SITE INVESTIGATION REPORT
UNDERGROUND STORAGE TANK CLOSURE

Merit Oil of New York, Inc.
Merit Greenpoint
210 Greenpoint Avenue & McGuinness Boulevard
Brooklyn, New York

June 28, 1994

Prepared for:

Merit Oil of New York, Inc.
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Haverford, Pennsylvania 19041-1494

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Merit Greenpoint
June 28, 1994

1.0 INTRODUCTION

Groundwater & Environmental Services, Inc. (GES) was contracted by Merit Oil of New York, Inc. (Merit) to oversee and document the removal of four 4,000-gallon and two 2,000-gallon, steel, single-walled, gasoline underground storage tanks (USTs) and one 550-gallon, single-walled, steel waste water UST and three dispenser islands at its Greenpoint gasoline station located at 210 Greenpoint Avenue and McGuinness Boulevard, Brooklyn, New York. Figure 1 is an annotated 7.5-minute series United States Geological Survey quadrangle map (Brooklyn, NY) showing the site location, surface topography, drainage patterns, and cultural features. Figure 2 is a Site Plan which illustrates the locations of the excavated USTs, dispensers, buildings, and property boundaries. Tank decommissioning and removal activities were conducted by VIC Construction Company, Inc. (VIC), of Brooklyn, New York. The excavated tanks were replaced with five 4,000-gallon, double-walled, fiberglass, gasoline USTs and one 550-gallon, double-walled, fiberglass waste water UST.

In accordance with applicable federal and state requirements GES documented the removal of the seven USTs, screened the excavated soil removed from the tank excavations with a photoionization detector (PID), and conducted post-excavation soil sampling for laboratory analyses. Prior to the removal of the USTs, the New York State Department of Environmental Conservation (NYSDEC), were notified by Merit.

2.0 HEALTH AND SAFETY

A site-specific Health and Safety Plan (HASP) was prepared for all GES field personnel involved in site activities. The HASP outlines the required monitoring equipment, protective clothing, action levels, anticipated compounds, and emergency responses. All onsite were conducted in Level D protection. Air monitoring was conducted during sampling and excavation of the USTs using a Photoionization detector (PID). All GES field personnel have been trained and certified according to Federal Occupational Safety and Health Administration requirements.

3.0 GASOLINE UST CLOSURE

GES Senior Geologist, Donald Griffin, was on site on June 10, 11, and 12, 1993, to document the removal of the six gasoline USTs (four 4,000-gallon and two 2,000-gallon) and to collect post-excavation soil samples. Prior to the removal of the USTs, they were cleaned of all residual product and sludges which was stored in 55-gallon drums pending off-site disposition. Residual product and bottom sludges removed from the USTs during cleaning were transported by ABC Tank cleaning and Repair Inc. of Brooklyn, New York to BFC Oil Refining Inc. of Brooklyn, New York where it was recycled as waste oil. All manifests will be sent as an addendum to this report. Upon removal of the USTs, they were inspected. The USTs had corrosion, however, pitting, holes, or perforations were not observed. Photographs of the USTs are presented in Appendix I. No groundwater was observed in the excavation, however, free-phase product was encountered.

The excavated soils were screened for volatile organics in the field using a PID during the removal of the USTs. Ionizable compounds were recorded at a range of not detected (above the UST excavation at a depth of 1 feet below grade) to 3,000 ppm (13 feet below grade in the UST excavation). All excavated soils that registered PID readings more than 100 ppm were stockpiled on and covered with plastic pending off-site disposition. Excavated soils with PID levels less than 100 ppm were returned to the excavation.

4.0 DISPENSER ISLAND REMOVAL

GES Senior Geologist, Donald Griffin, was on site on June 12, 1993 to collect a post-excavation soil sample from beneath the three former dispenser islands. The soils beneath the dispensers were screened for volatile organics in the field with a PID. The volatile organic screening provides a field assessment of ionizable compounds that may be present in a sample, but the results are neither compound specific nor quantitative. Ionizable compounds ranged from not detected to 1,300 ppm. Table 1 summarizes the PID field screening locations and results. No petroleum hydrocarbon stained soils were observed during sampling procedures.

5.0 WASTE WATER UST CLOSURE

GES Senior Geologist, Donald Griffin, was on site on June 15, 1993 to document the removal of one 550-gallon waste water UST, and to collect post-excavation soil samples from the UST excavation. Prior to the removal of the UST, it was cleaned of all residual product and sludges which were transferred to 55-gallon drums pending off-site disposition. The UST was inspected upon its removal. The UST had corrosion present, however, pitting, holes, or perforations were not observed. Photographs of the excavated UST are presented in Appendix I. No groundwater or separate-phase product was observed in the excavation.

The excavated soils from the waste water UST excavation were screened for volatile organics in the field with a PID. Ionizable compounds from the excavated soils ranged in concentration from 9.5 ppm to 78 ppm. Table 1 summarizes the PID field screening locations and analytical results. No petroleum hydrocarbon stained soils, separate-phase product or PID readings more than 100 ppm were observed on soils in the waste water UST excavation. Soil removed from the excavation during the UST closure was returned to the excavation.

6.0 POST EXCAVATION SOIL SAMPLING

Three post-excavation soil samples (PI-1 through PI-3) were collected from beneath the north, east and south dispenser islands on June 12, 1993 (Table 2). A Dispenser Island Sampling Plan is provided depicting the location of the dispensers and the respective soil samples (Figures 3).

Six post-excavation soil samples (TF-1 through TF-6) were collected from the bottom of the gasoline tank excavation on June 12, 1993 (Table 2). Soil samples could not be collected from the walls of the gasoline tank excavation because of the close proximity of the kiosk, electrical conduits, and the presence of fill material. An Underground Storage Tank Excavation Map is provided depicting the locations of the gasoline USTs and the locations of the post-excavation soil samples (Figure 4).

Three post-excavation soil samples (WW-1 through WW-3) were collected from the east, center and west bottom of the waste water UST excavation on June 15, 1993 (Table 2). Underground Storage Tank Excavation Maps are provided depicting the locations of the USTs and post-excavation soil samples (Figure 5).

All post-excavation soil samples were analyzed for total petroleum hydrocarbons (TPH) via USEPA test Method 418.1, and benzene, toluene, ethylbenzene, and total xylenes (BTEX) via USEPA test Method 8020. A chain-of-custody accompanied all samples from the time of collection to the time they were received by the laboratory. All analyses were conducted by Analab, Inc., of Edison, New Jersey (NY certification #11104).

7.0 SOIL ANALYTICAL RESULTS

The analytical results for the three soil samples collected from beneath the dispenser islands indicated TPH concentrations ranging from 84.3 ppm in sample PI-1 to 740 ppm in sample PI-2. Toluene, ethylbenzene and xylenes were detected in sample PI-2 at concentrations of 0.134 ppm, 0.484 ppm and 11.4 ppm, respectively. Total BTEX was not detected in samples PI-1 and PI-3.

The analytical results of the post-excavation soil samples collected from the gasoline UST excavation indicated a TPH concentration ranging from 29.9 parts per million (ppm) in sample TF-3 to 259 ppm in sample TF-1. BTEX was detected in four of six samples at total concentrations ranging from 0.0136 ppm to 6.791 ppm. BTEX was not detected in samples TF-3 and TF-4.

The analytical results for the three post-excavation soil samples collected from the waste water UST indicated TPH concentrations ranging from 29.4 ppm in sample WW-3 to 522 ppm in sample WW-1. BTEX was not detected in any of the three soil samples.

Table 3 summarizes the soil analytical results for the post-excavation samples collected from the two excavations and the dispenser islands. The summary laboratory analytical package is included in Appendix II. Tune data, calibration data, and chromatographs are available from GES upon request.

8.0 SUMMARY

On June 12, soil samples were obtained from beneath the three former dispenser islands. No separate-phase product was observed, however, petroleum hydrocarbon odors were observed during the sampling procedures and PID readings from the excavated soils ranged from 10 ppm (sample PI-1 & PI-3) to 1,300 ppm (sample PI-2). The analytical results of the soil samples collected from the dispenser islands indicated a TPH concentration ranging from 84.3 ppm to 740 ppm. Toluene, ethylbenzene and xylenes were detected in sample PI-2 only at concentrations of 0.134 ppm, 0.484 ppm and 17.8 ppm, respectively.

On June 10, 11, and 12, 1993, four 4,000-gallon and two 2,000-gallon, single-walled, steel gasoline USTs were removed. The USTs had corrosion, however, pitting, holes, or perforations were not observed. Groundwater was not present in the gasoline tank field excavation, however, separate-phase product was observed. Petroleum hydrocarbon odors were observed during the removal of the USTs and PID readings from the excavated soils ranged from 30 ppm to 3,000 ppm (13 feet below grade). The analytical results of the post-excavation soil samples collected from the gasoline tank field excavation indicated a TPH concentration ranging from 29.9 ppm to 259 ppm and BTEX concentrations ranging from 0.0136 ppm to 6.791 ppm.

On June 15, 1993, one 550-gallon, single-walled, steel waste water UST was removed. The UST had corrosion, however, pitting, holes, or perforations were not observed. No groundwater was observed in the excavation. The analytical results for the post-excavation soil samples collected from the UST excavation indicated TPH concentrations ranging from 29.4 ppm to 522 ppm. BTEX compounds were not detected.

Approximately 975 tons of petroleum contaminated soil were excavated during UST closure activities and transported by Blue Water Environmental, Inc. of Farmingdale, New York to Posillico Brothers Asphalt Company in Farmingdale, New York where it was thermally processed and recycled into hot mix asphalt. A copy of the Certification of Destruction for Excavated Soils is presented in Appendix III.

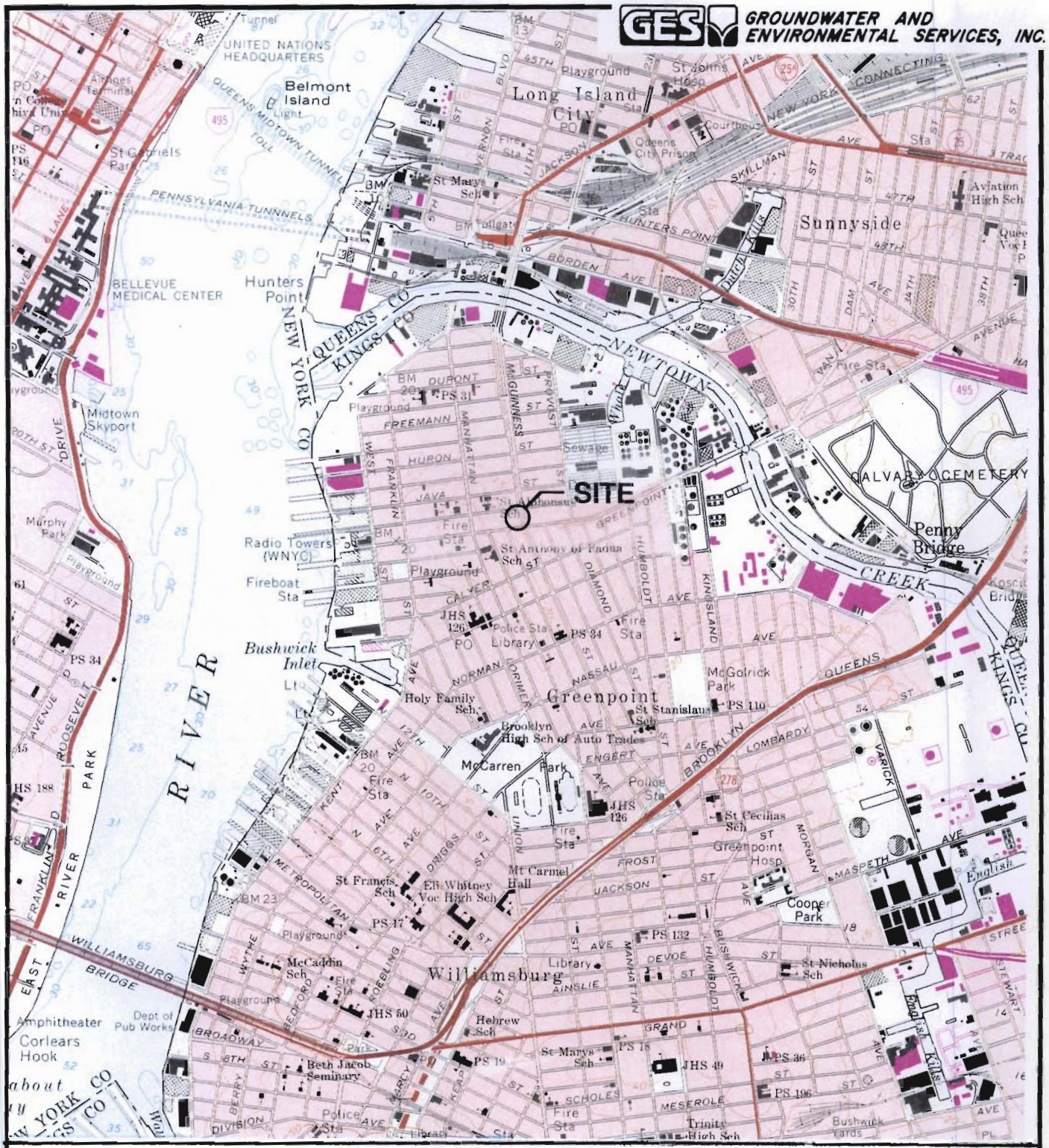
As a result of nonperformance of the contract, VIC was dismissed from the station renovation project in November 1993 by Merit. As a result of this action, documentation as to where the tanks were taken off-site and their final disposition could not be obtained from VIC nor VIC's subcontractor, Brown and Davis Excavating Company of Staten Island, New York. Numerous letters and telephone calls to both parties yielded unsuccessful results at obtaining this documentation. As a last recourse, VIC was issued (via First Class mail and certified mail, Return Receipt Requested) a final notification concerning such on February 17, 1994. The certified letter was returned to Merit unclaimed. The First Class letter was not returned to Merit and Merit assumes that such letter was delivered to VIC, without response. A copy of the certified letter is shown in Appendix IV.

9.0 CONCLUSION

The analysis of all post excavation soil samples showed results below allowable concentrations for benzene (24 ppm), toluene (20,000 ppm), ethylbenzene (8,000 ppm) and total xylenes (200,000 ppm) as specified in the NYSDEC August 1992 *Petroleum-Contaminated Soil Guidance Policy*. The highest benzene and toluene concentrations were detected in soil samples TF-5 and TF-1 at respective concentrations of 0.0399 ppm and 0.171 ppm (estimated concentration). The highest ethylbenzene and total xylene concentrations were detected in soil sample PI-2 at respective concentrations of 0.484 ppm

and 17.8 ppm. Although separate-phase product impacted soils were present across the site, 945 tons of these soils were excavated and replaced with clean fill. Therefore, GES recommends no further action be taken at this time regarding soil removal at the site. A Phase I Environmental Assessment will be completed by GES on behalf of Merit to determine if soluble-phase hydrocarbons have impacted the groundwater at the site.

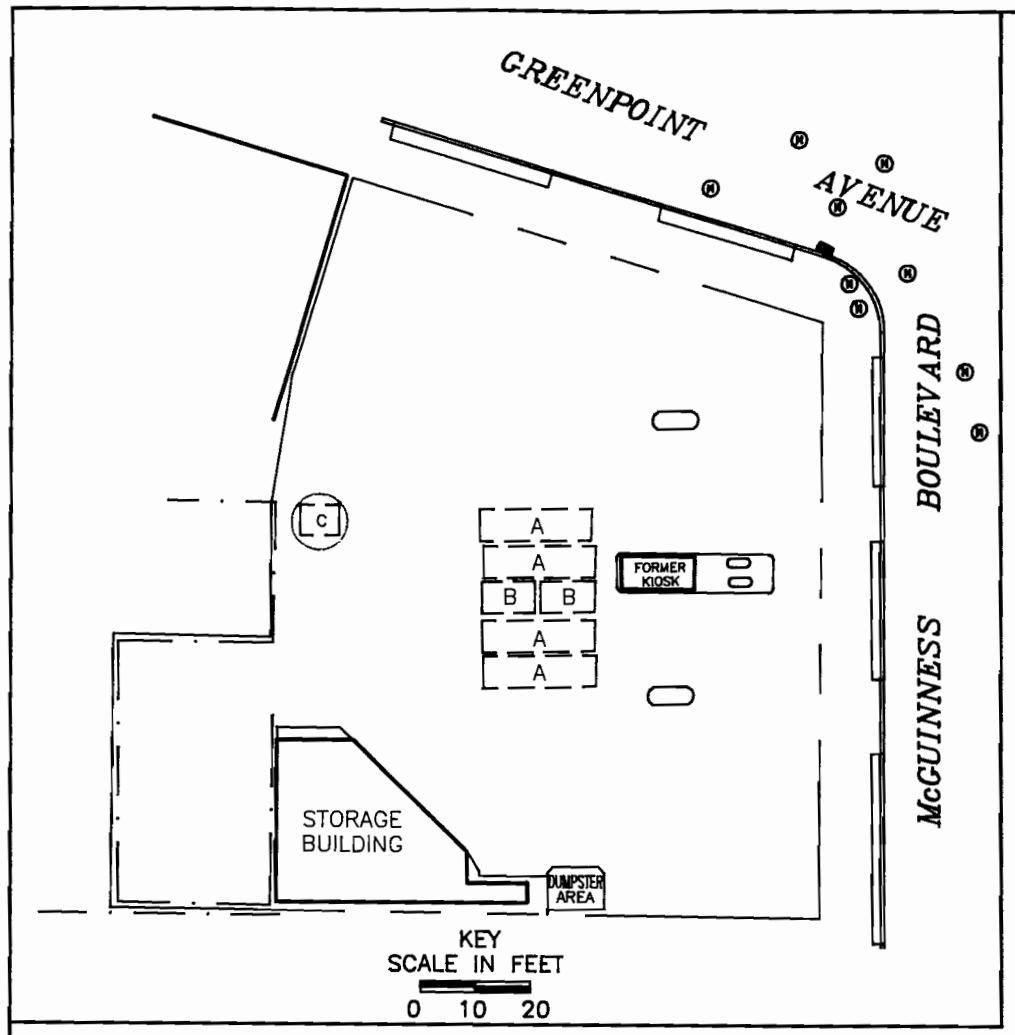
FIGURES

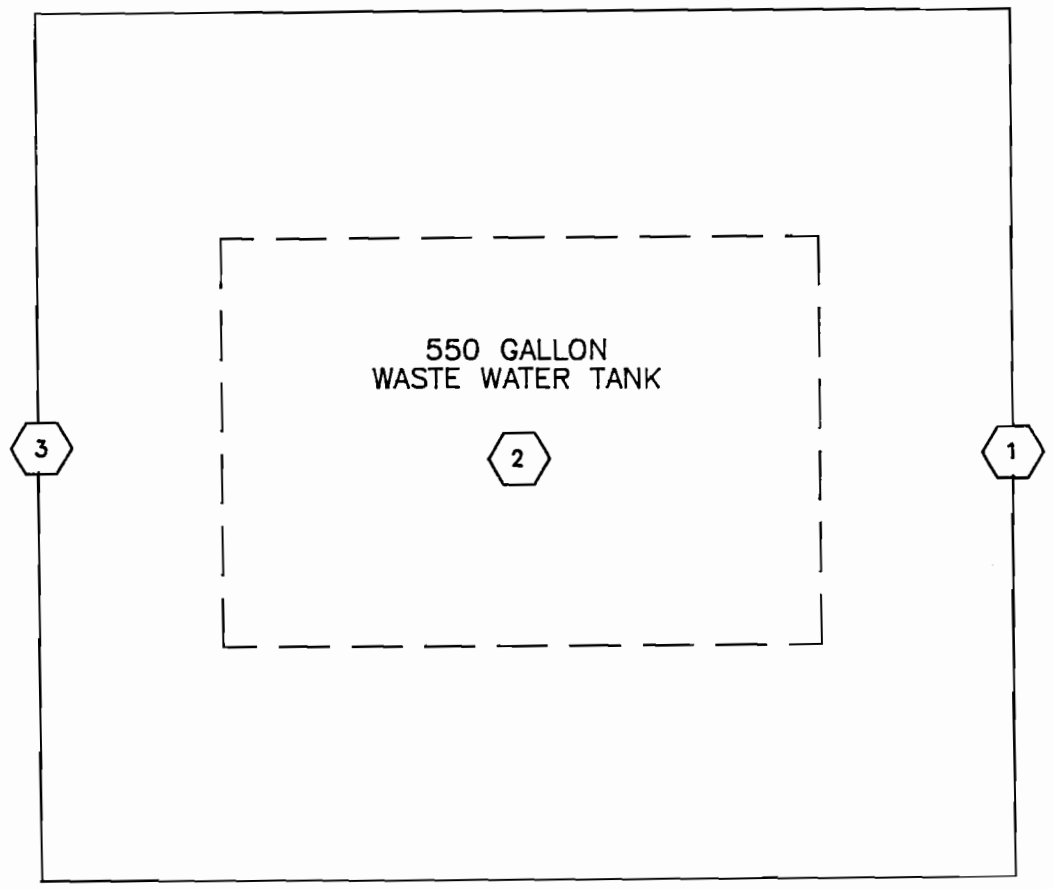


SOURCE: USGS 7.5 MINUTE SERIES
TOPOGRAPHIC QUADRANGLE 1989
BROOKLYN, NEW YORK
CONTOUR INTERVAL = 10'

FIGURE 1
SITE LOCATION MAP
MERIT GREENPOINT
210 GREENPOINT AVE & McGUINNESS BLVD
BROOKLYN, NEW YORK

GROUNDWATER &
ENVIRONMENTAL SERVICES, INC.





LEGEND

- DENOTES LOCATION OF EXCAVATION
- POST EXCAVATION SOIL SAMPLE
- PROPERTY BOUNDARY
- STORM SEWER INLET
- (M) UTILITY MANHOLE
- FORMER DISPENSER ISLAND
- FENCE
- A — FORMER 4,000 GAL GASOLINE UNDERGROUND STORAGE TANK
- B — FORMER 2,000 GAL GASOLINE UNDERGROUND STORAGE TANK
- C — FORMER 550 GAL WASTE WATER TANK
- TPH — TOTAL PETROLEUM HYDROCARBONS
- ppm — PARTS PER MILLION
- ND — NOT DETECTED DETECTION LIMIT OF 0.005 ppm
- BTEX — BENZENE, TOLUENE, ETHYLBENZENE, XYLENES

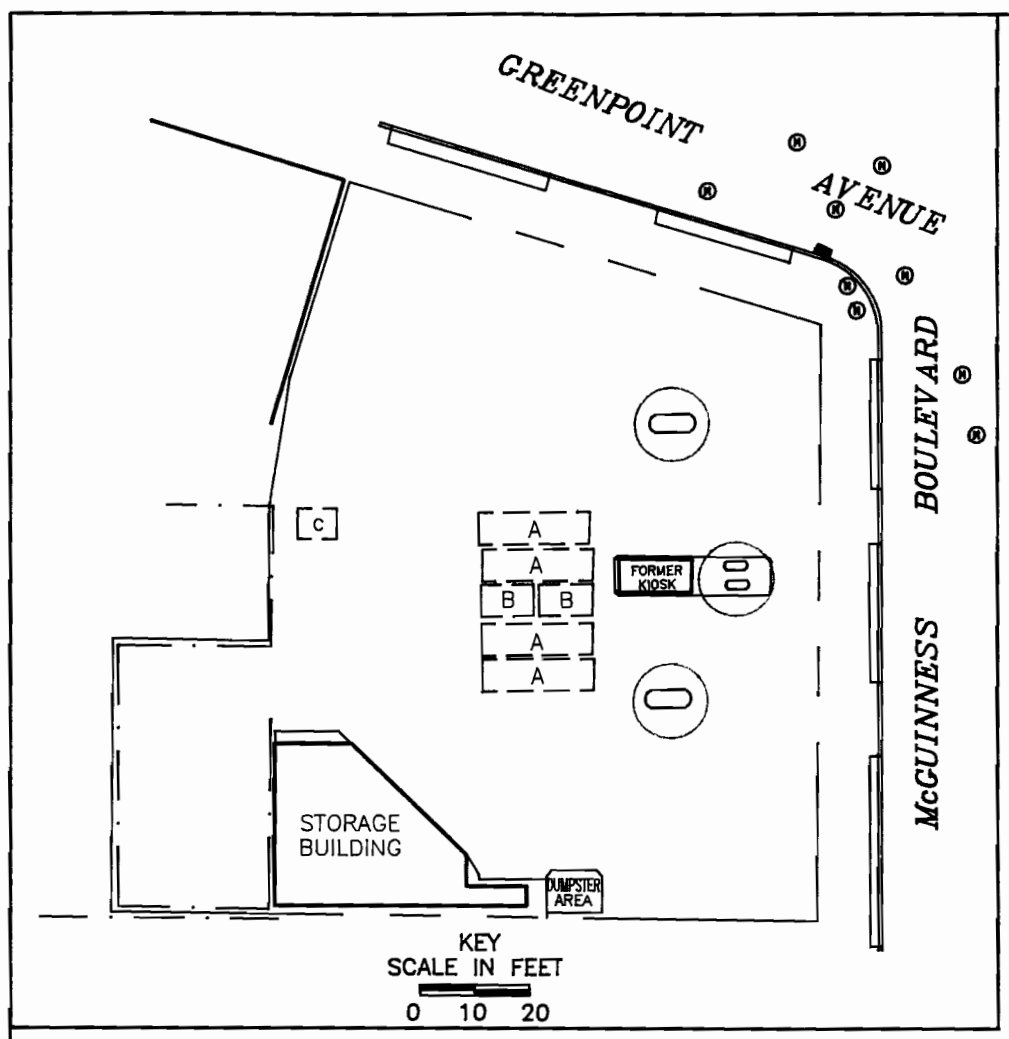
SAMPLE	TPH	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TOTAL BTEX
	ppm					
WW1	522	ND	ND	ND	ND	ND
WW2	173	ND	ND	ND	ND	ND
WW3	29.4	ND	ND	ND	ND	ND

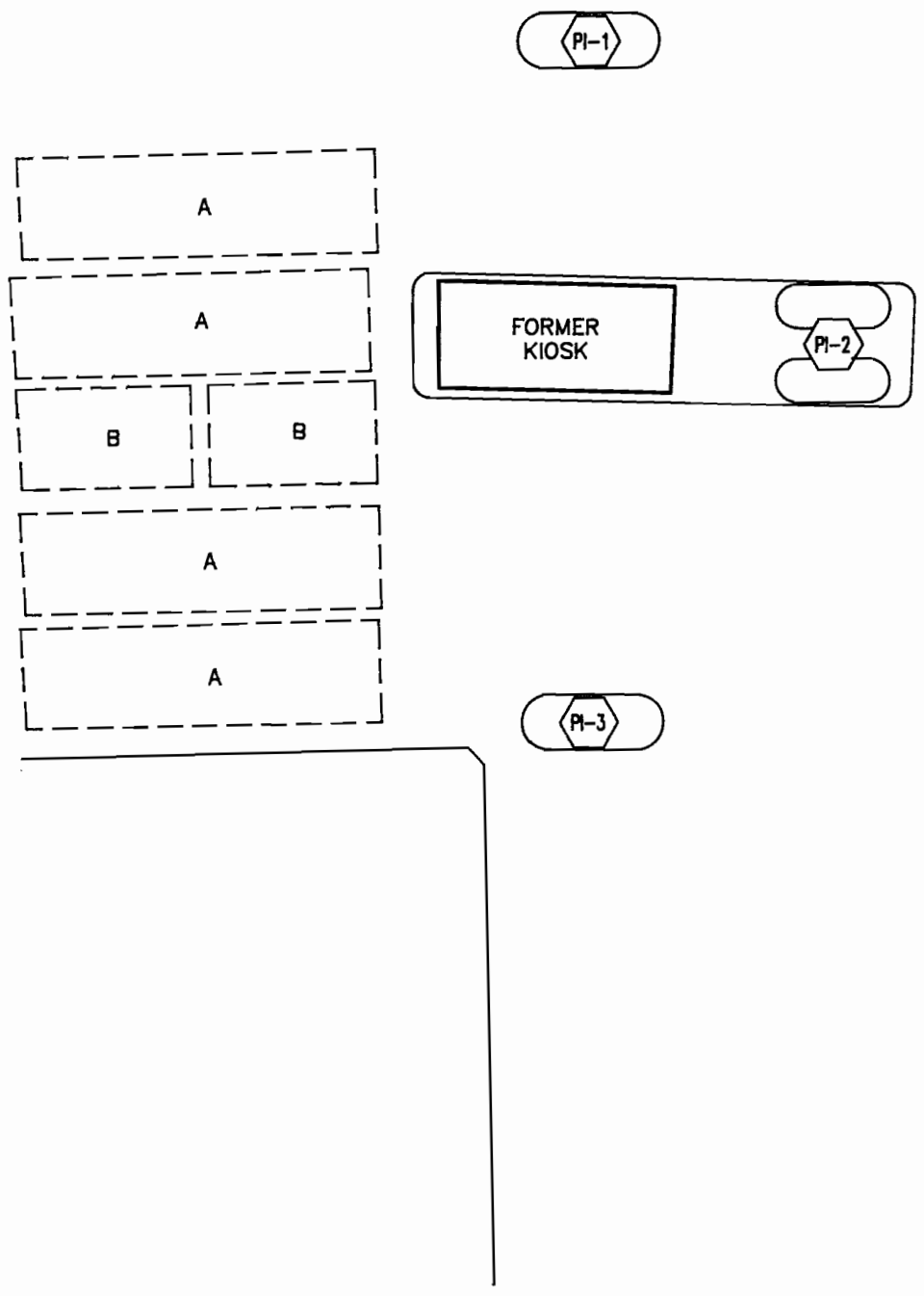
WASTE WATER TANK EXCAVATION MAP
15 JUNE 1993

MERIT GREENPOINT
210 GREENPOINT AVENUE & McGUINNESS BOULEVARD
BROOKLYN, NEW YORK

NORTH	SCALE IN FEET	DATE	SOURCE
	0 1' 2' (APPROXIMATE)	7-19-93	B
		DWG # RX0013	FIGURE 5

GROUNDWATER &
ENVIRONMENTAL SERVICES, INC.





LEGEND

- DENOTES LOCATION OF SAMPLING
- POST EXCAVATION SOIL SAMPLE
- PROPERTY BOUNDARY
- STORM SEWER INLET
- (M) UTILITY MANHOLE
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- FENCE
- A — FORMER 4,000 GAL GASOLINE UNDERGROUND STORAGE TANK
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- C — FORMER 550 GAL WASTE WATER TANK
- TPH — TOTAL PETROLEUM HYDROCARBONS
- ppm — PARTS PER MILLION
- ND — NOT DETECTED DETECTION LIMIT OF 0.005 ppm
- BTEX — BENZENE, TOLUENE, ETHYLBENZENE, XYLENES

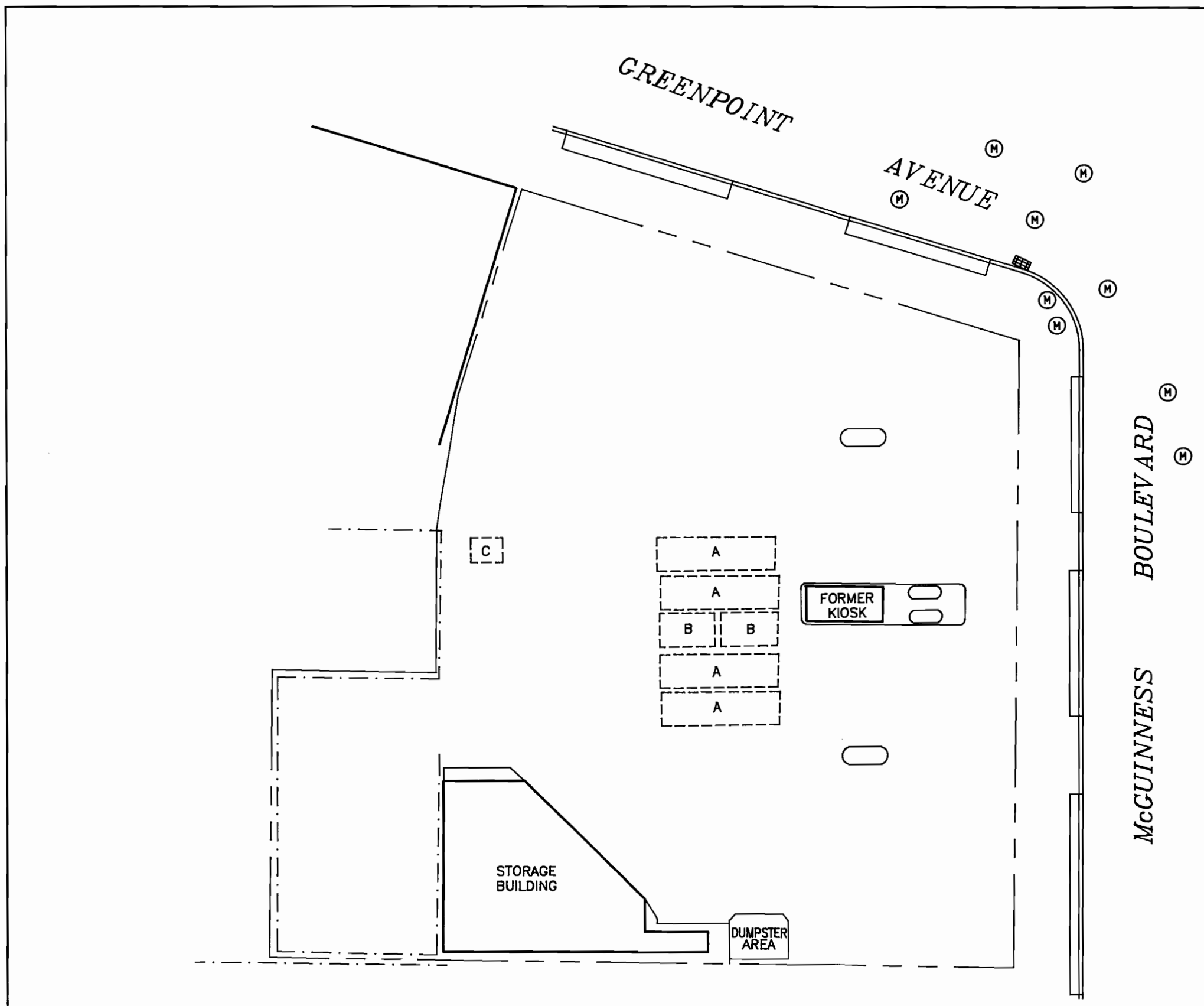
SAMPLE	TPH	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TOTAL BTEX
	ppm					
PI-1	84.3	ND	ND	ND	ND	ND
PI-2	740	ND	0.134	0.484	11.4	12.018
PI-3	88.3	ND	ND	ND	ND	ND

DISPENSER ISLAND SAMPLING PLAN
12 JUNE 1993

MERIT GREENPOINT
210 GREENPOINT AVENUE & McGUINNESS BOULEVARD
BROOKLYN, NEW YORK

NORTH	SCALE IN FEET	DATE	SOURCE
	0 5' 10' (APPROXIMATE)	7-19-93	B
		DWG # RX0013	FIGURE 3

GROUNDWATER &
ENVIRONMENTAL SERVICES, INC.



LEGEND

- STORM SEWER INLET
- (M) UTILITY MANHOLE
- FORMER DISPENSER ISLAND
- FENCE
- A — FORMER 4,000 GAL GASOLINE UNDERGROUND STORAGE TANK
- B — FORMER 2,000 GAL GASOLINE UNDERGROUND STORAGE TANK
- C — FORMER 550 GAL WASTE WATER TANK

SITE PLAN

MERIT GREENPOINT
210 GREENPOINT AVENUE & McGUINNESS BOULEVARD
BROOKLYN, NEW YORK

NORTH	SCALE IN FEET	DATE	SOURCE
	0 10 20	6-18-94	B
		DWG # RS0013	FIGURE 2

TABLES

TABLE 1
PID FIELD SCREENING ANALYSIS
MERIT GREENPOINT
210 GREENPONIT AVENUE & McGUINNESS BOULEVARD
BROOKLYN, NEW YORK

June 10, 1993 through June 15, 1993

Location		PID (ppm)
DISPENSER ISLANDS	FIGURE 3	
South Dispenser Island (2 fbg)	PI-1	10
East Dispenser Island (2 fbg)	PI-2	1,300
North Dispenser Island (2 fbg)	PI-3	10
GASOLINE TANK FIELD	FIGURE 4	
Canopy Area, Below Concrete Pad (1-2 fbg)		0-6,000
Above USTs (1-3 fbg)		0-1,300
Property Boundary along McGuinness Blvd.(1-4 fbg)		0-1,300
Northwest Bottom (13 fbg)	TF-1	3,000
Northeast Bottom (15 fbg)	TF-2	30
Northeast Bottom (14 fbg)		150
Southwest Wall (10 fbg)		1,000
South Wall (4 fbg)		350
East Center Bottom (14 fbg)	TF-3	30
West Center Bottom (14 fbg)	TF-4	30
Northeast Wall (1 fbg)		190
Northwest Wall (3 fbg)		250
Southwest Bottom (13 fbg)	TF-5	450
Southeast Bottom (13.5 fbg)	TF-6	90
North Wall (3 fbg)		110
550-GALLON UST	FIGURE 5	
East Bottom (5 fbg)	WW-1	35
Center Bottom (5 fbg)	WW-2	78
West Bottom (5 fbg)	WW-3	9.5

PID = Photoionization Detector
ppm = parts per million
fbg = feet below grade

TABLE 2
SOIL SAMPLE COLLECTION SUMMARY DATA
FOR UNDERGROUND STORAGE TANK
AND DISPENSER ISLAND CLOSURE
MERIT GREENPOINT
210 GREENPONIT AVENUE & McGUINNESS BOULEVARD
BROOKLYN, NEW YORK

June 10, 11, 12, and 15, 1993

Location	Sample Number	Sample Date
DISPENSER ISLANDS (Figure 3)		12 June 1993
Dispenser Island I (2 fbg)	PI-1	
Dispenser Island II (2 fbg)	PI-2	
Dispenser Island III (2 fbg)	PI-3	
GASOLINE TANK FIELD (Figure 4)		12 June 1993
Northwest Bottom (13 fbg)	TF-1	
Northeast Bottom (15 fbg)	TF-2	
East Center Bottom (14 fbg)	TF-3	
West Center Bottom (14 fbg)	TF-4	
Southwest Bottom (13 fbg)	TF-5	
Southeast Bottom (13.5 fbg)	TF-6	
550-GALLON UST (Figure 5)		15 June 1993
East Bottom (5 fbg)	WW-1	
Center Bottom (5 fbg)	WW-2	
West Bottom (5 fbg)	WW-3	

fbg = feet below grade

TABLE 3
SOIL ANALYTICAL SUMMARY DATA
MERIT GREENPOINT
210 GREENPOINT AVENUE & McGUINNESS BOULEVARD
BROOKLYN, NEW YORK

June 12 and 15, 1993

(All results in parts per million)

Sample #	TPH	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	Total BTEX
PI-1	84.3	ND	ND	ND	ND	ND
PI-2	740	ND	0.134	0.484	11.4	12.018
PI-3	88.3	ND	ND	ND	ND	ND
TF-1	259	ND	0.171J	ND	6.620	6.791
TF-2	30.3	0.0136	ND	ND	ND	0.0136
TF-3	29.9	ND	ND	ND	ND	ND
TF-4	73.1	ND	ND	ND	ND	ND
TF-5	123	0.040	0.0713	0.0338	0.208	0.3531
TF-6	122	0.00838	0.00627	0.00528	ND	0.01993
WW-1	522	ND	ND	ND	ND	ND
WW-2	173	ND	ND	ND	ND	ND
WW-3	29.4	ND	ND	ND	ND	ND

BTEX = Benzene, Toluene, Ethylbenzene, Total Xylenes
TPH = Total Petroleum Hydrocarbons
ppm = parts per million
J = Estimated Concentration
ND = Not Detected

APPENDIX I

Photographs

SITE PHOTOGRAPHS
MERIT GREENPOINT
210 GREENPOINT AVENUE & McGUINNESS BOULEVARD
BROOKLYN, NEW YORK
11 JUNE 1993

One 4,000-gallon and two 2,000-gallon, gasoline underground storage tanks

One 4,000-gallon and two 2,000-gallon, gasoline underground storage tanks

SITE PHOTOGRAPHS
MERIT GREENPOINT
210 GREENPOINT AVENUE & McGUINNESS BOULEVARD
BROOKLYN, NEW YORK
12 JUNE 1993

Two 4,000-gallon gasoline underground storage tanks

One 4,000-gallon gasoline underground storage tank

SITE PHOTOGRAPHS
MERIT GREENPOINT
210 GREENPOINT AVENUE & McGUINNESS BOULEVARD
BROOKLYN, NEW YORK
12 JUNE 1993

One 4,000-gallon gasoline underground storage tank

Two 4,000-gallon gasoline underground storage tanks

APPENDIX II

Soil Analytical Report

ANALAB INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

July 8, 1993

GES Inc.
P.O. Box 1750
1340 Campus Parkway
Wall, New Jersey 07719
Attn: Lynn Reilly

Analytical Report: 93-06-0187 Project: Merit Brooklyn(Greenpoint)
Ges # 0150-0060

This report covers the analyses of nine (9) samples submitted to Analab on June 14, 1993. The following analyses were requested:

BTEX-GC (9)
TOTAL PETROLEUM HYDROCARBONS (9)

Respectfully submitted,

Robert F. Hulit
Manager of Laboratory Services

RH/rd

ANALab INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

LABORATORY DELIVERABLES CHECKLIST

93-06-0187

THIS FORM HAS BEEN COMPLETED BY THE LABORATORY AND IS AVAILABLE TO THE ENVIRONMENTAL CONSULTANT TO ACCOMPANY ALL DATA SUBMISSIONS

The following laboratory deliverables are included in this Analytical Report. Any deviations from the accepted methodology and procedures, or performance values outside acceptable ranges are summarized in the Non-Conformance Summary.

I.	Report Cover Page, Laboratory Certification and Field Sample to Lab Sample ID Cross Reference	✓
II.	Table of Contents	✓
III.	Chain of Custody Documents	✓
IV.	Methodology Summaries	✓
V.	Laboratory Chronicle and Hold Time Checks	✓
VI.	Non-Conformance Summary	✓
VII.	Tabulated Analytical Results	✓
VIII.	Initial and Continuing Calibration Information	✓
IX.	Tune and Internal Standard Area Summaries (GC/MS)	NA
X.	Quality Control Summary Reports	✓
XI.	Surrogate Recovery Summary	✓
XII.	Raw Data Chromatograms, Blank, QCs and Samples	✓
XIII.	Subsidiary Information (Subcontract if applicable)	NA

Raymond A. Vandome QAM
Laboratory Manager or QA/QC Coordinator

7/6/93
Date

A:\QCCLST
1/93

ANALAB INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

ANALYTICAL DATA REPORT PACKAGE

FOR

GROUNDWATER ENVIRONMENTAL SERI
WALL, NJ 07719

Client Project:MERIT-BROOKLYN

Project:0150-0060

Sample(s) Received Date:06/14/93

LABORATORY SAMPLE ID	SAMPLE DESCRIPTION/LOCATION	SAMPLE DATE/TIME
93-06-0187-001	PUMP ISLAND 1	6/12/93 ; 12:00
93-06-0187-002	PUMP ISLAND 2	6/12/93 ; 12:15
93-06-0187-003	PUMP ISLAND 3	6/12/93 ; 12:30
93-06-0187-004	TANK FIELD 1	6/12/93 ; 13:00
93-06-0187-005	TANK FIELD 2	6/12/93 ; 13:15
93-06-0187-006	TANK FIELD 3	6/12/93 ; 13:30
93-06-0187-007	TANK FIELD 4	6/12/93 ; 13:45
93-06-0187-008	TANK FIELD 5	6/12/93 ; 14:00
93-06-0187-009	TANK FIELD 6	6/12/93 ; 14:15

LABORATORY NAME: ANALAB, INC.

LABORATORY ID: 12531

NJDEP ID:12531 MADEQE ID: NJ302 VADGS ID: 00007
NYDOH :11104 RIDHHL ID: NJ12531 NHDES ID: 250492-A,B
PADER ID:68-368 CTDHS ID: PH-0649 MDDHMH ID: 186

QUALITY CONTROL COORDINATOR: Raymond A. Vasvlera Jr.
Edith Numerable
Yi Zhang

MANAGER OF LABORATORY SERVICES: Robert F. Hulit

COMMENTS:

NA = NOT AVAILABLE FROM CHAIN OF CUSTODY / NOT APPLICABLE

1K

ANALab inc 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

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CHAIN OF CUSTODY RECORDS

METHOD SUMMARIES

LABORATORY CHRONICLE

CASE NARRATIVE/NONCONFORMANCE SUMMARY

TABULATED ANALYTICAL RESULTS

GC Volatile Organics
WET CHEMISTRY ANALYSIS

GC INITIAL & CONTINUING CALIBRATION REPORTS

GC Volatile Organics

WET CHEMISTRY INITIAL AND CONTINUING CALIBRATION SUMMARY

QUALITY CONTROL SUMMARY REPORTS

GC Volatile Organics QC Summary
Wet Chemistry QC Summary

RAW DATA

GC Volatile Organics
Wet Chemistry TPHC IR-Scans

ANALab INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

CHAIN OF CUSTODY RECORDS

S.S.# GREENPOINT

Engineer Ron Barnes

ANALAB
CHAIN OF CUSTODY RECORD

Project Manager Tony D.

Case Manager DLG

PROJECT NO. 0150-0060 | PROJECT NAME Merit Brooklyn (Greenpoint)

SAMPLERS: (Signature) [signature]

ANALYSIS: BTEX (8020), TPH (418.1)

93-6-187

	NO.	DATE	TIME	COMP	GRAB	STATION AND LOCATION	BTEX (8020)	TPH (418.1)	REMARKS	PRESERVATION
1	1	6-12-93	1200		X	PUMP ISLAND 1	X	X	1 JAR	ICE
2	2	↓	1215		↓	↓ 2	↓	↓	↓	↓
3	3	↓	1230		↓	↓ 3	↓	↓	↓	↓
4	4	↓	1300		↓	TANK FIELD 1	↓	↓	↓	↓
5	5	↓	1315		↓	↓ 2	↓	↓	↓	↓
6	6	↓	1330		↓	↓ 3	↓	↓	↓	↓
7	7	↓	1345		↓	↓ 4	↓	↓	↓	↓
8	8	↓	1400		↓	↓ 5	↓	↓	↓	↓
9	9	↓	1415		↓	↓ 6	↓	↓	↓	↓

All Samples Received Cool Intact and Properly Preserved ✓

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
[signature] Jr.	6/12/93	1700	[signature]	[signature]	6-14-93	11:50	[signature]

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY LABORATORY
				[signature]	6/14/93	1:30	[signature]

REMARKS:

Groundwater & Environmental Services, Inc.
1340 Campus Parkway
P.O. Box 1750 • Wall, NJ 07719
(908) 91[illegible] • FAX (908) 919[illegible]

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METHOD SUMMARIES

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METHODOLOGY SUMMARY

PARAMETER	REFERENCES
Percent Solids/ Percent Moisture	Methods for Chemical Analysis of Water and Wastes; USEPA 600/4-79-200, 1983, Method 160.3. Standard Methods for the Examination of Water and Wastewater, 16th ed., pp. 92-94, Method 209A, (1985).
Total Dissolved Solids (TDS)	Methods for Chemical Analysis of Water and Wastes; USEPA 600/4-79-200, 1983, Method 160.1.
Total Suspended Solids (TSS)	Methods for Chemical Analysis of Water and Wastes; USEPA 600/4-79-200, 1983, Method 160.2.
Total Petroleum Hydrocarbons (Spectrophotometric, Infrared)	Methods for Chemical Analysis of Water and Wastes: USEPA 600/4-79-200, 1983, Method 418.1. Standard Methods for the Examination of Water and Wastewater: 16th ed., pp. 501-502, Method 503E, (1985). Test Methods for Evaluating Solid Waste Physical/Chemical Methods: 2nd ed/, Vol. IC, USEPA SW-846, 1986, Method 3540.
Oil and Grease (Spectrophotometric, Infrared)	Methods for Chemical Analysis of Water and Wastes: IC, USEPA 600/4-79-200, 1983, Method 413.1. Standard for Methods for the Examination of Water and Wastewater: 16th ed., pp. 498-500, Method 503B and C, (1985). Test Methods for Evaluating Solid Waste Physical/Chemical Methods: 2nd ed., Vol. IC, USEPA SW-846, 1986, Method 3540.
Oil and Grease (Gravimetric)	Methods for Chemical Analysis of Water and Wastes: USEPA 600/4-79-200, 1983, Method 413.1. Standard Methods for the Examination of Water and Wastewater: 16th ed., pp.496-498, Method 503A and B, (1985).
Corrosivity by pH	Test Method for Evaluating Solid Wastes: Vol. IC, USEPA SW-846, 1986, Method 9040.
Paint Filter Liquids Test	Test Methods for Evaluating Solid Waste: Physical/Chemical Methods; 3rd ed., Vol IC, USEPA SW-846, 1986, Method 9095.
Specific Conductance	Methods for Chemical Analysis of Water and Wastes; USEPA 600/4-79-200, 1983, Method 415.1.
Total Organic Carbon (TOC)	Methods for Chemical Analysis of Water and Wastes; USEPA 600/4-79-200, 1983, Method 415.1.

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LABORATORY CHRONICLE

ANALab Plus
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LABORATORY CHRONICLE

CLIENT: GES, INC

REPORT NO.: 93-06-0187

SAMPLING DATE: 6/12/93

DATE RECEIVED BY LABORATORY: 6/14/93

LAB SAMPLE ID	EXTRACTION DATE	CLIENT SAMPLE DESIGNATION	PARAMETER	DATE ANALYZED	ANALYST
93-06-0187-1	NA	PUMP ISLAND 1	TS	6/15/93	MO
93-06-0187-2	"	PUMP ISLAND 2	"	"	"
93-06-0187-3	"	PUMP ISLAND 3	"	"	"
93-06-0187-4	"	TANK FIELD 1	"	"	"
93-06-0187-5	"	TANK FIELD 2	"	"	"
93-06-0187-6	"	TANK FIELD 3	"	"	"
93-06-0187-7	"	TANK FIELD 4	"	"	"
93-06-0187-8	"	TANK FIELD 5	"	"	"
93-06-0187-9	"	TANK FIELD 6	"	"	"
93-06-0187-1	6/16/93	PUMP ISLAND 1	TPHC	6/22/93	MO,ST
93-06-0187-2	"	PUMP ISLAND 2	"	"	"
93-06-0187-3	"	PUMP ISLAND 3	"	"	"
93-06-0187-4	"	TANK FIELD 1	"	"	"
93-06-0187-5	"	TANK FIELD 2	"	"	"
93-06-0187-6	"	TANK FIELD 3	"	"	"
93-06-0187-7	"	TANK FIELD 4	"	"	"
93-06-0187-8	"	TANK FIELD 5	"	"	"
93-06-0187-9	"	TANK FIELD 6	"	"	"
93-06-0187-1	NA	PUMP ISLAND 1	BTEX-GC	6/21/93	MP
93-06-0187-2	"	PUMP ISLAND 2	"	6/22/92	"
93-06-0187-3	"	PUMP ISLAND 3	"	6/21/93	"
93-06-0187-4	"	TANK FIELD 1	"	6/25/93	"
93-06-0187-5	"	TANK FIELD 2	"	6/23/93	"
93-06-0187-6	"	TANK FIELD 3	"	"	"
93-06-0187-7	"	TANK FIELD 4	"	"	"
93-06-0187-8	"	TANK FIELD 5	"	"	"
93-06-0187-9	"	TANK FIELD 6	"	6/24/93	"

FORM 99
RH/rd

ANALAB INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837. Tel: (908) 225-4111. Fax: (908) 225-4110

SAMPLE MANAGEMENT LABORATORY CHRONICLE

CLIENT NAME: QES N.J
CLIENT PROJECT: Merit Brooklyn (Greenpoint)
RAS # : N/A
SAMPLE DATE(S): 6/12/93
SAMPLE MATRIX: H2O, (SOIL), _____

LAB PROJECT ID: 93-6-187
SAMPLE TEMP ON RECEIPT: 4.6 °C
SAMPLE RECEIVE DATE: 6/14/93
PAGE 1 OF 1.

CONDITION OF SAMPLES RECEIVED BY LAB	NA	YES	NO	COMMENTS
Cooler Seal Intact	NA	(YES)	NO	
Samples Received Cool (2-6°C)	NA	(YES)	NO	
Samples Received Intact		(YES)	NO	
Sample Labels Match Chain of Custody		(YES)	NO	
VOAs HCL Preserved as per Label or Custody	(NA)	YES	NO	
VOAs w/out Bubbles, Septa TFE Side Down	(NA)	YES	NO	
Airbill Present, if by Common Carrier.	(NA)	YES	NO	
Traffic Reports Present if applicable	(NA)	YES	NO	
Subcontract Analysis Required (Sub COC)		YES	(NO)	

PRESERVATION CHECKS PERFORMED FOR AQUEOUS SAMPLES NEEDING PH ADJUSTMENT

(N/A) = IF NOT APPLICABLE

LAB SAMPLE	FRACTION	PH MEASURED	OK	COMMENTS BY SM ON RECEIPT

Note: NA = Not Applicable or Not Available from Chain of Custody

A. Salvatore
Sample Custodian Signature

6/14/93
Date

A:\smlc

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CASE NARRRATIVE/NONCONFORMANCE SUMMARY

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CASE NARRATIVE/NONCONFORMANCE SUMMARY

PROJECT: 93-06-0187

There were no Nonconformances found.

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TABULATED ANALYTICAL RESULTS

GC VOLATILE ORGANICS

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ANALYTICAL REPORT FLAGS:

U Compound was analyzed but not detected. The number proceeding the analytical flag "U" is the minimum attainable detection limit for the sample.

J Compound was detected but below the Method Detected Limits (MDL). Quantitation is approximate.

B Compound was found to be present in the Method Blank.

E Compound concentration exceeded the calibration range of the GC/MS instrument. Secondary dilution was required.

D Compound was identified in the analysis at a secondary dilution factor.

BMDL Compound was detected but below the Method Detection Limit (MDL). Quantitation is approximate.

Compounds detected for Soil/Solid Analysis are reported on a dry weight basis.

