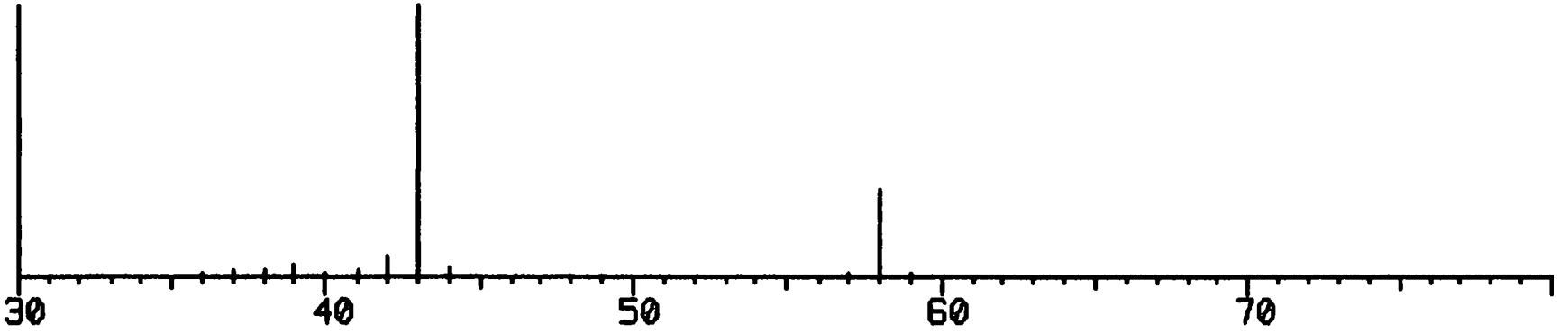
Standard Reference Spectrum: Methylene Chloride



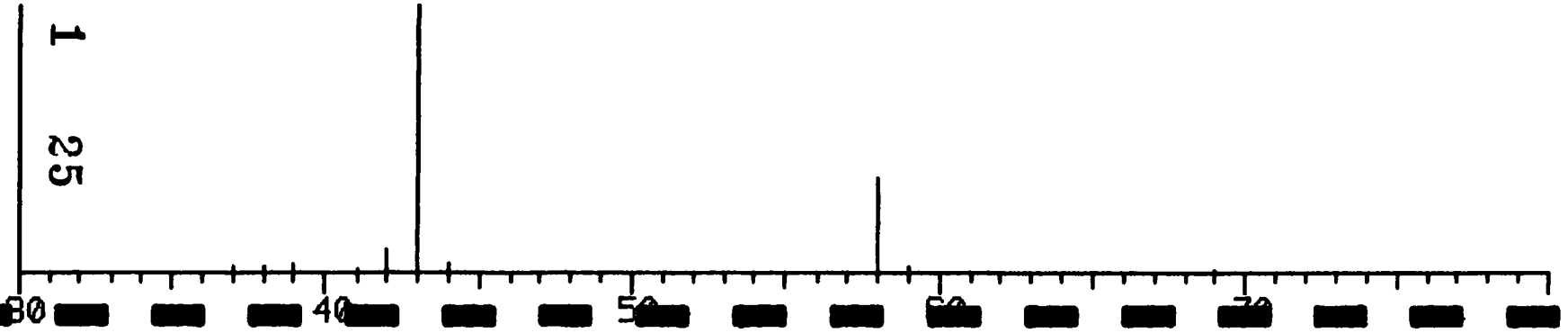
SY0:C1452 EXTRC 1452, RAS0553, EBQ20 CASE 11688 Total
03-APR-89 10:59:18 Scan 137 Time 8.10 min. 13638
100 % = 8016



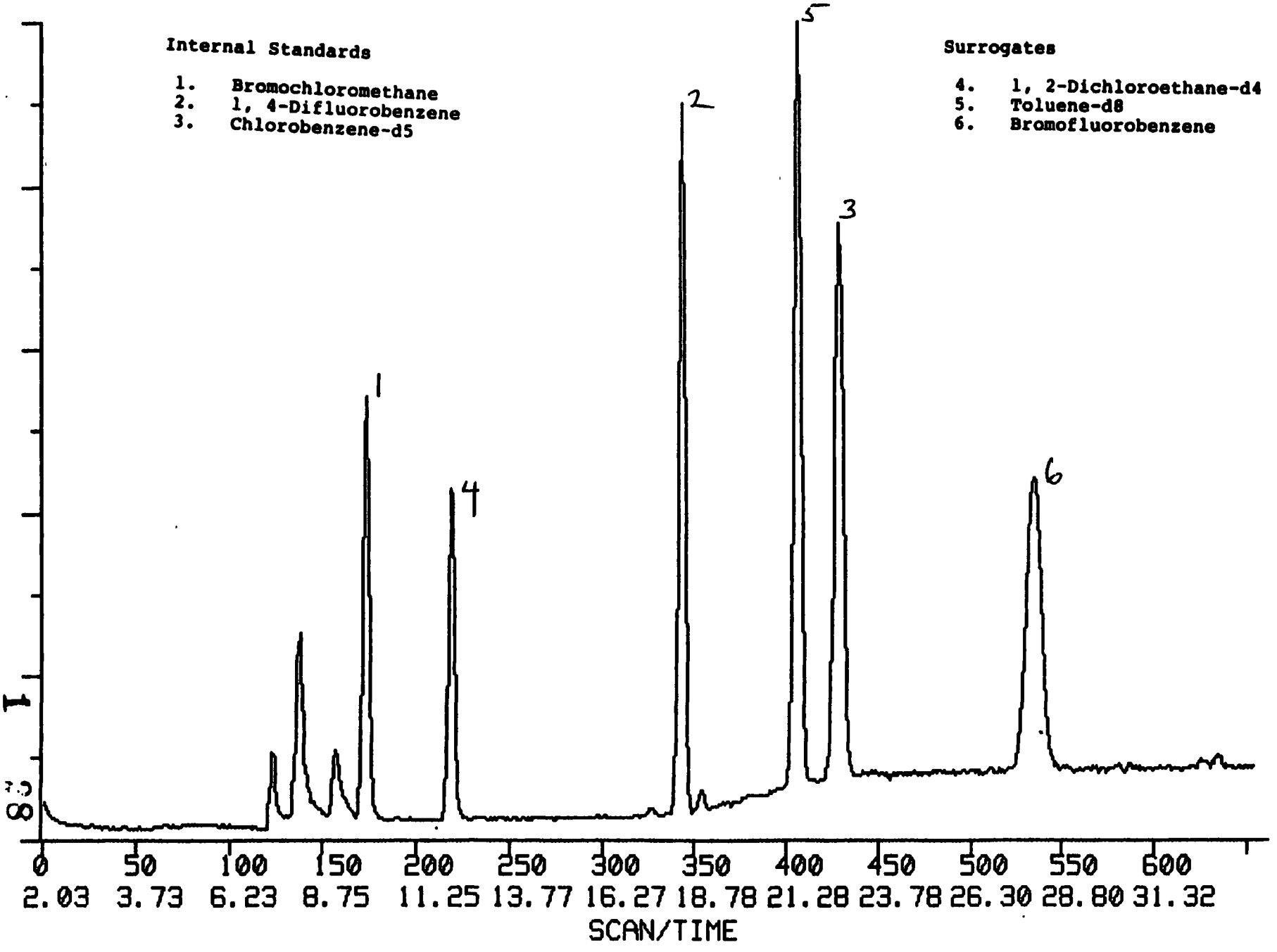
SY0:C1452 EXTRC 1452, RAS0553, EBQ20 CASE 11688 Total
03-APR-89 10:59:18 Scan 137 Time 8.10 min. 12360
Bkg scans * 1.00 132 100 % = 7970



Standard Reference Spectrum: Acetone



C1453 EXTRC 1453, RAS0554, EBQ21 CASE 11688, SOIL
03-APR-89 11:35:58 TIC Maximum current=48848



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1453
Injection time: 03-APR-89 11:35:58
Comments:
EXTRC 1453, RAS0554, EBQ21 CASE 11688, SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

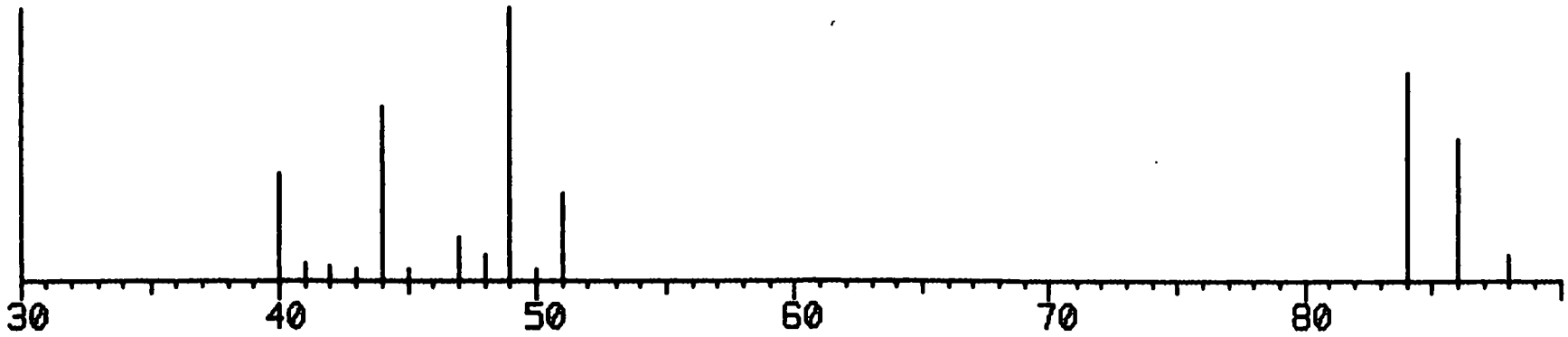
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T	7.40	123	84. / 128.	3491. / 14042.	1	0.86	8.9	NG/UL
6T	8.10	137	43. / 128.	34521. / 14042.	1	1.00	59.5	NG/UL
7T			Not Found					
8T			Not Found					
9T			Not Found					
0T			Not Found					
1T			Not Found					
12T			Not Found					
3T			Not Found					
4T			Not Found					
15T			Not Found					
16T			Not Found					
7T			Not Found					
8T			Not Found					
19T			Not Found					
0T			Not Found					
1T			Not Found					
22T			Not Found					
3T			Not Found					
4T			Not Found					
25T			Not Found					
26T			Not Found					
7T			Not Found					
8T			Not Found					
29T			Not Found					
0T			Not Found					
1T			Not Found					
32T			Not Found					
3T			Not Found					
4T			Not Found					
35T	21.53	405	98. / 117.	73567. / 62196.	3	0.90	50.9	NG/UL
36T	28.00	534	95. / 117.	38222. / 62196.	3	1.00	48.2	NG/UL
7T	12.15	218	65. / 128.	25819. / 14042.	1	0.83	48.2	NG/UL

Extended Quantitation Report

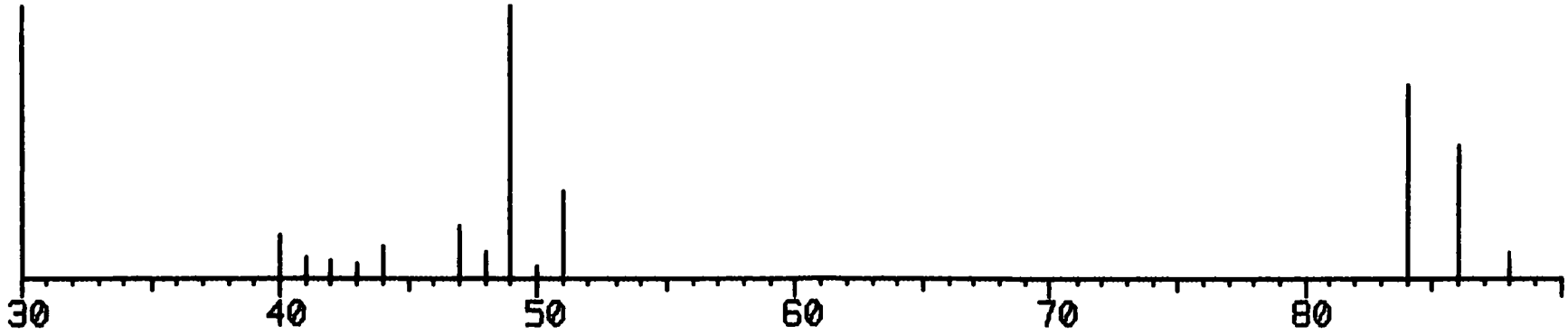
Library used: SYO:[110,10]SOIL
Data file name: SYO:C1453
Injection time: 03-APR-89 11:35:58

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
5T	0.747	84. / 128.	1.391	8.9	IA BB RF			1.00
6T	0.818	43. / 128.	2.066	59.5	IA BB RF			1.00
35T	0.949	98. / 117.	1.161	50.9	IA BB RF			1.00
36T	1.235	95. / 117.	0.638	48.2	IA BB RF			1.00
37T	1.227	65. / 128.	1.909	48.2	IA BB RF			1.00

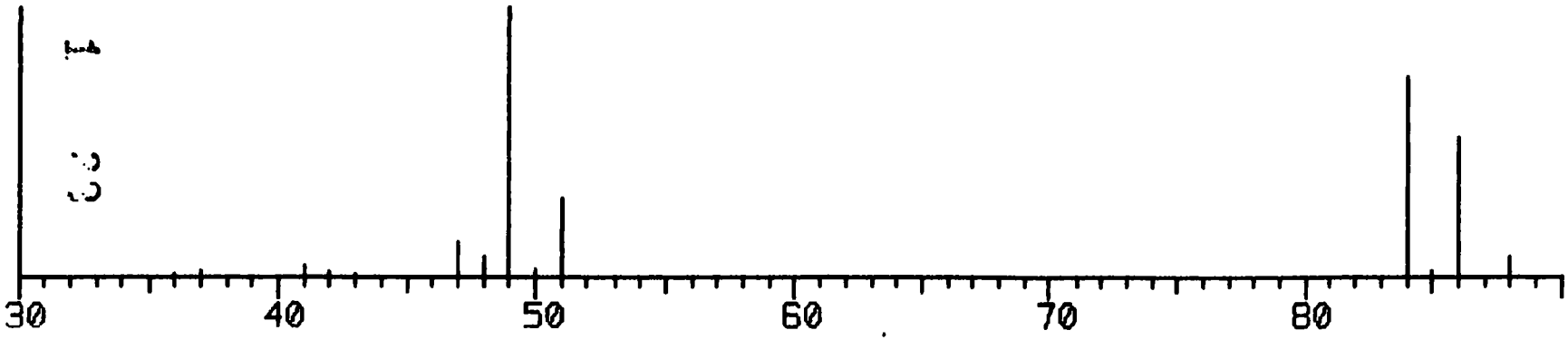
SY0:C1453 EXTRC 1453, RAS0554, EBQ21 CASE 11688 Total
03-APR-89 11:35:58 Scan 123 Time 7.40 min. 5221
100 % = 1248



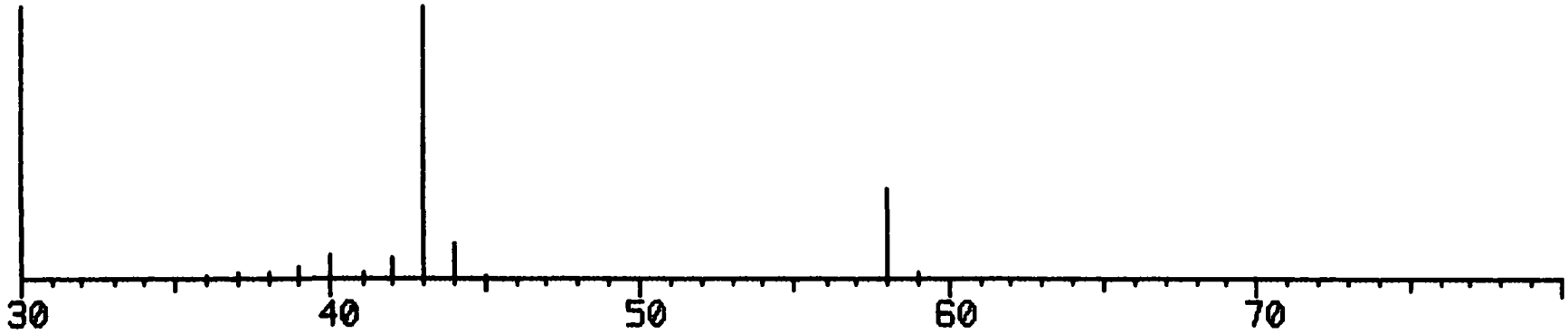
SY0:C1453 EXTRC 1453, RAS0554, EBQ21 CASE 11688 Total
03-APR-89 11:35:58 Scan 123 Time 7.40 min. 3510
Bkg scans * 1.00 121 100 % = 1024



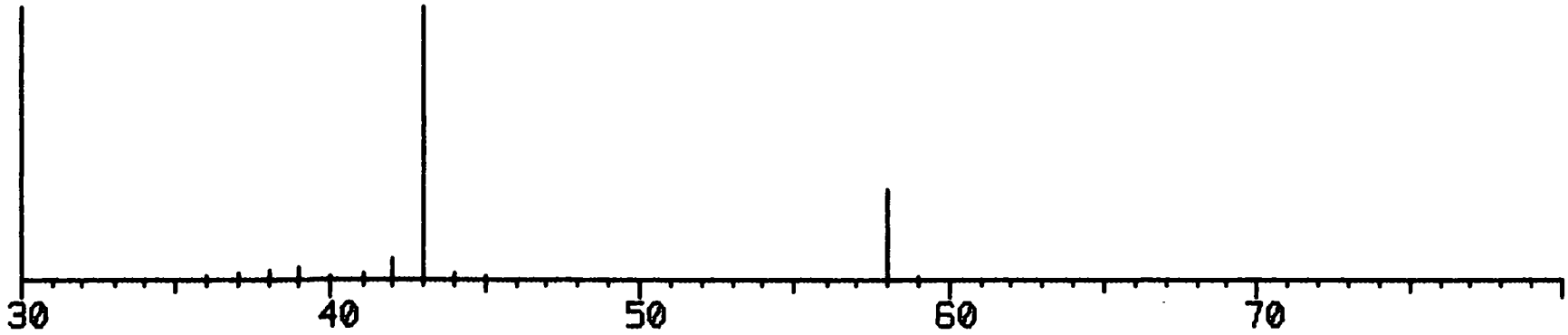
Standard Reference Spectrum: Methylene Chloride



SY0:C1453 EXTRC 1453, RAS0554, EBQ21 CASE 11688 Total
03-APR-89 11:35:58 Scan 137 Time 8.10 min. 12310
100 % = 7088



SY0:C1453 EXTRC 1453, RAS0554, EBQ21 CASE 11688 Total
03-APR-89 11:35:58 Scan 137 Time 8.10 min. 10978
Bkg scans * 1.00 132 100 % = 7043



Standard Reference Spectrum: Acetone

N[redacted]ER[redacted]Fo[redacted]ard[redacted]ib[redacted]y [redacted]ar[redacted] [redacted] [redacted] [redacted] [redacted] [redacted] [redacted]IC[redacted] 35[redacted] [redacted] [redacted] [redacted]

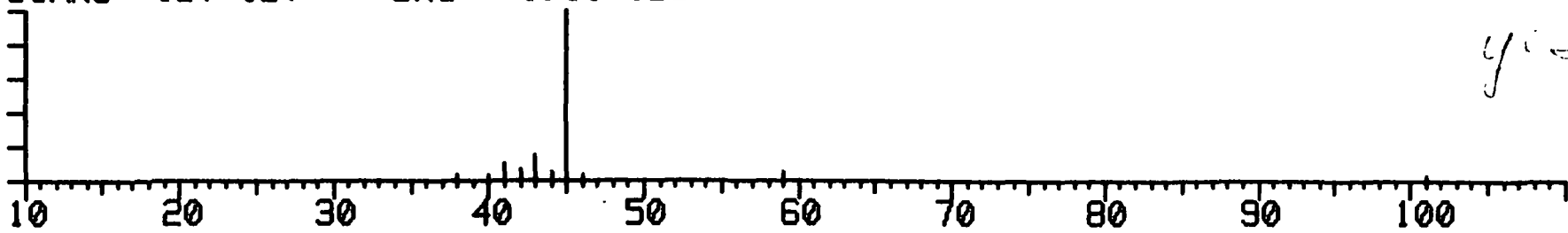
Injection Date: 03-APR-89 Time: 11:35:58 100% = 2694

Filename: SY0:C1453

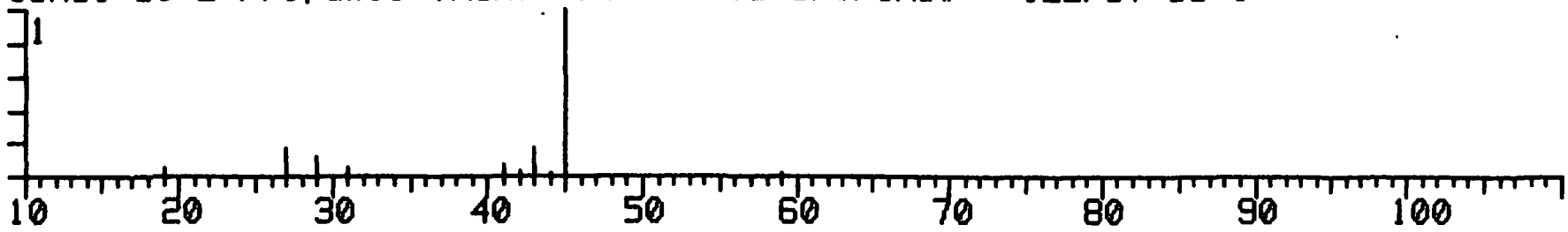
Comments:

EXTRC 1453, RAS0554, EBQ21 CASE 11688

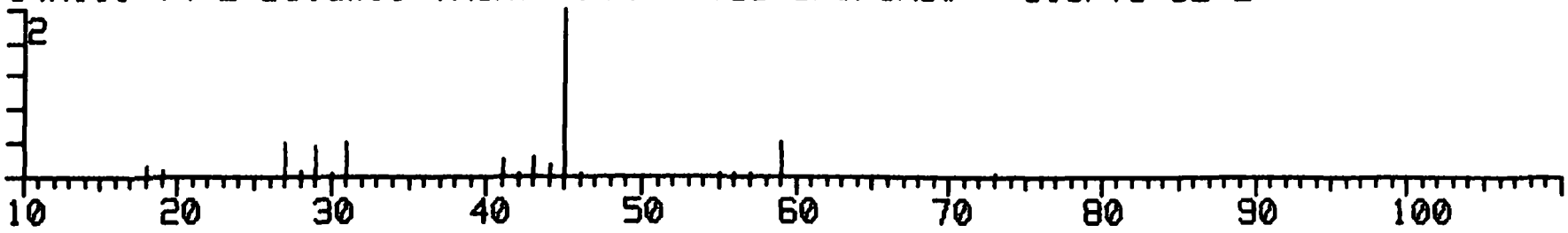
SCANS: 157-157 BKG * 1.00 153



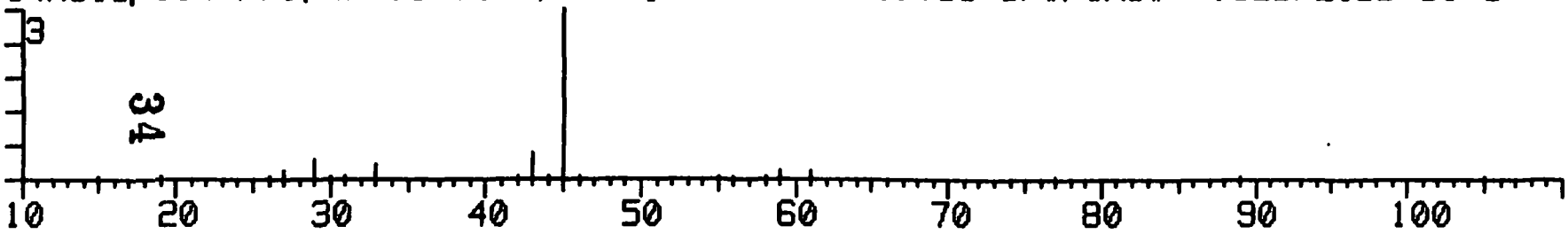
C3H8O 60 2-Propanol (ACN) Fit 0.878 SP#/CAS# 122/67-63-0



C4H10O 74 2-Butanol (ACN) Fit 0.786 SP#/CAS# 319/78-92-2



C4H8O3 104 Propanoic acid, 2-hydrox Fit 0.763 SP#/CAS# 1625/2155-30-8



34

Peak Areas from TIC Chromatogram

Data File is SYO:C1453
Injection date: 03-APR-89 11:35:58

#	Crest	Retn time	Type	Left limit	Right limit	Raw area	Rel. area(%)	Est. conc	Std
1	157	9.10	VV	-4	11	28047.	2.68	14.25	1
2	385	20.53	BB	-15	5	22324.	2.13	~~6.94~~	2

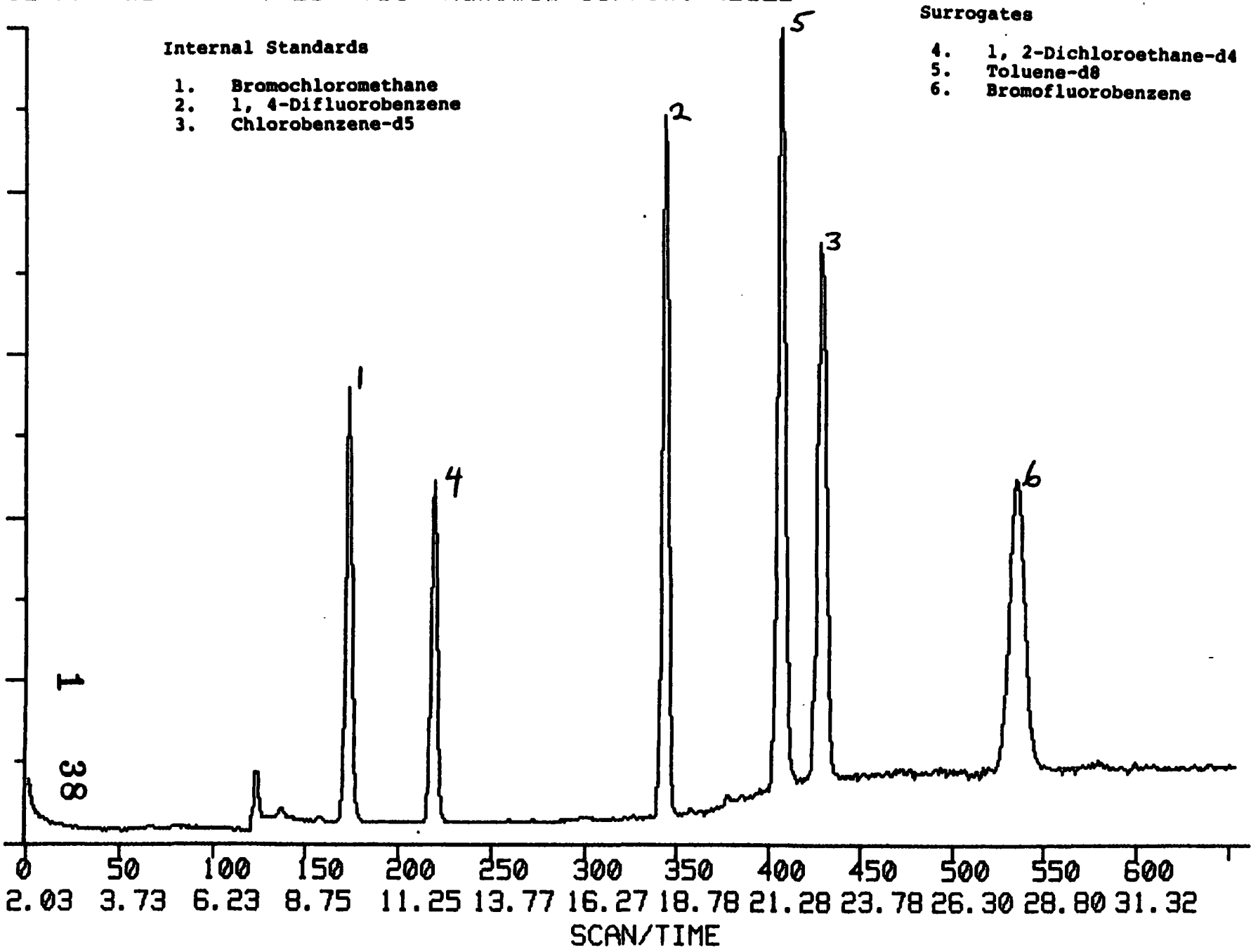
NO
DRJ 4-5-89

TIC areas for associated internal standards:

Std.	Area	Conc.
1	98415.	50.
2	160785.	50.

TIC = 1

C1455 EXTRC 1455, RAS0555, EBQ22 CASE 11688 SOIL
03-APR-89 12:47:26 TIC Maximum current=45925



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1455
Injection time: 03-APR-89 12:47:26
Comments:
EXTRC 1455, RAS0555, EBQ22 CASE 11688 SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

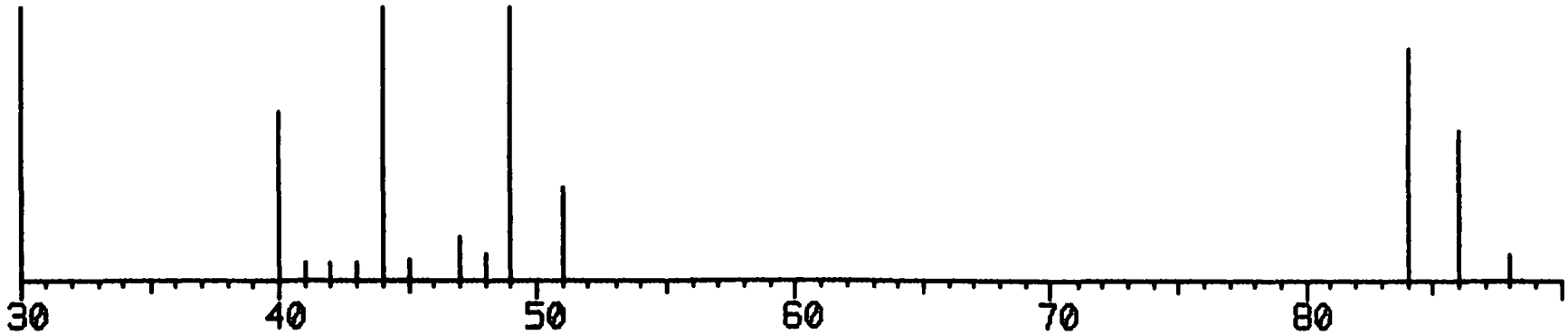
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T	7.40	123	84. / 128.	2304. / 13338.	1	0.75	6.2	NG/UL
6T			Not Found					
7T			Not Found					
8T			Not Found					
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T			Not Found					
21T			Not Found					
22T			Not Found					
23T			Not Found					
24T			Not Found					
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T			Not Found					
31T			Not Found					
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T	21.53	405	98. / 117.	69328. / 56705.	3	0.90	52.6	NG/UL
36T	28.05	535	95. / 117.	34569. / 56705.	3	1.00	47.8	NG/UL
37T	12.20	219	65. / 128.	24374. / 13338.	1	0.83	47.9	NG/UL

Extended Quantitation Report

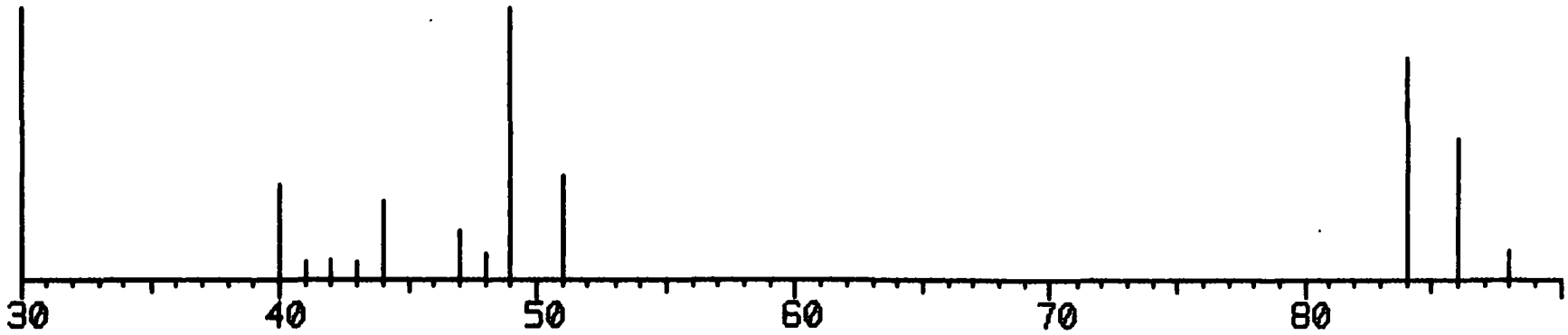
Library used: SYO:[110,10]SOIL
Data file name: SYO:C1455
Injection time: 03-APR-89 12:47:26

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
5T	0.747	84. / 128.	1.391	6.2	IA BB RF			1.00
35T	0.949	98. / 117.	1.161	52.6	IA BB RF			1.00
36T	1.237	95. / 117.	0.638	47.8	IA BB RF			1.00
37T	1.232	65. / 128.	1.909	47.9	IA BB RF			1.00

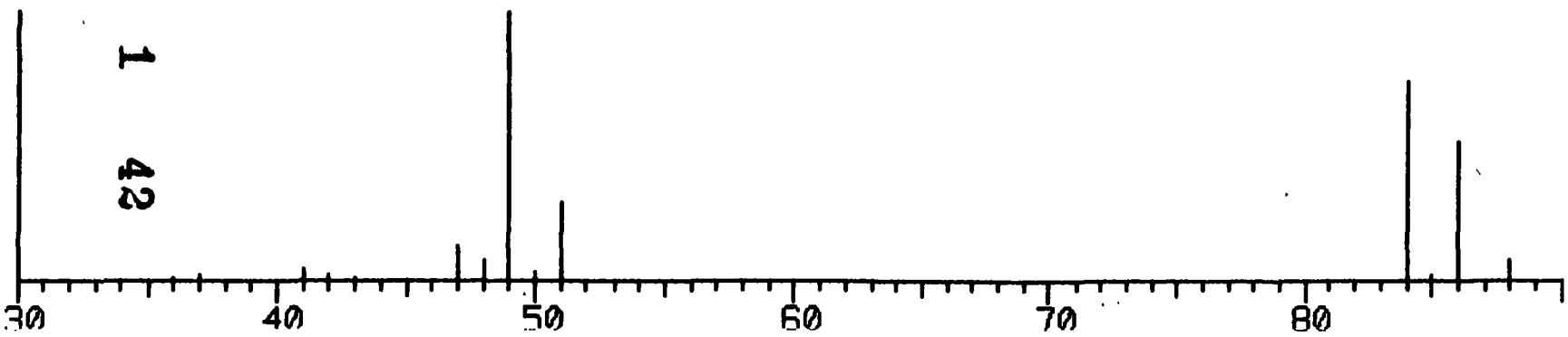
SY0:C1455 EXTRC 1455, RAS0555, EBQ22 CASE 11688 SOIL Total
03-APR-89 12:47:26 Scan 123 Time 7.40 min. 3957
100 % = 805



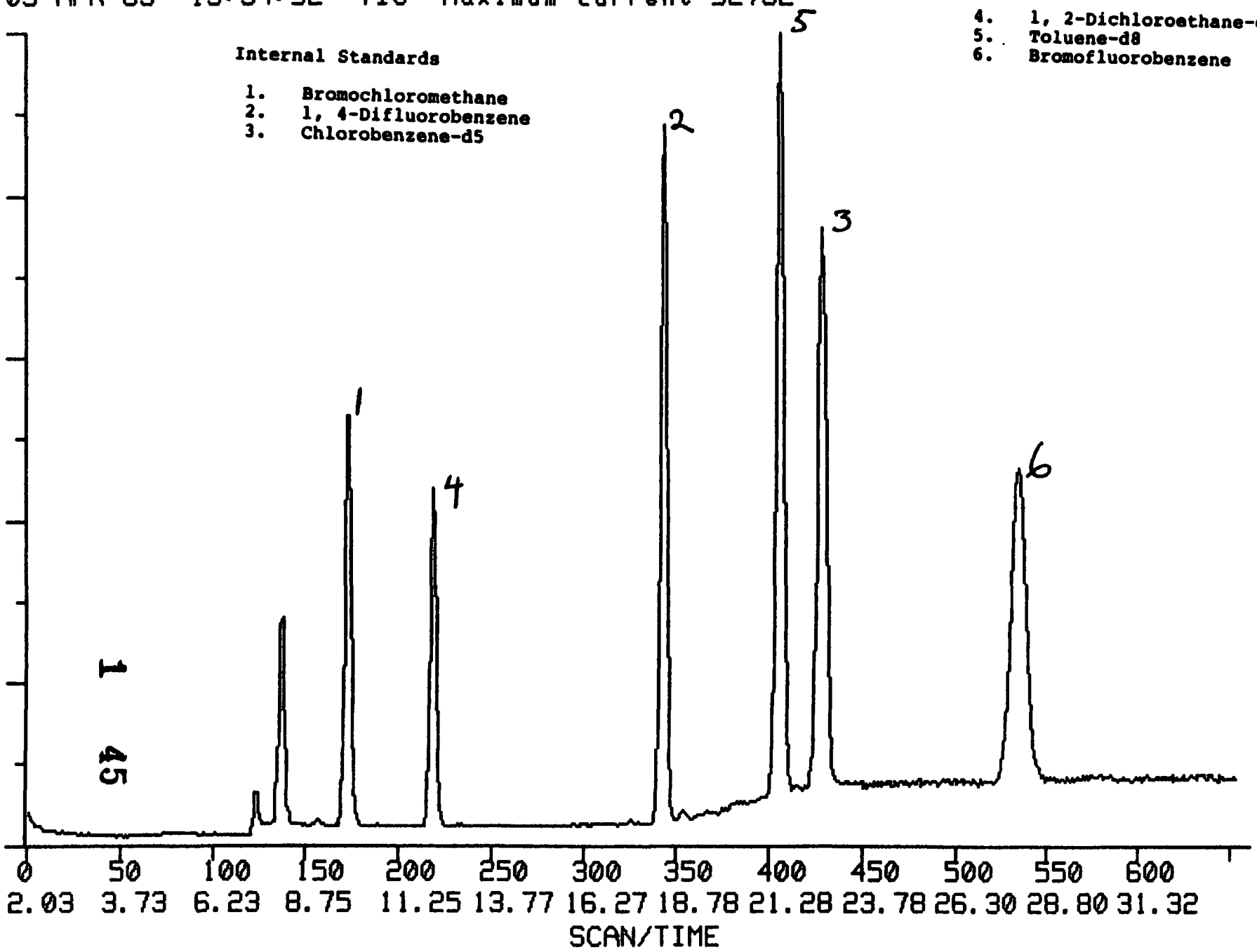
SY0:C1455 EXTRC 1455, RAS0555, EBQ22 CASE 11688 SOIL Total
03-APR-89 12:47:26 Scan 123 Time 7.40 min. 2783
Bkg scans * 1.00 121 100 % = 703



Standard Reference Spectrum: Methylene Chloride



C1456 EXTRC 1456, RAS0556, EBQ23, CASE 11688, SOIL
03-APR-89 13:34:52 TIC Maximum current=52792



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1456
Injection time: 03-APR-89 13:34:52
Comments:
EXTRC 1456, RAS0556, EBQ23, CASE 11688, SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

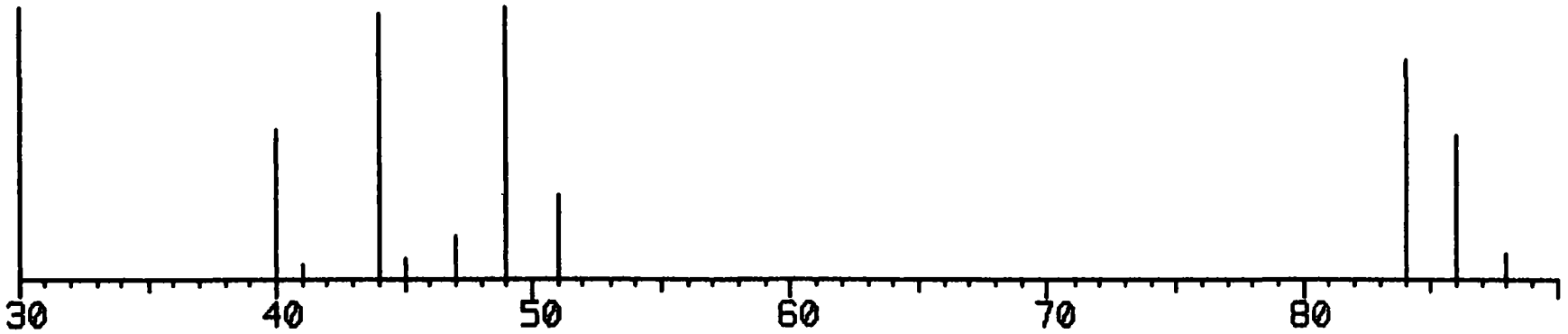
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T	7.40	123	84. / 128.	1913. / 15354.	1	0.66	4.5	NG/UL
6T	8.10	137	43. / 128.	33506. / 15354.	1	1.00	52.8	NG/UL
7T			Not Found					
8T			Not Found					
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T			Not Found					
21T			Not Found					
22T			Not Found					
23T			Not Found					
24T			Not Found					
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T			Not Found					
31T			Not Found					
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T	21.53	405	98. / 117.	80656. / 68028.	3	0.95	51.0	NG/UL
36T	28.00	534	95. / 117.	42803. / 68028.	3	0.96	49.3	NG/UL
37T	12.15	218	65. / 128.	27838. / 15354.	1	0.83	47.5	NG/UL

Extended Quantitation Report

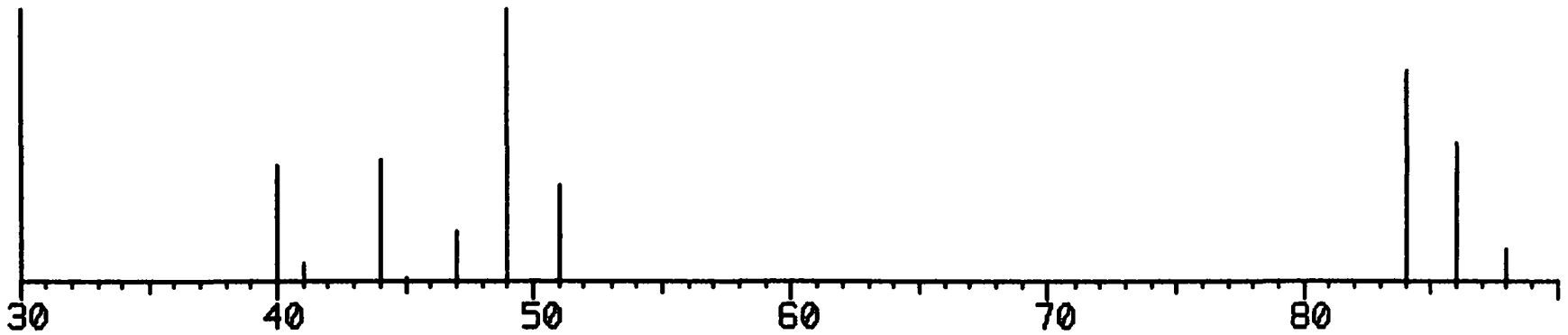
Library used: SYO:[110,10]SOIL
Data file name: SYO:C1456
Injection time: 03-APR-89 13:34:52

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
5T	0.747	84. / 128.	1.391	4.5	IA BB RF			1.00
6T	0.818	43. / 128.	2.066	52.8	IA BB RF			1.00
35T	0.949	98. / 117.	1.161	51.0	IA BB RF			1.00
36T	1.235	95. / 117.	0.638	49.3	IA BB RF			1.00
37T	1.227	65. / 128.	1.909	47.5	IA BB RF			1.00

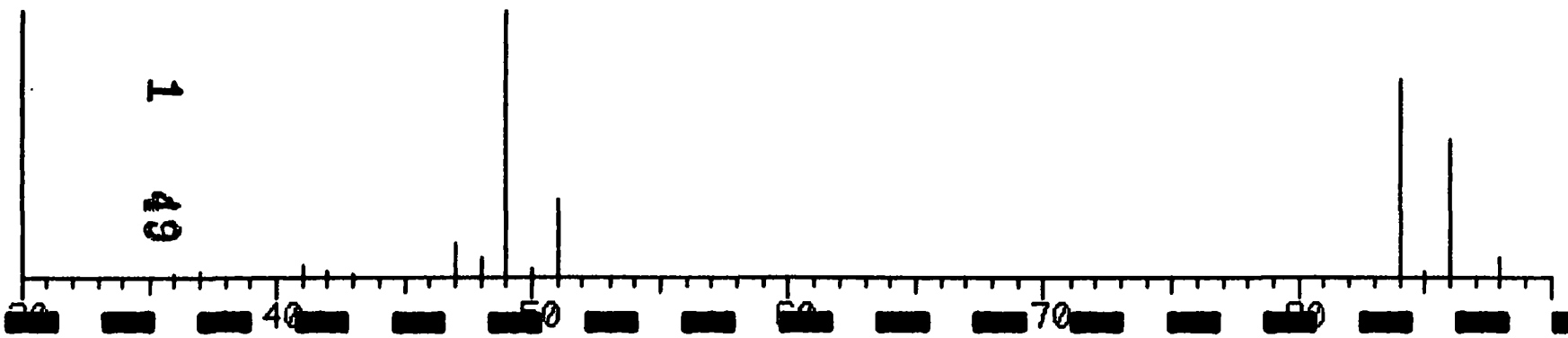
SY0:C1456 EXTRC 1456, RAS0556, EBQ23 CASE 11688 SOIL Total
03-APR-89 13:34:52 Scan 123 Time 7.40 min. 3471
100 % = 763



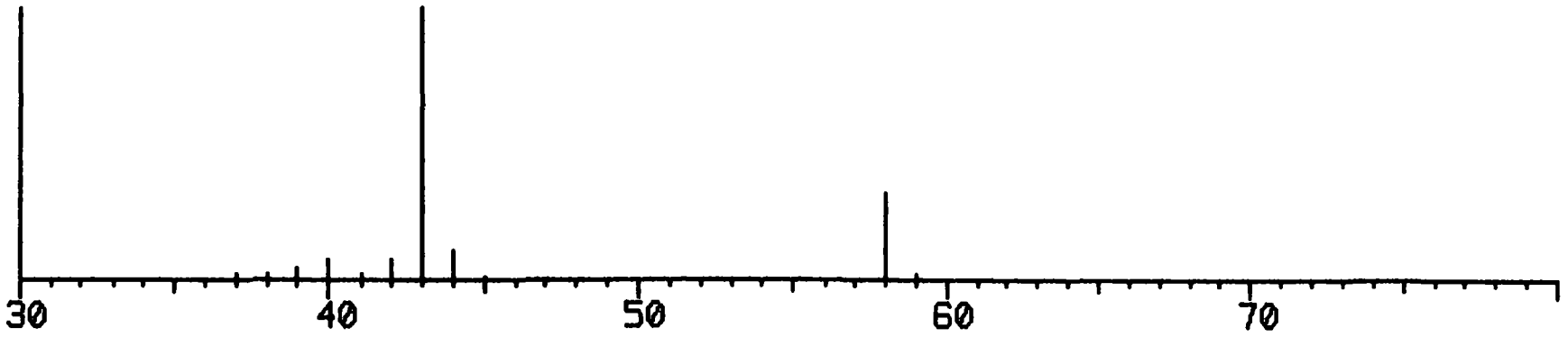
SY0:C1456 EXTRC 1456, RAS0556, EBQ23 CASE 11688 SOIL Total
03-APR-89 13:34:52 Scan 123 Time 7.40 min. 2558
Bkg scans * 1.00 121 100 % = 662



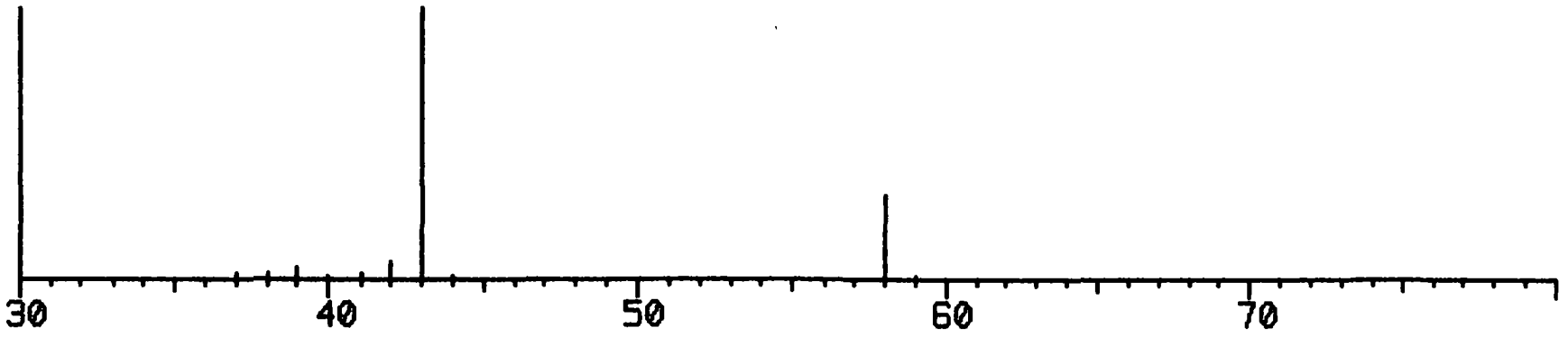
Standard Reference Spectrum: Methylene Chloride



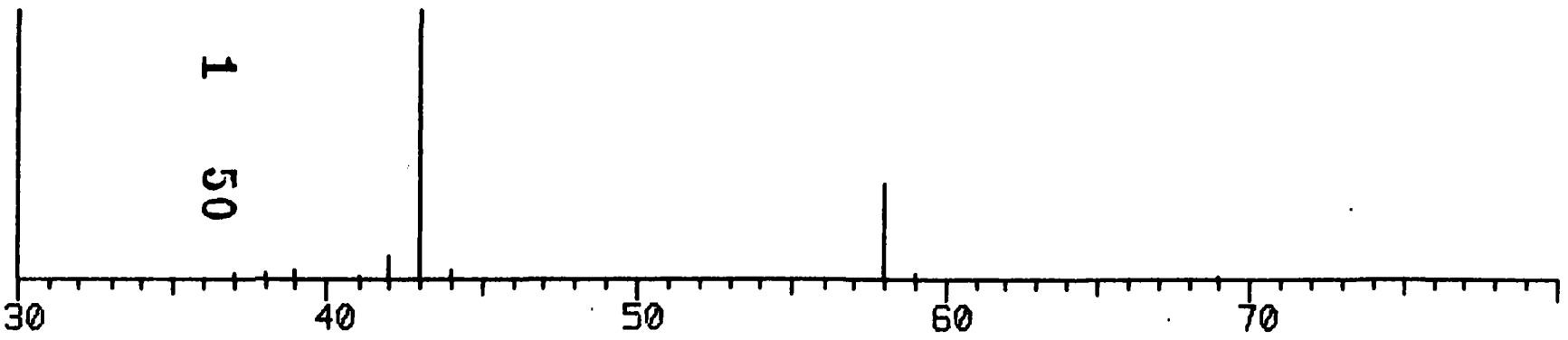
SY0:C1456 EXTRC 1456, RAS0556, EBQ23 CASE 11688 Total
03-APR-89 13:34:52 Scan 137 Time 8.10 min. 14817
100 % = 8848



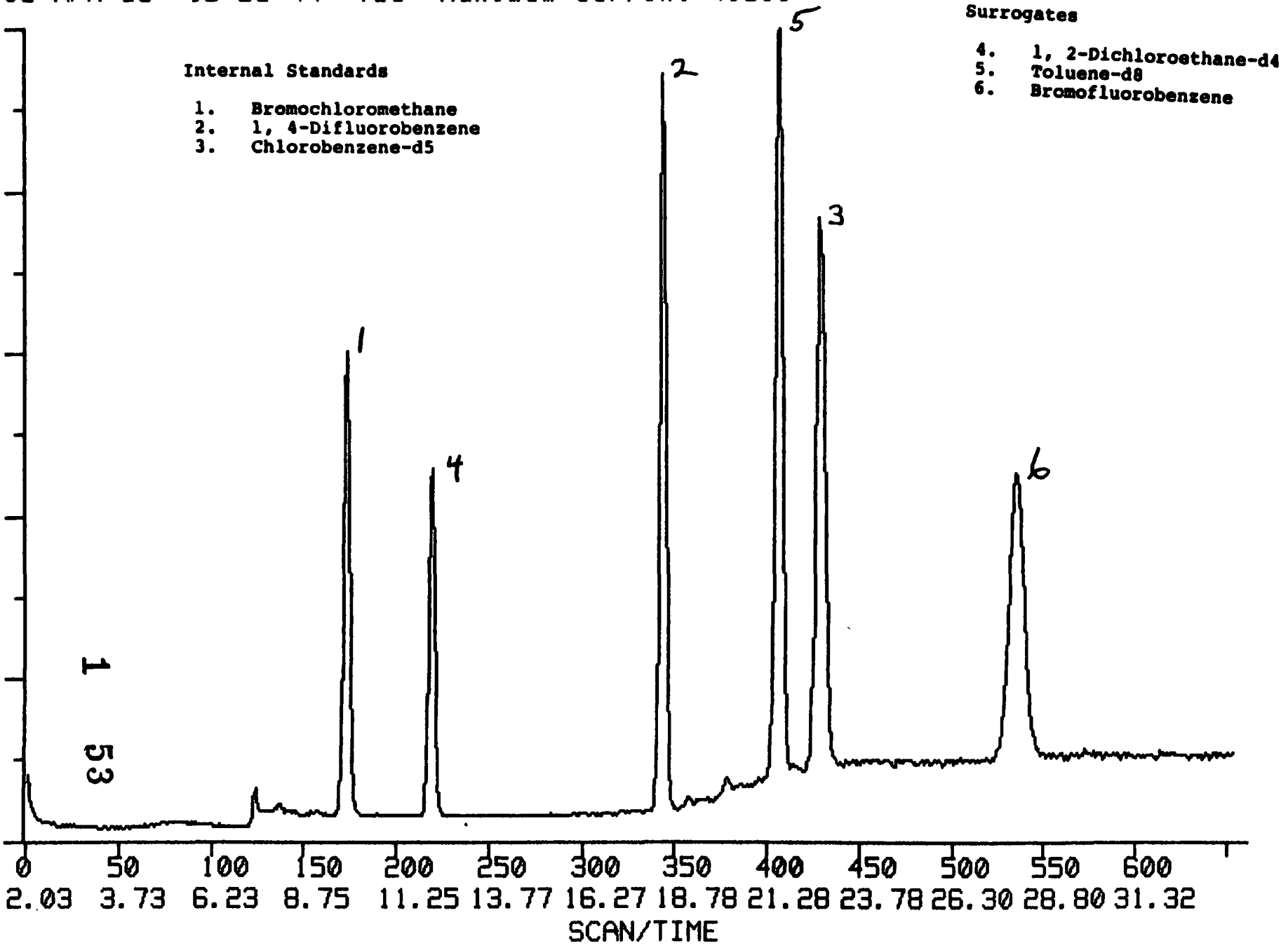
SY0:C1456 EXTRC 1456, RAS0556, EBQ23 CASE 11688 Total
03-APR-89 13:34:52 Scan 137 Time 8.10 min. 13370
Bkg scans * 1.00 132 100 % = 8795



Standard Reference Spectrum: Acetone



C1458 EXTRC 1458, RAS0558, EBQ25, CASE 11688, SOIL
03-APR-89 15:58:44 TIC Maximum current=41600



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1458
Injection time: 03-APR-89 15:58:44
Comments:
EXTRC 1458, RAS0558, EBQ25 CASE 11688 SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

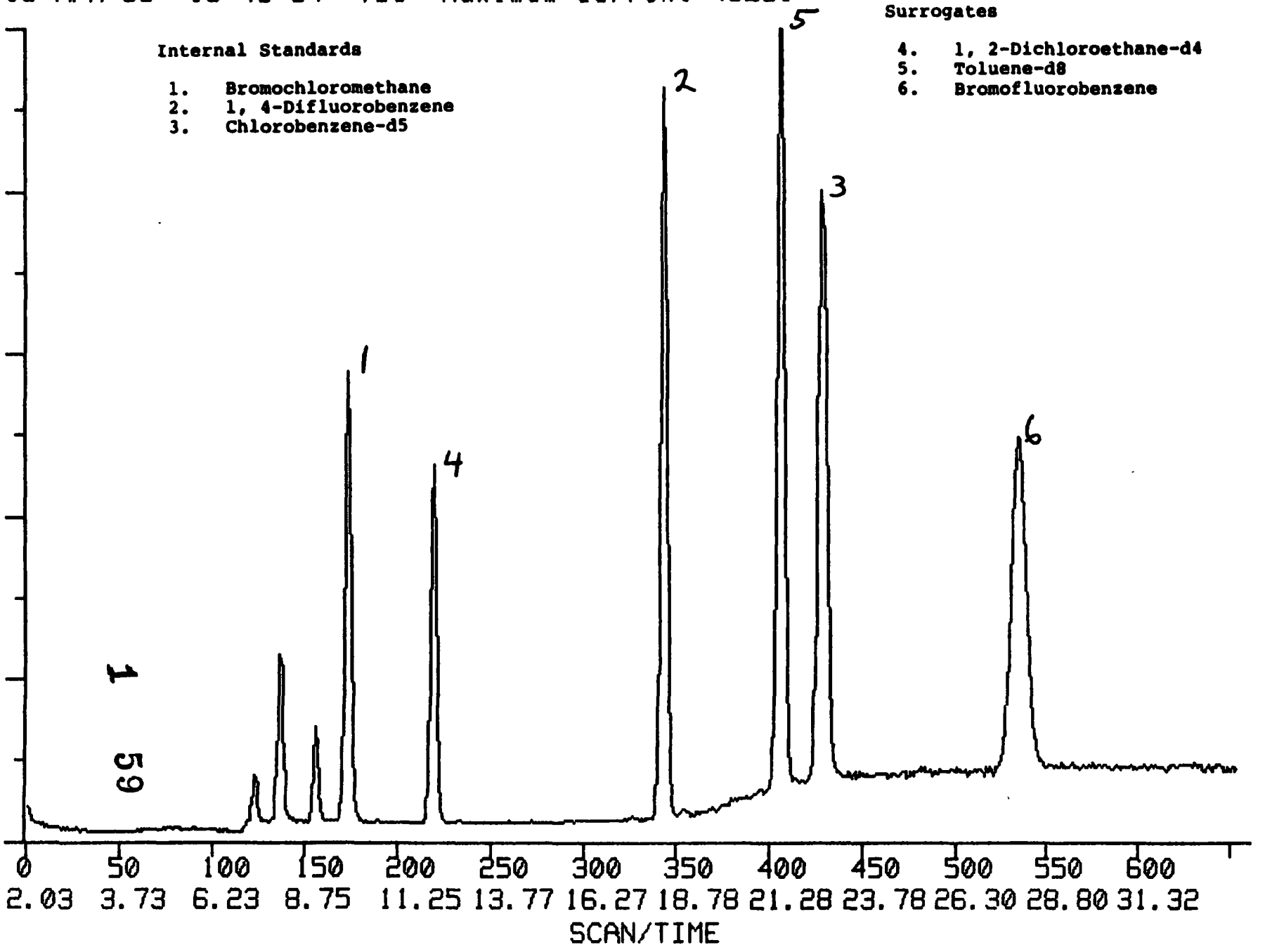
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T			Not Found					
6T			Not Found					
7T			Not Found					
8T			Not Found					
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T			Not Found					
21T			Not Found					
22T			Not Found					
23T			Not Found					
24T			Not Found					
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T			Not Found					
31T			Not Found					
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T	21.53	405	98. / 117.	64243. / 51962.	3	0.90	53.2	NG/UL
36T	28.00	534	95. / 117.	31093. / 51962.	3	0.96	46.9	NG/UL
37T	12.20	219	65. / 128.	23278. / 13064.	1	0.83	46.7	NG/UL

Extended Quantitation Report

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1458
Injection time: 03-APR-89 15:58:44

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
35T	0.949	98. / 117.	1.161	53.2	IA BB RF			1.00
36T	1.235	95. / 117.	0.638	46.9	IA BB RF			1.00
37T	1.232	65. / 128.	1.909	46.7	IA BB RF			1.00

C1459 EXTRC 1459, RAS0557, EBQ24 CASE 11688 SOIL
03-APR-89 16:43:34 TIC Maximum current=49281



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used:- SYO:[110,10]SOIL
Data file name: SYO:C1459
Injection time: 03-APR-89 16:43:34
Comments:
EXTRC 1459, RAS0557, EBQ24 CASE 11688 SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

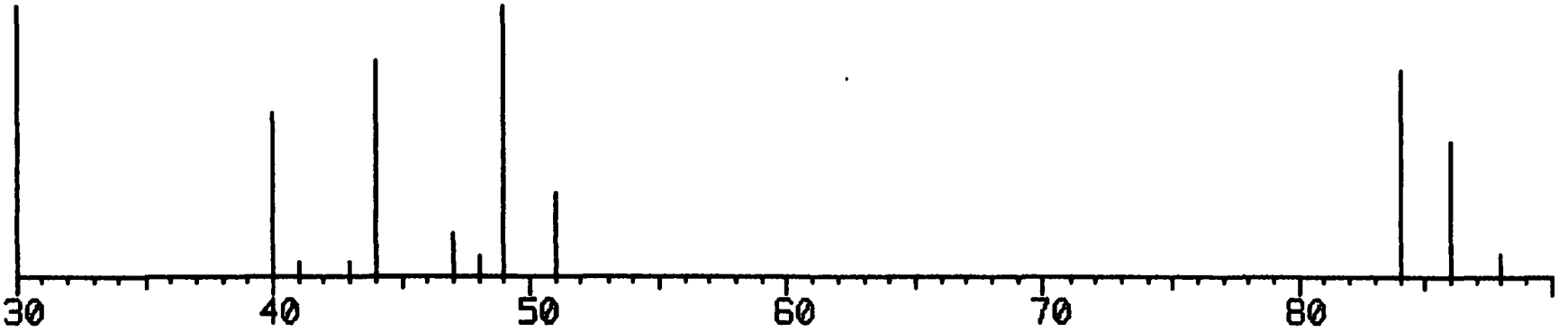
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T	7.40	123	84. / 128.	2471. / 14695.	1	0.86	6.0	NG/UL
6T	8.05	136	43. / 128.	24556. / 14695.	1	1.00	40.4	NG/UL
7T			Not Found					
8T			Not Found					
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T			Not Found					
21T			Not Found					
22T			Not Found					
23T			Not Found					
24T			Not Found					
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T			Not Found					
31T			Not Found					
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T	21.53	405	98. / 117.	77288. / 66533.	3	0.95	50.0	NG/UL
36T	28.00	534	95. / 117.	42249. / 66533.	3	0.87	49.8	NG/UL
37T	12.20	219	65. / 128.	27127. / 14695.	1	0.83	48.4	NG/UL

Extended Quantitation Report

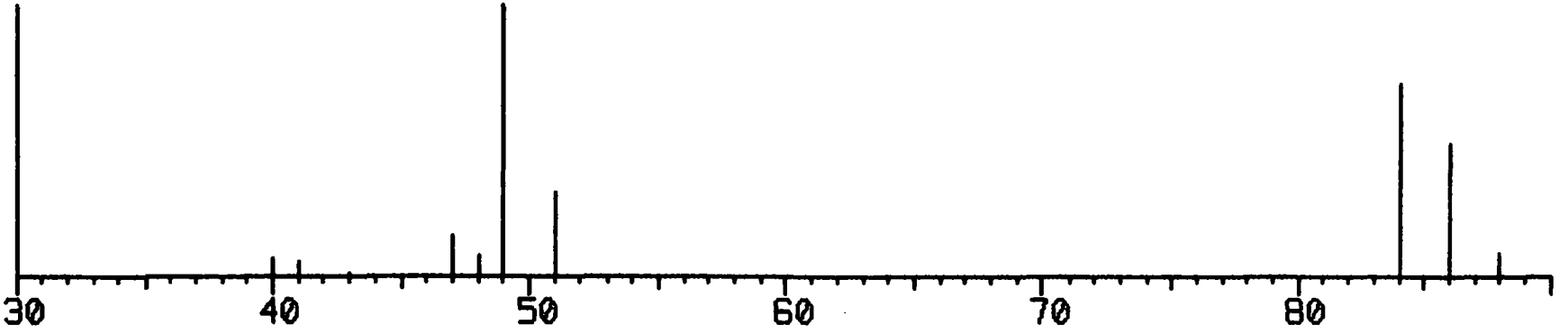
Library used: SYO:[110,10]SOIL
Data file name: SYO:C1459
Injection time: 03-APR-89 16:43:34

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
5T	0.747	84. / 128.	1.391	6.0	IA BB RF			1.00
6T	0.813	43. / 128.	2.066	40.4	IA BB RF			1.00
35T	0.949	98. / 117.	1.161	50.0	IA BB RF			1.00
36T	1.235	95. / 117.	0.638	49.8	IA BB RF			1.00
37T	1.232	65. / 128.	1.909	48.4	IA BB RF			1.00

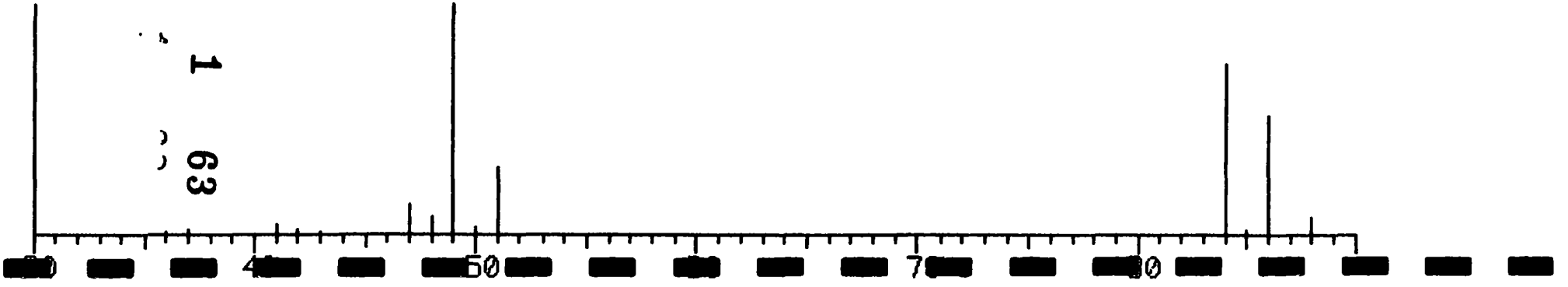
SY0:C1459 EXTRC 1459, RAS0557, EBQ24 CASE 11688 SOIL Total
03-APR-89 16:43:34 Scan 123 Time 7.40 min. 3962
100 % = 907



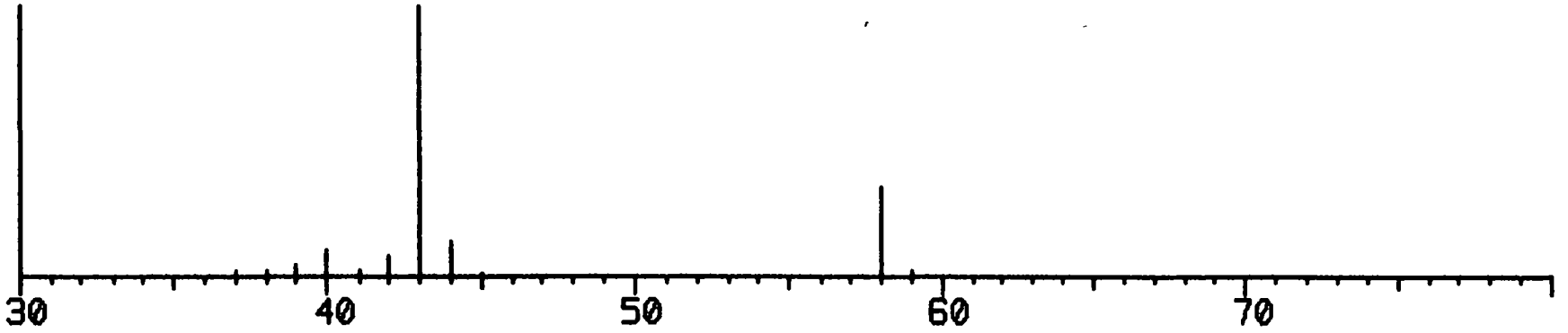
SY0:C1459 EXTRC 1459, RAS0557, EBQ24 CASE 11688 SOIL Total
03-APR-89 16:43:34 Scan 123 Time 7.40 min. 2673
Bkg scans * 1.00 120 100 % = 907



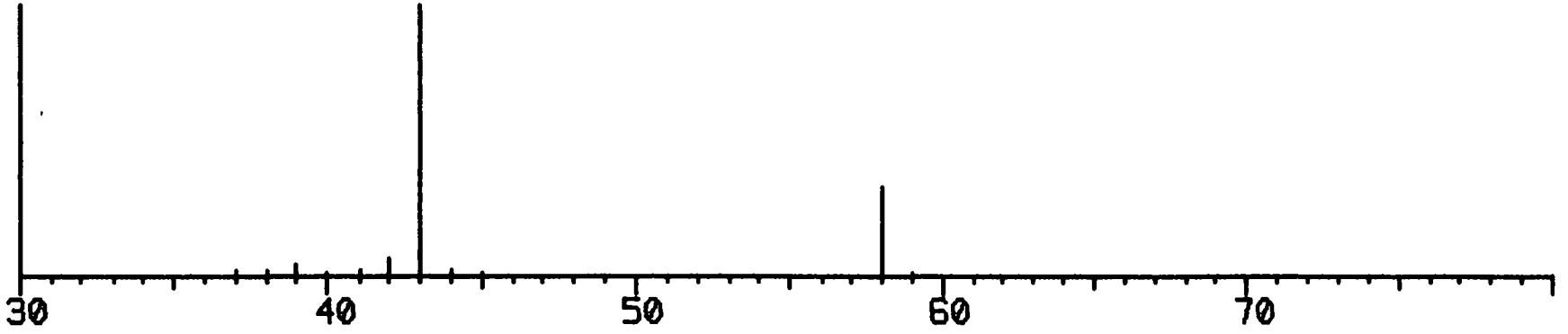
Standard Reference Spectrum: Methylene Chloride



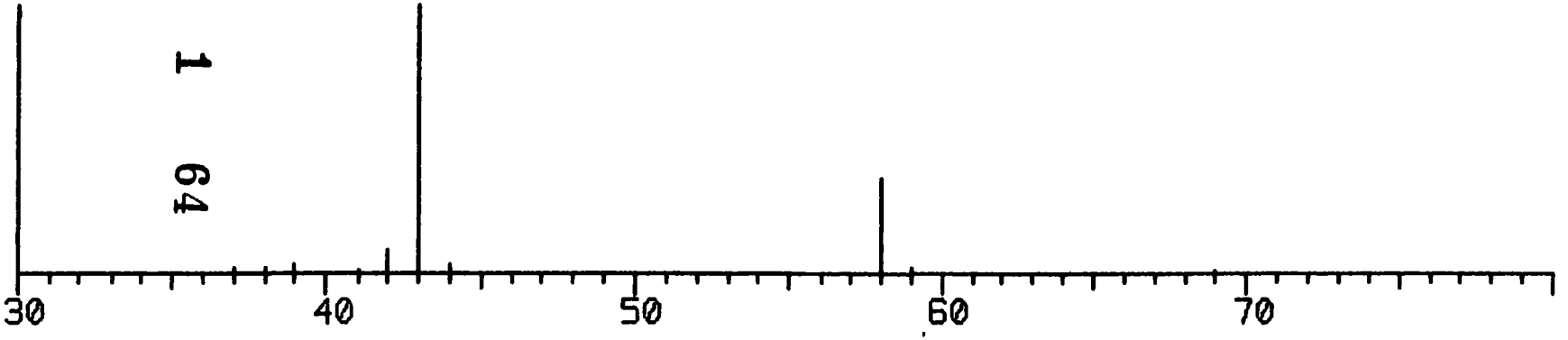
SY0:C1459 EXTRC 1459, RAS0557, EBQ24 CASE 11688 Total
03-APR-89 16:43:34 Scan 136 Time 8.05 min. 11337
100 % = 6560



SY0:C1459 EXTRC 1459, RAS0557, EBQ24 CASE 11688 Total
03-APR-89 16:43:34 Scan 136 Time 8.05 min. 10041
Bkg scans * 1.00 132 100 % = 6511

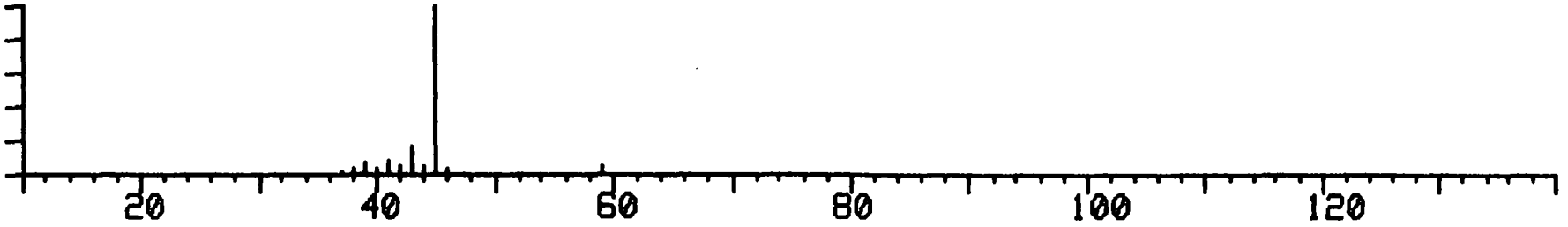


Standard Reference Spectrum: Acetone

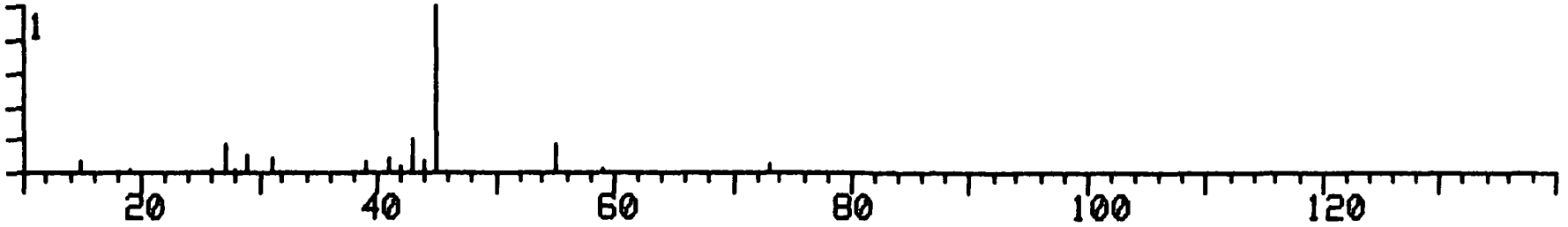


NIH/EPA Forward Library Search TIC = 5748
Injection Date: 03-APR-89 Time: 16:43:34 100% = 3792
Filename: SY0:C1459
Comments:
EXTRC 1459, RAS0557, EBQ24 CASE 11688 SOIL

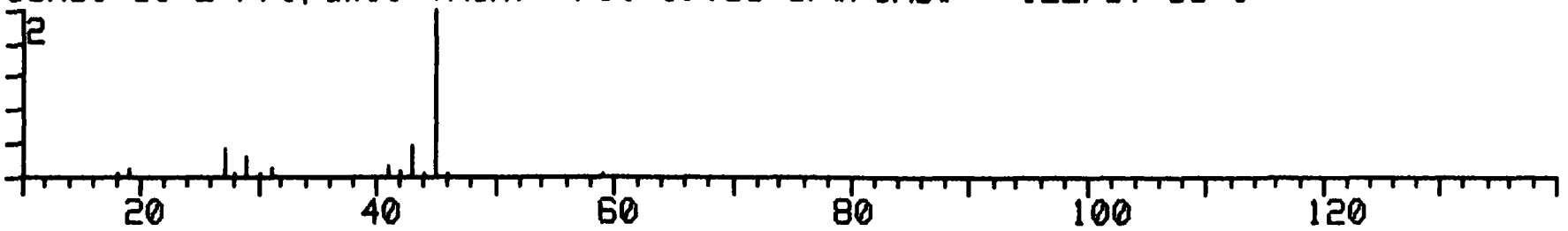
SCANS: 156-156 BKG * 1.00 152



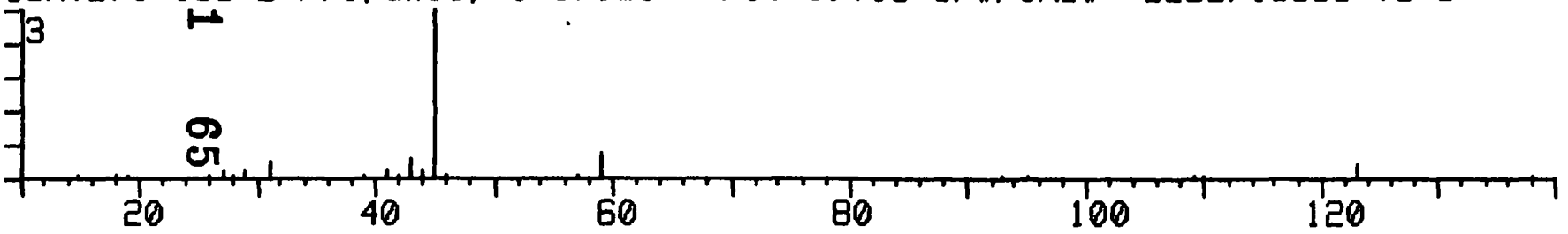
C5H12O 88 2-Pentanol Fit 0.740 SP#/CAS# 782/6032-29-7



C3H8O 60 2-Propanol (ACN) Fit 0.733 SP#/CAS# 122/67-63-0



C3H7BrO 138 2-Propanol, 1-bromo- Fit 0.708 SP#/CAS# 5555/19686-73-8



Peak Areas from TIC Chromatogram

Data File is SYO:C1459
Injection date: 03-APR-89 16:43:34

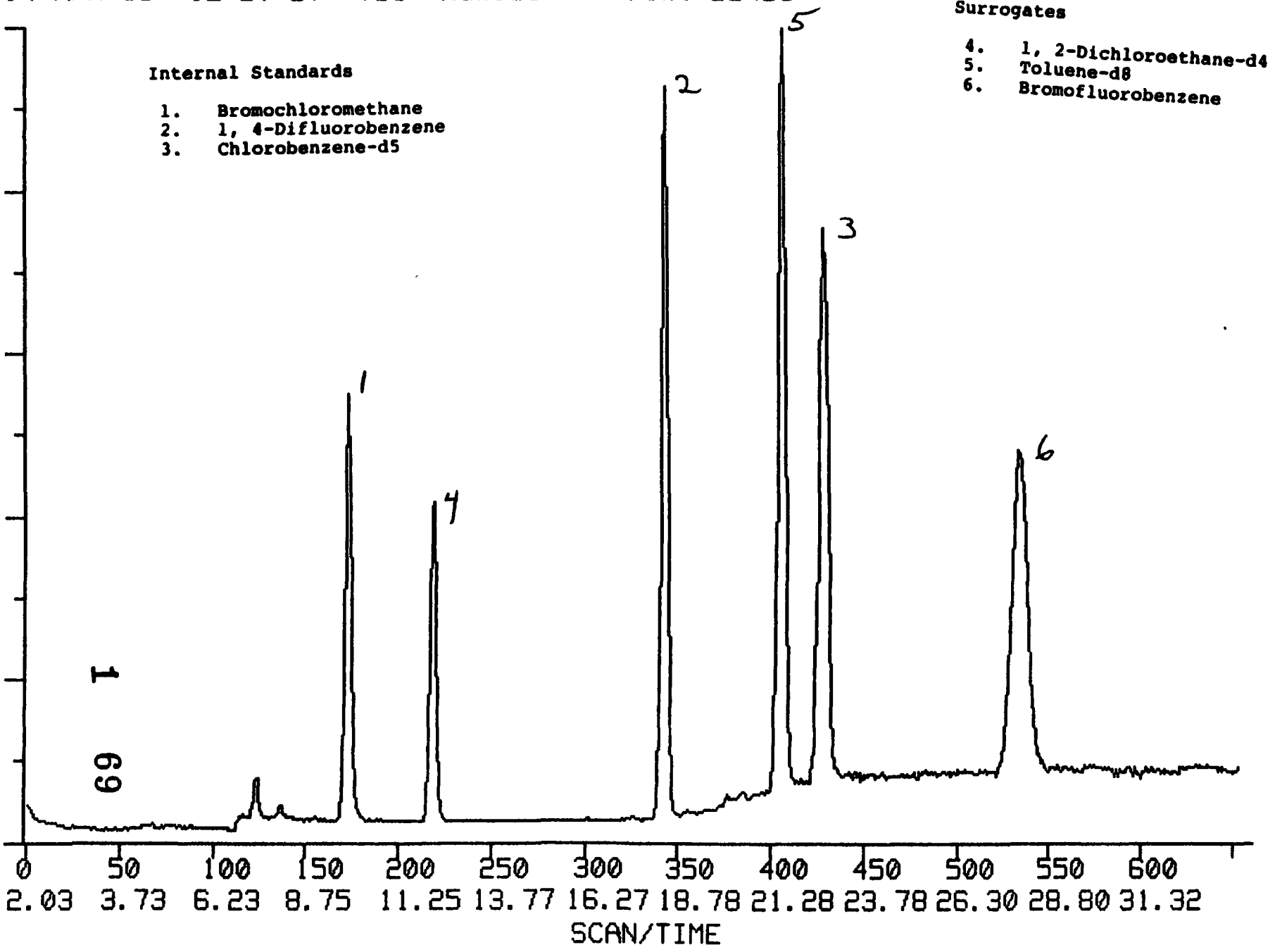
#	Crest	Retn time	Type	Left limit	Right limit	Raw area	Rel. area(%)	Est. conc	Std
1	156	9.05	BB	-4	9	18465.	1.73	9.21	1

TIC areas for associated internal standards:

Std.	Area	Conc.
1	100222.	50.

TIC = 1

C1464 EXTRC 1464, RAS0559, EBQ26 CASE 11688 SOIL
04-APR-89 12:57:57 TIC Maximum current=55458



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1464
Injection time: 04-APR-89 12:57:57
Comments:
EXTRC 1464, RAS0559, EBQ26 CASE 11688 SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

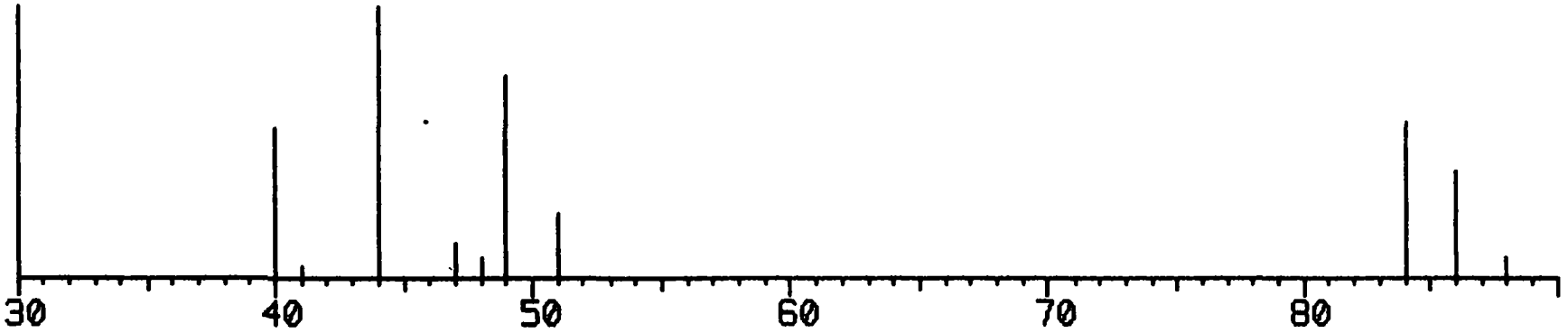
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.63	427			STD	0.94	50.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T	7.40	123	84. / 128.	2398. / 15890.	1	0.86	4.2	NG/UL
6T			Not Found					
7T			Not Found					
8T			Not Found					
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T			Not Found					
21T			Not Found					
22T			Not Found					
23T			Not Found					
24T			Not Found					
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T			Not Found					
31T			Not Found					
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T	21.53	405	98. / 117.	84032. / 71787.	3	0.95	49.4	NG/UL
36T	28.00	534	95. / 117.	44803. / 71787.	3	0.96	48.1	NG/UL
37T	12.20	219	65. / 128.	28836. / 15890.	1	0.83	45.2	NG/UL

Extended Quantitation Report

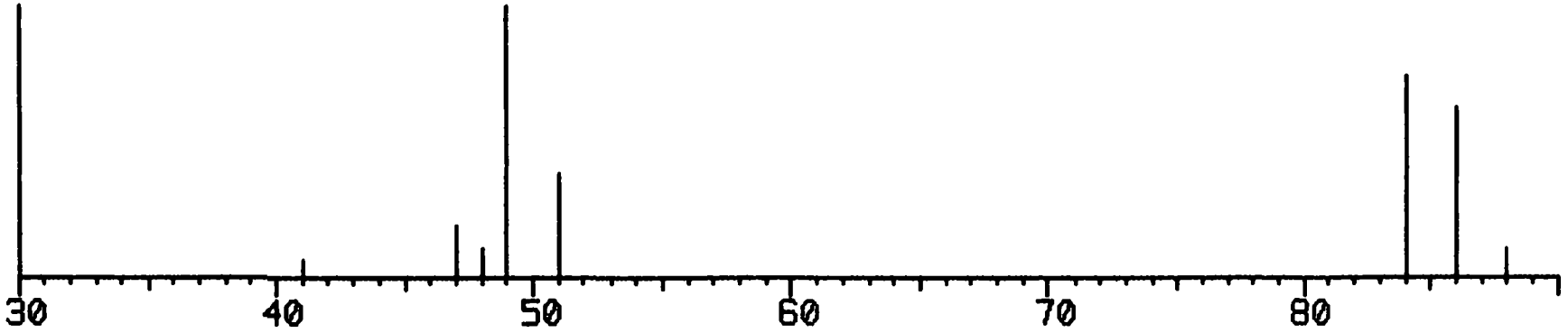
Library used: SYO:[110,10]SOIL
Data file name: SYO:C1464
Injection time: 04-APR-89 12:57:57

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
5T	0.747	84. / 128.	1.796	4.2	IA BB RF			1.00
5T	0.951	98. / 117.	1.185	49.4	IA BB RF			1.00
36T	1.237	95. / 117.	0.648	48.1	IA BB RF			1.00
37T	1.232	65. / 128.	2.007	45.2	IA BB RF			1.00

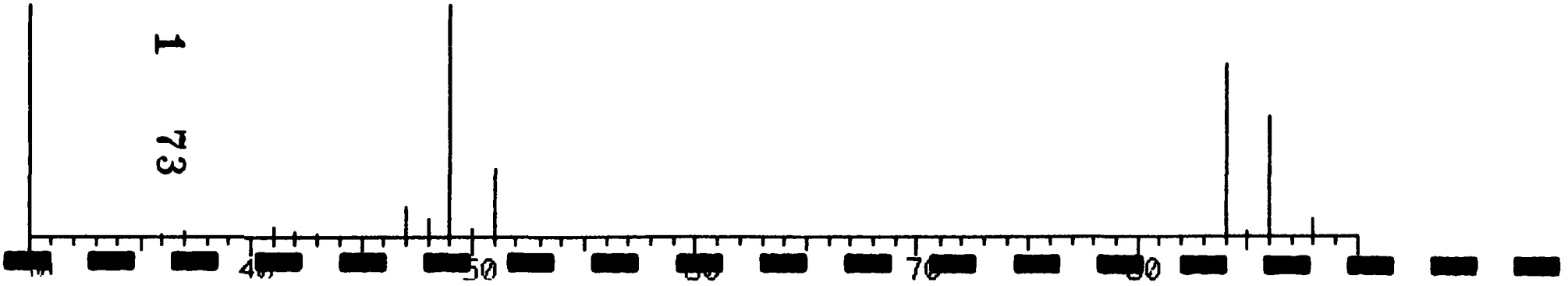
SY0:C1464 EXTRC 1464, RAS0559, EBQ26 CASE 11688 SOIL Total
04-APR-89 12:57:57 Scan 123 Time 7.40 min. 4244
100 % = 1120



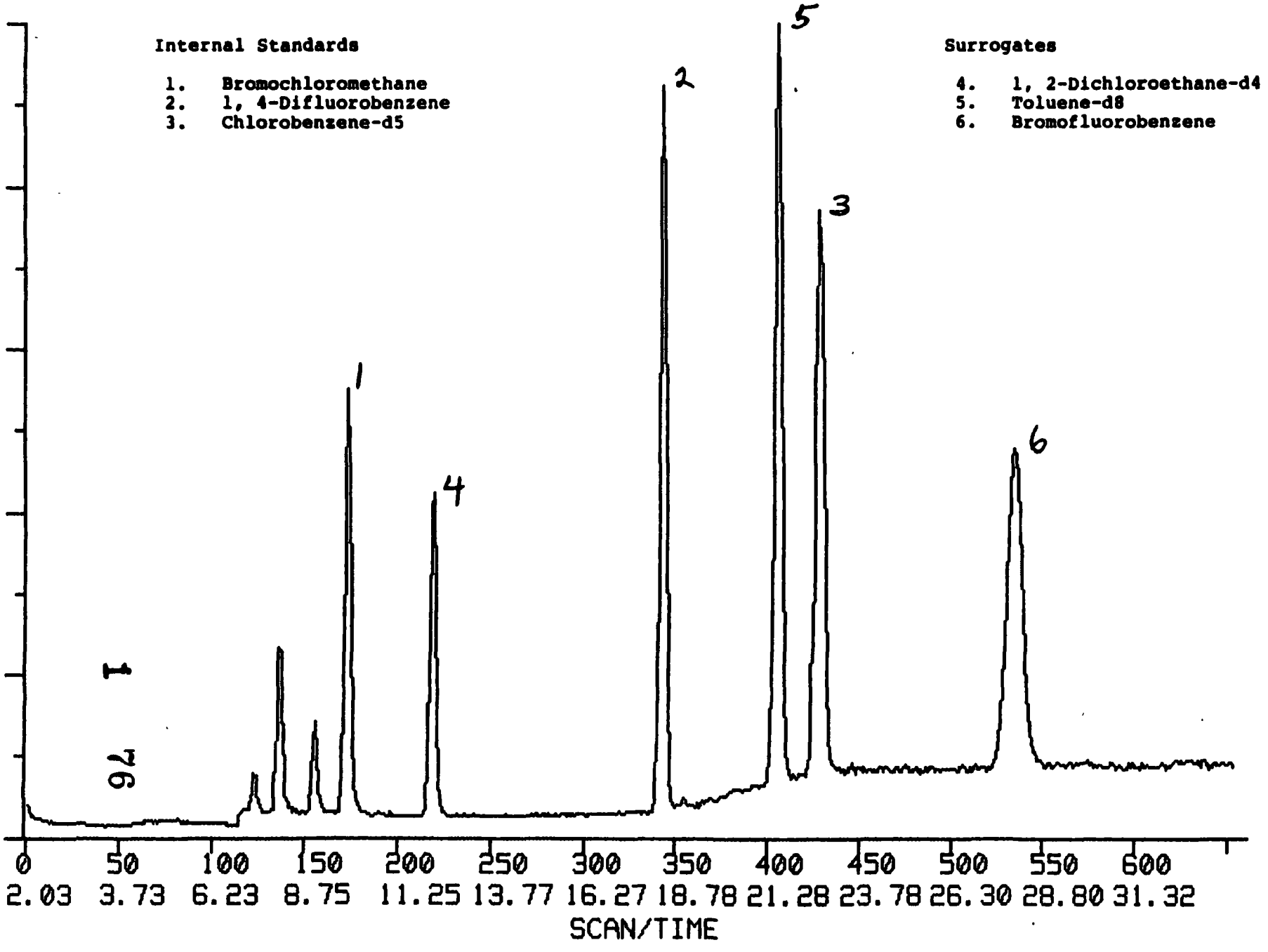
SY0:C1464 EXTRC 1464, RAS0559, EBQ26 CASE 11688 SOIL Total
04-APR-89 12:57:57 Scan 123 Time 7.40 min. 2251
Bkg scans * 1.00 121 100 % = 699



Standard Reference Spectrum: Methylene Chloride



CT465 EXTRC 1465, RRS0560, EBQ27 CASE 11688 SOIL
04-APR-89 14:09:01 TIC Maximum current=56448



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1465
Injection time: 04-APR-89 14:09:01
Comments:
EXTRC 1465, RAS0560, EBQ27 CASE 11688 SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

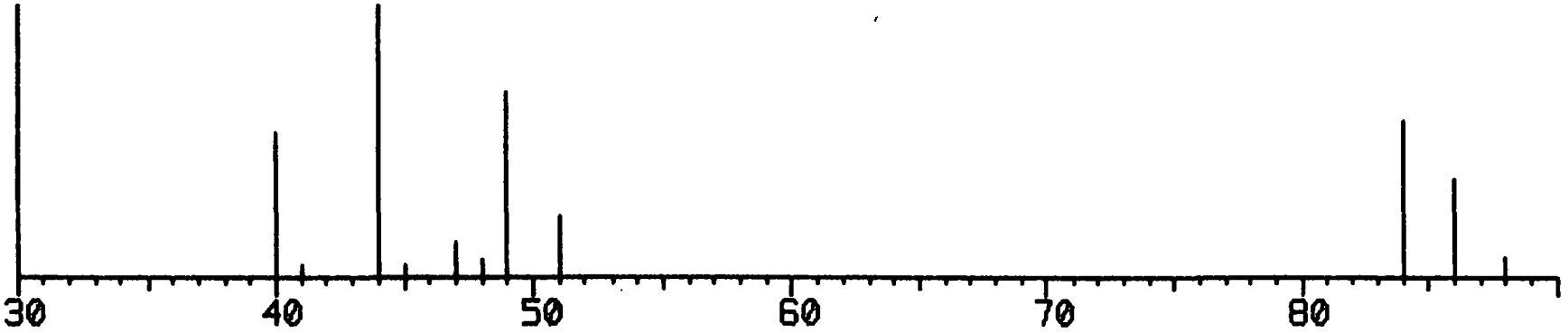
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T	7.40	123	84. / 128.	2413. / 16225.	1	0.59	4.1	NG/UL
6T	8.05	136	43. / 128.	29164. / 16225.	1	1.00	53.9	NG/UL
7T			Not Found					
8T			Not Found					
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T			Not Found					
21T			Not Found					
22T			Not Found					
23T			Not Found					
24T			Not Found					
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T			Not Found					
31T			Not Found					
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T	21.53	405	98. / 117.	86052. / 73945.	3	0.90	49.1	NG/UL
36T	28.00	534	95. / 117.	46626. / 73945.	3	0.96	48.6	NG/UL
37T	12.20	219	65. / 128.	29507. / 16225.	1	0.83	45.3	NG/UL

Extended Quantitation Report

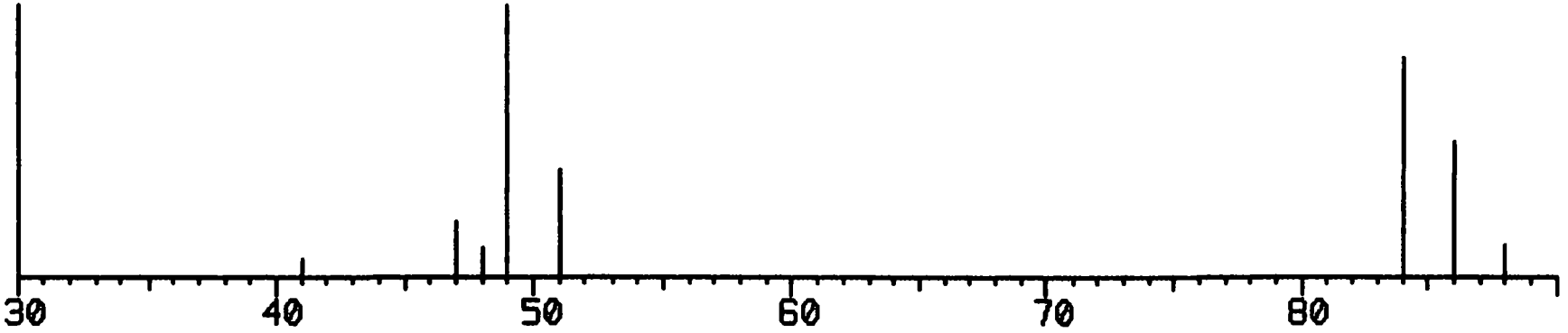
Library used: SYO:[110,10]SOIL
Data file name: SYO:C1465
Injection time: 04-APR-89 14:09:01

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
5T	0.747	84. / 128.	1.796	4.1	IA BB RF			1.00
6T	0.813	43. / 128.	1.667	53.9	IA BB RF			1.00
35T	0.949	98. / 117.	1.185	49.1	IA BB RF			1.00
36T	1.235	95. / 117.	0.648	48.6	IA BB RF			1.00
37T	1.232	65. / 128.	2.007	45.3	IA BB RF			1.00

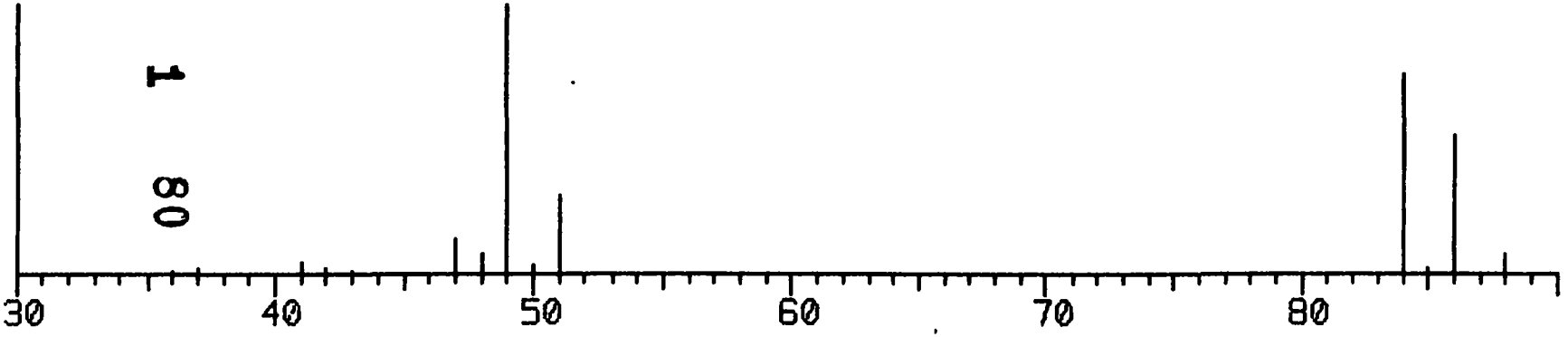
SY0:C1465 EXTRC 1465, RAS0560, EBQ27 CASE 11688 SOIL Total
04-APR-89 14:09:01 Scan 123 Time 7.40 min. 4356
100 % = 1184



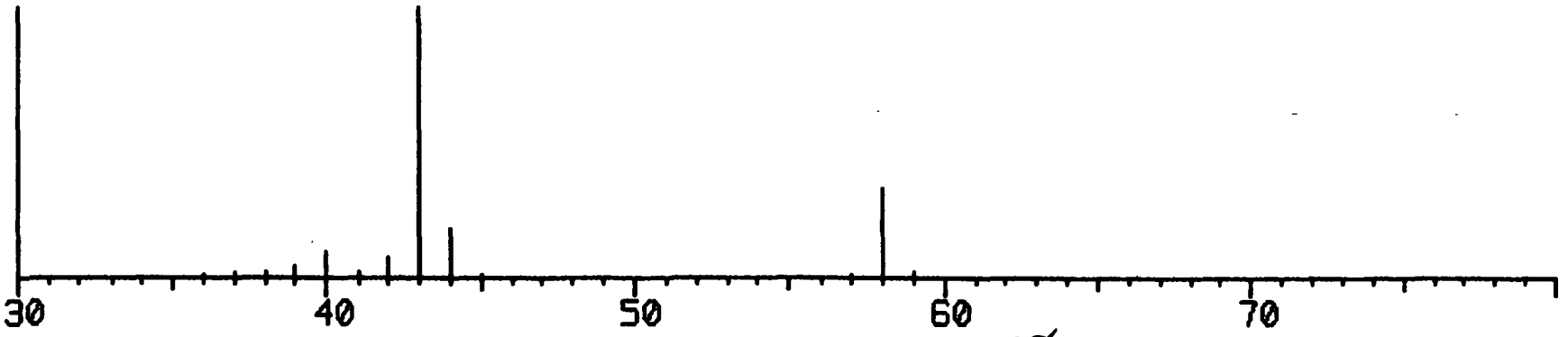
SY0:C1465 EXTRC 1465, RAS0560, EBQ27 CASE 11688 SOIL Total
04-APR-89 14:09:01 Scan 123 Time 7.40 min. 2159
Bkg scans * 1.00 121 100 % = 675



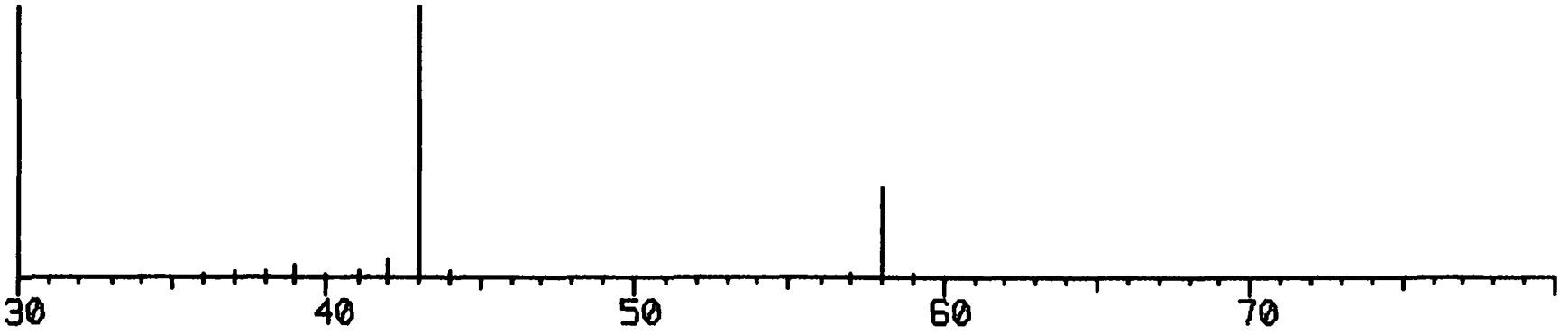
Standard Reference Spectrum: Methylene Chloride



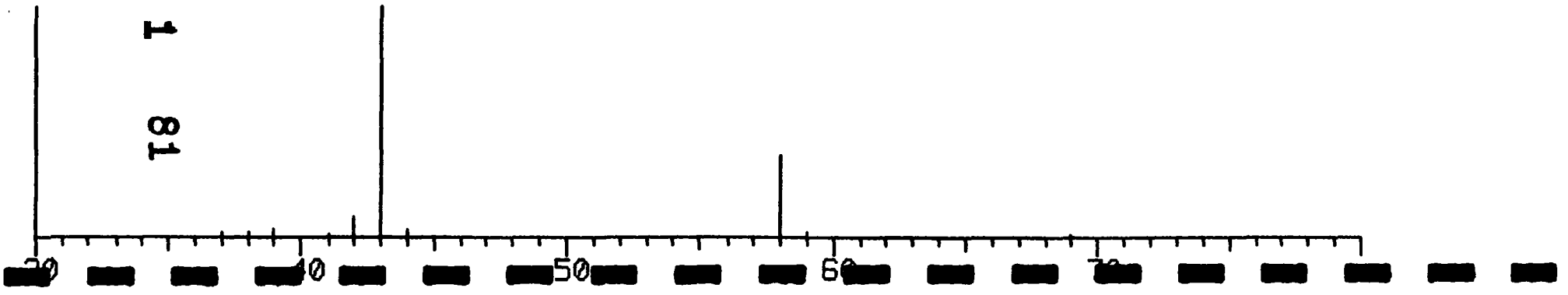
SY0:C1465 EXTRC 1465, RAS0560, EBQ27 CASE 11688 Total
04-APR-89 14:09:01 Scan 136 Time 8.05 min. 13270
100 % = 7408



SY0:C1465 EXTRC 1465, RAS0560, EBQ27 CASE 11688 Total
04-APR-89 14:09:01 Scan 136 Time 8.05 min. 11417
BKe scans * 1.00 131 100 % = 7365



Standard Reference Spectrum: Acetone



N[redacted]/E[redacted] Fo[redacted]ar[redacted] Lib[redacted]ry [redacted]earch [redacted] TIC [redacted]

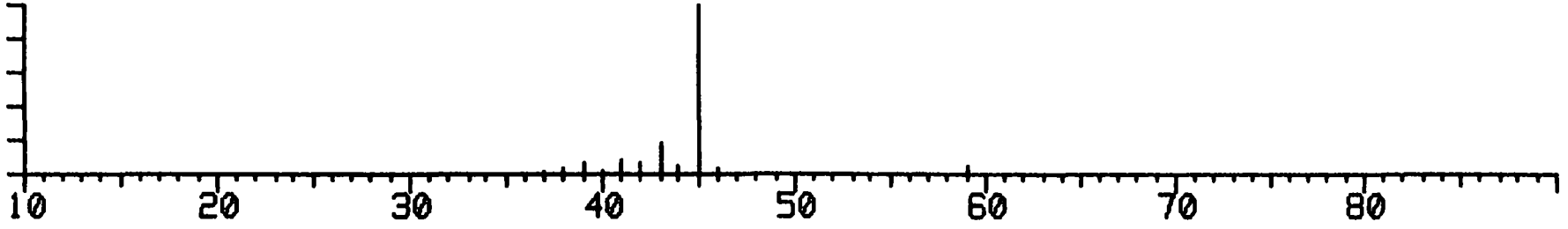
Injection Date: 04-APR-89 Time: 14:09:01 100% = 4128

Filename: SY0:C1465

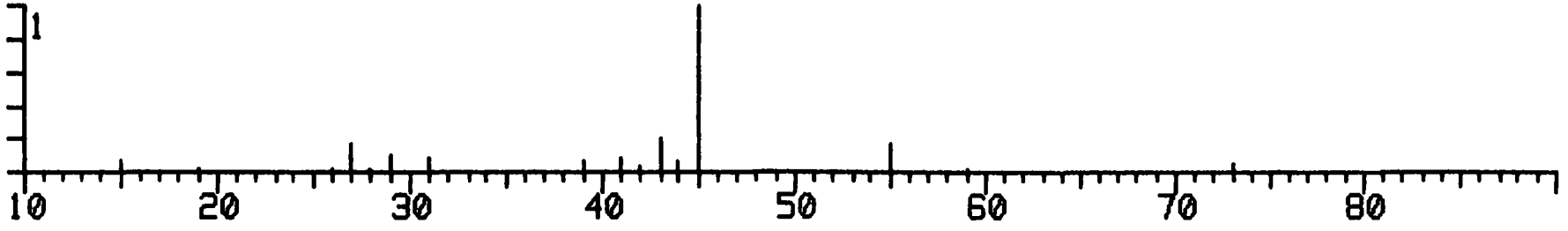
Comments:

EXTRC 1465, RAS0560, EBQ27 CASE 11688 SOIL

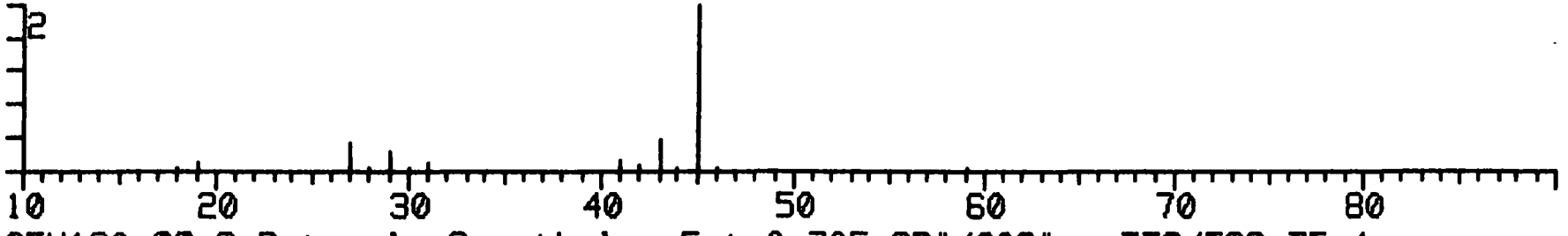
SCANS: 156-156 BKG * 1.00 151



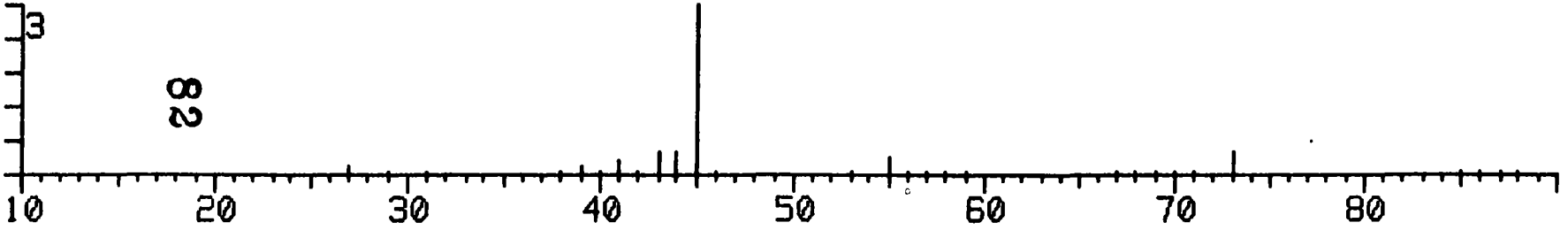
C5H12O 88 2-Pentanol Fit 0.747 SP#/CAS# 782/6032-29-7



C3H8O 60 2-Propanol (ACN) Fit 0.739 SP#/CAS# 122/67-63-0



C5H12O 88 2-Butanol, 3-methyl- Fit 0.705 SP#/CAS# 776/598-75-4



82

Peak Areas from TIC Chromatogram

Data File is SYO:C1465
Injection date: 04-APR-89 14:09:01

#	Crest	Retn time	Type	Left limit	Right limit	Raw area	Rel. area(%)	Est. conc	Std
1	156	9.05	BV	-5	11	21646.	1.57	9.90	1
2	385	20.53	BB	-12	11	32905.	2.39	~~8.60~~	2
3	476	25.10	BV	-3	12	41728.	3.02	~~7.93~~	3

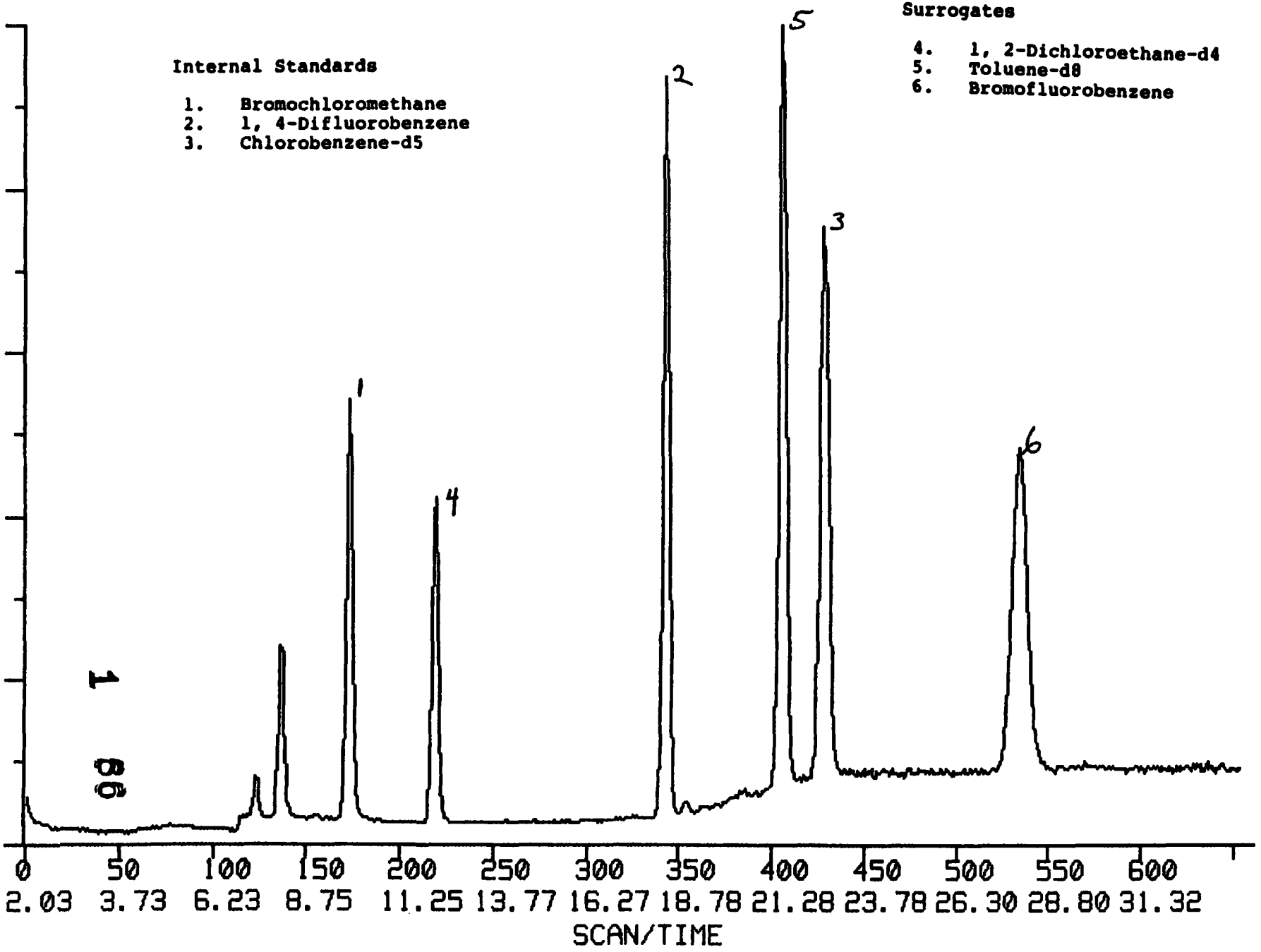
DKJ
4-5-89

TIC areas for associated internal standards:

Std.	Area	Conc.
1	109272.	50.
2	191235.	50.
3	263267.	50.

TIC = 1

CT466 EXTRC 1466, RRS056T, EBQ28 CASE 11688 SOIL
04-APR-89 14:50:58 TIC Maximum current=55443



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1466
Injection time: 04-APR-89 14:50:58
Comments:
EXTRC 1466, RAS0561, EBQ28 CASE 11688 SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

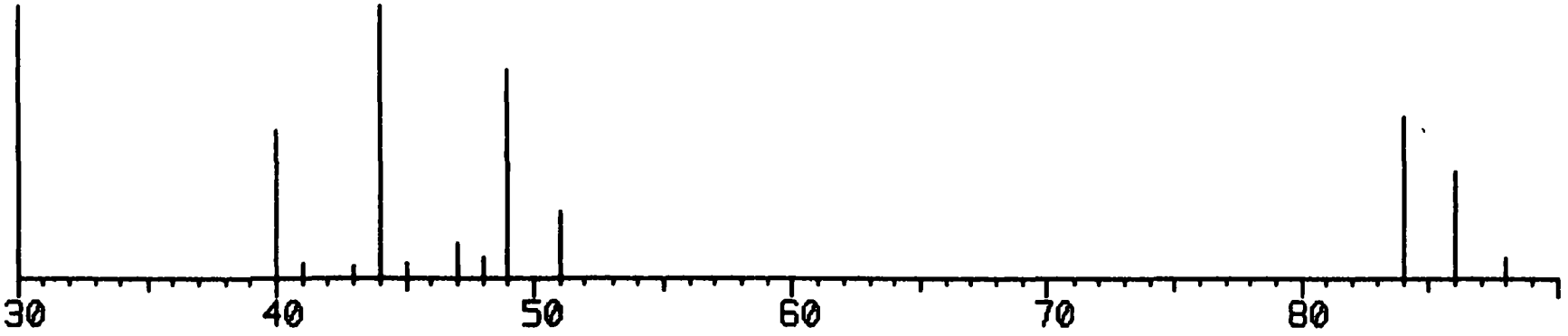
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T	7.40	123	84. / 128.	2489. / 15910.	1	0.86	4.4	NG/UL
6T	8.05	136	43. / 128.	29441. / 15910.	1	1.00	55.5	NG/UL
7T			Not Found					
8T			Not Found					
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T			Not Found					
21T			Not Found					
22T			Not Found					
23T			Not Found					
24T			Not Found					
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T			Not Found					
31T			Not Found					
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T	21.53	405	98. / 117.	84477. / 70477.	3	0.95	50.6	NG/UL
36T	28.00	534	95. / 117.	44475. / 70477.	3	1.00	48.7	NG/UL
37T	12.20	219	65. / 128.	28561. / 15910.	1	0.83	44.7	NG/UL

Extended Quantitation Report

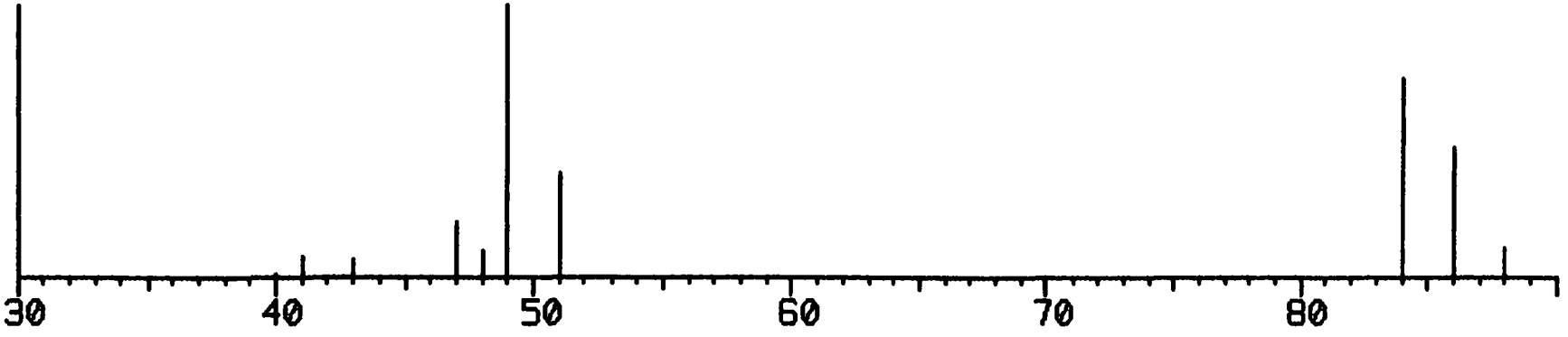
Library used: SYO:[110,10]SOIL
Data file name: SYO:C1466
Injection time: 04-APR-89 14:50:58

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
5T	0.747	84. / 128.	1.796	4.4	IA BB RF			1.00
6T	0.813	43. / 128.	1.667	55.5	IA BB RF			1.00
35T	0.949	98. / 117.	1.185	50.6	IA BB RF			1.00
36T	1.235	95. / 117.	0.648	48.7	IA BB RF			1.00
37T	1.232	65. / 128.	2.007	44.7	IA BB RF			1.00

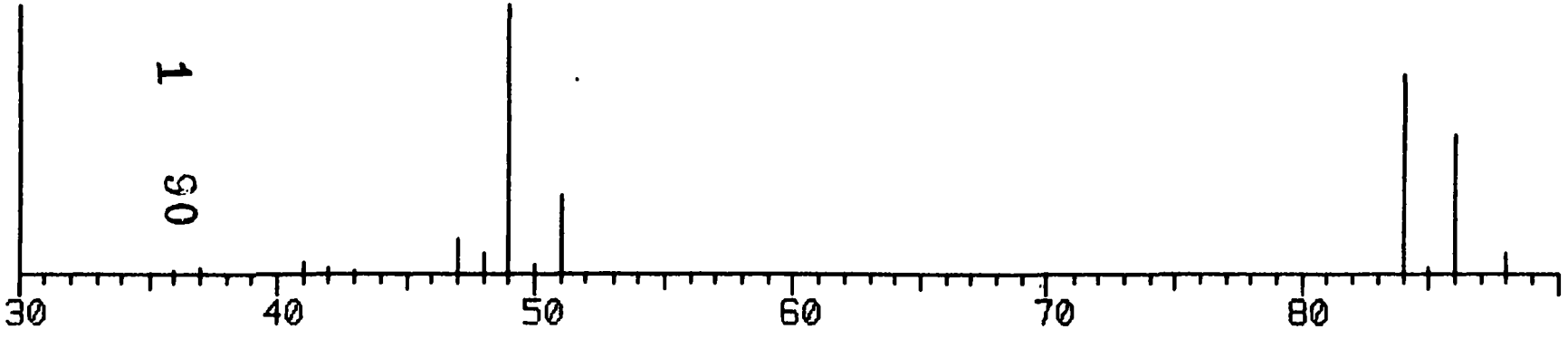
SY0:C1466 EXTRC 1466, RAS0561, EBQ28 CASE 11688 SOIL Total
04-APR-89 14:50:58 Scan 123 Time 7.40 min. 4580
100 % = 1168



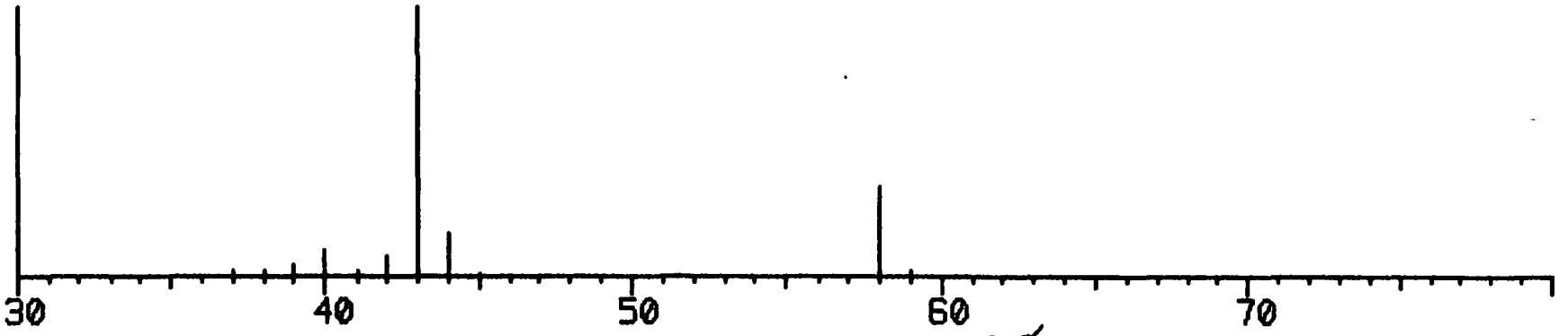
SY0:C1466 EXTRC 1466, RAS0561, EBQ28 CASE 11688 SOIL Total
04-APR-89 14:50:58 Scan 123 Time 7.40 min. 2331
Bkg scans * 1.00 121 100 % = 741



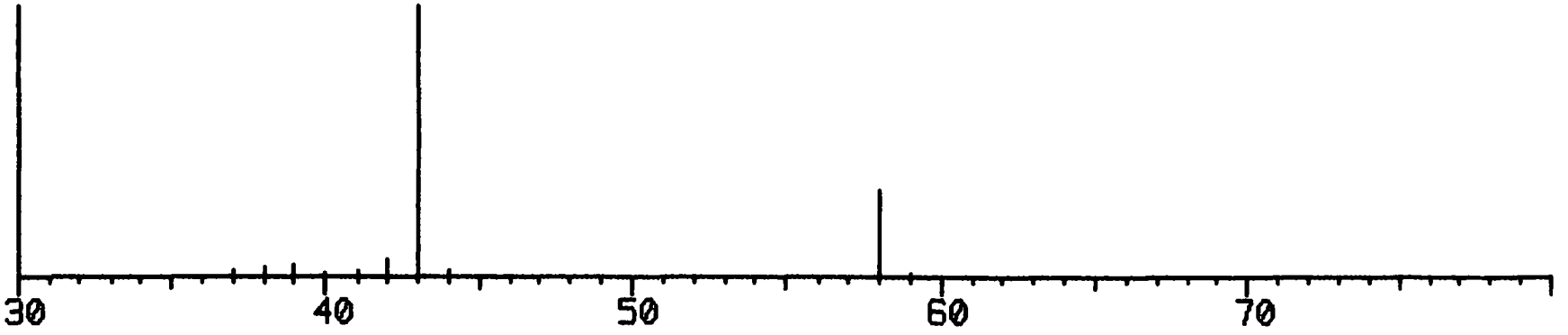
Standard Reference Spectrum: Methylene Chloride



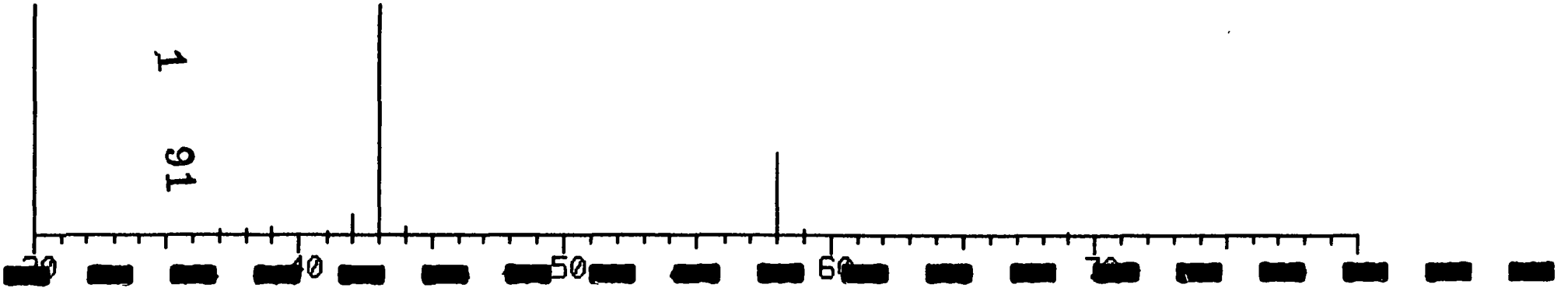
SY0:C1466 EXTRC 1466, RAS0561, EBQ28 CASE 11688 Total
04-APR-89 14:50:58 Scan 136 Time 8.05 min. 13336
100 % = 7568



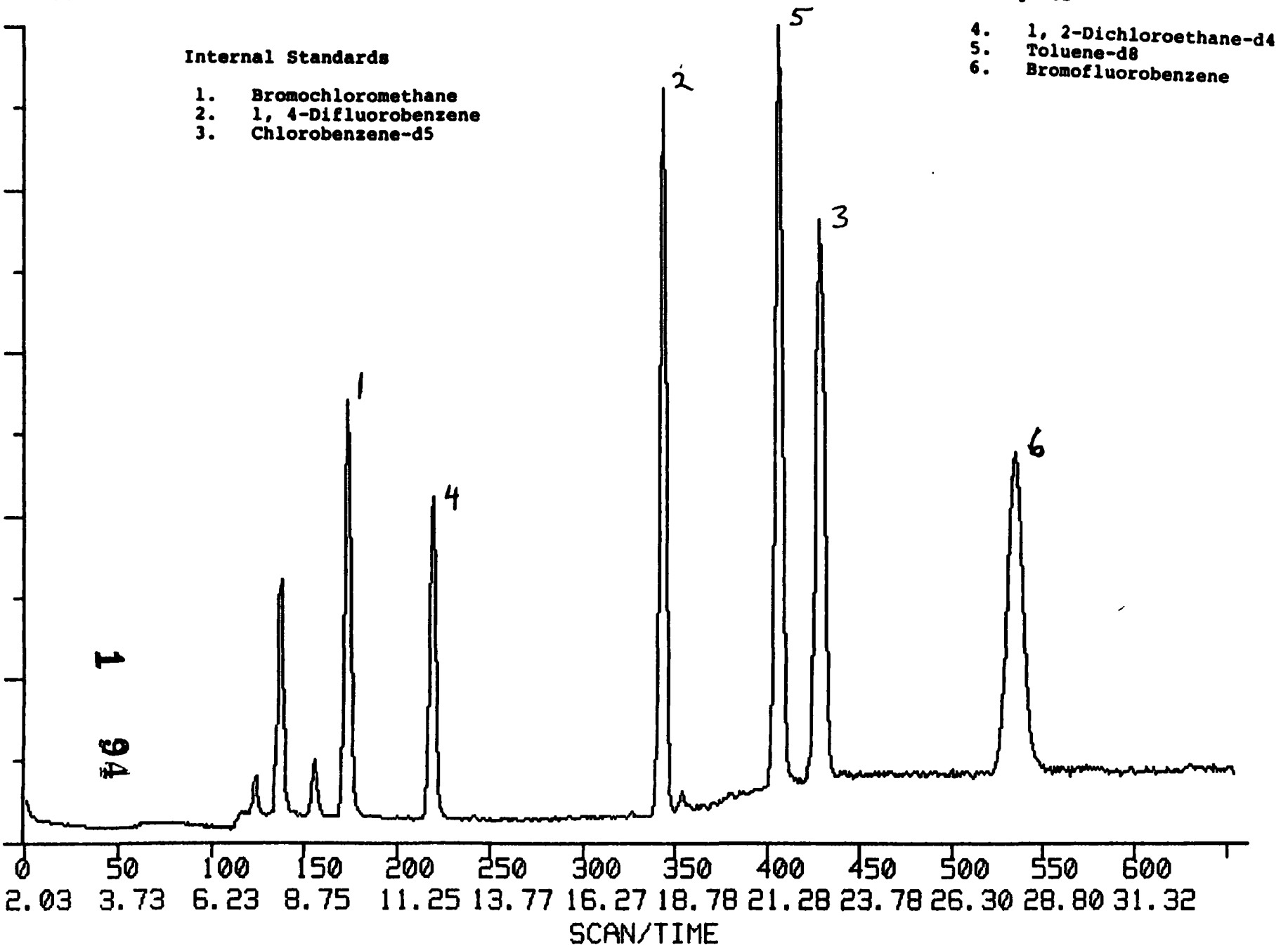
SY0:C1466 EXTRC 1466, RAS0561, EBQ28 CASE 11688 Total
04-APR-89 14:50:58 Scan 136 Time 8.05 min. 11270
Bkg scans * 1.00 133 100 % = 7318



Standard Reference Spectrum: Acetone



C1467 EXTRC 1467, RAS0562, EBQ29 CASE 11688 SOIL
04-APR-89 15:31:00 TIC Maximum current=59100



1 94

THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1467
Injection time: 04-APR-89 15:31:00
Comments:
EXTRC 1467 RAS0562, EBQ29 CASE 11688 SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

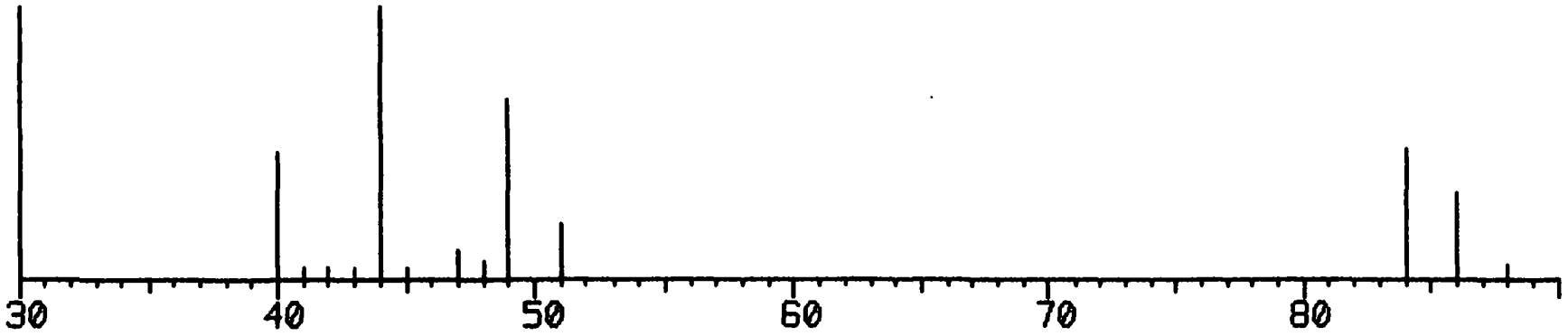
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T	7.45	124	84. / 128.	2370. / 16565.	1	0.86	4.0	NG/UL
6T	8.10	137	43. / 128.	41665. / 16565.	1	1.00	75.4	NG/UL
7T			Not Found					
8T			Not Found					
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T			Not Found					
21T			Not Found					
22T			Not Found					
23T			Not Found					
24T			Not Found					
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T			Not Found					
31T			Not Found					
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T	21.53	405	98. / 117.	89367. / 75499.	3	0.95	50.0	NG/UL
36T	28.00	534	95. / 117.	47484. / 75499.	3	1.00	48.5	NG/UL
37T	12.20	219	65. / 128.	30224. / 16565.	1	0.83	45.4	NG/UL

Extended Quantitation Report

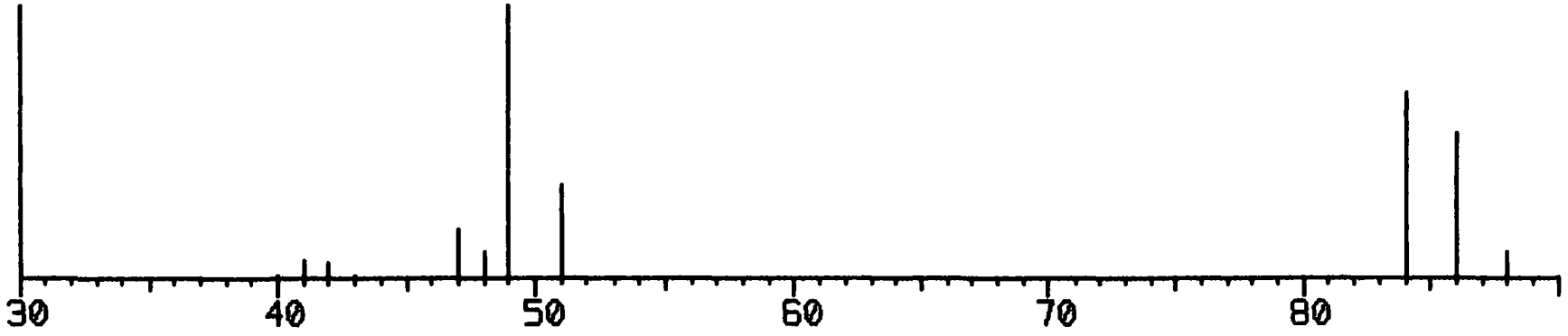
Library used: SYO:[110,10]SOIL
Data file name: SYO:C1467
Injection time: 04-APR-89 15:31:00

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
5T	0.753	84. / 128.	1.796	4.0	IA BB RF			1.00
6T	0.818	43. / 128.	1.667	75.4	IA BB RF			1.00
35T	0.949	98. / 117.	1.185	50.0	IA BB RF			1.00
36T	1.235	95. / 117.	0.648	48.5	IA BB RF			1.00
37T	1.232	65. / 128.	2.007	45.4	IA BB RF			1.00

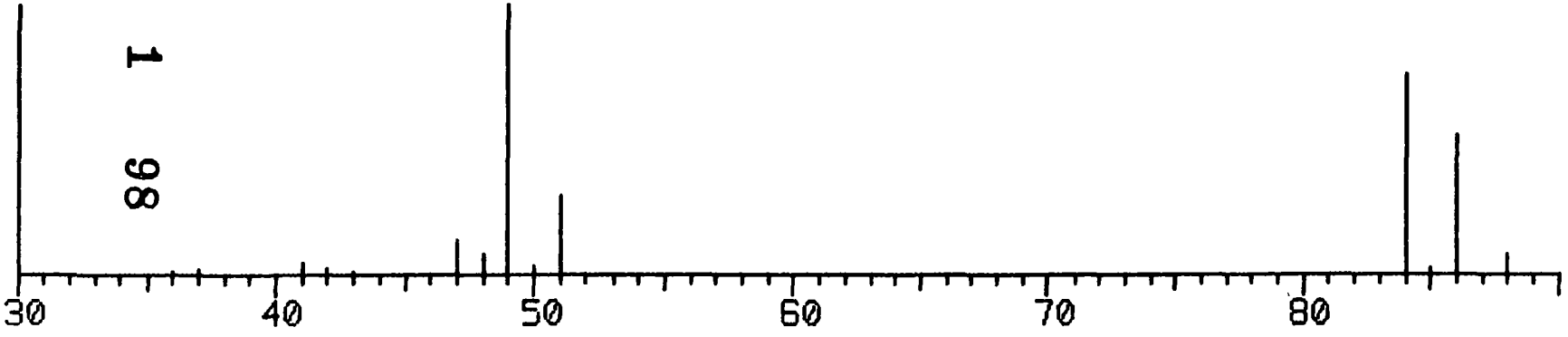
SY0:C1467 EXTRC 1467, RAS0562, EBQ29 CASE 11688 SOIL Total
04-APR-89 15:31:00 Scan 124 Time 7.45 min. 4820
100 % = 1392



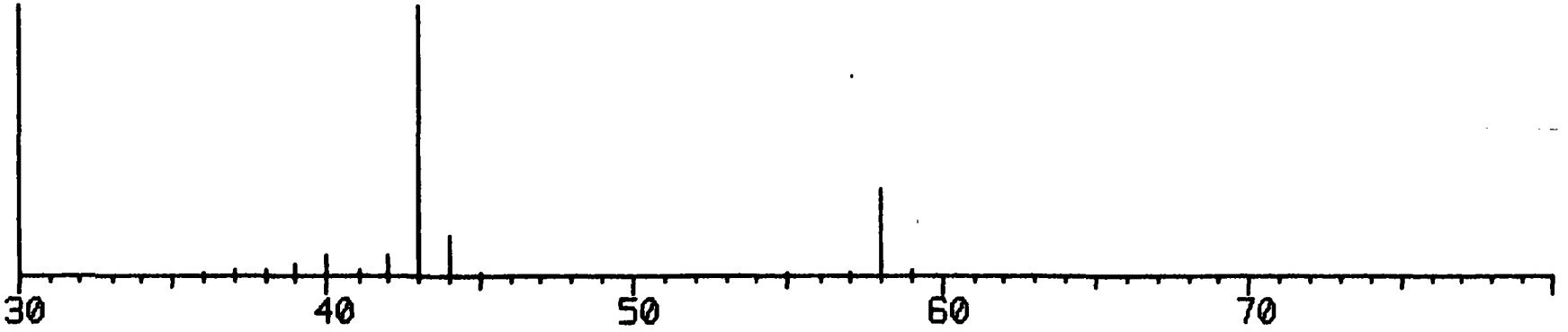
SY0:C1467 EXTRC 1467, RAS0562, EBQ29 CASE 11688 SOIL Total
04-APR-89 15:31:00 Scan 124 Time 7.45 min. 2521
Bkg scans * 1.00 121 100 % = 826



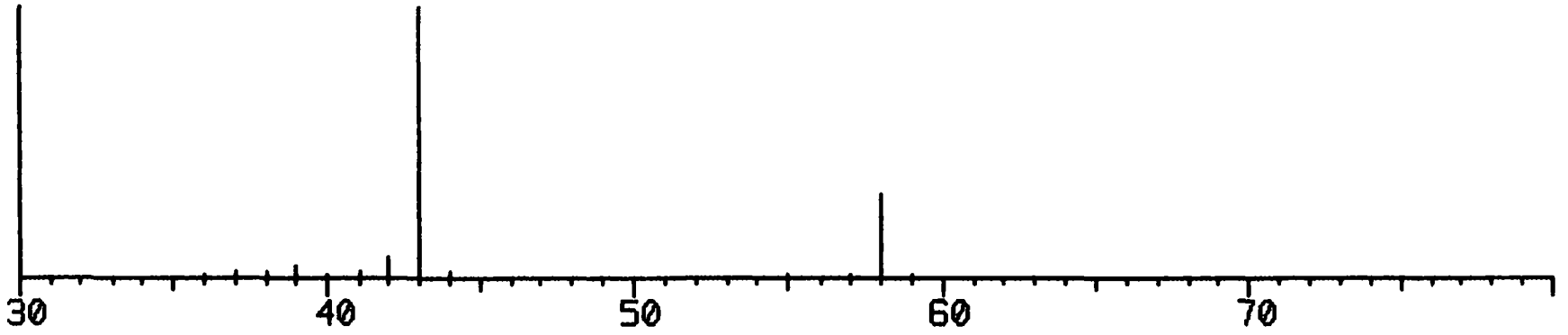
Standard Reference Spectrum: Methylene Chloride



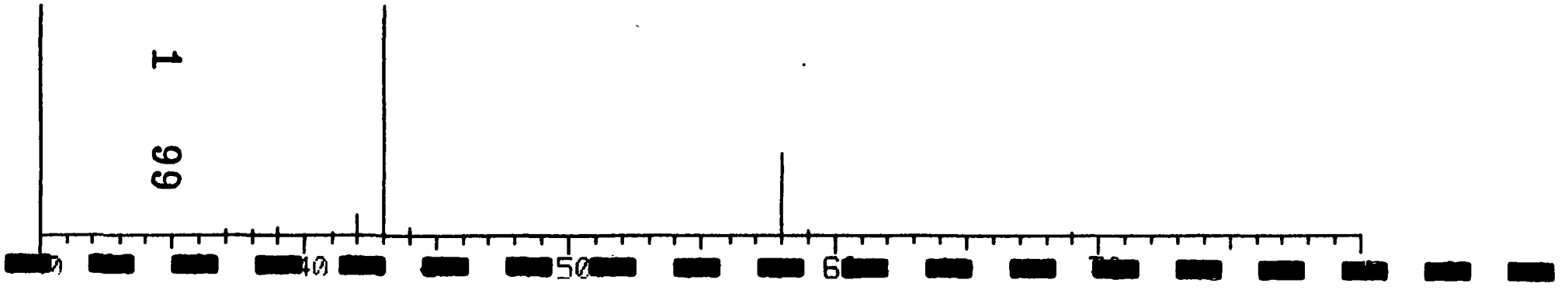
SY0:C1467 EXTRC 1467, RAS0562, EBQ29 CASE 11688 Total
04-APR-89 15:31:00 Scan 137 Time 8.10 min. 19049
100 % = 11056



SY0:C1467 EXTRC 1467, RAS0562, EBQ29 CASE 11688 Total
04-APR-89 15:31:00 Scan 137 Time 8.10 min. 16791
Bkg scans * 1.00 133 100 % = 10842

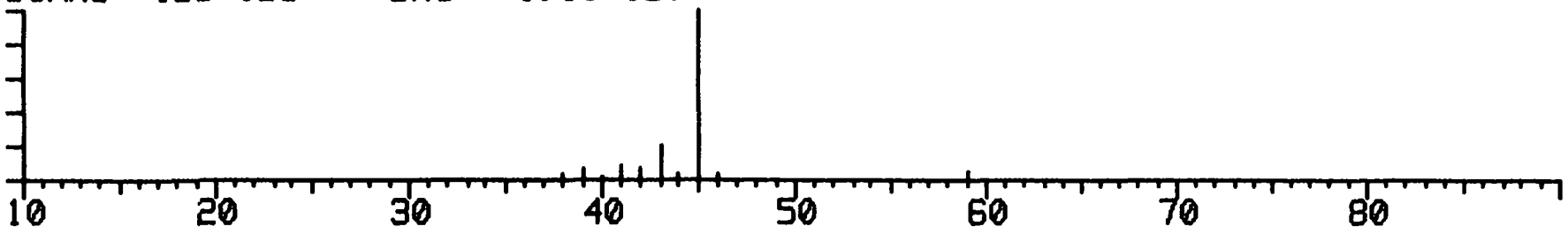


Standard Reference Spectrum: Acetone



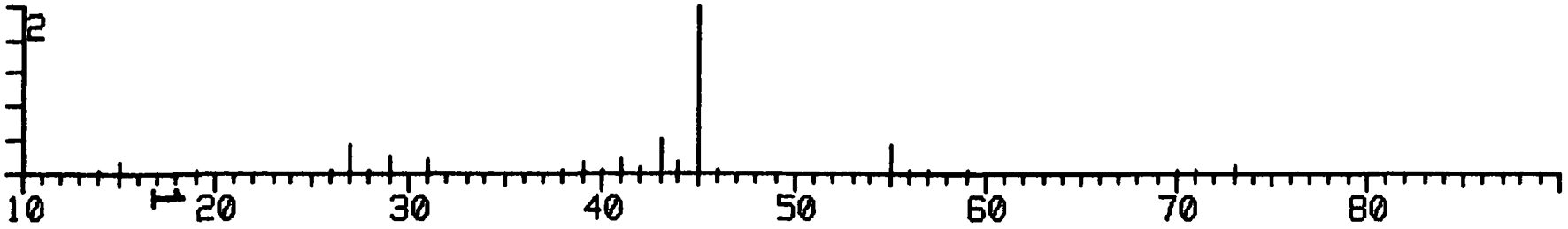
NIH/EPA Forward Library Search TIC = 4043
Injection Date: 04-APR-89 Time: 15:31:00 100% = 2672
Filename: SY0:C1467
Comments:
EXTRC 1467, RAS0562, EBQ29 CASE 11688 SOIL

SCANS: 156-156 BKG * 1.00 150

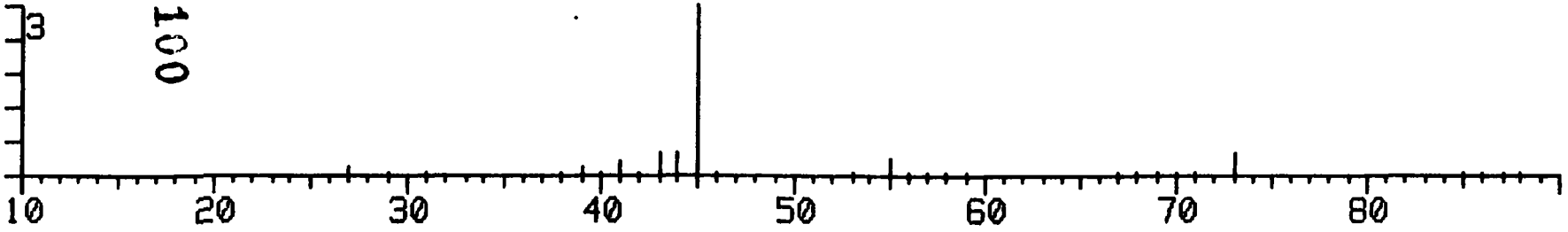


C3H8O 60 2-Propanol (ACN) Fit 0.823 SP#/CAS# 122/67-63-0

C5H12O 88 2-Pentanol Fit 0.778 SP#/CAS# 782/6032-29-7



C5H12O 88 2-Butanol, 3-methyl- Fit 0.725 SP#/CAS# 776/598-75-4



1 100

Peak Areas from TIC Chromatogram

Data File is SYO:C1467
Injection date: 04-APR-89 15:31:00

#	Crest	Retn time	Type	Left limit	Right limit	Raw area	Rel. area(%)	Est. conc	Std
1	156	9.05	BB	-6	6	13768.	0.94	6.10	1

TIC areas for associated internal standards:

Std.	Area	Conc.
1	112901.	50.

VOA

STANDARD DATA

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: EXTRC Calibration Date(s): 3/29/89 3/29/89

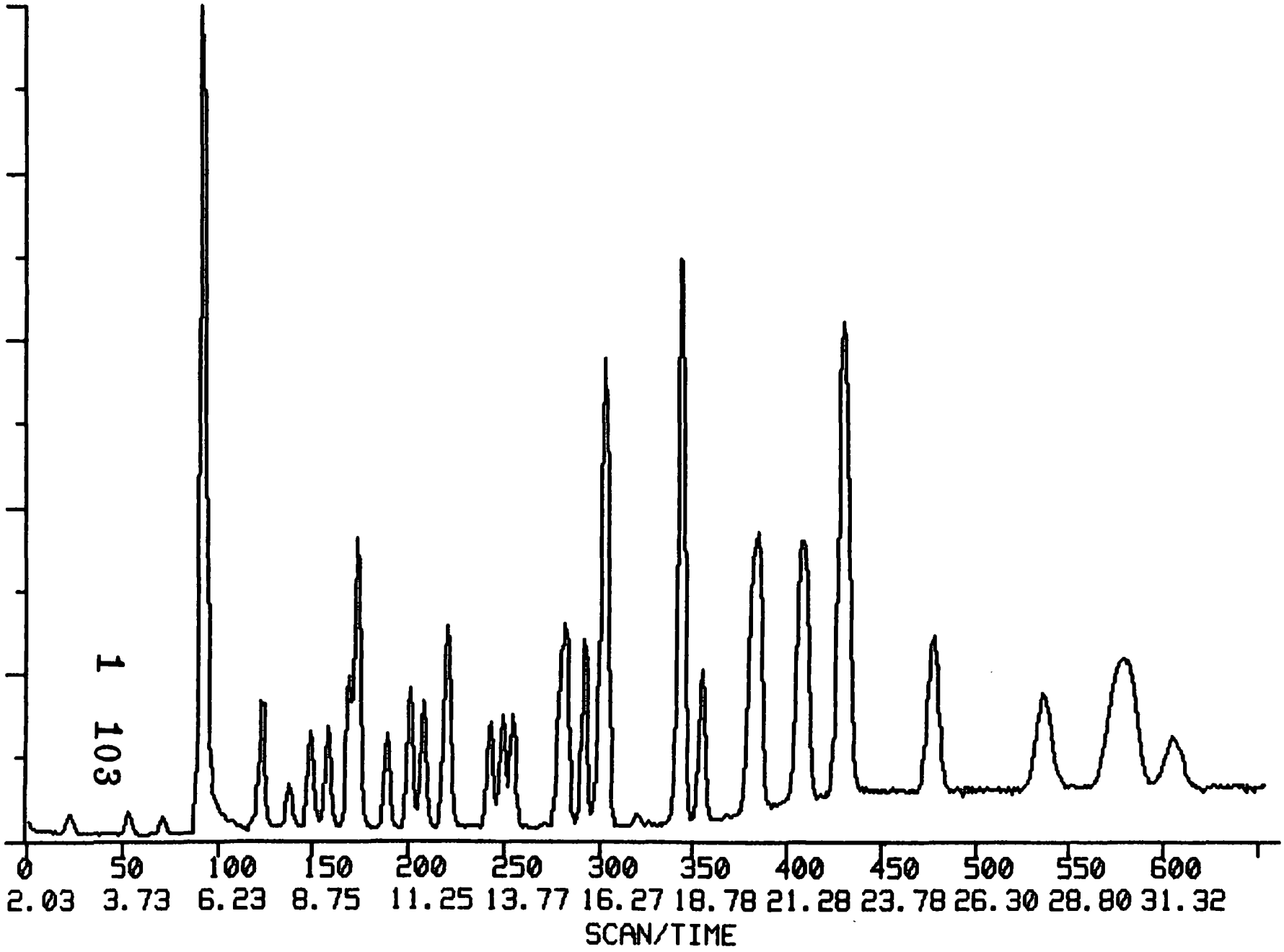
Matrix: (soil/water) SOIL Level: (low/med): LOW Column: (pack/cap) PACK

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = C1436 RRF50 = C1434
RRF100= C1433 RRF150= C1435 RRF200= C1437

COMPOUND	RRF20	RRF50	RRF100	RRF150	RRF200	$\overline{RRF}$	% RSD
Chloromethane #	0.893	0.976	0.820	0.808	0.987	0.897	9.4#
Bromomethane	0.632	0.665	0.660	0.705	0.661	0.665	3.9
Vinyl Chloride *	0.697	0.772	0.728	0.655	0.685	0.708	6.3*
Chloroethane	0.468	0.475	0.451	0.470	0.473	0.468	2.0
Methylene Chloride	1.822	1.721	1.553	1.634	1.590	1.664	6.5
Acetone	1.821	1.617	1.673	1.446	1.436	1.599	10.2
Carbon Disulfide	4.911	5.051	5.007	5.168	5.099	5.047	1.9
1,1-Dichloroethene *	1.613	1.638	1.625	1.670	1.644	1.638	1.3*
1,1-Dichloroethane #	2.968	3.018	2.960	3.050	3.037	3.007	1.4#
1,2-Dichloroethene (total)	1.796	1.829	1.824	1.859	1.833	1.828	1.2
Chloroform *	3.077	3.085	2.968	3.050	3.039	3.044	1.5*
1,2-Dichloroethane	2.148	2.177	2.039	1.961	2.044	2.074	4.3
2-Butanone	0.105	0.097	0.102	0.094	0.087	0.097	7.3
1,1,1-Trichloroethane	0.407	0.401	0.397	0.440	0.406	0.410	4.2
Carbon Tetrachloride	0.456	0.461	0.463	0.505	0.473	0.472	4.2
Vinyl Acetate	0.087	0.141	0.197	0.242	0.278	0.189	40.4
Bromodichloromethane	0.483	0.497	0.464	0.480	0.472	0.479	2.6
1,2-Dichloropropane *	0.350	0.353	0.343	0.333	0.334	0.342	2.6*
cis-1,3-Dichloropropene	0.487	0.483	0.471	0.431	0.458	0.466	4.9
Trichloroethene	0.420	0.415	0.408	0.413	0.404	0.412	1.6
Dibromochloromethane	0.459	0.474	0.462	0.417	0.444	0.451	4.8
1,1,2-Trichloroethane	0.331	0.329	0.308	0.267	0.289	0.305	8.9
Benzene	0.980	0.954	0.937	0.987	0.926	0.957	2.8
trans-1,3-Dichloropropene	0.414	0.422	0.404	0.337	0.381	0.392	8.7
Bromoform #	0.385	0.401	0.387	0.360	0.370	0.381	4.2#
4-Methyl-2-Pentanone	0.854	0.844	0.810	0.800	0.792	0.820	3.4
2-Hexanone	0.935	0.883	0.822	0.759	0.750	0.830	9.6
Tetrachloroethene	0.426	0.416	0.403	0.425	0.412	0.416	2.3
1,1,2,2-Tetrachloroethane #	0.759	0.725	0.678	0.778	0.716	0.731	5.4#
Toluene *	0.889	0.877	0.805	0.846	0.846	0.853	3.8*
Chlorobenzene #	1.054	1.062	0.996	0.999	1.017	1.025	3.0#
Ethylbenzene *	0.599	0.583	0.556	0.570	0.570	0.576	2.8*
Styrene	1.246	1.224	1.111	1.177	1.145	1.181	4.7
Xylenes (total)	0.806	0.808	0.742	0.798	0.771	0.785	3.6
Toluene-d8	1.203	1.193	1.123	1.185	1.176	1.176	2.7
Bromofluorobenzene	0.707	0.681	0.643	0.689	0.673	0.679	3.5
1,2-Dichloroethane-d4	1.923	1.973	1.868	1.833	1.908	1.901	2.8

C1436 EXTRC 1436, VSTD20 SOIL
29-MAR-89 15:13:07 TIC Maximum current=58149



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1436
Injection time: 29-MAR-89 15:13:07
Comments:
EXTRC 1436, VSTD20 SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

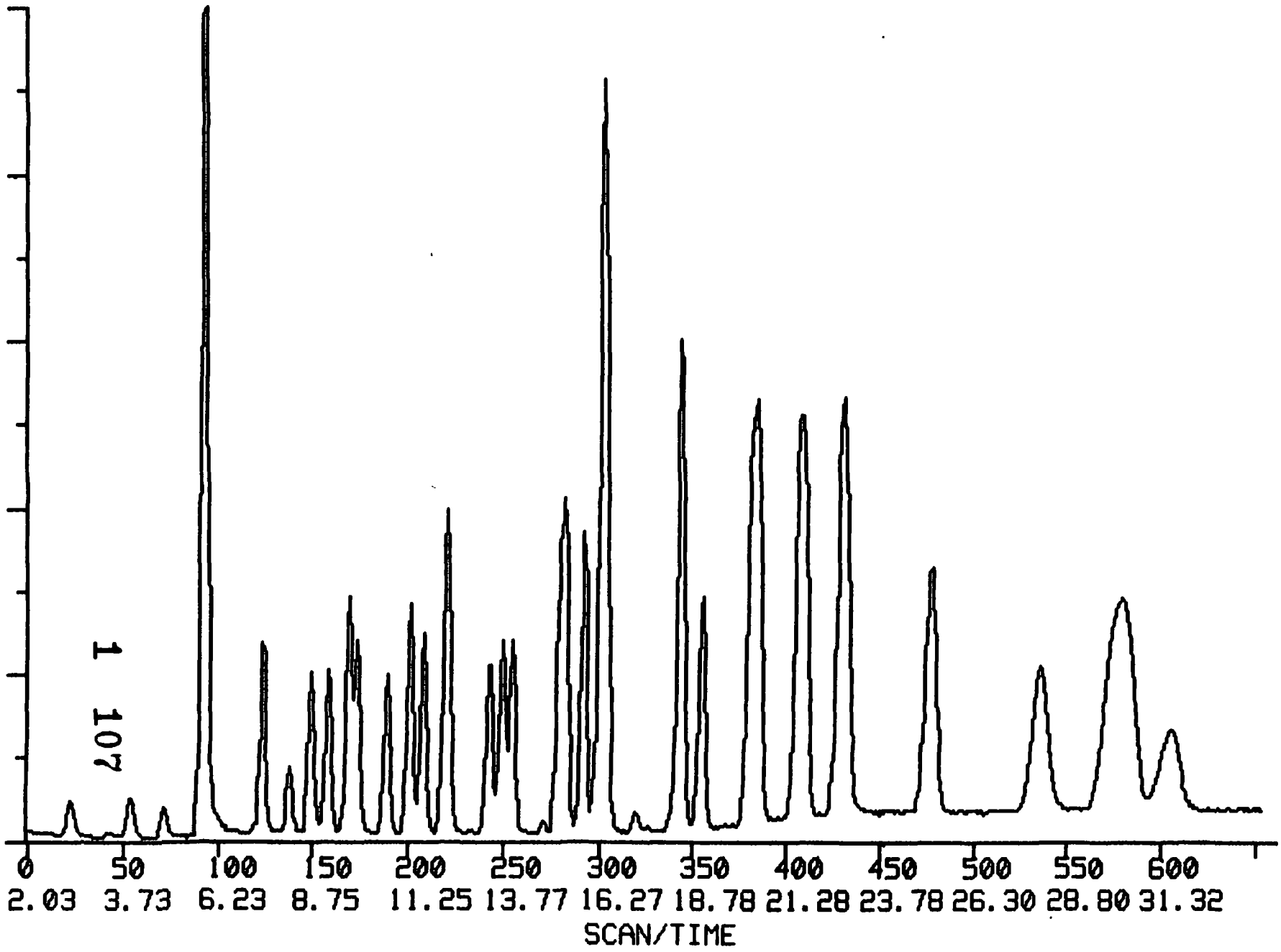
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.89	50.0	NG/UL
3S	22.73	429			STD	0.94	50.0	NG/UL
1T	2.33	22	50. / 128.	4212. / 10723.	1	0.57	21.9	NG/UL
2T	3.88	53	94. / 128.	2983. / 10723.	1	0.59	20.9	NG/UL
3T	4.78	71	62. / 128.	2990. / 10723.	1	0.71	19.7	NG/UL
4T	5.78	91	64. / 128.	2209. / 10723.	1	0.55	22.0	NG/UL
5T	7.40	123	84. / 128.	7814. / 10723.	1	0.86	21.9	NG/UL
6T	8.15	138	43. / 128.	7811. / 10723.	1	1.00	22.8	NG/UL
7T	8.70	149	76. / 128.	21064. / 10723.	1	0.80	19.5	NG/UL
8T	9.70	169	96. / 128.	6920. / 10723.	1	0.85	19.7	NG/UL
9T	10.70	189	63. / 128.	12731. / 10723.	1	0.83	19.7	NG/UL
10T	11.30	201	96. / 128.	7703. / 10723.	1	0.82	19.6	NG/UL
11T	11.65	208	83. / 128.	13196. / 10723.	1	0.84	20.2	NG/UL
12T	12.30	221	62. / 128.	9212. / 10723.	1	0.83	20.7	NG/UL
13T	12.30	221	72. / 114.	2529. / 60447.	2	1.00	21.6	NG/UL
14T	13.37	242	97. / 114.	9847. / 60447.	2	0.87	19.9	NG/UL
15T	13.72	249	117. / 114.	11033. / 60447.	2	0.78	19.3	NG/UL
16T	13.87	252	43. / 114.	2115. / 60447.	2	0.64	9.3	NG/UL
17T	14.02	255	83. / 114.	11682. / 60447.	2	0.87	20.2	NG/UL
18T	15.22	279	63. / 114.	8451. / 60447.	2	1.00	20.4	NG/UL
19T	15.37	282	75. / 114.	16469. / 60447.	2	0.89	29.2	NG/UL
20T	15.87	292	130. / 114.	10166. / 60447.	2	0.87	20.4	NG/UL
21T	16.27	300	129. / 114.	11088. / 60447.	2	1.00	20.3	NG/UL
22T	16.42	303	97. / 114.	8014. / 60447.	2	0.85	21.7	NG/UL
23T	16.37	302	78. / 114.	23705. / 60447.	2	0.77	20.5	NG/UL
24T	16.42	303	75. / 114.	11516. / 60447.	2	0.85	24.3	NG/UL
25T	18.48	344	173. / 114.	9298. / 60447.	2	0.92	20.2	NG/UL
26T	19.03	355	43. / 117.	16867. / 49381.	3	1.00	20.8	NG/UL
27T	20.28	380	43. / 117.	18464. / 49381.	3	0.88	22.5	NG/UL
28T	20.48	384	164. / 117.	8413. / 49381.	3	1.00	20.5	NG/UL
29T	20.38	382	83. / 117.	14983. / 49381.	3	0.83	20.8	NG/UL
30T	21.73	409	92. / 117.	17563. / 49381.	3	0.85	20.9	NG/UL
31T	22.83	431	112. / 117.	20814. / 49381.	3	0.92	20.6	NG/UL
32T	25.15	477	106. / 117.	11835. / 49381.	3	1.00	20.8	NG/UL
33T	30.02	574	104. / 117.	24606. / 49381.	3	0.89	21.1	NG/UL
34T	30.42	582	106. / 117.	15912. / 49381.	3	0.85	20.5	NG/UL
35T	21.58	406	98. / 117.	23764. / 49381.	3	0.95	20.5	NG/UL
36T	28.05	535	95. / 117.	13964. / 49381.	3	1.00	20.8	NG/UL
37T	12.20	219	65. / 128.	8246. / 10723.	1	0.79	20.2	NG/UL

Extended Quantitation Report

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1436
Injection time: 29-MAR-89 15:13:07

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
1T	0.235	50. / 128.	0.897	21.9	IA BB FC			1.00
2T	0.392	94. / 128.	0.665	20.9	IA BB FC			1.00
3T	0.483	62. / 128.	0.708	19.7	IA BB FC			1.00
4T	0.584	64. / 128.	0.468	22.0	IA BB FC			1.00
5T	0.747	84. / 128.	1.664	21.9	IA BB FC			1.00
6T	0.823	43. / 128.	1.599	22.8	IA BB FC			1.00
7T	0.879	76. / 128.	5.047	19.5	IA BB FC			1.00
8T	0.980	96. / 128.	1.638	19.7	IA BB FC			1.00
9T	1.081	63. / 128.	3.007	19.7	IA BB FC			1.00
10T	1.141	96. / 128.	1.828	19.6	IA BB FC			1.00
11T	1.177	83. / 128.	3.044	20.2	IA BB FC			1.00
12T	1.242	62. / 128.	2.074	20.7	IA BB FC			1.00
13T	0.667	72. / 114.	0.097	21.6	IA BB FC			1.00
14T	0.725	97. / 114.	0.410	19.9	IA BB FC			1.00
15T	0.744	117. / 114.	0.472	19.3	IA BB FC			1.00
16T	0.753	43. / 114.	0.189	9.3	IA BB FC			1.00
17T	0.761	83. / 114.	0.479	20.2	IA BB FC			1.00
18T	0.826	63. / 114.	0.342	20.4	IA BB FC			1.00
19T	0.834	75. / 114.	0.466	29.2	IA BB FC			1.00
20T	0.861	130. / 114.	0.412	20.4	IA BB FC			1.00
21T	0.883	129. / 114.	0.451	20.3	IA BB FC			1.00
22T	0.891	97. / 114.	0.305	21.7	IA BB FC			1.00
23T	0.888	78. / 114.	0.957	20.5	IA BB FC			1.00
24T	0.891	75. / 114.	0.392	24.3	IA BB FC			1.00
25T	1.003	173. / 114.	0.381	20.2	IA BB FC			1.00
26T	0.837	43. / 117.	0.820	20.8	IA BB FC			1.00
27T	0.892	43. / 117.	0.832	22.5	IA BB FC			1.00
28T	0.901	164. / 117.	0.416	20.5	IA BB FC			1.00
29T	0.897	83. / 117.	0.731	20.8	IA BB FC			1.00
30T	0.956	92. / 117.	0.853	20.9	IA BB FC			1.00
31T	1.004	112. / 117.	1.025	20.6	IA BB FC			1.00
32T	1.106	106. / 117.	0.576	20.8	IA BB FC			1.00
33T	1.321	104. / 117.	1.181	21.1	IA BB FC			1.00
34T	1.338	106. / 117.	0.786	20.5	IA BB FC			1.00
35T	0.949	98. / 117.	1.176	20.5	IA BB FC			1.00
36T	1.234	95. / 117.	0.679	20.8	IA BB FC			1.00
37T	1.232	65. / 128.	1.901	20.2	IA BB FC			1.00

C1434 EXTRC 1434, VSTD50 SOIL
29-MAR-89 13:50:12 TIC Maximum current=90760



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1434
Injection time: 29-MAR-89 13:50:12
Comments:
EXTRC 1434, VSTD50 SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

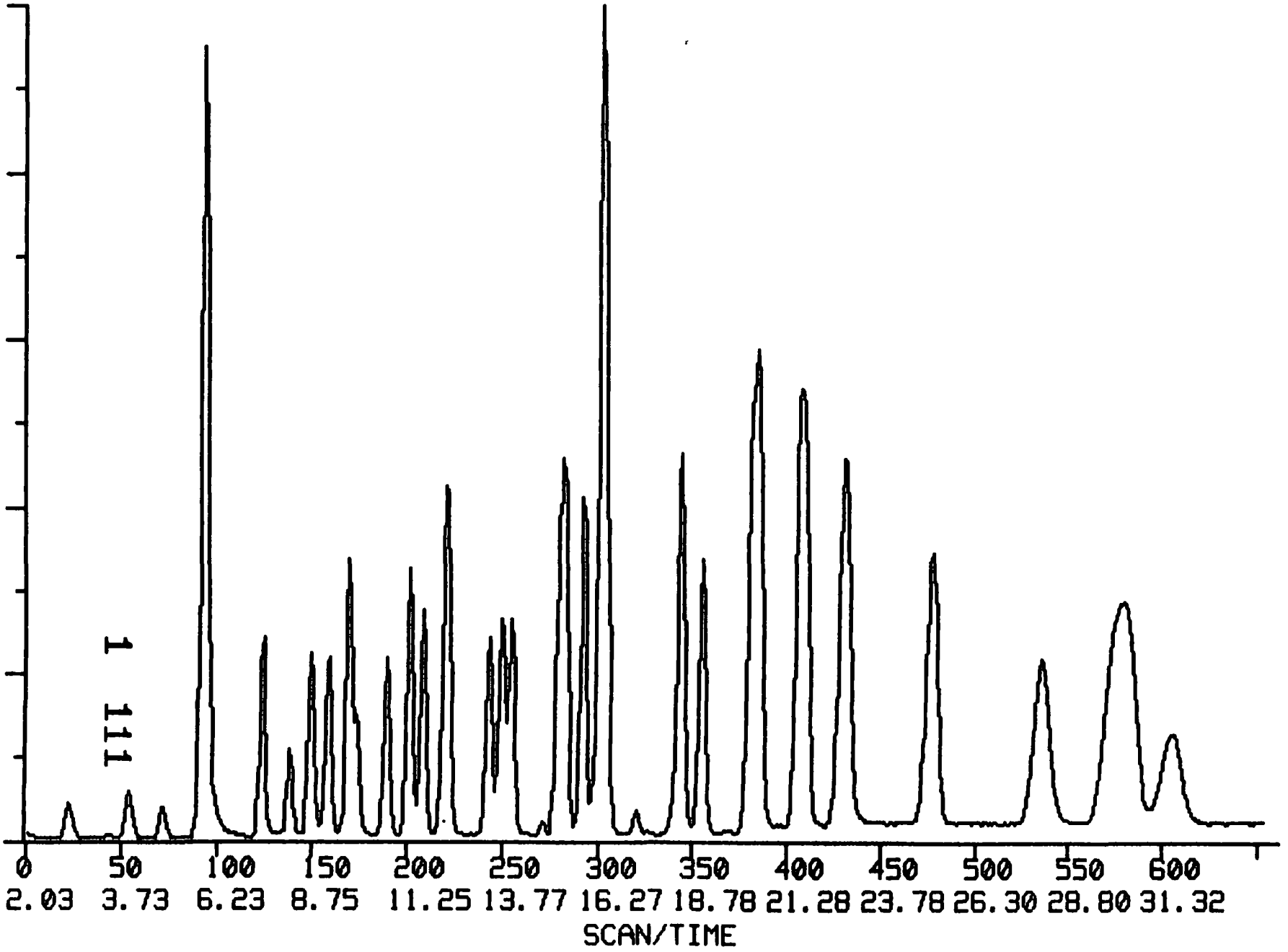
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T	2.33	22	50. / 128.	11355. / 10573.	1	0.90	59.9	NG/UL
2T	3.93	54	94. / 128.	7734. / 10573.	1	0.82	55.0	NG/UL
3T	4.78	71	62. / 128.	8165. / 10573.	1	0.91	54.6	NG/UL
4T	5.83	92	64. / 128.	5526. / 10573.	1	0.61	55.9	NG/UL
5T	7.40	123	84. / 128.	18196. / 10573.	1	0.86	51.7	NG/UL
6T	8.15	138	43. / 128.	17095. / 10573.	1	1.00	50.6	NG/UL
7T	8.70	149	76. / 128.	53408. / 10573.	1	0.80	50.0	NG/UL
8T	9.70	169	96. / 128.	17317. / 10573.	1	0.85	50.0	NG/UL
9T	10.70	189	63. / 128.	31914. / 10573.	1	0.95	50.2	NG/UL
10T	11.30	201	96. / 128.	19336. / 10573.	1	0.82	50.0	NG/UL
11T	11.65	208	83. / 128.	32615. / 10573.	1	0.84	50.7	NG/UL
12T	12.25	220	62. / 128.	23020. / 10573.	1	0.83	52.5	NG/UL
13T	12.30	221	72. / 114.	5922. / 60847.	2	1.00	50.2	NG/UL
14T	13.42	243	97. / 114.	24417. / 60847.	2	0.87	48.9	NG/UL
15T	13.72	249	117. / 114.	28040. / 60847.	2	0.78	48.8	NG/UL
16T	13.82	251	43. / 114.	8578. / 60847.	2	0.64	37.3	NG/UL
17T	14.02	255	83. / 114.	30259. / 60847.	2	0.87	51.9	NG/UL
18T	15.22	279	63. / 114.	21484. / 60847.	2	1.00	51.6	NG/UL
19T	15.37	282	75. / 114.	41149. / 60847.	2	0.92	72.6	NG/UL
20T	15.87	292	130. / 114.	25281. / 60847.	2	0.84	50.4	NG/UL
21T	16.27	300	129. / 114.	28821. / 60847.	2	1.00	52.5	NG/UL
22T	16.42	303	97. / 114.	20038. / 60847.	2	0.85	54.0	NG/UL
23T	16.37	302	78. / 114.	58072. / 60847.	2	0.83	49.9	NG/UL
24T	16.42	303	75. / 114.	29499. / 60847.	2	0.82	61.9	NG/UL
25T	18.43	343	173. / 114.	24413. / 60847.	2	0.92	52.7	NG/UL
26T	19.03	355	43. / 117.	41407. / 49072.	3	1.00	51.5	NG/UL
27T	20.28	380	43. / 117.	43355. / 49072.	3	0.94	53.1	NG/UL
28T	20.48	384	164. / 117.	20423. / 49072.	3	0.93	50.0	NG/UL
29T	20.38	382	83. / 117.	35564. / 49072.	3	0.79	49.6	NG/UL
30T	21.73	409	92. / 117.	43021. / 49072.	3	0.85	51.4	NG/UL
31T	22.83	431	112. / 117.	52102. / 49072.	3	0.96	51.8	NG/UL
32T	25.10	476	106. / 117.	28619. / 49072.	3	1.00	50.7	NG/UL
33T	29.97	573	104. / 117.	60088. / 49072.	3	0.89	51.9	NG/UL
34T	30.32	580	106. / 117.	39651. / 49072.	3	0.93	51.4	NG/UL
35T	21.58	406	98. / 117.	58563. / 49072.	3	0.95	50.7	NG/UL
36T	28.05	535	95. / 117.	33407. / 49072.	3	0.96	50.2	NG/UL
37T	12.20	219	65. / 128.	20861. / 10573.	1	0.79	51.9	NG/UL

Extended Quantitation Report

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1434
Injection time: 29-MAR-89 13:50:12

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
1T	0.235	50. / 128.	0.897	59.9	IA BB FC			1.00
2T	0.397	94. / 128.	0.665	55.0	IA BB FC			1.00
3T	0.483	62. / 128.	0.708	54.6	IA BB FC			1.00
4T	0.589	64. / 128.	0.468	55.9	IA BB FC			1.00
5T	0.747	84. / 128.	1.664	51.7	IA BB FC			1.00
6T	0.823	43. / 128.	1.599	50.6	IA BB FC			1.00
7T	0.879	76. / 128.	5.047	50.0	IA BB FC			1.00
8T	0.980	96. / 128.	1.638	50.0	IA BB FC			1.00
9T	1.081	63. / 128.	3.007	50.2	IA BB FC			1.00
10T	1.141	96. / 128.	1.828	50.0	IA BB FC			1.00
11T	1.177	83. / 128.	3.044	50.7	IA BB FC			1.00
12T	1.237	62. / 128.	2.074	52.5	IA BB FC			1.00
13T	0.667	72. / 114.	0.097	50.2	IA BB FC			1.00
14T	0.728	97. / 114.	0.410	48.9	IA BB FC			1.00
15T	0.744	117. / 114.	0.472	48.8	IA BB FC			1.00
16T	0.750	43. / 114.	0.189	37.3	IA BB FC			1.00
17T	0.761	83. / 114.	0.479	51.9	IA BB FC			1.00
18T	0.826	63. / 114.	0.342	51.6	IA BB FC			1.00
19T	0.834	75. / 114.	0.466	72.6	IA BB FC			1.00
20T	0.861	130. / 114.	0.412	50.4	IA BB FC			1.00
21T	0.883	129. / 114.	0.451	52.5	IA BB FC			1.00
22T	0.891	97. / 114.	0.305	54.0	IA BB FC			1.00
23T	0.888	78. / 114.	0.957	49.9	IA BB FC			1.00
24T	0.891	75. / 114.	0.392	61.9	IA BB FC			1.00
25T	1.000	173. / 114.	0.381	52.7	IA BB FC			1.00
26T	0.839	43. / 117.	0.820	51.5	IA BB FC			1.00
27T	0.894	43. / 117.	0.832	53.1	IA BB FC			1.00
28T	0.903	164. / 117.	0.416	50.0	IA BB FC			1.00
29T	0.899	83. / 117.	0.731	49.6	IA BB FC			1.00
30T	0.958	92. / 117.	0.853	51.4	IA BB FC			1.00
31T	1.007	112. / 117.	1.025	51.8	IA BB FC			1.00
32T	1.107	106. / 117.	0.576	50.7	IA BB FC			1.00
33T	1.321	104. / 117.	1.181	51.9	IA BB FC			1.00
34T	1.337	106. / 117.	0.786	51.4	IA BB FC			1.00
35T	0.951	98. / 117.	1.176	50.7	IA BB FC			1.00
36T	1.237	95. / 117.	0.679	50.2	IA BB FC			1.00
37T	1.232	65. / 128.	1.901	51.9	IA BB FC			1.00

C1433 EXTRC 1433, VSTD100 SOIL
29-MAR-89 13:12:44 TIC Maximum current=162952



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1433
Injection time: 29-MAR-89 13:12:44
Comments:
EXTRC 1433, VSTD100 SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

Extended Quantitation Report

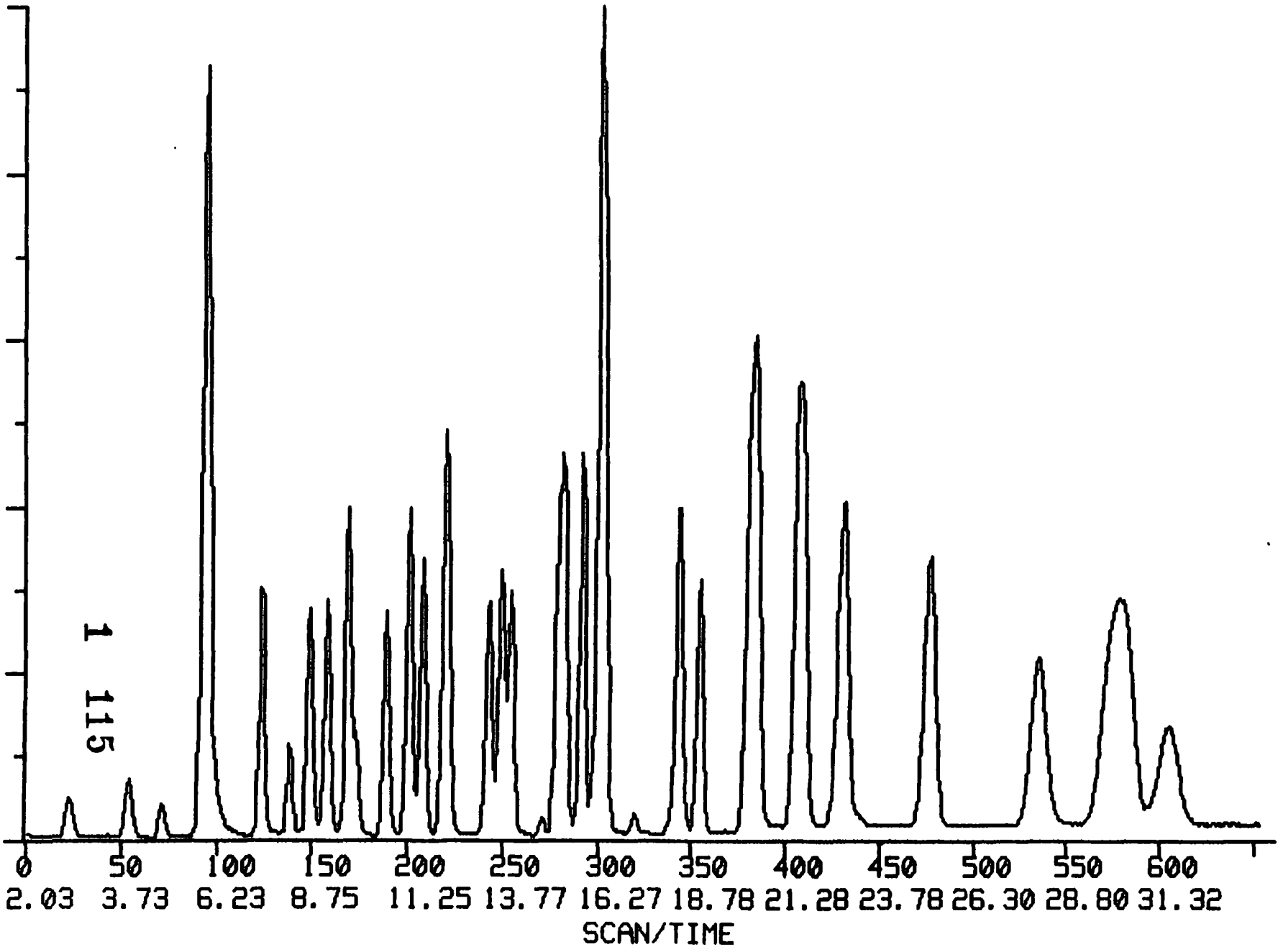
Library used: SYO:[110,10]SOIL
Data file name: SYO:C1433
Injection time: 29-MAR-89 13:12:44

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
1T	0.234	50. / 128.	0.897	100.6	IA BB FC			1.00
2T	0.395	94. / 128.	0.665	109.2	IA BB FC			1.00
3T	0.485	62. / 128.	0.708	102.9	IA BB FC			1.00
4T	0.586	64. / 128.	0.468	106.1	IA BB FC			1.00
5T	0.749	84. / 128.	1.664	93.4	IA BB FC			1.00
6T	0.819	43. / 128.	1.599	104.7	IA BB FC			1.00
7T	0.874	76. / 128.	5.047	99.2	IA BB FC			1.00
8T	0.975	96. / 128.	1.638	99.2	IA BB FC			1.00
9T	1.075	63. / 128.	3.007	98.4	IA BB FC			1.00
10T	1.136	96. / 128.	1.828	99.8	IA BB FC			1.00
11T	1.171	83. / 128.	3.044	97.5	IA BB FC			1.00
12T	1.236	62. / 128.	2.074	98.3	IA BB FC			1.00
13T	0.666	72. / 114.	0.097	105.5	IA BB FC			1.00
14T	0.726	97. / 114.	0.410	96.7	IA BB FC			1.00
15T	0.742	117. / 114.	0.472	98.2	IA BB FC			1.00
16T	0.751	43. / 114.	0.189	104.2	IA BB FC			1.00
17T	0.759	83. / 114.	0.479	96.8	IA BB FC			1.00
18T	0.826	63. / 114.	0.342	100.1	IA BB FC			1.00
19T	0.834	75. / 114.	0.466	141.6	IA BB FC			1.00
20T	0.859	130. / 114.	0.412	99.0	IA BB FC			1.00
21T	0.880	129. / 114.	0.451	102.4	IA BB FC			1.00
22T	0.889	97. / 114.	0.305	100.9	IA BB FC			1.00
23T	0.886	78. / 114.	0.957	97.9	IA BB FC			1.00
24T	0.889	75. / 114.	0.392	118.6	IA BB FC			1.00
25T	1.000	173. / 114.	0.381	101.7	IA BB FC			1.00
26T	0.837	43. / 117.	0.820	98.8	IA BB FC			1.00
27T	0.892	43. / 117.	0.832	98.9	IA BB FC			1.00
28T	0.903	164. / 117.	0.416	96.8	IA BB FC			1.00
29T	0.897	83. / 117.	0.731	92.7	IA BB FC			1.00
30T	0.956	92. / 117.	0.853	94.4	IA BB FC			1.00
31T	1.004	112. / 117.	1.025	97.1	IA BB FC			1.00
32T	1.106	106. / 117.	0.576	96.6	IA BB FC			1.00
33T	1.319	104. / 117.	1.181	94.1	IA BB FC			1.00
34T	1.336	106. / 117.	0.786	94.4	IA BB FC			1.00
35T	0.949	98. / 117.	1.176	95.5	IA BB FC			1.00
36T	1.234	95. / 117.	0.679	94.8	IA BB FC			1.00
37T	1.226	65. / 128.	1.901	98.3	IA BB FC			1.00

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.95	174			STD	1.00	50.0	NG/UL
2S	18.48	344			STD	0.95	50.0	NG/UL
3S	22.73	429			STD	0.94	50.0	NG/UL
1T	2.33	22	50. / 128.	19625. / 10881.	1	0.90	100.6	NG/UL
2T	3.93	54	94. / 128.	15796. / 10881.	1	0.73	109.2	NG/UL
3T	4.83	72	62. / 128.	15847. / 10881.	1	0.91	102.9	NG/UL
4T	5.83	92	64. / 128.	10797. / 10881.	1	0.66	106.1	NG/UL
5T	7.45	124	84. / 128.	33807. / 10881.	1	0.86	93.4	NG/UL
6T	8.15	138	43. / 128.	36414. / 10881.	1	1.00	104.7	NG/UL
7T	8.70	149	76. / 128.	108972. / 10881.	1	0.80	99.2	NG/UL
8T	9.70	169	96. / 128.	35365. / 10881.	1	0.85	99.2	NG/UL
9T	10.70	189	63. / 128.	64409. / 10881.	1	1.00	98.4	NG/UL
10T	11.30	201	96. / 128.	39694. / 10881.	1	0.82	99.8	NG/UL
11T	11.65	208	83. / 128.	64588. / 10881.	1	0.84	97.5	NG/UL
12T	12.30	221	62. / 128.	44364. / 10881.	1	0.83	98.3	NG/UL
13T	12.30	221	72. / 114.	12744. / 62325.	2	1.00	105.5	NG/UL
14T	13.42	243	97. / 114.	49427. / 62325.	2	0.87	96.7	NG/UL
15T	13.72	249	117. / 114.	57743. / 62325.	2	0.78	98.2	NG/UL
16T	13.87	252	43. / 114.	24530. / 62325.	2	1.00	104.2	NG/UL
17T	14.02	255	83. / 114.	57877. / 62325.	2	0.87	96.8	NG/UL
18T	15.27	280	63. / 114.	42720. / 62325.	2	0.96	100.1	NG/UL
19T	15.42	283	75. / 114.	82214. / 62325.	2	0.89	141.6	NG/UL
20T	15.87	292	130. / 114.	50834. / 62325.	2	0.84	99.0	NG/UL
21T	16.27	300	129. / 114.	57568. / 62325.	2	1.00	102.4	NG/UL
22T	16.42	303	97. / 114.	38354. / 62325.	2	0.82	100.9	NG/UL
23T	16.37	302	78. / 114.	116770. / 62325.	2	0.77	97.9	NG/UL
24T	16.42	303	75. / 114.	57906. / 62325.	2	0.82	118.6	NG/UL
25T	18.48	344	173. / 114.	48235. / 62325.	2	0.96	101.7	NG/UL
26T	19.03	355	43. / 117.	83468. / 51512.	3	1.00	98.8	NG/UL
27T	20.28	380	43. / 117.	84731. / 51512.	3	0.94	98.9	NG/UL
28T	20.53	385	164. / 117.	41531. / 51512.	3	0.97	96.8	NG/UL
29T	20.38	382	83. / 117.	69810. / 51512.	3	0.83	92.7	NG/UL
30T	21.73	409	92. / 117.	82929. / 51512.	3	0.85	94.4	NG/UL
31T	22.83	431	112. / 117.	102585. / 51512.	3	0.96	97.1	NG/UL
32T	25.15	477	106. / 117.	57280. / 51512.	3	1.00	96.6	NG/UL
33T	29.97	573	104. / 117.	114499. / 51512.	3	0.89	94.1	NG/UL
34T	30.37	581	106. / 117.	76402. / 51512.	3	0.78	94.4	NG/UL
35T	21.58	406	98. / 117.	115670. / 51512.	3	0.90	95.5	NG/UL
36T	28.05	535	95. / 117.	66261. / 51512.	3	0.96	94.8	NG/UL
37T	12.20	219	65. / 128.	40649. / 10881.	1	0.79	98.3	NG/UL

C1435 EXTRC 1435, VSTD150 SOIL
29-MAR-89 14:32:07 TIC Maximum current=178380



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1435
Injection time: 29-MAR-89 14:32:07
Comments:
EXTRC 1435, VSTD150 SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

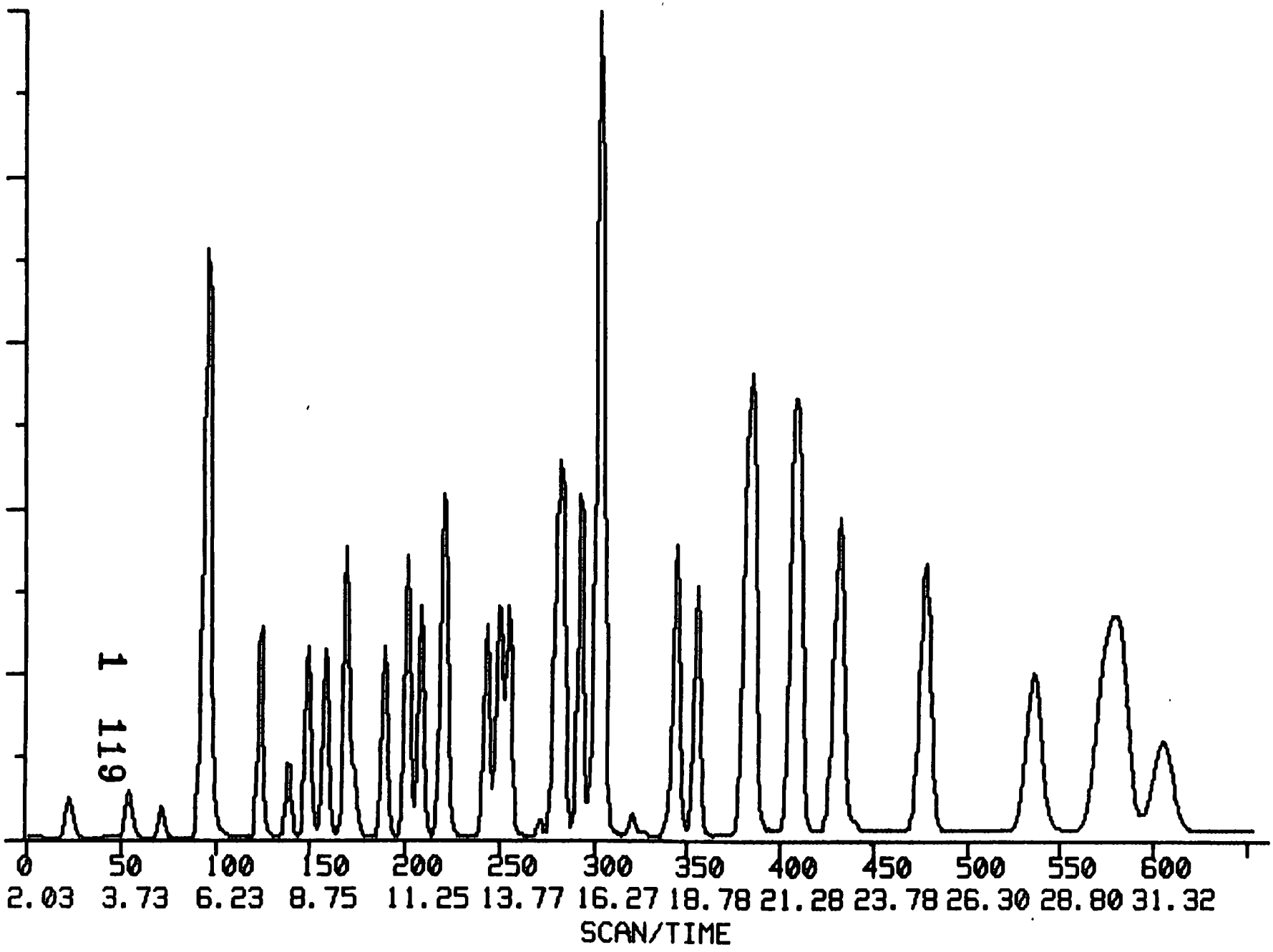
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.89	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T	2.33	22	50. / 128.	25735. / 9647.	1	1.00	148.7	NG/UL
2T	3.93	54	94. / 128.	22435. / 9647.	1	0.82	175.0	NG/UL
3T	4.78	71	62. / 128.	18957. / 9647.	1	0.83	138.9	NG/UL
4T	5.83	92	64. / 128.	14970. / 9647.	1	0.61	166.0	NG/UL
5T	7.40	123	84. / 128.	47296. / 9647.	1	0.86	147.3	NG/UL
6T	8.15	138	43. / 128.	41844. / 9647.	1	1.00	135.7	NG/UL
7T	8.70	149	76. / 128.	149576. / 9647.	1	0.70	153.6	NG/UL
8T	9.70	169	96. / 128.	48318. / 9647.	1	0.85	152.9	NG/UL
9T	10.70	189	63. / 128.	88270. / 9647.	1	0.95	152.2	NG/UL
10T	11.30	201	96. / 128.	53802. / 9647.	1	0.82	152.5	NG/UL
11T	11.65	208	83. / 128.	88264. / 9647.	1	0.84	150.3	NG/UL
12T	12.30	221	62. / 128.	56741. / 9647.	1	0.83	141.8	NG/UL
13T	12.30	221	72. / 114.	13985. / 49819.	2	1.00	144.8	NG/UL
14T	13.37	242	97. / 114.	65731. / 49819.	2	0.84	160.9	NG/UL
15T	13.72	249	117. / 114.	75524. / 49819.	2	0.78	160.7	NG/UL
16T	13.82	251	43. / 114.	36140. / 49819.	2	1.00	192.0	NG/UL
17T	14.02	255	83. / 114.	71803. / 49819.	2	0.87	150.3	NG/UL
18T	15.22	279	63. / 114.	49758. / 49819.	2	1.00	145.8	NG/UL
19T	15.37	282	75. / 114.	90085. / 49819.	2	0.92	194.1	NG/UL
20T	15.87	292	130. / 114.	61785. / 49819.	2	0.87	150.5	NG/UL
21T	16.27	300	129. / 114.	62356. / 49819.	2	1.00	138.8	NG/UL
22T	16.42	303	97. / 114.	39960. / 49819.	2	0.85	131.5	NG/UL
23T	16.37	302	78. / 114.	147462. / 49819.	2	0.77	154.7	NG/UL
24T	16.42	303	75. / 114.	57859. / 49819.	2	0.85	148.3	NG/UL
25T	18.48	344	173. / 114.	53873. / 49819.	2	1.00	142.1	NG/UL
26T	19.03	355	43. / 117.	87083. / 36307.	3	1.00	146.3	NG/UL
27T	20.28	380	43. / 117.	82654. / 36307.	3	0.88	136.8	NG/UL
28T	20.53	385	164. / 117.	46323. / 36307.	3	0.93	153.2	NG/UL
29T	20.38	382	83. / 117.	84782. / 36307.	3	0.79	159.7	NG/UL
30T	21.73	409	92. / 117.	92165. / 36307.	3	0.85	148.9	NG/UL
31T	22.83	431	112. / 117.	108821. / 36307.	3	0.96	146.1	NG/UL
32T	25.15	477	106. / 117.	62106. / 36307.	3	1.00	148.6	NG/UL
33T	29.97	573	104. / 117.	128232. / 36307.	3	0.89	149.6	NG/UL
34T	30.37	581	106. / 117.	86893. / 36307.	3	0.85	152.3	NG/UL
35T	21.58	406	98. / 117.	129110. / 36307.	3	0.90	151.2	NG/UL
36T	28.05	535	95. / 117.	75015. / 36307.	3	1.00	152.3	NG/UL
37T	12.20	219	65. / 128.	53058. / 9647.	1	0.79	144.7	NG/UL

Extended Quantitation Report

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1435
Injection time: 29-MAR-89 14:32:07

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
1T	0.235	50. / 128.	0.897	148.7	IA BB FC			1.00
2T	0.397	94. / 128.	0.665	175.0	IA BB FC			1.00
3T	0.483	62. / 128.	0.708	138.9	IA BB FC			1.00
4T	0.589	64. / 128.	0.468	166.0	IA BB FC			1.00
5T	0.747	84. / 128.	1.664	147.3	IA BB FC			1.00
6T	0.823	43. / 128.	1.599	135.7	IA BB FC			1.00
7T	0.879	76. / 128.	5.047	153.6	IA BB FC			1.00
8T	0.980	96. / 128.	1.638	152.9	IA BB FC			1.00
9T	1.081	63. / 128.	3.007	152.2	IA BB FC			1.00
10T	1.141	96. / 128.	1.828	152.5	IA BB FC			1.00
11T	1.177	83. / 128.	3.044	150.3	IA BB FC			1.00
12T	1.242	62. / 128.	2.074	141.8	IA BB FC			1.00
13T	0.667	72. / 114.	0.097	144.8	IA BB FC			1.00
14T	0.725	97. / 114.	0.410	160.9	IA BB FC			1.00
15T	0.744	117. / 114.	0.472	160.7	IA BB FC			1.00
16T	0.750	43. / 114.	0.189	192.0	IA BB FC			1.00
17T	0.761	83. / 114.	0.479	150.3	IA BB FC			1.00
18T	0.826	63. / 114.	0.342	145.8	IA BB FC			1.00
19T	0.834	75. / 114.	0.466	194.1	IA BB FC			1.00
20T	0.861	130. / 114.	0.412	150.5	IA BB FC			1.00
21T	0.883	129. / 114.	0.451	138.8	IA BB FC			1.00
22T	0.891	97. / 114.	0.305	131.5	IA BB FC			1.00
23T	0.888	78. / 114.	0.957	154.7	IA BB FC			1.00
24T	0.891	75. / 114.	0.392	148.3	IA BB FC			1.00
25T	1.003	173. / 114.	0.381	142.1	IA BB FC			1.00
26T	0.839	43. / 117.	0.820	146.3	IA BB FC			1.00
27T	0.894	43. / 117.	0.832	136.8	IA BB FC			1.00
28T	0.905	164. / 117.	0.416	153.2	IA BB FC			1.00
29T	0.899	83. / 117.	0.731	159.7	IA BB FC			1.00
30T	0.958	92. / 117.	0.853	148.9	IA BB FC			1.00
31T	1.007	112. / 117.	1.025	146.1	IA BB FC			1.00
32T	1.109	106. / 117.	0.576	148.6	IA BB FC			1.00
33T	1.321	104. / 117.	1.181	149.6	IA BB FC			1.00
34T	1.339	106. / 117.	0.786	152.3	IA BB FC			1.00
35T	0.951	98. / 117.	1.176	151.2	IA BB FC			1.00
36T	1.237	95. / 117.	0.679	152.3	IA BB FC			1.00
37T	1.232	65. / 128.	1.901	144.7	IA BB FC			1.00

C1437 EXTRC 1437, VSTD200 SOIL
29-MAR-89 15:55:21 TIC Maximum current=291773



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1437
Injection time: 29-MAR-89 15:55:21
Comments:
EXTRC 1437, VSTD200 SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.95	174			STD	1.00	50.0	NG/UL
2S	18.48	344			STD	0.89	50.0	NG/UL
3S	22.73	429			STD	0.94	50.0	NG/UL
1T	2.33	22	50. / 128.	43504. / 10018.	1	0.90	242.1	NG/UL
2T	3.93	54	94. / 128.	29144. / 10018.	1	0.73	218.9	NG/UL
3T	4.78	71	62. / 128.	27454. / 10018.	1	0.83	193.7	NG/UL
4T	5.83	92	64. / 128.	20846. / 10018.	1	0.61	222.5	NG/UL
5T	7.45	124	84. / 128.	63711. / 10018.	1	0.86	191.1	NG/UL
6T	8.15	138	43. / 128.	57525. / 10018.	1	1.00	179.6	NG/UL
7T	8.70	149	76. / 128.	204332. / 10018.	1	0.70	202.0	NG/UL
8T	9.70	169	96. / 128.	65889. / 10018.	1	0.85	200.8	NG/UL
9T	10.70	189	63. / 128.	121694. / 10018.	1	0.74	202.0	NG/UL
10T	11.30	201	96. / 128.	73445. / 10018.	1	0.82	200.5	NG/UL
11T	11.65	208	83. / 128.	121790. / 10018.	1	0.74	199.7	NG/UL
12T	12.30	221	62. / 128.	81905. / 10018.	1	0.83	197.1	NG/UL
13T	12.30	221	72. / 114.	20146. / 58000.	2	1.00	179.2	NG/UL
14T	13.42	243	97. / 114.	94097. / 58000.	2	0.87	197.8	NG/UL
15T	13.72	249	117. / 114.	109806. / 58000.	2	0.78	200.6	NG/UL
16T	13.87	252	43. / 114.	64419. / 58000.	2	1.00	293.9	NG/UL
17T	14.02	255	83. / 114.	109486. / 58000.	2	0.87	196.9	NG/UL
18T	15.27	280	63. / 114.	77449. / 58000.	2	0.96	195.0	NG/UL
19T	15.42	283	75. / 114.	148748. / 58000.	2	0.81	275.3	NG/UL
20T	15.87	292	130. / 114.	93616. / 58000.	2	0.84	195.8	NG/UL
21T	16.27	300	129. / 114.	102936. / 58000.	2	1.00	196.8	NG/UL
22T	16.42	303	97. / 114.	67020. / 58000.	2	0.85	189.5	NG/UL
23T	16.37	302	78. / 114.	214828. / 58000.	2	0.77	193.6	NG/UL
24T	16.47	304	75. / 114.	101784. / 58000.	2	0.82	224.1	NG/UL
25T	18.48	344	173. / 114.	85778. / 58000.	2	0.96	194.3	NG/UL
26T	19.03	355	43. / 117.	138964. / 43865.	3	0.75	193.2	NG/UL
27T	20.28	380	43. / 117.	131566. / 43865.	3	0.71	180.3	NG/UL
28T	20.53	385	164. / 117.	72253. / 43865.	3	1.00	197.8	NG/UL
29T	20.38	382	83. / 117.	125596. / 43865.	3	0.75	195.8	NG/UL
30T	21.73	409	92. / 117.	148526. / 43865.	3	0.79	198.5	NG/UL
31T	22.83	431	112. / 117.	178422. / 43865.	3	0.88	198.3	NG/UL
32T	25.15	477	106. / 117.	99931. / 43865.	3	0.89	197.9	NG/UL
33T	29.97	573	104. / 117.	200879. / 43865.	3	0.89	193.9	NG/UL
34T	30.42	582	106. / 117.	135211. / 43865.	3	0.85	196.1	NG/UL
35T	21.58	406	98. / 117.	206366. / 43865.	3	0.84	200.0	NG/UL
36T	28.10	536	95. / 117.	118077. / 43865.	3	0.96	198.4	NG/UL
37T	12.20	219	65. / 128.	76444. / 10018.	1	0.79	200.7	NG/UL

Extended Quantitation Report

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1437
Injection time: 29-MAR-89 15:55:21

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
1T	0.234	50. / 128.	0.897	242.1	IA BB FC			1.00
2T	0.395	94. / 128.	0.665	218.9	IA BB FC			1.00
3T	0.480	62. / 128.	0.708	193.7	IA BB FC			1.00
4T	0.586	64. / 128.	0.468	222.5	IA BB FC			1.00
5T	0.749	84. / 128.	1.664	191.1	IA BB FC			1.00
6T	0.819	43. / 128.	1.599	179.6	IA BB FC			1.00
7T	0.874	76. / 128.	5.047	202.0	IA BB FC			1.00
8T	0.975	96. / 128.	1.638	200.8	IA BB FC			1.00
9T	1.075	63. / 128.	3.007	202.0	IA BB FC			1.00
10T	1.136	96. / 128.	1.828	200.5	IA BB FC			1.00
11T	1.171	83. / 128.	3.044	199.7	IA BB FC			1.00
12T	1.236	62. / 128.	2.074	197.1	IA BB FC			1.00
13T	0.666	72. / 114.	0.097	179.2	IA BB FC			1.00
14T	0.726	97. / 114.	0.410	197.8	IA BB FC			1.00
15T	0.742	117. / 114.	0.472	200.6	IA BB FC			1.00
16T	0.751	43. / 114.	0.189	293.9	IA BB FC			1.00
17T	0.759	83. / 114.	0.479	196.9	IA BB FC			1.00
18T	0.826	63. / 114.	0.342	195.0	IA BB FC			1.00
19T	0.834	75. / 114.	0.466	275.3	IA BB FC			1.00
20T	0.859	130. / 114.	0.412	195.8	IA BB FC			1.00
21T	0.880	129. / 114.	0.451	196.8	IA BB FC			1.00
22T	0.889	97. / 114.	0.305	189.5	IA BB FC			1.00
23T	0.886	78. / 114.	0.957	193.6	IA BB FC			1.00
24T	0.891	75. / 114.	0.392	224.1	IA BB FC			1.00
25T	1.000	173. / 114.	0.381	194.3	IA BB FC			1.00
26T	0.837	43. / 117.	0.820	193.2	IA BB FC			1.00
27T	0.892	43. / 117.	0.832	180.3	IA BB FC			1.00
28T	0.903	164. / 117.	0.416	197.8	IA BB FC			1.00
29T	0.897	83. / 117.	0.731	195.8	IA BB FC			1.00
30T	0.956	92. / 117.	0.853	198.5	IA BB FC			1.00
31T	1.004	112. / 117.	1.025	198.3	IA BB FC			1.00
32T	1.106	106. / 117.	0.576	197.9	IA BB FC			1.00
33T	1.319	104. / 117.	1.181	193.9	IA BB FC			1.00
34T	1.338	106. / 117.	0.786	196.1	IA BB FC			1.00
35T	0.949	98. / 117.	1.176	200.0	IA BB FC			1.00
36T	1.236	95. / 117.	0.679	198.4	IA BB FC			1.00
37T	1.226	65. / 128.	1.901	200.7	IA BB FC			1.00

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: EXTRC Calibration Date: 3/31/89 Time: 10:54

Lab File ID: C1443 Init. Calib. Date(s): 3/29/89 3/29/89

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) PACK

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) is 25.0%

COMPOUND	RRF	RRF50	%D
Chloromethane #	0.897	0.804	10.3 #
Bromomethane	0.665	0.685	3.1
Vinyl Chloride *	0.708	0.780	10.2 *
Chloroethane	0.468	0.483	3.4
Methylene Chloride	1.664	1.507	9.4
Acetone	1.599	1.841	15.2
Carbon Disulfide	5.047	5.068	0.4
1,1-Dichloroethene *	1.638	1.666	1.7 *
1,1-Dichloroethane #	3.007	3.086	2.6 #
1,2-Dichloroethene (total)	1.828	1.874	2.5
Chloroform *	3.044	3.094	1.7 *
1,2-Dichloroethane	2.074	2.092	0.9
2-Butanone	0.097	0.119	22.4
1,1,1-Trichloroethane	0.410	0.417	1.7
Carbon Tetrachloride	0.472	0.474	0.6
Vinyl Acetate	0.189	0.161	14.7
Bromodichloromethane	0.479	0.503	4.9
1,2-Dichloropropane *	0.342	0.364	6.3 *
cis-1,3-Dichloropropene	0.466	0.485	4.0
Trichloroethene	0.412	0.426	3.3
Dibromochloromethane	0.451	0.470	4.1
1,1,2-Trichloroethane	0.305	0.327	7.4
Benzene	0.957	0.997	4.2
trans-1,3-Dichloropropene	0.392	0.414	5.6
Bromoform #	0.381	0.379	0.3 #
4-Methyl-2-Pentanone	0.820	0.835	1.9
2-Hexanone	0.830	0.904	9.0
Tetrachloroethene	0.416	0.419	0.7
1,1,2,2-Tetrachloroethane #	0.731	0.688	5.9 #
Toluene *	0.853	0.873	2.4 *
Chlorobenzene #	1.025	1.025	0.1 #
Ethylbenzene *	0.576	0.589	2.3 *
Styrene	1.181	1.186	0.4
Xylenes (total)	0.785	0.805	2.5
Toluene-d8	1.176	1.192	1.4
Bromofluorobenzene	0.679	0.665	2.0
1,2-Dichloroethane-d4	1.901	1.903	0.1

FORM VII VOA 1/87 Rev.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: EXTRC Calibration Date: 4/ 3/89 Time: 8:18

Lab File ID: C1450 Init. Calib. Date(s): 3/29/89 3/29/89

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) PACK

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) is 25.0%

COMPOUND	RRF	RRF50	%D
Chloromethane #	0.897	0.603	32.8 #
Bromomethane	0.665	0.695	4.5
Vinyl Chloride *	0.708	0.799	12.9 *
Chloroethane	0.468	0.480	2.7
Methylene Chloride	1.664	1.391	16.4
Acetone	1.599	2.066	29.3
Carbon Disulfide	5.047	5.022	0.5
1,1-Dichloroethene *	1.638	1.628	0.6 *
1,1-Dichloroethane #	3.007	2.995	0.4 #
1,2-Dichloroethene (total)	1.828	1.814	0.8
Chloroform *	3.044	2.956	2.9 *
1,2-Dichloroethane	2.074	2.130	2.7
2-Butanone	0.097	0.128	32.6
1,1,1-Trichloroethane	0.410	0.423	3.2
Carbon Tetrachloride	0.472	0.482	2.2
Vinyl Acetate	0.189	0.127	32.5
Bromodichloromethane	0.479	0.500	4.3
1,2-Dichloropropane *	0.342	0.352	2.9 *
cis-1,3-Dichloropropene	0.466	0.490	5.2
Trichloroethene	0.412	0.422	2.5
Dibromochloromethane	0.451	0.466	3.4
1,1,2-Trichloroethane	0.305	0.325	6.5
Benzene	0.957	0.986	3.1
trans-1,3-Dichloropropene	0.392	0.409	4.3
Bromoform #	0.381	0.379	0.3 #
4-Methyl-2-Pentanone	0.820	0.859	4.8
2-Hexanone	0.830	0.875	5.4
Tetrachloroethene	0.416	0.401	3.7
1,1,2,2-Tetrachloroethane #	0.731	0.706	3.4 #
Toluene *	0.853	0.836	2.0 *
Chlorobenzene #	1.025	1.001	2.4 #
Ethylbenzene *	0.576	0.565	1.9 *
Styrene	1.181	1.102	6.7
Xylenes (total)	0.785	0.753	4.0
Toluene-d8	1.176	1.162	1.2
Bromofluorobenzene	0.679	0.638	6.0
1,2-Dichloroethane-d4	1.901	1.909	0.4

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: EXTRC Calibration Date: 4/ 4/89 Time: 9:09

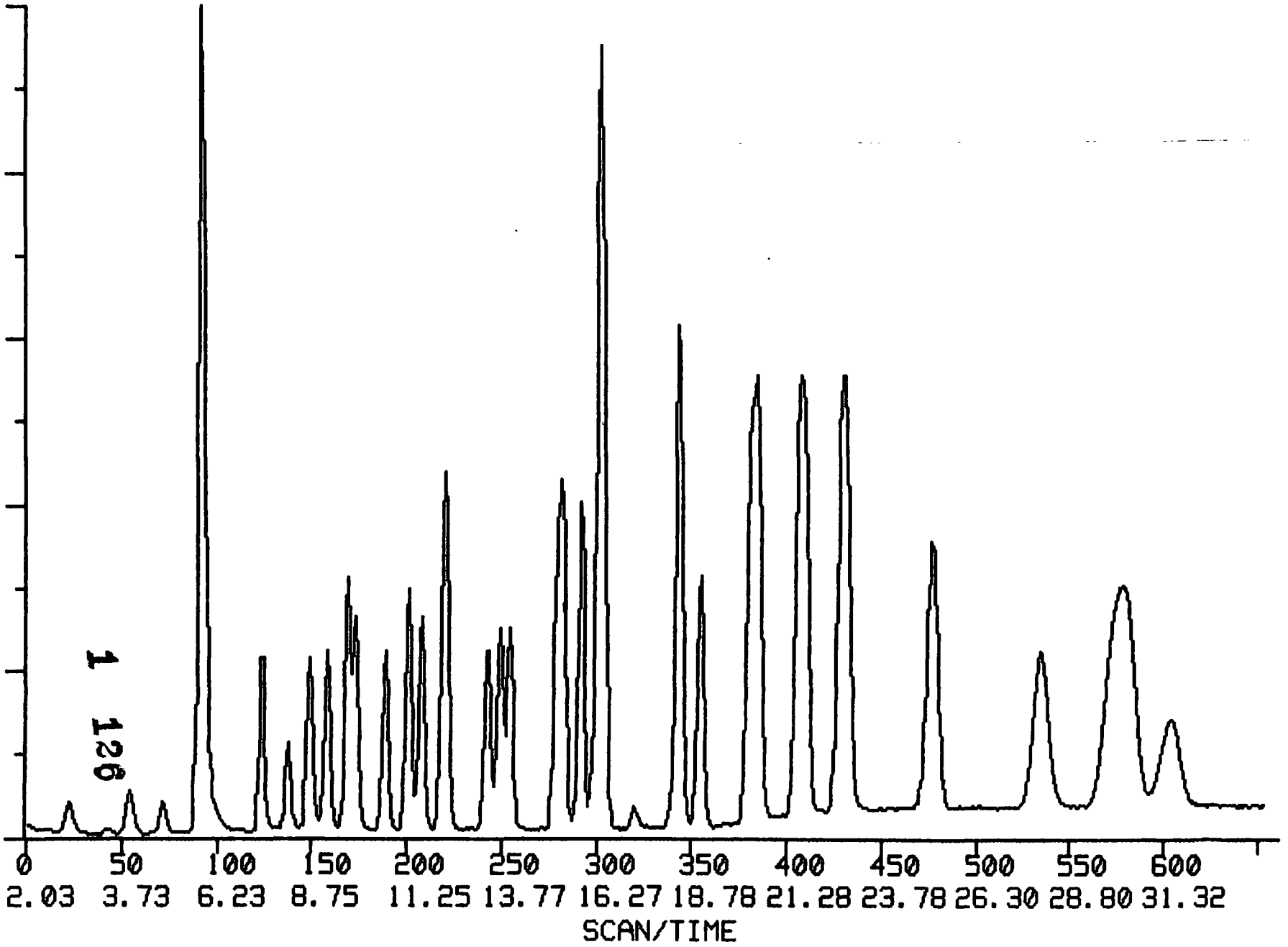
Lab File ID: C1461 Init. Calib. Date(s): 3/29/89 3/29/89

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) PACK

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) is 25.0%

COMPOUND	RRF	RRF50	%D
Chloromethane #	0.897	0.908	1.2 #
Bromomethane	0.665	0.655	1.5
Vinyl Chloride *	0.708	0.804	13.6 *
Chloroethane	0.468	0.482	3.1
Methylene Chloride	1.664	1.796	8.0
Acetone	1.599	1.667	4.3
Carbon Disulfide	5.047	4.922	2.5
1,1-Dichloroethene *	1.638	1.621	1.0 *
1,1-Dichloroethane #	3.007	3.935	30.9 #
1,2-Dichloroethene (total)	1.828	1.823	0.3
Chloroform *	3.044	3.064	0.7 *
1,2-Dichloroethane	2.074	2.215	6.8
2-Butanone	0.097	0.103	6.3
1,1,1-Trichloroethane	0.410	0.416	1.5
Carbon Tetrachloride	0.472	0.474	0.4
Vinyl Acetate	0.189	0.106	43.9
Bromodichloromethane	0.479	0.484	0.9
1,2-Dichloropropane *	0.342	0.357	4.2 *
cis-1,3-Dichloropropene	0.466	0.477	2.3
Trichloroethene	0.412	0.418	1.4
Dibromochloromethane	0.451	0.461	2.2
1,1,2-Trichloroethane	0.305	0.321	5.3
Benzene	0.957	0.970	1.4
trans-1,3-Dichloropropene	0.392	0.411	5.0
Bromoform #	0.381	0.371	2.6 #
4-Methyl-2-Pentanone	0.820	0.795	3.1
2-Hexanone	0.830	0.817	1.5
Tetrachloroethene	0.416	0.412	1.0
1,1,2,2-Tetrachloroethane #	0.731	0.646	11.6 #
Toluene *	0.853	0.871	2.2 *
Chlorobenzene #	1.025	1.022	0.3 #
Ethylbenzene *	0.576	0.578	0.3 *
Styrene	1.181	1.183	0.2
Xylenes (total)	0.785	0.771	1.8
Toluene-d8	1.176	1.185	0.7
Bromofluorobenzene	0.679	0.648	4.4
1,2-Dichloroethane-d4	1.901	2.007	5.6

C1443 EXTRC 1443, VSTD50 CASE 11688, SOIL
31-MAR-89 10:54:31 TIC Maximum current=101440



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1443
Injection time: 31-MAR-89 10:54:31
Comments:
EXTRC 1443, VSTD50, CASE 11688, SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

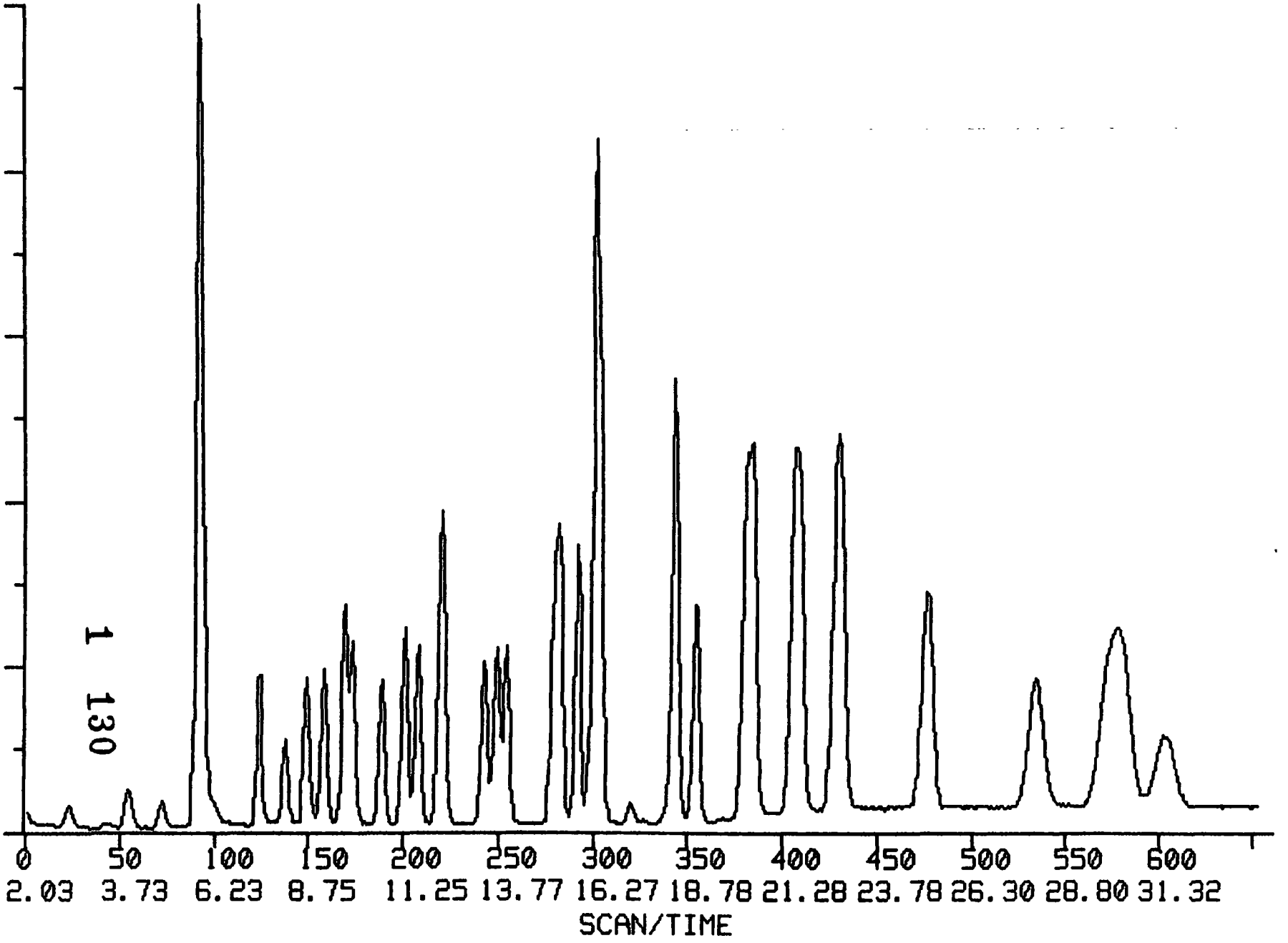
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T	2.33	22	50. / 128.	11423. / 12914.	1	0.90	55.0	NG/UL
2T	3.93	54	94. / 128.	9733. / 12914.	1	0.73	55.0	NG/UL
3T	4.78	71	62. / 128.	10071. / 12914.	1	0.83	50.0	NG/UL
4T	5.83	92	64. / 128.	6868. / 12914.	1	0.61	55.0	NG/UL
5T	7.40	123	84. / 128.	19463. / 12914.	1	0.86	50.0	NG/UL
6T	8.10	137	43. / 128.	23777. / 12914.	1	1.00	50.0	NG/UL
7T	8.70	149	76. / 128.	65449. / 12914.	1	0.80	50.0	NG/UL
8T	9.70	169	96. / 128.	21517. / 12914.	1	0.85	50.0	NG/UL
9T	10.70	189	63. / 128.	39851. / 12914.	1	0.95	50.0	NG/UL
10T	11.30	201	96. / 128.	24207. / 12914.	1	0.82	50.0	NG/UL
11T	11.65	208	83. / 128.	39957. / 12914.	1	0.84	50.0	NG/UL
12T	12.25	220	62. / 128.	27011. / 12914.	1	0.78	50.0	NG/UL
13T	12.30	221	72. / 114.	8398. / 70805.	2	1.00	50.0	NG/UL
14T	13.37	242	97. / 114.	29543. / 70805.	2	0.87	50.0	NG/UL
15T	13.72	249	117. / 114.	33592. / 70805.	2	0.78	50.0	NG/UL
16T	13.82	251	43. / 114.	11408. / 70805.	2	0.82	50.0	NG/UL
17T	14.02	255	83. / 114.	35625. / 70805.	2	0.87	50.0	NG/UL
18T	15.22	279	63. / 114.	25773. / 70805.	2	1.00	50.0	NG/UL
19T	15.37	282	75. / 114.	48044. / 70805.	2	0.92	70.0	NG/UL
20T	15.87	292	130. / 114.	30144. / 70805.	2	0.87	50.0	NG/UL
21T	16.27	300	129. / 114.	33258. / 70805.	2	1.00	50.0	NG/UL
22T	16.37	302	97. / 114.	23186. / 70805.	2	0.85	50.0	NG/UL
23T	16.37	302	78. / 114.	70614. / 70805.	2	0.83	50.0	NG/UL
24T	16.42	303	75. / 114.	33679. / 70805.	2	0.85	57.5	NG/UL
25T	18.43	343	173. / 114.	26868. / 70805.	2	0.92	50.0	NG/UL
26T	19.03	355	43. / 117.	48874. / 58527.	3	0.94	50.0	NG/UL
27T	20.28	380	43. / 117.	52921. / 58527.	3	0.94	50.0	NG/UL
28T	20.48	384	164. / 117.	24546. / 58527.	3	0.97	50.0	NG/UL
29T	20.38	382	83. / 117.	40243. / 58527.	3	0.83	50.0	NG/UL
30T	21.73	409	92. / 117.	51114. / 58527.	3	0.85	50.0	NG/UL
31T	22.83	431	112. / 117.	59974. / 58527.	3	0.96	50.0	NG/UL
32T	25.10	476	106. / 117.	34451. / 58527.	3	1.00	50.0	NG/UL
33T	29.97	573	104. / 117.	69415. / 58527.	3	0.89	50.0	NG/UL
34T	30.32	580	106. / 117.	47086. / 58527.	3	0.85	50.0	NG/UL
35T	21.53	405	98. / 117.	69791. / 58527.	3	0.90	50.0	NG/UL
36T	28.00	534	95. / 117.	38928. / 58527.	3	0.96	50.0	NG/UL
37T	12.20	219	65. / 128.	24578. / 12914.	1	0.79	50.0	NG/UL

Extended Quantitation Report

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1443
Injection time: 31-MAR-89 10:54:31

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
1T	0.235	50. / 128.	0.804	55.0	IA BB RF			1.00
2T	0.397	94. / 128.	0.685	55.0	IA BB RF			1.00
3T	0.483	62. / 128.	0.780	50.0	IA BB RF			1.00
4T	0.589	64. / 128.	0.483	55.0	IA BB RF			1.00
5T	0.747	84. / 128.	1.507	50.0	IA BB RF			1.00
6T	0.818	43. / 128.	1.841	50.0	IA BB RF			1.00
7T	0.879	76. / 128.	5.068	50.0	IA BB RF			1.00
8T	0.980	96. / 128.	1.666	50.0	IA BB RF			1.00
9T	1.081	63. / 128.	3.086	50.0	IA BB RF			1.00
10T	1.141	96. / 128.	1.874	50.0	IA BB RF			1.00
11T	1.177	83. / 128.	3.094	50.0	IA BB RF			1.00
12T	1.237	62. / 128.	2.092	50.0	IA BB RF			1.00
13T	0.667	72. / 114.	0.119	50.0	IA BB RF			1.00
14T	0.725	97. / 114.	0.417	50.0	IA BB RF			1.00
15T	0.744	117. / 114.	0.474	50.0	IA BB RF			1.00
16T	0.750	43. / 114.	0.161	50.0	IA BB RF			1.00
17T	0.761	83. / 114.	0.503	50.0	IA BB RF			1.00
18T	0.826	63. / 114.	0.364	50.0	IA BB RF			1.00
19T	0.834	75. / 114.	0.485	70.0	IA BB RF			1.00
20T	0.861	130. / 114.	0.426	50.0	IA BB RF			1.00
21T	0.883	129. / 114.	0.470	50.0	IA BB RF			1.00
22T	0.888	97. / 114.	0.327	50.0	IA BB RF			1.00
23T	0.888	78. / 114.	0.997	50.0	IA BB RF			1.00
24T	0.891	75. / 114.	0.414	57.5	IA BB RF			1.00
25T	1.000	173. / 114.	0.379	50.0	IA BB RF			1.00
26T	0.839	43. / 117.	0.835	50.0	IA BB RF			1.00
27T	0.894	43. / 117.	0.904	50.0	IA BB RF			1.00
28T	0.903	164. / 117.	0.419	50.0	IA BB RF			1.00
29T	0.899	83. / 117.	0.688	50.0	IA BB RF			1.00
30T	0.958	92. / 117.	0.873	50.0	IA BB RF			1.00
31T	1.007	112. / 117.	1.025	50.0	IA BB RF			1.00
32T	1.107	106. / 117.	0.589	50.0	IA BB RF			1.00
33T	1.321	104. / 117.	1.186	50.0	IA BB RF			1.00
34T	1.337	106. / 117.	0.805	50.0	IA BB RF			1.00
35T	0.949	98. / 117.	1.192	50.0	IA BB RF			1.00
36T	1.235	95. / 117.	0.665	50.0	IA BB RF			1.00
37T	1.232	65. / 128.	1.903	50.0	IA BB RF			1.00

C1450 EXTRC 1450, VSTD50 2, CASE 11688 SOIL
03-APR-89 08:18:32 TIC Maximum current=125726



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1450
Injection time: 03-APR-89 08:18:32
Comments:
EXTRC 1450, VSTD50 2, CASE 11688 SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

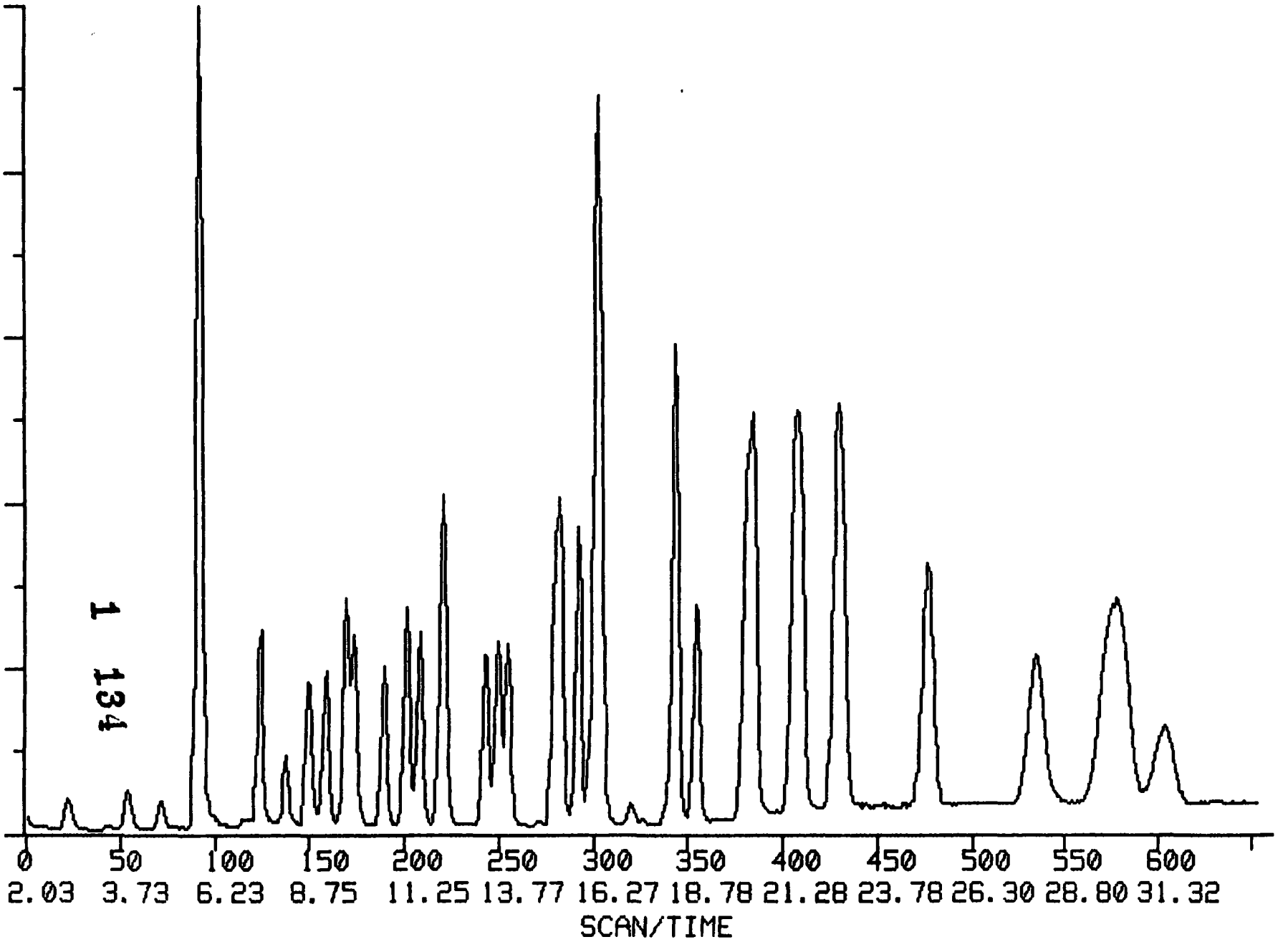
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T	2.38	23	50. / 128.	9172. / 13826.	1	0.90	55.0	NG/UL
2T	3.93	54	94. / 128.	10563. / 13826.	1	0.82	55.0	NG/UL
3T	4.83	72	62. / 128.	11045. / 13826.	1	0.91	50.0	NG/UL
4T	5.83	92	64. / 128.	7300. / 13826.	1	0.61	55.0	NG/UL
5T	7.40	123	84. / 128.	19236. / 13826.	1	0.86	50.0	NG/UL
6T	8.10	137	43. / 128.	28570. / 13826.	1	1.00	50.0	NG/UL
7T	8.70	149	76. / 128.	69441. / 13826.	1	0.80	50.0	NG/UL
8T	9.70	169	96. / 128.	22509. / 13826.	1	0.85	50.0	NG/UL
9T	10.70	189	63. / 128.	41412. / 13826.	1	1.00	50.0	NG/UL
10T	11.30	201	96. / 128.	25079. / 13826.	1	0.82	50.0	NG/UL
11T	11.65	208	83. / 128.	40865. / 13826.	1	0.84	50.0	NG/UL
12T	12.25	220	62. / 128.	29452. / 13826.	1	0.78	50.0	NG/UL
13T	12.30	221	72. / 114.	9674. / 75294.	2	1.00	50.0	NG/UL
14T	13.37	242	97. / 114.	31858. / 75294.	2	0.87	50.0	NG/UL
15T	13.72	249	117. / 114.	36317. / 75294.	2	0.78	50.0	NG/UL
16T	13.82	251	43. / 114.	9596. / 75294.	2	1.00	50.0	NG/UL
17T	13.97	254	83. / 114.	37634. / 75294.	2	0.87	50.0	NG/UL
18T	15.22	279	63. / 114.	26534. / 75294.	2	1.00	50.0	NG/UL
19T	15.37	282	75. / 114.	51639. / 75294.	2	0.92	70.0	NG/UL
20T	15.87	292	130. / 114.	31795. / 75294.	2	0.87	50.0	NG/UL
21T	16.22	299	129. / 114.	35119. / 75294.	2	1.00	50.0	NG/UL
22T	16.37	302	97. / 114.	24463. / 75294.	2	0.85	50.0	NG/UL
23T	16.37	302	78. / 114.	74249. / 75294.	2	0.83	50.0	NG/UL
24T	16.42	303	75. / 114.	35378. / 75294.	2	0.78	57.5	NG/UL
25T	18.43	343	173. / 114.	28560. / 75294.	2	0.92	50.0	NG/UL
26T	19.03	355	43. / 117.	53886. / 62736.	3	1.00	50.0	NG/UL
27T	20.28	380	43. / 117.	54865. / 62736.	3	0.94	50.0	NG/UL
28T	20.48	384	164. / 117.	25150. / 62736.	3	0.97	50.0	NG/UL
29T	20.38	382	83. / 117.	44293. / 62736.	3	0.79	50.0	NG/UL
30T	21.73	409	92. / 117.	52443. / 62736.	3	0.85	50.0	NG/UL
31T	22.78	430	112. / 117.	62781. / 62736.	3	0.96	50.0	NG/UL
32T	25.10	476	106. / 117.	35424. / 62736.	3	1.00	50.0	NG/UL
33T	29.92	572	104. / 117.	69131. / 62736.	3	0.89	50.0	NG/UL
34T	30.37	581	106. / 117.	47254. / 62736.	3	0.85	50.0	NG/UL
35T	21.53	405	98. / 117.	72868. / 62736.	3	0.95	50.0	NG/UL
36T	28.05	535	95. / 117.	40031. / 62736.	3	1.00	50.0	NG/UL
37T	12.20	219	65. / 128.	26392. / 13826.	1	0.79	50.0	NG/UL

Extended Quantitation Report

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1450
Injection time: 03-APR-89 08:18:32

No	RRT	Tmass/Smass	Res fac	Conc	Ty	Pk	Mq	Ave	S.D.	624/625
1S				50.0						
2S				50.0						
3S				50.0						
1T	0.240	50. / 128.	0.603	55.0	IA	BB	RF			1.00
2T	0.397	94. / 128.	0.695	55.0	IA	BB	RF			1.00
3T	0.488	62. / 128.	0.799	50.0	IA	BB	RF			1.00
4T	0.589	64. / 128.	0.480	55.0	IA	BB	RF			1.00
5T	0.747	84. / 128.	1.391	50.0	IA	BB	RF			1.00
6T	0.818	43. / 128.	2.066	50.0	IA	BB	RF			1.00
7T	0.879	76. / 128.	5.022	50.0	IA	BB	RF			1.00
8T	0.980	96. / 128.	1.628	50.0	IA	BB	RF			1.00
9T	1.081	63. / 128.	2.995	50.0	IA	BB	RF			1.00
10T	1.141	96. / 128.	1.814	50.0	IA	BB	RF			1.00
11T	1.177	83. / 128.	2.956	50.0	IA	BB	RF			1.00
12T	1.237	62. / 128.	2.130	50.0	IA	BB	RF			1.00
13T	0.667	72. / 114.	0.128	50.0	IA	BB	RF			1.00
14T	0.725	97. / 114.	0.423	50.0	IA	BB	RF			1.00
15T	0.744	117. / 114.	0.482	50.0	IA	BB	RF			1.00
16T	0.750	43. / 114.	0.127	50.0	IA	BB	RF			1.00
17T	0.758	83. / 114.	0.500	50.0	IA	BB	RF			1.00
18T	0.826	63. / 114.	0.352	50.0	IA	BB	RF			1.00
19T	0.834	75. / 114.	0.490	70.0	IA	BB	RF			1.00
20T	0.861	130. / 114.	0.422	50.0	IA	BB	RF			1.00
21T	0.880	129. / 114.	0.466	50.0	IA	BB	RF			1.00
22T	0.888	97. / 114.	0.325	50.0	IA	BB	RF			1.00
23T	0.888	78. / 114.	0.986	50.0	IA	BB	RF			1.00
24T	0.891	75. / 114.	0.409	57.5	IA	BB	RF			1.00
25T	1.000	173. / 114.	0.379	50.0	IA	BB	RF			1.00
26T	0.839	43. / 117.	0.859	50.0	IA	BB	RF			1.00
27T	0.894	43. / 117.	0.875	50.0	IA	BB	RF			1.00
28T	0.903	164. / 117.	0.401	50.0	IA	BB	RF			1.00
29T	0.899	83. / 117.	0.706	50.0	IA	BB	RF			1.00
30T	0.958	92. / 117.	0.836	50.0	IA	BB	RF			1.00
31T	1.004	112. / 117.	1.001	50.0	IA	BB	RF			1.00
32T	1.107	106. / 117.	0.565	50.0	IA	BB	RF			1.00
33T	1.319	104. / 117.	1.102	50.0	IA	BB	RF			1.00
34T	1.339	106. / 117.	0.753	50.0	IA	BB	RF			1.00
35T	0.949	98. / 117.	1.161	50.0	IA	BB	RF			1.00
36T	1.237	95. / 117.	0.638	50.0	IA	BB	RF			1.00
37T	1.232	65. / 128.	1.909	50.0	IA	BB	RF			1.00

C1461 EXTRC 1461, VSTD50 3, CASE 1168 SOIL
04-APR-89 09:09:35 TIC Maximum current=133310



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1461
Injection time: 04-APR-89 09:09:35
Comments:
EXTRC 1461, VSTD50 3, CASE 1168 SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T	2.33	22	50. / 128.	15317. / 15341.	1	0.90	55.0	NG/UL
2T	3.93	54	94. / 128.	11051. / 15341.	1	0.82	55.0	NG/UL
3T	4.78	71	62. / 128.	12329. / 15341.	1	0.83	50.0	NG/UL
4T	5.83	92	64. / 128.	8130. / 15341.	1	0.61	55.0	NG/UL
5T	7.45	124	84. / 128.	27559. / 15341.	1	0.86	50.0	NG/UL
6T	8.10	137	43. / 128.	25573. / 15341.	1	1.00	50.0	NG/UL
7T	8.70	149	76. / 128.	75508. / 15341.	1	0.80	50.0	NG/UL
8T	9.70	169	96. / 128.	24870. / 15341.	1	0.85	50.0	NG/UL
9T	10.70	189	63. / 128.	60371. / 15341.	1	1.00	50.0	NG/UL
10T	11.30	201	96. / 128.	27964. / 15341.	1	0.82	50.0	NG/UL
11T	11.65	208	83. / 128.	47006. / 15341.	1	0.84	50.0	NG/UL
12T	12.25	220	62. / 128.	33986. / 15341.	1	0.83	50.0	NG/UL
13T	12.30	221	72. / 114.	9011. / 87499.	2	1.00	50.0	NG/UL
14T	13.37	242	97. / 114.	36420. / 87499.	2	0.87	50.0	NG/UL
15T	13.72	249	117. / 114.	41448. / 87499.	2	0.78	50.0	NG/UL
16T	13.82	251	43. / 114.	9275. / 87499.	2	0.64	50.0	NG/UL
17T	14.02	255	83. / 114.	42323. / 87499.	2	0.87	50.0	NG/UL
18T	15.22	279	63. / 114.	31230. / 87499.	2	1.00	50.0	NG/UL
19T	15.37	282	75. / 114.	58400. / 87499.	2	0.92	70.0	NG/UL
20T	15.87	292	130. / 114.	36581. / 87499.	2	0.87	50.0	NG/UL
21T	16.27	300	129. / 114.	40327. / 87499.	2	1.00	50.0	NG/UL
22T	16.37	302	97. / 114.	28097. / 87499.	2	0.85	50.0	NG/UL
23T	16.37	302	78. / 114.	84888. / 87499.	2	0.77	50.0	NG/UL
24T	16.42	303	75. / 114.	41366. / 87499.	2	0.82	57.5	NG/UL
25T	18.43	343	173. / 114.	32448. / 87499.	2	0.92	50.0	NG/UL
26T	18.98	354	43. / 117.	56961. / 71668.	3	1.00	50.0	NG/UL
27T	20.28	380	43. / 117.	58575. / 71668.	3	0.94	50.0	NG/UL
28T	20.48	384	164. / 117.	29540. / 71668.	3	1.00	50.0	NG/UL
29T	20.38	382	83. / 117.	46297. / 71668.	3	0.79	50.0	NG/UL
30T	21.73	409	92. / 117.	62453. / 71668.	3	0.85	50.0	NG/UL
31T	22.83	431	112. / 117.	73239. / 71668.	3	0.96	50.0	NG/UL
32T	25.10	476	106. / 117.	41395. / 71668.	3	1.00	50.0	NG/UL
33T	29.92	572	104. / 117.	84798. / 71668.	3	0.89	50.0	NG/UL
34T	30.32	580	106. / 117.	55222. / 71668.	3	0.85	50.0	NG/UL
35T	21.53	405	98. / 117.	84903. / 71668.	3	0.90	50.0	NG/UL
36T	28.00	534	95. / 117.	46474. / 71668.	3	1.00	50.0	NG/UL
37T	12.20	219	65. / 128.	30795. / 15341.	1	0.79	50.0	NG/UL

Extended Quantitation Report

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1461
Injection time: 04-APR-89 09:09:35

No	RRT	Tmass/Smass	Res fac	Conc	Ty	Pk	Mq	Ave	S.D.	624/625
1S				50.0						
2S				50.0						
3S				50.0						
1T	0.235	50. / 128.	0.908	55.0	IA	BB	RF			1.00
2T	0.397	94. / 128.	0.655	55.0	IA	BB	RF			1.00
3T	0.483	62. / 128.	0.804	50.0	IA	BB	RF			1.00
4T	0.589	64. / 128.	0.482	55.0	IA	BB	RF			1.00
5T	0.753	84. / 128.	1.796	50.0	IA	BB	RF			1.00
6T	0.818	43. / 128.	1.667	50.0	IA	BB	RF			1.00
7T	0.879	76. / 128.	4.922	50.0	IA	BB	RF			1.00
8T	0.980	96. / 128.	1.621	50.0	IA	BB	RF			1.00
9T	1.081	63. / 128.	3.935	50.0	IA	BB	RF			1.00
10T	1.141	96. / 128.	1.823	50.0	IA	BB	RF			1.00
11T	1.177	83. / 128.	3.064	50.0	IA	BB	RF			1.00
12T	1.237	62. / 128.	2.215	50.0	IA	BB	RF			1.00
13T	0.667	72. / 114.	0.103	50.0	IA	BB	RF			1.00
14T	0.725	97. / 114.	0.416	50.0	IA	BB	RF			1.00
15T	0.744	117. / 114.	0.474	50.0	IA	BB	RF			1.00
16T	0.750	43. / 114.	0.106	50.0	IA	BB	RF			1.00
17T	0.761	83. / 114.	0.484	50.0	IA	BB	RF			1.00
18T	0.826	63. / 114.	0.357	50.0	IA	BB	RF			1.00
19T	0.834	75. / 114.	0.477	70.0	IA	BB	RF			1.00
20T	0.861	130. / 114.	0.418	50.0	IA	BB	RF			1.00
21T	0.883	129. / 114.	0.461	50.0	IA	BB	RF			1.00
22T	0.888	97. / 114.	0.321	50.0	IA	BB	RF			1.00
23T	0.888	78. / 114.	0.970	50.0	IA	BB	RF			1.00
24T	0.891	75. / 114.	0.411	57.5	IA	BB	RF			1.00
25T	1.000	173. / 114.	0.371	50.0	IA	BB	RF			1.00
26T	0.837	43. / 117.	0.795	50.0	IA	BB	RF			1.00
27T	0.894	43. / 117.	0.817	50.0	IA	BB	RF			1.00
28T	0.903	164. / 117.	0.412	50.0	IA	BB	RF			1.00
29T	0.899	83. / 117.	0.646	50.0	IA	BB	RF			1.00
30T	0.958	92. / 117.	0.871	50.0	IA	BB	RF			1.00
31T	1.007	112. / 117.	1.022	50.0	IA	BB	RF			1.00
32T	1.107	106. / 117.	0.578	50.0	IA	BB	RF			1.00
33T	1.319	104. / 117.	1.183	50.0	IA	BB	RF			1.00
34T	1.337	106. / 117.	0.771	50.0	IA	BB	RF			1.00
35T	0.949	98. / 117.	1.185	50.0	IA	BB	RF			1.00
36T	1.235	95. / 117.	0.648	50.0	IA	BB	RF			1.00
37T	1.232	65. / 128.	2.007	50.0	IA	BB	RF			1.00

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID (Standard): C1443 Date Analyzed: 3/31/89

Instrument ID: EXTRC Time Analyzed: 10:54

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) PACK

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	12914.	9.90	70805.	18.43	58527.	22.68
	UPPER LIMIT	25828.	10.40	141610.	18.93	117054.	23.18
	LOWER LIMIT	6457.	9.40	35403.	17.93	29264.	22.18
	EPA SAMPLE NO.						
1	VBLK01	14755.	9.90	76305.	18.43	61859.	22.68
2	EBQ18	13677.	9.90	73236.	18.43	59700.	22.68
3	EBQ18MSD	13409.	9.90	73335.	18.43	59136.	22.68
4	EBQ18MS	12485.	9.85	69989.	18.38	59484.	22.63
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

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

Column used to flag internal standard area values with an asterisk

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID (Standard): C1450 Date Analyzed: 4/ 3/89

Instrument ID: EXTRC Time Analyzed: 8:18

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) PACK

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	13826.	9.90	75294.	18.43	62736.	22.68
	UPPER LIMIT	27652.	10.40	150588.	18.93	125472.	23.18
	LOWER LIMIT	6913.	9.40	37647.	17.93	31368.	22.18
	EPA SAMPLE NO.						
1	VBLK02	14717.	9.90	79056.	18.43	64587.	22.68
2	EBQ20	14619.	9.90	81528.	18.43	66500.	22.68
3	EBQ21	14042.	9.90	75781.	18.43	62196.	22.68
4	EBQ22	13338.	9.90	70255.	18.43	56705.	22.68
5	EBQ23	15354.	9.90	81895.	18.43	68028.	22.68
6	EBQ25	13064.	9.90	65211.	18.43	51962.	22.68
7	EBQ24	14695.	9.90	79237.	18.43	66533.	22.68
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = *Chlorobenzene-d5*

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

Column used to flag internal standard area values with an asterisk

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID (Standard): C1461 Date Analyzed: 4/ 4/89

Instrument ID: EXTRC Time Analyzed: 9:09

Matrix:(soil/water) SOIL Level:(low/med): LOW Column:(pack/cap) PACK

		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	15341.	9.90	87499.	18.43	71668.	22.68
	UPPER LIMIT	30682.	10.40	174998.	18.93	143336.	23.18
	LOWER LIMIT	7671.	9.40	43750.	17.93	35834.	22.18
	EPA SAMPLE NO.						
1	VBLK03	16649.	9.90	90168.	18.43	73677.	22.63
2	EBQ26	15890.	9.90	86625.	18.43	71787.	22.63
3	EBQ27	16225.	9.90	89037.	18.43	73945.	22.68
4	EBQ28	15910.	9.90	86456.	18.43	70477.	22.68
5	EBQ29	16565.	9.90	91982.	18.43	75499.	22.68
6	ZZZZZ	16114.	9.90	89547.	18.43	74316.	22.68
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

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

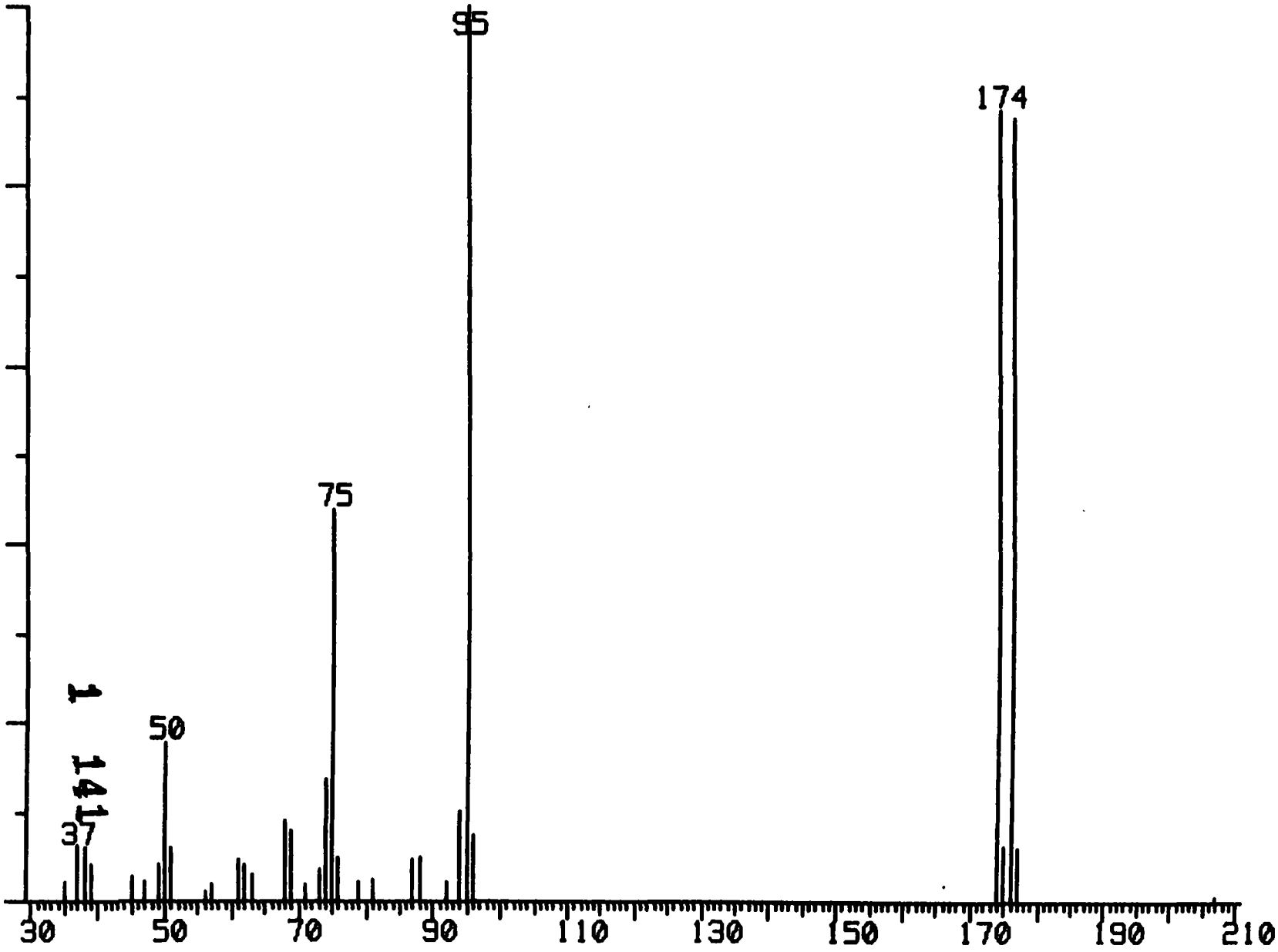
Column used to flag internal standard area values with an asterisk

VOA

RAW DATA

C1430 EXTRC 1430, 50NG BFB
29-MAR-89 10:24:18 Scan 144 Time 13.03 Min.
Bkg scans * 1.00 132 100 % = 1696

Total Scale
8109 1*



C1430 EXTRC 1430, 50NG BFB
9-MAR-89 10:24:18 SCAN 144 TIME 13.03 MIN.
CKG SCANS * 1.00 132 100 % = 1696

35	2.42	56	1.18	74	13.92	94	10.08
37	6.31	57	1.83	75	44.04	95	100.00
38	6.19	61	4.54	76	5.07	96	7.31
39	4.25	62	4.13	79	2.24	174	88.68
45	2.89	63	3.07	81	2.54	175	6.49
47	2.36	68	9.08	87	4.54	176	87.74
49	4.13	69	8.02	88	5.07	177	6.07
50	17.98	71	2.00	92	2.24	207	0.53
51	5.96	73	3.71				

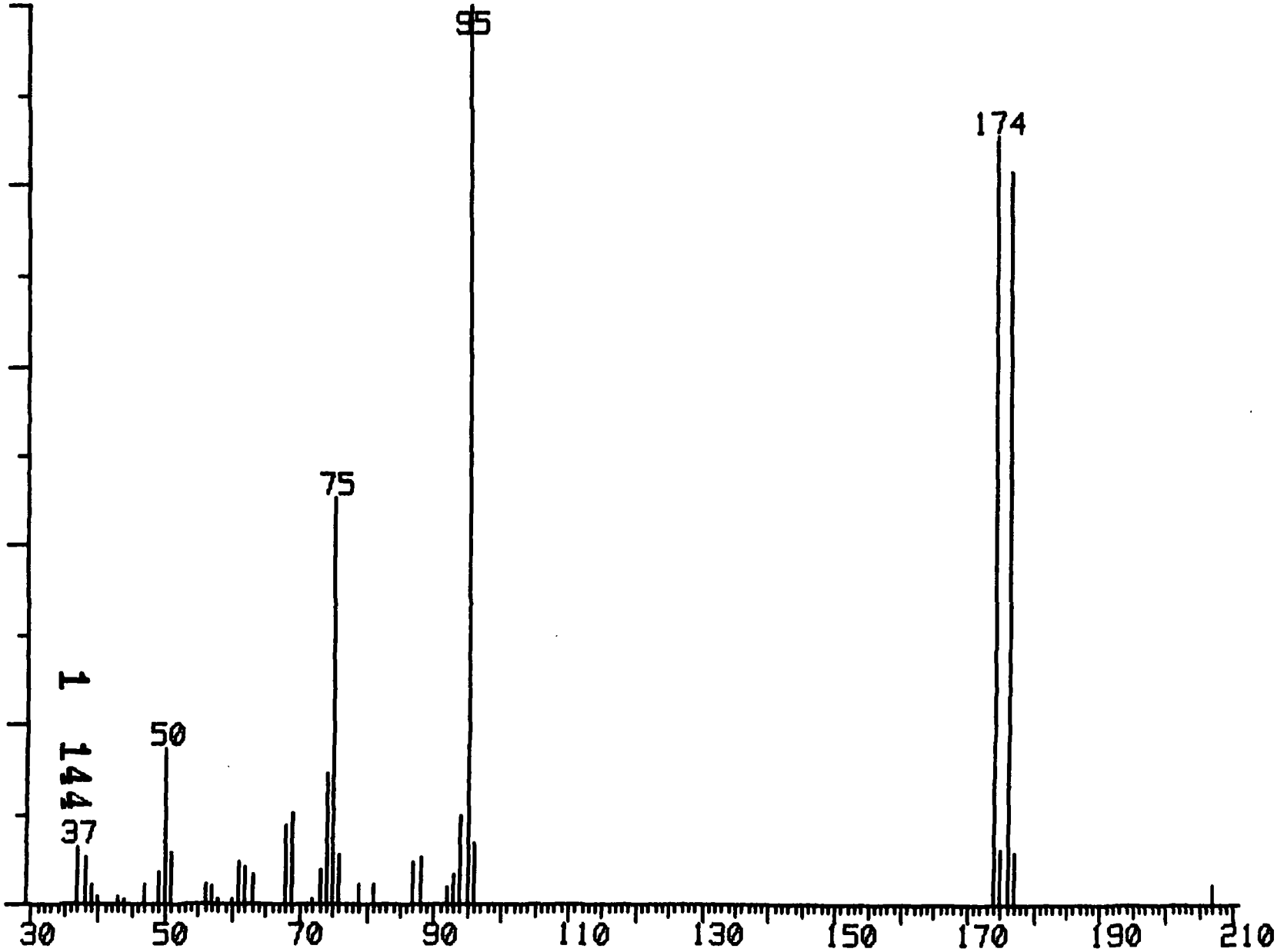
SPECTRUM: C1430 03/29/89 RIC: 4217.
INSTRUMENT: EXTREL ANALYST:
SAMPLE: EXTRC 1430, 50NG BFB
CONDITIONS:
144 - # 132

SPECTRUM FIT TO BFB CRITERIA

M/Z	INTEN	LIMITS	FOUND RA
50	305.	15-40% OF 95	17.98
OK			
75	747.	30-60% OF 95	44.04
OK			
95	1696.	100% (BASE PK)	100.00
OK			
96	124.	5-9% OF 95	7.31
OK			
173	0.	<2% OF 174	0.00
OK			
174	1504.	> 50% OF 195	88.68
OK			
175	110.	5-9% OF 174	7.31
OK			
176	1488.	95-101% OF 174	98.94
OK			
177	103.	5-9% OF 176	6.92
OK			

C1441 EXTRC 1441, 50NG BFB
31-MAR-89 08:58:25 Scan 144 Time 13.03 Min.
Bkg scans * 1.00 132 100 % = 2000

Total Scale
9447 1*



:1441 EXTRC 1441, 50NG BFB
31-MAR-89 08:58:25 SCAN 144 TIME 13.03 MIN.
BCKG SCANS * 1.00 132 100 % = 2000

37	6.45	56	2.25	73	4.00	93	3.50
38	5.30	57	1.80	74	14.60	94	10.00
39	2.30	58	0.70	75	45.45	95	100.00
40	0.90	60	0.65	76	5.50	96	7.05
43	0.85	61	4.55	79	2.20	174	85.60
44	0.70	62	4.15	81	2.40	175	6.00
47	2.35	63	3.25	87	4.60	176	81.60
49	3.70	68	8.95	88	5.30	177	5.75
50	17.45	69	10.30	92	2.05	207	2.35
51	5.85	72	0.65				

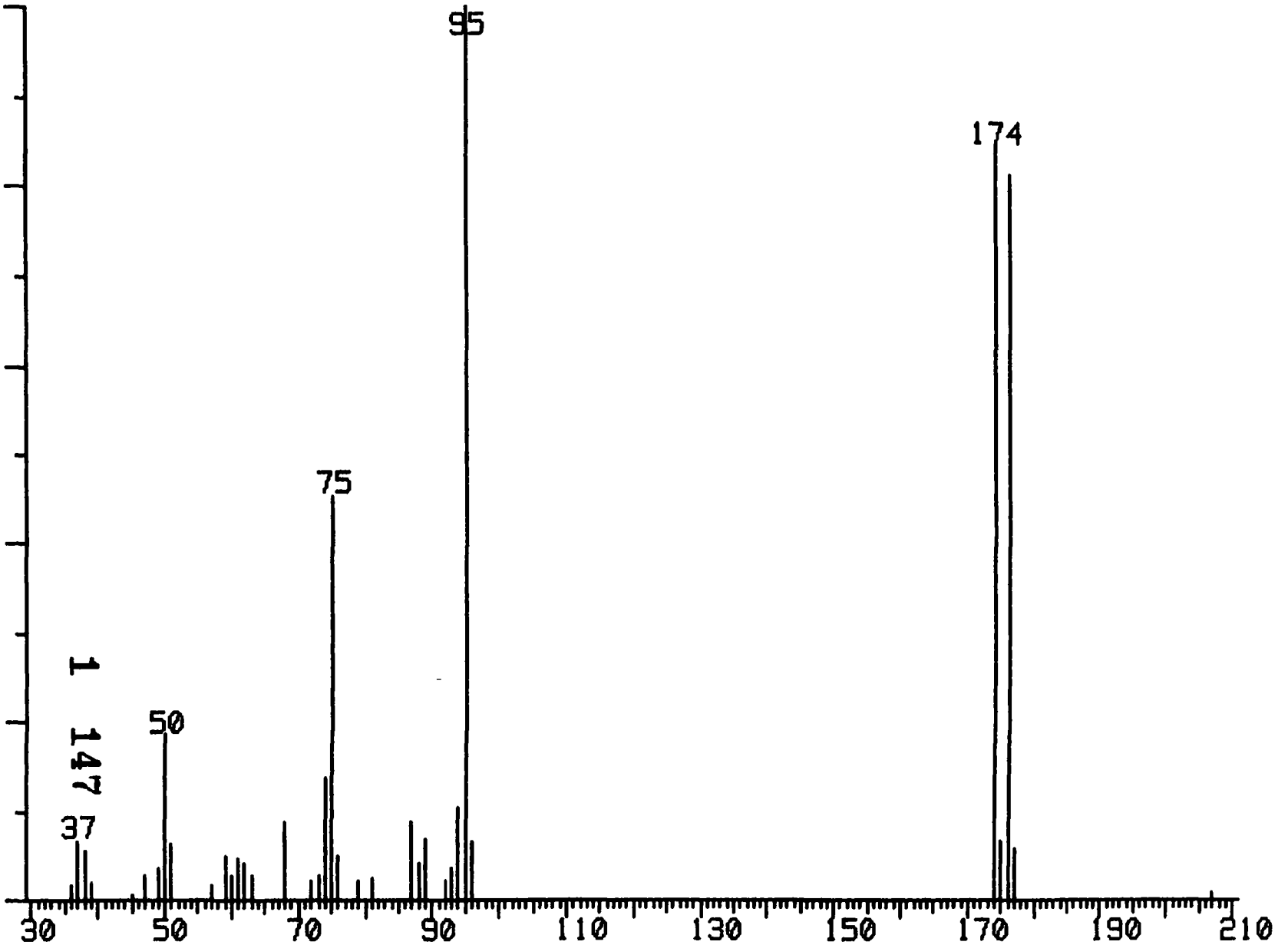
SPECTRUM: C1441 03/31/89 RIC: 4985.
INSTRUMENT: EXTREL ANALYST:
SAMPLE: EXTRC 1441, 50NG BFB
CONDITIONS:
144 - # 132

SPECTRUM FIT TO BFB CRITERIA

M/Z	INTEN	LIMITS	FOUND RA
50	349.	15-40% OF 95	17.45
OK			
75	909.	30-60% OF 95	45.45
OK			
95	2000.	100% (BASE PK)	100.00
OK			
96	141.	5-9% OF 95	7.05
OK			
173	0.	<2% OF 174	0.00
OK			
174	1712.	> 50% OF 195	85.60
OK			
175	120.	5-9% OF 174	7.01
OK			
176	1632.	95-101% OF 174	95.33
OK			
177	115.	5-9% OF 176	7.05
OK			

C1449 EXTRC 1449, 50 NG BFB
03-APR-89 07:48:44 Scan 143- Time 12.98 Min.
Bkg scans * 1.00 130 100 % = 1952

Total Scale
9270 1*



C1449 EXTRC 1449, 50 NG BFB
03-APR-89 07:48:44 SCAN 143 TIME 12.98 MIN.
CKG SCANS * 1.00 130 100 % = 1952

36	1.74	57	1.74	74	13.83	93	3.59
37	6.66	59	5.07	75	45.44	94	10.50
38	5.64	60	2.77	76	4.92	95	100.00
39	1.84	61	4.87	79	2.31	96	6.71
45	0.56	62	4.05	81	2.61	174	84.43
47	2.77	63	2.87	87	8.91	175	6.66
49	3.74	68	8.91	88	4.05	176	81.15
50	18.60	72	2.36	89	6.86	177	5.84
51	6.35	73	2.77	92	2.25	207	0.82

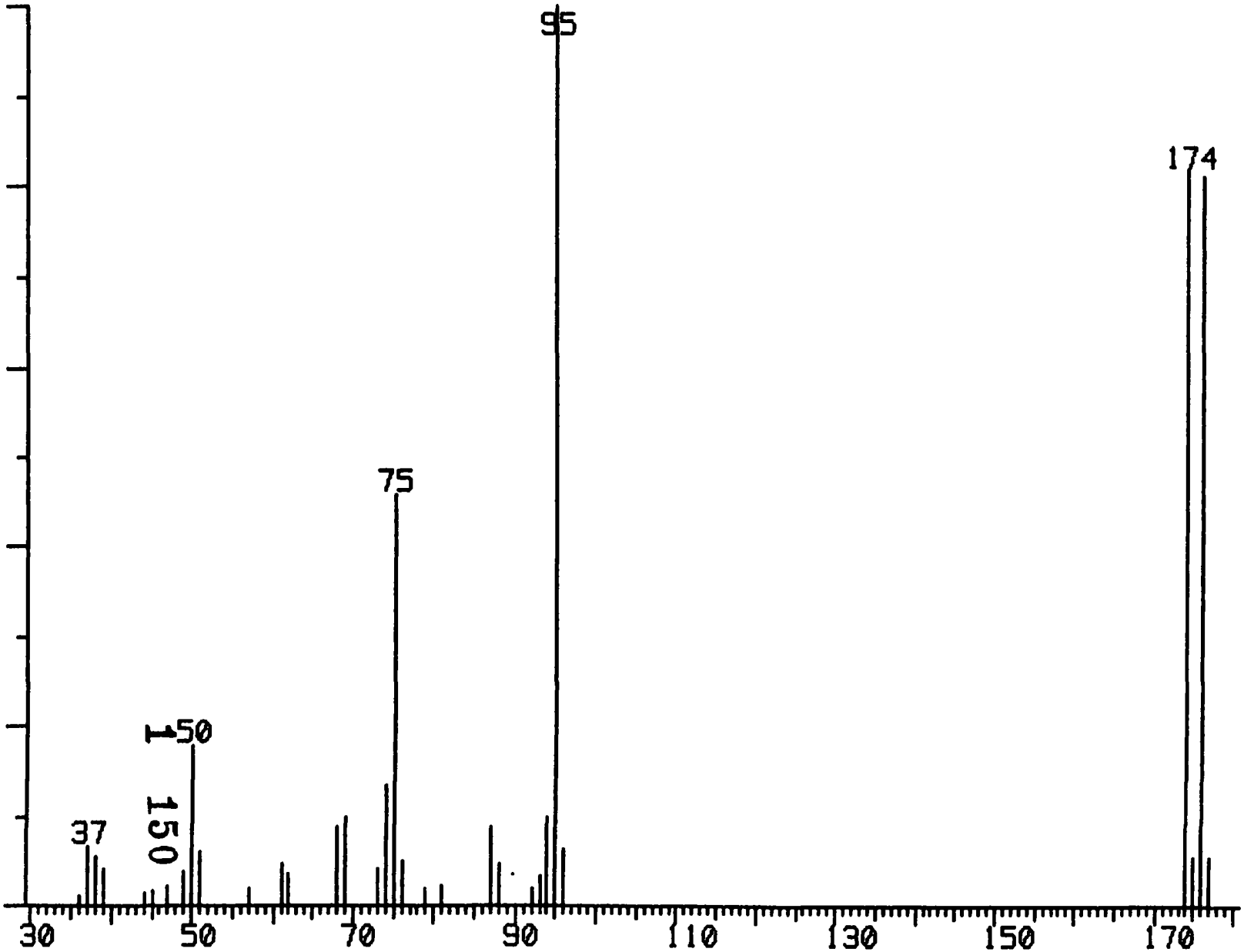
SPECTRUM: C1449 04/03/89 RIC: 4937.
INSTRUMENT: EXTREL ANALYST:
SAMPLE: EXTRC 1449, 50 NG BFB
CONDITIONS:
143 - # 130

SPECTRUM FIT TO BFB CRITERIA

M/Z	INTEN	LIMITS	FOUND RA
50	363.	15-40% OF 95	18.60
OK			
75	887.	30-60% OF 95	45.44
OK			
95	1952.	100% (BASE PK)	100.00
OK			
96	131.	5-9% OF 95	6.71
OK			
173	0.	<2% OF 174	0.00
OK			
174	1648.	> 50% OF 195	84.43
OK			
175	130.	5-9% OF 174	7.89
OK			
176	1584.	95-101% OF 174	96.12
OK			
177	114.	5-9% OF 176	7.20
OK			

C1460 EXTRC 1460, 50NG BFB
04-APR-89 08:22:53 Scan 144 Time 13.03 Min.
Bkg scans * 1.00 130 100 % = 2160

Total Scale
10029 1*



C1460 EXTRC 1460, 50NG BFB
04-APR-89 08:22:53 SCAN 144 TIME 13.03 MIN.
BCKG SCANS * 1.00 130 100 % = 2160

36	1.20	50	18.06	74	13.47	93	3.33
37	6.62	51	6.02	75	45.83	94	10.00
38	5.60	57	1.94	76	5.14	95	100.00
39	4.12	61	4.63	79	2.04	96	6.57
44	1.62	62	3.75	81	2.45	174	82.22
45	1.71	68	8.89	87	8.80	175	5.56
47	2.22	69	10.00	88	4.68	176	81.48
49	3.94	73	4.31	92	2.08	177	5.46

SPECTRUM: C1460 04/04/89 RIC: 4993.
INSTRUMENT: EXTREL ANALYST:
SAMPLE: EXTRC 1460, 50NG BFB
CONDITIONS:
144 - # 130

SPECTRUM FIT TO BFB CRITERIA

M/Z	INTEN	LIMITS	FOUND RA
50	390.	15-40% OF 95	18.06
OK			
75	990.	30-60% OF 95	45.83
OK			
95	2160.	100% (BASE PK)	100.00
OK			
96	142.	5-9% OF 95	6.57
OK			
173	0.	<2% OF 174	0.00
OK			
174	1776.	> 50% OF 195	82.22
OK			
175	120.	5-9% OF 174	6.76
OK			
176	1760.	95-101% OF 174	99.10
OK			
177	118.	5-9% OF 176	6.70
OK			

THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1444
Injection time: 31-MAR-89 13:28:27
Comments:
EXTRC 1444, VBLK01, 11688, SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

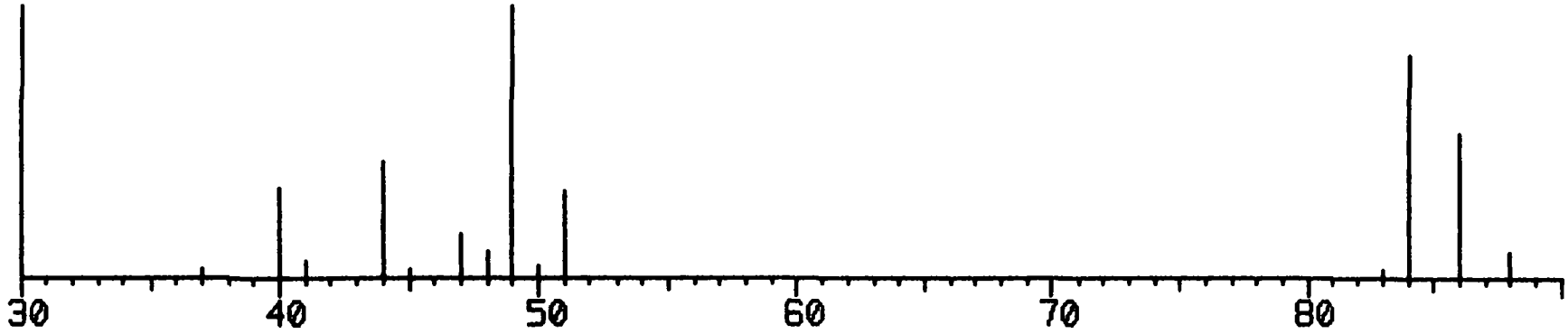
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T	7.40	123	84. / 128.	4308. / 14755.	1	0.86	9.7	NG/UL
6T	8.10	137	43. / 128.	2574. / 14755.	1	0.82	4.7	NG/UL
7T			Not Found					
8T			Not Found					
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T			Not Found					
21T			Not Found					
22T			Not Found					
23T			Not Found					
24T			Not Found					
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T			Not Found					
31T			Not Found					
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T	21.53	405	98. / 117.	72787. / 61859.	3	0.84	49.3	NG/UL
36T	28.00	534	95. / 117.	39934. / 61859.	3	0.96	48.5	NG/UL
37T	12.20	219	65. / 128.	25462. / 14755.	1	0.83	45.3	NG/UL

Extended Quantitation Report

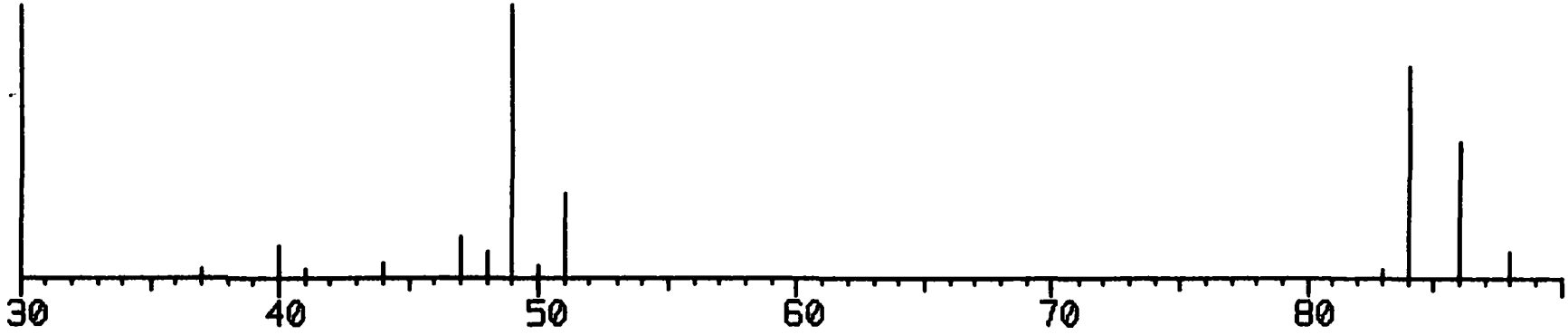
Library used: SYO:[110,10]SOIL
Data file name: SYO:C1444
Injection time: 31-MAR-89 13:28:27

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
5T	0.747	84. / 128.	1.507	9.7	IA BB RF			1.00
6T	0.818	43. / 128.	1.841	4.7	IA BB RF			1.00
35T	0.949	98. / 117.	1.192	49.3	IA BB RF			1.00
36T	1.235	95. / 117.	0.665	48.5	IA BB RF			1.00
37T	1.232	65. / 128.	1.903	45.3	IA BB RF			1.00

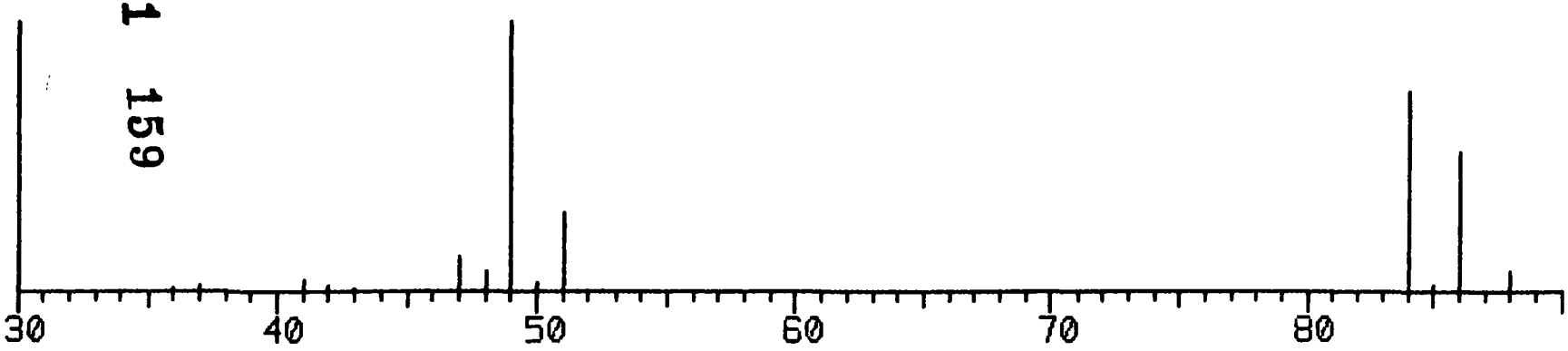
SY0:C1444 EXTRC 1444, VBLK01, 11688, SOIL Total
31-MAR-89 13:28:27 Scan 123 Time 7.40 min. 6015
100 % = 1536



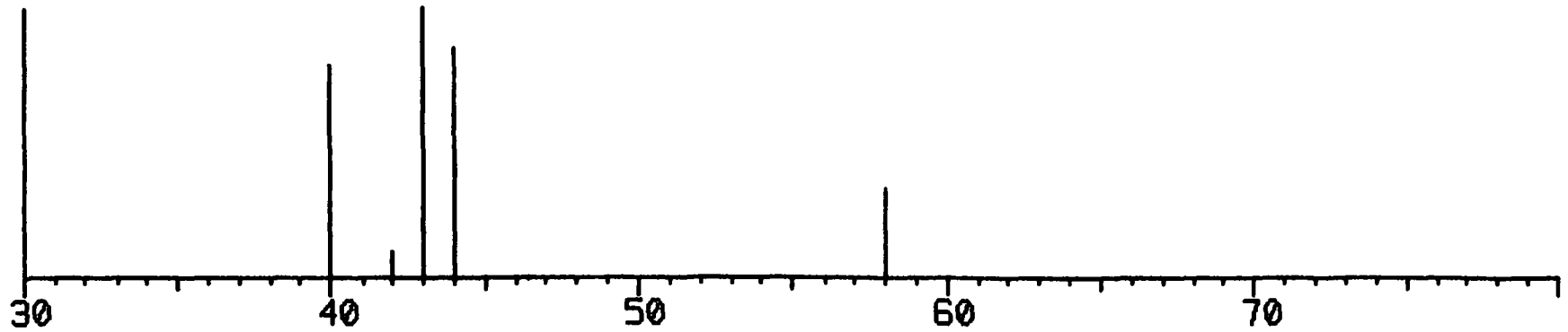
SY0:C1444 EXTRC 1444, VBLK01, 11688, SOIL Total
31-MAR-89 13:28:27 Scan 123 Time 7.40 min. 4194
Bkg scans * 1.00 121 100 % = 1291



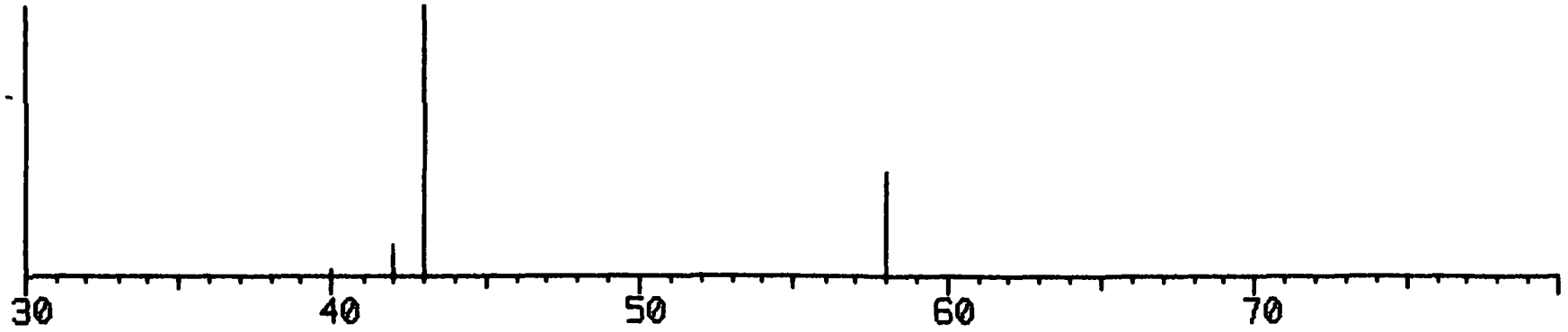
Standard Reference Spectrum: Methylene Chloride



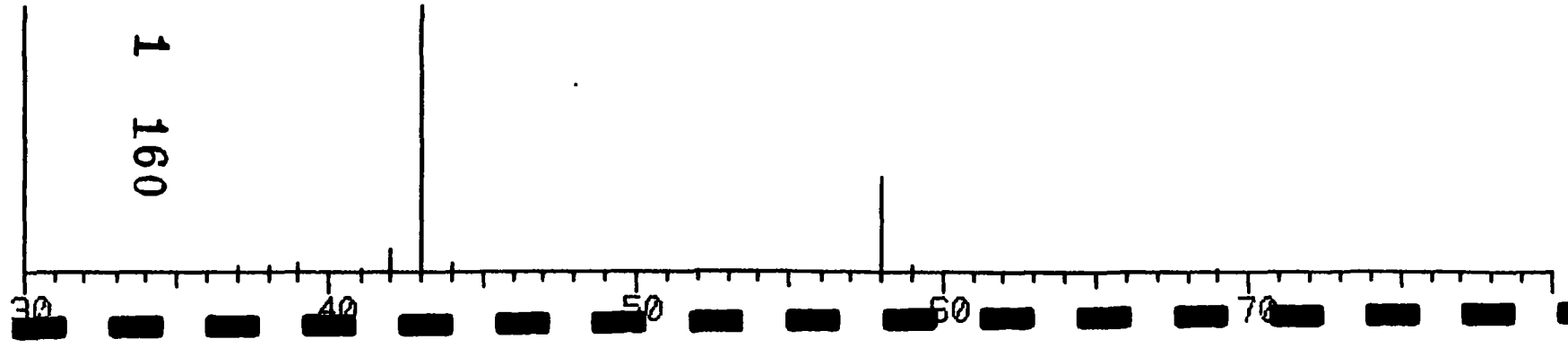
SY0:C1444 EXTRC 1444, VBLK01, 11688, SOIL Total
31-MAR-89 13:28:27 Scan 137 Time 8.10 min. 2028
100 % = 664



SY0:C1444 EXTRC 1444, VBLK01, 11688, SOIL Total
31-MAR-89 13:28:27 Scan 137 Time 8.10 min. 855
Bkg scans * 1.00 134 100 % = 564



Standard Reference Spectrum: Acetone



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1451
Injection time: 03-APR-89 09:38:09
Comments:
EXTRC 1451, VBLK02, 11688, SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

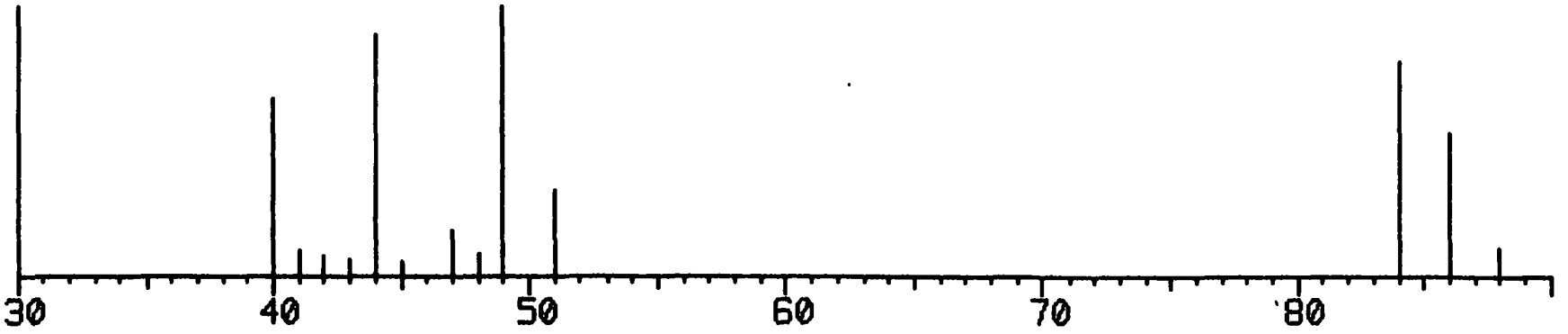
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T	7.40	123	84. / 128.	2055. / 14717.	1	0.82	5.0	NG/UL
6T			Not Found					
7T			Not Found					
8T			Not Found					
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T			Not Found					
21T			Not Found					
22T			Not Found					
23T			Not Found					
24T			Not Found					
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T			Not Found					
31T			Not Found					
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T	21.53	405	98. / 117.	76203. / 64587.	3	0.90	50.8	NG/UL
36T	28.00	534	95. / 117.	41013. / 64587.	3	1.00	49.8	NG/UL
37T	12.20	219	65. / 128.	26699. / 14717.	1	0.83	47.5	NG/UL

Extended Quantitation Report

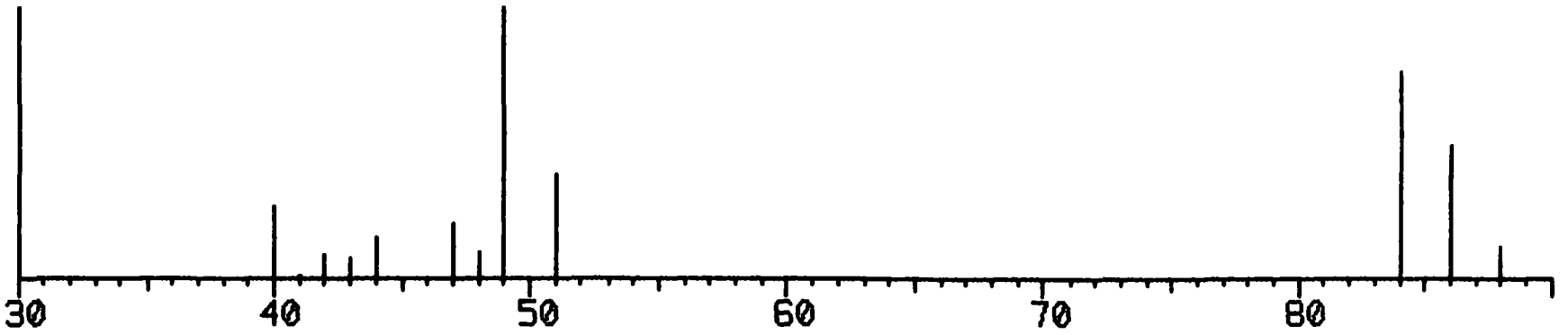
Library used: SYO:[110,10]SOIL
Data file name: SYO:C1451
Injection time: 03-APR-89 09:38:09

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
5T	0.747	84. / 128.	1.391	5.0	IA BB RF			1.00
35T	0.949	98. / 117.	1.161	50.8	IA BB RF			1.00
36T	1.235	95. / 117.	0.638	49.8	IA BB RF			1.00
37T	1.232	65. / 128.	1.909	47.5	IA BB RF			1.00

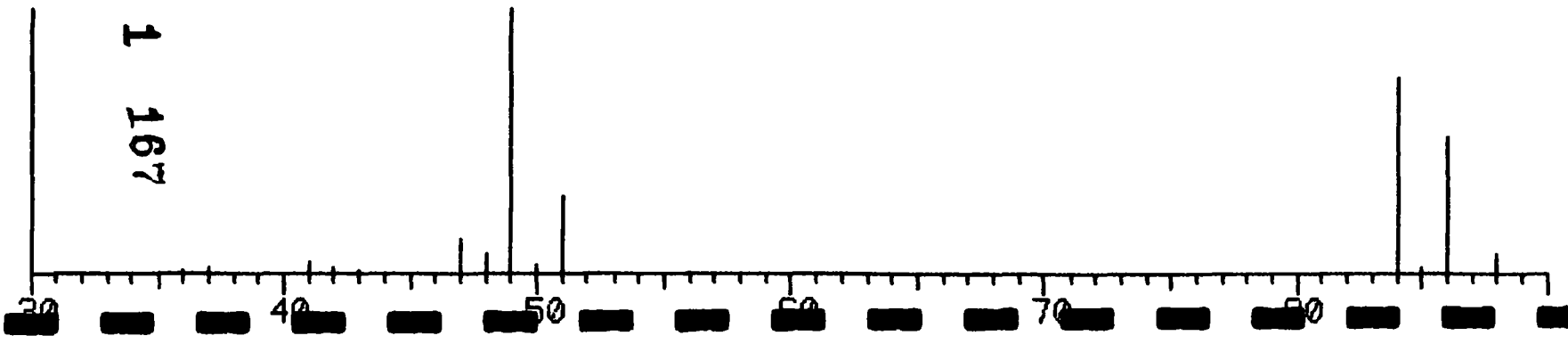
SY0:C1451 EXTRC 1451, VBLK02, 11688, SOIL Total
03-APR-89 09:38:09 Scan 123 Time 7.40 min. 3764
100 % = 784



SY0:C1451 EXTRC 1451, VBLK02, 11688, SOIL Total
03-APR-89 09:38:09 Scan 123 Time 7.40 min. 2378
Bkg scans * 1.00 121 100 % = 653



Standard Reference Spectrum: Methylene Chloride



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THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1463
Injection time: 04-APR-89 12:04:21
Comments:
EXTRC 1463, VBLK03, 11688, SOIL
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

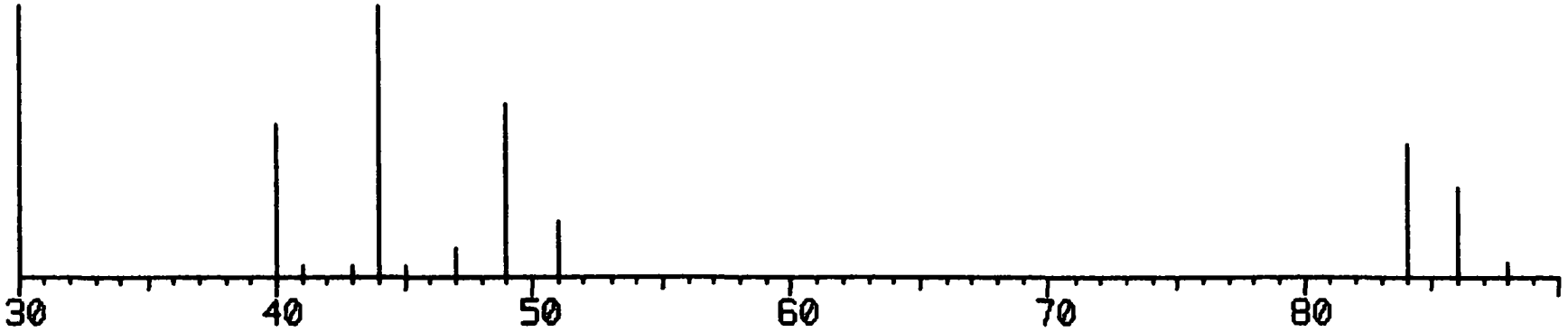
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.63	427			STD	0.94	50.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T	7.40	123	84. / 128.	2101. / 16649.	1	0.86	3.5	NG/UL
6T			Not Found					
7T			Not Found					
8T			Not Found					
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T			Not Found					
21T			Not Found					
22T			Not Found					
23T			Not Found					
24T			Not Found					
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T			Not Found					
31T			Not Found					
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T	21.53	405	98. / 117.	85890. / 73677.	3	0.95	49.2	NG/UL
36T	27.95	533	95. / 117.	45791. / 73677.	3	0.96	47.9	NG/UL
37T	12.20	219	65. / 128.	29586. / 16649.	1	0.83	44.3	NG/UL

Extended Quantitation Report

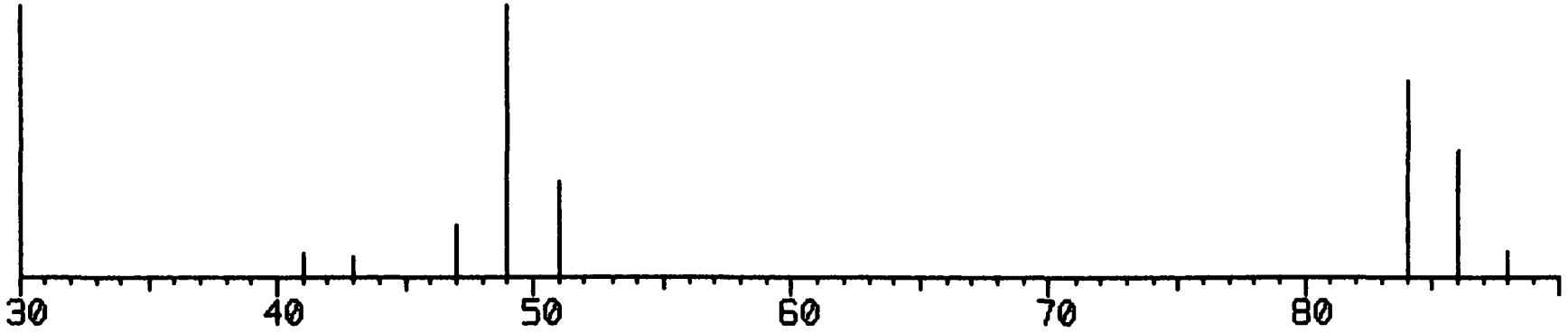
Library used: SYO:[110,10]SOIL
Data file name: SYO:C1463
Injection time: 04-APR-89 12:04:21

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
5T	0.747	84. / 128.	1.796	3.5	IA BB RF			1.00
35T	0.951	98. / 117.	1.185	49.2	IA BB RF			1.00
36T	1.235	95. / 117.	0.648	47.9	IA BB RF			1.00
37T	1.232	65. / 128.	2.007	44.3	IA BB RF			1.00

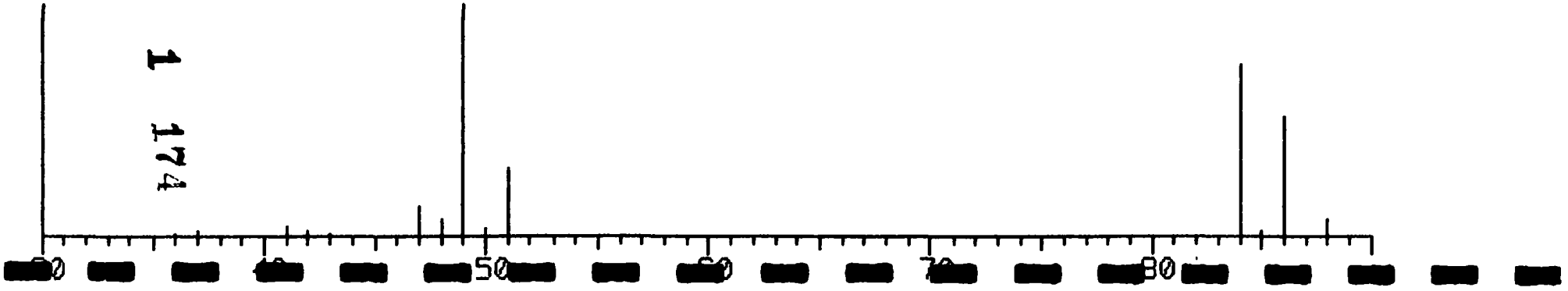
SY0:C1463 EXTRC 1463, VBLK03, 11688, SOIL Total
04-APR-89 12:04:21 Scan 123 Time 7.40 min. 4019
100 % = 1152



SY0:C1463 EXTRC 1463, VBLK03, 11688, SOIL Total
04-APR-89 12:04:21 Scan 123 Time 7.40 min. 1895
Bkg scans * 1.00 121 100 % = 633



Standard Reference Spectrum: Methylene Chloride



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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBQ18MS

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Matrix: (soil/water) SOIL Lab Sample ID: RAS0552

Sample wt/vol: 5. (g/mL) G Lab File ID: C1448

Level: (low/med) LOW Date Received: 3/31/89

% Moisture: not dec. 6. Date Analyzed: 3/31/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	7.	B
67-64-1	Acetone	46.	B
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	53.	
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	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	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	48.	
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	56.	
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	53.	
108-90-7	Chlorobenzene	54.	
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylenes (total)	5.	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EBQ18MS

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Matrix: (soil/water) SOIL Lab Sample ID: RA50552

Sample wt/vol: 5. (g/mL) G Lab File ID: C1448

Level: (low/med) LOW Date Received: 3/31/89

% Moisture: not dec. 6. Date Analyzed: 3/31/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
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11.				
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13.				
14.				
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16.				
17.				
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19.				
20.				
21.				
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23.				
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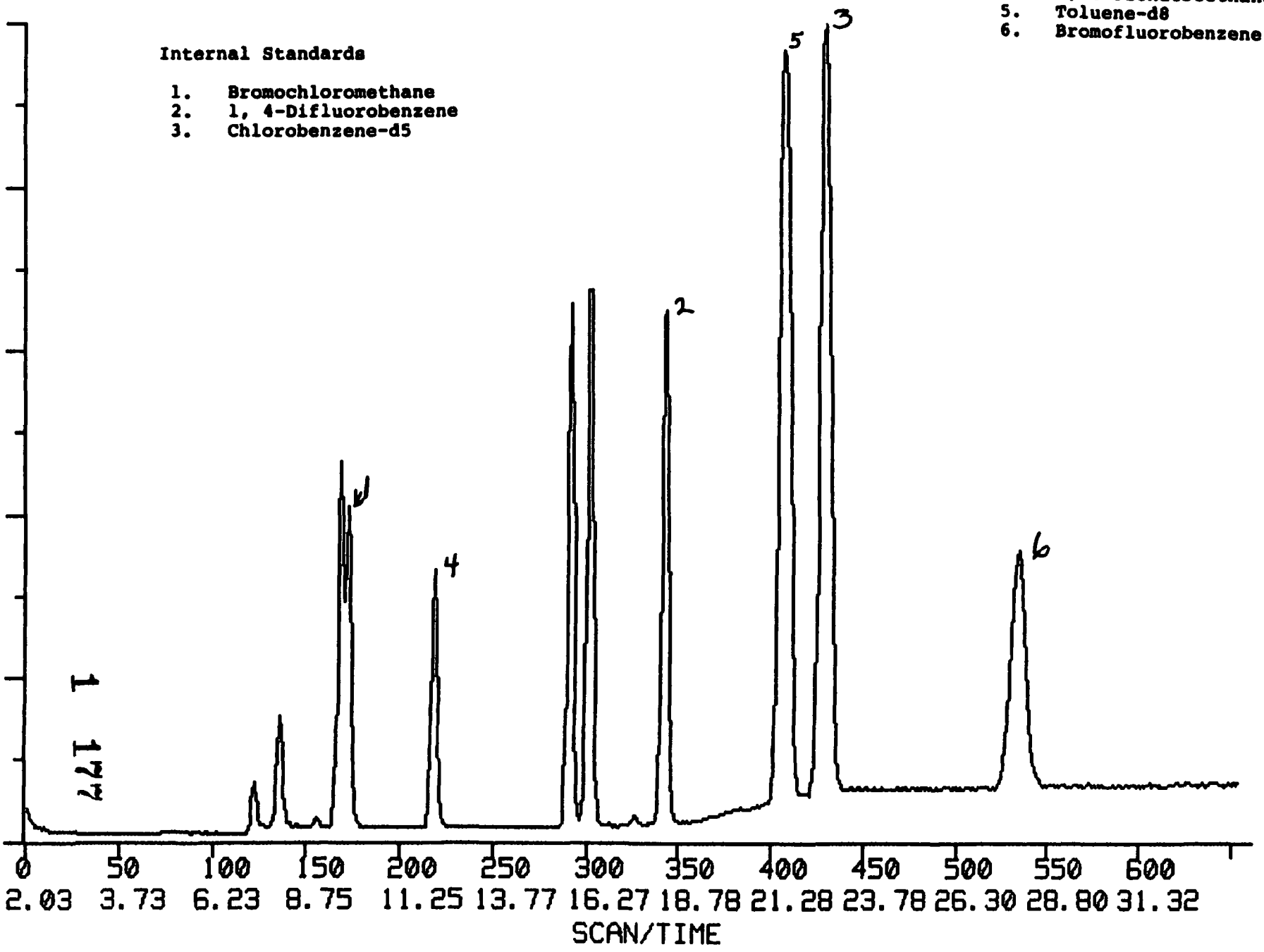
25.				
26.				
27.				
28.				
29.				
30.				

CI448 EXTRC 1448, RRS0552MS, EBQ18MS CASE 11688, SOIL
31-MAR-89 17:14:33 TIC Maximum current=60346



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THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1448
Injection time: 31-MAR-89 17:14:33
Comments:
EXTRC 1448 RAS0552MS, EBQ18MS CASE 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

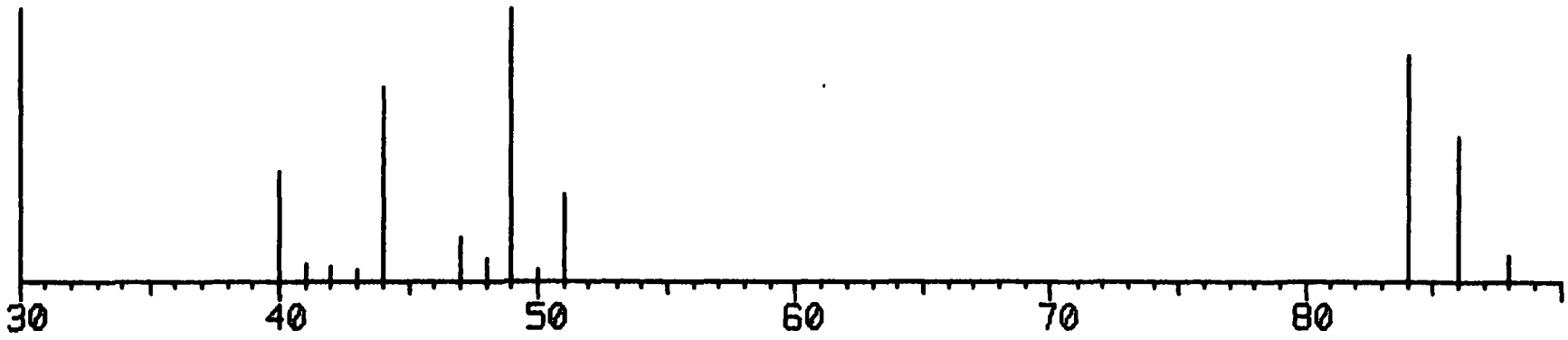
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.85	172			STD	1.00	50.0	NG/UL
2S	18.38	342			STD	0.95	50.0	NG/UL
3S	22.63	427			STD	0.94	50.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T	7.35	122	84. / 128.	2755. / 12485.	1	0.82	7.3	NG/UL
6T	8.05	136	43. / 128.	20756. / 12485.	1	1.00	45.1	NG/UL
7T			Not Found					
8T	9.65	168	96. / 128.	22066. / 12485.	1	0.85	53.0	NG/UL
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T	15.82	291	130. / 114.	28606. / 69989.	2	0.84	48.0	NG/UL
21T			Not Found					
22T			Not Found					
23T	16.32	301	78. / 114.	77471. / 69989.	2	0.94	55.5	NG/UL
24T			Not Found					
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T	21.68	408	92. / 117.	54736. / 59484.	3	0.85	52.7	NG/UL
31T	22.78	430	112. / 117.	65222. / 59484.	3	0.96	53.5	NG/UL
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T	21.53	405	98. / 117.	71210. / 59484.	3	0.95	50.2	NG/UL
36T	27.95	533	95. / 117.	36861. / 59484.	3	1.00	46.6	NG/UL
37T	12.15	218	65. / 128.	23573. / 12485.	1	0.83	49.6	NG/UL

Extended Quantitation Report

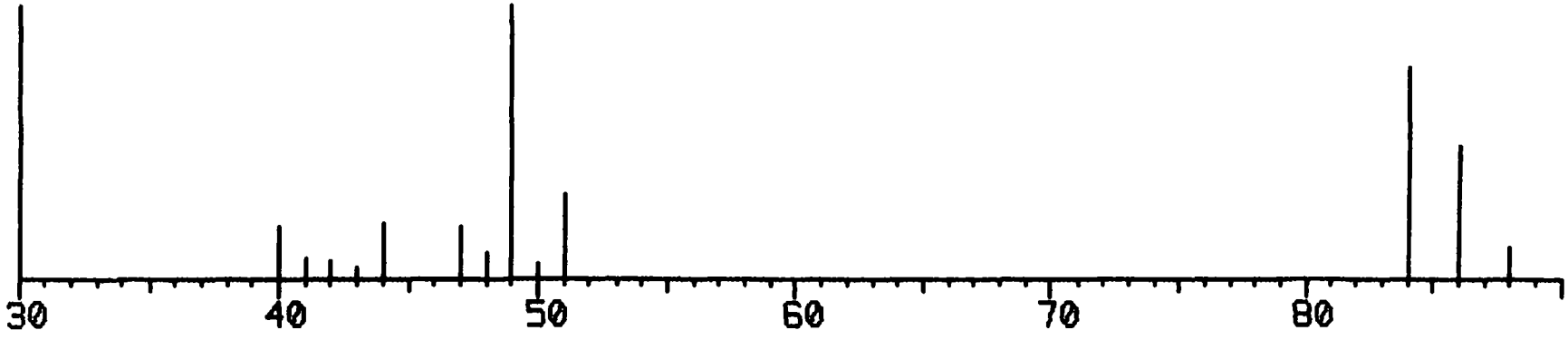
Library used: SYO:[110,10]SOIL
Data file name: SYO:C1448
Injection time: 31-MAR-89 17:14:33

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
5T	0.746	84. / 128.	1.507	7.3	IA BB RF			1.00
6T	0.817	43. / 128.	1.841	45.1	IA BB RF			1.00
8T	0.980	96. / 128.	1.666	53.0	IA BB RF			1.00
20T	0.861	130. / 114.	0.426	48.0	IA BB RF			1.00
23T	0.888	78. / 114.	0.997	55.5	IA BB RF			1.00
30T	0.958	92. / 117.	0.873	52.7	IA BB RF			1.00
31T	1.007	112. / 117.	1.025	53.5	IA BB RF			1.00
35T	0.951	98. / 117.	1.192	50.2	IA BB RF			1.00
36T	1.235	95. / 117.	0.665	46.6	IA BB RF			1.00
37T	1.234	65. / 128.	1.903	49.6	IA BB RF			1.00

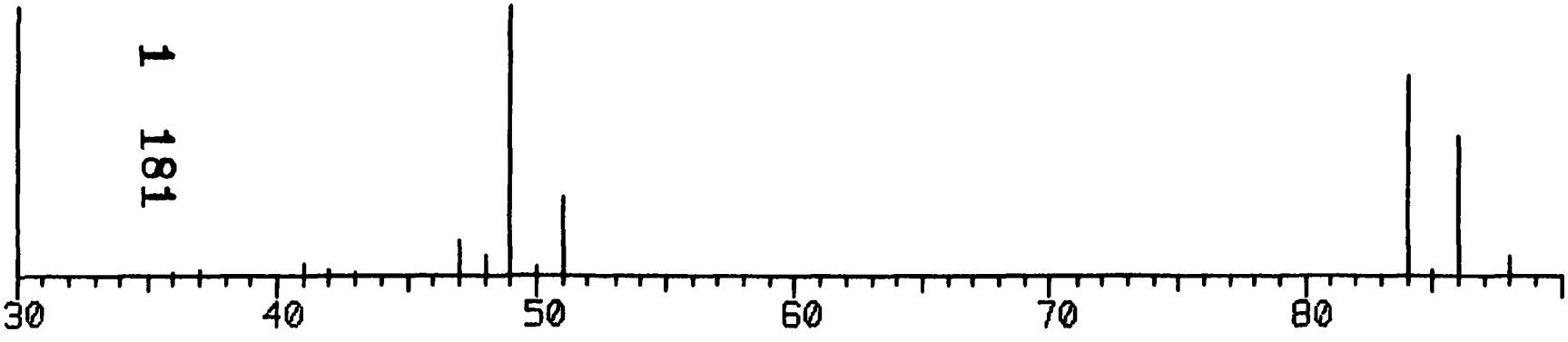
SY0:C1448 EXTRC 1448 RAS0552MS, EBQ18MS CASE 11688 Total
31-MAR-89 17:14:33 Scan 122 Time 7.35 min. 4337
100 % = 1010



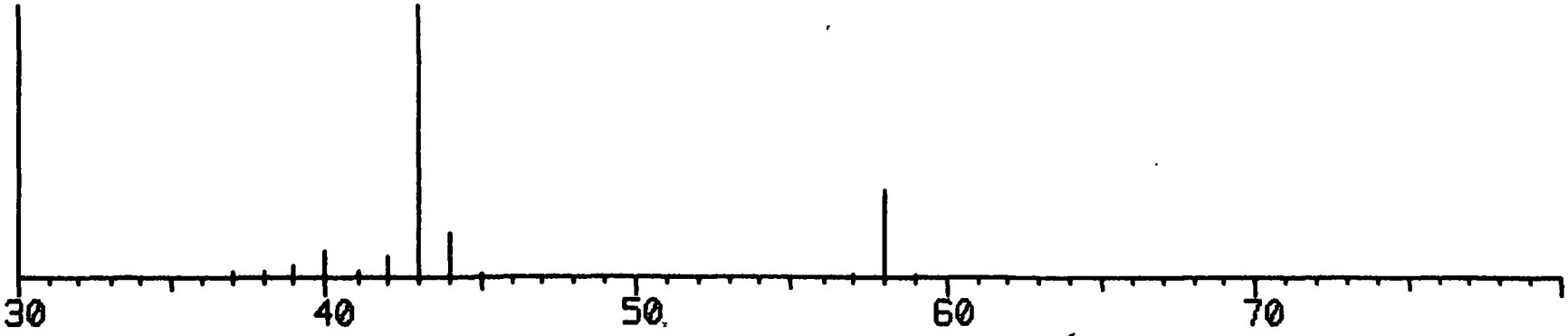
SY0:C1448 EXTRC 1448 RAS0552MS, EBQ18MS CASE 11688 Total
31-MAR-89 17:14:33 Scan 122 Time 7.35 min. 2966
Bkg scans * 1.00 120 100 % = 823



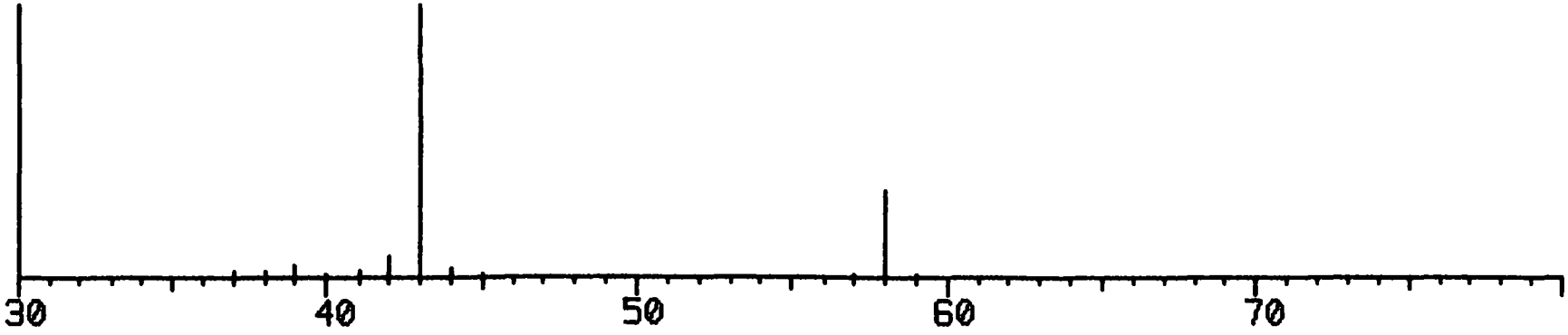
Standard Reference Spectrum: Methylene Chloride



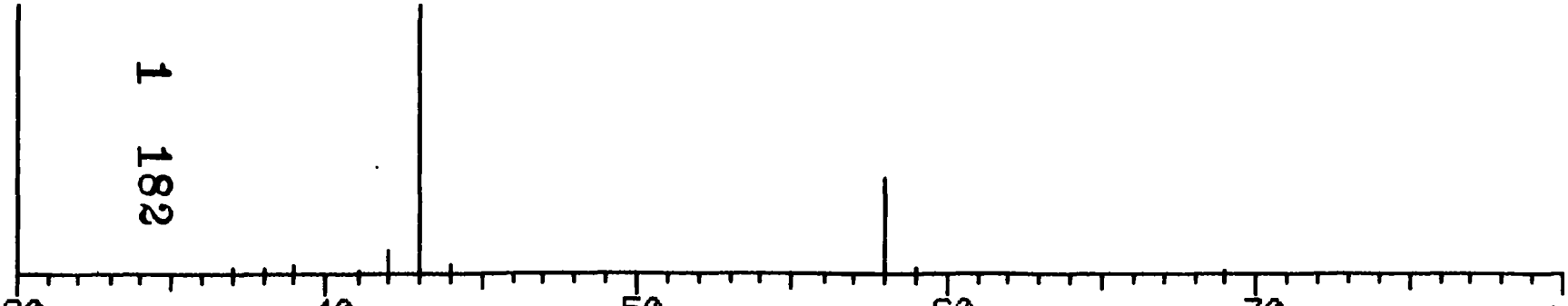
SY0:C1448 EXTRC 1448 RAS0552MS, EBQ18MS CASE 11688 Total
31-MAR-89 17:14:33 Scan 136 Time 8.05 min. 9302
100 % = 5312



SY0:C1448 EXTRC 1448 RAS0552MS, EBQ18MS CASE 11688 Total
31-MAR-89 17:14:33 Scan 136 Time 8.05 min. 8035
Bkg scans * 1.00 132 100 % = 5196



Standard Reference Spectrum: Acetone



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBQ18MSD

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Matrix: (soil/water) SOIL Lab Sample ID: RAS0552

Sample wt/vol: 6. (g/mL) G Lab File ID: C1447

Level: (low/med) LOW Date Received: 3/31/89

% Moisture: not dec. 6. Date Analyzed: 3/31/89

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	9.	U
74-83-9	Bromomethane	9.	U
75-01-4	Vinyl Chloride	9.	U
75-00-3	Chloroethane	9.	U
75-09-2	Methylene Chloride	5.	BJ
67-64-1	Acetone	46.	B
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	50.	
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	9.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	9.	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	44.	
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	51.	
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	9.	U
591-78-6	2-Hexanone	9.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	50.	
108-90-7	Chlorobenzene	50.	
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylenes (total)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EBQ18MSD

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Matrix: (soil/water) SOIL Lab Sample ID: RA50552

Sample wt/vol: 6. (g/mL) G Lab File ID: C1447

Level: (low/med) LOW Date Received: 3/31/89

% Moisture: not dec. 6. Date Analyzed: 3/31/89

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
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23.				
24.				
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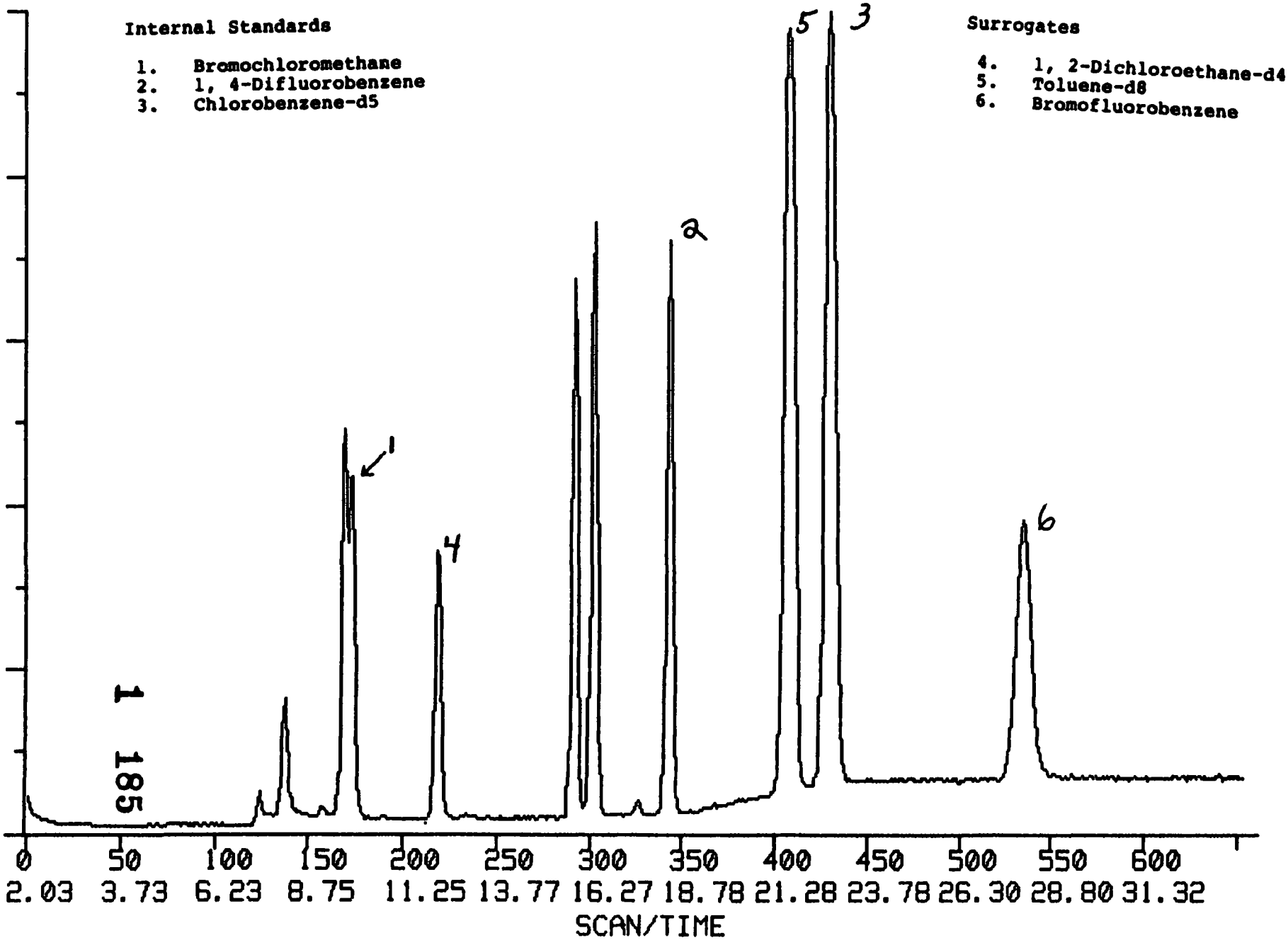
26.				
27.				
28.				
29.				
30.				