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ANALYTICAL REPORT

BTEX ANALYSIS BY GC

CLIENT: GROUNDWATER ENVIRONMENTAL SERV
CLIENT PROJECT: MERIT-BROOKLYN
REPORT DATE : JUNE 25 1993
PROJECT RECEIPT DATE: 06/14/93

LAB ID: 93-06-0167-001
ANALYST: PK
ANALYSIS DATE: 06/21/93
MATRIX:SOIL

CLIENT SAMPLE DESIGNATION: PUMP ISLAND 1

COMPOUND	RESULTS(UG/KG)	MDL,UG/KG)
MTBE	N/A	N/A
BENZENE	<5.0	5.0
TOLUENE	<5.0	5.0
ETHYLBENZENE	<5.0	5.0
TOTAL XYLENES	<5.0	5.0

COMMENTS:

MDL = METHOD DETECTION LIMIT (MDL).
< = LESS THAN
RESULTS ARE REPORTED ON DRY WEIGHT BASIS

BTXMS

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ANALYTICAL REPORT

BTEX ANALYSIS BY GC

CLIENT: GROUNDWATER ENVIRONMENTAL SERI
CLIENT PROJECT: MERIT-BROOKLYN
REPORT DATE : JULY 8 1993
PROJECT RECEIPT DATE: 06/14/93

LAB ID: 93-06-0187-002
ANALYST: PK
ANALYSIS DATE: 06/22/93
MATRIX:SOIL

CLIENT SAMPLE DESIGNATION: PUMP ISLAND 2

COMPOUND	RESULTS(UG/KG)	MDL(UG/KG)
MTBE	N/A	N/A
BENZENE	<10.0	10.0
TOLUENE	134.0	10.0
ETHYLBENZENE	484.0	10.0
TOTAL XYLENES	11400.0	500.0

COMMENTS:

MDL = METHOD DETECTION LIMIT (MDL).
< = LESS THAN
RESULTS ARE REPORTED ON DRY WEIGHT BASIS

BTXMS

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ANALYTICAL REPORT

BTEX ANALYSIS BY GC

CLIENT: GROUNDWATER ENVIRONMENTAL SERV
CLIENT PROJECT: MERIT-BROOKLYN
REPORT DATE : JUNE 25 1993
PROJECT RECEIPT DATE: 06/14/93

LAB ID: 93-06-0167-003
ANALYST: PK
ANALYSIS DATE: 06/21/93
MATRIX:SOIL

CLIENT SAMPLE DESIGNATION: PUMP ISLAND 3

COMPOUND	RESULTS(UG/KG)	MDL(UG/KG)
MTBE	N/A	N/A
BENZENE	<5.0	5.0
TOLUENE	<5.0	5.0
ETHYLBENZENE	<5.0	5.0
TOTAL XYLENES	<5.0	5.0

COMMENTS:

MDL = METHOD DETECTION LIMIT (MDL).
< = LESS THAN
RESULTS ARE REPORTED ON DRY WEIGHT BASIS

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ANALYTICAL REPORT

BTEX ANALYSIS BY GC

CLIENT: GROUNDWATER ENVIRONMENTAL SERV
CLIENT PROJECT: MERIT-BROOKLYN
REPORT DATE : JUNE 29 1993
PROJECT RECEIPT DATE: 06/14/93

LAB ID: 93-06-0167-004
ANALYST: MP
ANALYSIS DATE: 6/25/93
MATRIX:SOIL

CLIENT SAMPLE DESIGNATION: TANK FIELD 1

COMPOUND	RESULTS(UG/KG)	MDL(UG/KG)
MTBE	N/A	N/A
BENZENE	<1000.0	1000.0
TOLUENE	171 J	1000.0
ETHYLBENZENE	<1000.0	1000.0
TOTAL XYLENES	6620	1000.0

COMMENTS:

MDL = METHOD DETECTION LIMIT (MDL).
< = LESS THAN
RESULTS ARE REPORTED ON DRY WEIGHT BASIS

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ANALYTICAL REPORT

BTEX ANALYSIS BY GC

CLIENT: GROUNDWATER ENVIRONMENTAL SERI
CLIENT PROJECT: MERIT-BROOKLYN
REPORT DATE : JUNE 25 1993
PROJECT RECEIPT DATE: 06/14/93

LAB ID: 93-06-0187-005
ANALYST: PK
ANALYSIS DATE: 06/23/93
MATRIX: SOIL

CLIENT SAMPLE DESIGNATION: TANK FIELD 2

COMPOUND	RESULTS(UG/KG)	MDL(UG/KG)
MTBE	N/A	N/A
BENZENE	15.6	5.0
TOLUENE	<5.0	5.0
ETHYLBENZENE	<5.0	5.0
TOTAL XYLENES	<5.0	5.0

COMMENTS:

MDL = METHOD DETECTION LIMIT (MDL).
< = LESS THAN
RESULTS ARE REPORTED ON DRY WEIGHT BASIS

BTXMS

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ANALYTICAL REPORT

BTEX ANALYSIS BY GC

CLIENT: GROUNDWATER ENVIRONMENTAL SERI
CLIENT PROJECT: MERIT-BROOKLYN
REPORT DATE : JULY 8 1993
PROJECT RECEIPT DATE: 06/14/93

LAB ID: 93-06-0187-006
ANALYST: PK
ANALYSIS DATE: 06/23/93
MATRIX:SOIL

CLIENT SAMPLE DESIGNATION: TANK FIELD 3

COMPOUND	RESULTS(UG/KG)	MDL(UG/KG)
MTBE	N/A	N/A
BENZENE	<5.0	5.0
TOLUENE	<5.0	5.0
ETHYLBENZENE	<5.0	5.0
TOTAL XYLENES	<5.0	5.0

COMMENTS:

MDL = METHOD DETECTION LIMIT (MDL).
< = LESS THAN
RESULTS ARE REPORTED ON DRY WEIGHT BASIS

BTXMS

ANA

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ANALYTICAL REPORT
PERCENT SOLIDS

CLIENT: GROUNDWATER ENVIRONMENTAL SERI
CLIENT PROJECT: MERIT-BROOKLYN
REPORT DATE : JUNE 24 1993
PROJECT RECEIPT DATE : 06/14/93

PROJECT: 93-06-0187
ANALYZED BY: MO

CLIENT ID	LAB ID	PERCENT SOLIDS	ANALYSIS DATE
PUMP ISLAND 1	001	90.5	06/15/93
PUMP ISLAND 2	002	89.4	06/15/93
PUMP ISLAND 3	003	86.4	06/15/93
TANK FIELD 1	004	87.9	06/15/93
TANK FIELD 2	005	84.2	06/15/93
TANK FIELD 3	006	85.2	06/15/93
TANK FIELD 4	007	85.6	06/15/93
TANK FIELD 5	008	84.1	06/15/93
TANK FIELD 6	009	85.3	06/15/93

WC115

MTBE Calibration Report

Printed: 17-JUN-1993 10:42:55

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No
Corr. Coef. (r): 0.9997393
Coef. of Determination (r^2): 0.9994786

Equation: Conc = 8.716724E-01 + 1.301732E-04 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
2 UG/L STD.	BX061611	Y	5.000000E+00	5.2610586E+04	7.720162E+00	-3.52E+01	9.503791E-05
5 UG/L STD.	BX061612	Y	1.250000E+01	8.0275906E+04	1.132145E+01	1.04E+01	1.557130E-04
10 UG/L STD.	BX061613	Y	2.500000E+01	1.6440298E+05	2.227254E+01	1.22E+01	1.520654E-04
60 UG/L STD.	BX061614	Y	1.500000E+02	1.1649319E+06	1.525146E+02	-1.65E+00	1.287629E-04
100 UG/L STD.	BX061615	Y	2.500000E+02	1.9036139E+06	2.486712E+02	5.34E-01	1.313292E-04

TOLUENE Calibration Report

Printed: 17-JUN-1993 10:43:07

Quant Basis: Area **Rejection Tolerance:** None **Internal Standard:** None
Curve Type: Linear **Weighting:** None **Forced Through Origin:** No
Y-axis Label: Concentration
Corr. Coef. (r): 0.9996577 **Coef. of Determination (r^2):** 0.9993155

Equation: Conc = -3.357063E-01 + 4.590492E-05 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
2 UG/L STD.	BX061611	Y	2.000000E+00	7.8629391E+04	3.273769E+00	-3.89E+01	2.543578E-05
5 UG/L STD.	BX061612	Y	5.000000E+00	1.1064469E+05	4.743429E+00	5.41E+00	4.518970E-05
10 UG/L STD.	BX061613	Y	1.000000E+01	1.9265673E+05	8.508185E+00	1.75E+01	5.190579E-05
60 UG/L STD.	BX061614	Y	6.000000E+01	1.3355569E+06	6.097292E+01	-1.60E+00	4.492508E-05
100 UG/L STD.	BX061615	Y	1.000000E+02	2.1748737E+06	9.950170E+01	5.01E-01	4.597968E-05

CHLOROBENZENE Calibration Report

Printed: 17-JUN-1993 10:43:13

Quant Basis: Area **Rejection Tolerance:** None **Internal Standard:** None
Curve Type: Linear **Weighting:** None **Forced Through Origin:** No
Y-axis Label: Concentration
Corr. Coef. (r): 0.9997433 **Coef. of Determination (r^2):** 0.9994868

Equation: Conc = 9.774408E-01 + 4.264117E-05 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
2 UG/L STD.	BX061611	Y	2.000000E+00	5.2316316E+04	3.208270E+00	-3.77E+01	3.822899E-05
5 UG/L STD.	BX061612	Y	5.000000E+00	9.0876656E+04	4.852528E+00	3.04E+00	5.501963E-05
10 UG/L STD.	BX061613	Y	1.000000E+01	1.7914622E+05	8.616445E+00	1.61E+01	5.582032E-05
60 UG/L STD.	BX061614	Y	6.000000E+01	1.3982099E+06	6.059875E+01	-9.88E-01	4.291201E-05
100 UG/L STD.	BX061615	Y	1.000000E+02	2.3157565E+06	9.972401E+01	2.77E-01	4.318243E-05

ETHYL BENZENE Calibration Report

Printed: 17-JUN-1993 10:43:19

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No
Corr. Coef. (r): 0.9996747
Coef. of Determination (r^2): 0.9993496

Equation: Conc = 2.597802E-01 + 5.295008E-05 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
2 UG/L STD.	BX061611	Y	2.000000E+00	5.9136191E+04	3.391046E+00	-4.10E+01	3.382024E-05
5 UG/L STD.	BX061612	Y	5.000000E+00	8.4538828E+04	4.736118E+00	5.57E+00	5.914442E-05
10 UG/L STD.	BX061613	Y	1.000000E+01	1.5570014E+05	8.504115E+00	1.76E+01	6.422602E-05
60 UG/L STD.	BX061614	Y	6.000000E+01	1.1415651E+06	6.070574E+01	-1.16E+00	5.255942E-05
100 UG/L STD.	BX061615	Y	1.000000E+02	1.8773001E+06	9.966297E+01	3.38E-01	5.326799E-05

meta-XYLENE Calibration Report

Printed: 17-JUN-1993 10:43:25

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No
Corr. Coef. (r): 0.9997762
Coef. of Determination (r^2): 0.9995525

Equation: Conc = 3.593098E-01 + 4.773950E-05 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
2 UG/L STD.	BX061611	Y	2.000000E+00	5.9630793E+04	3.206054E+00	-3.76E+01	3.353972E-05
5 UG/L STD.	BX061612	Y	5.000000E+00	9.4910664E+04	4.890298E+00	2.24E+00	5.268112E-05
10 UG/L STD.	BX061613	Y	1.000000E+01	1.7437297E+05	8.683789E+00	1.52E+01	5.734834E-05
60 UG/L STD.	BX061614	Y	6.000000E+01	1.2566396E+06	6.035066E+01	-5.81E-01	4.774639E-05
100 UG/L STD.	BX061615	Y	1.000000E+02	2.0844349E+06	9.986920E+01	1.31E-01	4.797463E-05

o,p-XYLENE Calibration Report

Printed: 17-JUN-1993 10:43:31

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No
Corr. Coef. (r): 0.9997209
Coef. of Determination (r^2): 0.9994419

Equation: Conc = 1.110298E+00 + 4.960737E-05 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
2 UG/L STD.	BX061611	Y	4.000000E+00	1.0857959E+05	6.496646E+00	-3.84E+01	3.683933E-05
5 UG/L STD.	BX061612	Y	1.000000E+01	1.6786616E+05	9.437697E+00	5.96E+00	5.957127E-05
10 UG/L STD.	BX061613	Y	2.000000E+01	3.2632475E+05	1.729841E+01	1.56E+01	6.128864E-05
60 UG/L STD.	BX061614	Y	1.200000E+02	2.4269622E+06	1.215055E+02	-1.24E+00	4.944453E-05
100 UG/L STD.	BX061615	Y	2.000000E+02	3.9943952E+06	1.992617E+02	3.70E-01	5.007016E-05

1,3-DICHLOROBEN Calibration Report

Printed: 17-JUN-1993 10:43:37

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No
Corr. Coef. (r): 0.9998202
Coef. of Determination (r^2): 0.9996404

Equation: Conc = 8.464407E-01 + 5.700301E-05 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
2 UG/L STD.	BX061611	Y	2.000000E+00	3.9495891E+04	3.097825E+00	-3.54E+01	5.063818E-05
5 UG/L STD.	BX061612	Y	5.000000E+00	7.0599094E+04	4.870802E+00	2.65E+00	7.082244E-05
10 UG/L STD.	BX061613	Y	1.000000E+01	1.4929041E+05	9.356444E+00	6.88E+00	6.698354E-05
60 UG/L STD.	BX061614	Y	6.000000E+01	1.0225042E+06	5.913226E+01	1.47E+00	5.867946E-05
100 UG/L STD.	BX061615	Y	1.000000E+02	1.7489641E+06	1.005427E+02	-5.40E-01	5.717670E-05

1,2-DICHLOROBEN Calibration Report

Printed: 17-JUN-1993 10:43:44

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No
Corr. Coef. (r): 0.9997834
Coef. of Determination (r^2): 0.9995668

Equation: Conc = -8.005553E-02 + 7.236363E-05 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
2 UG/L STD.	BX061611	Y	2.000000E+00	3.6956062E+04	2.594219E+00	-2.29E+01	5.411832E-05
5 UG/L STD.	BX061612	Y	5.000000E+00	6.4863320E+04	4.613690E+00	8.37E+00	7.708517E-05
10 UG/L STD.	BX061613	Y	1.000000E+01	1.2865024E+05	9.229542E+00	8.35E+00	7.773013E-05
60 UG/L STD.	BX061614	Y	6.000000E+01	8.4788537E+05	6.127600E+01	-2.08E+00	7.076428E-05
100 UG/L STD.	BX061615	Y	1.000000E+02	1.3731566E+06	9.929654E+01	7.19E-01	7.282490E-05

1,4-DICHLOROBEN Calibration Report

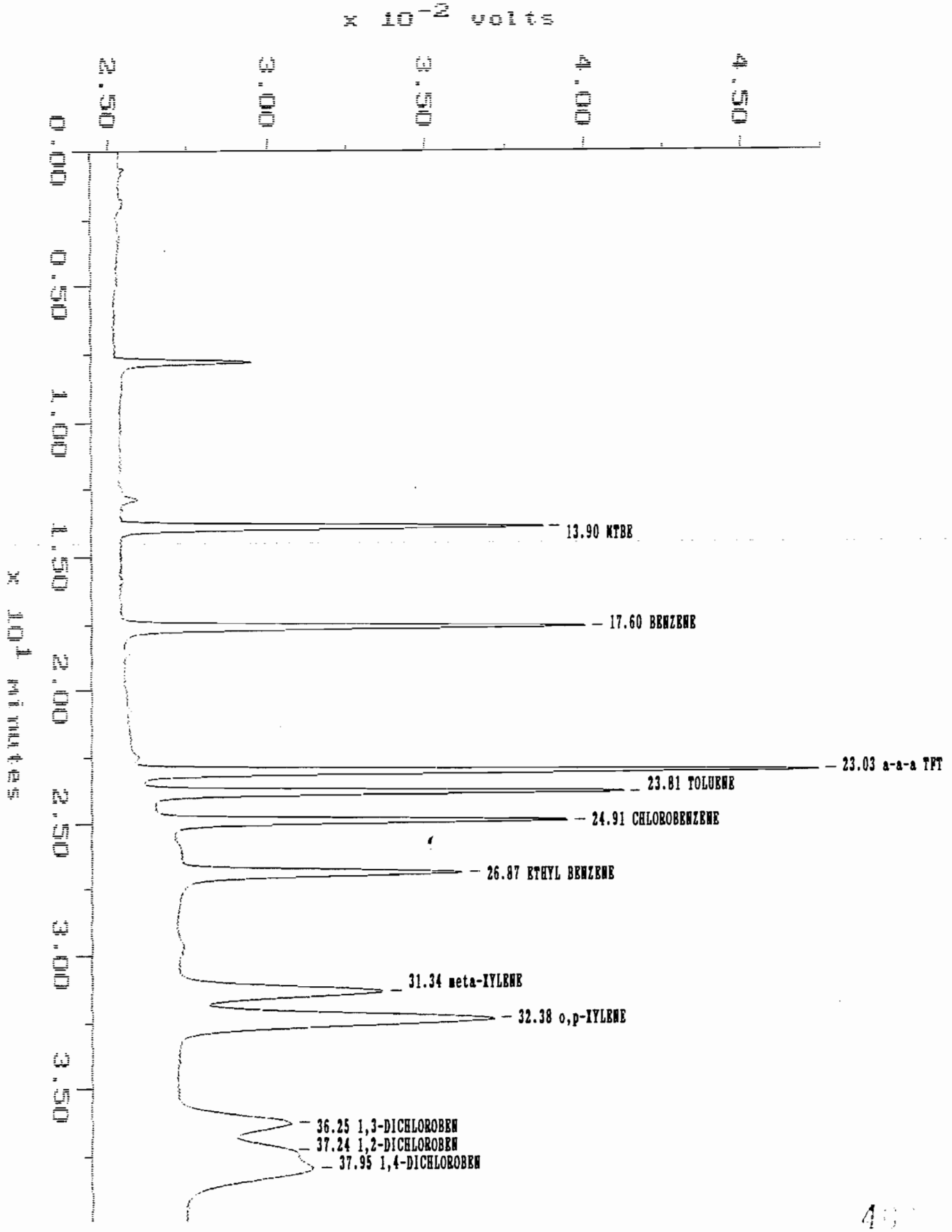
Printed: 17-JUN-1993 10:43:50

Quant Basis: Area **Rejection Tolerance:** None **Internal Standard:** None
Curve Type: Linear **Weighting:** None **Forced Through Origin:** No
Y-axis Label: Concentration
Corr. Coef. (r): 0.9992731 **Coef. of Determination (r^2):** 0.9985468

Equation: Conc = 1.100806E+00 + 5.626288E-05 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
2 UG/L STD.	BI061611	Y	2.000000E+00	4.3866402E+04	3.568856E+00	-4.40E+01	4.559298E-05
5 UG/L STD.	BI061612	Y	5.000000E+00	7.2405469E+04	5.174546E+00	-3.37E+00	6.905556E-05
10 UG/L STD.	BI061613	Y	1.000000E+01	1.4596581E+05	9.313263E+00	7.37E+00	6.850919E-05
60 UG/L STD.	BI061614	Y	6.000000E+01	1.0034546E+06	5.755805E+01	4.24E+00	5.979344E-05
100 UG/L STD.	BI061615	Y	1.000000E+02	1.7824271E+06	1.013853E+02	-1.37E+00	5.610328E-05

Sample: 10 UG/L STD. Channel: PID Filename: BX061901
Acquired: 19-JUN-93 13:56 Method: C:\MAI\DATA1\BX06-19 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 21-JUN-1993 10:06:06

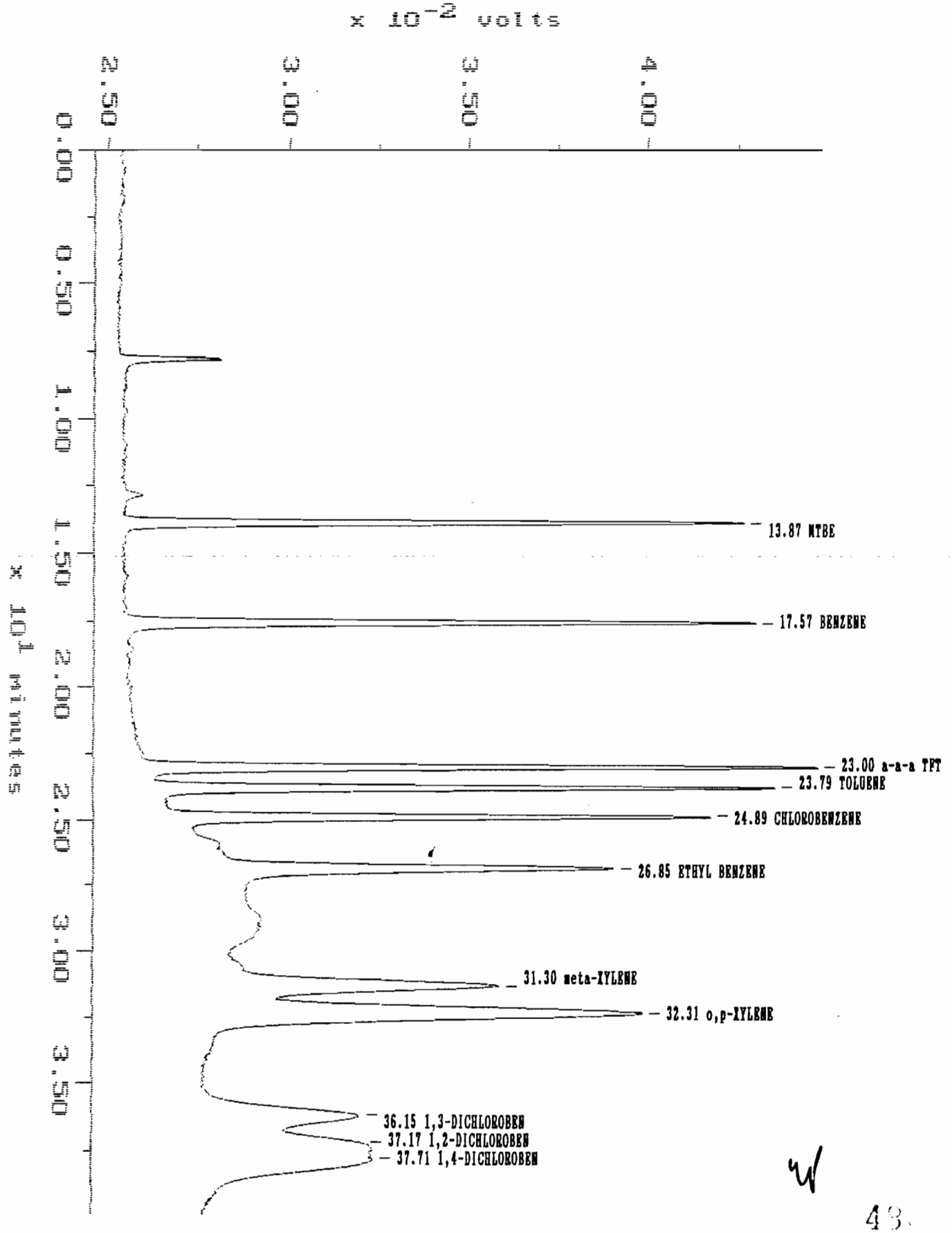
SAMPLE: 10 UG/L STD.
#6 in Method: BTX BY EPA METHOD 602
Acquired: 19-JUN-1993 13:56
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX061901
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.900	162139	13255	21.98
2	BENZENE	17.596	187174	14433	8.71
3	a-a-a TFT	23.025	277830	21337	48.42
4	TOLUENE	23.813	200710	14897	8.88
5	CHLOROBENZENE	24.913	178159	12564	8.57
6	ETHYL BENZENE	26.867	156790	8658	8.56
7	meta-XYLENE	31.338	182467	6226	9.07
8	o,p-XYLENE	32.379	323291	9712	17.15
9	1,3-DICHLOROBEN	36.254	125352	3206	7.99
10	1,2-DICHLOROBEN	37.242	197318	3118	14.20
11	1,4-DICHLOROBEN	37.946	113398	3708	7.48
TOTAL			2104627	111115	161.01

Sample: 10 UG/L STD, Channel: PID Filename: BX062101
Acquired: 21-JUN-93 10:11 Method: C:\MAX\DATA1\BX06-21 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 22-JUN-1993 8:57:43

SAMPLE: 10 UG/L STD.
#6 in Method: BTX BY EPA METHOD 602
Acquired: 21-JUN-1993 10:11
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062101
Index: Disk

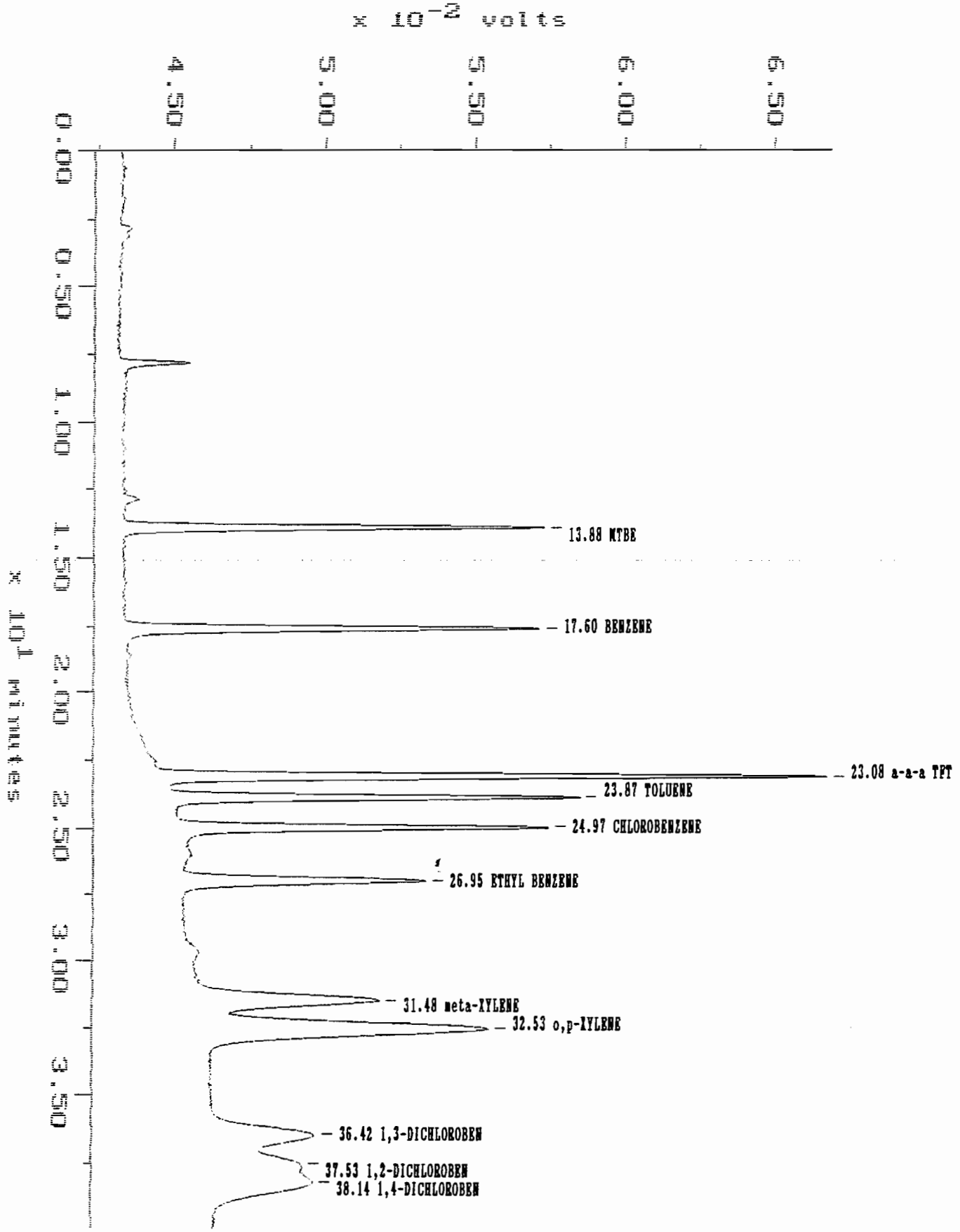
DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.867	209399	17111	28.13
2	BENZENE	17.567	223829	17353	10.26
3	a-a-a TFT	23.004	243039	18504	42.35
4	TOLUENE	23.788	228733	17011	10.16
5	CHLOROBENZENE	24.892	206159	14664	9.77
6	ETHYL BENZENE	26.846	211214	10568	11.44
7	meta-XYLENE	31.300	215651	7172	10.65
8	o,p-XYLENE	32.313	388289	11474	20.37
9	1,3-DICHLOROBEN	36.154	149994	3643	9.40
10	1,2-DICHLOROBEN	37.171	145769	3683	10.47
11	1,4-DICHLOROBEN	37.713	167170	3881	10.51
TOTAL			2399246	125064	173.51

85

N

Sample: 10 UG/L STD. Channel: PID Filename: BX062201
Acquired: 22-JUN-93 9:05 Method: C:\MAX\DATA1\BX06-22 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 23-JUN-1993 9:49:44

SAMPLE: 10 UG/L STD.
#6 in Method: BTX BY EPA METHOD 602
Acquired: 22-JUN-1993 9:05
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

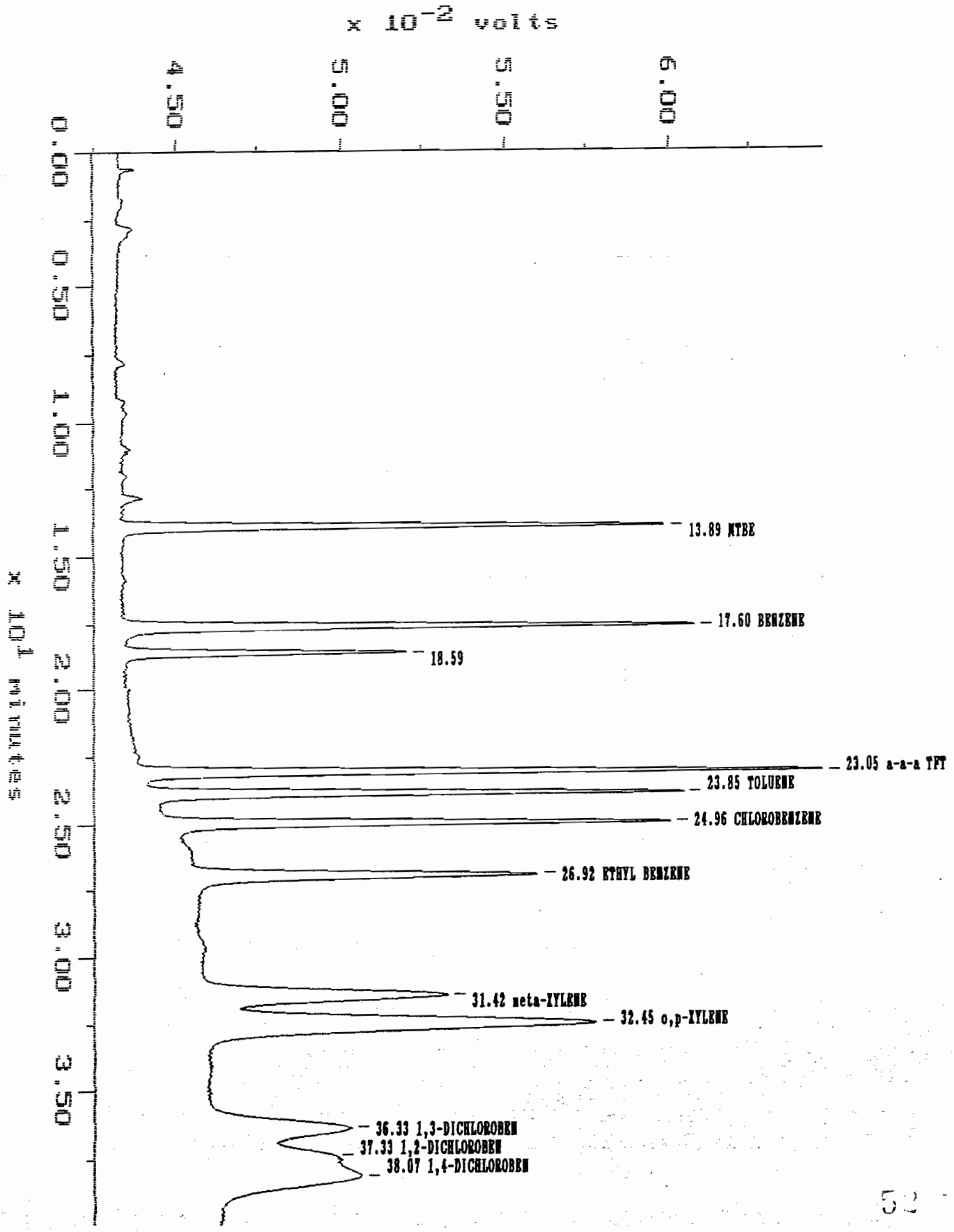
Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062201
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.883	170994	13938	23.13
2	BENZENE	17.600	185448	13746	8.64
3	a-a-a TFT	23.079	298720	22214	52.06!
4	TOLUENE	23.867	208003	13919	9.21
5	CHLOROBENZENE	24.971	218412	12656	10.29
6	ETHYL BENZENE	26.954	189942	8244	10.32
7	meta-XYLENE	31.483	185662	5975	9.22
8	o,p-XYLENE	32.529	342351	9464	18.09
9	1,3-DICHLOROBEN	36.421	153279	3388	9.58
10	1,2-DICHLOROBEN	37.529	138062	2936	9.91
11	1,4-DICHLOROBEN	38.138	149717	3327	9.52
TOTAL			2240591	109806	169.98!

! Result calculation based on peak response ratio outside of calibration range.

Sample: 10 UG/L STD. Channel: PID Filename: BI062301
Acquired: 23-JUN-93 9:02 Method: C:\MAI\DATA1\BI06-23 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 24-JUN-1993 11:54:51

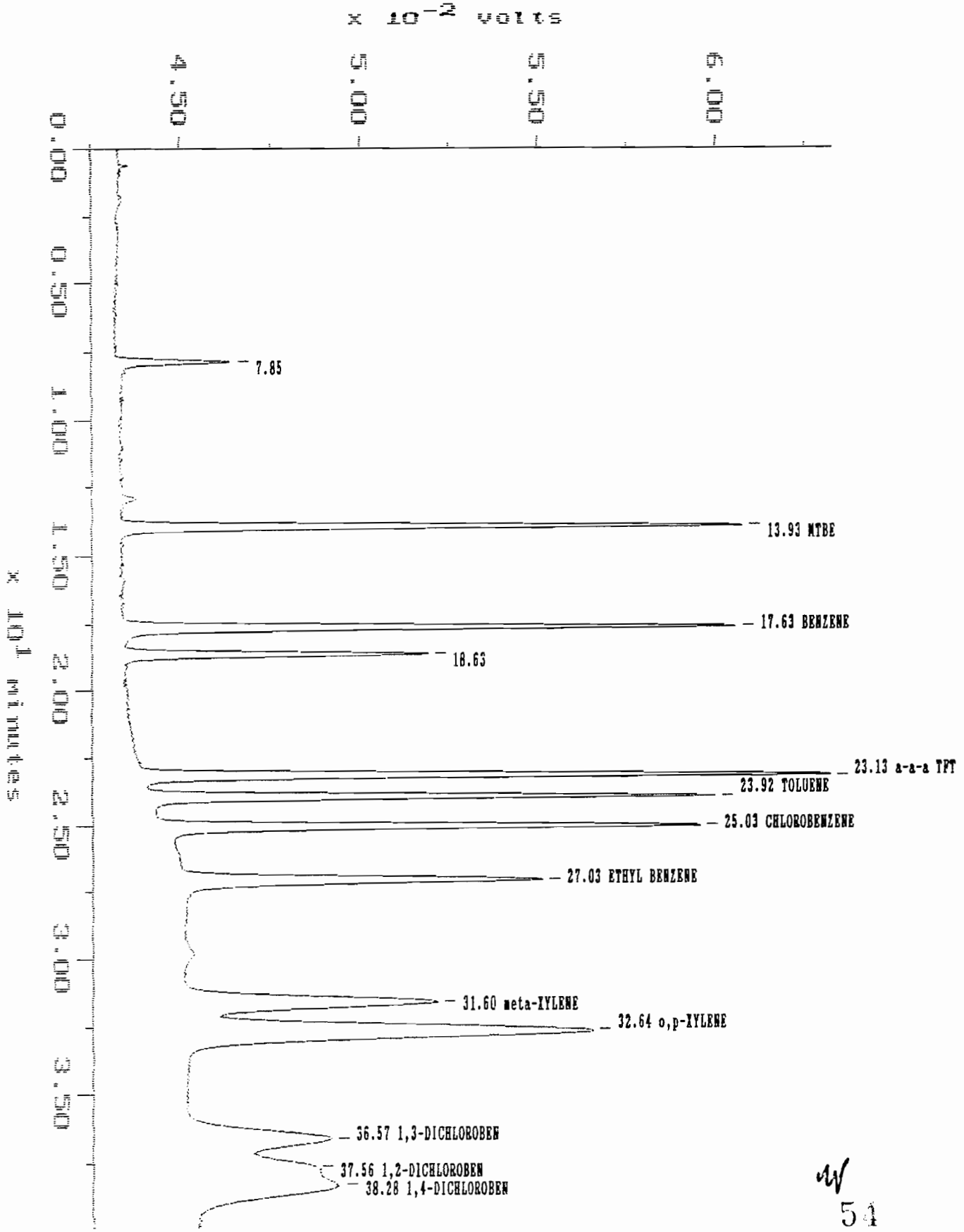
SAMPLE: 10 UG/L STD.
#6 in Method: BTX BY EPA METHOD 602
Acquired: 23-JUN-1993 9:02
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

Type: UNKN
Instrument: INSTRUMENT 1
Filename: BI062301
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.892	202006	16431	27.17
2	BENZENE	17.600	223883	17225	10.26
3		18.588	107864	8499	
4	a-a-a TFT	23.054	269671	20620	46.99
5	TOLUENE	23.850	219453	16103	9.74
6	CHLOROBENZENE	24.958	214301	15091	10.12
7	ETHYL BENZENE	26.917	187587	10251	10.19
8	meta-XYLENE	31.421	212422	7236	10.50
9	o,p-XYLENE	32.454	394497	11603	20.68
10	1,3-DICHLOROBEN	36.325	151461	3717	9.48
11	1,2-DICHLOROBEN	37.329	147688	3175	10.61
12	1,4-DICHLOROBEN	38.071	168994	3981	10.61
TOTAL			2499826	133934	176.34

Sample: 10 UG/L STD. Channel: PID Filename: BX062401
Acquired: 24-JUN-93 9:34 Method: C:\MAX\DATA1\BX06-24 Operator: KP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 25-JUN-1993 9:04:36

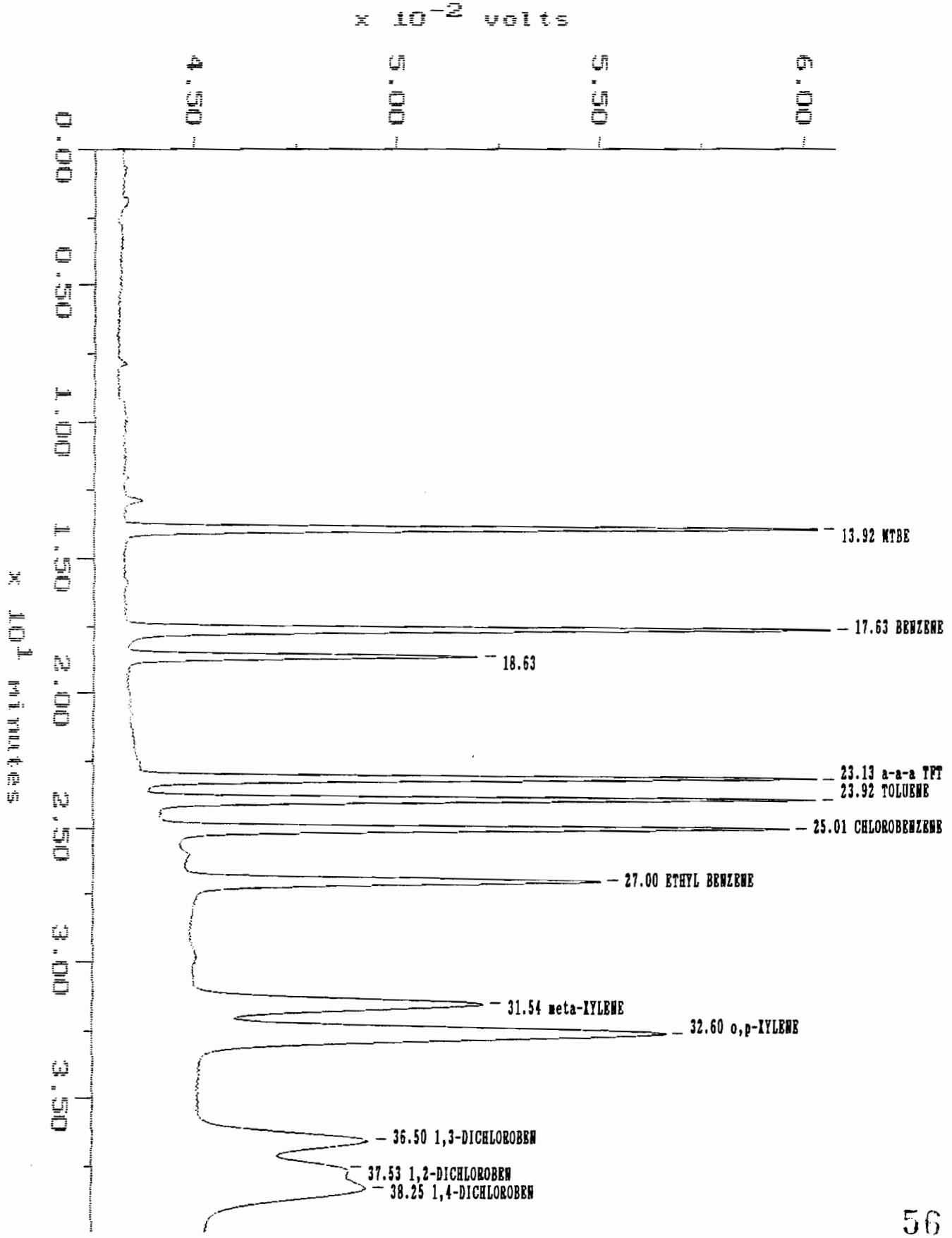
SAMPLE: 10 UG/L STD.
#6 in Method: BTX BY EPA METHOD 602
Acquired: 24-JUN-1993 9:34
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062401
Index: 1

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1		7.850	36145	3095	
2	MTBE	13.925	212882	17363	28.56
3	BENZENE	17.629	222640	17033	10.21
4		18.625	108021	8434	
5	a-a-a TFT	23.129	253272	19186	44.14
6	TOLUENE	23.921	214593	15756	9.52
7	CHLOROBENZENE	25.029	213903	14920	10.10
8	ETHYL BENZENE	27.033	185067	9946	10.06
9	meta-XYLENE	31.604	204473	6926	10.12
10	o,p-XYLENE	32.642	382213	11234	20.07
11	1,3-DICHLOROBEN	36.571	164317	3921	10.21
12	1,2-DICHLOROBEN	37.563	170654	3360	12.27
13	1,4-DICHLOROBEN	38.275	176007	3996	11.00
TOTAL			2544187	135191	176.27

Sample: 10 UG/L STD. Channel: PID Filename: BX062501
Acquired: 25-JUN-93 10:21 Method: C:\MAX\DATA1\BX06-25 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 27-JUN-1993 16:05:45

SAMPLE: 10 UG/L STD.
#6 in Method: BTX BY EPA METHOD 602
Acquired: 25-JUN-1993 10:21
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062501
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.917	210104	17019	28.22
2	BENZENE	17.629	225069	17178	10.31
3		18.629	108595	3526	
4	a-a-a TFT	23.133	217101	16501	37.83
5	TOLUENE	23.921	217722	16237	9.66
6	CHLOROBENZENE	25.008	214677	15166	10.13
7	ETHYL BENZENE	26.996	182348	10002	9.92
8	meta-XYLENE	31.542	206581	6960	10.22
9	o,p-XYLENE	32.596	387405	11359	20.33
10	1,3-DICHLOROBEN	36.504	180176	4049	11.12
11	1,2-DICHLOROBEN	37.529	144390	3397	10.37
12	1,4-DICHLOROBEN	38.254	193489	3918	11.99
TOTAL			2487657	130310	170.09

ANALAB INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

DAILY CALIBRATION CHECK SUMMARY

BTEX AND PURGABLE AROMATICS BY GC

DATE: 6/19/93 TIME: 13:56 DATA FILE ID: BX061901

DATE OF INITIAL CALIBRATION: 6/16/93 REVIEWED BY: JJ

	INITIAL CALIBRATION ppb	CALIBRATION CHECK ppb	% RECOVERY
BENZENE	10	8.71	87
TOLUENE	10	8.88	89
ETHYLBENZENE	10	8.56	86
CHLOROBENZENE	10	8.57	86
TOTAL XYLENE	30	26.2	87
TOTAL DICHLOROBENZENE	30	29.7	99
Methyl tert-Butyl Ether	25	22.0	88

* = Value outside of QC limits
QC Limit for reported compounds 85-115 % recovery (% D = +/- 15%).

CCC

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DAILY CALIBRATION CHECK SUMMARY

BTEX AND PURGABLE AROMATICS BY GC

DATE: 6/21/93 TIME: 10:11 DATA FILE ID: BX062101

DATE OF INITIAL CALIBRATION: 6/16/93 REVIEWED BY: MP

	INITIAL CALIBRATION ppb	CALIBRATION CHECK ppb	% RECOVERY
BENZENE	10	10.3	103
TOLUENE	10	10.2	102
ETHYLBENZENE	10	11.4	114
CHLOROBENZENE	10	9.77	98
TOTAL XYLENE	30	31.0	103
TOTAL DICHLOROBENZENE	30	30.4	101
Methyl tert-Butyl Ether	25	28.1	112

* = Value outside of QC limits
QC Limit for reported compounds 85-115 % recovery (% D = +/- 15%).

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DAILY CALIBRATION CHECK SUMMARY

BTEX AND PURGABLE AROMATICS BY GC

DATE: 6/22/93 TIME: 09:05 DATA FILE ID: BX062201

DATE OF INITIAL CALIBRATION: 6/16/93 REVIEWED BY: JJ

	INITIAL CALIBRATION ppb	CALIBRATION CHECK ppb	% RECOVERY
BENZENE	10	8.64	86
TOLUENE	10	9.21	92
ETHYLBENZENE	10	10.3	103
CHLOROBENZENE	10	10.3	103
TOTAL XYLENE	30	27.3	91
TOTAL DICHLOROBENZENE	30	29.0	97
Methyl tert-Butyl Ether	25	23.1	92

* = Value outside of QC limits
QC Limit for reported compounds 85-115 % recovery (% D = +/- 15%).

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DAILY CALIBRATION CHECK SUMMARY

BTEX AND PURGABLE AROMATICS BY GC

DATE: 6/23/93 TIME: 09:02 DATA FILE ID: BX062301

DATE OF INITIAL CALIBRATION: 6/16/93 REVIEWED BY: JJ

	INITIAL CALIBRATION ppb	CALIBRATION CHECK ppb	% RECOVERY
BENZENE	10	10.3	103
TOLUENE	10	9.74	97
ETHYLBENZENE	10	10.2	102
CHLOROBENZENE	10	10.1	101
TOTAL XYLENE	30	31.2	104
TOTAL DICHLOROBENZENE	30	30.7	102
Methyl tert-Butyl Ether	25	27.2	109

* = Value outside of QC limits
QC Limit for reported compounds 85-115 % recovery (% D = +/- 15%).

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DAILY CALIBRATION CHECK SUMMARY

BTEX AND PURGABLE AROMATICS BY GC

DATE: 6/24/93 TIME: 09:34 DATA FILE ID: BX062401

DATE OF INITIAL CALIBRATION: 6/16/93 REVIEWED BY: MP

	INITIAL CALIBRATION ppb	CALIBRATION CHECK ppb	% RECOVERY
BENZENE	10	10.2	102
TOLUENE	10	9.52	95
ETHYLBENZENE	10	10.1	101
CHLOROBENZENE	10	10.1	101
TOTAL XYLENE	30	30.2	101
TOTAL DICHLOROBENZENE	30	33.5	112
Methyl tert-Butyl Ether	25	28.6	114

* = Value outside of QC limits
QC Limit for reported compounds 85-115 % recovery (% D = +/- 15%).

CCC

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DAILY CALIBRATION CHECK SUMMARY

BTEX AND PURGABLE AROMATICS BY GC

DATE: 06/25/93 TIME: 10:21 DATA FILE ID: BX062501

DATE OF INITIAL CALIBRATION: 06/16/93 REVIEWED BY: PK

	INITIAL CALIBRATION ppb	CALIBRATION CHECK ppb	% RECOVERY
BENZENE	10	10.3	103
TOLUENE	10	9.66	97
ETHYLBENZENE	10	9.92	99
CHLOROBENZENE	10	10.1	101
TOTAL XYLENE	30	30.6	102
TOTAL DICHLOROBENZENE	30	33.5	112
Methyl tert-Butyl Ether	25	28.2	113

* = Value outside of QC limits
QC Limit for reported compounds 85-115 % recovery (% D = +/- 15%).

CCC

ANALab inc. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

WET CHEMISTRY INITIAL AND CONTINUING CALIBRATION SUMMARY

TOTAL PETROLEUM HYDROCARBONS - IR

ANALab INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel (908) 225-4111, Fax (908) 225-4110

Wet Chemistry - Initial Calibration Summary - TPHC

Method: EPA 418.1, EPA 418.1 (NJDEP MOD)

Instrument: P+E: 1430 Initial Calibration Date: 5/12/93

Authorized By: [signature] 5/12/93 Initial Calibration Time: 10^00 AM

Cell Path: 1.0 cm Analyst: MR

Initial Calibration Standards: Concentration - mg/100mL

Initial Calibration Stock Source Lot # WC 490

	Cal. Blank	STD #1	STD #2	STD #3	STD #4	STD #5
Conc.	∅	0.75	2.0	5.0	10.0	20.0
ABS1	0.000	0.015	0.040	0.135	0.252	0.480
ABS2	0.000	0.016	0.040	0.125	0.245	0.488
ABS3	0.000	0.018	0.040	0.128	0.248	0.473
XABS	0.000	0.016	0.040	0.129	0.248	0.480

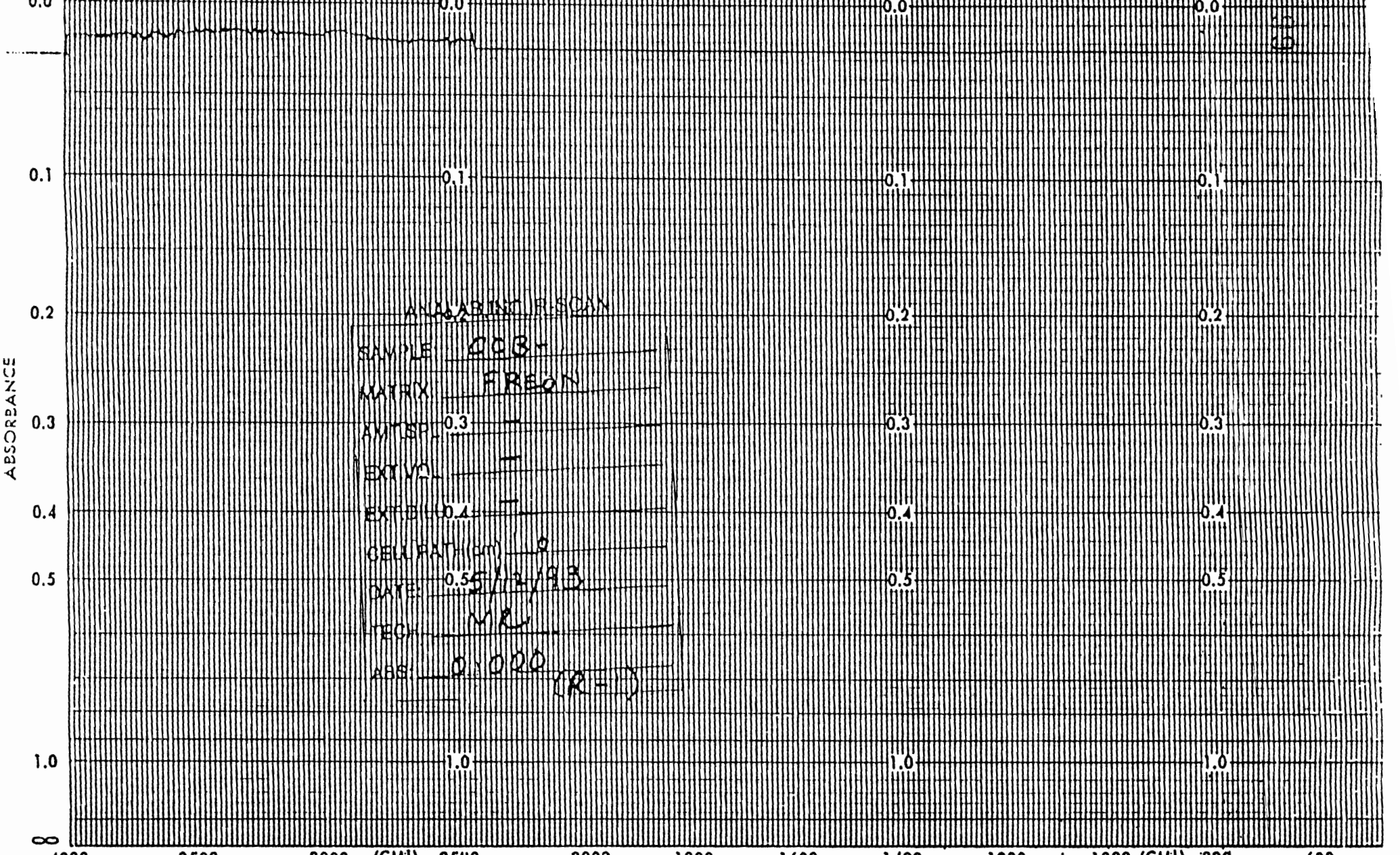
For X = MY + b Calibration Y = ABS @ 2930 cm

Slope: 0.02422
Intercept: - 0.00028
Correlation: 0.99935 ✓

Initial Calibration Verification: (ICV) Source Lot: WC 491

True Value mg/100mL	Found Value mg/100mL	%Rec.	QC Limit
10.0	10.45	104.5	90-110

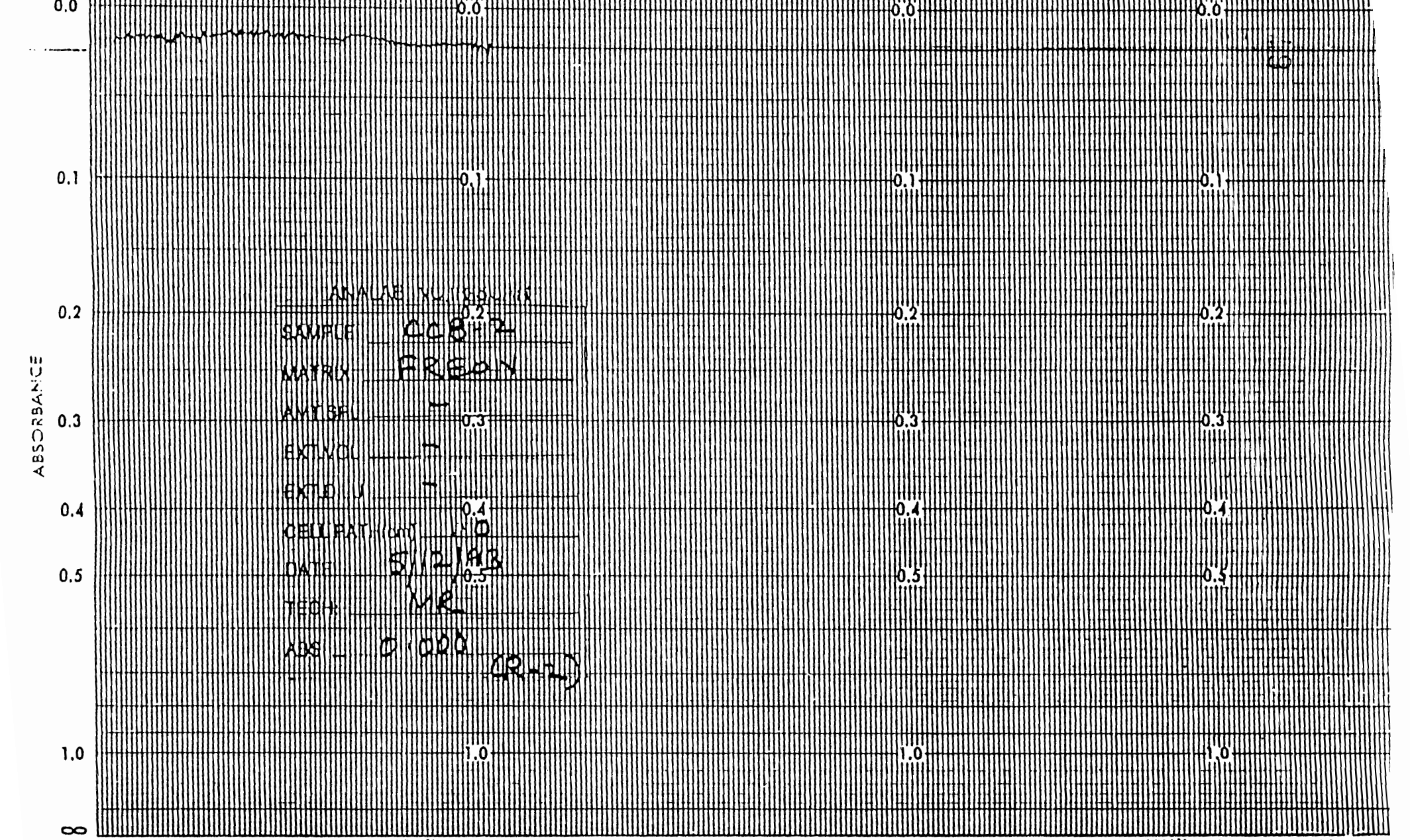
A:WCPHCIC



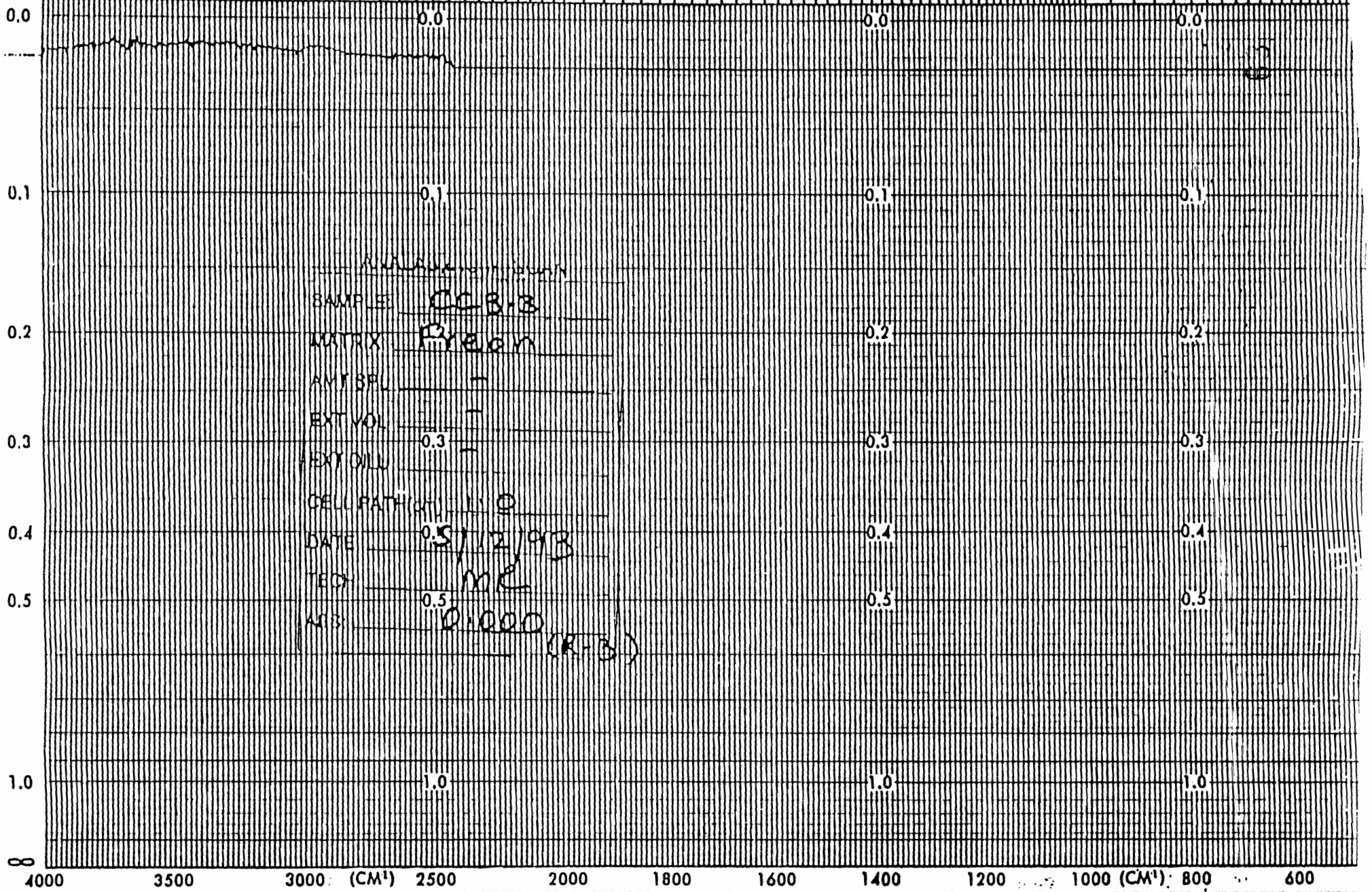
ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN ____ SINGLE BEAM
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