C1447 EXTRC 1447, RAS0552MSD, EBQ18MSD CASE 11688, SDG
31-MAR-89 16:33:45 TIC Maximum current=59479



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Contract #: _____ SMO #: _____
Analyst: _____ Date: _____
Reviewer: _____ Date: _____
Comments: _____

Library used: SYO:[110,10]SOIL
Data file name: SYO:C1447
Injection time: 31-MAR-89 16:33:45
Comments:
EXTRC 1447, RAS0552MSD, EBG18MSD CASE 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S Bromochloromethane
2S 1,4-Difluorobenzene
3S Chlorobenzene-d5

Targets:
1T Chloromethane
2T Bromomethane
3T Vinyl Chloride
4T Chloroethane
5T Methylene Chloride
6T Acetone
7T Carbon Disulfide
8T 1,1-Dichloroethene
9T 1,1-Dichloroethane
10T 1,2-Dichloroethene (total)
11T Chloroform
12T 1,2-Dichloroethane
13T 2-Butanone
14T 1,1,1-Trichloroethane
15T Carbon Tetrachloride
16T Vinyl Acetate
17T Bromodichloromethane
18T 1,2-Dichloropropane
19T cis-1,3-Dichloropropene
20T Trichloroethene
21T Dibromochloromethane
22T 1,1,2-Trichloroethane
23T Benzene
24T trans-1,3-Dichloropropene
25T Bromoform
26T 4-Methyl-2-Pentanone
27T 2-Hexanone
28T Tetrachloroethene
29T 1,1,2,2-Tetrachloroethane
30T Toluene
31T Chlorobenzene
32T Ethylbenzene

33T Styrene
34T Xylenes (total)
35T Toluene-d8
36T Bromofluorobenzene
37T 1,2-Dichloroethane-d4

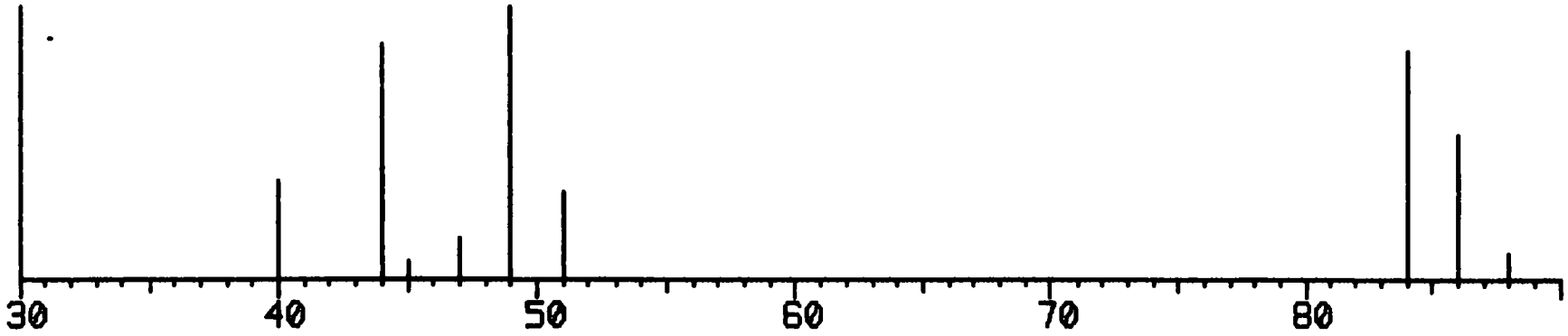
No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	9.90	173			STD	1.00	50.0	NG/UL
2S	18.43	343			STD	0.95	50.0	NG/UL
3S	22.68	428			STD	0.94	50.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T	7.45	124	84. / 128.	2005. / 13409.	1	0.66	5.0	NG/UL
6T	8.10	137	43. / 128.	24004. / 13409.	1	1.00	48.6	NG/UL
7T			Not Found					
8T	9.70	169	96. / 128.	23867. / 13409.	1	0.85	53.4	NG/UL
9T			Not Found					
0T			Not Found					
1T			Not Found					
12T			Not Found					
13T			Not Found					
4T			Not Found					
15T			Not Found					
16T			Not Found					
7T			Not Found					
8T			Not Found					
19T			Not Found					
0T	15.87	292	130. / 114.	29055. / 73335.	2	0.87	46.5	NG/UL
1T			Not Found					
22T			Not Found					
23T	16.37	302	78. / 114.	78319. / 73335.	2	0.94	53.5	NG/UL
4T			Not Found					
5T			Not Found					
26T			Not Found					
7T			Not Found					
8T			Not Found					
29T			Not Found					
0T	21.73	409	92. / 117.	54298. / 59136.	3	0.85	52.6	NG/UL
1T	22.78	430	112. / 117.	63813. / 59136.	3	0.92	52.7	NG/UL
32T			Not Found					
33T			Not Found					
4T			Not Found					
5T	21.53	405	98. / 117.	71116. / 59136.	3	0.95	50.4	NG/UL
36T	28.00	534	95. / 117.	38600. / 59136.	3	0.96	49.1	NG/UL
7T	12.15	218	65. / 128.	24924. / 13409.	1	0.83	48.8	NG/UL

Extended Quantitation Report

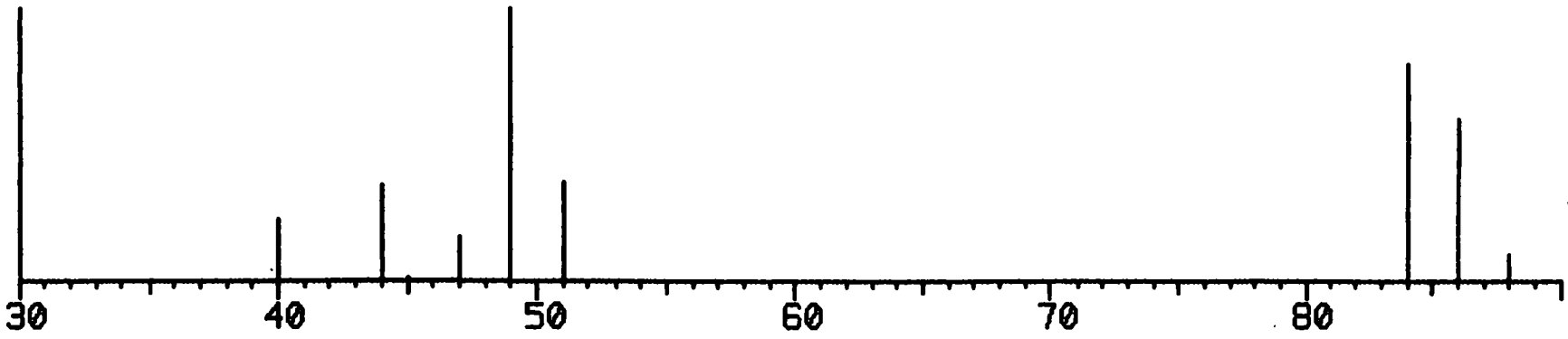
Library used: SYO:[110,10]SOIL
Data file name: SYO:C1447
Injection time: 31-MAR-89 16:33:45

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				50.0				
2S				50.0				
3S				50.0				
5T	0.753	84. / 128.	1.507	5.0	IA BB RF			1.00
6T	0.818	43. / 128.	1.841	48.6	IA BB RF			1.00
8T	0.980	96. / 128.	1.666	53.4	IA BB RF			1.00
20T	0.861	130. / 114.	0.426	46.5	IA BB RF			1.00
23T	0.888	78. / 114.	0.997	53.5	IA BB RF			1.00
30T	0.958	92. / 117.	0.873	52.6	IA BB RF			1.00
31T	1.004	112. / 117.	1.025	52.7	IA BB RF			1.00
35T	0.949	98. / 117.	1.192	50.4	IA BB RF			1.00
36T	1.235	95. / 117.	0.665	49.1	IA BB RF			1.00
37T	1.227	65. / 128.	1.903	48.8	IA BB RF			1.00

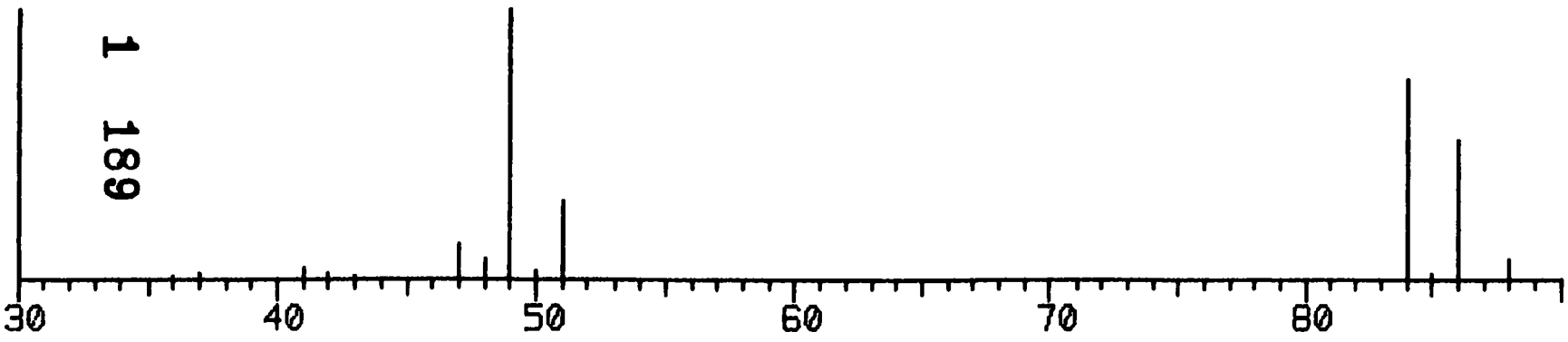
SY0:C1447 EXTRC 1447, RAS0552MSD, EBQ18MSD CASE 11688 Total
31-MAR-89 16:33:45 Scan 124 Time 7.45 min. 3047
100 % = 727



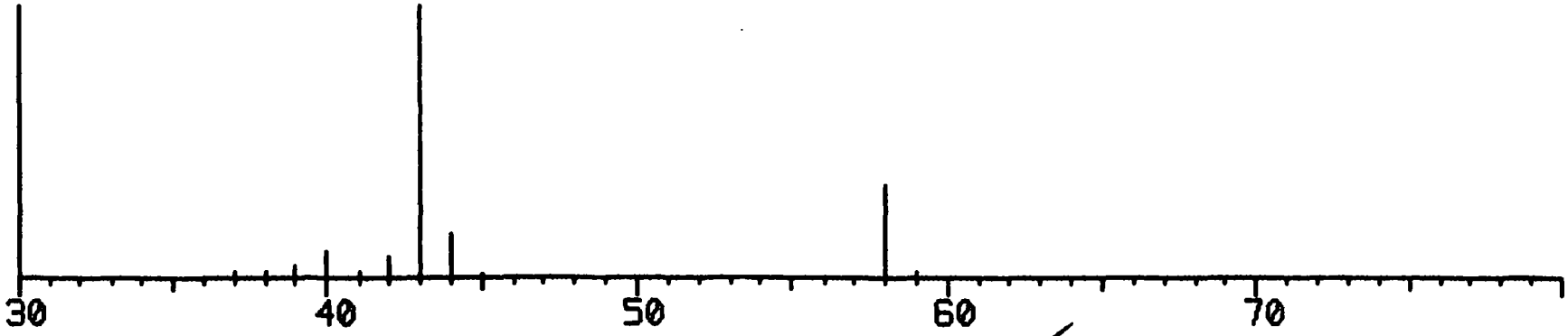
SY0:C1447 EXTRC 1447, RAS0552MSD, EBQ18MSD CASE 11688 Total
31-MAR-89 16:33:45 Scan 124 Time 7.45 min. 2310
Bkg scans * 1.00 121 100 % = 642



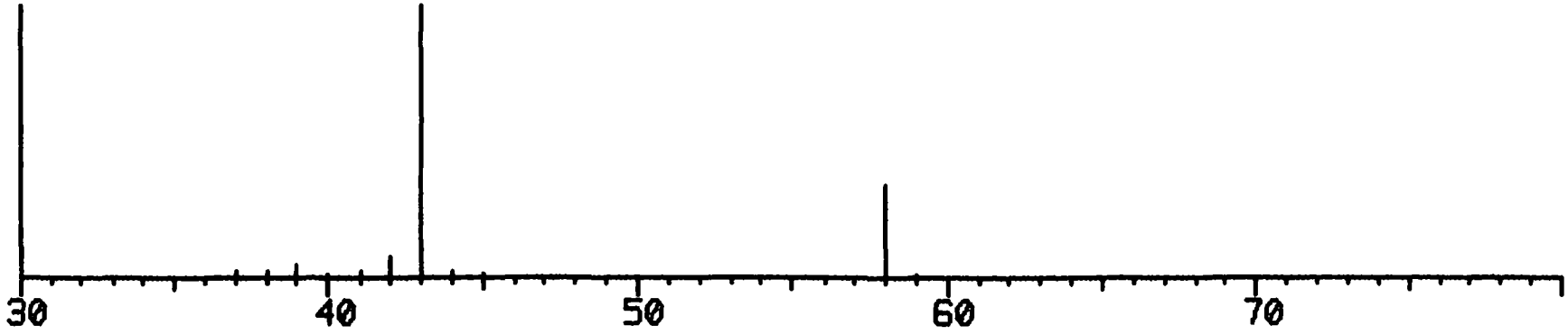
Standard Reference Spectrum: Methylene Chloride



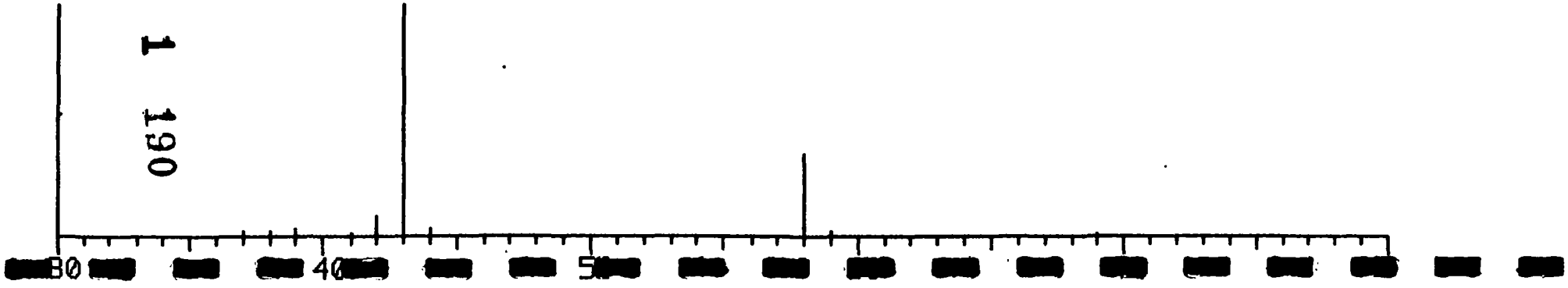
SY0:C1447 EXTRC 1447, RAS0552MSD, EBQ18MSD, 11688 Total
31-MAR-89 16:33:45 Scan 137 Time 8.10 min. 9807
100 % = 5504



SY0:C1447 EXTRC 1447, RAS0552MSD, EBQ18MSD, 11688 Total
31-MAR-89 16:33:45 Scan 137 Time 8.10 min. 8476
Bkg scans * 1.00 133 100 % = 5424



Standard Reference Spectrum: Acetone



1 190

BNA
QC SUMMARY

2D
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
1	SBLK01	51	54	80	95	73	51		0
2	EBQ18	23	37	39	66	50	29		0
3	EBQ18MS	44	47	48	75	59	30		0
4	EBQ18MSD	35	36	39	65	46	35		0
5	EBQ21	84	80	103	130 *	95	121		1
6	EBQ23	64	61	74	105	79	84		0
7	EBQ22	36	37	51	56	42	30		0
8	EBQ24	50	59	69	83	65	49		0
9	EBQ25	57	60	96	83	55	77		0
10	EBQ26	29	29 *	45	40	27	28		1
11	EBQ27	65	70	107	91	63	72		0
12	EBQ28	62	63	115	91	62	91		0
13	EBQ29	46	49	65	67	47	49		0
14									
15									
16									
17									
18									
19									
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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-d5	(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

2 1

3D

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Matrix Spike - EPA Sample No.: EBQ18 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (UG/KG)	SAMPLE CONCENTRATION (UG/KG)	MS CONCENTRATION (UG/KG)	MS % REC	#	QC LIMITS REC.
Phenol	7023.	0.	7510.	107.	*	26- 90
2-Chlorophenol	7023.	0.	8767.	125.	*	25-102
1,4-Dichlorobenzene	3511.	0.	3191.	91.		28-104
N-Nitroso-di-n-prop. (1)	3511.	0.	3480.	99.		41-126
1,2,4-Trichlorobenzene	3511.	0.	4844.	138.	*	38-107
4-Chloro-3-Methylphenol	7023.	0.	6753.	96.		26-103
Acenaphthene	3511.	0.	3177.	90.		31-137
4-Nitrophenol	7023.	0.	6301.	90.		11-114
2,4-Dinitrotoluene	3511.	0.	3354.	96.	*	28- 89
Pentachlorophenol	7023.	0.	6210.	88.		17-109
Pyrene	3511.	0.	4164.	119.		35-142

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
Phenol	7063.	6246.	88.		19.		35	26- 90
2-Chlorophenol	7063.	7242.	103.	*	20.		50	25-102
1,4-Dichlorobenzene	3531.	2692.	76.		18.		27	28-104
N-Nitroso-di-n-prop. (1)	3531.	3022.	86.		15.		38	41-126
1,2,4-Trichlorobenzene	3531.	3808.	108.	*	25.	*	23	38-107
4-Chloro-3-Methylphenol	7063.	6296.	89.		8.		33	26-103
Acenaphthene	3531.	2520.	71.		24.	*	19	31-137
4-Nitrophenol	7063.	6610.	94.		4.		50	11-114
2,4-Dinitrotoluene	3531.	3025.	86.		11.		47	28- 89
Pentachlorophenol	7063.	5850.	83.		7.		47	17-109
Pyrene	3531.	3200.	91.		27.		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: 2 out of 11 outside limits

Spike Recovery: 6 out of 22 outside limits 2 2

COMMENTS:

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID: B1511 Lab Sample ID:

Date Extracted: 4/ 5/89 Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 4/13/89 Time Analyzed: 11:45

Matrix: (soil/water) SOIL Level: (low/med) LOW

Instrument ID: EXTRB

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
1	EBQ18		B1512	4/13/89
2	EBQ18MS		B1513	4/13/89
3	EBQ18MSD		B1514	4/13/89
4	EBQ21		B1523	4/14/89
5	EBQ23		B1525	4/14/89
6	EBQ22		B1526	4/14/89
7	EBQ24		B1527	4/14/89
8	EBQ25		B1530	4/17/89
9	EBQ26		B1531	4/17/89
10	EBQ27		B1536	4/17/89
11	EBQ28		B1541	4/18/89
12	EBQ29		B1542	4/18/89
13				
14				
15				
16				
17				
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28				
29				
30				

COMMENTS:

2 3

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID: B1255 DFTPP Injection Date: 3/ 1/89

Instrument ID.: EXTRB DFTPP Injection Time: 7:40

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	39.2
68	Less than 2.0% of mass 69	0.9 (1.7)1
69	Mass 69 relative abundance	55.3
70	Less than 2.0% of mass 69	0.3 (0.6)1
127	40.0 - 60.0% of mass 198	46.2
197	Less than 1.0% of mass 198	1.0
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	18.8
365	Greater than 1.00% of mass 198	1.5
441	Present, but less than mass 443	7.9
442	Greater than 40.0% of mass 198	74.0
443	17.0 - 23.0% of mass 442	12.7 (17.1)2

1-Value is % mass 69 2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD50		B1257	3/ 1/89	9:08
2	SSTD20		B1258	3/ 1/89	12:36
3	SSTD80		B1259	3/ 1/89	13:30
4	SSTD120		B1260	3/ 1/89	14:20
5	SSTD160		B1261	3/ 1/89	15:16
6					
7					
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19					
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21					
22					

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBG18

Lab File ID: B1508 DFTPP Injection Date: 4/13/89

Instrument ID.: EXTRB DFTPP Injection Time: 8:23

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	55.9
68	Less than 2.0% of mass 69	1.1 (1.7)1
69	Mass 69 relative abundance	67.5
70	Less than 2.0% of mass 69	0.2 (0.4)1
127	40.0 - 60.0% of mass 198	50.4
197	Less than 1.0% of mass 198	0.7
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	18.4
365	Greater than 1.00% of mass 198	1.5
441	Present, but less than mass 443	7.3
442	Greater than 40.0% of mass 198	84.3
443	17.0 - 23.0% of mass 442	14.8 (17.5)2

1-Value is % mass 69 2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD50		B1509	4/13/89	8:58
2	SBLK01		B1511	4/13/89	11:45
3	EBG18		B1512	4/13/89	12:41
4	EBG18MS		B1513	4/13/89	13:35
5	EBG18MSD		B1514	4/13/89	14:46
6					
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5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID: B1521 DFTPP Injection Date: 4/14/89

Instrument ID.: EXTRB DFTPP Injection Time: 10:39

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	59.9
68	Less than 2.0% of mass 69	1.2 (1.7)1
69	Mass 69 relative abundance	72.7
70	Less than 2.0% of mass 69	0.4 (0.5)1
127	40.0 - 60.0% of mass 198	52.3
197	Less than 1.0% of mass 198	0.7
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.4
275	10.0 - 30.0% of mass 198	23.0
365	Greater than 1.00% of mass 198	1.6
441	Present, but less than mass 443	9.7
442	Greater than 40.0% of mass 198	89.2
443	17.0 - 23.0% of mass 442	17.0 (19.1)2

1-Value is % mass 69 2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD50		B1522	4/14/89	10:57
2	EBQ21		B1523	4/14/89	12:27
3	EBQ23		B1525	4/14/89	14:17
4	EBQ22		B1526	4/14/89	15:13
5	EBQ24		B1527	4/14/89	16:03
6					
7					
8					
9					
10					
11					
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21					
22					

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID: B1528 DFTPP Injection Date: 4/17/89

Instrument ID.: EXTRB DFTPP Injection Time: 8:18

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	58.0
68	Less than 2.0% of mass 69	0.8 (1.3)1
69	Mass 69 relative abundance	63.0
70	Less than 2.0% of mass 69	0.3 (0.6)1
127	40.0 - 60.0% of mass 198	45.1
197	Less than 1.0% of mass 198	0.7
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	5.8
275	10.0 - 30.0% of mass 198	21.2
365	Greater than 1.00% of mass 198	2.0
441	Present, but less than mass 443	8.3
442	Greater than 40.0% of mass 198	89.0
443	17.0 - 23.0% of mass 442	15.5 (17.4)2

1-Value is % mass 69 2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD50		B1529	4/17/89	8:37
2	EBQ25		B1530	4/17/89	9:55
3	EBQ26		B1531	4/17/89	10:49
4	EBQ27		B1536	4/17/89	15:34
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID: B1539 DFTPP Injection Date: 4/18/89

Instrument ID.: EXTRB DFTPP Injection Time: 9:09

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	47.5
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	59.2
70	Less than 2.0% of mass 69	0.5 (0.9)1
127	40.0 - 60.0% of mass 198	56.3
197	Less than 1.0% of mass 198	0.0
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	17.5
365	Greater than 1.00% of mass 198	1.7
441	Present, but less than mass 443	6.2
442	Greater than 40.0% of mass 198	57.9
443	17.0 - 23.0% of mass 442	10.7 (18.5)2

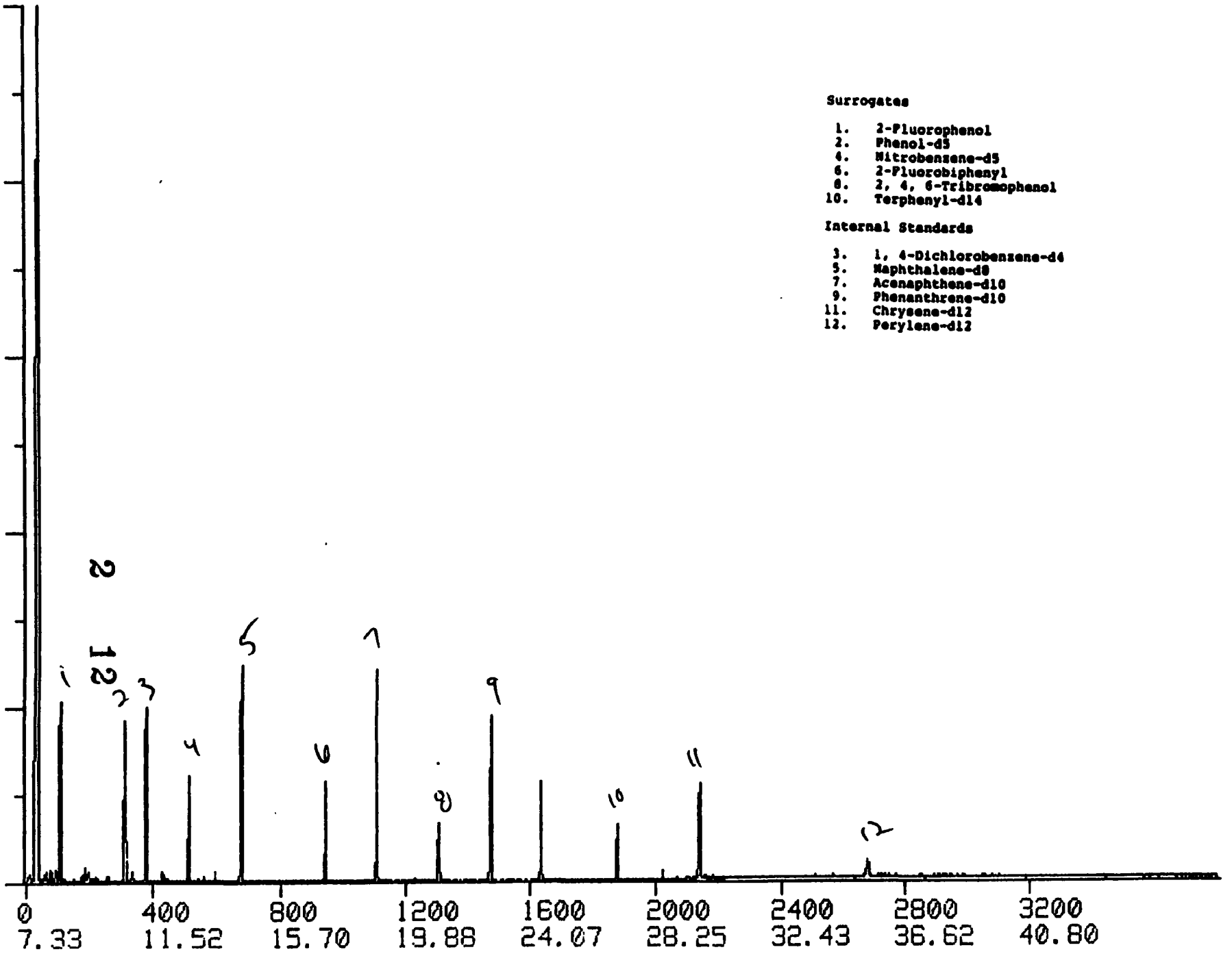
1-Value is % mass 69 2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD50		B1540	4/18/89	9:26
2	EBQ28		B1541	4/18/89	10:35
3	EBQ29		B1542	4/18/89	11:30
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

BNA
SAMPLE DATA

STO:BT512 EXTRB 1512, RR50552, E6Q18, 11688 100%
13-APR-89 12:41:19 1204426
Total Ion Current



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1512
Injection time: 13-APR-89 12:41:19
Comments:
EXTRB 1512, RAS0552, EBQ18, 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

o.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.30	379			STD	0.85	40.0	NG/UL
2S	14.43	679			STD	0.86	40.0	NG/UL
3S	18.95	1112			STD	0.72	40.0	NG/UL
4S	22.75	1474			STD	0.88	40.0	NG/UL
5S	29.68	2138			STD	0.95	40.0	NG/UL
6S	35.85	2727			STD	0.54	40.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T			Not Found					
6T			Not Found					
7T			Not Found					

8T			Not Found						
9T			Not Found						
10T			Not Found						
11T			Not Found						
12T			Not Found						
13T			Not Found						
14T			Not Found						
15T			Not Found						
16T			Not Found						
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42T			Not Found						
43T			Not Found						
44T			Not Found						
45T			Not Found						
46T			Not Found						
47T			Not Found						
48T			Not Found						
49T			Not Found						
50T			Not Found						
51T	24.40	1632	149. / 188.	259852. /	357528.	4	0.73	28.6	NG/UL
52T			Not Found						
53T			Not Found						
54T			Not Found						
55T			Not Found						
56T			Not Found						
57T			Not Found						
58T			Not Found						
59T			Not Found						
60T			Not Found						
61T			Not Found					2	15
62T			Not Found						
63T			Not Found						

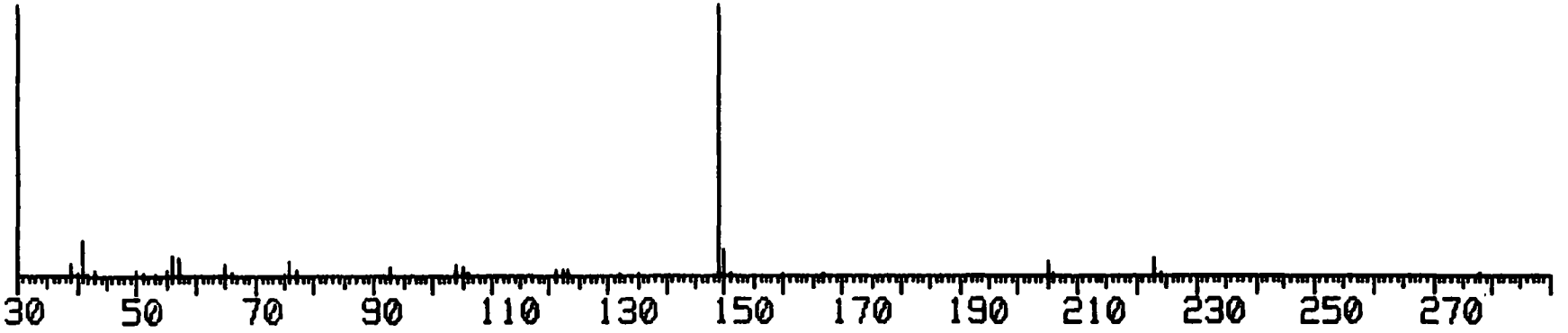
64T			Not Found						
65T			Not Found						
66T	12. 70	513	82. / 136.	64526. /	583264.	2	0. 95	10. 5	NG/UL
67T	17. 23	947	172. / 164.	189140. /	301116.	3	0. 94	18. 5	NG/UL
68T	26. 90	1872	244. / 240.	109340. /	225780.	5	0. 88	18. 3	NG/UL
69T	10. 58	311	99. / 152.	308176. /	136822.	1	0. 73	54. 2	NG/UL
70T	8. 43	105	112. / 152.	278112. /	136822.	1	0. 71	38. 2	NG/UL
71T	20. 98	1306	330. / 164.	29022. /	301116.	3	0. 88	33. 0	NG/UL

Extended Quantitation Report

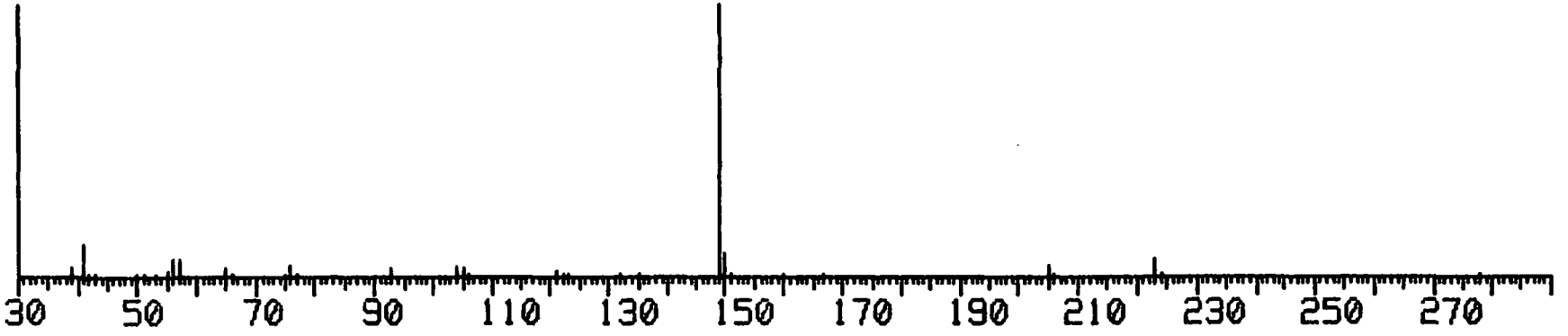
Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1512
Injection time: 13-APR-89 12:41:19

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
51T	1.073	149. / 188.	1.017	28.6	IA BB RF			1.00
66T	0.880	82. / 136.	0.420	10.5	IA BB RF			1.00
67T	0.909	172. / 164.	1.359	18.5	IA BB RF			1.00
68T	0.906	244. / 240.	1.058	18.3	IA BB RF			1.00
69T	0.936	99. / 152.	1.662	54.2	IA BB RF			1.00
70T	0.746	112. / 152.	2.131	38.2	IA BB RF			1.00
71T	1.107	330. / 164.	0.117	33.0	IA BB RF			1.00

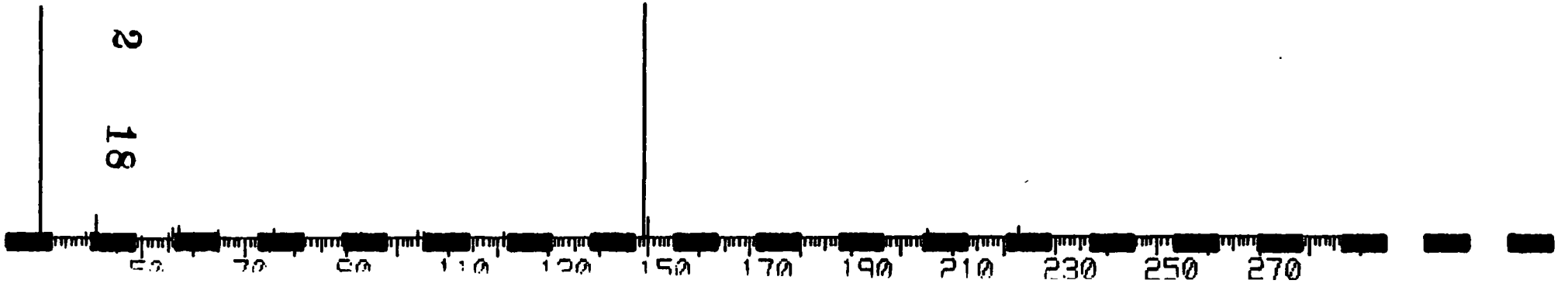
SY0:B1512 EXTRB 1512, RAS0552, EBQ18, 11688 Total
13-APR-89 12:41:19 Scan 1632 Time 24.40 min. 137308
100 % = 71936



SY0:B1512 EXTRB 1512, RAS0552, EBQ18, 11688 Total
13-APR-89 12:41:19 Scan 1632 Time 24.40 min. 136339
Bkg scans * 1.00 1623 100 % = 71884



Standard Reference Spectrum: Di-n-butylphthalate



Peak Areas from TIC Chromatogram

Data File is SYO:B1512
Injection date: 13-APR-89 12:41:19

#	Crest	Retn time	Type	Left limit	Right limit	Raw area	Rel. area(%)	Est. conc	Std
1	40	7.75	BB	-21	7	12442952.	56.74	623.48	1
2	2682	35.38	BB	-13	11	203568.	0.93	13.24	5

TIC areas for associated internal standards:

Std.	Area	Conc.
1	798296.	40.
5	614971.	40.

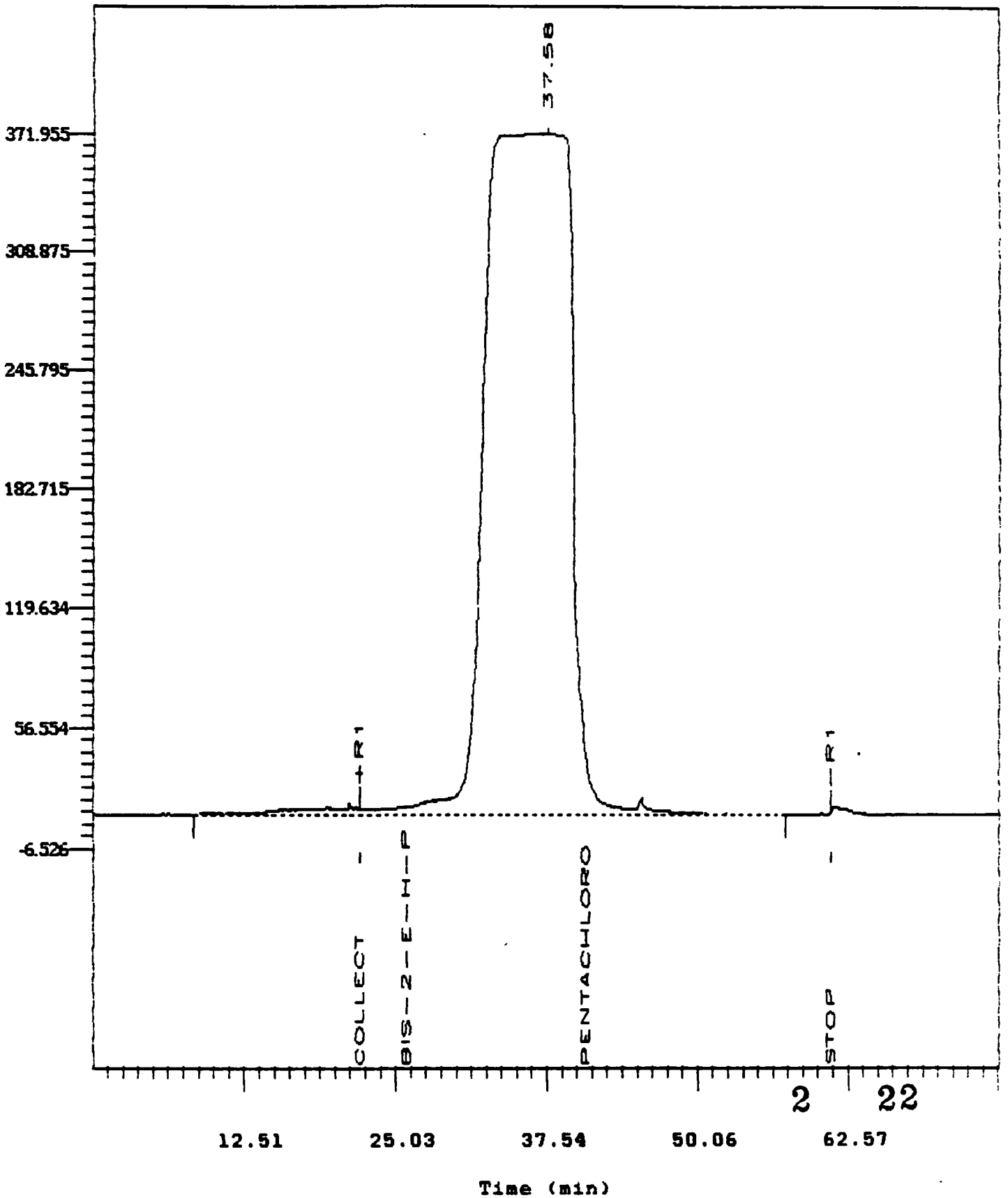
TIC
~~CTI~~ = 2
4-14-89 NW
NW 4-14-89

GPC Chromatogram

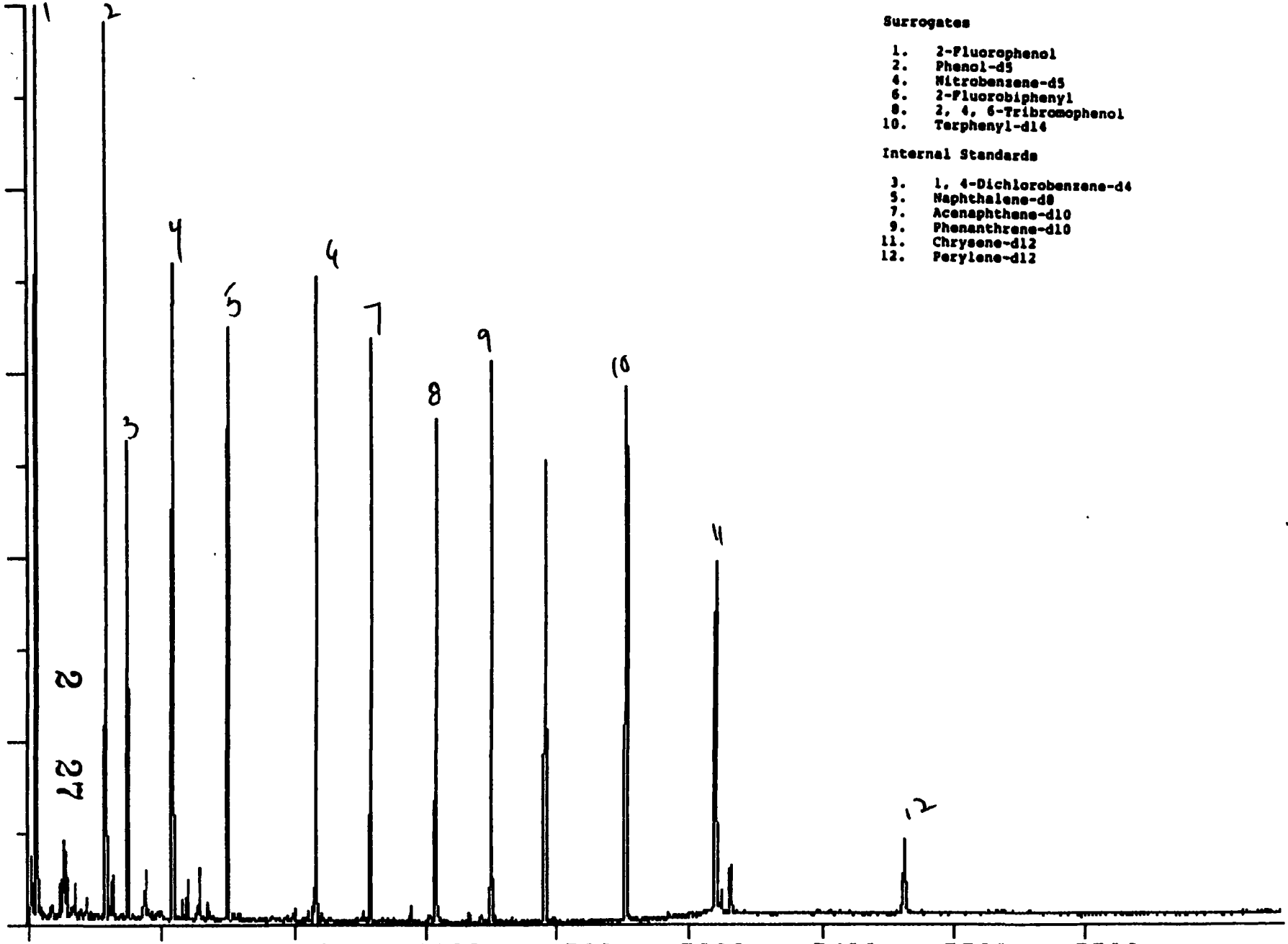
Run #: H423
Date: 4-5-89
Time: 20:54
Inst: H

Case #: 11689
SDG #: EBQ18
TRAL #: RA50552
SDG #: EBQ18

FileName : c:\2700\instH\H423.raw Date: 4-5-89 23:25 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 11497 uV High Point: 371955 uV
Vertical Scale Factor: 1.00 Plot Offset: -7 mV Plot Scale: 379 mV



SY0:B1523 EXTRB 1523, RAS0554, EBQ21, 11688 100%
14-APR-89 12:27:04 456825
Total Ion Current



Surrogates

1. 2-Fluorophenol
2. Phenol-d5
4. Nitrobenzene-d5
6. 2-Fluorobiphenyl
8. 2, 4, 6-Tribromophenol
10. Terphenyl-d14

Internal Standards

3. 1, 4-Dichlorobenzene-d4
5. Naphthalene-d8
7. Acenaphthene-d10
9. Phenanthrene-d10
11. Chrysene-d12
12. Perylene-d12

THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1523
Injection time: 14-APR-89 12:27:04
Comments:
EXTRB 1523, RAS0554, EBQ21, 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.27	297			STD	0.85	40.0	NG/UL
2S	14.42	599			STD	0.74	40.0	NG/UL
3S	18.98	1035			STD	0.72	40.0	NG/UL
4S	22.82	1401			STD	0.68	40.0	NG/UL
5S	29.88	2078			STD	0.85	40.0	NG/UL
6S	35.88	2651			STD	0.91	40.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T			Not Found					
6T			Not Found					
7T			Not Found					

8T			Not Found						
9T			Not Found						
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14T			Not Found						
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16T			Not Found						
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37T			Not Found						
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39T			Not Found						
40T			Not Found						
41T			Not Found						
42T			Not Found						
43T			Not Found						
44T			Not Found						
45T			Not Found						
46T			Not Found						
47T			Not Found						
48T			Not Found						
49T			Not Found						
50T			Not Found						
51T	24.50	1562	149. / 188.	448660. /	516288.	4	0.87	37.3	NG/UL
52T			Not Found						
53T			Not Found						
54T			Not Found						
55T			Not Found						
56T			Not Found						
57T			Not Found						
58T			Not Found						
59T			Not Found						
60T			Not Found						
61T			Not Found						
62T			Not Found						
63T			Not Found						

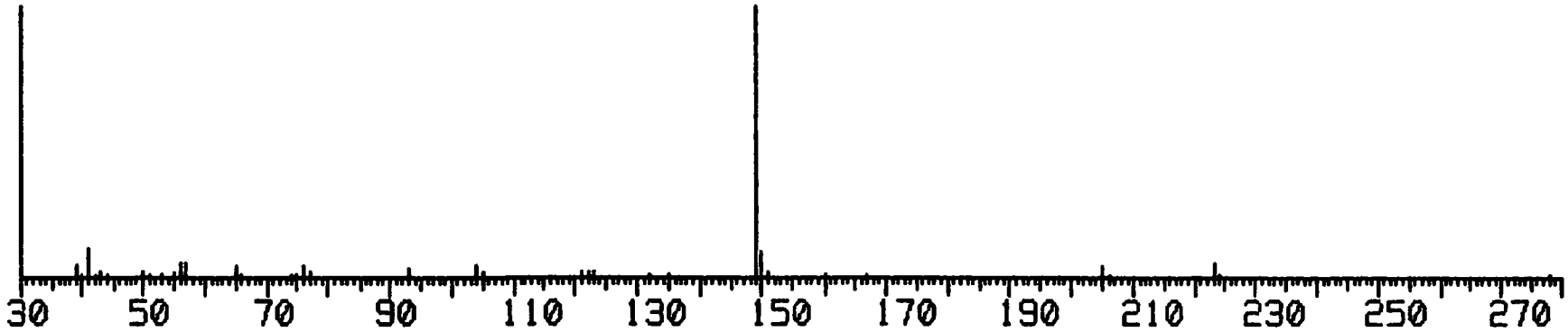
64T			Not Found							
65T			Not Found							
66T	12.68	433	82. / 136.	216048. /	547376.	2	0.79	43.2	NG/UL
67T	17.25	869	172. / 164.	452704. /	334124.	3	0.75	42.0	NG/UL
68T	27.05	1806	244. / 240.	436924. /	337440.	5	0.94	50.1	NG/UL
69T	10.57	230	99. / 152.	640408. /	144336.	1	0.54	123.9	NG/UL
70T	8.38	22	112. / 152.	558680. /	144336.	1	0.71	86.5	NG/UL
71T	21.05	1232	330. / 164.	134944. /	334124.	3	0.94	101.4	NG/UL

Extended Quantitation Report

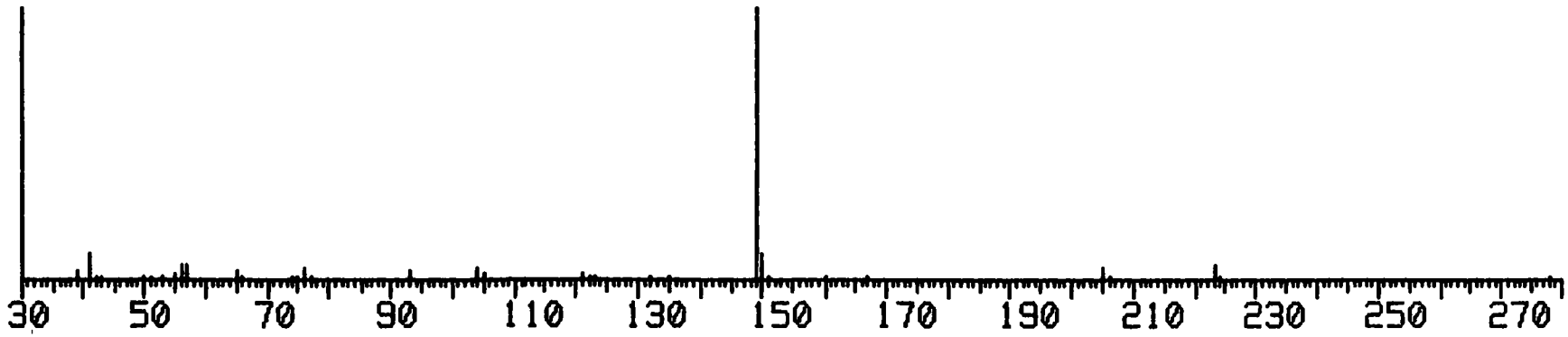
Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1523
Injection time: 14-APR-89 12:27:04

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
61T	1.074	149. / 188.	0.932	37.3	IA BB RF			1.00
66T	0.879	82. / 136.	0.365	43.2	IA BB RF			1.00
67T	0.909	172. / 164.	1.290	42.0	IA BB RF			1.00
68T	0.905	244. / 240.	1.035	50.1	IA BB RF			1.00
69T	0.938	99. / 152.	1.433	123.9	IA BB RF			1.00
70T	0.744	112. / 152.	1.790	86.5	IA BB RF			1.00
71T	1.109	330. / 164.	0.159	101.4	IA BB RF			1.00

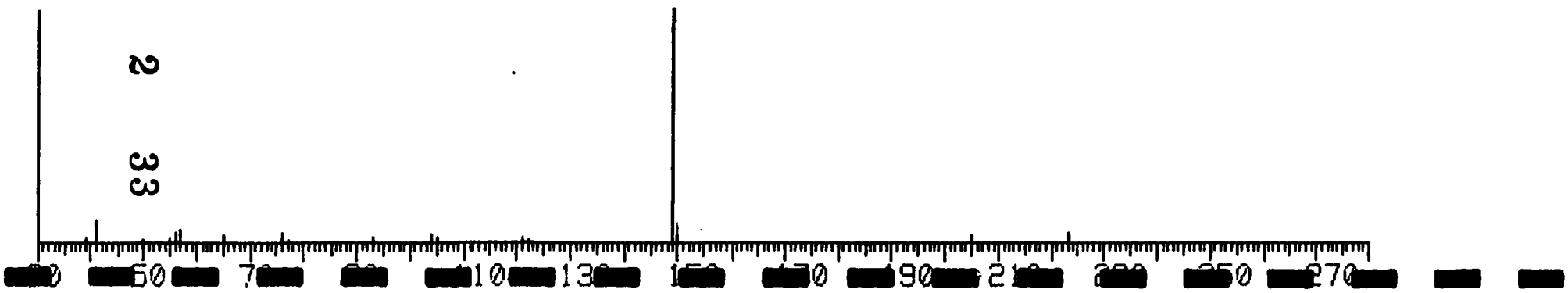
SY0:B1523 EXTRB 1523, RAS0554, EBQ21, 11688 Total
14-APR-89 12:27:04 Scan 1562 Time 24.50 min. 230816
100 % = 124416



SY0:B1523 EXTRB 1523, RAS0554, EBQ21, 11688 Total
14-APR-89 12:27:04 Scan 1562 Time 24.50 min. 229238
Bkg scans * 1.00 1552 100 % = 124312



Standard Reference Spectrum: Di-n-butylphthalate



Peak Areas from TIC Chromatogram

Data File is SYO:B1523
Injection date: 14-APR-89 12:27:04

#	Crest	Retn time	Type	Left limit	Right limit	Raw area	Rel. area(%)	Est. conc	Std
1	8	8.25	BB	-4	7	81511.	0.51	4.23	1
2	93	9.13	BV	-3	8	102994.	0.65	5.34	1
3	104	9.25	VV	-3	7	171451.	1.08	8.90	1
4	139	9.62	VB	-3	24	124327.	0.78	6.45	1
5	253	10.80	VB	-4	13	90512.	0.57	4.70	1
6	349	11.82	VB	-2	7	81639.	0.51	4.24	1
7	514	13.53	BB	-10	8	112861.	0.71	4.37	2
8	2123	30.37	BB	-7	6	108634.	0.68	5.07	5

TIC areas for associated internal standards:

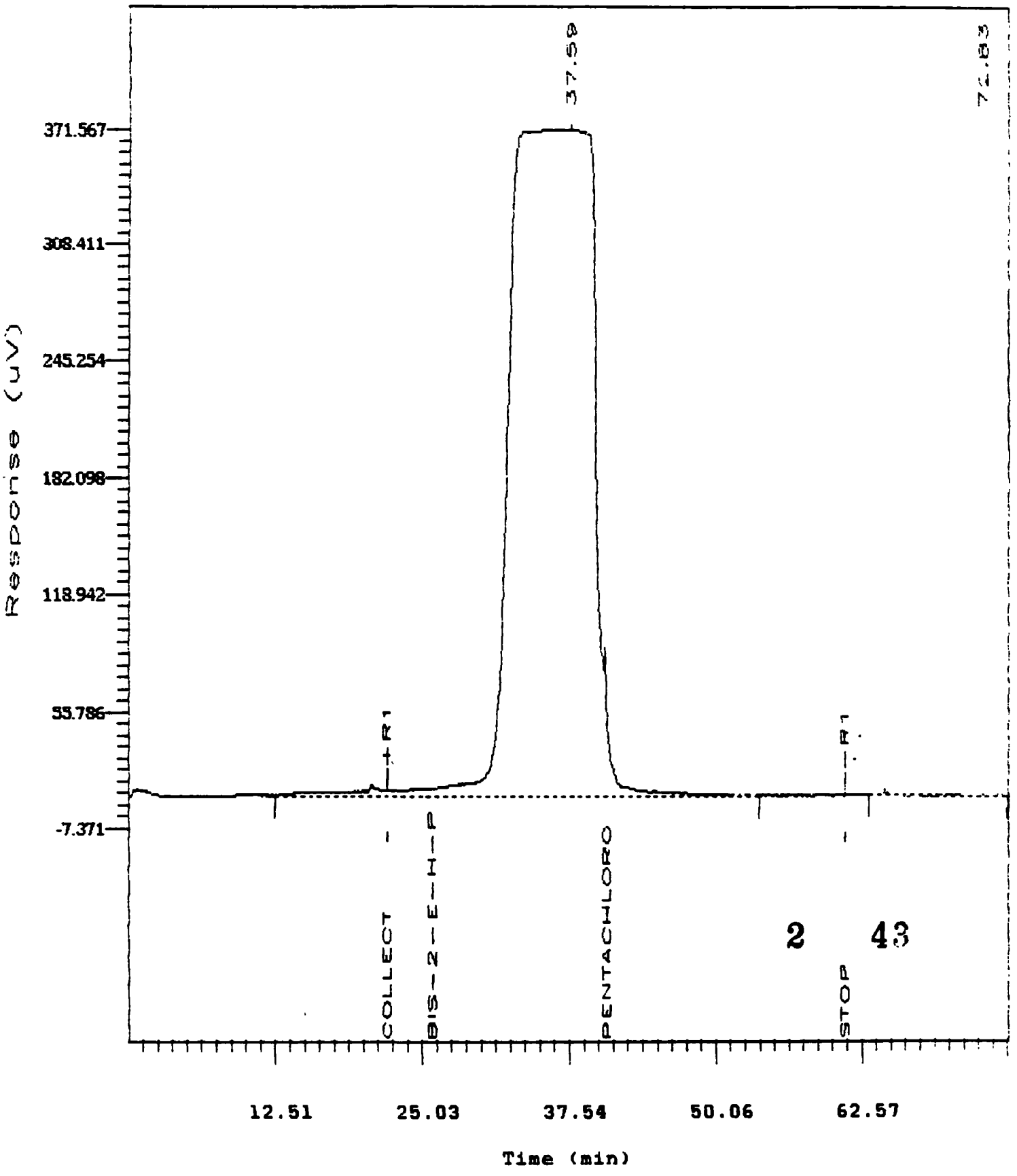
Std.	Area	Conc.
1	770969.	40.
2	1033780.	40.
5	856503.	40.

TIC=8
NW
4-14-89

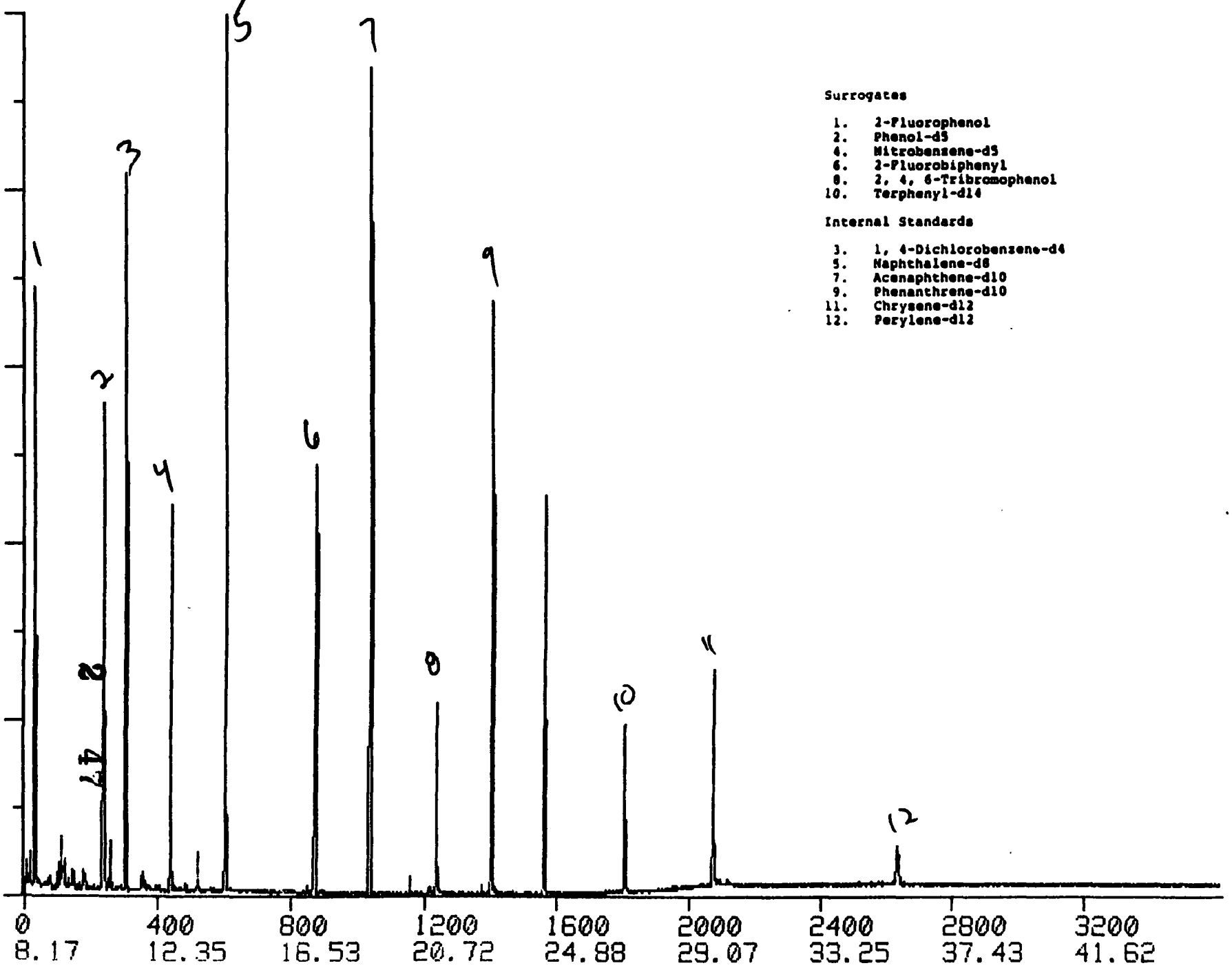
GPC Chromatogram

FileName : c:\2700\instH\H426.raw Date: 4-6-89 3:10 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 10674 uV High Point: 371567 uV
Vertical Scale Factor: 1.00 Plot Offset: -7 mV Plot Scale: 379 mV

Run #: H426 Case #: 11688
Date: 4-6-89 SMO #: EBQ 21
Time: 12:40 TRAL #: RA50554
Inst: H SDG #: EBQ18



SY0:B1526 EXTRB 1526, RAS0555, EBQ22, T1688 100%
14-APR-89 15:13:10 434443
Total Ion Current



Surrogates

1. 2-Fluorophenol
2. Phenol-d5
4. Nitrobenzene-d5
6. 2-Fluorobiphenyl
8. 2, 4, 6-Tribromophenol
10. Terphenyl-d14

Internal Standards

3. 1, 4-Dichlorobenzene-d4
5. Naphthalene-d8
7. Acenaphthene-d10
9. Phenanthrene-d10
11. Chrysene-d12
12. Perylene-d12

THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1526
Injection time: 14-APR-89 15:13:10
Comments:
EXTRB 1526, RAS0555, EBQ22, 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.33	303			STD	0.75	40.0	NG/UL
2S	14.50	606			STD	0.80	40.0	NG/UL
3S	19.05	1041			STD	0.63	40.0	NG/UL
4S	22.85	1404			STD	0.76	40.0	NG/UL
5S	29.83	2073			STD	0.77	40.0	NG/UL
6S	35.70	2634			STD	0.96	40.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T			Not Found					
6T			Not Found					
7T			Not Found					

8T			Not Found						
9T			Not Found						
10T			Not Found						
11T			Not Found						
12T			Not Found						
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39T			Not Found						
40T			Not Found						
41T			Not Found						
42T			Not Found						
43T			Not Found						
44T			Not Found						
45T			Not Found						
46T			Not Found						
47T			Not Found						
48T			Not Found						
49T			Not Found						
50T			Not Found						
51T	24.50	1563	149. / 188.	363524. /	513816.	4	0.73	30.4	NG/UL
52T			Not Found						
53T			Not Found						
54T			Not Found						
55T			Not Found						
56T			Not Found						
57T			Not Found						
58T			Not Found						
59T			Not Found						
60T			Not Found						
61T			Not Found						
62T			Not Found						
63T			Not Found						

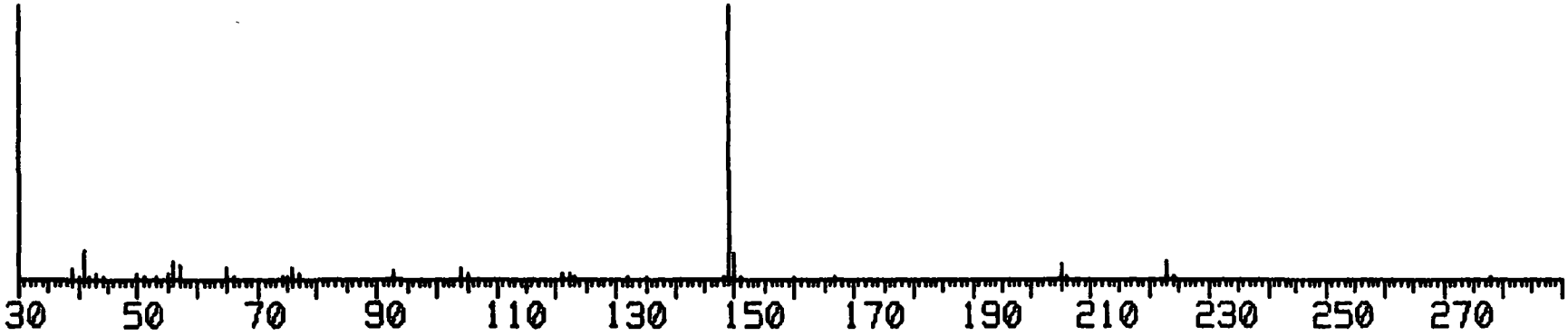
4T			Not Found						
5T			Not Found						
66T	12.75	439	82. / 136.	141954. /	838080.	2	0.79	18.5	NG/UL
67T	17.32	875	172. / 164.	281232. /	454392.	3	0.94	19.2	NG/UL
8T	27.03	1805	244. / 240.	115076. /	180888.	5	0.88	24.6	NG/UL
69T	10.63	237	99. / 152.	407524. /	211864.	1	0.91	53.7	NG/UL
70T	8.47	29	112. / 152.	364524. /	211864.	1	0.71	38.4	NG/UL
1T	21.08	1236	330. / 164.	45483. /	454392.	3	0.97	25.1	NG/UL

Extended Quantitation Report

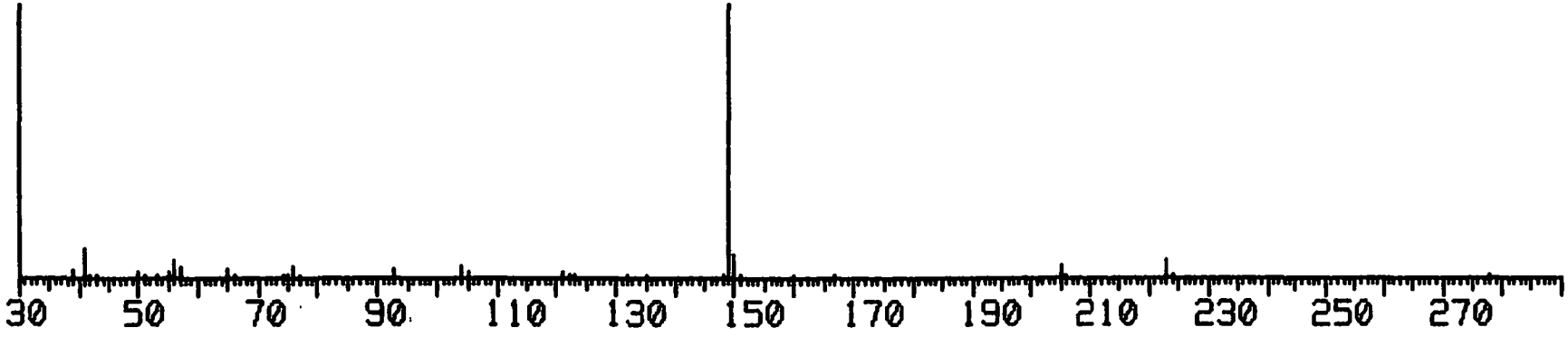
Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1526
Injection time: 14-APR-89 15:13:10

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
51T	1.072	149. / 188.	0.932	30.4	IA BB RF			1.00
66T	0.879	82. / 136.	0.365	18.5	IA BB RF			1.00
67T	0.909	172. / 164.	1.290	19.2	IA BB RF			1.00
68T	0.906	244. / 240.	1.035	24.6	IA BB RF			1.00
69T	0.938	99. / 152.	1.433	53.7	IA BB RF			1.00
70T	0.748	112. / 152.	1.790	38.4	IA BB RF			1.00
71T	1.107	330. / 164.	0.159	25.1	IA BB RF			1.00

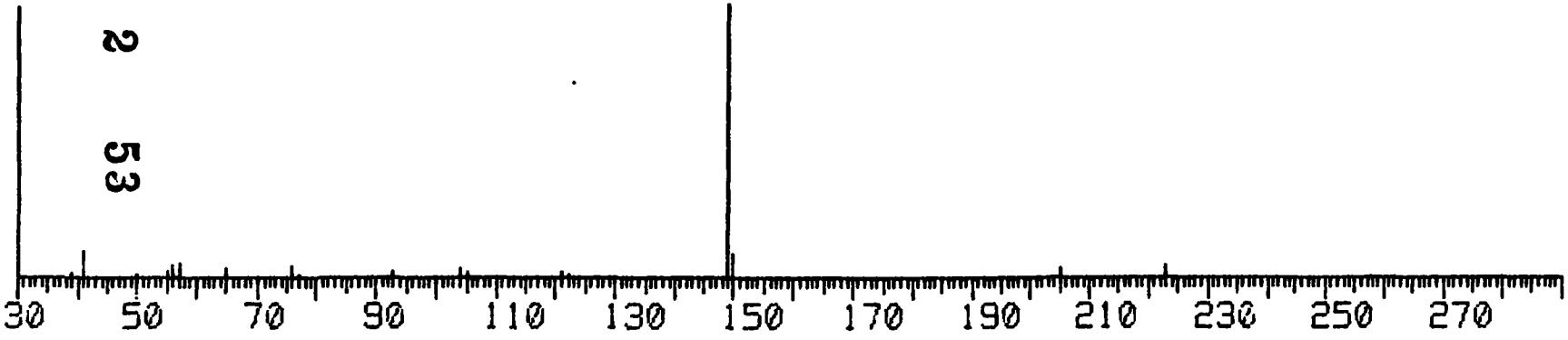
SY0:B1526 EXTRB 1526, RAS0555, EBQ22, 11688 Total
14-APR-89 15:13:10 Scan 1563 Time 24.50 min. 197675
100 % = 105472



SY0:B1526 EXTRB 1526, RAS0555, EBQ22, 11688 Total
14-APR-89 15:13:10 Scan 1563 Time 24.50 min. 196143
Bkg scans * 1.00 1556 100 % = 105284



Standard Reference Spectrum: Di-n-butylphthalate



Peak Areas from TIC Chromatogram

Data File is SYO:B1526
Injection date: 14-APR-89 15:13:10

#	Crest	Retn time	Type	Left limit	Right limit	Raw area	Rel. area(%)	Est. conc	Std

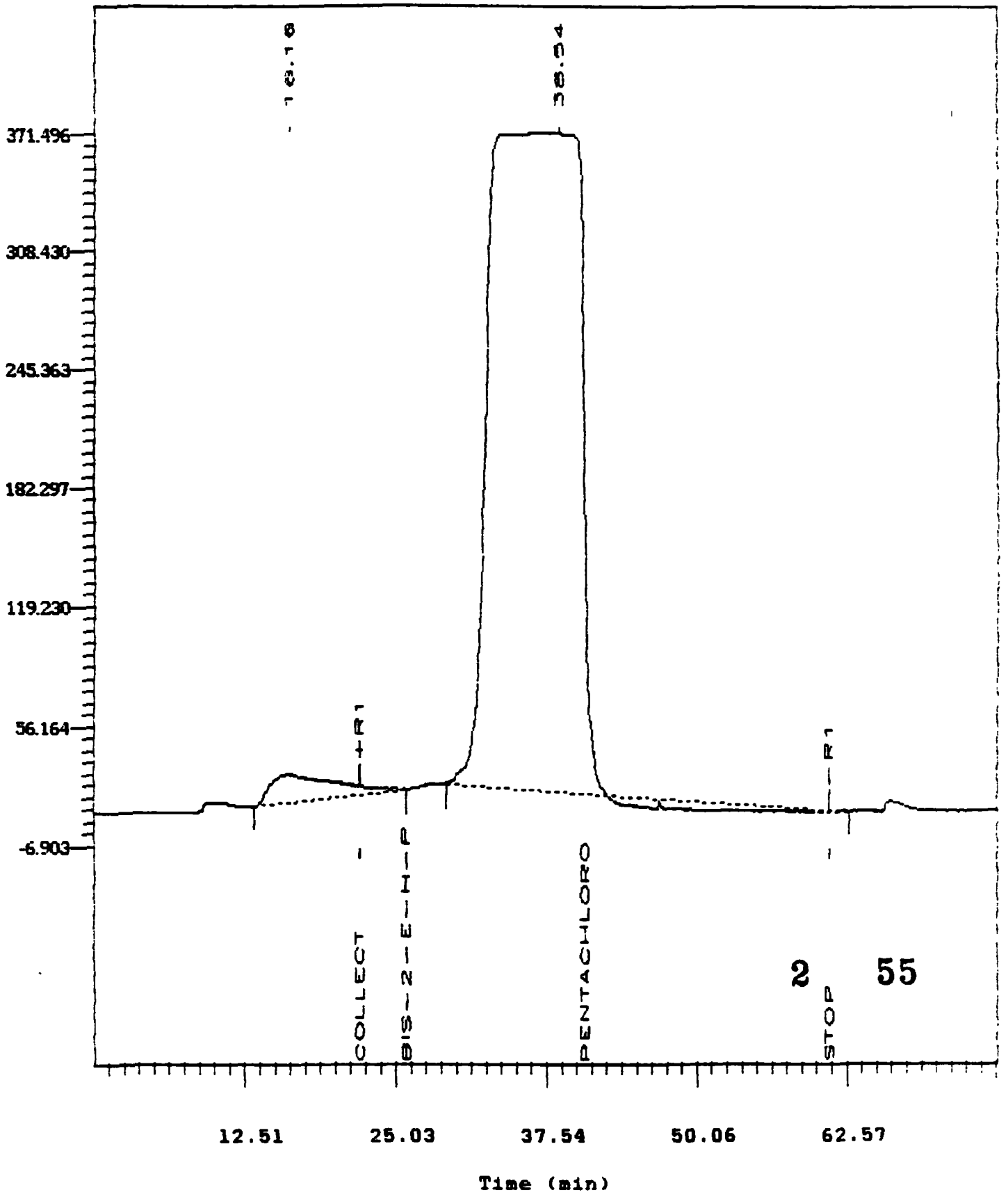
TIC areas for associated internal standards:

Std.	Area	Conc.

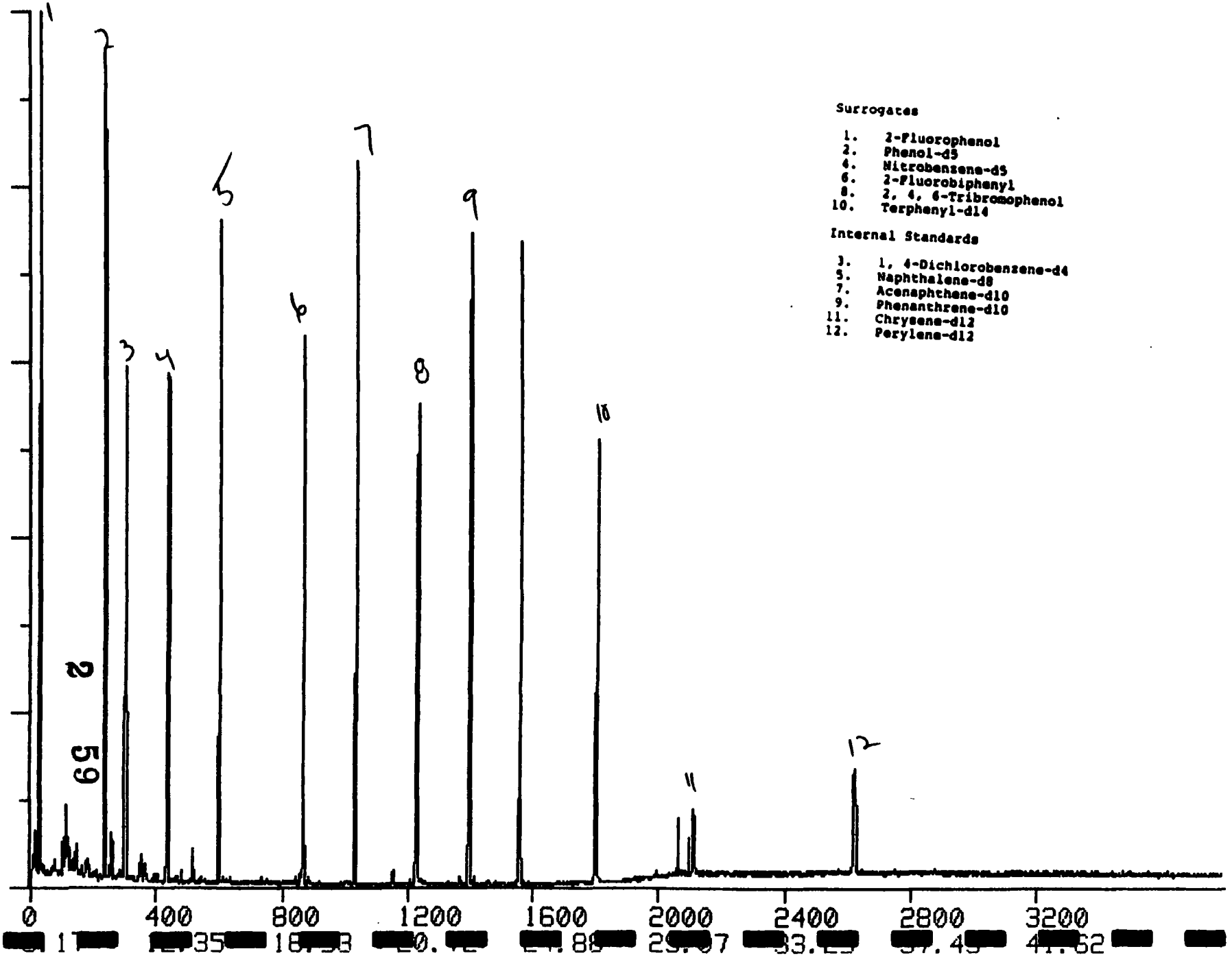
GPC Chromatogram

leName : c:\2700\instH\H427.raw Date: 4-6-89 4:26 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 11116 uV High Point: 371496 uV
Vertical Scale Factor: 1.00 Plot Offset: -7 mV Plot Scale: 378 mV

Run #: H427 Case #: 11688
Date: 4-6-89 SDG #: EB022
Time: 1:55 TRAL #: RA50555
Inst: H SDG #: EB018



SY0:B1525 EXTRB 1525, RAS0556, EBQ23, 11688 100%
14-APR-89 14:17:26 375220
Total Ion Current



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1525
Injection time: 14-APR-89 14:17:26
Comments:
EXTRB 1525, RAS0556, EBQ23, 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.30	300			STD	0.85	40.0	NG/UL
2S	14.45	601			STD	0.74	40.0	NG/UL
3S	18.97	1034			STD	0.79	40.0	NG/UL
4S	22.77	1397			STD	0.88	40.0	NG/UL
5S	29.72	2061			STD	0.90	40.0	NG/UL
6S	35.65	2629			STD	0.70	40.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T			Not Found					
6T			Not Found					
7T			Not Found					

8T			Not Found						
9T			Not Found						
10T			Not Found						
11T			Not Found						
12T			Not Found						
13T			Not Found						
14T			Not Found						
15T			Not Found						
16T			Not Found						
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39T			Not Found						
40T			Not Found						
41T			Not Found						
42T			Not Found						
43T			Not Found						
44T			Not Found						
45T			Not Found						
46T			Not Found						
47T			Not Found						
48T			Not Found						
49T			Not Found						
50T			Not Found						
51T	24.43	1556	149. / 188.	531056. /	487892.	4	0.65	46.7	NG/UL
52T			Not Found						
53T			Not Found						
54T			Not Found						
55T			Not Found						
56T			Not Found						
57T			Not Found						
58T			Not Found						
59T			Not Found						
60T			Not Found						
61T			Not Found						
62T			Not Found						
63T			Not Found						

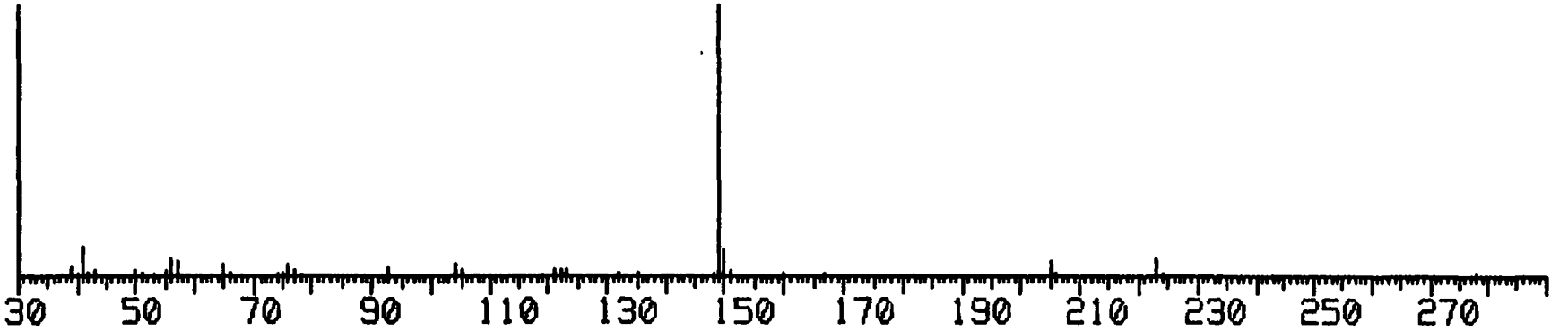
64T			Not Found							
65T			Not Found							
66T	12.72	435	82. / 136.	160972. /	533616.	2	0.79	33.0	NG/UL
67T	17.25	869	172. / 164.	343512. /	334872.	3	0.81	31.8	NG/UL
68T	26.95	1797	244. / 240.	302796. /	325630.	5	0.94	36.0	NG/UL
69T	10.60	233	99. / 152.	496672. /	138400.	1	0.63	100.2	NG/UL
70T	8.43	26	112. / 152.	443288. /	138400.	1	0.67	71.6	NG/UL
71T	21.02	1230	330. / 164.	94472. /	334872.	3	0.91	70.9	NG/UL

Extended Quantitation Report

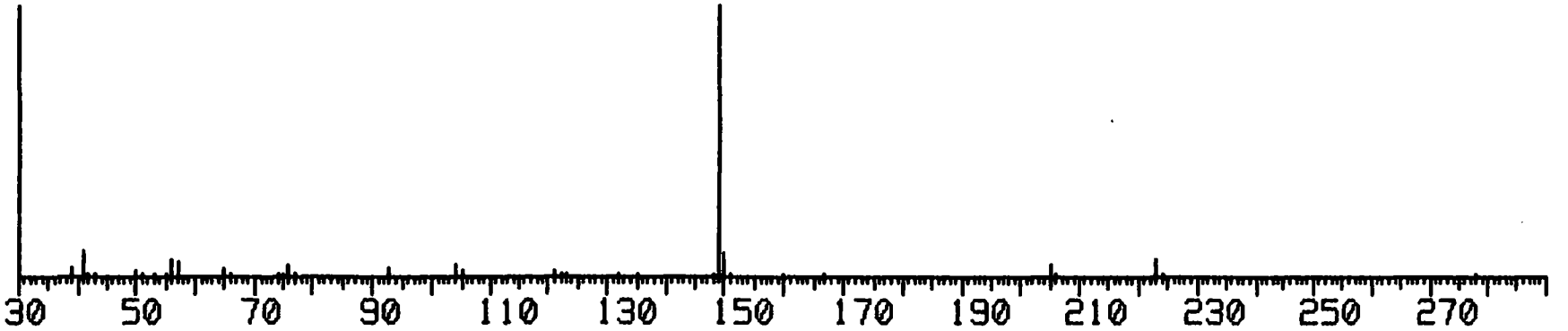
Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1525
Injection time: 14-APR-89 14:17:26

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
61T	1.073	149. / 188.	0.932	46.7	IA BB RF			1.00
66T	0.880	82. / 136.	0.365	33.0	IA BB RF			1.00
67T	0.909	172. / 164.	1.290	31.8	IA BB RF			1.00
68T	0.907	244. / 240.	1.035	36.0	IA BB RF			1.00
69T	0.938	99. / 152.	1.433	100.2	IA BB RF			1.00
70T	0.746	112. / 152.	1.790	71.6	IA BB RF			1.00
71T	1.108	330. / 164.	0.159	70.9	IA BB RF			1.00

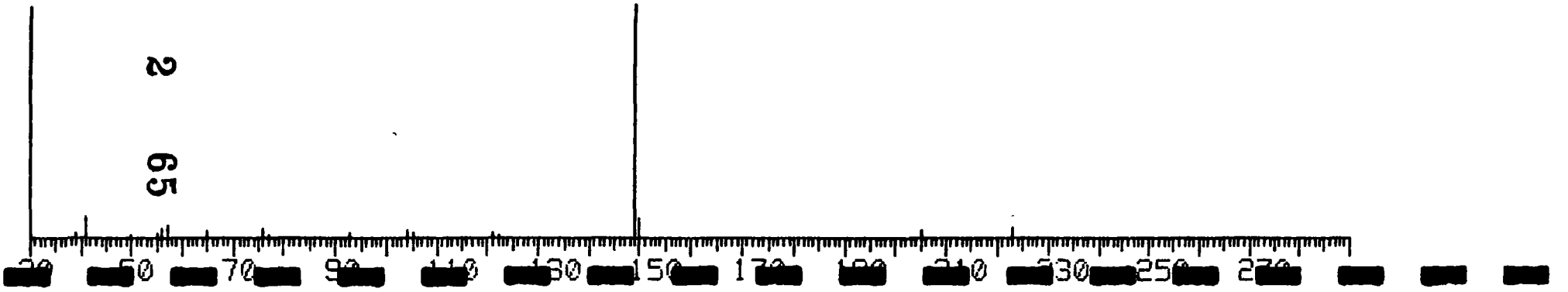
SY0:B1525 EXTRB 1525, RAS0556, EBQ23, 11688 Total
14-APR-89 14:17:26 Scan 1556 Time 24.43 min. 276930
100 % = 148736



SY0:B1525 EXTRB 1525, RAS0556, EBQ23, 11688 Total
14-APR-89 14:17:26 Scan 1556 Time 24.43 min. 275402
Bkg scans * 1.00 1545 100 % = 148651



Standard Reference Spectrum: Di-n-butylphthalate



Peak Areas from TIC Chromatogram

Data File is SYO:B1525
Injection date: 14-APR-89 14:17:26

#	Crest	Retn time	Type	Left limit	Right limit	Raw area	Rel. area(%)	Est. conc	Std
1	108	9.28	VV	-2	8	138778.	1.11	7.45	1
2	144	9.67	VV	-3	8	81374.	0.65	4.37	1
3	237	10.63	VB	-1	8	115179.	0.93	6.18	1
4	256	10.83	VB	-3	13	77424.	0.62	4.16	1
~~5~~	~~1992~~	~~28.98~~	~~BB~~	~~-4~~	~~10~~	~~10709.~~	~~0.09~~	~~8.53~~	~~5~~ 4-14-89 NW
6	2098	30.20	BB	-6	4	30703.	0.25	24.46	5
7	2109	30.22	BB	-7	17	206051.	1.65	164.15	5
8	2621	35.57	BB	-10	10	347299.	2.79	276.67	5

TIC areas for associated internal standards:

Std.	Area	Conc.
1	744915.	40.
5	50211.	40.

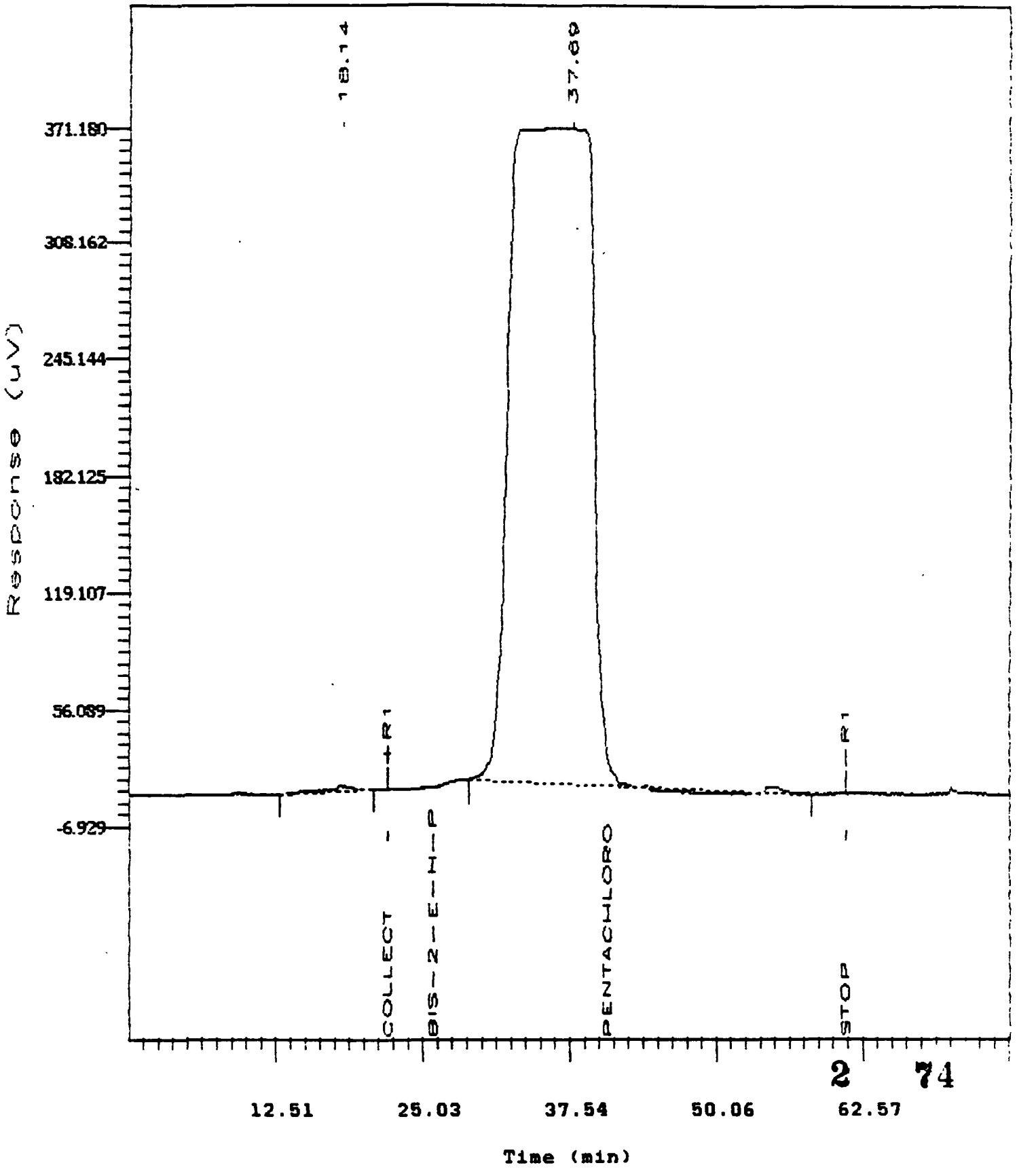
tic = 7

NW
4-14-89

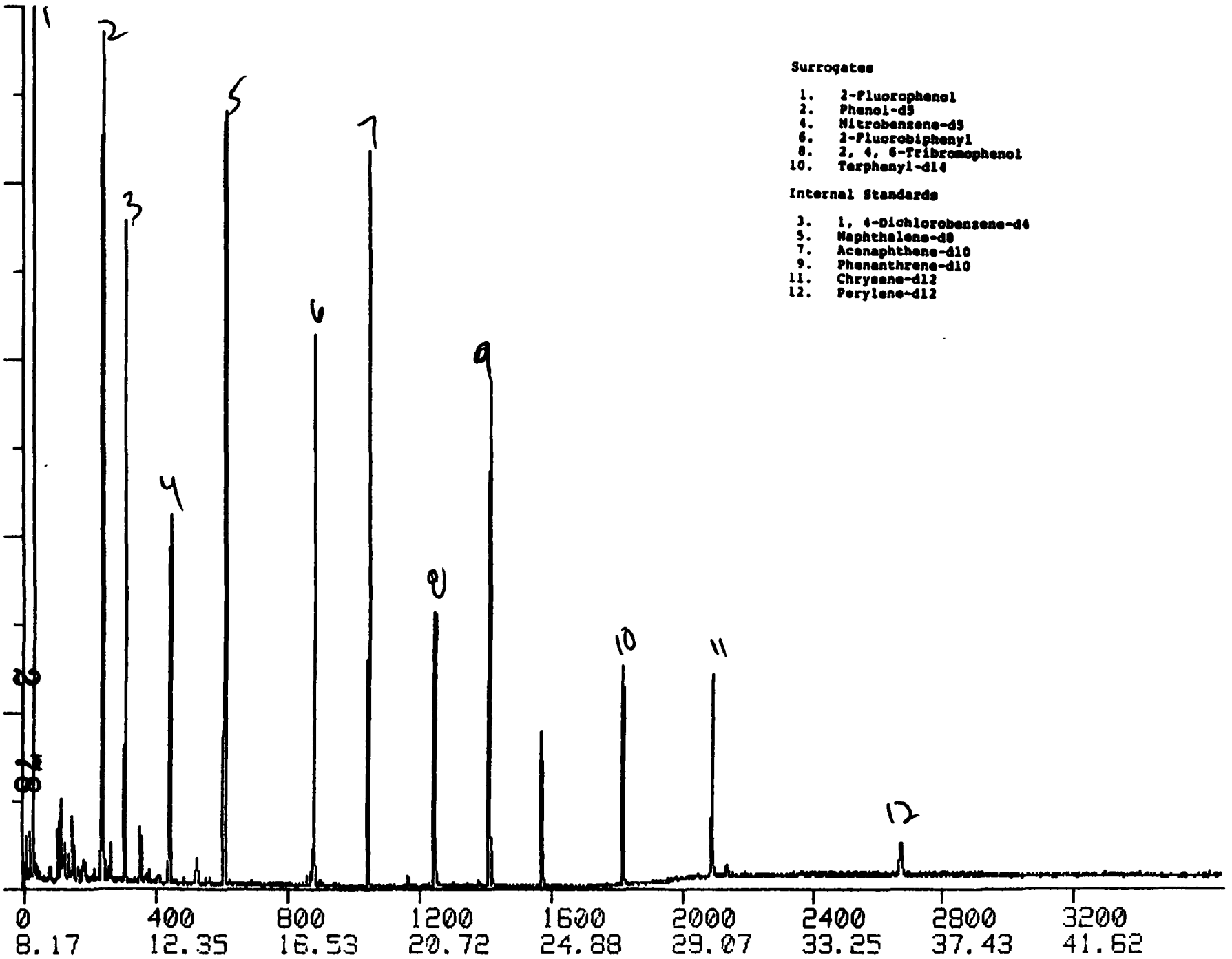
GPC Chromatogram

FileName : c:\2700\instH\H429.raw Date: 4-6-89 6:56 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 11076 uV High Point: 371180 uV
Vertical Scale Factor: 1.00 Plot Offset: -7 mV Plot Scale: 378 mV

Run #: H429 Case #: 11688
Date: 4-6-89 SDG #: EBQ 23
Time: 4:25 TRAL #: RA50556
Inst: H SDG #: EBQ18



S10:B1527 EXTRB 1527, RAS0557, EBQ24, T1688 100%
14-APR-89 16:03:12 348895
Total Ion Current



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1527
Injection time: 14-APR-89 16:03:12
Comments:
EXTRB 1527, RAS0557, EBQ24, 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.33	304			STD	0.78	40.0	NG/UL
2S	14.50	607			STD	0.74	40.0	NG/UL
3S	19.08	1045			STD	0.72	40.0	NG/UL
4S	22.92	1411			STD	0.88	40.0	NG/UL
5S	30.00	2088			STD	0.95	40.0	NG/UL
6S	36.08	2671			STD	0.96	40.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T			Not Found					
6T			Not Found					
7T			Not Found					

8T			Not Found					
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T			Not Found					
21T			Not Found					
22T			Not Found					
23T			Not Found					
24T			Not Found					
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T			Not Found					
31T			Not Found					
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T			Not Found					
36T			Not Found					
37T			Not Found					
38T			Not Found					
39T			Not Found					
40T			Not Found					
41T			Not Found					
42T			Not Found					
43T			Not Found					
44T			Not Found					
45T			Not Found					
46T			Not Found					
47T			Not Found					
48T			Not Found					
49T			Not Found					
50T			Not Found					
51T	24.58	1571	149. / 188.	103281. /	340684.	4	0.73	13.0 NG/UL
52T			Not Found					
53T			Not Found					
54T			Not Found					
55T			Not Found					
56T			Not Found					
57T			Not Found					
58T			Not Found					
59T			Not Found					
60T			Not Found					
61T			Not Found					
62T			Not Found					
63T			Not Found					

2 81

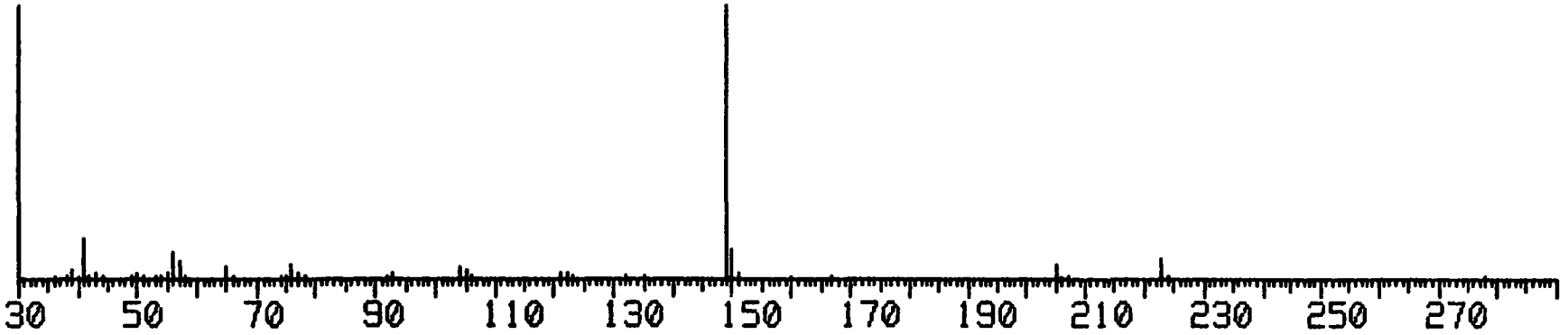
64T			Not Found						
65T			Not Found						
66T	12.77	440	82. / 136.	140822. /	590792.	2	0.79	26.1	NG/UL
67T	17.35	878	172. / 164.	303848. /	305208.	3	0.73	30.9	NG/UL
68T	27.13	1815	244. / 240.	120776. /	139040.	5	0.88	33.6	NG/UL
69T	10.63	236	99. / 152.	453064. /	159590.	1	0.63	79.2	NG/UL
70T	8.45	28	112. / 152.	422844. /	159590.	1	0.67	59.2	NG/UL
71T	21.15	1242	330. / 164.	49839. /	305208.	3	0.94	41.0	NG/UL

Extended Quantitation Report

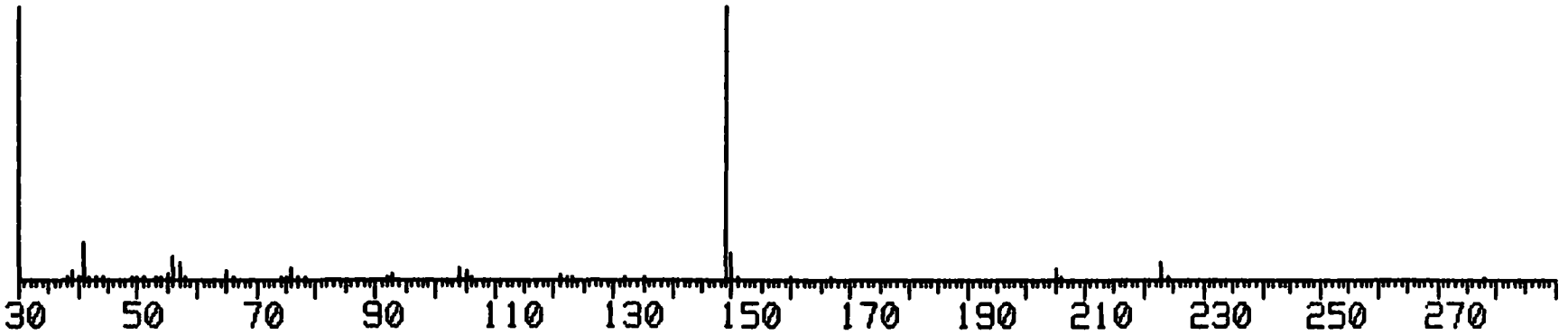
Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1527
Injection time: 14-APR-89 16:03:12

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
51T	1.072	149./ 188.	0.932	13.0	IA BB RF			1.00
66T	0.881	82./ 136.	0.365	26.1	IA BB RF			1.00
67T	0.909	172./ 164.	1.290	30.9	IA BB RF			1.00
68T	0.904	244./ 240.	1.035	33.6	IA BB RF			1.00
69T	0.938	99./ 152.	1.433	79.2	IA BB RF			1.00
70T	0.746	112./ 152.	1.790	59.2	IA BB RF			1.00
71T	1.108	330./ 164.	0.159	41.0	IA BB RF			1.00

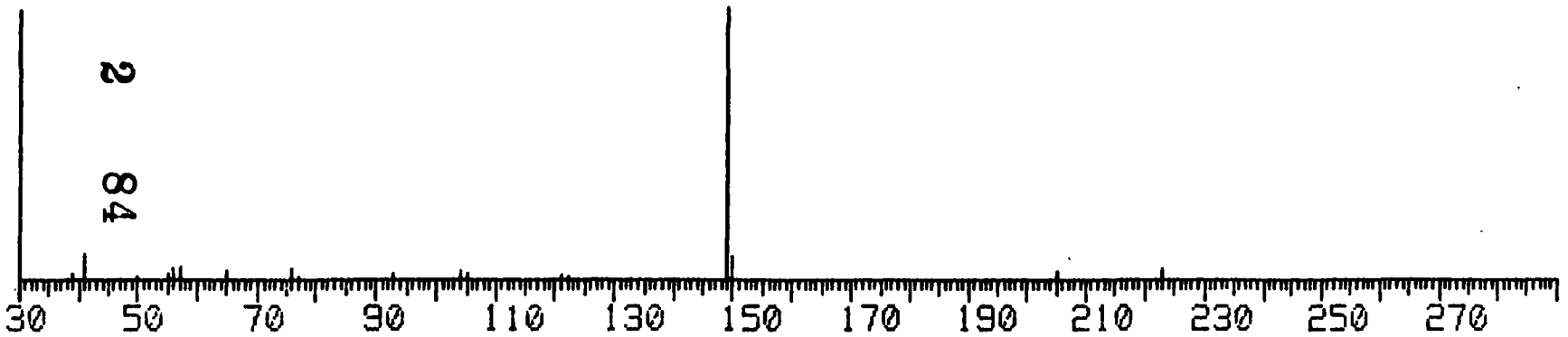
SY0:B1527 EXTRB 1527, RAS0557, EBQ24, 11688 Total
14-APR-89 16:03:12 Scan 1571 Time 24.58 min. 62162
100 % = 31232



SY0:B1527 EXTRB 1527, RAS0557, EBQ24, 11688 Total
14-APR-89 16:03:12 Scan 1571 Time 24.58 min. 60954
Bkg scans * 1.00 1565 100 % = 31133



Standard Reference Spectrum: Di-n-butylphthalate



'eak Areas from TIC Chromatogram

)ata File is SYO:B1527
Injection date: 14-APR-89 16:03:12

#	Crest	Retn time	Type	Left limit	Right limit	Raw area	Rel. area(%)	Est. conc	Std
1	100	9.20	BV	-6	8	136013.	1.38	6.38	1
2	111	9.32	VV	-3	7	144780.	1.46	6.79	1
3	146	9.68	VB	-4	10	93936.	0.95	4.41	1

TIC areas for associated internal standards:

Std.	Area	Conc.
1	852336.	40.

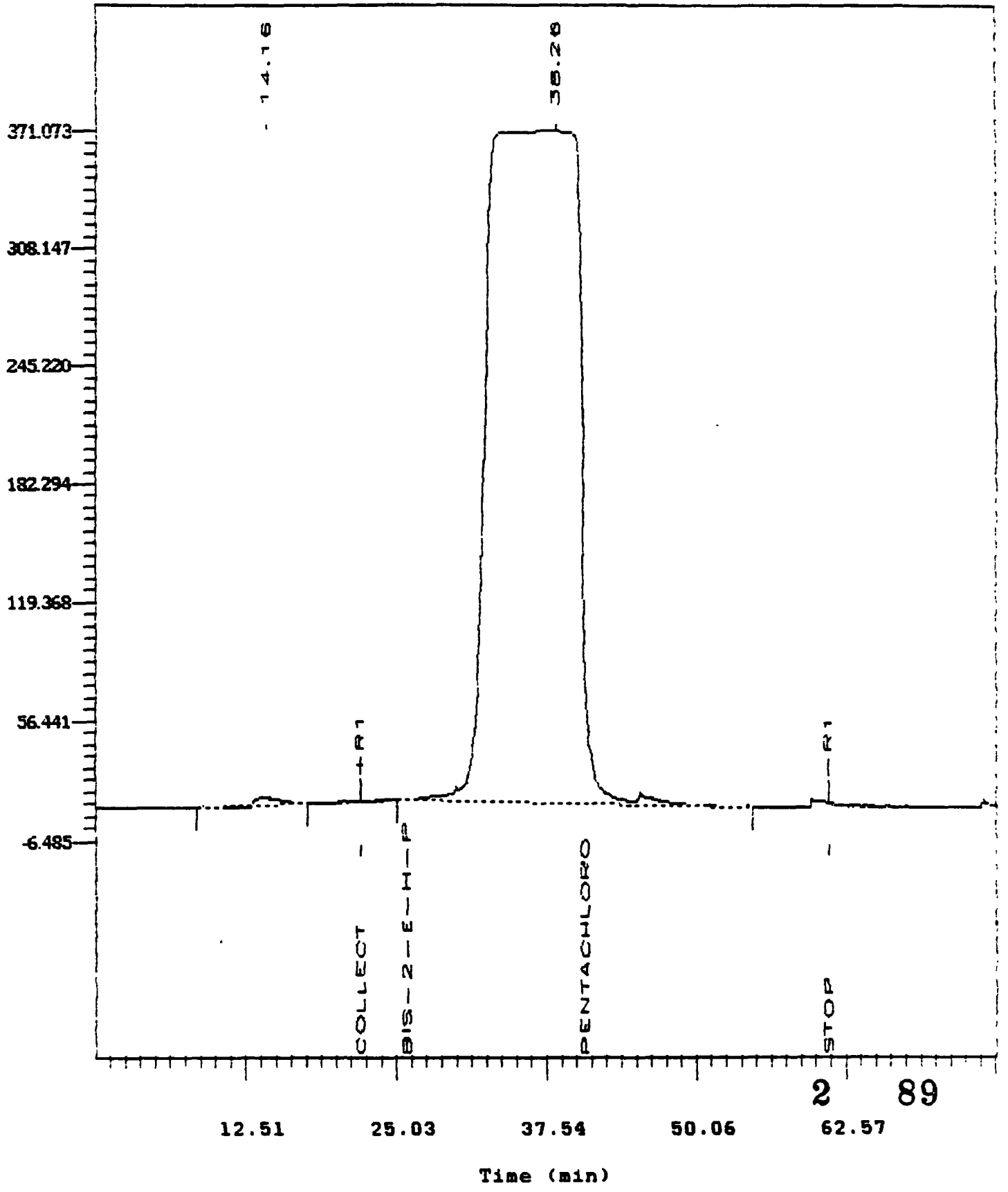
tic=3
AVW
4-14-89

2 88

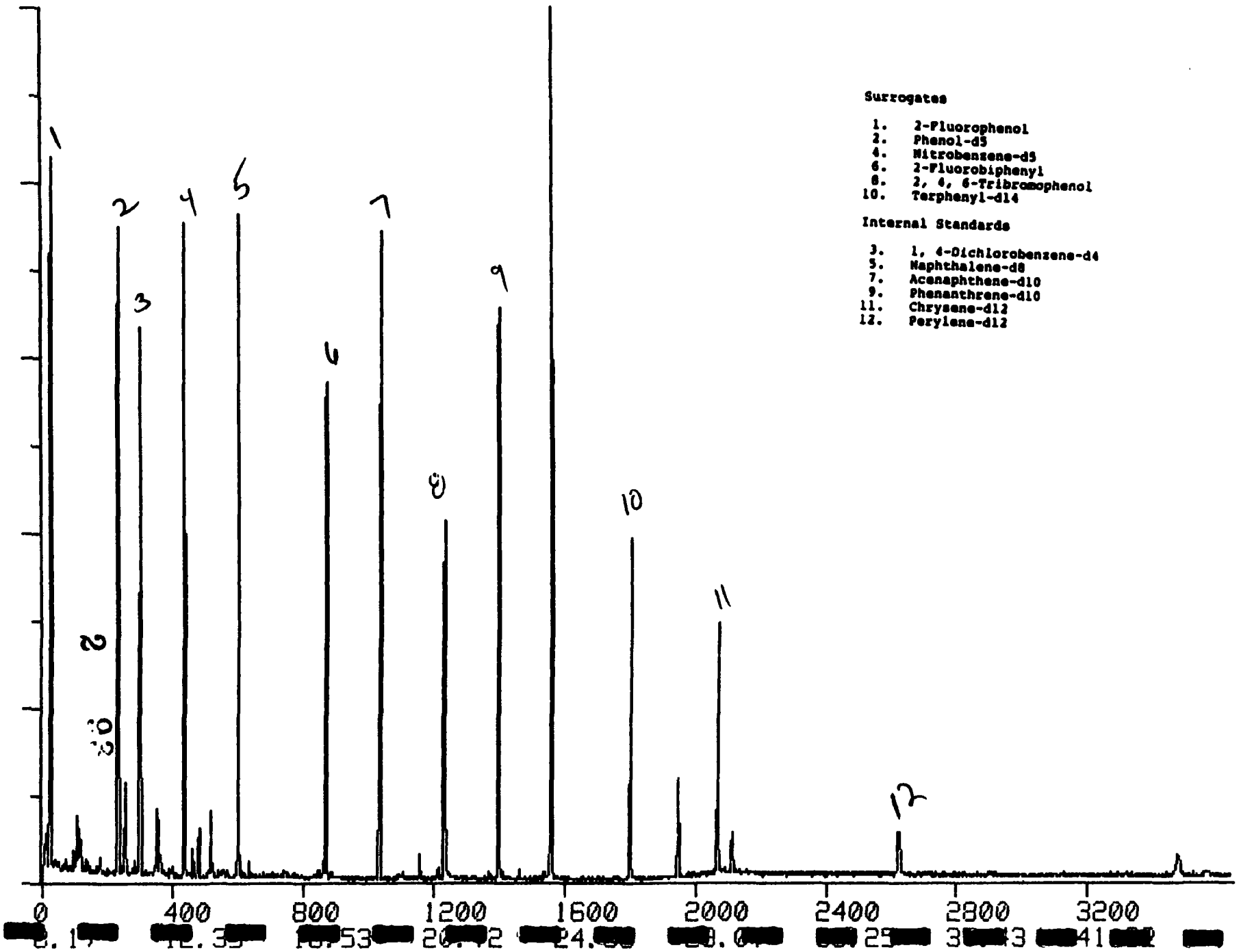
GPC Chromatogram

FileName : c:\2700\instH\H430.raw Date: 4-6-89 8:11 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 11494 uV High Point: 371073 uV
Vertical Scale Factor: 1.00 Plot Offset: -7 mV Plot Scale: 378 mV

Run #: H430
Date: 4-6-89
Time: 5:40
Inst: H
Case #: 11688
SMO #: EBQ 24
TRAL #: RA50557
SDG #: EBQ18



SY0:B1530 EXTRB 1530, RAS0558, EBQ25, 11688 100%
17-APR-89 09:55:05 451232
Total Ion Current



Surrogates

1. 2-Fluorophenol
2. Phenol-d5
4. Nitrobenzene-d5
6. 2-Fluorobiphenyl
8. 2, 4, 6-Tribromophenol
10. Terphenyl-d14

Internal Standards

3. 1, 4-Dichlorobenzene-d4
5. Naphthalene-d8
7. Acenaphthene-d10
9. Phenanthrene-d10
11. Chrysene-d12
12. Perylene-d12

THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:b1530
Injection time: 17-APR-89 09:55:05
Comments:
EXTRB 1530, RAS0558, EBQ25, 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.28	299			STD	0.71	40.0	NG/UL
2S	14.45	601			STD	0.80	40.0	NG/UL
3S	19.00	1036			STD	0.72	40.0	NG/UL
4S	22.80	1400			STD	0.80	40.0	NG/UL
5S	29.77	2067			STD	0.85	40.0	NG/UL
6S	35.60	2624			STD	1.00	40.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T			Not Found				2	95
6T			Not Found					
7T			Not Found					

8T			Not Found						
9T			Not Found						
10T			Not Found						
11T			Not Found						
12T			Not Found						
13T			Not Found						
14T			Not Found						
15T			Not Found						
16T			Not Found						
17T			Not Found						
18T			Not Found						
19T			Not Found						
20T			Not Found						
21T			Not Found						
22T			Not Found						
23T			Not Found						
24T			Not Found						
25T			Not Found						
26T			Not Found						
27T			Not Found						
28T			Not Found						
29T			Not Found						
30T			Not Found						
31T			Not Found						
32T			Not Found						
33T			Not Found						
34T			Not Found						
35T			Not Found						
36T			Not Found						
37T			Not Found						
38T			Not Found						
39T			Not Found						
40T			Not Found						
41T			Not Found						
42T			Not Found						
43T			Not Found						
44T			Not Found						
45T			Not Found						
46T			Not Found						
47T			Not Found						
48T			Not Found						
49T			Not Found						
50T			Not Found						
51T	24.47	1559	149. / 188.	932608. /	497000.	4	0.65	91.8	NG/UL
52T			Not Found						
53T			Not Found						
54T			Not Found						
55T			Not Found						
56T			Not Found						
57T			Not Found						
58T			Not Found						
59T			Not Found						
60T			Not Found					2	96
61T			Not Found						
62T			Not Found						
63T			Not Found						

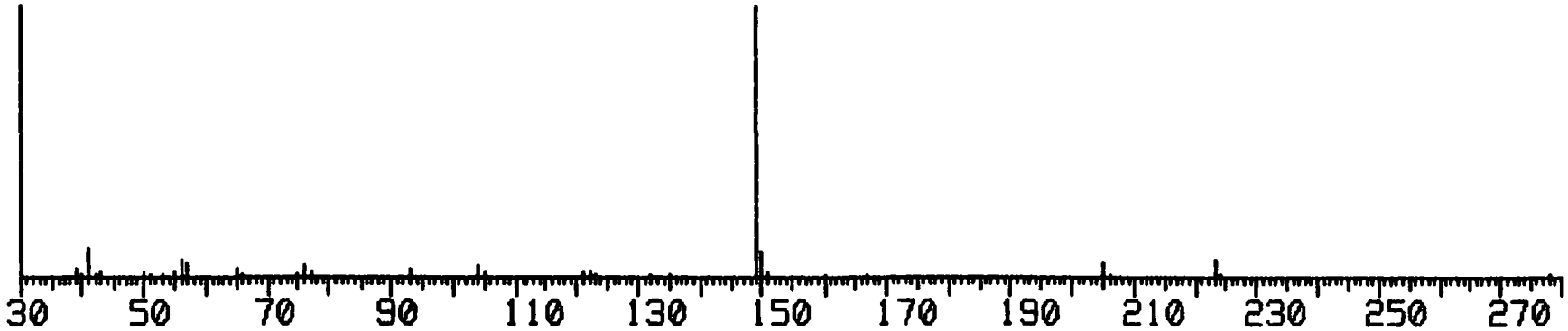
64T			Not Found						
65T			Not Found						
66T	12.72	435	82. / 136.	177584. /	636600.	2	0.79	28.7	NG/UL
67T	17.25	870	172. / 164.	363752. /	373020.	3	0.79	30.1	NG/UL
68T	26.98	1800	244. / 240.	271092. /	223166.	5	0.94	47.8	NG/UL
69T	10.58	232	99. / 152.	526224. /	165650.	1	0.78	82.9	NG/UL
70T	8.42	24	112. / 152.	430288. /	165650.	1	0.71	54.8	NG/UL
71T	21.05	1232	330. / 164.	96840. /	373020.	3	1.00	76.7	NG/UL

Extended Quantitation Report

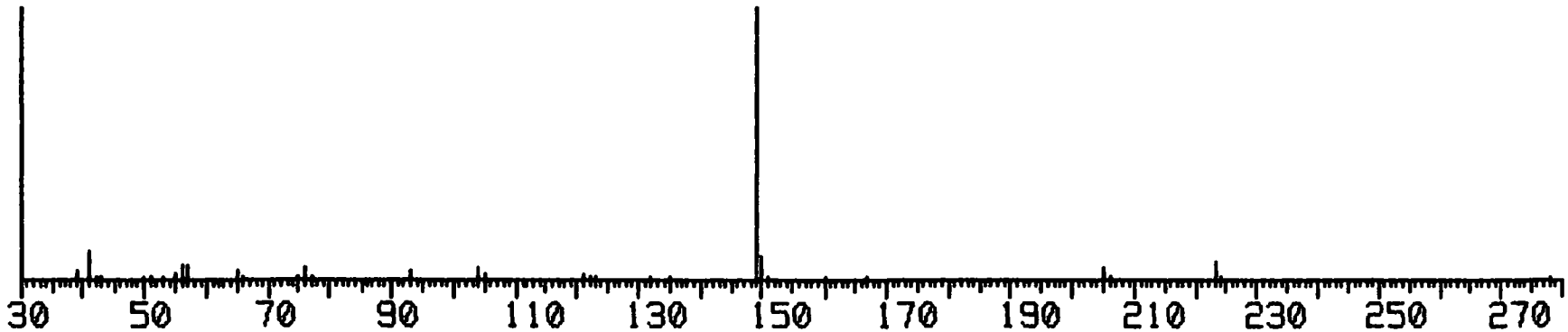
Library used: SYO:[210,11]CLPBNB
Data file name: SYO:b1530
Injection time: 17-APR-89 09:55:05

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
1T	1.073	149. / 188.	0.818	91.8	IA BB RF			1.00
6T	0.880	82. / 136.	0.388	28.7	IA BB RF			1.00
67T	0.908	172. / 164.	1.295	30.1	IA BB RF			1.00
68T	0.906	244. / 240.	1.017	47.8	IA BB RF			1.00
69T	0.938	99. / 152.	1.533	82.9	IA BB RF			1.00
70T	0.746	112. / 152.	1.896	54.8	IA BB RF			1.00
71T	1.108	330. / 164.	0.135	76.7	IA BB RF			1.00

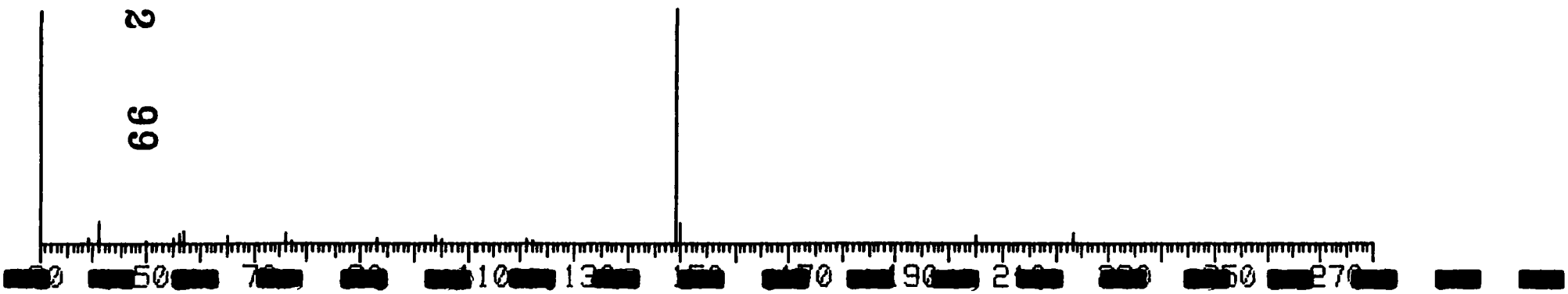
SY0:B1530 EXTRB 1530, RAS0558, EBQ25, 11688 Total
17-APR-89 09:55:05 Scan 1559 Time 24.47 min. 451232
100 % = 245248



SY0:B1530 EXTRB 1530, RAS0558, EBQ25, 11688 Total
17-APR-89 09:55:05 Scan 1559 Time 24.47 min. 447520
Bkg scans * 1.00 1539 100 % = 245181



Standard Reference Spectrum: Di-n-butylphthalate



Peak Areas from TIC Chromatogram

Data File is SYO:B1530
Injection date: 17-APR-89 09:55:05

#	Crest	Retn time	Type	Left limit	Right limit	Raw area	Rel. area(%)	Est. conc	Std
1	106	9.27	VV	-2	4	101157.	0.65	4.16	1
2	255	10.83	VB	-4	13	152391.	0.99	6.27	1
3	352	11.85	VV	-4	5	124942.	0.81	5.14	1
~~4~~	~~517~~	~~13.57~~	~~BB~~	~~-10~~	~~13~~	~~152468.~~	~~0.99~~	~~5.09~~	~~2~~ 4-1787 NW
5	1946	28.52	BV	-8	7	180530.	1.17	11.65	5
6	2113	30.25	BV	-7	6	91015.	0.59	5.87	5
7	3483	44.58	BB	-16	22	149190.	0.96	61.89	6

TIC areas for associated internal standards:

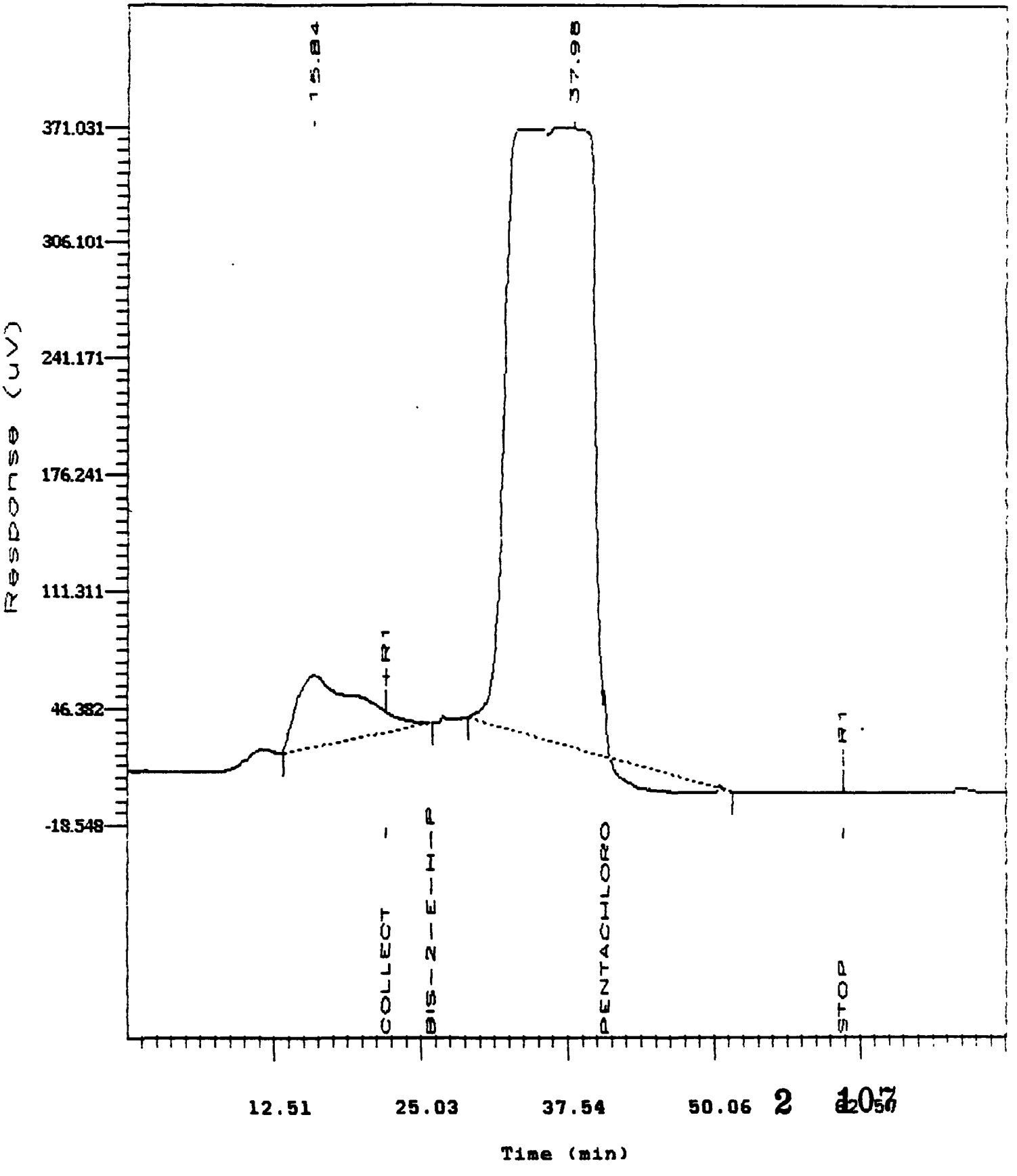
Std.	Area	Conc.
1	971808.	40.
2	1199195.	40.
5	620068.	40.
6	96424.	40.

TIC=6
NW
4-1789

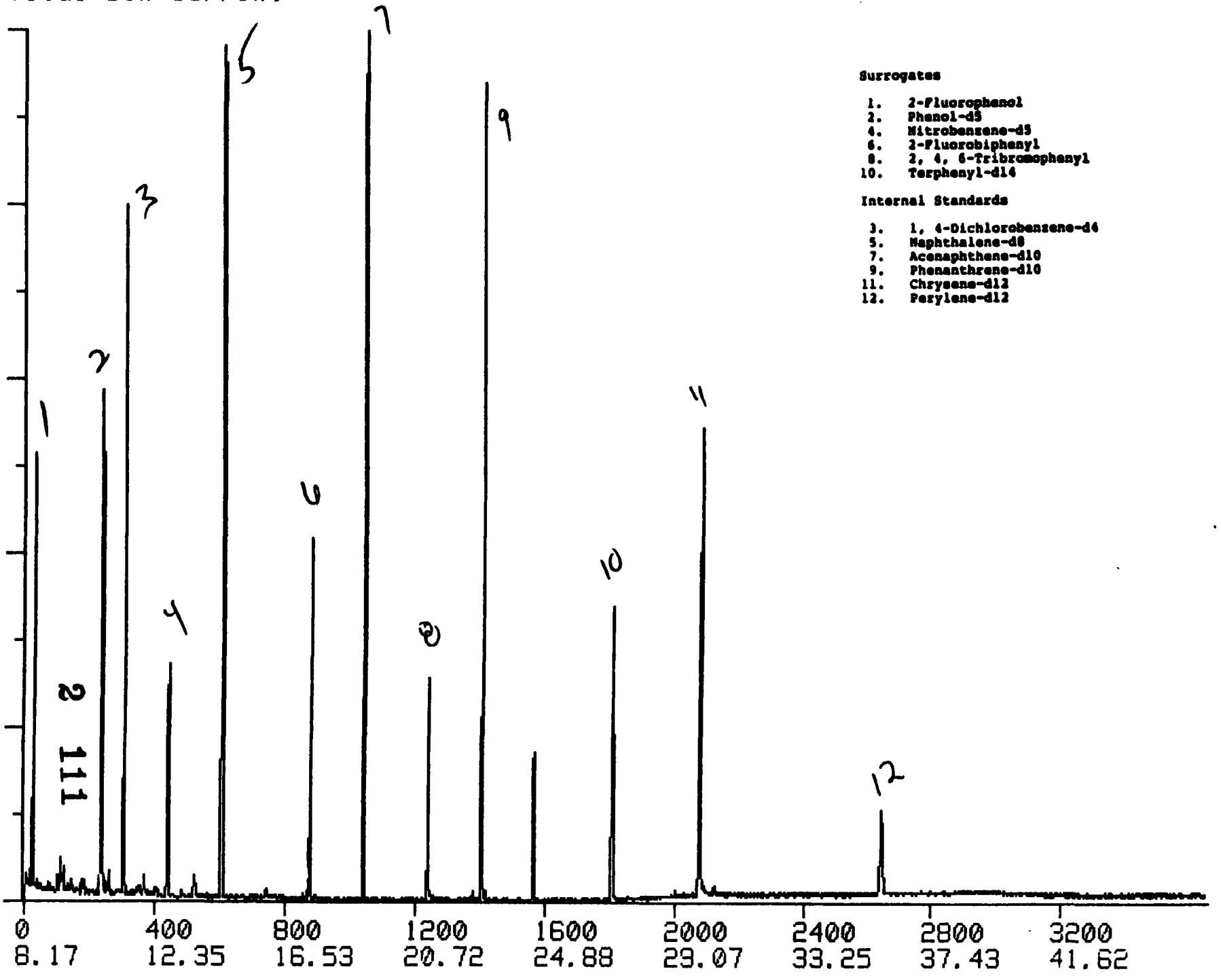
GPC Chromatogram

FileName : c:\2700\instH\H431.raw Date: 4-6-89 9:26 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 3 uV High Point: 371031 uV
Vertical Scale Factor: 1.00 Plot Offset: -19 mV Plot Scale: 390 mV

Run #: H431 Case #: 11688
Date: 4-6-89 SDG #: EBQ25
Time: 6:56 TRAL #: RA60558
Inst: H SDG #: EBQ18



ST0:B1531 EXTRB 1531, RA50559, EBQ26, 11688 100%
17-APR-89 10:49:22 363601
Total Ion Current



Surrogates

1. 2-Fluorophenol
2. Phenol-d5
4. Nitrobenzene-d5
6. 2-Fluorobiphenyl
8. 2, 4, 6-Tribromophenyl
10. Terphenyl-d14

Internal Standards

3. 1, 4-Dichlorobenzene-d4
5. Naphthalene-d8
7. Acenaphthene-d10
9. Phenanthrene-d10
11. Chrysene-d12
12. Perylene-d12

THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1531
Injection time: 17-APR-89 10:49:22
Comments:
EXTRB 1531, RAS0559, EBQ26, 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.33	304			STD	0.75	40.0	NG/UL
2S	14.50	607			STD	0.74	40.0	NG/UL
3S	19.07	1043			STD	0.60	40.0	NG/UL
4S	22.87	1406			STD	0.67	40.0	NG/UL
5S	29.88	2077			STD	0.85	40.0	NG/UL
6S	35.73	2637			STD	0.89	40.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T			Not Found					
6T			Not Found					
7T			Not Found					

8T			Not Found					
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T			Not Found					
21T			Not Found					
22T			Not Found					
23T			Not Found					
24T			Not Found					
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T			Not Found					
31T			Not Found					
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T			Not Found					
36T			Not Found					
37T			Not Found					
38T			Not Found					
39T			Not Found					
40T			Not Found					
41T			Not Found					
42T			Not Found					
43T			Not Found					
44T			Not Found					
45T			Not Found					
46T			Not Found					
47T			Not Found					
48T			Not Found					
49T			Not Found					
50T			Not Found					
51T	24.53	1565	149. / 188.	106878. /	500096.	4	0.87	10.5 NG/UL
52T			Not Found					
53T			Not Found					
54T			Not Found					
55T			Not Found					
56T			Not Found					
57T			Not Found					
58T			Not Found					
59T			Not Found					
60T			Not Found					
61T			Not Found					
62T			Not Found					
63T			Not Found					

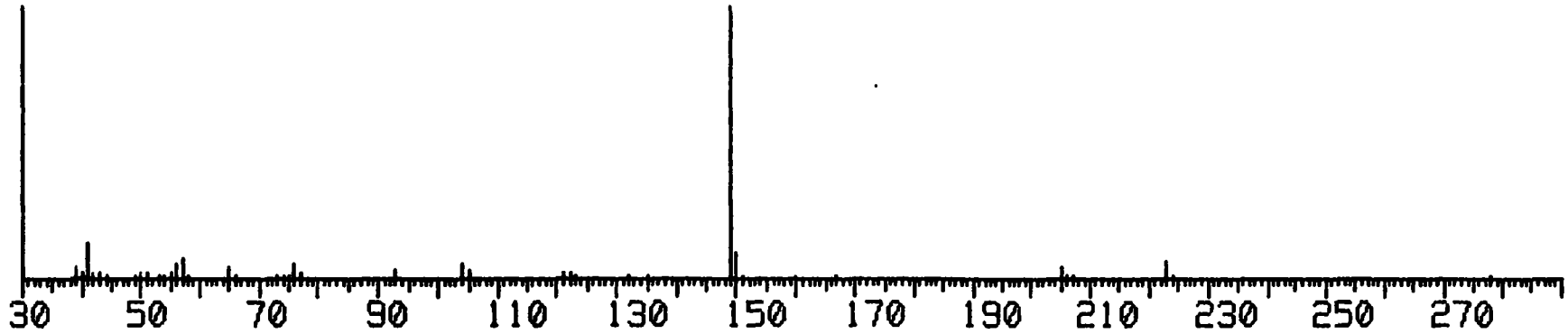
64T			Not Found							
65T			Not Found							
66T	12.77	440	82. / 136.	92621. /	654472.	2	1.00	14.6	NG/UL
67T	17.33	877	172. / 164.	184954. /	389688.	3	0.88	14.7	NG/UL
68T	27.05	1807	244. / 240.	168900. /	293268.	5	0.94	22.7	NG/UL
69T	10.62	235	99. / 152.	265508. /	172910.	1	0.73	40.1	NG/UL
70T	8.43	26	112. / 152.	224004. /	172910.	1	0.68	27.3	NG/UL
71T	21.10	1238	330. / 164.	37363. /	389688.	3	0.91	28.3	NG/UL

Extended Quantitation Report

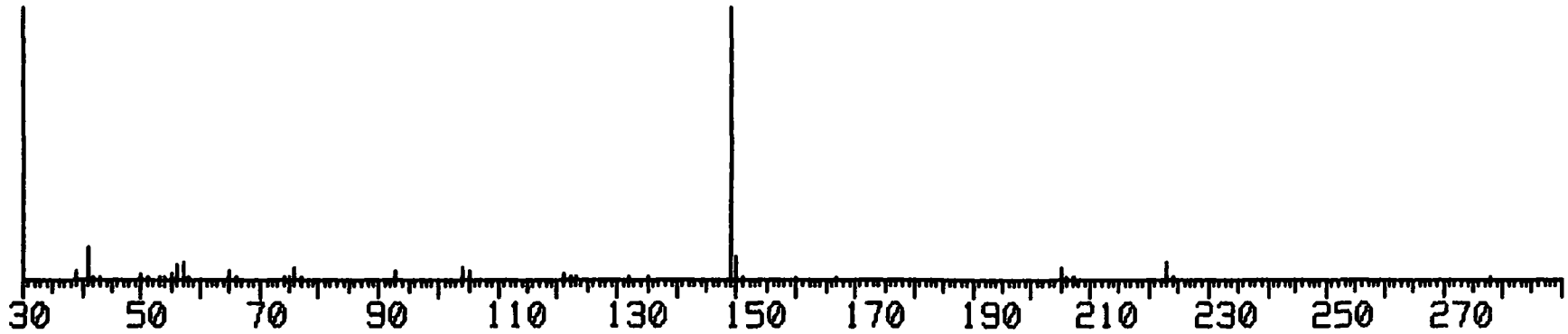
Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1531
Injection time: 17-APR-89 10:49:22

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
51T	1.073	149./ 188.	0.818	10.5	IA BB RF			1.00
66T	0.881	82./ 136.	0.388	14.6	IA BB RF			1.00
67T	0.909	172./ 164.	1.295	14.7	IA BB RF			1.00
68T	0.905	244./ 240.	1.017	22.7	IA BB RF			1.00
69T	0.937	99./ 152.	1.533	40.1	IA BB RF			1.00
70T	0.744	112./ 152.	1.896	27.3	IA BB RF			1.00
71T	1.106	330./ 164.	0.135	28.3	IA BB RF			1.00

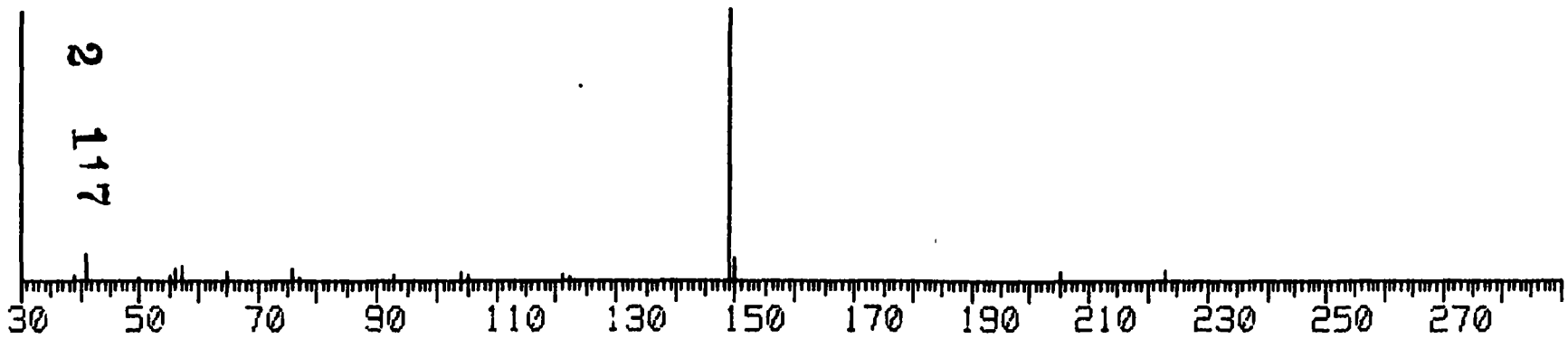
SY0:B1531 EXTRB 1531, RAS0559, EBQ26, 11688 Total
17-APR-89 10:49:22 Scan 1565 Time 24.53 min. 62239
100 % = 32256



SY0:B1531 EXTRB 1531, RAS0559, EBQ26, 11688 Total
17-APR-89 10:49:22 Scan 1565 Time 24.53 min. 61190
Bkg scans * 1.00 1559 100 % = 32158



Standard Reference Spectrum: Di-n-butylphthalate



eak Areas from TIC Chromatogram

Data File is SYO:B1531
Injection date: 17-APR-89 10:49:22

#	Crest	Retn time	Type	Left limit	Right limit	Raw area	Rel. area(%)	Est. conc	Std
1	2643	35.80	BB	-11	19	300955.	3.07	12.85	5

TIC areas for associated internal standards:

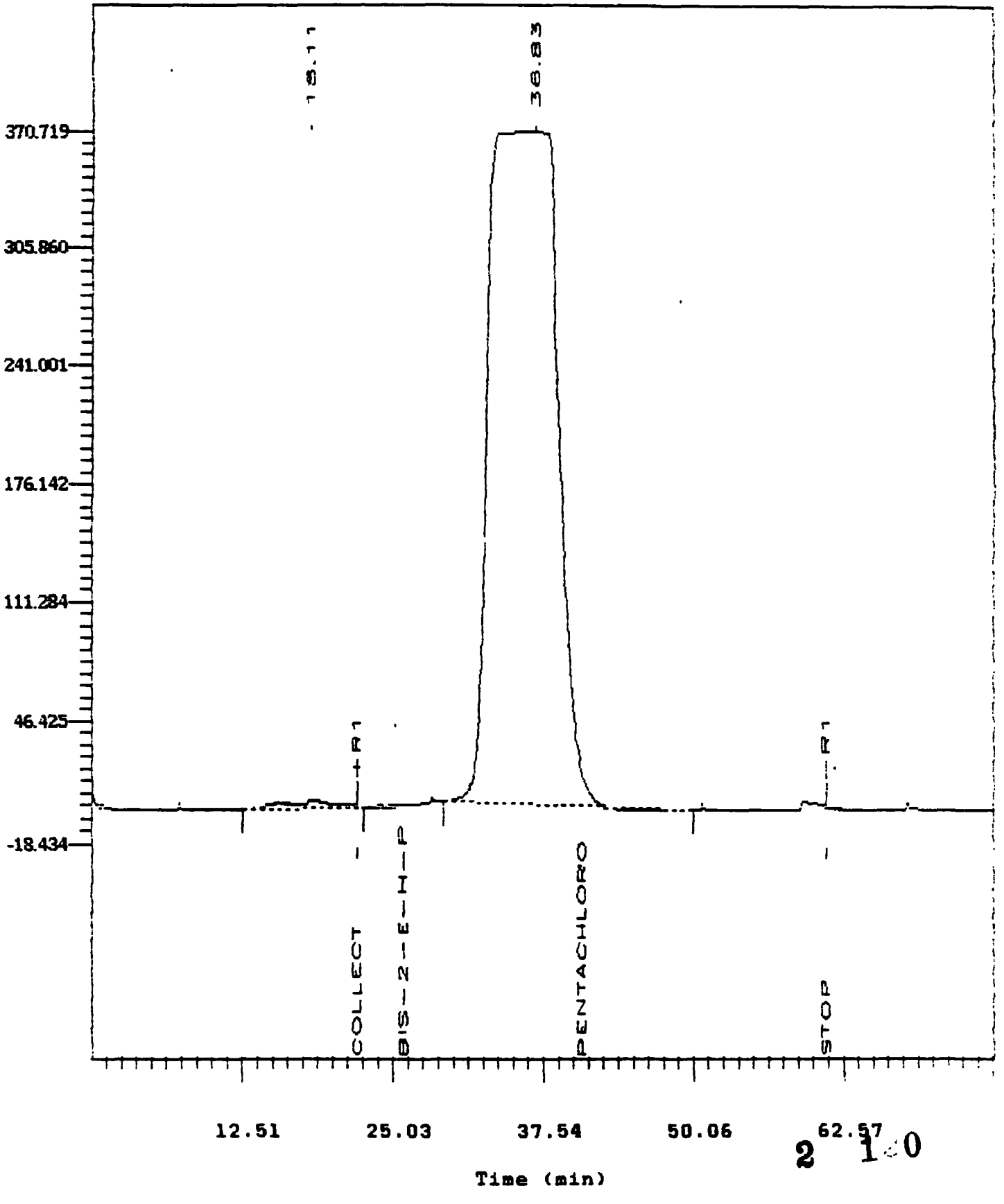
Std.	Area	Conc.
5	936674.	40.

TIC = 1
NWJ
4-17-89

GPC Chromatogram

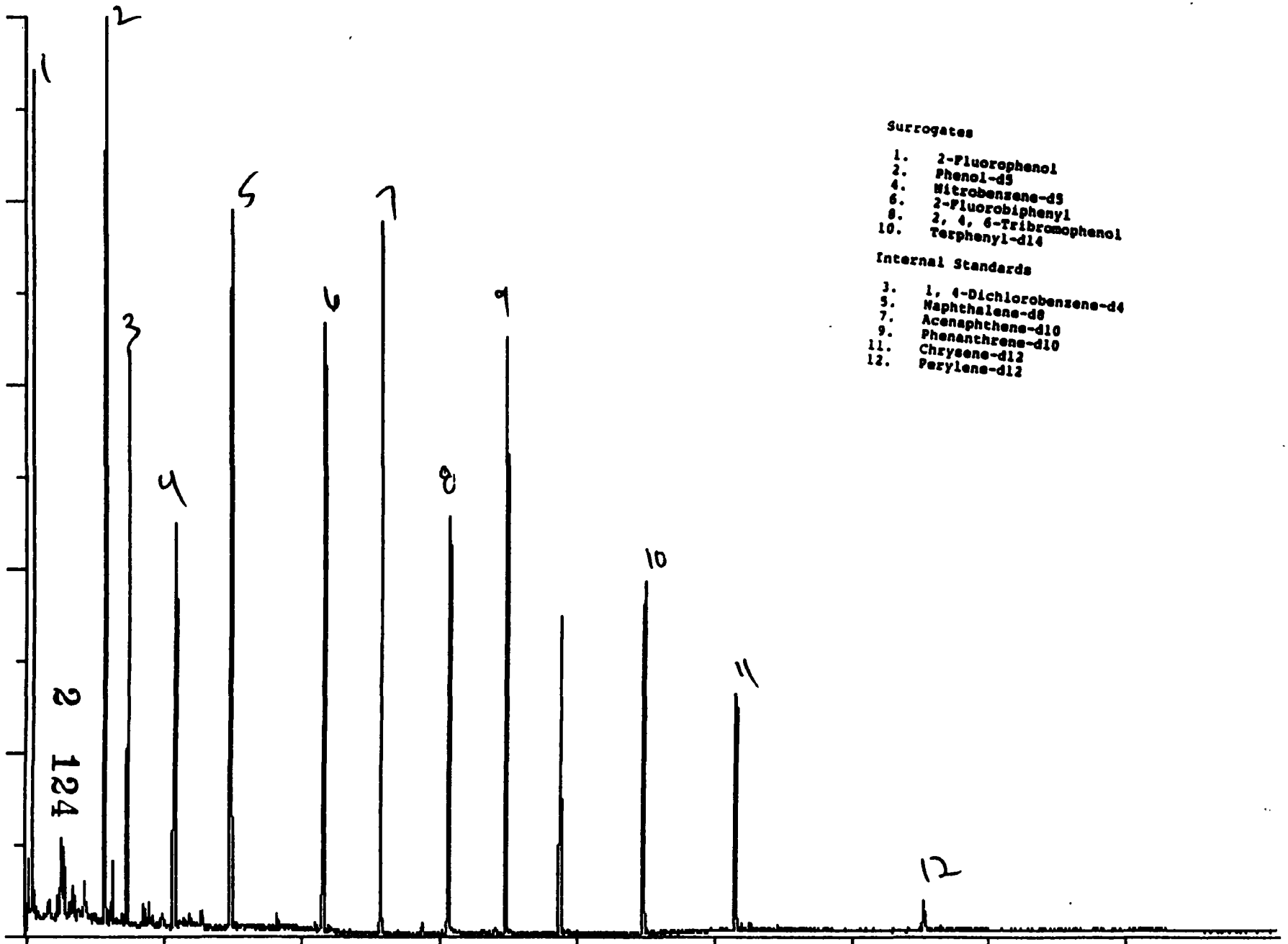
FileName : c:\2700\instH\H432.raw Date: 4-6-89 10:42 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 97 uV High Point: 370719 uV
Vertical Scale Factor: 1.00 Plot Offset: -18 mV Plot Scale: 389 mV

Run #: H432 Case #: 11688
Date: 4-6-89 SDG #: EBQ26
Time: 8:11 TRAL #: RA50559
Inst: H SDG #: EBQ18



2 1.0

SY0:B1536 EXTRB 1536, RAS0560, EBQ27, 11688 100%
17-APR-89 15:34:57 321121
Total Ion Current



Surrogates

1. 2-Fluorophenol
2. Phenol-d5
4. Nitrobenzene-d5
6. 2-Fluorobiphenyl
8. 2, 4, 6-Tribromophenol
10. Terphenyl-d14

Internal Standards

3. 1, 4-Dichlorobenzene-d4
5. Naphthalene-d8
7. Acenaphthene-d10
9. Phenanthrene-d10
11. Chrysene-d12
12. Perylene-d12

THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1536
Injection time: 17-APR-89 15:34:57
Comments:
EXTRB 1536, RAS0560, EBQ27, 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.23	293			STD	0.85	40.0	NG/UL
2S	14.37	594			STD	0.86	40.0	NG/UL
3S	18.92	1028			STD	0.72	40.0	NG/UL
4S	22.72	1392			STD	0.88	40.0	NG/UL
5S	29.70	2060			STD	0.95	40.0	NG/UL
6S	35.45	2609			STD	1.00	40.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T			Not Found					
6T			Not Found					
7T			Not Found					

8T			Not Found						
9T			Not Found						
10T			Not Found						
11T			Not Found						
12T			Not Found						
13T			Not Found						
14T			Not Found						
15T			Not Found						
16T			Not Found						
17T			Not Found						
18T			Not Found						
19T			Not Found						
20T			Not Found						
21T			Not Found						
22T			Not Found						
23T			Not Found						
24T			Not Found						
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30T			Not Found						
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36T			Not Found						
37T			Not Found						
38T			Not Found						
39T			Not Found						
40T			Not Found						
41T			Not Found						
42T			Not Found						
43T			Not Found						
44T			Not Found						
45T			Not Found						
46T			Not Found						
47T			Not Found						
48T			Not Found						
49T			Not Found						
50T			Not Found						
51T	24.38	1552	149. / 188.	197330. /	326336.	4	0.73	29.6	NG/UL
52T			Not Found						
53T			Not Found						
54T			Not Found						
55T			Not Found						
56T			Not Found						
57T			Not Found						
58T			Not Found						
59T			Not Found						
60T			Not Found						
61T			Not Found						
62T			Not Found						
63T			Not Found						

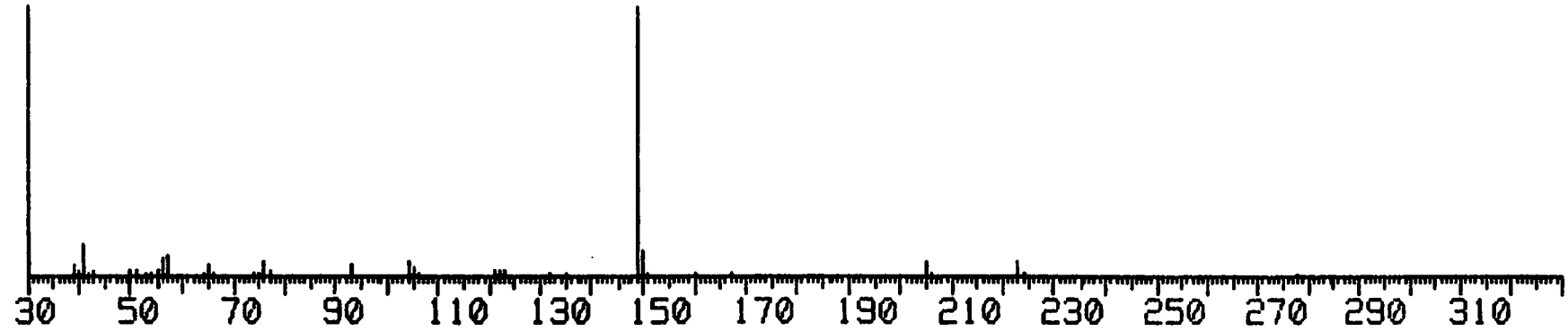
64T			Not Found						
65T			Not Found						
66T	12. 63	428	82. / 136.	142878. /	450872.	2	0. 85	32. 6	NG/UL
67T	17. 18	863	172. / 164.	281972. /	250384.	3	0. 81	34. 8	NG/UL
68T	26. 92	1794	244. / 240.	168988. /	123896.	5	0. 83	53. 7	NG/UL
69T	10. 52	225	99. / 152.	411404. /	118516.	1	0. 68	90. 6	NG/UL
70T	8. 33	17	112. / 152.	354576. /	118516.	1	0. 71	63. 1	NG/UL
71T	20. 97	1224	330. / 164.	61145. /	250384.	3	0. 91	72. 1	NG/UL

Extended Quantitation Report

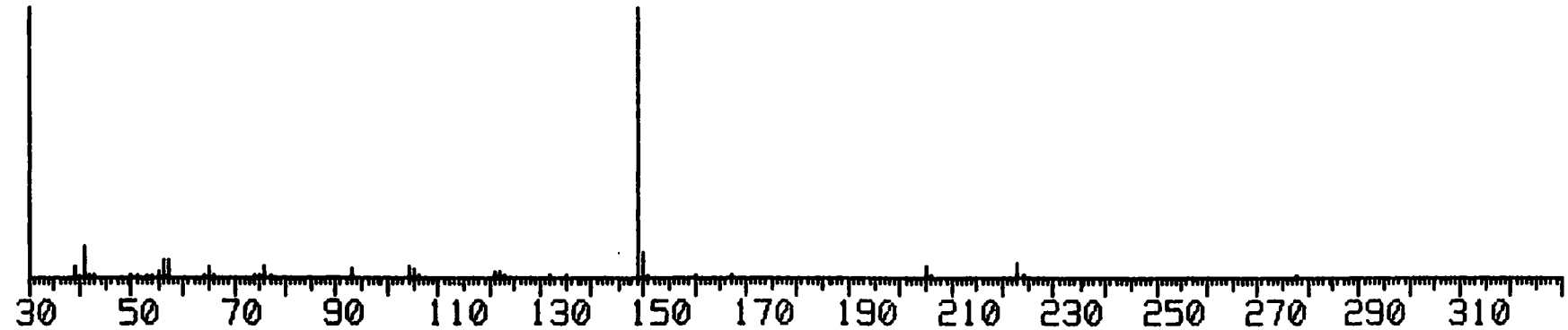
Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1536
Injection time: 17-APR-89 15:34:57

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
1T	1.073	149. / 188.	0.818	29.6	IA BB RF			1.00
6T	0.879	82. / 136.	0.388	32.6	IA BB RF			1.00
67T	0.908	172. / 164.	1.295	34.8	IA BB RF			1.00
68T	0.906	244. / 240.	1.017	53.7	IA BB RF			1.00
69T	0.937	99. / 152.	1.533	90.6	IA BB RF			1.00
70T	0.742	112. / 152.	1.896	63.1	IA BB RF			1.00
71T	1.108	330. / 164.	0.135	72.1	IA BB RF			1.00

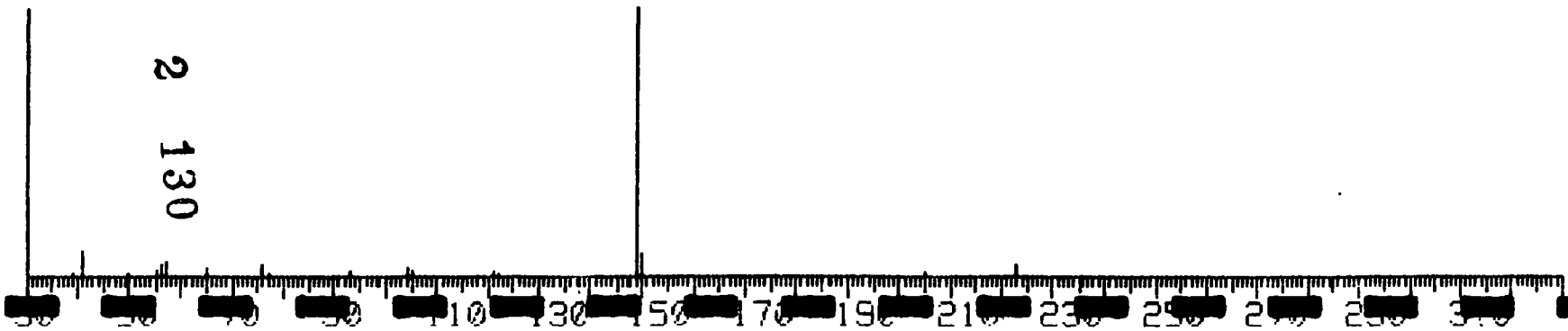
SY0:B1536 EXTRB 1536, RAS0560, EBQ27, 11688 Total
17-APR-89 15:34:57 Scan 1552 Time 24.38 min. 112502
100 % = 57600



SY0:B1536 EXTRB 1536, RAS0560, EBQ27, 11688 Total
17-APR-89 15:34:57 Scan 1552 Time 24.38 min. 111574
Bkg scans * 1.00 1545 100 % = 57536



Standard Reference Spectrum: Di-n-butylphthalate



Peak Areas from TIC Chromatogram

Data File is SYO:B1536
Injection date: 17-APR-89 15:34:57

#	Crest	Retn time	Type	Left limit	Right limit	Raw area	Rel. area(%)	Est. conc	Std
1	100	9.20	VV	-3	8	143926.	1.62	8.24	1
2	110	9.32	VV	-2	5	71545.	0.80	4.10	1
3	165	9.88	BB	-5	13	75162.	0.85	4.30	1

TIC areas for associated internal standards:

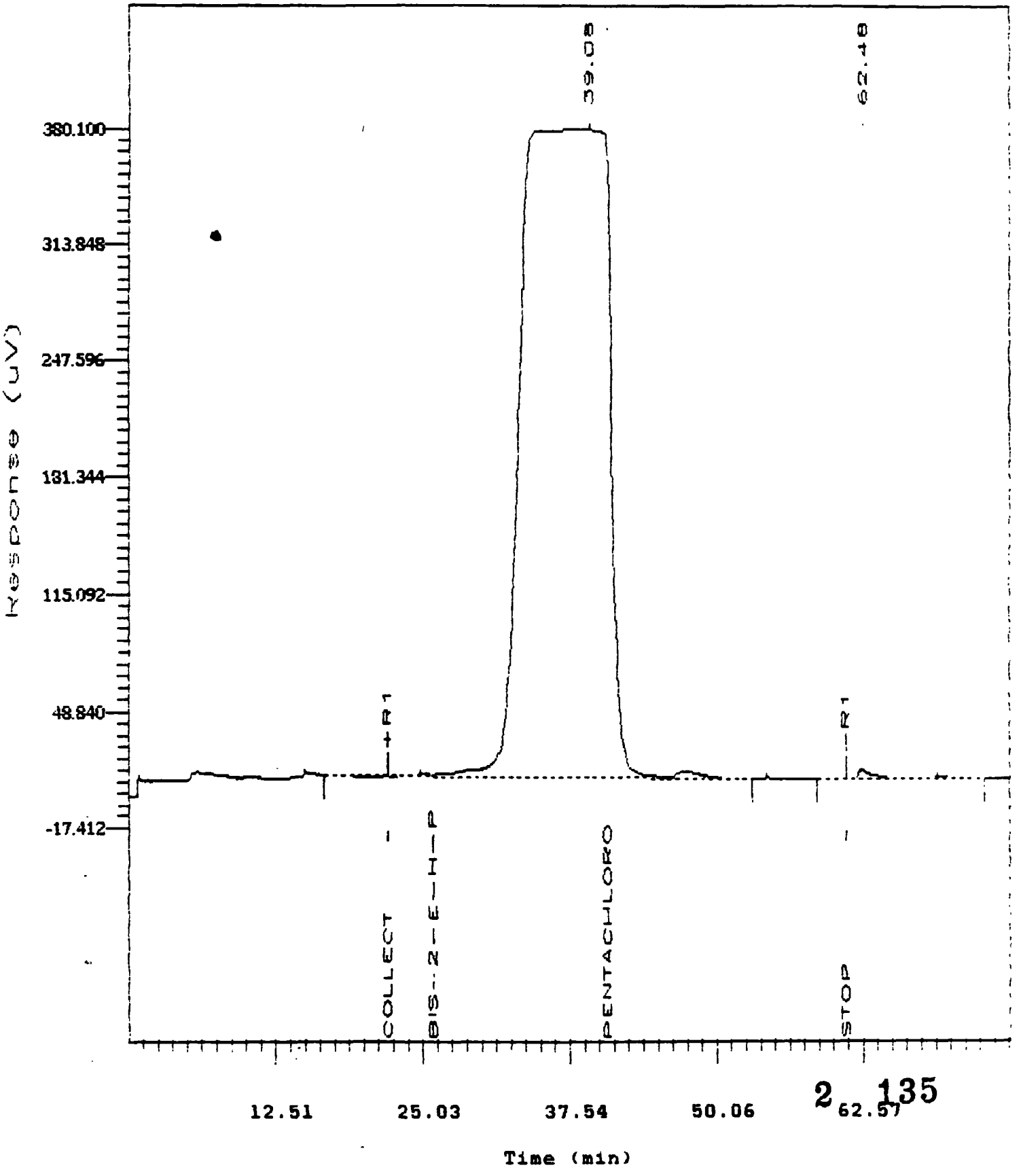
Std.	Area	Conc.
1	698440.	40.

TIC = 3
NOW
4-17-87

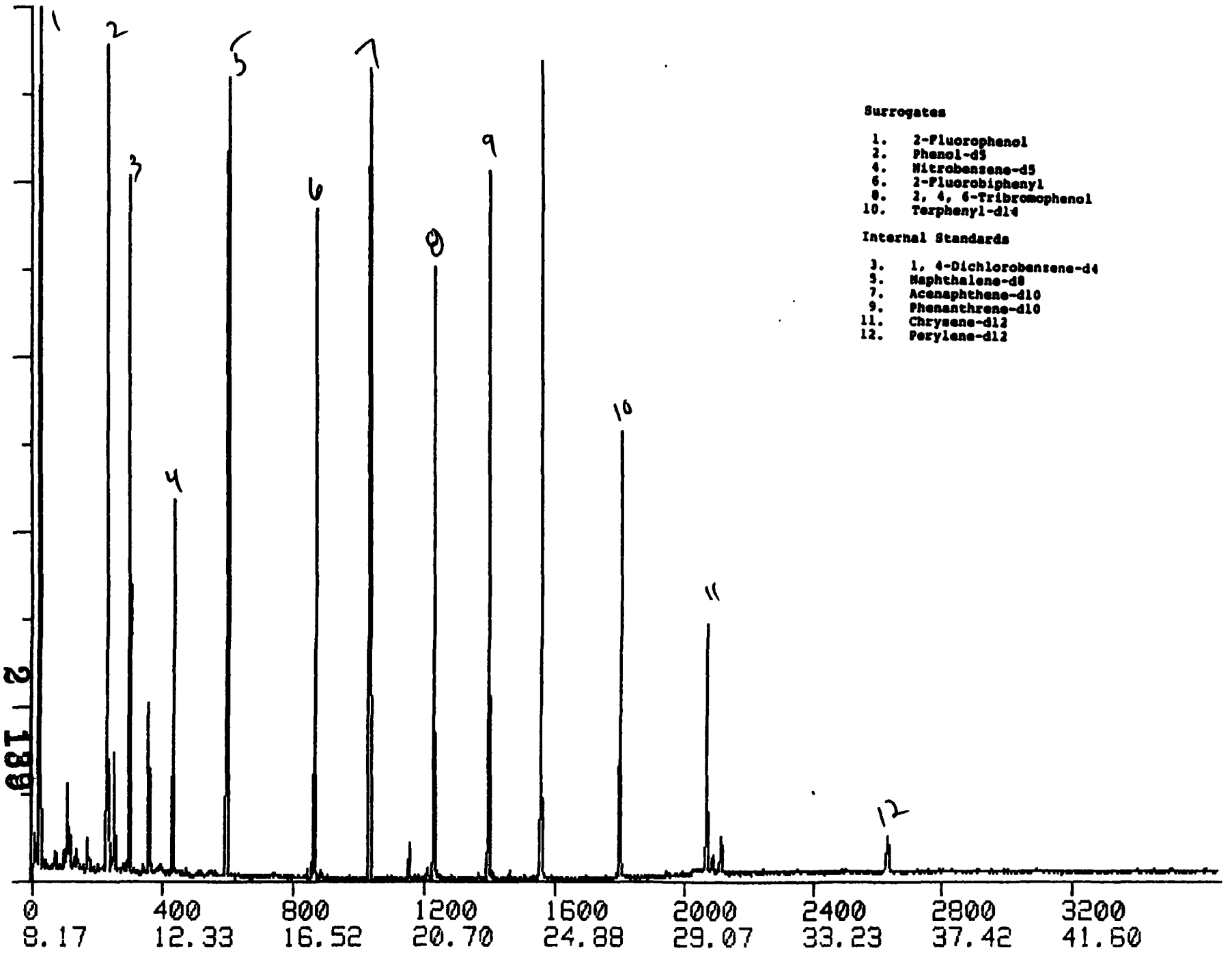
GPC Chromatogram

FileName : c:\2700\instH\H437.raw Date: 4-6-89 16:53 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 1517 uV High Point: 380100 uV
Vertical Scale Factor: 1.00 Plot Offset: -17 mV Plot Scale: 398 mV

Run #: H437 Case #: 11688
Date: 4-6-89 SDG #: EBQ27
Time: 1427 TRAL #: BA50560
Inst: H SDG #: EBQ18



STD: BT541 EXTRB T541, RA50561, EBQ28, T1688 100%
18-APR-89 10:35:13 307686
Total Ion Current



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1541
Injection time: 18-APR-89 10:35:13
Comments:
EXTRB 1541, RAS0561, EBQ28, 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.25	296			STD	0.70	40.0	NG/UL
2S	14.40	597			STD	0.63	40.0	NG/UL
3S	18.95	1032			STD	0.75	40.0	NG/UL
4S	22.77	1397			STD	0.71	40.0	NG/UL
5S	29.78	2069			STD	0.80	40.0	NG/UL
6S	35.65	2630			STD	0.96	40.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T			Not Found					
6T			Not Found					
7T			Not Found					

8T			Not Found						
9T			Not Found						
10T			Not Found						
11T			Not Found						
12T			Not Found						
13T			Not Found						
14T			Not Found						
15T			Not Found						
16T			Not Found						
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38T			Not Found						
39T			Not Found						
40T			Not Found						
41T			Not Found						
42T			Not Found						
43T			Not Found						
44T			Not Found						
45T			Not Found						
46T			Not Found						
47T			Not Found						
48T			Not Found						
49T			Not Found						
50T			Not Found						
51T	24.45	1558	149. / 188.	642400. /	463812.	4	0.52	65.2	NG/UL
52T			Not Found						
53T			Not Found						
54T			Not Found						
55T			Not Found						
56T			Not Found						
57T			Not Found						
58T			Not Found						
59T			Not Found						
60T			Not Found						
61T			Not Found						
62T			Not Found						
63T			Not Found						

2 142

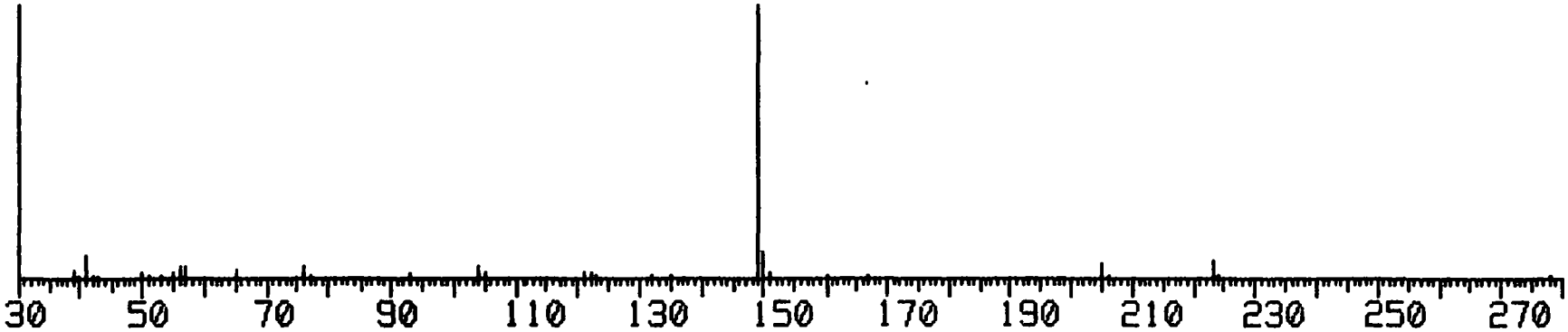
4T			Not Found						
5T			Not Found						
66T	12.67	431	82. / 136.	137682. /	546608.	2	0.85	30.9	NG/UL
67T	17.22	867	172. / 164.	338940. /	337544.	3	0.81	31.6	NG/UL
8T	26.97	1800	244. / 240.	233804. /	153788.	5	0.94	57.7	NG/UL
69T	10.55	228	99. / 152.	446416. /	153500.	1	0.65	91.0	NG/UL
70T	8.38	21	112. / 152.	387796. /	153500.	1	0.79	62.4	NG/UL
1T	21.00	1229	330. / 164.	111474. /	337544.	3	1.00	91.0	NG/UL

Extended Quantitation Report

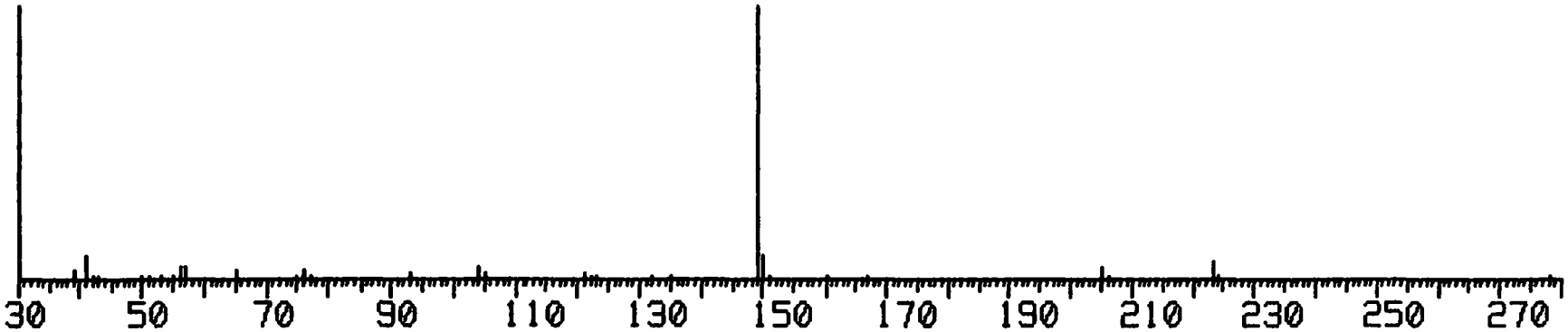
Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1541
Injection time: 18-APR-89 10:35:13

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
51T	1.074	149. / 188.	0.849	65.2	IA BB RF			1.00
66T	0.880	82. / 136.	0.326	30.9	IA BB RF			1.00
67T	0.909	172. / 164.	1.269	31.6	IA BB RF			1.00
68T	0.906	244. / 240.	1.054	57.7	IA BB RF			1.00
69T	0.938	99. / 152.	1.279	91.0	IA BB RF			1.00
70T	0.745	112. / 152.	1.621	62.4	IA BB RF			1.00
71T	1.108	330. / 164.	0.145	91.0	IA BB RF			1.00

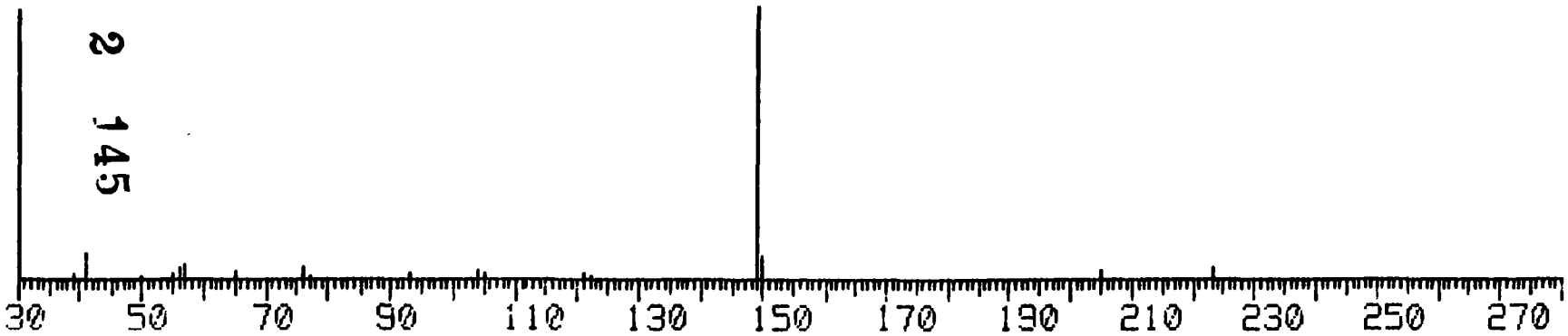
SY0:B1541 EXTRB 1541, RAS0561, EBQ28, 11688 Total
18-APR-89 10:35:13 Scan 1558 Time 24.45 min. 288048
100 % = 165376



SY0:B1541 EXTRB 1541, RAS0561, EBQ28, 11688 Total
18-APR-89 10:35:13 Scan 1558 Time 24.45 min. 287148
Bkg scans * 1.00 1543 100 % = 165247



Standard Reference Spectrum: Di-n-butylphthalate



Areas from TIC Chromatogram

File is SYO:B1541
ction date: 18-APR-89 10:35:13

	Crest	Retn time	Type	Left limit	Right limit	Raw area	Rel. area(%)	Est. conc	Std
.	103	9.23	VV	-3	7	124991.	1.09	6.31	1
2	233	10.60	VB	-2	8	141414.	1.23	7.14	1
3	252	10.80	BB	-11	7	181515.	1.58	9.16	1
4	358	11.90	BV	-5	13	239350.	2.09	12.08	1
5	2086	29.97	BB	-4	13	64002.	0.56	6.45	5
6	2114	30.25	BB	-5	11	58887.	0.51	5.93	5

IC areas for associated internal standards:

Std.	Area	Conc.
1	792519.	40.
5	397132.	40.