PLE ___ ___ ___ RE[illegible]KS ___ ___ ___ ___ SOLVENT ___ ___ CELL PATH ___

CONCENTRATION

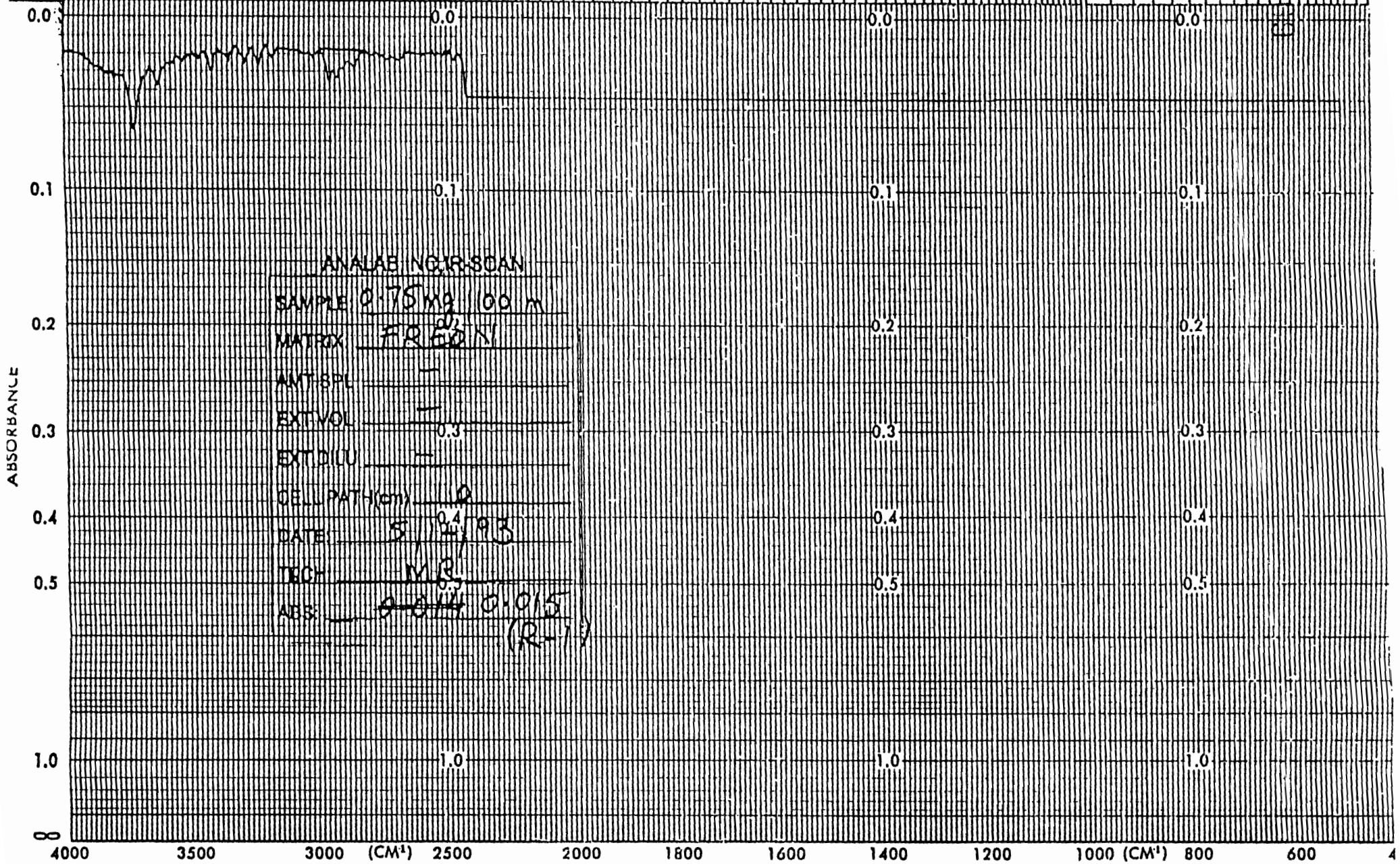


ABSCISSA	ORDINATE	SCAN TIME	REP., SCAN ____ SINGLE BEAM
EXPANSION	EXPANSION	MULTIPLIER	TIME DRIVE
	% T ____ ABS	SLIT PROGRAM	OPERATOR
PLE	REMARKS	SOLVENT	CELL PATH

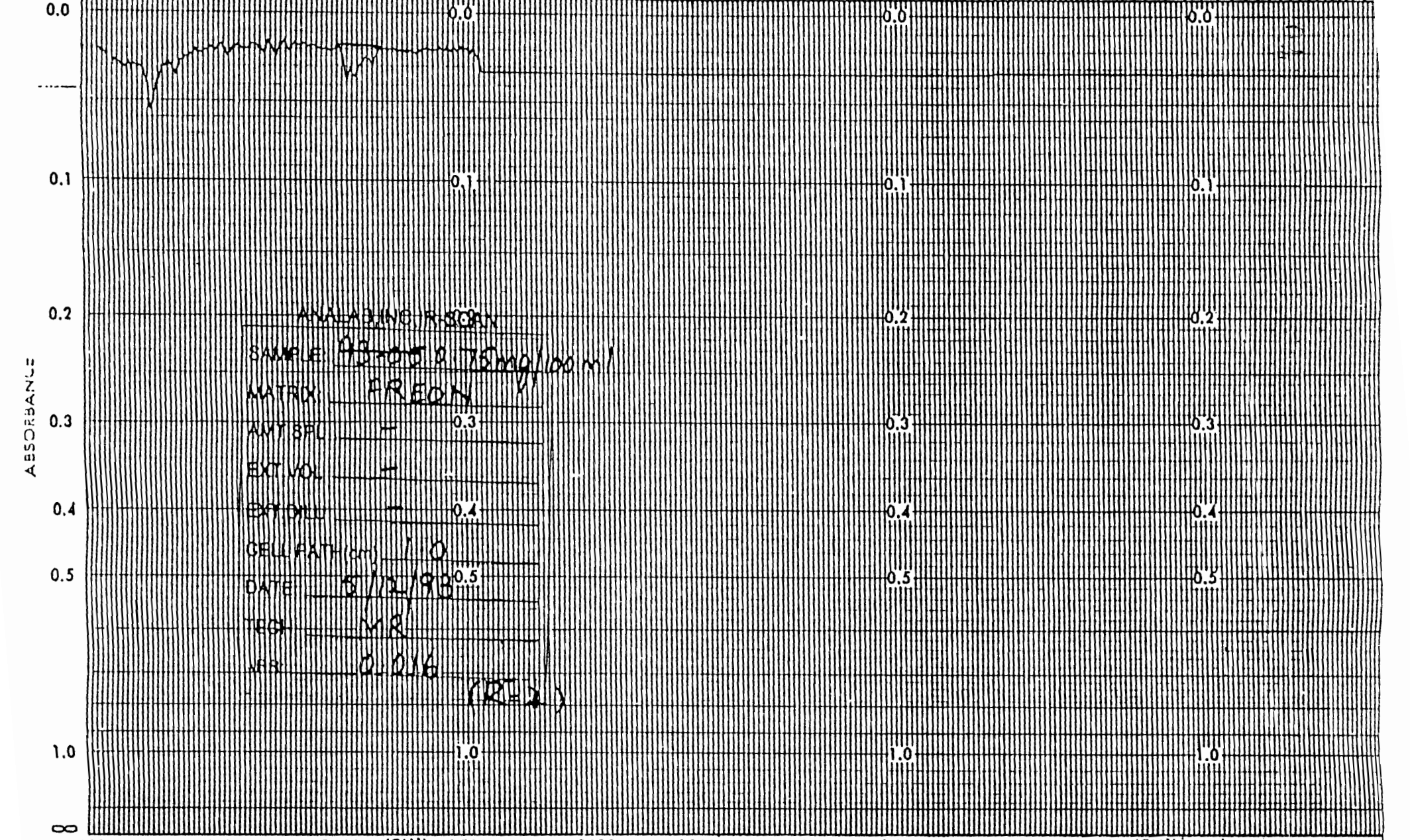


ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE BEAM
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

MPL _____	REMARKS _____	SOLVENT _____	CELL PATH _____
		CONCENTRATION	

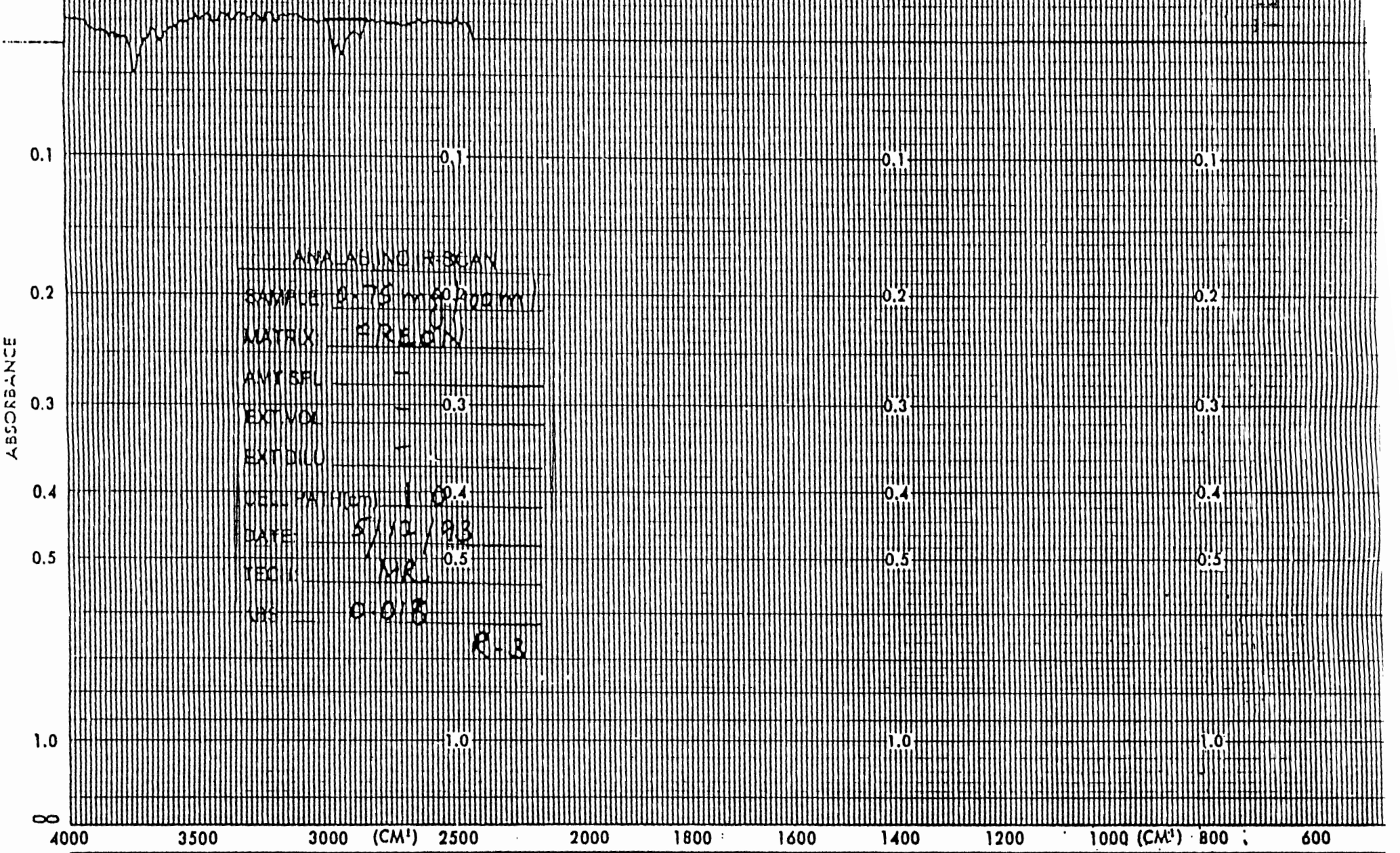


ABSCISSA	ORDINATE	SCAN TIME	REP. SCAN ____ SINGLE BEAM ____
EXPANSION ____	EXPANSION ____	MULTIPLIER ____	TIME DRIVE ____
	% T ____ ABS ____	SLIT PROGRAM ____	OPERATOR ____ DAT
	REMARKS ____	SOLVENT ____	CELL PATH ____



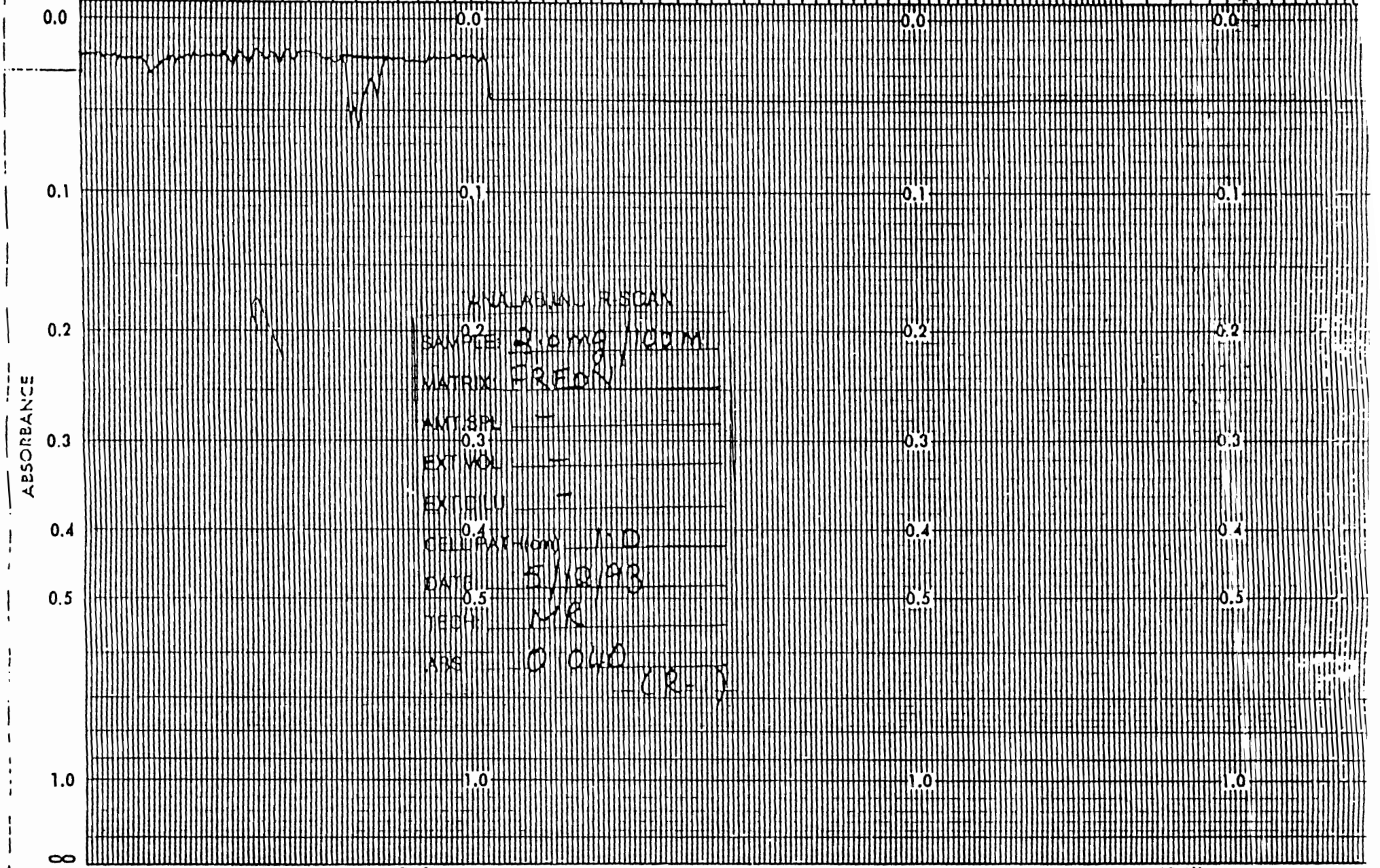
ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE BEAM
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

SAMPLE _____	REMARKS _____	SOLVENT _____	CELL PATH
		CONCENTRATION	



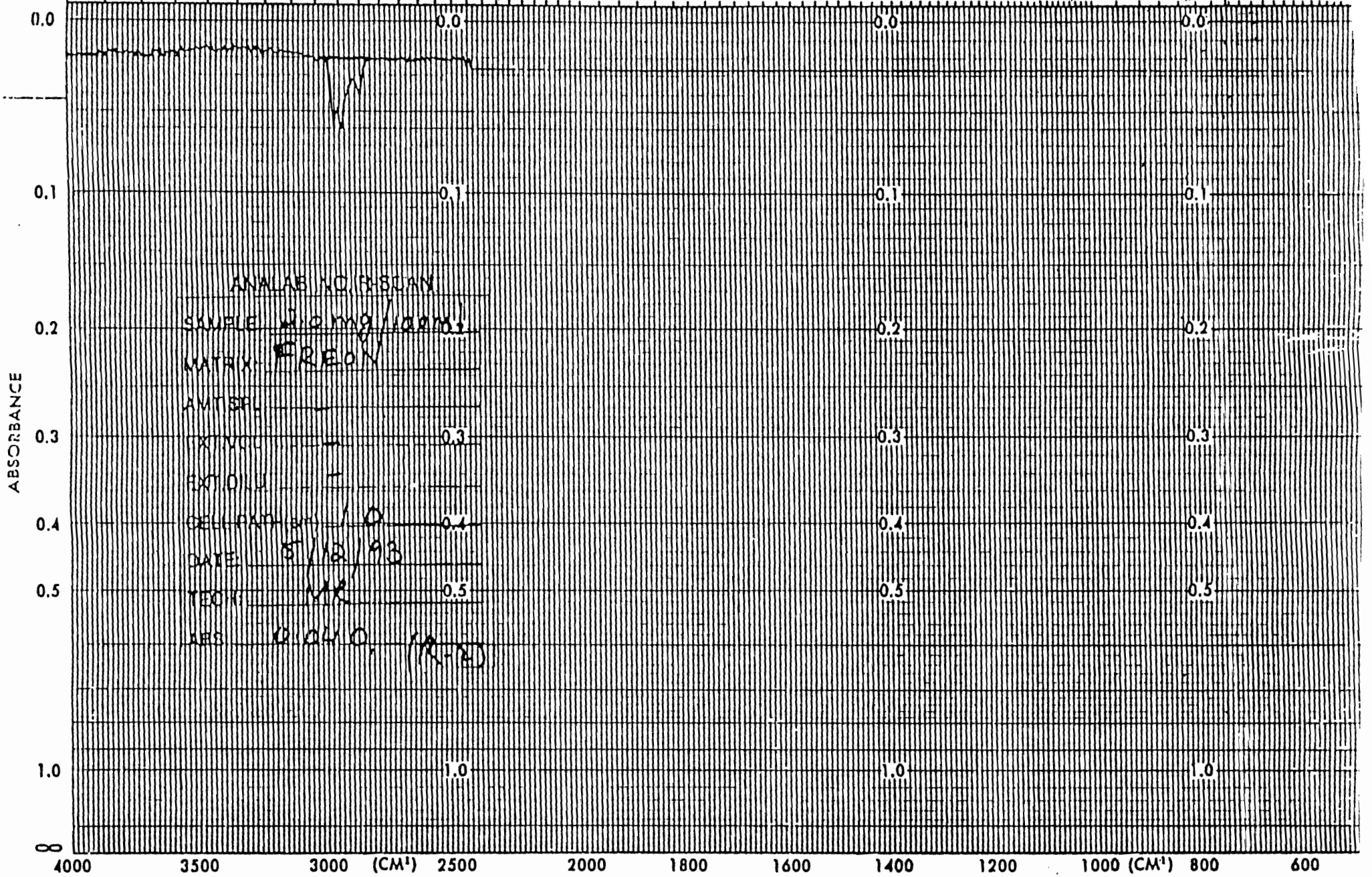
ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE BEAM
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

SAMPLE _____	REMARKS _____	SOLVENT _____	CELL PATH _____
ORIGIN ___ ___ ___		CONCENTRATION _____	



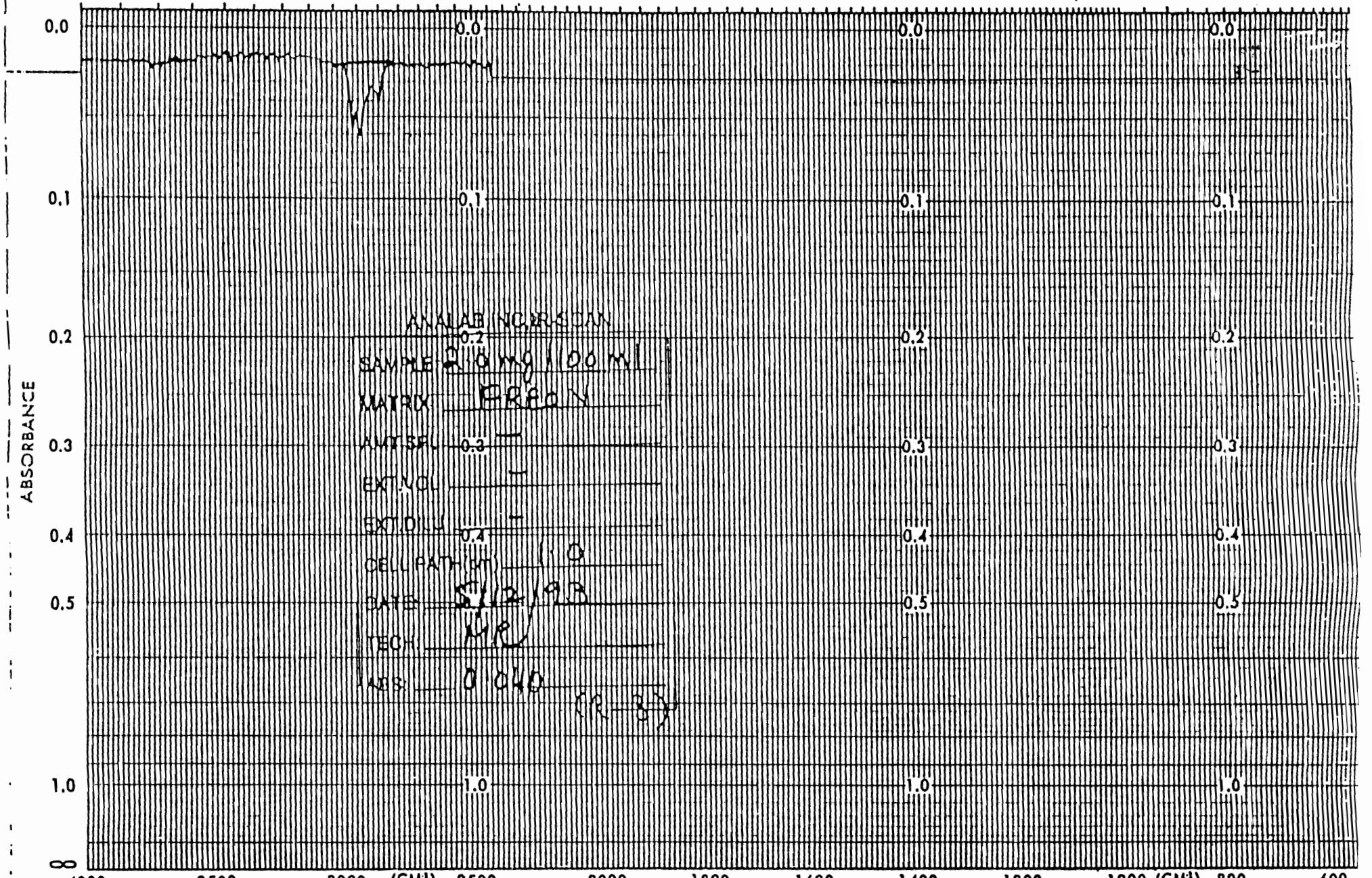
ABSCISSA	ORDINATE	SCAN TIME	REP. SCAN	SINGLE B
EXPANSION	EXPANSION	MULTIPLIER	TIME DRIVE	
	% T ABS	SLIT PROGRAM	OPERATOR	

SA	REMARKS	SOLVENT	CELL PATH
		CONCENTRATION	

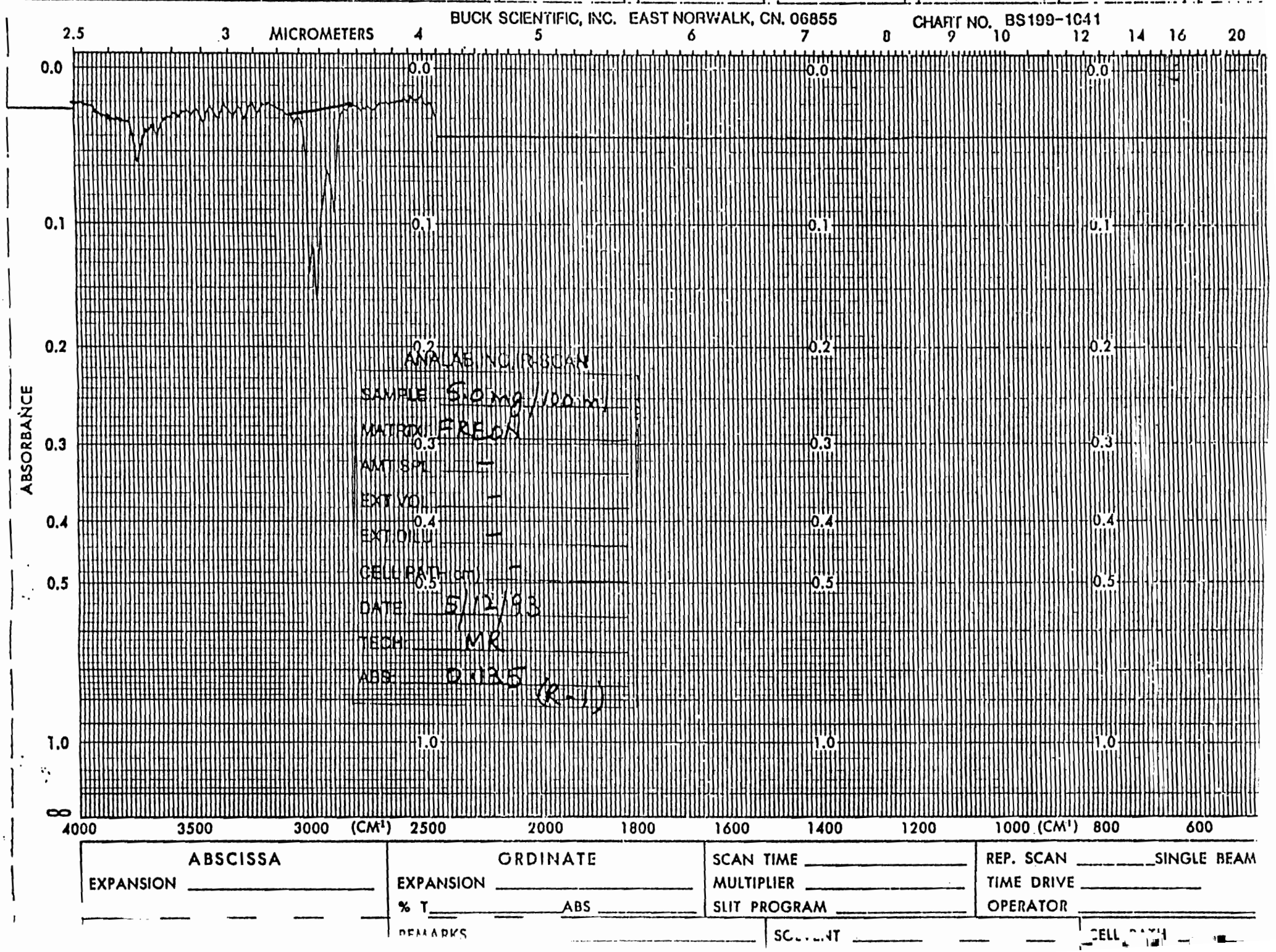


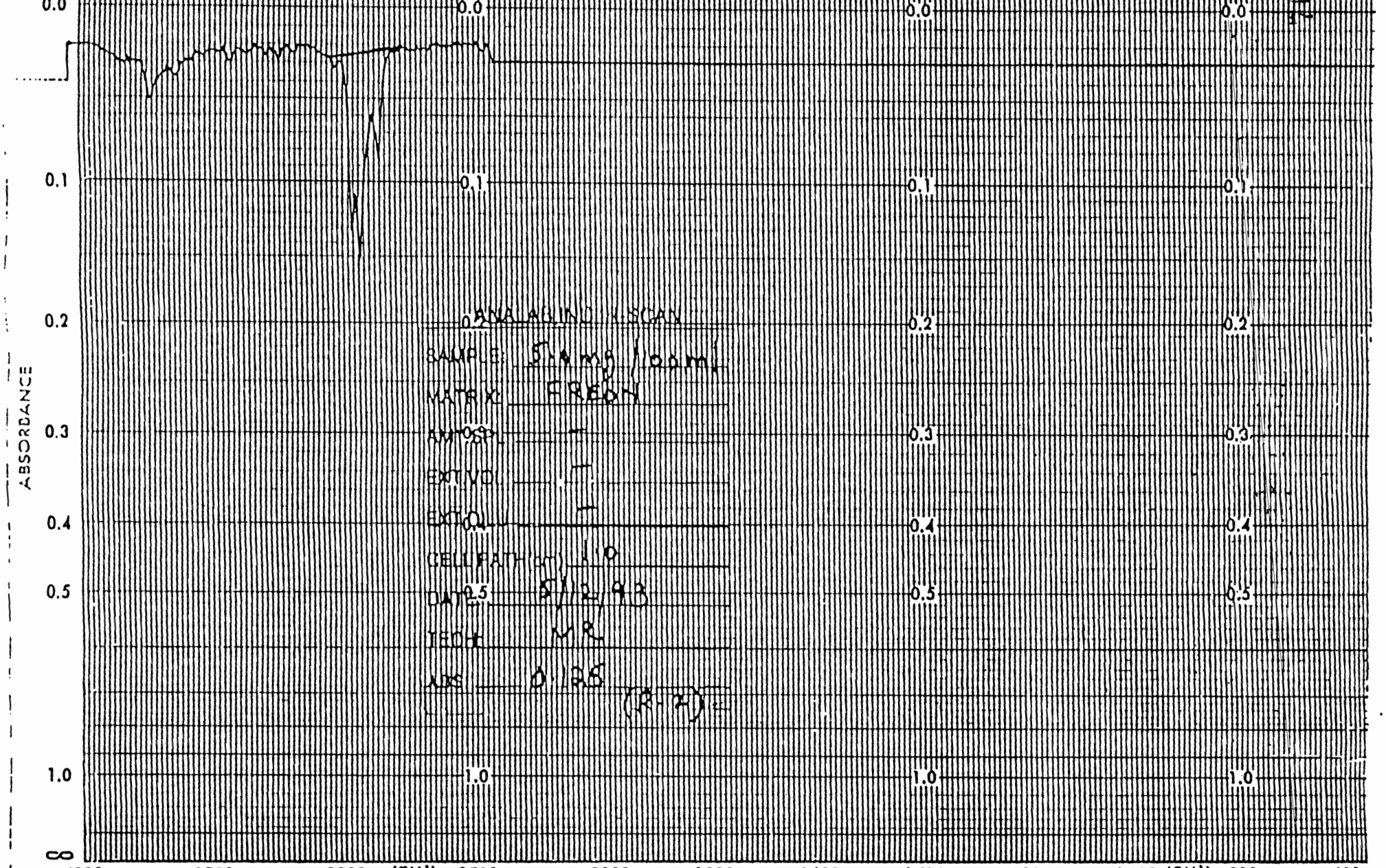
ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE BEA
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

SAMPLE	REMARKS	SOLVENT	CELL PATH
		CONCENTRATION	



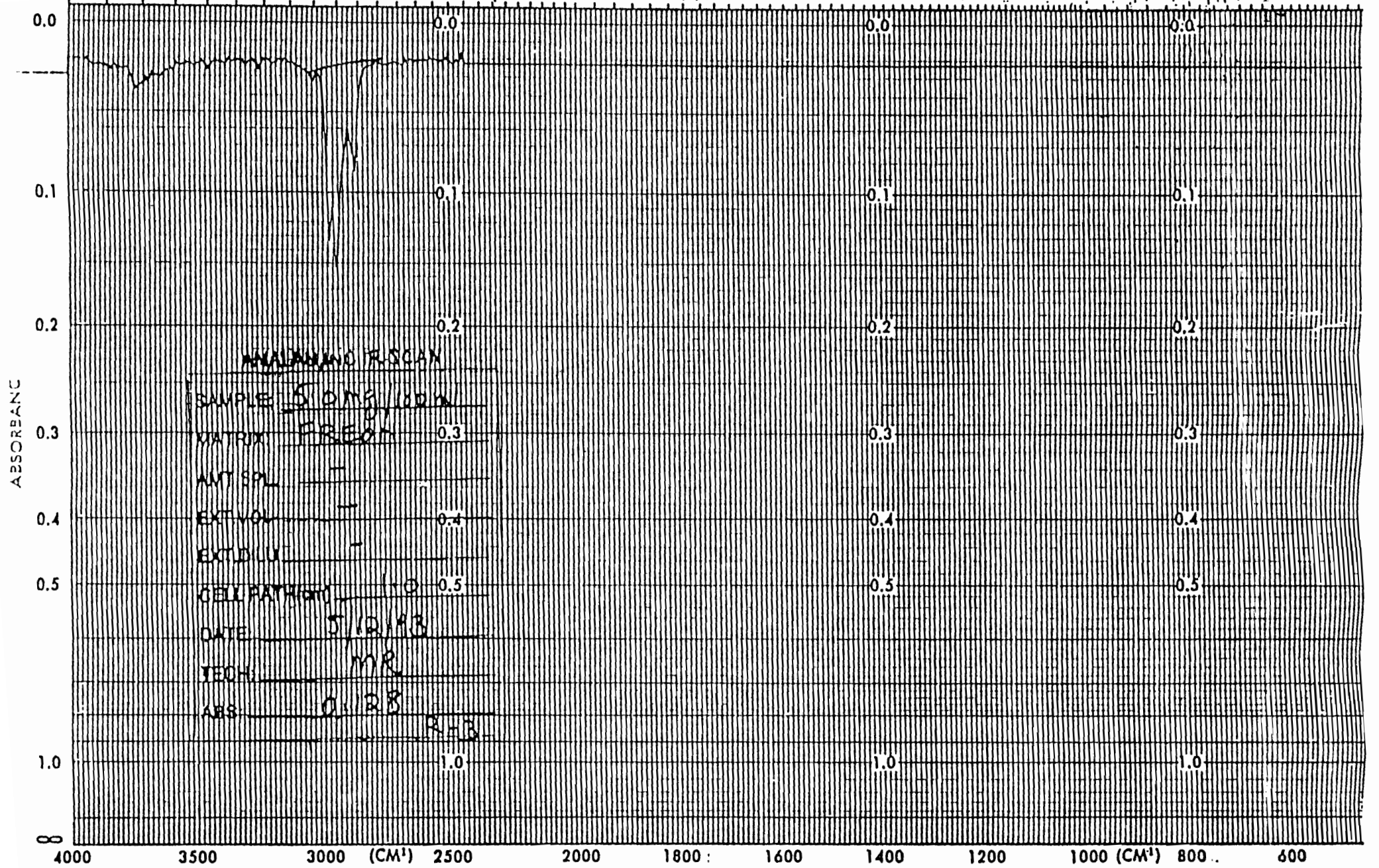
ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME: _____	REP. SCAN _____ SINGLE B
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____
SA... E _____	REM... _____	SOLVE... _____	CELL PATH _____

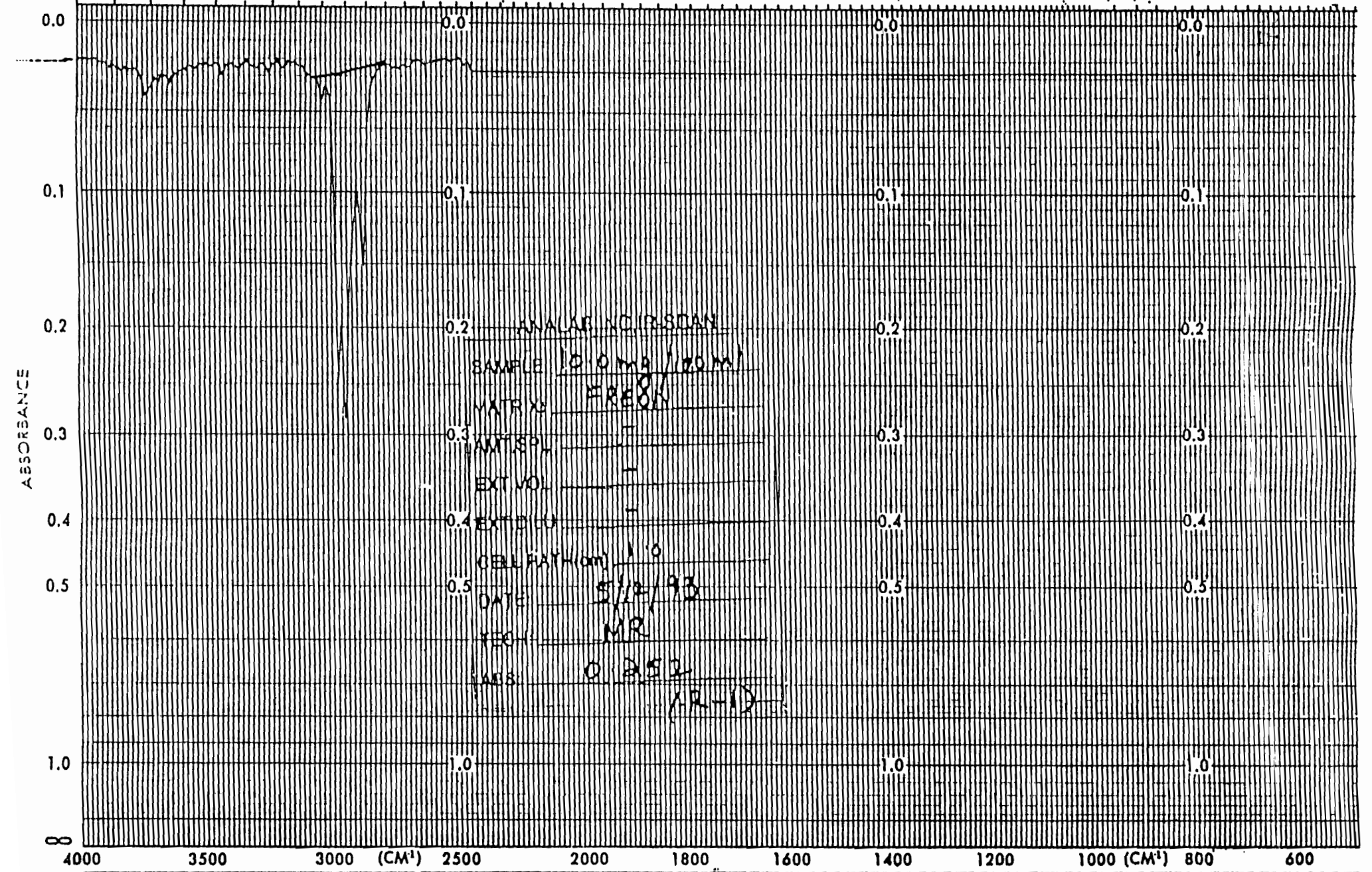

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5 3 MICROMETERS 4 5 6 7 8 9 10 12 14 16 20
0.0
0.1
0.2
0.3
0.4
0.5
1.0
ABSORBANCE
ANALAB NC/IR SCAN
SAMPLE 5.0 mg/100 mL
MATRIX FREON
AMT SPL
EXT VOL
EXT DILU
CELL PATH cm
DATE 5/12/88
TECH MR
ABS 0.1125 (R-1)
4000 3500 3000 (CM¹) 2500 2000 1800 1600 1400 1200 1000 (CM¹) 800 600
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
% T ABS
REMARKS
SCAN TIME
MULTIPLIER
SLIT PROGRAM
REP. SCAN SINGLE BEAM
TIME DRIVE
OPERATOR



ABSCISSA	ORDINATE		
EXPANSION	EXPANSION	SCAN TIME	REP. SCAN SINGLE
	% T ABS	MULTIPLIER	TIME DRIVE
		SLIT PROGRAM	OPERATOR

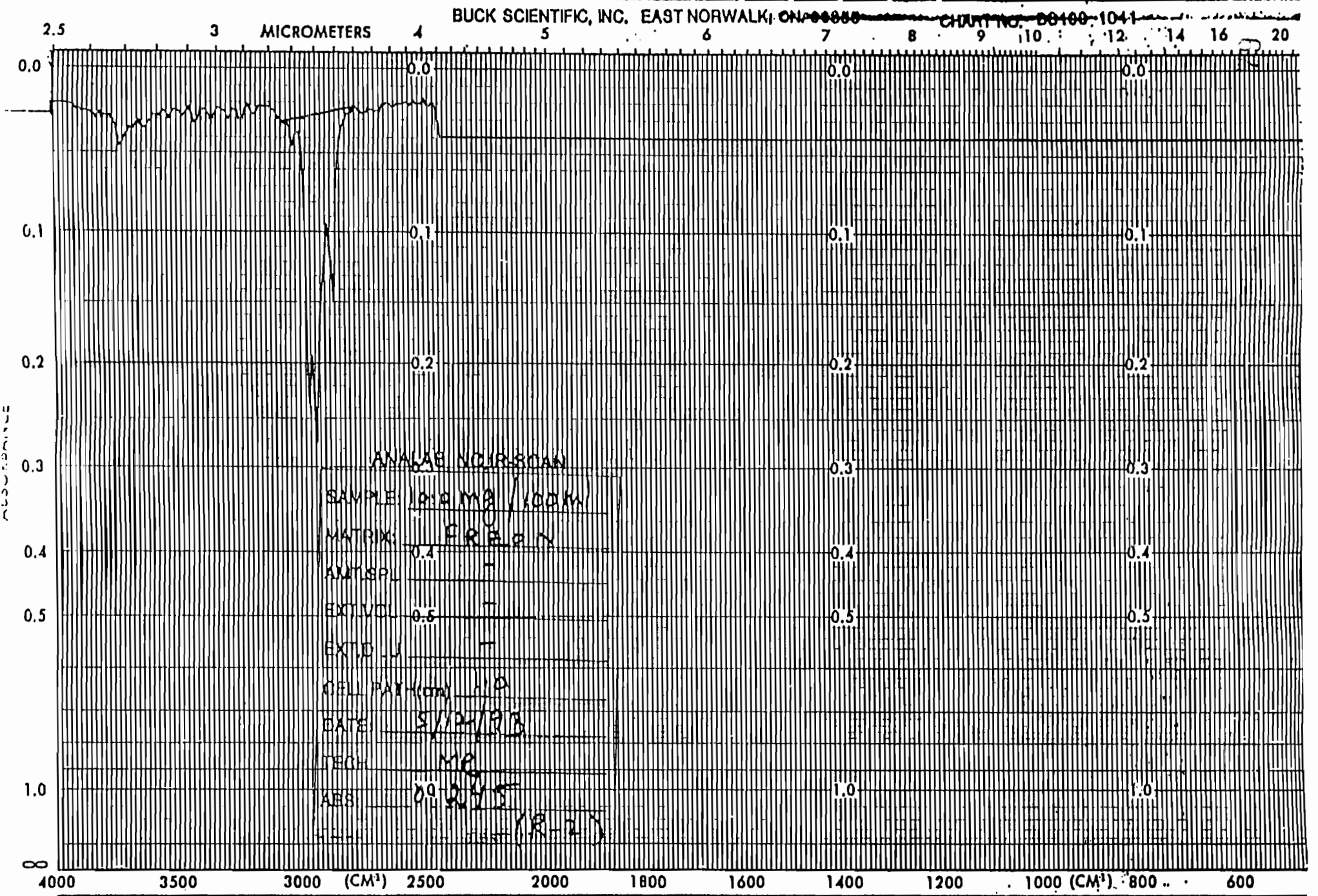
SAMPLE	REMARKS	SOLVENT	CELL PATH
		CONCENTRATION	


ABSORBANC
0.0
0.1
0.2
0.3
0.4
0.5
1.0
8
4000
3500
3000 (CM¹)
2500
2000
1800
1600
1400
1200
1000 (CM¹)
800
600
MAIN/MAIN IR SCAN
SAMPLE 50mg/10ml
MATRIX FREON
ANT SPL —
EXT VOL —
EXT DILN —
CELL PATH(mm) 1-0
DATE 5/12/83
TECH MR
ABS 0.128
R+B
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
% T
ABS
SCAN TIME
MULTIPLIER
SLIT PROGRAM
REP, SCAN
SINGLE BEAM
TIME DRIVE
OPERATOR
REMARKS
SOLVENT
CONCENTRATION
CELL PATH



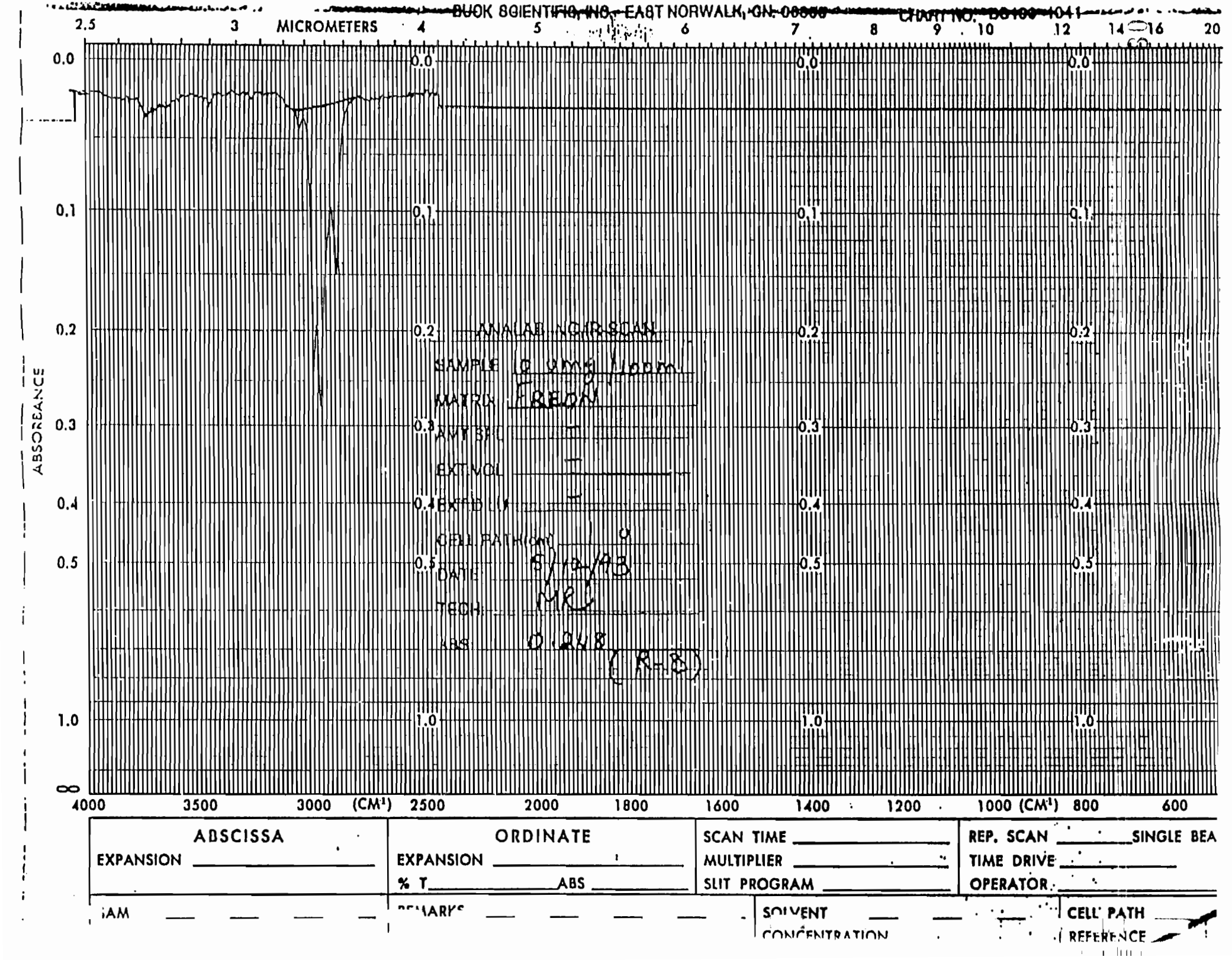
ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE BEAM
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____
SAMPLE _____	REMARKS _____	SOLVENT _____	CELL PATH
ORIGIN _____		CONCENTRATION _____	REFERENCE

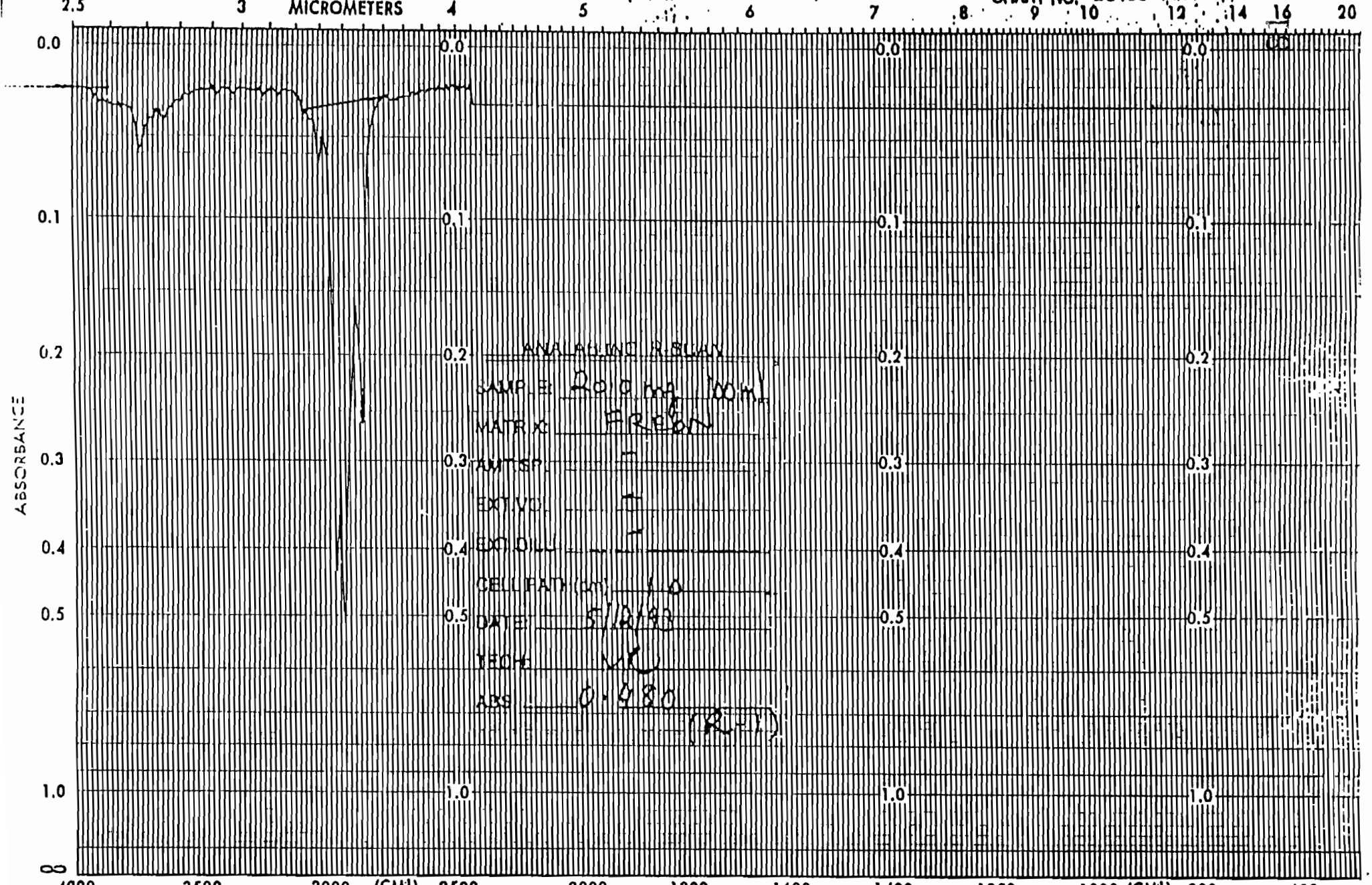
BUCK SCIENTIFIC, INC. EAST NORWALK, CT. 06855 CHART NO. 50100-1041



ABSCISSA	ORDINATE	SCAN TIME	REP. SCAN ____ SINGLE BEAM
EXPANSION	EXPANSION	MULTIPLIER	TIME DRIVE
	% T ____ ABS	SLIT PROGRAM	OPERATOR