TIC=6
NWW
4-18-89

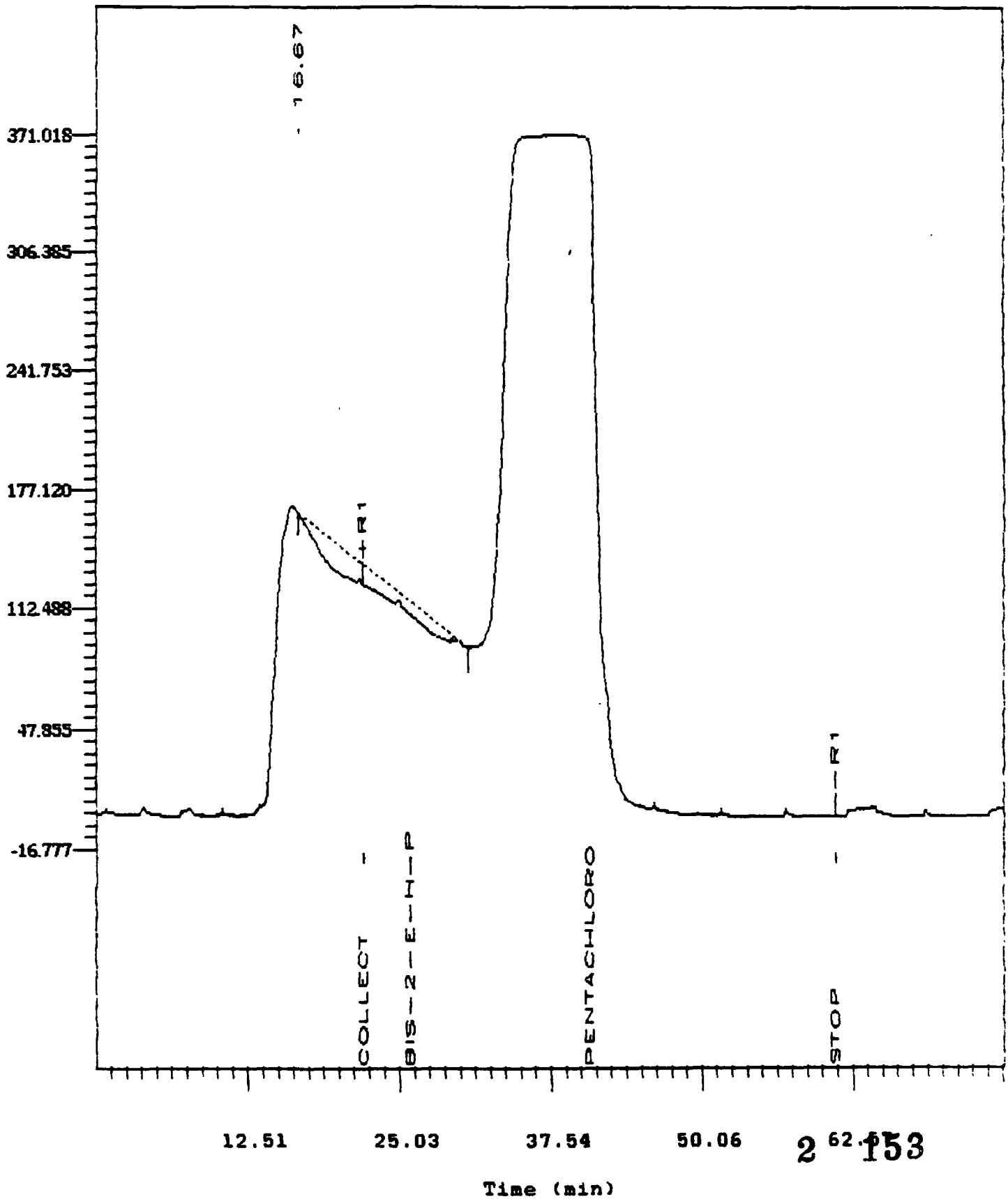
GPC Chromatogram

FileName : c:\2700\instH\H435.raw
Start Time: 0.00 min End Time: 75.08 min
Vertical Scale Factor: 1.00 Plot Offset: -17 mV Plot Scale: 388 mV

Date: 4-6-89 14:23 Page 1 of 1
Low Point: 1689 uV High Point: 371018 uV

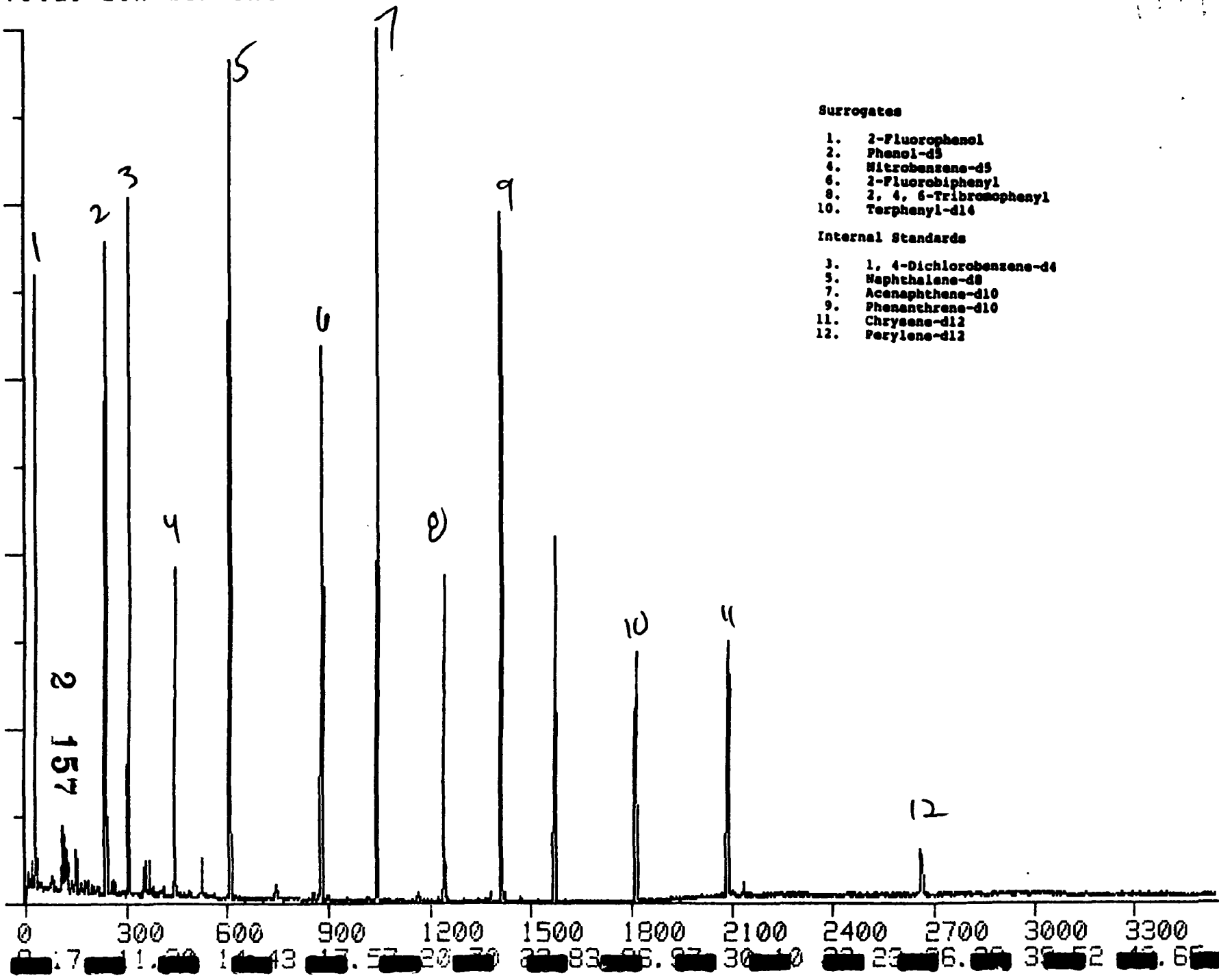
Run #: H435
Date: 4-6-89
Time: 11:56
Inst: H

Case #: 1.083
SMO #: EBQ 28
TRAL #: RA50561
SDG #: EBQ16



SY0:B1542 EXTRB 1542, RAS0562, EBQ29, 11688
18-APR-89 11:30:17
Total Ion Current

100%
346375



Surrogates

1. 2-Fluorophenol
2. Phenol-d5
4. Nitrobenzene-d5
6. 2-Fluorobiphenyl
8. 2, 4, 6-Tribromophenyl
10. Terphenyl-d14

Internal Standards

3. 1, 4-Dichlorobenzene-d4
5. Naphthalene-d8
7. Acenaphthene-d10
9. Phenanthrene-d10
11. Chrysene-d12
12. Perylene-d12

THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1542
Injection time: 18-APR-89 11:30:17
Comments:
EXTRB 1542, RAS0562, EBQ29, 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.35	305			STD	0.67	40.0	NG/UL
2S	14.53	609			STD	0.69	40.0	NG/UL
3S	19.10	1046			STD	0.63	40.0	NG/UL
4S	23.03	1423			STD	0.86	40.0	NG/UL
5S	29.95	2085			STD	0.85	40.0	NG/UL
6S	35.85	2650			STD	0.61	40.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T			Not Found					
6T			Not Found					
7T			Not Found					

8T			Not Found					
9T			Not Found					
10T			Not Found					
11T			Not Found					
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T			Not Found					
21T			Not Found					
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40T			Not Found					
41T			Not Found					
42T			Not Found					
43T			Not Found					
44T			Not Found					
45T			Not Found					
46T			Not Found					
47T			Not Found					
48T			Not Found					
49T			Not Found					
50T			Not Found					
51T	24.57	1570	149. / 188.	264148. /	499829.	4	0.87	24.9 NG/UL
52T			Not Found					
53T			Not Found					
54T			Not Found					
55T			Not Found					
56T			Not Found					
57T			Not Found					
58T			Not Found					
59T			Not Found					
60T			Not Found					
61T			Not Found					
62T			Not Found					
63T			Not Found					

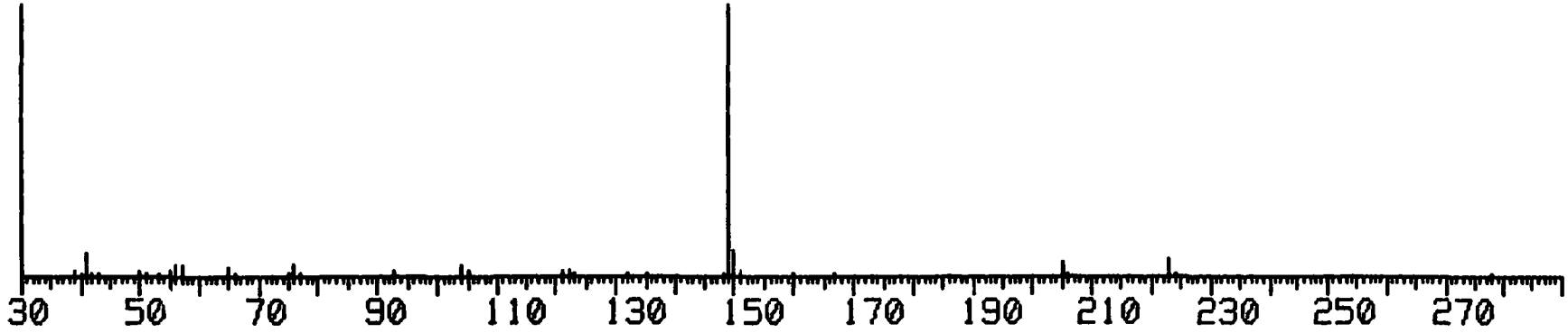
64T			Not Found							
65T			Not Found							
66T	12. 77	441	82. / 136.	120002. /	640472.	2	0. 85	23. 0	NG/UL
67T	17. 35	879	172. / 164.	304688. /	388680.	3	0. 81	24. 7	NG/UL
68T	27. 10	1813	244. / 240.	151772. /	176766.	5	0. 94	32. 6	NG/UL
69T	10. 63	236	99. / 152.	382108. /	177660.	1	0. 52	67. 3	NG/UL
70T	8. 45	27	112. / 152.	340528. /	177660.	1	0. 60	47. 3	NG/UL
71T	21. 13	1242	330. / 164.	68587. /	388680.	3	0. 97	48. 6	NG/UL

Extended Quantitation Report

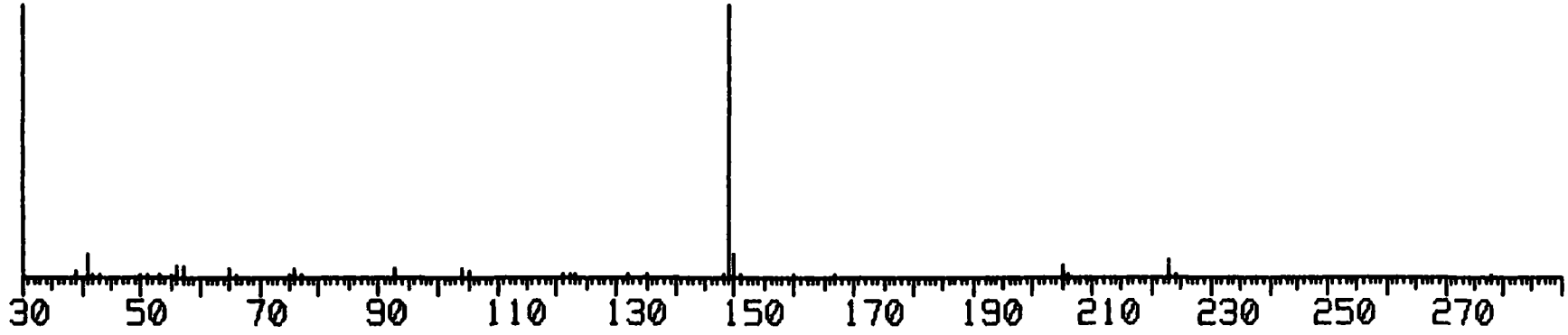
Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1542
Injection time: 18-APR-89 11:30:17

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
61T	1.067	149. / 188.	0.849	24.9	* IA BB RF			1.00
66T	0.879	82. / 136.	0.326	23.0	IA BB RF			1.00
67T	0.908	172. / 164.	1.269	24.7	IA BB RF			1.00
68T	0.905	244. / 240.	1.054	32.6	IA BB RF			1.00
69T	0.937	99. / 152.	1.279	67.3	IA BB RF			1.00
70T	0.744	112. / 152.	1.621	47.3	IA BB RF			1.00
71T	1.106	330. / 164.	0.145	48.6	IA BB RF			1.00

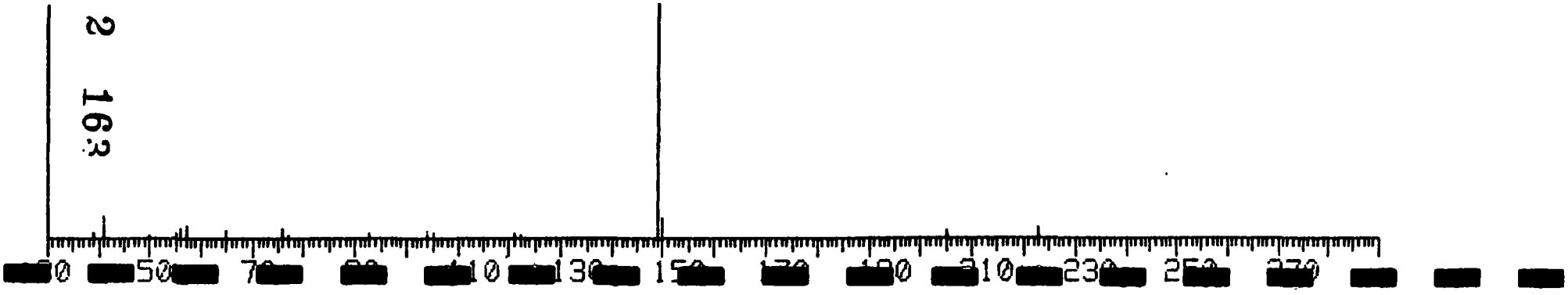
SY0:B1542 EXTRB 1542, RAS0562, EBQ29, 11688 Total
18-APR-89 11:30:17 Scan 1570 Time 24.57 min. 145490
100 % = 83712



SY0:B1542 EXTRB 1542, RAS0562, EBQ29, 11688 Total
18-APR-89 11:30:17 Scan 1570 Time 24.57 min. 144732
Bkg scans * 1.00 1563 100 % = 83561



Standard Reference Spectrum: Di-n-butylphthalate



Peak Areas from TIC Chromatogram

Data File is SYO:B1542
Injection date: 18-APR-89 11:30:17

#	Crest	Retn time	Type	Left limit	Right limit	Raw area	Rel. area(%)	Est. conc	Std
1	111	9.32	VV	-3	3	95210.	0.92	4.18	1
2	241	10.68	VV	-1	12	93641.	0.90	4.12	1
~~3~~	~~1345~~	~~22.22~~	~~BB~~	~~-6~~	~~5~~	~~3859~~	~~0.04~~	~~13.81~~	~~4~~ 4-18-89 NW
4	1381	22.60	BB	-2	5	5593.	0.05	20.02	4
5	1411	22.90	BV	-9	9	1029624.	9.94	3685.08	4
6	1472	23.55	BB	-2	4	3630.	0.04	12.99	4
7	2658	35.93	BB	-8	11	135352.	1.31	11.83	5

TIC areas for associated internal standards:

Std.	Area	Conc.
1	910148.	40.
4	11176.	40.
5	457833.	40.

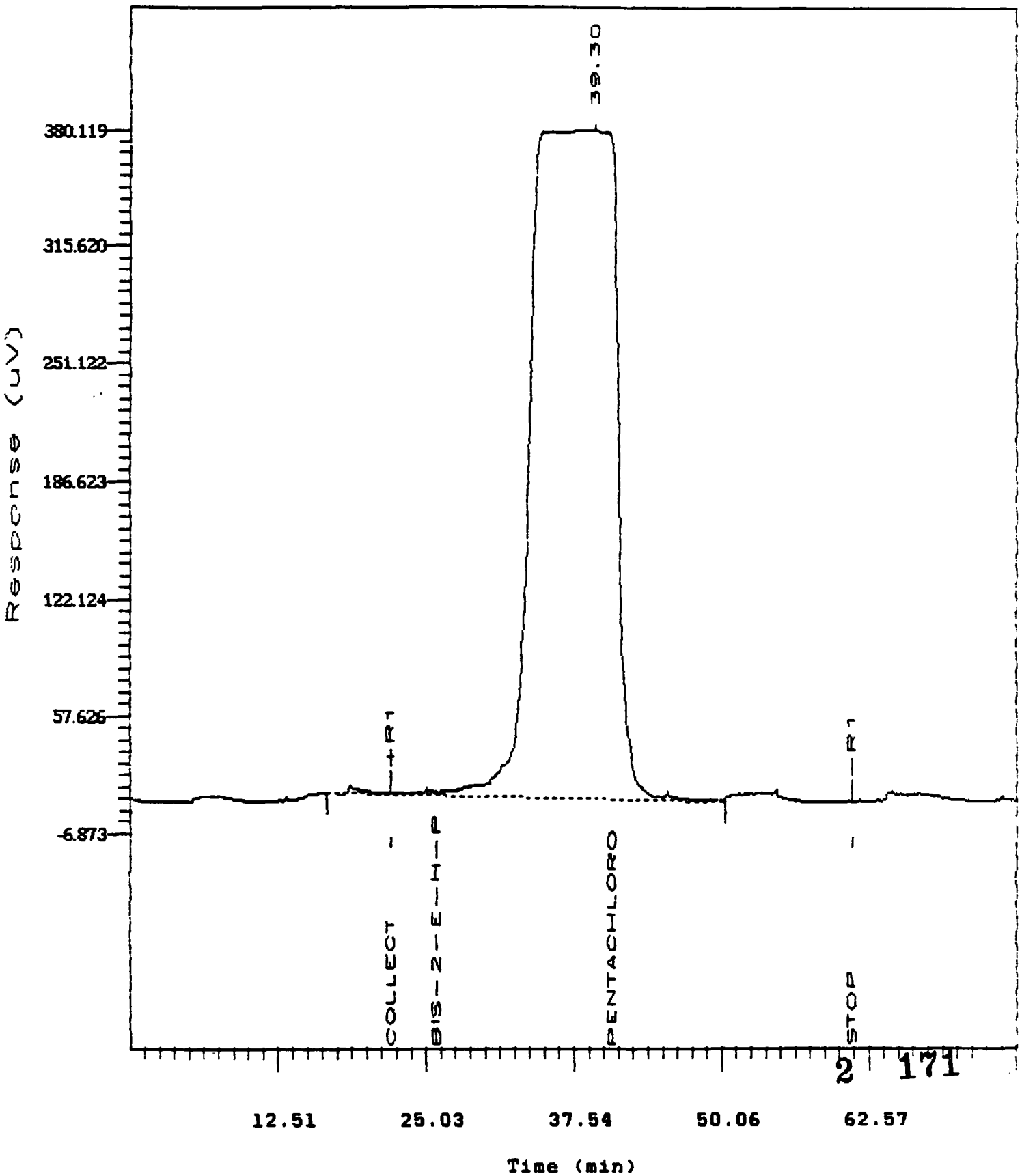
TIC=6
NW
4-18-89

GPC Chromatogram

FileName : c:\2700\instH\H438.raw
Start Time: 0.00 min End Time: 75.08 min
Vertical Scale Factor: 1.00 Plot Offset: -7 mV Plot Scale: 387 mV

Date: 4-6-89 18:08 Page 1 of 1
Low Point: 11555 uV High Point: 380119 uV

Run #: H438 Case #: 11688
Date: 4-6-89 SDG #: EBQ29
Time: 15:42 TRAL #: RA50562
Inst: H SDG #: EBQ18



BNA
STANDARD DATA

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: EXTRB Calibration Date(s): 3/ 1/89 3/ 1/89

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 = B1258 RRF50 = B1257
RRF80 = B1259 RRF120= B1260 RRF160= B1261

COMPOUND	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD
Phenol *	1.901	2.001	1.949	2.011	2.052	1.983	3.0*
bis(2-Chloroethyl)ether	1.442	1.440	1.395	1.439	1.472	1.437	1.9
2-Chlorophenol	1.357	1.398	1.330	1.400	1.401	1.377	2.3
1,3-Dichlorobenzene	1.439	1.385	1.377	1.374	1.402	1.396	1.9
1,4-Dichlorobenzene *	1.418	1.454	1.424	1.430	1.470	1.439	1.5*
Benzyl Alcohol	0.901	0.956	0.909	0.960	0.989	0.943	3.9
1,2-Dichlorobenzene	1.377	1.454	1.424	1.430	1.361	1.409	2.7
2-Methylphenol	1.389	1.442	1.388	1.446	1.507	1.434	3.4
bis(2-Chloroisopropyl)Ether	1.658	1.676	1.615	1.649	1.616	1.643	1.6
4-Methylphenol	1.458	1.506	1.419	1.501	1.531	1.483	3.0
N-Nitroso-di-n-propylamine #	0.772	0.779	0.693	0.768	0.754	0.753	4.6#
Hexachloroethane	0.565	0.552	0.537	0.548	0.571	0.555	2.5
Nitrobenzene	0.299	0.308	0.295	0.304	0.308	0.303	2.0
Isophorone	0.602	0.543	0.470	0.493	0.493	0.520	10.2
2-Nitrophenol *	0.200	0.187	0.191	0.195	0.207	0.196	4.0*
2,4-Dimethylphenol	0.267	0.259	0.248	0.261	0.261	0.259	2.8
Benzoic Acid	0.142	0.183	0.160	0.198	0.194	0.175	13.6
bis(2-Chloroethoxy)Methane	0.445	0.412	0.404	0.420	0.416	0.419	3.7
2,4-Dichlorophenol *	0.285	0.271	0.261	0.275	0.278	0.274	3.2*
1,2,4-Trichlorobenzene	0.302	0.282	0.279	0.281	0.288	0.286	3.4
Naphthalene	0.935	0.910	0.894	0.901	0.925	0.913	1.8
4-Chloroaniline	0.172	0.151	0.135	0.150	0.149	0.151	8.8
Hexachlorobutadiene *	0.144	0.130	0.129	0.132	0.136	0.134	4.6*
4-Chloro-3-Methylphenol *	0.236	0.227	0.202	0.229	0.227	0.224	5.8*
2-Methylnaphthalene	0.667	0.641	0.580	0.623	0.624	0.627	5.1
Hexachlorocyclopentadiene #	0.308	0.300	0.335	0.292	0.319	0.311	5.4#
2,4,6-Trichlorophenol *	0.342	0.349	0.359	0.349	0.344	0.349	1.9*
2,4,5-Trichlorophenol	0.340	0.349	0.359	0.349	0.344	0.348	2.1
2-Chloronaphthalene	0.985	0.973	0.998	0.952	0.992	0.980	1.9
2-Nitroaniline	0.255	0.262	0.238	0.261	0.251	0.253	3.8
Dimethylphthalate	0.947	0.928	0.823	0.903	0.899	0.900	5.3
Acenaphthylene	1.359	1.363	1.327	1.323	1.312	1.337	1.7
2,6-Dinitrotoluene	0.250	0.257	0.224	0.266	0.257	0.251	6.4
3-Nitroaniline	0.291	0.294	0.216	0.302	0.263	0.273	12.9
Acenaphthene *	0.751	0.801	0.799	0.780	0.777	0.782	2.6*
2,4-Dinitrophenol #	0.071	0.119	0.075	0.118	0.109	0.098	23.9#
4-Nitrophenol #	0.060	0.083	0.060	0.084	0.073	0.072	16.4#

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: EXTRB Calibration Date(s): 3/ 1/89 3/ 1/89

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

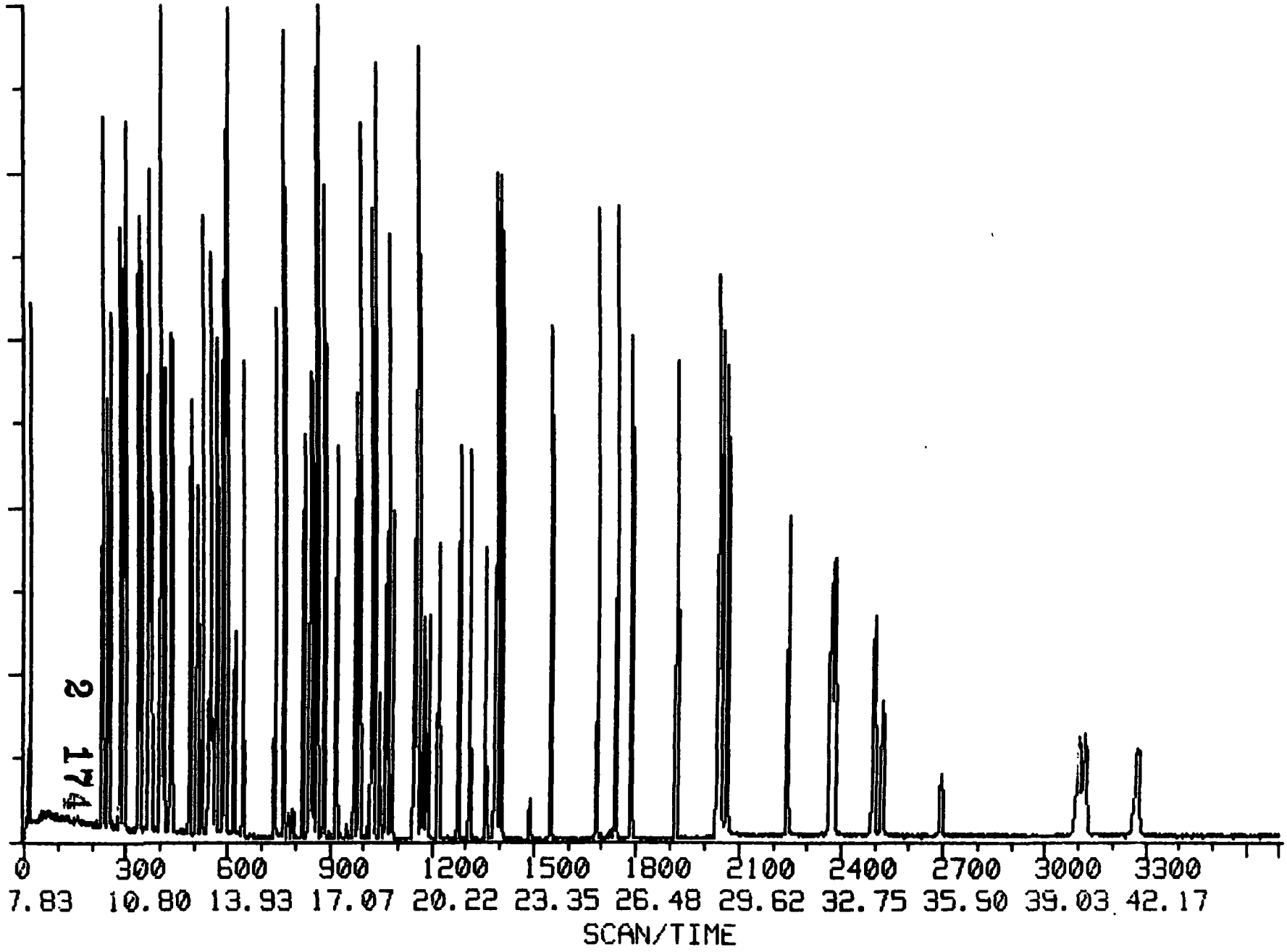
LAB FILE ID: RRF20 = B1258 RRF50 = B1257
RRF80 = B1259 RRF120= B1260 RRF160= B1261

COMPOUND	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD
Dibenzofuran	1.313	1.321	1.221	1.226	1.237	1.264	3.9
2,4-Dinitrotoluene	0.306	0.308	0.224	0.286	0.264	0.278	12.6
Diethylphthalate	0.829	0.809	0.599	0.730	0.681	0.730	13.0
4-Chlorophenyl-phenylether	0.529	0.520	0.453	0.490	0.496	0.498	6.0
Fluorene	1.064	1.053	0.890	0.968	0.947	0.985	7.4
4-Nitroaniline	0.251	0.269	0.138	0.288	0.204	0.230	26.1
4,6-Dinitro-2-Methylphenol	0.093	0.116	0.095	0.110	0.115	0.106	10.6
N-Nitrosodiphenylamine (1) *	0.258	0.226	0.237	0.221	0.241	0.236	6.1*
4-Bromophenyl-phenylether	0.232	0.214	0.242	0.219	0.238	0.229	5.3
Hexachlorobenzene	0.214	0.198	0.210	0.196	0.212	0.206	4.1
Pentachlorophenol *	0.106	0.136	0.118	0.149	0.146	0.131	14.1*
Phenanthrene	1.014	0.999	1.019	1.031	1.025	1.018	1.2
Anthracene	0.945	1.001	1.019	1.031	1.025	1.004	3.5
Di-n-butylphthalate	0.943	0.967	0.831	0.985	0.941	0.933	6.5
Fluoranthene *	1.053	1.030	0.846	1.045	0.971	0.989	8.7*
Pyrene	1.432	1.459	1.425	1.322	1.324	1.392	4.6
Butylbenzylphthalate	0.421	0.557	0.479	0.523	0.491	0.494	10.3
3,3'-Dichlorobenzidine	0.110	0.142	0.092	0.106	0.104	0.111	17.0
Benzo(a)anthracene	1.083	1.180	1.121	1.092	1.164	1.128	3.8
Chrysene	1.025	1.058	1.121	1.068	1.099	1.074	3.5
bis(2-Ethylhexyl)phthalate	0.517	0.633	0.573	0.680	0.647	0.610	10.6
Di-n-octylphthalate *	1.242	1.636	1.547	2.037	1.877	1.668	18.4*
Benzo(b)fluoranthene	1.585	1.631	1.678	1.511	1.484	1.578	5.1
Benzo(k)fluoranthene	1.609	1.563	1.678	1.511	1.484	1.569	4.9
Benzo(a)pyrene *	1.241	1.362	1.387	1.372	1.465	1.365	5.9*
Indeno(1,2,3-cd)pyrene	0.920	1.055	1.113	1.089	1.342	1.104	13.8
Dibenz(a,h)anthracene	0.738	0.966	1.007	0.988	1.139	0.967	15.0
Benzo(g,h,i)perylene	0.811	1.066	1.112	1.012	1.141	1.028	12.8
Nitrobenzene-d5	0.386	0.387	0.370	0.370	0.377	0.378	2.2
2-Fluorobiphenyl	1.325	1.342	1.424	1.307	1.346	1.349	3.3
Terphenyl-d14	1.018	1.063	1.013	0.953	0.977	1.005	4.2
Phenol-d5	1.374	1.378	1.331	1.360	1.369	1.363	1.4
2-Fluorophenol	1.374	1.571	1.682	1.694	1.799	1.624	9.9
2,4,6-Tribromophenol	0.144	0.141	0.108	0.147	0.130	0.134	11.9

(1) Cannot be separated from Diphenylamine

FORM VI SV-2 1/87 Rev.

3!257 EXTRB 1257, SSTD50, 2-40-3
01-MAR-89 09:08:07 TIC Maximum current=285107



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1257
Injection time: 01-MAR-89 09:08:07
Comments:
EXTRB 1257, SSTD50, 2-40-3
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	10.72	292			STD	0.73	40.0	NG/UL
2S	13.85	592			STD	0.74	40.0	NG/UL
3S	18.35	1022			STD	0.72	40.0	NG/UL
4S	22.13	1384			STD	0.92	40.0	NG/UL
5S	29.03	2044			STD	0.90	40.0	NG/UL
6S	34.02	2520			STD	1.00	40.0	NG/UL
1T	10.08	232	94. / 152.	297884. / 119100.	1	0.64	50.2	NG/UL
2T	10.22	245	93. / 152.	214366. / 119100.	1	0.79	50.1	NG/UL
3T	10.30	252	128. / 152.	208174. / 119100.	1	0.84	50.8	NG/UL
4T	10.62	283	146. / 152.	206156. / 119100.	1	0.88	49.6	NG/UL
5T	10.75	296	146. / 152.	216456. / 119100.	1	0.79	50.4	NG/UL
6T	11.15	333	108. / 152.	142272. / 119100.	1	0.79	50.8	NG/UL
7T	10.75	296	146. / 152.	216456. / 119100.	1	0.83	53.4	NG/UL

8T	11.48	366	108. / 152.	214732. /	119100.	1	0.63	50.0	NG/UL
9T	11.53	370	45. / 152.	249468. /	119100.	1	0.65	51.0	NG/UL
10T	11.85	400	108. / 152.	224180. /	119100.	1	0.92	50.5	NG/UL
11T	11.88	403	70. / 152.	115979. /	119100.	1	1.00	51.7	NG/UL
12T	11.93	409	117. / 152.	82178. /	119100.	1	1.00	49.7	NG/UL
13T	12.18	432	77. / 136.	173652. /	450520.	2	0.85	50.6	NG/UL
14T	12.75	487	82. / 136.	305728. /	450520.	2	0.60	52.2	NG/UL
15T	12.97	507	139. / 136.	105449. /	450520.	2	0.92	47.8	NG/UL
16T	13.13	523	107. / 136.	145658. /	450520.	2	0.69	49.9	NG/UL
17T	13.45	554	122. / 136.	102820. /	450520.	2	0.86	49.7	NG/UL
18T	13.37	546	93. / 136.	231932. /	450520.	2	0.92	48.8	NG/UL
19T	13.55	563	162. / 136.	152586. /	450520.	2	0.93	49.5	NG/UL
20T	13.75	583	180. / 136.	158888. /	450520.	2	0.73	49.2	NG/UL
21T	13.90	597	128. / 136.	512376. /	450520.	2	0.83	49.8	NG/UL
22T	14.12	617	127. / 136.	84797. /	450520.	2	0.87	49.5	NG/UL
23T	14.38	643	225. / 136.	72990. /	450520.	2	1.00	48.3	NG/UL
24T	15.37	737	107. / 136.	128112. /	450520.	2	0.96	50.8	NG/UL
25T	15.65	764	142. / 136.	361260. /	450520.	2	0.54	51.1	NG/UL
26T	16.23	820	237. / 164.	90618. /	241742.	3	0.93	48.3	NG/UL
27T	16.53	849	196. / 164.	105341. /	241742.	3	0.84	49.1	NG/UL
28T	16.53	849	196. / 164.	105341. /	241742.	3	0.97	49.4	NG/UL
29T	16.88	882	162. / 164.	294160. /	241742.	3	0.88	49.7	NG/UL
30T	17.25	917	65. / 164.	79274. /	241742.	3	0.89	51.8	NG/UL
31T	17.83	973	163. / 164.	280300. /	241742.	3	0.85	51.5	NG/UL
32T	17.95	984	152. / 164.	411852. /	241742.	3	0.87	50.9	NG/UL
33T	18.00	988	165. / 164.	77613. /	241742.	3	0.89	51.2	NG/UL
34T	18.32	1019	138. / 164.	88942. /	241742.	3	0.93	53.9	NG/UL
35T	18.43	1030	153. / 164.	242124. /	241742.	3	0.73	51.2	NG/UL
36T	18.57	1043	184. / 164.	36067. /	241742.	3	0.96	56.3	NG/UL
37T	18.78	1063	109. / 164.	24976. /	241742.	3	0.65	56.1	NG/UL
38T	18.83	1069	168. / 164.	399192. /	241742.	3	0.78	52.3	NG/UL
39T	18.98	1082	165. / 164.	93158. /	241742.	3	0.74	55.5	NG/UL
40T	19.65	1147	149. / 164.	244596. /	241742.	3	0.88	55.4	NG/UL
41T	19.77	1157	204. / 164.	157276. /	241742.	3	0.67	52.3	NG/UL
42T	19.73	1154	166. / 164.	318116. /	241742.	3	0.51	53.5	NG/UL
43T	19.90	1170	138. / 164.	81202. /	241742.	3	0.96	57.2	NG/UL
44T	20.00	1180	198. / 188.	44340. /	306008.	4	0.83	54.9	NG/UL
45T	20.07	1187	169. / 188.	86496. /	306008.	4	0.90	48.0	NG/UL
46T	21.00	1275	248. / 188.	81808. /	306008.	4	0.79	46.8	NG/UL
47T	21.35	1309	284. / 188.	75590. /	306008.	4	1.00	48.1	NG/UL
48T	21.82	1354	266. / 188.	52164. /	306008.	4	1.00	52.2	NG/UL
49T	22.18	1389	178. / 188.	382128. /	306008.	4	0.88	48.8	NG/UL
50T	22.30	1400	178. / 188.	383032. /	306008.	4	0.92	49.5	NG/UL
51T	23.85	1548	149. / 188.	369944. /	306008.	4	0.73	51.9	NG/UL
52T	25.28	1685	202. / 188.	393900. /	306008.	4	0.95	52.2	NG/UL
53T	25.85	1740	202. / 240.	400048. /	219418.	5	0.86	52.4	NG/UL
54T	27.70	1917	149. / 240.	152852. /	219418.	5	0.91	56.4	NG/UL
55T	28.97	2038	252. / 240.	38921. /	219418.	5	1.00	64.2	NG/UL
56T	28.98	2039	228. / 240.	323656. /	219418.	5	0.92	52.0	NG/UL
57T	29.10	2050	228. / 240.	290152. /	219418.	5	0.87	48.4	NG/UL
58T	29.27	2066	149. / 240.	173560. /	219418.	5	0.87	51.9	NG/UL
59T	31.12	2243	149. / 264.	267126. /	130646.	6	0.87	49.0	NG/UL
60T	32.43	2369	252. / 264.	266300. /	130646.	6	0.82	46.9	NG/UL
61T	32.52	2377	252. / 264.	255308. /	130646.	6	1.00	49.7	NG/UL
62T	33.77	2497	252. / 264.	222371. /	130646.	6	0.96	49.9	NG/UL
63T	40.08	3101	276. / 264.	172365. /	130646.	6	0.91	49.1	NG/UL

64T	40.27	3118	278. / 264.	157727. /	130646.	6	1.00	49.9	NG/UL
65T	41.88	3273	276. / 264.	174042. /	130646.	6	0.96	52.2	NG/UL
66T	12.13	428	82. / 136.	218124. /	450520.	2	0.79	51.2	NG/UL
67T	16.67	861	172. / 164.	405636. /	241742.	3	0.88	49.8	NG/UL
68T	26.32	1784	244. / 240.	291492. /	219418.	5	0.94	52.9	NG/UL
69T	10.07	230	99. / 152.	205166. /	119100.	1	0.51	50.6	NG/UL
70T	7.82	15	112. / 152.	233904. /	119100.	1	0.73	48.4	NG/UL
71T	20.38	1217	330. / 164.	42606. /	241742.	3	0.91	52.7	NG/UL

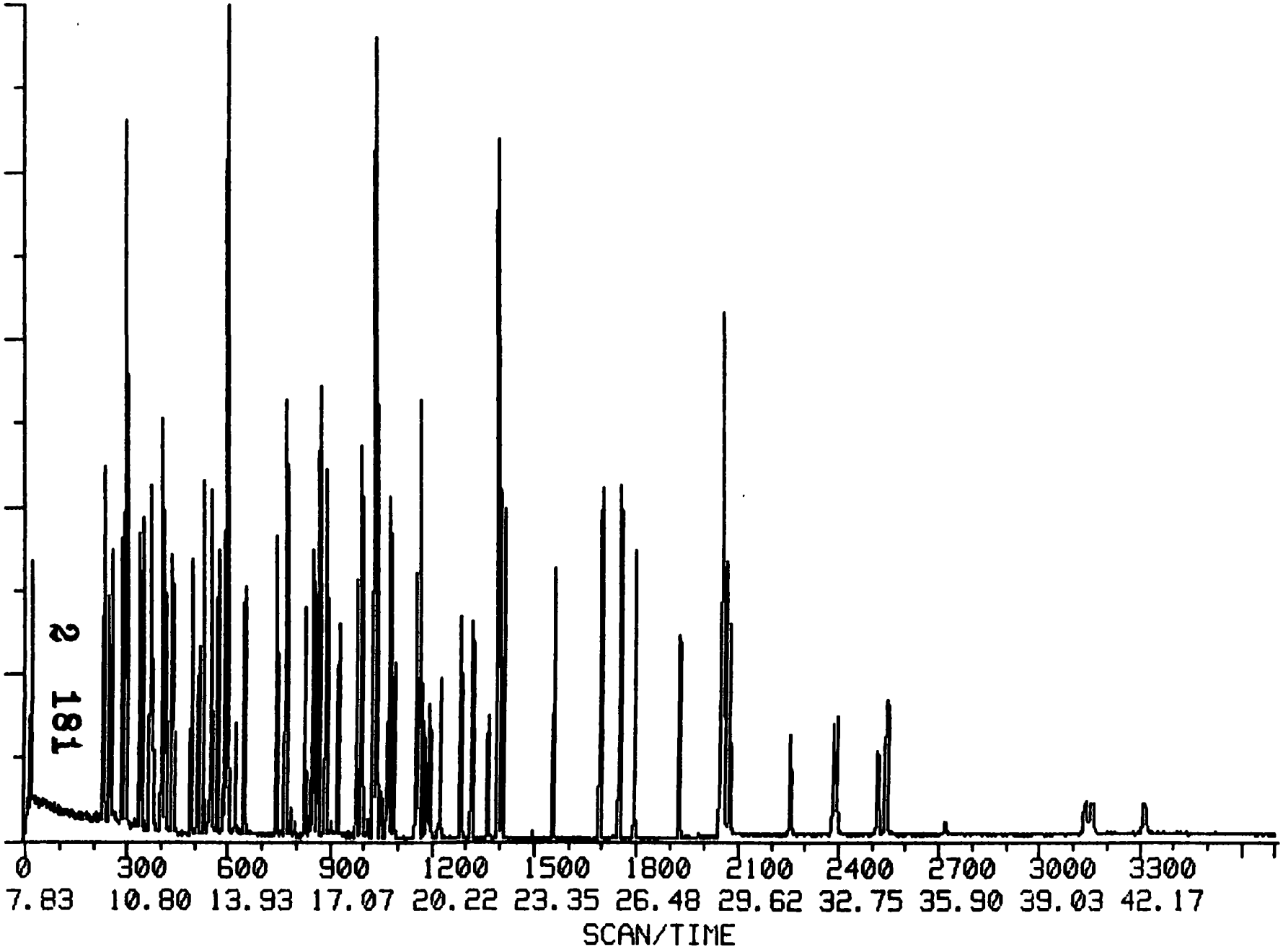
Extended Quantitation Report

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1257
Injection time: 01-MAR-89 09:08:07

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
1T	0.940	94. / 152.	1.993	50.2	IA BB FC			1.00
2T	0.953	93. / 152.	1.437	50.1	IA BB FC			1.00
3T	0.961	128. / 152.	1.377	50.8	IA BB FC			1.00
4T	0.991	146. / 152.	1.395	49.6	IA BV FC			1.00
5T	1.003	146. / 152.	1.442	50.4	IA VV FC			1.00
6T	1.040	108. / 152.	0.941	50.8	IA BV FC			1.00
7T	1.003	146. / 152.	1.360	53.4	IA VV FC			1.00
8T	1.071	108. / 152.	1.443	50.0	IA VV FC			1.00
9T	1.076	45. / 152.	1.643	51.0	IA BB FC			1.00
10T	1.105	108. / 152.	1.492	50.5	IA VB FC			1.00
11T	1.108	70. / 152.	0.754	51.7	IA BV FC			1.00
12T	1.113	117. / 152.	0.555	49.7	IA BB FC			1.00
13T	0.879	77. / 136.	0.305	50.6	IA VB FC			1.00
14T	0.921	82. / 136.	0.520	52.2	IA BB FC			1.00
15T	0.936	139. / 136.	0.196	47.8	IA VB FC			1.00
16T	0.948	107. / 136.	0.259	49.9	IA BB FC			1.00
17T	0.971	122. / 136.	0.184	49.7	IA VB FC			1.00
18T	0.965	93. / 136.	0.422	48.8	IA BB FC			1.00
19T	0.978	162. / 136.	0.274	49.5	IA BB FC			1.00
20T	0.993	180. / 136.	0.286	49.2	IA BB FC			1.00
21T	1.004	128. / 136.	0.913	49.8	IA BB FC			1.00
22T	1.019	127. / 136.	0.152	49.5	IA VB FC			1.00
23T	1.038	225. / 136.	0.134	48.3	IA BB FC			1.00
24T	1.110	107. / 136.	0.224	50.8	IA BB FC			1.00
25T	1.130	142. / 136.	0.628	51.1	IA VB FC			1.00
26T	0.884	237. / 164.	0.310	48.3	IA BB FC			1.00
27T	0.901	196. / 164.	0.355	49.1	IA VB FC			1.00
28T	0.901	196. / 164.	0.353	49.4	IA VB FC			1.00
29T	0.920	162. / 164.	0.980	49.7	IA BB FC			1.00
30T	0.940	65. / 164.	0.253	51.8	IA BB FC			1.00
31T	0.972	163. / 164.	0.900	51.5	IA BB FC			1.00
32T	0.978	152. / 164.	1.338	50.9	IA BV FC			1.00
33T	0.981	165. / 164.	0.251	51.2	IA BV FC			1.00
34T	0.998	138. / 164.	0.273	53.9	IA BB FC			1.00
35T	1.004	153. / 164.	0.783	51.2	IA VB FC			1.00
36T	1.012	184. / 164.	0.106	56.3	IA BB FC			1.00
37T	1.023	109. / 164.	0.074	56.1	IA BB FC			1.00
38T	1.026	168. / 164.	1.264	52.3	IA BB FC			1.00
39T	1.034	165. / 164.	0.278	55.5	IA BB FC			1.00
40T	1.071	149. / 164.	0.731	55.4	IA BB FC			1.00

41T	1.077	204. / 164.	0.498	52.3	IA BB FC	1.00
42T	1.075	166. / 164.	0.985	53.5	IA BB FC	1.00
43T	1.084	138. / 164.	0.235	57.2	IA BB FC	1.00
44T	0.904	198. / 188.	0.106	54.9	IA BB FC	1.00
45T	0.907	169. / 188.	0.236	48.0	IA VB FC	1.00
46T	0.949	248. / 188.	0.229	46.8	IA BB FC	1.00
47T	0.965	284. / 188.	0.206	48.1	IA BB FC	1.00
48T	0.986	266. / 188.	0.131	52.2	IA BB FC	1.00
49T	1.002	178. / 188.	1.024	48.8	IA BV FC	1.00
50T	1.008	178. / 188.	1.011	49.5	IA VB FC	1.00
51T	1.078	149. / 188.	0.931	51.9	IA BB FC	1.00
52T	1.142	202. / 188.	0.987	52.2	IA BB FC	1.00
53T	0.890	202. / 240.	1.392	52.4	IA BB FC	1.00
54T	0.954	149. / 240.	0.494	56.4	IA BB FC	1.00
55T	0.998	252. / 240.	0.111	64.2	IA BB FC	1.00
56T	0.998	228. / 240.	1.135	52.0	IA BV FC	1.00
57T	1.002	228. / 240.	1.093	48.4	IA VB FC	1.00
58T	1.008	149. / 240.	0.610	51.9	IA BB FC	1.00
59T	0.915	149. / 264.	1.668	49.0	IA BB FC	1.00
60T	0.953	252. / 264.	1.738	46.9	IA BV FC	1.00
61T	0.956	252. / 264.	1.574	49.7	IA VB FC	1.00
62T	0.993	252. / 264.	1.364	49.9	IA BB FC	1.00
63T	1.178	276. / 264.	1.076	49.1	IA BV FC	1.00
64T	1.184	278. / 264.	0.967	49.9	IA BB FC	1.00
65T	1.231	276. / 264.	1.022	52.2	IA BB FC	1.00
66T	0.876	82. / 136.	0.378	51.2	IA VB FC	1.00
67T	0.908	172. / 164.	1.349	49.8	IA BB FC	1.00
68T	0.907	244. / 240.	1.005	52.9	IA BB FC	1.00
69T	0.939	99. / 152.	1.363	50.6	IA BB FC	1.00
70T	0.729	112. / 152.	1.624	48.4	IA BB FC	1.00
71T	1.111	330. / 164.	0.134	52.7	IA BB FC	1.00

B1258 EXTRB 1258, SSTD20, 2-40-2
01-MAR-89 12:36:50 TIC Maximum current=239977



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1258
Injection time: 01-MAR-89 12:36:50
Comments:
EXTRB 1258, SSTD20, 2-40-2
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	10.73	293			STD	0.73	40.0	NG/UL
2S	13.87	594			STD	0.74	40.0	NG/UL
3S	18.40	1027			STD	0.72	40.0	NG/UL
4S	22.20	1390			STD	0.83	40.0	NG/UL
5S	29.13	2053			STD	0.80	40.0	NG/UL
6S	34.25	2543			STD	0.96	40.0	NG/UL
1T	10.08	232	94. / 152.	121044. / 127376.	1	0.72	19.1	NG/UL
2T	10.22	245	93. / 152.	91818. / 127376.	1	0.89	20.1	NG/UL
3T	10.30	252	128. / 152.	86411. / 127376.	1	0.92	19.7	NG/UL
4T	10.63	284	146. / 152.	91658. / 127376.	1	0.96	20.6	NG/UL
5T	10.77	297	146. / 152.	90308. / 127376.	1	0.92	19.7	NG/UL
6T	11.15	333	108. / 152.	97383. / 127376.	1	0.92	19.2	NG/UL
7T	11.20	339	146. / 152.	87691. / 127376.	1	0.96	20.2	NG/UL

8T	11.48	366	108. /	152.	88446. /	127376.	1	0.80	19.2	NG/UL
9T	11.53	371	45. /	152.	105613. /	127376.	1	0.86	20.2	NG/UL
10T	11.85	400	108. /	152.	92836. /	127376.	1	0.88	19.5	NG/UL
11T	11.88	403	70. /	152.	49137. /	127376.	1	0.96	20.5	NG/UL
12T	11.97	411	117. /	152.	36009. /	127376.	1	0.97	20.4	NG/UL
13T	12.18	433	77. /	136.	69711. /	467064.	2	1.00	19.6	NG/UL
14T	12.77	488	82. /	136.	140520. /	467064.	2	0.58	23.1	NG/UL
15T	12.98	509	139. /	136.	46816. /	467064.	2	0.92	20.5	NG/UL
16T	13.13	524	107. /	136.	62450. /	467064.	2	0.82	20.6	NG/UL
17T	13.38	547	122. /	136.	33061. /	467064.	2	0.60	15.4	NG/UL
18T	13.38	547	93. /	136.	103910. /	467064.	2	1.00	21.1	NG/UL
19T	13.57	565	162. /	136.	66539. /	467064.	2	1.00	20.8	NG/UL
20T	13.78	585	180. /	136.	70625. /	467064.	2	0.85	21.1	NG/UL
21T	13.92	599	128. /	136.	218304. /	467064.	2	0.85	20.5	NG/UL
22T	14.15	620	127. /	136.	40173. /	467064.	2	0.79	22.6	NG/UL
23T	14.42	646	225. /	136.	33665. /	467064.	2	1.00	21.5	NG/UL
24T	15.40	740	107. /	136.	55004. /	467064.	2	0.96	21.0	NG/UL
25T	15.68	767	142. /	136.	155684. /	467064.	2	0.73	21.2	NG/UL
26T	16.28	824	237. /	164.	41762. /	271540.	3	0.93	19.8	NG/UL
27T	16.45	841	196. /	164.	46421. /	271540.	3	0.58	19.3	NG/UL
28T	16.58	853	196. /	164.	46110. /	271540.	3	0.52	19.2	NG/UL
29T	16.92	885	162. /	164.	133674. /	271540.	3	0.80	20.1	NG/UL
30T	17.28	920	65. /	164.	34591. /	271540.	3	0.81	20.1	NG/UL
31T	17.87	976	163. /	164.	128550. /	271540.	3	0.81	21.0	NG/UL
32T	18.00	988	152. /	164.	184466. /	271540.	3	0.93	20.3	NG/UL
33T	18.02	991	165. /	164.	33937. /	271540.	3	0.89	19.9	NG/UL
34T	18.35	1023	138. /	164.	39449. /	271540.	3	0.93	21.3	NG/UL
35T	18.48	1035	153. /	164.	101983. /	271540.	3	0.85	19.2	NG/UL
36T	18.62	1047	184. /	164.	9622. /	271540.	3	0.77	13.4	NG/UL
37T	18.80	1066	109. /	164.	8101. /	271540.	3	0.92	16.2	NG/UL
38T	18.88	1074	168. /	164.	178258. /	271540.	3	0.83	20.8	NG/UL
39T	19.02	1086	165. /	164.	41542. /	271540.	3	0.74	22.0	NG/UL
40T	19.70	1151	149. /	164.	112570. /	271540.	3	0.96	22.7	NG/UL
41T	19.82	1162	204. /	164.	71871. /	271540.	3	0.74	21.3	NG/UL
42T	19.78	1159	166. /	164.	144476. /	271540.	3	0.76	21.6	NG/UL
43T	19.93	1174	138. /	164.	34015. /	271540.	3	0.88	21.3	NG/UL
44T	20.05	1185	198. /	188.	15275. /	328912.	4	0.83	17.6	NG/UL
45T	20.13	1192	169. /	188.	42356. /	328912.	4	0.90	21.8	NG/UL
46T	21.05	1281	248. /	188.	38170. /	328912.	4	0.82	20.3	NG/UL
47T	21.42	1315	284. /	188.	35152. /	328912.	4	0.97	20.8	NG/UL
48T	21.88	1360	266. /	188.	17377. /	328912.	4	1.00	16.2	NG/UL
49T	22.25	1396	178. /	188.	166725. /	328912.	4	0.80	19.8	NG/UL
50T	22.37	1406	178. /	188.	155470. /	328912.	4	0.57	18.7	NG/UL
51T	23.92	1554	149. /	188.	155082. /	328912.	4	0.60	20.3	NG/UL
52T	25.37	1693	202. /	188.	173214. /	328912.	4	0.95	21.4	NG/UL
53T	25.93	1748	202. /	240.	178434. /	249196.	5	0.91	20.6	NG/UL
54T	27.78	1925	149. /	240.	52480. /	249196.	5	0.91	17.0	NG/UL
55T	29.07	2047	252. /	240.	13656. /	249196.	5	1.00	19.8	NG/UL
56T	29.08	2049	228. /	240.	134939. /	249196.	5	1.00	19.1	NG/UL
57T	29.20	2060	228. /	240.	127772. /	249196.	5	0.54	18.8	NG/UL
58T	29.35	2075	149. /	240.	64447. /	249196.	5	1.00	17.0	NG/UL
59T	31.27	2257	149. /	264.	69236. /	111457.	6	0.66	14.9	NG/UL
60T	32.53	2379	252. /	264.	88345. /	111457.	6	0.61	18.2	NG/UL
61T	32.78	2403	252. /	264.	89680. /	111457.	6	0.57	20.4	NG/UL
62T	33.98	2517	252. /	264.	69176. /	111457.	6	0.96	18.2	NG/UL
63T	40.45	3136	276. /	264.	51262. /	111457.	6	1.00	17.1	NG/UL

64T	40.63	3154	278. / 264.	41100. /	111457.	6	1.00	15.2	NG/UL
65T	42.32	3315	276. / 264.	45172. /	111457.	6	0.96	15.9	NG/UL
66T	12.15	429	82. / 136.	90160. /	467064.	2	1.00	20.4	NG/UL
67T	16.70	864	172. / 164.	179904. /	271540.	3	0.94	19.6	NG/UL
68T	26.42	1793	244. / 240.	126836. /	249196.	5	0.88	20.3	NG/UL
69T	10.05	229	99. / 152.	87519. /	127376.	1	0.82	20.2	NG/UL
70T	7.80	14	112. / 152.	87533. /	127376.	1	0.75	16.9	NG/UL
71T	20.45	1223	330. / 164.	19515. /	271540.	3	0.85	21.5	NG/UL

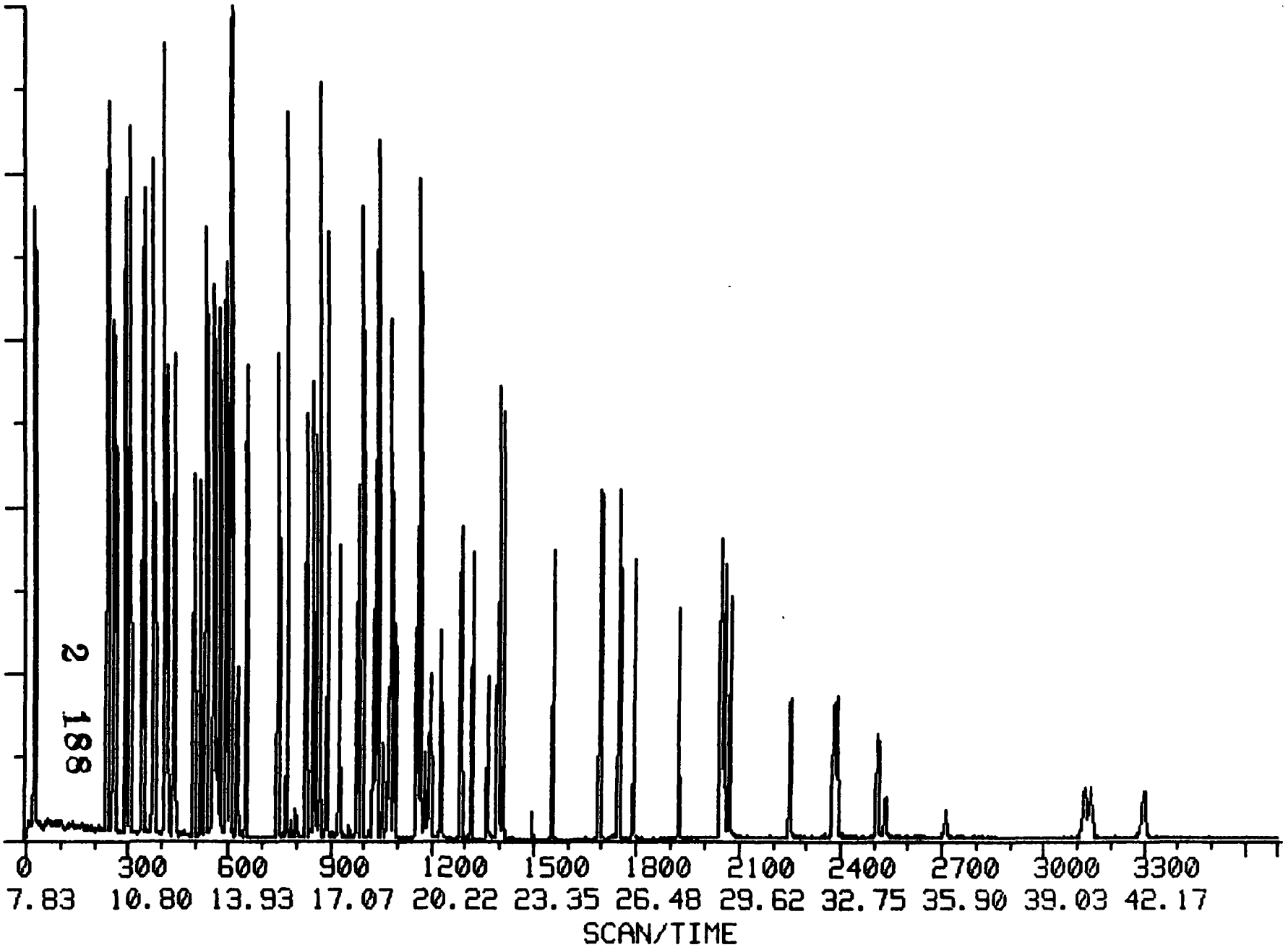
Extended Quantitation Report

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1258
Injection time: 01-MAR-89 12:36:50

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
1T	0.939	94. / 152.	1.993	19.1	IA BV FC			1.00
2T	0.952	93. / 152.	1.437	20.1	IA BB FC			1.00
3T	0.960	128. / 152.	1.377	19.7	IA BB FC			1.00
4T	0.991	146. / 152.	1.395	20.6	IA BV FC			1.00
5T	1.004	146. / 152.	1.442	19.7	IA VB FC			1.00
6T	1.039	108. / 152.	0.941	19.2	IA BB FC			1.00
7T	1.044	146. / 152.	1.360	20.2	IA BB FC			1.00
8T	1.070	108. / 152.	1.443	19.2	IA BB FC			1.00
9T	1.075	45. / 152.	1.643	20.2	IA BB FC			1.00
10T	1.104	108. / 152.	1.492	19.5	IA BB FC			1.00
11T	1.107	70. / 152.	0.754	20.5	IA BB FC			1.00
12T	1.116	117. / 152.	0.555	20.4	IA BB FC			1.00
13T	0.878	77. / 136.	0.305	19.6	IA BB FC			1.00
14T	0.921	82. / 136.	0.520	23.1	IA BB FC			1.00
15T	0.936	139. / 136.	0.196	20.5	IA BB FC			1.00
16T	0.947	107. / 136.	0.259	20.6	IA BB FC			1.00
17T	0.965	122. / 136.	0.184	15.4	IA BB FC			1.00
18T	0.965	93. / 136.	0.422	21.1	IA BB FC			1.00
19T	0.978	162. / 136.	0.274	20.8	IA BB FC			1.00
20T	0.994	180. / 136.	0.286	21.1	IA BB FC			1.00
21T	1.004	128. / 136.	0.913	20.5	IA BB FC			1.00
22T	1.020	127. / 136.	0.152	22.6	IA BB FC			1.00
23T	1.040	225. / 136.	0.134	21.5	IA BB FC			1.00
24T	1.110	107. / 136.	0.224	21.0	IA BB FC			1.00
25T	1.130	142. / 136.	0.628	21.2	IA BB FC			1.00
26T	0.885	237. / 164.	0.310	19.8	IA BB FC			1.00
27T	0.894	196. / 164.	0.355	19.3	IA BB FC			1.00
28T	0.901	196. / 164.	0.353	19.2	IA BB FC			1.00
29T	0.920	162. / 164.	0.980	20.1	IA BB FC			1.00
30T	0.939	65. / 164.	0.253	20.1	IA BB FC			1.00
31T	0.971	163. / 164.	0.900	21.0	IA BB FC			1.00
32T	0.978	152. / 164.	1.338	20.3	IA BB FC			1.00
33T	0.979	165. / 164.	0.251	19.9	IA BB FC			1.00
34T	0.997	138. / 164.	0.273	21.3	IA BB FC			1.00
35T	1.004	153. / 164.	0.783	19.2	IA BB FC			1.00
36T	1.012	184. / 164.	0.106	13.4	IA BB FC			1.00
37T	1.022	109. / 164.	0.074	16.2	IA BV FC			1.00
38T	1.026	168. / 164.	1.264	20.8	IA BB FC			1.00
39T	1.034	165. / 164.	0.278	22.0	IA BB FC			1.00
40T	1.071	149. / 164.	0.731	22.7	IA BV FC			1.00

41T	1.077	204. / 164.	0.498	21.3	IA BB FC	1.00
42T	1.075	166. / 164.	0.985	21.6	IA BB FC	1.00
43T	1.083	138. / 164.	0.235	21.3	IA BB FC	1.00
44T	0.903	198. / 188.	0.106	17.6	IA BB FC	1.00
45T	0.907	169. / 188.	0.236	21.8	IA BB FC	1.00
46T	0.948	248. / 188.	0.229	20.3	IA BB FC	1.00
47T	0.965	284. / 188.	0.206	20.8	IA BB FC	1.00
48T	0.986	266. / 188.	0.131	16.2	IA BB FC	1.00
49T	1.002	178. / 188.	1.024	19.8	IA BV FC	1.00
50T	1.008	178. / 188.	1.011	18.7	IA BB FC	1.00
51T	1.077	149. / 188.	0.931	20.3	IA BB FC	1.00
52T	1.143	202. / 188.	0.987	21.4	IA BB FC	1.00
53T	0.890	202. / 240.	1.392	20.6	IA BB FC	1.00
54T	0.954	149. / 240.	0.494	17.0	IA BB FC	1.00
55T	0.998	252. / 240.	0.111	19.8	IA BB FC	1.00
56T	0.998	228. / 240.	1.135	19.1	IA BV FC	1.00
57T	1.002	228. / 240.	1.093	18.8	IA VV FC	1.00
58T	1.008	149. / 240.	0.610	17.0	IA BB FC	1.00
59T	0.913	149. / 264.	1.668	14.9	IA BB FC	1.00
60T	0.950	252. / 264.	1.738	18.2	IA BB FC	1.00
61T	0.957	252. / 264.	1.574	20.4	IA BV FC	1.00
62T	0.992	252. / 264.	1.364	18.2	IA BV FC	1.00
63T	1.181	276. / 264.	1.076	17.1	IA VV FC	1.00
64T	1.186	278. / 264.	0.967	15.2	IA BB FC	1.00
65T	1.236	276. / 264.	1.022	15.9	IA VB FC	1.00
66T	0.876	82. / 136.	0.378	20.4	IA BB FC	1.00
67T	0.908	172. / 164.	1.349	19.6	IA BB FC	1.00
68T	0.907	244. / 240.	1.005	20.3	IA BB FC	1.00
69T	0.937	99. / 152.	1.363	20.2	IA BB FC	1.00
70T	0.727	112. / 152.	1.624	16.9	IA BB FC	1.00
71T	1.111	330. / 164.	0.134	21.5	IA BB FC	1.00

B1259 EXTRB 1259, SSTD80, 2-40-4
01-MAR-89 13:30:06 TIC Maximum current=406363



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1259
Injection time: 01-MAR-89 13:30:06
Comments:
EXTRB 1259, SSTD80, 2-40-4
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	10.80	300			STD	0.81	40.0	NG/UL
2S	13.92	599			STD	0.83	40.0	NG/UL
3S	18.43	1030			STD	0.72	40.0	NG/UL
4S	22.20	1391			STD	0.92	40.0	NG/UL
5S	29.10	2050			STD	0.85	40.0	NG/UL
6S	34.15	2533			STD	0.96	40.0	NG/UL
1T	10.17	240	94. / 152.	452464. / 116076.	1	0.59	78.2	NG/UL
2T	10.30	253	93. / 152.	323892. / 116076.	1	0.65	77.6	NG/UL
3T	10.37	259	128. / 152.	308848. / 116076.	1	0.66	77.3	NG/UL
4T	10.70	291	146. / 152.	319780. / 116076.	1	0.75	79.0	NG/UL
5T	10.83	303	146. / 152.	330624. / 116076.	1	0.71	79.0	NG/UL
6T	11.23	341	108. / 152.	210928. / 116076.	1	0.79	77.3	NG/UL
7T	10.83	303	146. / 152.	330624. / 116076.	1	0.75	83.8	NG/UL

8T	11. 57	373	108. / 152.	322256. /	116076.	1	0. 63	76. 9	NG/UL
9T	11. 60	377	45. / 152.	375020. /	116076.	1	0. 64	78. 7	NG/UL
10T	11. 92	407	108. / 152.	329444. /	116076.	1	0. 83	76. 1	NG/UL
11T	11. 97	411	70. / 152.	160796. /	116076.	1	0. 74	73. 5	NG/UL
12T	12. 02	417	117. / 152.	124734. /	116076.	1	0. 73	77. 5	NG/UL
13T	12. 27	440	77. / 136.	250876. /	425744.	2	0. 78	77. 4	NG/UL
14T	12. 83	495	82. / 136.	400272. /	425744.	2	0. 67	72. 3	NG/UL
15T	13. 05	515	139. / 136.	162222. /	425744.	2	0. 84	77. 8	NG/UL
16T	13. 20	530	107. / 136.	210920. /	425744.	2	0. 74	76. 5	NG/UL
17T	13. 55	563	122. / 136.	136460. /	425744.	2	0. 79	69. 8	NG/UL
18T	13. 45	553	93. / 136.	344288. /	425744.	2	0. 92	76. 7	NG/UL
19T	13. 63	571	162. / 136.	222394. /	425744.	2	0. 93	76. 3	NG/UL
20T	13. 83	591	180. / 136.	237292. /	425744.	2	0. 73	77. 8	NG/UL
21T	13. 98	605	128. / 136.	761184. /	425744.	2	0. 77	78. 3	NG/UL
22T	14. 18	624	127. / 136.	114730. /	425744.	2	0. 83	70. 9	NG/UL
23T	14. 45	650	225. / 136.	110177. /	425744.	2	1. 00	77. 1	NG/UL
24T	15. 43	744	107. / 136.	171760. /	425744.	2	0. 96	72. 0	NG/UL
25T	15. 72	771	142. / 136.	493680. /	425744.	2	0. 54	73. 9	NG/UL
26T	16. 32	828	237. / 164.	132582. /	197986.	3	0. 87	86. 3	NG/UL
27T	16. 53	848	196. / 164.	142162. /	197986.	3	0. 84	81. 0	NG/UL
28T	16. 53	848	196. / 164.	142162. /	197986.	3	0. 86	81. 4	NG/UL
29T	16. 95	889	162. / 164.	395124. /	197986.	3	0. 75	81. 5	NG/UL
30T	17. 33	925	65. / 164.	94342. /	197986.	3	0. 78	75. 2	NG/UL
31T	17. 92	980	163. / 164.	325692. /	197986.	3	0. 81	73. 1	NG/UL
32T	18. 03	992	152. / 164.	525568. /	197986.	3	0. 75	79. 4	NG/UL
33T	18. 07	995	165. / 164.	88783. /	197986.	3	0. 89	71. 5	NG/UL
34T	18. 38	1026	138. / 164.	85609. /	197986.	3	0. 89	63. 3	NG/UL
35T	18. 52	1038	153. / 164.	316220. /	197986.	3	0. 81	81. 6	NG/UL
36T	18. 65	1051	184. / 164.	29819. /	197986.	3	0. 96	56. 8	NG/UL
37T	18. 85	1070	109. / 164.	23899. /	197986.	3	0. 65	65. 6	NG/UL
38T	18. 92	1077	168. / 164.	483472. /	197986.	3	0. 78	77. 3	NG/UL
39T	19. 05	1089	165. / 164.	88558. /	197986.	3	0. 77	64. 4	NG/UL
40T	19. 73	1154	149. / 164.	237016. /	197986.	3	0. 88	65. 5	NG/UL
41T	19. 83	1164	204. / 164.	179344. /	197986.	3	0. 78	72. 8	NG/UL
42T	19. 82	1162	166. / 164.	352604. /	197986.	3	0. 53	72. 4	NG/UL
43T	19. 97	1177	138. / 164.	54651. /	197986.	3	0. 55	47. 0	NG/UL
44T	20. 07	1187	198. / 188.	34517. /	182558.	4	0. 92	71. 7	NG/UL
45T	20. 15	1195	169. / 188.	86407. /	182558.	4	0. 95	80. 3	NG/UL
46T	21. 08	1283	248. / 188.	88501. /	182558.	4	0. 86	84. 8	NG/UL
47T	21. 43	1317	284. / 188.	76687. /	182558.	4	1. 00	81. 8	NG/UL
48T	21. 90	1361	266. / 188.	43194. /	182558.	4	1. 00	72. 4	NG/UL
49T	22. 27	1397	178. / 188.	372128. /	182558.	4	0. 88	79. 6	NG/UL
50T	22. 27	1397	178. / 188.	372128. /	182558.	4	0. 92	80. 6	NG/UL
51T	23. 92	1554	149. / 188.	303308. /	182558.	4	0. 60	71. 4	NG/UL
52T	25. 35	1692	202. / 188.	308956. /	182558.	4	0. 95	68. 6	NG/UL
53T	25. 93	1747	202. / 240.	310548. /	108994.	5	0. 82	81. 9	NG/UL
54T	27. 77	1923	149. / 240.	104418. /	108994.	5	1. 00	77. 5	NG/UL
55T	29. 03	2044	252. / 240.	19981. /	108994.	5	1. 00	66. 3	NG/UL
56T	29. 05	2046	228. / 240.	244442. /	108994.	5	0. 96	79. 0	NG/UL
57T	29. 05	2046	228. / 240.	244442. /	108994.	5	0. 79	82. 1	NG/UL
58T	29. 33	2072	149. / 240.	124960. /	108994.	5	1. 00	75. 2	NG/UL
59T	31. 22	2252	149. / 264.	163225. /	52765.	6	1. 00	74. 2	NG/UL
60T	32. 63	2389	252. / 264.	177037. /	52765.	6	1. 00	77. 2	NG/UL
61T	32. 63	2389	252. / 264.	177037. /	52765.	6	0. 96	85. 3	NG/UL
62T	33. 90	2509	252. / 264.	146329. /	52765.	6	0. 96	81. 3	NG/UL
63T	40. 30	3121	276. / 264.	117450. /	52765.	6	0. 91	82. 8	NG/UL

64T	40.50	3141	278. / 264.	106237. /	52765.	6	1.00	83.3	NG/UL
65T	42.15	3299	276. / 264.	117326. /	52765.	6	1.00	87.1	NG/UL
66T	12.22	436	82. / 136.	315220. /	425744.	2	0.74	78.3	NG/UL
67T	16.73	868	172. / 164.	564016. /	197986.	3	0.69	84.5	NG/UL
68T	26.38	1791	244. / 240.	220856. /	108994.	5	0.94	80.7	NG/UL
69T	10.13	237	99. / 152.	309040. /	116076.	1	0.53	78.2	NG/UL
70T	7.92	24	112. / 152.	390408. /	116076.	1	0.79	82.8	NG/UL
71T	20.47	1225	330. / 164.	42713. /	197986.	3	0.82	64.5	NG/UL

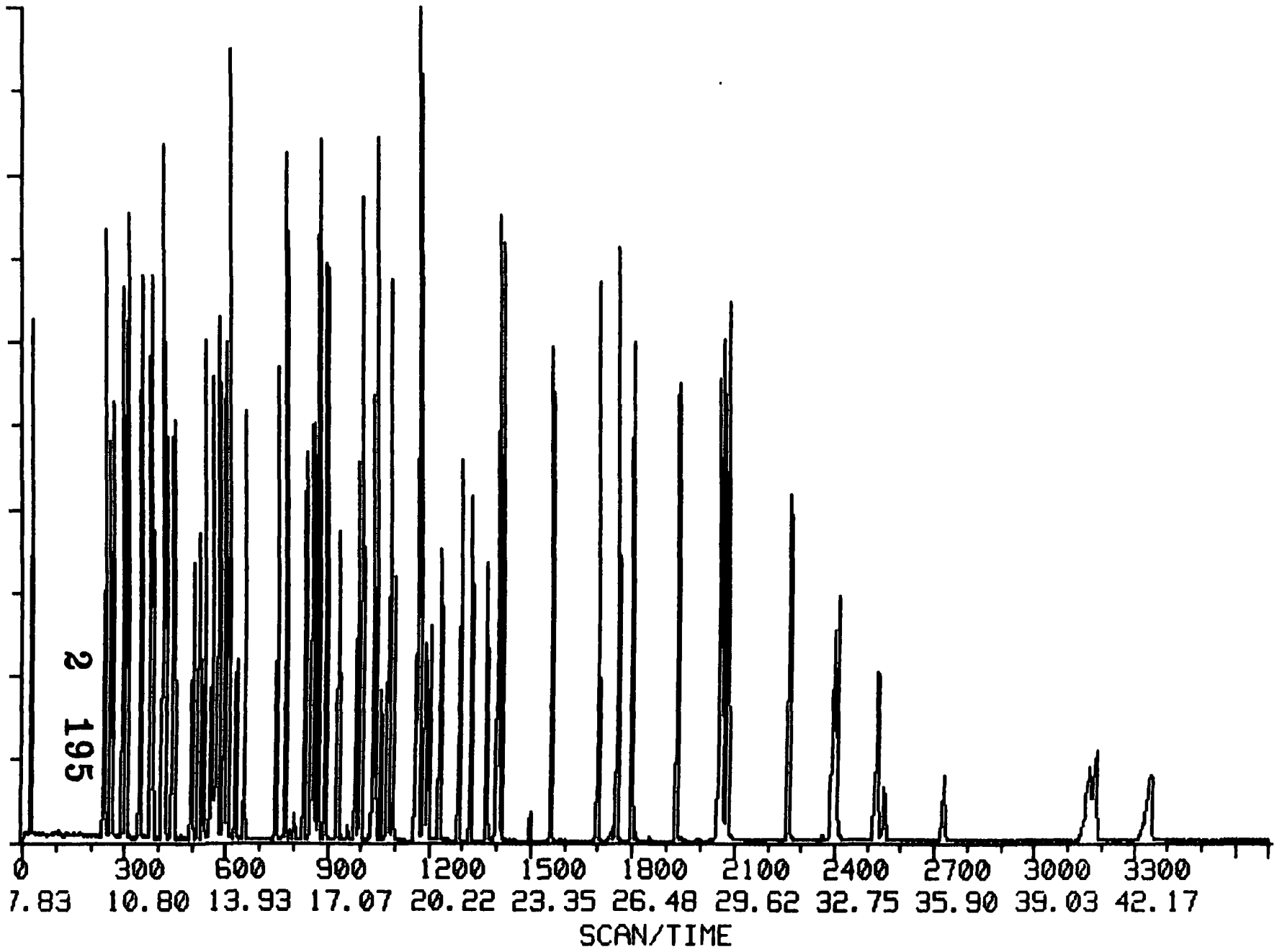
Extended Quantitation Report

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1259
Injection time: 01-MAR-89 13:30:06

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
1T	0.942	94. / 152.	1.993	78.2	IA BB FC			1.00
2T	0.954	93. / 152.	1.437	77.6	IA BB FC			1.00
3T	0.960	128. / 152.	1.377	77.3	IA BB FC			1.00
4T	0.991	146. / 152.	1.395	79.0	IA BV FC			1.00
5T	1.003	146. / 152.	1.442	79.0	IA VV FC			1.00
6T	1.040	108. / 152.	0.941	77.3	IA BV FC			1.00
7T	1.003	146. / 152.	1.360	83.8	IA VV FC			1.00
8T	1.071	108. / 152.	1.443	76.9	IA VV FC			1.00
9T	1.074	45. / 152.	1.643	78.7	IA BB FC			1.00
10T	1.104	108. / 152.	1.492	76.1	IA VB FC			1.00
11T	1.108	70. / 152.	0.754	73.5	IA BV FC			1.00
12T	1.113	117. / 152.	0.555	77.5	IA BB FC			1.00
13T	0.881	77. / 136.	0.305	77.4	IA VB FC			1.00
14T	0.922	82. / 136.	0.520	72.3	IA BB FC			1.00
15T	0.938	139. / 136.	0.196	77.8	IA BB FC			1.00
16T	0.948	107. / 136.	0.259	76.5	IA BB FC			1.00
17T	0.973	122. / 136.	0.184	69.8	IA VB FC			1.00
18T	0.966	93. / 136.	0.422	76.7	IA VB FC			1.00
19T	0.979	162. / 136.	0.274	76.3	IA BB FC			1.00
20T	0.994	180. / 136.	0.286	77.8	IA BB FC			1.00
21T	1.004	128. / 136.	0.913	78.3	IA BB FC			1.00
22T	1.019	127. / 136.	0.152	70.9	IA VB FC			1.00
23T	1.038	225. / 136.	0.134	77.1	IA BB FC			1.00
24T	1.108	107. / 136.	0.224	72.0	IA BB FC			1.00
25T	1.129	142. / 136.	0.628	73.9	IA VB FC			1.00
26T	0.886	237. / 164.	0.310	86.3	IA BB FC			1.00
27T	0.897	196. / 164.	0.355	81.0	IA BV FC			1.00
28T	0.897	196. / 164.	0.353	81.4	IA BV FC			1.00
29T	0.920	162. / 164.	0.980	81.5	IA BB FC			1.00
30T	0.940	65. / 164.	0.253	75.2	IA BB FC			1.00
31T	0.972	163. / 164.	0.900	73.1	IA BV FC			1.00
32T	0.978	152. / 164.	1.338	79.4	IA BV FC			1.00
33T	0.980	165. / 164.	0.251	71.5	IA BV FC			1.00
34T	0.997	138. / 164.	0.273	63.3	IA BB FC			1.00
35T	1.005	153. / 164.	0.783	81.6	IA VB FC			1.00
36T	1.012	184. / 164.	0.106	56.8	IA BB FC			1.00
37T	1.023	109. / 164.	0.074	65.6	IA BB FC			1.00
38T	1.027	168. / 164.	1.264	77.3	IA BB FC			1.00
39T	1.034	165. / 164.	0.278	64.4	IA BB FC			1.00
40T	1.071	149. / 164.	0.731	65.5	IA BB FC			1.00

41T	1.076	204. / 164.	0.498	72.8	IA BB FC	1.00
42T	1.075	166. / 164.	0.985	72.4	IA BB FC	1.00
43T	1.084	138. / 164.	0.235	47.0	IA VB FC	1.00
44T	0.904	198. / 188.	0.106	71.7	IA BB FC	1.00
45T	0.908	169. / 188.	0.236	80.3	IA VB FC	1.00
46T	0.950	248. / 188.	0.229	84.8	IA BB FC	1.00
47T	0.965	284. / 188.	0.206	81.8	IA BB FC	1.00
48T	0.986	266. / 188.	0.131	72.4	IA BB FC	1.00
49T	1.003	178. / 188.	1.024	79.6	IA BV FC	1.00
50T	1.003	178. / 188.	1.011	80.6	IA BV FC	1.00
51T	1.077	149. / 188.	0.931	71.4	IA BB FC	1.00
52T	1.142	202. / 188.	0.987	68.6	IA BB FC	1.00
53T	0.891	202. / 240.	1.392	81.9	IA BB FC	1.00
54T	0.954	149. / 240.	0.494	77.5	IA BB FC	1.00
55T	0.998	252. / 240.	0.111	66.3	IA BB FC	1.00
56T	0.998	228. / 240.	1.135	79.0	IA BV FC	1.00
57T	0.998	228. / 240.	1.093	82.1	IA BV FC	1.00
58T	1.008	149. / 240.	0.610	75.2	IA BB FC	1.00
59T	0.914	149. / 264.	1.668	74.2	IA BB FC	1.00
60T	0.955	252. / 264.	1.738	77.2	IA VB FC	1.00
61T	0.955	252. / 264.	1.574	85.3	IA VB FC	1.00
62T	0.993	252. / 264.	1.364	81.3	IA BB FC	1.00
63T	1.180	276. / 264.	1.076	82.8	IA BV FC	1.00
64T	1.186	278. / 264.	0.967	83.3	IA BB FC	1.00
65T	1.234	276. / 264.	1.022	87.1	IA BB FC	1.00
66T	0.878	82. / 136.	0.378	78.3	IA VB FC	1.00
67T	0.908	172. / 164.	1.349	84.5	IA BB FC	1.00
68T	0.907	244. / 240.	1.005	80.7	IA BB FC	1.00
69T	0.938	99. / 152.	1.363	78.2	IA BB FC	1.00
70T	0.733	112. / 152.	1.624	82.8	IA BB FC	1.00
71T	1.111	330. / 164.	0.134	64.5	IA BB FC	1.00

31260 EXTRB 1260, SSTD120, 2-40-5
01-MAR-89 14:20:25 TIC Maximum current=756708



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1260
Injection time: 01-MAR-89 14:20:25
Comments:
EXTRB 1260, SSTD120, 2-40-5
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	10.82	302			STD	0.73	40.0	NG/UL
2S	13.97	603			STD	0.83	40.0	NG/UL
3S	18.47	1034			STD	0.72	40.0	NG/UL
4S	22.25	1395			STD	0.88	40.0	NG/UL
5S	29.18	2058			STD	0.85	40.0	NG/UL
6S	34.32	2549			STD	0.96	40.0	NG/UL
1T	10.22	244	94. / 152.	772632. / 128054.	1	0.76	121.1	NG/UL
2T	10.33	256	93. / 152.	552640. / 128054.	1	0.65	120.1	NG/UL
3T	10.40	262	128. / 152.	537784. / 128054.	1	0.68	122.0	NG/UL
4T	10.73	294	146. / 152.	527976. / 128054.	1	0.72	118.3	NG/UL
5T	10.87	306	146. / 152.	549424. / 128054.	1	0.79	119.1	NG/UL
6T	11.27	345	108. / 152.	368760. / 128054.	1	0.83	122.5	NG/UL
7T	10.87	306	146. / 152.	549424. / 128054.	1	0.76	126.2	NG/UL

8T	11.60	376	108. / 152.	555512. /	128054.	1	0.76	120.2	NG/UL
9T	11.63	380	45. / 152.	633560. /	128054.	1	0.86	120.5	NG/UL
10T	11.97	411	108. / 152.	576816. /	128054.	1	0.78	120.8	NG/UL
11T	12.02	416	70. / 152.	295080. /	128054.	1	0.87	122.3	NG/UL
12T	12.05	419	117. / 152.	210522. /	128054.	1	0.73	118.5	NG/UL
13T	12.30	444	77. / 136.	446332. /	488668.	2	0.85	120.0	NG/UL
14T	12.88	500	82. / 136.	722900. /	488668.	2	0.67	113.8	NG/UL
15T	13.08	518	139. / 136.	285260. /	488668.	2	0.88	119.2	NG/UL
16T	13.25	534	107. / 136.	382948. /	488668.	2	0.50	120.9	NG/UL
17T	13.67	575	122. / 136.	290584. /	488668.	2	0.86	129.4	NG/UL
18T	13.48	557	93. / 136.	615616. /	488668.	2	0.78	119.4	NG/UL
19T	13.67	575	162. / 136.	402472. /	488668.	2	0.93	120.3	NG/UL
20T	13.87	594	180. / 136.	411760. /	488668.	2	0.73	117.6	NG/UL
21T	14.02	608	128. / 136.	1320720. /	488668.	2	0.65	118.4	NG/UL
22T	14.23	628	127. / 136.	219870. /	488668.	2	0.56	118.3	NG/UL
23T	14.48	653	225. / 136.	193762. /	488668.	2	0.82	118.1	NG/UL
24T	15.48	748	107. / 136.	335040. /	488668.	2	0.80	122.4	NG/UL
25T	15.77	775	142. / 136.	913408. /	488668.	2	0.52	119.1	NG/UL
26T	16.35	831	237. / 164.	237290. /	271224.	3	0.84	112.7	NG/UL
27T	16.65	860	196. / 164.	284200. /	271224.	3	0.90	118.1	NG/UL
28T	16.65	860	196. / 164.	284200. /	271224.	3	0.86	118.7	NG/UL
29T	17.00	893	162. / 164.	774280. /	271224.	3	0.63	116.5	NG/UL
30T	17.38	929	65. / 164.	212404. /	271224.	3	0.78	123.6	NG/UL
31T	17.97	985	163. / 164.	734696. /	271224.	3	0.68	120.4	NG/UL
32T	18.08	996	152. / 164.	1076464. /	271224.	3	0.80	118.7	NG/UL
33T	18.12	1000	165. / 164.	216490. /	271224.	3	0.89	127.3	NG/UL
34T	18.45	1032	138. / 164.	245682. /	271224.	3	0.85	132.7	NG/UL
35T	18.57	1043	153. / 164.	634880. /	271224.	3	0.70	119.6	NG/UL
36T	18.70	1056	184. / 164.	95812. /	271224.	3	0.96	133.2	NG/UL
37T	18.92	1076	109. / 164.	68661. /	271224.	3	0.61	137.5	NG/UL
38T	18.98	1082	168. / 164.	997824. /	271224.	3	0.61	116.4	NG/UL
39T	19.12	1095	165. / 164.	232580. /	271224.	3	0.74	123.5	NG/UL
40T	19.78	1159	149. / 164.	593936. /	271224.	3	0.70	119.8	NG/UL
41T	19.88	1169	204. / 164.	398848. /	271224.	3	0.81	118.2	NG/UL
42T	19.87	1167	166. / 164.	787936. /	271224.	3	0.59	118.0	NG/UL
43T	20.05	1185	138. / 164.	234376. /	271224.	3	0.80	147.2	NG/UL
44T	20.13	1193	198. / 188.	111438. /	338144.	4	0.79	124.9	NG/UL
45T	20.20	1199	169. / 188.	223772. /	338144.	4	0.80	112.3	NG/UL
46T	21.12	1287	248. / 188.	222212. /	338144.	4	0.75	115.0	NG/UL
47T	21.47	1321	284. / 188.	199056. /	338144.	4	0.94	114.6	NG/UL
48T	21.95	1366	266. / 188.	150854. /	338144.	4	0.94	136.5	NG/UL
49T	22.32	1402	178. / 188.	1045760. /	338144.	4	0.69	120.8	NG/UL
50T	22.32	1402	178. / 188.	1045760. /	338144.	4	0.67	122.3	NG/UL
51T	23.97	1559	149. / 188.	999232. /	338144.	4	0.52	126.9	NG/UL
52T	25.42	1698	202. / 188.	1059712. /	338144.	4	0.75	127.1	NG/UL
53T	26.00	1754	202. / 240.	1096912. /	276490.	5	0.77	114.0	NG/UL
54T	27.85	1930	149. / 240.	433404. /	276490.	5	0.69	126.9	NG/UL
55T	29.10	2051	252. / 240.	87687. /	276490.	5	0.92	114.8	NG/UL
56T	29.13	2054	228. / 240.	905424. /	276490.	5	0.62	115.4	NG/UL
57T	29.27	2066	228. / 240.	886088. /	276490.	5	0.67	117.3	NG/UL
58T	29.40	2079	149. / 240.	564364. /	276490.	5	0.82	133.8	NG/UL
59T	31.32	2262	149. / 264.	864672. /	141492.	6	0.62	146.6	NG/UL
60T	32.82	2406	252. / 264.	641216. /	141492.	6	1.00	104.3	NG/UL
61T	32.82	2406	252. / 264.	641216. /	141492.	6	0.85	115.2	NG/UL
62T	34.10	2528	252. / 264.	582446. /	141492.	6	0.89	120.7	NG/UL
63T	40.73	3163	276. / 264.	462231. /	141492.	6	1.00	121.5	NG/UL

64T	40. 93	3182	278. / 264.	419434. /	141492.	6	1. 00	122. 6	NG/UL
65T	42. 68	3350	276. / 264.	429717. /	141492.	6	0. 96	118. 9	NG/UL
66T	12. 27	440	82. / 136.	542512. /	488668.	2	0. 85	117. 4	NG/UL
67T	16. 78	872	172. / 164.	1063272. /	271224.	3	0. 75	116. 3	NG/UL
68T	26. 47	1798	244. / 240.	790352. /	276490.	5	0. 94	113. 8	NG/UL
69T	10. 18	241	99. / 152.	522488. /	128054.	1	0. 55	119. 8	NG/UL
70T	7. 93	26	112. / 152.	650832. /	128054.	1	0. 71	125. 2	NG/UL
71T	20. 52	1230	330. / 164.	119370. /	271224.	3	0. 85	131. 6	NG/UL

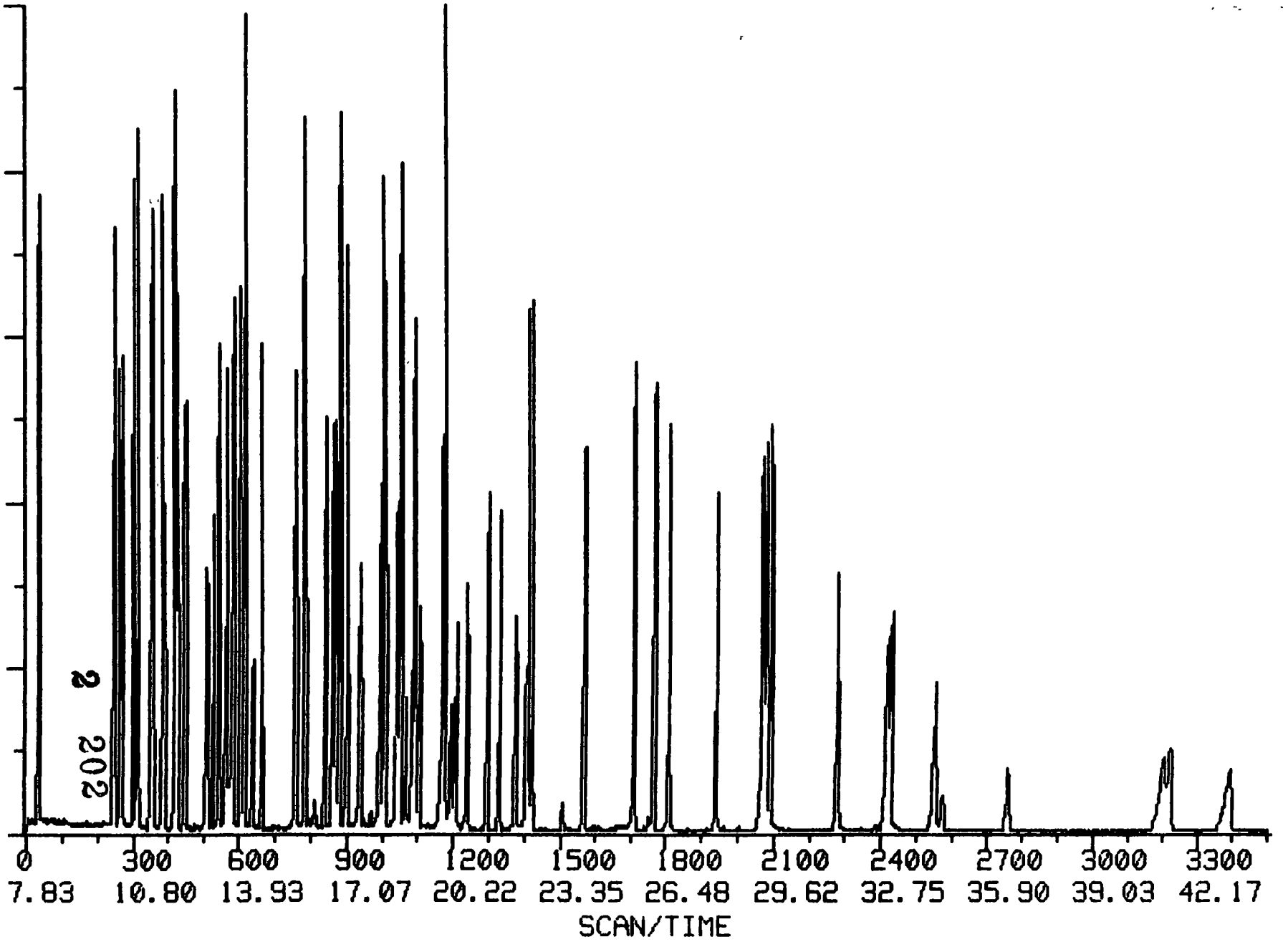
Extended Quantitation Report

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1260
Injection time: 01-MAR-89 14:20:25

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
1T	0.945	94. / 152.	1.993	121.1	IA BB FC			1.00
2T	0.955	93. / 152.	1.437	120.1	IA BB FC			1.00
3T	0.961	128. / 152.	1.377	122.0	IA BB FC			1.00
4T	0.992	146. / 152.	1.395	118.3	IA BV FC			1.00
5T	1.005	146. / 152.	1.442	119.1	IA VV FC			1.00
6T	1.042	108. / 152.	0.941	122.5	IA BV FC			1.00
7T	1.005	146. / 152.	1.360	126.2	IA VV FC			1.00
8T	1.072	108. / 152.	1.443	120.2	IA VV FC			1.00
9T	1.075	45. / 152.	1.643	120.5	IA BB FC			1.00
10T	1.106	108. / 152.	1.492	120.8	IA VB FC			1.00
11T	1.111	70. / 152.	0.754	122.3	IA BV FC			1.00
12T	1.114	117. / 152.	0.555	118.5	IA BB FC			1.00
13T	0.880	77. / 136.	0.305	120.0	IA VB FC			1.00
14T	0.922	82. / 136.	0.520	113.8	IA BB FC			1.00
15T	0.936	139. / 136.	0.196	119.2	IA BB FC			1.00
16T	0.948	107. / 136.	0.259	120.9	IA BB FC			1.00
17T	0.979	122. / 136.	0.184	129.4	IA VB FC			1.00
18T	0.965	93. / 136.	0.422	119.4	IA VB FC			1.00
19T	0.979	162. / 136.	0.274	120.3	IA BB FC			1.00
20T	0.993	180. / 136.	0.286	117.6	IA BB FC			1.00
21T	1.004	128. / 136.	0.913	118.4	IA BB FC			1.00
22T	1.019	127. / 136.	0.152	118.3	IA VB FC			1.00
23T	1.037	225. / 136.	0.134	118.1	IA BB FC			1.00
24T	1.108	107. / 136.	0.224	122.4	IA BB FC			1.00
25T	1.129	142. / 136.	0.628	119.1	IA VB FC			1.00
26T	0.885	237. / 164.	0.310	112.7	IA BB FC			1.00
27T	0.901	196. / 164.	0.355	118.1	IA VB FC			1.00
28T	0.901	196. / 164.	0.353	118.7	IA VB FC			1.00
29T	0.920	162. / 164.	0.980	116.5	IA BB FC			1.00
30T	0.941	65. / 164.	0.253	123.6	IA BB FC			1.00
31T	0.973	163. / 164.	0.900	120.4	IA BV FC			1.00
32T	0.979	152. / 164.	1.338	118.7	IA BV FC			1.00
33T	0.981	165. / 164.	0.251	127.3	IA BV FC			1.00
34T	0.999	138. / 164.	0.273	132.7	IA BB FC			1.00
35T	1.005	153. / 164.	0.783	119.6	IA VB FC			1.00
36T	1.012	184. / 164.	0.106	133.2	IA BB FC			1.00
37T	1.024	109. / 164.	0.074	137.5	IA BB FC			1.00
38T	1.028	168. / 164.	1.264	116.4	IA BB FC			1.00
39T	1.035	165. / 164.	0.278	123.5	IA BB FC			1.00
40T	1.071	149. / 164.	0.731	119.8	IA BB FC	2	200	1.00

41T	1.076	204. / 164.	0.498	118.2	IA BB FC	1.00
42T	1.076	166. / 164.	0.985	118.0	IA BB FC	1.00
43T	1.086	138. / 164.	0.235	147.2	IA BB FC	1.00
44T	0.905	198. / 188.	0.106	124.9	IA BB FC	1.00
45T	0.908	169. / 188.	0.236	112.3	IA VB FC	1.00
46T	0.949	248. / 188.	0.229	115.0	IA BB FC	1.00
47T	0.965	284. / 188.	0.206	114.6	IA BB FC	1.00
48T	0.987	266. / 188.	0.131	136.5	IA BB FC	1.00
49T	1.003	178. / 188.	1.024	120.8	IA BV FC	1.00
50T	1.003	178. / 188.	1.011	122.3	IA BV FC	1.00
51T	1.077	149. / 188.	0.931	126.9	IA BB FC	1.00
52T	1.142	202. / 188.	0.987	127.1	IA BB FC	1.00
53T	0.891	202. / 240.	1.392	114.0	IA BB FC	1.00
54T	0.954	149. / 240.	0.494	126.9	IA BB FC	1.00
55T	0.997	252. / 240.	0.111	114.8	IA BB FC	1.00
56T	0.998	228. / 240.	1.135	115.4	IA BV FC	1.00
57T	1.003	228. / 240.	1.093	117.3	IA VB FC	1.00
58T	1.008	149. / 240.	0.610	133.8	IA BB FC	1.00
59T	0.913	149. / 264.	1.668	146.6	IA BB FC	1.00
60T	0.956	252. / 264.	1.738	104.3	IA VB FC	1.00
61T	0.956	252. / 264.	1.574	115.2	IA VB FC	1.00
62T	0.994	252. / 264.	1.364	120.7	IA BB FC	1.00
63T	1.187	276. / 264.	1.076	121.5	IA BV FC	1.00
64T	1.193	278. / 264.	0.967	122.6	IA BB FC	1.00
65T	1.244	276. / 264.	1.022	118.9	IA BB FC	1.00
66T	0.878	82. / 136.	0.378	117.4	IA VB FC	1.00
67T	0.909	172. / 164.	1.349	116.3	IA BB FC	1.00
68T	0.907	244. / 240.	1.005	113.8	IA BB FC	1.00
69T	0.941	99. / 152.	1.363	119.8	IA BB FC	1.00
70T	0.733	112. / 152.	1.624	125.2	IA BB FC	1.00
71T	1.111	330. / 164.	0.134	131.6	IA BB FC	1.00

B1261 EXTRB 1261, SSTD160, 2-40-6
01-MAR-89 15:16:35 TIC Maximum current=737731



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1261
Injection time: 01-MAR-89 15:16:35
Comments:
EXTRB 1261, SSTD160, 2-40-6
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	10.90	309			STD	0.73	40.0	NG/UL
2S	14.05	611			STD	0.83	40.0	NG/UL
3S	18.58	1044			STD	0.76	40.0	NG/UL
4S	22.37	1406			STD	0.92	40.0	NG/UL
5S	29.32	2071			STD	0.90	40.0	NG/UL
6S	34.53	2570			STD	1.00	40.0	NG/UL
1T	10.30	252	94. / 152.	875784. / 106708.	1	0.67	164.7	NG/UL
2T	10.42	264	93. / 152.	628176. / 106708.	1	0.65	163.8	NG/UL
3T	10.48	270	128. / 152.	597928. / 106708.	1	0.68	162.7	NG/UL
4T	10.82	301	146. / 152.	598472. / 106708.	1	0.76	160.9	NG/UL
5T	10.95	314	146. / 152.	627496. / 106708.	1	0.75	163.2	NG/UL
6T	11.35	352	108. / 152.	422200. / 106708.	1	0.83	168.3	NG/UL
7T	11.38	356	146. / 152.	581096. / 106708.	1	0.72	160.1	NG/UL

8T	11.68	384	108. /	152.	643264. /	106708.	1	0.67	167.1	NG/UL
9T	11.72	388	45. /	152.	689664. /	106708.	1	0.79	157.4	NG/UL
10T	12.05	419	108. /	152.	653456. /	106708.	1	0.83	164.2	NG/UL
11T	12.10	424	70. /	152.	321794. /	106708.	1	0.87	160.1	NG/UL
12T	12.13	427	117. /	152.	243836. /	106708.	1	0.73	164.8	NG/UL
13T	12.38	452	77. /	136.	492088. /	399496.	2	0.70	161.8	NG/UL
14T	12.98	509	82. /	136.	787064. /	399496.	2	0.60	151.5	NG/UL
15T	13.17	526	139. /	136.	330312. /	399496.	2	0.69	168.8	NG/UL
16T	13.33	542	107. /	136.	417068. /	399496.	2	0.50	161.1	NG/UL
17T	13.75	583	122. /	136.	309920. /	399496.	2	0.79	168.9	NG/UL
18T	13.57	565	93. /	136.	664912. /	399496.	2	0.78	157.8	NG/UL
19T	13.75	583	162. /	136.	444348. /	399496.	2	0.96	162.4	NG/UL
20T	13.95	602	180. /	136.	460728. /	399496.	2	0.73	161.0	NG/UL
21T	14.10	616	128. /	136.	1477520. /	399496.	2	0.65	162.1	NG/UL
22T	14.32	636	127. /	136.	238320. /	399496.	2	0.66	156.9	NG/UL
23T	14.57	661	225. /	136.	217168. /	399496.	2	0.82	162.0	NG/UL
24T	15.57	756	107. /	136.	363272. /	399496.	2	0.80	162.3	NG/UL
25T	15.87	784	142. /	136.	996680. /	399496.	2	0.58	158.9	NG/UL
26T	16.43	839	237. /	164.	269196. /	211248.	3	0.86	164.2	NG/UL
27T	16.75	869	196. /	164.	290480. /	211248.	3	0.90	155.0	NG/UL
28T	16.75	869	196. /	164.	290480. /	211248.	3	0.83	155.8	NG/UL
29T	17.10	903	162. /	164.	838472. /	211248.	3	0.67	162.0	NG/UL
30T	17.47	938	65. /	164.	211922. /	211248.	3	0.74	158.3	NG/UL
31T	18.05	994	163. /	164.	759888. /	211248.	3	0.58	159.9	NG/UL
32T	18.18	1006	152. /	164.	1108384. /	211248.	3	0.80	156.9	NG/UL
33T	18.22	1009	165. /	164.	217284. /	211248.	3	0.89	164.0	NG/UL
34T	18.55	1041	138. /	164.	221870. /	211248.	3	0.89	153.8	NG/UL
35T	18.67	1052	153. /	164.	656880. /	211248.	3	0.70	158.9	NG/UL
36T	18.80	1065	184. /	164.	92070. /	211248.	3	0.92	164.3	NG/UL
37T	19.00	1085	109. /	164.	61472. /	211248.	3	0.61	158.1	NG/UL
38T	19.07	1091	168. /	164.	1045576. /	211248.	3	0.61	156.7	NG/UL
39T	19.20	1104	165. /	164.	223438. /	211248.	3	0.74	152.4	NG/UL
40T	19.87	1168	149. /	164.	575424. /	211248.	3	0.83	149.0	NG/UL
41T	19.98	1178	204. /	164.	419280. /	211248.	3	0.93	159.5	NG/UL
42T	19.95	1176	166. /	164.	800520. /	211248.	3	0.55	153.9	NG/UL
43T	20.13	1193	138. /	164.	172578. /	211248.	3	0.92	139.1	NG/UL
44T	20.23	1203	198. /	188.	105200. /	227824.	4	0.87	175.0	NG/UL
45T	20.30	1209	169. /	188.	219224. /	227824.	4	0.90	163.2	NG/UL
46T	21.22	1297	248. /	188.	216926. /	227824.	4	0.69	166.6	NG/UL
47T	21.58	1332	284. /	188.	193504. /	227824.	4	0.94	165.3	NG/UL
48T	22.05	1376	266. /	188.	132935. /	227824.	4	1.00	178.5	NG/UL
49T	22.55	1424	178. /	188.	934024. /	227824.	4	0.81	160.1	NG/UL
50T	22.55	1424	178. /	188.	934024. /	227824.	4	0.76	162.2	NG/UL
51T	24.08	1570	149. /	188.	857816. /	227824.	4	0.59	161.7	NG/UL
52T	25.53	1710	202. /	188.	884808. /	227824.	4	0.90	157.5	NG/UL
53T	26.13	1766	202. /	240.	900280. /	169952.	5	0.82	152.2	NG/UL
54T	27.95	1941	149. /	240.	333832. /	169952.	5	0.87	159.0	NG/UL
55T	29.23	2063	252. /	240.	70627. /	169952.	5	0.88	150.4	NG/UL
56T	29.27	2067	228. /	240.	791048. /	169952.	5	0.75	164.0	NG/UL
57T	29.40	2079	228. /	240.	747216. /	169952.	5	0.87	160.9	NG/UL
58T	29.53	2091	149. /	240.	439540. /	169952.	5	0.87	169.6	NG/UL
59T	31.48	2278	149. /	264.	699612. /	93173.	6	0.61	180.1	NG/UL
60T	33.05	2428	252. /	264.	553076. /	93173.	6	0.61	136.6	NG/UL
61T	33.05	2428	252. /	264.	553076. /	93173.	6	0.88	150.8	NG/UL
62T	34.37	2554	252. /	264.	545996. /	93173.	6	0.92	171.8	NG/UL
63T	41.13	3201	276. /	264.	500234. /	93173.	6	0.81	199.7	NG/UL

64T	41.33	3220	278. / 264.	424339. /	93173.	6	0.70	188.3	NG/UL
65T	43.10	3389	276. / 264.	425327. /	93173.	6	0.50	178.7	NG/UL
66T	12.35	448	82. / 136.	601864. /	399496.	2	0.85	159.3	NG/UL
67T	16.87	881	172. / 164.	1137056. /	211248.	3	0.75	159.6	NG/UL
68T	26.58	1809	244. / 240.	664336. /	169952.	5	0.94	155.6	NG/UL
69T	10.27	249	99. / 152.	584496. /	106708.	1	0.54	160.8	NG/UL
70T	8.02	34	112. / 152.	767904. /	106708.	1	0.75	177.2	NG/UL
71T	20.62	1239	330. / 164.	109527. /	211248.	3	0.91	155.0	NG/UL

Extended Quantitation Report

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1261
Injection time: 01-MAR-89 15:16:35

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
1T	0.945	94. / 152.	1.993	164.7	IA BB FC			1.00
2T	0.956	93. / 152.	1.437	163.8	IA BB FC			1.00
3T	0.961	128. / 152.	1.377	162.7	IA BB FC			1.00
4T	0.993	146. / 152.	1.395	160.9	IA BV FC			1.00
5T	1.005	146. / 152.	1.442	163.2	IA VV FC			1.00
6T	1.041	108. / 152.	0.941	168.3	IA BV FC			1.00
7T	1.044	146. / 152.	1.360	160.1	IA VB FC			1.00
8T	1.072	108. / 152.	1.443	167.1	IA VV FC			1.00
9T	1.075	45. / 152.	1.643	157.4	IA BB FC			1.00
10T	1.106	108. / 152.	1.492	164.2	IA VB FC			1.00
11T	1.110	70. / 152.	0.754	160.1	IA BV FC			1.00
12T	1.113	117. / 152.	0.555	164.8	IA BB FC			1.00
13T	0.881	77. / 136.	0.305	161.8	IA VB FC			1.00
14T	0.924	82. / 136.	0.520	151.5	IA BB FC			1.00
15T	0.937	139. / 136.	0.196	168.8	IA BB FC			1.00
16T	0.949	107. / 136.	0.259	161.1	IA BB FC			1.00
17T	0.979	122. / 136.	0.184	168.9	IA VB FC			1.00
18T	0.966	93. / 136.	0.422	157.8	IA VB FC			1.00
19T	0.979	162. / 136.	0.274	162.4	IA BB FC			1.00
20T	0.993	180. / 136.	0.286	161.0	IA BB FC			1.00
21T	1.004	128. / 136.	0.913	162.1	IA BB FC			1.00
22T	1.019	127. / 136.	0.152	156.9	IA VB FC			1.00
23T	1.037	225. / 136.	0.134	162.0	IA BB FC			1.00
24T	1.108	107. / 136.	0.224	162.3	IA BB FC			1.00
25T	1.130	142. / 136.	0.628	158.9	IA VB FC			1.00
26T	0.884	237. / 164.	0.310	164.2	IA BB FC			1.00
27T	0.902	196. / 164.	0.355	155.0	IA VB FC			1.00
28T	0.902	196. / 164.	0.353	155.8	IA VB FC			1.00
29T	0.920	162. / 164.	0.980	162.0	IA BB FC			1.00
30T	0.940	65. / 164.	0.253	158.3	IA BB FC			1.00
31T	0.971	163. / 164.	0.900	159.9	IA BB FC			1.00
32T	0.978	152. / 164.	1.338	156.9	IA BV FC			1.00
33T	0.981	165. / 164.	0.251	164.0	IA BV FC			1.00
34T	0.998	138. / 164.	0.273	153.8	IA BB FC			1.00
35T	1.005	153. / 164.	0.783	158.9	IA VB FC			1.00
36T	1.012	184. / 164.	0.106	164.3	IA BB FC			1.00
37T	1.023	109. / 164.	0.074	158.1	IA BB FC			1.00
38T	1.026	168. / 164.	1.264	156.7	IA BB FC			1.00
39T	1.033	165. / 164.	0.278	152.4	IA BB FC			1.00
40T	1.069	149. / 164.	0.731	149.0	IA BB FC			1.00

41T	1.075	204. / 164.	0.498	159.5	IA BB FC	1.00
42T	1.074	166. / 164.	0.985	153.9	IA BB FC	1.00
43T	1.083	138. / 164.	0.235	139.1	IA BB FC	1.00
44T	0.904	198. / 188.	0.106	175.0	IA BB FC	1.00
45T	0.907	169. / 188.	0.236	163.2	IA VB FC	1.00
46T	0.949	248. / 188.	0.229	166.6	IA BB FC	1.00
47T	0.965	284. / 188.	0.206	165.3	IA BB FC	1.00
48T	0.986	266. / 188.	0.131	178.5	IA BB FC	1.00
49T	1.008	178. / 188.	1.024	160.1	IA VB FC	1.00
50T	1.008	178. / 188.	1.011	162.2	IA VB FC	1.00
51T	1.076	149. / 188.	0.931	161.7	IA BB FC	1.00
52T	1.141	202. / 188.	0.987	157.5	IA BB FC	1.00
53T	0.891	202. / 240.	1.392	152.2	IA BB FC	1.00
54T	0.953	149. / 240.	0.494	159.0	IA BB FC	1.00
55T	0.997	252. / 240.	0.111	150.4	IA BB FC	1.00
56T	0.998	228. / 240.	1.135	164.0	IA BV FC	1.00
57T	1.003	228. / 240.	1.093	160.9	IA VB FC	1.00
58T	1.007	149. / 240.	0.610	169.6	IA BB FC	1.00
59T	0.912	149. / 264.	1.668	180.1	IA BB FC	1.00
60T	0.957	252. / 264.	1.738	136.6	IA VB FC	1.00
61T	0.957	252. / 264.	1.574	150.8	IA VB FC	1.00
62T	0.995	252. / 264.	1.364	171.8	IA BB FC	1.00
63T	1.191	276. / 264.	1.076	199.7	IA BB FC	1.00
64T	1.197	278. / 264.	0.967	188.3	IA BB FC	1.00
65T	1.248	276. / 264.	1.022	178.7	IA BB FC	1.00
66T	0.879	82. / 136.	0.378	159.3	IA VB FC	1.00
67T	0.908	172. / 164.	1.349	159.6	IA BB FC	1.00
68T	0.907	244. / 240.	1.005	155.6	IA BB FC	1.00
69T	0.942	99. / 152.	1.363	160.8	IA BB FC	1.00
70T	0.736	112. / 152.	1.624	177.2	IA BB FC	1.00
71T	1.110	330. / 164.	0.134	155.0	IA BB FC	1.00

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: EXTRB Calibration Date: 4/13/89 Time: 8:58

Lab File ID: B1509 Init. Calib. Date(s): 3/ 1/89 3/ 1/89

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) is 25.0%

COMPOUND		RRF	RRF50	%D	
Phenol	*	1.983	2.289	15.4	*
bis(2-Chloroethyl)ether		1.437	1.780	23.9	
2-Chlorophenol		1.377	1.438	4.4	
1,3-Dichlorobenzene		1.396	1.419	1.7	
1,4-Dichlorobenzene	*	1.439	1.460	1.4	*
Benzyl Alcohol		0.943	1.110	17.8	
1,2-Dichlorobenzene		1.409	1.367	3.0	
2-Methylphenol		1.434	1.730	20.6	
bis(2-Chloroisopropyl)Ether		1.643	2.537	54.4	
4-Methylphenol		1.483	1.765	19.0	
N-Nitroso-di-n-propylamine	#	0.753	0.912	21.0	#
Hexachloroethane		0.555	0.598	7.8	
Nitrobenzene		0.303	0.335	10.6	
Isophorone		0.520	0.578	11.2	
2-Nitrophenol	*	0.196	0.162	17.5	*
2,4-Dimethylphenol		0.259	0.264	2.0	
Benzoic Acid		0.175	0.149	15.0	
bis(2-Chloroethoxy)Methane		0.419	0.448	6.9	
2,4-Dichlorophenol	*	0.274	0.236	14.0	*
1,2,4-Trichlorobenzene		0.286	0.256	10.8	
Naphthalene		0.913	0.925	1.4	
4-Chloroaniline		0.151	0.112	25.9	
Hexachlorobutadiene	*	0.134	0.112	16.8	*
4-Chloro-3-Methylphenol	*	0.224	0.219	2.2	*
2-Methylnaphthalene		0.627	0.610	2.7	
Hexachlorocyclopentadiene	#	0.311	0.264	14.9	#
2,4,6-Trichlorophenol	*	0.349	0.302	13.4	*
2,4,5-Trichlorophenol		0.348	0.312	10.4	
2-Chloronaphthalene		0.980	1.017	3.8	
2-Nitroaniline		0.253	0.195	23.2	
Dimethylphthalate		0.900	0.907	0.8	
Acenaphthylene		1.337	1.350	1.0	
2,6-Dinitrotoluene		0.251	0.249	0.7	
3-Nitroaniline		0.273	0.301	10.2	
Acenaphthene	*	0.782	0.763	2.4	*
2,4-Dinitrophenol	#	0.098	0.058	41.0	#
4-Nitrophenol	#	0.072	0.083	15.8	#

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBG18

Instrument ID: EXTRB Calibration Date: 4/13/89 Time: 8:58

Lab File ID: B1509 Init. Calib. Date(s): 3/ 1/89 3/ 1/89

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) is 25.0%

COMPOUND	RRF	RRF50	%D
Dibenzofuran	1.264	1.339	6.0
2,4-Dinitrotoluene	0.278	0.278	0.0
Diethylphthalate	0.730	0.772	5.7
4-Chlorophenyl-phenylether	0.498	0.503	1.1
Fluorene	0.985	1.009	2.5
4-Nitroaniline	0.230	0.241	4.8
4,6-Dinitro-2-Methylphenol	0.106	0.074	29.9
N-Nitrosodiphenylamine (1) *	0.236	0.198	16.0 *
4-Bromophenyl-phenylether	0.229	0.210	8.2
Hexachlorobenzene	0.206	0.193	6.4
Pentachlorophenol *	0.131	0.109	17.1 *
Phenanthrene	1.018	1.025	0.7
Anthracene	1.004	0.997	0.8
Di-n-butylphthalate	0.933	1.017	8.9
Fluoranthene *	0.989	1.020	3.1 *
Pyrene	1.392	1.558	11.9
Butylbenzylphthalate	0.494	0.607	22.9
3,3'-Dichlorobenzidine	0.111	0.126	13.6
Benzo(a)anthracene	1.128	1.238	9.8
Chrysene	1.074	1.051	2.2
bis(2-Ethylhexyl)phthalate	0.610	0.677	11.0
Di-n-octylphthalate *	1.668	2.016	20.9 *
Benzo(b)fluoranthene	1.578	1.645	4.3
Benzo(k)fluoranthene	1.569	1.642	4.6
Benzo(a)pyrene *	1.365	1.334	2.3 *
Indeno(1,2,3-cd)pyrene	1.104	0.857	22.4
Dibenz(a,h)anthracene	0.967	0.879	9.2
Benzo(g,h,i)perylene	1.028	0.857	16.7
Nitrobenzene-d5	0.378	0.420	11.1
2-Fluorobiphenyl	1.349	1.359	0.7
Terphenyl-d14	1.005	1.058	5.3
Phenol-d5	1.363	1.662	22.0
2-Fluorophenol	1.624	2.131	31.2
2,4,6-Tribromophenol	0.134	0.117	12.5

(1) Cannot be separated from Diphenylamine

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: EXTRB Calibration Date: 4/14/89 Time: 10:57

Lab File ID: B1522 Init. Calib. Date(s): 3/ 1/89 3/ 1/89

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) is 25.0%

COMPOUND	RRF	RRF50	%D
Phenol *	1.983	1.980	0.1 *
bis(2-Chloroethyl)ether	1.437	1.473	2.5
2-Chlorophenol	1.377	1.397	1.4
1,3-Dichlorobenzene	1.396	1.415	1.4
1,4-Dichlorobenzene *	1.439	1.449	0.6 *
Benzyl Alcohol	0.943	0.972	3.1
1,2-Dichlorobenzene	1.409	1.449	2.8
2-Methylphenol	1.434	1.544	7.6
bis(2-Chloroisopropyl)Ether	1.643	2.079	26.5
4-Methylphenol	1.483	1.579	6.5
N-Nitroso-di-n-propylamine #	0.753	0.778	3.3 #
Hexachloroethane	0.555	0.559	0.8
Nitrobenzene	0.303	0.305	0.7
Isophorone	0.520	0.524	0.8
2-Nitrophenol *	0.196	0.194	1.0 *
2,4-Dimethylphenol	0.259	0.248	4.5
Benzoic Acid	0.175	0.170	3.1
bis(2-Chloroethoxy)Methane	0.419	0.420	0.1
2,4-Dichlorophenol *	0.274	0.272	0.8 *
1,2,4-Trichlorobenzene	0.286	0.285	0.4
Naphthalene	0.913	0.885	3.1
4-Chloroaniline	0.151	0.120	20.4
Hexachlorobutadiene *	0.134	0.131	2.1 *
4-Chloro-3-Methylphenol *	0.224	0.227	1.4 *
2-Methylnaphthalene	0.627	0.634	1.1
Hexachlorocyclopentadiene #	0.311	0.308	0.8 #
2,4,6-Trichlorophenol *	0.349	0.334	4.3 *
2,4,5-Trichlorophenol	0.348	0.347	0.2
2-Chloronaphthalene	0.980	0.928	5.3
2-Nitroaniline	0.253	0.175	30.9
Dimethylphthalate	0.900	0.850	5.6
Acenaphthylene	1.337	1.289	3.6
2,6-Dinitrotoluene	0.251	0.222	11.4
3-Nitroaniline	0.273	0.291	6.6
Acenaphthene *	0.782	0.703	10.0 *
2,4-Dinitrophenol #	0.098	0.084	15.1 #
4-Nitrophenol #	0.072	0.078	8.0 #

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: EXTRB Calibration Date: 4/14/89 Time: 10:57

Lab File ID: B1522 Init. Calib. Date(s): 3/ 1/89 3/ 1/89

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) is 25.0%

COMPOUND	RRF	RRF50	%D
Dibenzofuran	1.264	1.225	3.1
2,4-Dinitrotoluene	0.278	0.270	2.7
Diethylphthalate	0.730	0.744	2.0
4-Chlorophenyl-phenylether	0.498	0.487	2.2
Fluorene	0.985	0.996	1.2
4-Nitroaniline	0.230	0.237	3.0
4,6-Dinitro-2-Methylphenol	0.106	0.093	11.7
N-Nitrosodiphenylamine (1) *	0.236	0.198	16.2 *
4-Bromophenyl-phenylether	0.229	0.230	0.2
Hexachlorobenzene	0.206	0.238	15.4
Pentachlorophenol *	0.131	0.138	5.1 *
Phenanthrene	1.018	0.925	9.1
Anthracene	1.004	0.913	9.1
Di-n-butylphthalate	0.933	0.932	0.1
Fluoranthene *	0.989	0.966	2.4 *
Pyrene	1.392	1.399	0.4
Butylbenzylphthalate	0.494	0.486	1.6
3,3'-Dichlorobenzidine	0.111	0.151	36.9
Benzo(a)anthracene	1.128	1.149	1.9
Chrysene	1.074	0.997	7.3
bis(2-Ethylhexyl)phthalate	0.610	0.561	8.0
Di-n-octylphthalate *	1.668	1.361	18.4 *
Benzo(b)fluoranthene	1.578	1.640	3.9
Benzo(k)fluoranthene	1.569	1.373	12.5
Benzo(a)pyrene *	1.365	1.306	4.3 *
Indeno(1,2,3-cd)pyrene	1.104	1.318	19.4
Dibenz(a,h)anthracene	0.967	1.138	17.6
Benzo(g,h,i)perylene	1.028	1.318	28.2
Nitrobenzene-d5	0.378	0.365	3.3
2-Fluorobiphenyl	1.349	1.290	4.4
Terphenyl-d14	1.005	1.035	3.0
Phenol-d5	1.363	1.433	5.2
2-Fluorophenol	1.624	1.790	10.2
2,4,6-Tribromophenol	0.134	0.159	19.0

(1) Cannot be separated from Diphenylamine

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: EXTRB Calibration Date: 4/17/89 Time: 8:37

Lab File ID: B1529 Init. Calib. Date(s): 3/ 1/89 3/ 1/89

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) is 25.0%

COMPOUND	RRF	RRF50	%D
Phenol *	1.983	2.205	11.2 *
bis(2-Chloroethyl)ether	1.437	1.599	11.3
2-Chlorophenol	1.377	1.434	4.1
1,3-Dichlorobenzene	1.396	1.422	1.9
1,4-Dichlorobenzene *	1.439	1.460	1.5 *
Benzyl Alcohol	0.943	0.879	6.7
1,2-Dichlorobenzene	1.409	1.406	0.2
2-Methylphenol	1.434	1.638	14.2
bis(2-Chloroisopropyl)Ether	1.643	1.907	16.1
4-Methylphenol	1.483	1.635	10.2
N-Nitroso-di-n-propylamine #	0.753	0.837	11.1 #
Hexachloroethane	0.555	0.602	8.6
Nitrobenzene	0.303	0.325	7.3
Isophorone	0.520	0.496	4.7
2-Nitrophenol *	0.196	0.190	3.1 *
2,4-Dimethylphenol	0.259	0.259	0.1
Benzoic Acid	0.175	0.162	7.4
bis(2-Chloroethoxy)Methane	0.419	0.417	0.6
2,4-Dichlorophenol *	0.274	0.252	8.0 *
1,2,4-Trichlorobenzene	0.286	0.273	4.7
Naphthalene	0.913	0.919	0.7
4-Chloroaniline	0.151	0.094	37.6
Hexachlorobutadiene *	0.134	0.122	9.2 *
4-Chloro-3-Methylphenol *	0.224	0.196	12.4 *
2-Methylnaphthalene	0.627	0.588	6.3
Hexachlorocyclopentadiene #	0.311	0.320	3.0 #
2,4,6-Trichlorophenol *	0.349	0.320	8.2 *
2,4,5-Trichlorophenol	0.348	0.320	8.1
2-Chloronaphthalene	0.980	0.971	0.9
2-Nitroaniline	0.253	0.139	45.0
Dimethylphthalate	0.900	0.737	18.1
Acenaphthylene	1.337	1.280	4.3
2,6-Dinitrotoluene	0.251	0.204	18.5
3-Nitroaniline	0.273	0.213	22.1
Acenaphthene *	0.782	0.693	11.3 *
2,4-Dinitrophenol #	0.098	0.057	42.4 #
4-Nitrophenol #	0.072	0.054	24.7 #

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: EXTRB Calibration Date: 4/17/89 Time: 8:37

Lab File ID: B1529 Init. Calib. Date(s): 3/ 1/89 3/ 1/89

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) is 25.0%

COMPOUND	RRF	RRF50	%D
Dibenzofuran	1.264	1.173	7.1
2,4-Dinitrotoluene	0.278	0.219	21.3
Diethylphthalate	0.730	0.605	17.1
4-Chlorophenyl-phenylether	0.498	0.459	7.9
Fluorene	0.985	0.897	8.9
4-Nitroaniline	0.230	0.153	33.5
4,6-Dinitro-2-Methylphenol	0.106	0.075	28.9
N-Nitrosodiphenylamine (1) *	0.236	0.214	9.6 *
4-Bromophenyl-phenylether	0.229	0.232	1.3
Hexachlorobenzene	0.206	0.224	8.6
Pentachlorophenol *	0.131	0.113	14.0 *
Phenanthrene	1.018	0.944	7.2
Anthracene	1.004	0.932	7.2
Di-n-butylphthalate	0.933	0.818	12.4
Fluoranthene *	0.989	0.845	14.5 *
Pyrene	1.392	1.405	0.9
Butylbenzylphthalate	0.494	0.428	13.4
3,3'-Dichlorobenzidine	0.111	0.076	31.3
Benzo(a)anthracene	1.128	1.071	5.1
Chrysene	1.074	1.019	5.2
bis(2-Ethylhexyl)phthalate	0.610	0.487	20.2
Di-n-octylphthalate *	1.668	1.302	21.9 *
Benzo(b)fluoranthene	1.578	1.724	9.3
Benzo(k)fluoranthene	1.569	1.731	10.3
Benzo(a)pyrene *	1.365	1.313	3.8 *
Indeno(1,2,3-cd)pyrene	1.104	1.077	2.4
Dibenz(a,h)anthracene	0.967	0.908	6.1
Benzo(g,h,i)perylene	1.028	0.943	8.3
Nitrobenzene-d5	0.378	0.388	2.7
2-Fluorobiphenyl	1.349	1.295	4.0
Terphenyl-d14	1.005	1.017	1.2
Phenol-d5	1.363	1.533	12.5
2-Fluorophenol	1.624	1.896	16.8
2,4,6-Tribromophenol	0.134	0.135	1.2

(1) Cannot be separated from Diphenylamine

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: EXTRB Calibration Date: 4/18/89 Time: 9:26

Lab File ID: B1540 Init. Calib. Date(s): 3/ 1/89 3/ 1/89

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) is 25.0%

COMPOUND		RRF	RRF50	%D	
Phenol	*	1.983	1.751	11.7	*
bis(2-Chloroethyl)ether		1.437	1.282	10.8	
2-Chlorophenol		1.377	1.338	2.8	
1,3-Dichlorobenzene		1.396	1.337	4.2	
1,4-Dichlorobenzene	*	1.439	1.393	3.2	*
Benzyl Alcohol		0.943	0.739	21.6	
1,2-Dichlorobenzene		1.409	1.307	7.3	
2-Methylphenol		1.434	1.392	2.9	
bis(2-Chloroisopropyl)Ether		1.643	1.406	14.4	
4-Methylphenol		1.483	1.421	4.2	
N-Nitroso-di-n-propylamine	#	0.753	0.604	19.8	#
Hexachloroethane		0.555	0.509	8.2	
Nitrobenzene		0.303	0.280	7.5	
Isophorone		0.520	0.444	14.7	
2-Nitrophenol	*	0.196	0.201	2.5	*
2,4-Dimethylphenol		0.259	0.242	6.8	
Benzoic Acid		0.175	0.176	0.4	
bis(2-Chloroethoxy)Methane		0.419	0.373	11.2	
2,4-Dichlorophenol	*	0.274	0.275	0.2	*
1,2,4-Trichlorobenzene		0.286	0.293	2.1	
Naphthalene		0.913	0.902	1.2	
4-Chloroaniline		0.151	0.109	27.9	
Hexachlorobutadiene	*	0.134	0.136	1.6	*
4-Chloro-3-Methylphenol	*	0.224	0.194	13.3	*
2-Methylnaphthalene		0.627	0.615	1.9	
Hexachlorocyclopentadiene	#	0.311	0.318	2.4	#
2,4,6-Trichlorophenol	*	0.349	0.340	2.5	*
2,4,5-Trichlorophenol		0.348	0.335	3.7	
2-Chloronaphthalene		0.980	0.967	1.3	
2-Nitroaniline		0.253	0.138	45.5	
Dimethylphthalate		0.900	0.835	7.2	
Acenaphthylene		1.337	1.287	3.7	
2,6-Dinitrotoluene		0.251	0.226	10.0	
3-Nitroaniline		0.273	0.238	12.7	
Acenaphthene	*	0.782	0.721	7.8	*
2,4-Dinitrophenol	#	0.098	0.078	20.3	#
4-Nitrophenol	#	0.072	0.061	15.4	#

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: EXTRB Calibration Date: 4/18/89 Time: 9:26

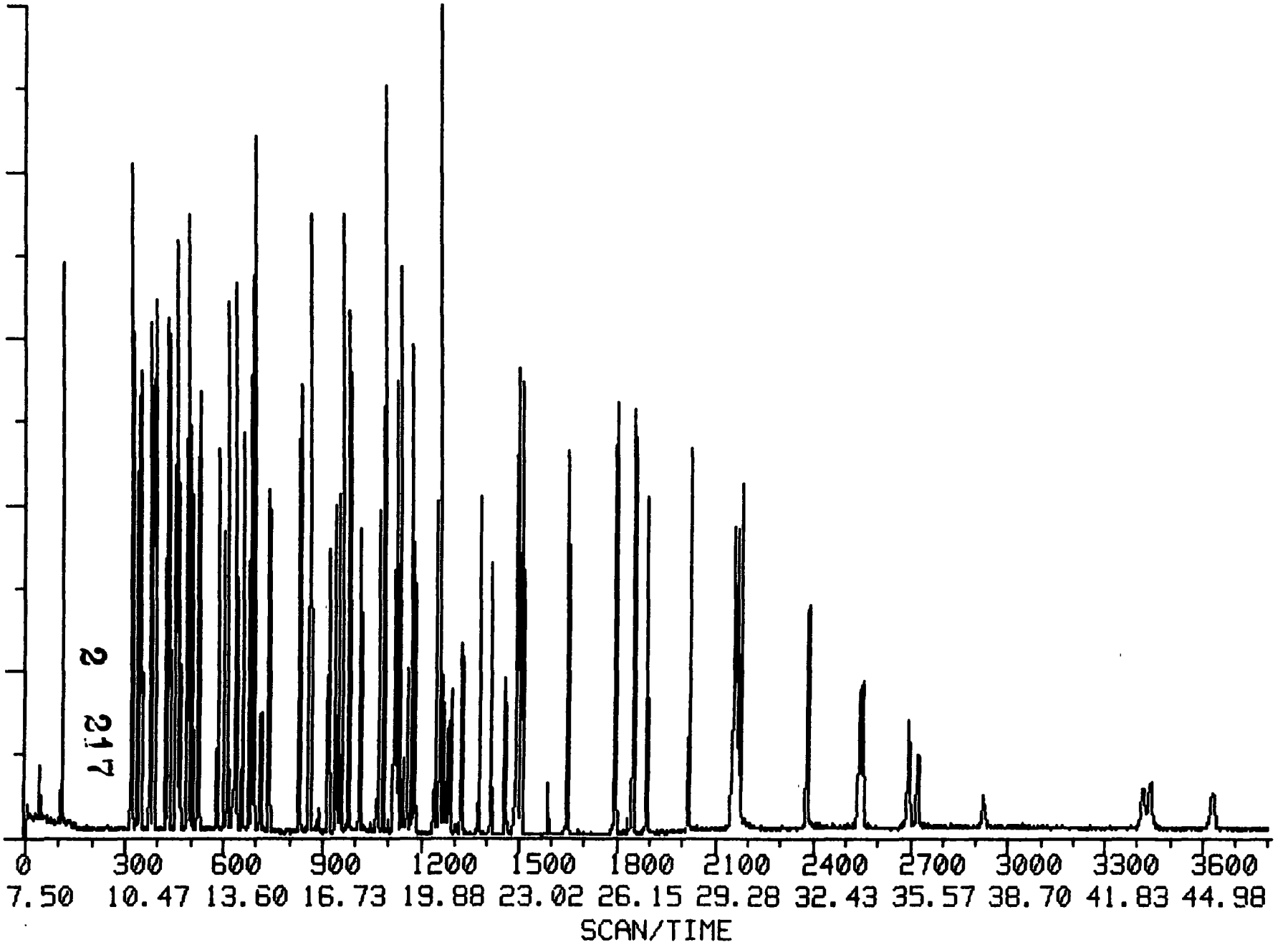
Lab File ID: B1540 Init. Calib. Date(s): 3/ 1/89 3/ 1/89

Min RRF50 for SPCC(#) = 0.050 Max %D for CCC(*) is 25.0%

COMPOUND	RRF	RRF50	%D
Dibenzofuran	1.264	1.260	0.3
2,4-Dinitrotoluene	0.278	0.268	3.6
Diethylphthalate	0.730	0.708	2.9
4-Chlorophenyl-phenylether	0.498	0.502	0.9
Fluorene	0.985	0.975	1.0
4-Nitroaniline	0.230	0.180	21.8
4,6-Dinitro-2-Methylphenol	0.106	0.097	8.4
N-Nitrosodiphenylamine (1) *	0.236	0.204	13.7 *
4-Bromophenyl-phenylether	0.229	0.236	3.2
Hexachlorobenzene	0.206	0.235	13.9
Pentachlorophenol *	0.131	0.136	4.1 *
Phenanthrene	1.018	0.962	5.4
Anthracene	1.004	0.926	7.8
Di-n-butylphthalate	0.933	0.849	9.0
Fluoranthene *	0.989	0.901	8.9 *
Pyrene	1.392	1.497	7.5
Butylbenzylphthalate	0.494	0.460	7.0
3,3'-Dichlorobenzidine	0.111	0.110	0.8
Benzo(a)anthracene	1.128	1.104	2.1
Chrysene	1.074	0.987	8.1
bis(2-Ethylhexyl)phthalate	0.610	0.505	17.3
Di-n-octylphthalate *	1.668	1.383	17.1 *
Benzo(b)fluoranthene	1.578	1.686	6.9
Benzo(k)fluoranthene	1.569	1.621	3.3
Benzo(a)pyrene *	1.365	1.327	2.8 *
Indeno(1,2,3-cd)pyrene	1.104	1.039	5.9
Dibenz(a,h)anthracene	0.967	1.011	4.5
Benzo(g,h,i)perylene	1.028	1.022	0.6
Nitrobenzene-d5	0.378	0.327	13.6
2-Fluorobiphenyl	1.349	1.269	5.9
Terphenyl-d14	1.005	1.054	4.9
Phenol-d5	1.363	1.279	6.1
2-Fluorophenol	1.624	1.621	0.2
2,4,6-Tribromophenol	0.134	0.145	8.5

(1) Cannot be separated from Diphenylamine

[redacted]
13-APR-89 08:58:54 TIC Maximum current=266147



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1509
Injection time: 13-APR-89 08:58:54
Comments:
EXTRB 1509, SSTD50, 2-40-3
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene.
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

o.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.38	387			STD	0.85	40.0	NG/UL
2S	14.55	690			STD	0.94	40.0	NG/UL
3S	19.08	1124			STD	0.76	40.0	NG/UL
4S	22.88	1488			STD	0.92	40.0	NG/UL
5S	29.90	2158			STD	1.00	40.0	NG/UL
6S	35.80	2722			STD	0.96	40.0	NG/UL
1T	10.68	321	94. / 152.	234992. / 82130.	1	0.87	50.0	NG/UL
2T	10.85	337	93. / 152.	182776. / 82130.	1	0.79	50.0	NG/UL
3T	10.95	346	128. / 152.	147606. / 82130.	1	0.92	50.0	NG/UL
4T	11.28	378	146. / 152.	145658. / 82130.	1	0.88	50.0	NG/UL
5T	11.40	390	146. / 152.	149872. / 82130.	1	0.87	50.0	NG/UL
6T	11.77	425	108. / 152.	113990. / 82130.	1	0.92	50.0	NG/UL
7T	11.87	434	146. / 152.	140342. / 82130.	1	0.88	50.0	NG/UL

8T	12.10	456	108. / 152.	177652. /	82130.	1	0.63	50.0	NG/UL
9T	12.17	463	45. / 152.	260448. /	82130.	1	0.72	50.0	NG/UL
10T	12.45	490	108. / 152.	181160. /	82130.	1	0.92	50.0	NG/UL
11T	12.52	496	70. / 152.	93580. /	82130.	1	0.91	50.0	NG/UL
12T	12.62	505	117. / 152.	61377. /	82130.	1	1.00	50.0	NG/UL
13T	12.85	528	77. / 136.	139202. /	332668.	2	0.80	50.0	NG/UL
14T	13.43	583	82. / 136.	240470. /	332668.	2	0.72	50.0	NG/UL
15T	13.63	603	139. / 136.	67171. /	332668.	2	1.00	50.0	NG/UL
16T	13.77	615	107. / 136.	109988. /	332668.	2	0.65	50.0	NG/UL
17T	14.05	643	122. / 136.	61992. /	332668.	2	0.86	50.0	NG/UL
18T	14.02	639	93. / 136.	186374. /	332668.	2	0.92	50.0	NG/UL
19T	14.22	659	162. / 136.	98006. /	332668.	2	1.00	50.0	NG/UL
20T	14.43	680	180. / 136.	106262. /	332668.	2	1.00	50.0	NG/UL
21T	14.58	694	128. / 136.	384736. /	332668.	2	0.90	50.0	NG/UL
22T	14.77	712	127. / 136.	46637. /	332668.	2	0.83	50.0	NG/UL
23T	15.05	739	225. / 136.	46466. /	332668.	2	1.00	50.0	NG/UL
24T	16.02	831	107. / 136.	91153. /	332668.	2	1.00	50.0	NG/UL
25T	16.35	863	142. / 136.	253688. /	332668.	2	0.68	50.0	NG/UL
26T	16.93	919	237. / 164.	50209. /	152072.	3	1.00	50.0	NG/UL
27T	17.13	938	196. / 164.	57373. /	152072.	3	1.00	50.0	NG/UL
28T	17.23	947	196. / 164.	59296. /	152072.	3	1.00	50.0	NG/UL
29T	17.60	982	162. / 164.	193374. /	152072.	3	0.92	50.0	NG/UL
30T	20.62	1270	65. / 164.	37005. /	152072.	3	0.51	50.0	NG/UL
31T	18.52	1070	163. / 164.	172390. /	152072.	3	0.85	50.0	NG/UL
32T	18.68	1086	152. / 164.	256544. /	152072.	3	0.87	50.0	NG/UL
33T	18.68	1086	165. / 164.	47368. /	152072.	3	0.62	51.7	NG/UL
34T	19.02	1118	138. / 164.	57234. /	152072.	3	0.89	50.0	NG/UL
35T	19.17	1132	153. / 164.	145002. /	152072.	3	0.70	50.0	NG/UL
36T	19.27	1142	184. / 164.	11046. /	152072.	3	1.00	50.0	NG/UL
37T	19.43	1158	109. / 164.	15834. /	152072.	3	0.81	50.0	NG/UL
38T	19.57	1171	168. / 164.	254536. /	152072.	3	0.83	50.0	NG/UL
39T	19.68	1181	165. / 164.	52751. /	152072.	3	0.81	50.0	NG/UL
40T	20.33	1244	149. / 164.	146658. /	152072.	3	0.88	50.0	NG/UL
41T	20.47	1257	204. / 164.	95684. /	152072.	3	0.96	50.0	NG/UL
42T	20.47	1257	166. / 164.	191812. /	152072.	3	0.60	50.0	NG/UL
43T	20.62	1270	138. / 164.	45811. /	152072.	3	0.80	50.0	NG/UL
44T	20.72	1280	198. / 188.	17567. /	189752.	4	0.83	50.0	NG/UL
45T	20.78	1287	169. / 188.	47064. /	189752.	4	0.95	50.0	NG/UL
46T	21.73	1377	248. / 188.	49869. /	189752.	4	1.00	50.0	NG/UL
47T	22.10	1413	284. / 188.	45742. /	189752.	4	1.00	50.0	NG/UL
48T	22.57	1457	266. / 188.	25743. /	189752.	4	1.00	50.0	NG/UL
49T	22.95	1494	178. / 188.	243012. /	189752.	4	0.85	50.0	NG/UL
50T	23.07	1505	178. / 188.	236376. /	189752.	4	0.88	50.0	NG/UL
51T	24.55	1646	149. / 188.	241198. /	189752.	4	0.87	50.0	NG/UL
52T	26.07	1792	202. / 188.	241902. /	189752.	4	0.95	50.0	NG/UL
53T	26.65	1848	202. / 240.	242620. /	124559.	5	0.91	50.0	NG/UL
54T	28.43	2018	149. / 240.	94560. /	124559.	5	0.96	50.0	NG/UL
55T	29.80	2148	252. / 240.	19546. /	124559.	5	1.00	50.0	NG/UL
56T	29.85	2153	228. / 240.	192778. /	124559.	5	0.88	50.0	NG/UL
57T	29.98	2166	228. / 240.	163652. /	124559.	5	0.91	50.0	NG/UL
58T	30.07	2174	149. / 240.	105475. /	124559.	5	0.91	50.0	NG/UL
59T	32.22	2380	149. / 264.	157157. /	62370.	6	0.59	50.0	NG/UL
60T	33.92	2542	252. / 264.	128263. /	62370.	6	0.92	50.0	NG/UL
61T	34.02	2552	252. / 264.	128002. /	62370.	6	0.67	50.0	NG/UL
62T	35.52	2695	252. / 264.	104019. /	62370.	6	1.00	50.0	NG/UL
63T	43.07	3418	276. / 264.	66794. /	62370.	6	0.91	50.0	NG/UL

4T	43. 32	3441	278. / 264.	68516. /	62370.	6	0. 59	50. 0	NG/UL
5T	43. 07	3418	276. / 264.	66794. /	62370.	6	0. 79	50. 0	NG/UL
66T	12. 80	523	82. / 136.	174656. /	332668.	2	0. 85	50. 0	NG/UL
7T	17. 35	959	172. / 164.	258240. /	152072.	3	0. 94	50. 0	NG/UL
8T	27. 07	1888	244. / 240.	164788. /	124559.	5	0. 83	50. 0	NG/UL
69T	10. 65	318	99. / 152.	170628. /	82130.	1	0. 72	50. 0	NG/UL
70T	8. 45	108	112. / 152.	218744. /	82130.	1	0. 81	50. 0	NG/UL
1T	21. 13	1320	330. / 164.	22241. /	152072.	3	0. 88	50. 0	NG/UL

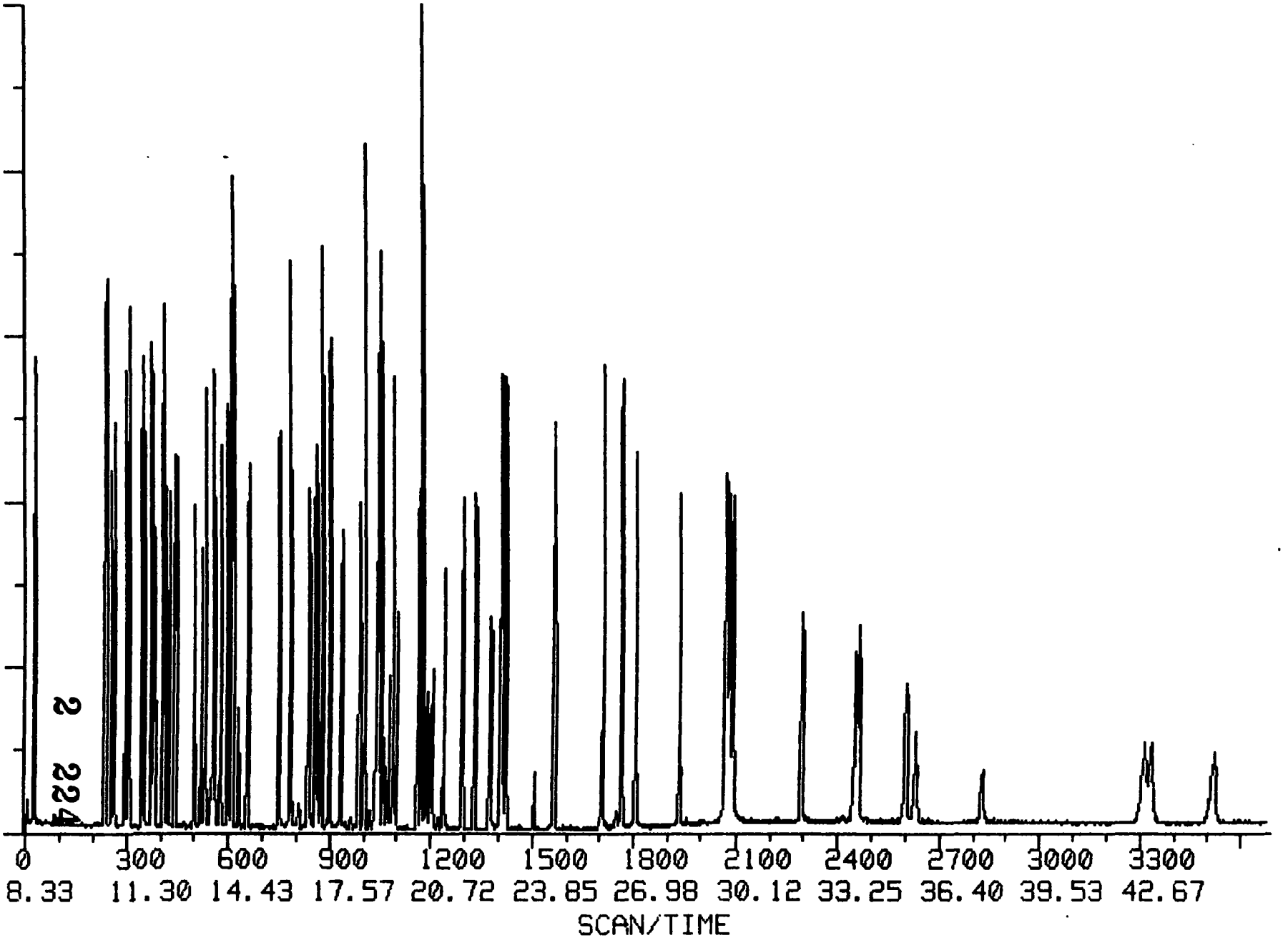
Extended Quantitation Report

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1509
Injection time: 13-APR-89 08:58:54

No	RRT	Tmass/Smass	Res fac	Conc	Ty	Pk	Mq	Ave	S.D.	624/625
1S				40.0						
2S				40.0						
3S				40.0						
4S				40.0						
5S				40.0						
6S				40.0						
1T	0.938	94. / 152.	2.289	50.0	IA	BB	RF			1.00
2T	0.953	93. / 152.	1.780	50.0	IA	BB	RF			1.00
3T	0.962	128. / 152.	1.438	50.0	IA	BB	RF			1.00
4T	0.991	146. / 152.	1.419	50.0	IA	BV	RF			1.00
5T	1.002	146. / 152.	1.460	50.0	IA	VV	RF			1.00
6T	1.034	108. / 152.	1.110	50.0	IA	BV	RF			1.00
7T	1.043	146. / 152.	1.367	50.0	IA	VB	RF			1.00
8T	1.063	108. / 152.	1.730	50.0	IA	VV	RF			1.00
9T	1.069	45. / 152.	2.537	50.0	IA	BB	RF			1.00
10T	1.094	108. / 152.	1.765	50.0	IA	VB	RF			1.00
11T	1.100	70. / 152.	0.912	50.0	IA	BV	RF			1.00
12T	1.109	117. / 152.	0.598	50.0	IA	BB	RF			1.00
13T	0.883	77. / 136.	0.335	50.0	IA	VB	RF			1.00
14T	0.923	82. / 136.	0.578	50.0	IA	BB	RF			1.00
15T	0.937	139. / 136.	0.162	50.0	IA	BB	RF			1.00
16T	0.946	107. / 136.	0.264	50.0	IA	BB	RF			1.00
17T	0.966	122. / 136.	0.149	50.0	IA	VB	RF			1.00
18T	0.964	93. / 136.	0.448	50.0	IA	BB	RF			1.00
19T	0.977	162. / 136.	0.236	50.0	IA	BB	RF			1.00
20T	0.992	180. / 136.	0.256	50.0	IA	BB	RF			1.00
21T	1.002	128. / 136.	0.925	50.0	IA	BB	RF			1.00
22T	1.015	127. / 136.	0.112	50.0	IA	VB	RF			1.00
23T	1.034	225. / 136.	0.112	50.0	IA	BB	RF			1.00
24T	1.101	107. / 136.	0.219	50.0	IA	BB	RF			1.00
25T	1.124	142. / 136.	0.610	50.0	IA	VB	RF			1.00
26T	0.887	237. / 164.	0.264	50.0	IA	BB	RF			1.00
27T	0.898	196. / 164.	0.302	50.0	IA	BV	RF			1.00
28T	0.903	196. / 164.	0.312	50.0	IA	VB	RF			1.00
29T	0.922	162. / 164.	1.017	50.0	IA	BB	RF			1.00
30T	1.081	65. / 164.	0.195	50.0	IA	VV	RF			1.00
31T	0.971	163. / 164.	0.907	50.0	IA	BB	RF			1.00
32T	0.979	152. / 164.	1.350	50.0	IA	BV	RF			1.00
33T	0.979	165. / 164.	0.241	51.7	IA	VB	RF			1.00
34T	0.997	138. / 164.	0.301	50.0	IA	BB	RF			1.00
35T	1.005	153. / 164.	0.763	50.0	IA	VB	RF			1.00
36T	1.010	184. / 164.	0.058	50.0	IA	BB	RF			1.00
37T	1.018	109. / 164.	0.083	50.0	IA	BB	RF			1.00
38T	1.026	168. / 164.	1.339	50.0	IA	BB	RF			1.00
39T	1.031	165. / 164.	0.278	50.0	IA	BB	RF			1.00
40T	1.066	149. / 164.	0.772	50.0	IA	BB	RF	2	222	1.00

41T	1.073	204. / 164.	0.503	50.0	IA BB RF	1.00
42T	1.073	166. / 164.	1.009	50.0	IA BB RF	1.00
43T	1.081	138. / 164.	0.241	50.0	IA BB RF	1.00
44T	0.906	198. / 188.	0.074	50.0	IA BB RF	1.00
45T	0.908	169. / 188.	0.198	50.0	IA VB RF	1.00
46T	0.950	248. / 188.	0.210	50.0	IA BB RF	1.00
47T	0.966	284. / 188.	0.193	50.0	IA BB RF	1.00
48T	0.986	266. / 188.	0.109	50.0	IA BB RF	1.00
49T	1.003	178. / 188.	1.025	50.0	IA BV RF	1.00
50T	1.008	178. / 188.	0.997	50.0	IA VB RF	1.00
51T	1.073	149. / 188.	1.017	50.0	IA BB RF	1.00
52T	1.139	202. / 188.	1.020	50.0	IA BB RF	1.00
53T	0.891	202. / 240.	1.558	50.0	IA BB RF	1.00
54T	0.951	149. / 240.	0.607	50.0	IA BB RF	1.00
55T	0.997	252. / 240.	0.126	50.0	IA BB RF	1.00
56T	0.998	228. / 240.	1.238	50.0	IA BV RF	1.00
57T	1.003	228. / 240.	1.051	50.0	IA VB RF	1.00
58T	1.006	149. / 240.	0.677	50.0	IA BB RF	1.00
59T	0.900	149. / 264.	2.016	50.0	IA BB RF	1.00
60T	0.947	252. / 264.	1.645	50.0	IA BV RF	1.00
61T	0.950	252. / 264.	1.642	50.0	IA VB RF	1.00
62T	0.992	252. / 264.	1.334	50.0	IA BB RF	1.00
63T	1.203	276. / 264.	0.857	50.0	IA BV RF	1.00
64T	1.210	278. / 264.	0.879	50.0	IA BB RF	1.00
65T	1.203	276. / 264.	0.857	50.0	IA BV RF	1.00
66T	0.880	82. / 136.	0.420	50.0	IA VB RF	1.00
67T	0.909	172. / 164.	1.359	50.0	IA BB RF	1.00
68T	0.905	244. / 240.	1.058	50.0	IA BB RF	1.00
69T	0.936	99. / 152.	1.662	50.0	IA BB RF	1.00
70T	0.743	112. / 152.	2.131	50.0	IA BB RF	1.00
71T	1.107	330. / 164.	0.117	50.0	IA BB RF	1.00

B1522 EXTRB 1522, SSTD50 2, 2-40-3, 11688
14-APR-89 10:57:23 TIC Maximum current=425850



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1522
Injection time: 14-APR-89 10:57:23
Comments:
EXTRB 1522, SSTD50 2, 2-40-3, 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.33	304			STD	0.81	40.0	NG/UL
2S	14.50	607			STD	0.74	40.0	NG/UL
3S	19.05	1042			STD	0.72	40.0	NG/UL
4S	22.85	1405			STD	0.79	40.0	NG/UL
5S	29.85	2074			STD	0.83	40.0	NG/UL
6S	35.67	2630			STD	0.87	40.0	NG/UL
1T	10.65	238	94. / 152.	331324. / 133860.	1	0.78	50.0	NG/UL
2T	10.83	255	93. / 152.	246480. / 133860.	1	0.79	50.0	NG/UL
3T	10.92	263	128. / 152.	233716. / 133860.	1	0.82	50.0	NG/UL
4T	11.25	295	146. / 152.	236804. / 133860.	1	0.88	50.0	NG/UL
5T	11.38	308	146. / 152.	242376. / 133860.	1	0.87	50.0	NG/UL
6T	11.73	342	108. / 152.	162620. / 133860.	1	0.75	50.0	NG/UL
7T	11.38	308	146. / 152.	242376. / 133860.	1	0.79	54.3	NG/UL

8T	12. 07	373	108. / 152.	258356. /	133860.	1	0. 63	50. 0	NG/UL
9T	12. 13	380	45. / 152.	347800. /	133860.	1	0. 64	50. 0	NG/UL
10T	12. 42	407	108. / 152.	264244. /	133860.	1	0. 92	50. 0	NG/UL
1T	12. 48	413	70. / 152.	130178. /	133860.	1	0. 59	50. 0	NG/UL
2T	12. 58	423	117. / 152.	93613. /	133860.	1	1. 00	50. 0	NG/UL
13T	12. 82	445	77. / 136.	196864. /	516688.	2	0. 85	50. 0	NG/UL
4T	13. 38	500	82. / 136.	338580. /	516688.	2	0. 74	50. 0	NG/UL
5T	13. 62	521	139. / 136.	125206. /	516688.	2	1. 00	50. 0	NG/UL
16T	13. 72	532	107. / 136.	159942. /	516688.	2	0. 69	50. 0	NG/UL
17T	14. 02	560	122. / 136.	109684. /	516688.	2	0. 79	50. 0	NG/UL
8T	13. 98	556	93. / 136.	271124. /	516688.	2	0. 92	50. 0	NG/UL
9T	14. 18	576	162. / 136.	175558. /	516688.	2	0. 93	50. 0	NG/UL
20T	14. 40	597	180. / 136.	184234. /	516688.	2	0. 81	50. 0	NG/UL
1T	14. 57	612	128. / 136.	571536. /	516688.	2	0. 77	50. 0	NG/UL
2T	14. 75	630	127. / 136.	77814. /	516688.	2	0. 96	50. 0	NG/UL
23T	15. 03	657	225. / 136.	84896. /	516688.	2	1. 00	50. 0	NG/UL
24T	15. 98	748	107. / 136.	146748. /	516688.	2	0. 92	50. 0	NG/UL
5T	16. 32	780	142. / 136.	409508. /	516688.	2	0. 59	50. 0	NG/UL
26T	16. 92	837	237. / 164.	111600. /	289856.	3	0. 97	50. 0	NG/UL
27T	17. 12	856	196. / 164.	120860. /	289856.	3	0. 71	50. 0	NG/UL
8T	17. 20	864	196. / 164.	125848. /	289856.	3	0. 73	50. 0	NG/UL
9T	17. 57	900	162. / 164.	336340. /	289856.	3	0. 88	50. 0	NG/UL
30T	20. 57	1187	65. / 164.	63477. /	289856.	3	0. 65	50. 0	NG/UL
1T	18. 48	987	163. / 164.	307828. /	289856.	3	0. 85	50. 0	NG/UL
2T	18. 67	1004	152. / 164.	466980. /	289856.	3	0. 87	50. 0	NG/UL
33T	18. 65	1003	165. / 164.	80527. /	289856.	3	0. 77	50. 0	NG/UL
34T	19. 00	1036	138. / 164.	105458. /	289856.	3	0. 89	50. 0	NG/UL
5T	19. 13	1050	153. / 164.	254792. /	289856.	3	0. 57	50. 0	NG/UL
6T	19. 25	1060	184. / 164.	30274. /	289856.	3	1. 00	50. 0	NG/UL
37T	19. 40	1075	109. / 164.	28153. /	289856.	3	0. 81	50. 0	NG/UL
8T	19. 55	1089	168. / 164.	443884. /	289856.	3	0. 83	50. 0	NG/UL
9T	19. 65	1098	165. / 164.	97858. /	289856.	3	0. 77	50. 0	NG/UL
40T	20. 32	1162	149. / 164.	269660. /	289856.	3	0. 88	50. 0	NG/UL
1T	20. 45	1175	204. / 164.	176480. /	289856.	3	0. 82	50. 0	NG/UL
2T	20. 43	1174	166. / 164.	360952. /	289856.	3	0. 64	50. 0	NG/UL
43T	20. 57	1187	138. / 164.	85784. /	289856.	3	0. 84	50. 0	NG/UL
44T	20. 68	1198	198. / 188.	44240. /	379048.	4	0. 87	50. 0	NG/UL
5T	20. 77	1205	169. / 188.	93793. /	379048.	4	0. 90	50. 0	NG/UL
6T	21. 70	1294	248. / 188.	108746. /	379048.	4	0. 89	50. 0	NG/UL
47T	22. 07	1330	284. / 188.	112674. /	379048.	4	0. 94	50. 0	NG/UL
8T	22. 53	1374	266. / 188.	65212. /	379048.	4	1. 00	50. 0	NG/UL
9T	22. 92	1411	178. / 188.	438168. /	379048.	4	0. 77	50. 0	NG/UL
50T	23. 03	1422	178. / 188.	432716. /	379048.	4	0. 79	50. 0	NG/UL
51T	24. 52	1564	149. / 188.	441784. /	379048.	4	0. 73	50. 0	NG/UL
2T	26. 03	1709	202. / 188.	457548. /	379048.	4	0. 95	50. 0	NG/UL
53T	26. 62	1765	202. / 240.	465824. /	266440.	5	0. 86	50. 0	NG/UL
54T	28. 40	1935	149. / 240.	162020. /	266440.	5	0. 87	50. 0	NG/UL
5T	29. 73	2063	252. / 240.	50418. /	266440.	5	0. 88	50. 0	NG/UL
6T	29. 80	2069	228. / 240.	382704. /	266440.	5	0. 82	50. 0	NG/UL
57T	29. 92	2081	228. / 240.	331892. /	266440.	5	0. 76	50. 0	NG/UL
58T	30. 00	2089	149. / 240.	186926. /	266440.	5	0. 87	50. 0	NG/UL
9T	32. 15	2294	149. / 264.	282772. /	166248.	6	0. 59	50. 0	NG/UL
60T	33. 78	2451	252. / 264.	340714. /	166248.	6	0. 96	50. 0	NG/UL
61T	33. 90	2462	252. / 264.	285310. /	166248.	6	0. 59	50. 0	NG/UL
2T	35. 37	2602	252. / 264.	271441. /	166248.	6	0. 96	50. 0	NG/UL
63T	42. 82	3314	276. / 264.	273903. /	166248.	6	0. 91	50. 0	NG/UL

64T	43.02	3333	278. / 264.	236442. /	166248.	6	0.51	50.0	NG/UL
65T	42.82	3314	276. / 264.	273903. /	166248.	6	0.92	50.0	NG/UL
66T	12.77	441	82. / 136.	236046. /	516688.	2	0.85	50.0	NG/UL
67T	17.32	876	172. / 164.	467316. /	289856.	3	0.81	50.0	NG/UL
68T	27.03	1805	244. / 240.	344584. /	266440.	5	0.88	50.0	NG/UL
69T	10.62	235	99. / 152.	239774. /	133860.	1	0.60	50.0	NG/UL
70T	8.42	25	112. / 152.	299572. /	133860.	1	0.75	50.0	NG/UL
71T	21.10	1237	330. / 164.	57706. /	289856.	3	1.00	50.0	NG/UL

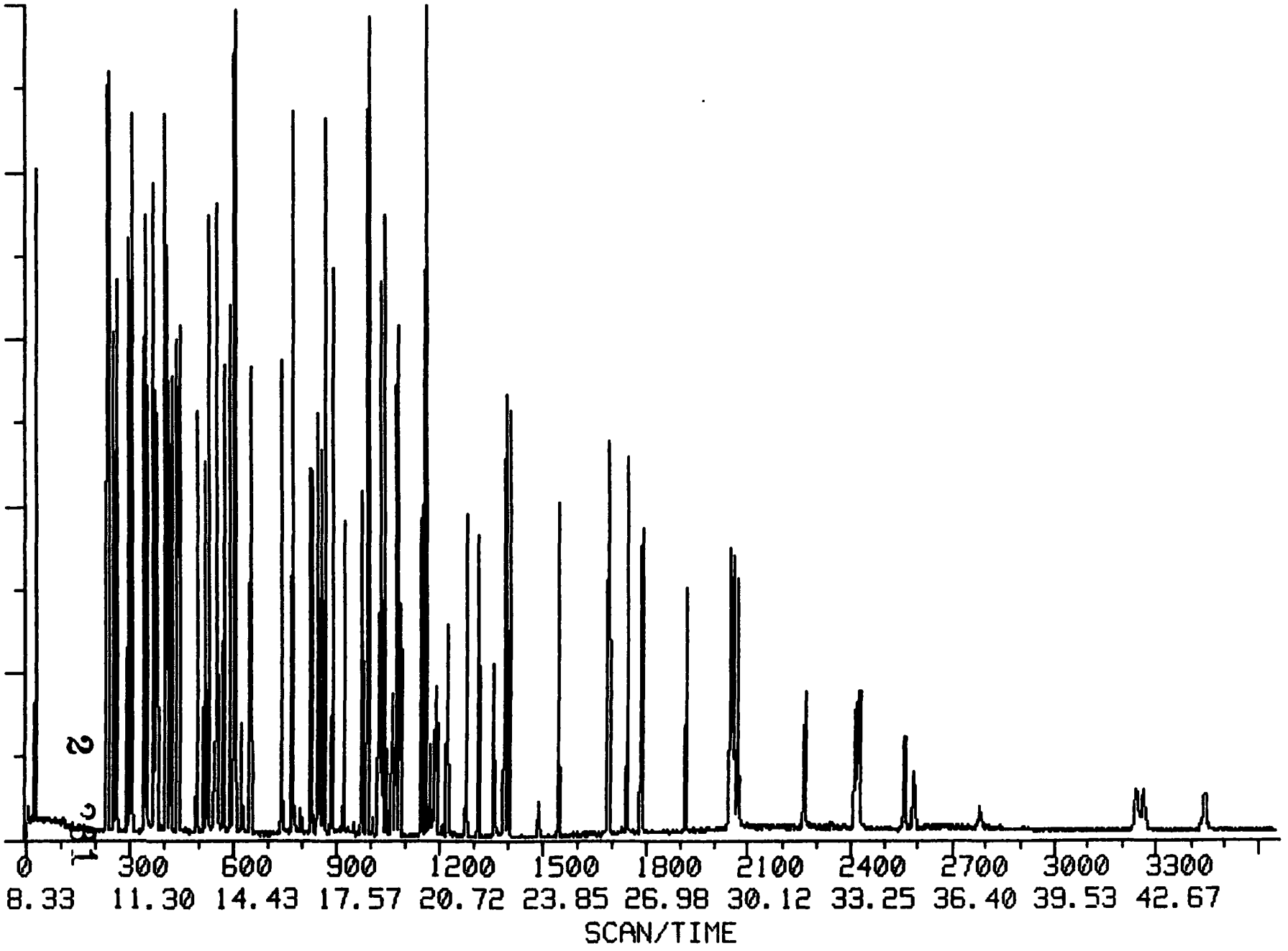
Extended Quantitation Report

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1522
Injection time: 14-APR-89 10:57:23

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
1T	0.940	94. / 152.	1.980	50.0	IA BB RF			1.00
2T	0.956	93. / 152.	1.473	50.0	IA BB RF			1.00
3T	0.964	128. / 152.	1.397	50.0	IA BB RF			1.00
4T	0.993	146. / 152.	1.415	50.0	IA BV RF			1.00
5T	1.004	146. / 152.	1.449	50.0	IA VV RF			1.00
6T	1.035	108. / 152.	0.972	50.0	IA BV RF			1.00
7T	1.004	146. / 152.	1.334	54.3	IA VV RF			1.00
8T	1.065	108. / 152.	1.544	50.0	IA VV RF			1.00
9T	1.071	45. / 152.	2.079	50.0	IA BB RF			1.00
10T	1.096	108. / 152.	1.579	50.0	IA VB RF			1.00
11T	1.102	70. / 152.	0.778	50.0	IA BV RF			1.00
12T	1.110	117. / 152.	0.559	50.0	IA BB RF			1.00
13T	0.884	77. / 136.	0.305	50.0	IA VB RF			1.00
14T	0.923	82. / 136.	0.524	50.0	IA BB RF			1.00
15T	0.939	139. / 136.	0.194	50.0	IA VB RF			1.00
16T	0.946	107. / 136.	0.248	50.0	IA BB RF			1.00
17T	0.967	122. / 136.	0.170	50.0	IA VB RF			1.00
18T	0.964	93. / 136.	0.420	50.0	IA VB RF			1.00
19T	0.978	162. / 136.	0.272	50.0	IA BB RF			1.00
20T	0.993	180. / 136.	0.285	50.0	IA BB RF			1.00
21T	1.005	128. / 136.	0.885	50.0	IA BB RF			1.00
22T	1.017	127. / 136.	0.120	50.0	IA VB RF			1.00
23T	1.037	225. / 136.	0.131	50.0	IA BB RF			1.00
24T	1.102	107. / 136.	0.227	50.0	IA BB RF			1.00
25T	1.126	142. / 136.	0.634	50.0	IA VB RF			1.00
26T	0.888	237. / 164.	0.308	50.0	IA BB RF			1.00
27T	0.899	196. / 164.	0.334	50.0	IA BV RF			1.00
28T	0.903	196. / 164.	0.347	50.0	IA VB RF			1.00
29T	0.922	162. / 164.	0.928	50.0	IA BB RF			1.00
30T	1.080	65. / 164.	0.175	50.0	IA VV RF			1.00
31T	0.970	163. / 164.	0.850	50.0	IA BB RF			1.00
32T	0.980	152. / 164.	1.289	50.0	IA BV RF			1.00
33T	0.979	165. / 164.	0.222	50.0	IA BV RF			1.00
34T	0.997	138. / 164.	0.291	50.0	IA BB RF			1.00
35T	1.004	153. / 164.	0.703	50.0	IA VB RF			1.00
36T	1.010	184. / 164.	0.084	50.0	IA BB RF			1.00
37T	1.018	109. / 164.	0.078	50.0	IA BB RF			1.00
38T	1.026	168. / 164.	1.225	50.0	IA BB RF			1.00
39T	1.031	165. / 164.	0.270	50.0	IA BB RF			1.00
40T	1.067	149. / 164.	0.744	50.0	IA BB RF			1.00

41T	1.073	204. / 164.	0.487	50.0	IA BB RF	1.00
42T	1.072	166. / 164.	0.996	50.0	IA BB RF	1.00
43T	1.080	138. / 164.	0.237	50.0	IA BB RF	1.00
44T	0.905	198. / 188.	0.093	50.0	IA BB RF	1.00
45T	0.909	169. / 188.	0.198	50.0	IA VB RF	1.00
46T	0.950	248. / 188.	0.230	50.0	IA BB RF	1.00
47T	0.966	284. / 188.	0.238	50.0	IA BB RF	1.00
48T	0.986	266. / 188.	0.138	50.0	IA BB RF	1.00
49T	1.003	178. / 188.	0.925	50.0	IA BV RF	1.00
50T	1.008	178. / 188.	0.913	50.0	IA VB RF	1.00
51T	1.073	149. / 188.	0.932	50.0	IA BB RF	1.00
52T	1.139	202. / 188.	0.966	50.0	IA BB RF	1.00
53T	0.892	202. / 240.	1.399	50.0	IA BB RF	1.00
54T	0.951	149. / 240.	0.486	50.0	IA BB RF	1.00
55T	0.996	252. / 240.	0.151	50.0	IA BB RF	1.00
56T	0.998	228. / 240.	1.149	50.0	IA BV RF	1.00
57T	1.002	228. / 240.	0.997	50.0	IA VB RF	1.00
58T	1.005	149. / 240.	0.561	50.0	IA BB RF	1.00
59T	0.901	149. / 264.	1.361	50.0	IA BB RF	1.00
60T	0.947	252. / 264.	1.640	50.0	IA BV RF	1.00
61T	0.950	252. / 264.	1.373	50.0	IA VB RF	1.00
62T	0.992	252. / 264.	1.306	50.0	IA BB RF	1.00
63T	1.200	276. / 264.	1.318	50.0	IA BB RF	1.00
64T	1.206	278. / 264.	1.138	50.0	IA BB RF	1.00
65T	1.200	276. / 264.	1.318	50.0	IA BB RF	1.00
66T	0.881	82. / 136.	0.365	50.0	IA VB RF	1.00
67T	0.909	172. / 164.	1.290	50.0	IA BB RF	1.00
68T	0.906	244. / 240.	1.035	50.0	IA BB RF	1.00
69T	0.937	99. / 152.	1.433	50.0	IA BB RF	1.00
70T	0.743	112. / 152.	1.790	50.0	IA BB RF	1.00
71T	1.108	330. / 164.	0.159	50.0	IA BB RF	1.00

B1529 EXTRB 1529, SSTD50 3, 2-40-3, 11688
17-APR-89 08:37:14 TIC Maximum current=345440



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1529
Injection time: 17-APR-89 08:37:14
Comments:
EXTRB 1529, SSTD50 3, 2-40-3, 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.32	301			STD	0.81	40.0	NG/UL
2S	14.43	600			STD	0.80	40.0	NG/UL
3S	18.92	1029			STD	0.75	40.0	NG/UL
4S	22.68	1389			STD	0.81	40.0	NG/UL
5S	29.60	2051			STD	0.90	40.0	NG/UL
6S	35.20	2586			STD	0.91	40.0	NG/UL
1T	10.63	236	94. / 152.	372532. / 135158.	1	0.82	50.0	NG/UL
2T	10.80	253	93. / 152.	270184. / 135158.	1	0.79	50.0	NG/UL
3T	10.88	261	128. / 152.	242220. / 135158.	1	0.86	50.0	NG/UL
4T	11.23	293	146. / 152.	240200. / 135158.	1	0.83	50.0	NG/UL
5T	11.35	305	146. / 152.	246720. / 135158.	1	0.87	50.0	NG/UL
6T	11.70	339	108. / 152.	148556. / 135158.	1	0.83	50.0	NG/UL
7T	11.78	347	146. / 152.	237528. / 135158.	1	0.83	50.0	NG/UL

8T	12.02	369	108. /	152.	276784. /	135158.	1	0.58	50.0	NG/UL
9T	12.10	376	45. /	152.	322208. /	135158.	1	0.64	50.0	NG/UL
10T	12.38	403	108. /	152.	276208. /	135158.	1	0.92	50.0	NG/UL
11T	12.43	409	70. /	152.	141368. /	135158.	1	0.64	50.0	NG/UL
12T	12.53	418	117. /	152.	101771. /	135158.	1	1.00	50.0	NG/UL
13T	12.77	440	77. /	136.	212344. /	523104.	2	0.68	50.0	NG/UL
14T	13.33	494	82. /	136.	324020. /	523104.	2	0.67	50.0	NG/UL
15T	13.55	515	139. /	136.	124116. /	523104.	2	0.96	50.0	NG/UL
16T	13.67	526	107. /	136.	169604. /	523104.	2	0.74	50.0	NG/UL
17T	13.95	554	122. /	136.	106144. /	523104.	2	0.86	50.0	NG/UL
18T	13.92	550	93. /	136.	272668. /	523104.	2	0.92	50.0	NG/UL
19T	14.12	569	162. /	136.	164790. /	523104.	2	0.93	50.0	NG/UL
20T	14.33	590	180. /	136.	178584. /	523104.	2	0.76	50.0	NG/UL
21T	14.48	605	128. /	136.	601064. /	523104.	2	0.88	50.0	NG/UL
22T	14.68	623	127. /	136.	61778. /	523104.	2	0.54	50.0	NG/UL
23T	14.95	649	225. /	136.	79714. /	523104.	2	1.00	50.0	NG/UL
24T	15.90	740	107. /	136.	128424. /	523104.	2	0.92	50.0	NG/UL
25T	16.22	771	142. /	136.	384260. /	523104.	2	0.54	50.0	NG/UL
26T	16.82	827	237. /	164.	96323. /	240948.	3	1.00	50.0	NG/UL
27T	17.00	846	196. /	164.	96309. /	240948.	3	1.00	50.0	NG/UL
28T	17.00	846	196. /	164.	96309. /	240948.	3	0.57	50.0	NG/UL
29T	17.45	888	162. /	164.	292600. /	240948.	3	0.88	50.0	NG/UL
30T	20.42	1172	65. /	164.	41949. /	240948.	3	0.54	50.0	NG/UL
31T	18.35	975	163. /	164.	222062. /	240948.	3	0.85	50.0	NG/UL
32T	18.52	991	152. /	164.	385432. /	240948.	3	0.87	50.0	NG/UL
33T	18.52	991	165. /	164.	61587. /	240948.	3	0.74	50.0	NG/UL
34T	18.85	1023	138. /	164.	64089. /	240948.	3	0.85	50.0	NG/UL
35T	19.00	1036	153. /	164.	208822. /	240948.	3	0.73	50.0	NG/UL
36T	19.12	1047	184. /	164.	17075. /	240948.	3	0.96	50.0	NG/UL
37T	19.27	1062	109. /	164.	16316. /	240948.	3	0.57	50.0	NG/UL
38T	19.40	1075	168. /	164.	353424. /	240948.	3	0.83	50.0	NG/UL
39T	19.50	1085	165. /	164.	65825. /	240948.	3	0.67	50.0	NG/UL
40T	20.17	1148	149. /	164.	182260. /	240948.	3	0.88	50.0	NG/UL
41T	20.28	1160	204. /	164.	138110. /	240948.	3	0.74	50.0	NG/UL
42T	20.28	1159	166. /	164.	270220. /	240948.	3	0.64	50.0	NG/UL
43T	20.42	1172	138. /	164.	46079. /	240948.	3	0.88	50.0	NG/UL
44T	20.53	1183	198. /	188.	23504. /	250276.	4	0.87	50.0	NG/UL
45T	20.60	1190	169. /	188.	66802. /	250276.	4	0.76	50.0	NG/UL
46T	21.53	1279	248. /	188.	72595. /	250276.	4	0.93	50.0	NG/UL
47T	21.90	1314	284. /	188.	69962. /	250276.	4	1.00	50.0	NG/UL
48T	22.35	1357	266. /	188.	35234. /	250276.	4	1.00	50.0	NG/UL
49T	22.73	1394	178. /	188.	295468. /	250276.	4	0.74	50.0	NG/UL
50T	22.85	1405	178. /	188.	291464. /	250276.	4	0.76	50.0	NG/UL
51T	24.33	1547	149. /	188.	255848. /	250276.	4	0.73	50.0	NG/UL
52T	25.83	1690	202. /	188.	264388. /	250276.	4	0.90	50.0	NG/UL
53T	25.83	1690	202. /	240.	264388. /	150522.	5	0.81	50.0	NG/UL
54T	28.20	1916	149. /	240.	80509. /	150522.	5	0.96	50.0	NG/UL
55T	29.52	2042	252. /	240.	14299. /	150522.	5	0.96	50.0	NG/UL
56T	29.55	2046	228. /	240.	201476. /	150522.	5	0.92	50.0	NG/UL
57T	29.68	2058	228. /	240.	191720. /	150522.	5	0.87	50.0	NG/UL
58T	29.78	2068	149. /	240.	91579. /	150522.	5	0.58	50.0	NG/UL
59T	31.85	2266	149. /	264.	111964. /	68780.	6	0.81	50.0	NG/UL
60T	33.53	2426	252. /	264.	148203. /	68780.	6	0.67	49.2	NG/UL
61T	33.53	2426	252. /	264.	148833. /	68780.	6	0.96	50.0	NG/UL
62T	34.93	2561	252. /	264.	112906. /	68780.	6	0.92	50.0	NG/UL
63T	42.07	3243	276. /	264.	92615. /	68780.	6	1.00	50.0	NG/UL

4T	42.28	3264	278. / 264.	78084. /	68780.	6	1.00	50.0	NG/UL
65T	44.17	3443	276. / 264.	81101. /	68780.	6	0.96	50.0	NG/UL
66T	12.72	436	82. / 136.	253922. /	523104.	2	0.85	50.0	NG/UL
7T	17.22	866	172. / 164.	390128. /	240948.	3	0.88	50.0	NG/UL
8T	26.85	1787	244. / 240.	191324. /	150522.	5	0.94	50.0	NG/UL
69T	10.60	234	99. / 152.	258936. /	135158.	1	0.65	50.0	NG/UL
0T	8.43	26	112. / 152.	320400. /	135158.	1	0.71	50.0	NG/UL
1T	20.93	1222	330. / 164.	40781. /	240948.	3	1.00	50.0	NG/UL

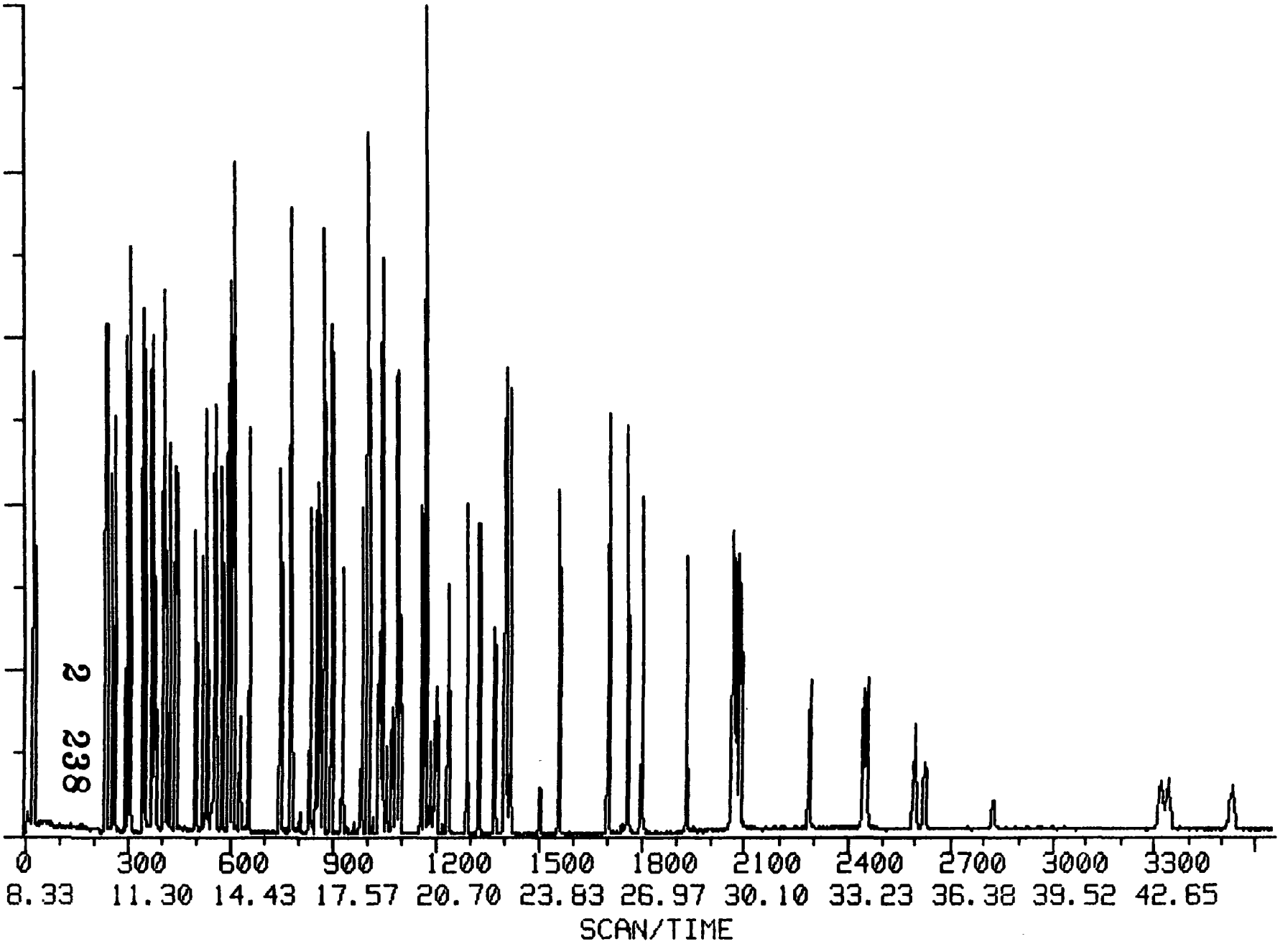
Extended Quantitation Report

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1529
Injection time: 17-APR-89 08:37:14

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
1T	0.939	94. / 152.	2.205	50.0	IA BB RF			1.00
2T	0.954	93. / 152.	1.599	50.0	IA BB RF			1.00
3T	0.961	128. / 152.	1.434	50.0	IA BB RF			1.00
4T	0.992	146. / 152.	1.422	50.0	IA BV RF			1.00
5T	1.003	146. / 152.	1.460	50.0	IA VV RF			1.00
6T	1.034	108. / 152.	0.879	50.0	IA BV RF			1.00
7T	1.041	146. / 152.	1.406	50.0	IA VB RF			1.00
8T	1.062	108. / 152.	1.638	50.0	IA VV RF			1.00
9T	1.069	45. / 152.	1.907	50.0	IA BB RF			1.00
10T	1.094	108. / 152.	1.635	50.0	IA VB RF			1.00
11T	1.098	70. / 152.	0.837	50.0	IA BV RF			1.00
12T	1.107	117. / 152.	0.602	50.0	IA BB RF			1.00
13T	0.885	77. / 136.	0.325	50.0	IA VB RF			1.00
14T	0.924	82. / 136.	0.496	50.0	IA BB RF			1.00
15T	0.939	139. / 136.	0.190	50.0	IA BB RF			1.00
16T	0.947	107. / 136.	0.259	50.0	IA BB RF			1.00
17T	0.967	122. / 136.	0.162	50.0	IA VB RF			1.00
18T	0.965	93. / 136.	0.417	50.0	IA BB RF			1.00
19T	0.979	162. / 136.	0.252	50.0	IA BB RF			1.00
20T	0.993	180. / 136.	0.273	50.0	IA BB RF			1.00
21T	1.003	128. / 136.	0.919	50.0	IA BB RF			1.00
22T	1.017	127. / 136.	0.094	50.0	IA VB RF			1.00
23T	1.036	225. / 136.	0.122	50.0	IA BB RF			1.00
24T	1.102	107. / 136.	0.196	50.0	IA BB RF			1.00
25T	1.124	142. / 136.	0.588	50.0	IA VB RF			1.00
26T	0.889	237. / 164.	0.320	50.0	IA BB RF			1.00
27T	0.899	196. / 164.	0.320	50.0	IA BV RF			1.00
28T	0.899	196. / 164.	0.320	50.0	IA BV RF			1.00
29T	0.922	162. / 164.	0.971	50.0	IA BB RF			1.00
30T	1.079	65. / 164.	0.139	50.0	IA VV RF			1.00
31T	0.970	163. / 164.	0.737	50.0	IA BB RF			1.00
32T	0.979	152. / 164.	1.280	50.0	IA BV RF			1.00
33T	0.979	165. / 164.	0.204	50.0	IA VV RF			1.00
34T	0.996	138. / 164.	0.213	50.0	IA BB RF			1.00
35T	1.004	153. / 164.	0.693	50.0	IA VB RF			1.00
36T	1.011	184. / 164.	0.057	50.0	IA BB RF			1.00
37T	1.018	109. / 164.	0.054	50.0	IA BB RF			1.00
38T	1.025	168. / 164.	1.173	50.0	IA BB RF			1.00
39T	1.031	165. / 164.	0.219	50.0	IA BB RF			1.00
40T	1.066	149. / 164.	0.605	50.0	IA BB RF			1.00

1T	1.072	204. / 164.	0.459	50.0	IA BB RF		1.00
42T	1.072	166. / 164.	0.897	50.0	IA BB RF		1.00
43T	1.079	138. / 164.	0.153	50.0	IA VB RF		1.00
4T	0.905	198. / 188.	0.075	50.0	IA BB RF		1.00
5T	0.908	169. / 188.	0.214	50.0	IA VB RF		1.00
46T	0.949	248. / 188.	0.232	50.0	IA BB RF		1.00
7T	0.966	284. / 188.	0.224	50.0	IA BB RF		1.00
8T	0.985	266. / 188.	0.113	50.0	IA BB RF		1.00
49T	1.002	178. / 188.	0.944	50.0	IA BV RF		1.00
50T	1.007	178. / 188.	0.932	50.0	IA VB RF		1.00
1T	1.073	149. / 188.	0.818	50.0	IA BB RF		1.00
2T	1.139	202. / 188.	0.845	50.0	IA BB RF		1.00
53T	0.873	202. / 240.	1.405	50.0	IA BB RF		1.00
4T	0.953	149. / 240.	0.428	50.0	IA BB RF		1.00
5T	0.997	252. / 240.	0.076	50.0	IA BB RF		1.00
56T	0.998	228. / 240.	1.071	50.0	IA BV RF		1.00
7T	1.003	228. / 240.	1.019	50.0	IA VB RF		1.00
8T	1.006	149. / 240.	0.487	50.0	IA BB RF		1.00
59T	0.905	149. / 264.	1.302	50.0	IA BB RF		1.00
60T	0.953	252. / 264.	1.733	49.7	IA VB RF		1.00
1T	0.953	252. / 264.	1.731	50.0	IA VB RF		1.00
2T	0.992	252. / 264.	1.313	50.0	IA BB RF		1.00
63T	1.195	276. / 264.	1.077	50.0	IA BV RF		1.00
4T	1.201	278. / 264.	0.908	50.0	IA BB RF		1.00
5T	1.255	276. / 264.	0.943	50.0	IA BB RF		1.00
66T	0.881	82. / 136.	0.388	50.0	IA VB RF		1.00
67T	0.910	172. / 164.	1.295	50.0	IA BB RF		1.00
8T	0.907	244. / 240.	1.017	50.0	IA BB RF		1.00
9T	0.936	99. / 152.	1.533	50.0	IA BB RF		1.00
70T	0.745	112. / 152.	1.896	50.0	IA BB RF		1.00
1T	1.106	330. / 164.	0.135	50.0	IA BB RF		1.00

B1540 EXTRB 1540, SSTD50 4, 2-40-3, 11688
18-APR-89 09:26:13 TIC Maximum current=445159



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1540
Injection time: 18-APR-89 09:26:13
Comments:
EXTRB 1540, SSTD50 4, 2-40-3, 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.30	301			STD	0.70	40.0	NG/UL
2S	14.47	604			STD	0.69	40.0	NG/UL
3S	19.02	1039			STD	0.75	40.0	NG/UL
4S	22.80	1401			STD	0.71	40.0	NG/UL
5S	29.77	2068			STD	0.75	40.0	NG/UL
6S	35.60	2625			STD	0.87	40.0	NG/UL
1T	10.63	236	94. / 152.	371316. / 169638.	1	0.54	50.0	NG/UL
2T	10.80	252	93. / 152.	271764. / 169638.	1	0.79	50.0	NG/UL
3T	10.88	260	128. / 152.	283804. / 169638.	1	0.58	50.0	NG/UL
4T	11.22	293	146. / 152.	283556. / 169638.	1	0.63	50.0	NG/UL
5T	11.35	305	146. / 152.	295416. / 169638.	1	0.67	50.0	NG/UL
6T	11.72	340	108. / 152.	156668. / 169638.	1	0.83	50.0	NG/UL
7T	11.35	305	146. / 152.	277092. / 169638.	1	0.67	50.0	NG/UL

8T	12.03	371	108. /	152.	295204. /	169638.	1	0.54	50.0	NG/UL
9T	12.10	377	45. /	152.	298224. /	169638.	1	0.72	50.0	NG/UL
10T	12.40	405	108. /	152.	301296. /	169638.	1	0.83	50.0	NG/UL
1T	12.45	411	70. /	152.	127996. /	169638.	1	0.91	50.0	NG/UL
2T	12.55	420	117. /	152.	108015. /	169638.	1	0.97	50.0	NG/UL
13T	12.78	442	77. /	136.	210082. /	599968.	2	0.90	50.0	NG/UL
4T	13.35	497	82. /	136.	332740. /	599968.	2	0.74	50.0	NG/UL
5T	13.57	517	139. /	136.	150602. /	599968.	2	0.65	50.0	NG/UL
16T	13.70	530	107. /	136.	181148. /	599968.	2	0.91	50.0	NG/UL
17T	14.00	558	122. /	136.	132040. /	599968.	2	0.86	50.0	NG/UL
8T	13.93	553	93. /	136.	279372. /	599968.	2	0.92	50.0	NG/UL
9T	14.15	573	162. /	136.	205904. /	599968.	2	0.74	50.0	NG/UL
20T	14.37	594	180. /	136.	219428. /	599968.	2	0.73	50.0	NG/UL
1T	14.53	609	128. /	136.	676344. /	599968.	2	0.67	50.0	NG/UL
2T	14.72	627	127. /	136.	81836. /	599968.	2	0.80	50.0	NG/UL
23T	15.00	654	225. /	136.	102286. /	599968.	2	1.00	50.0	NG/UL
24T	15.95	746	107. /	136.	145712. /	599968.	2	0.92	50.0	NG/UL
5T	16.28	777	142. /	136.	461456. /	599968.	2	0.52	50.0	NG/UL
26T	16.87	833	237. /	164.	126654. /	318720.	3	0.80	50.0	NG/UL
27T	17.08	853	196. /	164.	135350. /	318720.	3	0.71	50.0	NG/UL
8T	17.17	861	196. /	164.	133536. /	318720.	3	0.69	50.0	NG/UL
9T	17.52	896	162. /	164.	385252. /	318720.	3	0.71	50.0	NG/UL
30T	20.53	1184	65. /	164.	55014. /	318720.	3	0.70	50.0	NG/UL
1T	18.45	984	163. /	164.	332648. /	318720.	3	0.76	50.0	NG/UL
2T	18.62	1000	152. /	164.	512720. /	318720.	3	0.75	50.0	NG/UL
33T	18.62	1000	165. /	164.	89906. /	318720.	3	0.81	50.0	NG/UL
34T	18.95	1032	138. /	164.	94947. /	318720.	3	0.85	50.0	NG/UL
5T	19.10	1046	153. /	164.	287124. /	318720.	3	0.85	50.0	NG/UL
36T	19.20	1057	184. /	164.	31254. /	318720.	3	0.88	50.0	NG/UL
37T	19.37	1072	109. /	164.	24250. /	318720.	3	0.61	50.0	NG/UL
8T	19.50	1085	168. /	164.	501840. /	318720.	3	0.75	50.0	NG/UL
9T	19.60	1095	165. /	164.	106583. /	318720.	3	0.74	50.0	NG/UL
40T	20.27	1158	149. /	164.	282232. /	318720.	3	0.75	50.0	NG/UL
1T	20.40	1171	204. /	164.	200040. /	318720.	3	0.74	50.0	NG/UL
2T	20.40	1171	166. /	164.	388324. /	318720.	3	0.55	50.0	NG/UL
43T	20.53	1184	138. /	164.	71647. /	318720.	3	0.92	50.0	NG/UL
44T	20.63	1194	198. /	188.	47799. /	394716.	4	0.83	50.0	NG/UL
5T	20.72	1201	169. /	188.	100583. /	394716.	4	0.85	50.0	NG/UL
6T	21.65	1291	248. /	188.	116660. /	394716.	4	0.75	50.0	NG/UL
47T	22.02	1326	284. /	188.	115771. /	394716.	4	1.00	50.0	NG/UL
8T	22.48	1370	266. /	188.	67286. /	394716.	4	0.97	50.0	NG/UL
9T	22.87	1407	178. /	188.	474712. /	394716.	4	0.77	50.0	NG/UL
50T	22.98	1418	178. /	188.	457028. /	394716.	4	0.83	50.0	NG/UL
51T	24.45	1559	149. /	188.	419104. /	394716.	4	0.60	50.0	NG/UL
2T	25.97	1704	202. /	188.	444596. /	394716.	4	0.80	50.0	NG/UL
53T	25.97	1704	202. /	240.	444596. /	237544.	5	0.77	50.0	NG/UL
54T	28.33	1930	149. /	240.	136548. /	237544.	5	0.91	50.0	NG/UL
5T	29.67	2058	252. /	240.	32550. /	237544.	5	0.80	50.0	NG/UL
6T	29.72	2063	228. /	240.	327724. /	237544.	5	0.84	50.0	NG/UL
57T	29.85	2076	228. /	240.	293068. /	237544.	5	0.83	50.0	NG/UL
8T	29.93	2084	149. /	240.	149806. /	237544.	5	0.87	50.0	NG/UL
9T	32.07	2288	149. /	264.	203324. /	117644.	6	0.87	50.0	NG/UL
60T	33.72	2445	252. /	264.	247962. /	117644.	6	1.00	50.0	NG/UL
61T	33.83	2456	252. /	264.	238428. /	117644.	6	0.85	50.0	NG/UL
2T	35.28	2596	252. /	264.	195090. /	117644.	6	0.89	50.0	NG/UL
63T	42.83	3318	276. /	264.	152811. /	117644.	6	0.86	50.0	NG/UL

64T	43.07	3340	278. / 264.	148678. /	117644.	6	1.00	50.0	NG/UL
65T	45.07	3531	276. / 264.	150293. /	117644.	6	0.92	50.0	NG/UL
66T	12.73	438	82. / 136.	244862. /	599968.	2	0.85	50.0	NG/UL
67T	17.28	873	172. / 164.	505712. /	318720.	3	0.81	50.0	NG/UL
68T	26.97	1800	244. / 240.	312996. /	237544.	5	0.94	50.0	NG/UL
69T	10.60	233	99. / 152.	271172. /	169638.	1	0.65	50.0	NG/UL
70T	8.38	22	112. / 152.	343672. /	169638.	1	0.88	50.0	NG/UL
71T	21.05	1234	330. / 164.	57812. /	318720.	3	1.00	50.0	NG/UL

Extended Quantitation Report

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1540
Injection time: 18-APR-89 09:26:13

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
1T	0.941	94. / 152.	1.751	50.0	IA BB RF			1.00
2T	0.956	93. / 152.	1.282	50.0	IA BB RF			1.00
3T	0.963	128. / 152.	1.338	50.0	IA BB RF			1.00
4T	0.993	146. / 152.	1.337	50.0	IA BV RF			1.00
5T	1.004	146. / 152.	1.393	50.0	IA VV RF			1.00
6T	1.037	108. / 152.	0.739	50.0	IA BV RF			1.00
7T	1.004	146. / 152.	1.307	50.0	IA VV RF			1.00
8T	1.065	108. / 152.	1.392	50.0	IA VV RF			1.00
9T	1.071	45. / 152.	1.406	50.0	IA BB RF			1.00
10T	1.097	108. / 152.	1.421	50.0	IA VB RF			1.00
11T	1.102	70. / 152.	0.604	50.0	IA BV RF			1.00
12T	1.111	117. / 152.	0.509	50.0	IA BB RF			1.00
13T	0.883	77. / 136.	0.280	50.0	IA VB RF			1.00
14T	0.923	82. / 136.	0.444	50.0	IA BB RF			1.00
15T	0.938	139. / 136.	0.201	50.0	IA VB RF			1.00
16T	0.947	107. / 136.	0.242	50.0	IA BB RF			1.00
17T	0.968	122. / 136.	0.176	50.0	IA VB RF			1.00
18T	0.963	93. / 136.	0.373	50.0	IA VB RF			1.00
19T	0.978	162. / 136.	0.275	50.0	IA BB RF			1.00
20T	0.993	180. / 136.	0.293	50.0	IA BB RF			1.00
21T	1.004	128. / 136.	0.902	50.0	IA BB RF			1.00
22T	1.017	127. / 136.	0.109	50.0	IA VB RF			1.00
23T	1.037	225. / 136.	0.136	50.0	IA BB RF			1.00
24T	1.102	107. / 136.	0.194	50.0	IA BB RF			1.00
25T	1.125	142. / 136.	0.615	50.0	IA VB RF			1.00
26T	0.887	237. / 164.	0.318	50.0	IA BB RF			1.00
27T	0.898	196. / 164.	0.340	50.0	IA BV RF			1.00
28T	0.903	196. / 164.	0.335	50.0	IA VB RF			1.00
29T	0.921	162. / 164.	0.967	50.0	IA BB RF			1.00
30T	1.079	65. / 164.	0.138	50.0	IA VV RF			1.00
31T	0.970	163. / 164.	0.835	50.0	IA BB RF			1.00
32T	0.979	152. / 164.	1.287	50.0	IA BV RF			1.00
33T	0.979	165. / 164.	0.226	50.0	IA BV RF			1.00
34T	0.996	138. / 164.	0.238	50.0	IA BB RF			1.00
35T	1.004	153. / 164.	0.721	50.0	IA VB RF			1.00
36T	1.009	184. / 164.	0.078	50.0	IA BB RF			1.00
37T	1.018	109. / 164.	0.061	50.0	IA BV RF			1.00
38T	1.025	168. / 164.	1.260	50.0	IA BB RF			1.00
39T	1.030	165. / 164.	0.268	50.0	IA BB RF			1.00
40T	1.066	149. / 164.	0.708	50.0	IA BB RF			1.00

41T	1.073	204. / 164.	0.502	50.0	IA BB RF	1.00
42T	1.073	166. / 164.	0.975	50.0	IA BB RF	1.00
43T	1.079	138. / 164.	0.180	50.0	IA VB RF	1.00
44T	0.905	198. / 188.	0.097	50.0	IA BB RF	1.00
45T	0.909	169. / 188.	0.204	50.0	IA VB RF	1.00
46T	0.950	248. / 188.	0.236	50.0	IA BB RF	1.00
47T	0.966	284. / 188.	0.235	50.0	IA BB RF	1.00
48T	0.986	266. / 188.	0.136	50.0	IA BB RF	1.00
49T	1.003	178. / 188.	0.962	50.0	IA BV RF	1.00
50T	1.008	178. / 188.	0.926	50.0	IA VB RF	1.00
51T	1.072	149. / 188.	0.849	50.0	IA BB RF	1.00
52T	1.139	202. / 188.	0.901	50.0	IA BB RF	1.00
53T	0.872	202. / 240.	1.497	50.0	IA BB RF	1.00
54T	0.952	149. / 240.	0.460	50.0	IA BB RF	1.00
55T	0.997	252. / 240.	0.110	50.0	IA BB RF	1.00
56T	0.998	228. / 240.	1.104	50.0	IA BV RF	1.00
57T	1.003	228. / 240.	0.987	50.0	IA VB RF	1.00
58T	1.005	149. / 240.	0.505	50.0	IA BB RF	1.00
59T	0.901	149. / 264.	1.383	50.0	IA BB RF	1.00
60T	0.947	252. / 264.	1.686	50.0	IA BV RF	1.00
61T	0.950	252. / 264.	1.621	50.0	IA VB RF	1.00
62T	0.991	252. / 264.	1.327	50.0	IA BB RF	1.00
63T	1.203	276. / 264.	1.039	50.0	IA BV RF	1.00
64T	1.210	278. / 264.	1.011	50.0	IA BB RF	1.00
65T	1.266	276. / 264.	1.022	50.0	IA BB RF	1.00
66T	0.880	82. / 136.	0.326	50.0	IA VB RF	1.00
67T	0.909	172. / 164.	1.269	50.0	IA BB RF	1.00
68T	0.906	244. / 240.	1.054	50.0	IA BB RF	1.00
69T	0.938	99. / 152.	1.279	50.0	IA BV RF	1.00
70T	0.742	112. / 152.	1.621	50.0	IA BB RF	1.00
71T	1.107	330. / 164.	0.145	50.0	IA BB RF	1.00

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID (Standard): B1509 Date Analyzed: 4/13/89

Instrument ID: EXTRB Time Analyzed: 8:58

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	82130.	11.38	332668.	14.55	152072.	19.08
	UPPER LIMIT	164260.	11.88	665336.	15.05	304144.	19.58
	LOWER LIMIT	41065.	10.88	166334.	14.05	76036.	18.58
	EPA SAMPLE NO.						
1	SBLK01	117850.	11.38	497952.	14.55	252152.	19.10
2	EBQ18	136822.	11.30	583264.	14.43	301116.	18.95
3	EBQ18MS	140818.	11.30	528424.	14.45	232054.	19.00
4	EBQ18MSD	150546.	11.27	598664.	14.43	301536.	18.98
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d8

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

Column used to flag internal standard area values with an asterisk

8C
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID (Standard): B1509 Date Analyzed: 4/13/89

Instrument ID: EXTRB Time Analyzed: 8:58

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	189752.	22.88	124559.	29.90	62370.	35.80
	UPPER LIMIT	379504.	23.38	249118.	30.40	124740.	36.30
	LOWER LIMIT	94876.	22.38	62280.	29.40	31185.	35.30
	EPA SAMPLE NO.						
1	SBLK01	330004.	22.92	167606.	29.97	61588.	35.97
2	EBQ18	357528.	22.75	225780.	29.68	32340.	35.85
3	EBQ18MS	239546.	22.80	141948.	29.80	35966.	35.65
4	EBQ18MSD	365476.	22.78	240440.	29.77	95128.	35.65
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

Column used to flag internal standard area values with an asterisk

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID (Standard): B1522 Date Analyzed: 4/14/89

Instrument ID: EXTRB Time Analyzed: 10:57

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	133860.	11.33	516688.	14.50	289856.	19.05
	UPPER LIMIT	267720.	11.83	1033376.	15.00	579712.	19.55
	LOWER LIMIT	66930.	10.83	258344.	14.00	144928.	18.55
	EPA SAMPLE NO.						
1	EBQ21	144336.	11.27	547376.	14.42	334124.	18.98
2	EBQ23	138400.	11.30	533616.	14.45	334872.	18.97
3	EBQ22	211864.	11.33	838080.	14.50	454392.	19.05
4	EBQ24	159590.	11.33	590792.	14.50	305208.	19.08
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d8

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

Column used to flag internal standard area values with an asterisk

8C
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID (Standard): B1522 Date Analyzed: 4/14/89

Instrument ID: EXTRB Time Analyzed: 10:57

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	379048.	22.85	266440.	29.85	166248.	35.67
	UPPER LIMIT	758096.	23.35	532880.	30.35	332496.	36.17
	LOWER LIMIT	189524.	22.35	133220.	29.35	83124.	35.17
	EPA SAMPLE NO.						
1	EBQ21	516288.	22.82	337440.	29.88	117857.	35.88
2	EBQ23	487892.	22.77	325630.	29.72	138423.	35.65
3	EBQ22	513816.	22.85	180888.	29.83	84605.	35.70
4	EBQ24	340684.	22.92	139040.	30.00	88016.	36.08
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

Column used to flag internal standard area values with an asterisk

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID (Standard): B1529 Date Analyzed: 4/17/89

Instrument ID: EXTRB Time Analyzed: 8:37

	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
12 HOUR STD	135158.	11.32	523104.	14.43	240948.	18.92
UPPER LIMIT	270316.	11.82	1046208.	14.93	481896.	19.42
LOWER LIMIT	67579.	10.82	261552.	13.93	120474.	18.42
EPA SAMPLE NO.						
1 EBQ25	165650.	11.28	636600.	14.45	373020.	19.00
2 EBQ26	172910.	11.33	654472.	14.50	389688.	19.07
3 EBQ27	118516.	11.23	450872.	14.37	250384.	18.92
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d8

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

Column used to flag internal standard area values with an asterisk

8C
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID (Standard): B1529 Date Analyzed: 4/17/89

Instrument ID: EXTRB Time Analyzed: 8:37

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	250276.	22.68	150522.	29.60	68780.	35.20
	UPPER LIMIT	500552.	23.18	301044.	30.10	137560.	35.70
	LOWER LIMIT	125138.	22.18	75261.	29.10	34390.	34.70
	EPA SAMPLE NO.						
1	EBQ25	497000.	22.80	223166.	29.77	63611.	35.60
2	EBQ26	500096.	22.87	293268.	29.88	110086.	35.73
3	EBQ27	326336.	22.72	123896.	29.70	38353.	35.45
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

Column used to flag internal standard area values with an asterisk

8B
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID (Standard): B1540 Date Analyzed: 4/18/89

Instrument ID: EXTRB Time Analyzed: 9:26

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	169638.	11.30	599968.	14.47	318720.	19.02
	UPPER LIMIT	339276.	11.80	1199936.	14.97	637440.	19.52
	LOWER LIMIT	84819.	10.80	299984.	13.97	159360.	18.52
	EPA SAMPLE NO.						
1	EBQ28	153500.	11.25	546608.	14.40	337544.	18.95
2	EBQ29	177660.	11.35	640472.	14.53	388680.	19.10
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d8

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

Column used to flag internal standard area values with an asterisk

8C
SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab File ID (Standard): B1540 Date Analyzed: 4/18/89

Instrument ID: EXTRB Time Analyzed: 9:26

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	394716.	22.80	237544.	29.77	117644.	35.60
	UPPER LIMIT	789432.	23.30	475088.	30.27	235288.	36.10
	LOWER LIMIT	197358.	22.30	118772.	29.27	58822.	35.10
	EPA SAMPLE NO.						
1	EBQ28	463812.	22.77	153788.	29.78	62822.	35.65
2	EBQ29	499829.	23.03	176766.	29.95	59109.	35.85
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

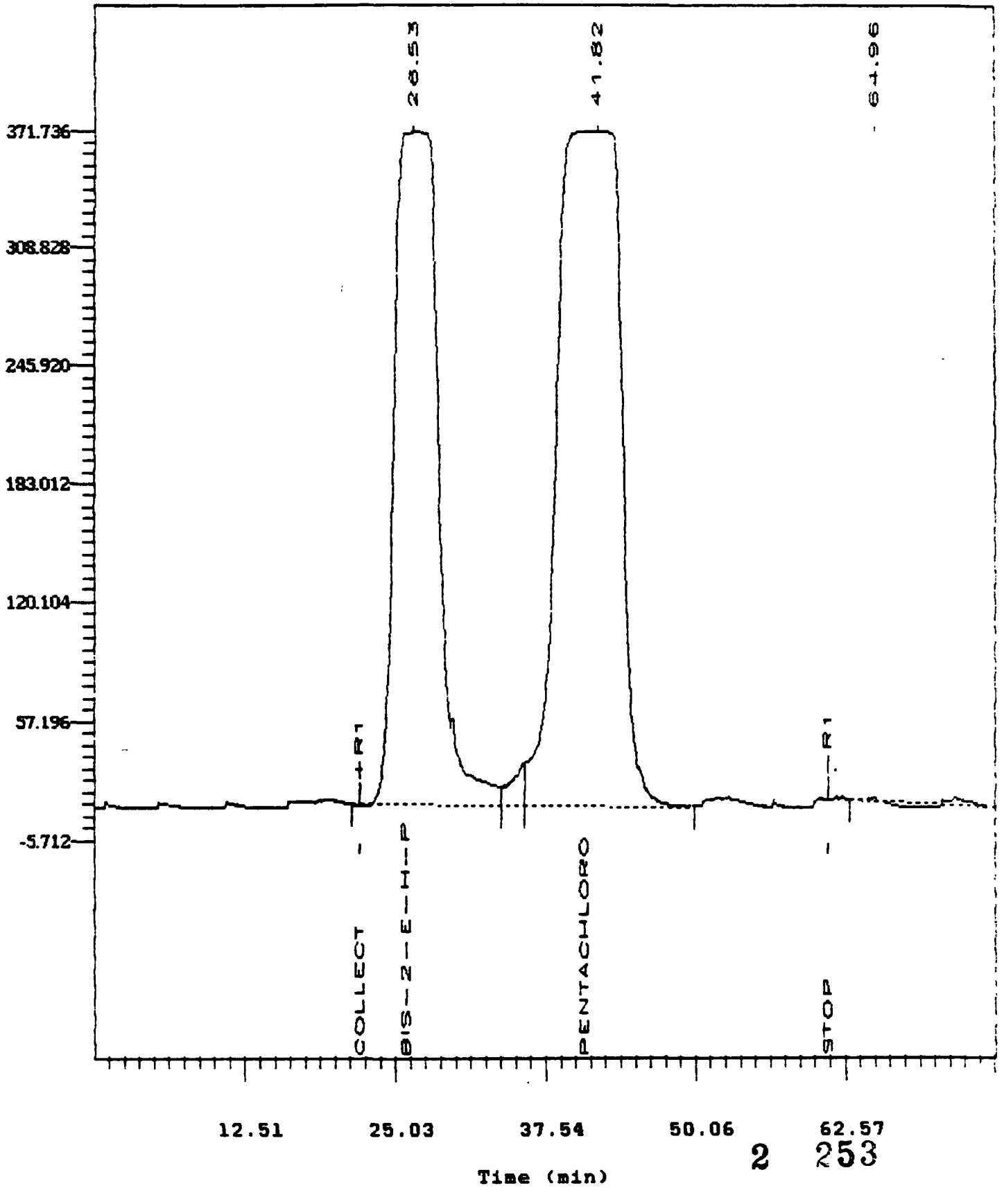
UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag internal standard area values with an asterisk

Run #: H420 Case #: 11688
Date: 4-5-89 SMO #:
Time: 17:09 TRAL #: 3-49-1
Inst: H SDG #: E8Q18

GPC Chromatogram

FileName : c:\2700\instH\H420.raw Date: 4-5-89 19:39 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 12262 uV High Point: 371736 uV
Vertical Scale Factor: 1.00 Plot Offset: -6 mV Plot Scale: 377 mV



Three Rivers
Analytical Laboratories Inc.

450 William Pitt Way
Pittsburgh, Pennsylvania 15238

Telephone (412) 826-5477
FAX (412) 963-6578
TELEX 812316

GPC
% RECOVERY
SUMMARY SHEET

DATE: 4-6-89 ANALYST: GMG

CASE #: 11688 BNA Run

STANDARD #: 3-49-1

Before GPC:	Area 1	Area 2	Area 3	Average
Pentachlorophenol:	33926	33474	56724	41375
Bis-2-ethylhexylphthalate:	74683	72901	97764	81782

After GPC:	Area 1	Area 2	Area 3	Average
Pentachlorophenol:	36279	46406	46385	43023
Bis-2-ethylhexylphthalate:	71696	70444	73967	72036

% RECOVERY

Pentachlorophenol: $\frac{43023}{41375} \times 100 =$ 104% % Recovery

Bis-2-ethylhexylphthalate: $\frac{72036}{81782} \times 100 =$ 88.1% % Recovery

10.62 10.52
11.88
13.53
14.53

ER 0

GPC 04:06:89 08:40:13 CH= "A" PS= 1.

FILE 1. METHOD 1. RUN 69 INDEX 70

NAME	CONC	RT	AREA	BC	RF
1	0.	1.72	16411785	01	
2	0.	4.52	137	01	
3	0.	9.28	65	01	
4	0.	10.19	242	01	
5	0.	10.52	1892	02	
6	0.	10.62	792	03	
7	0.	11.88	181	01	
8	0.	13.53	1174	01	
9	0.	14.53	3760	01	
TOTALS	0.		16420028		

CHANNEL A INJECT 04:06:89 09:05:41

AZ 1 AT 8

1.76

Operator GHG	Date 4-6-89
Stationary Phase DBS	Instrument E Detector FID
Film Thickness 1micron2	Range 11 Attenuation 16
Column No. ____ Type ____	Flow Rates, cc/min.
Length 30 OD 0.32	Make-up ____ Type ____
Carrier Gas He	Hydrogen ____ Air ____
Q ____ Flow ____	On Column ☐ Split ☐ Splitless Injection ☑
Chart Speed 0.5	Ratio ____ Hold Time ____
Sample GPC Std	Temperature – Det. 280 Inj. 280
Size ____ Solvent MeCl2	Column Initial 50 Time 0
Concentrations ____	Rate 20 Final 300 Time 5.5

E730
MeCl2

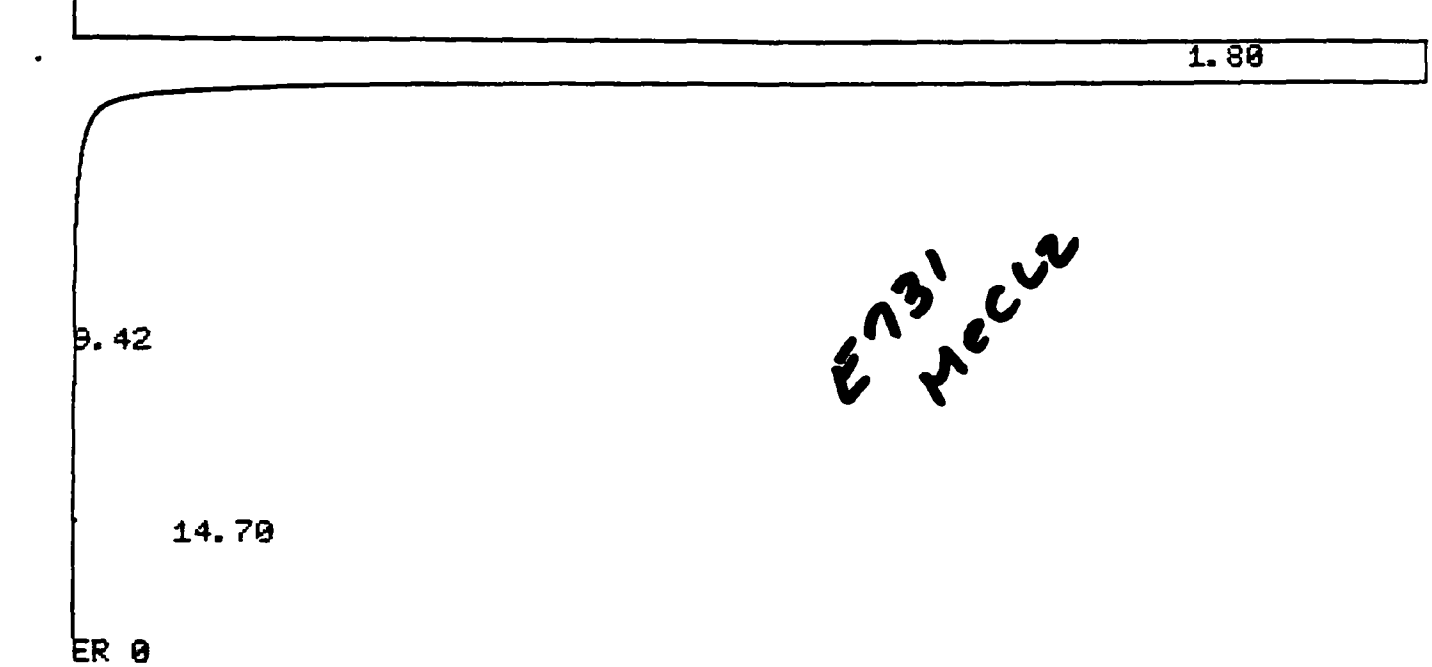
E

GPC 04:06:89 09:05:41 CH= "A" PS= 1.

FILE 1. METHOD 1. RUN 70 INDEX 71

NAME	CONC	RT	AREA	BC	RF
1	0.	1.76	15529985	01	
TOTALS	0.		15529985		

CHANNEL A INJECT 04:06:89 09:33:26

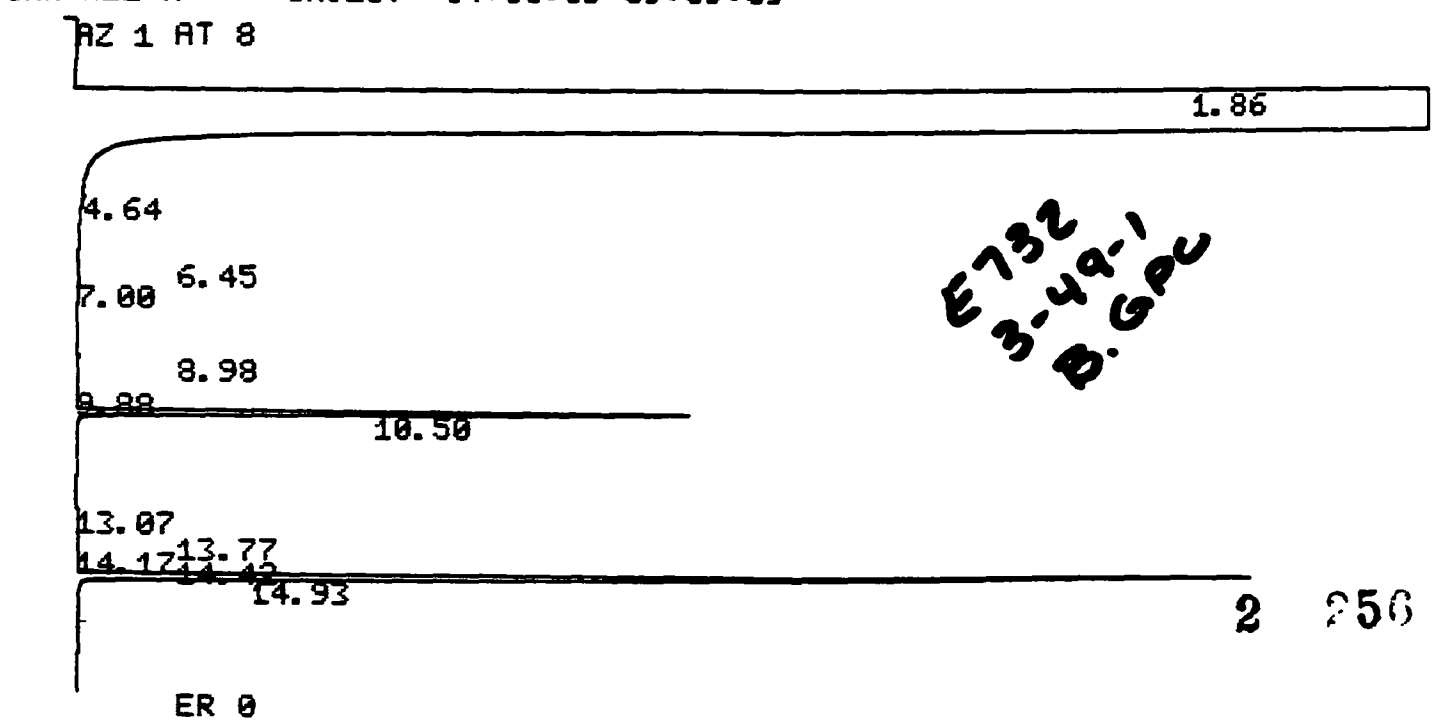


GPC 04:06:89 09:33:26 CH= "A" PS= 1.

FILE 1. METHOD 1. RUN 71 INDEX 72

NAME	CONC	RT	AREA	BC	RF
1	0.	1.8	14774727	01	
2	0.	9.42	31	01	
3	0.	14.7	29	01	
TOTALS	0.		14774787		

CHANNEL A INJECT 04:06:89 09:59:59



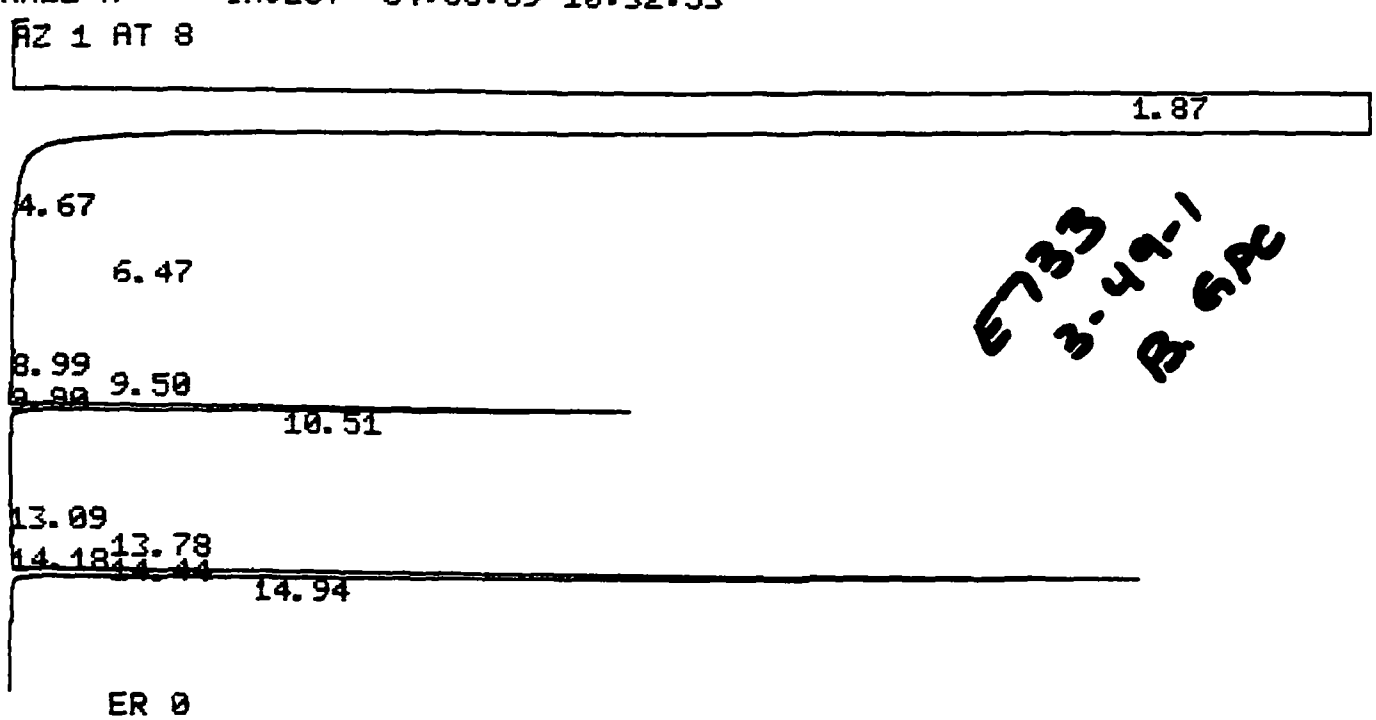
2 256

GPC 04:06:89 09:59:59 CH= "A" PS= 1.

FILE 1. METHOD

NAME	CONC	RT	AREA	BC	RF
1	0.	1.86	11139667	01	
2	0.	4.64	91	01	
3	0.	6.45	47	01	
4	0.	7.	13	01	
5	0.	8.98	97	01	
6	0.	9.88	51	01	
7	0.	10.5	33926	01	
8	0.	13.07	26	01	
9	0.	13.77	16	01	
10	0.	14.17	61	01	
11	0.	14.42	52	01	
12	0.	14.93	74683	01	
TOTALS	0.		11248730		

CHANNEL A INJECT 04:06:89 10:32:53



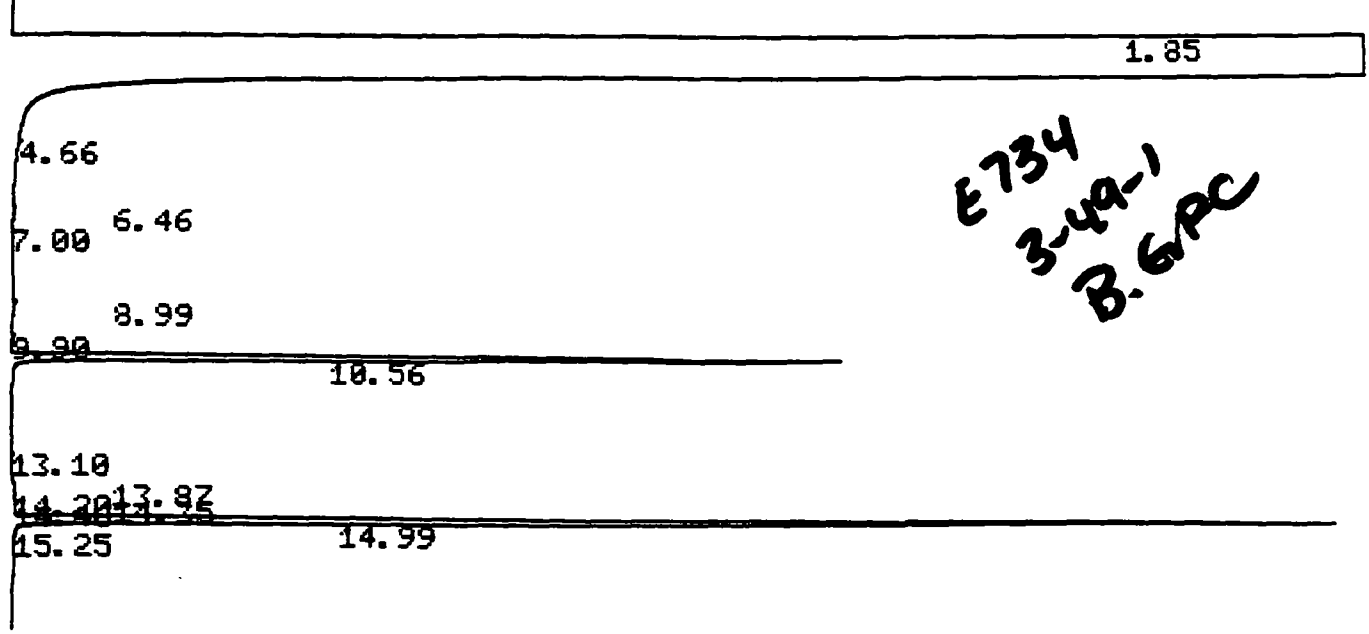
E733
3.49-1
B GPC

GPC 04:06:89 10:32:53 CH= "A" PS= 1.

FILE 1. METHOD 1. RUN 73 INDEX 74

NAME	CONC	RT	AREA	BC	RF
1	0.	1.87	10935352	01	
2	0.	4.67	75	01	
3	0.	6.47	46	01	
4	0.	8.99	93	01	
5	0.	9.5	40	01	
6	0.	9.9	51	01	
7	0.	10.51	33474	01	
8	0.	13.09	24	01	
9	0.	13.78	20	01	
10	0.	14.18	59	01	
11	0.	14.44	51	01	
12	0.	14.94	72901	01	
TOTALS	0.		[illegible]		

CHANNEL A INJECT 04:06:89 10:56:36



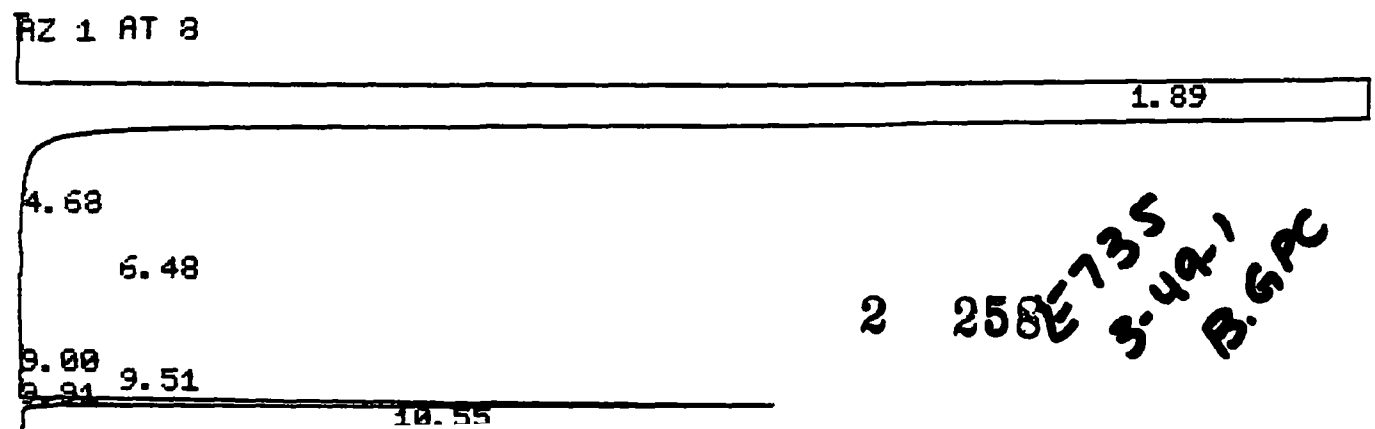
E734
3-49-1
B.GPC

GPC 04:06:89 10:56:36 CH= "A" PS= 1.

FILE 1. METHOD 1. RUN 74 INDEX 75

NAME	CONC	RT	AREA	BC	RF
1	0.	1.85	11772052	01	
2	0.	4.66	65	01	
3	0.	6.46	51	01	
4	0.	7.	13	01	
5	0.	8.99	144	01	
6	0.	9.9	77	01	
7	0.	10.56	56724	01	
8	0.	13.1	38	01	
9	0.	13.87	47	01	
10	0.	14.2	92	01	
11	0.	14.35	35	01	
12	0.	14.46	74	01	
13	0.	14.99	97764	01	
14	0.	15.25	59	01	
TOTALS	0.		11927235		

CHANNEL A INJECT 04:06:89 11:26:44



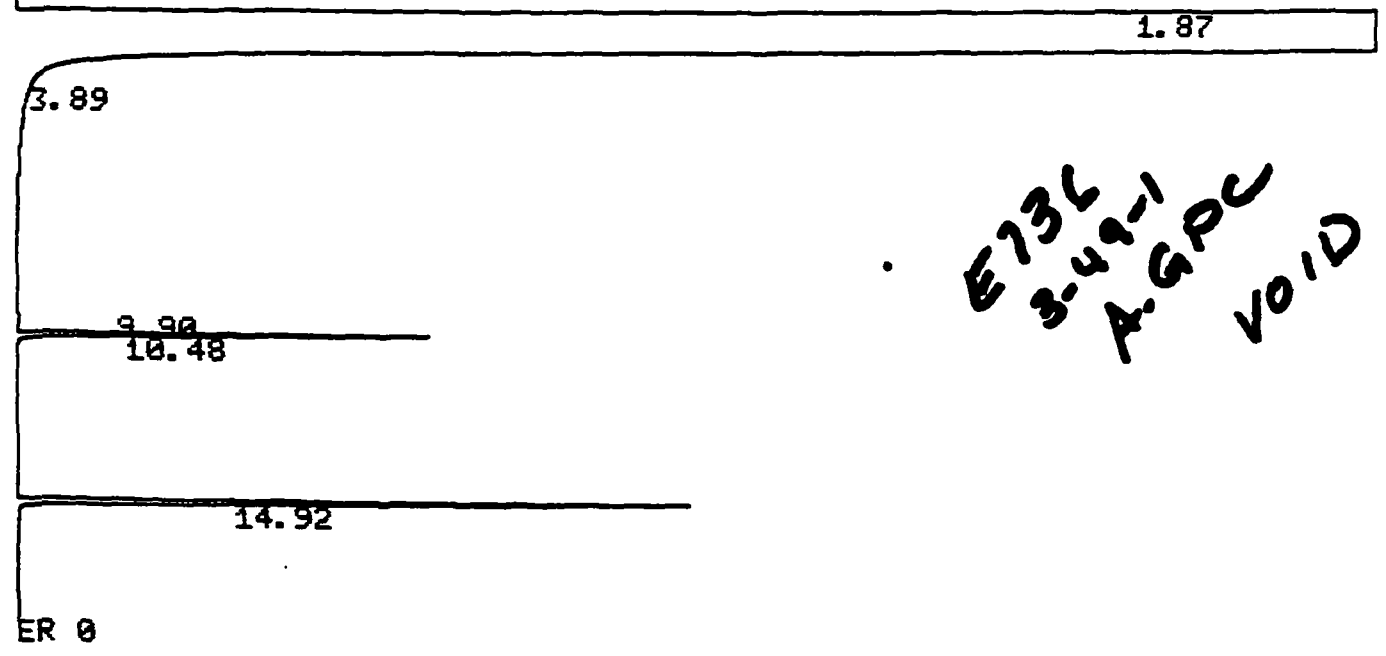
E735
3-49-1
B.GPC

GPC 04:06:89 11:26:44 CH= "A" PS= 1.

FILE 1. METHOD 1. RUN 75 INDEX 76

NAME	CONC	RT	AREA	BC	RF
1	0.	1.89	10237929	01	
2	0.	4.68	61	01	
3	0.	6.48	41	01	
4	0.	9.	112	01	
5	0.	9.51	26	01	
6	0.	9.91	69	01	
7	0.	10.55	47384	01	
8	0.	13.1	28	01	
9	0.	14.18	64	01	
10	0.	14.45	50	01	
11	0.	14.96	73366	01	
TOTALS	0.		10359130		

CHANNEL A INJECT 04:06:89 11:53:18



E73L
3-4-9-1
A-GPC
VOID

GPC 04:06:89 11:53:18 CH= "A" PS= 1.

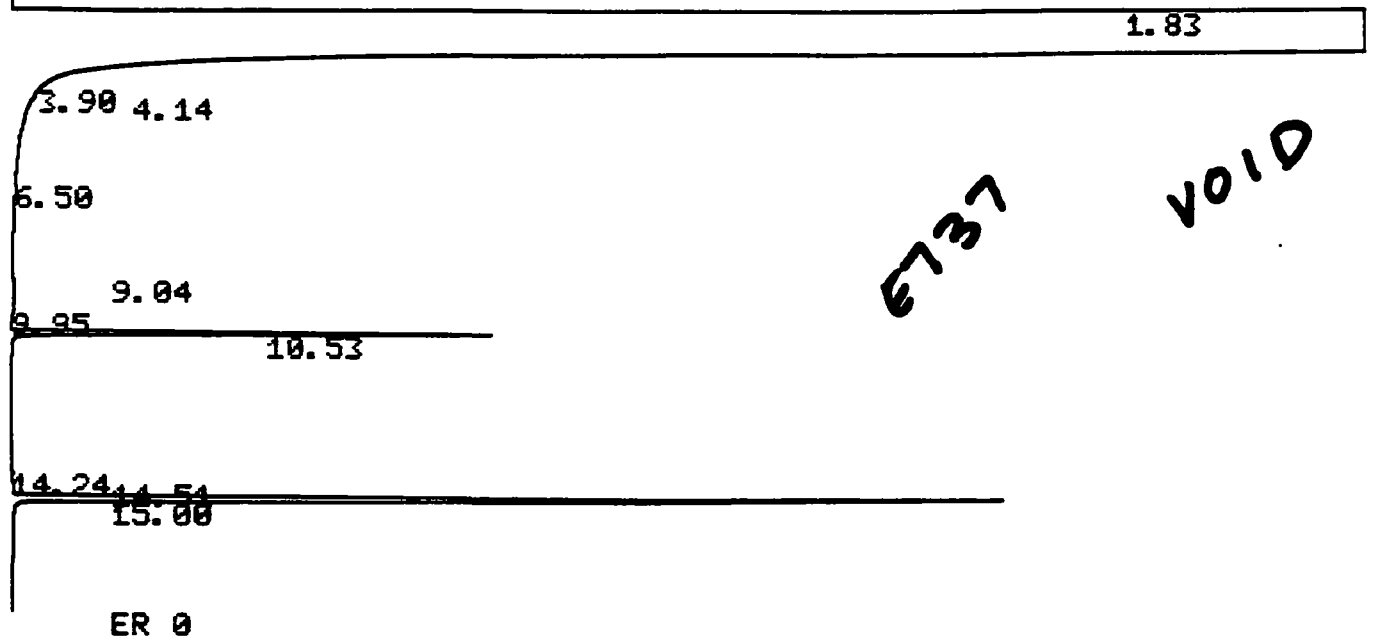
FILE 1. METHOD 1. RUN 76 INDEX 77

NAME	CONC	RT	AREA	BC	RF
1	0.	1.87	10951038	08	
2	0.	3.89	19	05	

4	0.	10.48	17523	01
5	0.	14.92	31593	01
TOTALS	0.		11000195	

CHANNEL A INJECT 04:06:89 12:17:52

AZ 1 AT 8



E737 VOID

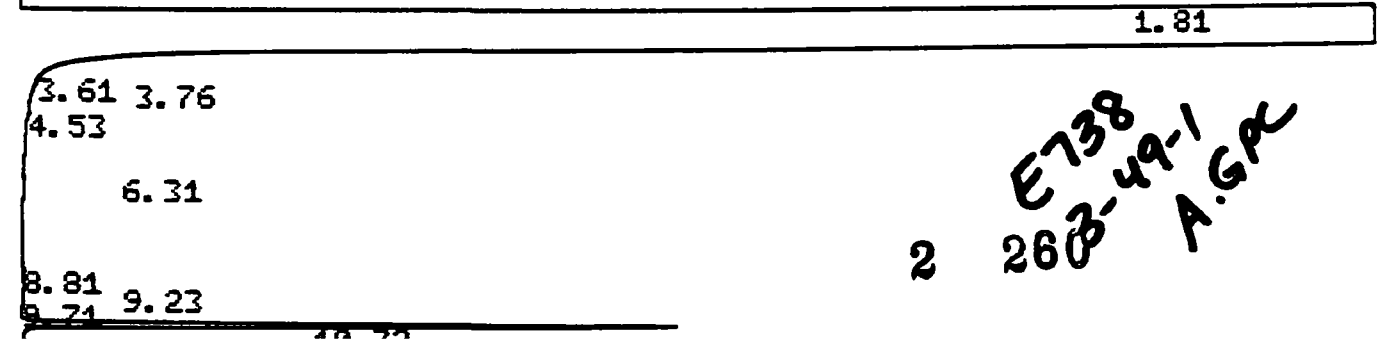
GPC 04:06:89 12:17:52 CH= "A" PS= 1.

FILE 1. METHOD 1. RUN 77 INDEX 78

NAME	CONC	RT	AREA	BC	RF
1	0.	1.83	17189029	08	
2	0.	3.9	51	05	
3	0.	4.14	12	05	
4	0.	6.5	24	01	
5	0.	9.04	49	01	
6	0.	9.95	29	01	
7	0.	10.53	22775	01	
8	0.	14.24	47	01	
9	0.	14.51	35	01	
10	0.	15.	60145	01	
TOTALS	0.		17272196		

CHANNEL A INJECT 04:06:89 15:09:16

AZ 1 AT 8



E738 3-49-1 A.GPC

2 260

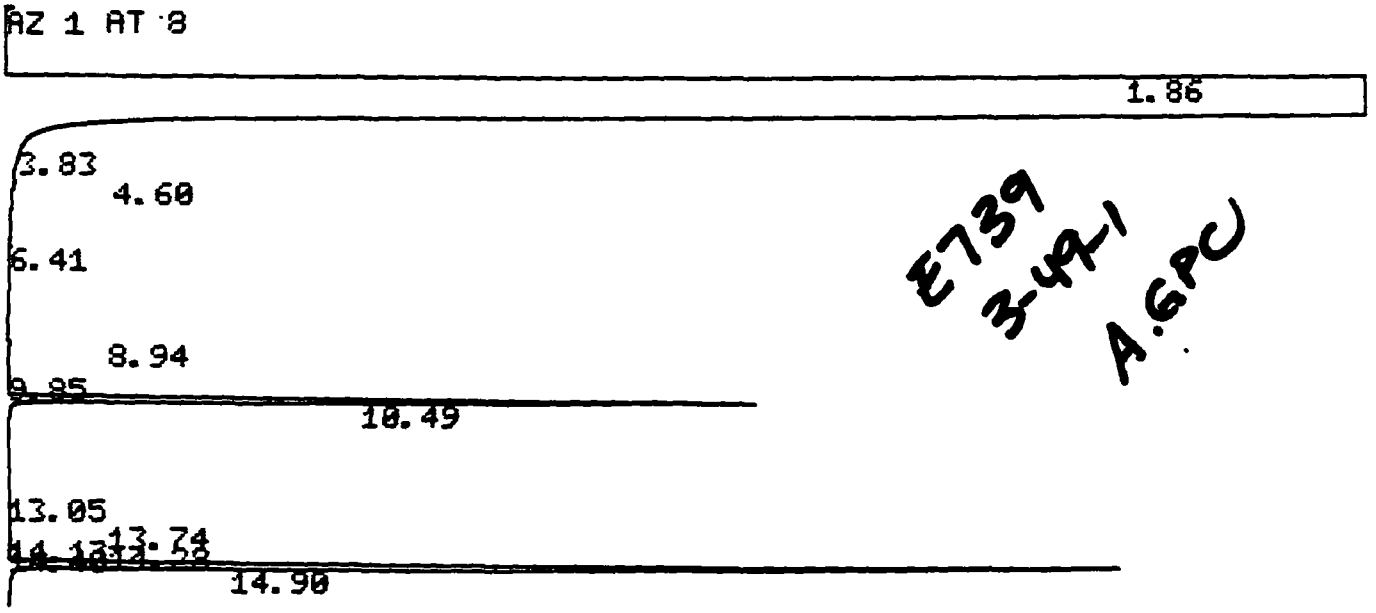
GPC 04:06:89 15:09:16 CH= "A" PS= 1.

FILE 1. METHOD 1. RUN 78 INDEX 79

NAME	CONC	RT	AREA	BC	RF
1	0.	1.81	10936550	09	
2	0.	3.76	36	05	
3	0.	4.53	55	01	
4	0.	6.31	46	01	
5	0.	8.81	66	01	
6	0.	9.23	318	01	
7	0.	9.71	46	01	
8	0.	10.32	36279	01	
9	0.	10.76	130	01	
10	0.	12.87	27	01	
11	0.	13.55	199	01	
12	0.	13.94	54	01	
13	0.	14.19	47	01	
14	0.	14.69	71696	01	
TOTALS	0.		11045549		

CHANNEL A INJECT 04:06:89 15:35:21

AZ 1 AT 8



E739
3-4-1
A.GPC

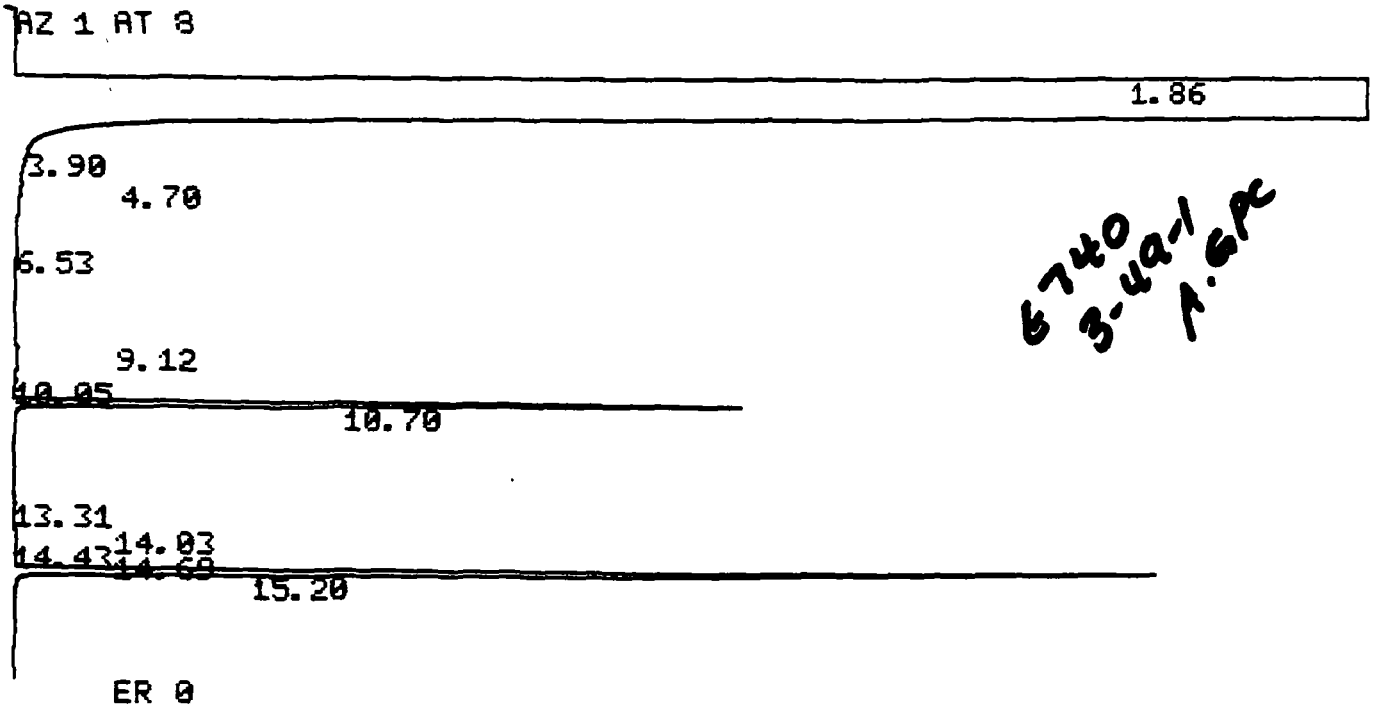
GPC 04:06:89 15:35:21 CH= "A" PS= 1.

FILE 1. METHOD 1. RUN 79 INDEX 80

NAME	CONC	RT	AREA	BC	RF
1	0.	1.86	10061741	08	
2	0.	3.83	35	05	
3	0.	4.6	39	01	
4	0.	6.41	[illegible]	[illegible]	

[redacted]	0.	9.85	60	01
7	0.	10.49	46406	01
8	0.	13.05	29	01
9	0.	13.74	23	01
10	0.	14.13	62	01
11	0.	14.28	40	02
12	0.	14.4	53	03
13	0.	14.9	70444	01
TOTALS	0.		10179057	

CHANNEL A INJECT 04:06:89 15:57:18



6740
3-49-1
1.6PC

GPC 04:06:89 15:57:18 CH= "A" PS= 1.

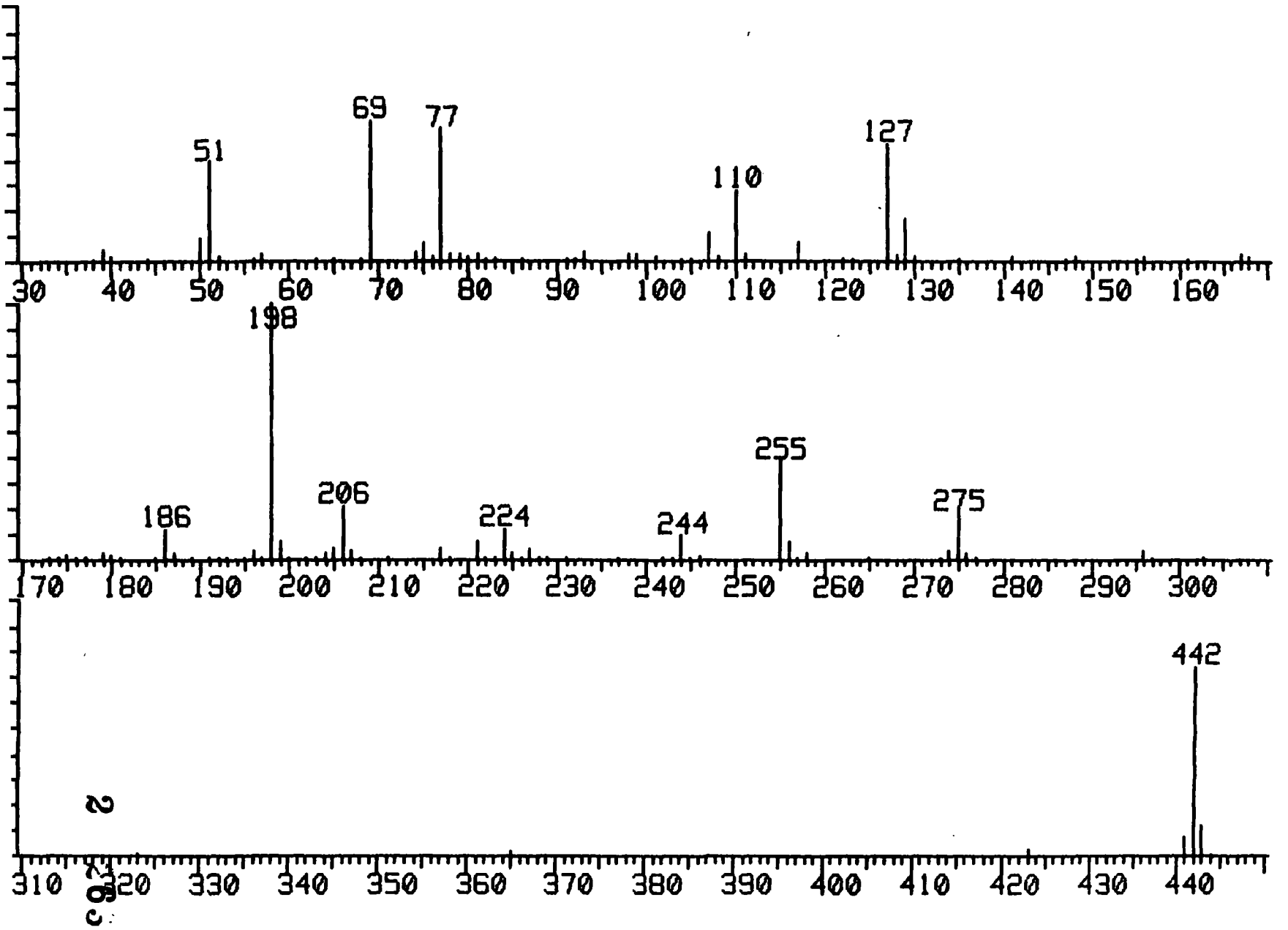
FILE 1. METHOD 1. RUN 80 INDEX 81

NAME	CONC	RT	AREA	BC	RF
1	0.	1.86	10730163	08	
2	0.	3.9	45	05	
3	0.	4.7	51	01	
4	0.	6.53	43	01	
5	0.	9.12	85	01	
6	0.	10.05	58	01	
7	0.	10.7	46385	01	
8	0.	13.31	27	01	
9	0.	14.03	23	01	
10	0.	14.43	59	01	
11	0.	14.69	45	01	
12	0.	15.2	73967	01	
TOTALS	0.		10850951		

BNA
RAW DATA

31255 EXTRB 1255, 50NG DFTPP
01-MAR-89 07:40:48 Scan 187 Time 10.28 Min.
100 % = 21248

Total Scale
172502 1*



2

B1255 EXTRB 1255, 50NG DFTPP
01-MAR-89 07:40:48 SCAN 187 TIME 10.28 MIN.
100 % = 21248

38	0.88	103	0.78	168	2.03	226	0.53
39	4.26	104	1.01	169	0.53	227	3.79
40	1.70	105	1.16	173	0.84	228	0.53
41	0.52	106	0.50	174	0.93	229	1.21
43	0.53	107	11.60	175	1.65	231	0.69
44	1.26	108	1.89	176	0.83	237	0.51
49	0.60	109	0.58	177	0.64	242	0.81
50	9.34	110	27.71	179	2.96	243	0.76
51	39.16	111	3.59	180	1.76	244	9.94
52	1.96	112	0.59	181	0.86	245	1.28
53	0.51	116	0.68	185	1.30	246	1.42
56	1.17	117	7.83	186	11.90	255	38.40
57	3.10	118	0.56	187	2.82	256	6.70
62	0.68	122	0.91	189	0.62	257	0.63
63	1.28	123	1.17	191	0.58	258	2.01
65	1.04	124	0.66	192	0.99	265	0.74
68	0.94	125	0.69	193	1.03	273	1.28
69	55.35	127	46.23	195	0.58	274	3.31
73	0.61	128	3.61	196	3.17	275	18.83
74	4.02	129	16.57	197	0.98	276	2.98
75	7.83	130	1.46	198	100.00	277	1.37
76	2.40	134	0.55	199	6.63	296	3.54
77	51.81	135	1.25	200	0.64	297	0.53
78	3.41	136	0.59	202	0.61	303	0.53
79	2.56	137	0.72	203	0.73	323	1.36
80	2.23	141	1.84	204	2.72	334	0.81
81	3.18	142	0.62	205	4.42	354	0.56
82	1.17	147	1.07	206	21.16	365	1.51
83	1.32	148	1.67	207	3.25	372	0.67
84	0.54	149	0.57	208	0.90	402	0.53
85	0.68	153	0.62	211	1.07	403	0.66
86	1.14	154	0.78	217	4.72	422	0.51
91	0.93	155	1.05	218	0.55	423	3.17
92	0.92	156	1.79	221	7.45	424	0.82
93	4.16	160	0.59	222	0.75	441	7.91
98	3.44	161	1.01	223	1.31	442	74.02
99	2.93	165	0.62	224	11.75	443	12.65
100	0.51	166	0.69	225	2.96	444	1.27
101	1.52	167	3.37				

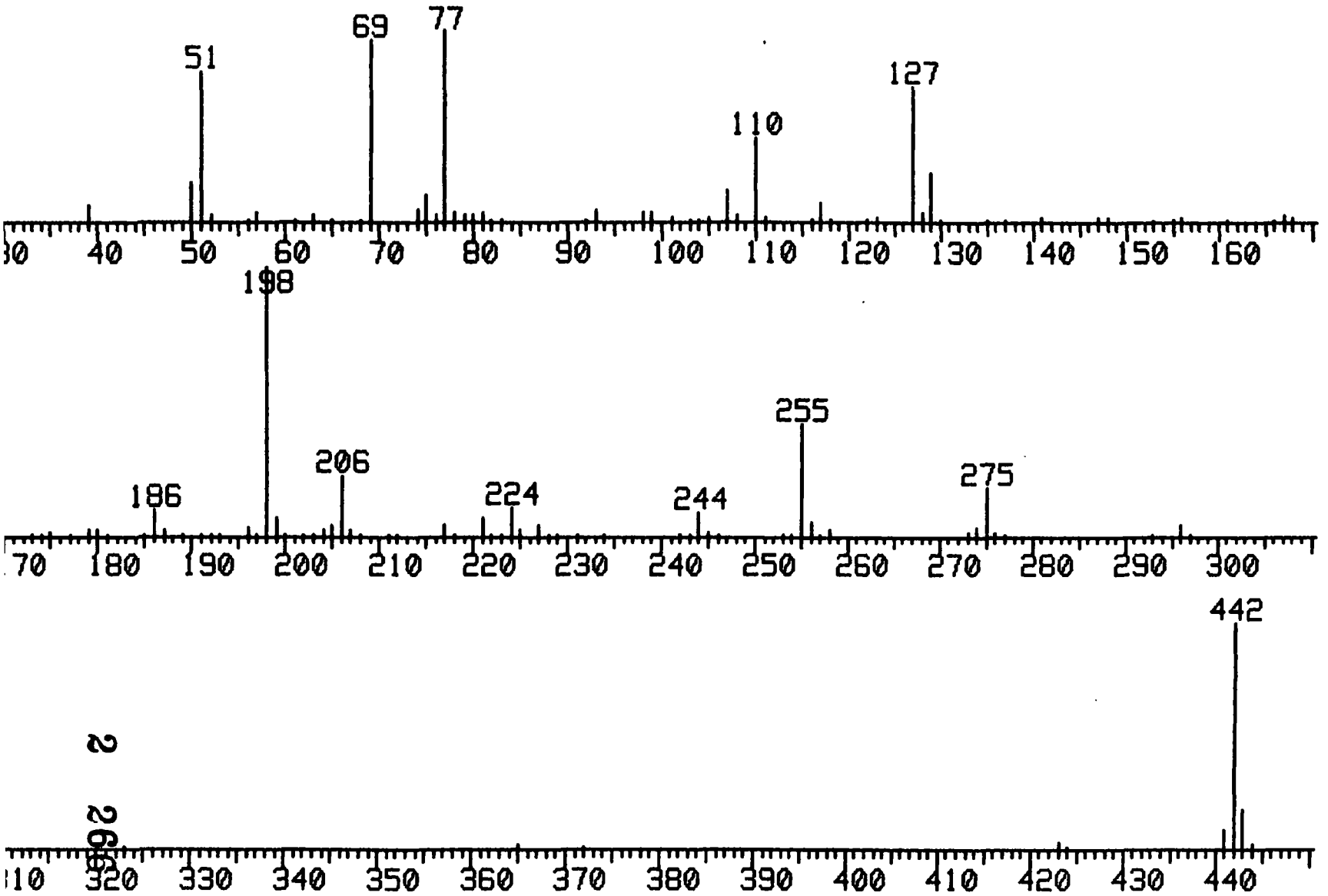
SPECTRUM: B1255 03/01/89 RIC: 44353.
INSTRUMENT: EXTREL ANALYST:
SAMPLE: EXTRB 1255, 50NG DFTPP
CONDITIONS:
187

SPECTRUM FIT TO DFT CRITERIA

M/Z	INTEN	LIMITS	FOUND RA	
51	8320.	30-60% OF 198	39.16	OK
68	200.	<2% OF 69	1.70	OK
69	11760.	NOT SPECIFIED	55.35	OK
70	70.	<2% OF 69	0.60	OK
127	9824.	40-60% OF 198	46.23	OK
197	209.	<1% OF 198	0.98	OK
198	21248.	100% (BASE PK)	100.00	OK
199	1408.	5-9% OF 198	6.63	OK
275	4000.	10-30% OF 198	18.83	OK
365	320.	> 1% OF 198	1.51	OK
441	1680.	<100% OF 443	62.50	OK
442	15728.	> 40% OF 198	74.02	OK
443	2688.	17-23% OF 442	17.09	OK

1508 EXTRB 1508, 50NG DFTPP
3-APR-89 08:23:14 Scan 245 Time 10.88 Min.
Kg scans * 1.00 2 217 100 % = 12464

Total Scale
110467 1*



31508 EXTRB 1508, 50NG DFTPP
13-APR-89 08:23:14 SCAN 245 TIME 10.88 MIN.
3CKG SCANS * 1.00 2 217 100 % = 12464

38	0.79	107	12.58	169	0.75	228	0.63
39	6.44	108	2.80	173	0.76	229	1.23
50	14.75	109	0.65	174	0.96	231	0.83
51	55.93	110	31.19	175	1.49	234	0.54
52	2.71	111	2.50	177	0.93	242	0.79
56	1.17	112	0.79	179	2.65	243	0.65
57	3.81	116	0.92	180	2.11	244	9.24
58	0.54	117	8.00	181	0.74	245	1.46
61	0.95	118	1.00	185	1.28	246	1.20
63	2.57	120	0.57	186	10.14	253	0.51
65	1.11	122	1.13	187	3.05	254	0.52
68	1.14	123	1.56	189	1.02	255	42.23
69	67.55	124	0.81	191	0.79	256	5.52
74	5.13	127	50.45	192	1.15	257	0.55
75	10.14	128	4.19	193	1.28	258	2.05
76	2.59	129	18.36	196	3.22	273	1.60
77	71.05	130	1.35	197	0.66	274	3.31
78	3.89	135	1.11	198	100.00	275	18.36
79	3.13	136	0.71	199	6.95	276	1.89
80	2.69	137	1.20	200	0.65	277	1.15
81	3.81	141	1.77	202	0.67	293	0.61
82	1.17	142	0.82	203	0.95	296	3.76
83	1.06	147	1.47	204	2.43	297	0.57
85	0.77	148	2.50	205	4.35	323	1.35
86	0.67	149	0.68	206	22.46	334	0.76
87	0.61	151	0.52	207	2.80	352	0.74
91	0.72	153	0.87	208	0.61	365	1.55
92	1.20	155	1.35	211	0.90	372	0.96
93	4.57	156	1.82	212	0.88	421	0.51
96	0.71	157	0.51	217	4.51	422	0.63
98	3.83	158	0.63	218	0.69	423	3.57
99	3.85	159	0.54	221	6.86	424	1.27
101	2.01	161	0.91	222	0.95	441	7.35
103	0.88	165	0.82	223	1.15	442	84.34
104	1.20	166	0.96	224	10.78	443	14.76
105	1.54	167	3.69	225	3.02	444	1.44
106	0.63	168	2.42	227	3.71		

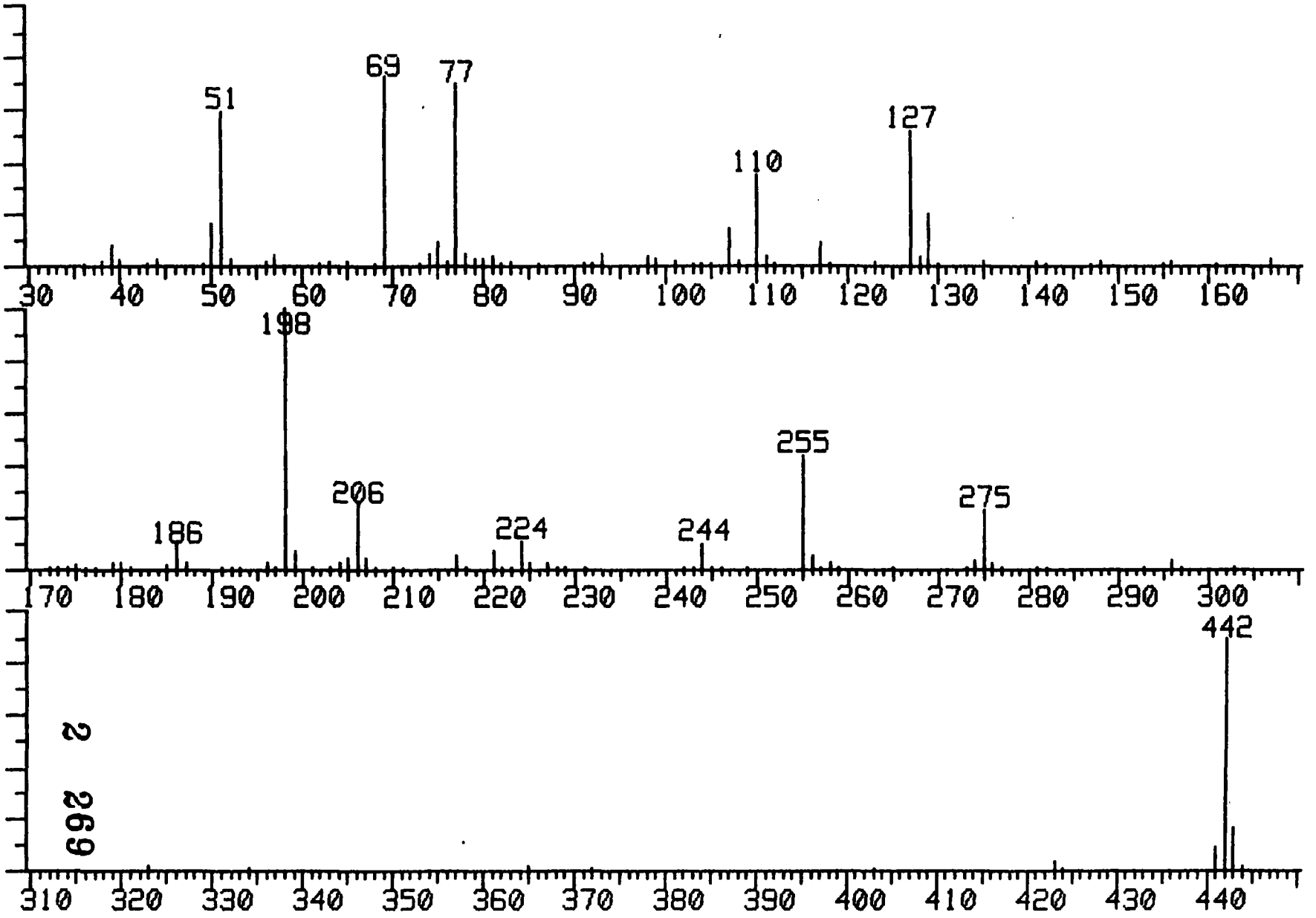
PECTRUM: B1508 04/13/89 RIC: 32577.
STRUMENT: EXTREL ANALYST:
MPLE: EXTRB 1508, 50NG DFTPP
CONDITIONS:
245 - # 2 TO # 217 - # 218

SPECTRUM FIT TO DFT CRITERIA

M/Z	INTEN	LIMITS	FOUND RA	
51	6968.	30-60% OF 198	55.91	OK
68	142.	<2% OF 69	1.69	OK
69	8416.	NOT SPECIFIED	67.52	OK
70	30.	<2% OF 69	0.36	OK
127	6288.	40-60% OF 198	50.45	OK
97	82.	<1% OF 198	0.66	OK
198	12464.	100% (BASE PK)	100.00	OK
99	866.	5-9% OF 198	6.95	OK
75	2288.	10-30% OF 198	18.36	OK
365	193.	> 1% OF 198	1.55	OK
41	916.	<100% OF 443	49.78	OK
442	10512.	> 40% OF 198	84.34	OK
43	1840.	17-23% OF 442	17.50	OK

B1521 EXTRB 1521, 50NG DFTPP
14-APR-89 10:39:30 Scan 242 Time 10.87 Min.
100 % = 19200

Total Scale
183576 1*



1521 EXTRB 1521, 50NG DFTPP
4-APR-89 10:39:30 SCAN 242 TIME 10.87 MIN.
100 % = 19200

36	0.95	96	0.78	165	0.69	229	1.04
37	0.82	98	3.94	166	0.80	231	0.59
38	1.59	99	2.94	167	3.55	242	0.70
39	8.58	100	0.61	169	0.54	243	0.91
40	2.57	101	1.83	172	0.51	244	10.00
41	0.80	103	0.93	173	0.83	245	1.32
42	0.59	104	1.06	174	0.91	246	1.37
43	0.93	105	1.23	175	1.78	249	0.77
44	3.32	107	14.67	176	0.52	255	43.83
49	1.27	108	1.91	177	0.79	256	5.42
50	16.25	109	0.54	179	2.96	257	0.53
51	59.92	110	35.33	180	2.11	258	2.19
52	3.43	111	4.10	181	0.58	259	0.58
55	0.82	112	0.99	185	1.44	265	0.97
56	2.25	113	0.53	186	9.58	273	1.10
57	4.86	117	9.17	187	2.61	274	3.18
58	0.60	118	0.88	191	0.63	275	23.00
61	0.79	122	0.76	192	0.85	276	2.85
62	0.91	123	1.43	193	1.21	277	1.04
63	2.15	124	0.67	196	2.94	281	0.53
65	1.46	125	0.65	197	0.66	282	0.52
66	0.55	126	0.52	198	100.00	293	0.58
68	1.22	127	52.33	199	7.42	296	3.37
69	72.67	128	3.78	201	0.85	297	0.57
73	0.90	129	19.92	203	0.84	303	0.58
74	5.29	130	1.27	204	2.76	323	1.78
75	8.92	134	0.73	205	3.89	324	0.53
76	2.22	135	1.59	206	24.83	334	1.17
77	70.17	136	0.61	207	4.29	346	0.59
78	4.50	141	1.80	208	1.05	354	0.64
79	3.42	142	0.87	210	0.55	365	1.63
80	2.71	143	0.54	211	0.90	372	0.86
81	4.04	146	0.52	217	5.02	403	0.93
82	1.23	147	1.15	218	0.79	421	0.65
83	1.74	148	2.01	221	7.67	422	0.54
84	0.73	149	0.65	222	0.73	423	3.75
85	0.81	153	0.80	223	1.19	424	1.17
86	1.31	155	1.16	224	10.92	441	9.67
88	0.67	156	1.96	225	2.91	442	89.08
91	0.98	158	0.66	227	3.10	443	17.00
92	0.89	160	0.62	228	0.68	444	1.77
93	5.29	161	1.23				

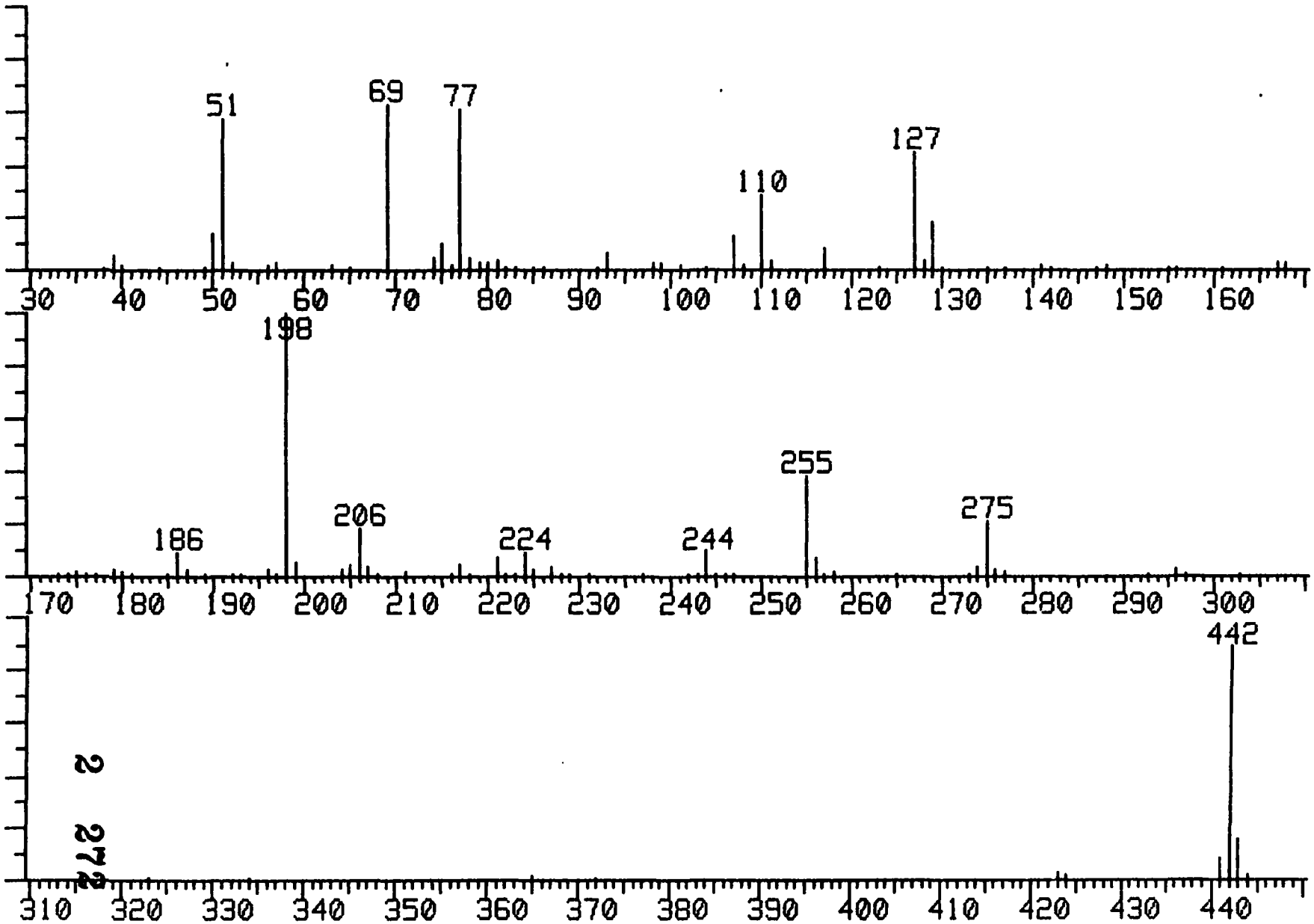
SPECTRUM: B1521 04/14/89 RIC: 43777.
INSTRUMENT: EXTREL ANALYST:
SAMPLE: EXTRB 1521, 50NG DFTPP
CONDITIONS:
242

SPECTRUM FIT TO DFT CRITERIA

M/Z	INTEN	LIMITS	FOUND RA
51	11504.	30-60% OF 198	59.92
OK			
68	234.	<2% OF 69	1.68
OK			
69	13952.	NOT SPECIFIED	72.67
OK			
70	69.	<2% OF 69	0.49
OK			
127	10048.	40-60% OF 198	52.33
OK			
197	127.	<1% OF 198	0.66
OK			
198	19200.	100% (BASE PK)	100.00
OK			
199	1424.	5-9% OF 198	7.42
OK			
275	4416.	10-30% OF 198	23.00
OK			
365	313.	> 1% OF 198	1.63
OK			
441	1856.	<100% OF 443	56.86
OK			
442	17120.	> 40% OF 198	89.17
OK			
443	3264.	17-23% OF 442	19.07
OK			

61528 EXTRB 1528, 50NG DFTPP
17-APR-89 08:18:08 Scan 246 Time 10.90 Min.
100 % = 23296

Total Scale
205856 1*



2 272

31528 EXTRB 1528, 50NG DFTPP
17-APR-89 08:18:08 SCAN 246 TIME 10.90 MIN.
100 % = 23296

37	0.73	98	3.49	165	0.61	228	0.63
38	1.06	99	3.54	166	0.56	229	0.76
39	5.56	101	2.52	167	3.49	231	0.52
40	2.35	103	0.74	168	3.36	237	0.58
44	1.08	104	1.09	169	0.52	242	0.73
49	1.14	105	0.79	173	0.73	243	0.54
50	14.08	107	12.91	174	0.65	244	9.48
51	57.97	108	2.18	175	1.51	245	1.01
52	2.77	110	28.57	176	0.76	246	1.37
55	0.56	111	4.19	177	0.92	247	0.63
56	1.82	112	0.67	179	2.37	255	37.91
57	3.49	116	0.82	180	1.79	256	7.42
61	0.69	117	8.65	181	0.63	257	0.57
62	0.73	118	0.56	185	1.25	258	1.78
63	1.85	122	0.69	186	9.13	265	0.77
64	0.56	123	1.14	187	2.61	273	1.27
65	1.23	124	0.76	189	0.72	274	3.24
68	0.84	125	0.74	192	0.89	275	21.15
69	63.05	127	45.05	193	1.01	276	2.46
73	0.59	128	3.81	196	2.89	277	1.52
74	4.67	129	18.48	197	0.69	293	0.65
75	9.96	130	1.37	198	100.00	296	2.96
76	1.99	135	1.17	199	5.77	297	0.69
77	61.61	136	0.61	204	2.48	303	0.67
78	4.88	137	1.12	205	3.88	323	1.27
79	3.00	141	1.71	206	18.34	334	0.97
80	2.81	142	0.85	207	3.18	354	0.51
81	3.74	143	0.78	208	0.72	365	1.97
82	1.01	146	0.57	211	1.60	372	1.05
83	1.37	147	1.30	216	0.52	402	0.50
84	0.59	148	1.67	217	4.39	403	0.77
85	0.90	149	0.59	218	0.58	421	0.55
86	1.03	153	0.82	221	7.49	423	3.65
87	0.61	154	0.60	222	0.74	424	1.53
91	0.85	155	1.21	223	1.12	441	8.31
92	0.86	156	1.42	224	9.27	442	89.01
93	7.01	160	0.56	225	2.41	443	15.45
94	0.54	161	0.94	227	3.19	444	1.89

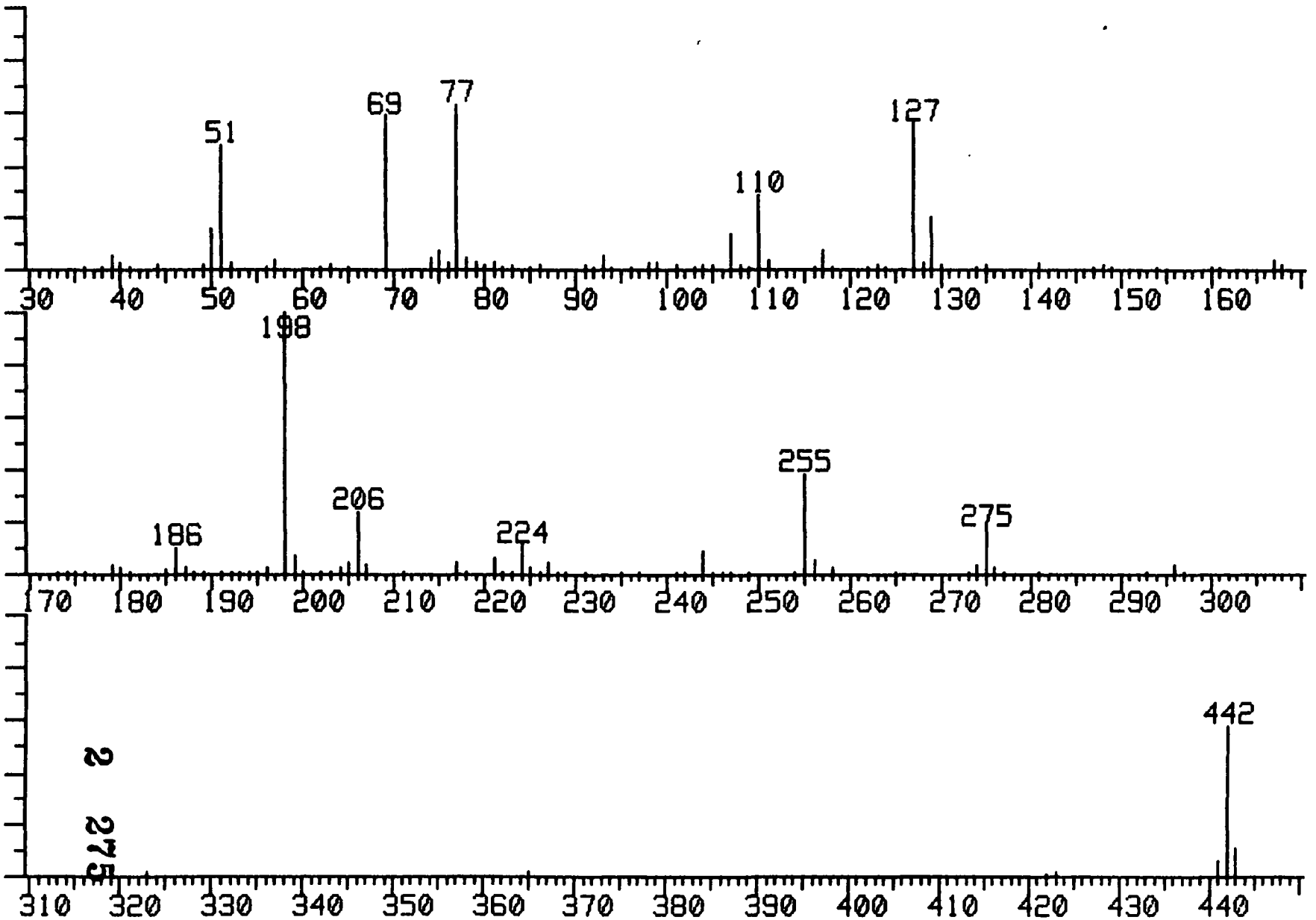
SPECTRUM: B1528 04/17/89 RIC: 47297.
INSTRUMENT: EXTREL ANALYST:
SAMPLE: EXTRB 1528, 50NG DFTPP
CONDITIONS:
246

SPECTRUM FIT TO DFT CRITERIA

M/Z	INTEN	LIMITS	FOUND RA
51	13504.	30-60% OF 198	57.97
OK			
68	195.	<2% OF 69	1.33
OK			
69	14688.	NOT SPECIFIED	63.05
OK			
70	81.	<2% OF 69	0.55
OK			
127	10496.	40-60% OF 198	45.05
OK			
197	160.	<1% OF 198	0.69
OK			
198	23296.	100% (BASE PK)	100.00
OK			
199	1344.	5-9% OF 198	5.77
OK			
275	4928.	10-30% OF 198	21.15
OK			
365	460.	> 1% OF 198	1.97
OK			
441	1936.	<100% OF 443	53.78
OK			
442	20736.	> 40% OF 198	89.01
OK			
443	3600.	17-23% OF 442	17.36
OK			

B1539 EXTRB 1539, 50NG DFTPP
18-APR-89 09:09:43 Scan 239 Time 10.83 Min.
100 % = 13008

Total Scale
110117 1*



1539 EXTRB 1539, 50NG DFTPP
18-APR-89 09:09:43 SCAN 239 TIME 10.83 MIN.
100 % = 13008

36	0.86	99	3.59	167	3.97	235	0.55
37	0.60	101	1.91	168	1.99	237	0.95
38	0.91	103	0.89	173	0.89	241	0.51
39	5.57	104	1.67	174	1.41	242	0.63
40	3.09	105	1.72	175	1.38	244	8.36
41	0.86	107	13.90	176	1.21	245	0.75
44	1.68	108	2.38	179	3.21	246	1.22
49	1.44	109	0.97	180	2.22	247	0.53
50	15.50	110	28.54	181	1.15	249	0.59
51	47.48	111	4.03	185	1.68	254	0.62
52	2.66	112	0.81	186	10.09	255	38.25
55	0.62	116	1.04	187	3.08	256	4.84
56	1.70	117	8.00	188	0.54	258	2.18
57	4.11	118	0.91	189	0.84	265	1.08
58	0.58	122	1.05	191	0.71	273	1.21
61	0.78	123	1.49	192	1.23	274	3.32
62	0.85	124	1.03	193	1.05	275	17.47
63	1.97	125	0.72	194	0.78	276	2.15
64	0.62	127	56.33	195	0.53	277	1.20
65	1.33	128	3.65	196	2.25	281	0.55
69	59.16	129	19.93	198	100.00	293	0.68
70	0.53	130	1.55	199	6.68	296	3.60
73	0.72	134	0.92	200	0.88	297	0.59
74	4.82	135	2.05	202	0.78	315	0.64
75	7.59	137	0.66	203	0.89	323	1.65
76	2.69	141	2.60	204	2.66	346	0.64
77	63.22	142	0.85	205	4.82	353	0.70
78	4.80	143	0.78	206	23.86	354	0.64
79	2.79	145	0.51	207	3.51	365	1.65
80	2.24	147	0.99	211	0.91	372	0.78
81	3.67	148	2.08	217	4.39	373	0.65
82	0.99	149	0.99	218	1.28	402	0.61
83	1.81	150	0.52	221	6.11	403	0.71
85	0.92	154	0.94	222	0.65	421	0.73
86	1.46	155	1.35	223	1.31	422	0.87
87	0.76	157	0.54	224	11.19	423	2.55
91	1.53	158	0.57	225	2.81	424	0.65
92	0.98	160	0.98	226	0.62	441	6.19
93	5.63	161	1.05	227	4.32	442	57.93
94	0.85	162	0.52	228	0.58	443	10.70
96	0.94	165	0.79	229	1.15	444	0.82
98	3.20	166	0.76	231	0.53		

SPECTRUM: B1539 04/18/89 RIC: 35073.
INSTRUMENT: EXTREL ANALYST:
SAMPLE: EXTRB 1539, 50NG DFTPP
CONDITIONS:
239

SPECTRUM FIT TO DFT CRITERIA

M/Z	INTEN	LIMITS	FOUND RA
51	6176.	30-60% OF 198	47.48
OK			
68	0.	<2% OF 69	0.00
OK			
69	7696.	NOT SPECIFIED	59.16
OK			
70	69.	<2% OF 69	0.90
OK			
127	7328.	40-60% OF 198	56.33
OK			
197	0.	<1% OF 198	0.00
OK			
198	13008.	100% (BASE PK)	100.00
OK			
199	869.	5-9% OF 198	6.68
OK			
275	2272.	10-30% OF 198	17.47
OK			
365	215.	> 1% OF 198	1.65
OK			
441	805.	<100% OF 443	57.83
OK			
442	7536.	> 40% OF 198	57.93
OK			
443	1392.	17-23% OF 442	18.47
OK			

THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,111]CLPBNB
Data file name: SYO:B1511
Injection time: 13-APR-89 11:45:25
Comments:
EXTRB 1511, SBLK01, 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.38	387			STD	0.85	40.0	NG/UL
2S	14.55	690			STD	0.86	40.0	NG/UL
3S	19.10	1126			STD	0.72	40.0	NG/UL
4S	22.92	1491			STD	0.92	40.0	NG/UL
5S	29.97	2164			STD	0.90	40.0	NG/UL
6S	35.97	2738			STD	1.00	40.0	NG/UL
1T			Not Found					
2T			Not Found					
3T			Not Found					
4T			Not Found					
5T			Not Found					
6T			Not Found					
7T			Not Found					

8T			Not Found						
9T			Not Found						
10T			Not Found						
11T			Not Found						
12T			Not Found						
13T			Not Found						
14T			Not Found						
15T			Not Found						
16T			Not Found						
17T			Not Found						
18T			Not Found						
19T			Not Found						
20T			Not Found						
21T			Not Found						
22T			Not Found						
23T			Not Found						
24T			Not Found						
25T			Not Found						
26T			Not Found						
27T			Not Found						
28T			Not Found						
29T			Not Found						
30T			Not Found						
31T			Not Found						
32T			Not Found						
33T			Not Found						
34T			Not Found						
35T			Not Found						
36T			Not Found						
37T			Not Found						
38T			Not Found						
39T			Not Found						
40T			Not Found						
41T			Not Found						
42T			Not Found						
43T			Not Found						
44T			Not Found						
45T			Not Found						
46T			Not Found						
47T			Not Found						
48T			Not Found						
49T			Not Found						
50T			Not Found						
51T	24.57	1649	149. / 188.	189588. /	330004.	4	0.73	22.6	NG/UL
52T			Not Found						
53T			Not Found						
54T			Not Found						
55T			Not Found						
56T			Not Found						
57T			Not Found						
58T			Not Found						
59T			Not Found						
60T			Not Found						
61T			Not Found						
62T			Not Found						
63T			Not Found						

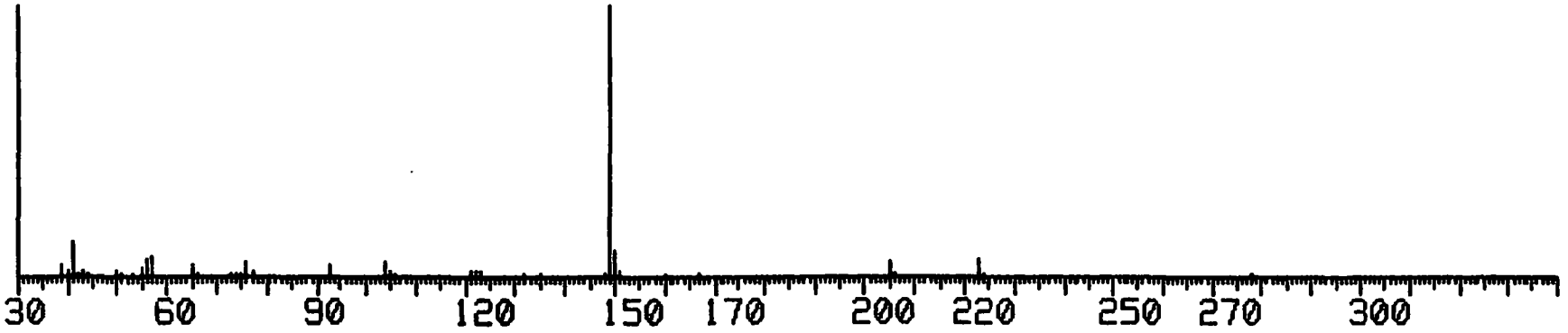
64T			Not Found						
65T			Not Found						
66T	12. 80	523	82. / 136.	120336. /	497952.	2	0. 79	23. 0	NG/UL
67T	17. 37	960	172. / 164.	230086. /	252152.	3	0. 94	26. 9	NG/UL
68T	27. 13	1893	244. / 240.	169400. /	167606.	5	0. 83	38. 2	NG/UL
69T	10. 65	318	99. / 152.	381512. /	117850.	1	0. 59	77. 9	NG/UL
70T	8. 48	110	112. / 152.	350416. /	117850.	1	0. 71	55. 8	NG/UL
71T	21. 15	1322	330. / 164.	42658. /	252152.	3	0. 91	57. 8	NG/UL

Extended Quantitation Report

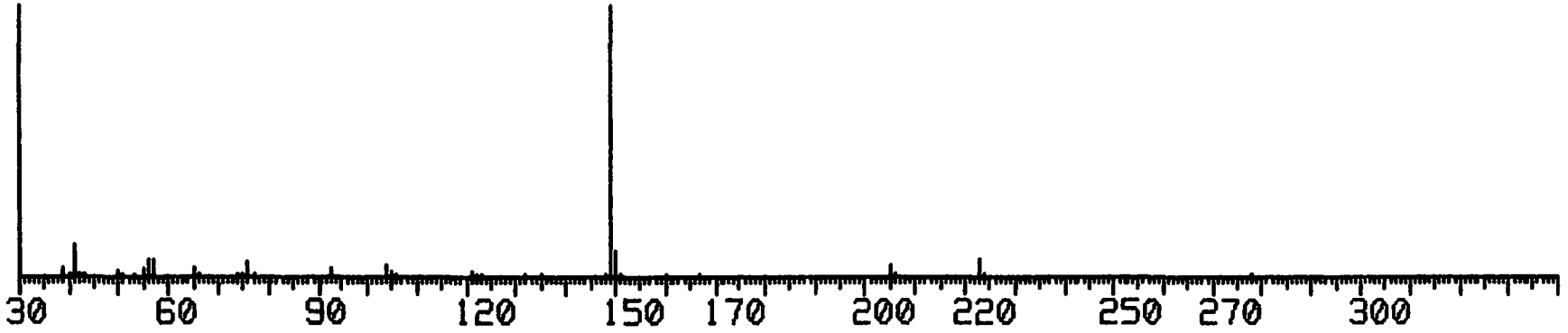
Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1511
Injection time: 13-APR-89 11:45:25

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
51T	1.072	149. / 188.	1.017	22.6	IA BB RF			1.00
66T	0.880	82. / 136.	0.420	23.0	IA BB RF			1.00
67T	0.909	172. / 164.	1.359	26.9	IA BB RF			1.00
68T	0.905	244. / 240.	1.058	38.2	IA BB RF			1.00
69T	0.936	99. / 152.	1.662	77.9	IA BB RF			1.00
70T	0.745	112. / 152.	2.131	55.8	IA BB RF			1.00
71T	1.107	330. / 164.	0.117	57.8	IA BB RF			1.00

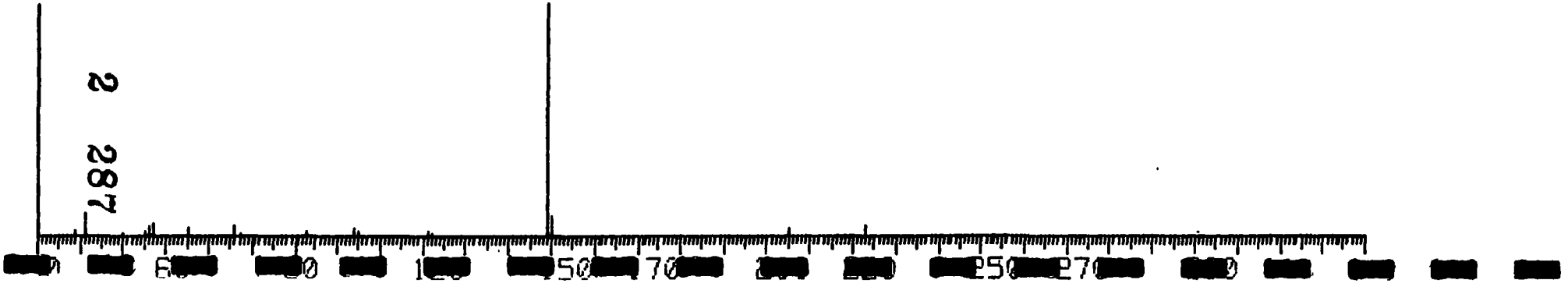
SY0:B1511 EXTRB 1511, SBLK01, 11688 Total
13-APR-89 11:45:25 Scan 1649 Time 24.57 min. 101374
100 % = 50944



SY0:B1511 EXTRB 1511, SBLK01, 11688 Total
13-APR-89 11:45:25 Scan 1649 Time 24.57 min. 100208
Bkg scans * 1.00 1641 100 % = 50854



Standard Reference Spectrum: Di-n-butylphthalate



Peak Areas from TIC Chromatogram

Data File is SYO:B1511
Injection date: 13-APR-89 11:45:25

#	Crest	Retn time	Type	Left limit	Right limit	Raw area	Rel. area(%)	Est. conc	Std
1	45	7.80	BB	-21	3	13487817.	58.84	792.81	1
2	193	9.35	VV	-2	7	98759.	0.43	5.81	1

TIC areas for associated internal standards:

Std.	Area	Conc.
1	680503.	40.

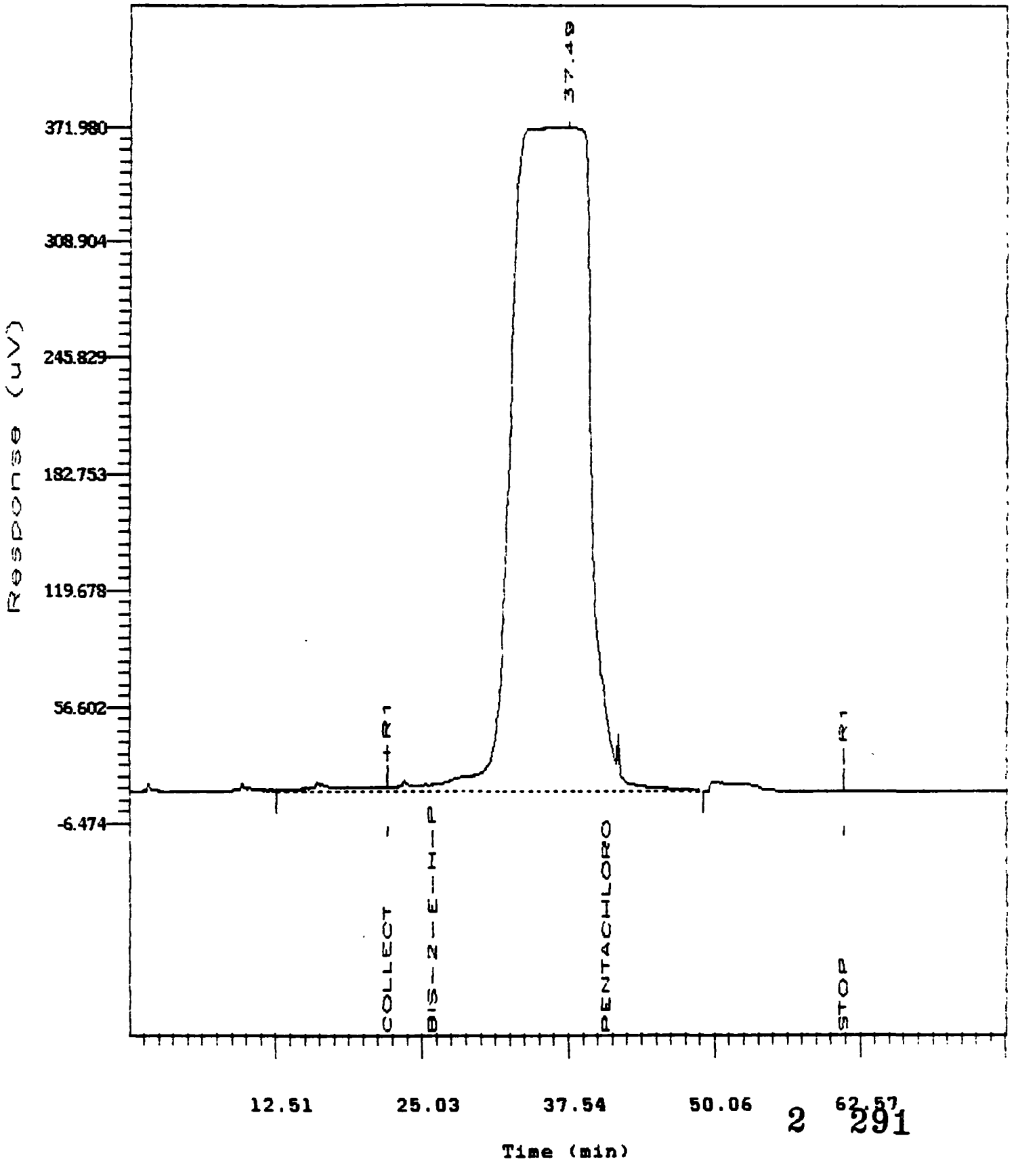
TIC = 2
NW
4-14-89

GPC Chromatogram

FileName : c:\2700\instH\H422.raw Date: 4-5-89 22:10 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 11548 uV High Point: 371980 uV
Vertical Scale Factor: 1.00 Plot Offset: -7 mV Plot Scale: 379 mV

Run #: H422 Case #: 11628
Date: 4-5-89 SMO #: ~~PBLK~~
Time: 19 39 TRAL #: BLANK
Inst: H SDG #: EBQ18

SBLK0



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBQ18MS

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

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

Sample wt/vol: 30. (g/mL) G Lab File ID: B1513

Level: (low/med) LOW Date Received: 3/31/89

% Moisture: not dec. 6. dec. 0. Date Extracted: 4/ 5/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	7500.	
111-44-4	bis(2-Chloroethyl)ether	700.	U
95-57-8	2-Chlorophenol	8800.	
541-73-1	1,3-Dichlorobenzene	700.	U
106-46-7	1,4-Dichlorobenzene	3200.	
100-51-6	Benzyl Alcohol	700.	U
95-50-1	1,2-Dichlorobenzene	700.	U
95-48-7	2-Methylphenol	700.	U
108-60-1	bis(2-Chloroisopropyl)Ether	700.	U
106-44-5	4-Methylphenol	700.	U
621-64-7	N-Nitroso-di-n-propylamine	3500.	
67-72-1	Hexachloroethane	700.	U
98-95-3	Nitrobenzene	700.	U
78-59-1	Isophorone	700.	U
88-75-5	2-Nitrophenol	700.	U
105-67-9	2,4-Dimethylphenol	700.	U
65-85-0	Benzoic Acid	3500.	U
111-91-1	bis(2-Chloroethoxy)Methane	700.	U
120-83-2	2,4-Dichlorophenol	700.	U
120-82-1	1,2,4-Trichlorobenzene	4800.	
91-20-3	Naphthalene	700.	U
106-47-8	4-Chloroaniline	700.	U
87-68-3	Hexachlorobutadiene	700.	U
59-50-7	4-Chloro-3-Methylphenol	6800.	
91-57-6	2-Methylnaphthalene	700.	U
77-47-4	Hexachlorocyclopentadiene	700.	U
88-06-2	2,4,6-Trichlorophenol	700.	U
95-95-4	2,4,5-Trichlorophenol	3500.	U
91-58-7	2-Chloronaphthalene	700.	U
88-74-4	2-Nitroaniline	3500.	U
131-11-3	Dimethylphthalate	700.	U
208-96-8	Acenaphthylene	700.	U
606-20-2	2,6-Dinitrotoluene	700.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBQ18MS

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

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

Sample wt/vol: 30. (g/mL) G Lab File ID: B1513

Level: (low/med) LOW Date Received: 3/31/89

% Moisture: not dec. 6. dec. 0. Date Extracted: 4/ 5/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3500.	U
83-32-9	Acenaphthene	3200.	
51-28-5	2,4-Dinitrophenol	3500.	U
100-02-7	4-Nitrophenol	6300.	
132-64-9	Dibenzofuran	700.	U
121-14-2	2,4-Dinitrotoluene	3400.	
84-66-2	Diethylphthalate	700.	U
7005-72-3	4-Chlorophenyl-phenylether	700.	U
86-73-7	Fluorene	700.	U
100-01-6	4-Nitroaniline	3500.	U
534-52-1	4,6-Dinitro-2-Methylphenol	3500.	U
86-30-6	N-Nitrosodiphenylamine (1)	700.	U
101-55-3	4-Bromophenyl-phenylether	700.	U
118-74-1	Hexachlorobenzene	700.	U
87-86-5	Pentachlorophenol	6200.	
85-01-8	Phenanthrene	700.	U
120-12-7	Anthracene	700.	U
84-74-2	Di-n-butylphthalate	1300.	B
206-44-0	Fluoranthene	700.	U
129-00-0	Pyrene	4200.	
85-68-7	Butylbenzylphthalate	700.	U
91-94-1	3,3'-Dichlorobenzidine	1400.	U
56-55-3	Benzo(a)anthracene	700.	U
218-01-9	Chrysene	700.	U
117-81-7	bis(2-Ethylhexyl)phthalate	700.	U
117-84-0	Di-n-octylphthalate	700.	U
205-99-2	Benzo(b)fluoranthene	700.	U
207-08-9	Benzo(k)fluoranthene	700.	U
50-32-8	Benzo(a)pyrene	700.	U
193-39-5	Indeno(1,2,3-cd)pyrene	700.	U
53-70-3	Dibenz(a,h)anthracene	700.	U
191-24-2	Benzo(g,h,i)perylene	700.	U

(1) - Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EBQ18MS

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

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

Sample wt/vol: 30. (g/mL) G Lab File ID: B1513

Level: (low/med) LOW Date Received: 3/31/89

% Moisture: not dec. 6. dec. 0. Date Extracted: 4/ 5/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.00

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
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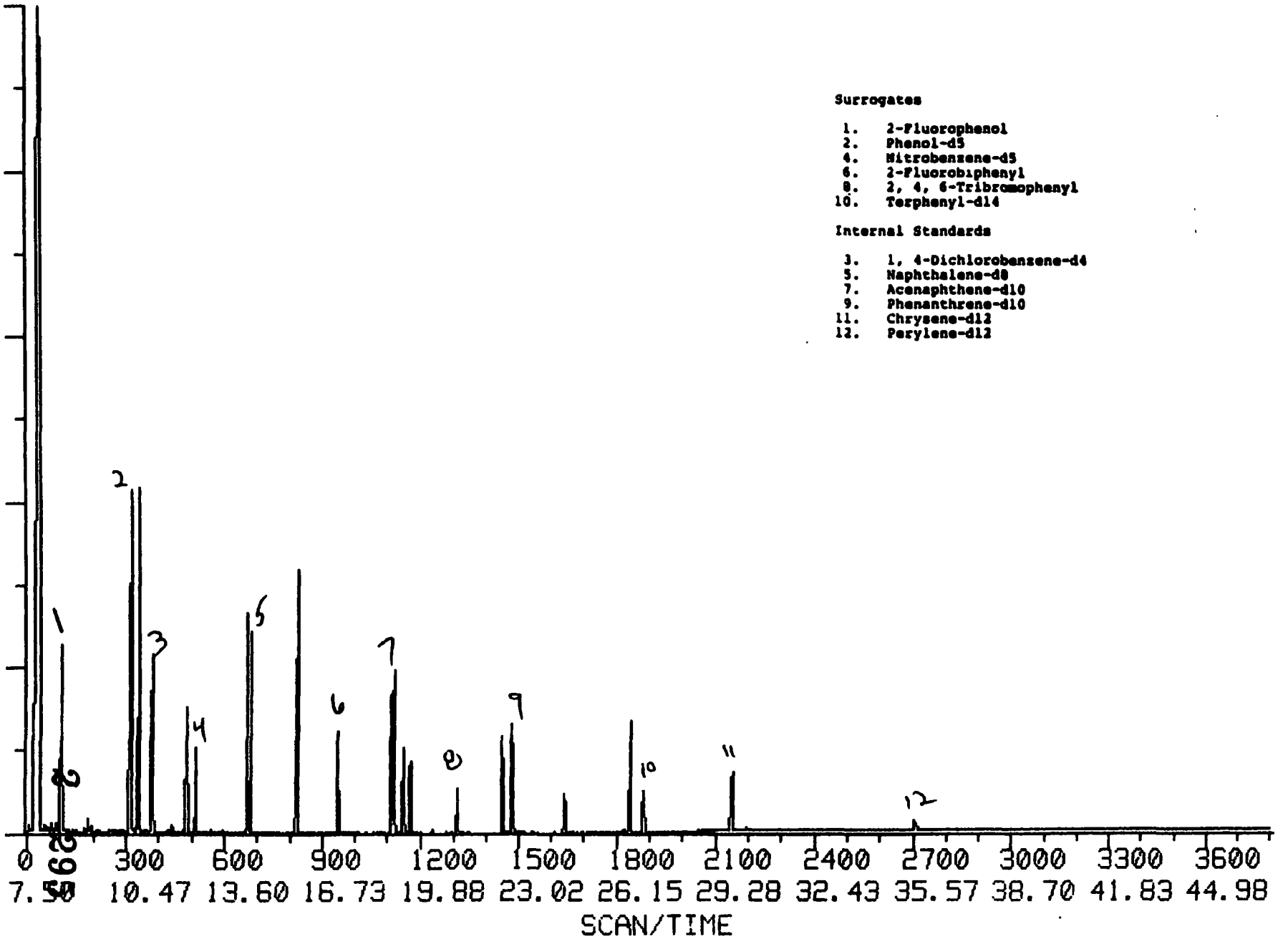
28.					
29.					
30.					