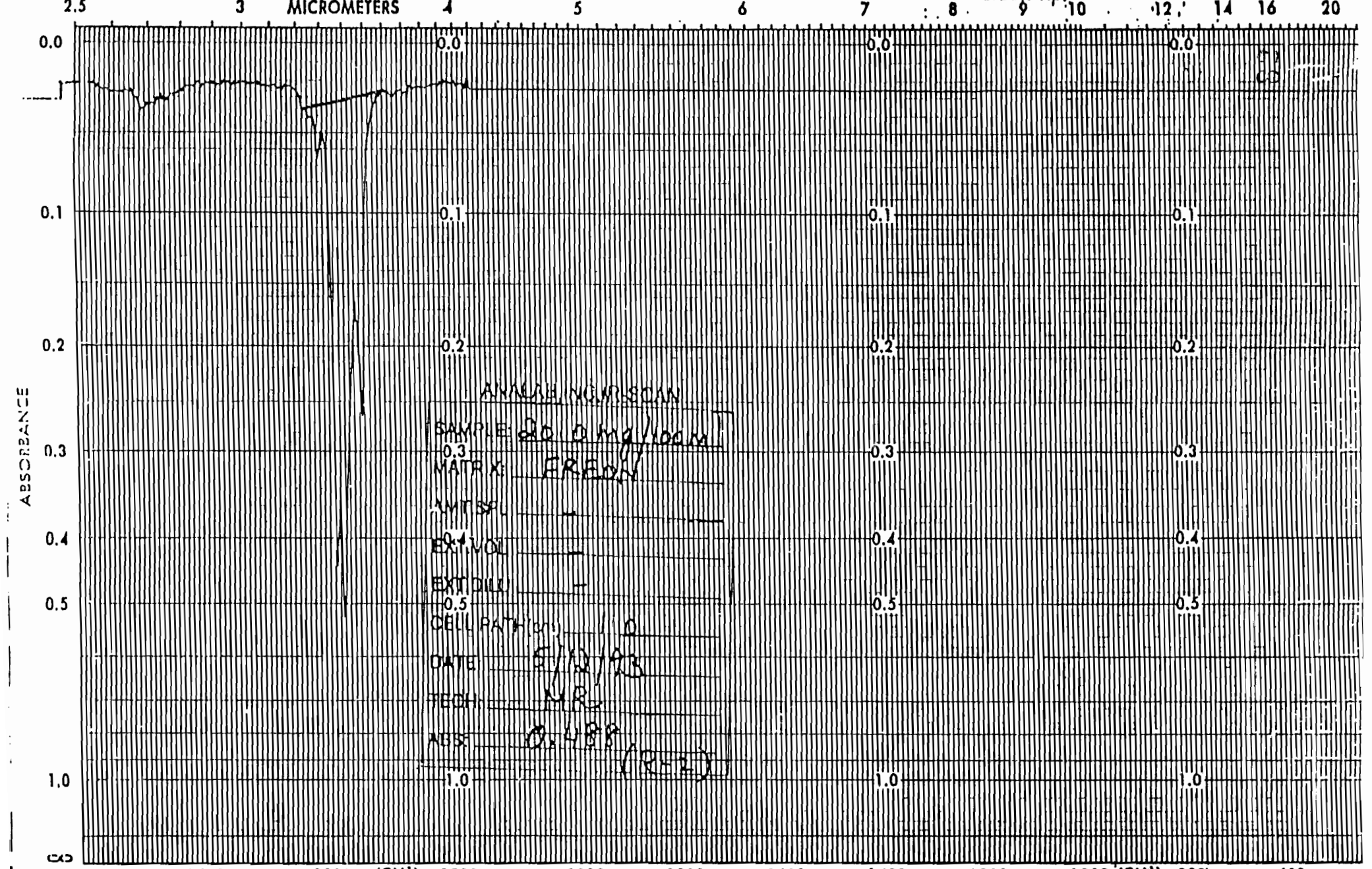
SAMPLE ____ REMARKS ____ SOLVENT ____ CELL PATH
CONCENTRATION REFERENCE


BUCK SCIENTIFIC, INC., EAST NORWALK, CN. 06856
CHART NO. BC100-1041
2.5
3
MICROMETERS
4
5
6
7
8
9
10
12
14
16
20
0.0
0.1
0.2
0.3
0.4
0.5
1.0
ABSORBANCE
ANALAB NGR SCAN
SAMPLE
MATRIX FREON
AMT SPL
EXT VOL
EXTD (F
CELL PATH(cm)
DATE
TECH
ABS
4000
3500
3000
(CM⁻¹)
2500
2000
1800
1600
1400
1200
1000 (CM⁻¹)
800
600
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
% T
ABS
SCAN TIME
MULTIPLIER
SLIT PROGRAM
REP. SCAN
SINGLE BEA
TIME DRIVE
OPERATOR
SAM
REMARKS
SOLVENT
CONCENTRATION
CELL PATH
REFERENCE



ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE BEAM
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

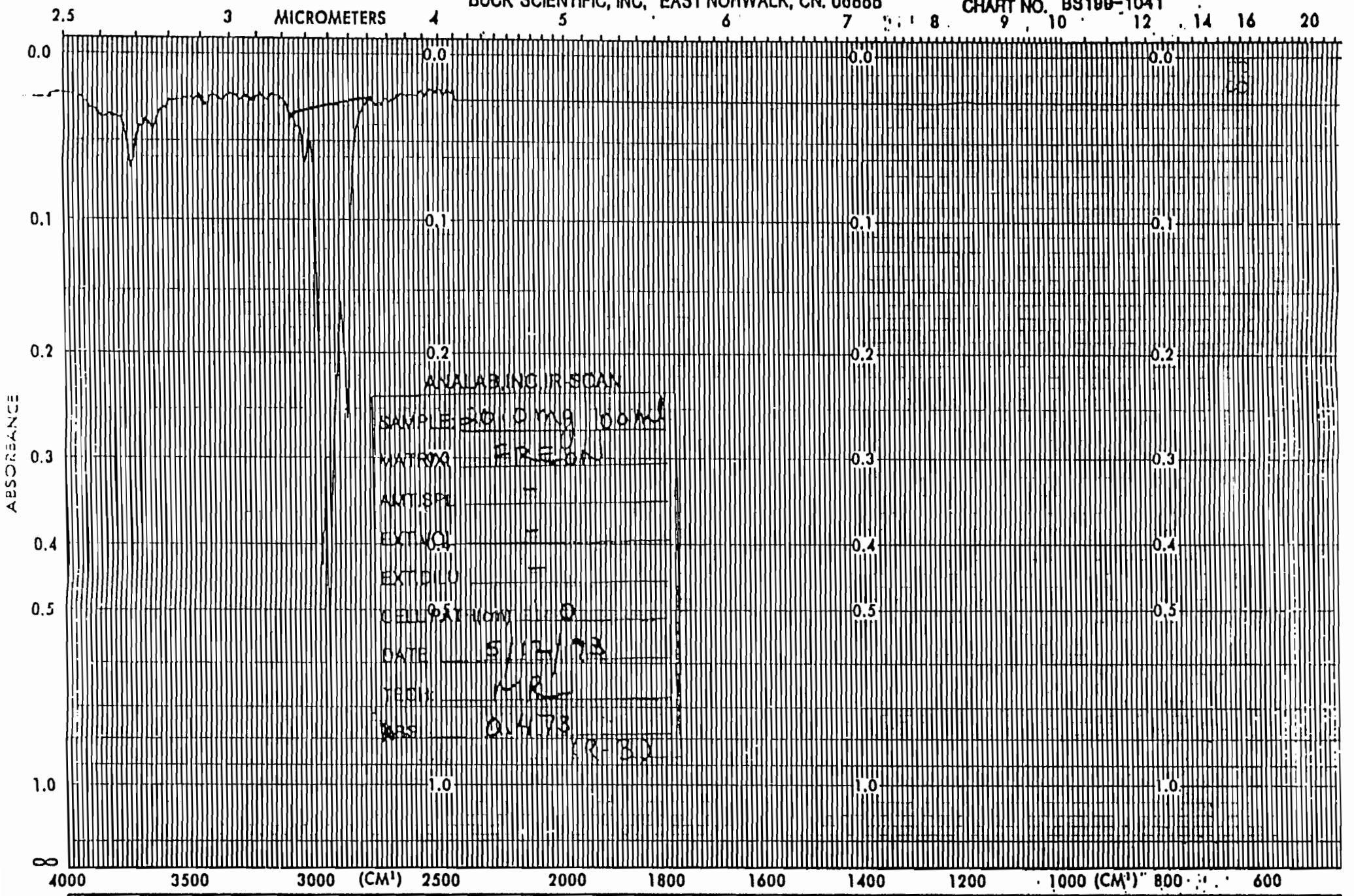
SAMPLE _____	REMARKS _____	SOLVENT _____	CELL PATH _____
_____		CONCENTRATION _____	REFERENCE



ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP, SCAN _____ SINGLE BEAM
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

SAMPLE _____	REMARKS _____	SOLVENT _____	CELL PATH _____
		CONCENTRATION	REFERENCE

BOOK SCIENTIFIC, INC., EAST NORWALK, CN. 06856 CHART NO. BS100-1041

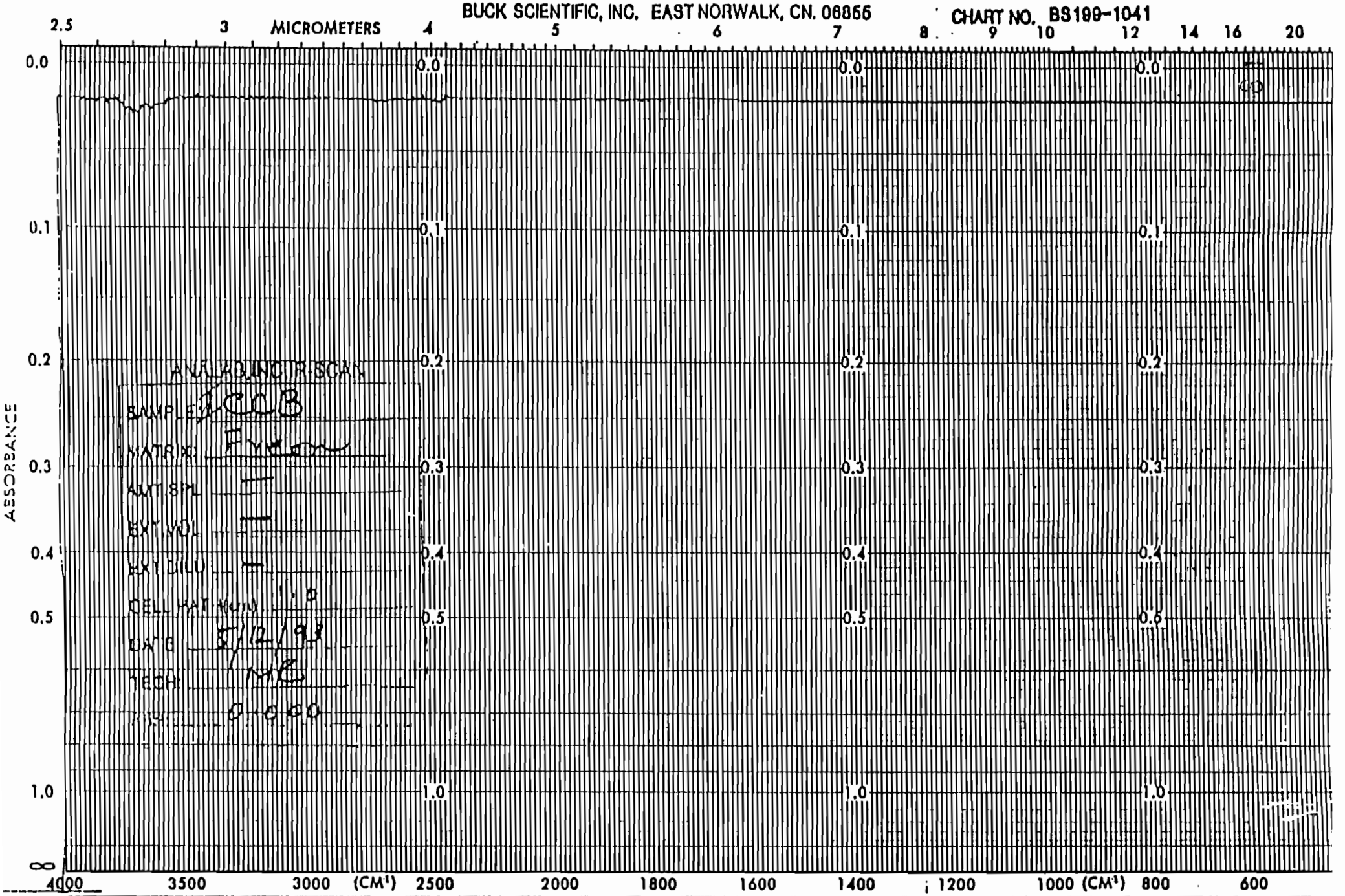


ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE BEAM
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

PLE — — — REMARKS — — — — SOLVENT — — CELL PATH — —

CONCENTRATION REFERENCE

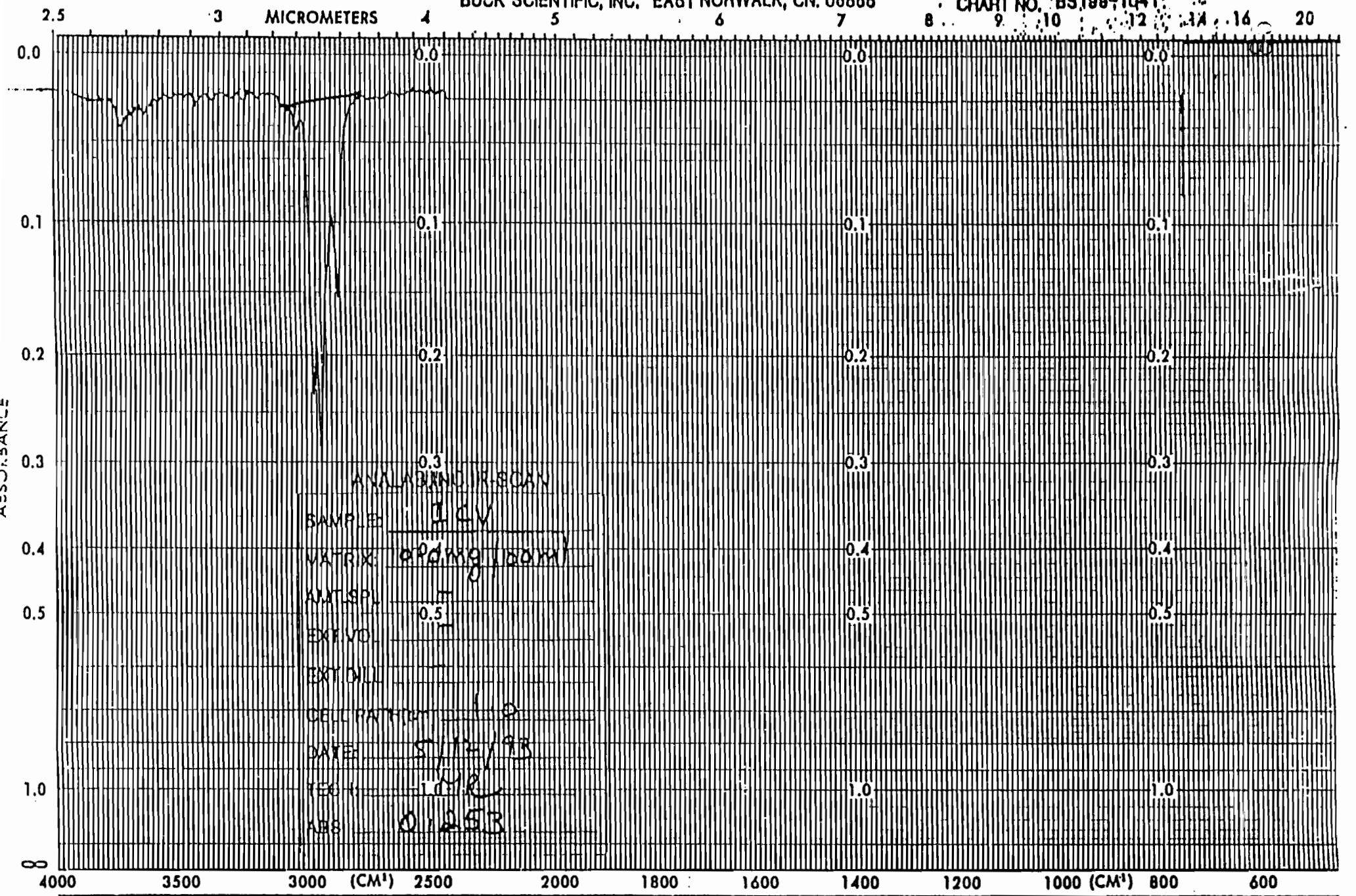
BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855 CHART NO. BS100-1041



ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE BEAM
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

SAMPLE _____ REMARKS _____ SOLVENT _____ CELL PATH _____
CONCENTRATION _____ REFERENCE _____

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06856 · CHART NO. BS198-1041



W2491

ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE BEAM
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

SAMPLE _____ REA S _____ SOLVE _____ CELL PATH _____

CONCENTRATION _____ REFER _____

93-06-0187

ANALab INC 205 Campus Plaza 1, Raritan Center Edison NJ 08837 Tel (908) 225-4114 Fax (908) 225-4110

WET CHEMISTRY - CONTINUING CALIBRATION SUMMARY - TPHC
METHOD: EPA 418.1, & EPA 418.1 (NJDEPE MOD)

INSTRUMENT: P & E 1430 CONTINUING CALIBRATION DATE: 6/22/93

AUTHORIZED BY: [signature] CONTINUING CALIBRATION TIME: 2:00 pm

CELL PATH: 1.0 CM ANALYST: SRT

ALL UNITS: MG/100ML INITIAL CALIBRATION DATE: ~~6/12/93~~ 5/12/93 7/7/93

CONTINUING CALIBRATION VERIFICATION (CCV): SOURCE LOT WC 505

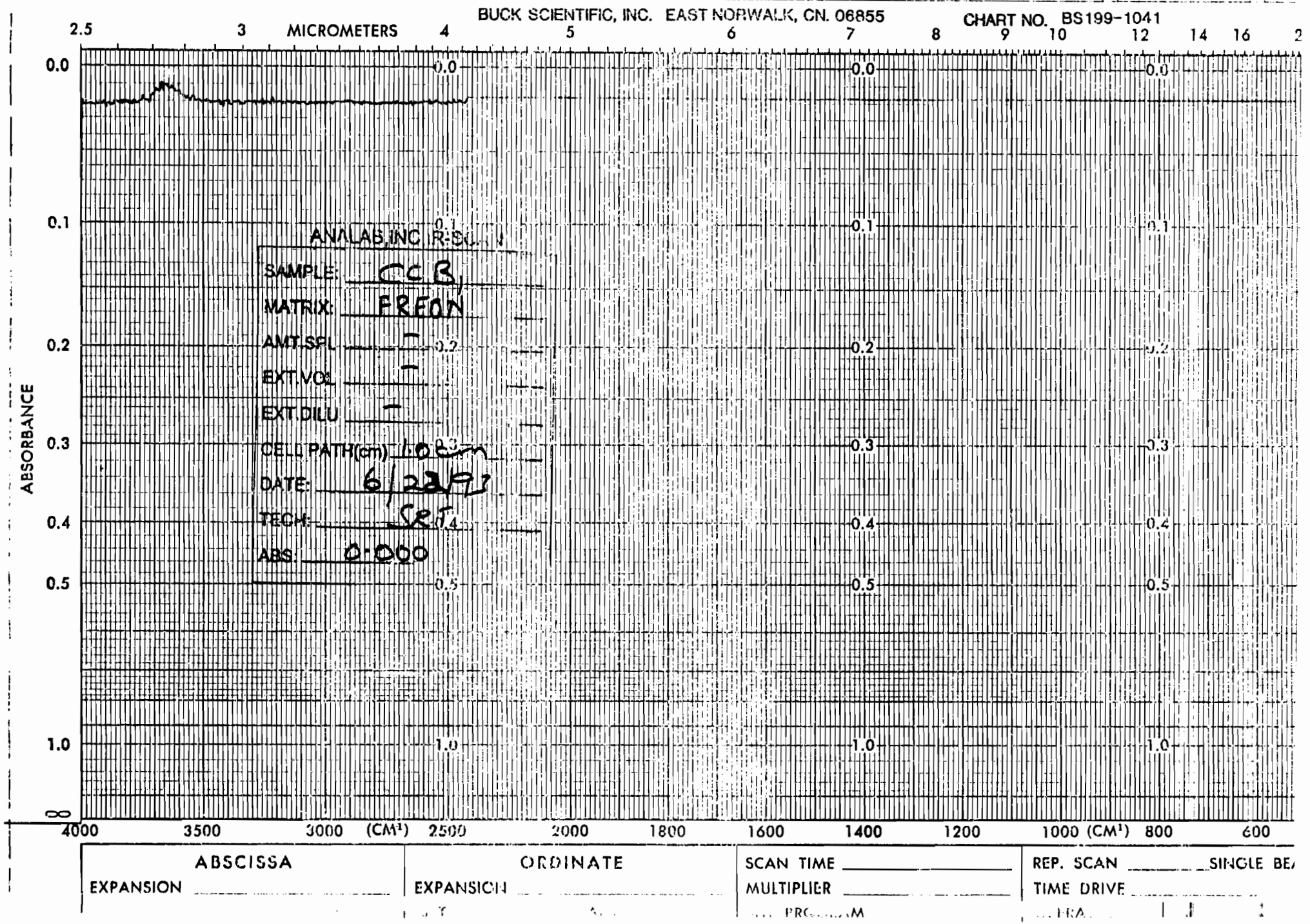
CONTINUING CALIBRATION BLANK (CCB): FREON SOURCE LOT: F4 2289

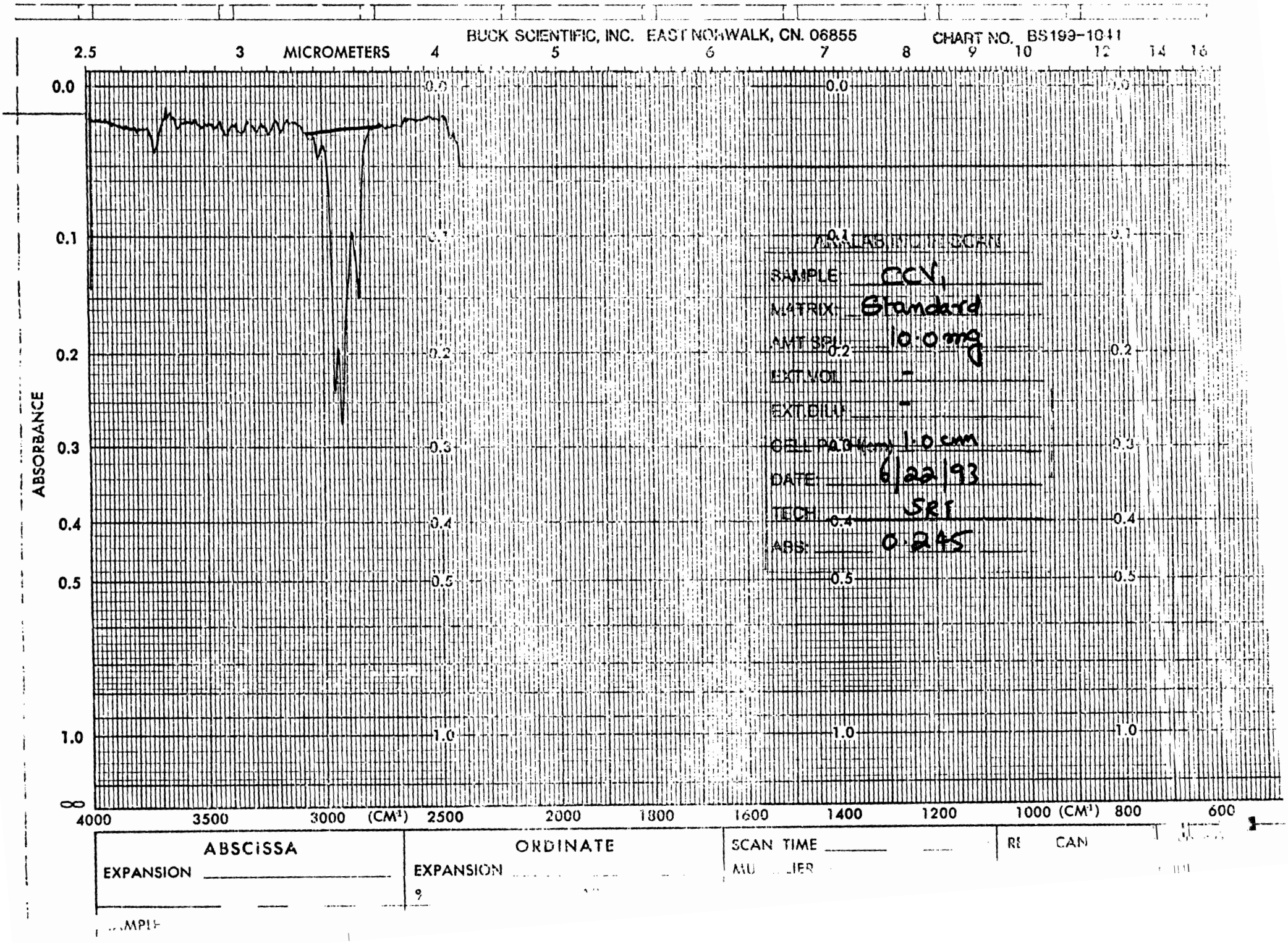
IDL = 0.75 MG/100 ML, MDL AQUEOUS = 1.0 MG/L, SOIL MDL = 25 MG/KG

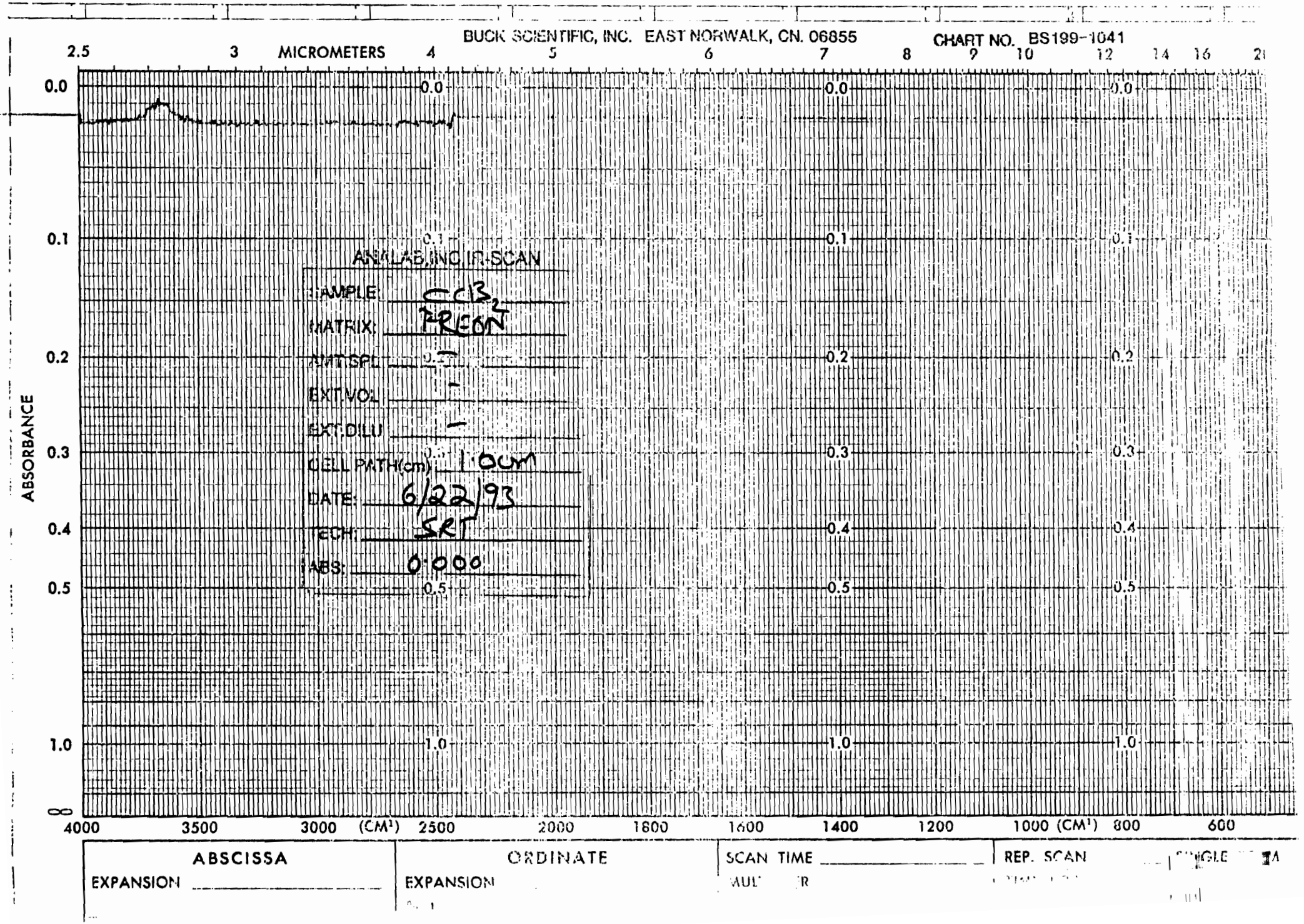
TYPE CC CHECK	FOUND RESULT	TRUE VALUE	PERCENT REC.	QC LIMIT % REC.
CCB-1	<0.75	N/A	N/A	< MDL
CCV-1	10.12	10.0	101	90-110
CCB-2	<0.75	N/A	N/A	< MDL
CCV-2	10.53	10.0	105	90-110
CCB-3	<0.75	N/A	N/A	< MDL
CCV-3	9.71	10.0	97.1	90-110
CCB-4	<0.75	N/A	N/A	< MDL
CCV-4	9.92	10.0	99.2	90-110
CCB-5		N/A	N/A	< MDL
CCV-5		10.0		90-110
CCB-6		N/A	N/A	< MDL
CCV-6		10.0		90-110

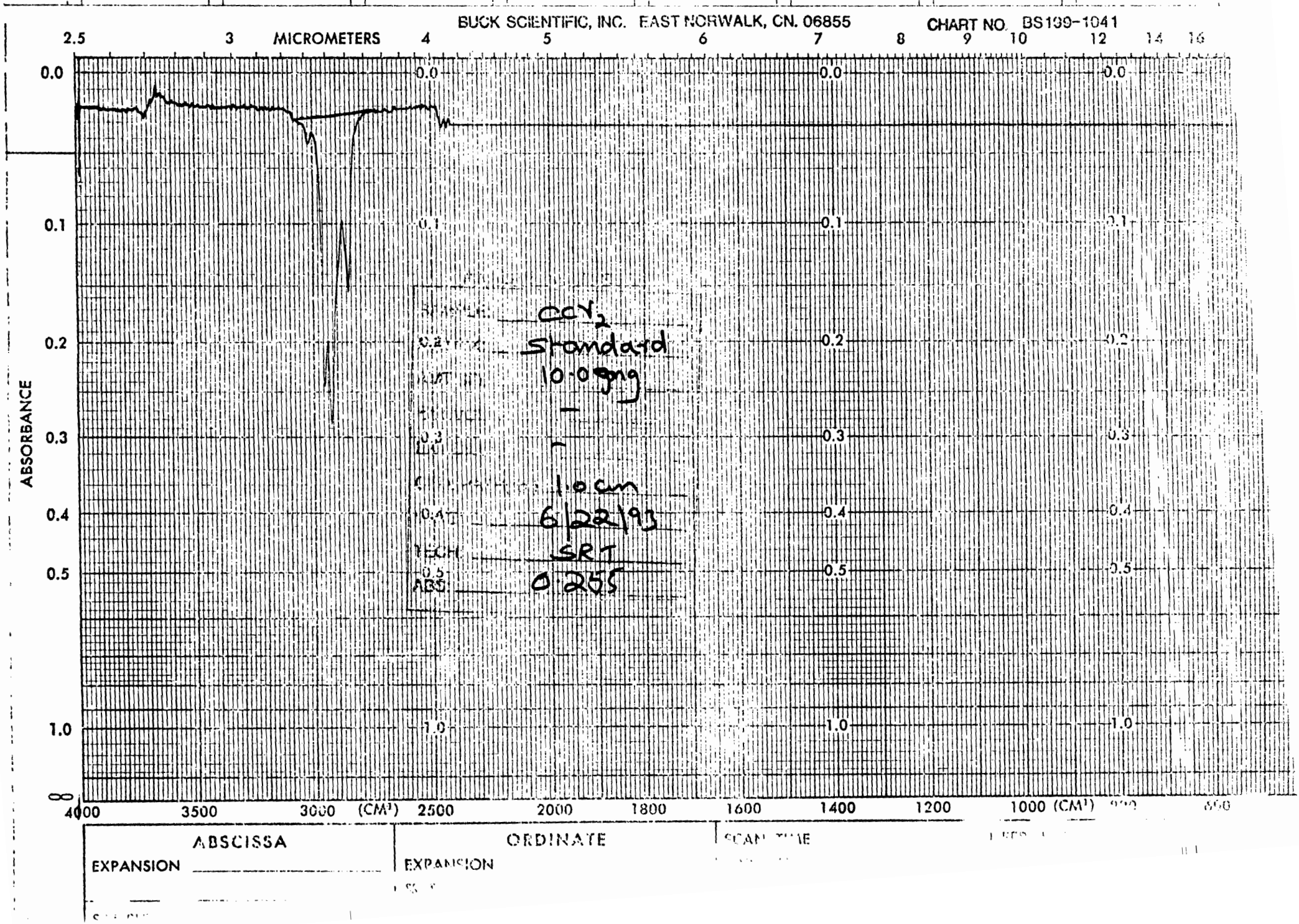
COMMENTS: MDL = METHOD DETECTION LIMIT
N/A = NOT APPLICABLE
IDL = INSTRUMENT DETECTION LIMIT (LOWEST STANDARD)

Q&A: A:\WCPHCCC

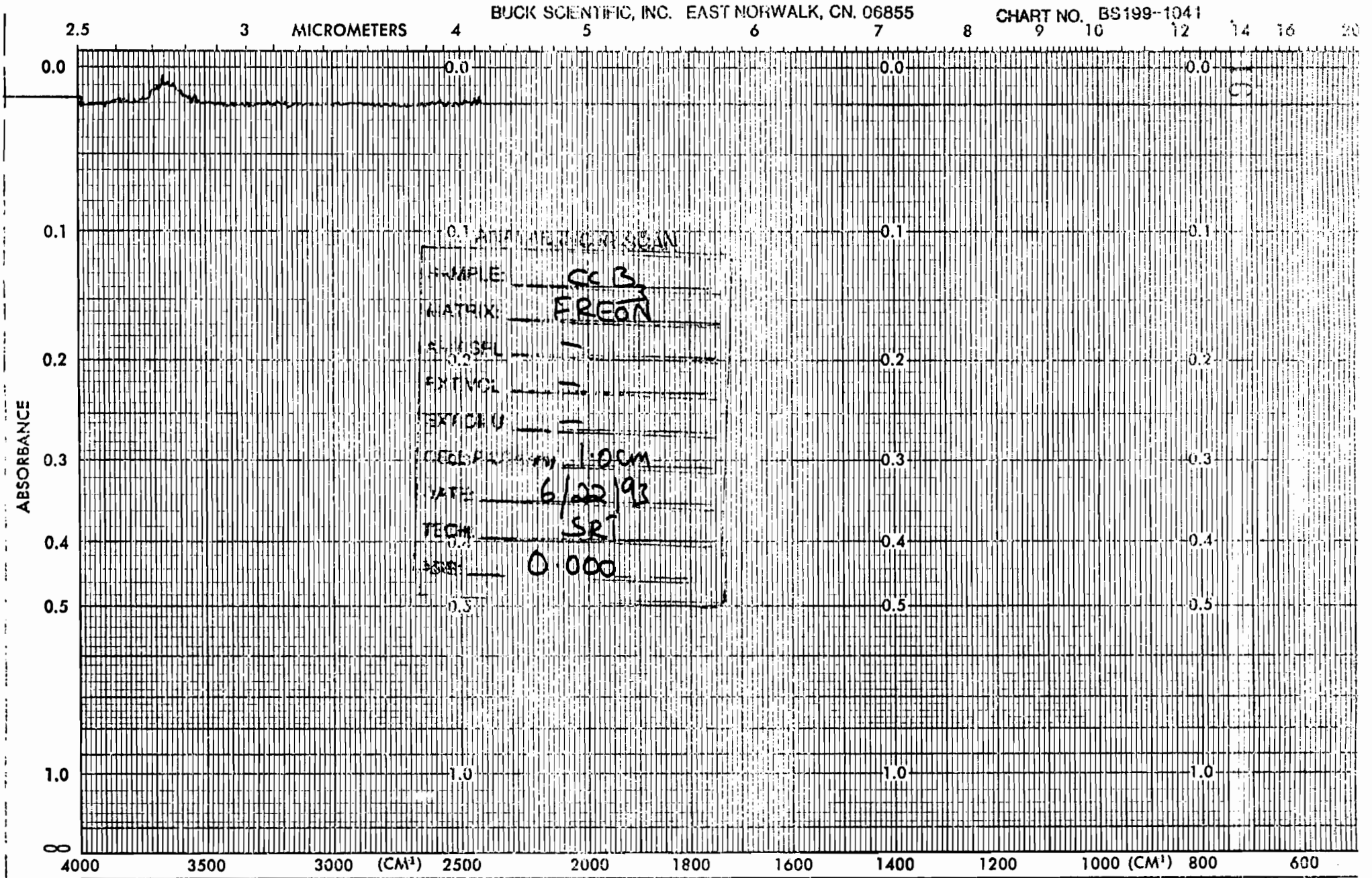

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
MICROMETERS
2.5
3
4
5
6
7
8
9
10
12
14
16
ABSORBANCE
0.0
0.1
0.2
0.3
0.4
0.5
1.0
ANALAB,INC
SAMPLE: CCB1
MATRIX: FREON
AMT.SPL —
EXT.VOL —
EXT.DILU —
CELL PATH(cm) 10 cm
DATE: 6/23/93
TECH: SRT
ABS: 0.000
4000
3500
3000 (CM¹)
2500
2000
1800
1600
1400
1200
1000 (CM¹)
800
600
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
SCAN TIME
MULTIPLIER
REP. SCAN
SINGLE BE
TIME DRIVE


BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5 3 MICROMETERS 4 5 6 7 8 9 10 12 14 16
ABSORBANCE
0.0
0.1
0.2
0.3
0.4
0.5
1.0
∞
4000 3500 3000 (CM¹) 2500 2000 1800 1600 1400 1200 1000 (CM¹) 800 600
SAMPLE: CCV
MATRIX: Standard
AMT SPL: 10.0 mg
EXT MOL: -
EXT DIL: -
CELL PATH (cm): 1.0 cm
DATE: 6/22/93
TECH: SRI
ABS: 0.245
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
SCAN TIME
RE CAN


BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5
3
MICROMETERS
4
5
6
7
8
9
10
12
14
16
ABSORBANCE
0.0
0.1
0.2
0.3
0.4
0.5
1.0
4000
3500
3000 (CM¹)
2500
2000
1800
1600
1400
1200
1000 (CM¹)
800
600
ANALAB,INC IR-SCAN
SAMPLE: CCl3F
MATRIX: FREON
UNIT SPL: 1
EXT VOL: 1
EXT DILU: 1
CELL PATH(cm): 1.0cm
DATE: 6/22/93
TECH: SRT
ABS: 0.000
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
SCAN TIME
REP. SCAN


BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS139-1041
MICROMETERS
2.5
3
4
5
6
7
8
9
10
12
14
16
ABSORBANCE
0.0
0.1
0.2
0.3
0.4
0.5
1.0
4000
3500
3000
(CM¹)
2500
2000
1800
1600
1400
1200
1000 (CM¹)
CCl4
Standard
10.0 mg
1.0 cm
6/22/93
SRT
0.255
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
SCAN TIME

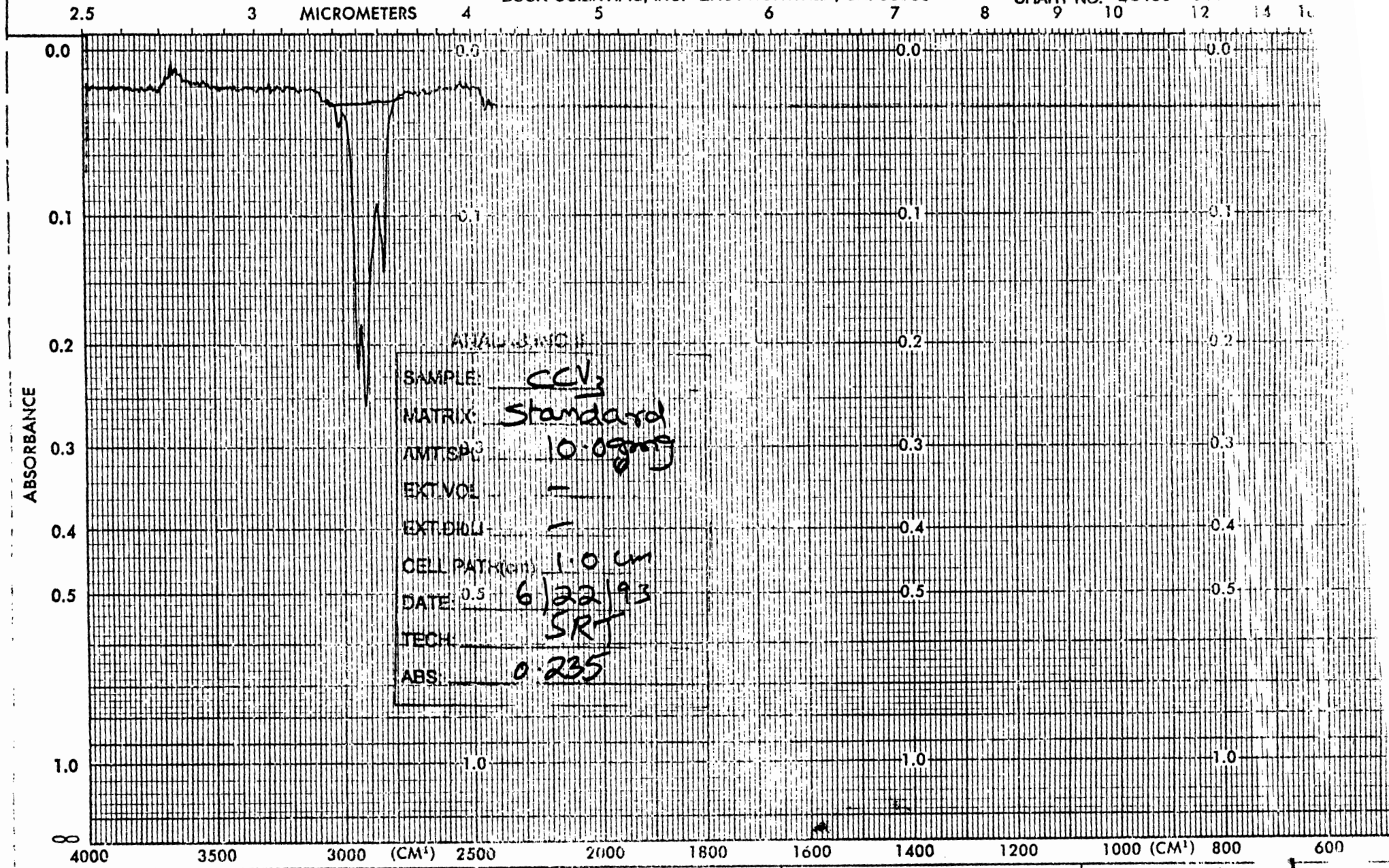
BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855 CHART NO. BS199-1041



ABSCISSA	ORDINATE		
EXPANSION	EXPANSION	SCAN TIME	REP. SCAN SINGLE BEAM
	% T ABS	MULTIPLIER	TIME DRIVE
		SLIT PROGRAM	OPERATOR

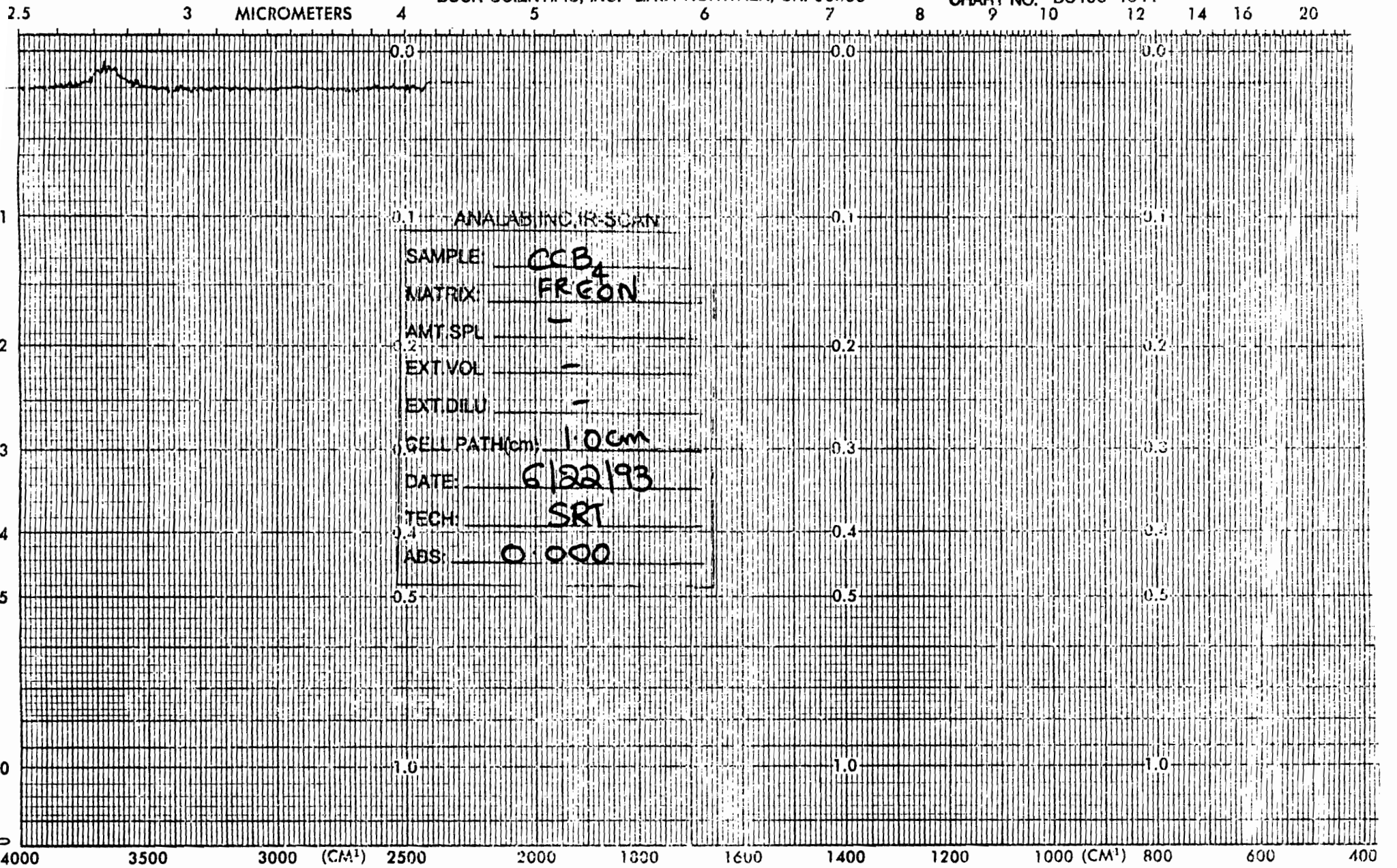
SAMPLE	REMARKS	SOLVENT	CELL PATH
ORIGIN		CONCENTRATION	REFERENCE

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855 CHART NO. BS199-1041



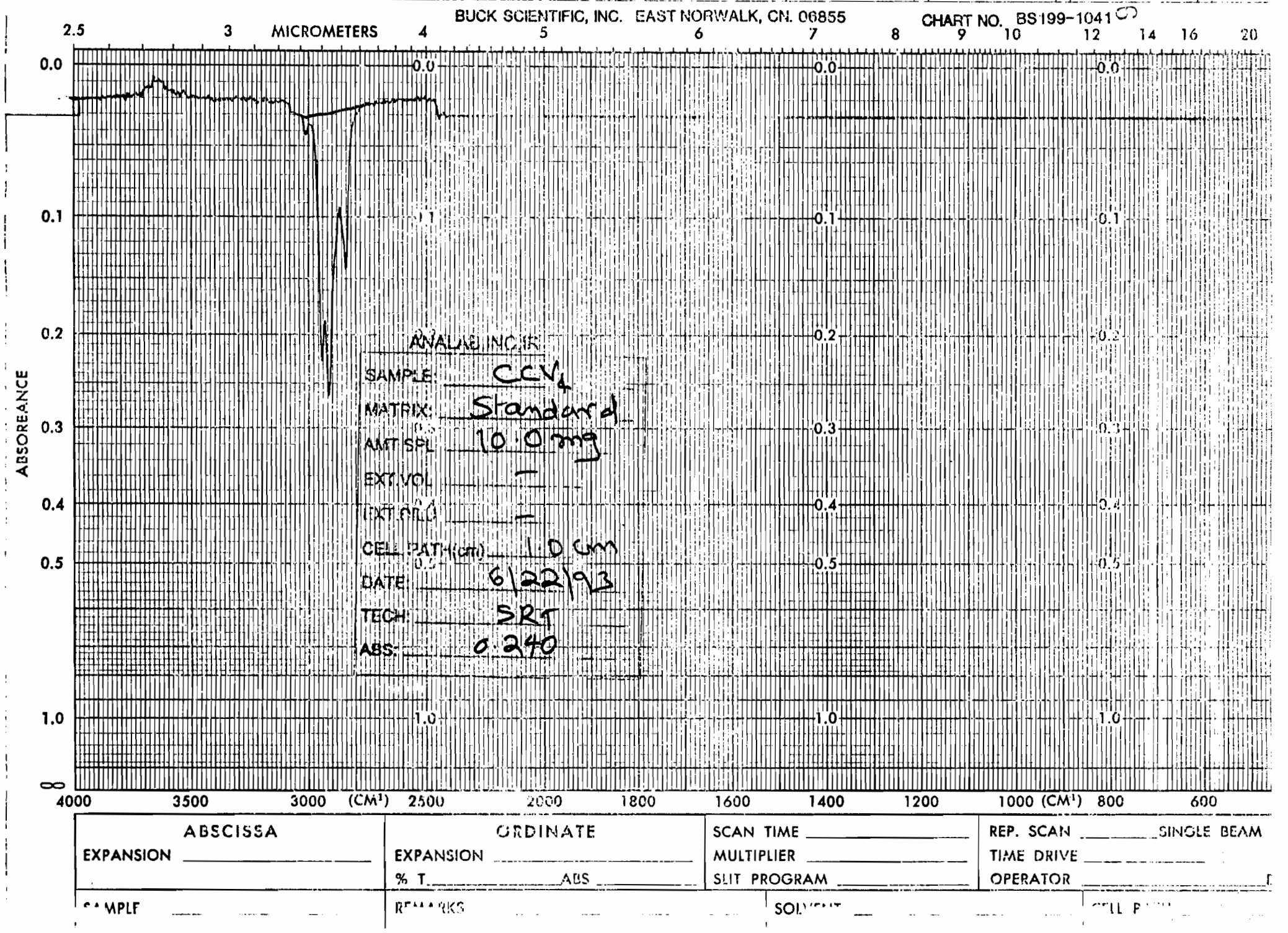
ABSCISSA	ORDINATE	SCAN TIME	RE CAN
EXPANSION	EXPANSION	MU IER	
	% T		
SAMPLE			

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855 CHART NO. BS199-1041



ABSCISSA	ORDINATE		
EXPANSION	EXPANSION	SCAN TIME	REP. SCAN SINGLE BEAM
	T ABS	MULTIPLIER	TIME DRIVE
		SLIT PROGRAM	OPERATOR DATE

CELL PATH


BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
MICROMETERS
2.5
3
4
5
6
7
8
9
10
12
14
16
20
ABSOREANCE
0.0
0.1
0.2
0.3
0.4
0.5
1.0
ANALAB INC/R
SAMPLE: CCV4
MATRIX: Standard
AMT SPL 10.0 mg
EXT VOL —
EXT CELL —
CELL PATH (cm) 1.0 cm
DATE: 6/22/93
TECH: SRT
ABS: 0.240
4000
3500
3000
(CM¹)
2500
2000
1800
1600
1400
1200
1000 (CM¹)
800
600
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
% T
ABS
SCAN TIME
MULTIPLIER
SLIT PROGRAM
REP. SCAN
SINGLE BEAM
TIME DRIVE
OPERATOR
SAMPLE
REMARKS
SOLVENT
CELL P

ANALab INC 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

QUALITY CONTROL SUMMARY REPORTS

GC - VOLATILE ORGANICS

ANALab INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

METHOD BLANK SUMMARY
BTEX AND PURGABLE AROMATICS BY GC

NON-AQUEOUS (SOIL) MATRIX

LAB ID: **METHOD BLANK**
MATRIX: **SOLID**
REVIEWED BY: JJ

LAB DATA FILE: BX061902
ANALYSIS DATE: 06/19/93

COMPOUND	RESULTS (UG/KG)	MDL (UG/KG)
METHYL TERT-BUTYL ETHER	25.00 U	25.00
BENZENE	5.00 U	5.00
TOLUENE	5.00 U	5.00
ETHYLBENZENE	5.00 U	5.00
XYLENES (TOTAL)	5.00 U	5.00
CHLOROBENZENE	5.00 U	5.00
DICHLOROBENZENES (TOTAL)	5.00 U	5.00

COMMENTS:

U = ANALYZED FOR BUT NOT DETECTED (ND)
J = ESTIMATED VALUE, COMPOUND, PRESENT BELOW MDL

S-BLK

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METHOD BLANK SUMMARY
BTEX AND PURGABLE AROMATICS BY GC

NON-AQUEOUS (SOIL) MATRIX

LAB ID: **METHOD BLANK**
MATRIX: **SOLID**
REVIEWED BY: MP

LAB DATA FILE: BX062102
ANALYSIS DATE: 06/21/93

COMPOUND	RESULTS (UG/KG)	MDL (UG/KG)
METHYL TERT-BUTYL ETHER	25.00 U	25.00
BENZENE	5.00 U	5.00
TOLUENE	5.00 U	5.00
ETHYLBENZENE	5.00 U	5.00
XYLENES (TOTAL)	5.00 U	5.00
CHLOROBENZENE	5.00 U	5.00
DICHLOROBENZENES (TOTAL)	5.00 U	5.00

COMMENTS:

U = ANALYZED FOR BUT NOT DETECTED (ND)
J = ESTIMATED VALUE, COMPOUND PRESENT BELOW MDL

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METHOD BLANK SUMMARY
BTEX AND PURGABLE AROMATICS BY GC

NON-AQUEOUS (SOIL) MATRIX

LAB ID: METHOD BLANK
MATRIX: SOLID
REVIEWED BY: JJ

LAB DATA FILE: BX062202
ANALYSIS DATE: 06/22/93

COMPOUND	RESULTS (UG/KG)	MDL (UG/KG)
METHYL TERT-BUTYL ETHER	25.00 U	25.00
BENZENE	5.00 U	5.00
TOLUENE	5.00 U	5.00
ETHYLBENZENE	5.00 U	5.00
XYLENES (TOTAL)	5.00 U	5.00
CHLOROBENZENE	5.00 U	5.00
DICHLOROBENZENES (TOTAL)	5.00 U	5.00

COMMENTS:

U = ANALYZED FOR BUT NOT DETECTED (ND)
J = ESTIMATED VALUE, COMPOUND PRESENT BELOW MDL

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METHOD BLANK SUMMARY
BTEX AND PURGABLE AROMATICS BY GC

NON-AQUEOUS (SOIL) MATRIX

LAB ID: **METHOD BLANK**
MATRIX: **SOLID**
REVIEWED BY: JJ

LAB DATA FILE: BX062302
ANALYSIS DATE: 06/23/93

COMPOUND	RESULTS (UG/KG)	MDL (UG/KG)
METHYL TERT-BUTYL ETHER	25.00 U	25.00
BENZENE	5.00 U	5.00
TOLUENE	5.00 U	5.00
ETHYLBENZENE	5.00 U	5.00
XYLENES (TOTAL)	5.00 U	5.00
CHLOROBENZENE	5.00 U	5.00
DICHLOROBENZENES (TOTAL)	5.00 U	5.00

COMMENTS:

U = ANALYZED FOR BUT NOT DETECTED (ND)
J = ESTIMATED VALUE, COMPOUND PRESENT BELOW MDL

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METHOD BLANK SUMMARY
BTEX AND PURGABLE AROMATICS BY GC

NON-AQUEOUS (SOIL) MATRIX

LAB ID: METHOD BLANK
MATRIX: SOLID
REVIEWED BY: MP

LAB DATA FILE: BX062402
ANALYSIS DATE: 06/24/93

COMPOUND	RESULTS (UG/KG)	MDL (UG/KG)
METHYL TERT-BUTYL ETHER	25.00 U	25.00
BENZENE	5.00 U	5.00
TOLUENE	5.00 U	5.00
ETHYLBENZENE	5.00 U	5.00
XYLENES (TOTAL)	5.00 U	5.00
CHLOROBENZENE	5.00 U	5.00
DICHLOROBENZENES (TOTAL)	5.00 U	5.00

COMMENTS:

U = ANALYZED FOR BUT NOT DETECTED (ND)
J = ESTIMATED VALUE, COMPOUND PRESENT BELOW MDL

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METHOD BLANK SUMMARY
BTEX AND PURGABLE AROMATICS BY GC

NON-AQUEOUS (SOIL) MATRIX

LAB ID: METHOD BLANK
MATRIX: SOLID
REVIEWED BY: PK

LAB DATA FILE: BX062502
ANALYSIS DATE: 06/25/93

COMPOUND	RESULTS (UG/KG)	MDL (UG/KG)
METHYL TERT-BUTYL ETHER	25.00 U	25.00
BENZENE	5.00 U	5.00
TOLUENE	5.00 U	5.00
ETHYLBENZENE	5.00 U	5.00
XYLENES (TOTAL)	5.00 U	5.00
CHLOROBENZENE	5.00 U	5.00
DICHLOROBENZENES (TOTAL)	5.00 U	5.00

COMMENTS:

U = ANALYZED FOR BUT NOT DETECTED (ND)
J = ESTIMATED VALUE, COMPOUND PRESENT BELOW MDL

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QUALITY CONTROL SUMMARY - GC
PURGABLE AROMATICS QC BLANK SPIKE RECOVERY SUMMARY

SOLID MATRIX

SPIKED SAMPLE: **BLANK MATRIX** FILE ID: BX061903
ANALYSIS DATE: 06/19/93
ANALYST: JJ

CONCENTRATION IN ppb

COMPOUND	SPIKE CONC.	BS CONC.	% RECOVERY
MTBE	50	42.5	85
Benzene	20	21.0	105
Toluene	20	20.9	104
EthylBenzene	20	20.6	103
Chlorobenzene	20	20.3	102
Total Xylenes	60	61.9	103
Total Dichlorobenzenes	60	59.6	99

ACCEPTABLE RECOVERY LIMITS	
MTBE	** - ***
Benzene	49 - 121
Toulene	52 - 118
EthylBenzene	55 - 119
Chlorobenzene	51 - 121
Total Xylenes	54 - 122
Total Dichlorobenzenes	36 - 122

RPD % - 0 - 45
BS = QC BLANK SPIKE
MTBE = Methyl-tert-butyl Ether
* = Recovery outside QC limits
Note: Spike recoveries are based on intralaboratory QC limits.

Recovery = 0 out of 6 outside acceptable limits

BLKSPK

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QUALITY CONTROL SUMMARY - GC
PURGABLE AROMATICS MS/MSD RECOVERY SUMMARY

NON-AQUEOUS (SOIL) MATRIX

SPIKED SAMPLE: ~~930201-1~~ 93060201-1 7/8/93 SAMPLE FILE ID: BX061911
ANALYSIS DATE: 06/19/93 MS FILE ID: BX061912
ANALYST: JJ MSD FILE ID: BX061913

CONCENTRATION IN ppb

COMPOUND	SPIKE CONC.	SAMPLE CONC.	MS CONC.	%REC	MSD CONC.	%REC	RPD
MTBE	50	0	38.6	77	40.1	80	4
Benzene	20	0	15.2	76	15.6	78	3
Toluene	20	0	14.7	74	15.2	76	3
EthylBenzene	20	0	14.4	72	14.5	72	0
Chlorobenzene	20	0	14.8	74	15.3	76	3
Total Xylenes	60	0	44.2	74	43.2	72	3
Total DCB	60	0	44.5	74	45.9	76	3

ACCEPTABLE RECOVERY LIMITS	%REC
MTBE	** - ***
Benzene	49 - 121
Toulene	52 - 118
EthylBenzene	55 - 119
Chlorobenzene	51 - 121
Total Xylenes	54 - 122
Total Dichlorobenzenes	36 - 122

RPD % - 0 - 45
MTBE = Methyl-tert-butyl Ether
DCB = Dichlorobenzene

NOTE: Spike Recoveries are based on intralaboratory QC Limits

***** = **RECOVERY OUTSIDE QC LIMITS**
MS = MATRIX SPIKE
MSD = MATRIX SPIKE DUPLICATE
RPD = RELATIVE PERCENT DIFFERENCE

Recovery = 0 out of 14 outside acceptable limits
RPD = 0 out of 7 outside acceptable limits

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PURGEABLE AROMATICS BY GC

SURROGATE RECOVERY FOR aaa TRIFLUOROTOLUENE

MATRIX: **SOIL**

ANALYST: PK

LABORATORY ID	% RECOVERY
METHOD BLANK 6/19/93	91
METHOD BLANK 6/21/93	82
METHOD BLANK 6/22/93	94
METHOD BLANK 6/23/93	92
BLANK SPIKE 6/19/93	109
93-06-0201-1 MS	78
93-06-0201-1 MSD	78
93-06-0187-1 1 G	70
93-06-0187-2 0.01 G	93
93-06-0187-2 0.5 G	91
93-06-0187-3 1 G	78
93-06-0187-4 0.005 G	64
93-06-0187-5 1 G	77
93-06-0187-6 1 G	88
93-06-0187-7 1 G	75
93-06-0187-8 0.5 G	83
93-06-0187-9	78
METHOD BLANK 6/24/93	87
METHOD BLANK 6/25/93	68

ACCEPTABLE LIMITS

SOIL = 45 - 121 0 out of 19 outside acceptable limits

390SUR
RH/ma

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QUALITY CONTROL SUMMARY REPORTS

WET CHEMISTRY

ANALab INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

INORGANICS WET CHEMISTRY
QUALITY CONTROL SUMMARY SOIL MATRIX

Extraction Date: 6/16/93
Reviewed By: MR
Reviewed Date: 6/24/93

Analysis Date: 6/21,22/93
Analyst: SRT/MO

(Results in MG/KG unless otherwise indicated)

Parameter	Sample ID	MDL	Method Blank Results	Sample Conc.	Spike Conc.	Spiked Sample Conc.	%Rec.
PHC	METHOD BLANK	25.0	<25.0	--	--	--	--
	BLANK SPIKE	25.0	<25.0	--	167	166	99.4
	93-06-0168-1 MS	25.0	--	<25.0	167	149	89.2
	93-06-0168-1 MSD	25.0	--	<25.0	167	145	86.8

DUPLICATES:

Parameter	Sample ID	MS % Rec.	MSD % Rec.	RPD%
PHC	93-06-0168-1	89.2	86.8	2.73

ADVISORY LIMITS: BLANK SPIKE 80-120%, MATRIX SPIKE 75-125%, RPD+/-20%

SUMMARY APPLIES TO THE FOLLOWING SAMPLES:

METHOD BLANK	93-06-0187-2 ✓	93-06-0182-1
QC BLANK SPIKE	93-06-0187-3 ✓	93-06-0181-1
93-06-0168-1 MS	93-06-0187-4 ✓	93-06-0180-1
93-06-0168-1 MSD	93-06-0187-5 ✓	93-06-0179-1
93-06-0053-9	93-06-0187-6 ✓	93-06-0178-1
93-06-0168-1	93-06-0187-7 ✓	93-06-0177-1
93-06-0169-1	93-06-0187-8 ✓	93-06-0176-1
93-06-0187-1 ✓	93-06-0187-9 ✓	93-06-0175-1

COMMENTS:
MDL = METHOD DETECTION LIMIT
MS = BLANK SPIKE
RDP = RELATIVE PERCENT DIFFERENCE
MS = MATRIX SPIKE
MSD = MATRIX SPIKE DUPLICATE
N/A = NOT APPLICABLE

Form 102S.172 REV. 8.92
RH/lw

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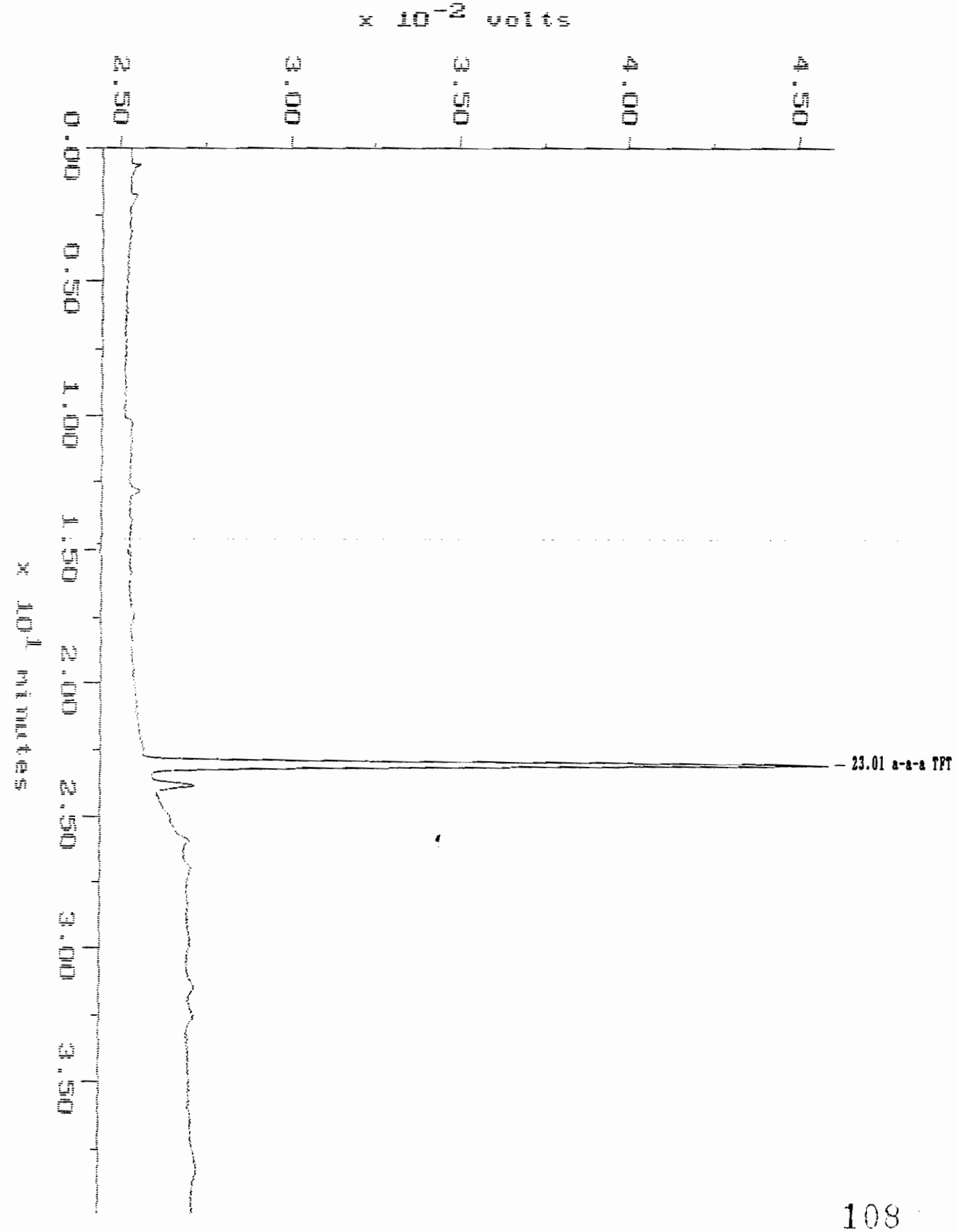
RAW DATA

GC - VOLATILE ORGANICS

Sample: BLANK Channel: PID Filename: BX061902
Acquired: 19-JUN-93 14:53 Method: C:\MAX\DATA1\BX06-19 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 21-JUN-1993 10:08:41

SAMPLE: BLANK
#7 in Method: BTX BY EPA METHOD 602
Acquired: 19-JUN-1993 14:53
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

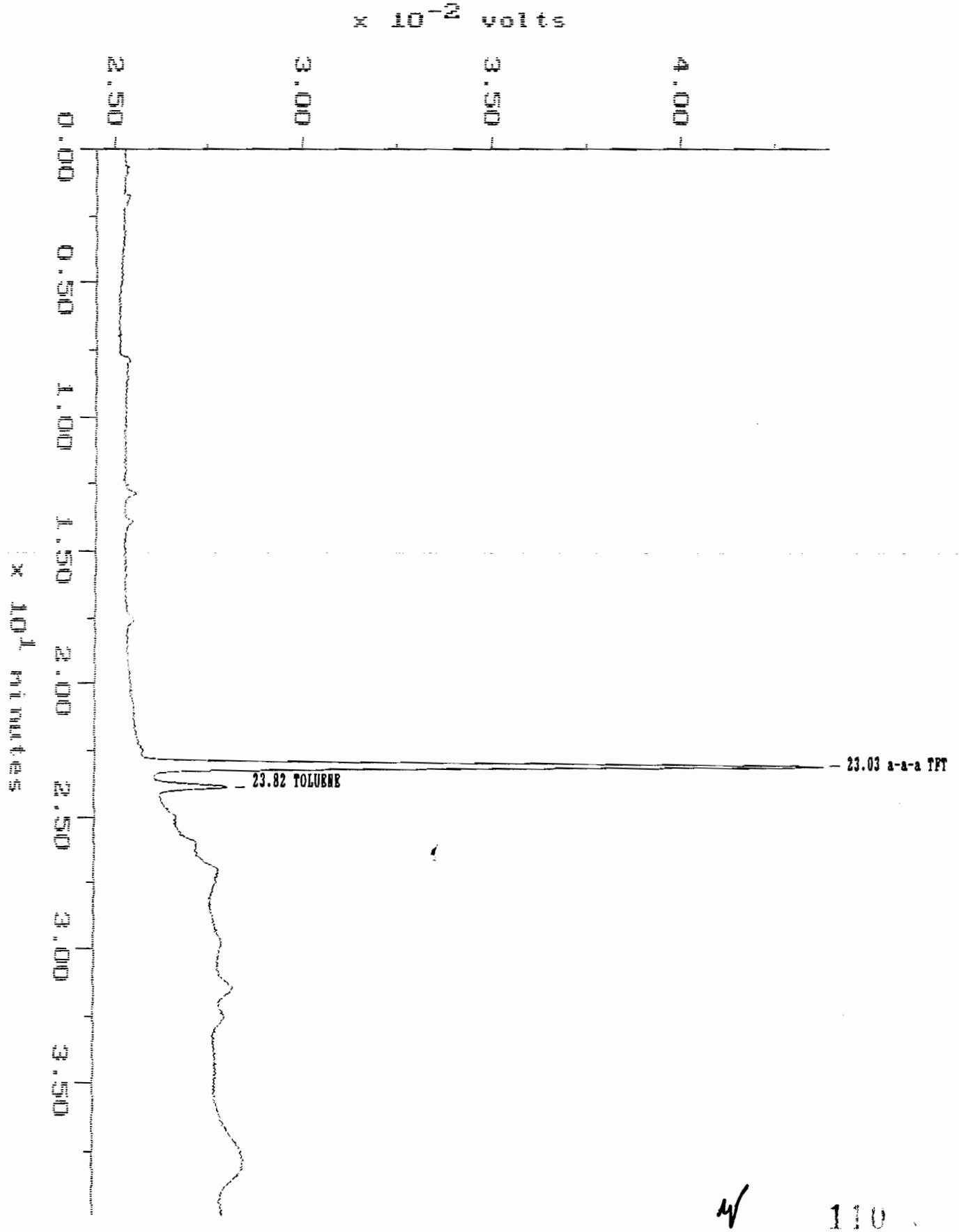
Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX061902
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	a-a-a TFT	23.013	259960	19969	45.30
TOTAL			259960	19969	45.30

91

Sample: BLANK Channel: PID Filename: BI062102
Acquired: 21-JUN-93 11:18 Method: C:\MAI\DATA1\BI06-21 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 22-JUN-1993 9:00:17

SAMPLE: BLANK
#7 in Method: BTX BY EPA METHOD 602
Acquired: 21-JUN-1993 11:18
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

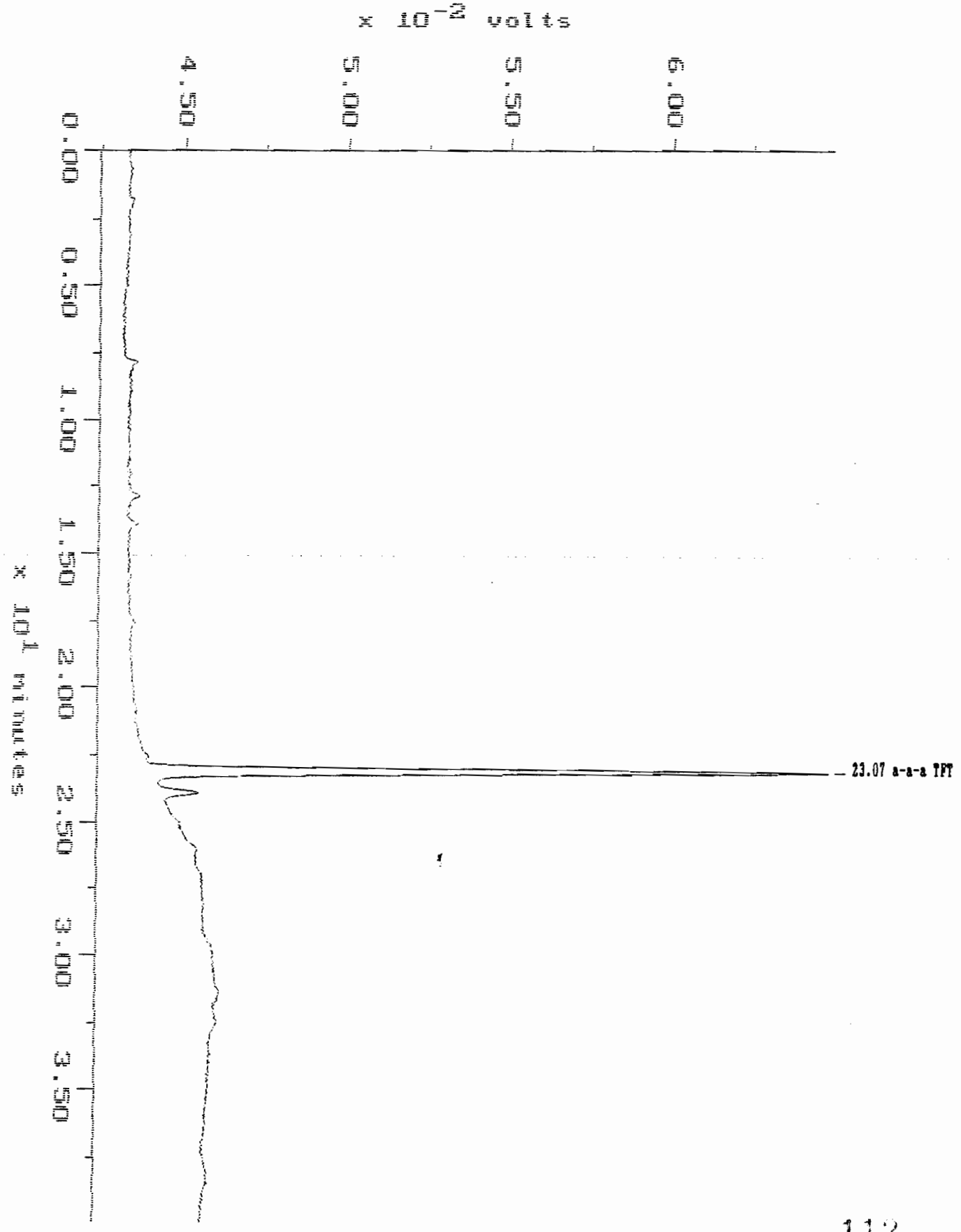
Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062102
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	a-a-a TFT	23.025	234014	17802	40.78
2	TOLUENE	23.821	452	151	Invalid
TOTAL			234466	17953	40.78

82

Sample: BLANK Channel: PID Filename: BI062202
Acquired: 22-JUN-93 10:12 Method: C:\MAX\DATA1\BX06-22 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 23-JUN-1993 9:58:16

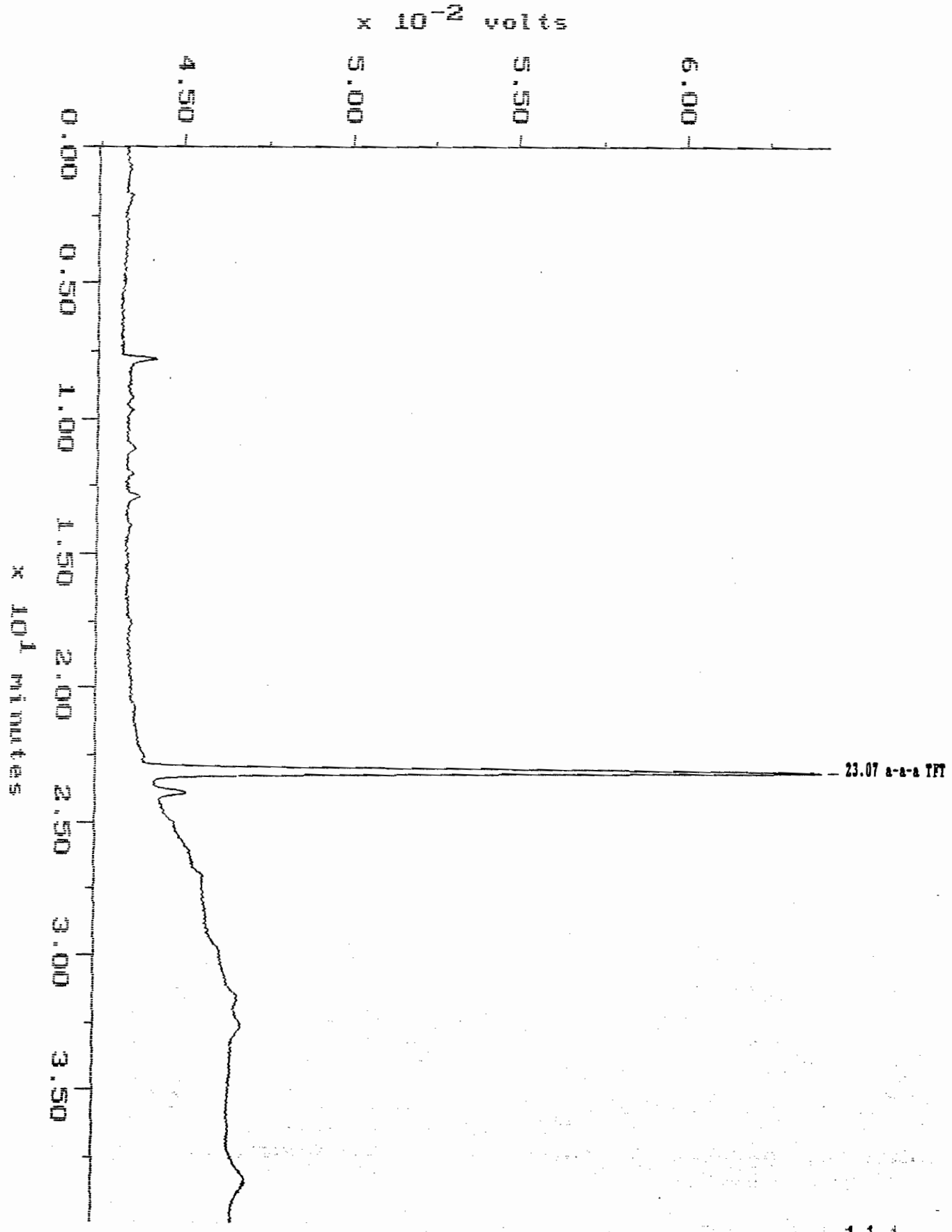
SAMPLE: BLANK
#7 in Method: BTX BY EPA METHOD 602
Acquired: 22-JUN-1993 10:12
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062202
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	a-a-a TFT	23.067	268530	20581	46.79
TOTAL			268530	20581	46.79

Sample: BLANK Channel: PID Filename: BI062302
Acquired: 23-JUN-93 10:12 Method: C:\MAI\DATA1\BI06-23 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 24-JUN-1993 10:22:29

SAMPLE: BLANK
#7 in Method: BTX BY EPA METHOD 602
Acquired: 23-JUN-1993 10:12
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

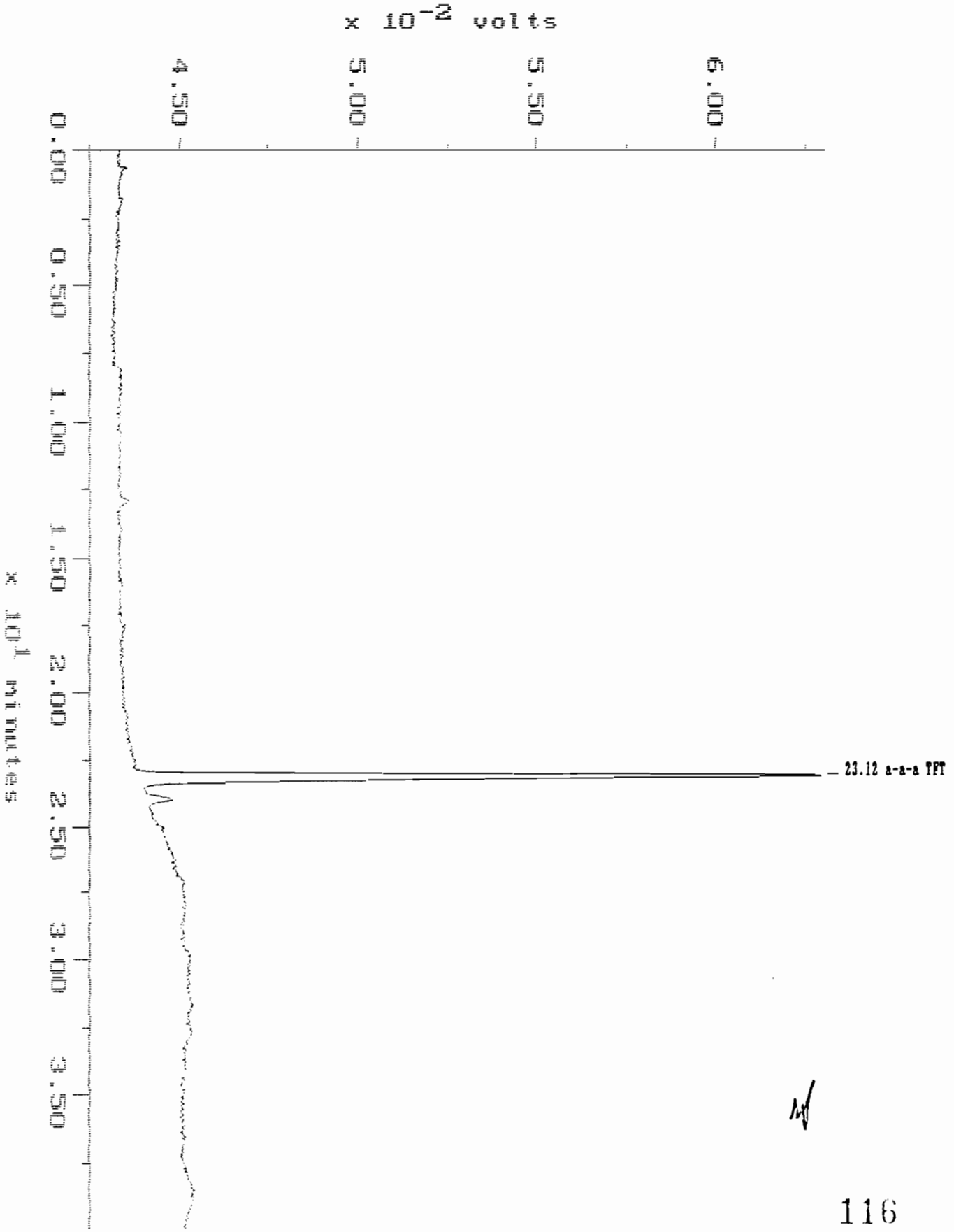
Type: UNKN
Instrument: INSTRUMENT 1
Filename: BI062302
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	a-a-a TFT	23.071	263132	20022	45.85
TOTAL			263132	20022	45.85

92

Sample: BLANK Channel: PID Filename: BI062402
Acquired: 24-JUN-93 10:38 Method: C:\MAX\DATA1\BI06-24 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 25-JUN-1993 9:05:47

SAMPLE: BLANK
#7 in Method: BTX BY EPA METHOD 602
Acquired: 24-JUN-1993 10:38
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062402
Index: 2

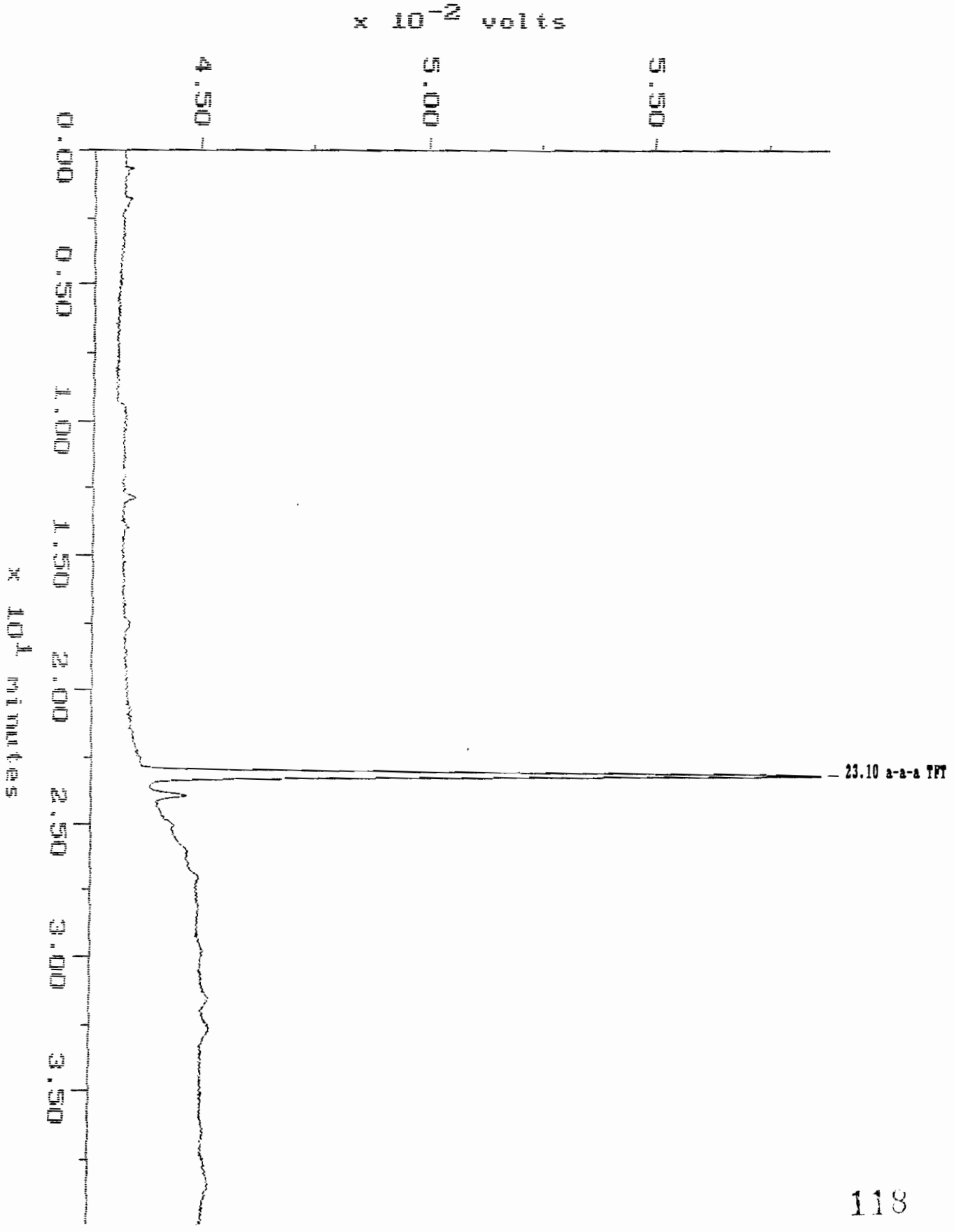
DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	a-a-a TFT	23.117	248610	18927	43.32
TOTAL			248610	18927	43.32

87

W

Sample: BLANK Channel: PID Filename: BX062502
Acquired: 25-JUN-93 11:24 Method: C:\MAI\DATA1\BX06-25 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 27-JUN-1993 16:07:09

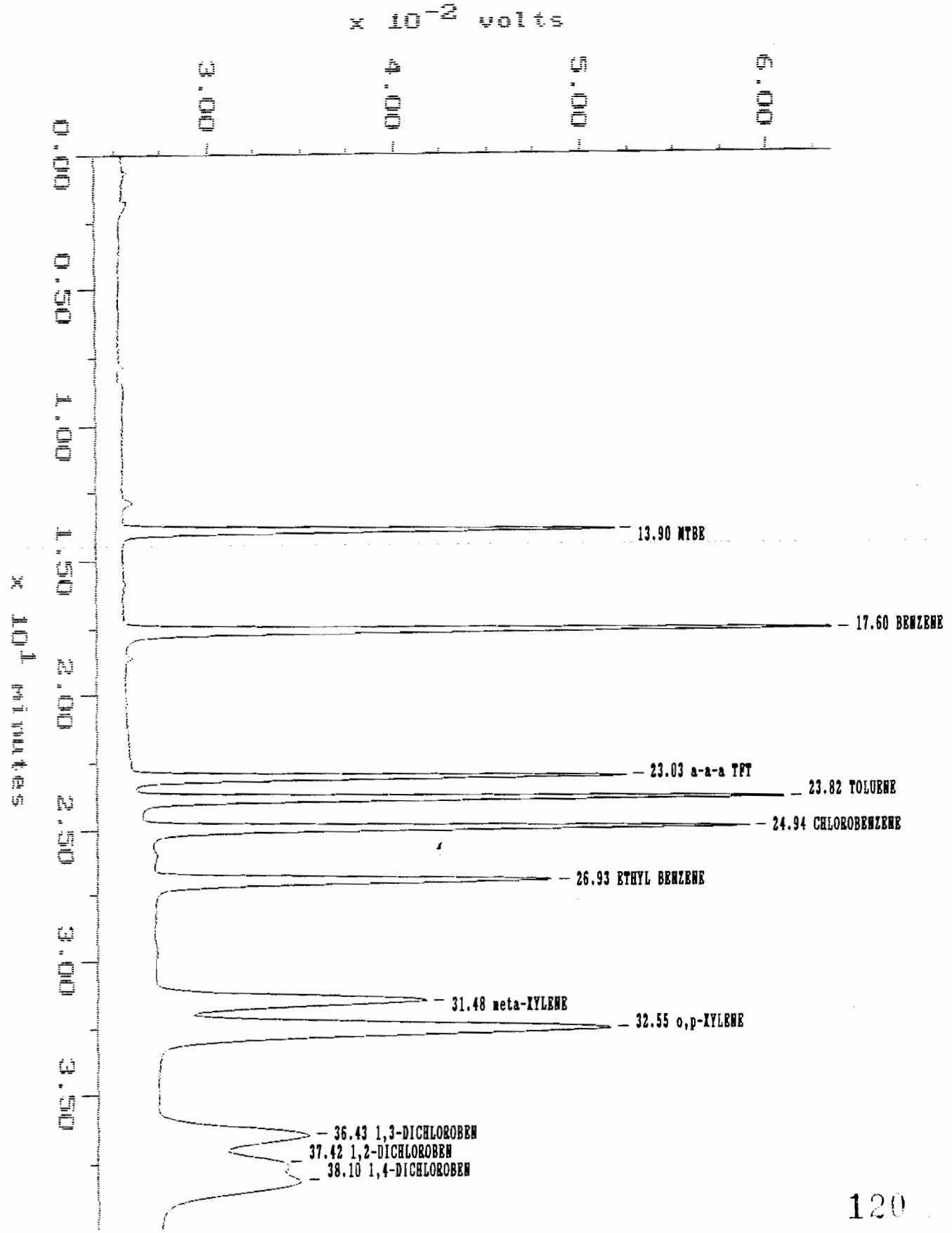
SAMPLE: BLANK
#7 in Method: BTX BY EPA METHOD 602
Acquired: 25-JUN-1993 11:24
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062502
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	a-a-a TFT	23.096	195736	14831	34.11
TOTAL			195736	14831	34.11

Sample: BLANK SPIKE Channel: PID Filename: BX061903
Acquired: 19-JUN-93 15:39 Method: C:\MAX\DATA1\BX06-19 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 21-JUN-1993 10:11:47

SAMPLE: BLANK SPIKE
#8 in Method: BTX BY EPA METHOD 602
Acquired: 19-JUN-1993 15:39
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

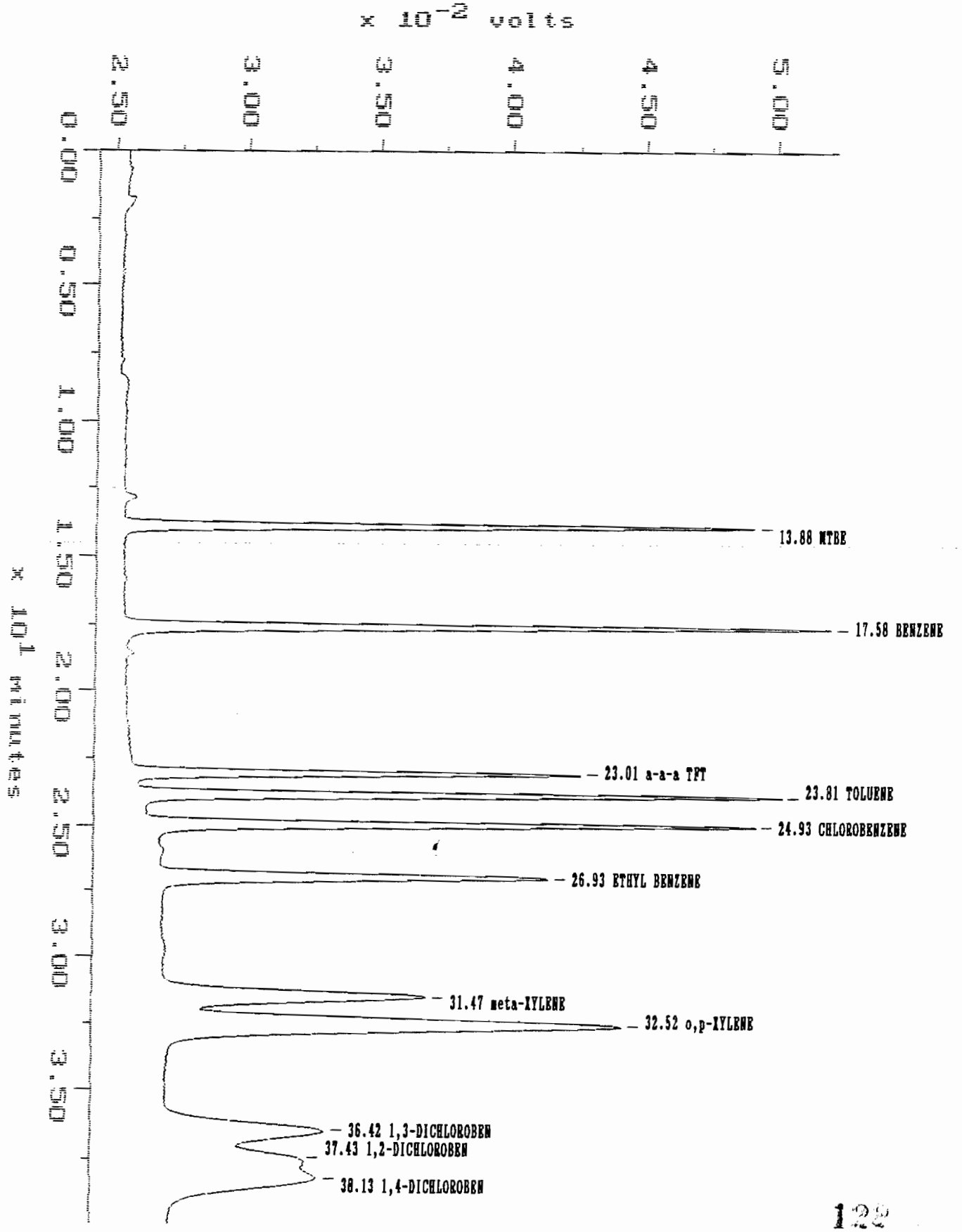
Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX061903
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.896	320073	26241	42.54
2	BENZENE	17.596	480450	37681	21.05
3	a-a-a TFT	23.029	312568	26187	54.47!. 109
4	TOLUENE	23.821	463131	34458	20.92
5	CHLOROBENZENE	24.938	453034	32091	20.30
6	ETHYL BENZENE	26.929	383295	21003	20.56
7	meta-XYLENE	31.483	426252	14264	20.71
8	o,p-XYLENE	32.546	807613	23933	41.18
9	1,3-DICHLOROBEN	36.429	333585	7748	19.86
10	1,2-DICHLOROBEN	37.417	297951	6347	21.48
11	1,4-DICHLOROBEN	38.104	305946	7114	18.31
TOTAL			4584097	237068	301.38!

! Result calculation based on peak response ratio outside of calibration range.

Sample: 9306201-1 MS Channel: PID Filename: BI061912
Acquired: 19-JUN-93 22:40 Method: C:\MAI\DATA1\BX06-19 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 21-JUN-1993 10:36:26

SAMPLE: 9306201-1 MS
#17 in Method: BTX BY EPA METHOD 602
Acquired: 19-JUN-1993 22:40
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

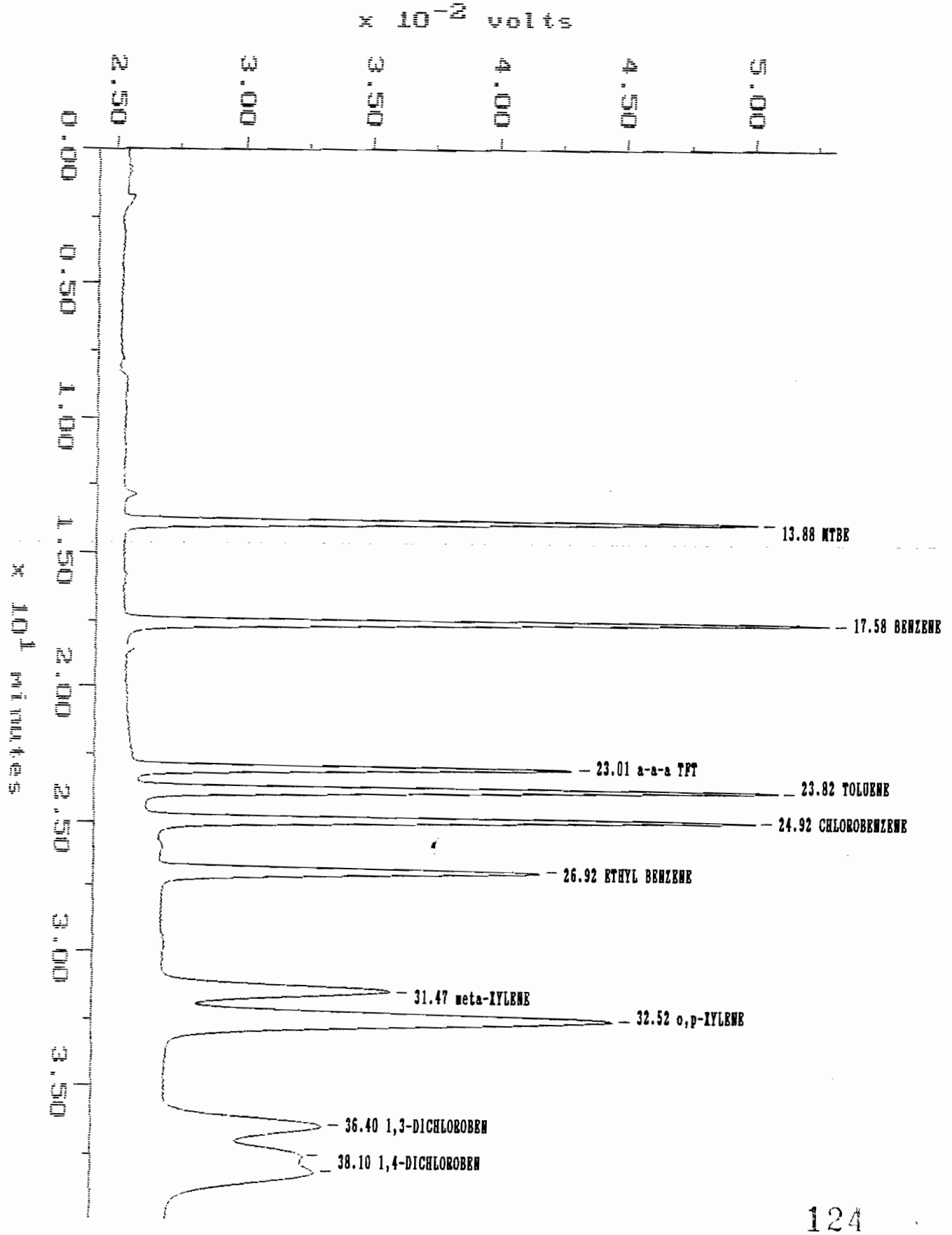
Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX061912
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.883	289875	23757	38.61
2	BENZENE	17.583	341463	26559	15.20
3	a-a-a TFT	23.013	222507	16786	38.77
4	TOLUENE	23.808	328052	24181	14.72
5	CHLOROBENZENE	24.929	324431	22719	14.81
6	ETHYL BENZENE	26.933	266552	14481	14.37
7	meta-XYLENE	31.471	292223	9779	14.31
8	o,p-XYLENE	32.521	579731	17053	29.87
9	1,3-DICHLOROBEN	36.421	239748	5751	14.51
10	1,2-DICHLOROBEN	37.425	223061	4747	16.06
11	1,4-DICHLOROBEN	38.133	223049	5295	13.93
TOTAL			3335692	171108	225.18

78

Sample: 9306201-1 MSD Channel: PID Filename: BI061913
Acquired: 19-JUN-93 23:27 Method: C:\MAI\DATA1\BI06-19 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 21-JUN-1993 10:41:38

SAMPLE: 9306201-1 MSD
#18 in Method: BTX BY EPA METHOD 602
Acquired: 19-JUN-1993 23:27
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

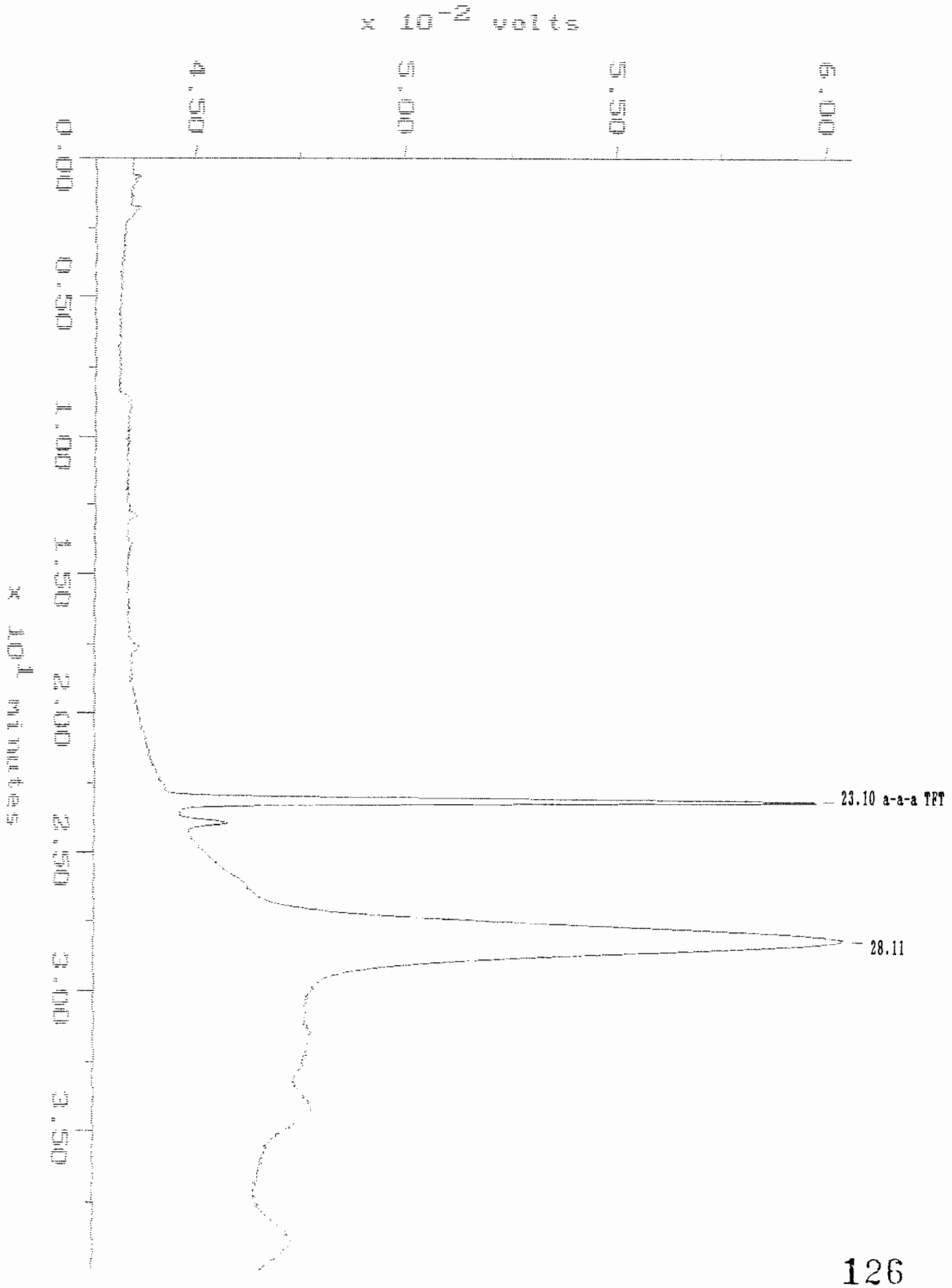
Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX061913
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.883	301488	24728	40.12
2	BENZENE	17.579	350612	27407	15.59
3	a-a-a TFT	23.013	225054	17016	39.22
4	TOLUENE	23.817	337544	24857	15.16
5	CHLOROBENZENE	24.921	335336	23555	15.28
6	ETHYL BENZENE	26.917	269019	14712	14.50
7	meta-XYLENE	31.467	260687	8805	12.80
8	o,p-XYLENE	32.521	589513	17337	30.35
9	1,3-DICHLOROBEN	36.404	249847	5929	15.09
10	1,2-DICHLOROBEN	37.454	218308	4997	15.72
11	1,4-DICHLOROBEN	38.100	249324	5500	15.13
TOTAL			3386732	174840	228.96

78

Sample: 9306197-1 1G **Channel:** PID **Filename:** BX062110
Acquired: 21-JUN-93 19:22 **Method:** C:\MAX\DATA1\BX06-21 **Operator:** MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 22-JUN-1993 9:30:55

SAMPLE: 9306187-1 1G
#15 in Method: BTX BY EPA METHOD 602
Acquired: 21-JUN-1993 19:22
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

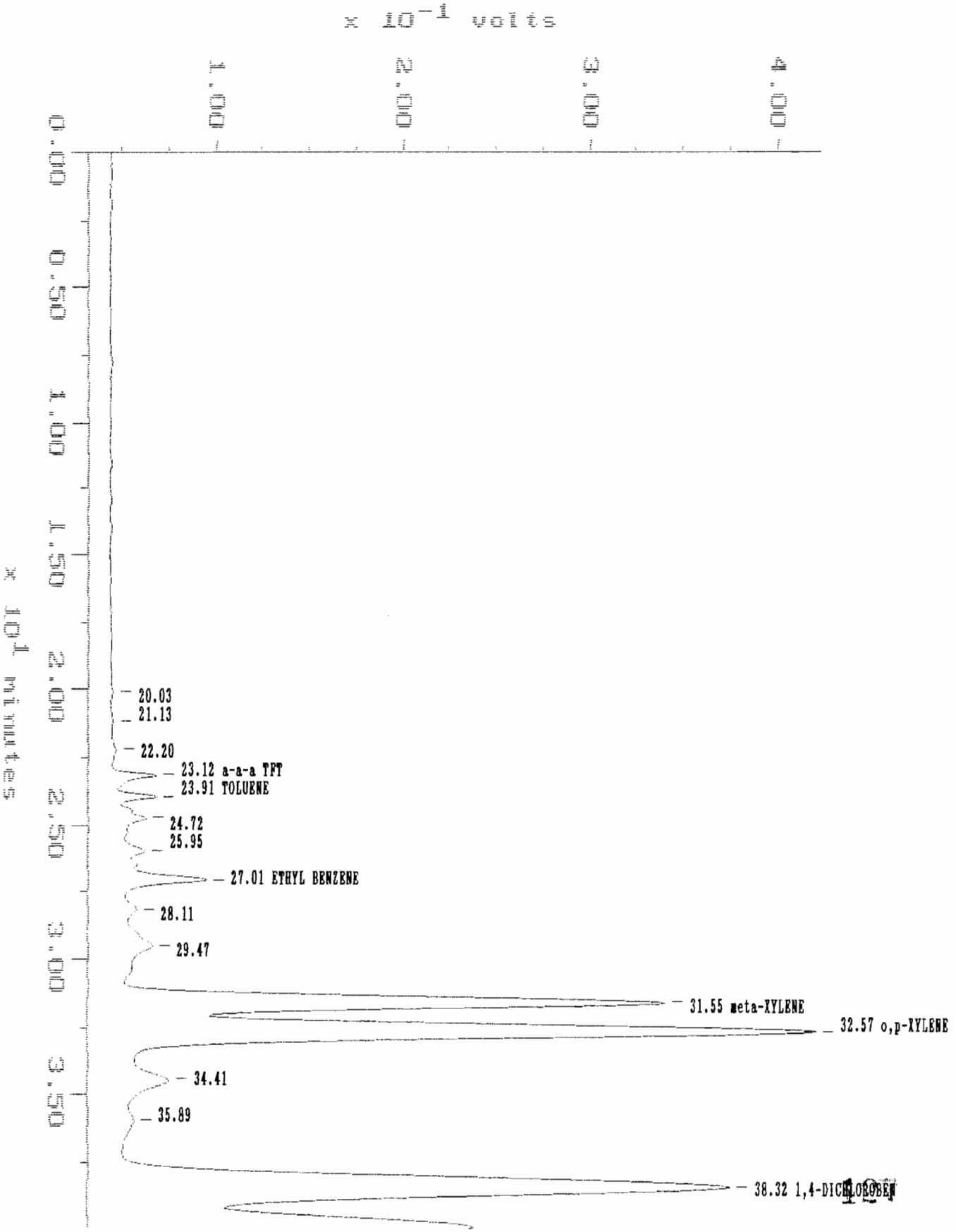
Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062110
Index: 6

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	a-a-a TFT	23.100	201892	15202	35.18
2		28.108	917951	13003	
TOTAL			1119843	28205	35.18

90 S %

Sample: 9306187-2 .5G Channel: PID Filename: BX062204
Acquired: 22-JUN-93 12:00 Method: C:\MAX\DATA1\BX06-22 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 23-JUN-1993 10:03:22

SAMPLE: 9306187-2 .5G
#9 in Method: BTX BY EPA METHOD 602
Acquired: 22-JUN-1993 12:00
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062204
Index: Disk

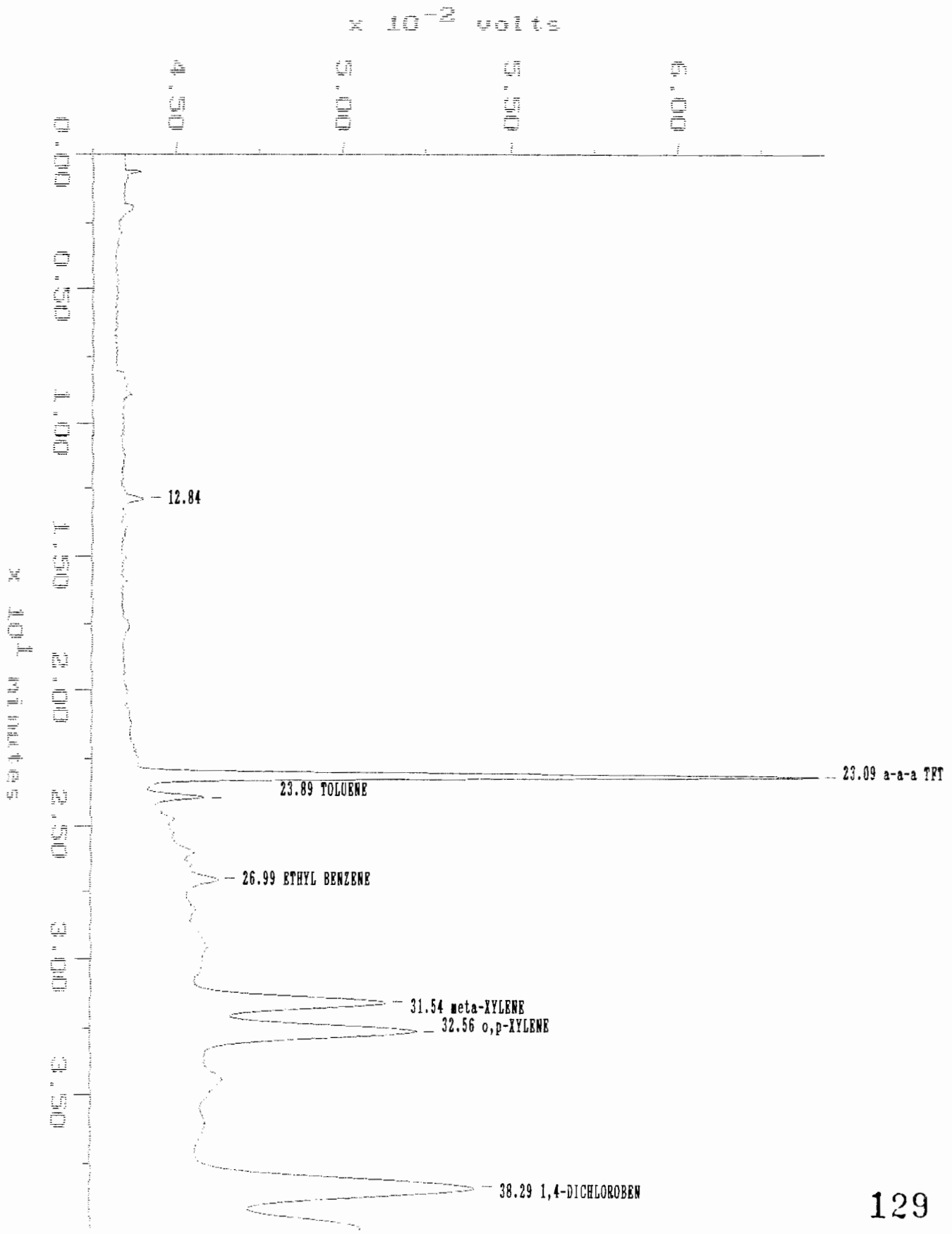
DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1		20.025	15597	1055	
2		21.129	9834	692	
3		22.196	27351	1555	
4	a-a-a TFT	23.121	259781	19981	45.27
5	TOLUENE	23.908	268988	19965	12.01
6		24.721	118099	8387	
7		25.954	168515	8913	
8	ETHYL BENZENE	27.008	812376	40453	43.28
9		28.113	135159	5325	
10		29.471	459363	11908	
11	meta-XYLENE	31.550	8894054	287655	424.96!!
12	o,p-XYLENE	32.567	13001161	366115	646.06!!
13		34.408	785059	19951	
14		35.888	169220	3836	
15	1,4-DICHLOROBEN	38.321	13200498	293649	743.80!!
TOTAL			38325044	1089440	1915.38!!