B1513 EXTRB 1513, RAS0552MS, EBQ18MS, 11688
13-APR-89 13:35:52 TIC Maximum current=1223800



Surrogates

1. 2-Fluorophenol
2. Phenol-d5
4. Nitrobenzene-d5
6. 2-Fluorobiphenyl
8. 2, 4, 6-Tribromophenyl
10. Terphenyl-d14

Internal Standards

3. 1, 4-Dichlorobenzene-d4
5. Naphthalene-d8
7. Acenaphthene-d10
9. Phenanthrene-d10
11. Chrysene-d12
12. Perylene-d12

THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1513
Injection time: 13-APR-89 13:35:52
Comments:
EXTRB 1513, RAS0552MS, EBQ18MS, 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.30	379			STD	0.85	40.0	NG/UL
2S	14.45	681			STD	0.86	40.0	NG/UL
3S	19.00	1116			STD	0.72	40.0	NG/UL
4S	22.80	1480			STD	0.92	40.0	NG/UL
5S	29.80	2149			STD	1.00	40.0	NG/UL
6S	35.65	2708			STD	1.00	40.0	NG/UL
1T	10.63	316	94. / 152.	746384. / 140818.	1	0.72	92.6	NG/UL
2T			Not Found					
3T	10.87	339	128. / 152.	605264. / 140818.	1	0.84	119.6	NG/UL
4T			Not Found					
5T	11.33	383	146. / 152.	230196. / 140818.	1	0.87	44.8	NG/UL
6T			Not Found					
7T			Not Found					

2 297

8T			Not Found						
9T			Not Found						
10T			Not Found						
11T	12.42	487	70. / 152.	131362. /	140818.	1	0.64	40.9	NG/UL
12T			Not Found						
13T			Not Found						
14T			Not Found						
15T			Not Found						
16T			Not Found						
17T			Not Found						
18T			Not Found						
19T			Not Found						
20T	14.35	672	180. / 136.	261072. /	528424.	2	0.92	77.3	NG/UL
21T			Not Found						
22T			Not Found						
23T			Not Found						
24T	15.95	824	107. / 136.	284696. /	528424.	2	0.84	98.3	NG/UL
25T			Not Found						
26T			Not Found						
27T			Not Found						
28T			Not Found						
29T			Not Found						
30T			Not Found						
31T			Not Found						
32T			Not Found						
33T			Not Found						
34T			Not Found						
35T	19.08	1124	153. / 164.	205174. /	232054.	3	0.73	46.4	NG/UL
36T			Not Found						
37T	19.37	1151	109. / 164.	37455. /	232054.	3	0.88	77.5	NG/UL
38T			Not Found						
39T	19.60	1173	165. / 164.	76919. /	232054.	3	0.85	47.8	NG/UL
40T			Not Found						
41T			Not Found						
42T			Not Found						
43T			Not Found						
44T			Not Found						
45T			Not Found						
46T			Not Found						
47T			Not Found						
48T	22.47	1448	266. / 188.	69359. /	239546.	4	1.00	106.7	NG/UL
49T			Not Found						
50T			Not Found						
51T	24.47	1638	149. / 188.	106113. /	239546.	4	1.00	17.4	NG/UL
52T			Not Found						
53T	26.57	1840	202. / 240.	292960. /	141948.	5	0.91	53.0	NG/UL
54T			Not Found						
55T			Not Found						
56T			Not Found						
57T			Not Found						
58T			Not Found						
59T			Not Found						
60T			Not Found						
61T			Not Found						
62T			Not Found						
63T			Not Found						

64T			Not Found						
65T			Not Found						
66T	12.70	514	82. / 136.	110300. /	528424.	2	0.85	19.9	NG/UL
67T	17.27	950	172. / 164.	184964. /	232054.	3	0.94	23.5	NG/UL
68T	26.98	1880	244. / 240.	86349. /	141948.	5	0.94	23.0	NG/UL
69T	10.58	312	99. / 152.	357792. /	140818.	1	0.78	61.1	NG/UL
70T	8.40	102	112. / 152.	338060. /	140818.	1	0.75	45.1	NG/UL
71T	21.03	1311	330. / 164.	23243. /	232054.	3	0.88	34.2	NG/UL

Extended Quantitation Report

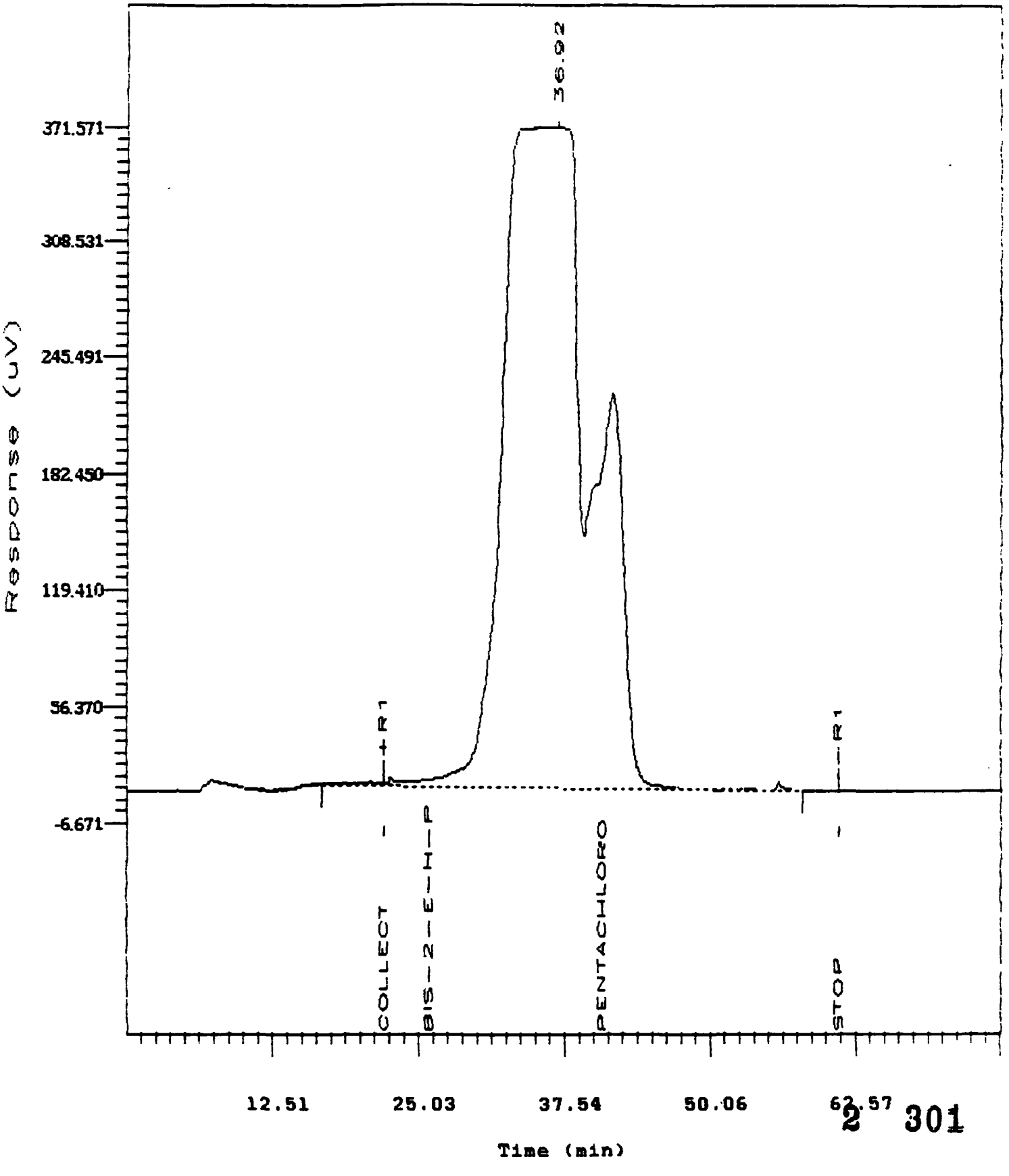
Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1513
Injection time: 13-APR-89 13:35:52

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
1T	0.941	94. / 152.	2.289	92.6	IA BB RF			1.00
3T	0.962	128. / 152.	1.438	119.6	IA BB RF			1.00
5T	1.003	146. / 152.	1.460	44.8	IA BB RF			1.00
11T	1.099	70. / 152.	0.912	40.9	IA BV RF			1.00
20T	0.993	180. / 136.	0.256	77.3	IA BB RF			1.00
24T	1.104	107. / 136.	0.219	98.3	IA BB RF			1.00
35T	1.004	153. / 164.	0.763	46.4	IA BB RF			1.00
37T	1.019	109. / 164.	0.083	77.5	IA BB RF			1.00
39T	1.032	165. / 164.	0.278	47.8	IA BB RF			1.00
48T	0.986	266. / 188.	0.109	106.7	IA BB RF			1.00
51T	1.073	149. / 188.	1.017	17.4	IA BB RF			1.00
53T	0.892	202. / 240.	1.558	53.0	IA BB RF			1.00
66T	0.879	82. / 136.	0.420	19.9	IA BB RF			1.00
67T	0.909	172. / 164.	1.359	23.5	IA BB RF			1.00
68T	0.905	244. / 240.	1.058	23.0	IA BB RF			1.00
69T	0.936	99. / 152.	1.662	61.1	IA BV RF			1.00
70T	0.743	112. / 152.	2.131	45.1	IA BB RF			1.00
71T	1.107	330. / 164.	0.117	34.2	IA BB RF			1.00

Run #: H424 Case #: 11688
Date: 4-5-89 SMO #: EBQ18
Time: 22:09 TRAL #: RA50552
Inst: H SDG #: EBQ18

GPC Chromatogram

FileName : c:\2700\instH\H424.raw Date: 4-6-89 12:40 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 11341 uV High Point: 371571 uV
Vertical Scale Factor: 1.00 Plot Offset: -7 mV Plot Scale: 378 mV



1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBQ18MSD

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

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

Sample wt/vol: 30. (g/mL) G Lab File ID: B1514

Level: (low/med) LOW Date Received: 3/31/89

% Moisture: not dec. 6. dec. 0. Date Extracted: 4/ 5/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	6200.	
111-44-4	bis(2-Chloroethyl)ether	700.	U
95-57-8	2-Chlorophenol	7200.	
541-73-1	1,3-Dichlorobenzene	700.	U
106-46-7	1,4-Dichlorobenzene	2700.	
100-51-6	Benzyl Alcohol	700.	U
95-50-1	1,2-Dichlorobenzene	700.	U
95-48-7	2-Methylphenol	700.	U
108-60-1	bis(2-Chloroisopropyl)Ether	700.	U
106-44-5	4-Methylphenol	700.	U
621-64-7	N-Nitroso-di-n-propylamine	3000.	
67-72-1	Hexachloroethane	700.	U
98-95-3	Nitrobenzene	700.	U
78-59-1	Isophorone	700.	U
88-75-5	2-Nitrophenol	700.	U
105-67-9	2,4-Dimethylphenol	700.	U
65-85-0	Benzoic Acid	3500.	U
111-91-1	bis(2-Chloroethoxy)Methane	700.	U
120-83-2	2,4-Dichlorophenol	700.	U
120-82-1	1,2,4-Trichlorobenzene	3800.	
91-20-3	Naphthalene	700.	U
106-47-8	4-Chloroaniline	700.	U
87-68-3	Hexachlorobutadiene	700.	U
59-50-7	4-Chloro-3-Methylphenol	6300.	
91-57-6	2-Methylnaphthalene	700.	U
77-47-4	Hexachlorocyclopentadiene	700.	U
88-06-2	2,4,6-Trichlorophenol	700.	U
95-95-4	2,4,5-Trichlorophenol	3500.	U
91-58-7	2-Chloronaphthalene	700.	U
88-74-4	2-Nitroaniline	3500.	U
131-11-3	Dimethylphthalate	700.	U
208-96-8	Acenaphthylene	700.	U
606-20-2	2,6-Dinitrotoluene	700.	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBQ18MSD

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

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

Sample wt/vol: 30. (g/mL) G Lab File ID: B1514

Level: (low/med) LOW Date Received: 3/31/89

% Moisture: not dec. 6. dec. 0. Date Extracted: 4/ 5/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	3500.	U
83-32-9	Acenaphthene	2500.	
51-28-5	2,4-Dinitrophenol	3500.	U
100-02-7	4-Nitrophenol	6600.	
132-64-9	Dibenzofuran	700.	U
121-14-2	2,4-Dinitrotoluene	3000.	
84-66-2	Diethylphthalate	700.	U
7005-72-3	4-Chlorophenyl-phenylether	700.	U
86-73-7	Fluorene	700.	U
100-01-6	4-Nitroaniline	3500.	U
534-52-1	4,6-Dinitro-2-Methylphenol	3500.	U
86-30-6	N-Nitrosodiphenylamine (1)	700.	U
101-55-3	4-Bromophenyl-phenylether	700.	U
118-74-1	Hexachlorobenzene	700.	U
87-86-5	Pentachlorophenol	5800.	
85-01-8	Phenanthrene	700.	U
120-12-7	Anthracene	700.	U
84-74-2	Di-n-butylphthalate	2200.	B
206-44-0	Fluoranthene	700.	U
129-00-0	Pyrene	3200.	
85-68-7	Butylbenzylphthalate	700.	U
91-94-1	3,3'-Dichlorobenzidine	1400.	U
56-55-3	Benzo(a)anthracene	700.	U
218-01-9	Chrysene	700.	U
117-81-7	bis(2-Ethylhexyl)phthalate	700.	U
117-84-0	Di-n-octylphthalate	700.	U
205-99-2	Benzo(b)fluoranthene	700.	U
207-08-9	Benzo(k)fluoranthene	700.	U
50-32-8	Benzo(a)pyrene	700.	U
193-39-5	Indeno(1,2,3-cd)pyrene	700.	U
53-70-3	Dibenz(a,h)anthracene	700.	U
191-24-2	Benzo(g,h,i)perylene	700.	U

(1) - Cannot be separated from diphenylamine

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EBQ18MSD

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

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

Sample wt/vol: 30. (g/mL) G Lab File ID: B1514

Level: (low/med) LOW Date Received: 3/31/89

% Moisture: not dec. 6. dec. 0. Date Extracted: 4/ 5/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 4/13/89

GPC Cleanup: (Y/N) Y pH: 7.4 Dilution Factor: 1.00

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
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7.					
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9.					
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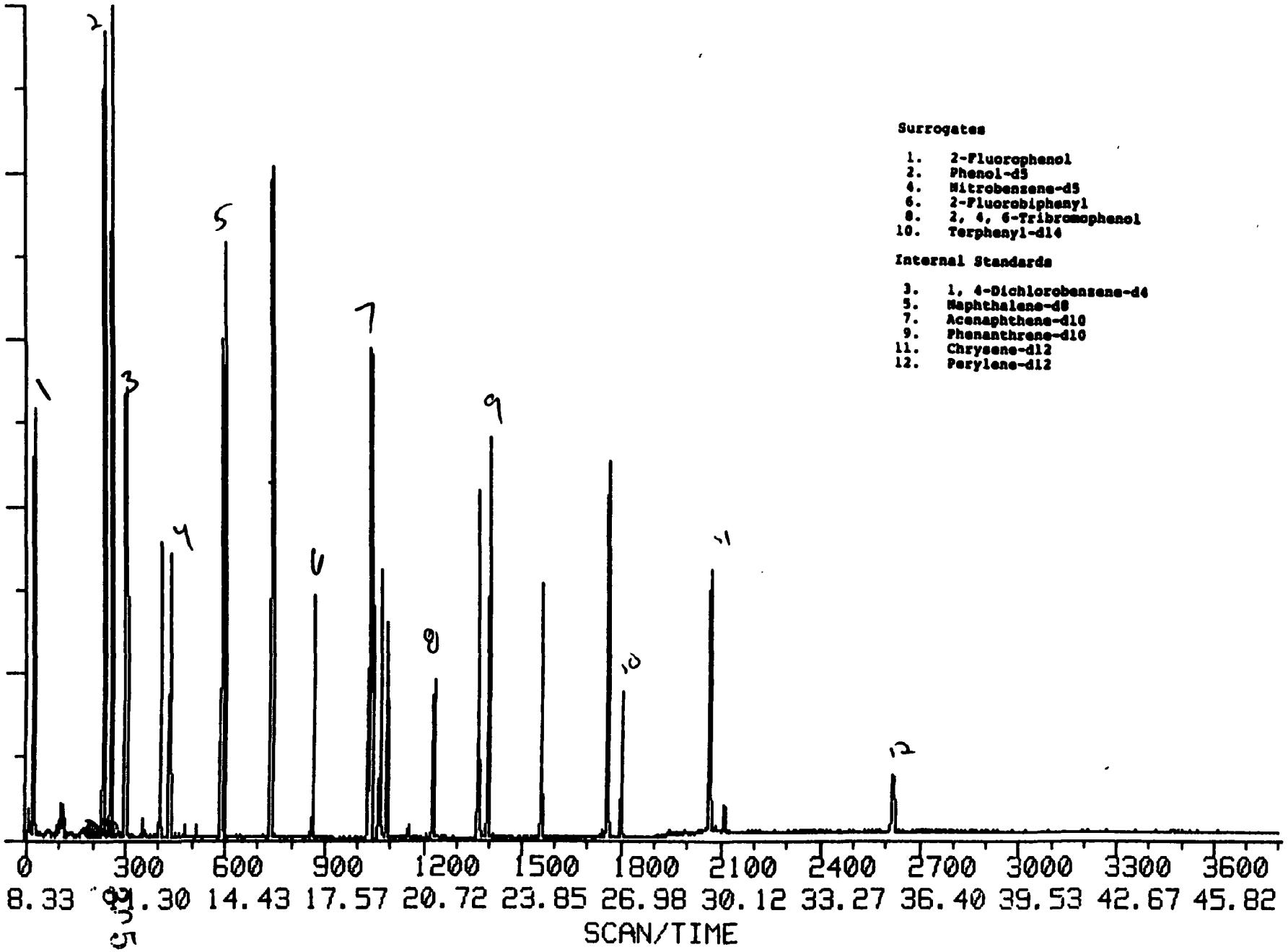
B1514 EXTRB 1514, RAS0552MSD, EBQ18MSD, 11688
13-APR-89 14:46:20 TIC Maximum current=458575



THREE RIVERS ANALYTICAL LABORATORY INC.
Quantitation Report

Analysis: _____
Analyst: _____
Comments: _____

Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1514
Injection time: 13-APR-89 14:46:20
Comments:
EXTRB 1514, RAS0552MSD, EBQ18MSD, 11688
Dilution factor: 1.00

Library entries as follows:

Standards:
1S 1,4-Dichlorobenzene-d4
2S Naphthalene-d8
3S Acenaphthene-d8
4S Phenanthrene-d10
5S Chrysene-d12
6S Perylene-d12

Targets:
1T Phenol
2T bis(2-Chloroethyl)ether
3T 2-Chlorophenol
4T 1,3-Dichlorobenzene
5T 1,4-Dichlorobenzene
6T Benzyl Alcohol
7T 1,2-Dichlorobenzene
8T 2-Methylphenol
9T bis(2-Chloroisopropyl)Ether
10T 4-Methylphenol
11T N-Nitroso-di-n-propylamine
12T Hexachloroethane
13T Nitrobenzene
14T Isophorone
15T 2-Nitrophenol
16T 2,4-Dimethylphenol
17T Benzoic Acid
18T bis(2-Chloroethoxy)Methane
19T 2,4-Dichlorophenol
20T 1,2,4-Trichlorobenzene
21T Naphthalene
22T 4-Chloroaniline
23T Hexachlorobutadiene
24T 4-Chloro-3-Methylphenol
25T 2-Methylnaphthalene
26T Hexachlorocyclopentadiene
27T 2,4,6-Trichlorophenol
28T 2,4,5-Trichlorophenol
29T 2-Chloronaphthalene
30T 2-Nitroaniline
31T Dimethylphthalate

32T Acenaphthylene
33T 2,6-Dinitrotoluene
34T 3-Nitroaniline
35T Acenaphthene
36T 2,4-Dinitrophenol
37T 4-Nitrophenol
38T Dibenzofuran
39T 2,4-Dinitrotoluene
40T Diethylphthalate
41T 4-Chlorophenyl-phenylether
42T Fluorene
43T 4-Nitroaniline
44T 4,6-Dinitro-2-Methylphenol
45T N-Nitrosodiphenylamine (1)
46T 4-Bromophenyl-phenylether
47T Hexachlorobenzene
48T Pentachlorophenol
49T Phenanthrene
50T Anthracene
51T Di-n-butylphthalate
52T Fluoranthene
53T Pyrene
54T Butylbenzylphthalate
55T 3,3'-Dichlorobenzidine
56T Benzo(a)anthracene
57T Chrysene
58T bis(2-Ethylhexyl)phthalate
59T Di-n-octylphthalate
60T Benzo(b)fluoranthene
61T Benzo(k)fluoranthene
62T Benzo(a)pyrene
63T Indeno(1,2,3-cd)pyrene
64T Dibenz(a,h)anthracene
65T Benzo(g,h,i)perylene
66T Nitrobenzene-d5
67T 2-Fluorobiphenyl
68T Terphenyl-d14
69T Phenol-d5
70T 2-Fluorophenol
71T 2,4,6-Tribromophenol

No.	Time	Scan	Tmass/Smass	Tarea/Sarea	Ref	Fit	Conc	Units
1S	11.27	297			STD	0.85	40.0	NG/UL
2S	14.43	600			STD	0.86	40.0	NG/UL
3S	18.98	1034			STD	0.72	40.0	NG/UL
4S	22.78	1398			STD	0.92	40.0	NG/UL
5S	29.77	2066			STD	0.95	40.0	NG/UL
6S	35.65	2629			STD	0.60	40.0	NG/UL
1T	10.62	234	94. / 152.	659936. / 150546.	1	0.67	76.6	NG/UL
2T			Not Found					
3T	10.87	258	128. / 152.	531504. / 150546.	1	0.72	98.2	NG/UL
4T			Not Found					
5T	11.32	301	146. / 152.	206468. / 150546.	1	0.87	37.6	NG/UL
6T			Not Found					
7T			Not Found					

8T			Not Found					
9T			Not Found					
10T			Not Found					
11T	12. 40	405	70. / 152.	121262. /	150546.	1	0. 64	35. 3	NG/UL
12T			Not Found					
13T			Not Found					
14T			Not Found					
15T			Not Found					
16T			Not Found					
17T			Not Found					
18T			Not Found					
19T			Not Found					
20T	14. 33	590	180. / 136.	231174. /	598664.	2	0. 92	60. 4	NG/UL
21T			Not Found					
22T			Not Found					
23T			Not Found					
24T	15. 93	743	107. / 136.	299040. /	598664.	2	0. 88	91. 2	NG/UL
25T			Not Found					
26T			Not Found					
27T			Not Found					
28T			Not Found					
29T			Not Found					
30T			Not Found					
31T			Not Found					
32T			Not Found					
33T			Not Found					
34T			Not Found					
35T	19. 07	1042	153. / 164.	210242. /	301536.	3	0. 70	36. 6	NG/UL
36T			Not Found					
37T	19. 35	1070	109. / 164.	50769. /	301536.	3	0. 84	80. 8	NG/UL
38T			Not Found					
39T	19. 57	1091	165. / 164.	89629. /	301536.	3	0. 81	42. 8	NG/UL
40T			Not Found					
41T			Not Found					
42T			Not Found					
43T			Not Found					
44T			Not Found					
45T			Not Found					
46T			Not Found					
47T			Not Found					
48T	22. 45	1367	266. / 188.	99127. /	365476.	4	1. 00	100. 0	NG/UL
49T			Not Found					
50T			Not Found					
51T	24. 45	1557	149. / 188.	264364. /	365476.	4	0. 73	28. 5	NG/UL
52T			Not Found					
53T	26. 55	1758	202. / 240.	379204. /	240440.	5	0. 91	40. 5	NG/UL
54T			Not Found					
55T			Not Found					
56T			Not Found					
57T			Not Found					
58T			Not Found					
59T			Not Found					
60T			Not Found					
61T			Not Found					
62T			Not Found					
63T			Not Found					

64T			Not Found							
65T			Not Found							
66T	12.68	433	82. / 136.	99673. /	598664.	2	0.95	15.9	NG/UL
67T	17.23	868	172. / 164.	184810. /	301536.	3	0.94	18.0	NG/UL
68T	26.97	1798	244. / 240.	116927. /	240440.	5	0.88	18.4	NG/UL
69T	10.58	231	99. / 152.	331976. /	150546.	1	0.59	53.1	NG/UL
70T	8.38	21	112. / 152.	284212. /	150546.	1	0.71	35.4	NG/UL
71T	21.03	1230	330. / 164.	34844. /	301536.	3	0.85	39.5	NG/UL

Extended Quantitation Report

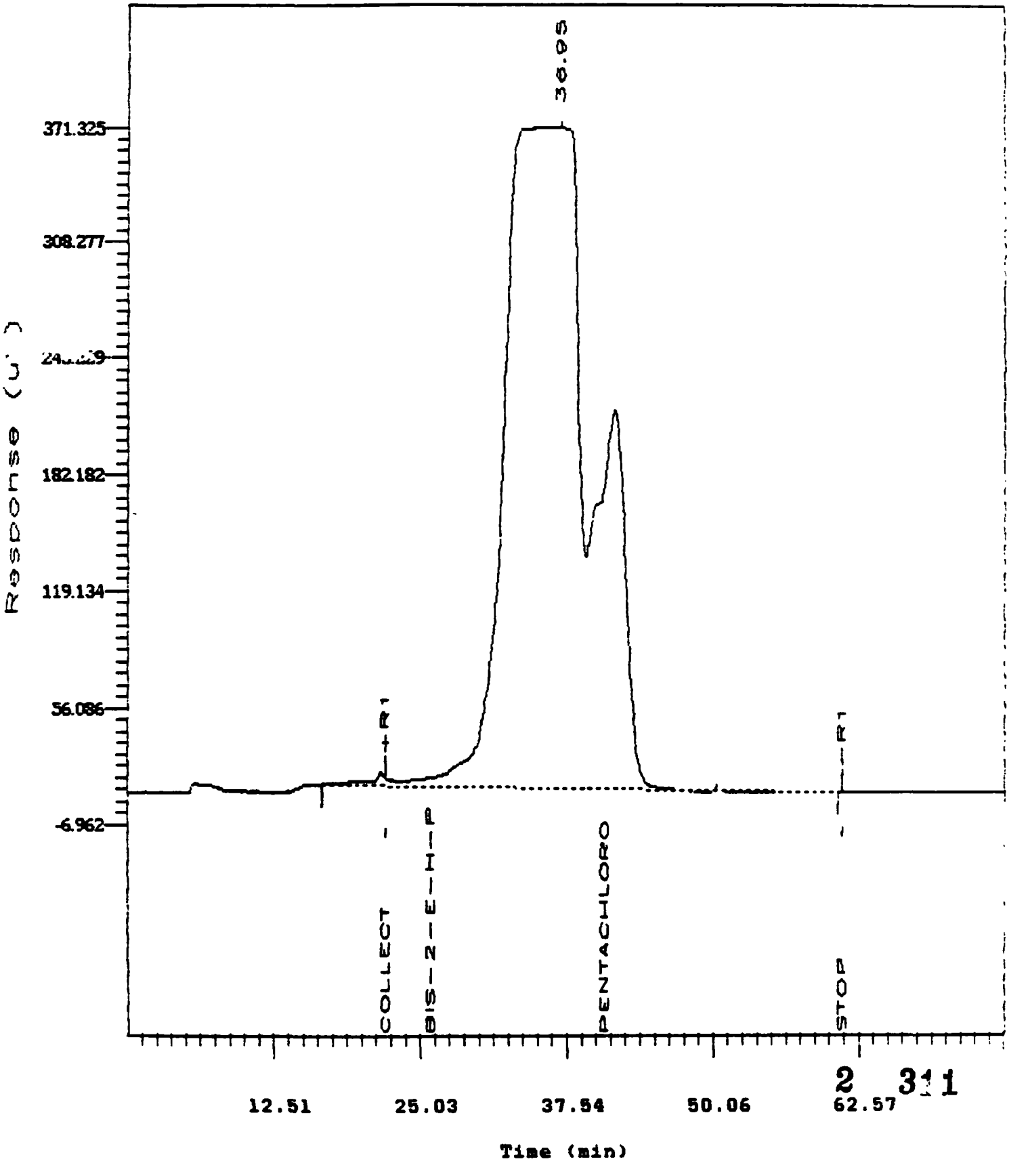
Library used: SYO:[210,11]CLPBNB
Data file name: SYO:B1514
Injection time: 13-APR-89 14:46:20

No	RRT	Tmass/Smass	Res fac	Conc	Ty Pk Mq	Ave	S.D.	624/625
1S				40.0				
2S				40.0				
3S				40.0				
4S				40.0				
5S				40.0				
6S				40.0				
1T	0.942	94. / 152.	2.289	76.6	IA BB RF			1.00
3T	0.965	128. / 152.	1.438	98.2	IA BB RF			1.00
5T	1.004	146. / 152.	1.460	37.6	IA BB RF			1.00
11T	1.100	70. / 152.	0.912	35.3	IA BV RF			1.00
20T	0.993	180. / 136.	0.256	60.4	IA BB RF			1.00
24T	1.104	107. / 136.	0.219	91.2	IA BB RF			1.00
35T	1.005	153. / 164.	0.763	36.6	IA BB RF			1.00
37T	1.019	109. / 164.	0.083	80.8	IA BB RF			1.00
39T	1.031	165. / 164.	0.278	42.8	IA BB RF			1.00
48T	0.986	266. / 188.	0.109	100.0	IA BB RF			1.00
51T	1.073	149. / 188.	1.017	28.5	IA BB RF			1.00
63T	0.892	202. / 240.	1.558	40.5	IA BB RF			1.00
66T	0.879	82. / 136.	0.420	15.9	IA BB RF			1.00
67T	0.908	172. / 164.	1.359	18.0	IA BB RF			1.00
68T	0.906	244. / 240.	1.058	18.4	IA BB RF			1.00
69T	0.939	99. / 152.	1.662	53.1	IA BV RF			1.00
70T	0.744	112. / 152.	2.131	35.4	IA BB RF			1.00
71T	1.108	330. / 164.	0.117	39.5	IA BB RF			1.00

Run #: H425 Case #: 11658
Date: 4-5-89 SMO #: EBQ18
Time: 23:25 TRAL #: RAS0552mc
Inst: H SDG #: EBQ18

GPC Chromatogram

FileName : c:\2700\instH\H425.raw Date: 4-6-89 1:55 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 11052 uV High Point: 371325 uV
Vertical Scale Factor: 1.00 Plot Offset: -7 mV Plot Scale: 378 mV



PEST
QC SUMMARY

2F

SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Level:(low/med) LOW Quantitation column SP2100 gmg 4-20-89

	EPA SAMPLE NO.	S1 (DBC)	#	OTHER
1	PBLK01	80		
2	EBQ27	81		
3	EBQ28	81		
4	EBQ29	73		
5	PBLK02	85		
6	EBQ21	83		
7	EBQ22	160	*	
8	EBQ23	75		
9	EBQ24	79		
10	EBQ25	87		
11	EBQ26	71		
12	EBQ18	85		
13	EBQ18MS	91		
14	EBQ18MSD	83		
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

S1 (DBC) = Dibutyl chlorendate ADVISORY QC LIMITS (20-150)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

3 1

FORM II PEST-2 1/87 Rev.

2F

SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Level:(low/med) LOW Confirmation column DB608 gmg 4-20-89

	EPA SAMPLE NO.	S1 (DBC)#	OTHER
1	PBLK02	85	
2	EBQ22	68	
3	EBQ23	75	
4	EBQ25	84	
5	EBQ26	69	
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			

ADVISORY QC LIMITS (20-150)

S1 (DBC) = Dibutyl chlorendate

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

3 2

FORM II PEST-2 1/87 Rev.

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Matrix Spike - EPA Sample No.: EBQ18 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (UG/KG)	SAMPLE CONCENTRATION (UG/KG)	MS CONCENTRATION (UG/KG)	MS % REC #	QC LIMITS REC.
gamma-BHC (Lindane)	28.20	.00	27.16	96.	46-127
Heptachlor	28.20	.00	27.66	98.	35-130
Aldrin	28.20	.00	26.18	93.	34-132
Dieldrin	70.51	.00	59.06	84.	31-134
Endrin	70.51	.00	63.28	90.	42-139
4,4'-DDT	70.51	.00	68.75	98.	23-134

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	27.53	25.00	91.	6.	50	46-127
Heptachlor	27.53	25.98	94.	4.	31	35-130
Aldrin	27.53	24.24	88.	5.	43	34-132
Dieldrin	68.82	53.52	78.	7.	38	31-134
Endrin	68.82	59.56	87.	4.	45	42-139
4,4'-DDT	68.82	63.53	92.	5.	50	23-134

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

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

COMMENTS:

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab Sample ID: 4-6-89 Lab File ID: F745

Matrix: (soil/water) SOIL Level:(low/med) LOW

Date Extracted: 4/ 6/89 Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed (1): 4/19/89 Date Analyzed (2): 4/19/89

Time Analyzed (1): 2:19 Time Analyzed (2): 2:19

Instrument ID (1): VARF Instrument ID (2): VARF

GC Column ID (1): SP2100 GC Column ID (2): SP2100

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
1	EBQ27	RAS0560	4/19/89	4/19/89
2	EBQ28	RAS0561	4/19/89	4/19/89
3	EBQ29	RAS0562	4/19/89	4/19/89
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

Comments:

4C

PESTICIDE METHOD BLANK SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Lab Sample ID: 4-11-89 Lab File ID: F749

Matrix: (soil/water) SOIL Level:(low/med) LOW

Date Extracted: 4/11/89 Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed (1): 4/19/89 Date Analyzed (2): 4/19/89

Time Analyzed (1): 4:51 Time Analyzed (2): 21:54

Instrument ID (1): VARF Instrument ID (2): VARG

GC Column ID (1): SP2100 GC Column ID (2): DB608

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

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
1	EBQ21	RAS0554A	4/19/89	
2	EBQ22	RAS0555A	4/19/89	4/19/89
3	EBQ23	RAS0556A	4/19/89	4/19/89
4	EBQ24	RAS0557A	4/19/89	
5	EBQ25	RAS0558A	4/19/89	4/19/89
6	EBQ26	RAS0559A	4/19/89	4/20/89
7	EBQ18	RAS0552A	4/19/89	
8	EBQ18MS	RAS0552A	4/19/89	
9	EBQ18MSD	RAS0552A	4/19/89	
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

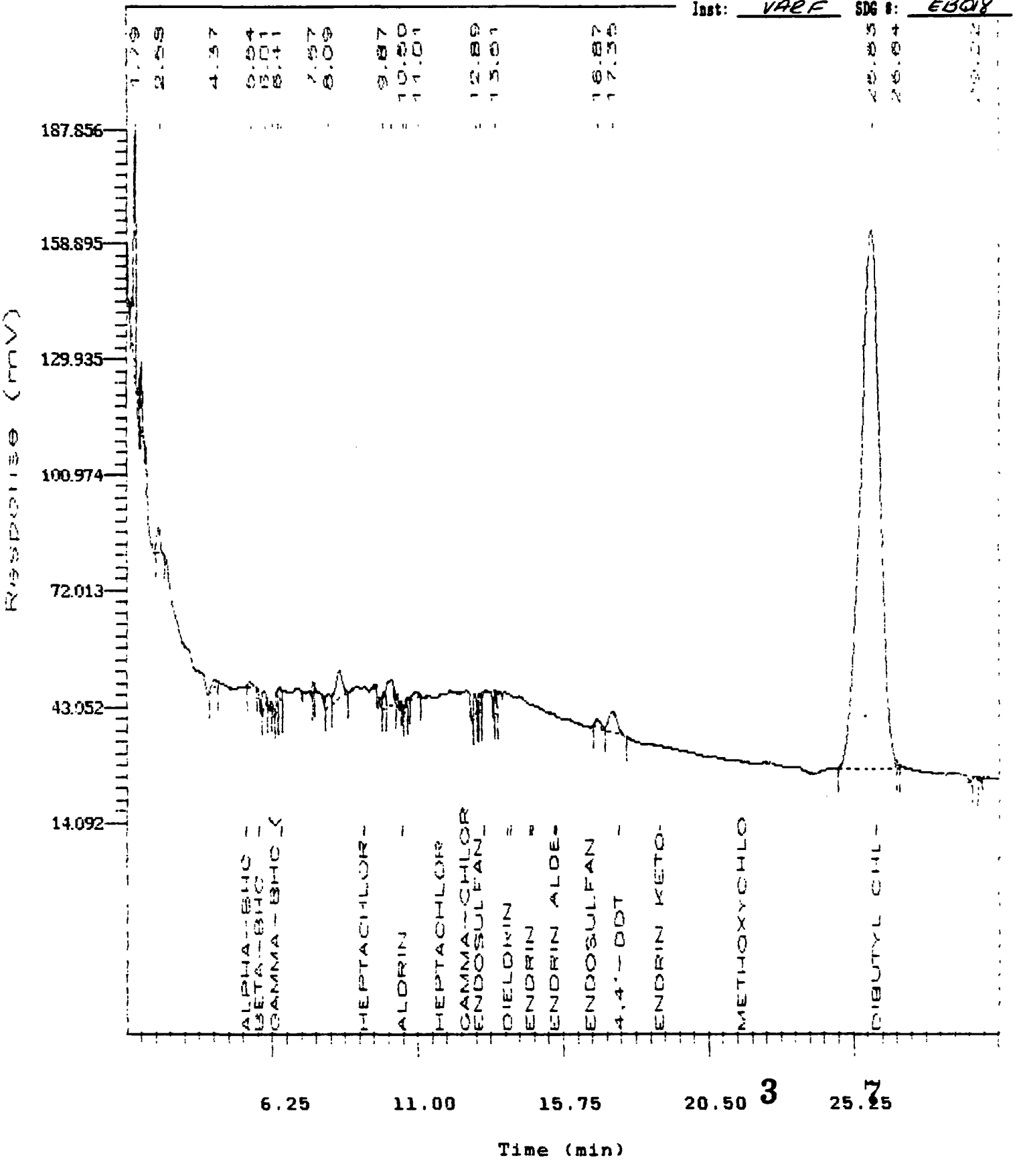
Comments:

PEST
SAMPLE DATA

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F758.raw Date: 4-19-89 11:03 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min Low Point: 22366 uV High Point: 187856 uV
Vertical Scale Factor: 1.00 Plot Offset: 14 mV Plot Scale: 174 mV

Run #: F758 Case #: 11688
Date: 4-19-89 SMO #: EBQ18
Time: 1032 TRAL #: RA505S2A
Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

Sample Name : EBQ18 Time : 4-19-89 11:02
Sample Number: RAS0552A Study : 11688Q
Operator : GMG

Interface # : 1 Channel : A A/D mV Range : 2000
AutoSampler : Varian 8000 with controller
Rack/Vial : 255/255

Data Acquisition Time: 4-19-89 10:32
Delay Time : 1.50 min.
End Time : 30.00 min.
Sampling Rate : 1.0 pts/sec

Raw Data File : c:\2700\VARF\F758.raw
Result File : c:\2700\VARF\F758.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File : c:\2700\methods\SP2100.prc
Sample File : c:\2700\methods\SP2100.smp
Sequence File : C:\2700\METHODS\SP2100.seq

Inj. Volume : 2 uL Area Reject : 1000.00
Sample Amount : 1.0000 NG

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.79	339518.00	62768.59	200.00	
2	2.02	70652.00	17730.05	200.00	
3	2.58	58695.88	7554.88	200.00	
4	4.37	16692.00	1557.92	200.00	
5	5.54	13092.00	1363.84	------	alpha-BHC
6	6.01	27637.00	2900.30	200.00	
7	6.25	14236.00	3344.14	------	gamma-BHC (Lindane)
8	6.41	13113.00	4151.73	200.00	
9	6.51	18073.75	2194.54	------	delta-BHC
10	7.57	5308.00	2235.88	200.00	
11	8.09	33985.38	2991.47	200.00	
12	8.47	103832.25	6646.39	200.00	
13	9.87	23895.41	4012.20	200.00	
14	10.13	92035.88	6139.66	200.00	
15	10.50	1940.00	1.00	------	Aldrin
16	10.62	10116.00	1942.78	200.00	
17	11.01	13360.00	987.75	200.00	
18	12.89	23569.00	3289.38	200.00	
19	13.02	10446.00	3220.50	------	Endosulfan I
20	13.51	25760.00	6265.63	200.00	
21	16.87	32688.06	2332.75	------	Endosulfan sulfate
22	17.35	109988.50	5469.06	------	4,4'-DDT
23	25.83	5.99e6	134654.69	------	Dibutyl chlorendate
24	26.64	10802.69	2316.92	200.00	
25	29.22	10731.00	922.69	200.00	

= 7078961.50

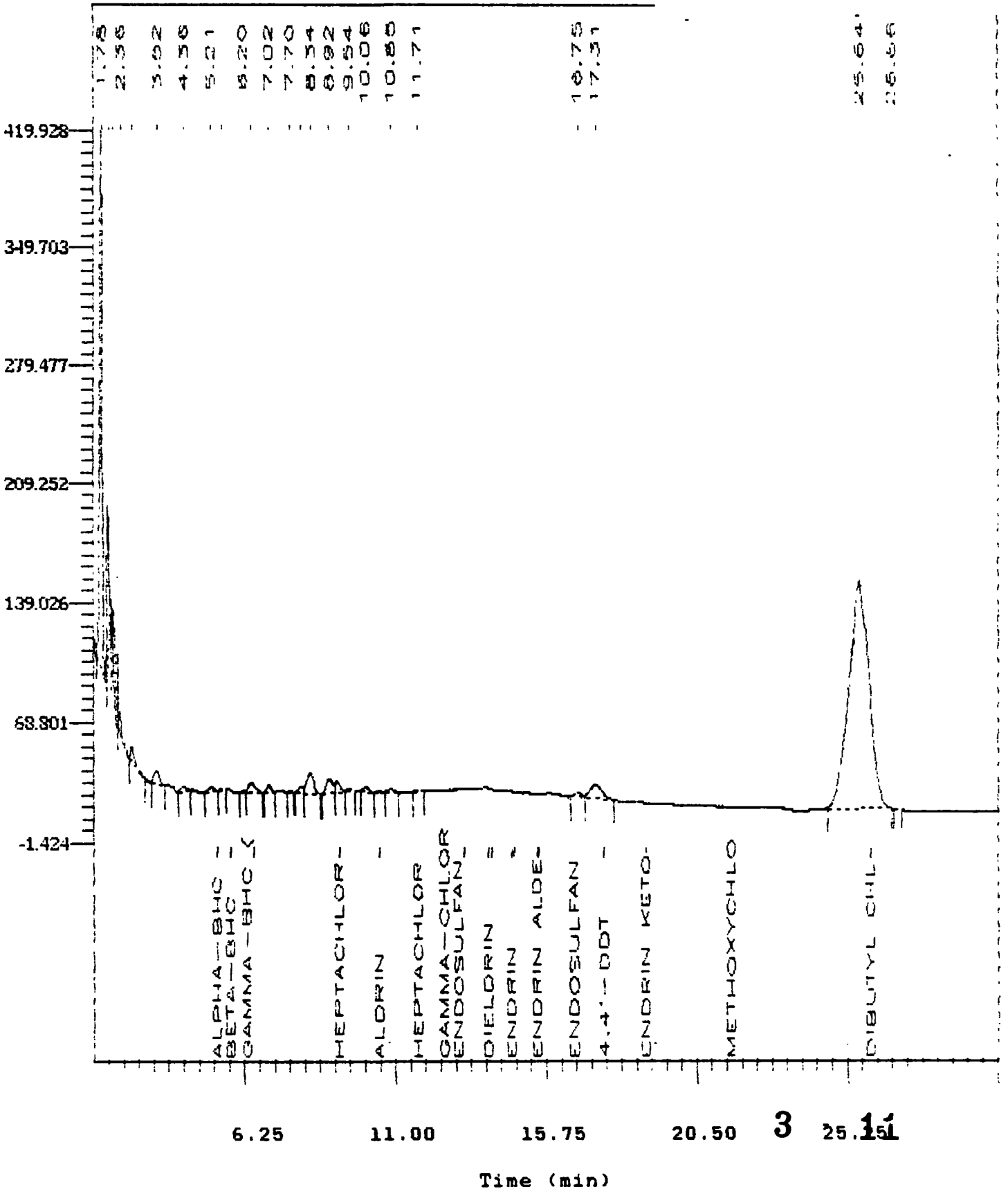
.ents Not Found in This Run:

Name	Sample File Retention Time
	5.810
	9.210
: epoxide	11.700
ɔrdane	12.520
ɔrdane	13.140
	13.900
	14.000
	14.620
an II	14.720
ldehyde	15.430
	15.470
:etone	18.870
:hlor	21.560

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F751.raw Date: 4-19-89 9:12 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min Low Point: 18640 uV High Point: 419928 uV
Vertical Scale Factor: 1.00 Plot Offset: -1 mV Plot Scale: 421 mV

Run #: F751 Case #: 11688
Date: 4-19-89 SMO #: EBQ21
Time: 0607 TRAL #: RA5055
Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : EBQ21                    Time        : 4-19-89  9:11
Sample Number: RAS0554A                  Study       : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-19-89  6:07
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F751.raw
Result File     : C:\TEMP\~grs0575.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\SP2100.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.78	1.66e6	326194.44	200.00	
2	2.00	324958.00	80456.84	200.00	
3	2.12	132550.00	1.00	200.00	
4	2.36	73298.13	12790.11	200.00	
5	2.73	63114.00	8791.35	200.00	
6	3.52	85975.00	7289.12	200.00	
7	4.36	33184.00	2663.05	200.00	
8	5.21	34640.00	2782.40	200.00	
9	5.56	5528.00	684.31	200.00	
10	6.20	12774.59	1475.27	------	gamma-BHC (Lindane)
11	6.47	98426.94	6303.85	------	delta-BHC
12	7.02	45138.00	4449.34	200.00	
13	7.70	11203.03	1341.56	200.00	
14	8.04	47623.50	4097.68	200.00	
15	8.34	185420.50	11535.01	200.00	
16	8.92	122242.88	8635.24	200.00	
17	9.18	76235.44	6322.70	------	Heptachlor
18	9.54	18003.44	1666.89	200.00	
19	10.06	32077.88	2494.38	200.00	
20	10.85	25598.00	1912.23	200.00	
21	11.71	11342.00	862.94	------	Heptachlor epoxide
22	16.75	44648.56	2753.71	------	Endosulfan sulfate
23	17.31	206806.75	7657.91	------	4,4'-DDT
24	25.64	5.84e6	134116.19	------	Dibutyl chlorendate
25	26.66	4351.00	25.79	200.00	

Total Area = 9209548.00

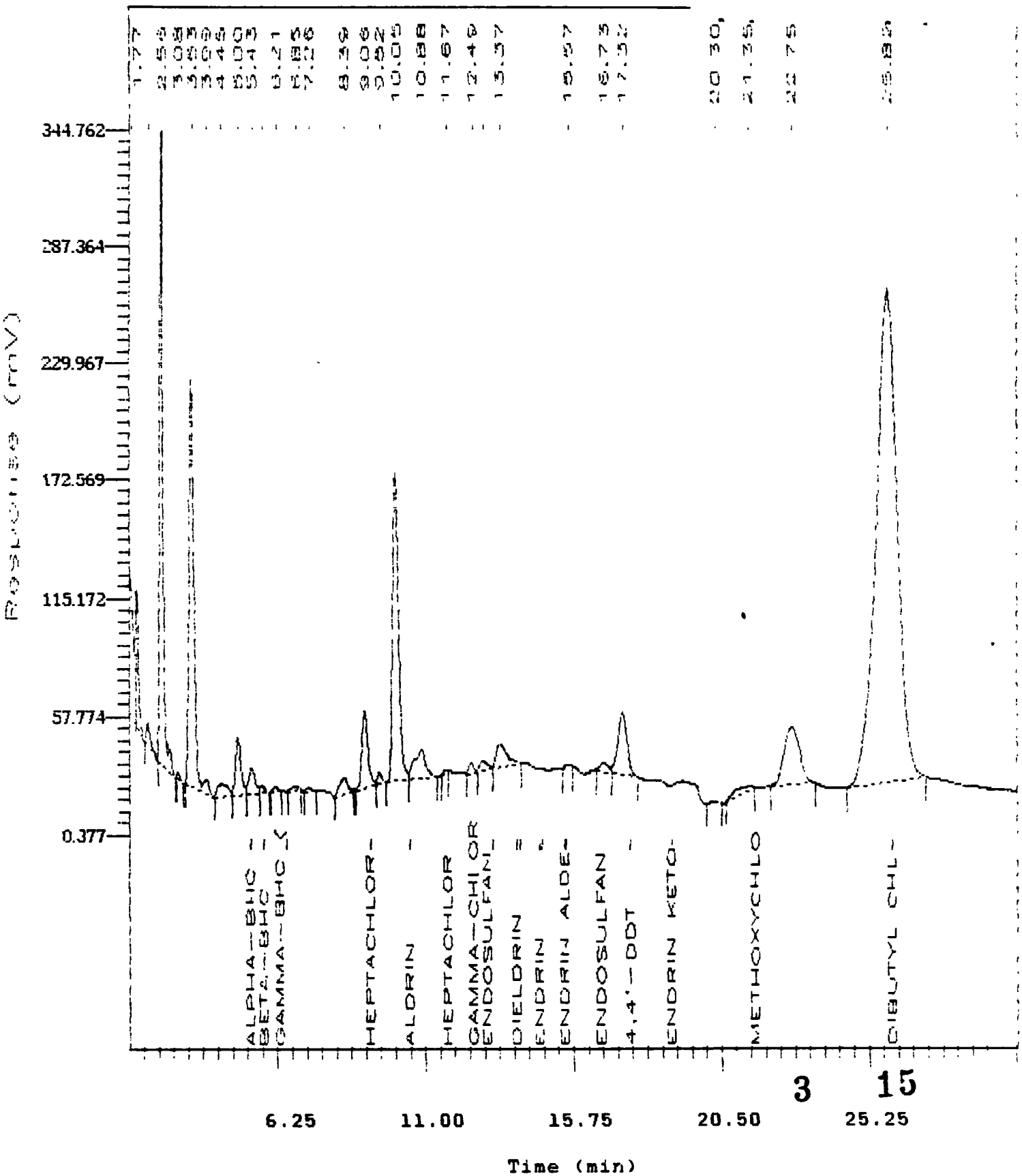
Components Not Found in This Run:

Component Name	Sample File Retention Time
alpha-BHC	5.390
beta-BHC	5.810
Aldrin	10.470
gamma-Chlordane	12.520
Endosulfan I	12.970
alpha-Chlordane	13.140
Dieldrin	13.900
4,4'-DDE	14.000
Endrin	14.620
Endosulfan II	14.720
Endrin aldehyde	15.430
4,4'-DDD	15.470
Endrin ketone	18.870
Methoxychlor	21.560

(2uL) SP2100 - CHROMATOGRAM

ileName : c:\2700\VARF\F752.raw Date: 4-19-89 7:16 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min Low Point: 16776 uV High Point: 344762 uV
Vertical Scale Factor: 1.00 Plot Offset: 0 mV Plot Scale: 344 mV

Run #: F752 Case #: 11688
Date: 4-19-89 SMO #: EBQ22
Time: 0645 TRAL #: RA5055SA
Inst: VARF SDG #: EBQ18



3 15

Nelson Analytical 2700 Chromatography System Report Header

Sample Name : EBQ22 Time : 4-19-89 7:15
Sample Number: RAS0555A Study : 11688Q
Operator : GMG

Interface # : 1 Channel : A A/D mV Range : 2000
AutoSampler : Varian 8000 with controller
Rack/Vial : 255/255

Data Acquisition Time: 4-19-89 6:45
Delay Time : 1.50 min.
End Time : 30.00 min.
Sampling Rate : 1.0 pts/sec

Raw Data File : c:\2700\VARF\F752.raw
Result File : c:\2700\VARF\F752.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File : c:\2700\methods\SP2100.prc
Sample File : c:\2700\methods\SP2100.smp
Sequence File : C:\2700\METHODS\SP2100.seq

Inj. Volume : 2 uL Area Reject : 1000.00
Sample Amount : 1.0000 NG

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.58	536677.56	67223.02	200.00	
2	1.77	483602.38	70724.64	200.00	
3	2.12	118176.00	11448.42	200.00	
4	2.56	2.20e6	313638.63	200.00	
5	2.82	96584.00	13256.36	200.00	
6	3.08	21820.00	3471.57	200.00	
7	3.53	2.01e6	198240.42	200.00	
8	3.99	105639.00	8390.68	200.00	
9	4.45	149400.00	6259.25	200.00	
10	5.00	334968.81	28149.53	200.00	
11	5.43	191168.81	12435.59	------	alpha-BHC
12	5.76	45660.00	3706.47	------	beta-BHC
13	6.21	24104.00	2417.40	------	gamma-BHC (Lindane)
14	6.85	22800.00	1653.39	200.00	
15	7.26	20652.00	1825.92	200.00	
16	8.39	160459.25	8699.05	200.00	
17	9.06	510402.56	37364.05	------	Heptachlor
18	9.52	59728.06	5647.75	200.00	
19	10.05	1.93e6	149280.86	200.00	
20	10.88	356681.63	13669.43	200.00	
21	11.67	9424.00	1082.84	------	Heptachlor epoxide
22	12.49	46413.19	4552.77	------	gamma-Chlordane
23	12.85	77440.25	4688.98	------	Endosulfan I
24	13.370	262570.25	11577.24	------	alpha-Chlordane
25	15.57	12954.00	1208.78	------	4,4'-DDD

26	16.73	72059.88	4258.86	------	Endosulfan sulfate
27	17.32	603613.75	29590.91	------	4,4'-DDT
28	20.30	18046.00	953.05	200.00	
29	21.35	98123.00	1483.91	------	Methoxychlor
30	22.75	945704.00	27450.90	200.00	
31	25.82	1.13e7	240600.44	------	Dibutyl chlorendate

Total Area = 22845796.00

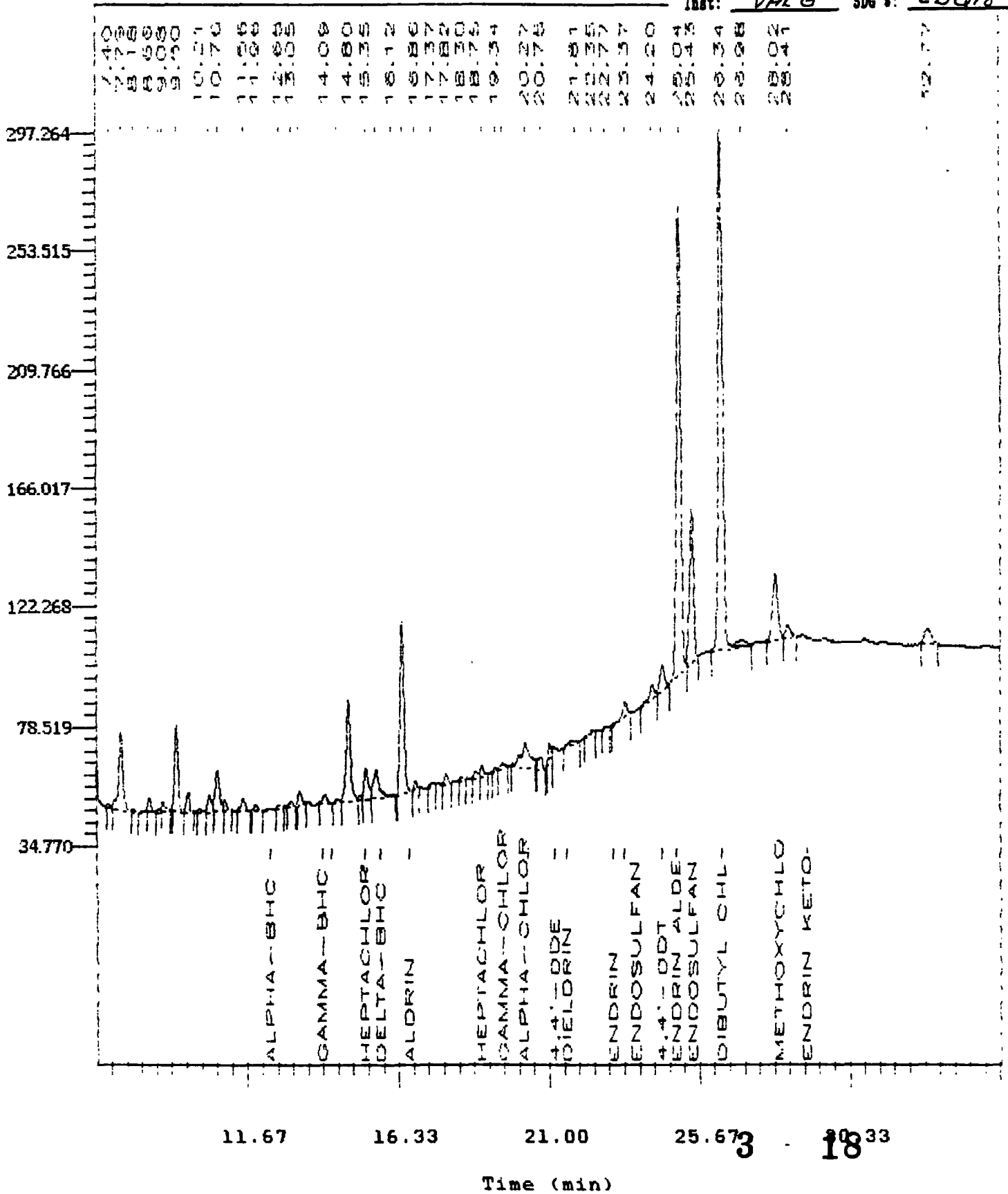
Components Not Found in This Run:

Component Name	Sample File Retention Time
delta-BHC	6.530
Aldrin	10.470
Dieldrin	13.900
4,4'-DDE	14.000
Endrin	14.620
Endosulfan II	14.720
Endrin aldehyde	15.430
Endrin ketone	18.870

(2uL) DB-608 CHROMATOGRAM

FileName : c:\2700\VARG\G813.raw Date: 4-19-89 23:10 Page 1 of 1
Start Time: 7.00 min End Time: 35.00 min Low Point: 47270 uV High Point: 297264 uV
Vertical Scale Factor: 1.00 Plot Offset: 35 mV Plot Scale: 253 mV

Run #: G813 Case #: 11688
Date: 4-19-89 SMO #: EBQ22
Time: 2234 TRAL #: RA50555A
Inst: VARG SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : EBQ22                    Time        : 4-19-89  23:10
Sample Number: RAS0555A                  Study       : 11688C
Operator      : GMG

Interface #   :   2       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 0/0

Data Acquisition Time: 4-19-89  22:34
Delay Time      : 7.00   min.
End Time        : 35.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARG\G813.raw
Result File     : c:\2700\VARG\G813.rst
Instrument File: c:\2700\methods\MEGA.ins
Process File    : c:\2700\methods\DB608.prc
Sample File     : c:\2700\methods\DB608TEN.smp
Sequence File   : c:\2700\methods\MEGA.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	7.40	8326.25	1342.73	1.00	
2	7.79	265029.63	29389.91	1.00	
3	8.18	8083.38	1222.46	1.00	
4	8.66	33996.06	4819.45	1.00	
5	8.95	5289.38	830.31	1.00	
6	9.08	21393.19	3090.43	1.00	
7	9.50	228832.06	31676.20	1.00	
8	9.85	55630.00	7756.29	1.00	
9	10.21	8173.44	1047.24	1.00	
10	10.51	53466.56	6115.41	1.00	
11	10.76	145971.69	14784.91	1.00	
12	10.98	33700.56	3940.78	1.00	
13	11.56	43157.33	4646.48	1.00	
14	11.96	19376.06	2407.77	1.00	
15	12.65	9120.00	1427.25	1.00	
16	13.05	16497.00	2153.06	1.00	
17	13.29	39119.00	5038.17	1.00	
18	14.09	36640.00	3866.22	------	gamma-BHC
19	14.46	14309.63	1720.63	1.00	
20	14.80	348505.41	37301.97	1.00	
21	15.35	112191.31	11604.44	------	Heptachlor
22	15.65	149816.56	10388.63	------	delta-BHC
23	16.12	6557.00	1002.68	1.00	
24	16.47	517190.00	62491.59	------	Aldrin
25	16.86	17104.00	2718.53	1.00	

26	17.37	5764.00	893.97	1.00	
27	17.82	23034.00	3254.06	1.00	
28	18.30	4166.00	711.60	1.00	
29	18.75	16576.00	2128.40	1.00	
30	18.94	26942.00	3654.88	------	Heptachlor epoxide
31	19.34	5880.00	934.53	1.00	
32	19.56	12434.88	1439.45	------	gamma-Chlordane
33	20.27	183372.50	9287.75	------	Endosulfan I
34	20.75	51113.13	4489.78	1.00	
35	21.01	28482.00	4700.25	------	4,4'-DDE
36	21.81	25072.00	867.14	------	Dieldrin
37	22.35	7965.00	987.44	1.00	
38	22.77	6036.00	900.81	------	Endrin
39	23.37	43549.00	4793.27	1.00	4,4'-DDD
40	24.20	44371.00	4698.75	1.00	
41	24.51	85611.75	8734.48	------	4,4'-DDT
42	25.04	1.61e6	172809.66	------	Endrin aldehyde
43	25.43	481159.25	56454.17	------	Endosulfan sulfate
44	26.34	1.83e6	190500.08	------	Dibutyl chlorendate
45	26.98	35768.00	1828.06	1.00	
46	28.02	293482.25	24138.99	------	Methoxychlor
47	28.41	57858.00	4677.17	------	Endrin ketone
48	32.77	86835.00	5754.81	1.00	

Total Area = 7168586.00

Components Not Found in This Run:

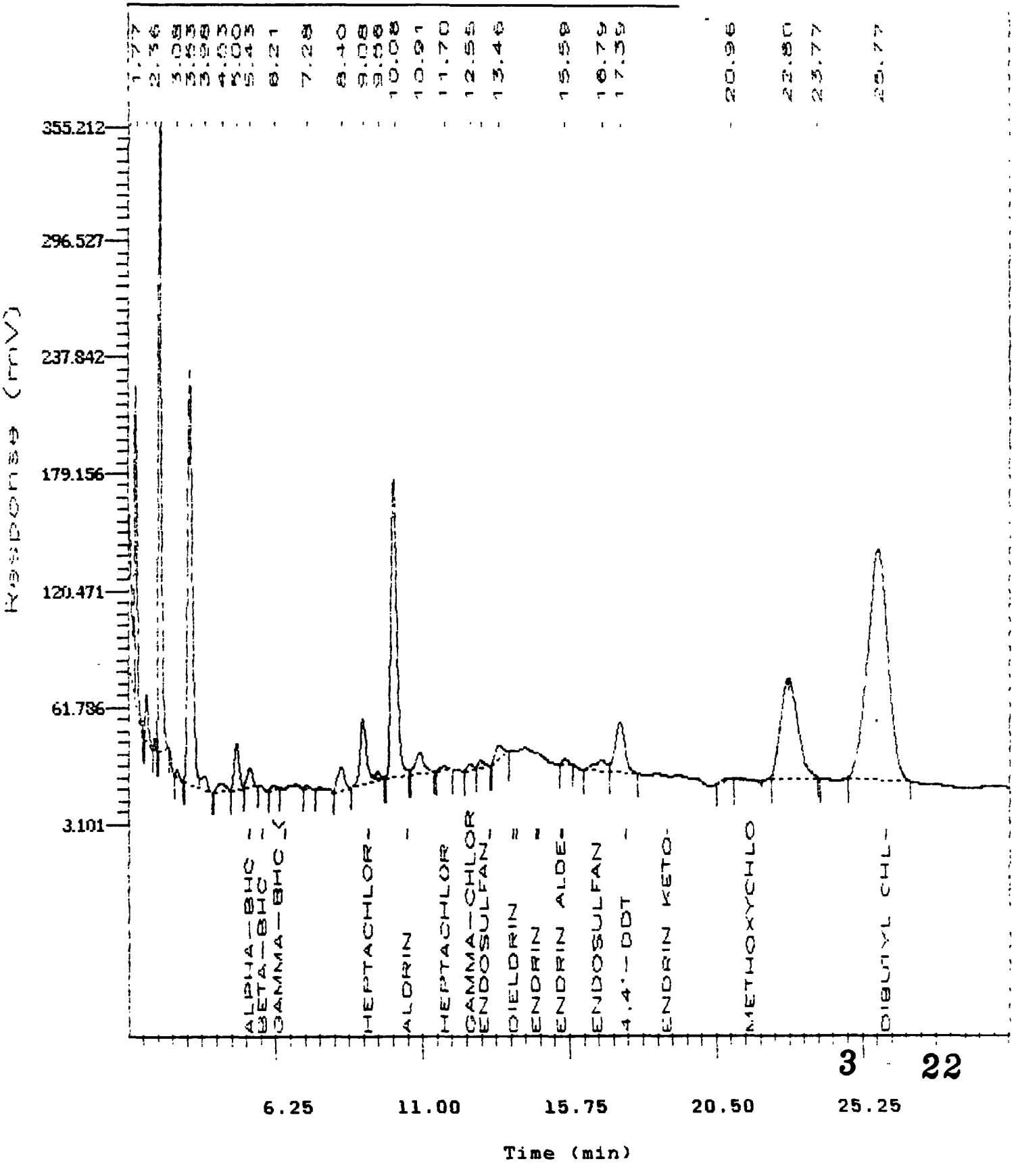
Component Name	Sample File Retention Time
alpha-BHC	12.350
beta-BHC	14.230
alpha-Chlordane	20.180
Endosulfan II	23.660

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F753.raw
Start Time: 1.50 min End Time: 30.00 min
Vertical Scale Factor: 1.00 Plot Offset: 3 mV Plot Scale: 352 mV

Date: 4-19-89 9:20 Page 1 of 1
Low Point: 19868 uV High Point: 355212 uV

Run #: F753 Case #: 11688
Date: 4-19-89 SMO #: EBQ23
Time: 0722 TRAL #: RAS0556A
Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

Sample Name : EBQ23 Time : 4-19-89 9:20
Sample Number: RAS0556A Study : 11688Q
Operator : GMG

Interface # : 1 Channel : A A/D mV Range : 2000
AutoSampler : Varian 8000 with controller
Rack/Vial : 255/255

Data Acquisition Time: 4-19-89 7:22
Delay Time : 1.50 min.
End Time : 30.00 min.
Sampling Rate : 1.0 pts/sec

Raw Data File : c:\2700\VARF\F753.raw
Result File : C:\TEMP\~grs0575.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File : c:\2700\methods\SP2100.prc
Sample File : c:\2700\methods\SP2100.smp
Sequence File : C:\2700\METHODS\SP2100.seq

Inj. Volume : 2 uL Area Reject : 1000.00
Sample Amount : 1.0000 NG

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.57	561342.63	79307.06	200.00	
2	1.77	870536.38	161244.59	200.00	
3	2.11	151376.00	24456.34	200.00	
4	2.36	25443.00	6380.50	200.00	
5	2.56	2.17e6	317680.66	200.00	
6	3.08	26479.94	4095.04	200.00	
7	3.53	2.10e6	208832.97	200.00	
8	3.98	119447.00	8228.51	200.00	
9	4.53	91430.00	4490.53	200.00	
10	5.00	247372.50	22993.71	200.00	
11	5.43	127323.75	9776.95	------	alpha-BHC
12	6.21	24358.00	2300.21	------	gamma-BHC (Lindane)
13	7.28	19229.00	1622.02	200.00	
14	8.40	185216.69	11667.16	200.00	
15	9.08	474154.94	32471.95	------	Heptachlor
16	9.56	33607.00	3604.66	200.00	
17	10.08	1.92e6	149284.95	200.00	
18	10.91	216626.63	10548.20	200.00	
19	11.70	38346.00	2187.74	------	Heptachlor epoxide
20	12.55	37635.25	3221.73	------	gamma-Chlordane
21	12.88	58192.94	3642.23	------	Endosulfan I
22	13.46	121714.00	6996.59	200.00	
23	15.59	34650.00	2597.44	------	4,4'-DDD
24	16.79	149687.50	5379.72	------	Endosulfan sulfate
25	17.39	539458.00	24857.86	------	4,4'-DDT

26	20.96	19688.00	628.27	200.00	
27	22.80	1.90e6	49272.53	200.00	
29	25.77	5.33e6	116384.39	------	Dibutyl chlorendate

Total Area = 17624438.00

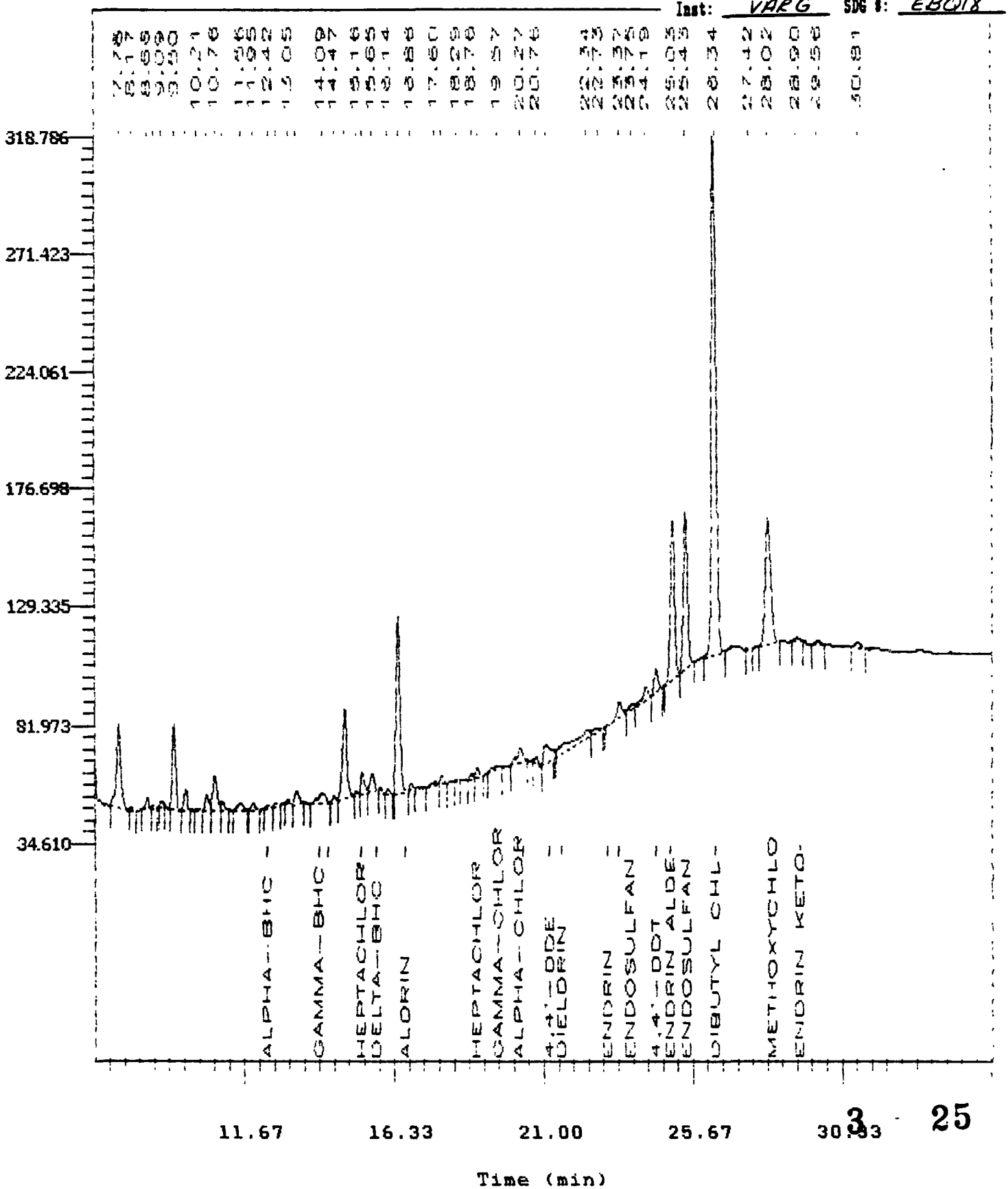
Components Not Found in This Run:

Component Name	Sample File Retention Time
beta-BHC	5.810
delta-BHC	6.530
Aldrin	10.470
alpha-Chlordane	13.140
Dieldrin	13.900
4,4'-DDE	14.000
Endrin	14.620
Endosulfan II	14.720
Endrin aldehyde	15.430
Endrin ketone	18.870
Methoxychlor	21.560

(2uL) DB-608 CHROMATOGRAM

FileName : c:\2700\VARG\G814.raw Date: 4-19-89 23:51 Page 1 of 1
Start Time: 7.00 min End Time: 35.00 min Low Point: 48142 uV High Point: 318786 uV
Vertical Scale Factor: 1.00 Plot Offset: 35 mV Plot Scale: 284 mV

Run #: G 814 Case #: 11688
Date: 4-19-89 SMO #: EB023
Time: 2314 TRAL #: RA5055GA
Inst: VARG SDG #: EB018



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : EBQ23                    Time        : 4-19-89  23:50
Sample Number: RAS0556A                  Study       : 11688C
Operator      : GMG

Interface #   :   2       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 0/0

Data Acquisition Time: 4-19-89  23:14
Delay Time      : 7.00   min.
End Time        : 35.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARG\G814.raw
Result File     : c:\2700\VARG\G814.rst
Instrument File: c:\2700\methods\MEGA.ins
Process File    : c:\2700\methods\DB608.prc
Sample File     : c:\2700\methods\DB608TEN.smp
Sequence File   : c:\2700\methods\MEGA.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
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Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	7.78	317662.00	34043.82	1.00	
2	8.17	10468.00	1542.64	1.00	
3	8.66	31364.00	4492.70	1.00	
4	8.84	4402.00	958.15	1.00	
5	9.09	9260.00	1806.05	1.00	
6	9.50	252590.00	34827.65	1.00	
7	9.85	65248.00	8716.74	1.00	
8	10.21	7469.00	1016.77	1.00	
9	10.51	57015.94	6582.62	1.00	
10	10.76	133629.88	13427.36	1.00	
11	10.98	29800.81	3533.40	1.00	
12	11.56	36772.33	3043.52	1.00	
13	11.95	23998.69	2799.95	1.00	
14	12.42	8340.00	1109.92	------	alpha-BHC
15	12.65	8952.00	1463.90	1.00	
16	13.05	13872.00	1982.29	1.00	
17	13.30	45703.00	5261.81	1.00	
18	14.09	71302.00	4110.77	------	gamma-BHC
19	14.47	15733.13	2006.09	1.00	
20	14.80	338779.63	35692.14	1.00	
21	15.16	12834.44	1977.88	1.00	
22	15.35	68103.81	8435.66	------	Heptachlor
23	15.65	66551.50	6696.10	------	delta-BHC
24	16.14	16145.00	2466.02	1.00	
25	16.47	567368.00	69962.16	------	Aldrin

26	16.86	14384.00	2267.95	1.00	
27	17.60	20454.50	1434.66	1.00	
28	17.82	24092.63	3184.01	1.00	
29	18.29	3326.00	628.36	1.00	
30	18.76	12948.19	1679.39	1.00	
31	18.94	29595.00	3752.96	------	Heptachlor epoxide
32	19.57	19670.00	1119.22	------	gamma-Chlordane
33	20.27	70534.00	5479.77	------	Endosulfan I
34	20.76	21952.00	2617.56	1.00	
35	21.09	116655.55	7204.45	------	4,4'-DDE
36	22.34	174089.88	3360.73	1.00	
37	22.73	34038.00	1113.03	------	Endrin
38	23.37	64831.25	5956.00	1.00	4,4'-DDD
39	23.75	20831.13	1716.00	------	Endosulfan II
40	24.19	48453.00	4554.93	1.00	
41	24.51	84390.00	9143.27	------	4,4'-DDT
42	25.03	604122.50	63619.34	------	Endrin aldehyde
43	25.43	541849.25	63073.22	------	Endosulfan sulfate
44	26.34	2.01e6	208800.47	------	Dibutyl chlorendate
45	27.42	4028.00	466.52	1.00	
46	28.02	632762.00	50548.43	------	Methoxychlor
47	28.90	14616.00	1299.19	------	Endrin ketone
48	29.56	17871.00	1584.52	1.00	
49	30.81	28764.00	2002.64	1.00	

Total Area = 6832324.00

Components Not Found in This Run:

Component Name	Sample File Retention Time
Beta-BHC	14.230
Alpha-Chlordane	20.180
Dieldrin	21.520

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBQ24

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Matrix: (soil/water) SOIL Lab Sample ID: RAS0557A

Sample wt/vol: 30. (g/mL) G Lab File ID: F754

Level: (low/med) LOW Date Received: 3/31/89

% Moisture: not dec. 3. dec. 0. Date Extracted: 4/11/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 4/19/89

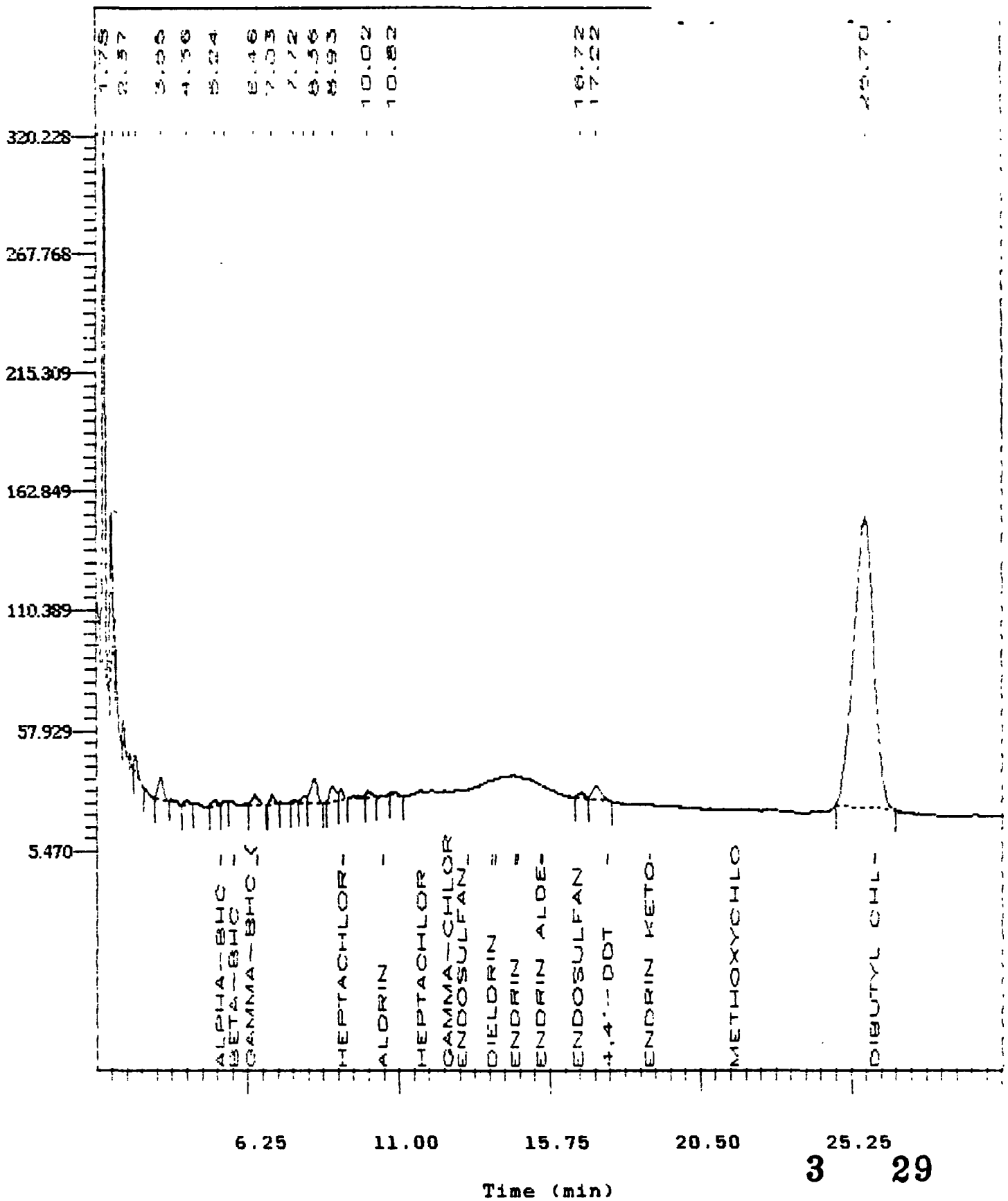
GPC Cleanup: (Y/N) N pH: 8.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.2	U
319-85-7	beta-BHC	8.2	U
319-86-8	delta-BHC	8.2	U
58-89-9	gamma-BHC (Lindane)	8.2	U
76-44-8	Heptachlor	8.2	U
309-00-2	Aldrin	8.2	U
1024-57-3	Heptachlor epoxide	8.2	U
959-98-8	Endosulfan I	8.2	U
60-57-1	Dieldrin	16.	U
72-55-9	4,4'-DDE	16.	U
72-20-8	Endrin	16.	U
33213-65-9	Endosulfan II	16.	U
72-54-8	4,4'-DDD	16.	U
1031-07-8	Endosulfan sulfate	16.	U
50-29-3	4,4'-DDT	16.	U
72-43-5	Methoxychlor	82.	U
53494-70-5	Endrin ketone	16.	U
5103-71-9	alpha-Chlordane	82.	U
5103-74-2	gamma-Chlordane	82.	U
8001-35-2	Toxaphene	160.	U
12674-11-2	Aroclor-1016	82.	U
11104-28-2	Aroclor-1221	82.	U
11141-16-5	Aroclor-1232	82.	U
53469-21-9	Aroclor-1242	82.	U
12672-29-6	Aroclor-1248	82.	U
11097-69-1	Aroclor-1254	160.	U
11096-82-5	Aroclor-1260	160.	U

(2uL) SP2100 - CHROMATOGRAM

File Name : c:\2700\VARF\F754.raw Date: 4-19-89 9:24 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min Low Point: 20458 uV High Point: 320228 uV
Vertical Scale Factor: 1.00 Plot Offset: 6 mV Plot Scale: 315 mV

Run #: F754 Case #: 11688
Date: 4-19-89 SMO #: EBQ24
Time: 0800 TRAL #: RAS0557A
Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : EBQ24                    Time        : 4-19-89  9:24
Sample Number: RAS0557A                  Study       : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-19-89  8:00
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F754.raw
Result File     : C:\TEMP\~grs0575.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\SP2100.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

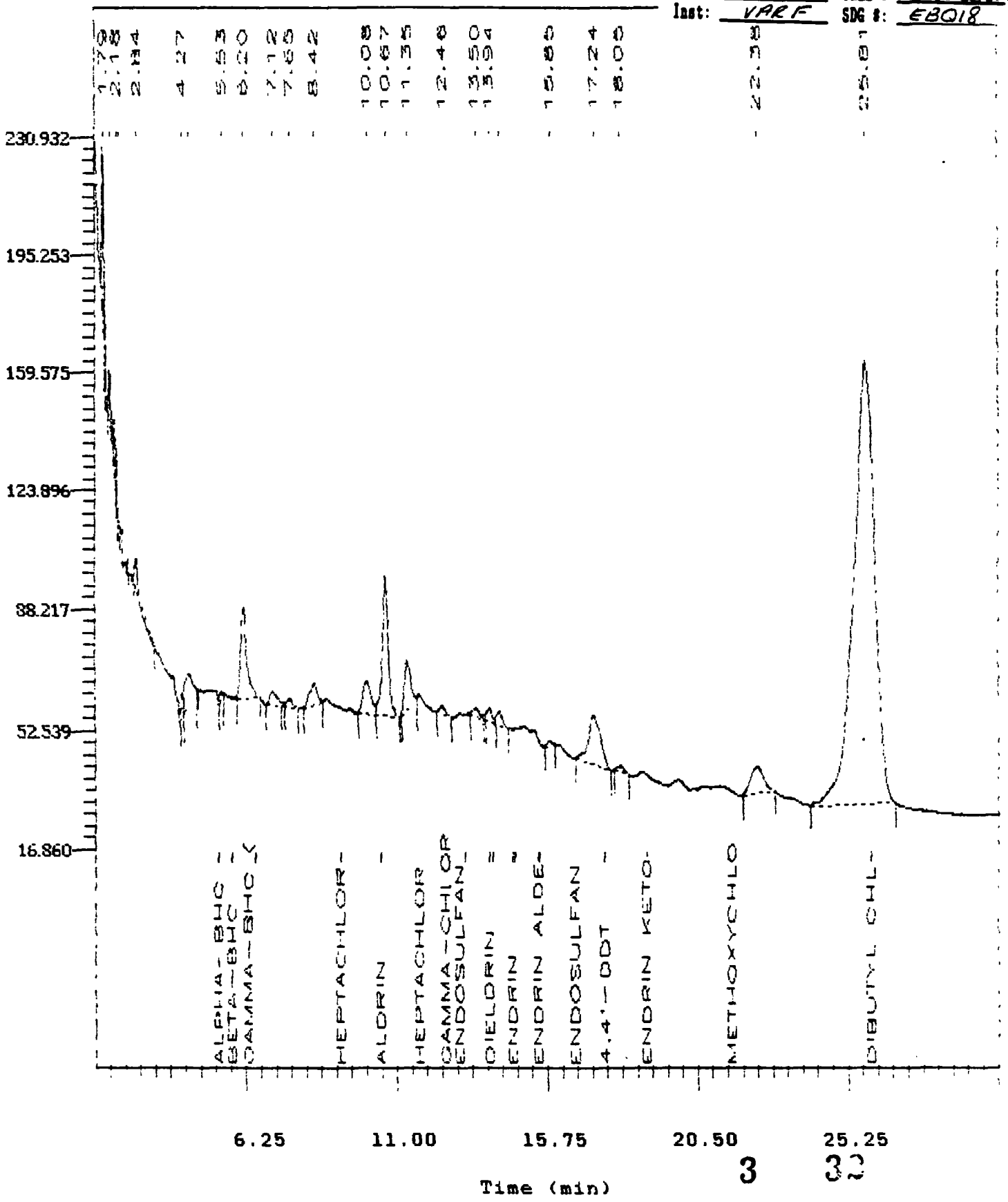
Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.57	87545.38	16543.83	200.00	
2	1.78	1.25e6	235571.73	200.00	
3	2.01	267110.00	62865.64	200.00	
4	2.37	55920.69	11277.72	200.00	
5	2.55	17674.38	3420.69	200.00	
6	2.74	58162.94	8379.86	200.00	
7	3.55	101105.94	9265.91	200.00	
8	4.36	19986.00	1753.13	200.00	
9	5.24	25554.00	2280.99	------	alpha-BHC
10	5.55	4220.00	523.20	200.00	
11	6.46	69304.00	4849.82	------	delta-BHC
12	7.03	45381.00	4392.51	200.00	
13	7.72	12922.84	1358.14	200.00	
14	8.04	35574.53	3130.78	200.00	
15	8.36	163094.00	10791.28	200.00	
16	8.93	87775.00	6824.68	200.00	
17	9.17	53796.44	4861.98	------	Heptachlor
18	10.02	25328.00	2405.61	200.00	
19	10.82	19036.00	1495.39	200.00	
20	16.72	33040.13	2234.22	------	Endosulfan sulfate
21	17.22	123065.38	6088.19	------	4,4'-DDT
22	25.70	5.62e6	127727.72	------	Dibutyl chlorendate

Total Area = 8191902.50

(2uL) SP2100 - CHROMATOGRAM

eName : c:\2700\VARF\F755.raw Date: 4-19-89 9:09 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min Low Point: 27054 uV High Point: 230932 uV
rtical Scale Factor: 1.00 Plot Offset: 17 mV Plot Scale: 214 mV

Run #: F755 Case #: 11688
Date: 4-19-89 SHO #: EBQ25
Time: 0837 TRAL #: RAS0558A
Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
Sample Name   : EBQ25                          Time         : 4-19-89  9:08
Sample Number: RAS0558A                        Study        : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-19-89  8:37
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F755.raw
Result File     : c:\2700\VARF\F755.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\SP2100.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.79	213420.00	55680.69	200.00	
2	2.01	63660.13	17754.25	200.00	
3	2.18	7093.00	1.00	200.00	
4	2.27	9646.00	3974.56	200.00	
5	2.84	65321.00	10589.72	200.00	
6	4.27	20196.75	6534.19	200.00	
7	4.47	161971.38	9048.08	200.00	
8	5.53	12973.00	1199.74	------	alpha-BHC
9	6.20	360987.00	26897.22	------	gamma-BHC (Lindane)
10	7.12	65841.50	4252.17	200.00	
11	7.65	32591.50	2429.98	200.00	
12	8.42	101434.00	6036.54	200.00	
13	10.08	171659.38	9624.42	200.00	
14	10.670	568105.75	41463.43	------	Aldrin
15	11.35	187550.00	14201.66	200.00	
16	12.46	29660.00	2199.70	------	gamma-Chlordane
17	13.50	34244.97	2524.09	200.00	
18	13.94	54031.00	3964.03	------	Dieldrin
19	14.26	54984.25	4095.23	200.00	
20	15.85	11579.00	1117.60	200.00	
21	17.24	401862.00	14825.98	------	4,4'-DDT
22	18.05	27752.13	1850.59	200.00	
23	22.38	228878.00	8182.30	200.00	
24	25.81	6.12e6	132802.31	------	Dibutyl chlorendate

Total Area = 9014864.00

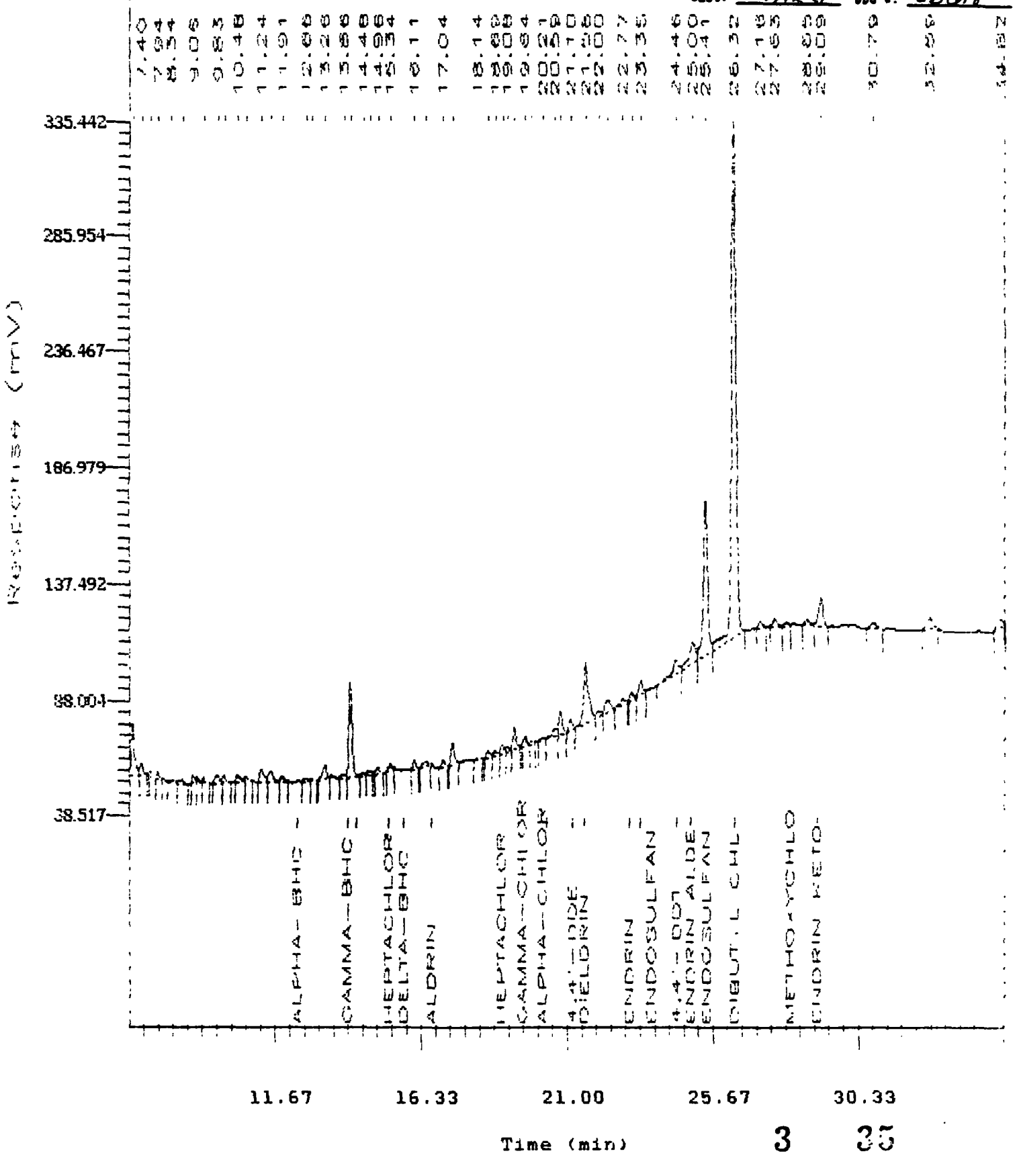
Components Not Found in This Run:

Component Name	Sample File Retention Time
beta-BHC	5.810
delta-BHC	6.530
Heptachlor	9.210
Heptachlor epoxide	11.700
Endosulfan I	12.970
alpha-Chlordane	13.140
4,4'-DDE	14.000
Endrin	14.620
Endosulfan II	14.720
Endrin aldehyde	15.430
4,4'-DDD	15.470
Endosulfan sulfate	16.610
Endrin ketone	18.870
Methoxychlor	21.560

(2uL) DB-608 CHROMATOGRAM

FileName : c:\2700\VARG\G815.raw Date: 4-20-89 12:31 Page 1 of 1
Start Time: 7.00 min End Time: 35.00 min Low Point: 52656 uV High Point: 335442 uV
Vertical Scale Factor: 1.00 Plot Offset: 39 mV Plot Scale: 297 mV

Run #: G815 Case #: 11688
Date: 4-19-89 SMO #: EAQ25
Time: 2355 TRAL #: PAS0558A
Inst: VARG SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : EBQ25                        Time        : 4-20-89  12:31
Sample Number: RAS0558A                      Study       : 11688C
Operator      : GMG

Interface #   :   2       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 0/0

Data Acquisition Time: 4-19-89  23:55
Delay Time      : 7.00   min.
End Time        : 35.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARG\G815.raw
Result File     : c:\2700\VARG\G815.rst
Instrument File: c:\2700\methods\MEGA.ins
Process File    : c:\2700\methods\DB608.prc
Sample File     : c:\2700\methods\DB608TEN.smp
Sequence File   : c:\2700\methods\MEGA.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	7.13	156439.25	22664.04	1.00	
2	7.40	42290.00	4932.09	1.00	
3	7.70	10932.00	2007.64	1.00	
4	7.94	15523.00	3009.35	1.00	
5	8.34	11284.38	986.26	1.00	
6	8.71	19608.75	1848.59	1.00	
7	9.06	9382.00	2099.56	1.00	
8	9.40	11482.00	2144.06	1.00	
9	9.83	37289.25	3593.36	1.00	
10	10.05	23830.00	3039.81	1.00	
11	10.48	30433.00	2804.64	1.00	
12	10.75	16228.75	2142.38	1.00	
13	11.24	54037.75	5699.45	1.00	
14	11.54	57187.50	4902.18	1.00	
15	11.91	15017.75	1991.80	1.00	
16	12.66	11444.31	1502.26	1.00	
17	12.84	9552.50	1234.43	1.00	
18	13.26	50338.00	5836.17	1.00	
19	13.86	13277.06	1428.02	------	gamma-BHC
20	14.08	298893.38	40883.94	------	beta-BHC
21	14.48	6849.56	990.88	1.00	
22	14.68	16276.75	1808.17	1.00	
23	14.96	24120.38	2912.39	1.00	
24	15.34	19498.00	2995.72	------	Heptachlor
25	16.11	31464.00	4848.25	1.00	

26	16.48	25048.00	1704.71	------	Aldrin
27	17.04	19897.00	2608.53	1.00	
28	17.34	62982.00	8741.70	1.00	
29	18.14	5657.00	688.64	1.00	
30	18.47	20509.25	2778.31	1.00	
31	18.69	13678.56	1857.63	1.00	
32	18.93	23157.44	3148.23	------	Heptachlor epoxide
33	19.08	12724.63	1769.83	1.00	
34	19.30	71031.63	9230.41	1.00	
35	19.64	29446.56	4212.06	------	gamma-Chlordane
36	19.85	5368.63	821.70	1.00	
37	20.21	5752.25	870.82	------	alpha-Chlordane
38	20.59	31642.63	3117.30	1.00	
39	20.77	75085.38	9568.51	1.00	
40	21.10	32274.25	4360.81	------	4,4'-DDE
41	21.58	286389.50	24861.80	------	Dieldrin
42	22.00	25277.00	2183.88	1.00	
43	22.28	58706.75	4619.55	1.00	
44	22.77	18813.25	2093.21	1.00	
45	23.05	20276.00	2856.13	------	Endrin
46	23.35	44447.88	5316.92	1.00	4,4'-DDD
47	24.46	75140.00	5718.18	------	4,4'-DDT
48	25.00	122743.50	8486.38	------	Endrin aldehyde
49	25.41	633812.25	66255.28	------	Endosulfan sulfate
50	26.32	2.25e6	220303.28	------	Dibutyl chlorendate
51	27.16	25802.00	3066.92	1.00	
52	27.63	30516.00	3256.48	1.00	
53	27.99	12530.00	1398.98	------	Methoxychlor
54	28.65	28780.50	2390.78	1.00	
55	29.09	130316.25	11683.78	------	Endrin ketone
56	30.79	35781.00	2761.99	1.00	
57	32.59	64924.00	4676.73	1.00	
58	34.87	34350.00	3018.38	1.00	

Total Area = 5328731.00

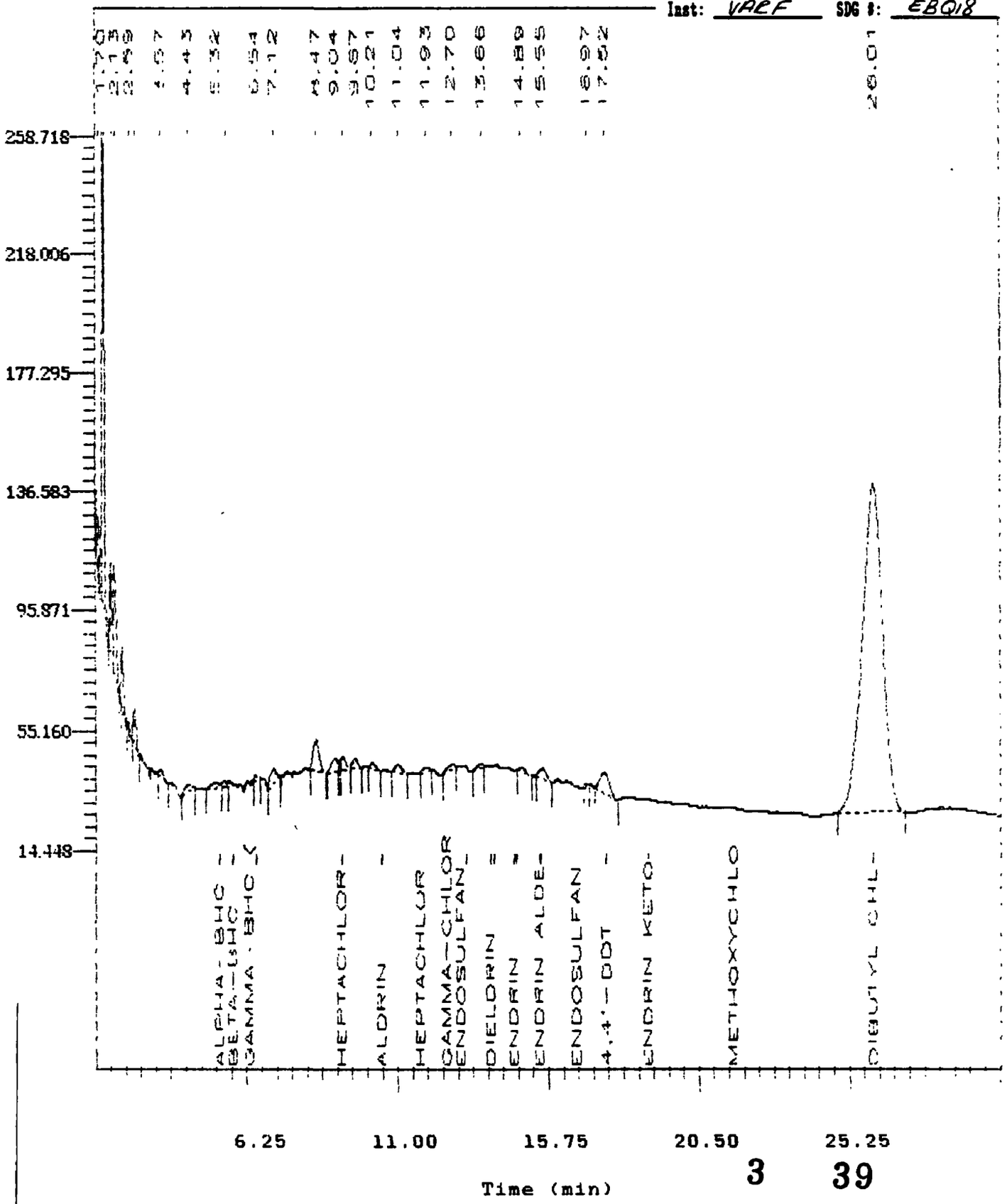
Components Not Found in This Run:

Component Name	Sample File Retention Time
alpha-BHC	12.350
delta-BHC	15.750
Endosulfan I	20.300
Endosulfan II	23.660

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F757.raw Date: 4-19-89 10:24 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min Low Point: 26080 uV High Point: 258718 uV
Vertical Scale Factor: 1.00 Plot Offset: 14 mV Plot Scale: 244 mV

Run #: F757 Case #: 11688
Date: 4-19-89 SMO #: EBQ26
Time: 0958 TRAL #: RA0559A
Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : EBQ26                      Time        : 4-19-89  10:24
Sample Number: RAS0559A                    Study       : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-19-89  9:53
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F757.raw
Result File     : c:\2700\VARF\F757.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\SP2100.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.62	17592.00	1.00	200.00	
2	1.70	40988.00	18398.09	200.00	
3	1.79	784890.00	165856.59	200.00	
4	2.02	127859.88	32594.94	200.00	
5	2.13	220522.25	37038.38	200.00	
6	2.36	105381.88	21587.56	200.00	
7	2.59	12761.00	4565.28	200.00	
8	2.77	85144.00	13434.47	200.00	
9	3.57	22006.06	2612.72	200.00	
10	4.43	35560.00	2152.87	200.00	
11	5.32	32562.00	1865.89	------	alpha-BHC
12	5.61	23494.00	2257.43	200.00	
13	6.54	10729.03	1643.74	------	delta-BHC
14	7.12	62598.00	4703.91	200.00	
15	8.47	148824.00	10929.16	200.00	
16	9.04	59500.25	4478.61	200.00	
17	9.29	49820.13	4230.03	------	Heptachlor
18	9.67	35522.00	3318.63	200.00	
19	10.21	22273.06	1963.75	------	Aldrin
20	11.04	46159.00	3013.18	200.00	
21	11.93	13535.00	926.85	------	Heptachlor epoxide
22	12.70	20455.00	1277.41	------	gamma-Chlordane
23	13.66	19012.00	1110.82	200.00	
24	14.89	24963.13	1773.72	------	Endosulfan II
25	15.55	60457.00	3742.99	------	4,4'-DDD

26	16.97	3438.00	571.52	------	Endosulfan sulfate
27	17.52	146715.00	7257.70	------	4,4'-DDT
28	26.01	5.01e6	112156.02	------	Dibutyl chlorendate

Total Area = 7243023.50

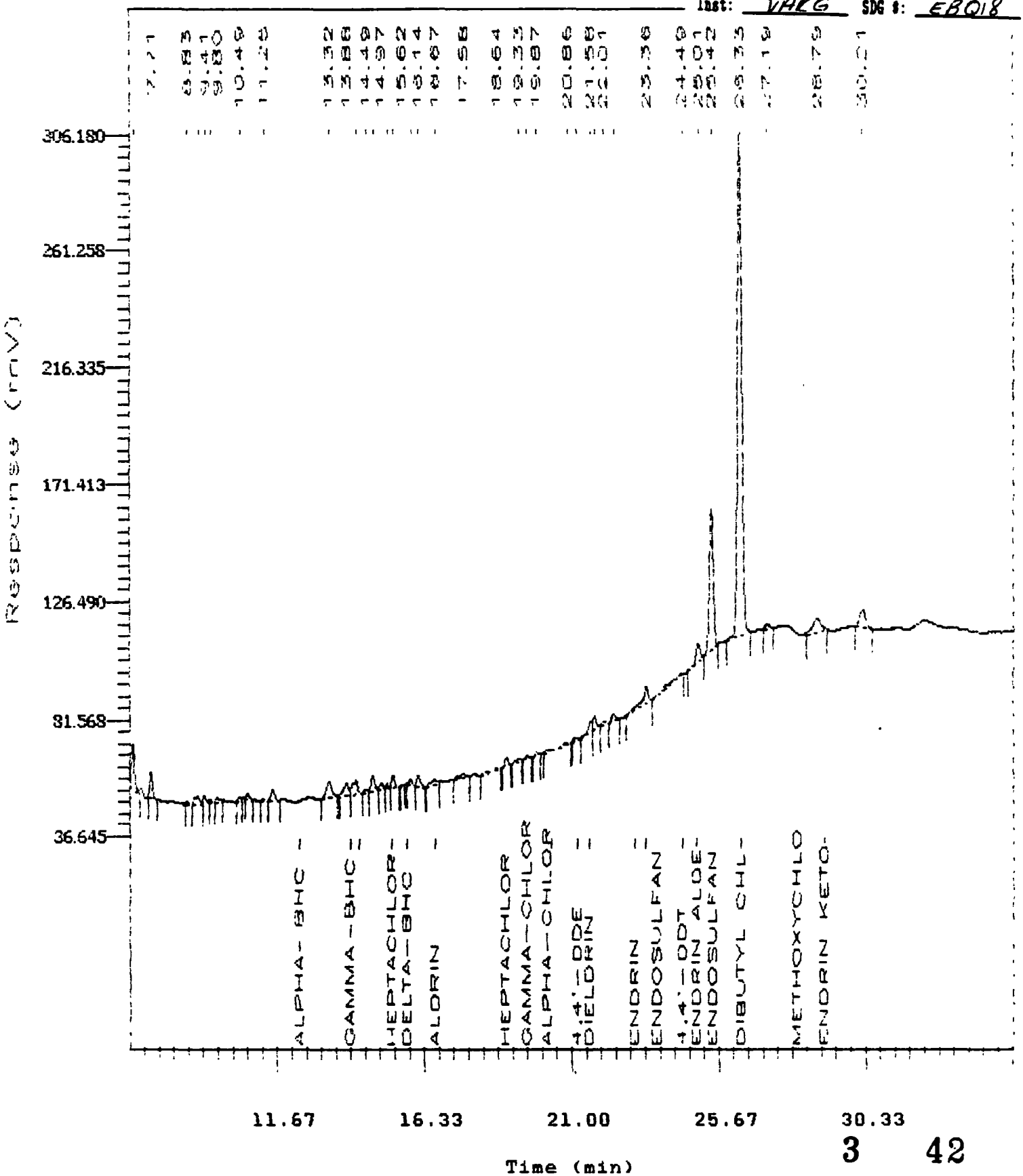
Components Not Found in This Run:

Component Name	Sample File Retention Time
beta-BHC	5.810
gamma-BHC (Lindane)	6.320
Endosulfan I	12.970
alpha-Chlordane	13.140
Dieldrin	13.900
4,4'-DDE	14.000
Endrin	14.620
Endrin aldehyde	15.430
Endrin ketone	18.870
Methoxychlor	21.560

(2uL) DB-608 CHROMATOGRAM

FileName : c:\2700\VARG\6816.raw Date: 4-20-89 1:11 Page 1 of 1
Start Time: 7.00 min End Time: 35.00 min Low Point: 49480 uV High Point: 306180 uV
Vertical Scale Factor: 1.00 Plot Offset: 37 mV Plot Scale: 270 mV

Run #: G816 Case #: 11688
Date: 4-20-89 SMO #: EBQ26
Time: 0035 TRAL #: RA5055 9A
Inst: VARG SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

Sample Name : EBQ26 Time : 4-20-89 1:11
Sample Number: RAS0559A Study : 11688C
Operator : GMG

Interface # : 2 Channel : A A/D mV Range : 2000
AutoSampler : Varian 8000 with controller
Rack/Vial : 0/0

Data Acquisition Time: 4-20-89 ~~12:35~~ gmg 4-20-89
Delay Time : 7.00 min. 00:35
End Time : 35.00 min.
Sampling Rate : 1.0 pts/sec

Raw Data File : c:\2700\VARG\G816.raw
Result File : c:\2700\VARG\G816.rst
Instrument File: c:\2700\methods\MEGA.ins
Process File : c:\2700\methods\DB608.prc
Sample File : c:\2700\methods\DB608TEN.smp
Sequence File : c:\2700\methods\MEGA.seq

Inj. Volume : 2 uL Area Reject : 1000.00
Sample Amount : 1.0000 NG

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	7.13	128796.00	19726.37	1.00	
2	7.71	62418.00	10586.24	1.00	
3	8.83	7950.00	1539.80	1.00	
4	9.18	38283.00	3193.78	1.00	
5	9.41	20990.13	3300.87	1.00	
6	9.59	10176.00	1583.14	1.00	
7	9.80	11578.00	1459.36	1.00	
8	10.49	4520.00	686.50	1.00	
9	10.76	13814.00	1862.60	1.00	
10	11.25	5602.56	736.43	1.00	
11	11.55	34425.50	4225.91	1.00	
12	13.32	81064.25	6446.69	1.00	
13	13.88	57994.75	5434.07	------	gamma-BHC
14	14.18	73564.13	5838.27	------	beta-BHC
15	14.49	12106.88	1650.98	1.00	
16	14.71	55617.50	6495.13	1.00	
17	14.97	25301.69	2893.98	1.00	
18	15.16	16010.88	2340.22	1.00	
19	15.34	37222.25	5055.95	------	Heptachlor
20	15.62	3920.00	763.86	------	delta-BHC
21	15.92	15736.00	2269.92	1.00	
22	16.14	34787.13	4110.33	1.00	
23	16.67	24329.00	1593.63	------	Aldrin
24	17.58	24033.00	1313.57	1.00	
25	18.64	17209.75	976.06	1.00	

26	18.93	24242.63	3345.02	------	Heptachlor epoxide
27	19.33	14756.98	1132.34	1.00	
28	19.58	12596.25	1551.95	------	gamma-Chlordane
29	19.87	8179.00	1319.06	------	alpha-Chlordane
30	20.86	7537.00	568.20	1.00	
31	21.12	9882.00	1219.27	------	4,4'-DDE
32	21.58	33827.25	4138.81	------	Dieldrin
33	21.71	37124.50	4567.13	1.00	
34	22.01	12234.00	1389.13	1.00	
35	22.33	22462.00	2411.85	1.00	
36	23.36	84572.00	6117.67	1.00	4,4'-DDD
37	24.49	23083.00	574.63	------	4,4'-DDT
38	25.01	60447.00	6548.28	------	Endrin aldehyde
39	25.42	462127.00	54396.59	------	Endosulfan sulfate
40	26.33	1.84e6	192218.75	------	Dibutyl chlorendate
41	27.19	20888.00	2279.58	1.00	
42	28.79	83668.00	4929.81	------	Endrin ketone
43	30.21	94349.75	7195.38	1.00	

Total Area = 3671816.75

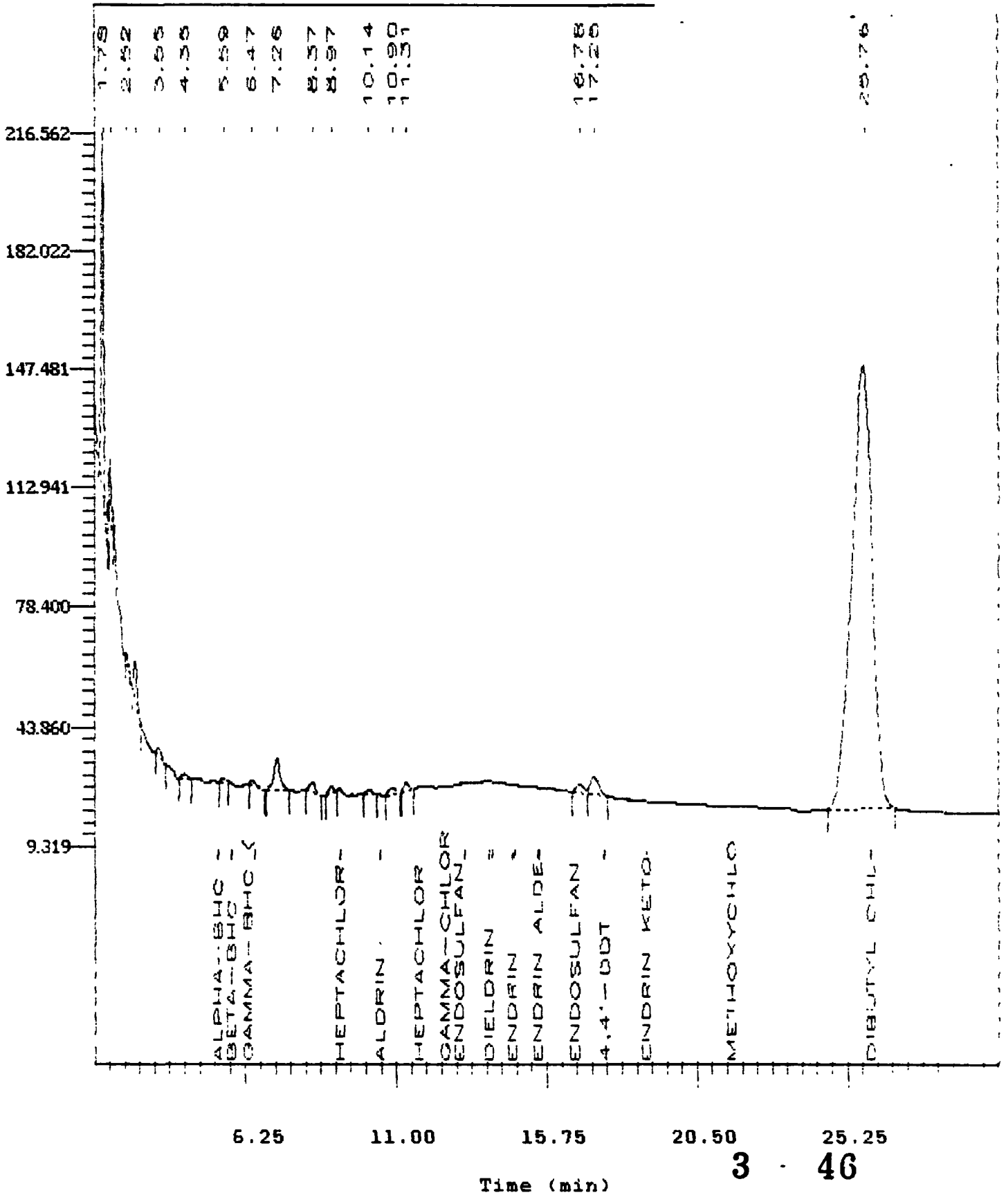
Components Not Found in This Run:

Component Name	Sample File Retention Time
alpha-BHC	12.350
Endosulfan I	20.300
Endrin	22.970
Endosulfan II	23.660
Methoxychlor	28.100

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F746.raw Date: 4-19-89 3:28 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min Low Point: 19188 uV High Point: 216562 uV
Vertical Scale Factor: 1.00 Plot Offset: 9 mV Plot Scale: 207 mV

Run #: F746 Case #: 11688
Date: 4-19-89 SMO #: EBQ27
Time: 0257 TRAL #: RA50560
Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
Sample Name   : EBQ27                          Time         : 4-19-89  3:27
Sample Number: RAS0560                         Study        : 11688Q
Operator      : GMG

Interface #   :   1        Channel : A      A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-19-89  2:57
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F746.raw
Result File     : c:\2700\VARF\F746.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\SP2100.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.78	518157.75	105782.97	200.00	
2	2.02	76969.00	19771.64	200.00	
3	2.52	29417.88	2578.81	200.00	
4	2.81	86068.00	11055.39	200.00	
5	3.55	25135.00	2686.98	200.00	
6	4.35	16018.00	1329.60	200.00	
7	5.59	6770.03	702.08	200.00	
8	6.47	22922.06	1644.70	------	delta-BHC
9	7.26	132785.00	9214.51	200.00	
10	8.37	40533.00	2985.03	200.00	
11	8.97	17334.00	1726.64	200.00	
12	10.14	15498.00	1221.98	200.00	
13	10.90	24386.00	1733.27	200.00	
14	11.31	25582.00	2314.86	200.00	
15	16.78	42906.88	2558.73	------	Endosulfan sulfate
16	17.25	99663.88	5135.48	------	4,4'-DDT
17	25.76	5.76e6	128122.11	------	Dibutyl chlorendate

Total Area = 6944328.50

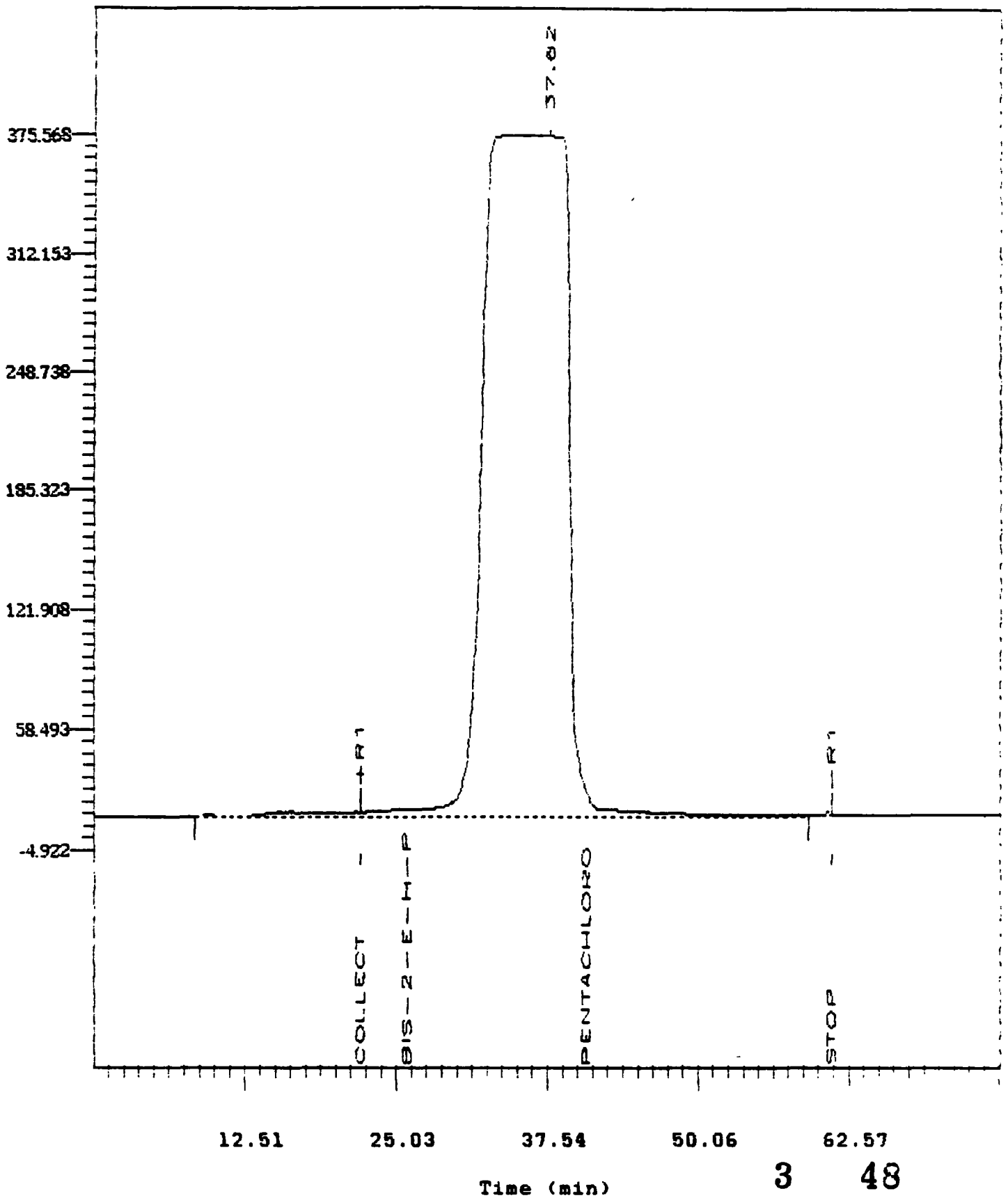
Components Not Found in This Run:

Component Name	Sample File Retention Time
alpha-BHC	5.390

Run #: H453 Case #: 11688
Date: 4-11-89 SDG #: EBQ27
Time: 4.57 TRAL #: RA50560
Inst: H SDG #: EBQ18

GPC Chromatogram

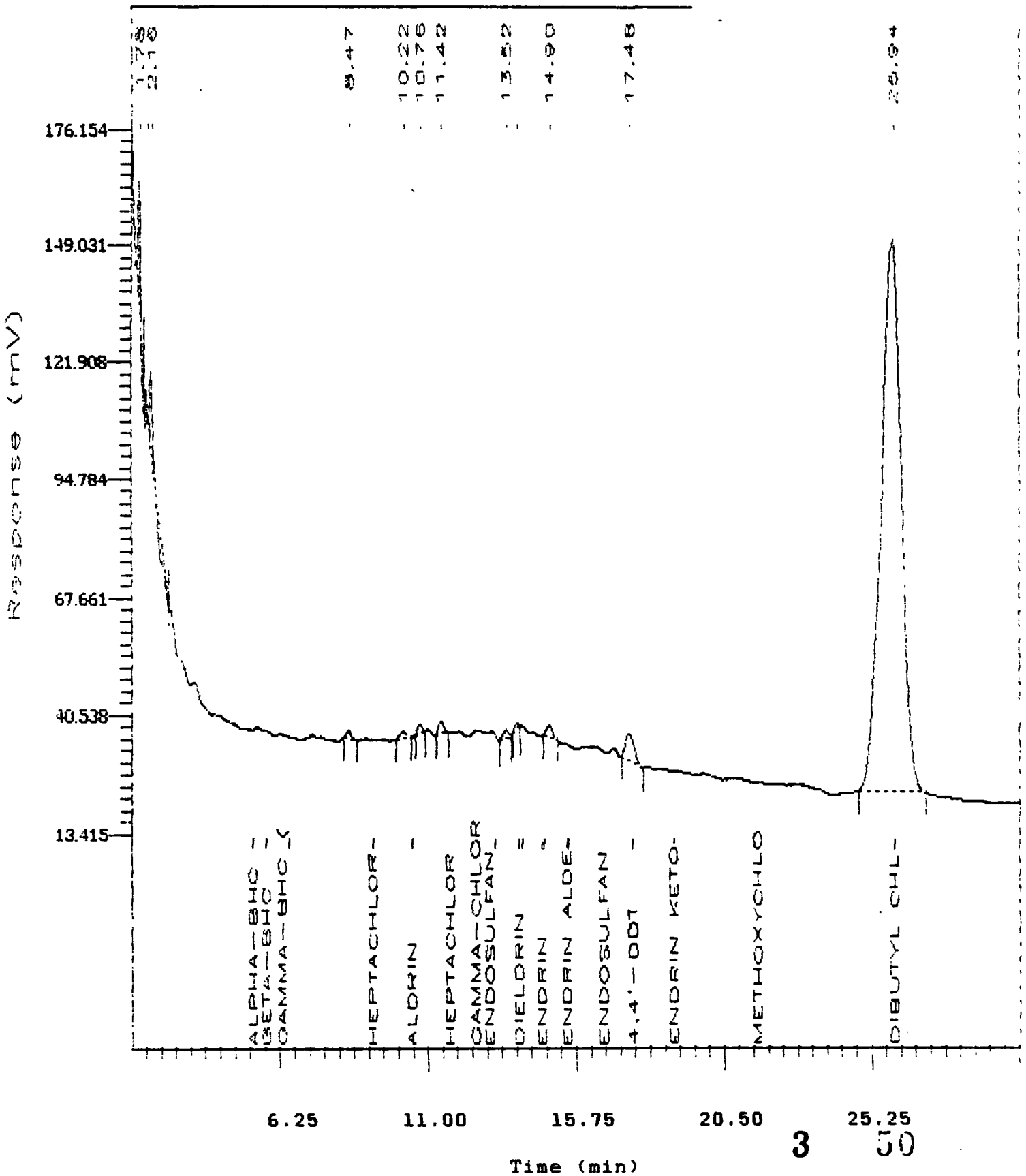
FileName : c:\2700\instH\H453.raw Date: 4-11-89 6:13 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 13197 uV High Point: 375568 uV
Vertical Scale Factor: 1.00 Plot Offset: -5 mV Plot Scale: 381 mV



(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F747.raw Date: 4-19-89 4:05 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min Low Point: 21164 uV High Point: 176154 uV
Vertical Scale Factor: 1.00 Plot Offset: 13 mV Plot Scale: 163 mV

Run #: F747 Case #: 11488
Date: 4-19-89 SMO #: EBQ38
Time: 0334 TRAL #: RAS0561
Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

Sample Name : EBQ28 Time : 4-19-89 4:05
Sample Number: RAS0561 Study : 11688Q
Operator : GMG

Interface # : 1 Channel : A A/D mV Range : 2000
AutoSampler : Varian 8000 with controller
Rack/Vial : 255/255

Data Acquisition Time: 4-19-89 3:34
Delay Time : 1.50 min.
End Time : 30.00 min.
Sampling Rate : 1.0 pts/sec

Raw Data File : c:\2700\VARF\F747.raw
Result File : c:\2700\VARF\F747.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File : c:\2700\methods\SP2100.prc
Sample File : c:\2700\methods\SP2100.smp
Sequence File : C:\2700\METHODS\SP2100.seq

Inj. Volume : 2 uL Area Reject : 1000.00
Sample Amount : 1.0000 NG

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.78	131157.75	29605.84	200.00	
2	2.01	31175.63	6208.48	200.00	
3	2.16	122782.00	20201.81	200.00	
4	8.47	21391.06	1882.29	200.00	
5	10.22	19996.00	1487.57	------	Aldrin
6	10.76	20198.00	2044.81	200.00	
7	11.42	29308.00	2774.73	200.00	
8	13.52	22050.00	1844.87	200.00	
9	13.85	9126.00	1169.63	------	Dieldrin
10	14.90	33616.06	2646.59	------	Endosulfan II
11	17.48	125962.00	6392.16	------	4,4'-DDT
12	25.94	5.75e6	127420.50	------	Dibutyl chlorendate

Total Area = 6322422.50

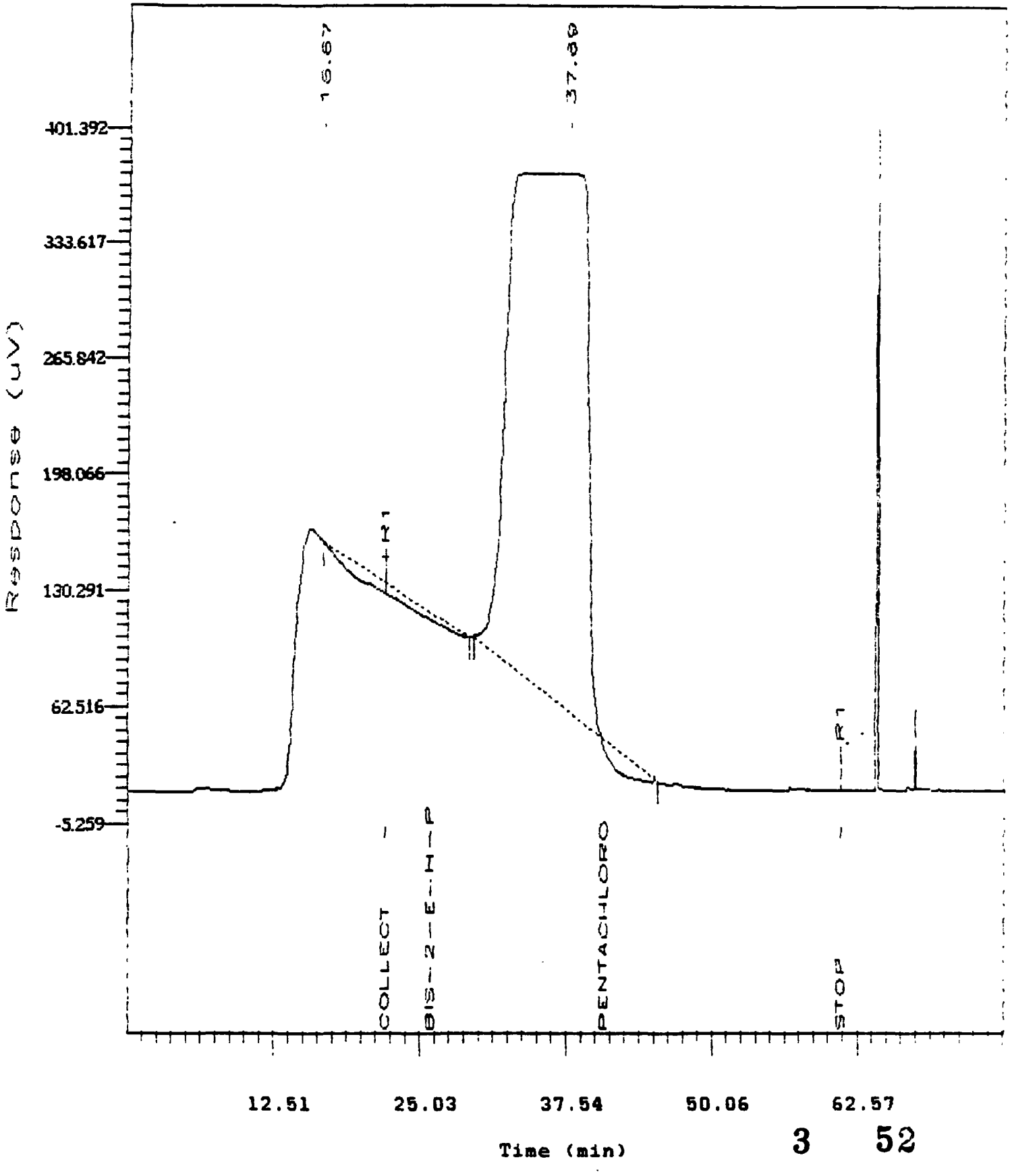
Components Not Found in This Run:

Component Name	Sample File Retention Time
alpha-BHC	5.390
beta-BHC	5.810
gamma-BHC (Lindane)	6.320
delta-BHC	6.530
Heptachlor	9.210
Heptachlor epoxide	11.700

Run #: H454 Case #: 11638
Date: 4-11-89 SDG #: EBQ28
Time: 6:12 TRAL #: RAS0561
Inst: H SDG #: EBQ18

GPC Chromatogram

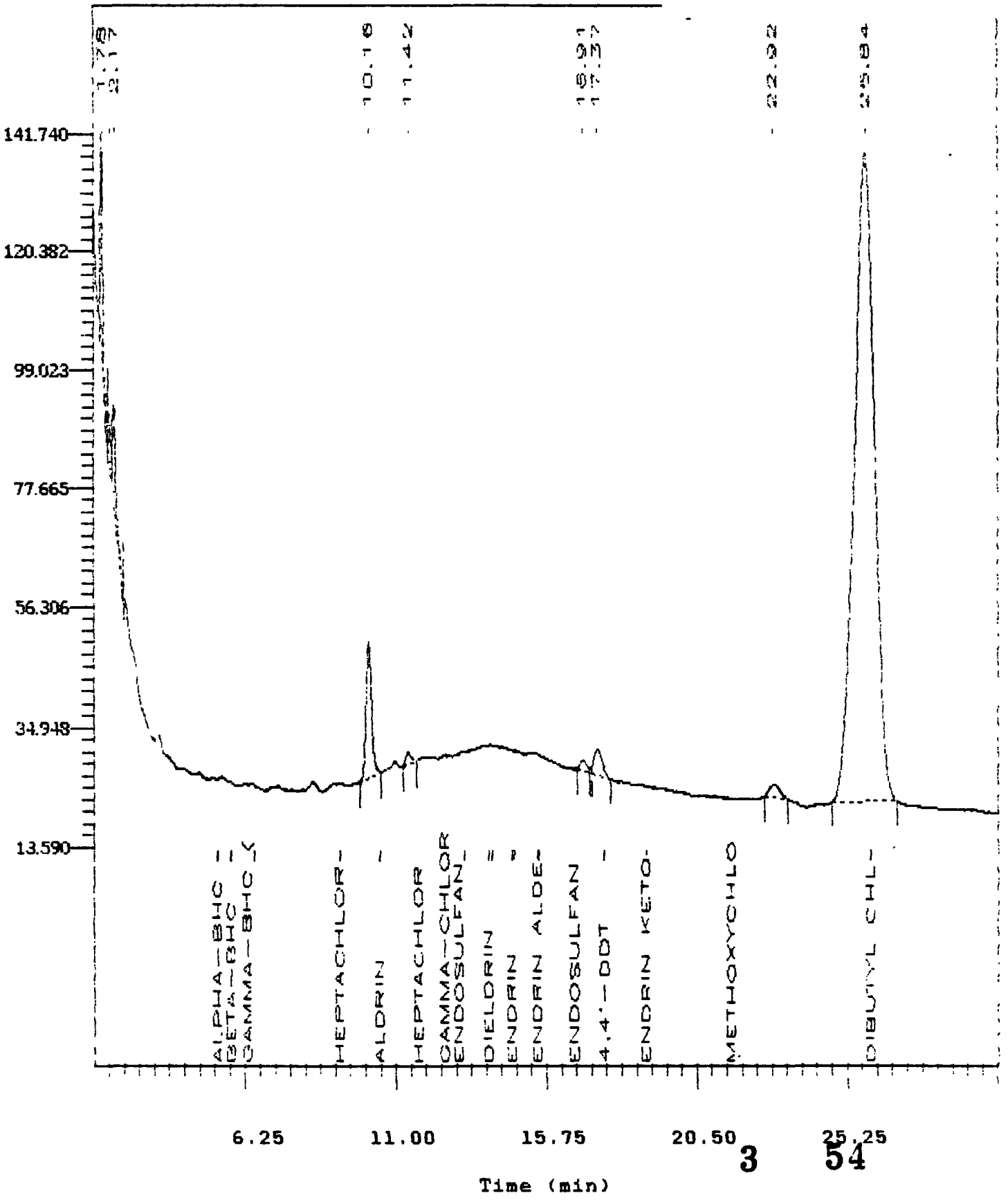
FileName : c:\2700\instH\H454.raw Date: 4-11-89 7:28 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 14105 uV High Point: 401392 uV
Vertical Scale Factor: 1.00 Plot Offset: -5 mV Plot Scale: 407 mV



(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F748.raw
Date: 4-19-89 4:44 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min
Low Point: 19692 uV High Point: 141740 uV
Vertical Scale Factor: 1.00 Plot Offset: 14 mV Plot Scale: 128 mV

Run #: F748
Date: 4-19-89
Time: 0413
Inst: VARF
Case #: 11688
SMO #: EBQ29
TRAL #: PA50562
SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : EBQ29                    Time        : 4-19-89  4:43
Sample Number: RAS0562                   Study       : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-19-89  4:13
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F748.raw
Result File     : c:\2700\VARF\F748.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\SP2100.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.78	180618.00	39060.22	200.00	
2	2.02	43638.19	8377.17	200.00	
3	2.17	175898.88	18438.16	200.00	
4	10.16	288737.00	24095.79	200.00	
5	11.42	25198.00	2052.63	200.00	
6	16.91	30527.63	2046.44	------	Endosulfan sulfate
7	17.37	87212.25	4548.95	------	4,4'-DDT
8	22.92	59998.00	2496.22	200.00	
9	25.84	5.18e6	116666.04	------	Dibutyl chlorendate

Total Area = 6073048.00

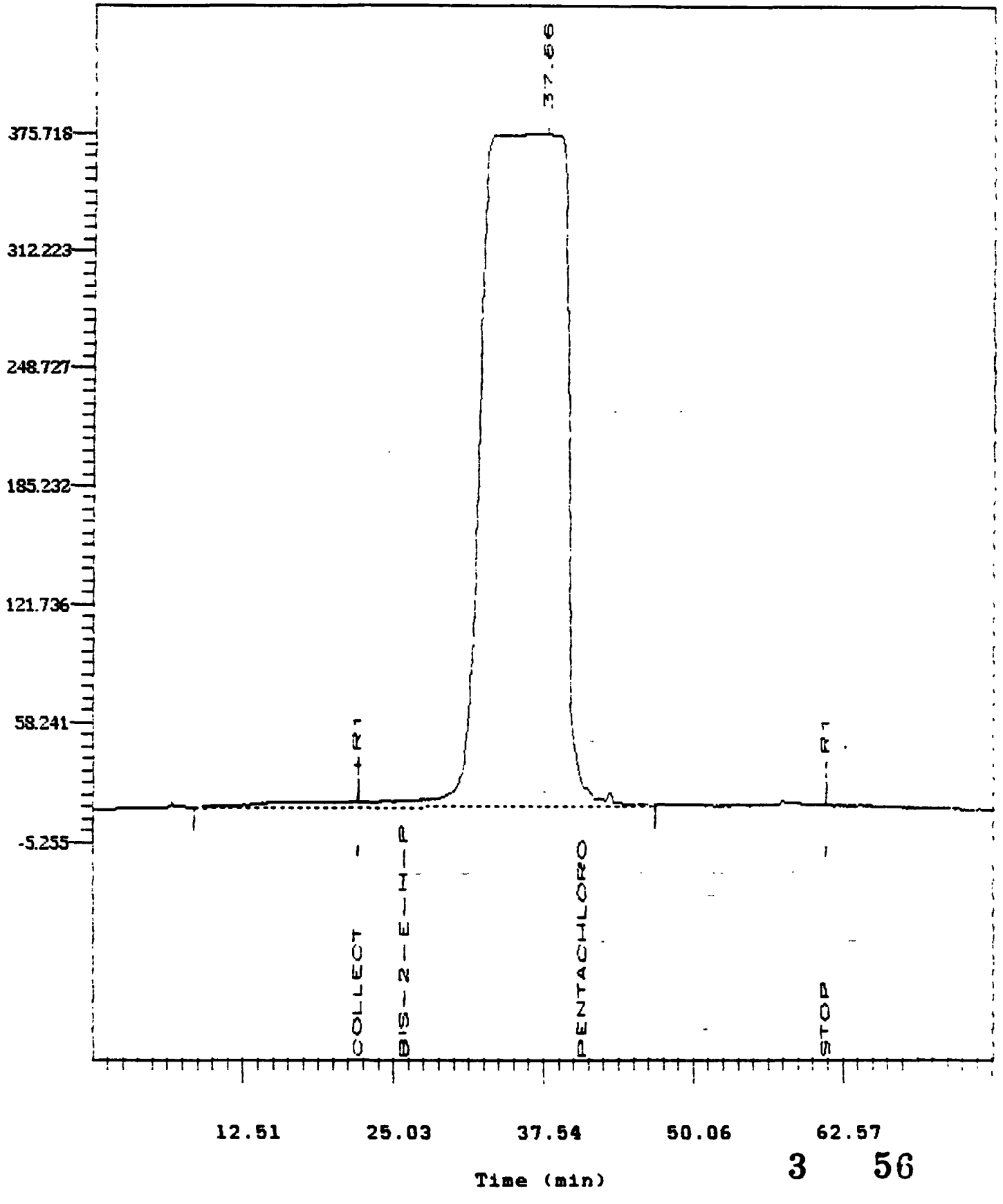
Components Not Found in This Run:

Component Name	Sample File Retention Time
alpha-BHC	5.390
beta-BHC	5.810
gamma-BHC (Lindane)	6.320
delta-BHC	6.530
Heptachlor	9.210
Aldrin	10.470
Heptachlor epoxide	11.700
gamma-Chlordane	12.520
Endosulfan I	12.970

Run #: H456 Case #: 11688
Date: 4-11-89 SMO #: EBQ 29
Time: 8:42 TRAL #: RA50562
Inst: H SDG #: EBQ18

GPC Chromatogram

FileName : c:\2700\instH\H456.raw Date: 4-11-89 10:02 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 12887 uV High Point: 375718 uV
Vertical Scale Factor: 1.00 Plot Offset: -5 mV Plot Scale: 381 mV



PEST
STANDARD DATA

8D
PESTICIDE EVALUATION STANDARDS SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: VARF GC Column ID: SP2100

Dates of Analyses: 4/18/89 to 4/19/89

Evaluation Check for Linearity

PESTICIDE	CALIBRATION FACTOR EVAL MIX A	CALIBRATION FACTOR EVAL MIX B	CALIBRATION FACTOR EVAL MIX C	%RSD (<= 10.0%)	
Aldrin	26146300.	24484650.	24015180.	4.5	
Endrin	11338650.	12544000.	12283360.	5.3	
4,4'-DDT	9947497.	10169300.	11536800.	8.2	(1)
DBC	17255400.	16888550.	17184990.	1.1	

(1) If > 10.0% RSD, plot a standard curve and determine the ng for each sample in that set from the curve.

Evaluation Check for 4,4'-DDT/Endrin Breakdown
(percent breakdown expressed as total degradation)

		DATE ANALYZED	TIME ANALYZED	ENDRIN	4,4'-DDT	COMBINED (2)
	INITIAL					
1	EVAL MIX B	4/18/89	19:22	11.21	7.86	9.17
2	EVAL MIX B	4/19/89	5:29	5.25	1.41	2.93
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						

(2) See Form instructions.

8D
PESTICIDE EVALUATION STANDARDS SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: VARG GC Column ID: DB608

Dates of Analyses: 4/19/89 to 4/20/89

Evaluation Check for Linearity

PESTICIDE	CALIBRATION FACTOR EVAL MIX A	CALIBRATION FACTOR EVAL MIX B	CALIBRATION FACTOR EVAL MIX C	%RSD (</= 10.0%)	
Aldrin	14433000.	13868550.	13710050.	2.7	
Endrin	9344300.	8839100.	8991935.	2.9	
4,4'-DDT	8343700.	7937225.	8005122.	2.7	(1)
DBC	7188885.	6895840.	6782480.	3.0	

(1) If > 10.0% RSD, plot a standard curve and determine the ng for each sample in that set from the curve.

Evaluation Check for 4,4'-DDT/Endrin Breakdown
(percent breakdown expressed as total degradation)

		DATE ANALYZED	TIME ANALYZED	ENDRIN	4,4'-DDT	COMBINED (2)
1	INITIAL EVAL MIX B	4/19/89	19:13	15.70	5.86	9.63
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						

(2) See Form instructions.

8E

PESTICIDE EVALUATION STANDARDS SUMMARY

Evaluation of Retention Time Shift for Dibutylchlorendate

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: VARF GC Column ID: SP2100

Dates of Analyses: 4/18/89 to 4/19/89

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	% D	*
1	EVALA		4/18/89	18:44	.0	
2	EVALB		4/18/89	19:22	.6	
3	EVALC		4/18/89	20:00	.1	
4	INDA		4/18/89	20:37	.1	
5	INDB		4/18/89	21:15	.1	
6	TOXAPH		4/18/89	21:53	.7	
7	AR1660		4/18/89	22:31	.0	
8	AR1221		4/18/89	23:09	.1	
9	AR1232		4/18/89	23:47	.2	
10	AR1242		4/19/89	0:25	.4	
11	AR1248		4/19/89	1:02	.4	
12	AR1254		4/19/89	1:41	.2	
13	PBLK01	4-6-89	4/19/89	2:19	.5	
14	EBQ27	RAS0560	4/19/89	2:57	.5	
15	EBQ28	RAS0561	4/19/89	3:34	.2	
16	EBQ29	RAS0562	4/19/89	4:13	.2	
17	PBLK02	4-11-89	4/19/89	4:51	.5	
18	EVALB 2		4/19/89	5:29	.8	
19	EBQ21	RAS0554A	4/19/89	6:07	1.0	
20	EBQ22	RAS0555A	4/19/89	6:45	.3	
21	EBQ23	RAS0556A	4/19/89	7:22	.5	
22	EBQ24	RAS0557A	4/19/89	8:00	.7	
23	EBQ25	RAS0558A	4/19/89	8:37	.3	
24	INDA 2		4/19/89	9:15	.5	
25	EBQ26	RAS0559A	4/19/89	9:53	.5	
26	EBQ18	RAS0552A	4/19/89	10:32	.2	
27	EBQ18MS	RAS0552A	4/19/89	11:10	.3	
28	EBQ18MSD	RAS0552A	4/19/89	11:47	.4	
29	INDA 3		4/19/89	12:25	.4	
30	INDB 2		4/19/89	13:02	.1	
31						
32						
33						
34						
35						
36						
37						
38						

* Values outside of QC limits (2.0% for packed columns, 0.3% for capillary columns)

8E

PESTICIDE EVALUATION STANDARDS SUMMARY

Evaluation of Retention Time Shift for Dibutylchlorendate

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: VARG GC Column ID: DB608

Dates of Analyses: 4/19/89 to 4/20/89

	EPA SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	% D	*
1	EVALA		4/19/89	18:32	.0	
2	EVALB		4/19/89	19:13	.1	
3	EVALC		4/19/89	19:53	.2	
4	INDA		4/19/89	20:33	.2	
5	INDB		4/19/89	21:13	.3	
6	PBLK02	4-11-89	4/19/89	21:54	.2	
7	EBQ22	RAS0555A	4/19/89	22:34	.3	
8	EBQ23	RAS0556A	4/19/89	23:14	.3	
9	EBQ25	RAS0558A	4/19/89	23:55	.2	
10	EBQ26	RAS0559A	4/20/89	0:35	.2	
11	INDA 2		4/20/89	1:15	.2	
12	INDB 2		4/20/89	1:56	.3	
13						
14						
15						
16						
17						
18						
19						
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36						
37						
38						

* Values outside of QC limits (2.0% for packed columns, 0.3% for capillary columns)

9

PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: VARF GC Column ID: SP2100

DATE(S) OF ANALYSIS	FROM: 4/18/89 TO: 4/19/89	DATE OF ANALYSIS	4/19/89
TIME(S) OF ANALYSIS	FROM: 20:37 TO: 1:41	TIME OF ANALYSIS	9:15
		EPA SAMPLE NO. (STANDARD)	INDA 2

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
alpha-BHC ___	5.34	5.23	5.44	28235190.			Y	
beta-BHC_____	5.75	5.65	5.86	9897536.			Y	
delta-BHC ___	6.48	6.38	6.59	23869950.			Y	
gamma-BHC (Li	6.30	6.14	6.47	23137500.	6.28	24524300.	Y	6.0
Heptachlor___	9.20	9.02	9.38	24194950.	9.17	25457750.	Y	5.2
Aldrin_____	10.46	10.31	10.61	24373490.	10.43	24782950.	Y	1.7
Hept. Epoxide	11.71	11.53	11.89	23616680.	11.67	23865330.	Y	1.1
Endosulfan I_	13.00	12.82	13.18	21118550.	12.95	20880350.	Y	1.1
Dieldrin_____	13.92	13.75	14.09	21756600.	13.87	22059230.	Y	1.4
4,4'-DDE_____	13.98	13.86	14.10	20771230.			Y	
Endrin_____	14.59	14.45	14.73	14095820.			Y	
Endosulfan II	14.74	14.56	14.92	18437040.	14.68	19013880.	Y	3.1
4,4'-DDD_____	15.44	15.30	15.58	15485050.			Y	
Endo. sulfate	16.56	16.40	16.73	14647730.			Y	
4,4'-DDT_____	17.55	17.31	17.79	10991140.	17.49	10439180.	Y	5.0
Methoxychlor_	21.53	21.19	21.86	5579415.	21.45	5685118.	Y	1.9
Endrin ketone	18.78	18.57	18.99	18878650.			Y	
a. Chlordane	13.11	12.97	13.25	20833390.			Y	
g. Chlordane	12.49	12.35	12.63	22048580.			Y	
Toxaphene ___	15.41	15.31	15.51	660000.			Y	
Aroclor-1016_	6.98	6.89	7.07	385761.			Y	
Aroclor-1221_	5.55	5.47	5.63	424494.			Y	
Aroclor-1232_	8.50	8.42	8.58	445409.			Y	
Aroclor-1242_	8.49	8.41	8.57	864730.			Y	
Aroclor-1248_	12.06	11.98	12.14	1456690.			Y	
Aroclor-1254_	15.32	15.27	15.37	2280000.			Y	
Aroclor-1260_	25.89	25.70	26.08	2480000.			Y	

Under QNT Y/N: enter Y if quantitation was performed, N if not performed. %D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria.

For multicomponent analytes, the largest single peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: VARF GC Column ID: SP2100

DATE(S) OF ANALYSIS	FROM:	4/18/89		DATE OF ANALYSIS		4/19/89		
	TO:	4/19/89		TIME OF ANALYSIS		12:25		
TIME(S) OF ANALYSIS	FROM:	20:37		EPA SAMPLE NO. (STANDARD)		INDA 3		
	TO:	1:41						

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
alpha-BHC	5.34	5.23	5.44	28235190.			Y	
beta-BHC	5.75	5.65	5.86	9897536.			Y	
delta-BHC	6.48	6.38	6.59	23869950.			Y	
gamma-BHC (Li	6.30	6.14	6.47	23137500.	6.27	24971200.	Y	7.9
Heptachlor	9.20	9.02	9.38	24194950.	9.16	26196630.	Y	8.3
Aldrin	10.46	10.31	10.61	24373490.	10.43	26053830.	Y	6.9
Hept. Epoxide	11.71	11.53	11.89	23616680.	11.66	25198570.	Y	6.7
Endosulfan I	13.00	12.82	13.18	21118550.	12.94	22424050.	Y	6.2
Dieldrin	13.92	13.75	14.09	21756600.	13.87	23625360.	Y	8.6
4,4'-DDE	13.98	13.86	14.10	20771230.			Y	
Endrin	14.59	14.45	14.73	14095820.			Y	
Endosulfan II	14.74	14.56	14.92	18437040.	14.68	19902170.	Y	7.9
4,4'-DDD	15.44	15.30	15.58	15485050.			Y	
Endo. sulfate	16.56	16.40	16.73	14647730.			Y	
4,4'-DDT	17.55	17.31	17.79	10991140.	17.48	10683440.	Y	2.8
Methoxychlor	21.53	21.19	21.86	5579415.	21.45	5840270.	Y	4.7
Endrin ketone	18.78	18.57	18.99	18878650.			Y	
a. Chlordane	13.11	12.97	13.25	20833390.			Y	
g. Chlordane	12.49	12.35	12.63	22048580.			Y	
Toxaphene	15.41	15.31	15.51	660000.			Y	
Aroclor-1016	6.98	6.89	7.07	385761.			Y	
Aroclor-1221	5.55	5.47	5.63	424494.			Y	
Aroclor-1232	8.50	8.42	8.58	445409.			Y	
Aroclor-1242	8.49	8.41	8.57	864730.			Y	
Aroclor-1248	12.06	11.98	12.14	1456690.			Y	
Aroclor-1254	15.32	15.27	15.37	2280000.			Y	
Aroclor-1260	25.89	25.70	26.08	2480000.			Y	

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria.

For multicomponent analytes, the largest single peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: VARF GC Column ID: SP2100

DATE(S) OF ANALYSIS	FROM: 4/18/89 TO: 4/19/89	DATE OF ANALYSIS	4/19/89
TIME(S) OF ANALYSIS	FROM: 20:37 TO: 1:41	TIME OF ANALYSIS	13:02
		EPA SAMPLE NO. (STANDARD)	INDB 2

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
alpha-BHC	5.34	5.23	5.44	28235190.	5.31	30271800.	Y	7.2
beta-BHC	5.75	5.65	5.86	9897536.	5.72	10746950.	Y	8.6
delta-BHC	6.48	6.38	6.59	23869950.	6.46	25914450.	Y	8.6
gamma-BHC (Li	6.30	6.14	6.47	23137500.			Y	
Heptachlor	9.20	9.02	9.38	24194950.			Y	
Aldrin	10.46	10.31	10.61	24373490.	10.50	26179890.	Y	7.4
Hept. Epoxide	11.71	11.53	11.89	23616680.			Y	
Endosulfan I	13.00	12.82	13.18	21118550.			Y	
Dieldrin	13.92	13.75	14.09	21756600.			Y	
4,4'-DDE	13.98	13.86	14.10	20771230.	14.10	21149280.	Y	1.8
Endrin	14.59	14.45	14.73	14095820.	14.70	14907250.	Y	5.8
Endosulfan II	14.74	14.56	14.92	18437040.			Y	
4,4'-DDD	15.44	15.30	15.58	15485050.	15.56	16739500.	Y	8.1
Endo. sulfate	16.56	16.40	16.73	14647730.	16.66	16172200.	Y	10.4
4,4'-DDT	17.55	17.31	17.79	10991140.			Y	
Methoxychlor	21.53	21.19	21.86	5579415.			Y	
Endrin ketone	18.78	18.57	18.99	18878650.	18.87	20348880.	Y	7.8
a. Chlordane	13.11	12.97	13.25	20833390.	13.21	22090500.	Y	6.0
g. Chlordane	12.49	12.35	12.63	22048580.	12.58	23597910.	Y	7.0
Toxaphene	15.41	15.31	15.51	660000.			Y	
Aroclor-1016	6.98	6.89	7.07	385761.			Y	
Aroclor-1221	5.55	5.47	5.63	424494.			Y	
Aroclor-1232	8.50	8.42	8.58	445409.			Y	
Aroclor-1242	8.49	8.41	8.57	864730.			Y	
Aroclor-1248	12.06	11.98	12.14	1456690.			Y	
Aroclor-1254	15.32	15.27	15.37	2280000.			Y	
Aroclor-1260	25.89	25.70	26.08	2480000.			Y	

Under QNT Y/N: enter Y if quantitation was performed, N if not performed. %D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria.

For multicomponent analytes, the largest single peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: VARG GC Column ID: DB608

DATE(S) OF ANALYSIS	FROM: 4/19/89 TO: 4/19/89	DATE OF ANALYSIS	4/20/89
TIME(S) OF ANALYSIS	FROM: 20:33 TO: 21:13	TIME OF ANALYSIS	1:15
		EPA SAMPLE NO. (STANDARD)	INDA 2

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
alpha-BHC	12.33	12.07	12.59	14852200.			N	
beta-BHC	14.22	13.94	14.50	4980475.			N	
delta-BHC	15.74	15.44	16.04	12632650.			N	
gamma-BHC (Li	13.94	13.67	14.21	13109700.	13.94	13788250.	N	5.2
Heptachlor	15.27	14.75	15.80	15348050.	15.28	15869050.	N	3.4
Aldrin	16.63	16.36	16.90	13936250.	16.63	13880030.	N	.4
Hept. Epoxide	18.87	18.59	19.15	14142230.	18.87	14691800.	N	3.9
Endosulfan I	20.29	19.99	20.59	12507580.	20.29	12547750.	N	.3
Dieldrin	21.50	21.20	21.80	12677920.	21.50	12668950.	N	.1
4,4'-DDE	21.11	20.81	21.41	10500250.			N	
Endrin	22.95	22.65	23.25	9630050.	22.95	10351660.	N	7.5
Endosulfan II	23.65	23.35	23.95	10014030.	23.64	10179000.	N	1.6
4,4'-DDD	23.30	22.99	23.60	7413979.			N	
Endo. sulfate	25.41	25.08	25.74	13348450.			N	
4,4'-DDT	24.44	24.16	24.72	8953219.	24.44	8929331.	N	.3
Methoxychlor	28.09	27.82	28.36	3584300.	28.08	3932208.	N	9.7
Endrin ketone	28.93	28.60	29.27	10210550.			N	
a. Chlordane	20.16	19.86	20.46	11730800.			N	
g. Chlordane	19.53	19.23	19.83	12022650.			N	
Toxaphene							N	
Aroclor-1016							N	
Aroclor-1221							N	
Aroclor-1232							N	
Aroclor-1242							N	
Aroclor-1248							N	
Aroclor-1254							N	
Aroclor-1260							N	

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria.

For multicomponent analytes, the largest single peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

9

PESTICIDE/PCB STANDARDS SUMMARY

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Instrument ID: VARG GC Column ID: DB608

DATE(S) OF ANALYSIS	FROM: 4/19/89	TO: 4/19/89	DATE OF ANALYSIS	4/20/89	
TIME(S) OF ANALYSIS	FROM: 20:33	TO: 21:13	TIME OF ANALYSIS	1:56	
			EPA SAMPLE NO. (STANDARD)	INDB 2	

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALIBRATION FACTOR	RT	CALIBRATION FACTOR	QNT Y/N	%D
alpha-BHC	12.33	12.07	12.59	14852200.	12.34	15620000.	N	5.2
beta-BHC	14.22	13.94	14.50	4980475.	14.23	5411549.	N	8.7
delta-BHC	15.74	15.44	16.04	12632650.	15.74	13724350.	N	8.6
gamma-BHC (Li	13.94	13.67	14.21	13109700.			N	
Heptachlor	15.27	14.75	15.80	15348050.			N	
Aldrin	16.63	16.36	16.90	13936250.			N	
Hept. Epoxide	18.87	18.59	19.15	14142230.			N	
Endosulfan I	20.29	19.99	20.59	12507580.			N	
Dieldrin	21.50	21.20	21.80	12677920.			N	
4,4'-DDE	21.11	20.81	21.41	10500250.	21.11	10431750.	N	.7
Endrin	22.95	22.65	23.25	9630050.			N	
Endosulfan II	23.65	23.35	23.95	10014030.			N	
4,4'-DDD	23.30	22.99	23.60	7413979.	23.29	7688919.	N	3.7
Endo. sulfate	25.41	25.08	25.74	13348450.	25.41	13639550.	N	2.2
4,4'-DDT	24.44	24.16	24.72	8953219.			N	
Methoxychlor	28.09	27.82	28.36	3584300.			N	
Endrin ketone	28.93	28.60	29.27	10210550.	28.94	10275380.	N	.6
a. Chlordane	20.16	19.86	20.46	11730800.	20.17	11731130.	N	.0
g. Chlordane	19.53	19.23	19.83	12022650.	19.54	12105180.	N	.7
Toxaphene							N	
Aroclor-1016							N	
Aroclor-1221							N	
Aroclor-1232							N	
Aroclor-1242							N	
Aroclor-1248							N	
Aroclor-1254							N	
Aroclor-1260							N	

Under QNT Y/N: enter Y if quantitation was performed, N if not performed.
%D must be less than or equal to 15.0% for quantitation, and less than or equal to 20.0% for confirmation.

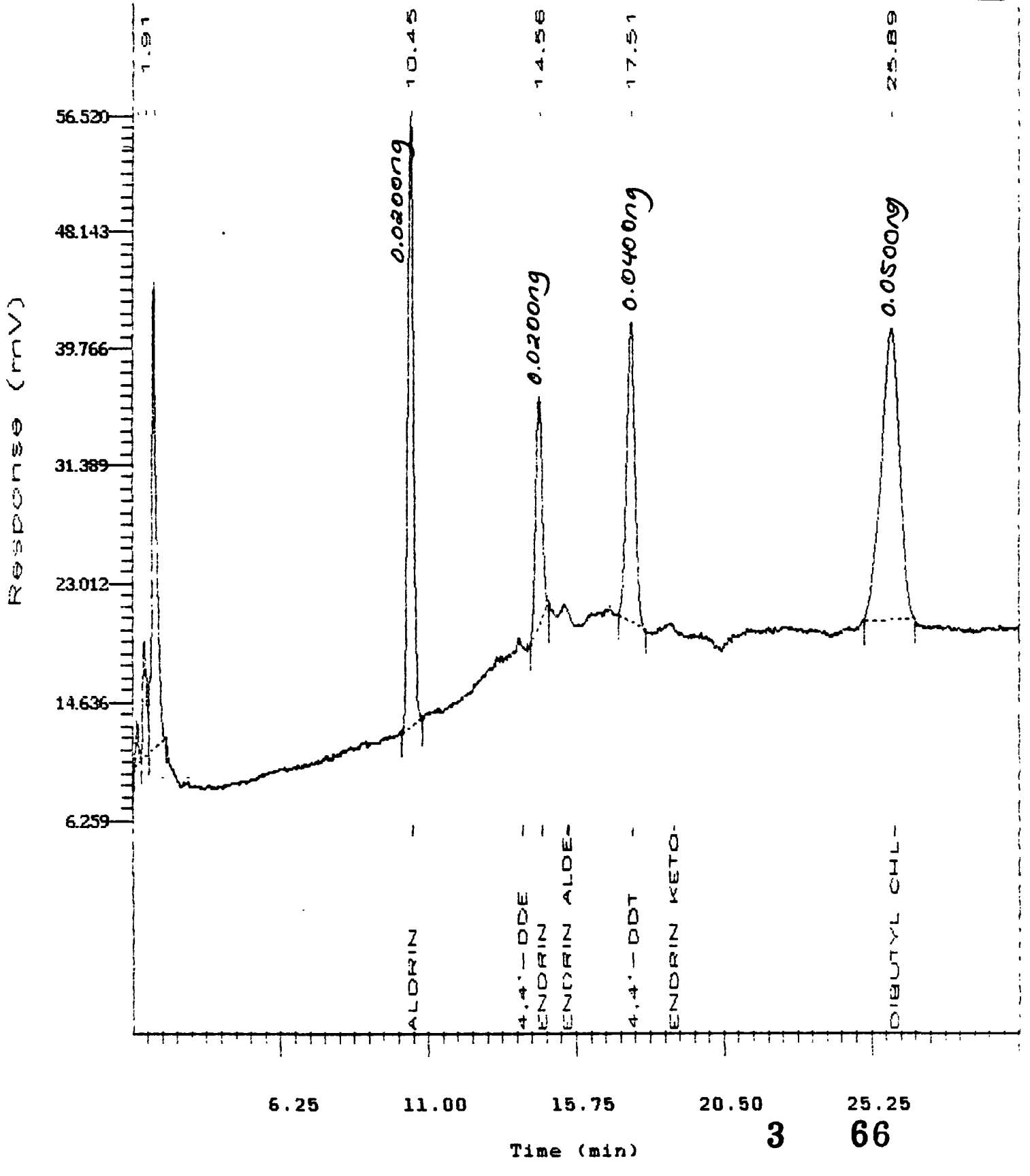
Note: Determining that no compounds were found above the CRQL is a form of quantitation, and therefore at least one column must meet the 15.0% criteria.

For multicomponent analytes, the largest single peak that is characteristic of the component should be used to establish retention time and %D. Identification of such analytes is based primarily on pattern recognition.