!! Result calculation based on peak response more than 10% outside of calibration range.

89.4%

Sample: 9306187-2 .01G **Channel:** PID **Filename:** BX062120
Acquired: 22-JUN-93 3:10 **Method:** C:\MAX\DATA1\BX06-21 **Operator:** MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 22-JUN-1993 10:22:24

SAMPLE: 9306187-2 .01G
#25 in Method: BTX BY EPA METHOD 602
Acquired: 22-JUN-1993 3:10
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

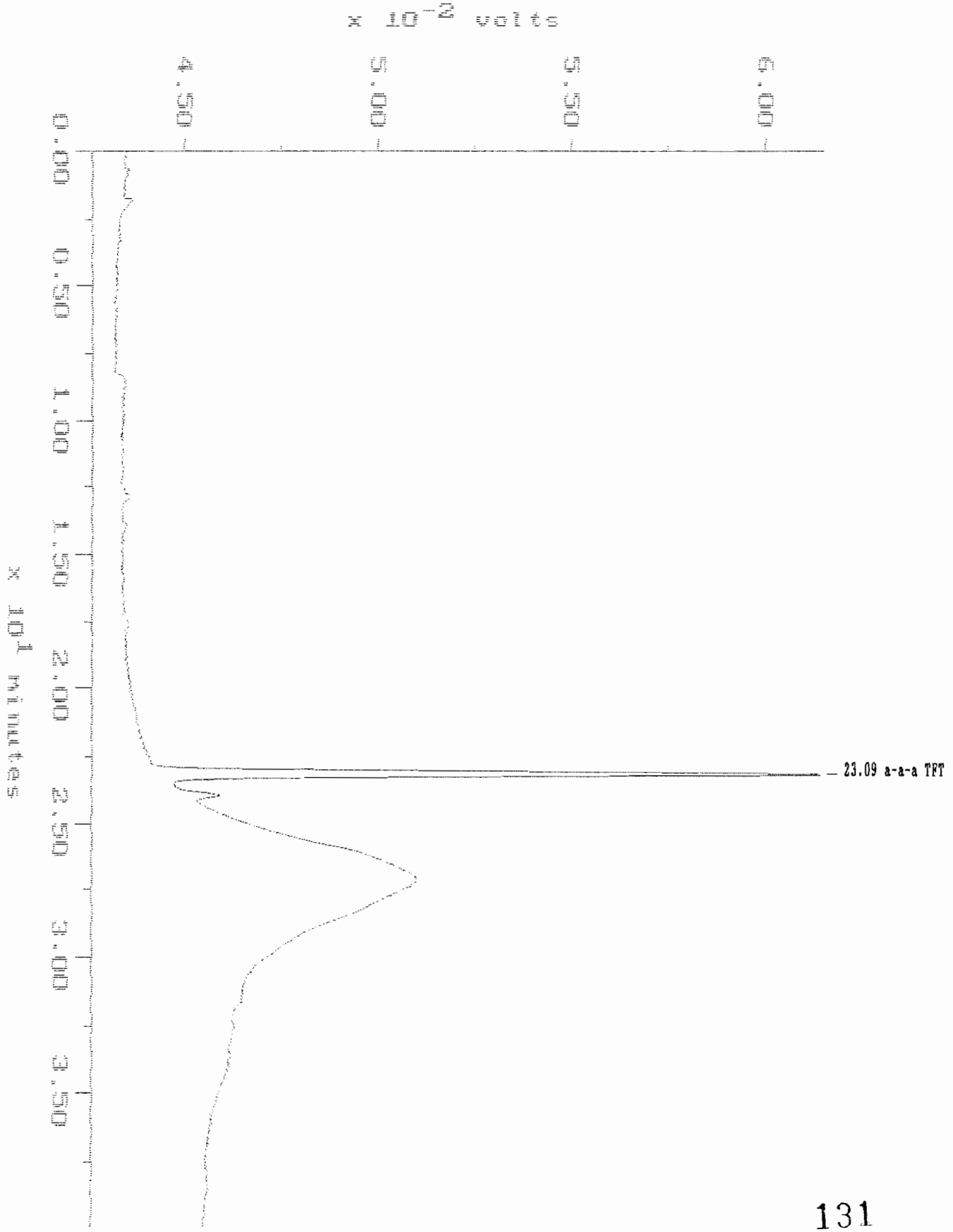
Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062120
Index: 16

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1		12.842	-97288	490	
2	a-a-a TFT	23.088	267193	20183	46.56
3	TOLUENE	23.888	20798	1534	0.62!!
4	ETHYL BENZENE	26.988	24865	782	1.58!!
5	meta-XYLENE	31.538	172383	5596	8.59
6	o,p-XYLENE	32.563	216903	6356	11.87
7	1,4-DICHLOROBEN	38.288	334669	7486	19.93
TOTAL			1134120	42426	89.15!!

!! Result calculation based on peak response more than 10% outside of calibration range.

Sample: 9306187-3 1G Channel: PID Filename: BX062111
Acquired: 21-JUN-93 20:09 Method: C:\MAX\DATA1\BX06-21 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 22-JUN-1993 9:33:48

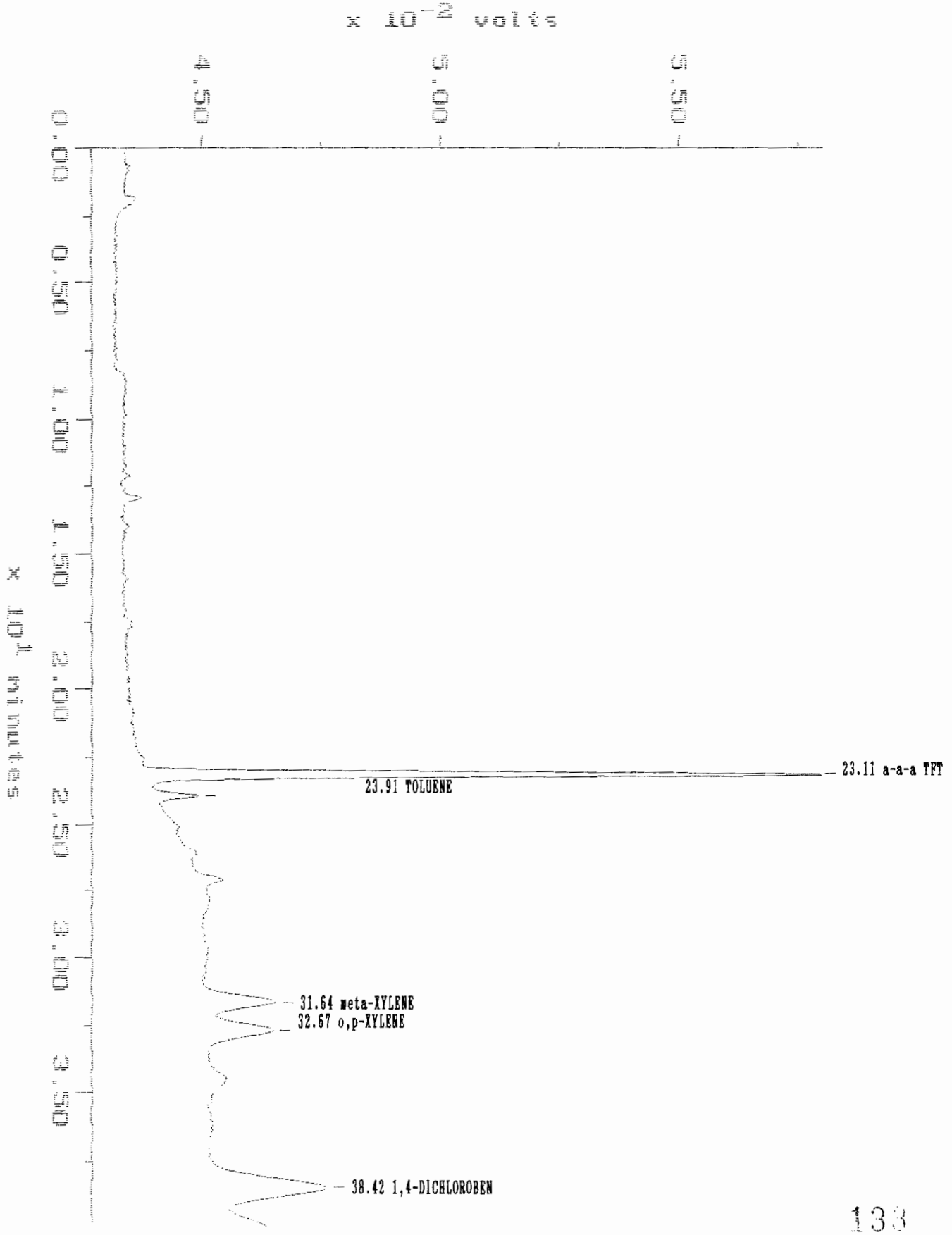
SAMPLE: 9306187-3 1G
#16 in Method: BTX BY EPA METHOD 602
Acquired: 21-JUN-1993 20:09
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062111
Index: 7

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	a-a-a TFT	23.092	223552	16909	38.96
TOTAL			223552	16909	38.96

Sample: 9306187-4 .005G **Channel:** PID **Filename:** BX062503
Acquired: 25-JUN-93 12:11 **Method:** C:\MAX\DATA1\BX06-25 **Operator:** MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 27-JUN-1993 16:08:57

SAMPLE: 9306187-4 .005G
#8 in Method: BTX BY EPA METHOD 602
Acquired: 25-JUN-1993 12:11
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

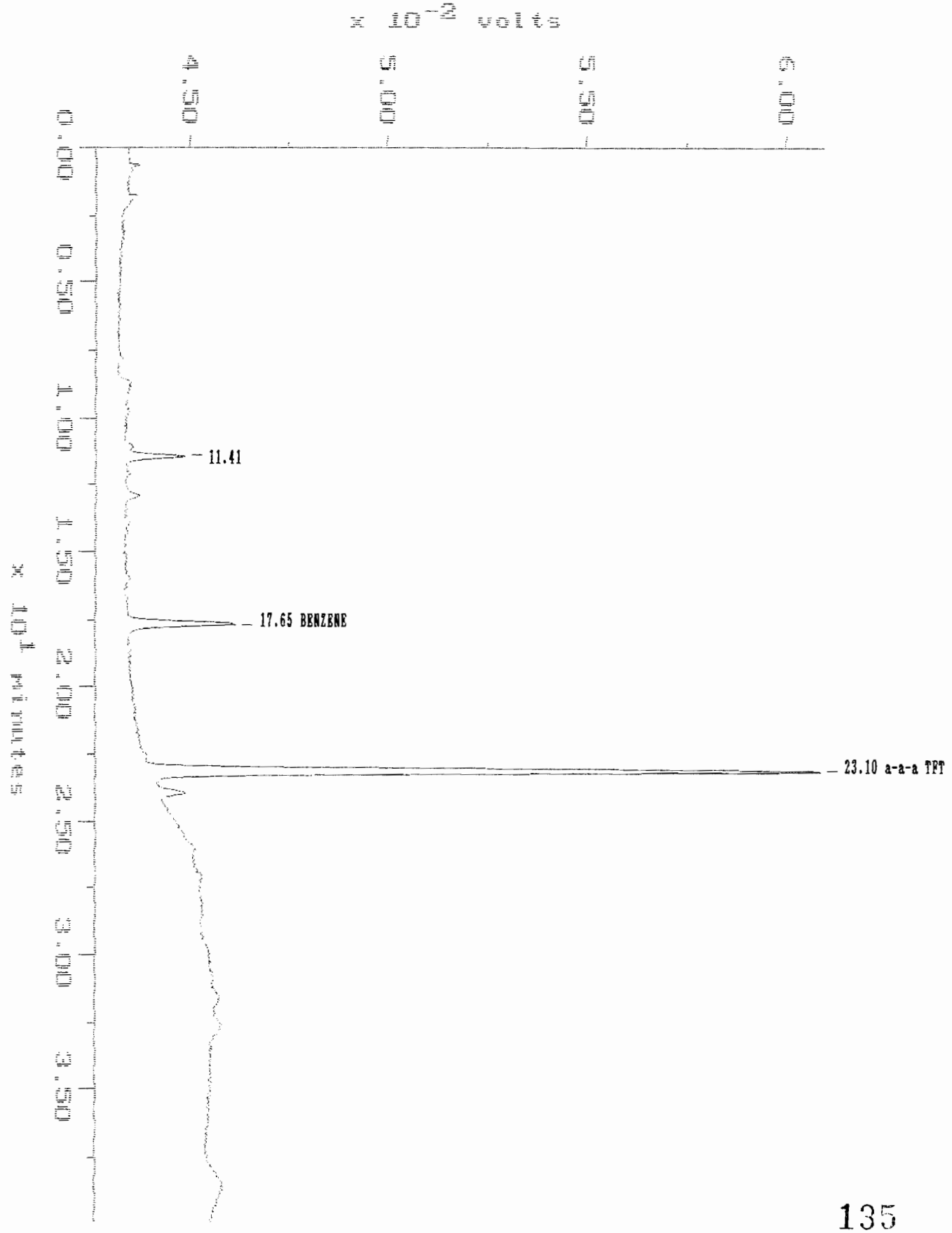
Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062503
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	a-a-a TFT	23.113	184261	13947	32.11
2	TOLUENE	23.908	10645	831	0.15!!
3	meta-XYLENE	31.642	43373	1410	2.43!!
4	o,p-XYLENE	32.667	46003	1354	3.39!!
5	1,4-DICHLOROBEN	38.417	80751	1981	5.64
TOTAL			365034	19524	43.73!!

!! Result calculation based on peak response more than 10% outside of calibration range.

Sample: 9306187-5 1G **Channel:** PID **Filename:** BX062310
Acquired: 23-JUN-93 16:28 **Method:** C:\MAX\DATA1\BX06-23 **Operator:** MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 24-JUN-1993 10:35:29

SAMPLE: 9306187-5 1G
#15 in Method: BTX BY EPA METHOD 602
Acquired: 23-JUN-1993 16:28
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062310
Index: Disk

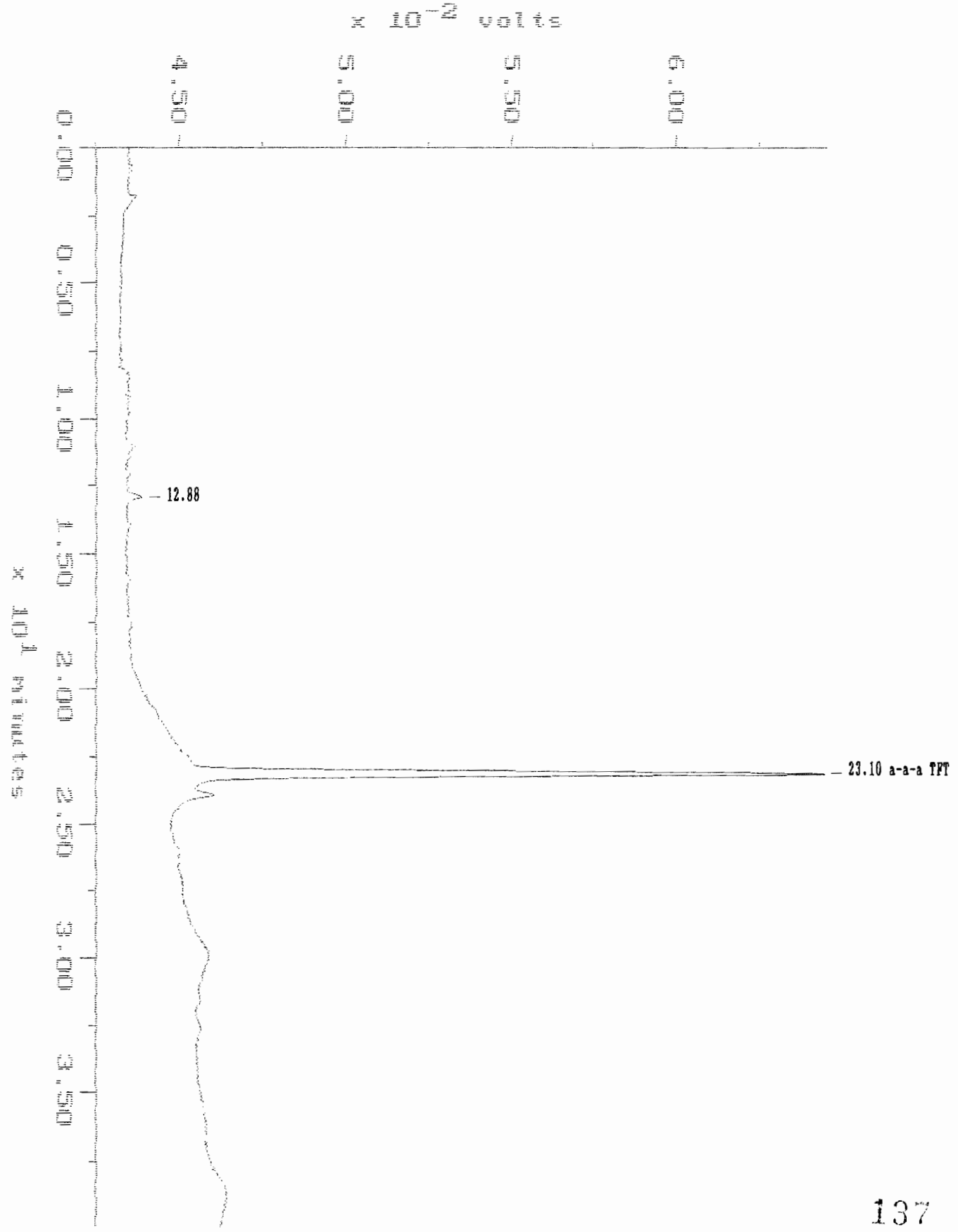
DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1		11.413	-62413	1397	
2	BENZENE	17.650	34808	2632	2.30!!
3	a-a-a TFT	23.100	221627	16729	38.62
TOTAL			318849	20759	40.93!!

!! Result calculation based on peak response more than 10% outside of calibration range.

54.2%

Sample: 9306187-6 1G **Channel:** PID **Filename:** BX062306
Acquired: 23-JUN-93 14:54 **Method:** C:\MAX\DATA1\BX06-23 **Operator:** MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 24-JUN-1993 10:32:00

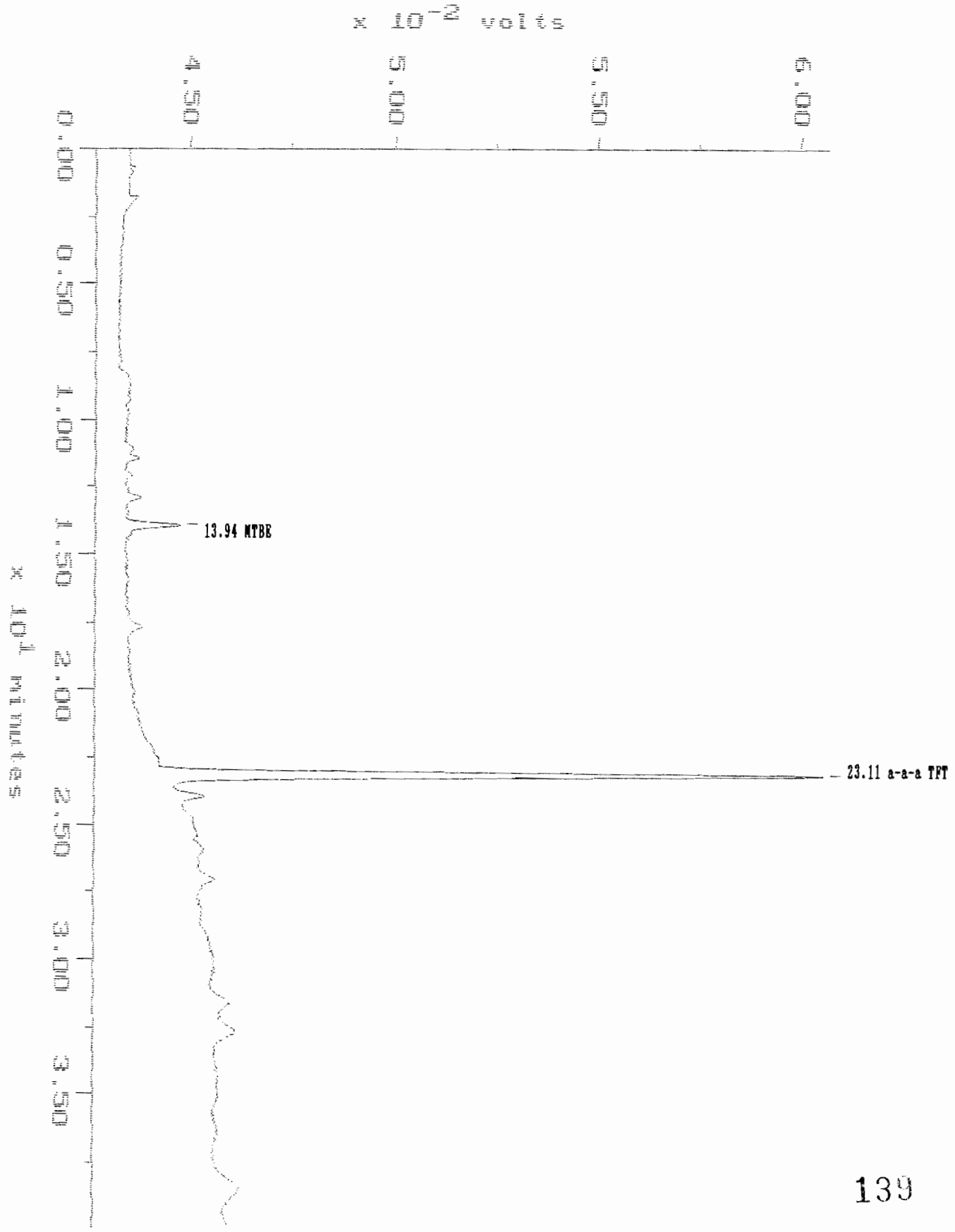
SAMPLE: 9306187-6 1G
#13 in Method: BTX BY EPA METHOD 602
Acquired: 23-JUN-1993 14:54
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062308
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1		12.883	-102962	297	
2	a-a-a TFT	23.104	253584	18880	44.19
TOTAL			356547	19177	44.19

Sample: 9306187-7 1G Channel: PID Filename: BX062309
Acquired: 23-JUN-93 15:41 Method: C:\MAX\DATA1\BX06-23 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 24-JUN-1993 10:33:33

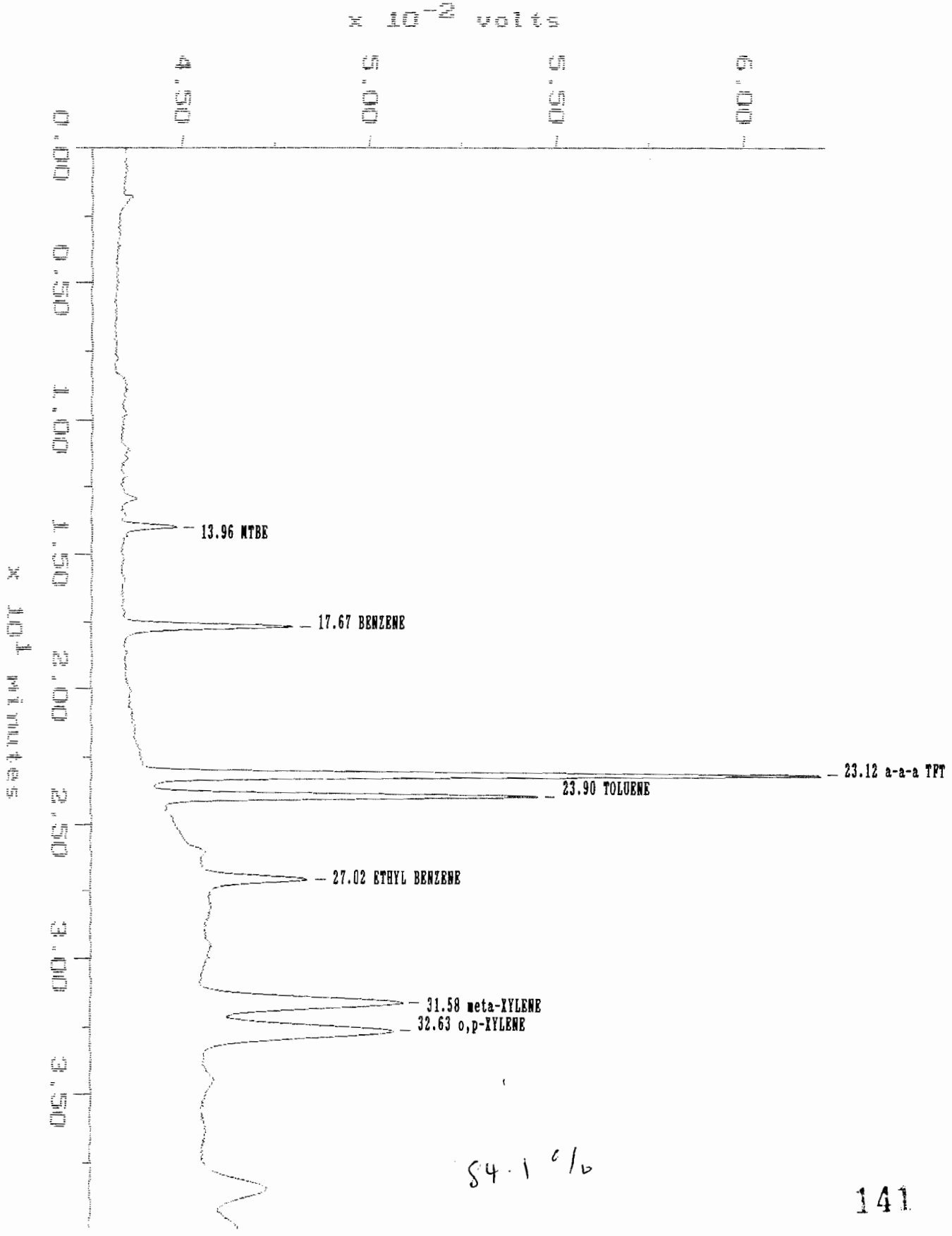
SAMPLE: 9306187-7 1G
#14 in Method: BTX BY EPA METHOD 602
Acquired: 23-JUN-1993 15:41
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062309
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.938	-91218	1183	Invalid
2	a-a-a TFT	23.108	216290	16092	37.69
TOTAL			297508	17275	37.69

Sample: 9306187-8 .5G Channel: PID Filename: BX062311
Acquired: 23-JUN-93 17:15 Method: C:\MAX\DATA1\BX06-23 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



54.1 c/b

MAXIMA 820 CUSTOM REPORT

Printed: 24-JUN-1993 10:38:42

SAMPLE: 9306187-8 .5G
#16 in Method: BTX BY EPA METHOD 602
Acquired: 23-JUN-1993 17:15
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062311
Index: Disk

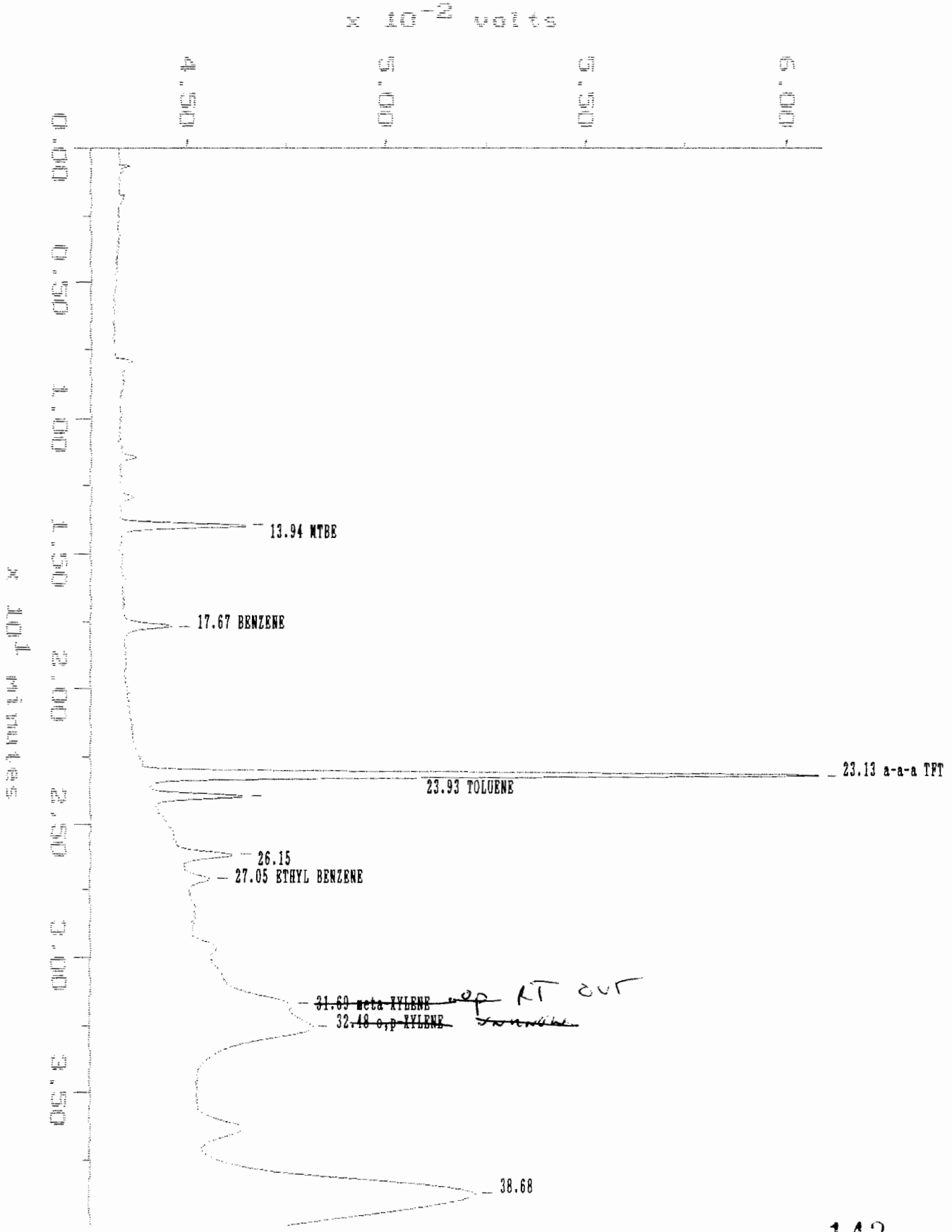
DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.963	16212	1377	2.98!!
2	BENZENE	17.667	59996	4412	3.36
3	a-a-a TFT	23.117	237530	17918	41.39
4	TOLUENE	23.904	137944	10100	6.00
5	ETHYL BENZENE	27.017	48754	2651	2.84!!
6	meta-XYLENE	31.575	163460	5356	8.16
7	o,p-XYLENE	32.633	165950	4986	9.34
TOTAL			829846	46801	74.08!!

!! Result calculation based on peak response more than 10% outside of calibration range.

84.1 %

Sample: 9306187-9 1G Channel: PID Filename: BX062404
Acquired: 24-JUN-93 12:34 Method: C:\MAX\DATA1\BX06-24 Operator: MP
Comments: PURGABLE AROMATICS, COL:5%SP1200 & 1.75%BENTONE 34 ON SUPELCOPORT,6FT



MAXIMA 820 CUSTOM REPORT

Printed: 29-JUN-1993 15:24:43

SAMPLE: 9306187-9 1G
#9 in Method: BTX BY EPA METHOD 602
Acquired: 24-JUN-1993 12:34
Rate: 4.0 points/sec
Duration: 39.871 minutes
Operator: MP

Type: UNKN
Instrument: INSTRUMENT 1
Filename: BX062404
Index: 4

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.942	37999	3060	5.82!! N.T.
2	BENZENE	17.667	14057	1075	1.43!!
3	a-a-a TFT	23.133	222407	16769	38.76
4	TOLUENE	23.929	30624	2235	1.07!!
5		26.146	23857	1303	
6	ETHYL BENZENE	27.050	12105	589	0.90!!
7	meta-XYLENE	31.692	111062	2087	~~5.66~~
8	o,p-XYLENE	32.483	165685	2693	~~8.33~~ NT out
9		38.683	539722	6393	
TOTAL			1148518	36295	62.97!!

!! Result calculation based on peak response more than 10% outside of calibration range.

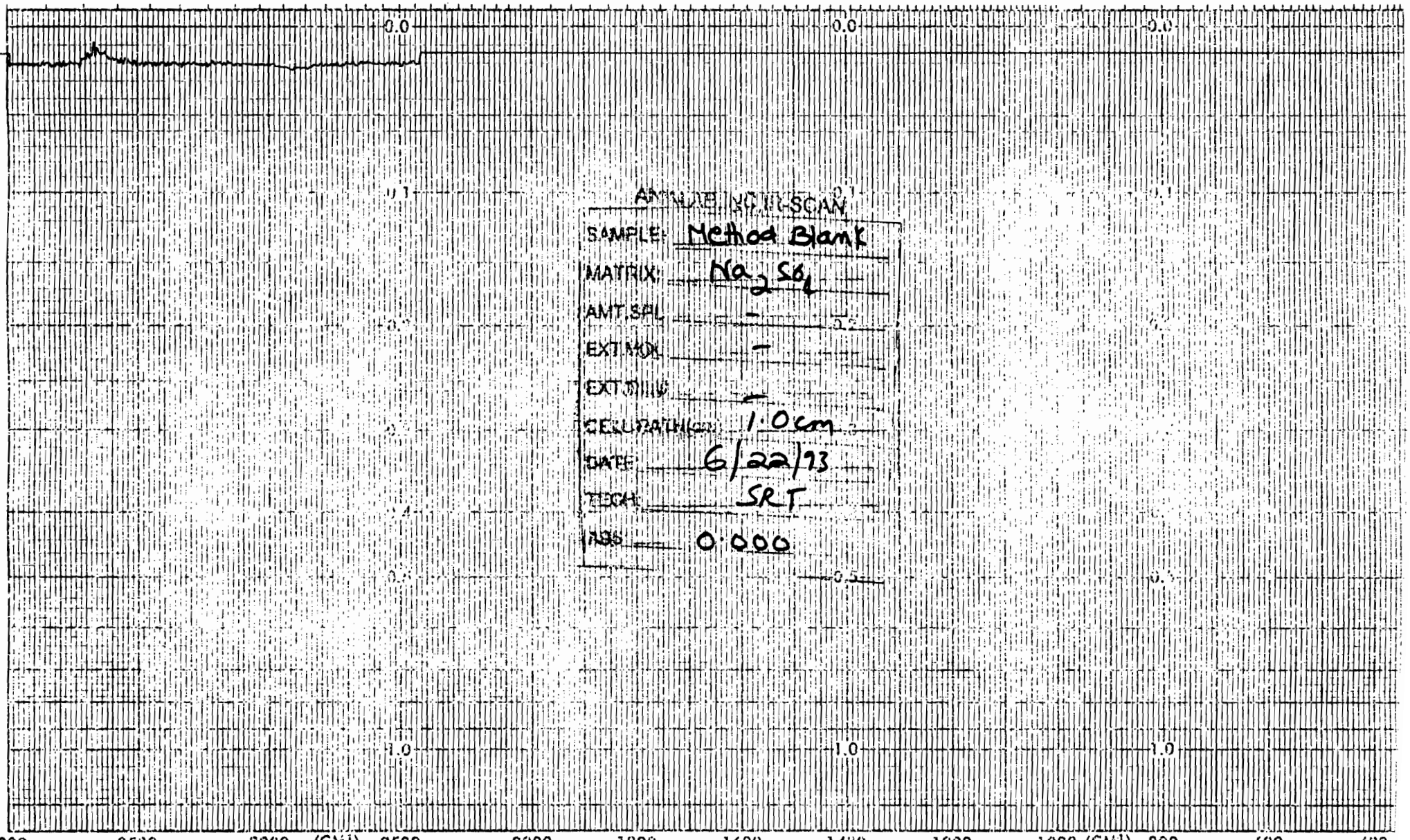
ANA INC, 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

RAW DATA

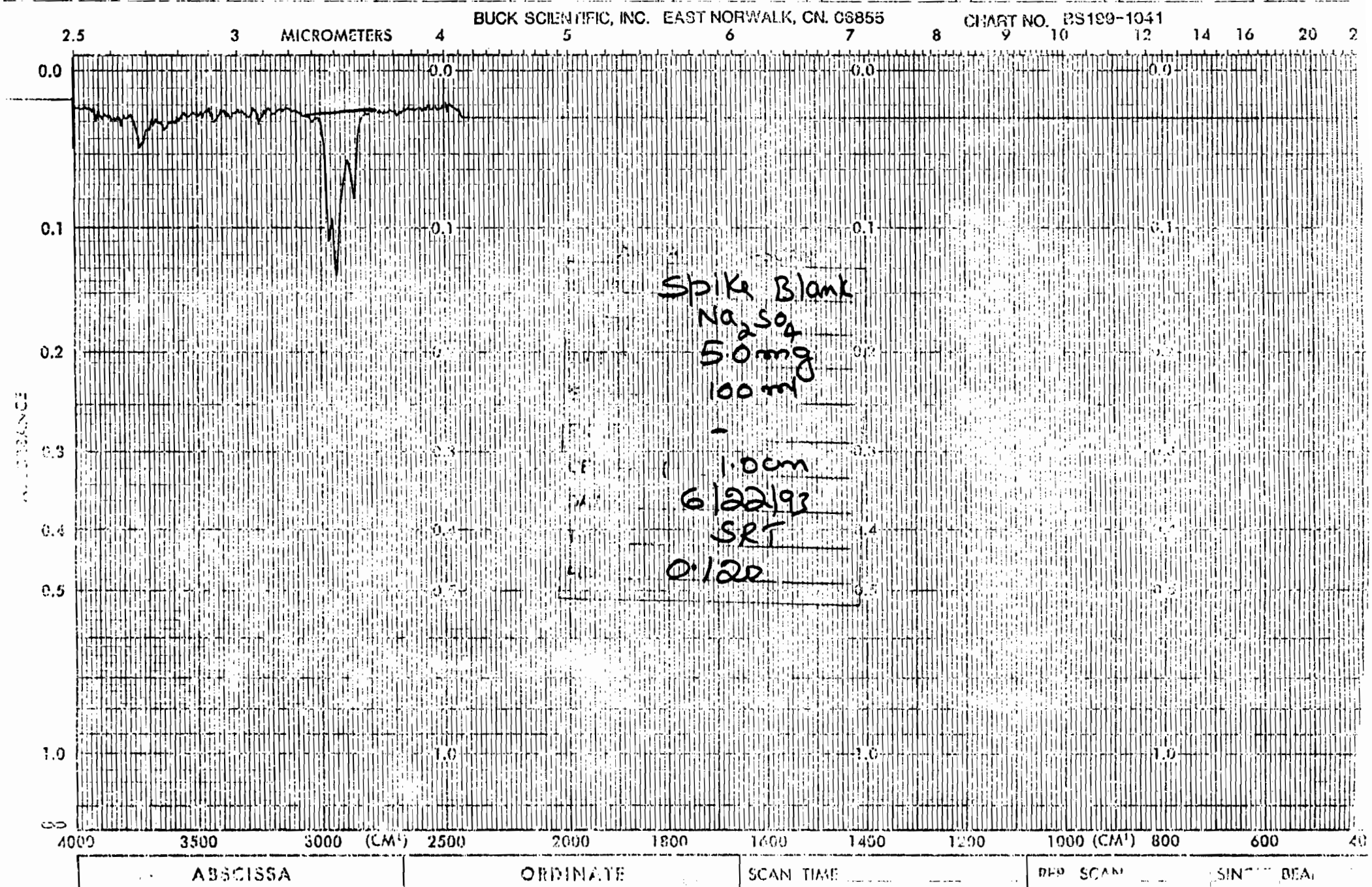
WET CHEMISTRY TOTAL PETROLEUM HYDROCARBONS - IR

146

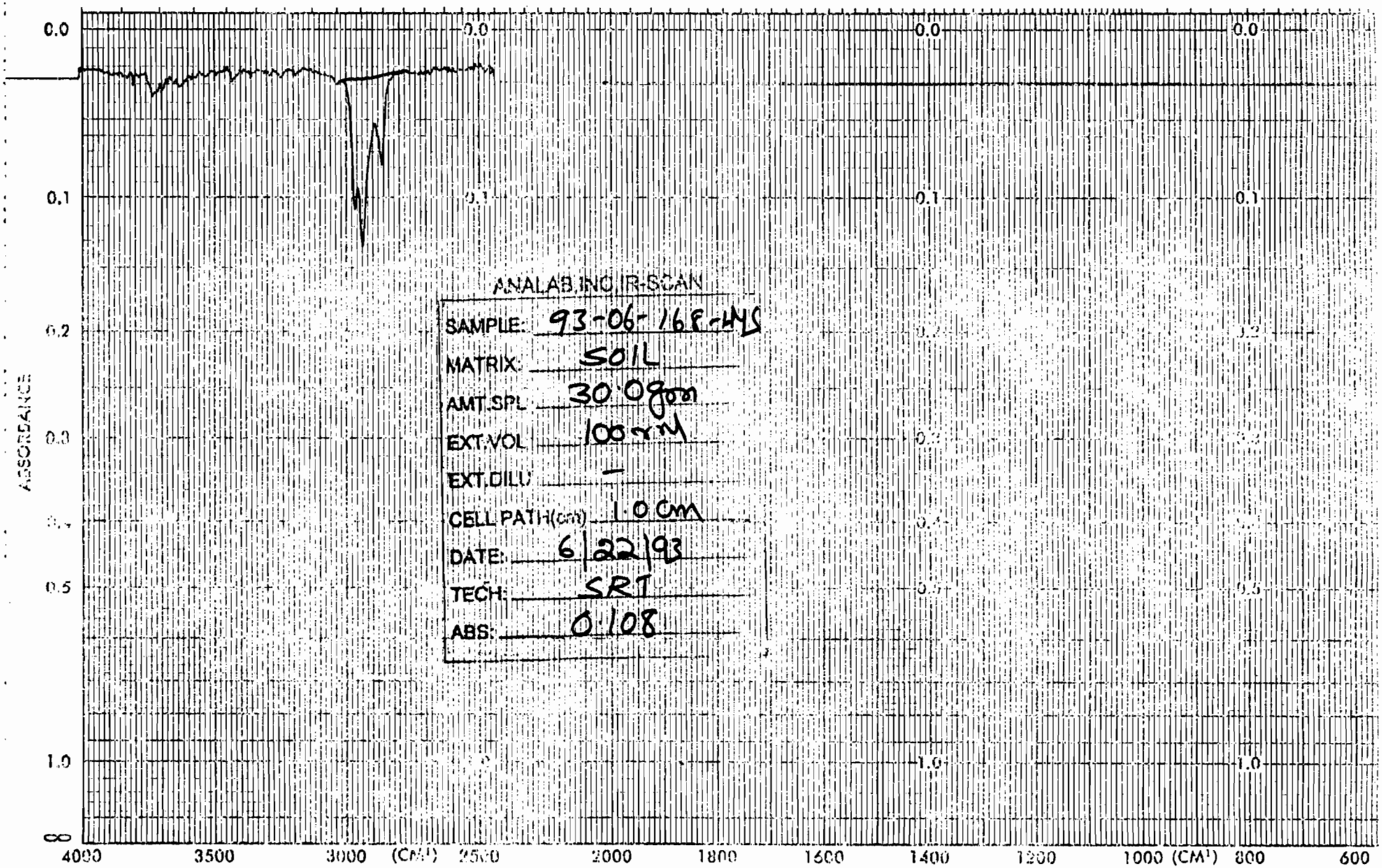
BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855 CHART NO. BS199-1041



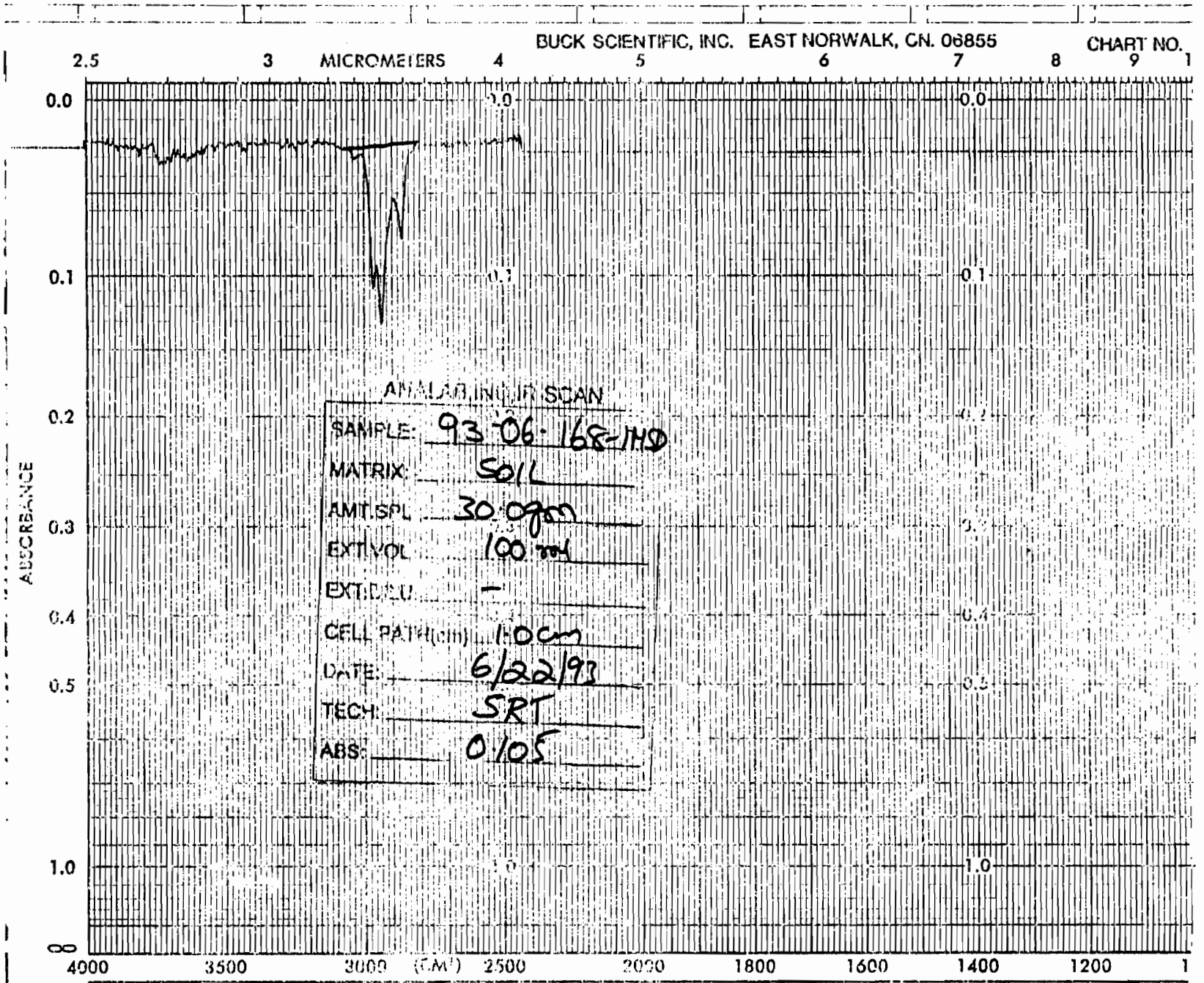
ABSCISSA	ORDINATE	SCAN TIME	REP. SCAN _____ SINGLE BEAM _____
F			TIME DRIVE

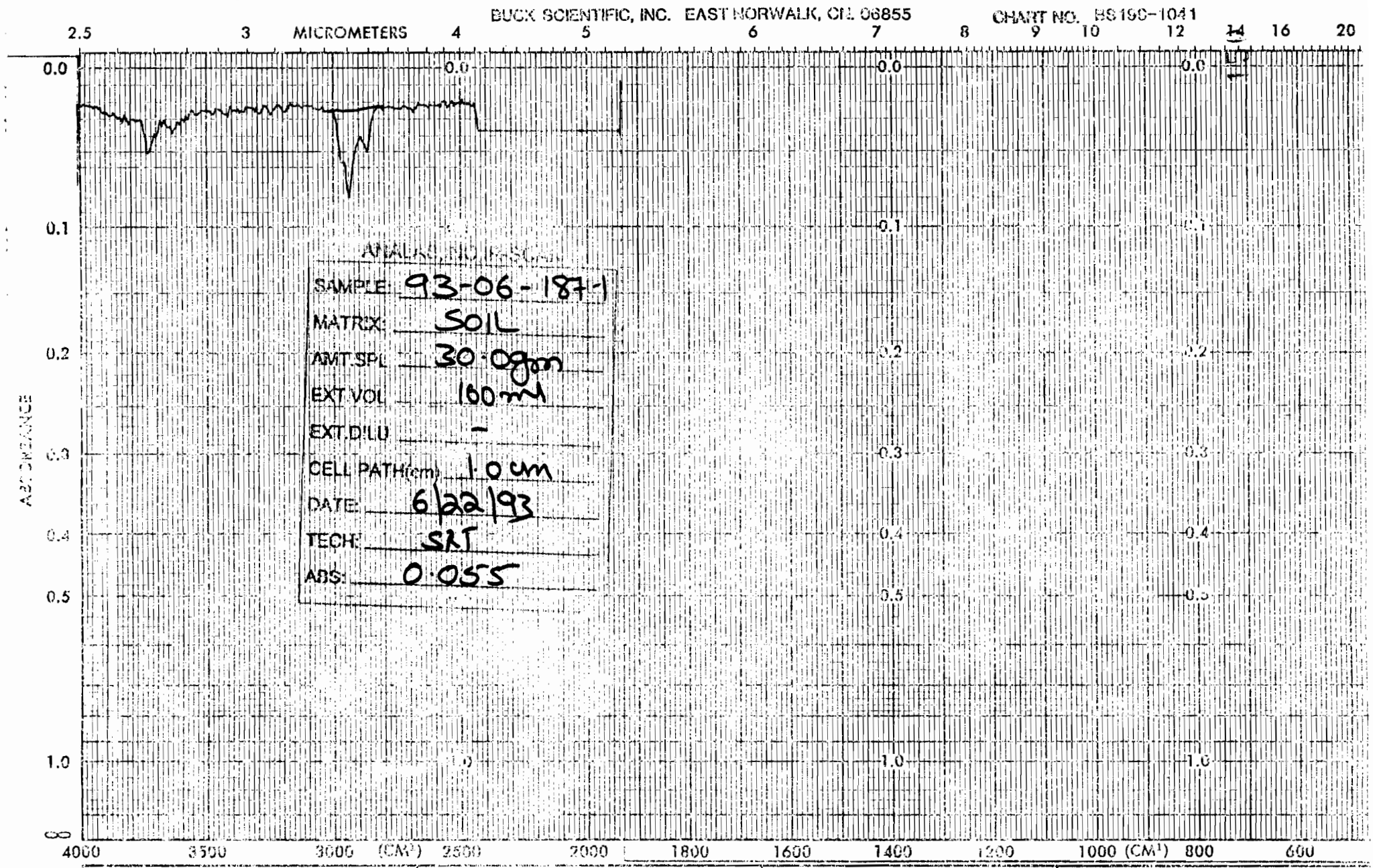

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5
3
MICROMETERS
4
5
6
7
8
9
10
12
14
16
20
0.0
0.1
0.2
0.3
0.4
0.5
1.0
Spike Blank
Na_2SO_4
5.0 mg
100 ml
1.0 cm
6/22/93
SRT
0.12e
4000
3500
3000
(CM⁻¹)
2500
2000
1800
1600
1450
1200
1000 (CM⁻¹)
800
600
ABSCISSA
ORDINATE
SCAN TIME

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855 CHART NO. BS199-1041



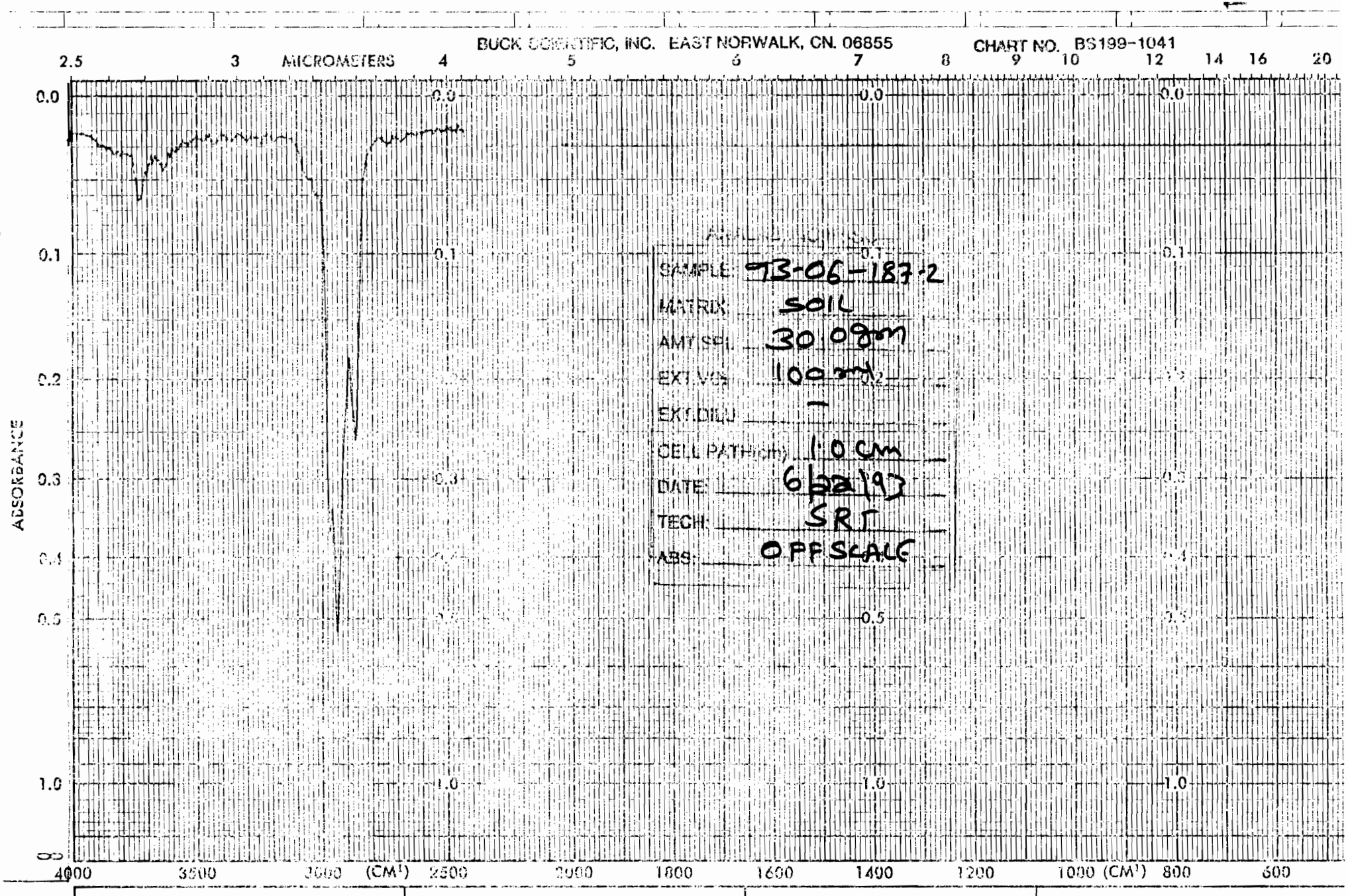
ABSCISSA	ORDINATE	SCAN TIME	REP. SCAN _____SINGLE B
EXPANSION	EXPANSION	MULTIPLIER	TIME DRIVE


BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO.
2.5
3
MICROMETERS
4
5
6
7
8
9
0.0
0.1
0.2
0.3
0.4
0.5
1.0
ABSORBANCE
4000
3500
3000
2500
2000
1800
1600
1400
1200
ANALYSIS IR SCAN
SAMPLE: 93-06-168-IHD
MATRIX: SOIL
AMT.SPL: 30.0gm
EXT.VOL: 100 ml
EXT.DIL: -
CELL PATH(cm): 10cm
DATE: 6/22/93
TECH: SRT
ABS: 0.105
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
% T
ABS
SCAN TIME
MULTIPLIER
SLIT PROGRAM
SAMPLE
ORIGIN
REMARKS
SOLVENT
CONCENTRATION

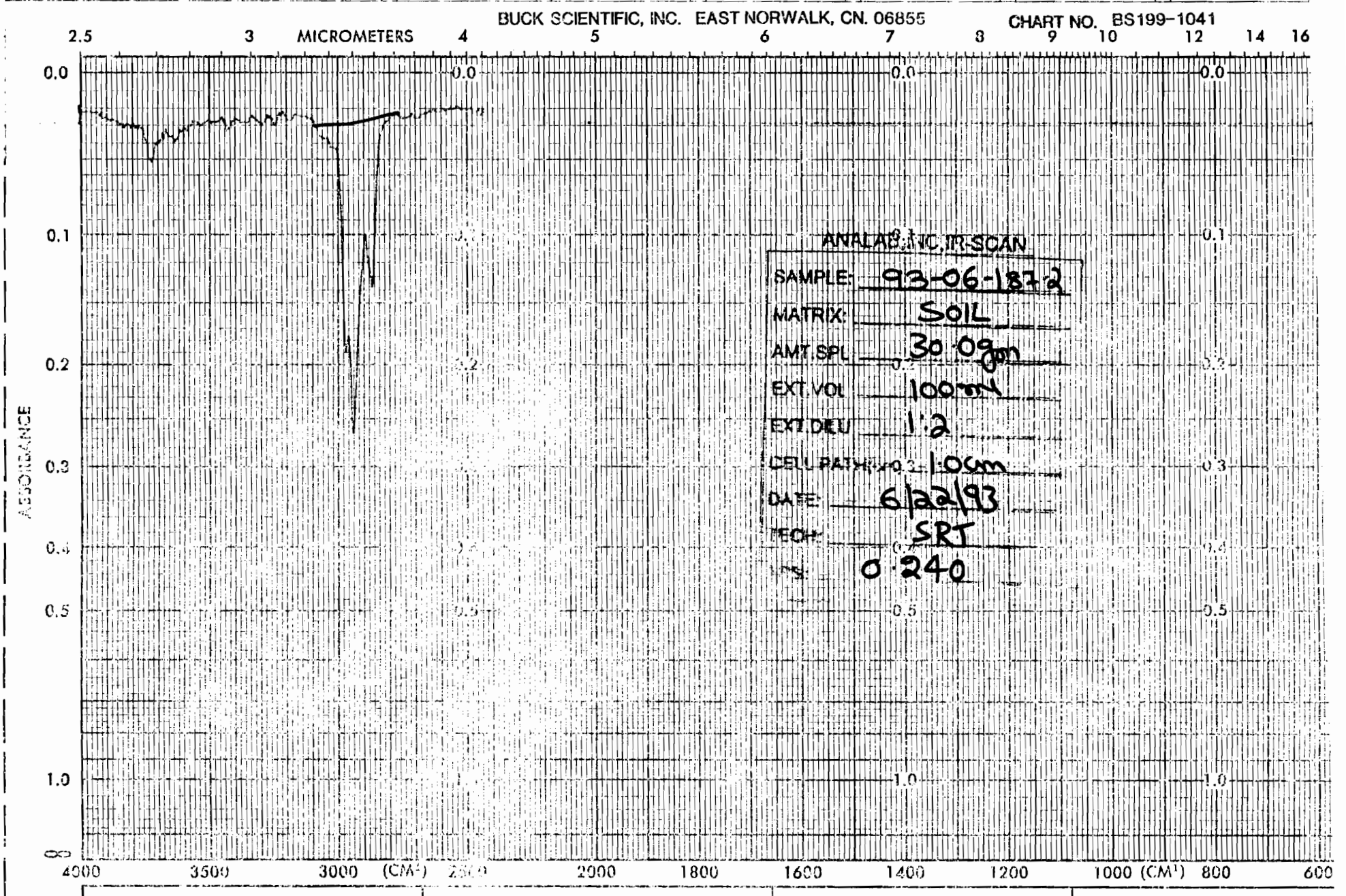


ABSCISSA	ORDINATE		
EXPANSION	EXPANSION	SCAN TIME	REP. SCAN SINGLE BEAM
	% T ABS	MULTIPLIER	TIME DRIVE
		SLIT PROGRAM	OPERATOR

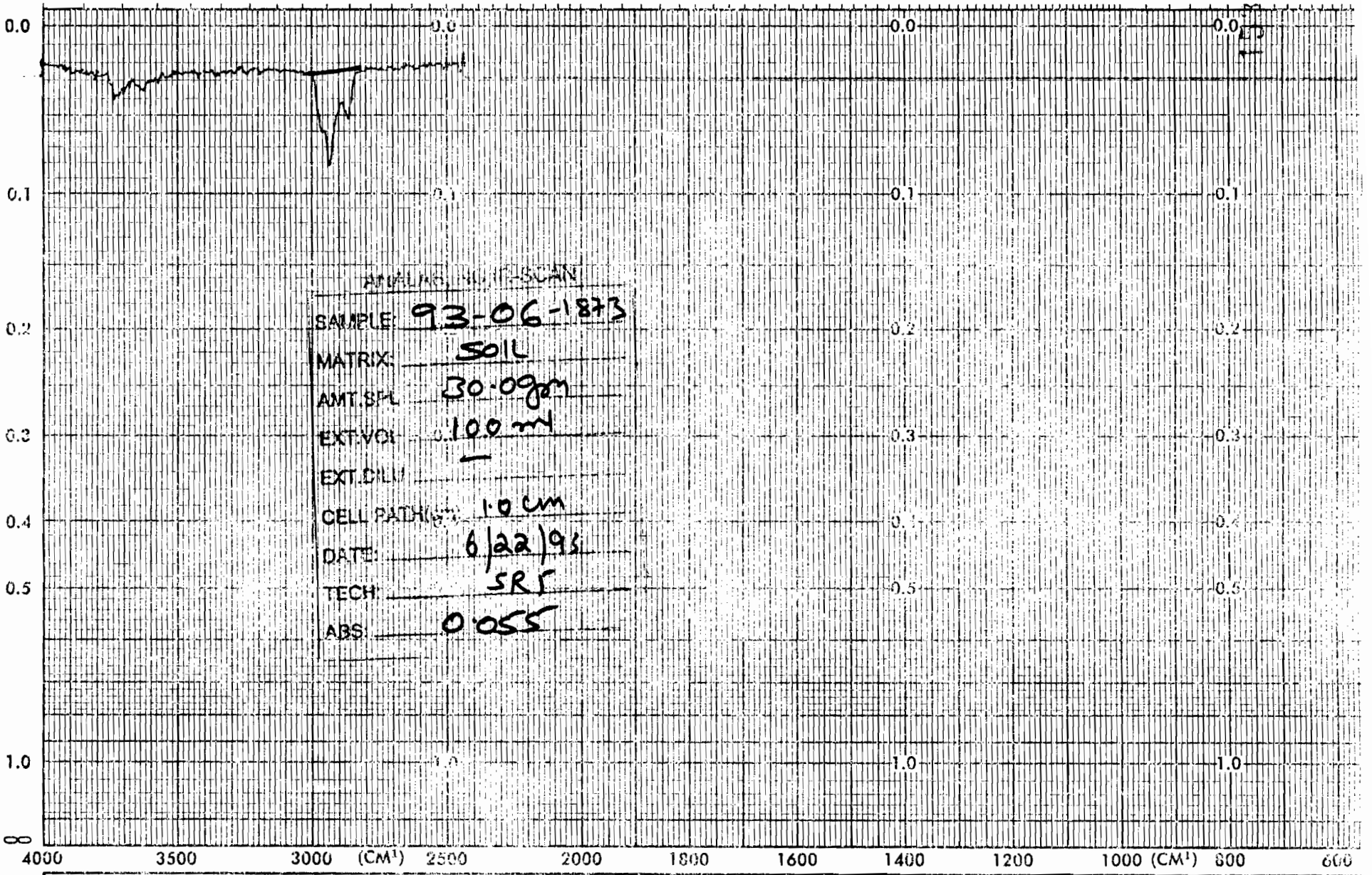
SAMPLE	REMARKS	SOLVENT	CELL PATH
ORIGIN		CONCENTRATION	REFERENCE



ABSCISSA	ORDINATE	SCAN TIME	REP. SCAN _____ SINGLE BEAM
EXPANSION	EXPANSION	ATTENUATOR	TIME SPAN

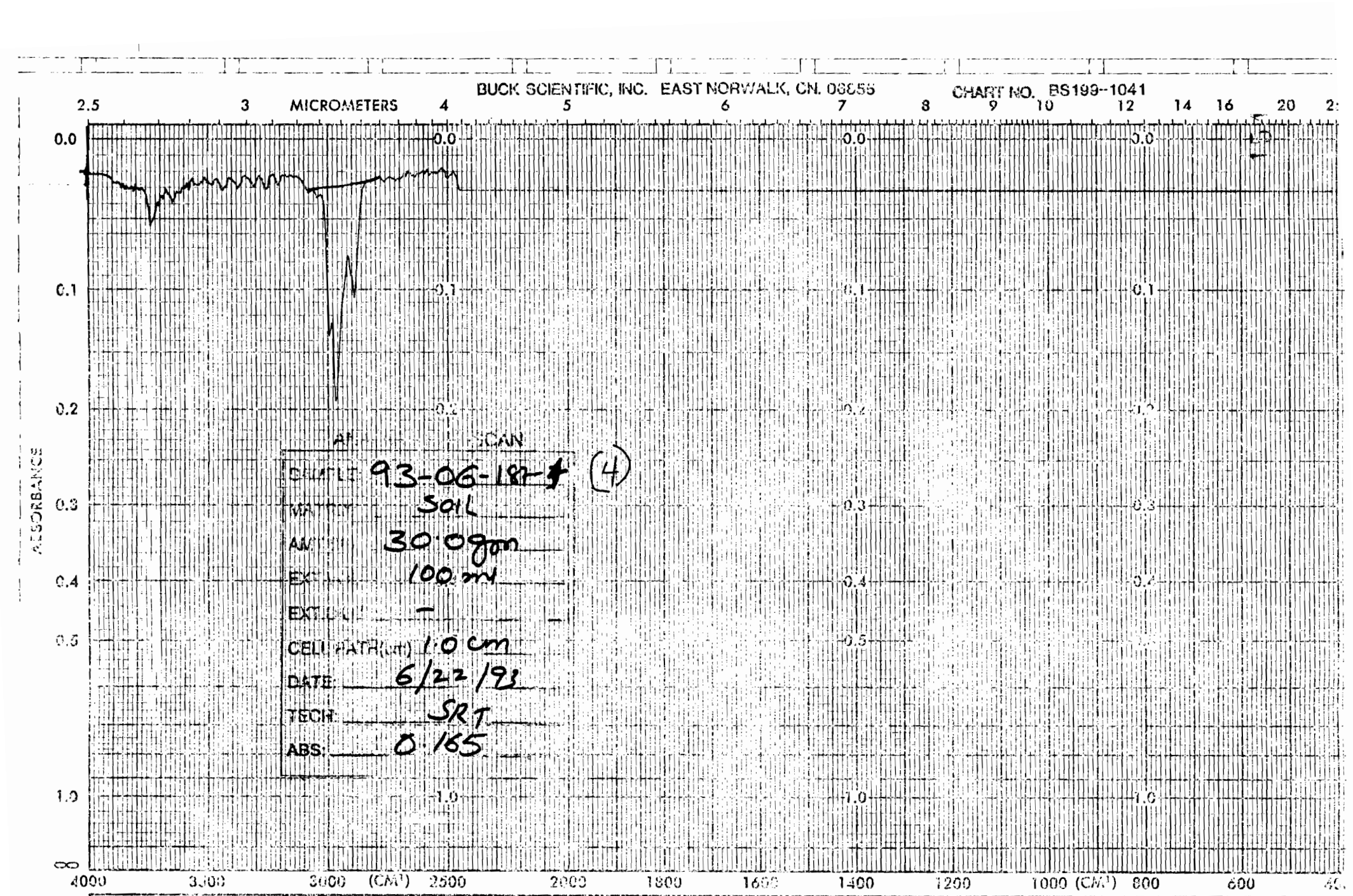

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5 3 MICROMETERS 4 5 6 7 8 9 10 12 14 16
0.0 0.1 0.2 0.3 0.4 0.5 1.0 ∞
ABSORBANCE
4000 3500 3000 (CM-1) 2000 1800 1600 1400 1200 1000 (CM-1) 800 600
ANALAB, INC. IR-SCAN
SAMPLE: 93-06-187-2
MATRIX: SOIL
AMT. SPL 30.09gm
EXT. VOL 100ml
EXT. DILU 1:2
CELL PATH (x0.3) 1.0cm
DATE: 6/22/93
TECH: SRT
0.240
ABSCISSA
ORDINATE
SCAN TIME
REP. SCAN SINGLE

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855 CHART NO. BS199-1041

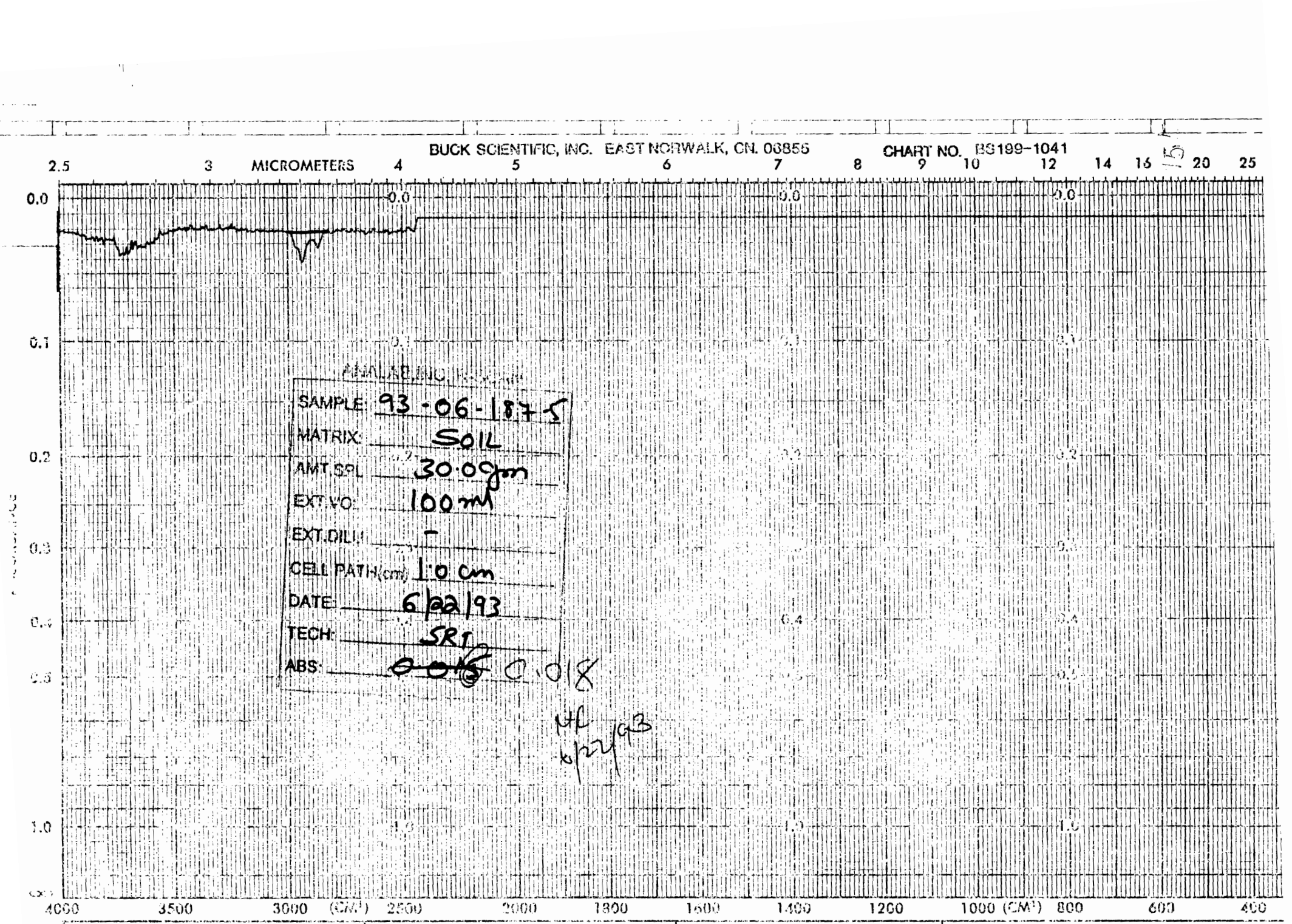


ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

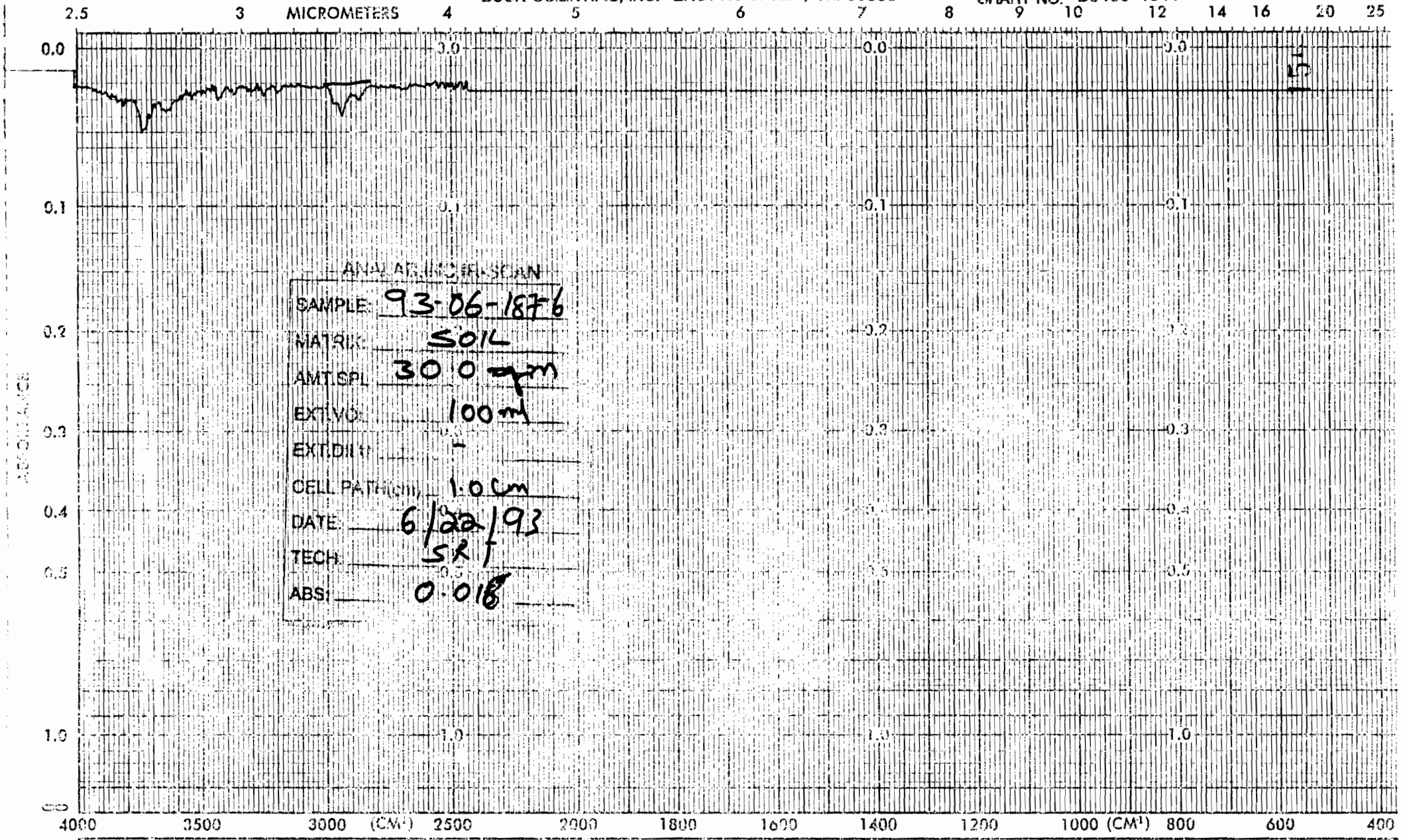
SAMPLE _____	REMARKS _____	SOLVENT _____	CELL PATH _____
ORIGIN _____		CONCENTRATION _____	REFERENCE _____



ABSCISSA	ORDINATE	SCAN TIME	REP. SCAN _____ SINGLE BEAM _____
EXPANSION _____	EXPANSION _____	MULTIPLIER _____	TIME DRIVE _____
	% T _____ ABS _____	SLIT PROGRAM _____	OPERATOR _____ DATE
SAMPLE _____	REMARKS _____	SOLVENT _____	CELL PATH _____
ORIGIN _____		CONCENTRATION _____	REFERENCE _____

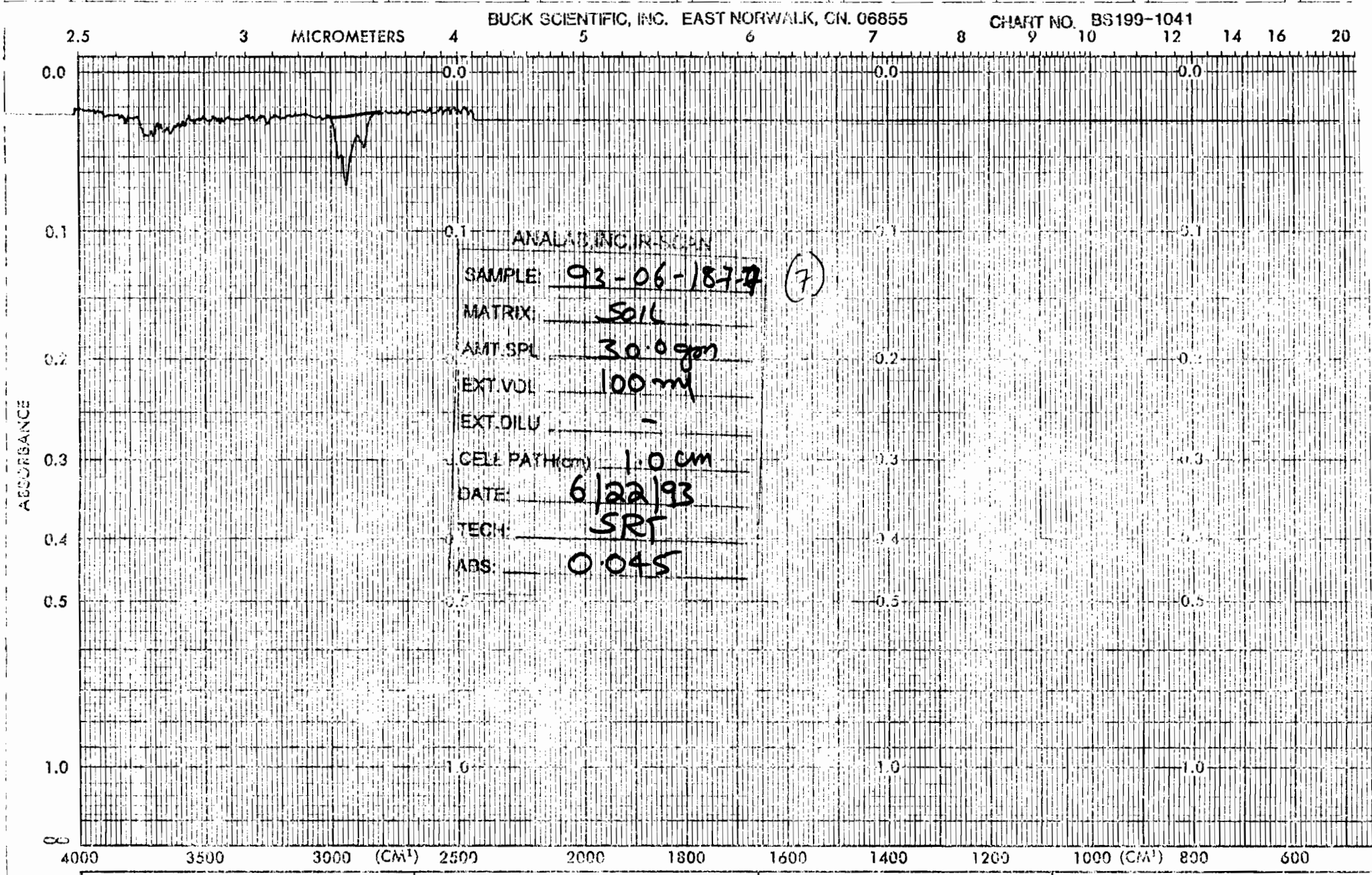

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
MICROMETERS
2.5
3
4
5
6
7
8
9
10
12
14
16
20
25
0.0
0.1
0.2
0.3
0.4
0.5
1.0
4000
3500
3000 (CM⁻¹)
2500
2000
1800
1600
1400
1200
1000 (CM⁻¹)
800
600
400
SAMPLE: 93-06-1875
MATRIX: SOIL
AMT.SPL: 30.00gm
EXT.VO: 100ml
EXT.DIL: -
CELL PATH(cm): 1.0 cm
DATE: 6/22/93
TECH: SRT
ABS: 0.018
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
% T
ABS
SCAN TIME
MULTIPLIER
SLIT PROGRAM
REP. SCAN
SINGLE BEAM
TIME DRIVE
OPERATOR
DATE

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855 CHART NO. BS199-1041



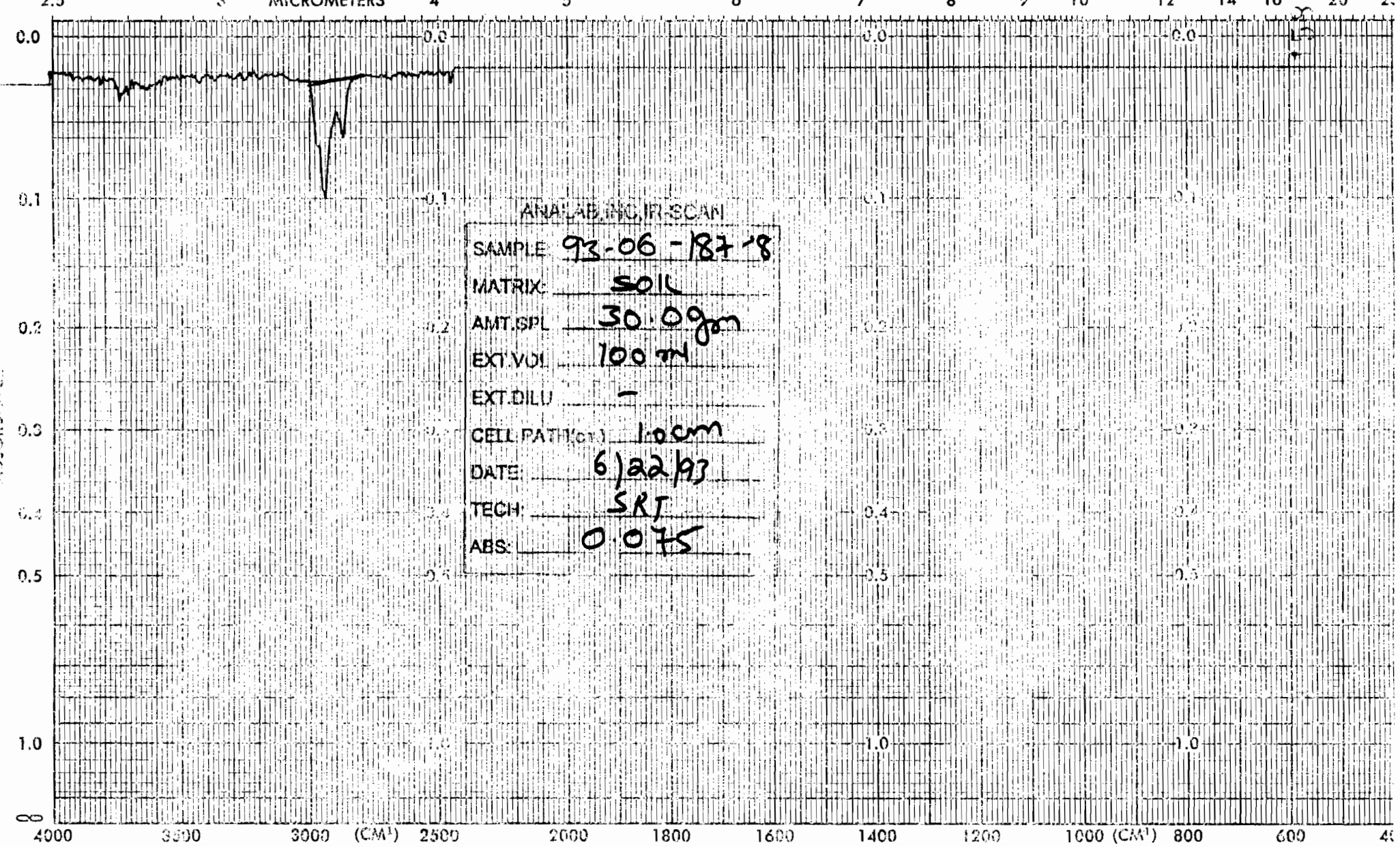
ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE BEAM _____
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____ DATE

SAMPLE _____	REMARKS _____	SOLVENT _____	CELL PATH _____
ORIGIN _____		CONCENTRATION _____	REFERENCE _____



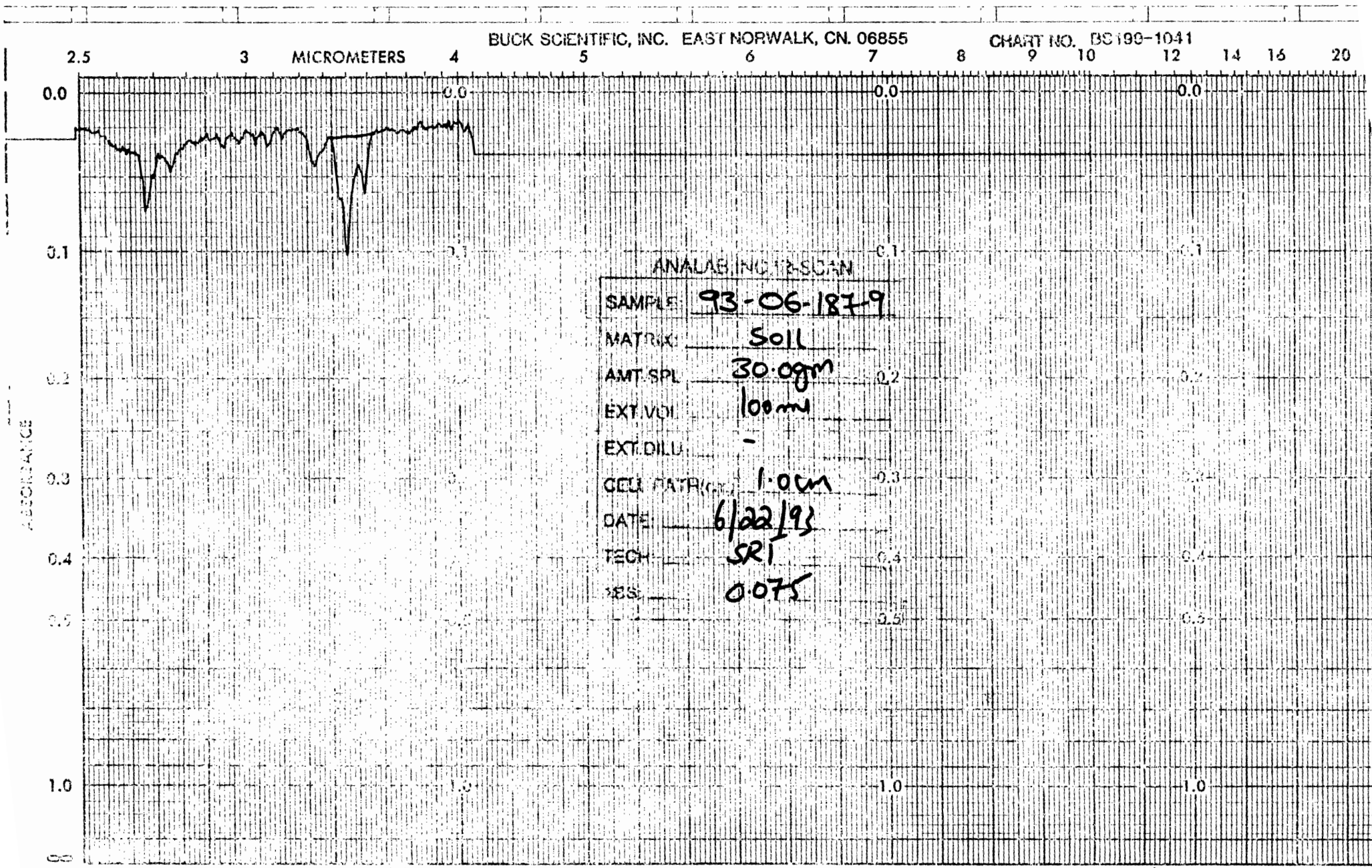
ABSCISSA	ORDINATE	SCAN TIME	REP. SCAN	SINGLE BEAM
EXPANSION	EXPANSION	MULTIPLIER	TIME DRIVE	
			OPERATOR	DA

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855 CHART NO. BS199-1041



ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE BEAM _____
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____ DAT

SAMPLE _____	REMARKS _____	SOLVENT _____	CELL PATH _____
ORIGIN _____		CONCENTRATION _____	REFERENCE _____


BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5 3 MICROMETERS 4 5 6 7 8 9 10 12 14 16 20
0.0
0.1
0.2
0.3
0.4
0.5
1.0
ABSORBANCE
ANALAB INC IR-SCAN
SAMPLE: 93-06-187-9
MATRIX: Soil
AMT SPL: 30.09gm
EXT VOL: 100 ml
EXT DILU: -
CELL PATH(cm): 1.0cm
DATE: 6/22/93
TECH: SRI
RES: 0.075

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JULY 10, 1993

GES, INC.
1340 Campus Parkway
Wall, NJ 07719
Attn: Lynn Reilly

Analytical Report: 93-06-0234 Project: MERIT/GREENPOINT
GES# 0150-0060

This report covers the analyses of three (3) samples submitted to Analab on June 16, 1993. The following analyses were requested:

BTEX - GC (3)
TOTAL PETROLEUM HYDROCARBONS (3)

Respectfully submitted,

Robert F. Hulit
Manager of Laboratory Services

RH/

ANALab INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837. Tel (908) 225-4111. Fax (908) 225-4110

LABORATORY DELIVERABLES CHECKLIST

93-06-0234

THIS FORM HAS BEEN COMPLETED BY THE LABORATORY AND IS AVAILABLE TO THE ENVIRONMENTAL CONSULTANT TO ACCOMPANY ALL DATA SUBMISSIONS

The following laboratory deliverables are included in this Analytical Report. Any deviations from the accepted methodology and procedures, or performance values outside acceptable ranges are summarized in the Non-Conformance Summary.

I.	Report Cover Page, Laboratory Certification and Field Sample to Lab Sample ID Cross Reference	✓
II.	Table of Contents	✓
III.	Chain of Custody Documents	✓
IV.	Methodology Summaries	✓
V.	Laboratory Chronicle and Hold Time Checks	✓
VI.	Non-Conformance Summary	✓
VII.	Tabulated Analytical Results	✓
VIII.	Initial and Continuing Calibration Information	✓
IX.	Tune and Internal Standard Area Summaries (GC/MS)	NA
X.	Quality Control Summary Reports	✓
XI.	Surrogate Recovery Summary	✓
XII.	Raw Data Chromatograms, Blank, QCs and Samples	✓
XIII.	Subsidiary Information (Subcontract if applicable)	NA

Yhmg
Laboratory Manager or QA/QC Coordinator

7/12/93
Date

A:\QCCLST
1/93

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ANALYTICAL DATA REPORT PACKAGE

FOR

GROUNDWATER ENVIRONMENTAL SERI
WALL, NJ 07719

Client Project:MERIT GREENPOINT

Project:0150-0060

Sample(s) Received Date:06/16/93

LABORATORY SAMPLE ID	SAMPLE DESCRIPTION/LOCATION	SAMPLE DATE/TIME
93-06-0234-001	WASTE WATER 1	6/15/93 ; 1040
93-06-0234-002	WASTE WATER 2	6/15/93 ; 1045
93-06-0234-003	WASTE WATER 3	6/15/93 ; 1050

LABORATORY NAME: ANALAB, INC.

LABORATORY ID: 12531

NJDEP ID:12531 MADEQE ID: NJ302 VADGS ID: 00007
NYDOH :11104 RIDHHL ID: NJ12531 NHDES ID: 250492-A,B
PADER ID:68-368 CTDHS ID: PH-0649 MDDHMH ID: 186

QUALITY CONTROL COORDINATOR: _____
Edith Inumerable
Yi Zhang

MANAGER OF LABORATORY SERVICES: _____
Robert F. Hulit

COMMENTS:

NA - NOT AVAILABLE FROM CHAIN OF CUSTODY / NOT APPLICABLE

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LABORATORY CHRONICLE

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GC Volatile Organics
WET CHEMISTRY ANALYSIS

GC INITIAL & CONTINUING CALIBRATION REPORTS

GC Volatile Organics

WET CHEMISTRY INITIAL AND CONTINUING CALIBRATION SUMMARY

QUALITY CONTROL SUMMARY REPORTS

GC Volatile Organics QC Summary
Wet Chemistry QC Summary

RAW DATA

GC Volatile Organics
Wet Chemistry TPHC IR-Scans

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CHAIN OF CUSTODY RECORDS

S.S.# GREENPOINT

Engineer Ron Barnes

Analab

CHAIN OF CUSTODY RECORD

Project Manager Tony D.

Case Manager DLG

2

PROJECT NO. 0150-0060

PROJECT NAME Merit GREENPOINT

SAMPLERS: (Signature) [signature]

93-06-234

NO.	DATE	TIME	COMP	GRAB	STATION AND LOCATION	ANALYSIS: TPH (418.1)	ANALYSIS: BTEX (5020)	REMARKS	PRESERVATION
1	6-15-93	1040		X	WASTEWATER I	X	X	1 JARS 4OZ	ICE
2	↓	1045		↓	↓ ↓ II	↓	↓	↓	↓
3	↓	1050		↓	↓ ↓ III	↓	↓	↓	↓

All Samples Received Cool Intact and Properly Preserved

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
[signature]	6/15/93	1700	L. Reilly	L. Reilly	6-16-93	10:55	Mark Kustynowski
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY LABORATORY
				MK GS	6/16/93	1:30	[signature]

REMARKS:

...mal T...round ... 1 D..., 2 Day ...y (...ne) ... We... ...ecove..., ...stem ... Air

GES Groundwater & Environmental Services, Inc.
1340 Campus Parkway
P.O. Box 1750 • Wall, NJ 07719
(908) 9... • FAX (...) 919 ...

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METHOD SUMMARIES

ANALAB INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

METHODOLOGY SUMMARY

PARAMETER	REFERENCES
Percent Solids/ Percent Moisture	Methods for Chemical Analysis of Water and Wastes; USEPA 600/4-79-200, 1983, Method 160.3. Standard Methods for the Examination of Water and Wastewater, 16th ed., pp. 92-94, Method 209A, (1985).
Total Dissolved Solids (TDS)	Methods for Chemical Analysis of Water and Wastes; USEPA 600/4-79-200, 1983, Method 160.1.
Total Suspended Solids (TSS)	Methods for Chemical Analysis of Water and Wastes; USEPA 600/4-79-200, 1983, Method 160.2.
Total Petroleum Hydrocarbons (Spectrophotometric, Infrared)	Methods for Chemical Analysis of Water and Wastes: USEPA 600/4-79-200, 1983, Method 418.1. Standard Methods for the Examination of Water and Wastewater: 16th ed., pp. 501-502, Method 503E, (1985). Test Methods for Evaluating Solid Waste Physical/Chemical Methods: 2nd ed/, Vol. IC, USEPA SW-846, 1986, Method 3540.
Oil and Grease (Spectrophotometric, Infrared)	Methods for Chemical Analysis of Water and Wastes: IC, USEPA 600/4-79-200, 1983, Method 413.1. Standard for Methods for the Examination of Water and Wastewater: 16th ed., pp. 498-500, Method 503B and C, (1985). Test Methods for Evaluating Solid Waste Physical/Chemical Methods: 2nd ed., Vol. IC, USEPA SW-846, 1986, Method 3540.
Oil and Grease (Gravimetric)	Methods for Chemical Analysis of Water and Wastes: USEPA 600/4-79-200, 1983, Method 413.1. Standard Methods for the Examination of Water and Wastewater: 16th ed., pp.496-498, Method 503A and B, (1985).
Corrosivity by pH	Test Method for Evaluating Solid Wastes: Vol. IC, USEPA SW-846, 1986, Method 9040.
Paint Filter Liquids Test	Test Methods for Evaluating Solid Waste: Physical/Chemical Methods; 3rd ed., Vol IC, USEPA SW-846, 1986, Method 9095.
Specific Conductance	Methods for Chemical Analysis of Water and Wastes; USEPA 600/4-79-200, 1983, Method 415.1.
Total Organic Carbon (TOC)	Methods for Chemical Analysis of Water and Wastes; USEPA 600/4-79-200, 1983, Method 415.1

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METHODOLOGY SUMMARY

PARAMETER	REFERENCES
Alumina Column Cleanup and Separation of Petroleum Wastes	Test Methods for Evaluating Solid Wastes: Vol. IB, USEPA SW-846, 1986, Method 3611.
Volatile Organics (GC/MS)	Test Methods for Evaluating Solid Wastes: Vol. IB, USEPA SW-846, 1986, Method 8240. Test Methods for Evaluating Solid Wastes Physical/Chemical Methods: 2nd ed., USEPA SW-846, 1982, Methods 5020 and 5030. Title 40 CFR Part 136 " Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act, Method 624", July 1, 1988. USEPA Contact Laboratory Program (CLP) Statement of Work for Organics Analysis, 9/88.
Semi-Volatile Organics (GC/MS)	Test Methods for Evaluating Solid Wastes Physical/Chemical Methods: 2nd ed., USEPA SW-846, 1982, Method 8270. Test Methods for Evaluating Solid Wastes: Vol. IB, USEPA SW-846, 1986, Method 3550. Title 40 CFR Part 136 " Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act, Method 625", July 1, 1988. USEPA Contact Laboratory Program (CLP) Statement of Work for Organic Analysis, 9/88.
Volatile Aromatics (GC)	Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater: USEPA 600/4-81-057, 1981, Method 503.1. Title 40 CFR Part 136 " Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act, Method 602", July 1, 1988.
TCLP (Toxicity Characteristics Leachate Procedure)	Title 40 CFR Part 261 "Hazardous Waste Management System; Identification and Listing of Hazardous Waste; Toxicity Characteristics Revisions; Final Rule", June 29, 1990.
Percent Solids	Methods for Chemical Analysis of Water and Wastes; USEPA 600/4-79-200, 1983, Method 160.3. Standard Methods for the Examination of Water and Wastewater, 16th ed., pp. 92-94, Method 209A, (1985).

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LABORATORY CHRONICLE

ANA

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LABORATORY CHRONICLE

CLIENT: GES, INC.

REPORT NO.: 93-06-0234

SAMPLING DATE: 6/15/93

DATE RECEIVED BY LABORATORY: 6/16/93

LAB SAMPLE ID	EXTRACTION DATE	CLIENT SAMPLE DESIGNATION	PARAMETER	DATE ANALYZED	ANALYST
93-06-0234-1	NA	WASTE WATER I	BTEX - GC	6/24/93	PK
93-06-0234-2	"	WASTE WATER II	"	"	"
93-06-0234-3	"	WASTE WATER III	"	"	"
93-06-0234-1	NA	WASTE WATER I	TS	6/18/93	MO
93-06-0234-2	"	WASTE WATER II	"	"	"
93-06-0234-3	"	WASTE WATER III	"	"	"
93-06-0234-1	6/21/93	WASTE WATER I	TPHC	6/22/93	MO,ST
93-06-0234-2	"	WASTE WATER II	"	6/23/93	"
93-06-0234-3	"	WASTE WATER III	"	6/23/93	"

FORM 99
RH/lw

ANALab inc. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

SAMPLE MANAGEMENT LABORATORY CHRONICLE

CLIENT NAME: GES NJ
LAB PROJECT ID: 93-06-234
CLIENT PROJECT: Merit Greenpoint
SAMPLE TEMP ON RECEIPT: 3.1 °C
RAS # :
SAMPLE DATE(S): 6/15/93
SAMPLE RECEIVE DATE: 6/17/93
SAMPLE MATRIX: H2O, (SOIL),
PAGE 1 OF 1.

CONDITION OF SAMPLES RECEIVED BY LAB	NA	YES	NO	COMMENTS
Cooler Seal Intact	NA	YES	(NO)	
Samples Received Cool (2-6°C)	NA	(YES)	NO	
Samples Received Intact		(YES)	NO	
Sample Labels Match Chain of Custody		(YES)	NO	
VOAs HCL Preserved as per Label or Custody	(NA)	YES	NO	
VOAs w/out Bubbles, Septa TFE Side Down	(NA)	YES	NO	
Airbill Present, if by Common Carrier.	(NA)	YES	NO	
Traffic Reports Present if applicable	(NA)	YES	NO	
Subcontract Analysis Required (Sub COC)		YES	(NO)	

PRESERVATION CHECKS PERFORMED FOR AQUEOUS SAMPLES NEEDING PH ADJUSTMENT

(N/A) = IF NOT APPLICABLE

LAB SAMPLE	FRACTION	PH MEASURED	OK	COMMENTS BY SM ON RECEIPT

Note: NA = Not Applicable or Not Available from Chain of Custody

George Stephens — Sample Custodian Signature
6/17/93 — Date

A:\smlc

ANA

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CASE NARRATIVE/NONCONFORMANCE SUMMARY

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GC ANALYSIS NON-CONFORMANCE SUMMARY

PROJECT: 93-06-0234

		NO	YES
1.	GC CALIBRATION - Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours before sample analysis.	___	✓
2.	GC CALIBRATION REQUIREMENTS MET Continuing calibration check compounds.	___	✓
3.	BLANK FREE OF CONTAMINATION	___	✓
4.	SURROGATE RECOVERIES MEET CRITERIA	___	✓
5.	ANALYSIS HOLDING TIME MET	___	✓

COMMENT: _____

ADDITIONAL COMMENTS: *Note = The % recovery of Total xylenes for 93-06-0243-1 MSD associated with analysis of 93-06-0234-(1-3) was out of QC limit. The validity of the method performance is based on the Blank Spike.

ANA

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CASE NARRATIVE/NONCONFORMANCE SUMMARY

PROJECT: 93-06-0234

There were no other Nonconformances found.

ANA INC 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

TABULATED ANALYTICAL RESULTS

GC VOLATILE ORGANICS

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ANALYTICAL REPORT

BTEX ANALYSIS BY GC

CLIENT: GROUNDWATER ENVIRONMENTAL SERV. LAB ID: 93-06-0234-001
CLIENT PROJECT: MERIT GREENPOINT ANALYST: PK
REPORT DATE : JUNE 30 1993 ANALYSIS DATE: 06/24/93
PROJECT RECEIPT DATE: 06/16/93 MATRIX:SOIL

CLIENT SAMPLE DESIGNATION: WASTE WATER 1

COMPOUND	RESULT(UG/KG)	MDL(UG/KG)
MTBE	N/A	N/A
BENZENE	<5.0	5.0
TOLUENE	<5.0	5.0
ETHYLBENZENE	<5.0	5.0
TOTAL XYLENES	<5.0	5.0

COMMENTS:

MDL = METHOD DETECTION LIMIT (MDL).
< = LESS THAN
RESULTS ARE REPORTED ON DRY WEIGHT BASIS

BTXMS

ANA INC 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

ANALYTICAL REPORT

BTEX ANALYSIS BY GC

CLIENT: GROUNDWATER ENVIRONMENTAL SERV
CLIENT PROJECT: MERIT GREENPOINT
REPORT DATE : JUNE 30 1993
PROJECT RECEIPT DATE: 06/16/93

LAB ID: J3-06-024-002
ANALYST: TK
ANALYSIS DATE: 06/24/93
MATRIX:SOIL

CLIENT SAMPLE DESIGNATION: WASTE WATER 2

COMPOUND	RESULTS(UG/KG)	MDL(UG/KG)
MTBE	N/A	N/A
BENZENE	<5.0	5.0
TOLUENE	<5.0	5.0
ETHYLBENZENE	<5.0	5.0
TOTAL XYLENES	<5.0	5.0

COMMENTS:

MDL = METHOD DETECTION LIMIT (MDL).
< = LESS THAN
RESULTS ARE REPORTED ON DRY WEIGHT BASIS

BTXMS

ANA INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

ANALYTICAL REPORT

BTEX ANALYSIS BY GC

CLIENT: GROUNDWATER ENVIRONMENTAL SERV
CLIENT PROJECT: MERIT GREENPOINT
REPORT DATE : JUNE 30 1993
PROJECT RECEIPT DATE: 06/16/93

LAB ID: 93-06-0234-003
ANALYST: PK
ANALYSIS DATE: 06/24/93
MATRIX:SOIL

CLIENT SAMPLE DESIGNATION: WASTE WATER 3

COMPOUND	RESULTS(UG/KG)	MDL(UG/KG)
MTBE	N/A	N/A
BENZENE	<5.0	5.0
TOLUENE	<5.0	5.0
ETHYLBENZENE	<5.0	5.0
TOTAL XYLENES	<5.0	5.0

COMMENTS:

MDL = METHOD DETECTION LIMIT (MDL).
< = LESS THAN
RESULTS ARE REPORTED ON DRY WEIGHT BASIS

BTXMS

ANA LABS INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

TABULATED ANALYTICAL RESULTS

WET CHEMISTRY

ANA

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ANALYTICAL REPORT
PERCENT SOLIDS

CLIENT: GROUNDWATER ENVIRONMENTAL SERI
CLIENT PROJECT: MERIT GREENPOINT
REPORT DATE : JUNE 24 1993
PROJECT RECEIPT DATE : 06/16/93

PROJECT: 93-06-0234
ANALYZED BY: MO

CLIENT ID	LAB ID	PERCENT SOLIDS	ANALYSIS DATE
WASTE WATER 1	001	89.1	6/18/93
WASTE WATER 2	002	86.3	6/18/93
WASTE WATER 3	003	85.9	6/18/93

WC115

ANA

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ANALYTICAL REPORT

TOTAL PETROLEUM HYDROCARBONS BY METHOD 418.1

CLIENT: GROUNDWATER ENVIRONMENTAL SERI
CLIENT PROJECT: MERIT GREENPOINT
REPORT DATE : JULY 14 1993
PROJECT RECEIPT DATE : 06/16/93

PROJECT: 93-06-0234
ANALYST: ST

CLIENT ID	LAB ID	RESULTS(mg/kg)	MDL(mg/kg)	ANALYSIS DATE
WASTE WATER 1	001	522	25.0	6/22/93
WASTE WATER 2	002	173	25.0	6/23/93
WASTE WATER 3	003	29.4	25.0	6/23/93

COMMENTS:
MDL = METHOD DETECTION LIMIT.
< = LESS THAN
RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.