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F733.raw Date: 4-18-89 19:16 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min Low Point: 8652 uV High Point: 56520 uV
Vertical Scale Factor: 1.00 Plot Offset: 6 mV Plot Scale: 50 mV

Run #: F733 Case #: 11688
Date: 4-18-89 SMO #: EVALA
Time: 1844 TRAL #: 3-75-3
Inst: VAR F SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : EVALA                        Time        : 4-18-89  19:16
Sample Number: 3-75-3                        Study       : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-18-89  18:44
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F733.raw
Result File     : c:\2700\VARF\F733.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\EVAL.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.68	15314.98	2947.51	200.00	
2	1.91	66997.70	8070.14	200.00	
3	2.21	350570.69	32949.47	200.00	
4	10.45	522926.00	43390.40	------	Aldrin
5	14.56	226773.00	16158.90	------	Endrin
6	17.51	397899.88	21378.72	6.16e7	4,4'-DDT
7	25.89	862769.88	20812.62	------	Dibutyl chlorendate

Total Area = 2443252.00

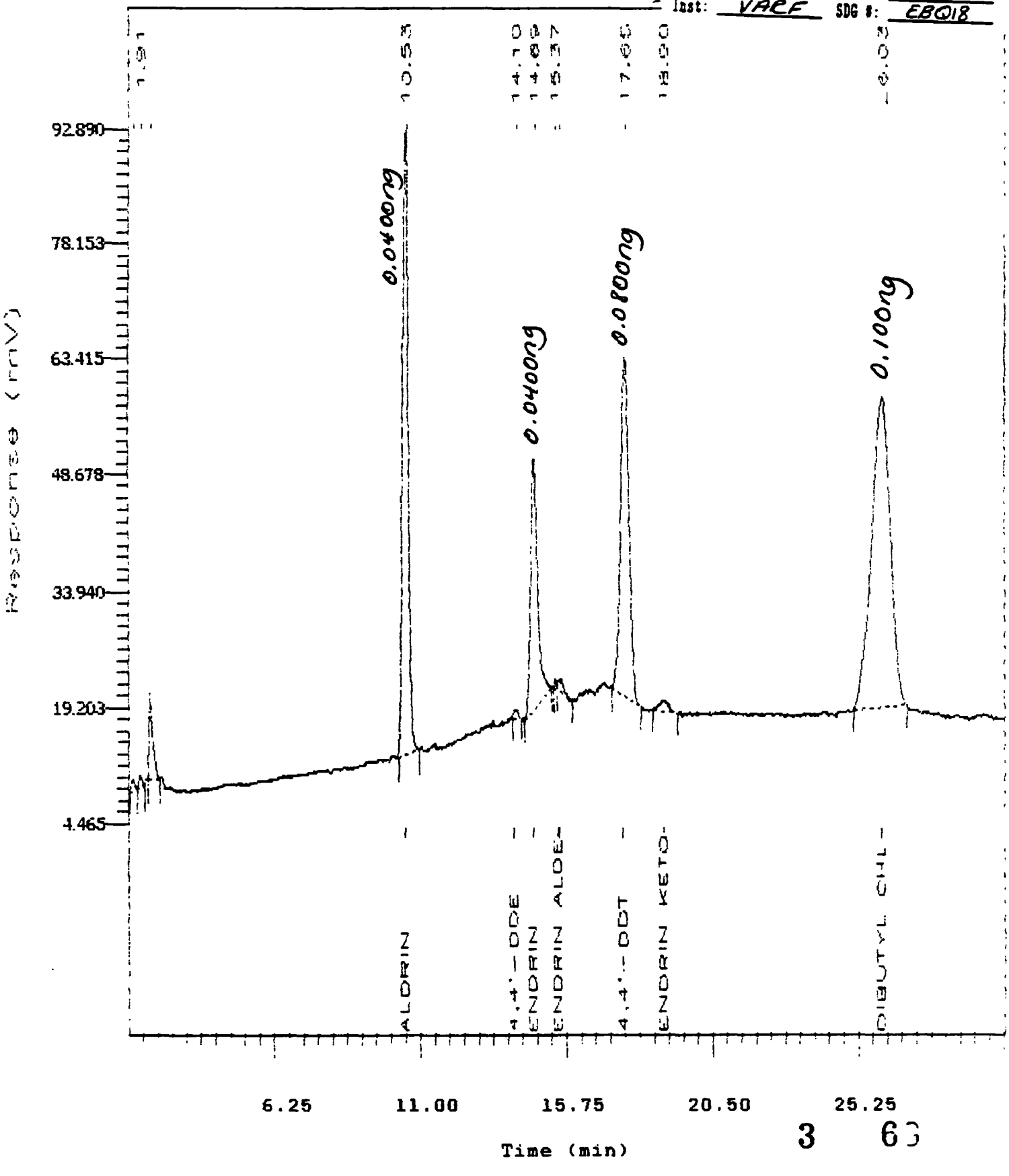
Components Not Found in This Run:

Component Name	Sample File Retention Time
4,4'-DDE	14.000
Endrin aldehyde	15.430
4,4'-DDD	15.470
Endrin ketone	18.870

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F734.raw Date: 4-19-89 8:45 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min Low Point: 8676 uV High Point: 92890 uV
Vertical Scale Factor: 1.00 Plot Offset: 5 mV Plot Scale: 88 mV

Run #: F734 Case #: 11688
Date: 4-18-89 SMO #: EVAL B
Time: 1922 TRAL #: 3-75-2
Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : EVALB                        Time        : 4-19-89  8:45
Sample Number: 3-75-2                        Study       : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-18-89  19:22
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F734.raw
Result File     : C:\TEMP\~grs0575.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\EVAL.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.67	10776.08	1381.59	200.00	
2	1.91	10584.22	1480.41	200.00	
3	2.24	97474.00	10879.24	200.00	
4	10.53	979386.00	79318.67	------	Aldrin
5	14.10	11528.00	1191.91	------	4,4'-DDE
6	14.69	501760.25	31619.13	------	Endrin
7	15.37	3871.75	946.52	------	Endrin aldehyde
8	15.52	23166.00	1618.15	200.00	4,4'-DDD
9	17.65	813544.00	43065.22	1.23e8	4,4'-DDT
10	18.90	27791.00	1369.86	------	Endrin ketone
11	26.03	1.68e6	39530.06	------	Dibutyl chlorendate

Total Area = 4168736.25

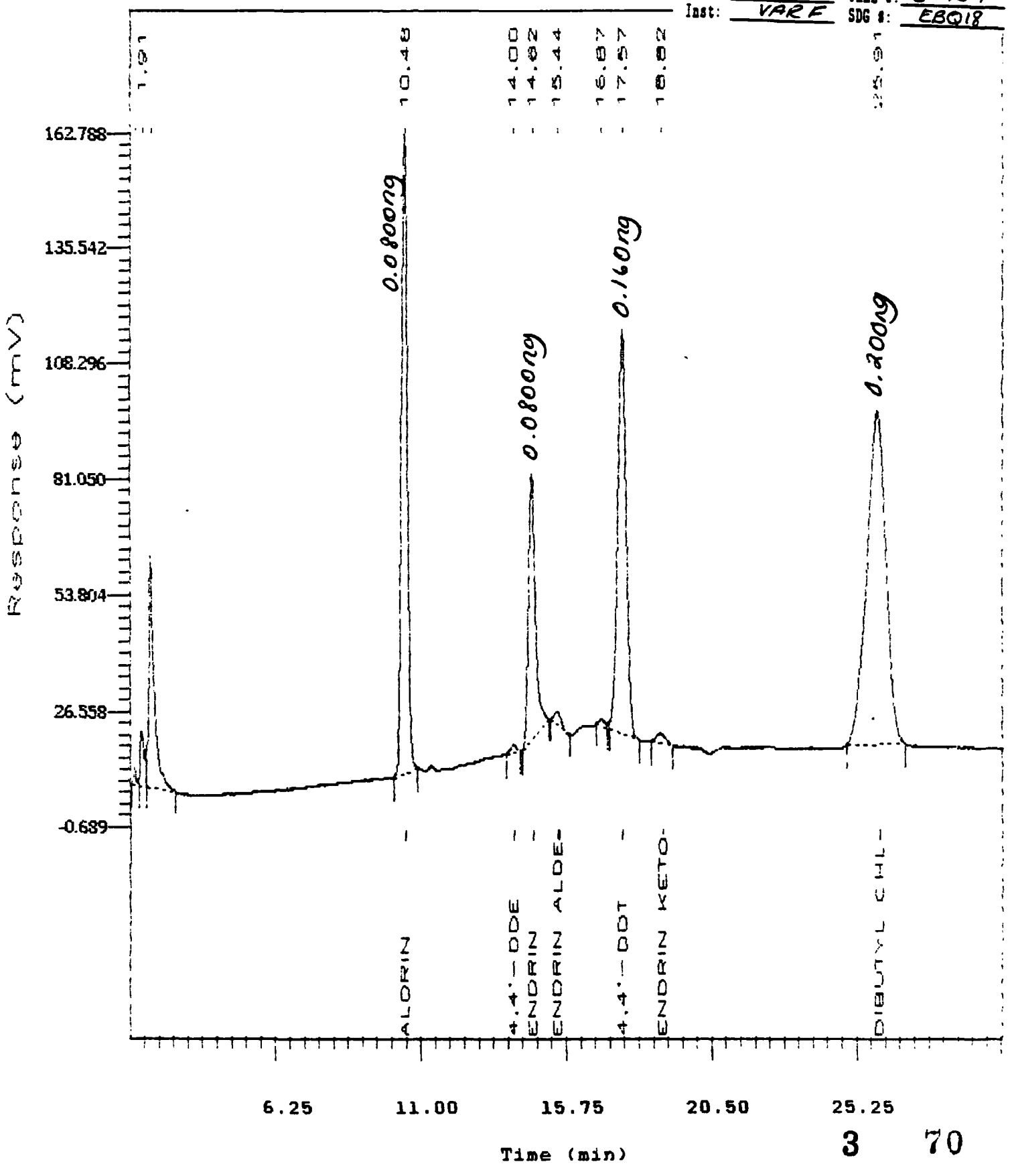
Components Not Found in This Run:

Component Name	Sample File	Retention Time
None		

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F735.raw Date: 4-19-89 8:52 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min Low Point: 7096 uV High Point: 162788 uV
Vertical Scale Factor: 1.00 Plot Offset: -1 mV Plot Scale: 164 mV

Run #: F735 Case #: 11688
Date: 4-18-89 SMO #: EVAL C
Time: 2000 TRAL #: 3-75-1
Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : EVLAC                        Time        : 4-19-89  8:52
Sample Number: 3-75-1                        Study       : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-18-89  20:00
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F735.raw
Result File     : C:\TEMP\~grs0575.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\EVAL.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.68	24823.11	4459.96	200.00	
2	1.91	116535.34	13134.54	200.00	
3	2.20	697359.56	54431.65	200.00	
4	10.48	1.92e6	150161.95	------	Aldrin
5	14.00	23544.00	1975.44	------	4,4'-DDE
6	14.62	982669.63	62256.04	------	Endrin
7	15.44	52442.00	3283.84	------	Endrin aldehyde
8	16.87	26053.31	1799.11	200.00	
9	17.57	1.84e6	94937.84	2.68e8	4,4'-DDT
10	18.82	46032.00	2313.35	------	Endrin ketone
11	25.91	3.43e6	78528.77	------	Dibutyl chlorendate

Total Area = 9173560.00

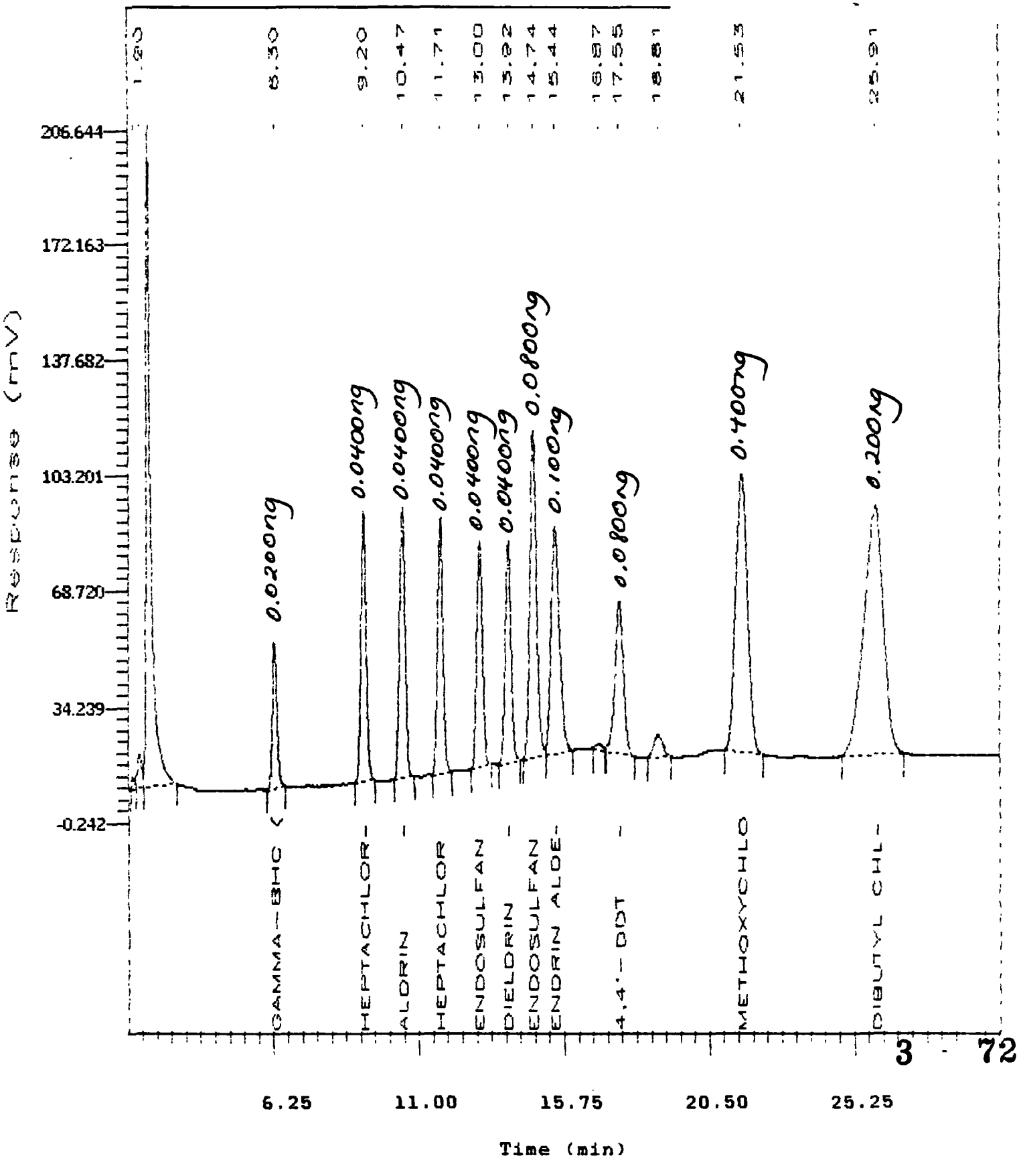
Components Not Found in This Run:

Component Name	Sample File Retention Time
4,4'-DDD	15.470

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F736.raw Date: 4-18-89 21:08 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min Low Point: 9610 uV High Point: 206644 uV
Vertical Scale Factor: 1.00 Plot Offset: 0 mV Plot Scale: 207 mV

Run #: F736 Case #: 11688
Date: 4-18-89 SMO #: INDA
Time: 2037 TRAL #: 3-70-1
Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

Sample Name : INDA Time : 4-18-89 21:08
Sample Number: 3-70-1 Study : 11688Q
Operator : GMG

Interface # : 1 Channel : A A/D mV Range : 2000
AutoSampler : Varian 8000 with controller
Rack/Vial : 255/255

Data Acquisition Time: 4-18-89 20:37
Delay Time : 1.50 min.
End Time : 30.00 min.
Sampling Rate : 1.0 pts/sec

Raw Data File : c:\2700\VARF\F736.raw
Result File : c:\2700\VARF\F736.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File : c:\2700\methods\SP2100.prc
Sample File : c:\2700\methods\INDA.smp
Sequence File : C:\2700\METHODS\SP2100.seq

Inj. Volume : 2 uL Area Reject : 1000.00
Sample Amount : 1.0000 NG

Pesticide Area Percent Report

Peak	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.68	16297.88	3456.82	200.00	
2	1.90	95860.80	9752.18	200.00	
3	2.16	2.12e6	196329.95	200.00	
4	6.30	462750.00	43336.69	------	gamma-BHC (Lindane)
5	9.20	967798.00	80921.60	------	Heptachlor
6	10.47	986041.00	80826.90	------	Aldrin
7	11.71	944667.00	76496.81	------	Heptachlor epoxide
8	13.00	844742.00	67238.11	------	Endosulfan I
9	13.92	870264.00	66071.99	------	Dieldrin
10	14.74	1.47e6	97702.08	------	Endosulfan II
11	15.44	1.31e6	67729.92	------	Endrin aldehyde
12	16.87	28028.63	1830.75	200.00	
13	17.55	879291.50	45634.04	------	4,4'-DDT
14	18.81	133070.00	6403.45	200.00	
15	21.53	2.23e6	82748.61	------	Methoxychlor
16	25.91	3.30e6	74625.17	------	Dibutyl chlorendate

Total Area = 16671328.00

Components Not Found in This Run:

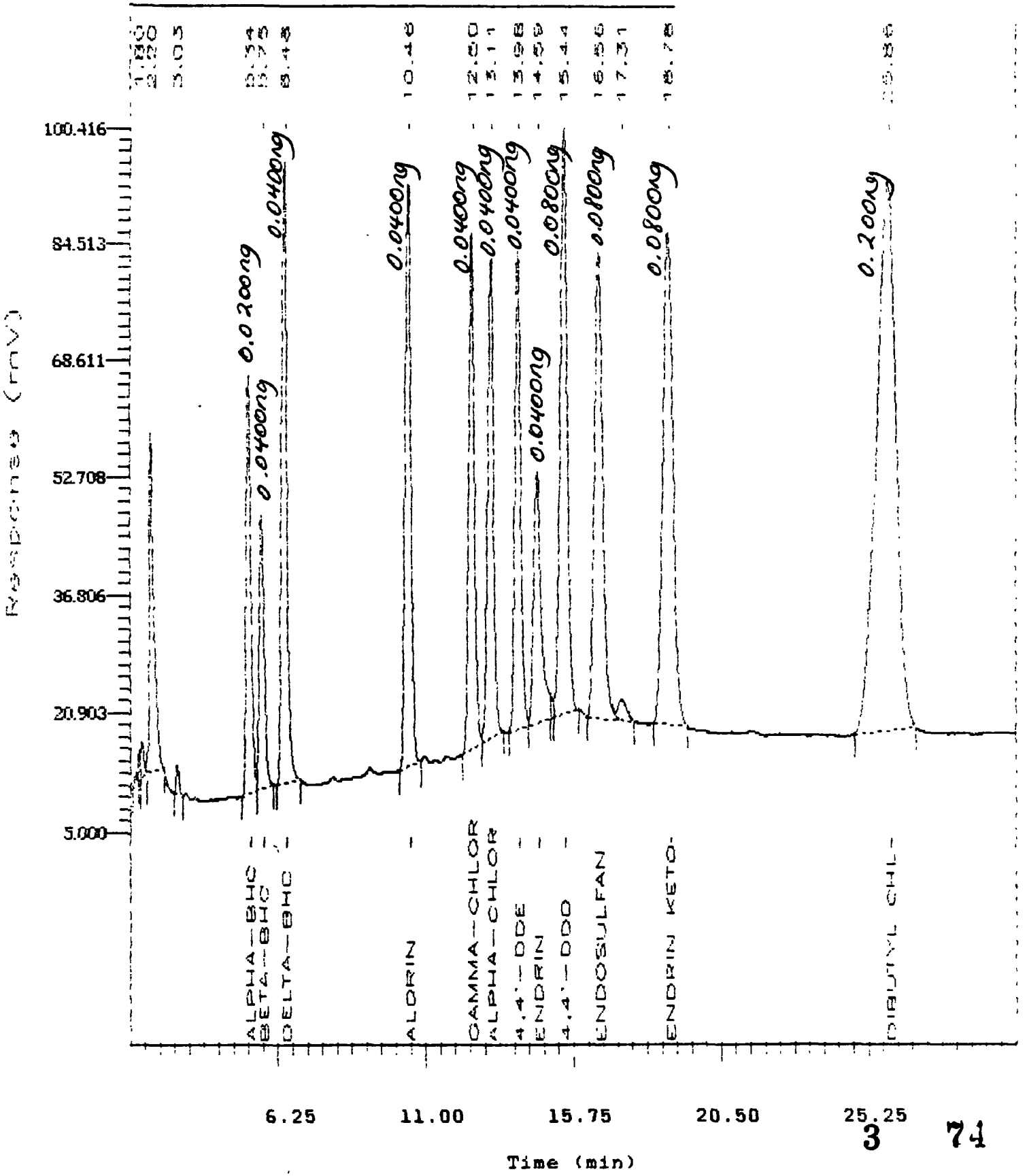
Component Name	Sample File Retention Time
None	

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F737.raw
Start Time: 1.50 min End Time: 30.00 min
Vertical Scale Factor: 1.00 Plot Offset: 5 mV Plot Scale: 95 mV

Date: 4-18-89 21:46 Page 1 of 1
Low Point: 9544 uV High Point: 100416 uV

Run #: E737 Case #: 11688
Date: 4-18-89 SMO #: IND B
Time: 2115 TRAL #: 3-463
Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : INDB                          Time        : 4-18-89  21:46
Sample Number: 3-46-3                         Study       : 11688Q
Operator      : GMG

Interface #   :   1        Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-18-89  21:15
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F737.raw
Result File     : c:\2700\VARF\F737.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\INDB.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
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Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.68	11435.93	2529.54	200.00	
2	1.80	15915.26	3900.90	200.00	
3	1.90	31378.89	4447.16	200.00	
4	2.20	456046.03	46539.06	200.00	
5	3.03	25496.00	3864.69	200.00	
6	5.34	564703.88	56563.56	------	alpha-BHC
7	5.75	395901.44	36913.18	------	beta-BHC
8	6.48	954798.00	83936.99	------	delta-BHC
9	10.46	963838.00	79180.23	------	Aldrin
10	12.50	881943.00	70058.70	------	gamma-Chlordane
11	13.11	833335.63	65114.40	------	alpha-Chlordane
12	13.98	830849.13	65062.60	------	4,4'-DDE
13	14.59	563832.69	33912.78	------	Endrin
14	15.44	1.23e6	79373.19	------	4,4'-DDD
15	16.56	1.17e6	63359.81	------	Endosulfan sulfate
16	17.31	53854.00	2798.86	200.00	
17	18.78	1.51e6	66674.45	------	Endrin ketone
18	25.86	3.29e6	74746.01	------	Dibutyl chlorendate

Total Area = 13798867.00

Components Not Found in This Run:

Component Name	Sample File	Retention Time

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F738.raw Date: 4-18-89 22:24 Page 1 of 1

Start Time: 1.50 min End Time: 30.00 min Low Point: 8978 uV High Point: 111242 uV

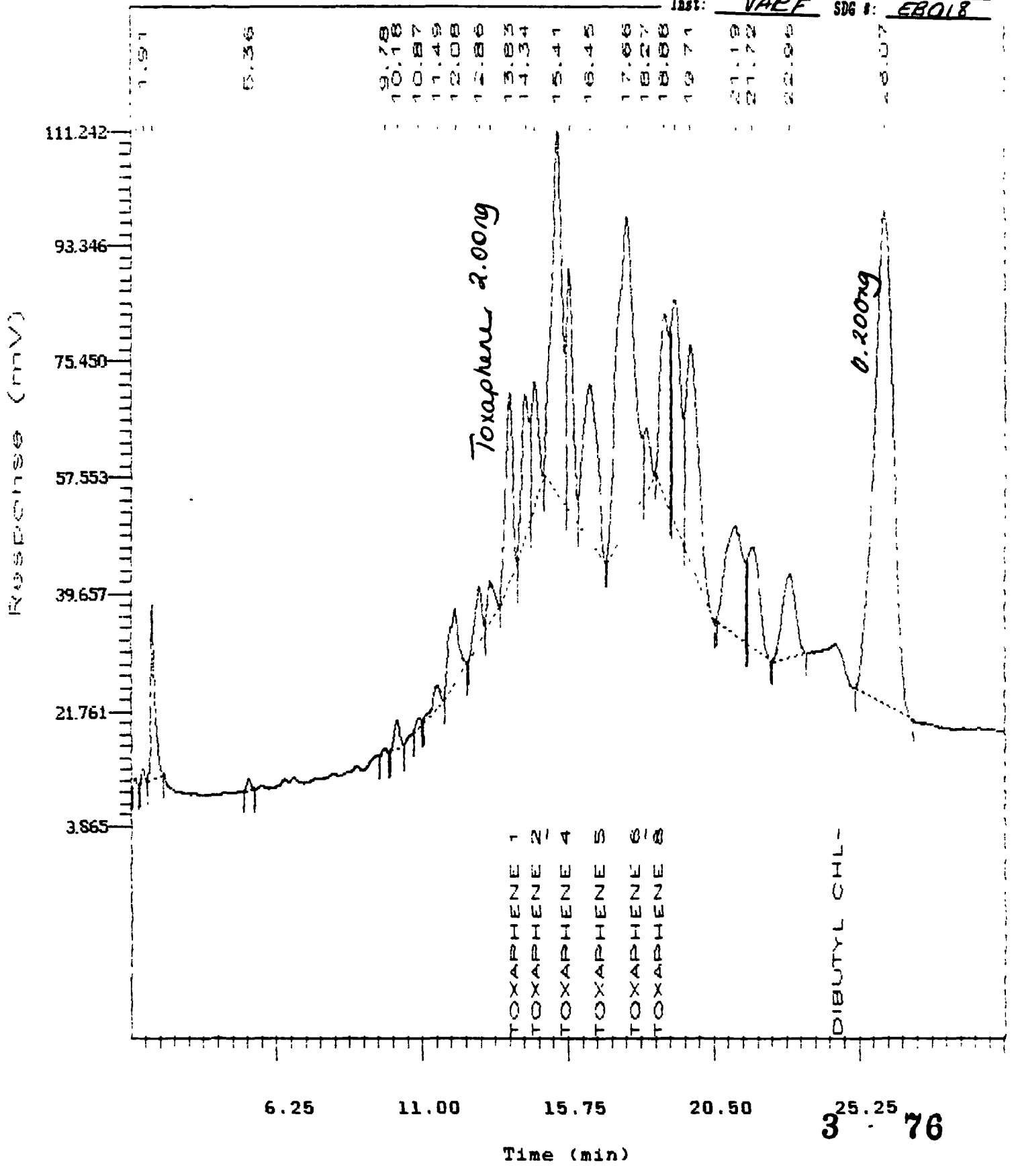
Vertical Scale Factor: 1.00 Plot Offset: 4 mV Plot Scale: 107 mV

Run #: F738 Case #: 11688

Date: 4-18-89 SMO #: TOXAPH

Time: 2153 TRAL #: 3-36-4

Inst: VARF SDG #: EB018



Nelson Analytical 2700 Chromatography System Report Header

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Sample Name : TOXAPH Time : 4-18-89 22:23
Sample Number: 3-36-4 Study : 11688Q
Operator : GMG

Interface # : 1 Channel : A A/D mV Range : 2000
AutoSampler : Varian 8000 with controller
Rack/Vial : 255/255

Data Acquisition Time: 4-18-89 21:53
Delay Time : 1.50 min.
End Time : 30.00 min.
Sampling Rate : 1.0 pts/sec

Raw Data File : c:\2700\VARF\F738.raw
Result File : c:\2700\VARF\F738.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File : c:\2700\methods\SP2100.prc
Sample File : c:\2700\methods\TOXAPH.smp
Sequence File : C:\2700\METHODS\SP2100.seq

Inj. Volume : 2 uL Area Reject : 1000.00
Sample Amount : 1.0000 NG

==========

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.68	7830.00	1401.80	200.00	
2	1.91	16541.50	2352.58	200.00	
3	2.22	254995.75	26628.18	200.00	
4	5.36	15706.00	1707.11	200.00	
5	9.78	6730.00	706.10	200.00	
6	10.18	52892.00	4341.12	200.00	
7	10.87	15273.06	1598.66	200.00	
8	11.49	57808.63	3406.00	200.00	
9	12.08	236881.00	10647.23	200.00	
10	12.86	131713.13	8397.42	200.00	
11	13.22	98181.50	6322.81	200.00	
12	13.83	438775.00	28733.38	------	Toxaphene 1
13	14.34	334406.00	21203.66	200.00	
14	14.64	306488.00	18528.81	------	Toxaphene 2
15	15.41	1.32e6	56528.06	200.00	
16	15.77	574758.25	37568.33	------	Toxaphene 4
17	16.45	779974.75	24371.50	200.00	
18	17.66	1.81e6	47543.99	200.00	
19	18.27	151021.38	9480.66	------	Toxaphene 7
20	18.88	551173.44	28516.91	200.00	
21	19.21	767140.75	34587.66	200.00	
22	19.71	1.01e6	33603.66	200.00	
23	21.19	655426.88	16814.77	200.00	
24	21.72	431663.00	15553.98	200.00	
25	22.96	380929.00	12814.33	200.00	

26	26.07	3.31e6	75814.91	200.00

Total Area = 13727795.00

Group : Toxaphene

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
12	13.83	438775.00	28733.38	------	Toxaphene 1
14	14.64	306488.00	18528.81	------	Toxaphene 2
16	15.77	574758.25	37568.33	------	Toxaphene 4
19	18.27	151021.38	9480.66	------	Toxaphene 7

Total Area = 1471042.63

Components Not Found in This Run:

Component Name	Sample File Retention Time
Toxaphene 3	15.010
Toxaphene 5	16.750
Toxaphene 6	17.900
Toxaphene 8	18.660
Dibutyl chlorendate	24.500

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F739.raw Date: 4-18-89 23:02 Page 1 of 1

Start Time: 1.50 min End Time: 30.00 min Low Point: 8696 uV High Point: 118430 uV

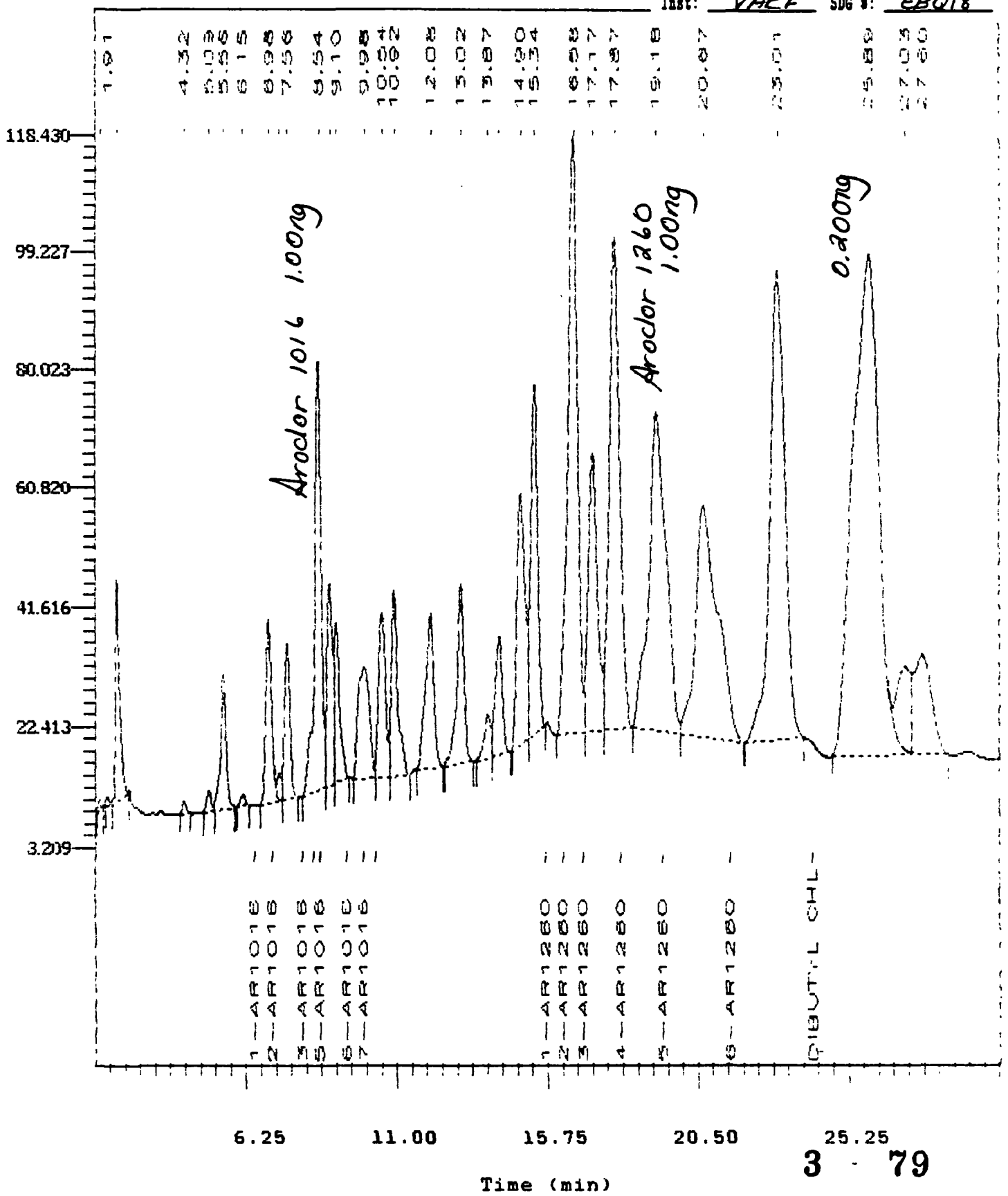
Vertical Scale Factor: 1.00 Plot Offset: 3 mV Plot Scale: 115 mV

Run #: F739 Case #: 11688

Date: 4-18-89 SMO #: AR1660

Time: 2231 TRAL #: 3-43-1

Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : AR1660                    Time        : 4-18-89  23:02
Sample Number: 3-43-1                     Study       : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-18-89  22:31
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F739.raw
Result File     : c:\2700\VARF\F739.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\AR1660.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.67	9063.00	1604.82	200.00	
2	1.91	10205.00	1601.54	200.00	
3	2.21	320616.00	35379.52	200.00	
4	4.32	17067.00	1966.22	200.00	
5	5.09	34750.48	3540.99	200.00	
6	5.56	266872.72	21555.87	200.00	
7	6.15	19812.83	1973.22	200.00	
8	6.98	385761.31	29418.95	------	2-AR1016
9	7.31	43590.00	4202.38	200.00	
10	7.56	290475.34	24827.80	200.00	
11	8.54	965594.81	69017.06	------	5-AR1016
12	8.89	400273.19	32268.03	200.00	
13	9.10	324007.88	25519.25	200.00	
14	9.98	432319.56	17578.68	------	7-AR1016
15	10.54	399744.91	26120.97	200.00	
16	10.92	422214.75	29707.97	200.00	
17	12.08	454270.00	24771.43	200.00	
18	13.02	435208.06	28846.81	200.00	
19	13.87	94881.13	6767.19	200.00	
20	14.23	300254.19	18791.27	200.00	
21	14.90	712187.00	40213.36	200.00	
22	15.34	875478.50	56269.73	------	1-AR1260
23	16.58	2.01e6	96783.66	------	3-AR1260
24	17.17	894298.25	45088.00	200.00	
25	17.87	1.82e6	79928.66	------	4-AR1260

26	19.18	1.93e6	51576.43	------	5-AR1260
27	20.67	1.80e6	37242.82	200.00	
28	23.01	2.48e6	76110.75	200.00	
29	25.89	4.60e6	81292.03	200.00	
30	27.03	383116.00	13419.40	200.00	
31	27.60	588200.00	15833.73	200.00	

Total Area = 23752292.00

Group : Aroclor-1260

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
14	9.98	432319.56	17578.68	------	7-AR1016
22	15.34	875478.50	56269.73	------	1-AR1260
23	16.58	2.01e6	96783.66	------	3-AR1260
25	17.87	1.82e6	79928.66	------	4-AR1260
26	19.18	1.93e6	51576.43	------	5-AR1260

Total Area = 7081141.00

Group : Aroclor-1016

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
8	6.98	385761.31	29418.95	------	2-AR1016
11	8.54	965594.81	69017.06	------	5-AR1016

Total Area = 1351356.13

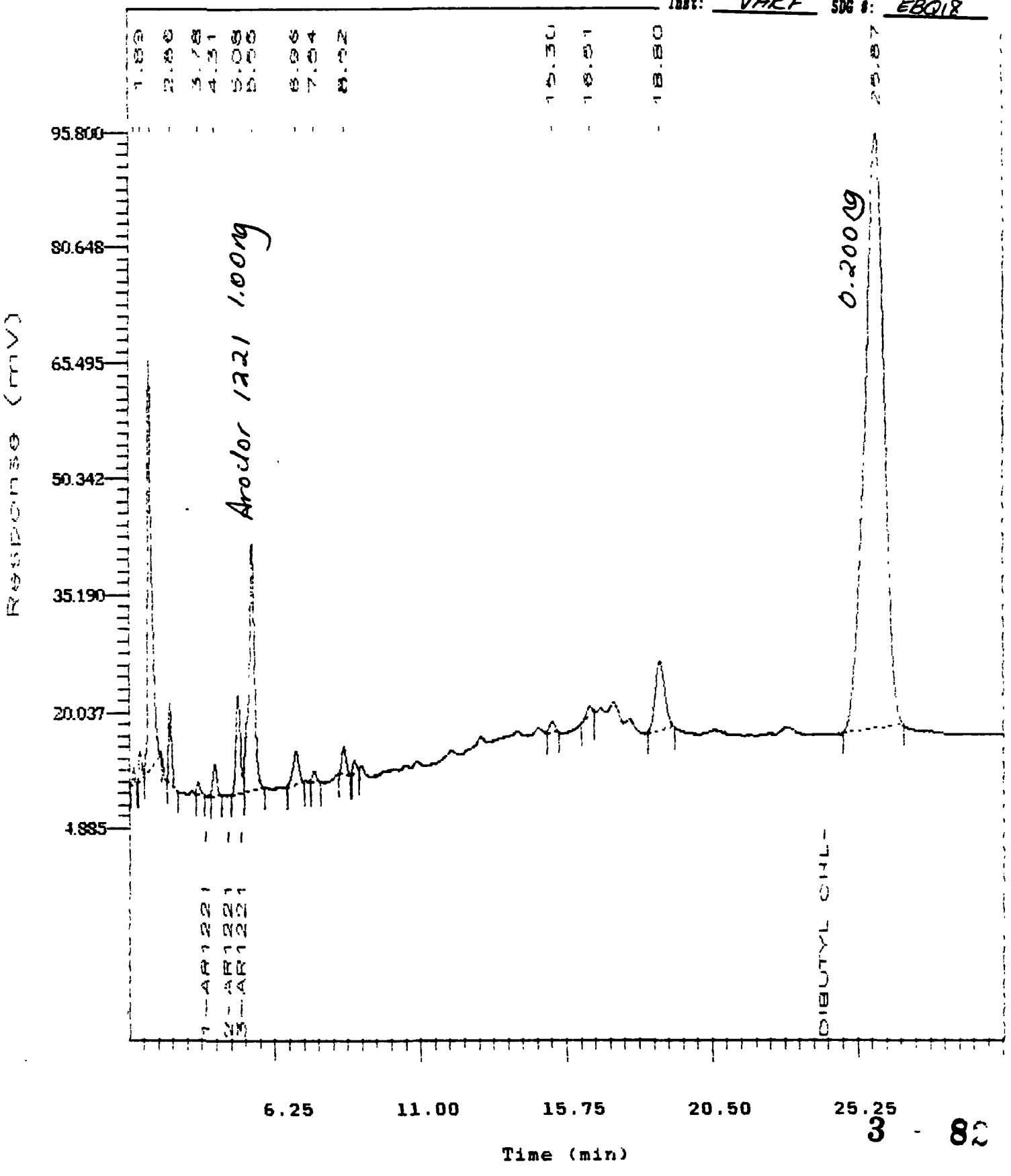
Components Not Found in This Run:

Component Name	Sample File Retention Time
1-AR1016	6.500
3-AR1016	8.000
4-AR1016	8.340
6-AR1016	9.400
8-AR1016	10.310
2-AR1260	16.200
6-AR1260	21.470
Dibutyl chlorendate	24.080

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F740.raw Date: 4-18-89 23:40 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min Low Point: 9214 uV High Point: 95800 uV
Vertical Scale Factor: 1.00 Plot Offset: 5 mV Plot Scale: 91 mV

Run #: F740 Case #: 11688
Date: 4-18-89 SMO #: AR1221
Time: 2309 TRAL #: 3-43-2
Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : AR1221                    Time        : 4-18-89  23:40
Sample Number: 3-43-2                     Study       : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-18-89  23:09
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F740.raw
Result File     : c:\2700\VARF\F740.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\AR1221.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.67	10397.00	2286.35	200.00	
2	1.89	22782.52	3657.48	200.00	
3	2.19	495056.34	53505.39	200.00	
4	2.86	71478.02	10783.95	200.00	
5	3.78	11903.98	1636.73	200.00	
6	4.31	35414.00	4056.64	200.00	
7	5.08	127524.00	12935.38	------	3-AR1221
8	5.55	424494.63	32394.15	200.00	
9	6.96	59740.00	4297.66	200.00	
10	7.54	12958.00	1443.96	200.00	
11	8.52	36750.00	3578.91	200.00	
12	8.86	10775.00	1321.10	200.00	
13	15.30	16464.00	1396.11	200.00	
14	16.51	13186.00	1143.14	200.00	
15	18.80	192320.00	8813.11	200.00	
16	25.87	3.40e6	77691.06	200.00	

Total Area = 4948597.50

Group : Arochlor-1221

Peak	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name

7	5.08	127524.00	12935.38	------	3-AR1221

Total Area = 127524.00

Components Not Found in This Run:

Component Name	Sample File Retention Time
1-AR1221	3.980
2-AR1221	4.710
Dibutyl chlorendate	24.110

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F741.raw Date: 4-19-89 12:18 Page 1 of 1

Start Time: 1.50 min End Time: 30.00 min Low Point: 8150 uV High Point: 89994 uV

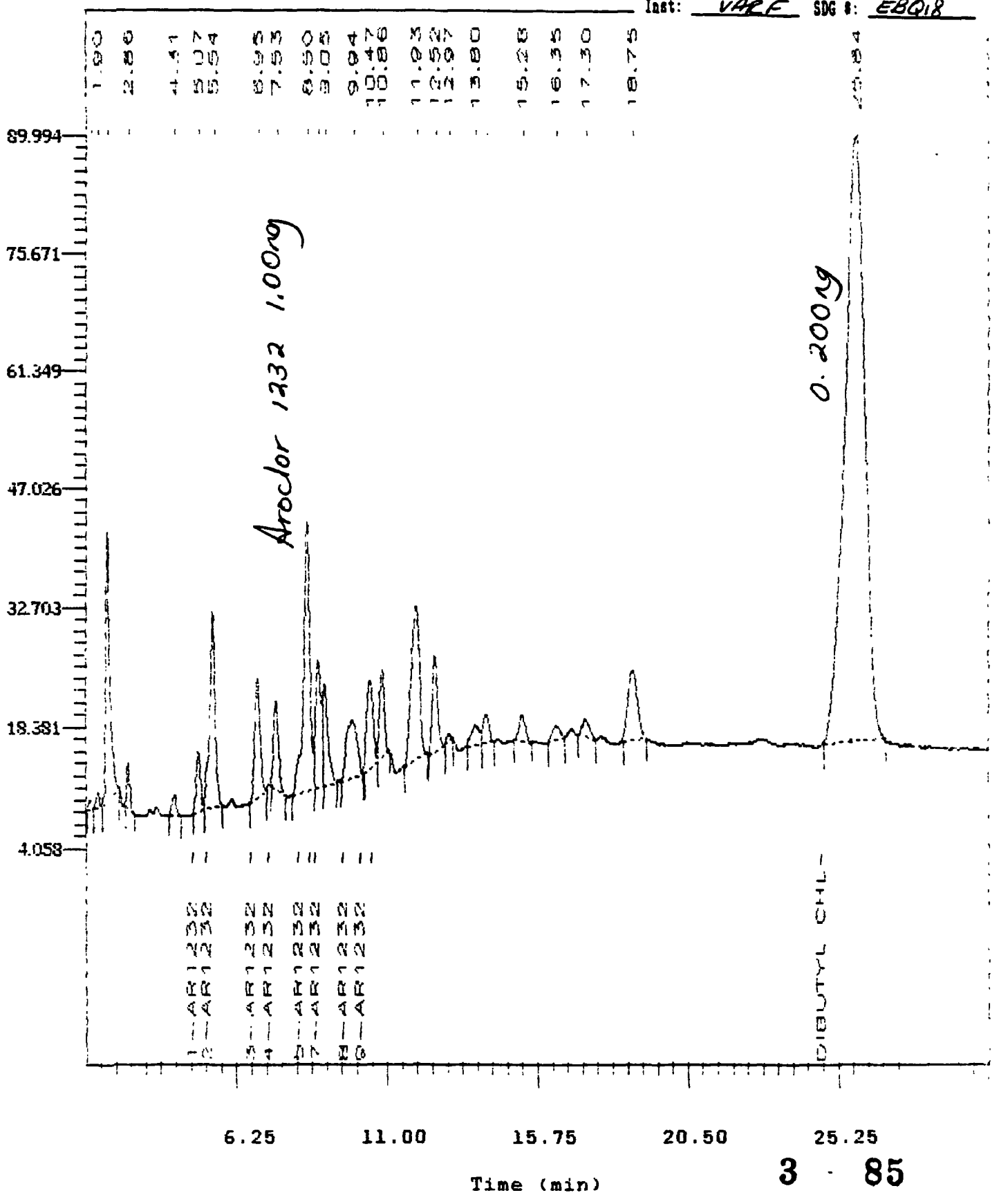
Vertical Scale Factor: 1.00 Plot Offset: 4 mV Plot Scale: 86 mV

Run #: F741 Case #: 11688

Date: 4-18-89 SMO #: AR1232

Time: 2347 TRAL #: 3-43-3

Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
Sample Name   : AR1232                    Time        : 4-19-89  12:18
Sample Number: 3-43-3                     Study       : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-18-89  23:47
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F741.raw
Result File     : c:\2700\VARF\F741.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\AR1232.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.66	5076.25	999.72	200.00	
2	1.90	12485.73	1729.33	200.00	
3	2.20	294670.00	32079.06	200.00	
4	2.86	35560.00	5459.62	200.00	
5	4.31	24335.00	2564.32	200.00	
6	5.07	66169.78	7054.21	200.00	
7	5.54	282990.97	23150.40	200.00	
8	6.95	169082.00	13727.48	200.00	
9	7.53	108760.00	10463.01	200.00	
10	8.50	445409.00	32083.11	------	6-AR1232
11	8.85	178682.95	14949.64	------	7-AR1232
12	9.05	148411.56	11743.48	200.00	
13	9.94	157478.00	6811.96	------	9-AR1232
14	10.47	141310.31	10314.96	------	10-AR1232
15	10.86	102412.78	10238.34	200.00	
16	11.93	330882.00	18243.18	200.00	
17	12.52	129030.00	11309.77	200.00	
18	12.97	6984.00	878.06	200.00	
19	13.80	39854.38	2344.60	200.00	
20	14.15	47547.53	3421.57	200.00	
21	15.28	43636.00	3091.40	200.00	
22	16.35	26756.00	1606.42	200.00	
23	17.30	32967.06	2058.31	200.00	
24	18.75	172585.00	8179.89	200.00	
25	25.84	3.21e6	72893.67	------	Dibutyl chlorendate

Total Area = 6215663.00

Group : Aroclor-1232

Peak	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
10	8.50	445409.00	32083.11	------	6-AR1232
11	8.85	178682.95	14949.64	------	7-AR1232
13	9.94	157478.00	6811.96	------	9-AR1232
14	10.47	141310.31	10314.96	------	10-AR1232

Total Area = 922880.25

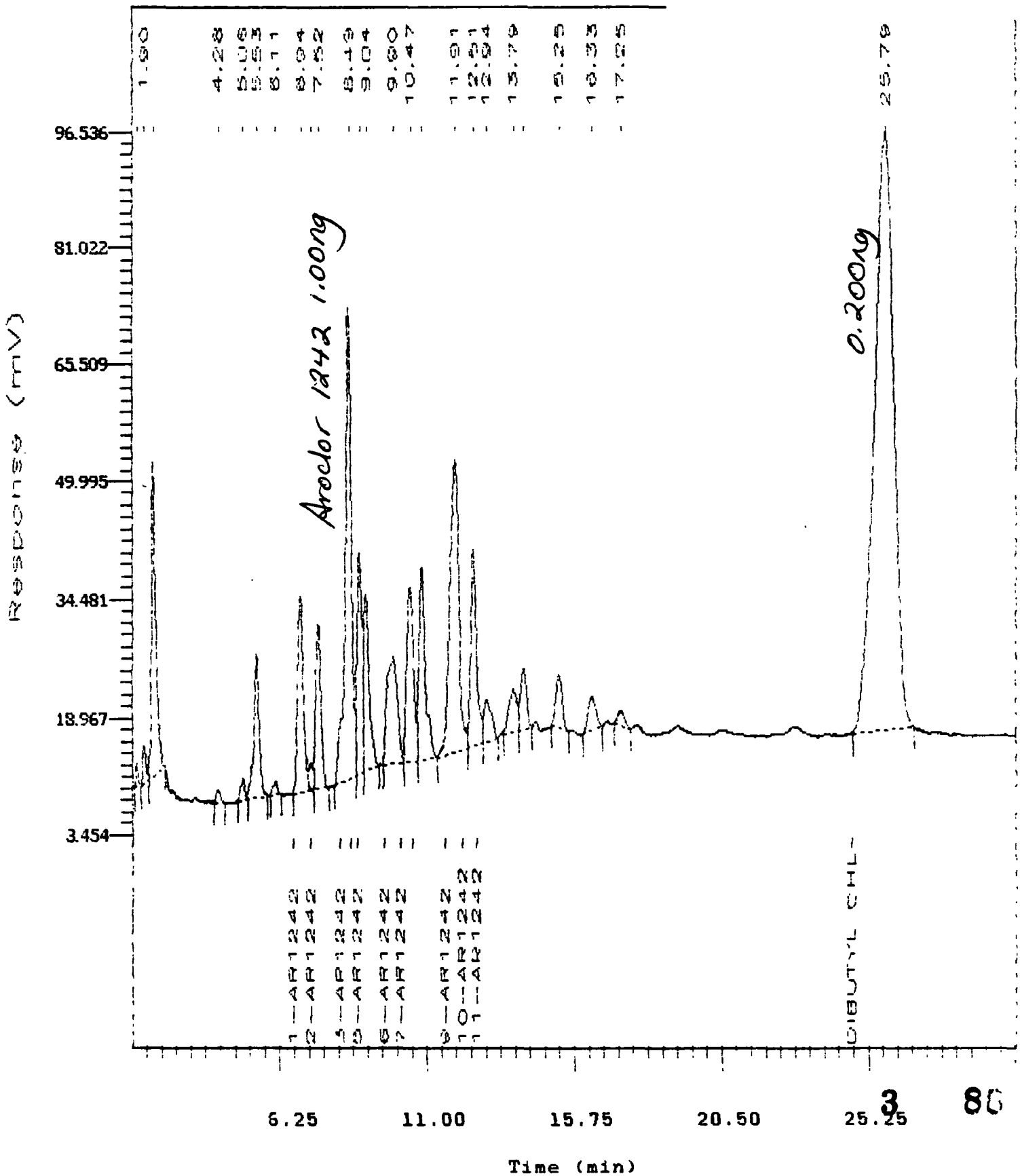
Components Not Found in This Run:

Component Name	Sample File Retention Time
1-AR1232	4.840
2-AR1232	5.290
3-AR1232	6.660
4-AR1232	7.220
5-AR1232	8.170
8-AR1232	9.580

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F742.raw Date: 4-19-89 12:56 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min Low Point: 7886 uV High Point: 96536 uV
Vertical Scale Factor: 1.00 Plot Offset: 4 mV Plot Scale: 93 mV

Run #: F742 Case #: 11688
Date: 4-19-89 SMO #: AR1242
Time: 0025 TRAL #: 3-43-4
Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

Sample Name : AR1242 Time : 4-19-89 12:55
Sample Number: 3-43-4 Study : 11688Q
Operator : GMG

Interface # : 1 Channel : A A/D mV Range : 2000
AutoSampler : Varian 8000 with controller
Rack/Vial : 255/255

Data Acquisition Time: 4-19-89 ~~12:25~~ 4-19-89 gmg
Delay Time : 1.50 min. 00:25
End Time : 30.00 min.
Sampling Rate : 1.0 pts/sec

Raw Data File : c:\2700\VARF\F742.raw
Result File : c:\2700\VARF\F742.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File : c:\2700\methods\SP2100.prc
Sample File : c:\2700\methods\AR1242.smp
Sequence File : C:\2700\METHODS\SP2100.seq

Inj. Volume : 2 uL Area Reject : 1000.00
Sample Amount : 1.0000 NG

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.67	12460.00	2949.27	200.00	
2	1.90	36877.09	4976.58	200.00	
3	2.19	404419.41	41424.94	200.00	
4	4.28	15180.00	1658.27	200.00	
5	5.06	28185.64	2978.65	200.00	
6	5.53	234163.66	19037.15	200.00	
7	6.11	18549.77	1877.47	200.00	
8	6.94	334416.94	25729.25	200.00	
9	7.27	34360.00	3501.64	------	2-AR1242
10	7.52	251125.06	21570.62	200.00	
11	8.49	864729.88	62076.90	------	4-AR1242
12	8.84	345636.41	29005.80	------	5-AR1242
13	9.04	300964.84	23083.76	200.00	
14	9.90	331674.00	14286.03	------	7-AR1242
15	10.47	346099.19	22997.04	------	8-AR1242
16	10.84	356280.25	25267.04	200.00	
17	11.91	765226.00	38204.31	------	10-AR1242
18	12.51	346505.78	25969.90	------	11-AR1242
19	12.94	94409.25	5415.67	200.00	
20	13.79	98290.00	5455.34	200.00	
21	14.13	107817.75	7932.86	200.00	
22	15.25	99548.00	7136.09	200.00	
23	16.33	77022.00	4393.31	200.00	
24	17.25	34337.00	2120.31	200.00	
25	25.79	3.45e6	78957.82	------	Dibutyl chlorendate

3 89

Total Area = 8998103.00

Group : Aroclor 1242

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name

Total Area = 0.00

Group : Aroclor-1242

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
9	7.27	34360.00	3501.64	------	2-AR1242
11	8.49	864729.88	62076.90	------	4-AR1242
12	8.84	345636.41	29005.80	------	5-AR1242
14	9.90	331674.00	14286.03	------	7-AR1242
15	10.47	346099.19	22997.04	------	8-AR1242
17	11.91	765226.00	38204.31	------	10-AR1242
18	12.51	346505.78	25969.90	------	11-AR1242

Total Area = 3034231.25

Components Not Found in This Run:

Component Name	Sample File Retention Time
1-AR1242	6.670
3-AR1242	8.180
6-AR1242	9.590
9-AR1242	11.550

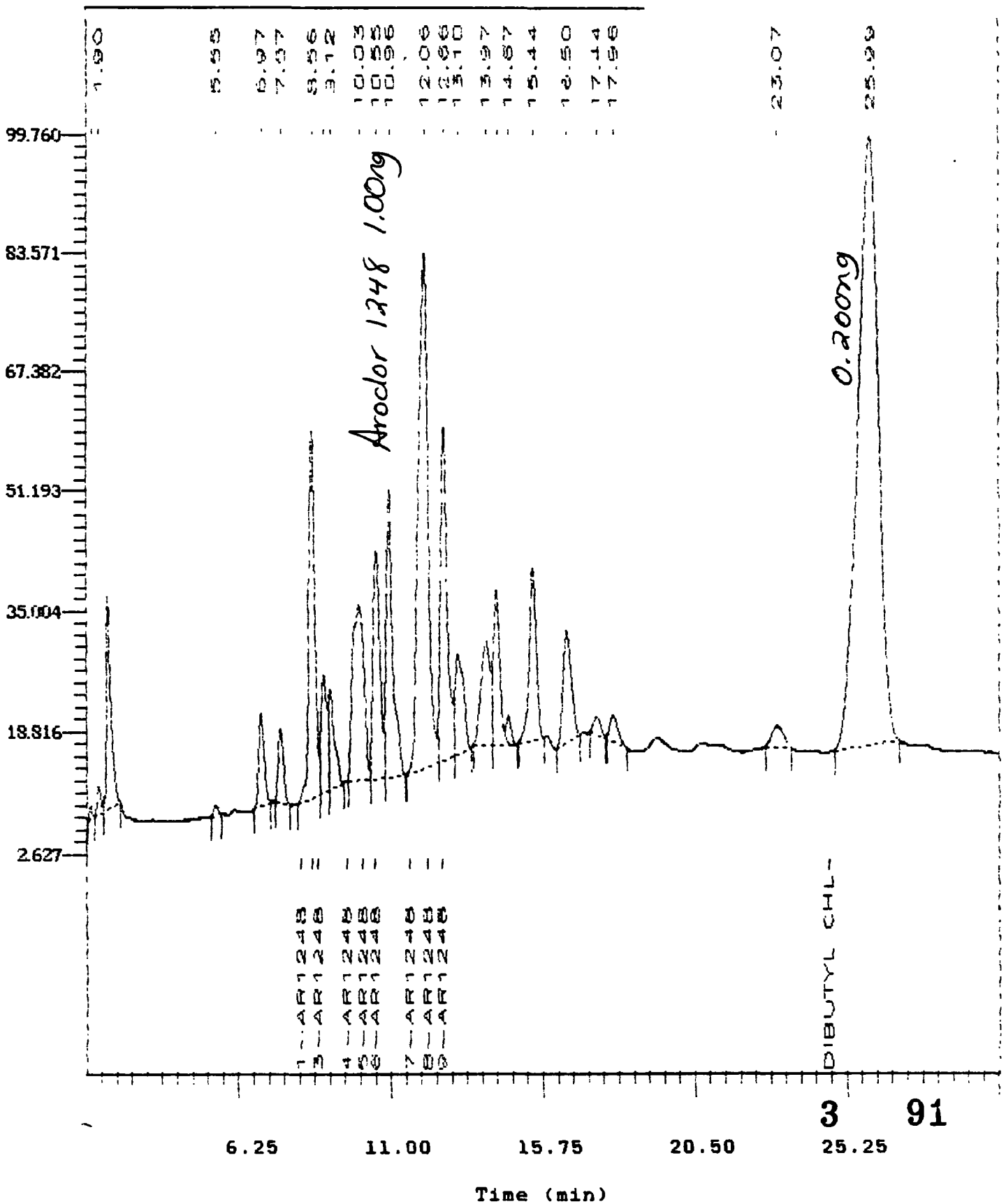
(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F743.raw
Start Time: 1.50 min End Time: 30.00 min
Vertical Scale Factor: 1.00 Plot Offset: 3 mV Plot Scale: 97 mV

Date: 4-19-89 1:34 Page 1 of 1
Low Point: 7252 uV High Point: 99760 uV

Run #: F743
Date: 4-1989
Time: 0102
Inst: VARF

Case #: 11688
SMO #: AR1248
TRAL #: 3-74-5
SDG #: EBQ18



3 91

Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : AR1248                    Time        : 4-19-89  1:33
Sample Number: 3-74-5                     Study       : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-19-89  1:02
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F743.raw
Result File     : c:\2700\VARF\F743.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\AR1248.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.67	8376.60	1653.45	200.00	
2	1.90	27942.00	3507.30	200.00	
3	2.20	273952.41	28107.77	200.00	
4	5.55	11577.00	1253.55	200.00	
5	6.97	149428.00	12171.37	200.00	
6	7.57	105792.00	9792.60	200.00	
7	8.56	634290.13	49502.09	------	2-AR1248
8	8.92	190906.00	15698.50	200.00	
9	9.12	184295.22	13172.26	200.00	
10	10.03	574376.19	23547.42	------	5-AR1248
11	10.55	461847.78	30581.36	------	6-AR1248
12	10.96	554833.56	38523.79	200.00	
13	12.06	1.45e6	69385.78	------	8-AR1248
14	12.66	631805.56	44919.17	------	9-AR1248
15	13.10	256001.69	13213.35	200.00	
16	13.97	280480.69	14081.66	200.00	
17	14.31	299498.88	20995.38	200.00	
18	14.67	41720.00	3834.21	200.00	
19	15.44	360123.00	23430.48	200.00	
20	16.50	275674.00	14999.01	200.00	
21	17.44	43249.69	2598.70	200.00	
22	17.96	67228.38	3676.14	200.00	
23	23.07	72871.00	2933.01	200.00	
24	25.99	3.67e6	82355.26	200.00	

Total Area = 10636300.00

Group : Aroclor-1248

Peak	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
7	8.56	634290.13	49502.09	------	2-AR1248
10	10.03	574376.19	23547.42	------	5-AR1248
11	10.55	461847.78	30581.36	------	6-AR1248
13	12.06	1.45e6	69385.78	------	8-AR1248
14	12.66	631805.56	44919.17	------	9-AR1248

Total Area = 3759009.50

Components Not Found in This Run:

Component Name	Sample File Retention Time
1-AR1248	8.170
3-AR1248	8.710
4-AR1248	9.590
7-AR1248	11.550
Dibutyl chlorendate	24.640

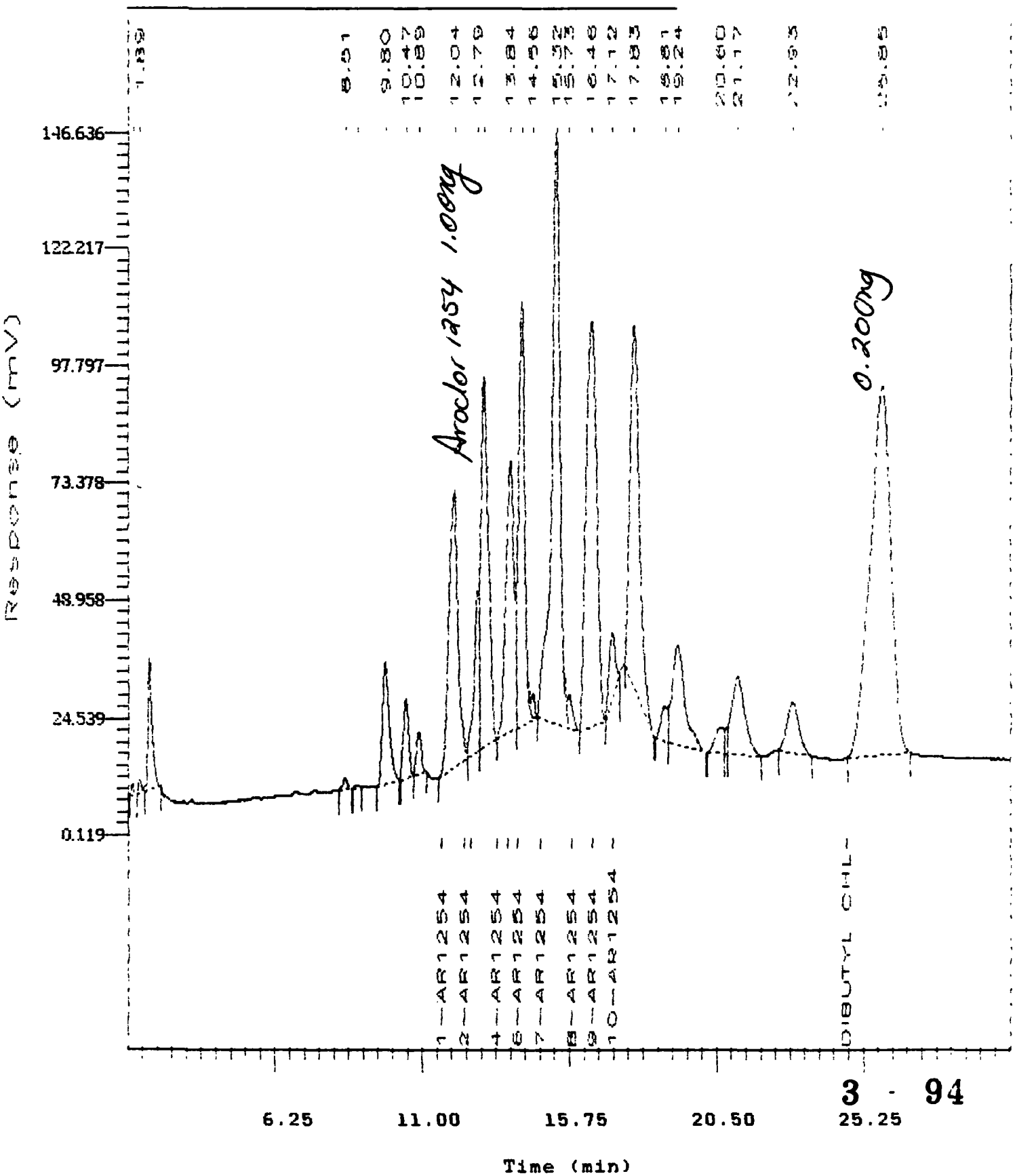
(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F744.raw
Start Time: 1.50 min End Time: 30.00 min
Vertical Scale Factor: 1.00 Plot Offset: 0 mV Plot Scale: 147 mV

Date: 4-19-89 2:12 Page 1 of 1
Low Point: 7096 uV High Point: 146636 uV

Run #: F744
Date: 4-19-89
Time: 0141
Inst: VARF

Case #: 11688
SMO #: AR1254
TRAL #: 3-43-6
SDG #: EBQ18



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Nelson Analytical 2700 Chromatography System Report Header

Sample Name : AR1254 Time : 4-19-89 2:12
Sample Number: 3-43-6 Study : 11688Q
Operator : GMG

Interface # : 1 Channel : A A/D mV Range : 2000
AutoSampler : Varian 8000 with controller
Rack/Vial : 255/255

Data Acquisition Time: 4-19-89 1:41
Delay Time : 1.50 min.
End Time : 30.00 min.
Sampling Rate : 1.0 pts/sec

Raw Data File : c:\2700\VARF\F744.raw
Result File : c:\2700\VARF\F744.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File : c:\2700\methods\SP2100.prc
Sample File : c:\2700\methods\AR1254.smp
Sequence File : C:\2700\METHODS\SP2100.seq

Inj. Volume : 2 uL Area Reject : 1000.00
Sample Amount : 1.0000 NG

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.67	10372.00	2268.03	200.00	
2	1.89	19080.66	2929.50	200.00	
3	2.20	260859.81	27248.45	200.00	
4	8.51	26386.00	2338.44	200.00	
5	8.89	5934.00	686.23	200.00	
6	9.80	387928.00	25482.30	200.00	
7	10.47	193380.00	16621.05	200.00	
8	10.89	90752.00	8781.19	200.00	
9	12.04	1.16e6	57294.75	------	2-AR1254
10	12.79	347144.09	32951.22	------	3-AR1254
11	13.00	1.30e6	76925.56	------	4-AR1254
12	13.84	987777.06	56161.12	------	5-AR1254
13	14.21	1.23e6	88055.98	------	6-AR1254
14	14.56	42632.00	5013.68	------	7-AR1254
15	15.32	2.28e6	123219.64	200.00	
16	15.73	97026.00	7101.29	------	8-AR1254
17	16.46	2.00e6	83930.86	------	9-AR1254
18	17.12	171928.00	12658.38	------	10-AR1254
19	17.83	1.61e6	76064.16	200.00	
20	18.81	102005.81	7282.18	200.00	
21	19.24	609903.13	20431.50	200.00	
22	20.60	105185.95	5512.52	200.00	
23	21.17	508365.63	16373.74	200.00	
24	22.93	288924.00	10458.73	200.00	
25	25.85	3.58e6	76950.12	------	Dibutyl chlorendate

3 95

Total Area = 17436436.00

Group : Aroclor-1254

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
9	12.04	1.16e6	57294.75	------	2-AR1254
10	12.79	347144.09	32951.22	------	3-AR1254
11	13.00	1.30e6	76925.56	------	4-AR1254
12	13.84	987777.06	56161.12	------	5-AR1254
13	14.21	1.23e6	88055.98	------	6-AR1254
14	14.56	42632.00	5013.68	------	7-AR1254
16	15.73	97026.00	7101.29	------	8-AR1254
17	16.46	2.00e6	83930.86	------	9-AR1254
18	17.12	171928.00	12658.38	------	10-AR1254

Total Area = 7349053.00

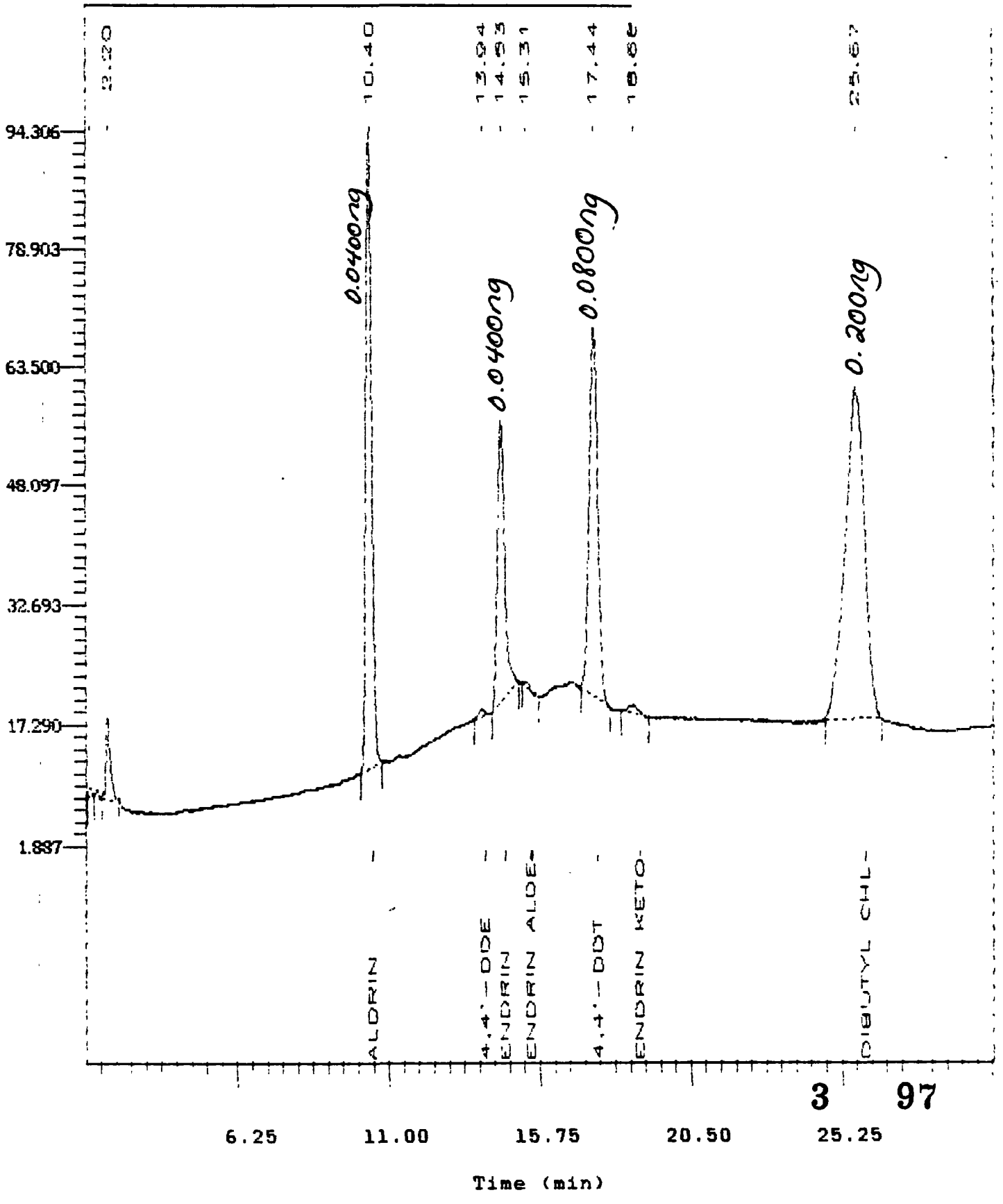
Components Not Found in This Run:

Component Name	Sample File Retention Time
1-AR1254	11.610

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F750.raw Date: 4-19-89 9:01 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min Low Point: 6288 uV High Point: 94306 uV
Vertical Scale Factor: 1.00 Plot Offset: 2 mV Plot Scale: 92 mV

Run #: F750 Case #: 11688
Date: 4-19-89 SMO #: EVALB 2
Time: 0529 TRAL #: 3-75-2
Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==============================================================================
Sample Name   : EVALB                          Time          : 4-19-89  9:00
Sample Number: 3-75-2                          Study         : 11688Q
Operator      : GMG

Interface #   :   1        Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-19-89  5:29
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F750.raw
Result File     : C:\TEMP\~grs0575.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\EVAL.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject       : 1000.00
Sample Amount   : 1.0000 NG
==============================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.64	8015.00	1174.44	200.00	
2	2.20	102380.00	10651.15	200.00	
3	10.40	1.00e6	82212.00	------	Aldrin
4	13.94	12690.00	994.13	------	4,4'-DDE
5	14.53	554612.00	36359.98	------	Endrin
6	15.31	9261.88	726.31	------	Endrin aldehyde
7	17.44	885236.75	47862.22	1.34e8	4,4'-DDT
8	18.68	21469.88	1042.09	------	Endrin ketone
9	25.67	1.81e6	42878.75	------	Dibutyl chlorendate

Total Area = 4414243.50

Components Not Found in This Run:

Component Name	Sample File Retention Time
4,4'-DDD	15.470

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F756.raw Date: 4-19-89 9:46 Page 1 of 1

Start Time: 1.50 min End Time: 30.00 min Low Point: 8616 uV High Point: 223812 uV

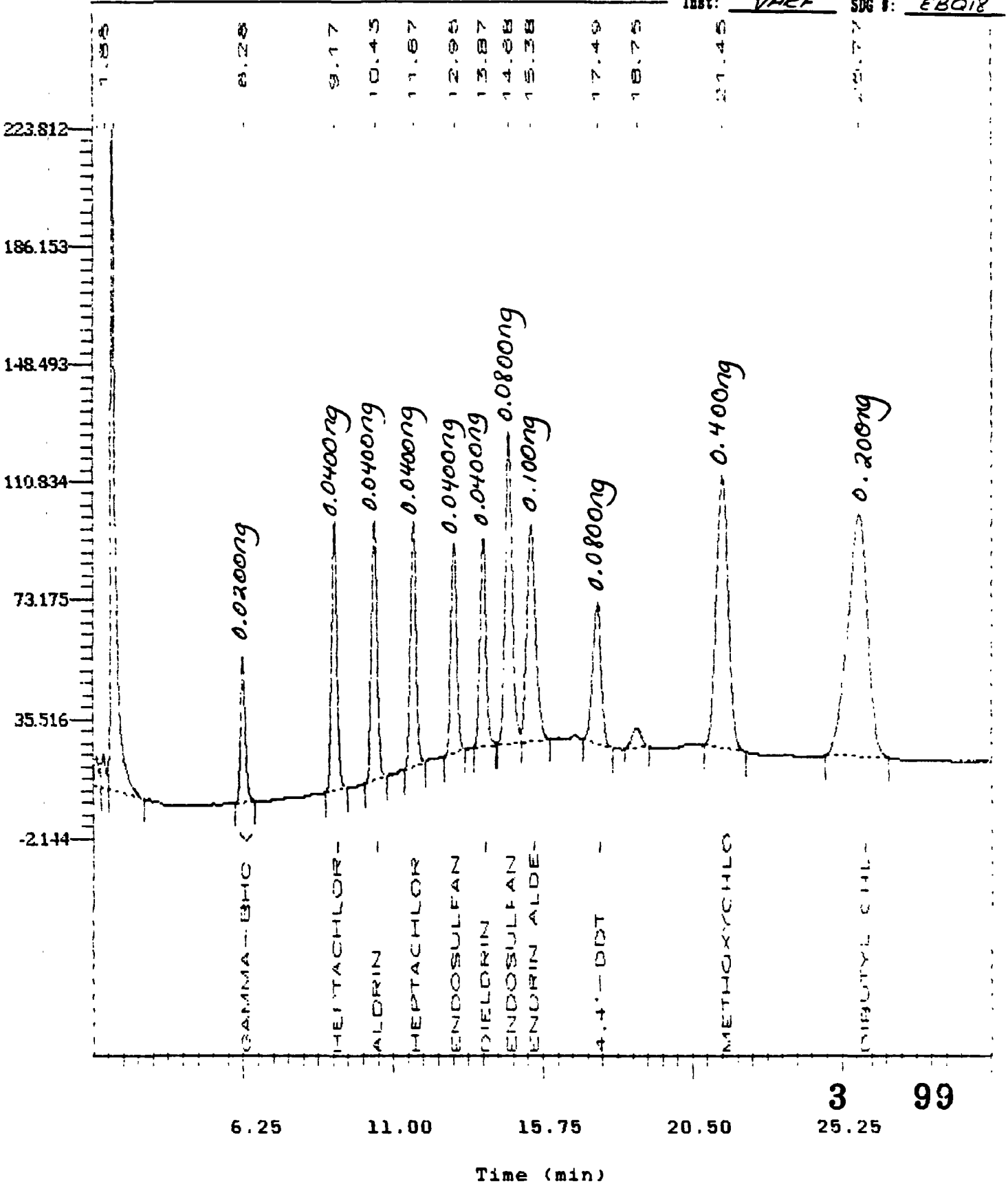
Vertical Scale Factor: 1.00 Plot Offset: -2 mV Plot Scale: 226 mV

Run #: F756 Case #: 11688

Date: 4-19-89 SMO #: INDA 2

Time: 0915 TRAL #: 3-70-1

Inst: VARF SDG #: EBQ18



3 99

Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : INDA                          Time        : 4-19-89  9:46
Sample Number: 3-70-1                         Study       : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-19-89  9:15
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F756.raw
Result File     : c:\2700\VARF\F756.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\INDA.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.65	81121.05	9533.66	200.00	
2	1.88	124067.69	10958.19	200.00	
3	2.15	2.21e6	210715.61	200.00	
4	6.28	490486.00	45993.97	------	gamma-BHC (Lindane)
5	9.17	1.01e6	85282.75	------	Heptachlor
6	10.43	991318.00	81477.20	------	Aldrin
7	11.67	954613.00	77793.58	------	Heptachlor epoxide
8	12.95	835214.00	66712.13	------	Endosulfan I
9	13.87	882369.13	66020.44	------	Dieldrin
10	14.68	1.52e6	99248.80	------	Endosulfan II
11	15.38	1.34e6	68424.77	------	Endrin aldehyde
12	17.49	835134.00	44199.27	------	4,4'-DDT
13	18.75	128968.00	6335.20	200.00	
14	21.45	2.27e6	86085.07	------	Methoxychlor
15	25.77	3.39e6	76778.38	------	Dibutyl chlorendate

Total Area = 17087070.00

Components Not Found in This Run:

Component Name	Sample File	Retention Time
None		

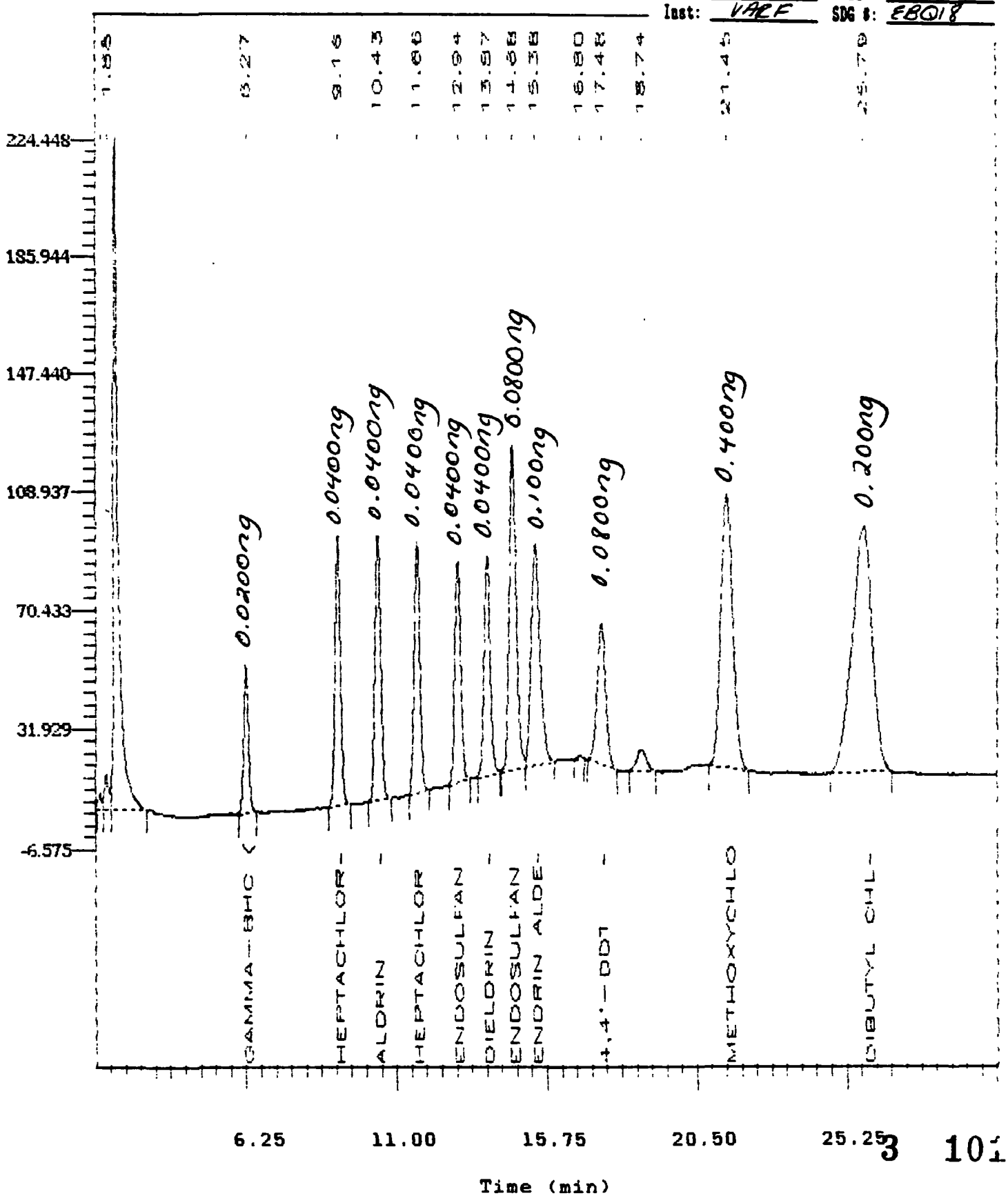
(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F761.raw Date: 4-19-89 12:56 Page 1 of 1

Start Time: 1.50 min End Time: 30.00 min Low Point: 4426 uV High Point: 224448 uV

Vertical Scale Factor: 1.00 Plot Offset: -7 mV Plot Scale: 231 mV

Run #: F761 Case #: 11688
Date: 4-19-89 SMO #: INDA 3
Time: 1225 TRAL #: 3-70-1
Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : INDA                          Time        : 4-19-89  12:55
Sample Number: 3-70-1                         Study       : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-19-89  12:25
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F761.raw
Result File     : c:\2700\VARF\F761.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\INDA.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.67	34141.73	5280.76	200.00	
2	1.88	114694.90	11002.74	200.00	
3	2.14	2.32e6	218507.44	200.00	
4	6.27	499424.00	47202.82	------	gamma-BHC (Lindane)
5	9.16	1.04e6	87464.20	------	Heptachlor
6	10.43	1.04e6	85557.05	------	Aldrin
7	11.66	1.00e6	81467.20	------	Heptachlor epoxide
8	12.94	896962.00	71069.26	------	Endosulfan I
9	13.87	945014.38	71002.38	------	Dieldrin
10	14.68	1.59e6	104916.04	------	Endosulfan II
11	15.38	1.39e6	71577.63	------	Endrin aldehyde
12	16.80	8410.00	846.39	200.00	
13	17.48	854675.25	45481.02	------	4,4'-DDT
14	18.74	143544.00	6784.27	200.00	
15	21.45	2.33e6	88484.48	------	Methoxychlor
16	25.79	3.51e6	79720.31	------	Dibutyl chlorendate

Total Area = 17749584.00

Components Not Found in This Run:

Component Name	Sample File Retention Time
None	

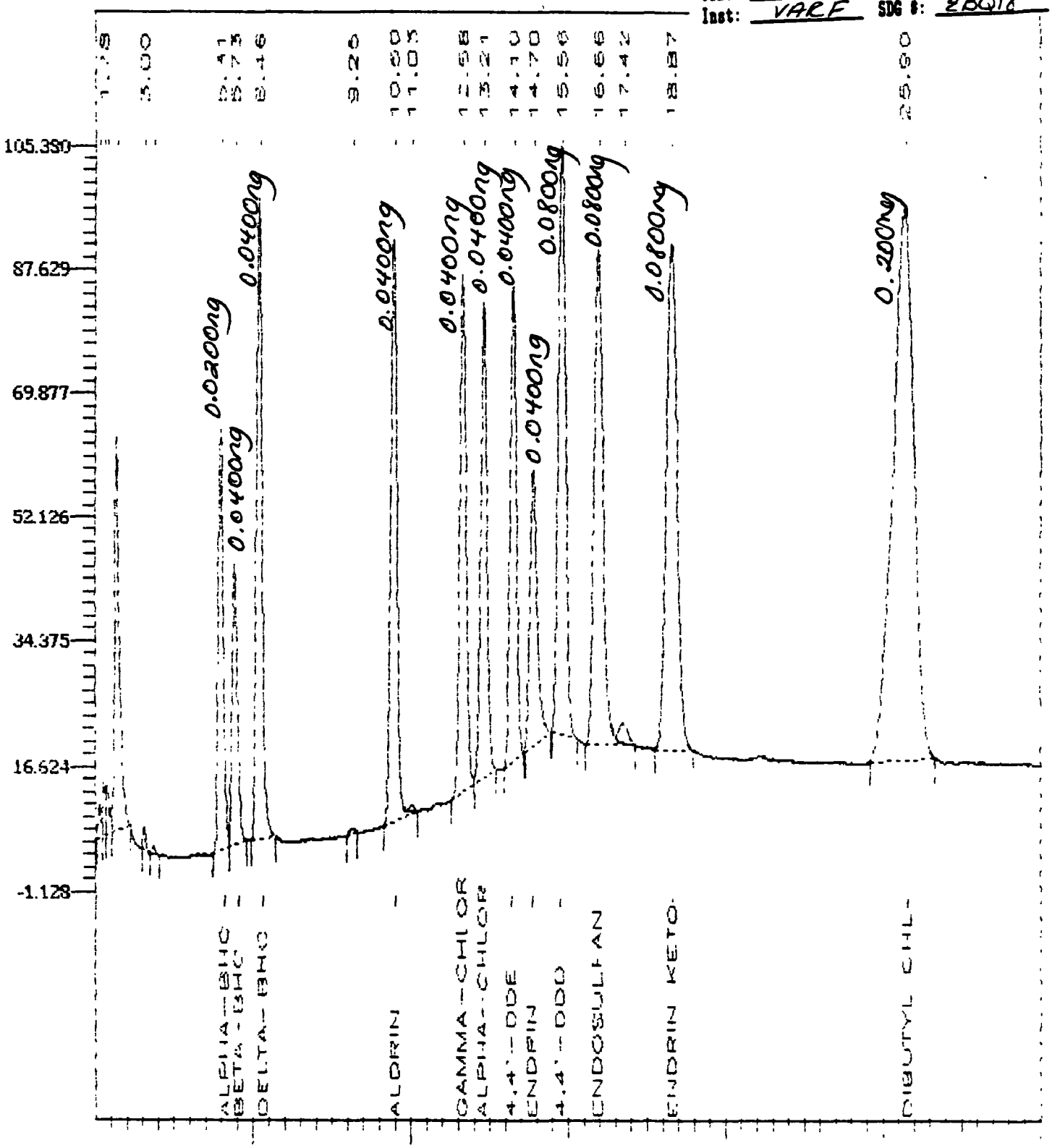
(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F762.raw Date: 4-19-89 13:45 Page 1 of 1

Start Time: 1.50 min End Time: 30.00 min Low Point: 3944 uV High Point: 105380 uV

Vertical Scale Factor: 1.00 Plot Offset: -1 mV Plot Scale: 107 mV

Run #: F762 Case #: 11688
Date: 4-19-89 SMO #: INDB 2
Time: 1302 TRAL #: 3-46-3
Inst: VARF SDG #: 2BQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : INDB                          Time        : 4-19-89  13:45
Sample Number: 3-46-3                         Study       : 11688Q
Operator      : GMG

Interface #   :   1        Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-19-89  13:02
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F762.raw
Result File     : C:\TEMP\~grs0B3F.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\INDB.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

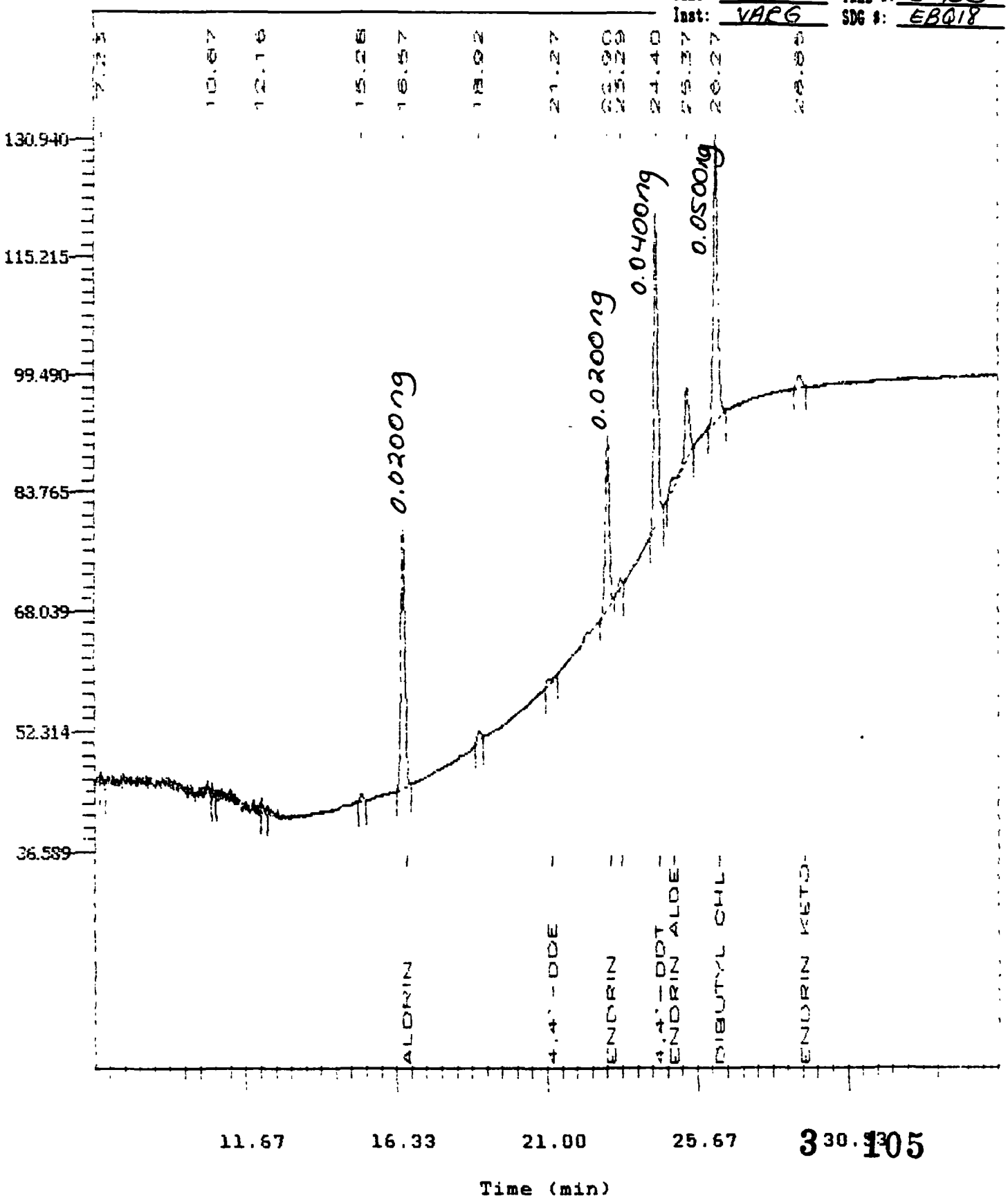
Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.66	28021.41	4528.06	200.00	
2	1.78	35436.20	7385.88	200.00	
3	1.87	56933.80	7060.59	200.00	
4	2.17	553893.13	56042.37	200.00	
5	3.00	20650.00	3238.07	200.00	
6	3.28	8526.00	1062.54	200.00	
7	5.31	605436.00	60554.38	------	alpha-BHC
8	5.73	429878.00	39960.58	------	beta-BHC
9	6.46	1.03e6	91472.45	------	delta-BHC
10	9.25	7655.00	691.66	200.00	
11	10.50	1.04e6	83308.38	------	Aldrin
12	11.03	8081.00	883.93	200.00	
13	12.58	943916.38	73600.07	------	gamma-Chlordane
14	13.21	883620.00	67797.06	------	alpha-Chlordane
15	14.10	845971.00	67503.47	------	4,4'-DDE
16	14.70	596290.00	39139.35	------	Endrin
17	15.56	1.33e6	85464.16	------	4,4'-DDD
18	16.66	1.29e6	70657.73	------	Endosulfan sulfate
19	17.42	52956.00	2779.58	200.00	
20	18.87	1.62e6	72040.05	------	Endrin ketone
21	25.90	3.46e6	78762.58	------	Dibutyl chlorendate

Total Area = 14885485.00

(2uL) DB-608 CHROMATOGRAM

FileName : c:\2700\VARG\G807.raw Date: 4-20-89 10:10 Page 1 of 1
Start Time: 7.00 min End Time: 35.00 min Low Point: 41082 uV High Point: 130940 uV
Vertical Scale Factor: 1.00 Plot Offset: 37 mV Plot Scale: 94 mV

Run #: G807 Case #: 11688
Date: 4-19-89 SMO #: EVALA
Time: 1832 TRAL #: 3-75-3
Inst: VARG SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : EVALA                    Time         : 4-20-89  10:10
Sample Number: 3-75-3                    Study        : 11688C
Operator      : GMG

Interface #   :   2       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 0/0

Data Acquisition Time: 4-19-89  18:32
Delay Time      : 7.00   min.
End Time        : 35.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARG\G807.raw
Result File     : C:\TEMP\~grs0302.rst
Instrument File: c:\2700\methods\MEGA.ins
Process File    : c:\2700\methods\DB608.prc
Sample File     : c:\2700\methods\6EVAL.smp
Sequence File   : c:\2700\methods\MEGA.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	7.23	9450.00	1895.48	1.00	
2	10.67	3660.00	1598.25	1.00	
3	12.16	8469.00	1690.20	1.00	
4	15.28	6570.00	946.49	1.00	
5	16.57	288660.00	34958.08	------	Aldrin
6	18.92	8152.00	1033.10	1.00	
7	21.27	7540.00	90.63	------	4,4'-DDE
8	22.90	186886.00	22715.51	------	Endrin
9	23.29	8928.00	1141.49	------	4,4'-DDD
10	24.40	333748.00	41416.55	------	4,4'-DDT
11	25.37	97282.00	9697.36	1.00	
12	26.27	359444.25	36962.17	------	Dibutyl chlorendate
13	28.85	16896.00	1596.20	------	Endrin ketone

Total Area = 1335685.25

Components Not Found in This Run:

Component Name	Sample File Retention Time
Endrin aldehyde	24.920

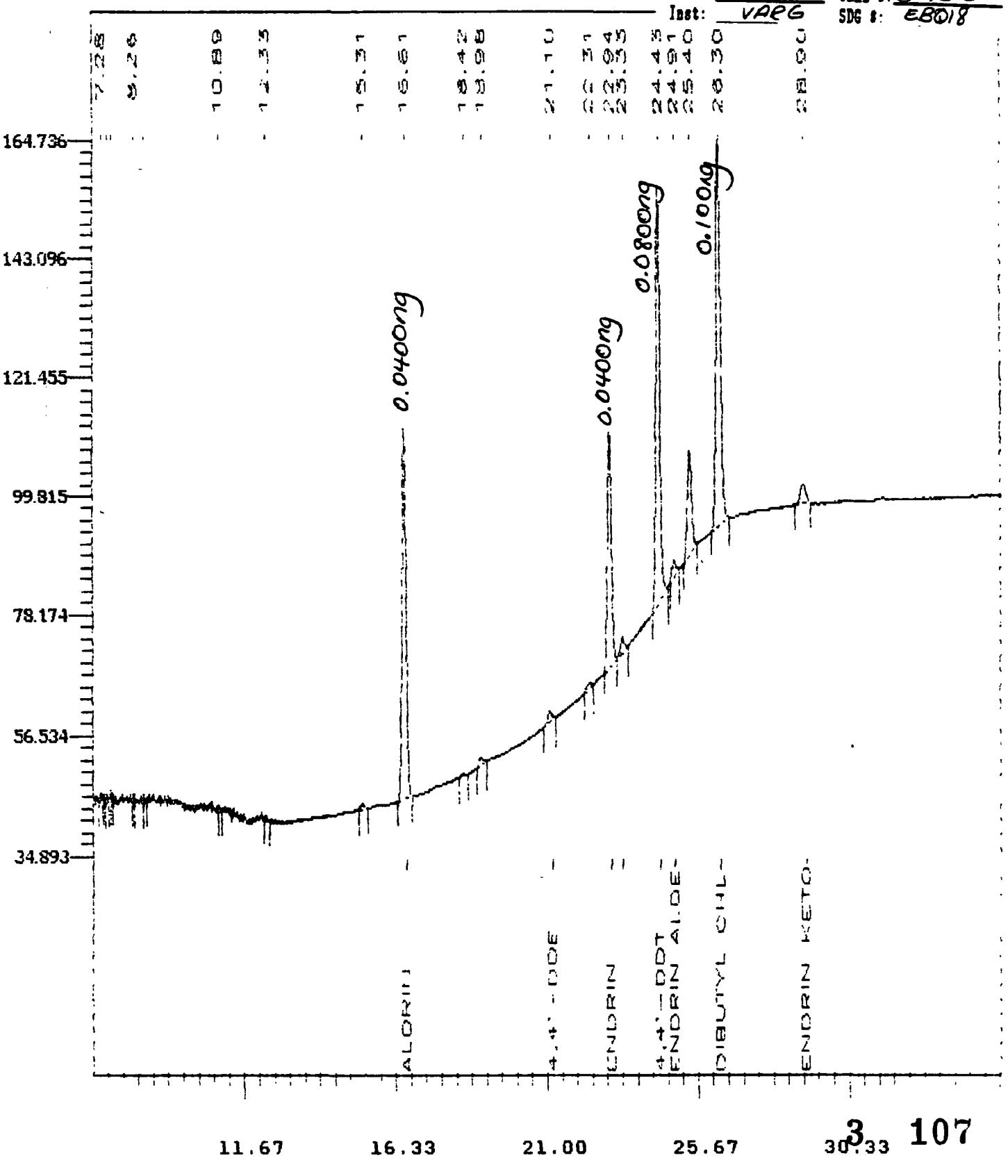
(2uL) DB-608 CHROMATOGRAM

FileName : c:\2700\VARG\G808.raw Date: 4-19-89 19:49 Page 1 of 1

Start Time: 7.00 min End Time: 35.00 min Low Point: 41076 uV High Point: 164736 uV

Vertical Scale Factor: 1.00 Plot Offset: 35 mV Plot Scale: 130 mV

Run #: G808 Case #: 11688
Date: 4-19-89 SMO #: EVALB
Time: 1913 TRAL #: 3-75-2
Inst: VARG SDG #: EB018



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : EVALB                    Time         : 4-19-89  19:48
Sample Number: 3-75-2                    Study        : 11688C
Operator      : GMG

Interface #   :   2       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 0/0

Data Acquisition Time: 4-19-89  19:13
Delay Time      : 7.00   min.
End Time        : 35.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARG\G808.raw
Result File     : c:\2700\VARG\G808.rst
Instrument File: c:\2700\methods\MEGA.ins
Process File    : c:\2700\methods\DB608.prc
Sample File     : c:\2700\methods\6EVAL.smp
Sequence File   : c:\2700\methods\MEGA.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	7.28	4434.00	1704.82	1.00	
2	7.44	3513.00	1327.48	1.00	
3	7.60	2220.00	1687.75	1.00	
4	8.26	4315.97	1795.52	1.00	
5	8.57	3290.00	1526.35	1.00	
6	10.89	2874.00	1372.91	1.00	
7	12.33	5730.00	1040.77	1.00	
8	15.31	7214.00	1022.88	1.00	
9	16.61	554742.00	67007.09	------	Aldrin
10	18.42	3040.00	404.20	1.00	
11	18.98	9920.00	1024.25	1.00	
12	21.10	15967.00	1794.55	------	4,4'-DDE
13	22.31	5968.00	728.75	1.00	
14	22.94	353564.00	42879.92	------	Endrin
15	23.33	23559.13	2648.31	------	4,4'-DDD
16	24.43	634978.00	75506.67	------	4,4'-DDT
17	24.91	23475.00	2904.78	------	Endrin aldehyde
18	25.40	167174.00	19076.47	1.00	
19	26.30	689584.00	70062.69	------	Dibutyl chlorendate
20	28.90	42352.00	3680.09	------	Endrin ketone

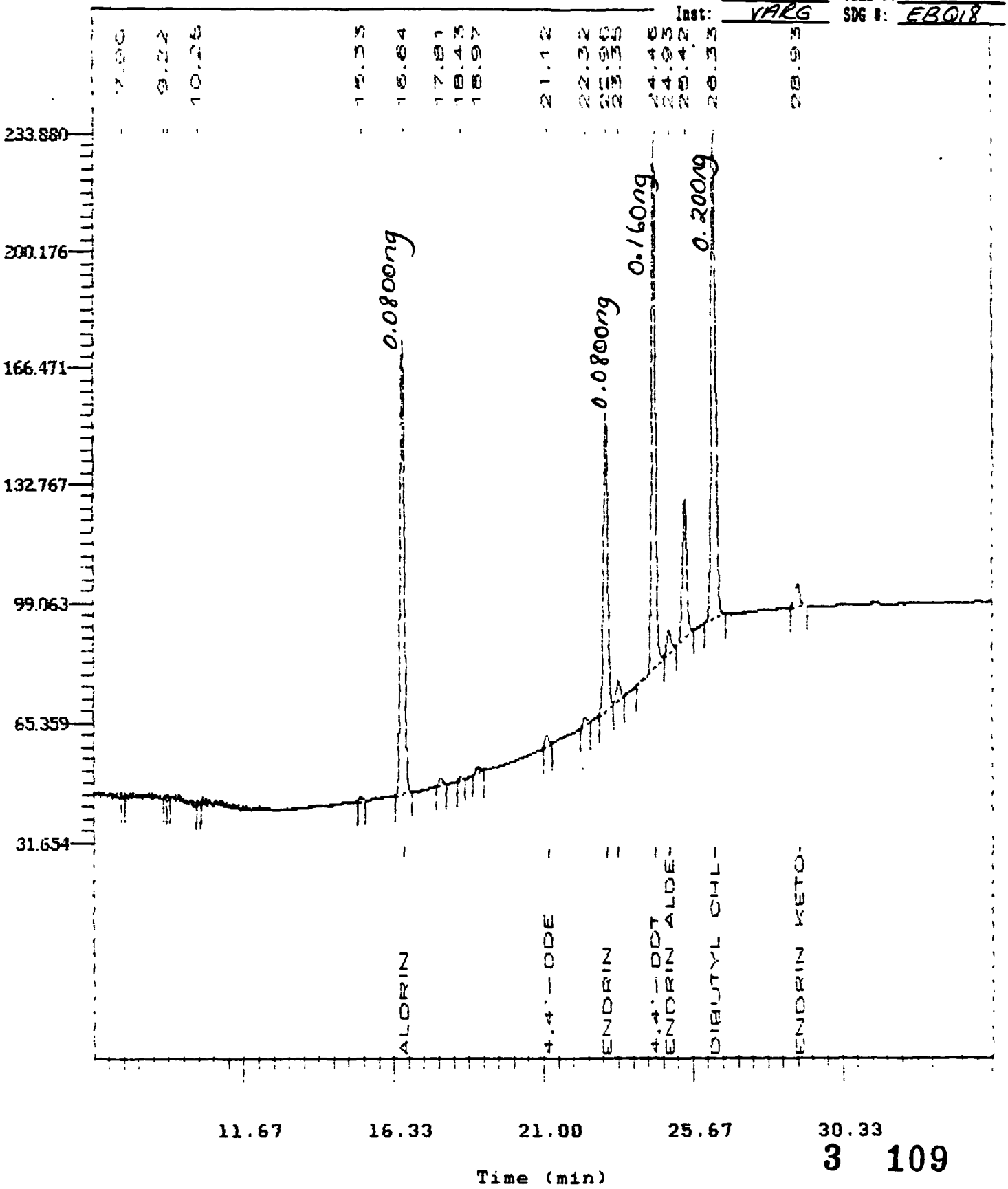
Total Area = 2557914.00

Components Not Found in This Run:

(2uL) DB-608 CHROMATOGRAM

FileName : c:\2700\VARG\G809.raw Date: 4-19-89 20:29 Page 1 of 1
Start Time: 7.00 min End Time: 35.00 min Low Point: 41284 uV High Point: 233880 uV
Vertical Scale Factor: 1.00 Plot Offset: 32 mV Plot Scale: 202 mV

Run #: G 809 Case #: 11688
Date: 4-19-89 SMO #: EVAL C
Time: 1953 TRAL #: 3-75-1
Inst: VARG SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : EVALC                        Time         : 4-19-89  20:29
Sample Number: 3-75-1                        Study        : 11688C
Operator      : GMG

Interface #   :   2       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 0/0

Data Acquisition Time: 4-19-89  19:53
Delay Time      : 7.00   min.
End Time        : 35.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARG\G809.raw
Result File     : c:\2700\VARG\G809.rst
Instrument File: c:\2700\methods\MEGA.ins
Process File    : c:\2700\methods\DB608.prc
Sample File     : c:\2700\methods\6EVAL.smp
Sequence File   : c:\2700\methods\MEGA.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	7.90	3585.00	1753.17	1.00	
2	9.22	4062.00	1387.79	1.00	
3	9.35	6568.00	1358.63	1.00	
4	10.25	6702.00	1554.00	1.00	
5	15.33	7326.00	1033.94	1.00	
6	16.64	1.09e6	129910.71	------	Aldrin
7	17.81	17434.00	2428.45	1.00	
8	18.43	6504.00	897.22	1.00	
9	18.97	11502.00	1364.79	1.00	
10	21.12	23444.00	2900.66	------	4,4'-DDE
11	22.32	14135.00	1768.29	1.00	
12	22.96	719354.75	85412.52	------	Endrin
13	23.35	47645.75	5368.77	------	4,4'-DDD
14	24.46	1.28e6	151943.47	------	4,4'-DDT
15	24.93	64248.45	6577.52	------	Endrin aldehyde
16	25.42	345401.25	39701.42	1.00	
17	26.33	1.35e6	138919.38	------	Dibutyl chlorendate
18	28.93	76054.00	6698.54	------	Endrin ketone

Total Area = 5088086.00

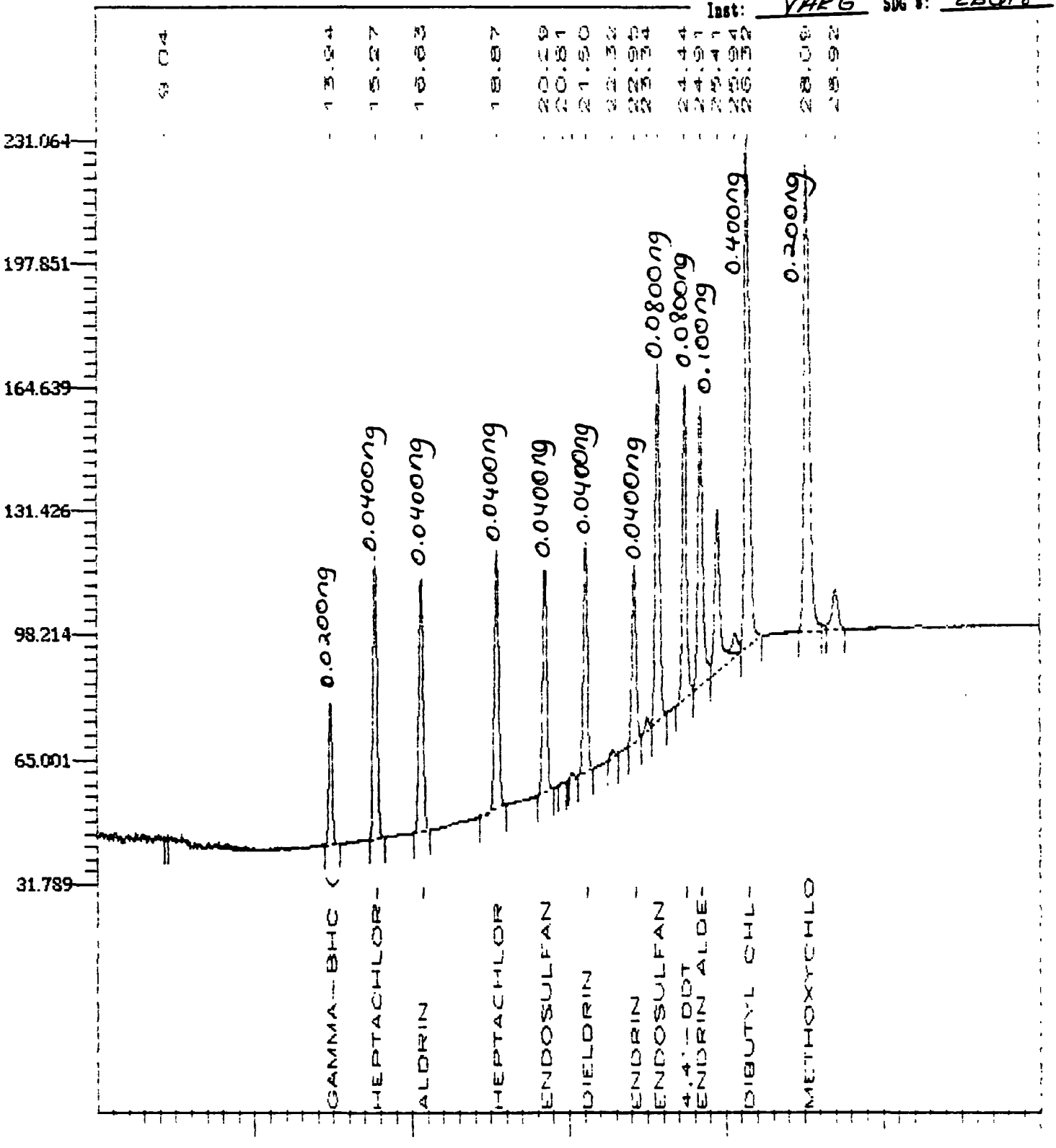
Components Not Found in This Run:

Component Name	Sample File Retention Time

(2uL) DB-608 CHROMATOGRAM

FileName : c:\2700\VARG\G810.raw Date: 4-19-89 21:09 Page 1 of 1
Start Time: 7.00 min End Time: 35.00 min Low Point: 41278 uV High Point: 231064 uV
Vertical Scale Factor: 1.00 Plot Offset: 32 mV Plot Scale: 199 mV

Run #: G810 Case #: 11688
Date: 4-19-89 SMO #: INDA
Time: 2033 TRAL #: 3-47-2
Inst: VARG SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==============================================================================
Sample Name   : INDA2                          Time          : 4-19-89  21:09
Sample Number: 3-47-2                          Study         : 11688C
Operator      : GMG

Interface #   :   2        Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 0/0

Data Acquisition Time: 4-19-89  20:33
Delay Time      : 7.00   min.
End Time        : 35.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARG\G810.raw
Result File     : c:\2700\VARG\G810.rst
Instrument File: c:\2700\methods\MEGA.ins
Process File    : c:\2700\methods\DB608.prc
Sample File     : c:\2700\methods\6INDA2.smp
Sequence File   : c:\2700\methods\MEGA.seq

Inj. Volume     : 2 uL          Area Reject       : 1000.00
Sample Amount   : 1.0000 NG
==============================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	9.04	2530.00	1032.94	1.00	
2	13.94	262194.00	37830.97	------	gamma-BHC (Lindane)
3	15.27	613922.00	75928.12	------	Heptachlor
4	16.63	557450.00	67720.56	------	Aldrin
5	18.87	565689.00	68830.63	------	Heptachlor epoxide
6	20.29	500303.00	59697.80	------	Endosulfan I
7	20.81	3970.00	536.80	1.00	
8	21.12	12926.38	1563.59	1.00	
9	21.50	507116.75	61089.91	------	Dieldrin
10	22.32	12353.00	1541.32	1.00	
11	22.95	385202.00	46795.41	------	Endrin
12	23.34	25830.75	3354.63	1.00	
13	23.65	801122.00	95371.00	------	Endosulfan II
14	24.44	716257.50	84572.50	------	4,4'-DDT
15	24.91	735097.50	75997.86	------	Endrin aldehyde
16	25.41	479061.88	43215.23	1.00	
17	25.94	60077.00	5150.22	1.00	
18	26.32	1.37e6	135727.28	------	Dibutyl chlorendate
19	28.09	1.43e6	124961.89	------	Methoxychlor
20	28.92	134780.75	10545.27	1.00	

Total Area = 9186933.00

Components Not Found in This Run:

(2uL) DB-608 CHROMATOGRAM

FileName : c:\2700\VARG\6811.raw Date: 4-19-89 21:50 Page 1 of 1

Start Time: 7.00 min End Time: 35.00 min Low Point: 41272 uV High Point: 224892 uV

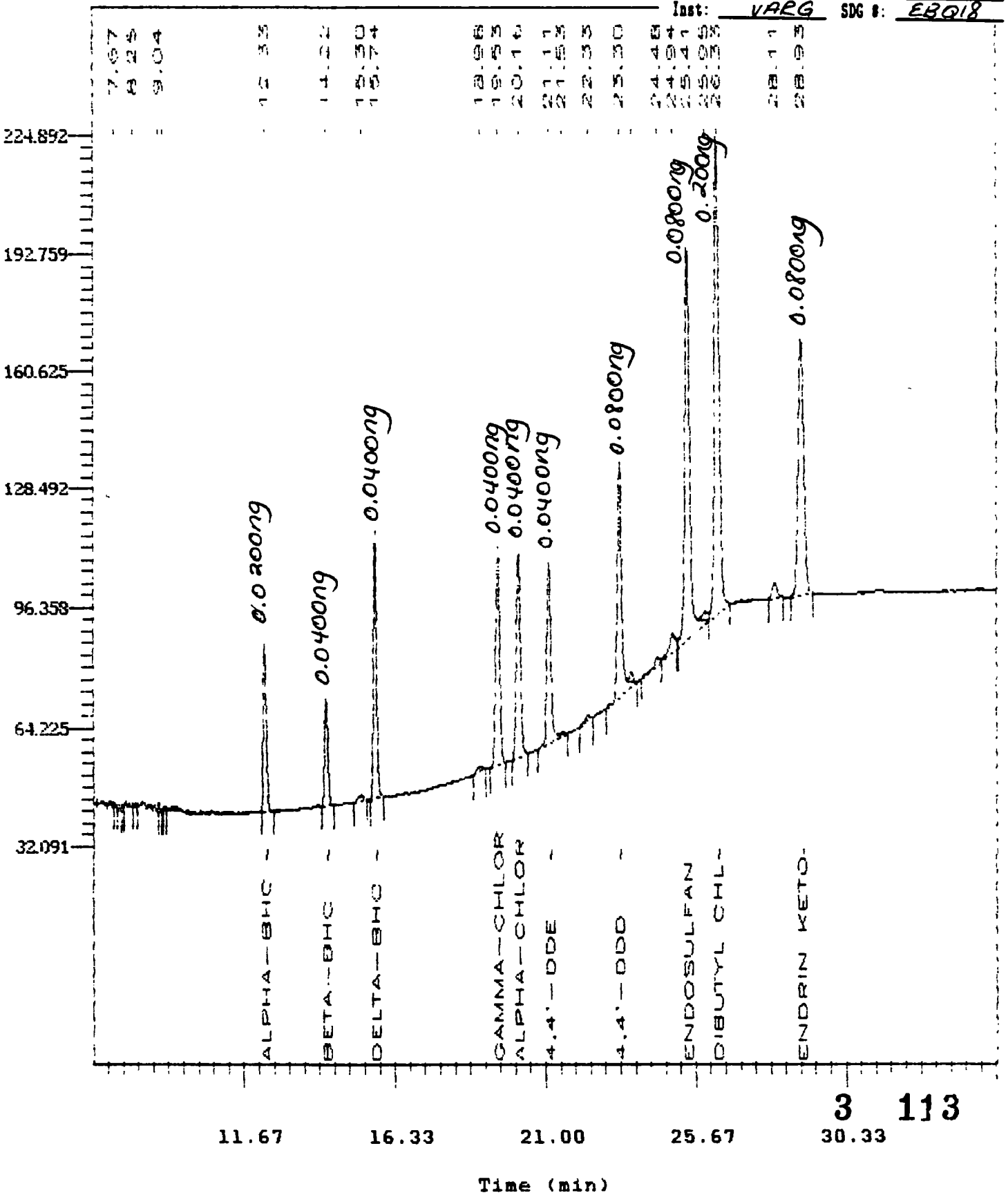
Vertical Scale Factor: 1.00 Plot Offset: 32 mV Plot Scale: 193 mV

Run #: G811 Case #: 11688

Date: 4-19-89 SMO #: IND B

Time: 2113 TRAL #: 3-482

Inst: VARG SDG #: EBQ18



3 113

Nelson Analytical 2700 Chromatography System Report Header

```
==================================================================================
Sample Name   : INDB2                          Time          : 4-19-89  21:49
Sample Number: 3-48-2                          Study         : 11688C
Operator      : GMG

Interface #   :   2        Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 0/0

Data Acquisition Time: 4-19-89  21:13
Delay Time      : 7.00   min.
End Time        : 35.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARG\G811.raw
Result File     : c:\2700\VARG\G811.rst
Instrument File: c:\2700\methods\MEGA.ins
Process File    : c:\2700\methods\DB608.prc
Sample File     : c:\2700\methods\6INDB2.smp
Sequence File   : c:\2700\methods\MEGA.seq

Inj. Volume     : 2 uL          Area Reject       : 1000.00
Sample Amount   : 1.0000 NG
==================================================================================
```

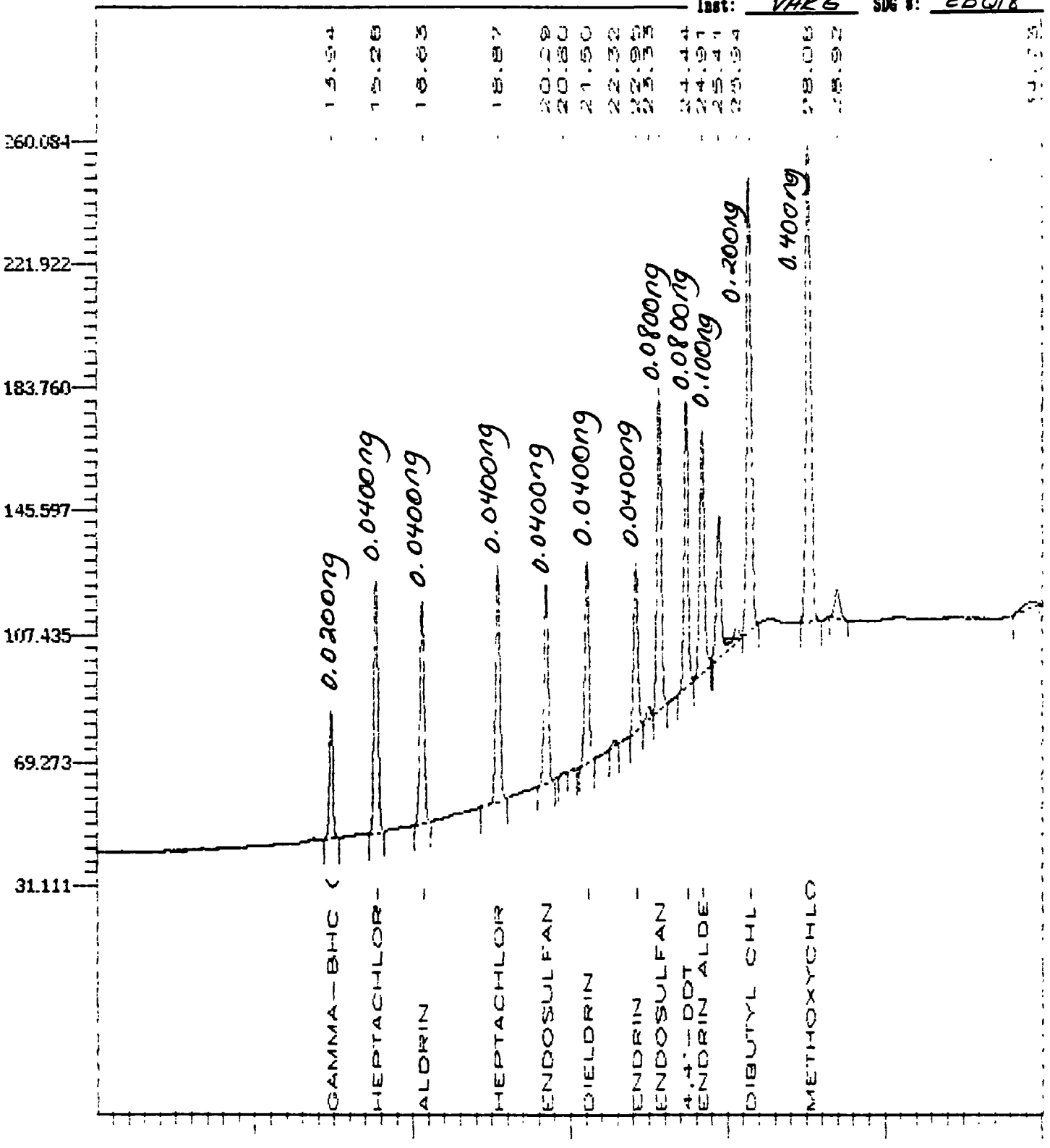
Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	7.67	2904.00	1446.56	1.00	
2	7.90	4210.00	1495.18	1.00	
3	8.25	3788.00	1161.72	1.00	
4	9.04	8548.00	2254.63	1.00	
5	9.18	4794.00	1444.70	1.00	
6	12.33	297044.00	44970.97	------	alpha-BHC
7	14.22	199219.00	29049.38	------	beta-BHC
8	15.30	21146.00	1787.04	1.00	
9	15.74	505306.00	72077.58	------	delta-BHC
10	18.98	12184.00	1106.50	1.00	
11	19.53	480906.00	58530.47	------	gamma-Chlordane
12	20.16	469232.00	54751.44	------	alpha-Chlordane
13	21.11	420010.13	48119.59	------	4,4'-DDE
14	21.53	1704.00	316.00	1.00	
15	22.33	12320.00	1423.34	1.00	
16	23.30	593118.25	63046.42	------	4,4'-DDD
17	23.66	19792.00	2607.00	1.00	
18	24.48	21901.75	1878.70	1.00	
19	24.94	56621.06	4791.89	1.00	
20	25.41	1.06e6	106583.22	------	Endosulfan sulfate
21	25.95	29762.00	2310.55	1.00	
22	26.33	1.30e6	129417.27	------	Dibutyl chlorendate
23	28.11	46534.00	4250.88	1.00	
24	28.93	816844.00	69380.34	------	Endrin ketone

(2uL) DB-608 CHROMATOGRAM

FileName : c:\2700\VARG\6817.raw Date: 4-20-89 1:51 Page 1 of 1
Start Time: 7.00 min End Time: 35.00 min Low Point: 42014 uV High Point: 260084 uV
Vertical Scale Factor: 1.00 Plot Offset: 31 mV Plot Scale: 229 mV

Run #: G817 Case #: 11688
Date: 4-20-89 SMO #: INDA 2
Time: 0115 TRAL #: 3-47-2
Inst: VARG SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : INDA2                        Time         : 4-20-89  1:51
Sample Number: 3-47-2                        Study        : 11688C
Operator      : GMG

Interface #   :   2       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 0/0

Data Acquisition Time: 4-20-89  1:15
Delay Time      : 7.00   min.
End Time        : 35.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARG\G817.raw
Result File     : c:\2700\VARG\G817.rst
Instrument File: c:\2700\methods\MEGA.ins
Process File    : c:\2700\methods\DB608.prc
Sample File     : c:\2700\methods\6INDA2.smp
Sequence File   : c:\2700\methods\MEGA.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	13.94	275765.00	39240.22	------	gamma-BHC (Lindane)
2	15.28	634762.00	78177.31	------	Heptachlor
3	16.63	555201.00	67205.39	------	Aldrin
4	18.87	587672.00	71193.13	------	Heptachlor epoxide
5	20.29	501910.00	60089.83	------	Endosulfan I
6	20.80	5829.00	734.26	1.00	
7	21.11	4653.00	543.88	1.00	
8	21.50	506758.00	61134.48	------	Dieldrin
9	22.32	12490.00	1488.42	1.00	
10	22.95	414066.38	50138.89	------	Endrin
11	23.33	31659.50	3651.63	1.00	
12	23.65	814319.75	98570.91	------	Endosulfan II
13	24.44	714346.50	88055.34	------	4,4'-DDT
14	24.91	676813.38	74868.06	------	Endrin aldehyde
15	25.41	441149.03	43588.70	1.00	
16	25.94	27824.00	3505.38	1.00	
17	26.31	1.35e6	140308.95	------	Dibutyl chlorendate
18	28.08	1.57e6	149257.66	------	Methoxychlor
19	28.92	98486.00	8766.63	1.00	
20	34.73	44860.00	1212.79	1.00	

Total Area = 9272178.00

Components Not Found in This Run:

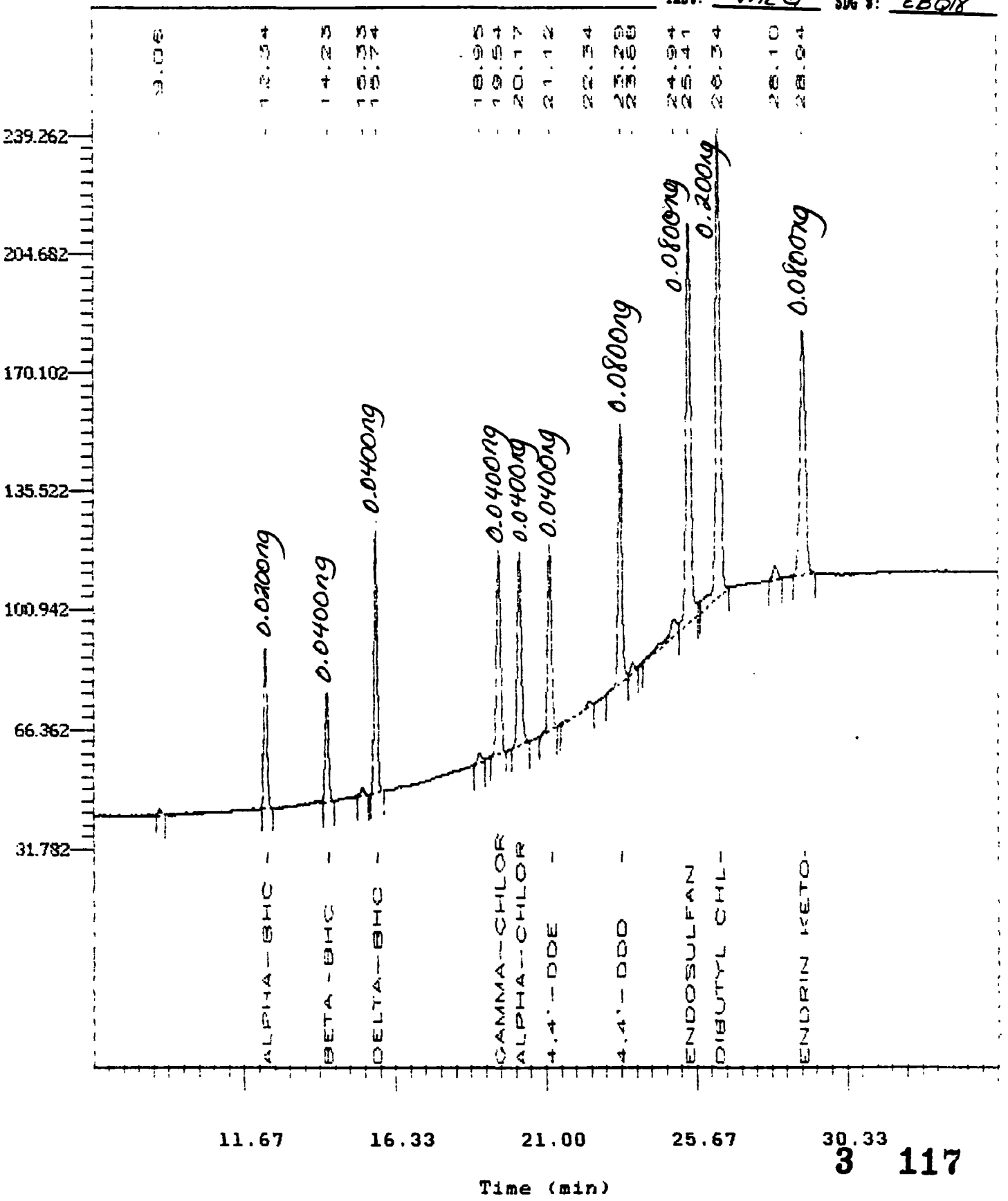
(2uL) DB-608 CHROMATOGRAM

FileName : c:\2700\VARG\G818.raw Date: 4-20-89 2:32 Page 1 of 1

Start Time: 7.00 min End Time: 35.00 min Low Point: 41662 uV High Point: 239262 uV

Vertical Scale Factor: 1.00 Plot Offset: 32 mV Plot Scale: 208 mV

Run #: G818 Case #: 11688
Date: 4-20-89 SMO #: INDB 2
Time: 0156 TRAL #: 3-48-2
Inst: VARG SDG #: EBG18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : INDB2                    Time        : 4-20-89  2:32
Sample Number: 3-48-2                    Study       : 11688C
Operator      : GMG

Interface #   :   2       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 0/0

Data Acquisition Time: 4-20-89  1:56
Delay Time      : 7.00   min.
End Time        : 35.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARG\G818.raw
Result File     : c:\2700\VARG\G818.rst
Instrument File: c:\2700\methods\MEGA.ins
Process File    : c:\2700\methods\DB608.prc
Sample File     : c:\2700\methods\6INDB2.smp
Sequence File   : c:\2700\methods\MEGA.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
```

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	9.06	10140.00	1598.23	1.00	
2	12.34	312400.00	47068.38	------	alpha-BHC
3	14.23	216461.94	31460.41	------	beta-BHC
4	15.33	14924.00	1928.11	1.00	
5	15.74	548974.00	79437.56	------	delta-BHC
6	18.95	20774.00	2547.23	1.00	
7	19.54	484207.00	58927.16	------	gamma-Chlordane
8	20.17	469245.00	55869.59	------	alpha-Chlordane
9	21.12	417270.00	53150.83	------	4,4'-DDE
11	23.29	615113.50	75194.97	------	4,4'-DDD
12	23.68	21104.88	2388.13	1.00	
13	24.94	91265.00	4893.52	1.00	
14	25.41	1.09e6	117126.47	------	Endosulfan sulfate
15	26.34	1.36e6	134205.25	------	Dibutyl chlorendate
16	28.10	41722.00	4007.51	1.00	
17	28.94	822030.00	71342.70	------	Endrin ketone

Total Area = 6539738.00

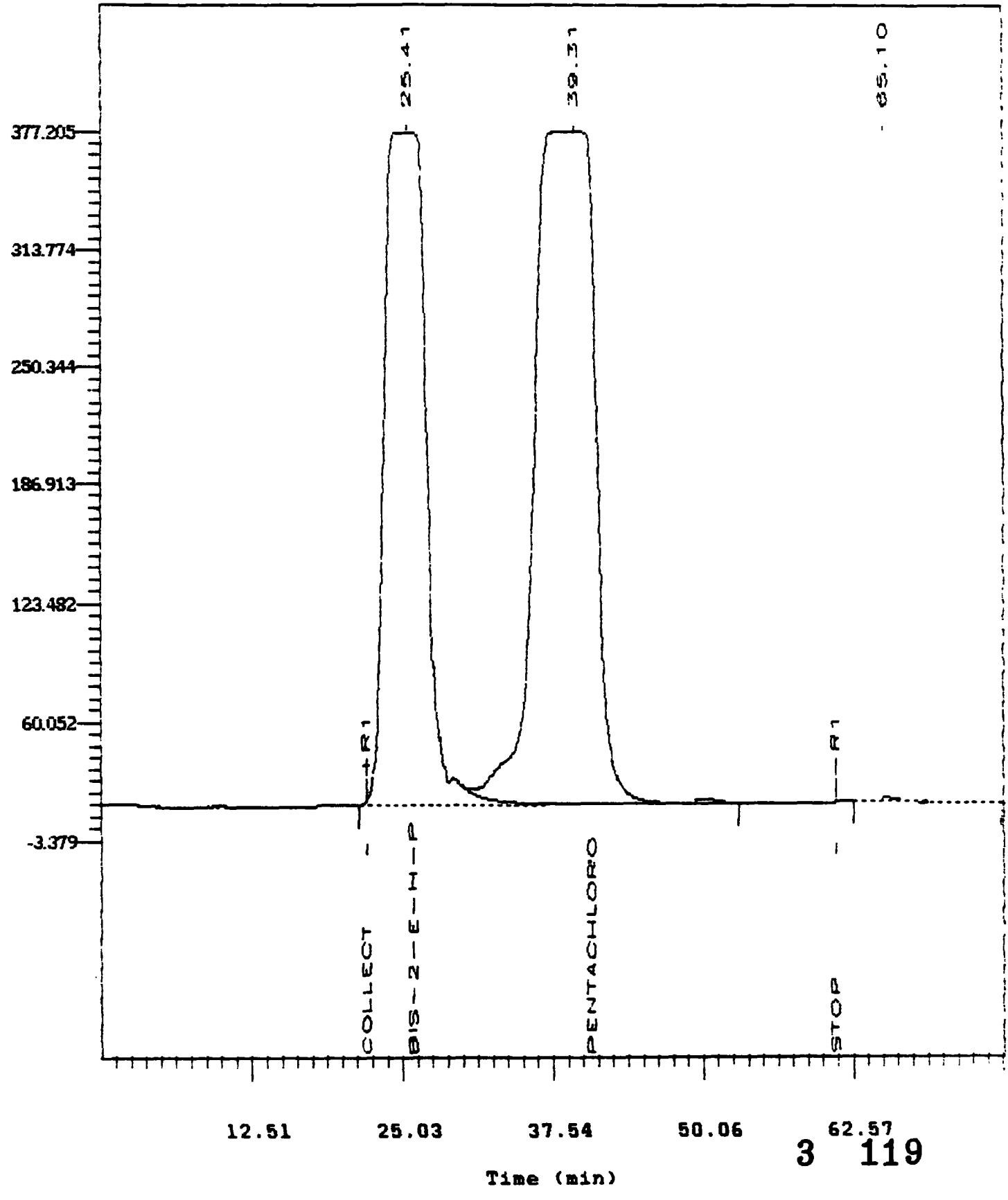
Components Not Found in This Run:

Component Name	Sample File Retention Time
None	

Run #: H439 Case #: 11688
Date: 4-10-89 SDG #:
Time: 9:49 TRAL #: 3-77-1
Inst: H SDG #: SDG EBC

GPC Chromatogram

FileName : c:\2700\instH\H439.raw Date: 4-10-89 12:37 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 14744 uV High Point: 377205 uV
Vertical Scale Factor: 1.00 Plot Offset: -3 mV Plot Scale: 381 mV



Three Rivers
Analytical Laboratories Inc.

450 William Pitt Way
Pittsburgh, Pennsylvania 1523

Telephone (412) 826-5477
FAX (412) 963-6578
TELEX 812316

GPC
% RECOVERY
SUMMARY SHEET

DATE: 4-10-89 ANALYST: GMG

CASE #: 11688 Pesticide Fraction

STANDARD #: 3-77-1

Before GPC:	Area 1	Area 2	Area 3	Average
Pentachlorophenol:	48727	45078		46902
Bis-2-ethylhexylphthalate:	93141	73200		83170

After GPC:	Area 1 4-10-89	Area 2	Area 3	Average
Pentachlorophenol:	~~50801~~ VOID	55234	39280	47257
Bis-2-ethylhexylphthalate:	~~72764~~ VOID	85996	56973	71484

% RECOVERY

Pentachlorophenol: $\frac{47257}{46902}$ X 100 = 101 % % Recovery

Bis-2-ethylhexylphthalate: $\frac{71484}{83170}$ X 100 = 86 % % Recovery

CHANNEL A INJECT 04:10:89 09:49:08

AZ 1 AT 8

1.78

Operator GMG	Date 4-10-89
Stationary Phase DB5	Instrument E Detector FID
Film Thickness 1 micron	Range 11 Attenuation 16
Column No. ____ Type ____	Flow Rates, cc/min.
Length 30 OD .032 ID ____	Make-up ____ Type ____
Carrier Gas H_2	Hydrogen ____ Air ____
Q ____ Flow ____	On Column ☐ Split ☐ Splitless Injection ☑
Chart Speed 0.5	Ratio ____ Hold Time ____
Sample GPC STD VEO	Temperature – Det. 280 Inj. 280
Size ____ Solvent MeCl2	Column Initial 50 Time 0
Concentrations ____	Rate 20 Final 300 Time 5.5

E746 MeCl2

GPC 04:10:89 09:49:08 CH= "A" PS= 1.

FILE 1. METHOD 1. RUN 88 INDEX 89

NAME	CONC	RT	AREA	BC	RF
1	0.	1.78	13578631	01	
TOTALS	0.		13578631		

CHANNEL A INJECT 04:10:89 10:20:09

AZ 1 AT 8

1.84

E747 3-7-1 B.GPC

6.35

8.85

9.25

10.34

13.57

13.95

14.69

ER 0

3 121

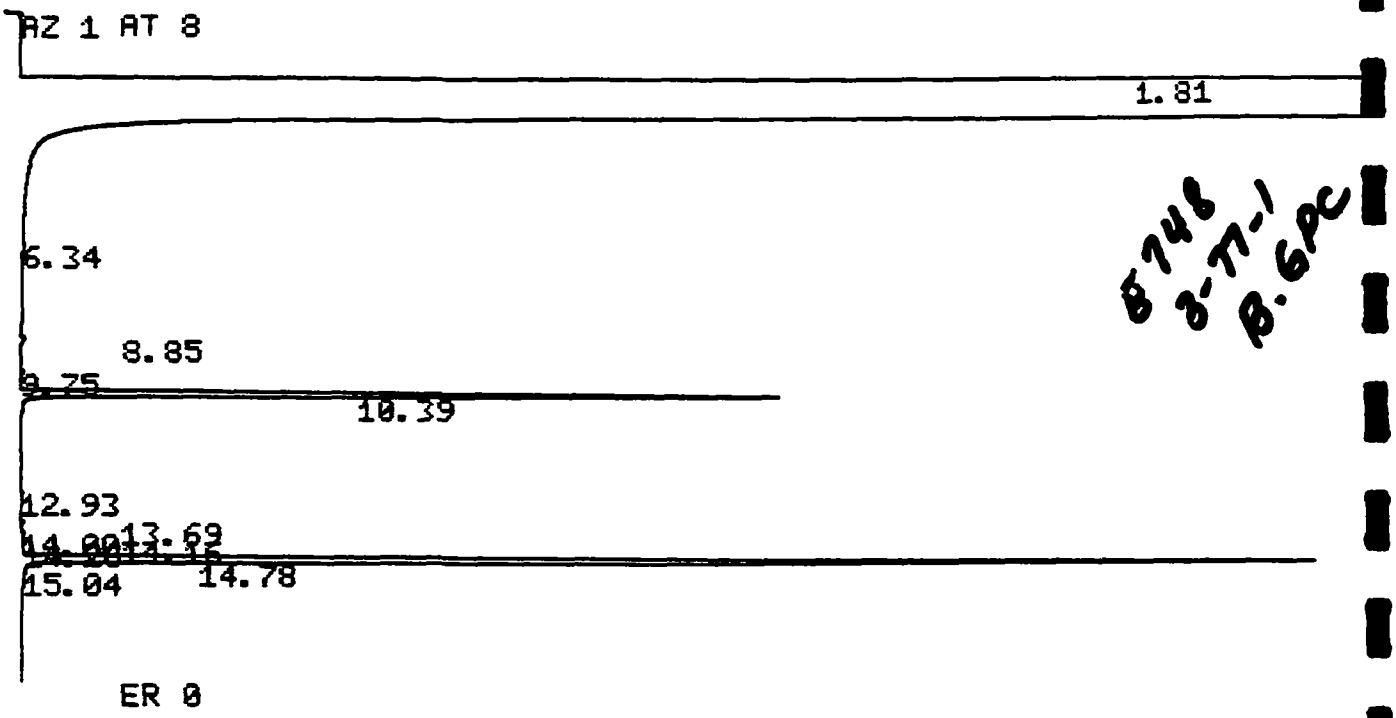
GPC 04:10:89 10:20:09 CH= "A" PS= 1.

FILE 1. METHOD 1. RUN 89 INDEX 90

NAME	CONC	RT	AREA	BC	RF
1	0.	1.84	10061513	01	
2	0.	6.35	46	01	
3	0.	8.85	72	01	
4	0.	9.75	35	01	
5	0.	10.34	26985	01	
6	0.	13.57	20	01	
7	0.	13.95	44	01	
8	0.	14.21	36	01	
9	0.	14.69	53132	01	
TOTALS	0.		10141883		

CHANNEL A INJECT 04:10:89 10:43:38

AZ 1 AT 8



B748
8-77-1
B.6PC

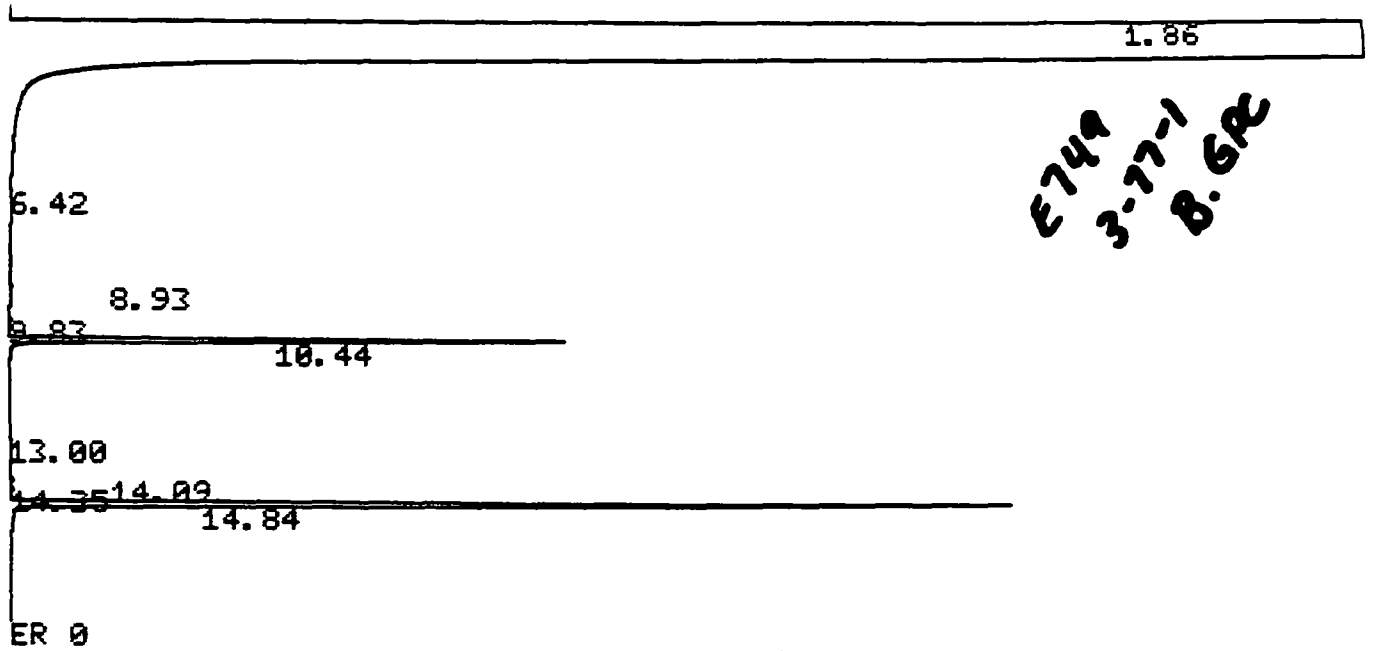
GPC 04:10:89 10:43:38 CH= "A" PS= 1.

FILE 1. METHOD 1. RUN 90 INDEX 91

NAME	CONC	RT	AREA	BC	RF
1	0.	1.81	11039175	01	
2	0.	6.34	49	01	
3	0.	8.85	126	01	
4	0.	9.75	70	01	
5	0.	10.39	48727	01	
6	0.	12.93	37	01	
7	0.	13.69	13	01	
8	0.	14.	76	01	
9	0.	14.16	30	01	
10	0.	14.26	66	01	
11	0.	14.78	93141	01	
12	0.	15.04	56	01	
TOTALS	0.		11181566		

CHANNEL A INJECT 04:10:89 11:14:16

AZ 1 AT 8



E749
3-77-1
B.GPC

14 3

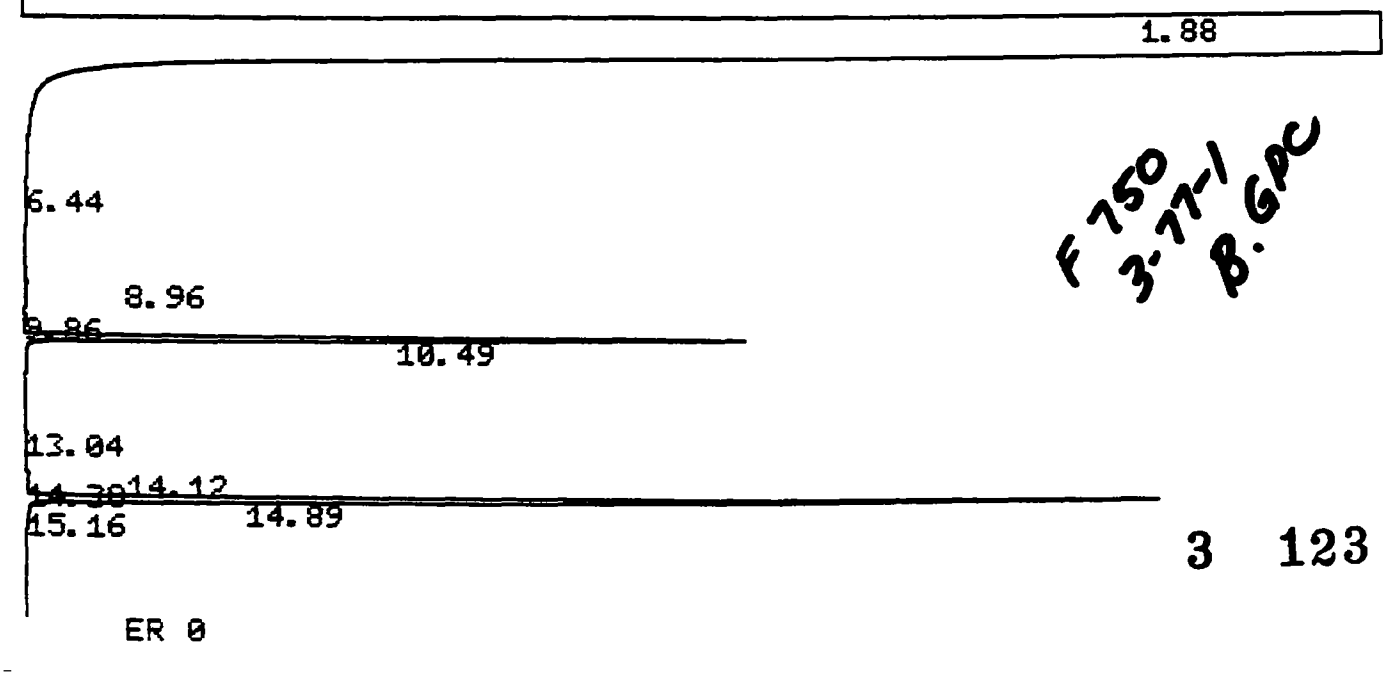
GPC 04:10:89 11:14:16 CH= "A" PS= 1.

FILE 1. METHOD 1. RUN 91 INDEX 92

NAME	CONC	RT	AREA	BC	RF
1	0.	1.86	10587046	01	
2	0.	6.42	44	01	
3	0.	8.93	74	01	
4	0.	9.83	39	01	
5	0.	10.44	28902	01	
6	0.	13.	21	01	
7	0.	14.09	46	01	
8	0.	14.35	42	01	
9	0.	14.84	59121	01	
TOTALS	0.		10675335		

CHANNEL A INJECT 04:10:89 11:42:08

AZ 1 AT 8

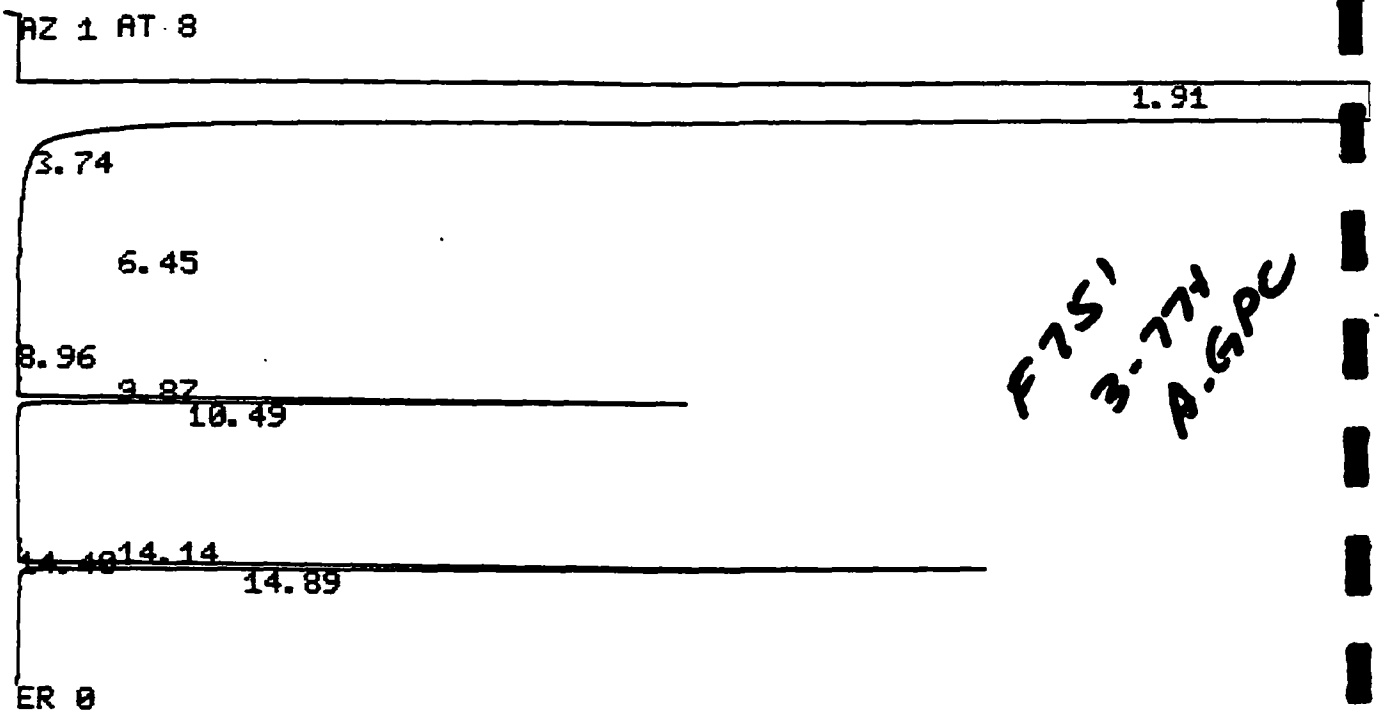


F750
3-77-1
B.GPC

FILE 1. METHOD 1. RUN 92 INDEX 93

NAME	CONC	RT	AREA	BC	RF
1	0.	1.88	10336969	01	
2	0.	6.44	41	01	
3	0.	8.96	116	01	
4	0.	9.86	66	01	
5	0.	10.49	45078	01	
6	0.	13.04	31	01	
7	0.	14.12	63	01	
8	0.	14.38	48	01	
9	0.	14.89	73200	01	
10	0.	15.16	34	01	
TOTALS	0.		10455646		

CHANNEL A INJECT 04:10:89 12:05:59



F75' 3.77' P.GPC

GPC 04:10:89 12:05:59 CH= "A" PS= 1.

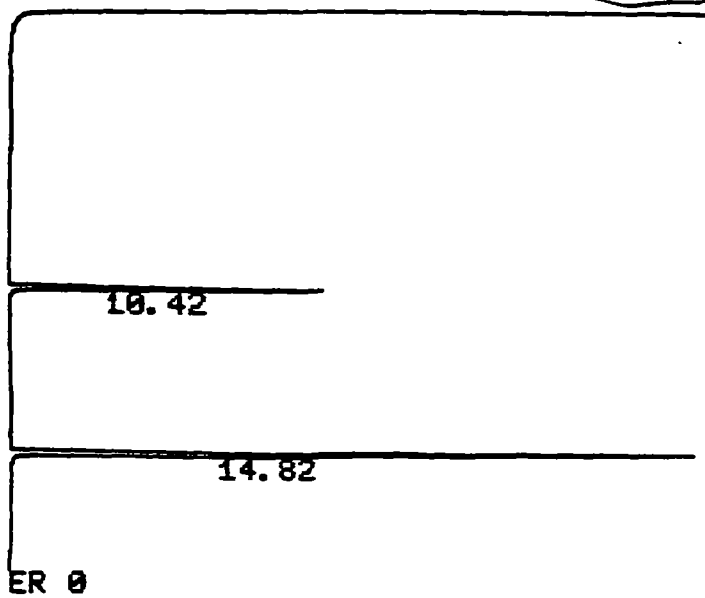
FILE 1. METHOD 1. RUN 93 INDEX 94

NAME	CONC	RT	AREA	BC	RF
1	0.	1.91	9123635	09	
2	0.	6.45	36	01	
3	0.	8.96	86	01	
4	0.	9.87	50	01	
5	0.	10.49	39280	01	
6	0.	14.14	44	01	
7	0.	14.4	44	01	
8	0.	14.89	56973	01	
TOTALS	0.		9220148		

CHANNEL A INJECT 04:10:89 12:38:22

AZ 1 AT 8

F752
3-77-1
A.GPC
VOID



GPC 04:10:89 12:38:22 CH= "A" PS= 1.

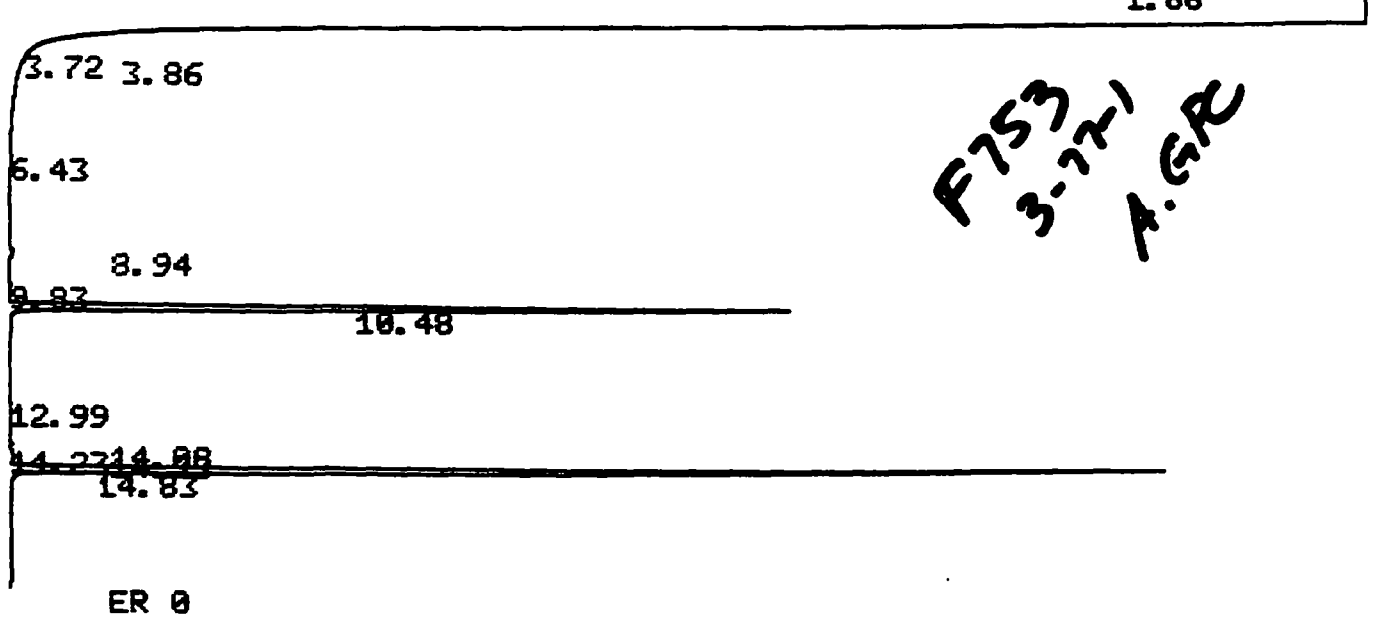
FILE 1. METHOD 1. RUN 94 INDEX 95

NAME	CONC	RT	AREA	BC	RF
1	0.	2.02	3196226	01	
2	0.	10.42	11771	01	
3	0.	14.82	31583	01	
TOTALS	0.		3239580		

CHANNEL A INJECT 04:10:89 13:01:57

AZ 1 AT 8

F753
3-77-1
A.GPC



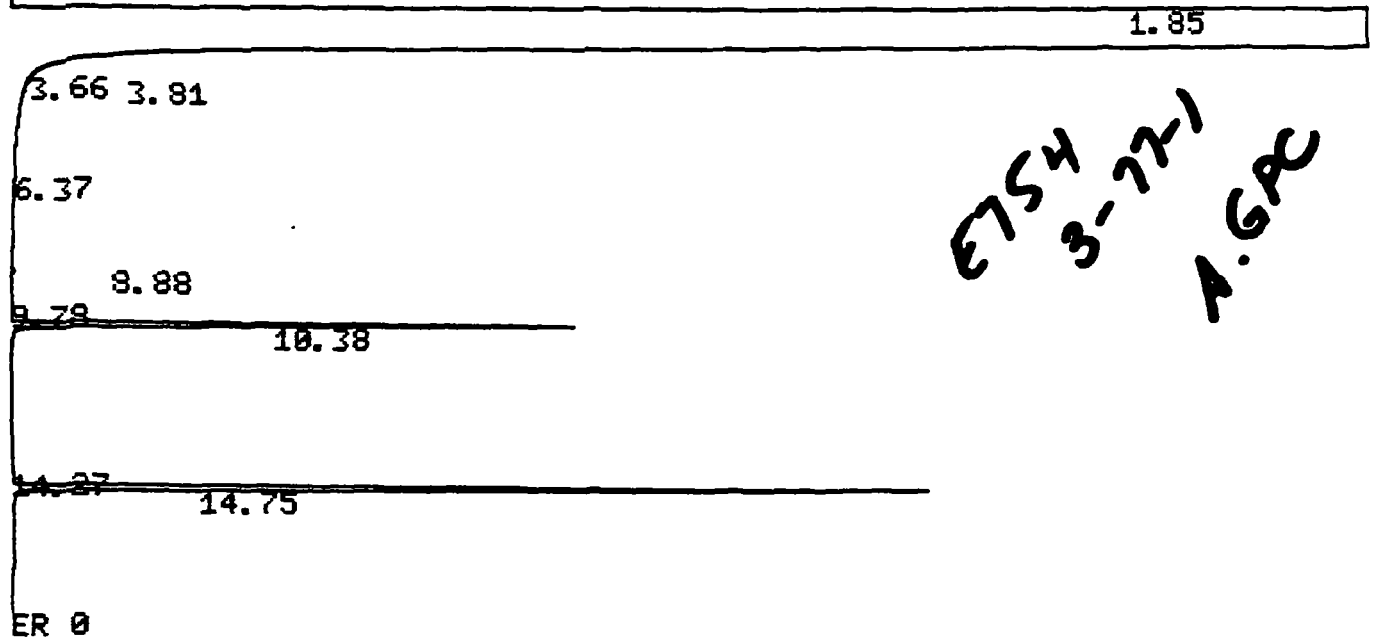
GPC 04:10:89 13:01:57 CH= "A" PS= 1.

FILE 1. METHOD 1. RUN 95 INDEX 96

NAME CONC RT

1	0.	1.88	10384440	08
2	0.	3.72	1	05
3	0.	3.86	60	05
4	0.	6.43	43	01
5	0.	8.94	108	01
6	0.	9.83	64	01
7	0.	10.48	50801	01
8	0.	12.99	32	01
9	0.	14.08	62	01
10	0.	14.23	26	01
11	0.	14.33	48	01
12	0.	14.83	72764	01
TOTALS	0.		10508449	

CHANNEL A INJECT 04:10:89 13:26:09



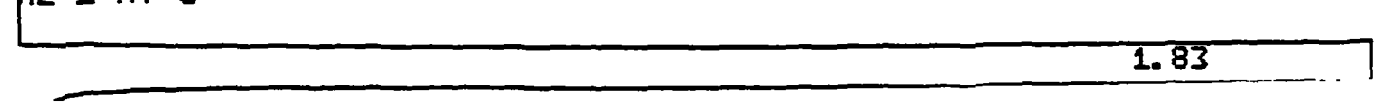
E754 3-7-71 A.GPC

GPC 04:10:89 13:26:09 CH= "A" PS= 1.

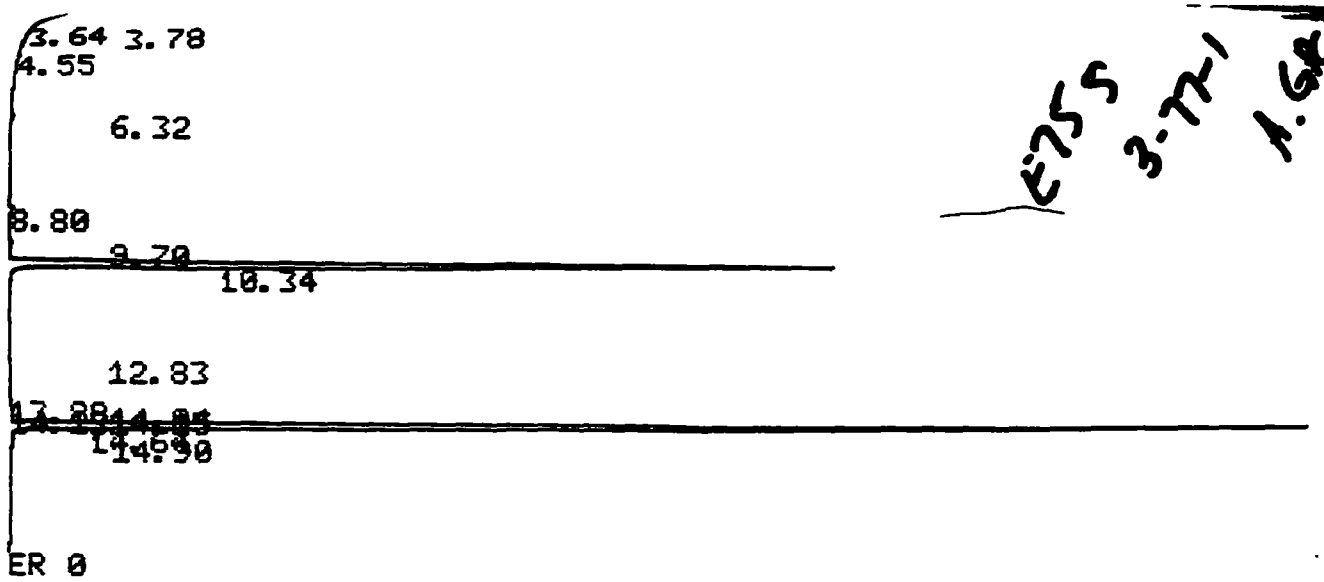
FILE 1. METHOD 1. RUN 96 INDEX 97

NAME	CONC	RT	AREA	BC	RF
1	0.	1.85	9929068	09	
2	0.	3.81	46	05	
3	0.	6.37	43	01	
4	0.	8.88	61	01	
5	0.	9.78	37	01	
6	0.	10.38	28375	01	
7	0.	14.27	32	01	
8	0.	14.75	50811	01	
TOTALS	0.		10008473		

CHANNEL A INJECT 04:10:89 13:51:50



E755 3-77-1 A.GC

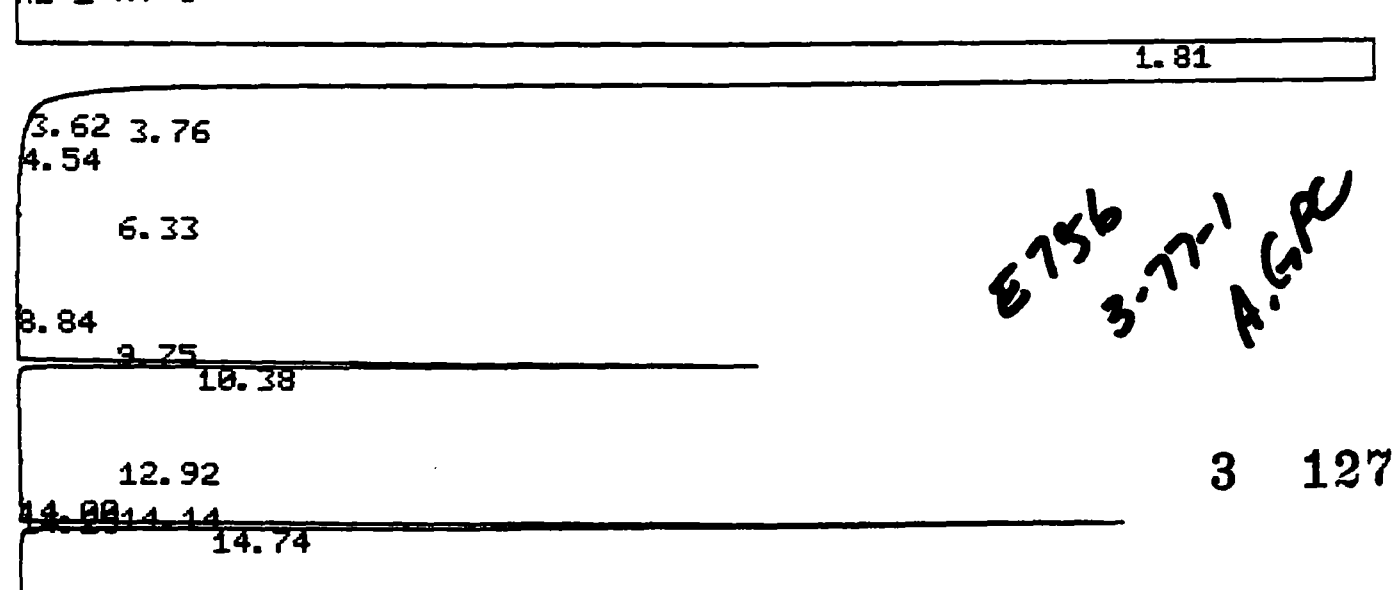


GPC 04:10:89 13:51:50 CH= "A" PS= 1.

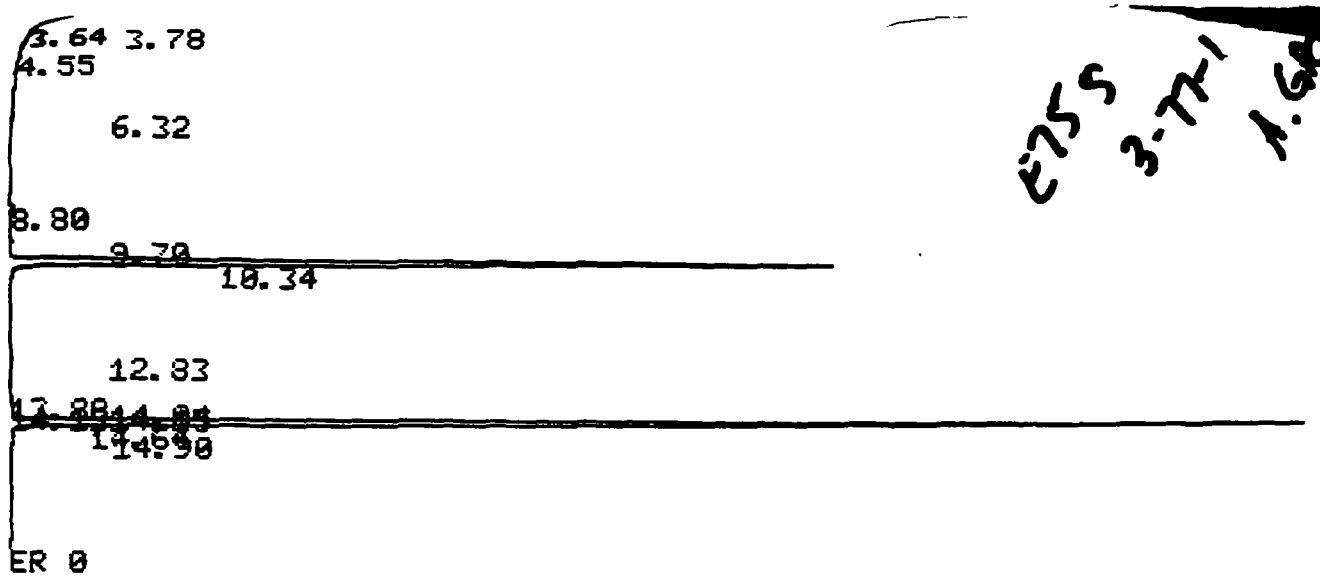
FILE 1. METHOD 1. RUN 97 INDEX 98

NAME	CONC	RT	AREA	BC	RF
1	0.	1.83	10382443	08	
2	0.	3.64	1	05	
3	0.	3.78	72	05	
4	0.	4.55	33	01	
5	0.	6.32	50	01	
6	0.	8.8	135	01	
7	0.	9.7	74	01	
8	0.	10.34	55234	01	
9	0.	12.83	35	01	
10	0.	13.88	75	01	
11	0.	14.04	31	01	
12	0.	14.13	39	02	
13	0.	14.15	21	03	
14	0.	14.64	85996	01	
15	0.	14.9	45	01	
TOTALS	0.		10524284		

CHANNEL A INJECT 04:10:89 14:17:47



E756 3-77-1 A.GC



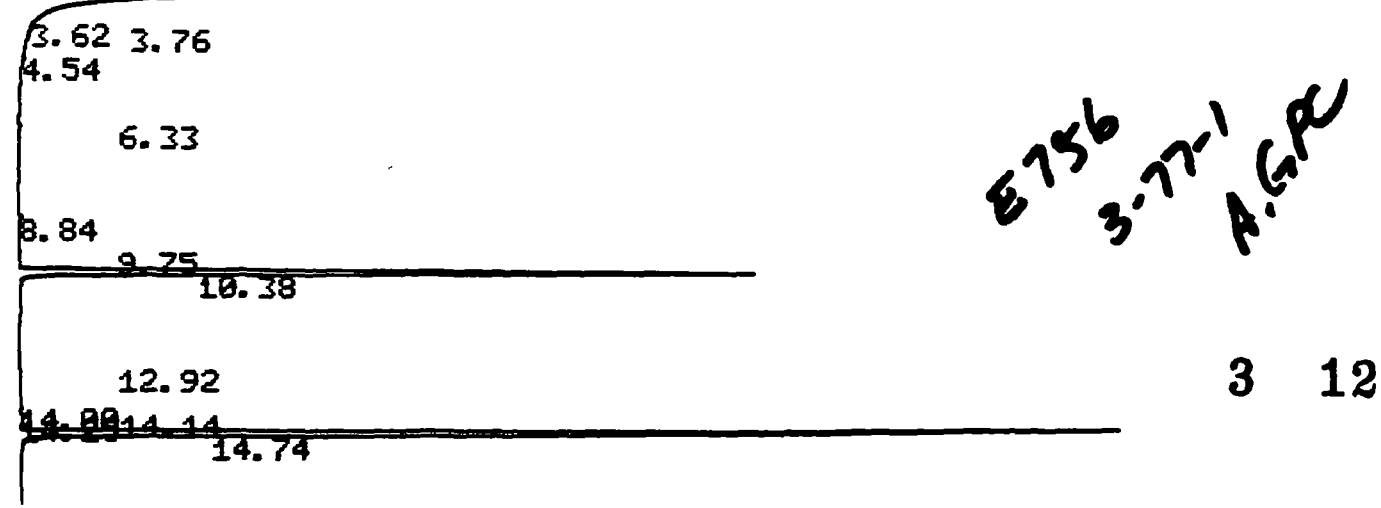
E755 3-77-1 A.GPC

GPC 04:10:89 13:51:50 CH= "A" PS= 1.

FILE 1. METHOD 1. RUN 97 INDEX 98

NAME	CONC	RT	AREA	BC	RF
1	0.	1.83	10382443	08	
2	0.	3.64	1	05	
3	0.	3.78	72	05	
4	0.	4.55	33	01	
5	0.	6.32	50	01	
6	0.	8.8	135	01	
7	0.	9.7	74	01	
8	0.	10.34	55234	01	
9	0.	12.83	35	01	
10	0.	13.88	75	01	
11	0.	14.04	31	01	
12	0.	14.13	39	02	
13	0.	14.15	21	03	
14	0.	14.64	85996	01	
15	0.	14.9	45	01	
TOTALS	0.		10524284		

CHANNEL A INJECT 04:10:89 14:17:47



E756 3-77-1 A.GPC

ER 0

GPC 04:10:89 14:17:47 CH= "A" PS= 1.

FILE 1. METHOD 1. RUN 98 INDEX 99

NAME	CONC	RT	AREA	BC	RF
1	0.	1.81	10271347	08	
2	0.	3.62	13	05	
3	0.	3.76	66	05	
4	0.	4.54	38	01	
5	0.	6.33	45	01	
6	0.	8.84	112	01	
7	0.	9.75	65	01	
8	0.	10.38	46026	01	
9	0.	12.92	28	01	
10	0.	14.	59	01	
11	0.	14.14	21	01	
12	0.	14.25	51	01	
13	0.	14.74	67251	01	
TOTALS	0.		10385122		

PEST
RAW DATA

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK01

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Matrix: (soil/water) SOIL Lab Sample ID: 4-6-89

Sample wt/vol: 30. (g/mL) G Lab File ID: F745

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. dec. 0. Date Extracted: 4/ 6/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 4/19/89

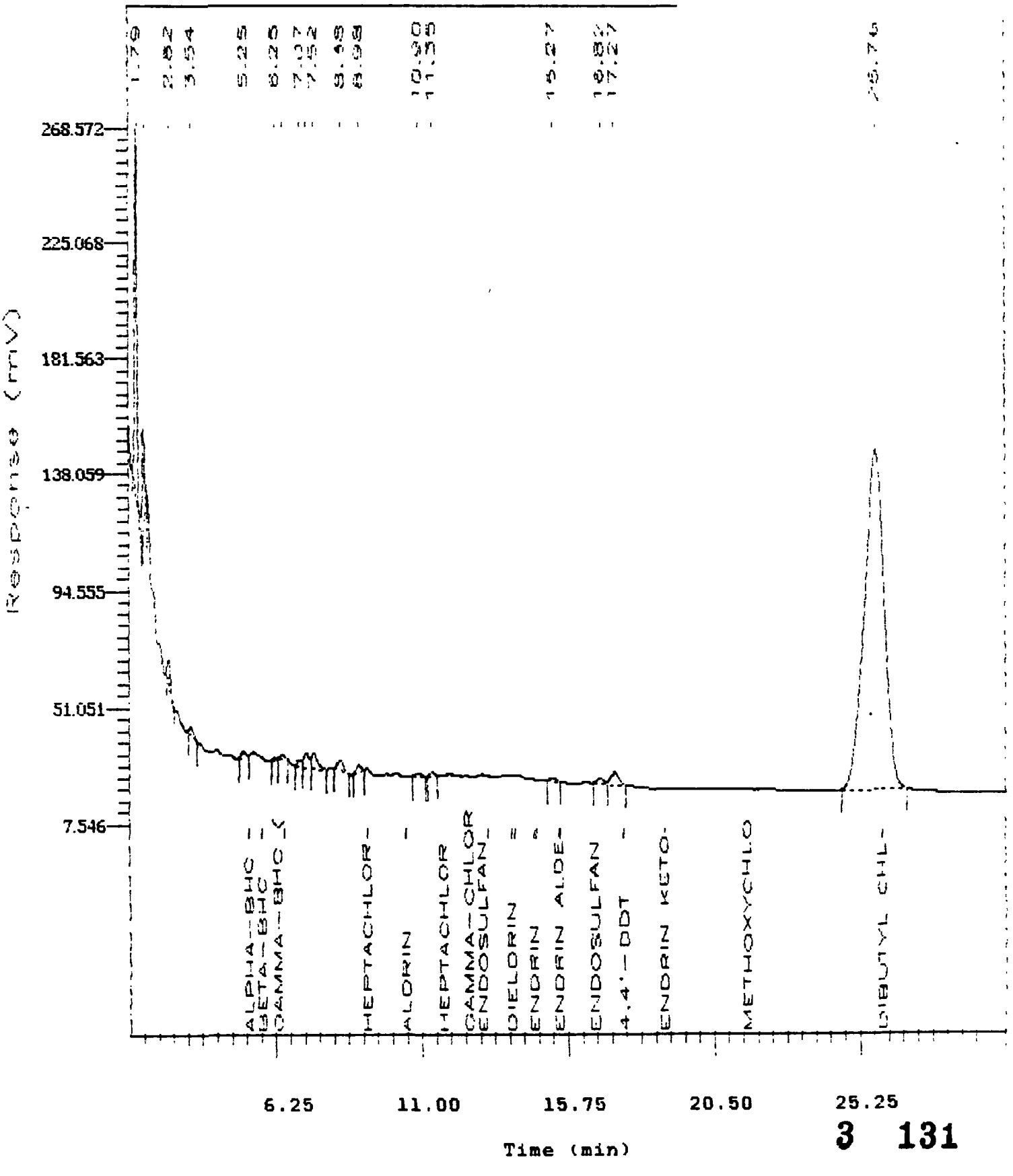
GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	16.	U
319-85-7	beta-BHC	16.	U
319-86-8	delta-BHC	16.	U
58-89-9	gamma-BHC (Lindane)	16.	U
76-44-8	Heptachlor	16.	U
309-00-2	Aldrin	16.	U
1024-57-3	Heptachlor epoxide	16.	U
959-98-8	Endosulfan I	16.	U
60-57-1	Dieldrin	32.	U
72-55-9	4,4'-DDE	32.	U
72-20-8	Endrin	32.	U
33213-65-9	Endosulfan II	32.	U
72-54-8	4,4'-DDD	32.	U
1031-07-8	Endosulfan sulfate	32.	U
50-29-3	4,4'-DDT	32.	U
72-43-5	Methoxychlor	160.	U
53494-70-5	Endrin ketone	32.	U
5103-71-9	alpha-Chlordane	160.	U
5103-74-2	gamma-Chlordane	160.	U
8001-35-2	Toxaphene	320.	U
12674-11-2	Aroclor-1016	160.	U
11104-28-2	Aroclor-1221	160.	U
11141-16-5	Aroclor-1232	160.	U
53469-21-9	Aroclor-1242	160.	U
12672-29-6	Aroclor-1248	160.	U
11097-69-1	Aroclor-1254	320.	U
11096-82-5	Aroclor-1260	320.	U

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F745.raw Date: 4-19-89 2:50 Page 1 of 1
Start Time: 1.50 min End Time: 30.00 min Low Point: 19976 uV High Point: 268572 uV
Vertical Scale Factor: 1.00 Plot Offset: 8 mV Plot Scale: 261 mV

Run #: F745 Case #: 11688
Date: 4-19-89 SDG #: PBLK01
Time: 0219 TRAL #: 4-6-89
Inst: VARF SDG #: EB018



Nelson Analytical 2700 Chromatography System Report Header

Sample Name : PBLK01 Time : 4-19-89 2:50
Sample Number: 4-6-89 Study : 11688Q
Operator : GMG

Interface # : 1 Channel : A A/D mV Range : 2000
AutoSampler : Varian 8000 with controller
Rack/Vial : 255/255

Data Acquisition Time: 4-19-89 2:19
Delay Time : 1.50 min.
End Time : 30.00 min.
Sampling Rate : 1.0 pts/sec

Raw Data File : c:\2700\VARF\F745.raw
Result File : c:\2700\VARF\F745.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File : c:\2700\methods\SP2100.prc
Sample File : c:\2700\methods\SP2100.smp
Sequence File : C:\2700\METHODS\SP2100.seq

Inj. Volume : 2 uL Area Reject : 1000.00
Sample Amount : 1.0000 NG

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.79	683896.00	141352.94	200.00	
2	2.02	151070.00	36272.89	200.00	
3	2.82	77268.00	10408.50	200.00	
4	3.54	30931.94	3249.89	200.00	
5	5.25	16980.00	1761.63	------	alpha-BHC
6	6.25	8658.53	956.70	------	gamma-BHC (Lindane)
7	6.49	17167.38	1742.59	------	delta-BHC
8	7.07	20704.88	2289.98	200.00	
9	7.28	67217.44	5177.72	200.00	
10	7.52	74375.94	5326.06	200.00	
11	8.38	55580.00	4027.18	200.00	
12	8.98	23616.00	2227.51	------	Heptachlor
13	10.90	19174.00	1467.69	200.00	
14	11.35	16140.00	1608.21	200.00	
15	15.27	17202.06	1346.51	------	Endrin aldehyde
16	16.82	32057.81	2147.09	------	Endosulfan sulfate
17	17.27	83507.19	4756.57	------	4,4'-DDT
18	25.76	5.66e6	126456.27	------	Dibutyl chlorendate

Total Area = 7060275.00

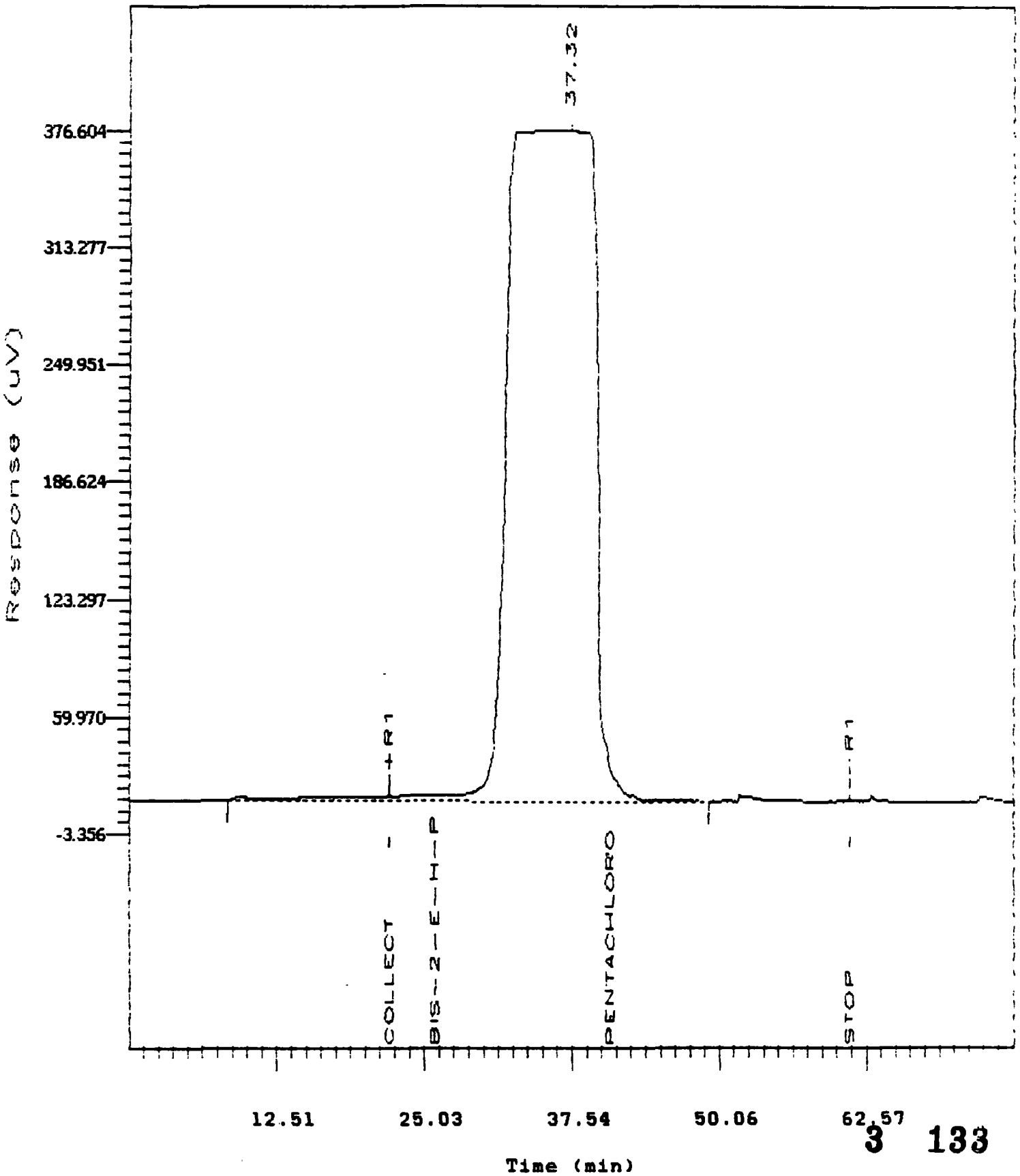
Components Not Found in This Run:

Component Name Sample File Retention Time

Run #: H441 Case #: 11688
Date: 4-10-89 SHO #:
Time: 13:55 TRAL #: BLANK
Inst: H SDG #: EB018

GPC Chromatogram

FileName : c:\2700\instH\H441.raw Date: 4-10-89 15:10 Page 1 of 1
Start Time: 0.00 min End Time: 75.08 min Low Point: 14737 uV High Point: 376604 uV
Vertical Scale Factor: 1.00 Plot Offset: -3 mV Plot Scale: 380 mV



1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PBLK02

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Matrix: (soil/water) SOIL Lab Sample ID: 4-11-89

Sample wt/vol: 30. (g/mL) G Lab File ID: F749

Level: (low/med) LOW Date Received: 0/ 0/ 0

% Moisture: not dec. 0. dec. 0. Date Extracted: 4/11/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 4/19/89

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	8.0	U
319-85-7	beta-BHC	8.0	U
319-86-8	delta-BHC	8.0	U
58-89-9	gamma-BHC (Lindane)	8.0	U
76-44-8	Heptachlor	8.0	U
309-00-2	Aldrin	8.0	U
1024-57-3	Heptachlor epoxide	8.0	U
959-98-8	Endosulfan I	8.0	U
60-57-1	Dieldrin	16.	U
72-55-9	4,4'-DDE	16.	U
72-20-8	Endrin	16.	U
33213-65-9	Endosulfan II	16.	U
72-54-8	4,4'-DDD	16.	U
1031-07-8	Endosulfan sulfate	16.	U
50-29-3	4,4'-DDT	16.	U
72-43-5	Methoxychlor	80.	U
53494-70-5	Endrin ketone	16.	U
5103-71-9	alpha-Chlordane	80.	U
5103-74-2	gamma-Chlordane	80.	U
8001-35-2	Toxaphene	160.	U
12674-11-2	Aroclor-1016	80.	U
11104-28-2	Aroclor-1221	80.	U
11141-16-5	Aroclor-1232	80.	U
53469-21-9	Aroclor-1242	80.	U
12672-29-6	Aroclor-1248	80.	U
11097-69-1	Aroclor-1254	160.	U
11096-82-5	Aroclor-1260	160.	U

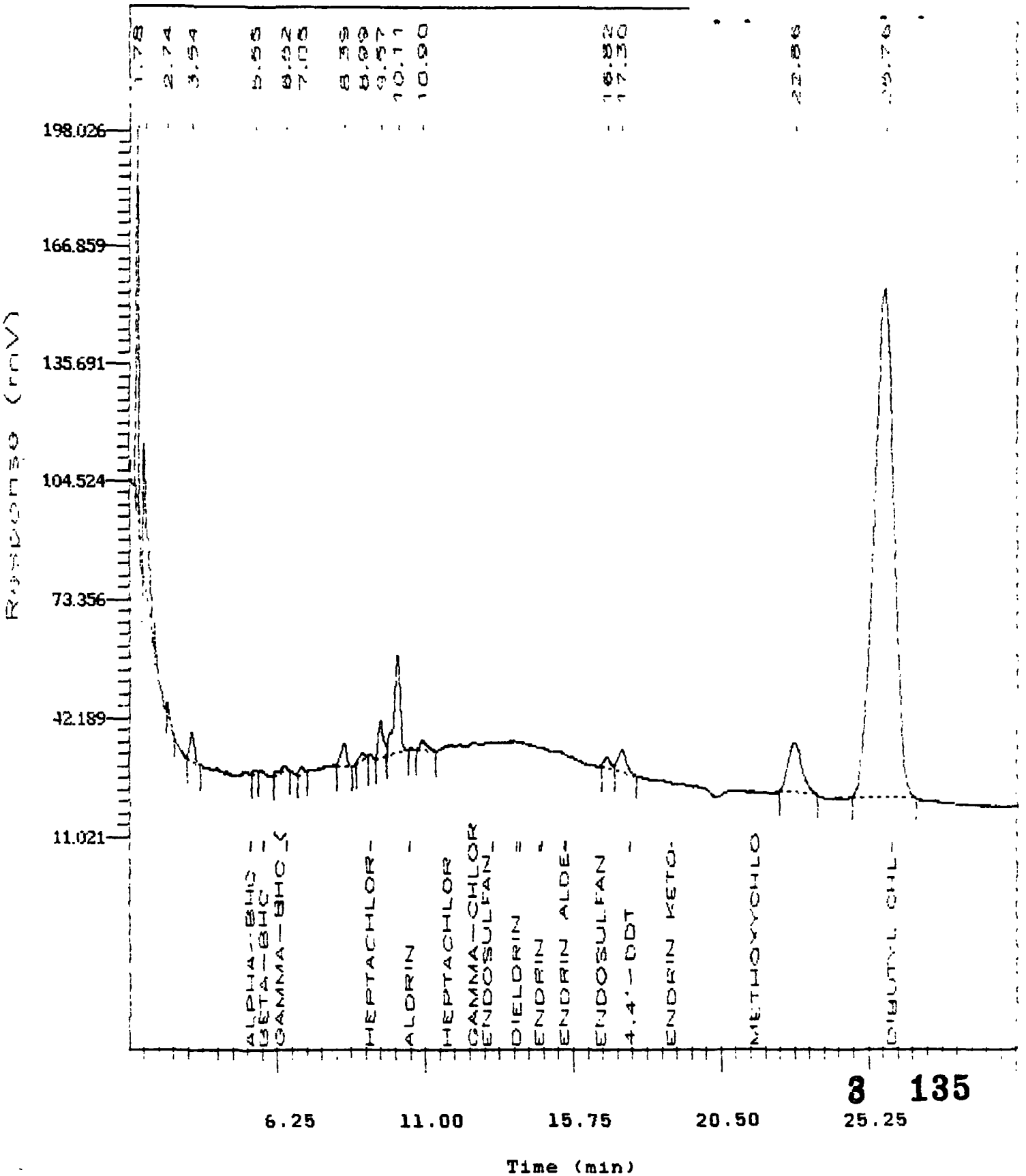
(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F749.raw
Start Time: 1.50 min End Time: 30.00 min
Vertical Scale Factor: 1.00 Plot Offset: 11 mV Plot Scale: 187 mV

Date: 4-19-89 5:22 Page 1 of 1
Low Point: 19926 uV High Point: 198026 uV

Run #: F749
Date: 4-19-89
Time: 0451
Inst: VARF

Case #: 11688
SMO #: PBLK02
TRAL #: 4-11-89
SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : PBLK02                    Time        : 4-19-89  5:22
Sample Number: 4-11-89                    Study       : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-19-89  4:51
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F749.raw
Result File     : c:\2700\VARF\F749.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\SP2100.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
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Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.78	470868.25	102755.50	200.00	
2	2.01	328411.00	38130.55	200.00	
3	2.74	19578.00	2841.08	200.00	
4	3.54	78365.94	7583.04	200.00	
5	5.55	4382.00	613.69	------	alpha-BHC
6	6.52	18038.00	1496.89	------	delta-BHC
7	7.05	15551.00	1568.02	200.00	
8	8.39	74144.00	5842.00	200.00	
9	8.99	22066.00	2000.23	------	Heptachlor
10	9.57	112080.94	9610.37	200.00	
11	10.11	352501.38	25370.16	200.00	
12	10.90	40312.00	2480.47	200.00	
13	16.82	40261.44	2727.12	------	Endosulfan sulfate
14	17.30	105605.88	5423.34	------	4,4'-DDT
15	22.86	403683.88	12900.77	200.00	
16	25.76	5.97e6	134285.81	------	Dibutyl chlorendate

Total Area = 8064372.00

Components Not Found in This Run:

Component Name	Sample File Retention Time
beta-BHC	5.810
gamma-BHC (Lindane)	6.320

(2uL) DB-608 CHROMATOGRAM

FileName : c:\2700\VARG\G812.raw Date: 4-19-89 22:30 Page 1 of 1

Start Time: 7.00 min End Time: 35.00 min Low Point: 46256 uV High Point: 335778 uV

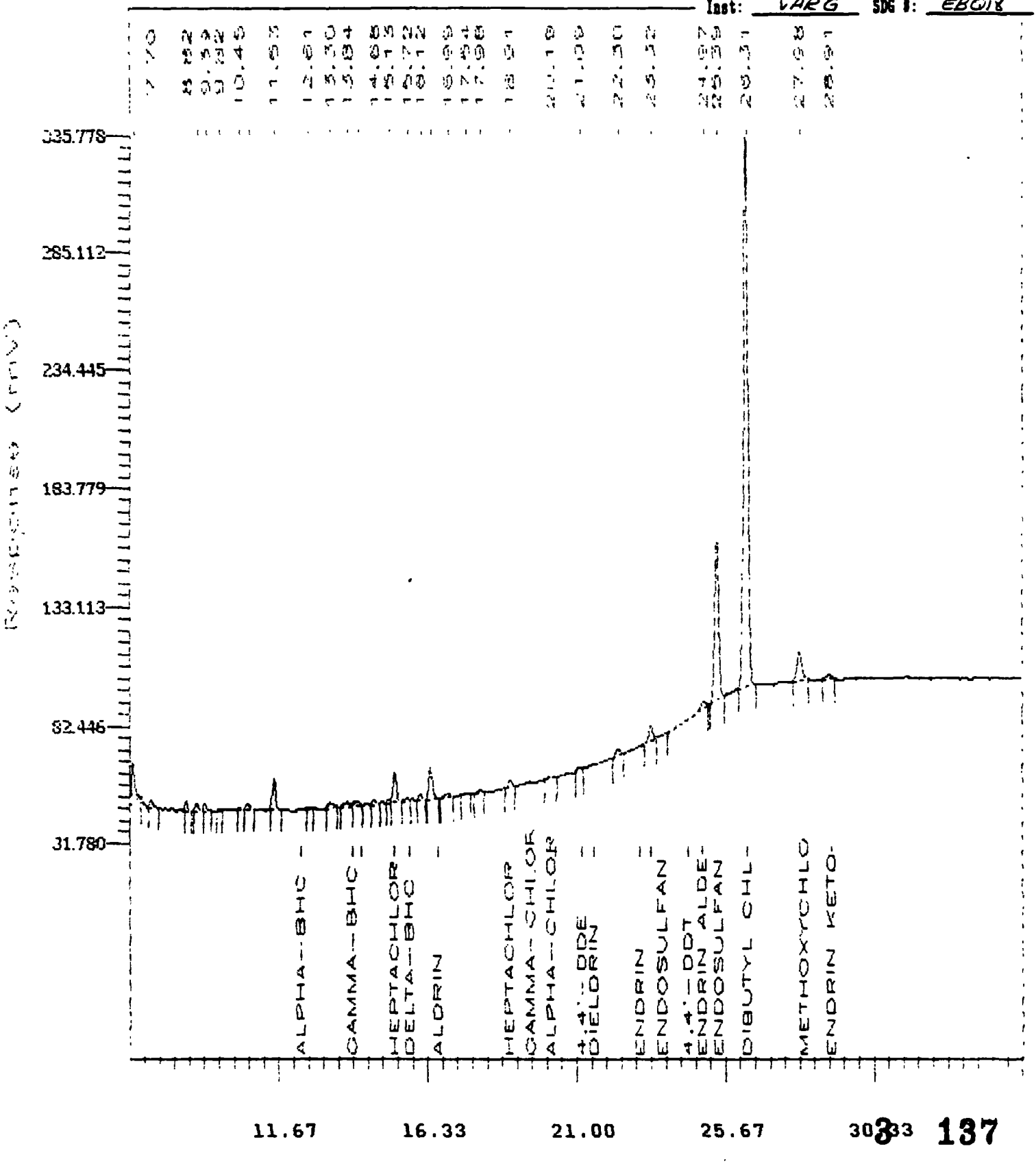
Vertical Scale Factor: 1.00 Plot Offset: 32 mV Plot Scale: 304 mV

Run #: G812 Case #: 11688

Date: 4-19-89 SMO #: PBUK02

Time: 2154 TRAL #: 4-11-89

Inst: VARG SDG #: EBG18



Nelson Analytical 2700 Chromatography System Report Header

Sample Name : PBLK02 Time : 4-19-89 22:30
Sample Number: 4-11-89 Study : 11688C
Operator : GMG

Interface # : 2 Channel : A A/D mV Range : 2000
AutoSampler : Varian 8000 with controller
Rack/Vial : 0/0

Data Acquisition Time: 4-19-89 21:54
Delay Time : 7.00 min.
End Time : 35.00 min.
Sampling Rate : 1.0 pts/sec

Raw Data File : c:\2700\VARG\G812.raw
Result File : c:\2700\VARG\G812.rst
Instrument File: c:\2700\methods\MEGA.ins
Process File : c:\2700\methods\DB608.prc
Sample File : c:\2700\methods\DB608TEN.smp
Sequence File : c:\2700\methods\MEGA.seq

Inj. Volume : 2 uL Area Reject : 1000.00
Sample Amount : 1.0000 NG

Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	7.12	120692.00	17458.23	1.00	
2	7.70	20157.00	2946.43	1.00	
3	8.82	26418.00	4600.03	1.00	
4	9.14	28328.69	3415.67	1.00	
5	9.39	20083.25	3251.17	1.00	
6	9.82	4232.00	588.01	1.00	
7	10.45	8069.38	927.21	1.00	
8	10.73	26695.88	2941.81	1.00	
9	11.53	88611.00	12959.46	1.00	
10	12.61	3474.00	632.83	1.00	
11	13.30	24443.00	2104.64	1.00	
12	13.84	15738.25	1539.42	------	gamma-BHC
13	14.17	20945.38	1776.43	------	beta-BHC
14	14.68	14157.00	1886.06	1.00	
15	15.13	9837.38	1597.05	1.00	
16	15.32	99308.69	12815.66	------	Heptachlor
17	15.72	8934.00	1110.29	------	delta-BHC
18	16.12	20174.00	2881.93	1.00	
19	16.44	113102.00	13577.70	------	Aldrin
20	16.99	21238.00	2103.81	1.00	
21	17.54	6250.00	650.41	1.00	
22	17.98	7214.00	770.31	1.00	
23	18.91	23045.00	3092.73	------	Heptachlor epoxide
24	20.19	9394.00	756.56	------	alpha-Chlordane
25	21.09	9456.00	1064.70	------	4,4'-DDE

26	22.30	24550.00	2820.42	1.00	
27	23.32	58794.00	6657.24	1.00	4,4'-DDD
28	24.97	3312.00	2682.09	------	Endrin aldehyde
29	25.39	600413.00	69829.47	------	Endosulfan sulfate
30	26.31	2.27e6	236602.44	------	Dibutyl chlorendate
31	27.98	136824.00	11900.48	------	Methoxychlor
32	28.91	18698.00	1788.88	------	Endrin ketone

Total Area = 3862698.00

Components Not Found in This Run:

Component Name	Sample File Retention Time
alpha-BHC	12.350
gamma-Chlordane	19.540
Endosulfan I	20.300
Dieldrin	21.520
Endrin	22.970
Endosulfan II	23.660
4,4'-DDT	24.460

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBQ18MS

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Matrix: (soil/water) SOIL Lab Sample ID: RAS0552A

Sample wt/vol: 30. (g/mL) G Lab File ID: F759

Level: (low/med) LOW Date Received: 3/31/89

% Moisture: not dec. 6. dec. 0. Date Extracted: 4/11/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 4/19/89

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 4.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	34.	U
319-85-7	beta-BHC	34.	U
319-86-8	delta-BHC	34.	U
58-89-9	gamma-BHC (Lindane)	27.	J
76-44-8	Heptachlor	28.	J
309-00-2	Aldrin	26.	J
1024-57-3	Heptachlor epoxide	34.	U
959-98-8	Endosulfan I	34.	U
60-57-1	Dieldrin	59.	J
72-55-9	4,4'-DDE	68.	U
72-20-8	Endrin	63.	J
33213-65-9	Endosulfan II	68.	U
72-54-8	4,4'-DDD	68.	U
1031-07-8	Endosulfan sulfate	68.	U
50-29-3	4,4'-DDT	69.	
72-43-5	Methoxychlor	340.	U
53494-70-5	Endrin ketone	68.	U
5103-71-9	alpha-Chlordane	340.	U
5103-74-2	gamma-Chlordane	340.	U
8001-35-2	Toxaphene	680.	U
12674-11-2	Aroclor-1016	340.	U
11104-28-2	Aroclor-1221	340.	U
11141-16-5	Aroclor-1232	340.	U
53469-21-9	Aroclor-1242	340.	U
12672-29-6	Aroclor-1248	340.	U
11097-69-1	Aroclor-1254	680.	U
11096-82-5	Aroclor-1260	680.	U

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F759.raw Date: 4-19-89 11:41 Page 1 of 1

Start Time: 1.50 min End Time: 30.00 min Low Point: 13274 uV High Point: 163730 uV

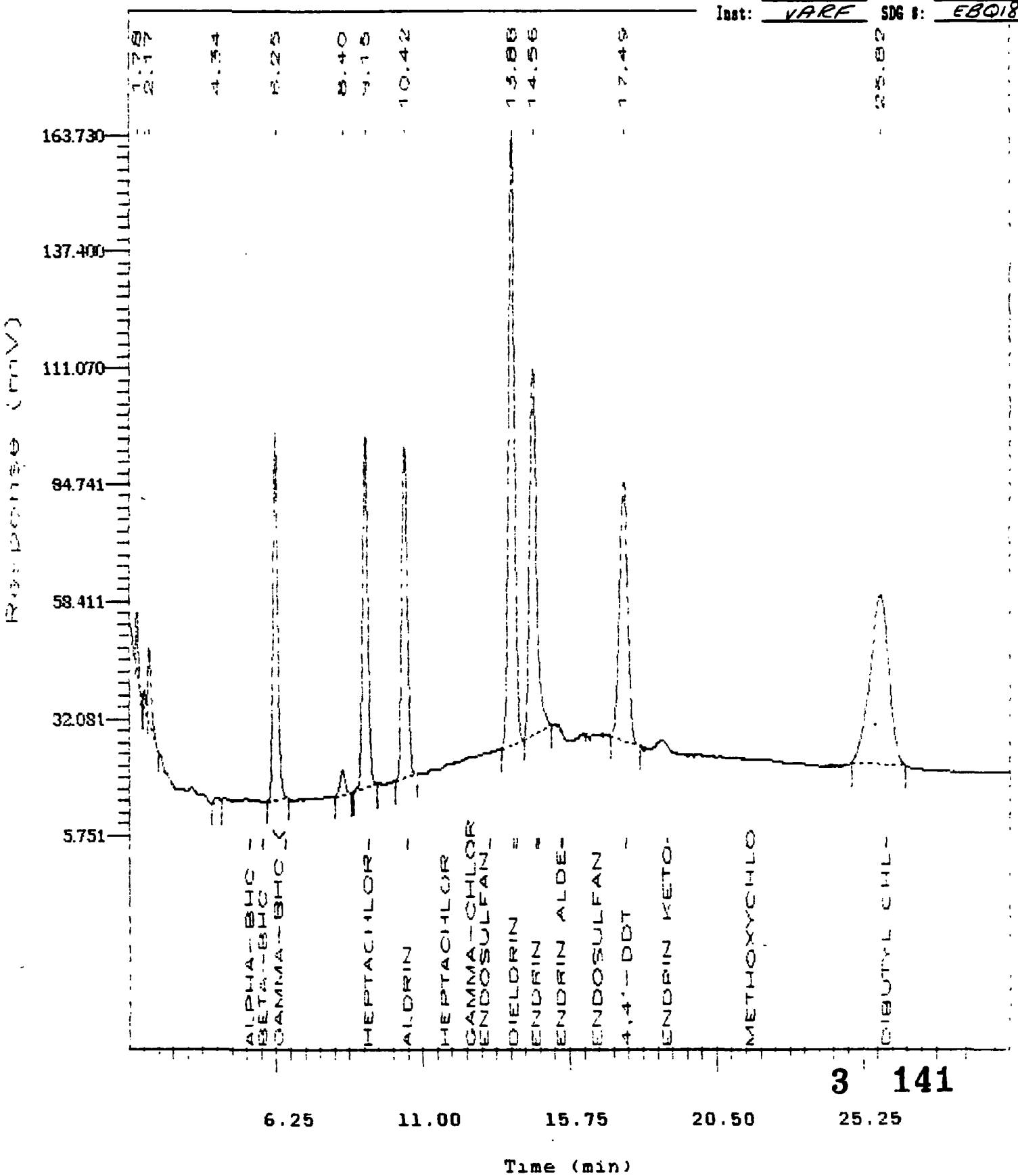
Vertical Scale Factor: 1.00 Plot Offset: 6 mV Plot Scale: 158 mV

Run #: F759 Case #: 11688

Date: 4-19-89 SMO #: EBQ18MS

Time: 1110 TRAL #: RA5055aAMS

Inst: VARF SDG #: EBQ18



Nelson Analytical 2700 Chromatography System Report Header

```
==========================================================================
Sample Name   : EBQ18MS                    Time        : 4-19-89  11:40
Sample Number: RAS0552AMS                  Study       : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-19-89  11:10
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F759.raw
Result File     : c:\2700\VARF\F759.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\SP2100.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

==========================================================================
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Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.78	67386.00	15340.09	200.00	
2	2.02	25793.22	4722.45	200.00	
3	2.17	153666.75	17214.75	200.00	
4	4.34	8136.00	776.63	200.00	
5	6.25	891192.00	82772.41	------	gamma-BHC (Lindane)
6	8.40	68126.00	5674.33	200.00	
7	9.15	949300.00	79195.23	------	Heptachlor
8	10.42	904916.00	74452.60	------	Aldrin
9	13.88	1.82e6	137255.25	------	Dieldrin
10	14.56	1.26e6	82476.88	------	Endrin
11	17.49	1.07e6	58287.67	------	4,4'-DDT
12	25.82	1.61e6	37815.47	------	Dibutyl chlorendate

Total Area = 8840046.00

Components Not Found in This Run:

Component Name	Sample File Retention Time
alpha-BHC	5.390
beta-BHC	5.810
delta-BHC	6.530
Heptachlor epoxide	11.700
gamma-Chlordane	12.520
Endosulfan I	12.970

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EBQ18MSD

Lab Name: 3RIVER Contract: 68-W8-0020

Lab Code: 3RIVER Case No.: 11688 SAS No.: SDG No.: EBQ18

Matrix: (soil/water) SOIL Lab Sample ID: RAS0552A

Sample wt/vol: 31. (g/mL) G Lab File ID: F760

Level: (low/med) LOW Date Received: 3/31/89

% Moisture: not dec. 6. dec. 0. Date Extracted: 4/11/89

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 4/19/89

GPC Cleanup: (Y/N) N pH: 7.4 Dilution Factor: 4.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	33.	U
319-85-7	beta-BHC	33.	U
319-86-8	delta-BHC	33.	U
58-89-9	gamma-BHC (Lindane)	25.	J
76-44-8	Heptachlor	26.	J
309-00-2	Aldrin	24.	J
1024-57-3	Heptachlor epoxide	33.	U
959-98-8	Endosulfan I	33.	U
60-57-1	Dieldrin	54.	J
72-55-9	4,4'-DDE	66.	U
72-20-8	Endrin	60.	J
33213-65-9	Endosulfan II	66.	U
72-54-8	4,4'-DDD	66.	U
1031-07-8	Endosulfan sulfate	66.	U
50-29-3	4,4'-DDT	64.	J
72-43-5	Methoxychlor	330.	U
53494-70-5	Endrin ketone	66.	U
5103-71-9	alpha-Chlordane	330.	U
5103-74-2	gamma-Chlordane	330.	U
8001-35-2	Toxaphene	660.	U
12674-11-2	Aroclor-1016	330.	U
11104-28-2	Aroclor-1221	330.	U
11141-16-5	Aroclor-1232	330.	U
53469-21-9	Aroclor-1242	330.	U
12672-29-6	Aroclor-1248	330.	U
11097-69-1	Aroclor-1254	660.	U
11096-82-5	Aroclor-1260	660.	U

(2uL) SP2100 - CHROMATOGRAM

FileName : c:\2700\VARF\F760.raw Date: 4-19-89 12:18 Page 1 of 1

Start Time: 1.50 min End Time: 30.00 min Low Point: 10640 uV High Point: 144876 uV

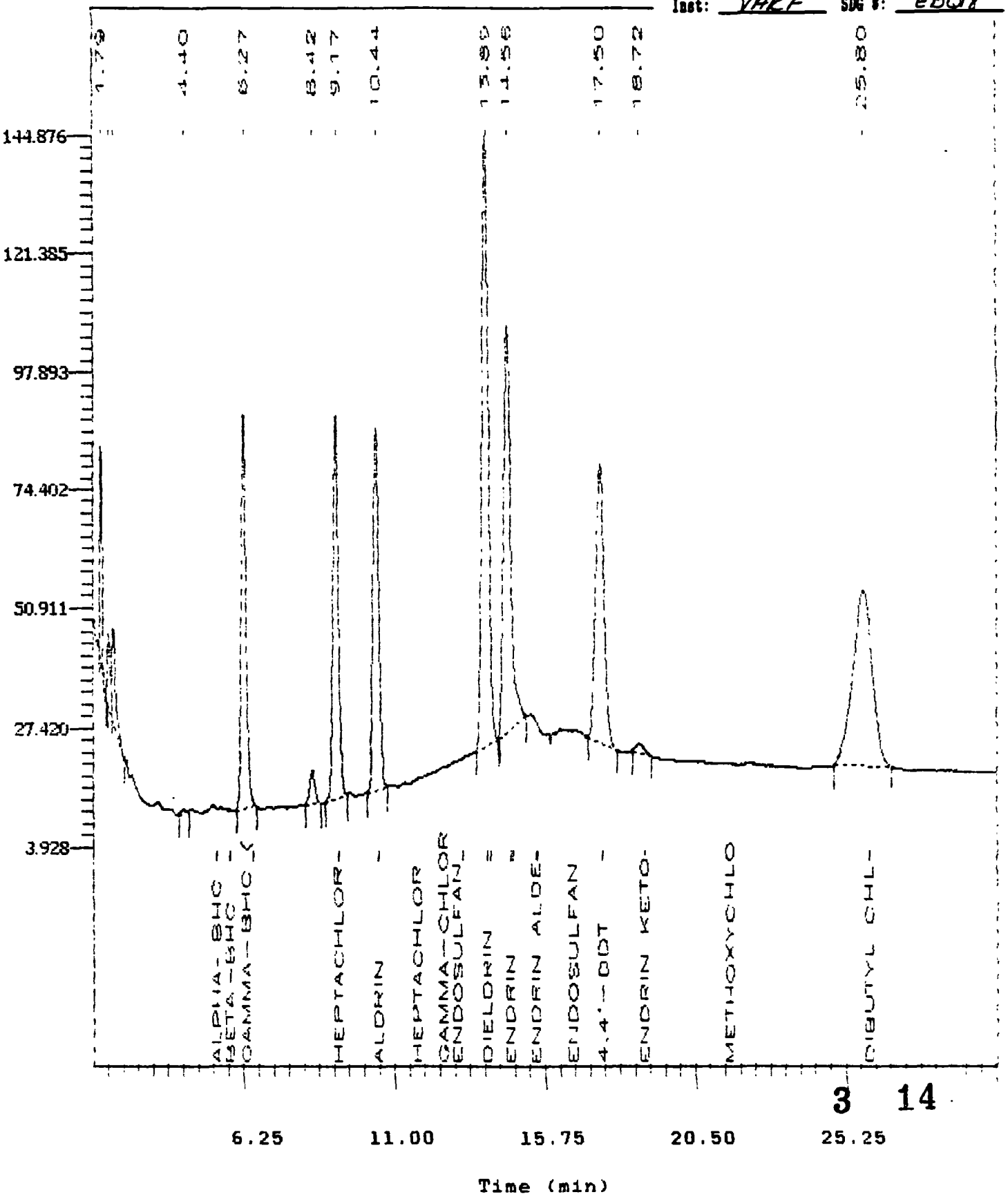
Vertical Scale Factor: 1.00 Plot Offset: 4 mV Plot Scale: 141 mV

Run #: F760 Case #: 11688

Date: 4-19-89 SMO #: EBQ18MSD

Time: 1147 TRAL #: RA5053AMD

Inst: VARF SDG #: EBQ18



3 14

Nelson Analytical 2700 Chromatography System Report Header

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==========================================================================
Sample Name   : EBQ18MSD                    Time        : 4-19-89  12:18
Sample Number: RAS0552AMD                   Study       : 11688Q
Operator      : GMG

Interface #   :   1       Channel : A     A/D mV Range : 2000
AutoSampler   : Varian 8000 with controller
Rack/Vial     : 255/255

Data Acquisition Time: 4-19-89  11:47
Delay Time      : 1.50   min.
End Time        : 30.00  min.
Sampling Rate   : 1.0   pts/sec

Raw Data File   : c:\2700\VARF\F760.raw
Result File     : c:\2700\VARF\F760.rst
Instrument File: c:\2700\methods\SP2100.ins
Process File    : c:\2700\methods\SP2100.prc
Sample File     : c:\2700\methods\SP2100.smp
Sequence File   : C:\2700\METHODS\SP2100.seq

Inj. Volume     : 2 uL          Area Reject      : 1000.00
Sample Amount   : 1.0000 NG

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Pesticide Area Percent Report

Peak #	Ret Time [min]	Peak Area [uV-sec]	Peak Ht [uV]	Area/ Amount	Component Name
1	1.79	207480.88	44686.21	200.00	
2	2.03	86278.22	15189.36	200.00	
3	2.17	180666.13	19430.22	200.00	
4	4.40	8071.00	646.34	200.00	
5	6.27	840584.00	78655.17	------	gamma-BHC (Lindane)
6	8.42	82626.00	6788.00	200.00	
7	9.17	913379.00	76832.03	------	Heptachlor
8	10.44	858672.00	71222.20	------	Aldrin
9	13.89	1.69e6	120585.88	------	Dieldrin
10	14.56	1.22e6	80127.77	------	Endrin
11	17.50	1.01e6	54959.18	------	4,4'-DDT
12	18.72	36686.06	1940.63	------	Endrin ketone
13	25.80	1.47e6	34375.03	------	Dibutyl chlorendate

Total Area = 8613023.00

Components Not Found in This Run:

Component Name	Sample File Retention Time
alpha-BHC	5.390
beta-BHC	5.810
delta-BHC	6.530
Heptachlor epoxide	11.700
gamma-Chlordane	12.520

Greg Brothers (SF 6015)

CONTRACT COMPLIANCE SCREENING SUMMARY FOR ORGANICS

CASE: 11688 SAS NUMBER: SAMPLES: 13 DATE RECEIVED: 04/26/89

LAB CODE: 3RIVER ALAB: _____ CONTRACT: 68-W8-0020 SCREENER: UA DATE SCREENED: 4/28/89

SDG NO: EBQ18 REGION: 5 DATE MAILED: 5/2/89

MAY 12 89

PCA, Ground Water & Solid Waste Div.

SAMPLE	VOA A HOLD	VOA B TUNE	VOA C BLKS	VOA CALIB D INIT	VOA CALIB E CONT	VOA F SURR	VOA G MS/D	VOA H COMP	BNA A HOLD	BNA A1 HOLD	BNA B TUNE	BNA C BLKS	BNA CALIB D INIT	BNA CALIB E CONT	BNA F SURR	BNA G MS/D	BNA H COMP	PESTICIDES A HOLD	PESTICIDES A1 HOLD	PESTICIDES B BLKS	PESTICIDES C DDT	PESTICIDES D RTW	PESTICIDES E ANAL	PESTICIDES F DEG	PESTICIDES G DBC	PESTICIDES H MS/D	PESTICIDES CALIB I INIT	PESTICIDES CALIB J CONT	PESTICIDES K COMP	DISK
EBQ18-01	Y								Y						R			1												
EBQ18-08	Y							R	Y						R	R		1												
EBQ18-09	Y							R	Y						R	R		1												
EBQ20-01	Y								NA									NA												
EBQ21-01	Y								Y						R			1												
EBQ22-01	Y								Y						R			1												
EBQ23-01	Y								Y						R			1												
EBQ24-01	Y								Y						R			1												
EBQ25-01	Y								Y									1												
EBQ26-01	Y								Y									1												
EBQ27-01	Y								Y									Y												
EBQ28-01	Y								Y									Y												
EBQ29-01	Y								Y									Y												

CODE: Y=ANALYZED, NA=NOT ANALYZED, N=NONCOMPLIANT, R=RESUBMIT, S=SUBMIT, E=EXPLAIN (OPTIONAL)

CONTRACT COMPLIANCE SCREENING SUMMARY FOR ORGANICS

ADDITIONAL COMMENTS

CASE: 11688 SAS NUMBER: SAMPLES: 13 DATE RECEIVED: 04/26/89

LAB CODE: 3RIVER CONTRACT: 68-W8-0020 SCREENER: VA

SDG NO: EBQ18 REGION: 5

FRACTION	CRITERION	COMMENTS
VOA	H	Re 471290C/5232A07. LF2 record was recorded before LF1. Please see K 64-2/88 paragraph 4.2 - R
BNA	F	Re 7592F3. Number of surrog rec out on diskette (1) does not match that from P. 21 in form II (0) - R (EBQ18). Also values for S1 → S6 on diskette and P 21 do not match (For S1 - 23/21, etc) - R
BNA	G	Re 857B2B5. No. of spike rec. out on diskette (5) does not match that from P. 22 (6) - R
BNA	F	Re 9568EEC. Values for S1-S6 on diskette for EBQ18MS do not match those from P. 21 (39.7/44, 46/48, 61/75 etc. The same comment is for EBQ18MSD, EBQ21, EBQ23, EBQ22, EBQ24 - R

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*****                                                   *****
*****                                                   *****
*****     NO DEFECTS FOUND FOR FORMAT B REPORT #B1      *****
*****       UNKNOWN RECORD TYPES                        *****
*****                                                   *****
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*****                                                   *****
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*****     NO DEFECTS FOUND FOR FORMAT B REPORT #B2      *****
*****              TYPE 20 RECORDS                      *****
*****                                                   *****
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*****                                                   *****
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*****     NO DEFECTS FOUND FOR FORMAT B REPORT #B3      *****
*****                  TYPE 30 RECORDS                  *****
*****                                                   *****
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SAMPLE MANAGEMENT OFFICE
CONTRACT COMPLIANCE SCREENING
DEFECT REPORT

BY FRACTION AND FORM

LAB: 3RIVER SDG: EBQ18 FORMAT: B

---------- FRACTION=PESTICIDES FORM =1D ----------

OBS	EPA SAMPLE NUMBER	FORM SUFFIX	SEQUENCE NO./ ANALYTE NAME/ CAS NUMBER	DEFECT DESCRIPTOR	CURRENT FORM VALUE	QC LIMIT OR COMPARISON VALUE	RELATED FORMS	SECONDARY IDENTIFIER	DEFECT CODE
1	EBQ18	.		EXTRACTN. HOLD TIME	EXCEEDED BY 1		DAY		350
2	EBQ18MS	.		EXTRACTN. HOLD TIME	EXCEEDED BY 1		DAY		350
3	EBQ18MSD	.		EXTRACTN. HOLD TIME	EXCEEDED BY 1		DAY		350
4	EBQ21	.		EXTRACTN. HOLD TIME	EXCEEDED BY 1		DAY		350
5	EBQ21	.	ALPHA-BHC	CRQL - AWAITING EPA DECISION	8.4	8.2			1074
6	EBQ21	.	PRECEEDING	DEFECT OCCURS	8 TIMES	FOR THIS FORM	/SAMPLE		1074
7	EBQ22	.		EXTRACTN. HOLD TIME	EXCEEDED BY 1		DAY		350
8	EBQ23	.		EXTRACTN. HOLD TIME	EXCEEDED BY 1		DAY		350
9	EBQ24	.		EXTRACTN. HOLD TIME	EXCEEDED BY 1		DAY		350
10	EBQ25	.		EXTRACTN. HOLD TIME	EXCEEDED BY 1		DAY		350
11	EBQ26	.		EXTRACTN. HOLD TIME	EXCEEDED BY 1		DAY		350

9385476

1D BK
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
* * * * * * * * * *
* *
* EBQ21 *
* *
* * * * * * * * * *

LAB NAME: FORMAT B DISKETTE CONTRACT: 68-W8-0020

LAB CODE: 3RIVER CASE NO.: 11688 SAS NO.: SDG NO.: EBQ18

MATRIX: (SOIL/WATER) SOIL LAB SAMPLE ID: F751

SAMPLE WT/VOL.: 31 (G/ML) G LAB FILE ID:

LEVEL: (LOW/MED) LOW DATE RECEIVED: 03/31/89

% MOISTURE: NOT DEC. 6 DEC. 0 DATE EXTRACTED: 04/11/89

EXTRACTION: (SEPF/CONT/SONC) SONC DATE ANALYZED: 04/19/89

GPC CLEANUP: (Y/N) N PH: 8 DILUTION FACTOR: 1.000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (UG/L OR UG/KG) UG/KG	Q
319846	ALPHA-BHC	8.4	U
319857	BETA-BHC	8.4	U
319868	DELTA-BHC	8.4	U
50899	GAMMA-BHC(LINDANE)	8.4	U
76448	HEPTACHLOR	8.4	U
309002	ALDRIN	8.4	U
1024573	HEPTACHLOR EPOXIDE	8.4	U
959988	ENDOSULFAN I	8.4	U
60571	DIELDRIN	17	U
72559	4,4-DDE	17	U
72208	ENDRIN	17	U
33213659	ENDOSULFAN II	17	U
72548	4,4-DDD	17	U
1031078	ENDOSULFAN SULFATE	17	U
50293	4,4-DDT	17	U
72435	METHOXYCHLOR	84	U
53494705	ENDRIN KETONE	17	U
5103719	ALPHA-CHLORDANE	84	U
5103742	GAMMA-CHLORDANE	84	U
8001352	TOXAPHENE	170	U
12674112	AROCLOR-1016	84	U
11104282	AROCLOR-1221	84	U
11141165	AROCLOR-1232	84	U
53469219	AROCLOR-1242	84	U
12672296	AROCLOR-1248	84	U
11097691	AROCLOR-1254	170	U
11096825	AROCLOR-1260	170	U

SAMPLE MANAGEMENT OFFICE
CONTRACT COMPLIANCE SCREENING
FOR VOA ANALYTES
ANALYSIS SUMMARY

OBS	EPA SAMPLE ID	SAMPLE ANALYSIS DATE	SAMPLE ANALYSIS TIME	BLANK ANALYSIS DATE	BLANK ANALYSIS TIME	TUNE ANALYSIS DATE	TUNE ANALYSIS TIME	# TCL	# TIC
1	EBQ18-01	31MAR89	14:37	31MAR89	13:28	31MAR89	8:58	2	0
2	EBQ18-08	31MAR89	17:14	31MAR89	13:28	31MAR89	8:58	7	0
3	EBQ18-09	31MAR89	16:33	31MAR89	13:28	31MAR89	8:58	7	0
4	EBQ20-01	03APR89	10:59	03APR89	9:38	03APR89	7:48	2	0
5	EBQ21-01	03APR89	11:35	03APR89	9:38	03APR89	7:48	2	1
6	EBQ22-01	03APR89	12:47	03APR89	9:38	03APR89	7:48	1	0
7	EBQ23-01	03APR89	13:34	03APR89	9:38	03APR89	7:48	2	0
8	EBQ24-01	03APR89	16:43	03APR89	9:38	03APR89	7:48	2	1
9	EBQ25-01	03APR89	15:58	03APR89	9:38	03APR89	7:48	0	0
10	EBQ26-01	04APR89	12:57	04APR89	12:04	04APR89	8:22	1	0
11	EBQ27-01	04APR89	14:09	04APR89	12:04	04APR89	8:22	2	1
12	EBQ28-01	04APR89	14:50	04APR89	12:04	04APR89	8:22	2	0
13	EBQ29-01	04APR89	15:31	04APR89	12:04	04APR89	8:22	2	1

SAMPLE MANAGEMENT OFFICE
CONTRACT COMPLIANCE SCREENING
FOR BNA ANALYTES
ANALYSIS SUMMARY

OBS	EPA SAMPLE ID	SAMPLE ANALYSIS DATE	SAMPLE ANALYSIS TIME	BLANK ANALYSIS DATE	BLANK ANALYSIS TIME	TUNE ANALYSIS DATE	TUNE ANALYSIS TIME	# TCL	# TIC
1	EBQ18-01	13APR89	12:41	13APR89	11:45	13APR89	8:23	1	2
2	EBQ18-08	13APR89	13:35	13APR89	11:45	13APR89	8:23	12	0
3	EBQ18-09	13APR89	14:46	13APR89	11:45	13APR89	8:23	12	0
4	EBQ21-01	14APR89	12:27	13APR89	11:45	14APR89	10:39	1	8
5	EBQ22-01	14APR89	15:13	13APR89	11:45	14APR89	10:39	1	0
6	EBQ23-01	14APR89	14:17	13APR89	11:45	14APR89	10:39	1	7
7	EBQ24-01	14APR89	16:03	13APR89	11:45	14APR89	10:39	1	3
8	EBQ25-01	17APR89	9:55	13APR89	11:45	17APR89	8:18	1	6
9	EBQ26-01	17APR89	10:49	13APR89	11:45	17APR89	8:18	1	1
10	EBQ27-01	17APR89	15:34	13APR89	11:45	17APR89	8:18	1	3
11	EBQ28-01	18APR89	10:35	13APR89	11:45	18APR89	9:09	1	6
12	EBQ29-01	18APR89	11:30	13APR89	11:45	18APR89	9:09	1	6

SAMPLE MANAGEMENT OFFICE
CONTRACT COMPLIANCE SCREENING
FOR PEST/PCB ANALYTES
ANALYSIS SUMMARY

OBS	EPA SAMPLE ID	SAMPLE ANALYSIS DATE	SAMPLE ANALYSIS TIME	SAMPLE ANALYSIS DATE 2	SAMPLE ANALYSIS TIME 2	# TCL
1	EBQ18-01	19APR89	10:32			0
2	EBQ18-08	19APR89	11:10			6
3	EBQ18-09	19APR89	11:47			6
4	EBQ21-01	19APR89	6:07			0
5	EBQ22-01	19APR89	6:45	19APR89	22:34	0
6	EBQ23-01	19APR89	7:22	19APR89	23:14	0
7	EBQ24-01	19APR89	8:00			0
8	EBQ25-01	19APR89	8:37	19APR89	23:55	0
9	EBQ26-01	19APR89	9:53	20APR89	0:35	0
10	EBQ27-01	19APR89	2:57			0
11	EBQ28-01	19APR89	3:34			0
12	EBQ29-01	19APR89	4:13			0

Pig'n Eye (SF5893)

SAMPLE MANAGEMENT OFFICE

INORGANICS
RESOLUTION OF CONTRACT COMPLIANCE SCREENING (CCS) RESULTS

LABORATORY CODE : ENSECO CASE : 11222 LAST RESPONSE RECEIPT DATE :

REGION : 5 SDG_NO. : MEAJ82 INITIAL RESPONSE RECEIPT DATE : 03/01/89

RECONCILED BY : EM RECONCILIATION DATE : 05/03/89 DATE MAILED : 05/05/89

ATTACHED ARE COPIES OF CCS SUMMARIES WHICH SHOW THE STATUS OF RELEVANT SAMPLES AFTER INCORPORATION OF LABORATORY RESPONSE TO SCREENING. PROBLEM CODES WHICH NO LONGER APPLY ARE MARKED WITH AN (X) CODE .

CRITERION	COMMENTS
L,N	NEGATIVE CONSIDERATION HAS BEEN REMOVED BUT ACTION WILL REMAIN.

RECONCILED STATUS OF CCS RESULTS

CONTRACT COMPLIANCE SCREENING SUMMARY FOR INORGANICS

CASE: 11222 CONTRACT: 68-01-7476 SAMPLES: 3 SDG_NO.: MEAJ82 DATE SCREENED: 02/15/89

LAB CODE: ENSECO RMAL REGION: 5 SCREENED BY: JP

SAMPLE NO.	A COVER PAGE	B DATA SHEET	CA CALIBRATION ICV/CCV	CB CRDL	D BLANK	E ICS	FA SPIKES PRE.	FB SPIKES POST	G DUP.	H LCS	I MSA	J SER. DIL.	KA HOLDING HG	KB TIME CN	L IDL	M CORR. FACTR	N LIN. RANGE	R RAW DATA	T TR	DI-SK
MEAJ82-W											R				N	X		N	X			R
MEAJ82-1		R									R				N	X		N	X			R
MEAJ91-1		R									R				N	X		N	X			R
MEAJ91-9											R				N	X		N	X			R
MEAJ92-1		R									R	R			N	X		N	X	R		R
MEAJ92-8											R				N	X		N	X			R

PROBLEM CODE: E = EXPLAIN, R = RESUBMIT, S = SUBMIT, N = NONCOMPLIANT, X = RECONCILED

Contract Laboratory Program
Target Compound List
Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
Chloromethane	74-87-3	10 ug/L	10 ug/Kg
Bromomethane	74-83-9	10	10
Vinyl chloride	75-01-4	10	10
Chloroethane	75-00-3	10	10
Methylene chloride	75-09-2	5	5
Acetone	67-64-1	10	5
Carbon disulfide	75-15-0	5	5
1,1-dichloroethene	75-35-4	5	5
1,1-dichloroethane	75-34-3	5	5
1,2-dichloroethene (total)	540-59-0	5	5
Chloroform	67-66-3	5	5
1,2-dichloroethane	107-06-2	5	5
2-butanone (MEK)	78-93-3	10	10
1,1,1-trichloroethane	71-55-6	5	5
Carbon tetrachloride	56-23-5	5	5
Vinyl acetate	108-05-4	10	10
Bromodichloromethane	75-27-4	5	5
1,2-dichloropropane	78-87-5	5	5
cis-1,3-dichloropropene	10061-01-5	5	5
Trichloroethene	79-01-6	5	5
Dibromochloromethane	124-48-1	5	5
1,1,2-trichloroethane	79-00-5	5	5
Benzene	71-43-2	5	5
Trans-1,3-dichloropropene	10061-02-6	5	5
Bromoform	75-25-2	5	5
4-Methyl-2-pentanone	108-10-1	10	10
2-Hexanone	591-78-6	10	10
Tetrachloroethene	127-18-4	5	5
Tolene	108-88-3	5	5
1,1,2,2-tetrachloroethane	79-34-5	5	5
Chlorobenzene	108-90-7	5	5
Ethyl benzene	100-41-4	5	5
Styrene	100-42-5	5	5
Xylenes (total)	1330-20-7	5	5

Contract Laboratory Program
Target Compound List
Semivolatiles Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
Phenol	108-95-2	10 ug/L	330 ug/Kg
bis(2-Chloroethyl) ether	111-44-4	10	330
2-Chlorophenol	95-57-8	10	330
1,3-Dichlorobenzene	541-73-1	10	330
1,4-Dichlorobenzene	106-46-7	10	330
Benzyl Alcohol	100-51-6	10	330
1,2-Dichlorobenzene	95-50-1	10	330
2-Methylphenol	95-48-7	10	330
bis(2-Chloroisopropyl) ether	108-60-1	10	330
4-Methylphenol	106-44-5	10	330
N-Nitroso-di-n-dipropylamine	621-64-7	10	330
Hexachloroethane	67-72-1	10	330
Nitrobenzene	98-95-3	10	330
Isophorone	78-59-1	10	330
2-Nitrophenol	88-75-5	10	330
2,4-Dimethylphenol	105-67-9	10	330
Benzoic Acid	65-85-0	50	1600
bis(2-Chloroethoxy) methane	111-91-1	10	330
2,4-Dichlorophenol	120-83-2	10	330
1,2,4-Trichlorobenzene	120-82-1	10	330
Naphthalene	91-20-3	10	330
4-Chloroaniline	106-47-8	10	330
Hexachlorobutadiene	87-68-3	10	300
4-Chloro-3-methylphenol	59-50-7	10	330
2-Methylnaphthalene	91-57-6	10	330
Hexachlorocyclopentadiene	77-47-4	10	330
2,4,6-Trichlorophenol	88-06-2	10	330
2,4,5-Trichlorophenol	95-95-4	50	1600
2-Chloronaphthalene	91-58-7	10	330
2-Nitroaniline	88-74-4	50	1600
Dimethylphthalate	131-11-3	10	330
Acenaphthylene	208-96-8	10	330
2,6-Dinitrotoluene	606-20-2	10	330
3-Nitroaniline	99-09-2	50	1600
Acenaphthene	83-32-9	10	330
2,4-Dinitrophenol	51-28-5	50	1600
4-Nitrophenol	100-02-7	50	1600
Dibenzofuran	132-64-9	10	330
2,4-Dinitrotoluene	121-14-2	10	330
Diethylphthalate	84-66-2	10	330
4-Chlorophenyl-phenyl ether	7005-72-3	10	330

Contract Laboratory Program
Target Compound List
Semivolatiles Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SLUDGE SEDIMENT
Fluorene	86-73-7	10 ug/L	330 ug/Kg
4-Nitroaniline	100-01-6	50	1600
4,6-Dinitro-2-methylphenol	534-52-1	50	1600
N-nitrosodiphenylamine	86-30-6	10	330
4-Bromophenyl-phenylether	101-55-3	10	330
Hexachlorobenzene	118-74-1	10	330
Pentachlorophenol	87-86-5	50	1600
Phenanthrene	85-01-8	10	330
Anthracene	120-12-7	10	330
Di-n-butylphthalate	84-74-2	10	330
Fluoranthene	206-44-0	10	330
Pyrene	129-00-0	10	330
Butylbenzylphthalate	85-68-7	10	330
3,3'-Dichlorobenzidine	91-94-1	20	660
Benzo(a)anthracene	56-55-3	10	330
Chrysene	218-01-9	10	330
bis(2-Ethylhexyl)phthalate	117-81-7	10	330
Di-n-octylphthalate	117-84-0	10	330
Benzo(b)fluoranthene	205-99-2	10	330
Benzo(k)fluoranthene	207-08-9	10	330
Benzo(a)pyrene	50-32-8	10	330
Indeno(1,2,3-cd)pyrene	193-39-5	10	330
Dibenz(a,h)anthracene	53-70-3	10	330
Benzo(g,h,i)perylene	191-24-2	10	330

Contract Laboratory Program
Target Compound List
Pesticide and PCB Quantitation Limits

COMPOUND	CAS #	WATER	SOIL SEDIMENT SLUDGE
alpha-BHC	319-84-6	0.05 ug/L	8 ug/Kg
beta-BHC	319-85-7	0.05	8
delta-BHC	319-86-8	0.05	8
gamma-BHC (Lindane)	58-89-9	0.05	8
Heptachlor	76-44-8	0.05	8
Aldrin	309-00-2	0.05	8
Heptachlor epoxide	1024-57-3	0.05	8
Endosulfan I	959-98-8	0.05	8
Dieldrin	60-57-1	0.10	16
4,4'-DDE	72-55-9	0.10	16
Endrin	72-20-8	0.10	16
Endosulfan II	33213-65-9	0.10	16
4,4'-DDD	72-54-8	0.10	16
Endosulfan sulfate	1031-07-8	0.10	16
4,4'-DDT	50-29-3	0.10	16
Methoxychlor (Mariate)	72-43-5	0.5	80
Endrin ketone	53494-70-5	0.10	16
alpha-Chlordane	5103-71-9	0.5	80
gamma-chlordane	5103-74-2	0.5	80
Toxaphene	8001-35-2	1.0	160
AROCLOR-1016	12674-11-2	0.5	80
AROCLOR-1221	11104-28-2	0.5	80
AROCLOR-1232	11141-16-5	0.5	80
AROCLOR-1242	53469-21-9	0.5	80
AROCLOR-1248	12672-29-6	0.5	80
AROCLOR-1254	11097-69-1	1.0	160
AROCLOR-1260	11096-82-5	1.0	160

Contract Laboratory Program
Target Analyte List
Inorganic Quantitation Limits

COMPOUND	PROCEDURE	SOIL WATER	SEDIMENT SLUDGE
Aluminum	ICP	200 ug/L	40 mg/Kg
Antimony	Furnace	60	2.4
Arsenic	Furnace	10	2
Barium	ICP	200	40
Beryllium	ICP	5	1
Cadmium	ICP	5	1
Calcium	ICP	5000	1000
Chromium	ICP	10	2
Cobalt	ICP	50	10
Copper	ICP	25	5
Iron	Icp	100	20
Lead	Furnace	5	1
Magnesium	ICP	5000	1000
Manganese	ICP	15	3
Mercury	Cold Vapor	0.2	0.008
Nickel	ICP	40	8
Potassium	ICP	5000	1000
Selenium	Furnace	5	1
Silver	ICP	10	2
Sodium	ICP	5000	1000
Thallium	Furnace	10	2
Vanadium	ICP	50	10
Zinc	ICP	20	4
Cyanide	Color	10	2

SPECIAL ANALYTICAL SERVICES DRINKING WATER
VOLATILE QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT IN REAGENT WATER
Benzene	71-43-2	1.5 ug/L
Bromodichloromethane	74-27-4	1.5
Bromoform	75-25-2	1.5
Bromomethane	74-83-9	10
Carbon tetrachloride	56-23-5	1.5
Chlorobenzene	108-90-7	1.5
Chloroethane	75-00-3	1.5
2-Chloroethyl vinyl ether	110-75-8	1.5
Chloroform	67-66-3	1.5
Chloromethane	74-87-3	10
Dibromochloromethane	124-48-1	1.5
1,1-Dichloroethane	75-34-3	1.5
1,2-Dichloroethane	107-06-2	1.5
1,1-Dichloroethene	75-35-4	1.5
trans-1,2-Dichloroethene	156-60-5	1.5
1,2-Dichloropropane	78-87-5	1.5
cis-1,3-Dichloropropene	10061-01-5	2
trans-1,3-Dichloropropene	10061-02-6	1
Ethyl benzene	100-41-4	1.5
Methylene chloride *	75-09-2	1
1,1,2,2-Tetrachloroethane	79-34-5	1.5
Tetrachloroethene	127-18-4	1.5
Toluene *	108-88-3	1.5
1,1,1-Trichloroethane	71-55-6	1.5
1,1,2-Trichloroethane	79-00-5	1.5
Trichloroethene	79-01-6	1.5
Vinyl chloride	75-01-4	10
Acrolein	107-02-8	100
Acetone *	67-64-1	75
Acrylonitrile	107-13-1	50
Carbon disulfide	75-15-0	3
2-Butanone	78-93-3	(50)
Vinyl acetate	108-05-4	15
4-Methyl-2-pentanone	108-10-1	(3)
2-Hexanone	519-78-6	(50)
Styrene	100-42-5	1
m-Xylene	108-38-3	2
o-Xylene **	95-47-6	
p-Xylene **	106-42-3	2.5 **
Xylene (total)	1330-02-7	

* Common laboratory solvents.
Blank limit is 5x method detection limit.
( ) Values in parentheses are estimates.
actual values are being determined at this time.
** The o-xylene and p-xylene are reported as a total of the two.

SAS DRINKING WATER
SEMIVOLATILES QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Aniline	62-53-3	1.5 ug/l
Bis(2-chloroethyl)ether	111-44-4	1.5
Phenol	108-95-2	2
2-Chlorophenol	95-57-8	2
1,3-Dichlorobenzene	541-73-1	2
1,4-Dichlorobenzene	106-46-7	2
1,2-Dichlorobenzene	95-50-1	2.5
Benzyl alcohol	100-51-6	2
Bis(2-chloroisopropyl)ether	39638-32-9	2.5
2-Methylphenol	95-48-7	1
Hexachloroethane	67-72-1	2
n-Nitrosodipropylamine	621-64-7	1.5
Nitrobenzene	98-95-3	2.5
4-Methylphenol	88-75-5	1
Isophorone	78-59-1	2.5
2-Nitrophenol	88-75-5	2
2,4-Dimethylphenol	105-67-9	2
Bis(2-Chloroethoxy)methane	111-91-1	2.5
2,4-Dichlorophenol	120-83-2	2
1,2,4-Trichlorobenzene	120-82-1	2
Naphthalene	91-20-3	2
4-Chloroaniline	106-47-8	2
Hexachlorobutadiene	87-68-3	2.5
Benzoic Acid	65-85-0	(30)
2-Methylnapthalene	91-57-6	2
4-Chloro-3-methylphenol	59-50-7	1.5
Hexachlorocyclopentadiene	77-47-4	2
2,4,6-Trichlorophenol	88-06-2	1.5
2,4,5-Trichlorophenol	95-95-4	1.5
2-Chloronapthalene	91-58-7	1.5
Acenapthylhene	208-96-8	1.5
Dimethyl phthalate	131-11-3	1.5
2,6-Dinitrotoluene	606-20-2	1
Acenaphthene	83-32-9	1.5
3-Nitroaniline	99-09-2	2.5
Dibenzofuran	132-64-9	1
2,4-Dinitrophenol	51-28-5	(15)
2,4-Dinitrotoluene	121-14-2	1

SAS DRINKING WATER
SEMIVOLATILE QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Fluorene	86-73-7	1 ug/L
4-Nitrophenol	100-02-7	1.5
4-Chlorophenyl phenyl ether	7005-72-3	1
Diethyl phthalate	84-66-2	1
4,6-Dinitro-2-methylphenol	534-52-1	(15)
1,2-Diphenylhydrazine	122-66-7	1
n-Nitrosodiphenylamine *	86-30-6	
Diphenylamine *	122-39-4	1.5
4-Nitroaniline	100-01-6	3
4-Bromophenyl-phenylether	101-55-3	1.5
Hexachlorobenzene	118-74-1	1.5
Pentachlorophenol	87-86-5	2
Phenanthrene	85-01-8	1
Anthracene	120-12-7	2.5
di-n-Butyl phthalate	84-74-2	2
Fluoranthene	206-44-0	1.5
Pyrene	129-00-0	1.5
Butyl benzyl phthalate	85-68-7	3.5
Chrysene **	218-01-9	
Benzo(A)Anthracene **	56-55-3	1.5
bis(2-ethylhexyl)phthalate	117-81-7	1
di-n-Octyl phthalate	117-84-0	1.5
Benzo(b)fluoranthene ***	205-99-2	
Benzo(k)fluoranthene ***	207-08-9	1.5
Benzo(a)pyrene	50-32-8	2
Indeno(1,2,3-cd)pyrene	193-39-5	3.5
Dibenzo(a,h)anthracene	53-70-3	2.5
Benzo(g,h,i)perylene	191-24-2	4
2-Nitroaniline	88-74-4	1

* These two parameters are reported as a total.
** These two parameters are reported as a total.
*** These two parameters are reported as a total.

( ) Values in parentheses are estimates.
The actual values are being determined at this time.

Note: Limits are for reagent water.

SAS DRINKING WATER
PESTICIDE AND PCB QUANTITATION LIMITS

PARAMETER	CAS #	DETECTION LIMIT
Aldrin	309-00-2	0.005 ug/L
alpha BHC	319-84-6	(0.010)
beta BHC	319-85-7	(0.005)
delta BHC	319-86-8	(0.005)
gamma BHC (Lindane)	58-89-9	0.005
Chlordane	57-74-9	(0.020)
4,4'-DDD	72-54-8	(0.020)
4,4'-DDE	72-55-9	(0.005)
4,4'-DDT	50-29-3	0.020
Dieldrin	60-57-1	0.010
Endosulfan I	959-98-8	0.010
Endosulfan II	33213-65-9	0.010
Endosulfan sulfate	1031-07-8	(0.10)
Endrin	72-20-8	0.010
Endrin Aldehyde	7421-93-4	(0.030)
Endrin Ketone	53494-70-5	(0.030)
Heptachlor	76-44-8	0.030
Heptachlor Epoxide	1024-57-3	0.005
4,4'-Methoxychlor	72-43-5	0.020
Toxaphene	8001-35-2	(0.25)
PCB-1242	53469-21-9	(0.10)
PCB-1248	12672-29-6	(0.10)
PCB-1254	11097-69-1	(0.10)
PCB-1260	11096-82-5	(0.10)

( ) Values in parentheses are estimates.
Actual values are being determined at this time.

Note: Limits are for reagent water.

SAS DRINKING WATER
INORGANIC DETECTION LIMITS

JANUARY 1986

PARAMETER	PROCEDURE	DETECTION LIMIT
Aluminum	ICP	100
Antimony	GFAA	2
Arsenic	GFAA	2
Barium	ICP	50
Beryllium	ICP	5
Cadmium	ICP	10
Cadmium	GFAA	0.2
Calcium	ICP	1000
Chromium	ICP	10
Cobalt	ICP	10
Copper	ICP	10
Iron	ICP	100
Lead	GFAA	2
Magnesium	ICP	1000
Manganese	ICP	10
Mercury	Cold Vapor	0.2
Nickel	ICP	20
Potassium	ICP	2000
Selenium	GFAA	2
Silver	ICP	5
Sodium	ICP	1000
Thallium	GFAA	2
Tin	ICP	40
Vanadium	ICP	10
Zinc	ICP	20
Cyanide	Colorimetric	5.0

Note: The above list may or may not contain compounds that are routinely analyzed at CRL for low level detection limits for drinking water.

See inorganic Routine Analytical Services (RAS) for related CAS #.

E

APPENDIX E

WELL LOGS OF THE AREA

WATER WELL RECORD

Rosemount | 115 | 19 | 21 | 24 | 35 | AND

Sketch map of well location

135 #57

Tim Gillispie
14805 Chilie Avenue
Rosemount, MN

4. WELL DEPTH (completed) 172 ft. Date of Completion 12/12/78

9. STATIC WATER LEVEL

10. PUMPING

11. WELL HEAD COMPLETION

12. Well grouted

13. Nearest sources of possible contamination

75 feet East direction Septic

Well disinfected upon completion? Yes XX

14. PUMP

Date Installed 12/12/78

Not Installed

Manufacturer's Name Fairbanks

Model Number 4C10014 HP 1 Volts 230

Length of drop pipe 147 ft. capacity 10 g.p.m.

Material of drop pipe Galv.

Type: XX Submersible 3 L. S. Turbine 5 Reciprocating

2 Jet 4 Centrifugal 6

16. WATER WELL CONTRACTOR'S CERTIFICATION

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

MAHER WELL COMPANY 18301

Route 1, Hastings, MN

Tom Mahler Date 6-5-79

Gale Mann Date 6-5-79

Name of Driller

5/74 30M
7/76 30M

MINN. DEPT. OF NATURAL RESOURCES COPY

WATER WELL RECORD

Minnesota Statutes 1961, 31.20

128713

Location	Section	Section Number	Township Number	Range Number
Wakata Co		21	115 N. or S.	19 E. or W.

Distance and direction from Road Intersections or Street Address and City of Well Location

63 ft East of Bonaire Path

Show map location of well in section grid. Sketch map of well location.

		HARDNESS OF FORMATION	FROM	TO
[illegible]	[illegible]	Hard	0	8
[illegible]	Brown	Hard	8	35
[illegible]	Brown	Hard	35	90
Coarse Sand	Brown	Hard	90	126
Clay Sand	Brown	Soft	126	170
Coarse Sand	Brown	Hard	170	182

965 Elev ?
113
852

113

Use a second sheet, if needed.

15. REMARKS, ELEVATION, SOURCE OF DATA, etc.

MINN. DEPT. OF NATURAL RESOURCES COPY

Walter Hansel Jr. Co. Rd 38
Address
2318 - Bonaire Path
Rosemount, Minn. 55068

4. WELL DEPTH (completed) 180 ft. Date of Completion 8-23-79

[illegible]

9. STATIC WATER LEVEL
113 ft. X below ☐ above land surface Date Measured 8-23-79

10. PUMPING LEVEL (below land surface)
165 ft. after 6 hrs. pumping 20 g.p.m.
ft. after hrs. pumping g.p.m.

11. WELL HEAD COMPLETION
X Pitless adapter 2☐ Basement offset X At least 12" above grade

12. Well grouted?
☐ Yes ☐ No Cu. Yds.
1☐ Neat cement 2☐ Bentonite 3☐
Depth: from ft. to ft.
from ft. to ft.

13. Nearest source of possible contamination
120 feet South direction Cesspool type
Well disinfected upon completion? Yes X No ☐

14. PUMP
Date installed 9-4-79
☐ Not installed
Manufacturer's Name Reda
Model Number 17-D-9-P-101 HP 1 Volts 230
Length of drop pipe 160 ft. capacity 12
Material of drop pipe Galv. Steel
Type: X Submersible 3☐ L.S. Turbine 5☐ Reciprocating
2☐ Jet 4☐ Centrifugal 6☐

16. WATER WELL CONTRACTOR'S CERTIFICATION
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Mendota Well Co. [illegible]
Address Mendota Minn.
Signed Carl Golter Date 9-4-79
Authorized Representative
Carl Golter
Name of Driller

7/74 30M

WATER WELL RECORD

101047

Location Description from Road Intersection or Street Address and City of Well Location

mi. East of State Hwy 3 on County 24 & 38

Show exact location of well in section grid with "X". Sketch map of well location.

10. PUMPING LEVEL (below land surface)

ft. after hrs. pumping g.p.m.

ft. after hrs. pumping g.p.m.

11. WELL HEAD COMPLETION

12. Well grouted

☒ Yes ☐ No

1 ☐ Neat cement 2 ☒ Bentonite 3 ☐

Depths: from ft. to ft.

from ft. to ft.

13. Nearest source of possible contamination

75 feet North direction type

Well disinfected upon completion Yes ☐ No ☐

14. PUMP

Date installed

☐ Not installed

Manufacturer's Name

Model Number HP Volts

Length of drop pipe 175 ft. capacity g.p.m.

Material of drop pipe Galv. Steel

Type: 1 ☒ Submersible 3 ☐ L.S. Turbine 5 ☐ Reciprocating

2 ☐ Jet 4 ☐ Centrifugal 6 ☐

16. WATER WELL CONTRACTOR'S CERTIFICATION

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Well Company License No.

Address 14745 Robert Trail, Rosemount

Signed [signature] Date 1-30-76

Authorized Representative

Name of Driller

7/74 30M

MINN. DEPT. OF NATURAL RESOURCES COPY

M.718

W 41-97
(Rev. 2-59)

ADP 1968

MINNESOTA CONSERVATION DEPARTMENT
DIVISION OF WATERS

WELL LOG STATEMENT

File No. _____

Well No. 115/19 28acd

MAIL REPORT PROMPTLY TO DIRECTOR, DIVISION OF WATERS, STATE OFFICE BLDG., ST. PAUL 1, MINN.

Location of Well 1 mile East of Highway 218 on cliff Road

Farmington quad

Locate Well on Plat of Section

Dakota — County
Rosemount — City or Town

Describe Further by Lot, Block, Nearest Highway, Street and Number

Sec. 28
Twp. 115N
Range 19W

Drilled for: Maurice Dewan
Address Rosemount

Driller Clarence Bitterman
Address 28 E George St St Paul

Date of Completion June 29 1959

Site ✓ (Upland, Valley, Hillside, Etc.)

Type of Well ✓ (Dug, Driven, Bored, Drilled)

Drill Rig Used ✓ (Solid Tool, Jet, Rotary)

Diameter: Top 4 Bottom 4

Depth of Well 207 feet

Ground Elevation 960 (Sea Level Datum or Give Distance Above or Below R. R., Highway, Lake, Etc.)

Height of Casing Above Ground 1 foot

Quality of Water ✓ (Hard or Soft, Fresh or Salty, Etc.)

Temperature of Water _____

Was Laboratory Analysis Made? No

For What Purpose Will Water Be Used? Farm

Is Well Pumped? Yes Pump Capacity _____ GPM

Was Well Sealed on Completion? Yes

Does Well Overflow Without Pumping? _____ Yes or No

Natural Flow _____ GPM

What Pressure, or Head, at Ground Level? _____

Principal Aquifer Penetrated Sand Gravel

REPORT OF FINAL PUMPING TEST

Date of Test June 30 1959

Duration of Test 1 Hrs. _____ Min.

Rate of Pumping 15 GPM

960
160
800

Static Water Level 160 Ft.

Water Level While Pumping _____ Ft.

Drawdown None Ft.

Time Required for Recovery _____

Expected Average Yield _____ Gal. per day

If Other Tests were Made, Give Details on Another Sheet.

Were Measurements Made of Effect on Other Nearby Wells During Test? Give Details.

RECEIVED
JUL 2 - 1959
DIVISION OF WATERS

Dakota Co Well Tags

ACKNOWLEDGED 7/2/59 MS

(Fill Out Both Sides of Form)

918

WELL LOG

Geologic Formations Kind, Color, Hard or Soft	Thickness of Formation	Depth in Feet From	Depth in Feet To	Casing Diam.	Water Conditions Found
Yellow Clay	30	0	30	4	
Sand & Gravel	30	30	60		
Fine sand	130	60	190		
Gravel	17	190	207		
				Indicate Size, Type, & Location of Any Screens, Gravel Packs, Grouting, or Other Development	

I hereby certify that, to the best of my knowledge, the data presented in this statement is a true and correct representation of conditions encountered in the construction of this well.

Dated at [illegible] this 1 day of July, 19[illegible]

(Firm Name) Corcoran Advert & Drug Co

By H C [illegible]

Title Loc Sec

$\frac{877-800}{2.875} = \frac{77}{2.875} = \frac{877-860}{x} = \frac{17}{x}$

$77x = 48.375$

$x = .635$

NO SPECIFIC LOC

115-19-29

W 97-41
(Rev. 1-66)

MINNESOTA CONSERVATION DEPARTMENT
DIVISION OF WATERS

WELL LOG STATEMENT

Approp. No. _____

Well No. _____

Mail Report Promptly To Director, Division Of Waters, Centennial Office Bldg., St. Paul 1, Minn.

Location of Well (address) County 30 & Hgway 3

Dakota — County
Rosemount — City or Town

Describe Further by Lot, Block, Nearest Highway.

Locate Well on Plat of Section

Sec. 29

Twp. 115

Range 19

Drilled for: Tom Diffley

Address Rosemount

Driller H C Nitzenberg

Address Rosemount

Date of Completion Aug 25 68

Type of well 1 Depth 88
Dug, Driven, Bored, Drilled

Casing diameter 4 inch, from ____ to ____

____ inch, from ____ to ____

____ inch, from ____ to ____

Screen: Length 5 ft Diameter 2 Slot size 10

Pump: Type Lub Horsepower 1/3 HP

REPORT OF FINAL PUMPING TEST

Duration of Test 2 Hrs. ____ Min. Date ____

Rate of Pumping 15 GPM

Static Water Level 40 Ft. Above / Below land surface

Water Level While Pumping 40 Ft.

Use: Domestic ☑ Industrial ☐ Irrigation ☐

Public supply ☐ Commercial ☐ Stock ☐

WELL LOG

Geologic Formations Kind, Color, Hard or Soft	Depth in Feet From	Depth in Feet To	Geologic Formations Kind, Color, Hard or Soft	Depth in Feet From	Depth in Feet To
Sand	0	88			

W 97-41
(Rev. 1-66)

MINNESOTA CONSERVATION DEPARTMENT
DIVISION OF WATERS

NO SPECIFIC LOC

WELL LOG STATEMENT

Approp. No. _____

Well No. _____

Mail Report Promptly To Director, Division Of Waters, Centennial Office Bldg., St. Paul 1, Minn.

Location of Well (address) _____

Dakota — County
Rosemount — City or Town

Describe Further by Lot, Block, Nearest Highway.

Locate Well on Plat of Section

Sec. _____
Twp. _____
Range _____

Drilled for: V FW Club
Address Rosemount Minn (Jack Bentum Road)

Driller Marvin Schwarz
Address Rosemount Minn

Date of Completion Dec 29 - 1970

Type of well Drilled (Dug, Driven, Bored, Drilled) Depth 157

Casing diameter 4 inch, from top to Bottom

_____ inch, from _____ to _____

_____ inch, from _____ to _____

Screen: Length 54 Diameter 2 Slot size 10

Pump: Type Sum. Horsepower ½ HP

REPORT OF FINAL PUMPING TEST

Duration of Test 2 Hrs. ____ Min. Date Dec 30 1970

Rate of Pumping 12 GPM

Static Water Level 120 Ft. Above / Below land surface

Water Level While Pumping 120 Ft.

Use: Domestic ☐ Industrial ☐ Irrigation ☐

Public supply ☐ Commercial ☐ Stock ☐

Club House.

WELL LOG

Geologic Formations Kind, Color, Hard or Soft	Depth in Feet From	Depth in Feet To	Geologic Formations Kind, Color, Hard or Soft	Depth in Feet From	Depth in Feet To
Clay	0	23			
Clay & Sand	23	38			
Gravel	38	116			
Very coarse gravel & very hard	116	120			
sand	120	138			
clay	138	140			
sand	140	157			

NO SPECIFIC LOC

W 97-41
(Rev. 1-61)

ADP 1968

MINNESOTA CONSERVATION DEPARTMENT
DIVISION OF WATERS

WELL LOG STATEMENT

Director	
Publ.	
Ground W.	

Dakota Co. well log

Well No. _____

Mail Report Promptly To Director, Division Of Waters, Centennial Office Bldg., St. Paul 1, Minn.

Location of Well (address) _____

Dakota — County
Rosemount — City or Town

Describe Further by Lot, Block, Nearest Highway.

Locate Well on Plat of Section

Sec. _____
Twp. _____
Range _____

Drilled for: Erwin Ulrich
Address Rosemount

Driller H C Uttenbogerd
Address Rosemount

Date of Completion Apr. 15 64

Type of well Drilled Depth 240
Dug, Driven, Bored, Drilled

Casing diameter 6 inch, from Top to Bottom
_____ inch, from _____ to _____
_____ inch, from _____ to _____

Screen: Length _____ Diameter _____ Slot size _____

Pump: Type Sub. Horsepower 3/4 HP

REPORT OF FINAL PUMPING TEST

Duration of Test 2 Hrs. _____ Min. Date Apr 15

Rate of Pumping 15 GPM

Static Water Level 130 Ft. Above / Below land surface

Water Level While Pumping Same Ft.

Use: Domestic ☒ Industrial ☐ Irrigation ☐
Public supply ☐ Commercial ☐ Stock ☐

WELL LOG

Geologic Formations Kind, Color, Hard or Soft	Depth in Feet From	Depth in Feet To	Geologic Formations Kind, Color, Hard or Soft	Depth in Feet From	Depth in Feet To
Clay	0	80			
Gravel	80	160			
Sandstone	160	220			
Lime Stone	220	240			

THE DATA CONTAINED HEREIN IS CONFIDENTIAL AND SHALL BE USED FOR SCIENTIFIC PURPOSES ONLY BY DIV. OF WATERS IN ACCORDANCE WITH MSA 105.51.

3347

49

W-21-97
(Rev. 1-56)

ADP 1968

MINNESOTA CONSERVATION DEPARTMENT
DIVISION OF WATERS

Farmington Q

File No.

Well No. 115.19.29bcd

WELL LOG STATEMENT

MAIL REPORT PROMPTLY TO DIRECTOR, DIVISION OF WATERS, STATE OFFICE BLDG., ST. PAUL 1, MINN.

Location of Well

Dakota — County
Rosemount — City or Town
On cliff Road ¼ mi W of Minn 218
Describe Further by Lot, Block, Nearest Highway, Street and Number

Locate Well on Plat of Section

Sec. 29
Twp. 115N
Range 19W

Owner Roger Wenecke
Address Rosemount

Driller C Bitterman
Address 785 Geo St W St Paul

Date of Completion Aug 10-59, 1959

Site ✓
Upland, Valley, Hillside, Etc.

Type of Well ✓
Dug, Driven, Bored, Drilled

Drill Rig Used ✓
Solid Tool, Jet, Rotary

Diameter: Top 4 Bottom 4

Depth of Well 175 ft

Ground Elevation 980
Sea Level Datum or Give Distance Above or Below R. R., Highway, Lake, Etc.

Height of Casing Above Ground 1 ft

Quality of Water
(Hard or Soft, Fresh or Salty, Etc.)

Temperature of Water

Was Laboratory Analysis Made?

For What Purpose Will Water Be Used? Home

Is Well Pumped? No Pump Capacity GPM

Was Well Sealed on Completion?

Does Well Overflow Without Pumping?
Yes or No

Natural Flow GPM

What Pressure, or Head, at Ground Level?

Principal Aquifer Penetrated

REPORT OF FINAL PUMPING TEST

Date of Test Aug 10, 1959

Duration of Test 1 Hrs. Min.

Rate of Pumping 15 GPM

Static Water Level 110 Ft. (870)

Water Level While Pumping Same Ft.

Drawdown None Ft.

Time Required for Recovery

Expected Average Yield 150 Gal. per day

If Other Tests were Made, Give Details on Another Sheet.

Were Measurements Made of Effect on Other Nearby Wells During Test? Give Details

RECEIVED
AUG 24 1959
DIVISION OF WATERS

Director			Hydro Stud	
Deputy			Reports	
Secretary		✓	Hydro Geol	8-24-59
Records			Surface W	
Permits				
Inspection				
Drainage				
			Dakota Co Well Logs	

ACKNOWLEDGED 8/24/59 ms

THE DATA CONTAINED HEREIN IS
CONFIDENTIAL
AND IS TO BE USED FOR SCIENTIFIC STUDY ONLY BY DIV. OF WATERS IN ACCORDANCE WITH MSA 105.51.

WELL LOG

Geologic Formations Kind, Color, Hard or Soft	Thickness of Formation	Depth in Feet From	Depth in Feet To	Casing Diam.	Water Conditions Found
Gravel	15	0	15	4	
Sand	160	15	175		Screen
					Indicate Size, Type, & Location of Any Screens, Gravel Packs, Grouting, or Other Development

State of Minnesota)
) ss.
County of _____)

_____ being first duly sworn, deposes and says, that the above well was constructed by him or under his supervision, and that he is personally familiar with the data presented in this statement, and that he hereby verifies that it is true and correct.

Subscribed and Sworn To Before Me

This _____ Day of _____ 19___

_____

Notary Public _____ County, Minn.

(Firm Name) CORCORAN HOWE & Dunn

FAIRMONT, MINNESOTA

By Hubert Wittenberg

Title _____

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

RECORD OF WELL

No. 1

State Minnesota County Dakota

Name of P. O. NE¼, NE¼ Direction from P. O.

Distance from P. O. ___ miles; SW ¼ sec. 29, T. 115, R. 19W

If in city, give street and number in fire hall

Locate well on plat of section.

115/19-29 cad 1
Farmington Quad

PA
76-6069

2. Owner: Rosemont Address

Driller: [illegible] Well Co. Address St. Paul, Minnesota

3. Situation: Is well on upland, in valley, or on hillside?

4. Elevation of top of well: 962 ft. above (Above or below) the level of Sea (Sea, depot, lake, or stream)

5. Type of well: drilled (Dug, driven, bored, or drilled); kind of drilling rig used (Solid tool, jetting, rotary, etc.)

6. Depth of well: 250 ft.; year in which well was finished 1928

Does well enter rock? yes; if so, at what depth? 150 ft.; kind of rock

7. Diameter: At top 10 inches; at bottom 10 inches.

8. Principal water bed: Rock (Gravel, sand, clay, or rock. If rock, state kind)

Depth to principal water bed ___ ft.; thickness of bed ___ ft.

If other water supplies were found, give depth to each

9. Casings: Kind steel; size 10; length 150 ft.; between depths of ___ and ___ ft.

Kind ___; size ___; length ___ ft.; between depths of ___ and ___ ft.

Kind ___; size ___; length ___ ft.; between depths of ___ and ___ ft.

Packers (if any): Depth at which packers were used ___; kind

Screen or Strainer: Was well finished with screen? no; kind of screen ___;

length of screen ___ ft.; diameter ___ inches; size of openings

10. Head: Does well at present overflow without pumping? no; did it overflow when new? no:

if flowing, give pressure ___ lb. per sq. inch; or height water will rise in a pipe ___ ft. above surface;

original pressure or head ___; if not flowing, give water level in well 90 ft. below surface. 110 ft - 1959

11. Pump: Is the well pumped? yes; kind of pump cook:

size or capacity of pump 60 125 gpm.; kind of power electric

12. Yield: Natural flow at present (if any) none gallons per minute; original flow ___ gallons per minute:

well has been pumped at ___ gallons per minute continuously for ___ hours

quantity of water ordinarily obtained from well ___ gallons per day.

13. Use: For what purpose is the water used? Alternate

14. Quality of the water: Good (Hard or soft, fresh or salty, etc.); is there an analysis? State

15. Cost of well, not including pump: $2500 Temperature of water ___ ° F

Name of person filling blank R. J. McDonald Mayor by BLG

Date 2-5-52 Address Rosemont

On the back of this sheet give the record of the beds through which the well passes and any other facts not given above.

16—65665-1

LOG OF WELL

KIND OF ROCK OR OTHER MATERIAL (Give color and tell whether hard or soft)	DEPTH, IN FEET From—	To—	THICKNESS, IN FEET	REMARKS (Especially information as to water found)
Dr[illegible]	[illegible]	[illegible]	162	
St. Peter (hard 5.S.)	162	165	3	water bearing
5.S.	165	216	51	no water
Shakopee-Oneota Flinty blue dol	216	250	36	

☆ U. S. GOVERNMENT PRINTING OFFICE 16—65065-1

Ck with driller for log ADP 1968

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

Data checked with Ed. McDonald Mayor 7-7-59

RECORD OF WELL

No. 2

Locate well on plat of section.

115/19-29 C2a2

1. **Location:** State Minnesota County Dakota
   Nearest P. O. _____ Direction from P. O. _____
   Distance from P. O. NE¼ NE¼ miles; SW ¼ sec. 29, T. 115N, R. 19W
   If in city, give street and number fire hall

2. **Owner:** Rosemont Address _____
   Driller: Beaudette, F. Address Minneapolis, Minnesota

3. **Situation:** Is well on upland, in valley, or on hillside? _____

4. **Elevation of top of well:** 962 ft. above (Above or below) the level of Sea (Sea, depot, lake, or stream)

5. **Type of well:** drilled (Dug, driven, bored, or drilled); kind of drilling rig used _____ (Solid tool, jetting, rotary, etc.)

6. **Depth of well:** 450 ft.; year in which well was finished 1949
   Does well enter rock? yes; if so, at what depth? 125 ft.; kind of rock ?

7. **Diameter:** At top 12 inches; at bottom _____ inches.

8. **Principal water bed:** Jordan S.S. ? (Gravel, sand, clay, or rock. If rock, state kind)
   Depth to principal water bed _____ ft.; thickness of bed _____ ft.
   If other water supplies were found, give depth to each _____

9. **Casings:** Kind steel; size 12; length 125 ft.; between depths of _____ and _____ ft.
   Kind _____; size _____; length _____ ft.; between depths of _____ and _____ ft.
   Kind _____; size _____; length _____ ft.; between depths of _____ and _____ ft.
   Packers (if any): Depth at which packers were used _____; kind _____
   Screen or Strainer: Was well finished with screen? no; kind of screen _____;
   length of screen _____ ft.; diameter _____ inches; size of openings _____

10. **Head:** Does well at present overflow without pumping? no; did it overflow when new? no;
    if flowing, give pressure _____ lb. per sq. inch; or height water will rise in a pipe _____ ft. above surface;
    original pressure or head _____; if not flowing, give water level in well 110 ft - 1959 90 ft. below surface.

11. **Pump:** Is the well pumped? yes; kind of pump Turbine
    size or capacity of pump 200 gpm; kind of power _____

12. **Yield:** Natural flow at present (if any) none gallons per minute; original flow _____ gallons per minute;
    well has been pumped at _____ gallons per minute continuously for _____ hours;
    quantity of water ordinarily obtained from well _____ gallons per day.

13. **Use:** For what purpose is the water used? Alternate

14. **Quality of the water:** _____ (Hard or soft, fresh or salty, etc.); is there an analysis? state

15. **Cost of well, not including pump:** $7000 Temperature of water _____ °F.

Name of person filling blank _____

Date 2-5-52 Address _____

On the back of this sheet give the record of the beds through which the well passes and any other facts not given above.

16—66668-1

LOG OF WELL

KIND OF ROCK OR OTHER MATERIAL (Give color and tell whether hard or soft)	DEPTH, IN FEET From—	To—	THICKNESS, IN FEET	REMARKS (Especially information as to water)
Drift sand	0	162	162	
Peter hard S.S.	162	165	3	water bearing
Peter S.S.	165	216	51	
Stakopee-Oneota Flinty blue dol	216	?		
Jordan	?	?		

Farmington Q

No. 41-97 (Rev. 1-56)

RECEIVED

SEP 9 1959

DIVISION OF WATERS

ADP 1968

MINNESOTA CONSERVATION DEPARTMENT
DIVISION OF WATERS

WELL LOG STATEMENT

File No. _____

Well No. 115.19.30 bdd

MAIL REPORT PROMPTLY TO DIRECTOR, DIVISION OF WATERS, STATE OFFICE BLDG., ST. PAUL 1, MINN.

Location of Well Lakewood Hills Cliff Road

Dakota County — Rosemount City or Town

1 Mile west of Minn 218 - on cliff road

Describe Further by Lot, Block, Nearest Highway, Street and Number

Locate Well on Plat of Section

Sec. 30

Twp. 115N

Range 19W

Owner Robert Giefer

Address Rosemount

Driller C Bitterman

Address 78 W Geo St St Paul

Date of Completion Sept 1 59

Site ✓ Upland, Valley, Hillside, Etc.

Type of Well ✓ Dug, Driven, Bored, Drilled

Drill Rig Used ✓ Solid Tool, Jet, Rotary

Diameter: Top 4 Bottom 4

Depth of Well 169

Ground Elevation 940 Sea Level Datum or Give Distance Above or Below R. R., Highway, Lake, Etc.

Height of Casing Above Ground 1 ft.

Quality of Water _____ (Hard or Soft, Fresh or Salty, Etc.)

Temperature of Water _____

Was Laboratory Analysis Made? _____

For What Purpose Will Water Be Used? Home

Is Well Pumped? [illegible] Pump Capacity [illegible] GPM

Was Well Sealed on Completion? [illegible]

Does Well Overflow Without Pumping? No Yes or No

Natural Flow _____ GPM

What Pressure, or Head, at Ground Level? _____

Principal Aquifer Penetrated Sand

REPORT OF FINAL PUMPING TEST

Date of Test Sept 1

Duration of Test 1 Hrs. _____ Min.

Rate of Pumping 12 GPM

Static Water Level 105 Ft. (835)

Water Level While Pumping Same Ft.

Drawdown _____ Ft.

Time Required for Recovery _____

Expected Average Yield _____ Gal. per day

If Other Tests were Made, Give Details on Another Sheet.

Were Measurements Made of Effect on Other Nearby Wells During Test? Give Details.

ACKNOWLEDGED 9/9/59 MS

Dakota Co Well Logs

102

(Fill Out Both Sides of Form)

WELL LOG

Geologic Formations Kind, Color, Hard or Soft	Thickness of Formation	Depth in Feet From	Depth in Feet To	Casing Diam.	Water Conditions Found
Sand	30	0	30	4	
Gravel	40	30	70		
Clay	70	70	140		940
Marl	30	140	170		169
					171
					Indicate Size, Type, & Location of Any Screens, Gravel Packs, Grouting, or Other Development

State of Minnesota)
) ss.
County of Dakota)

McCORAN HOWE
& ASS. CO.
ROSEMOUNT, MINNESOTA

McCORAN HOWE
& ASS. CO.
ROSEMOUNT, MINNESOTA

_____ being first duly sworn, deposes and says, that the above well was constructed by him or under his supervision, and that he is personally familiar with the data presented in this statement, and that he hereby verifies that it is true and correct.

Subscribed and Sworn To Before Me

This _____ Day of _____ 19___

_____

Notary Public _____ County, Minn.

(Firm Name) _____

By Hubert Utolenberg

Title V Pres

Farmington Q

W 41-97
(Rev. 2-59)

ADP 1968

MINNESOTA CONSERVATION DEPARTMENT
DIVISION OF WATERS

WELL LOG STATEMENT

MAIL REPORT PROMPTLY TO DIRECTOR, DIVISION OF WATERS, STATE OFFICE BLDG., ST. PAUL 1, MINN.

File No. _____

Well No. 115.19.30caa

Location of Well _____

Dakota — County; Rosemount — City or Town

Cliff road 1 mile W of Minn 218 — Describe Further by Lot, Block, Nearest Highway, Street and Number

Locate Well on Plat of Section

Sec. 30

Twp. 115N

Range 19W

Drilled for: Richard Eng

Address Rosemount

Driller C Bitterman

Address 78 E Geo West St Paul
Ca 2-6778

Date of Completion Aug 15, 1959

Site ✓ — Upland, Valley, Hillside, Etc.

Type of Well ✓ — Dug, Driven, Bored, Drilled

Drill Rig Used ✓ — Solid Tool, Jet, Rotary

Diameter: Top 4 Bottom 4

Depth of Well 149 ft

Ground Elevation 940 ± — Sea Level Datum or Give Distance Above or Below R. R., Highway, Lake, Etc.

Height of Casing Above Ground 1 ft

Quality of Water _____ (Hard or Soft, Fresh or Salty, Etc.)

Temperature of Water _____

Was Laboratory Analysis Made? _____

For What Purpose Will Water Be Used? Home

Is Well Pumped? Yes Pump Capacity 0 GPM

Was Well Sealed on Completion? _____

Does Well Overflow Without Pumping? _____ Yes or No

Natural Flow _____ GPM

What Pressure, or Head, at Ground Level? _____

Principal Aquifer Penetrated _____

REPORT OF FINAL PUMPING TEST

Date of Test Aug 15, 1959

Duration of Test 1 Hrs. _____ Min.

Rate of Pumping 15 GPM

Static Water Level 85 Ft. (855)

Water Level While Pumping _____ Ft.

Drawdown none Ft.

Time Required for Recovery _____

Expected Average Yield 200 Gal. per day

If Other Tests were Made, Give Details on Another Sheet.

Were Measurements Made of Effect on Other Nearby Wells During Test? Give Details.

RECEIVED
AUG 24 1959
DIVISION OF WATERS

Director			Hydro Stud	
Deputy				
Secretary		✓		
Records				
Permits		✓	JT	
Inspection				
Drainage				
			Dakota Co	
			Well Logs	

ACKNOWLEDGED 8/24/59 ml

THE DATA CONTAINED HEREIN IS CONFIDENTIAL AND IS TO BE USED FOR SCIENTIFIC STUDY ONLY BY DIV. OF WATERS IN ACCORDANCE WITH MSA 105.51.

(Fill Out Both Sides of Form)

977

WELL LOG

Geologic Formations Kind, Color, Hard or Soft	Thickness of Formation	Depth in Feet From	Depth in Feet To	Casing Diam.	Water Conditions Found
Soft rocks	30	0	30	4	
Gravel	30	30	60		
Silt & sand	80	60	140		
Coarse sand	9	140	149		
					940
					149
					791
					Johnson No 254-10 slot screen
				Indicate Size, Type, & Location of Any Screens, Gravel Packs, Grouting, or Other Development	

I hereby certify that, to the best of my knowledge, the data presented in this statement is a true and correct representation of conditions encountered in the construction of this well.

Dated at Rosemount this 20 day of Aug, 1969

CORCORAN HDWE. & IMP. CO.
ROSEMOUNT, MINNESOTA

(Firm Name) _____

By _____

Title HC Uttenbogaard

WATER WELL RECORD

Minnesota Statutes 1984 01-08

101181

Location of Well	Fraction	Section Number	Township Number	Range Number
[illegible]		[illegible]	[illegible] S.	[illegible] W.

Distance and Direction from Road Intersections or Street Address and City of Well Location

Show exact location of well in section grid with "X." Sketch map of well location.

Formation	Color	Hardness of Formation	From	To
[illegible]			0	177
[illegible]	[illegible]		177	[illegible]
[illegible]	[illegible]		[illegible]	[illegible]
[illegible]	[illegible]		[illegible]	[illegible]

ELEV ~ 950'
73
377

Use a second sheet, if needed.

15. REMARKS, ELEVATION, SOURCE OF DATA, etc.

3. PROPERTY OWNER

[illegible]

Address [illegible]

[illegible]

4. WELL DEPTH (completed) [illegible] ft. Date of Completion [illegible]

[illegible]

9. STATIC WATER LEVEL

[illegible] ft. [illegible] below [illegible] above Land surface Date Measured [illegible]

10. PUMPING LEVEL (below land surface)

_____ ft. after _____ hrs. pumping _____ g.p.m.

_____ ft. after _____ hrs. pumping _____ g.p.m.

11. WELL HEAD COMPLETION

1 [ ] Pitless adapter 2 [ ] Basement offset [illegible]

12. Well grouted?

[ ] Yes [ ] No Ct. Yds. _____

1 [ ] Neat cement 2 [ ] Bentonite 3 [ ] _____

Depth: from _____ ft. to _____ ft.

from _____ ft. to _____ ft.

13. Nearest source of possible contamination

_____ feet _____ direction _____ type

Well disinfected upon completion? Yes [ ] No [illegible]

14. PUMP

Date installed [illegible]

[ ] Not installed

Manufacturer's Name [illegible]

Model Number _____ HP [illegible] Volts _____

Length of drop pipe [illegible] ft. capacity [illegible] g.p.m.

Material of drop pipe galv. steel

Type: 1 [X] Submersible 3 [ ] L.S. Turbine 5 [ ] Reciprocating

2 [ ] Jet 4 [ ] Centrifugal 6 [ ] _____

16. WATER WELL CONTRACTOR'S CERTIFICATION

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

[illegible] Well Company [illegible]

Licensee Business Name Licensee No.

Address [illegible] St. Robert Tr., [illegible]

Signed [signature] Date [illegible]

Authorized Representative

[illegible]

Gary [illegible]

Name of Driller

7/74 30M

MINN. DEPT. OF NATURAL RESOURCES COPY

STATE OF MINNESOTA — DEPARTMENT OF HEALTH

WATER WELL RECORD

Minnesota Statutes Section 1.04

MINNESOTA UNIQUE WELL NO. 136548

Township Number	Section No.	Fraction
115 N 39 W	32	SW SW NW

Distance and Direction from Road Intersections or Street Address and City of Well Location

Show exact location of well in section grid with "X"

Sketch map of well location

[illegible]	[illegible]	[illegible]	0	170
[illegible]	[illegible]	[illegible]	170	[illegible]

Use a second sheet, if needed.

2. PROPERTY OWNER'S NAME

Harold Wachter
[illegible] Chippendale Ave. West,
Rosemount, MN 55068

4. WELL DEPTH (completed) 200

Date of Completion [illegible]

9. STATIC WATER LEVEL [illegible]

10. PUMPING LEVEL (below land surface) [illegible]

11. WELL HEAD COMPLETION [illegible]

12. Well grouted? ☒ Yes ☐ No

1☐ Next Cement ☒ Bentonite

Depth: from 0 ft. to 170 ft.

from ft. to ft.

13. Nearest source of possible contamination [illegible]

75 feet [illegible] direction [illegible] type

Well disinfected upon completion? Yes ☒ No ☐

14. PUMP

Date Installed [illegible]

☐ Not installed

Manufacturer's Name Deming

Model Number HP 3/4 Volts

Length of drop pipe 93 ft. capacity 14 g.p.m.

Material of drop pipe Galv Steel

Type: 1☒ Submersible 3☐ L. S. Turbine 5☐ Reciprocating

2☐ Jet 4☐ Centrifugal 6☐

16. WATER WELL CONTRACTOR'S CERTIFICATION

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

[illegible] Business Name [illegible] License No.

Address 14745 South Robert Trail

Signed [illegible] Date 5/9/78

Authorized Representative

Lester L. Anderson Date

Name of Driller

MINN. DEPT. OF NATURAL RESOURCES COPY

5/74 3000

State of Minnesota
Department of Health

WATER WELL RECORD

Minnesota Statutes Chapter 156A

101119

County | Quarter | Section Number | Township Number | Range Number
[illegible] | | 32 | [illegible] | [illegible]

Nearest Town, Street and Number, Road Intersections or Street Address and City of Well Location

Show exact location of well in section grid with "X."

Sketch map of well location.

Depth Drilled	Casing Diameter	Weight	Kind	Diameter of Finished Hole	From	To
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

~ 960
73
5 72
3

Use a second sheet if needed.

15. REMARKS, ELEVATION, SOURCE OF DATA, etc.

Name of Well Contractor
[illegible]
Address
[illegible]
Licensed Well Contractor [illegible]

4. Well Depth Completed | Date of Completion
[illegible]

9. Grouting Material
[illegible] Yes [illegible] No [illegible] Date Installed [illegible]

10. Perforated Pipe (Indicate kind and material)
[illegible] ft. [illegible] in. [illegible] ft.

11. Well Head Completion
[illegible]

12. Well Sealed
[illegible] Yes [illegible] No
1 [illegible] Neat Cement [illegible] Bentonite
Depth: From [illegible] ft. to [illegible] ft.
From [illegible] ft. to [illegible] ft.

13. Nearest Source of Possible Contamination
[illegible] feet [illegible] direction [illegible]
Well disinfected upon completion? Yes [illegible] No [illegible]

14. Pump
Date Installed [illegible]
[illegible] Not installed
Manufacturer's Name [illegible]
Model Number _____ HP [illegible] Volts _____
Length of drop pipe [illegible] ft. capacity _____ g.p.m.
Material of drop pipe [illegible]
Type: [illegible] 1 Submersible 3 L.S. Turbine 5 Reciprocating
2 Jet 4 Centrifugal 6 _____

16. WATER WELL CONTRACTOR'S CERTIFICATION
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name of Well Contractor [illegible]
Address [illegible]
Signed [illegible] Date [illegible]
Licensed Representative
[illegible]
Name of Driller

7/74 30M

MINN. DEPT. OF NATURAL RESOURCES COPY

DAKOTA

W 97-41
(Rev. 1-61)

MINNESOTA CONSERVATION DEPARTMENT
DIVISION OF WATERS

WELL LOG STATEMENT

Director	
Publ.	
Ground W.	

Well No. _____

Mail Report Promptly To Director, Division Of Waters, Centennial Office Bldg., St. Paul 1, Minn.

Location of Well (address) 4820 Excelsior Blvd.

County: _____ City or Town: Rosemount

Describe Further by Lot, Block, Nearest Highway.

75-6023

Locate Well on Plat of Section: S½ & SW¼

Sec. 32

Twp. 115

Range 19

Drilled for: Northern Propane Gas Co.
Address 4820 Excelsior Blvd.
Minneapolis, Minnesota

Driller Bergerson-Caswell Inc.
Address 13120 Wayzata Blvd.
Minnetonka, Minn. 55343

Date of Completion 11/15/74

Type of well drilled (Dug, Driven, Bored, Drilled) Depth 325

Casing diameter 20 inch, from 0 to 187'
16" inch, from 0 to 208'
_____ inch, from _____ to _____

Screen: Length _____ Diameter _____ Slot size _____

Pump: Type turbine Horsepower 200

REPORT OF FINAL PUMPING TEST

Duration of Test _____ Hrs. _____ Min. Date _____

Rate of Pumping 1050 GPM

Static Water Level 67'5" Ft. ~~Above~~ Below land surface

Water Level While Pumping 167'1" Ft.

Use: Domestic ☐ Industrial ☒ Irrigation ☐ Fire protection system

Public supply ☐ Commercial ☐ Stock ☐

WELL LOG

Geologic Formations Kind, Color, Hard or Soft	Depth in Feet From	Depth in Feet To	Geologic Formations Kind, Color, Hard or Soft	Depth in Feet From	Depth in Feet To
Pit	0	10			
Sand & gravel	10	78			
Clay, silty	78	90			
Clay & sand	90	118			
Clay, yellow sand	118	145	950 0		
Sand, shaley, hard gravel and stones	145	175	67.5 / 82.5		
Sandrock, gravel broken	175	181			
Sandrock, hard	181	188			
Limerock	188	325			

W 41-97 ADP 1968
(Rev. 2-58)

MINNESOTA CONSERVATION DEPARTMENT
DIVISION OF WATERS

WELL LOG STATEMENT

MAIL REPORT PROMPTLY TO DIRECTOR, DIVISION OF WATERS, STATE OFFICE BLDG., ST. PAUL 1, MINN.

File No. _____

Well No. 115.19.33cca

Location of Well Agricultural Experiment Station
University of Minnesota, Rosemount

Dakota (County) Rosemount (City or Town)

NE¼SW¼SW¼ sec. 13, T. 115 N., R. 19 W.
Describe Further by Lot, Block, Nearest Highway, Street and Number

Locate Well on Plat of Section

X			

Sec. 33

Twp. 115 N.

Range 19 W.

Drilled for: University of Minnesota
Agricultural Experiment Station

Address Rosemount, Minn.

Driller Keys Well Drilling Co.

Address St. Paul, Minn.

Date of Completion September 1947

Site level
Upland, Valley, Hillside, Etc.

Type of Well drilled
Dug, Driven, Bored, Drilled

Drill Rig Used _____
Solid Tool, Jet, Rotary

Diameter: Top 8" Bottom _____

Depth of Well 434 feet

Ground Elevation about 944
Sea Level Datum or Give Distance Above

_____
or Below R. R., Highway, Lake, Etc.

Height of Casing Above Ground 1 ft.

Quality of Water hard
(Hard or Soft, Fresh or Salty, Etc.)

Temperature of Water _____

Was Laboratory Analysis Made? _____

For What Purpose Will Water Be Used? livestock and fire protection

Is Well Pumped? yes Pump Capacity 140 GPM

Was Well Sealed on Completion? yes

Does Well Overflow Without Pumping? no
Yes or No

Natural Flow none GPM

What Pressure, or Head, at Ground Level? _____

Principal Aquifer Penetrated _____

REPORT OF FINAL PUMPING TEST

Date of Test September 1947

Duration of Test _____ Hrs. _____ Min. 10

Rate of Pumping 205 GPM

Static Water Level 75 Ft.

Water Level While Pumping _____ Ft.

Drawdown 12 Ft.

Time Required for Recovery 14

Expected Average Yield _____ Gal. per day

If Other Tests were Made, Give Details on Another Sheet.

Were Measurements Made of Effect on Other Nearby Wells During Test? Give Details.

no

944
75
869

(Fill Out Both Sides of Form)

WELL LOG

Geologic Formations Kind, Color, Hard or Soft	Thickness of Formation	Depth in Feet From	Depth in Feet To	Casing Diam.	Water Conditions Found
Drift					
Sandy loam and sand	12	0	12		
Clay mixed with gravel	60	12	72		
Sand	20	72	92		
Coarse sand & gravel	10	92	102		
Hardpan	14	102	116		
Sand and clay	14	116	130		
Clay and gravel	16	130	146		
Clay and sand	22	146	168		
Shakopee-Onsota dolomite					
Dolomite	105	168	273		
Dolomite with streaks of sandrock & shale	18	273	291		
Dolomite	68	291	359		
Dolomite with gray sandrock	14	359	373		
Jordan sandstone	61	373	434		
				Indicate Size, Type, & Location of Any Screens, Gravel Packs, Grouting, or Other Development	

I hereby certify that, to the best of my knowledge, the data presented in this statement is a true and correct representation of conditions encountered in the construction of this well.

Dated at Rosemount this 30th day of July, 1959

(Firm Name) University of Minnesota
Agricultural Experment Station
Rosemount, Minnesota

By /s/A. C. Heine

Title Superintendent

W 41-97
(Rev. 2-59) ADP 1968

MINNESOTA CONSERVATION DEPARTMENT
DIVISION OF WATERS

WELL LOG STATEMENT

bedrock plotted

Farmington

File No. _____

Well No. 115/19-33 acc

MAIL REPORT PROMPTLY TO DIRECTOR, DIVISION OF WATERS, STATE OFFICE BLDG., ST. PAUL 1, MINN.

Location of Well Agric. Exp. Station, Rosemount

Dakota (County) Rosemount Twp (City or Town)

North hog lots
Describe Further by Lot, Block, Nearest Highway, Street and Number

Locate Well on Plat of Section

		x	

Sec. 33

Twp. 115 N

Range 19 W ~~22 W~~

Drilled for: U of Minn.

Address Agric. Exp. Station
Rosemount

Date of Completion Jan. 1959

Site Level
Upland, Valley, Hillside, Etc.

Type of Well Drilled
Dug, Driven, Bored, Drilled

Drill Rig Used _____
Solid Tool, Jet, Rotary

Diameter: Top 4 in Bottom _____

Depth of Well 153

Ground Elevation 954
Sea Level Datum or Give Distance Above
or Below R. R., Highway, Lake, Etc.

Height of Casing Above Ground 16 in

Quality of Water Hard
(Hard or Soft, Fresh or Salty, Etc.)

Temperature of Water _____

Was Laboratory Analysis Made? No

For What Purpose Will Water Be Used? [illegible]

Is Well Pumped? Yes Pump Capacity _____ GPM

Was Well Sealed on Completion? [illegible]

Does Well Overflow Without Pumping? No
Yes or No

Natural Flow _____ GPM

What Pressure, or Head, at Ground Level? _____

Principal Aquifer Penetrated _____

Driller Corcoran Hdware & Imp

Address Rosemount, Minn

REPORT OF FINAL PUMPING TEST

Date of Test Jan. 1959

Duration of Test 6 Hrs. _____ Min.

Rate of Pumping 30 GPM

Static Water Level 98 Ft. → 866

Water Level While Pumping [illegible] Ft.

Drawdown [illegible] Ft.

Time Required for Recovery 2

Expected Average Yield _____ Gal. per day

If Other Tests were Made, Give Details on Another Sheet.

Were Measurements Made of Effect on Other Nearby Wells During Test? Give Details.

No

954
98
856

(Fill Out Both Sides of Form)

950

WELL LOG

Geologic Formations Kind, Color, Hard or Soft	Thickness of Formation	Depth in Feet From	Depth in Feet To	Casing Diam.	Water Conditions Found
[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]		
Gravel & clay mixture	33	60	93		
Sandstone	60	93	153		
Limestone	[illegible]	153	221		[illegible]
[illegible]		107	[illegible]		[illegible]
					Indicate Size, Type, & Location of Any Screens, Gravel Packs, Grouting, or Other Development

I hereby certify that, to the best of my knowledge, the data presented in this statement is a true and correct representation of conditions encountered in the construction of this well.

Dated at _____ this 30 day of July, 19[illegible]

(Firm Name) UNIVERSITY OF MINNESOTA
AGRICULTURAL EXPERIMENT STATION
ROSEMOUNT, MINNESOTA

By [illegible]

Title Superintendent

W 41-97
(Rev. 2-59)

ADP. 1968

MINNESOTA CONSERVATION DEPARTMENT
DIVISION OF WATERS

WELL LOG STATEMENT

No Betrak data avail

Farming ton

File No. _____

Well No. 115/19-33cbd-

MAIL REPORT PROMPTLY TO DIRECTOR, DIVISION OF WATERS, STATE OFFICE BLDG., ST. PAUL 1, MINN.

Location of Well Agric. Exp. Station, Rosemount

Dakota (County) Rosemount Twp. (City or Town)

Farm House well
Describe Further by Lot, Block, Nearest Highway, Street and Number

Locate Well on Plat of Section

X			

Sec. 33

Twp. 115N

Range ~~22~~ 19 W

Drilled for: University of Minnesota

Address Agric. Exp. Station
Rosemount Minn

Date of Completion ?

Site Level
Upland, Valley, Hillside, Etc.

Type of Well Drilled
Dug, Driven, Bored, Drilled

Drill Rig Used _____
Solid Tool, Jet, Rotary

Diameter: Top 2 1/2 Bottom _____

Depth of Well _____

Ground Elevation 938
Sea Level Datum or Give Distance Above

_____
or Below R. R., Highway, Lake, Etc.

Height of Casing Above Ground 16"

Quality of Water Hard
(Hard or Soft, Fresh or Salty, Etc.)

Temperature of Water _____

Was Laboratory Analysis Made? _____

For What Purpose Will Water Be Used? _____

Is Well Pumped? Yes Pump Capacity 5 GPM

Was Well Sealed on Completion? Yes

Does Well Overflow Without Pumping? NO
Yes or No

Natural Flow _____ GPM

What Pressure, or Head, at Ground Level? _____

Principal Aquifer Penetrated _____

Driller _____

Address [illegible]

REPORT OF FINAL PUMPING TEST

Date of Test _____

Duration of Test _____ Hrs. _____ Min.

Rate of Pumping _____ GPM

Static Water Level 60 Ft. → 878

Water Level While Pumping _____ Ft.

Drawdown _____ Ft.

Time Required for Recovery _____

Expected Average Yield _____ Gal. per day

If Other Tests were Made, Give Details on Another Sheet.

Were Measurements Made of Effect on Other Nearby Wells During Test? Give Details.

No

(Fill Out Both Sides of Form)

WELL LOG

Geologic Formations Kind, Color, Hard or Soft	Thickness of Formation	Depth in Feet From	Depth in Feet To	Casing Diam.	Water Conditions Found
					Indicate Size, Type, & Location of Any Screens, Gravel Packs, Grouting, or Other Development

I hereby certify that, to the best of my knowledge, the data presented in this statement is a true and correct representation of conditions encountered in the construction of this well.

Dated at _____ this 30 day of July 1959

UNIVERSITY OF MINNESOTA
AGRICULTURAL EXPERIMENT STATION
ROSEMOUNT, MINNESOTA

(Firm Name) _____

By T P Kerne

Title Superintendent

Farmington Quad

1-97
Rev. 2-59)

ADP 1968

MINNESOTA CONSERVATION DEPARTMENT
DIVISION OF WATERS

WELL LOG STATEMENT

Bedrock plotted

File No. _____

Well No. 115/19-33 aca

MAIL REPORT PROMPTLY TO DIRECTOR, DIVISION OF WATERS, STATE OFFICE BLDG., ST. PAUL 1, MINN.

Location of Well Ag. Exp. Station, Rosemount

Dakota County — Rosemount twp City or Town

Poultry Farm
Describe Further by Lot, Block, Nearest Highway, Street and Number

Locate Well on Plat of Section: X

Sec. 33

Twp. 115 N

Range 19 W

Drilled for: University of Minnesota

Address Agric. Experiment Station Rosemount

Driller Key

Address St. Paul

Date of Completion 1948 - ?

Site Level
Upland, Valley, Hillside, Etc.

Type of Well Drilled
Dug, Driven, Bored, Drilled

Drill Rig Used _____
Solid Tool, Jet, Rotary

Diameter: Top 4 in Bottom 4 in

Depth of Well 780 - ?

Ground Elevation 931 - ?
Sea Level Datum or Give Distance Above

or Below R. R., Highway, Lake, Etc.

Height of Casing Above Ground 12 in

Quality of Water _____
(Hard or Soft, Fresh or Salty, Etc.)

Temperature of Water _____

Was Laboratory Analysis Made? _____

For What Purpose Will Water Be Used? Poultry & drinking water

Is Well Pumped? Yes Pump Capacity _____ GPM

Was Well Sealed on Completion? _____

Does Well Overflow Without Pumping? _____
Yes or No

Natural Flow _____ GPM

What Pressure, or Head, at Ground Level? _____

Principal Aquifer Penetrated _____

REPORT OF FINAL PUMPING TEST

Date of Test _____

Duration of Test _____ Hrs. _____ Min.

Rate of Pumping _____ GPM

Static Water Level 100 Ft. → 830

Water Level While Pumping _____ Ft.

Drawdown _____ Ft.

Time Required for Recovery _____

Expected Average Yield _____ Gal. per day

If Other Tests were Made, Give Details on Another Sheet.

Were Measurements Made of Effect on Other Nearby Wells During Test? Give Details.

No

931
100
831

(Fill Out Both Sides of Form)

WELL LOG

Geologic Formations Kind, Color, Hard or Soft	Thickness of Formation	Depth in Feet From	Depth in Feet To	Casing Diam.	Water Conditions Found
Clay & loam mixture	5	0	5	4	–
Sand & gravel	5	5	10	"	
Dirty sand	80	10	90	"	
St. Peter Sandstone (Dark	30	90	120	"	840
Sandstone light color	20	120	140	"	
Sandstone lighter	40	140	180	"	
Shakopee Limestone	40	180	220		750
				Indicate Size, Type, & Location of Any Screens, Gravel Packs, Grouting, or Other Development	

I hereby certify that, to the best of my knowledge, the data presented in this statement is a true and correct representation of conditions encountered in the construction of this well.

Dated at _____ this 30 day of July, 1959

UNIVERSITY OF MINNESOTA
AGRICULTURAL EXPERIMENT STATION
ROSEMOUNT, MINNESOTA

(Firm Name) _____

By A C Heine

Title Superintendent

#89

ROSEMOUNT RESEARCH CENTER

Dakota Co

DEPTH	THICKNESS	COLOR	GRAIN SIZE	LITHOLOGY	STRATIGRAPHY
30		Chocolate brown	St-pebble	Sandy silt and pebbles (up to ¼ diam) calc	Drift
47		"	"	"	
63		"	"	"	
71		"	"	"	
85		"	"	"	
91		"	"	"	
100		"	"	"	
116		"	St-v crs sd	Sandy silt, calc	
120-125	5	"	St-pebble	" and pebbles	
124		"	"	Silty sand and fn gravel, calc	
137		"	"	Sandy silt and pebbles, calc	
143		"	"	"	
149		"	"	Silty sand "	
157		"	"	"	
164		"	"	"	
168		"	St-crs sd	Sandy silt, calc	
177		"	St-pebble	"	
185		"	St-fn sd	Sandy silty dolomite, with pyrite	Shakopee-Oneota Dolc
193		Tan-gray	"	V silty dolomite	
201		Med tan	St-med sd	Sandy silty dolomite	
211		Lt gray	Fn-crs sd	Sandy dolomite	
220		"	Fn-crs sd	Qtz ss and dolomite	

F

APPENDIX F

SOIL BORINGS, GEOTECHNICAL REPORT

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: Greif Brothers

EPA ID Number: MND023010812

Aid/Cost Code: 830356

Date of Boring: 3/28/89

Location: 2750 West 14th Street
Rosemount, Minnesota

Number of Samples Obtained: 1 (composite)

Owner:

Sampler: Brad Nordberg & Liz Cody

Boring Unique Number: SB-1

Sheet: 1 of 1

Weather Conditions: Temp 40° Wind Mild Precipitation No

Clouds Overcast

Soil Boring Description

Drilling Equipment Used: CME 550

Drilling Method: Hollow Stem Auger (Rotary)

Borehole Depth: 19 feet

Diameter: 3¼

Sample Intervals: 2½ feet continuous

Sampling Methods: 1 3/8 inch internal diameter stainless steel split spoon barrel.

Decontamination Procedures: Split spoon was washed in a Tri Sodium Phosphate (TSP) and clean water solution, followed by a rinse in deionized water and allowed to air dry between each sampling interval. All down hole equipment (auger, rod, split spoon) was steam cleaned prior to drilling.

Site Name: Greif Brothers Boring Number: Boring #1

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
SØ1 Composite	0	4-3-8-8	0-2	1½ feet of dark organic top soil, overlying 6 inches of silty fine grained clay.
	0	4-4-5-8	2-4	2-3½ feet of buff to tan silty to fine grained clay, 6 inches of fine to medium grain sand with intermixing pebbles.
	0	3-4-4-7	4½-6½	½ foot of fine silty clay, 1½ feet of fine to medium grained sand, buff to tan color.
	0	3-5-7-8	7-9	Medium to coarse grained clean sand, intermixed with pea-sized pebbles.
	0	3-4-6-7	9½-11½	2 feet of fine to medium grained, clean sand. 3 inch layer of very coarse sand at 10 feet.
	0	3-6-8-9	12-14	12-12.4 fine to medium grained sand, 12.4 to 14 feet of very coarse sands (gravel) with ½ to 1 inch diameter stones.
	0	3-6-8-10	14½-16½	Continuous, very coarse sands with intermixing stones measuring 1-2½ inches in diameter.
	0	3-4-6-10	17-19	Same as above.

Boring Depth: 19 feet Water Level While Drilling: Dry

Water Level After Drilling: None Cavein Depth: -

Comments: Hole was filled with bentonite and cuttings and finished at 1:50 p.m. Field decision was made to make boring B-1 the background sample because of its considerable distance from the other borings and supposed fill area.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: Greif Brothers EPA ID Number: MND023010812

Aid/Cost Code: 830356 Date of Boring: 3/28/89

Location: 2750 West 14th Street Number of Samples Obtained: 3
Rosemount, Minnesota

Owner: Sampler: Brad Nordberg & Liz Cody

Boring Unique Number: SB-2 Sheet: 1 of 1

Weather Conditions: Temp 40° Wind 10-15 mph Precipitation No

Clouds Very

Soil Boring Description

Drilling Equipment Used: CME 550

Drilling Method: Hollow Stem Auger (Rotary)

Borehole Depth: 20 feet Diameter: 3¼

Sample Intervals: 2 feet

Sampling Methods: 1 3/8 inch internal diameter stainless steel split spoon barrel.

Decontamination Procedures: Split spoon was washed in a Tri Sodium Phosphate (TSP) and clean water solution, followed by a rinse in deionized water and allowed to air dry between each sampling interval. All down hole equipment (auger, rod, split spoon) was steam cleaned prior to drilling.

Site Name: Greif Brothers

Boring Number: Boring #2

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
SØ2	0	4-4-4-4	3-5	2 inches black topsoil, 6 inches coarse gravels/sand and silt.
SØ3	2.5	4-4-6-8	8-10	Fine to medium grained sand, few coarse streaks, HNU read @ bottom 4 inch fine sand.
SØ4	0	4-6-8-10	13-15	3 inch coarse grained sand, fining down to 1 inch of damp silty clay.
	0	4-6-7-8	18-20	Coarse to very coarse grained sand, some pebbles intermixed. Very wet.

Boring Depth 20

Water Level While Drilling moist (damp)

Water Level After Drilling -

Cavein Depth -

Comments: Hole TD @ 2:50 p.m. - cemented with 4 bags of portland cement.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: Greif Brothers EPA ID Number: MND023010812

Aid/Cost Code: 830356 Date of Boring: 3/29/89

Location: 2750 West 14th Street Number of Samples Obtained: 3 Composite
Rosemount, Minnesota

Owner: Sampler: Brad Nordberg & Liz Cody

Boring Unique Number: SB-3 Sheet: 1 of 1

Weather Conditions: Temp 42° Wind 5-10 mph Precipitation No

Clouds Overcast

Soil Boring Description

Drilling Equipment Used: CME 550

Drilling Method: Hollow Stem Auger (Rotary)

Borehole Depth: 20 feet Diameter: 3¼

Sample Intervals: 0-4, 5-10, 15-20, all composite

Sampling Methods: 1 3/8 inch internal diameter stainless steel split spoon barrel.

Decontamination Procedures: Split spoon was washed in a Tri Sodium Phosphate (TSP) and clean water solution, followed by a rinse in deionized water and allowed to air dry between each sampling interval. All down hole equipment (auger, rod, split spoon) was steam cleaned prior to drilling.

Site Name: Greif Brothers

Boring Number: Boring #3

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
SØ5	0	4-6-9-10	0-2	8 inches of black organic topsoil, 1.4 feet of fine to medium grained silty, buff to tan clay.
	0	3-4-4-6	2-4	6 inches of silty clay, 1½ feet of very coarse grained sand grading into gravel with stones 1-2½ inch diameter.
SØ6	0	3-4-7-9	5-7	Grading from a coarse sand into a fine to medium grained sand at 5½-7 feet.
	0	3-5-5-9	8-10	Fine to medium grained sands with intermixing pea-sized pebbles.
SØ7	0	3-4-6-8	13-15	Coarse grained sand grading into a very coarse grained sand from 13-14 feet and grading back into a coarse to medium grained sand.
	0	3-5-5-7	18-20	Medium to very coarse grained sand with intermixing pebbles throughout.

Boring Depth 20

Water Level While Drilling moist soil

Water Level After Drilling -

Cavein Depth -

Comments: Hole was filled with bentonite and cutting.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: Greif Brothers EPA ID Number: MND023010812

Aid/Cost Code: 830356 Date of Boring: 3/29/89

Location: 2750 West 14th Street Number of Samples Obtained: 3 Composite
Rosemount, Minnesota

Owner: Sampler: Brad Nordberg & Liz Cody

Boring Unique Number: SB-4 Sheet: 1 of 1

Weather Conditions: Temp 44° Wind 5-10 mph Precipitation Slightly

Clouds Overcast

Soil Boring Description

Drilling Equipment Used: CME 550

Drilling Method: Hollow Stem Auger (Rotary)

Borehole Depth: 20 feet Diameter: 3¼

Sample Intervals: 0-4, 5-10, 13-20

Sampling Methods: 1 3/8 inch internal diameter stainless steel split spoon barrel.

Decontamination Procedures: Split spoon was washed in a Tri Sodium Phosphate (TSP) and clean water solution, followed by a rinse in deionized water and allowed to air dry between each sampling interval. All down hole equipment (auger, rod, split spoon) was steam cleaned prior to drilling.

Site Name: Greif Brothers

Boring Number: Boring #4

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
SØ8	0	4-5-6-7	0-2	1½ feet of clay topsoil, ½ foot of silty clay.
	0	2-4-4-5	2-4	Top 10 inches dark wet silty mud, 6 inches fine silty dark clay.
SØ9	0	3-4-5-7	5-7	Top 2 inches silty moist clay, 1.5 feet of medium to fine grained silty sand, grading into medium to coarse grained sand.
	0	3-4-8-7	8-10	Medium grained sand with layers of 2 inch coarse to very coarse sands throughout.
S10	0	3-5-6-7	13-15	Medium to coarse grained sands up to 13.6 inches and coarse to very coarse sands, intermixing pebbles throughout lower 6 inches.
	0	2-3-5-6	18-20	2 inches of medium to coarse sands, 5 inches very coarse sand grains with small pebbles present. 6 inches of coarse sand grading into a more fine sand deeper down.

Boring Depth 20

Water Level While Drilling Nil

Water Level After Drilling -

Cavein Depth -

Comments: Hole was filled with bentonite and cutting.

MINNESOTA POLLUTION CONTROL AGENCY

BOREHOLE AND SOIL SAMPLING FORM

Site Name: Greif Brothers EPA ID Number: MND023010812

Aid/Cost Code: 830356 Date of Boring: 3/28/89

Location: 2750 West 14th Street Rosemount, Minnesota Number of Samples Obtained: 2 (composite)

Owner: Sampler: Brad Nordberg & Liz Cody

Boring Unique Number: SB-5 Sheet: 1 of 1

Weather Conditions: Temp 44° Wind Slight Precipitation Yes (drizzle)

Clouds Overcast

Soil Boring Description

Drilling Equipment Used: CME 550

Drilling Method: Hollow Stem Auger (Rotary)

Borehole Depth: 19 feet Diameter: 3¼

Sample Intervals: 2 feet continuous

Sampling Methods: 1 3/8 inch internal diameter stainless steel split spoon barrel.

Decontamination Procedures: Split spoon was washed in a Tri Sodium Phosphate (TSP) and clean water solution, followed by a rinse in deionized water and allowed to air dry between each sampling interval. All down hole equipment (auger, rod, split spoon) was steam cleaned prior to drilling.

Site Name: Greif Brothers

Boring Number: Boring #5

Sample Data

SAMPLE NUMBER	HNU	BLOW COUNTS	DEPTH RANGE	SOIL DESCRIPTION
S11	0	4-6-8-10	½-2	Top 0-½ inches asphalt, 6 inches to 2 feet road fill. May contain volatiles since asphalt is in sample.
	0	4-8-15-11	2-4	2-3½ feet of fine silty clay with intermixing pebbles throughout. 6 inches of medium to coarse grained sand.
	0	4-7-8-10	4-6	4 inches of fine to medium grained clay. 1 foot of coarse to medium grained sand with intermixing pebbles, 8 inches fine to medium sands.
S12	1.0	3-5-7-8	0-12	Fine to medium grained, stratified sand, HNu read throughout sample.
	0	3-6-7-9	14-16	2 inches of clay, 10 inches medium to coarse grained sand, 11 inches medium sands and 1 inch of coarse sand.
	0	10-14-16-18	18-20	13 inches of coarse sand grading to very coarse sand, 5 inches of medium to coarse sands grading back into 6 inches of medium sands.

Boring Depth: 20 feet

Water Level While Drilling: -

Water Level After Drilling: -

Cavein Depth: -

Comments: Backfilled with bentonite and cuttings. TD @ 1:45 p.m.

GEOTECHNICAL ENGINEERING CORPORATION
Consulting Engineers • Soil Testing

REPORT OF TEST BORINGS

APR 26

PROJECT:

GREIF BROTHERS CORPORATION
2750 WEST 145TH STREET
ROSEMOUNT, MINNESOTA

GEC JOB NO: 89-146

REPORTED TO:

MINNESOTA POLLUTION CONTROL AGENCY
520 LAFAYETTE ROAD NORTH
ST. PAUL, MINNESOTA 55155

DATE: APRIL 20, 1989

INTRODUCTION

On March 28 and 29, 1989, we drilled five test borings (#1-5) at the referenced site.

The scope of investigation (boring method, location, depth, etc.) was as directed by the client.

TEST BORINGS

Procedures

The borings were made at locations staked and selected by the client. The locations are shown on the attached sketch.

The borings were made using the standard penetration - split spoon method. Refer to the attached sheets (Field Sampling and Testing Methods) for additional information.

A field log was maintained for each soil boring. Information on field logs includes: contacts between soil layers; geologic identification (driller's opinion) of materials; notes; and other information.

Soil samples were then examined in the laboratory, and soil classification information was added to the field logs. Soil identifications and descriptions are in accordance (generally) with the ASTM Visual-Manual (D2488) system as shown on the attached sheet. (We save samples for 45 days and then discard them--unless we are requested to do otherwise.)

1925 Oakcrest Avenue • Roseville, Minnesota 55113 • (612) 636-7744
Apple Valley, Minnesota • (612) 431-5266

Typewritten logs were then prepared from field logs. Typewritten logs may not contain all information shown on field logs. (Field logs are available for inspection by our client.)

Results

Typed copies of the field logs are enclosed. Refer to the attached logs for a description of the subsurface conditions encountered in the borings. The logs show: the depths to the contacts between the soil layers; the identification and geology of the soils; the surface elevations at the borings; water level measurements; standard penetration resistance (N column); the results of laboratory tests; the results of the static cone tests; and other information. Refer to the attached sheets (Abbreviations, Notations, and Symbols; General Terminology; Ground Water Information; Geologic Terminology) for descriptions of terminology used on the logs.

ELEVATIONS

The elevation of the ground surface at each boring was determined in reference to the top of a fire hydrant on the east side of the building at 2750 West 145th Street. An assumed temporary bench mark elevation of 100.00 was used there.

DECONTAMINATION

The drill rig and tools were steam cleaned before being brought to the site.

Drilling tools and down-hole equipment and materials were steam-cleaned before drilling each boring. The soil sampler was cleaned with a sequence of trisodiumphosphate solution and water before each sample was taken.

REMARKS

Subsurface soil and ground water conditions can vary from that encountered in the borings at other locations, depths, and times. Refer to the attached sheet for more information regarding limitations of subsurface exploration.

To protect the addressee(s), the public, and ourselves, this report (and all supporting information) is provided for the addressee(s)' own use. No representations are made to parties other than the addressee(s).

Report Prepared By:

Lawrence F. Feldsien

Lawrence F. Feldsien, P.E.
MN Reg. No. 9103

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO 89-146 LOG OF BORING NO. 1

PROJECT GREIF BROTHERS CORPORATION, 2750 WEST 145TH STREET, ROSEMOUNT, MINNESOTA

DEPTH, IN FEET	SURFACE ELEVATION 97.8 IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	LL/PL	q_c
1	Organic soil, with a trace of roots, black, (OL/OH)	TOPSOIL	11	M	SS	15				
2, 3, 4	Sandy lean clay, with a trace of gravel, with a trace of black, mostly brown to dark brown, (CL)	WEATHERED SOIL	9	M	SS	8				
5, 6, 7	Poorly graded sand with silt, very fine grained, with a trace of gravel, light brown, (SP-SM)	COARSE ALLUVIUM	8	M	SS	15				
8			12	M	SS	15				
9, 10, 11			10	M	SS	15				
12, 13			12	M	SS	15				
14, 15, 16, 17	Poorly graded sand, fine to medium grained, with a trace of gravel, light brown, (SP)		14	M	SS	15				
18			10	M	SS	15				
19	END OF BORING									
20										
21										

DEPTH	DRILLING METHOD
0-17	3¼ HSA
BORING COMPLETED	3/28/89 2:00
CC VD	CA: RB Rig 550

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
3/28	1:50	19	17	18.9		dry
3/28	1:57		0	15.3		dry

NOTE REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO 89-146 LOG OF BORING NO. 2

PROJECT GREIF BROTHERS CORPORATION, 2750 WEST 145TH STREET, ROSEMOUNT, MINNESOTA

DEPTH, IN FEET	SURFACE ELEVATION 97.7 IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	LL/PL	q_c
1 – 2 –	No samples taken.	TOPSOIL								
3 – 4 – 5 – 6 –	Poorly graded sand, fine grained, with a trace of gravel, brown, (SP)	COARSE ALLUVIUM/ WEATHERED SOIL	8	D	SS	15				
7 – 8 – 9 – 10 – 11 –	Poorly graded sand with silt, very fine grained, with a trace of gravel, light brown, (SP-SM)		10	M	SS	15				
12 – 13 – 14 – 15 – 16 – 17 – 18 –	Poorly graded sand, fine to medium grained, with a trace of gravel, light brown, (SP)	COARSE ALLUVIUM	14	M	SS	15				
19 –			13	M	SS	13				
20 –	END OF BORING									
21 –										

DEPTH	DRILLING METHOD
0-18	3¼ HSA
BORING COMPLETED	3/28/89 3:00
CC VD	CA: RB Rig 550

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
3/28	2:51	20	18	19.6		dry
3/28	2:59	20		15.3		dry

NOTE REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO. 89-146 LOG OF BORING NO. 3

PROJECT: GREIF BROTHERS CORPORATION, 2750 WEST 145TH STREET, ROSEMOUNT, MINNESOTA

DEPTH, IN FEET	SURFACE ELEVATION 97.0 IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	LL/PL	qc
1	Organic soil, black to dark brown, (OL/OR)	TOPSOIL	15	M	SS	11				
2, 3, 4	Silty sand with gravel, fine grained, brown, (SM)	COARSE ALLUVIUM/ WEATHERED SOIL	8	M	SS	10				
5, 6, 7	Poorly graded sand with silt, fine grained, with a trace of gravel, light brown, (SP-SM)	COARSE ALLUVIUM	11	M	SS	11				
8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	Poorly graded sand, fine to medium grained, with a trace of gravel, light brown, (SP)	COARSE ALLUVIUM	10	M	SS	16				
			10	M	SS	18				
			8	M	SS	16				
20	END OF BORING									
21										

DEPTH	DRILLING METHOD
0-18	3¼ HSA

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
3/29	10:26	20	18	19.8		dry
3/29	10:33	20	0	15.0		dyr

BORING COMPLETED 3/29/89 10:45

CC VD CA: RB Rig: 550

NOTE: REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO 89-146 LOG OF BORING NO. 4

PROJECT GREIF BROTHERS CORPORATION, 2750 WEST 145TH STREET, ROSEMOUNT, MINNESOTA

DEPTH, IN FEET	SURFACE ELEVATION 97.8 IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	LL/PL	q_c
1	Organic soil, black, (OL/OH)	TOPSOIL	11	M	SS	17				
2–4	Sandy lean clay, with a trace of gravel, light brown, (CL)	WEATHERED SOIL	8	M	SS	11				
5–7	Poorly graded sand with silt, fine grained, with a trace of gravel, light brown, (SP-SM)	COARSE ALLUVIUM	9	M	SS	18				
8			9	M	SS	17				
9–13	Poorly graded sand, fine grained, with a trace of gravel, light brown, (SP)									
14			11	M	SS	14				
15–18										
19			8	M	SS	18				
20	END OF BORING									
21										

DEPTH	DRILLING METHOD
0-18	3¼ HSA
BORING COMPLETED	3/29/89 11:40
CC: VD	CA: RB Rig 550

WATER LEVEL MEASUREMENTS

DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
3/29	11:31	20	18	19.6		dry
3/29	11:36	20	0	16.0		

NOTE REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORPORATION

GEC JOB NO 89-146 LOG OF BORING NO 5

PROJECT GREIF BROTHERS CORPORATION, 2750 WEST 145TH STREET, ROSEMOUNT, MINNESOTA

DEPTH IN FEET	SURFACE ELEVATION 98.0 IDENTIFICATION	GEOLOGY	N BPF	MC	SAMPLE TYPE	REC.	FIELD & LABORATORY TESTS WC	DEN	LL/PL	qc
1	Silty sand, fine grained, with a trace of gravel, brown, (SM)	FILL	14	M	SS	13				
2										
3	Sandy lean clay, with a trace of gravel, brown, (CL)	FILL/ WEATHERED SOIL	23	M	SS	22				
4										
5	Poorly graded sand with silt and gravel, fine grained, light brown, (SP-SM)		10	M	SS	15				
6										
7	Poorly graded sand with silt, fine grained, with a trace of gravel, ligth brown, (SP-SM)		9	M	SS	23				
8										
9										
10										
11			12	M	SS	23				
12		COARSE ALLUVIUM								
13										
14										
15	Poorly graded sand, fine grained, with a trace of gravel, light brown, (SP)		13	M	SS	24				
16										
17										
18										
19			30	M	SS	22				
20	END OF BORING									
21										

DEPTH	DRILLING METHOD
0-18	3¼ HSA
BORING COMPLETED	3/29/89 2:15
CC VD	CA: RB Rig: 550

WATER LEVEL MEASUREMENTS

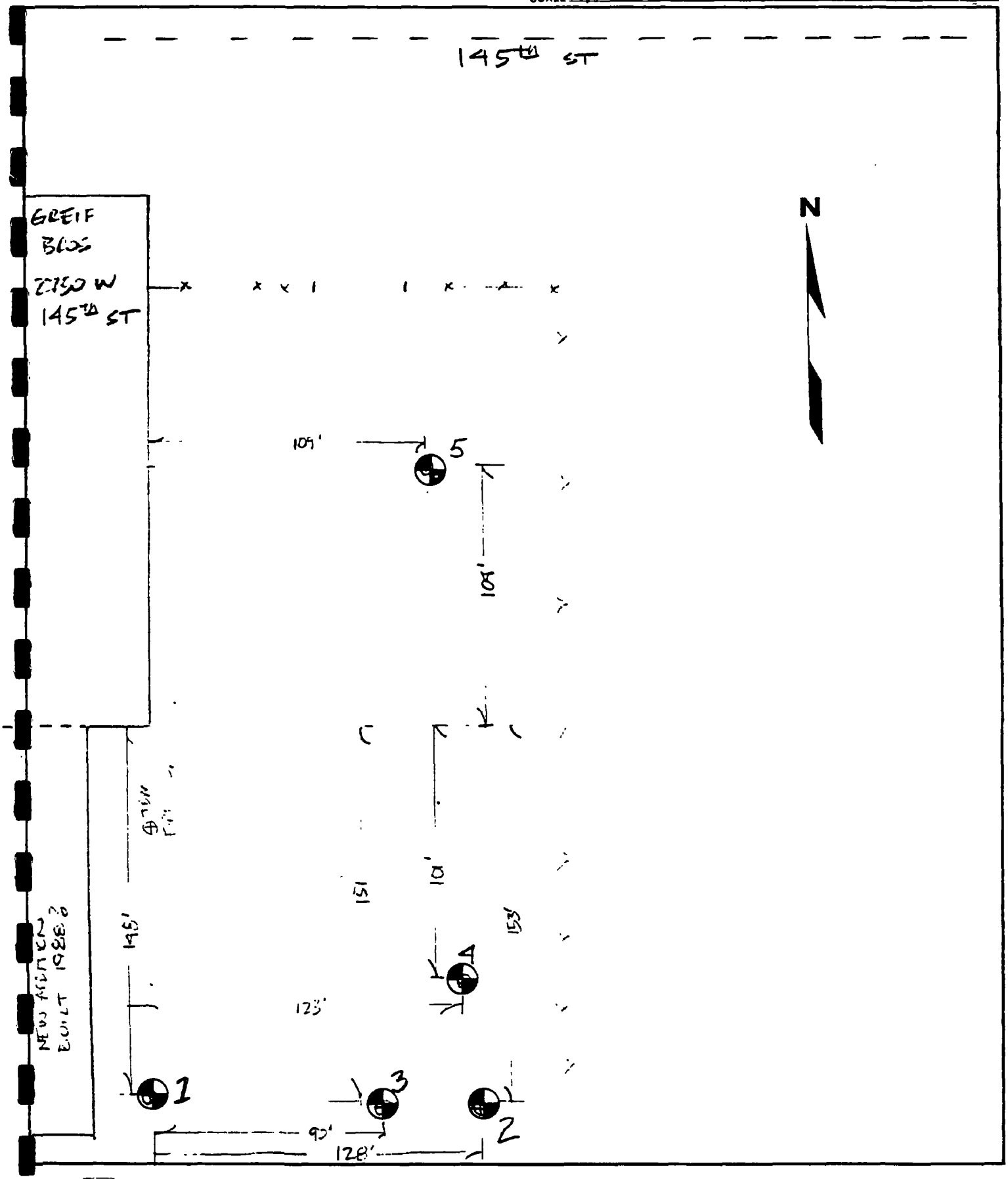
DATE	TIME	SAMPLED DEPTH	CASING DEPTH	CAVE-IN DEPTH	DRILLING FLUID LEVEL	WATER LEVEL
3/29	1:53	20	18	19.6		
3/29	1:59	20		17.6		

NOTE REFER TO THE ATTACHED SHEETS FOR AN EXPLANATION OF TERMINOLOGY ON THIS LOG

GEOTECHNICAL ENGINEERING CORP.
1925 Oakcrest Avenue
Roseville, MN 55113
(612) 636-7744

7373 W. 147th Street
Apple Valley, MN 55124
(612) 431-5266

JOB 89-146
SHEET NO ____ OF ____
CALCULATED BY ____ DATE ____
CHECKED BY ____ DATE ____
SCALE 1" = 50'



PRODUCT 206-1 NCR Inc Groton Mass 01471

Standard Penetration/Split-Spoon Sampling Method. In this method, a steel split-barrel sampling tube is driven into the soil with a 140-pound hammer dropped from a height of 30 inches (the hammer is dropped onto a rod attached to the sampler). The number of hammer blows required to drive the sampler tube 1 foot into the ground (after an initial set of 1/2 foot) is recorded as the standard penetration resistance (N-value) of the soil for the sampling interval. (Penetration of less than 18 inches is permitted under ASTM 1586.) When driving is complete, the sampler is retracted and opened, and soil samples are taken from the tube. The bore hole is advanced between sampling intervals with an auger, casing, or rotary drill bit (with drilling fluid). When the ground surface is frozen, soil samples from the frozen zone are taken off the flights of the hollow-stem auger. (Details of this method are described in ASTM D-1586.)

Static Cone Test. This field test determines the static cone bearing pressure of the soil--that is, how much resistance the soil has to penetration by a cone-shaped point. The cone bearing pressure (q_c value) is equal to the maximum load applied to the cone divided by the area of (the base of) the cone. Two types of penetrometers are used, mechanical and manual. Mechanical cones are pushed hydraulically with the drill rig and the maximum load is measured with a hydraulic load-cell. Manual cones are pushed by hand and the load on a manual cone is determined with a calibrated proving ring.

Thin-Walled Tube Sampling Method. In this method, thin-walled tubes (2 or 3 inches in diameter and about 2 feet long, and fitted with a ball check valve) are pushed into the soil, then retracted. Relatively undisturbed soil samples are extruded from inside the tubes. (Thin-walled tube sampling is described in ASTM D-1587).

Coring. In this boring method, a diamond or carbide bit on a double-tubed barrel is rotated into rock to the desired depth, then retracted. Rock samples are taken from the inner tube. (Rock coring is described in ASTM D-2113.)

Auger Borings. Auger borings are drilled by hand or with a power-driven auger.

The hand auger method consists of drilling the auger into the soil in increments of approximately 4", then retracting the auger and observing the material recovered. This allows almost continuous observation of the soil profile.

Two procedures are available in drilling power auger borings: "spinning" and "pulling."

- In the spinning procedure, the auger is drilled into the ground in increments of 5' or less. The auger is then spun rapidly. Soil "rides up" the flights of the auger to the ground surface, where samples are taken. In general, this method results in reasonably accurate identification of the soil profile above the ground water table, but it can be very misleading - particularly in sandy and gravelly soils - below the water table.

- In the pulling procedure, the auger is drilled into the ground and then withdrawn to above the ground surface. The general soil profile can be observed, and samples of materials adhering to the auger are taken. In general, this method is considered to be a little more accurate than the spinning method in soil above the ground water table, and more accurate than the spinning method in soil below the ground water table.

BORING LOGS: ABBREVIATIONS, NOTATIONS, AND SYMBOLS

B,H,N:	Size of flush-joint casing or core barrel
AC:	At completion of boring
CA:	Crew assistant
CAS:	Casing
CC:	Crew chief
CONS:	One-dimensional consolidation test
COT:	Clean-out tube
D:	Sampled soil appears dry
DEN:	Dry density, pounds per cubic foot
DM:	Drilling mud or bentonite slurry
FA:	Power-driven flight auger; P-pulling procedure; S-spinning procedure
HA:	Hand auger
HSA:	Hollow-stem auger
HYD:	Hydrometer analysis
LL:	Liquid limit
M:	Sampled soil appears moist
MC:	Column used to describe moisture condition of samples and for the ground water level symbol.
N (BPF):	Standard penetration resistance (N-value) in blows per foot (see note #2a below)
PAP:	Paper plug
PL:	Plastic limit
q_p:	Pocket penetrometer strength, tons per square foot
q_c:	Static cone bearing pressure, tons per square foot
q_u:	Unconfined compressive strength, pounds per square foot
R(est):	Hveem Stabilometer R-Value (estimated)
Res:	Electrical resistivity, ohm-cms
RD:	Rotary drilling with fluid and cone-type roller bit
REC:	In split-spoon (see note #2b below) and thin-walled-tube sampling, the length (in inches) of sample recovered. In rock coring, the length of core recovered (expressed as per cent of the total core run).
REV:	Revert drilling fluid
SA:	Sieve analysis
SR:	Skid rig; non-rotary drill (skid-mounted)
SS:	Standard split-spoon sampler (steel; 1-3/8-inch inside diameter; 2-inch outside diameter)
TW:	Thin-walled tube (2" and 3" diameter)

VANE:	Vane shear strength, pounds per square foot; L-laboratory; F-field
wc:	Water content, as percent of dry weight
W:	Sampled soil appears wet
WASH:	Sample of material obtained by screening returning rotary drilling fluid or by taking a split-spoon sample of material which has collected inside the bore hole after "falling" through drilling fluid
WAT:	Water
WH:	Sampler advanced by static weight of drill rod and 140-pound hammer
WR:	Sampler advanced by static weight of drill rod
-200:	Percent of material finer than #200 sieve
▼ :	Water level symbol
25:	Diedrich Model 25 rotary drill (skid or truck-mounted)
55:	Central Mine Equipment Model 55 rotary drill (truck-mounted)
57:	Mobile Drill Company Model 57 rotary drill (truck-mounted)
550:	Central Mine Equipment Model 550 rotary drill (rubber tire-mounted)

NOTES:

1. The size of drilling tools and related equipment is indicated by a number or letter. Examples: 1) a hollow-stem auger with an inside diameter of 3-1/4 inches is shown as 3-1/4 HSA; 2) a B size core barrel is shown as B core.

2. In highly resistant material:

   a) The standard penetration test consists of driving the sampler with a 140-lb hammer and counting the number of blows applied in each of three 6-inch increments of penetration. If the sampler is driven less than 18 inches, as permitted in ASTM-D1586, the blows for each complete 6-inch increment and for each partial increment is recorded on the boring log. For partial increments, the number of blows is shown over a bar (-) or slash (/) and the partial penetration less than 6 inches is shown to the nearest inch below the bar or slash.

   b) The length of sample recovered, as shown on the "REC" column, may be greater than the distance indicated in the N column. The disparity is because the N-value is recorded below the initial 6-inch set (unless partial penetration defined in ASTM D1586 is encountered) whereas the length of sample recovered is for the entire sampler drive.

BORING LOGS: GROUND WATER INFORMATION

Ground water information is shown under "Water Level Measurements" at the bottom of the log and in the "MC" (moisture condition) column on the right side. Because the presence of water in the soil and the level of the ground water table can change over time, the information presented is accurate only for the date and time the observations and measurements were made.

The following information (in addition to the sampling date and time) appears under "Water Level Measurements":

- The sampled depth, which is the lowest depth of soil sampling at the time of the measurement.
- The casing depth, which is the depth to the bottom of the casing or hollow-stem auger at the time of the measurement.
- The cave-in depth, which is the depth at which the measuring tape stops in the bore hole.
- The water level, which is the point in the bore hole at which free-standing water is encountered with the measuring tape. If free-standing water was not present above the cave-in depth, the word "wet" or "dry" in this column indicates whether soil adhering to the end of the measuring tape appeared to be wet or dry at the cave-in depth.
- The drilling fluid level is similar to the water level, except that the liquid in the bore hole is drilling fluid.

The water level, drilling fluid level, and cave-in depths are measured with a weighted measuring tape.

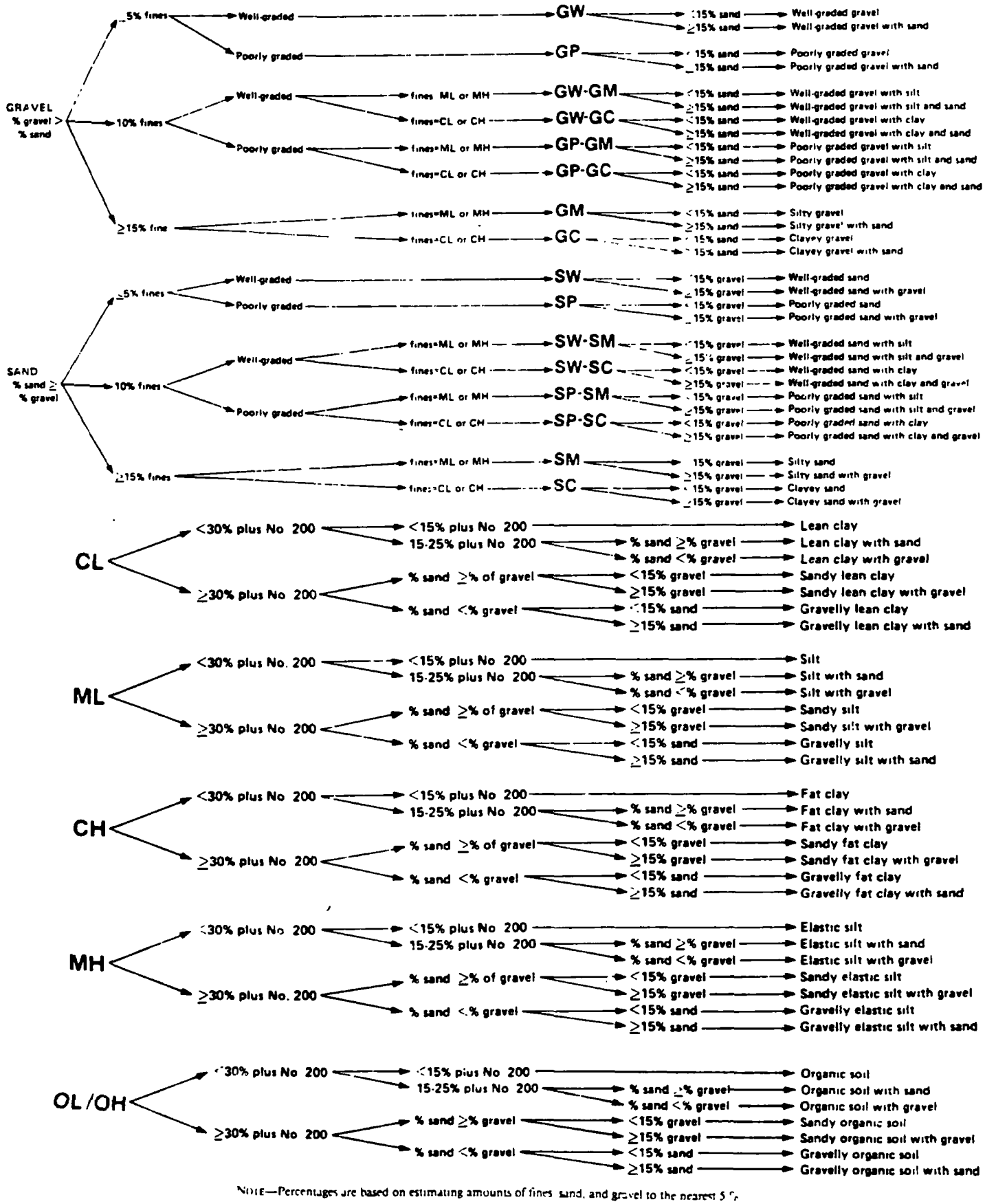
BORING LOGS: GROUND WATER INFORMATION
(Page 2 of 2)

The "MC" column indicates the moisture condition of soil samples. A "D" in the column means that a soil sample appears dry (absence of moisture, dusty, dry to touch); "M" means moist (damp but no visible water), and "W" means wet (visible free water). (NOTE: An isolated "W" at the top of the boring, over a column of "D's" or "M's" may be an indicator of recent thawing of frozen soil in the top layer.)

The water level symbol ▼ in the "MC" column indicates the estimated position of the ground water table in the boring. A water level symbol with a downward-pointing arrow means that the water table is interpreted to be at or below the level indicated. A water level symbol with an upward-pointing arrow means that the water level is interpreted to be at or above the depth indicated. The absence of the water level symbol on a log does not necessarily mean that ground water was not encountered or that the water table or piezometric surface was not penetrated.

Overall, determining the position of the ground water table is an interpretive process that depends on such factors as water level measurements, the presence and type of drilling fluid, the condition of samples, subsurface conditions, site conditions, whether the bore hole is covered or open, and weather conditions. Because of these factors and those noted previously, the actual ground water level in the field may vary from that shown on the boring logs.

IDENTIFICATION OF SOILS
(VISUAL-MANUAL PROCEDURE)



NOTE—Percentages are based on estimating amounts of fines, sand, and gravel to the nearest 5 %.

GENERAL TERMINOLOGY NOTES FOR SOIL IDENTIFICATION AND DESCRIPTION

Grain Size

Term	Size
Boulders	>12"
Cobbles	3"-12"
Gravel	#4 sieve - 3"
Sand	#200 - #4 sieve
Fines (silt & clay)	<#200 sieve

Stratification

Term	Thickness
Layer	>1/2'
Lense	1/2" - 1/2'
Lamination	<1/2"

Fiber Content of Peat (ASTM D2607)

Term	Fiber Content (Visual Estimate)
Fibric	>67%
Hemic	33 - 67%
Sapric	<33%

Consistency and Strength of Fine Grained Soils

Term	Unconfined Compressive Strength, psf (Normal Range)	N-value, BPF
Very soft	<500	<2
Soft	500-1000	2-4
Medium stiff	1000-2000	4-8
Stiff	2000-4000	8-15
Very stiff	4000-8000	15-30
Hard	>8000	>30

Relative Density of Coarse Grained Soils

Term	N-value, BPF
Very loose	<5
Loose	5-10
Medium dense	10-30
Dense	30-50
Very dense	>50

GEOLOGIC TERMINOLOGY

The geologic description indicates the apparent depositional origin or stratigraphic name. Geologic identification is interpretive and subject to error.

General categories of geologic deposits, and descriptive information is as follows:

ALLUVIUM	COARSE ALLUVIUM:	Sandy (and gravelly). Stratified. Deposited from fast moving waters in streams and rivers. (Includes glacial outwash.)
	FINE ALLUVIUM:	Clayey and/or silty. Stratified. Deposited from slow moving waters in streams, rivers, lakes, and ponds.
BEDROCK	Wide range of characteristics: from hard, dense, consolidated rock; to soft, compressible, and unconsolidated soil-like material.	
FILL	CONTROLLED:	Compact, uniform material; inorganic; no debris.
	UNCONTROLLED:	Loose or variable density. Mixture of soil types. Often contains debris and organic material.
TILL	Normally contains a wide range of grain sizes, from boulders through clay. Usually non-stratified. Deposited directly from glaciers.	
LOESS	Silty. Non-stratified. Upper layer. Deposited from wind.	
SLOPE WASH	Organic and/or inorganic material washed from slopes and redeposited.	
SWAMP DEPOSITS	Peat, muck, and marl, and organic soil. Formed through accumulation of organic material under water.	
TOPSOIL	Contains both inorganic and organic material. Upper, black layer of soil. Formed by weathering of inorganic soil and accumulation of organic material.	
TUMBLEROCK	Dominantly gravel, boulders and rock slabs. Deposited from gravity flow down hills or cliffs.	
WEATHERED BEDROCK	Bedrock which has been substantially weathered through disintegration or decomposition. Texture and composition grades into bedrock.	
WEATHERED SOIL	Texture, composition, and position is intermediate between topsoil and non-weathered soil.	

LIMITATIONS OF SUBSURFACE EXPLORATION

Subsurface exploration programs can not reveal totally what is in the subsurface. Conditions between borings and between samples and at other times may differ from those described on boring logs. Depending on the sampling method and frequency, every soil layer may not be observed, and some materials or layers which are present in the ground may not be noted on boring logs.

The intent of the "Identification" and "Geology" columns is to portray the soil profile or stratigraphy. It is based on our interpretation and opinion of available data.

Unless actually observed in a sample, contacts between soil layers are estimated based on the spacing of samples and the action of drill tools. Thus, most contacts shown on logs are approximate, with the possible upper and lower limits defined by the position of the overlying and underlying soil samples.

The extent and detail of information about subsurface conditions is directly related to the scope of exploration. It should be understood, therefore, that additional information can be obtained by means of additional exploration.

Cobbles, boulders, and other large objects generally cannot be recovered from test borings, and they may be present in the ground even if they are not noted on the boring logs. Other than as indicated by standard penetration resistance values, static cone bearing pressure values, or by borings being obstructed, drilling and sampling methods do not permit us to form specific opinions about the presence of cobbles, boulders and other large objects, and none are stated on boring logs. In general, cobbles, boulders, and large objects commonly are in deposits such as coarse alluvium, fill, till, tumblerock, and weathered bedrock.

Typewritten logs are prepared based on field logs. A field log may contain information which is not indicated on the typewritten log. (Field logs are available to our client for inspection.)