WC100B

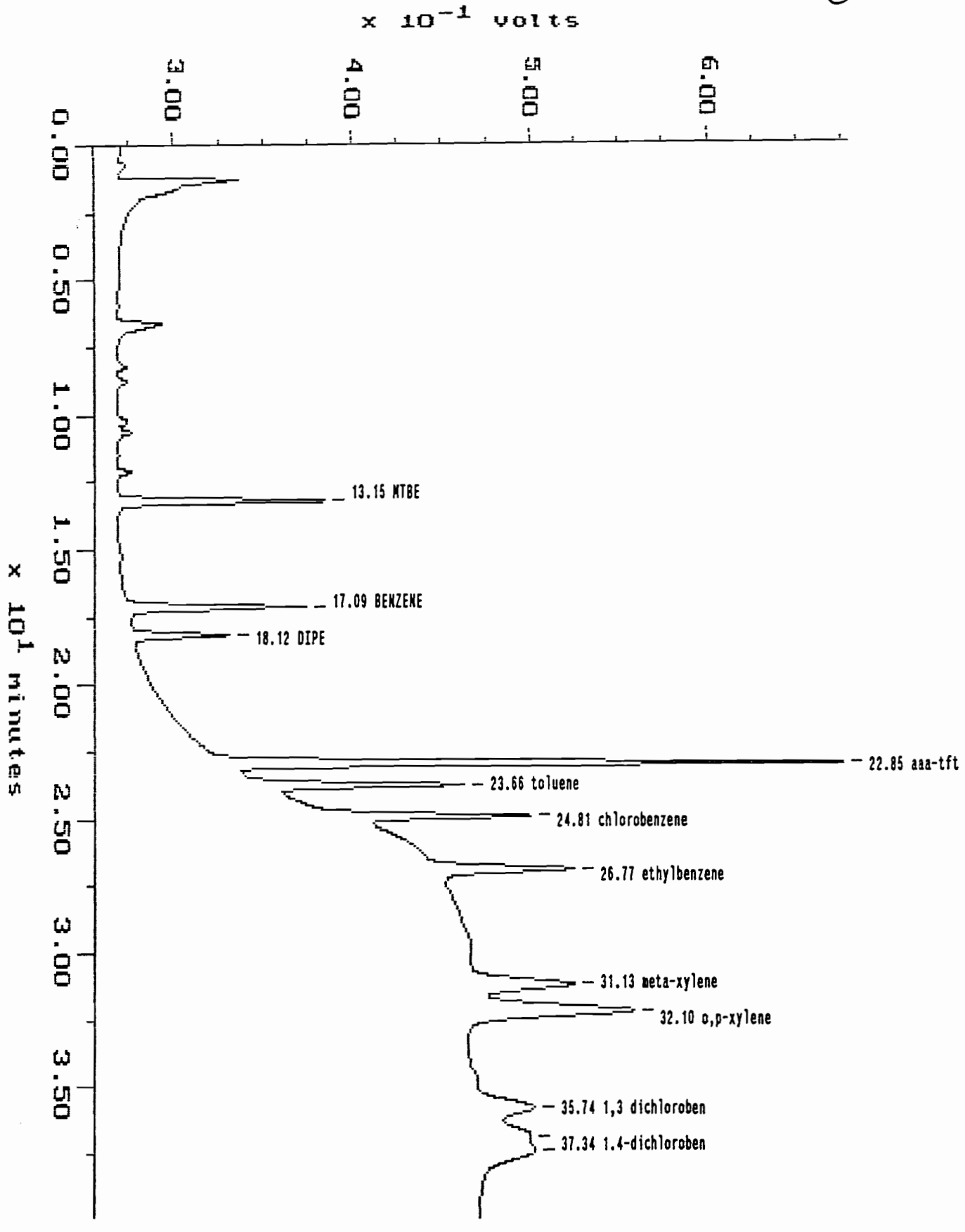
ANA INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

GC INITIAL & CONTINUING CALIBRATION REPORTS

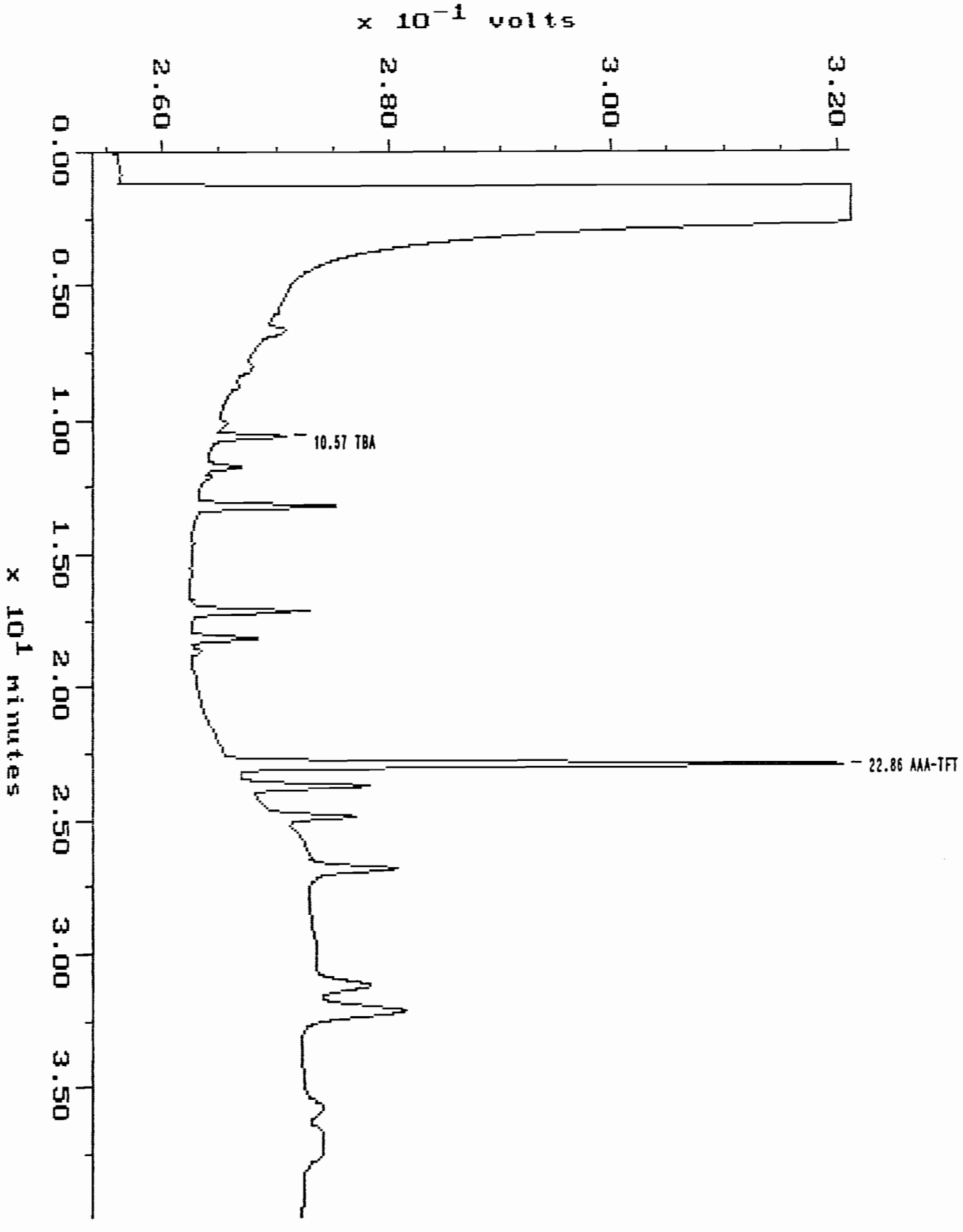
GC VOLATILE ORGANICS

Sample: 5 UG/L STD. Channel: PID Filename: VA0622C3
Acquired: 22-JUN-93 14:41 Method: C:\MAX\DATA2\VA06-22 Operator: JJ

6/23 CURVE



Sample: 5 UG/L STD. Channel: FID Filename: VA062202
Acquired: 22-JUN-93 14:41 Method: C:\MAX\DATA2\VA06-22 Operator: JJ



MAXIMA 820 CUSTOM REPORT

Printed: 24-JUN-1993 9:30:23

SAMPLE: 5 UG/L STD.
#1 in Method: BTEX 602/8020/MTBE/TBAbyPID&FID
Acquired: 22-JUN-1993 14:41
Rate: 2.0 points/sec
Duration: 39.899 minutes
Operator: JJ

Type: STND
Instrument: Instrument 2
Filename: VA062202
Index: Disk

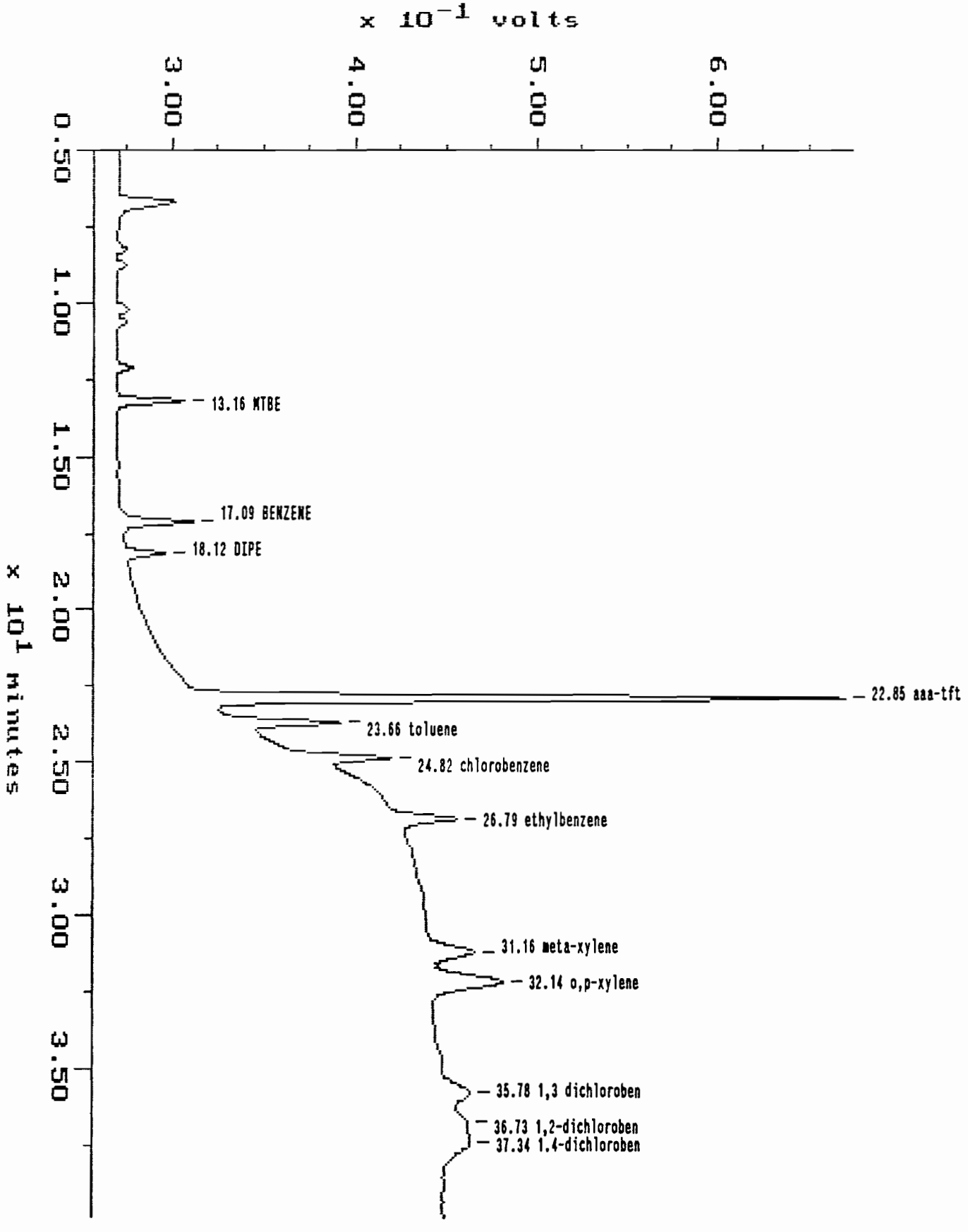
DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.149	1429062	115449	12.50
2	BENZENE	17.085	1294794	100065	5.00
3	DIPE	18.115	680909	53260	5.00
4	aaa-tft	22.847	4675673	346731	50.00
5	toluene	23.659	1513437	110657	5.00
6	chlorobenzene	24.807	1334084	101992	5.00
7	ethylbenzene	26.775	1429733	79045	5.00
8	meta-xylene	31.130	1554551	58697	5.00
9	o,p-xylene	32.101	2996897	93746	10.00
10	1,3 dichloroben	35.745	1282980	32535	5.00
11	1,2-dichloroben	36.850	1075519	29463	5.00
12	1.4-dichloroben	37.344	1526061	32107	5.00
TOTAL			20943701	1153748	117.50

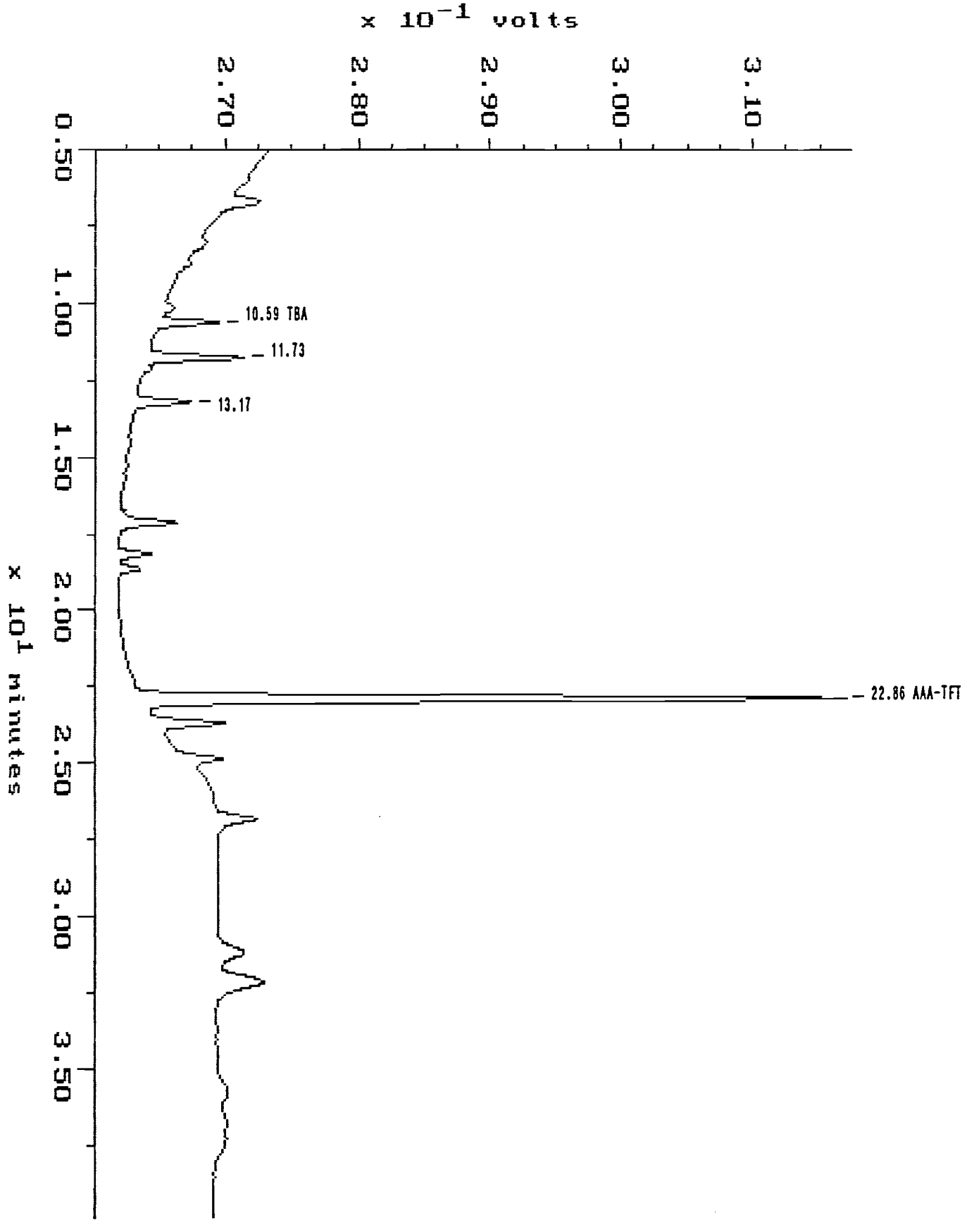
DETECTOR: FID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	TBA	10.569	76150	6206	200.00
2	AAA-TFT	22.855	737179	54265	50.00
TOTAL			813329	60471	250.00

Sample: 2 UG/L STD. Channel: PID Filename: VA062206
Acquired: 22-JUN-93 18:06 Method: C:\MAX\DATA2\VA06-22 Operator: JJ



Sample: 2 UG/L STD. Channel: FID Filename: VA062206
Acquired: 22-JUN-93 18:06 Method: C:\MAX\DATA2\VA06-22 Operator: JJ



MAXIMA 820 CUSTOM REPORT

Printed: 24-JUN-1993 9:30:46

SAMPLE: 2 UG/L STD.
#2 in Method: BTEX 602/8020/MTBE/TBAbyPID&FID
Acquired: 22-JUN-1993 18:06
Rate: 2.0 points/sec
Duration: 39.899 minutes
Operator: JJ

Type: STND
Instrument: Instrument 2
Filename: VA062206
Index: Disk

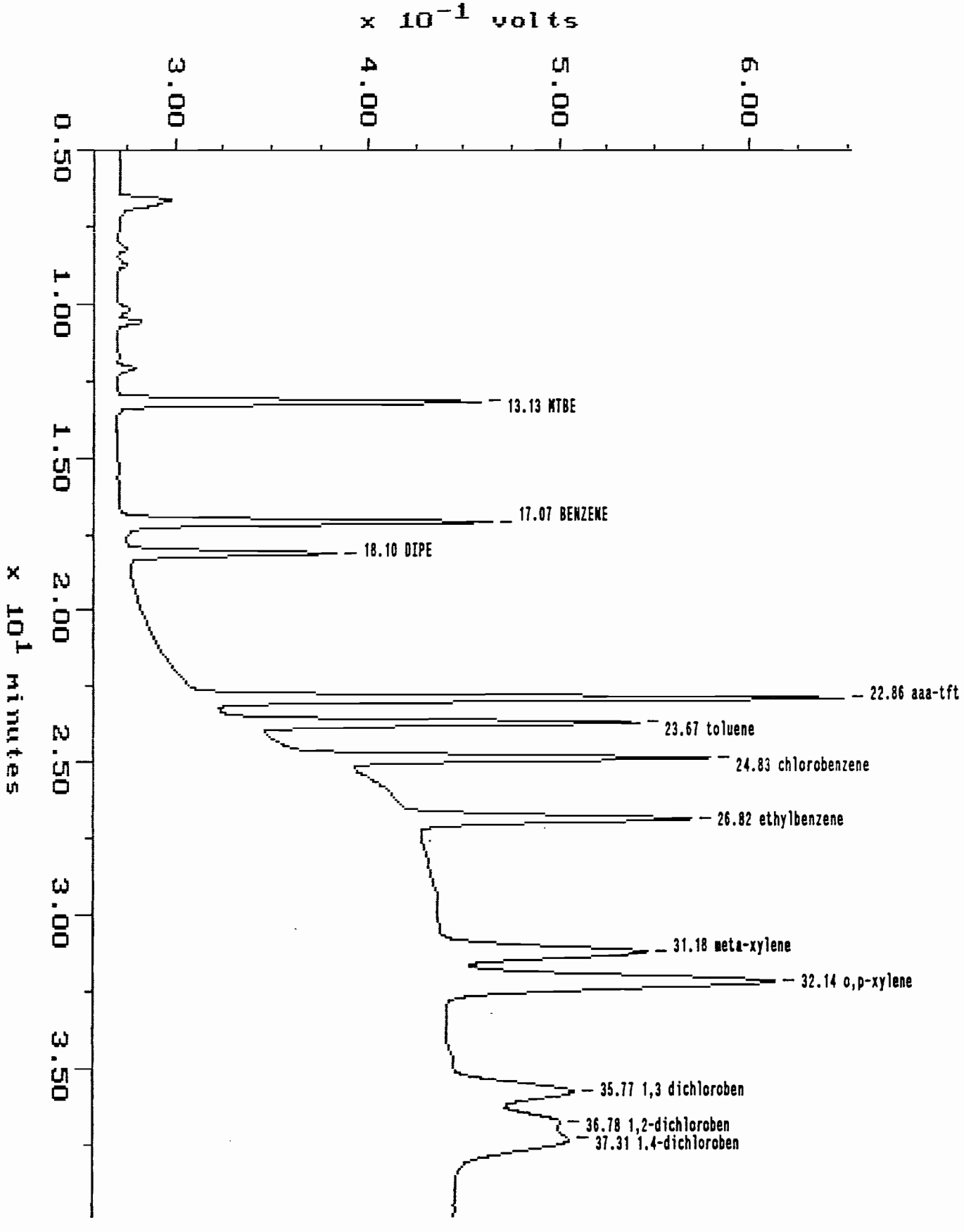
DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.157	474004	37296	5.00
2	BENZENE	17.094	547527	39210	2.00
3	DIPE	18.124	276850	21181	2.00
4	aaa-tft	22.847	4781307	352259	50.00
5	toluene	23.660	701029	53737	2.00
6	chlorobenzene	24.815	546536	40908	2.00
7	ethylbenzene	26.792	604623	33308	2.00
8	meta-xylene	31.155	708081	25022	2.00
9	o,p-xylene	32.135	1252525	39788	4.00
10	1,3 dichloroben	35.778	608652	15266	2.00
11	1,2-dichlorcben	36.733	572722	14057	2.00
12	1.4-dichloroben	37.344	674976	15670	2.00
TOTAL			11748832	687703	77.00

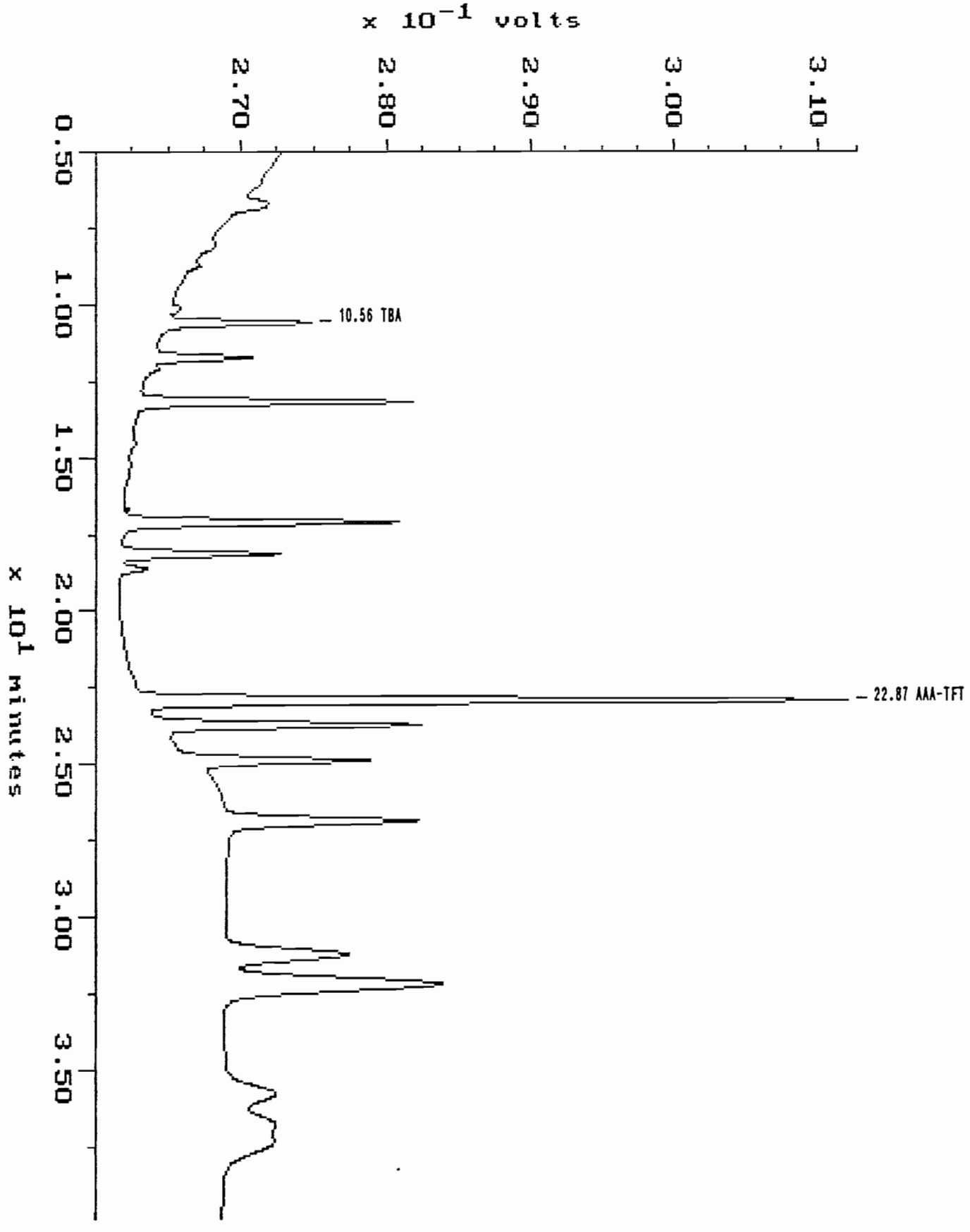
DETECTOR: FID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	TBA	10.595	55799	4613	100.00
2		11.734	104558	7297	
3		13.174	54057	4224	
4	AAA-TFT	22.856	722961	52863	50.00
TOTAL			937374	68997	150.00

Sample: 10 UG/L STD. Channel: PID Filename: VA062207
Acquired: 22-JUN-93 18:57 Method: C:\MAX\DATA2\VA06-22 Operator: JJ



Sample: 10 UG/L STD. Channel: FID Filename: VA062207
Acquired: 22-JUN-93 18:57 Method: C:\MAX\DATA2\VA06-22 Operator: JJ



MAXIMA 820 CUSTOM REPORT

Printed: 24-JUN-1993 9:31:11

SAMPLE: 10 UG/L STD.
#3 in Method: BTEX 602/8020/MTBE/TBAbyPID&FID
Acquired: 22-JUN-1993 18:57
Rate: 2.0 points/sec
Duration: 39.899 minutes
Operator: JJ

Type: STND
Instrument: Instrument 2
Filename: VA062207
Index: Disk

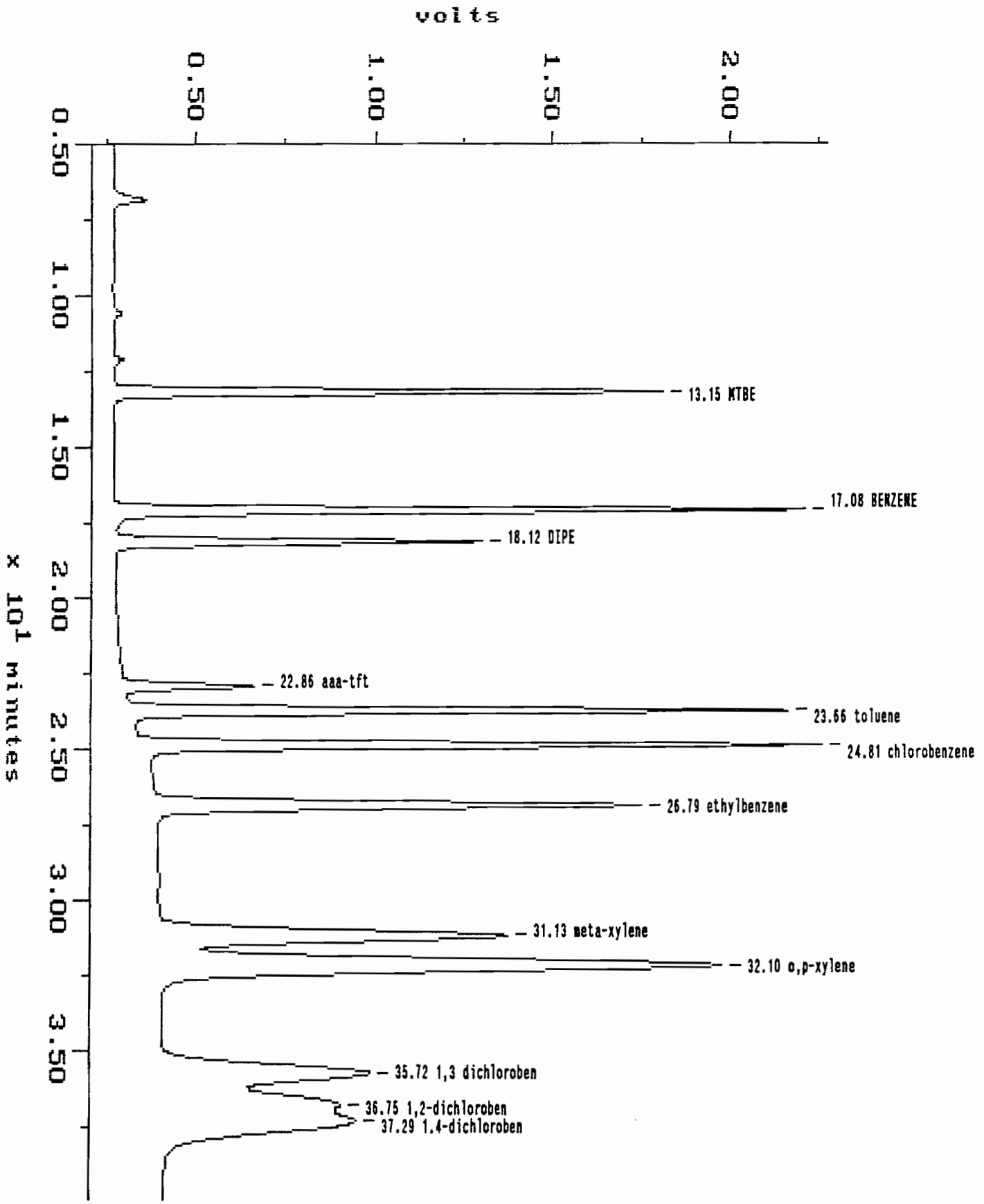
DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.132	2351624	189025	25.00
2	BENZENE	17.068	2558660	192472	10.00
3	DIPE	18.099	1391397	107859	10.00
4	aaa-tft	22.864	4528296	332215	50.00
5	toluene	23.668	2852074	206051	10.00
6	chlorobenzene	24.832	2938740	203352	10.00
7	ethylbenzene	26.817	2649338	148628	10.00
8	meta-xylene	31.180	3015382	107862	10.00
9	o,p-xylene	32.143	5470224	173980	20.00
10	1,3 dichloroben	35.770	2552619	62884	10.00
11	1,2-dichloroben	36.783	2056437	55118	10.00
12	1.4-dichloroben	37.311	2711745	60059	10.00
TOTAL			35076537	1839504	185.00

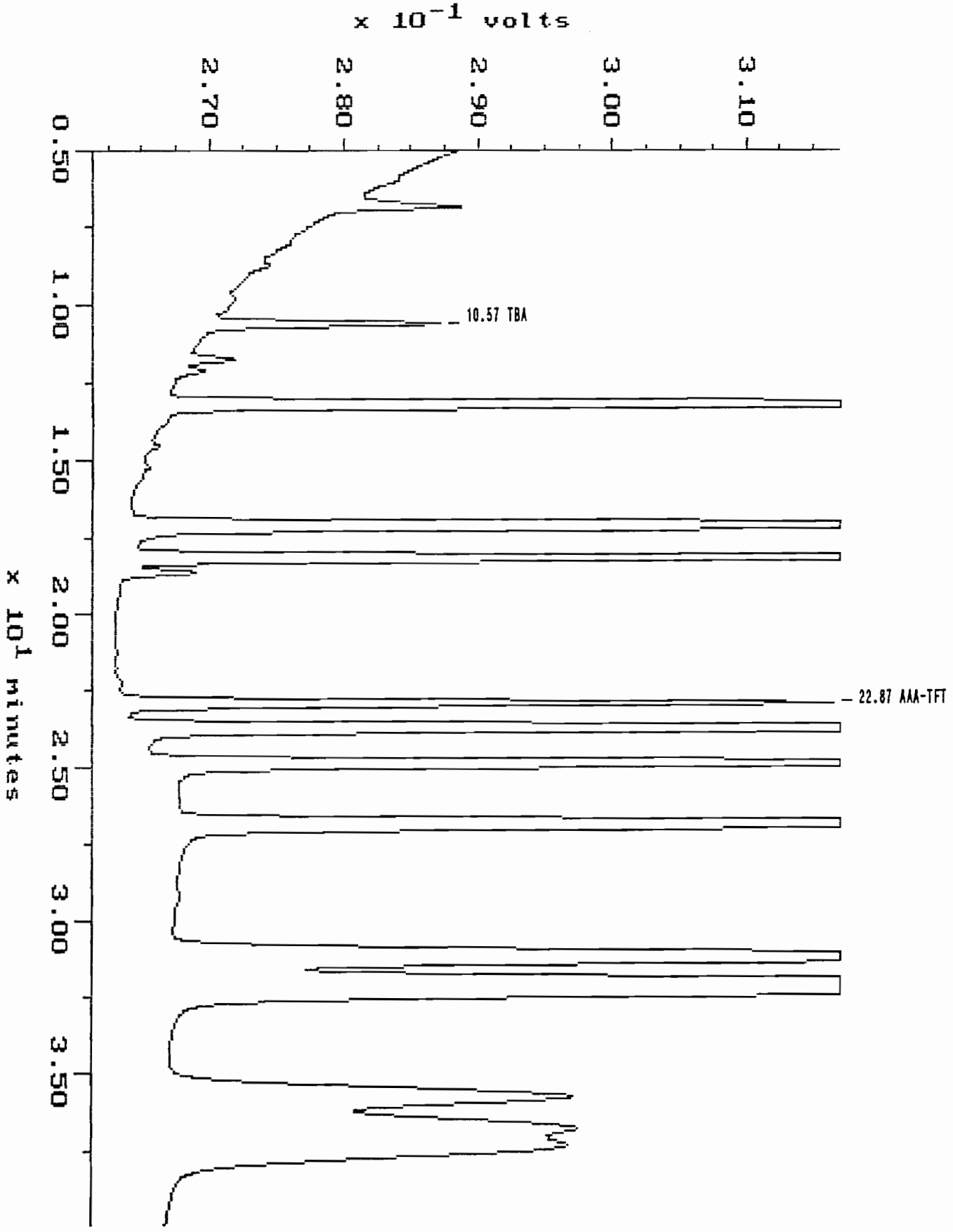
DETECTOR: FID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	TBA	10.561	113626	9726	300.00
2	AAA-TFT	22.872	676042	48696	50.00
TOTAL			789668	58422	350.00

Sample: 80 UG/L STD. Channel: PID Filename: VA052217
Acquired: 23-JUN-93 11:05 Method: C:\MAX\DATA2\VA05-22 Operator: JJ



Sample: 80 UG/L STD. Channel: FID Filename: VA062217
Acquired: 23-JUN-93 11:05 Method: C:\MAX\DATA2\VA06-22 Operator: JJ



MAXIMA 820 CUSTOM REPORT

Printed: 24-JUN-1993 9:31:36

SAMPLE: 80 UG/L STD.
#4 in Method: BTEX 602/8020/MTBE/TBAbyPID&FID
Acquired: 23-JUN-1993 11:05
Rate: 2.0 points/sec
Duration: 39.899 minutes
Operator: JJ

Type: STND
Instrument: Instrument 2
Filename: VA062217
Index: Disk

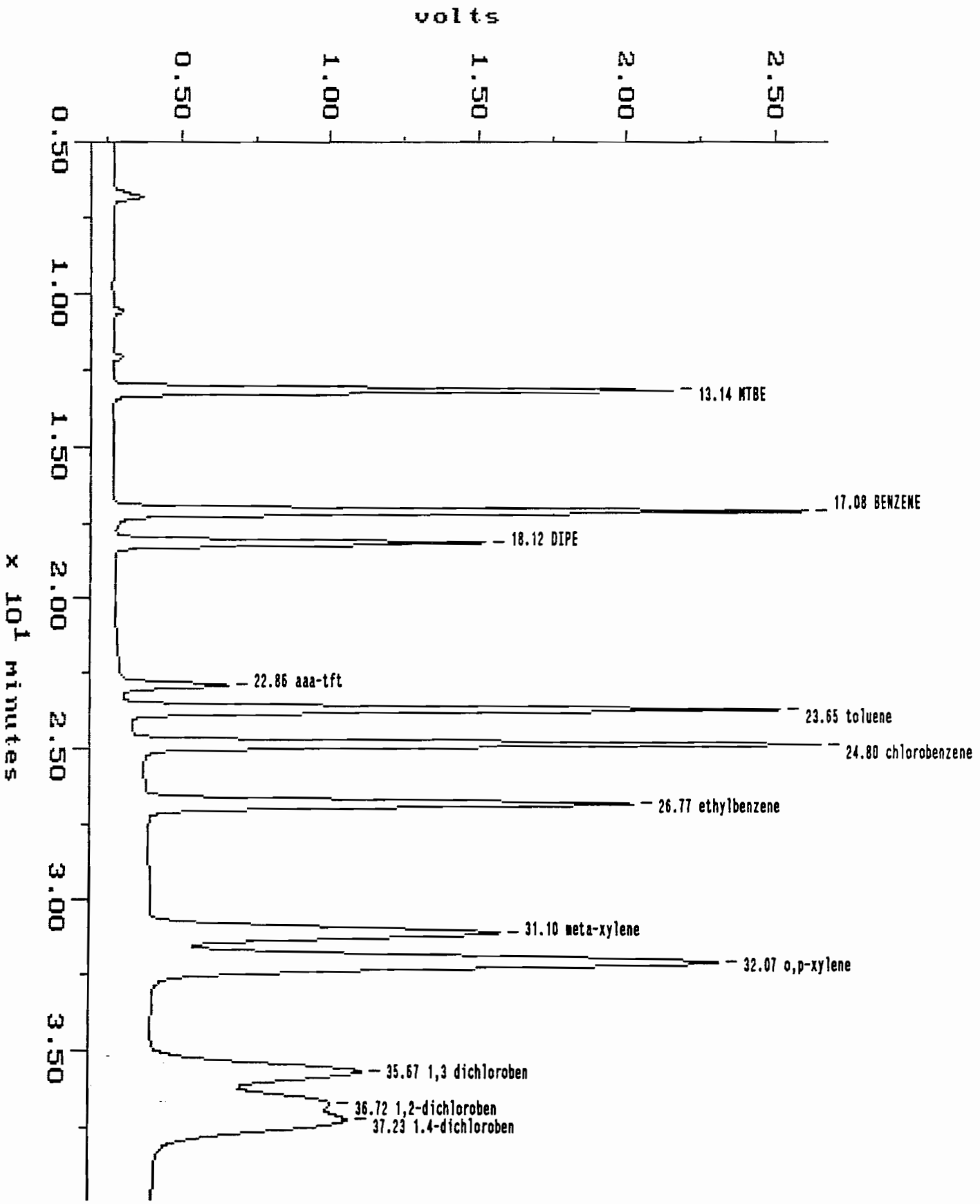
DETECTOR: PID

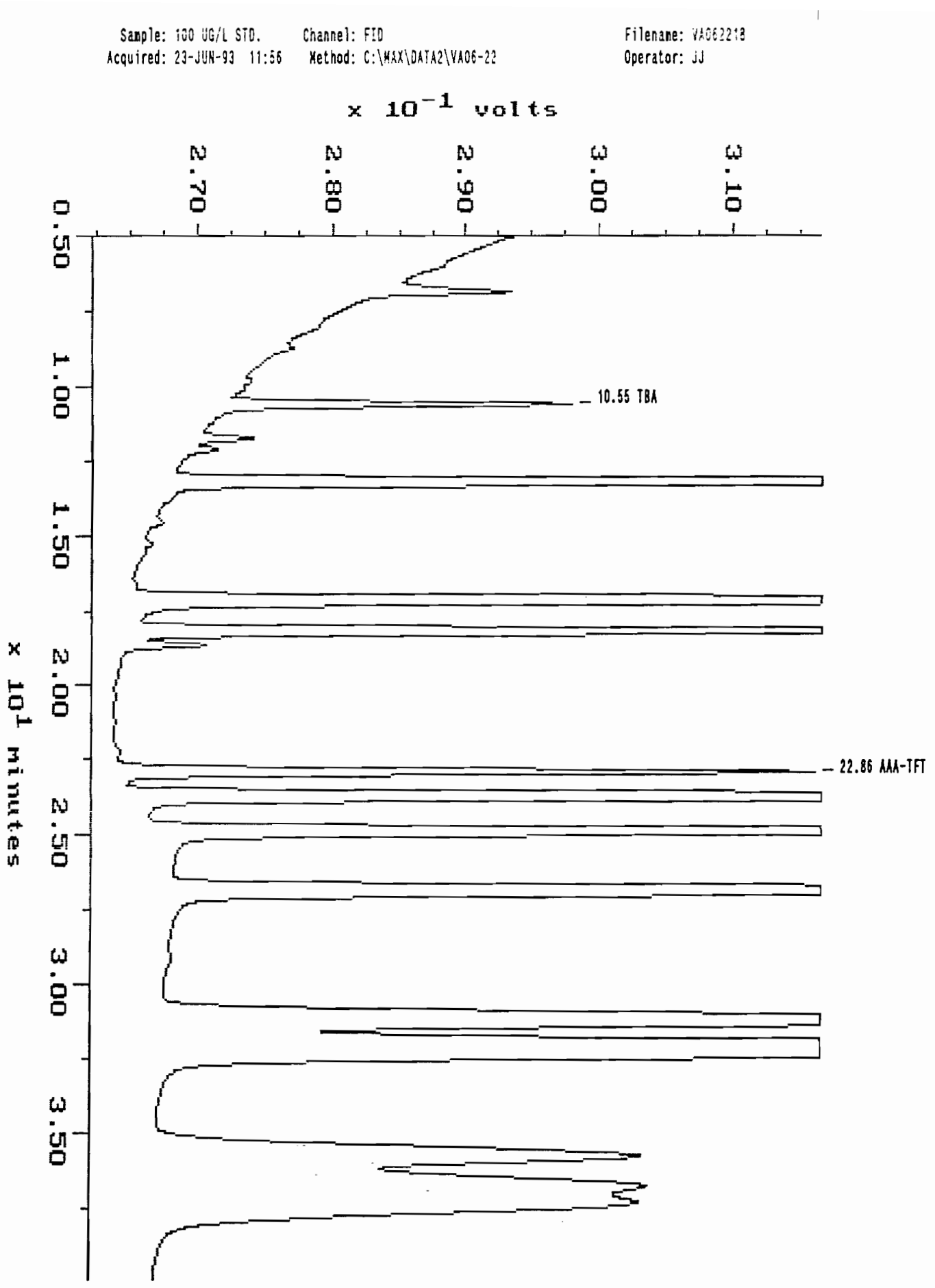
PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.149	19461218	1540846	200.00
2	BENZENE	17.077	25705303	1937363	80.00
3	DIPE	18.115	13638220	1028349	80.00
4	aaa-tft	22.864	4934382	364692	50.00
5	toluene	23.660	25525458	1843463	80.00
6	chlorobenzene	24.807	27221243	1897918	80.00
7	ethylbenzene	26.792	24107440	1360210	80.00
8	meta-xylene	31.130	26823049	973753	80.00
9	o,p-xylene	32.102	49848459	1576748	160.00
10	1,3 dichloroben	35.720	23801881	582374	80.00
11	1,2-dichloroben	36.750	18713311	497034	80.00
12	1.4-dichloroben	37.286	25500831	540580	80.00
TOTAL			285280795	14143331	1130.00

DETECTOR: FID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	TBA	10.569	205164	16849	700.00
2	AAA-TFT	22.872	728556	52710	50.00
TOTAL			933720	69559	750.00

Sample: 100 UG/L STD. Channel: PID Filename: VAG62218
Acquired: 23-JUN-93 11:56 Method: C:\MAX\DATA2\VA06-22 Operator: JJ




Sample: 100 UG/L STD.
Channel: FID
Filename: VA062213
Acquired: 23-JUN-93 11:56
Method: C:\MAX\DATA2\VA06-22
Operator: JJ
x 10⁻¹ volts
2.70
2.80
2.90
3.00
3.10
0.50
1.00
1.50
2.00
2.50
3.00
3.50
x 10¹ Minutes
10.55 TBA
22.86 AAA-TFT

MAXIMA 820 CUSTOM REPORT

Printed: 24-JUN-1993 9:32:02

SAMPLE: 100 UG/L STD.
#5 in Method: BTEX 602/8020/MTBE/TBAbyPID&FID
Acquired: 23-JUN-1993 11:56
Rate: 2.0 points/sec
Duration: 39.899 minutes
Operator: JJ

Type: STND
Instrument: Instrument 2
Filename: VA062218
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.141	24084643	1883979	250.00
2	BENZENE	17.077	30877063	2338748	100.00
3	DIPE	18.115	16565676	1247212	100.00
4	aaa-tft	22.856	4731034	352548	50.00
5	toluene	23.651	30590311	2200824	100.00
6	chlorobenzene	24.799	32947934	2295879	100.00
7	ethylbenzene	26.767	28623165	1635903	100.00
8	meta-xylene	31.097	32439030	1174853	100.00
9	o,p-xylene	32.068	60105623	1914095	200.00
10	1,3 dichloroben	35.669	28749027	704395	100.00
11	1,2-dichloroben	36.716	23088574	600311	100.00
12	1.4-dichloroben	37.227	29947716	657011	100.00
TOTAL			342749798	17005749	1400.00

DETECTOR: FID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	TBA	10.553	291398	24877	1000.00
2	AAA-TFT	22.864	708948	51509	50.00
TOTAL			1000346	76386	1050.00

TBA Calibration Report

Printed: 24-JUN-1993 9:32:15

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No
Corr. Coef. (r): 0.9986072
Coef. of Determination (r^2): 0.9972163

Equation: Conc = -1.100243E+02 + 3.840427E-03 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
5 UG/L STD.	VA062202	Y	2.000000E+02	7.6150078E+04	1.824245E+02	9.63E+00	2.626393E-03
2 UG/L STD.	VA062206	Y	1.000000E+02	5.5799344E+04	1.042690E+02	-4.09E+00	1.792136E-03
10 UG/L STD.	VA062207	Y	3.000000E+02	1.1362580E+05	3.263473E+02	-8.07E+00	2.640246E-03
80 UG/L STD.	VA062217	Y	7.000000E+02	2.0516367E+05	6.778918E+02	3.26E+00	3.411910E-03
100 UG/L STD.	VA062218	Y	1.000000E+03	2.9139778E+05	1.009068E+03	-8.99E-01	3.431735E-03

MTBE Calibration Report

Printed: 24-JUN-1993 9:32:19

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No

Corr. Coef. (r): 0.9999355 Coef. of Determination (r^2): 0.9998710

Equation: Conc = -6.240190E-01 + 1.036850E-05 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
5 UG/L STD.	VA062202	Y	1.250000E+01	1.4290622E+06	1.419322E+01	-1.19E+01	8.746995E-06
2 UG/L STD.	VA062206	Y	5.000000E+00	4.7400359E+05	4.290688E+00	1.65E+01	1.054844E-05
10 UG/L STD.	VA062207	Y	2.500000E+01	2.3516242E+06	2.375880E+01	5.22E+00	1.063095E-05
80 UG/L STD.	VA062217	Y	2.000000E+02	1.9461218E+07	2.011596E+02	-5.76E-01	1.027685E-05
100 UG/L STD.	VA062218	Y	2.500000E+02	2.4034644E+07	2.490976E+02	3.62E-01	1.038006E-05

BENZENE Calibration Report

Printed: 24-JUN-1993 9:32:23

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No
Corr. Coef. (r): 0.9995278
Coef. of Determination (r^2): 0.9990558

Equation: Conc = 8.964661E-01 + 3.156889E-06 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
5 UG/L STD.	VA062202	Y	5.000000E+00	1.2947942E+06	4.983988E+00	3.21E-01	3.861617E-06
2 UG/L STD.	VA062206	Y	2.000000E+00	5.4752725E+05	2.624949E+00	-2.38E+01	3.652786E-06
10 UG/L STD.	VA062207	Y	1.000000E+01	2.5586595E+06	8.973871E+00	1.14E+01	3.908297E-06
80 UG/L STD.	VA062217	Y	8.000000E+01	2.5705302E+07	8.204526E+01	-2.49E+00	3.112198E-06
100 UG/L STD.	VA062218	Y	1.000000E+02	3.0877062E+07	9.837193E+01	1.66E+00	3.238650E-06

DIPE Calibration Report

Printed: 24-JUN-1993 9:32:27

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No
Corr. Coef. (r): 0.9997292
Coef. of Determination (r^2): 0.9994585

Equation: Conc = 9.290066E-01 + 5.908969E-06 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
5 UG/L STD.	VA062202	Y	5.000000E+00	6.8090862E+05	4.952474E+00	9.60E-01	7.343129E-06
2 UG/L STD.	VA062206	Y	2.000000E+00	2.7684981E+05	2.564904E+00	-2.20E+01	7.224133E-06
10 UG/L STD.	VA062207	Y	1.000000E+01	1.3913966E+06	9.150726E+00	9.28E+00	7.187023E-06
80 UG/L STD.	VA062217	Y	8.000000E+01	1.3638220E+07	8.151682E+01	-1.86E+00	5.865868E-06
100 UG/L STD.	VA062218	Y	1.000000E+02	1.6565676E+07	9.881507E+01	1.20E+00	6.036578E-06

aaa-tft Calibration Report

Printed: 24-JUN-1993 9:32:30

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration

Rejection Tolerance: None
Weighting: None

Internal Standard: None
Forced Through Origin: Yes

Equation: Conc = 1.056220E-05 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
5 UG/L STD.	VA062202	Y	5.000000E+01	4.6756730E+06	4.938541E+01	1.24E+00	1.069365E-05
2 UG/L STD.	VA062206	Y	5.000000E+01	4.7813070E+06	5.050114E+01	-9.92E-01	1.045739E-05
10 UG/L STD.	VA062207	Y	5.000000E+01	4.5282955E+06	4.782878E+01	4.34E+00	1.104168E-05
80 UG/L STD.	VA062217	Y	5.000000E+01	4.9343825E+06	5.211795E+01	-4.06E+00	1.013298E-05
100 UG/L STD.	VA062218	Y	5.000000E+01	4.7310345E+06	4.997015E+01	5.97E-02	1.056851E-05

AAA-TFT Calibration Report

Printed: 24-JUN-1993 9:32:34

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration

Rejection Tolerance: None
Weighting: None

Internal Standard: None
Forced Through Origin: Yes

Equation: Conc = 6.989303E-05 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
5 UG/L STD.	VA062202	Y	5.000000E+01	7.3717912E+05	5.152368E+01	-2.96E+00	6.782612E-05
2 UG/L STD.	VA062206	Y	5.000000E+01	7.2296062E+05	5.052991E+01	-1.05E+00	6.916006E-05
10 UG/L STD.	VA062207	Y	5.000000E+01	6.7604244E+05	4.725065E+01	5.82E+00	7.395985E-05
80 UG/L STD.	VA062217	Y	5.000000E+01	7.2855644E+05	5.092102E+01	-1.81E+00	6.862886E-05
100 UG/L STD.	VA062218	Y	5.000000E+01	7.0894787E+05	4.955052E+01	9.07E-01	7.052705E-05

toluene Calibration Report

Printed: 24-JUN-1993 9:32:38

Quant Basis: Area | Rejection Tolerance: None | Internal Standard: None
Curve Type: Linear | Weighting: None | Forced Through Origin: No
Y-axis Label: Concentration
Corr. Coef. (r): 0.9995589 Coef. of Determination (r^2): 0.9991180

Equation: Conc = 1.089851E-01 + 3.210978E-06 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
5 UG/L STD.	VA062202	Y	5.000000E+00	1.5134370E+06	4.968599E+00	6.32E-01	3.303738E-06
2 UG/L STD.	VA062206	Y	2.000000E+00	7.0102906E+05	2.359974E+00	-1.53E+01	2.852949E-06
10 UG/L STD.	VA062207	Y	1.000000E+01	2.8520737E+06	9.266932E+00	7.91E+00	3.505221E-06
80 UG/L STD.	VA062217	Y	8.000000E+01	2.552545BE+07	8.207068E+01	-2.52E+00	3.134126E-06
100 UG/L STD.	VA062218	Y	1.000000E+02	3.0590312E+07	9.833381E+01	1.69E+00	3.269009E-06

chlorobenzene Calibration Report

Printed: 24-JUN-1993 9:32:41

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No
Corr. Coef. (r): 0.9997196
Coef. of Determination (r^2): 0.9994392

Equation: Conc = 7.292503E-01 + 2.972910E-06 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
5 UG/L STD.	VA062202	Y	5.000000E+00	1.3840337E+06	4.844007E+00	3.22E+00	3.612498E-06
2 UG/L STD.	VA062206	Y	2.000000E+00	5.4653644E+05	2.354054E+00	-1.50E+01	3.659408E-06
10 UG/L STD.	VA062207	Y	1.000000E+01	2.9387402E+06	9.465862E+00	5.64E+00	3.402819E-06
80 UG/L STD.	VA062217	Y	8.000000E+01	2.7221244E+07	8.165557E+01	-2.03E+00	2.938881E-06
100 UG/L STD.	VA062218	Y	1.000000E+02	3.2947934E+07	9.868050E+01	1.34E+00	3.035092E-06

ethylbenzene Calibration Report

Printed: 24-JUN-1993 9:32:45

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No
Corr. Coef. (r): 0.9993589
Coef. of Determination (r^2): 0.9987182

Equation: Conc = 1.309576E-01 + 3.415442E-06 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
5 UG/L STD.	VA062202	Y	5.000000E+00	1.4297331E+06	5.064128E+00	-1.27E+00	3.497156E-06
2 UG/L STD.	VA062206	Y	2.000000E+00	6.0462287E+05	2.246012E+00	-1.10E+01	3.307847E-06
10 UG/L STD.	VA062207	Y	1.000000E+01	2.6493385E+06	9.229620E+00	8.35E+00	3.774527E-06
80 UG/L STD.	VA062217	Y	8.000000E+01	2.4107440E+07	8.251852E+01	-3.05E+00	3.318478E-06
100 UG/L STD.	VA062218	Y	1.000000E+02	2.8623164E+07	9.794172E+01	2.10E+00	3.493674E-06

meta-xylene Calibration Report

Printed: 24-JUN-1993 9:32:49

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No
Corr. Coef. (r): 0.9997167
Coef. of Determination (r^2): 0.9994335

Equation: Conc = 1.050452E-01 + 3.039519E-06 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
5 UG/L STD.	VA062202	Y	5.000000E+00	1.6545509E+06	5.134084E+00	-2.61E+00	3.021962E-06
2 UG/L STD.	VA062206	Y	2.000000E+00	7.0808081E+05	2.257270E+00	-1.14E+01	2.824535E-06
10 UG/L STD.	VA062207	Y	1.000000E+01	3.0153822E+06	9.270356E+00	7.37E+00	3.316329E-06
80 UG/L STD.	VA062217	Y	8.000000E+01	2.6823048E+07	8.163420E+01	-2.00E+00	2.982510E-06
100 UG/L STD.	VA062218	Y	1.000000E+02	3.2439030E+07	9.870409E+01	1.31E+00	3.082706E-06

o,p-xylene Calibration Report

Printed: 24-JUN-1993 9:32:53

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No
Corr. Coef. (r): 0.9996572
Coef. of Determination (r^2): 0.9993145

Equation: Conc = 4.889495E-01 + 3.271856E-06 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
5 UG/L STD.	VA062202	Y	1.000000E+01	2.9958975E+06	1.029437E+01	-2.86E+00	3.336784E-06
2 UG/L STD.	VA062206	Y	4.000000E+00	1.2525249E+06	4.587031E+00	-1.28E+01	3.193549E-06
10 UG/L STD.	VA062207	Y	2.000000E+01	5.4702245E+06	1.838674E+01	8.77E+00	3.656157E-06
80 UG/L STD.	VA062217	Y	1.600000E+02	4.9842460E+07	1.635859E+02	-2.19E+00	3.209728E-06
100 UG/L STD.	VA062218	Y	2.000000E+02	6.0105524E+07	1.971459E+02	1.45E+00	3.327476E-06

1,3 dichloroben Calibration Report

Printed: 24-JUN-1993 9:32:57

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No
Corr. Coef. (r): 0.9998643
Coef. of Determination (r^2): 0.9993287

Equation: Conc = 4.884360E-01 + 3.413585E-06 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
5 UG/L STD.	VA062202	Y	5.000000E+00	1.2829800E+06	4.867997E+00	2.71E+00	3.897177E-06
2 UG/L STD.	VA062206	Y	2.000000E+00	6.0865162E+05	2.566120E+00	-2.21E+01	3.285952E-06
10 UG/L STD.	VA062207	Y	1.000000E+01	2.5526190E+06	9.292018E+00	-7.08E+00	3.917545E-06
80 UG/L STD.	VA062217	Y	8.000000E+01	2.3801880E+07	8.173818E+01	-2.13E+00	3.361079E-06
100 UG/L STD.	VA062218	Y	1.000000E+02	2.8749028E+07	9.862569E+01	-1.39E+00	3.478378E-06

1,2-dichloroben Calibration Report

Printed: 24-JUN-1993 9:33:00

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No
Corr. Coef. (r): 0.9998817
Coef. of Determination (r^2): 0.9997634

Equation: Conc = 2.960050E-01 + 4.295523E-06 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
5 UG/L STD.	VA062202	Y	5.000000E+00	1.0755190E+06	4.916997E+00	1.69E+00	4.648913E-06
2 UG/L STD.	VA062206	Y	2.000000E+00	5.7272231E+05	2.755719E+00	-2.74E+01	3.492094E-06
10 UG/L STD.	VA062207	Y	1.000000E+01	2.0564374E+06	9.131535E+00	9.51E+00	4.862779E-06
80 UG/L STD.	VA062217	Y	8.000000E+01	1.8713312E+07	8.069817E+01	-8.65E-01	4.275032E-06
100 UG/L STD.	VA062218	Y	1.000000E+02	2.3088574E+07	9.949658E+01	5.06E-01	4.331147E-06

1,4-dichloroben Calibration Report

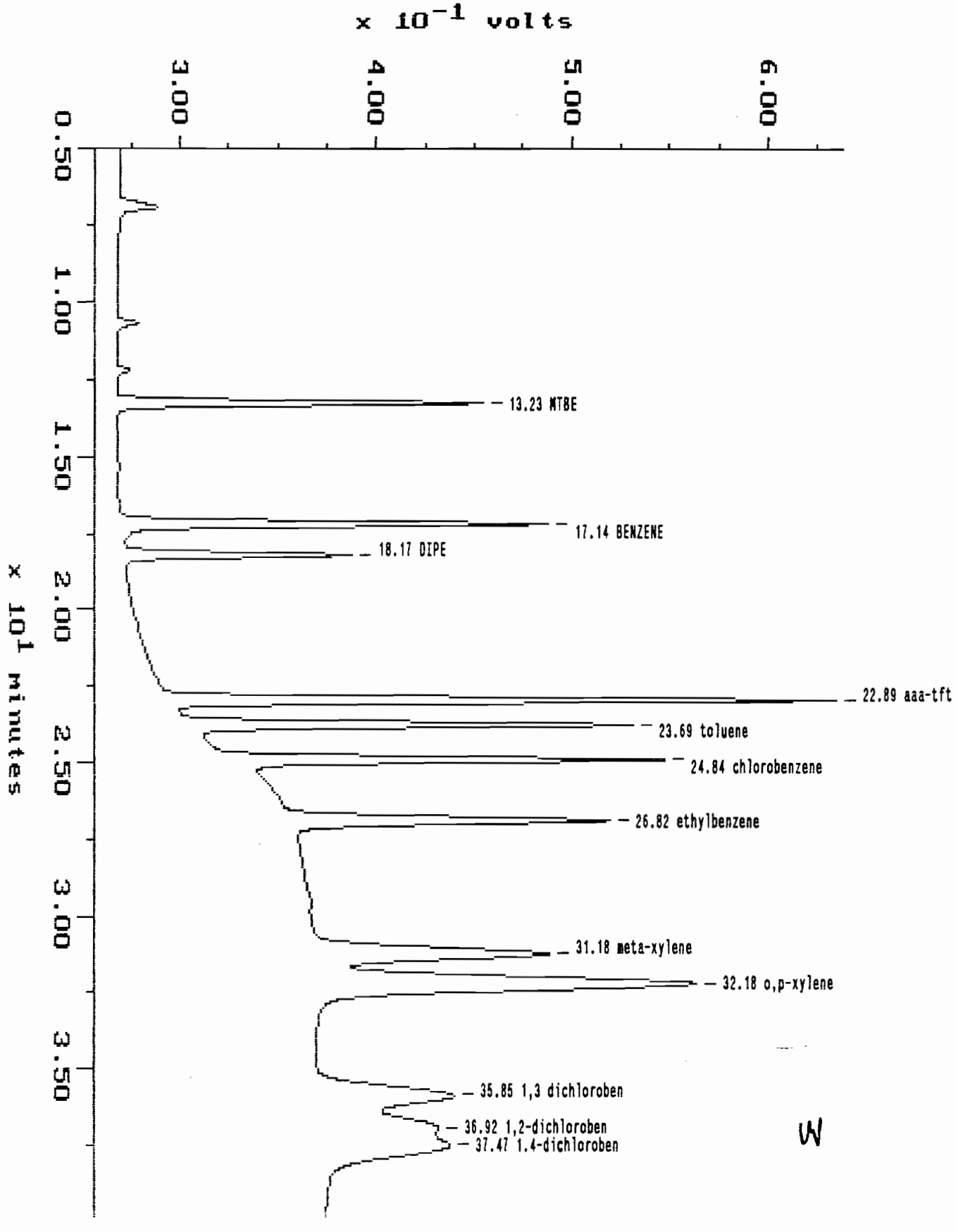
Printed: 24-JUN-1993 9:33:04

Quant Basis: Area
Curve Type: Linear
Y-axis Label: Concentration
Rejection Tolerance: None
Weighting: None
Internal Standard: None
Forced Through Origin: No
Corr. Coef. (r): 0.9990459
Coef. of Determination (r^2): 0.9980927

Equation: Conc = 1.686948E-01 + 3.249705E-06 * R

Sample	File Name	Valid	Concentration	Response	Calc'd Concentration	% Deviation	Response Factor
5 UG/L STD.	VA062202	Y	5.000000E+00	1.5260615E+06	5.127945E+00	-2.50E+00	3.276408E-06
2 UG/L STD.	VA062206	Y	2.000000E+00	6.7497519E+05	2.362168E+00	-1.53E+01	2.963067E-06
10 UG/L STD.	VA062207	Y	1.000000E+01	2.7117455E+06	8.931069E+00	1.13E+01	3.687662E-06
20 UG/L STD.	VA062217	Y	8.000000E+01	2.5500232E+07	8.303888E+01	-3.66E+00	3.137153E-06
100 UG/L STD.	VA062218	Y	1.000000E+02	2.9947716E+07	9.748994E+01	2.57E+00	3.339153E-06

Sample: 10 UG/L STD. Channel: PID Filename: VA062401
Acquired: 24-JUN-93 10:58 Method: C:\MAX\DATA2\VA06-24 Operator: JJ



W

MAXIMA 820 CUSTOM REPORT

Printed: 25-JUN-1993 9:04:48

SAMPLE: 10 UG/L STD.
#6 in Method: BTEX 602/8020/MTBE/TBAbyPID&FID
Acquired: 24-JUN-1993 10:58
Rate: 2.0 points/sec
Duration: 39.899 minutes
Operator: JJ

Type: UNKN
Instrument: Instrument 2
Filename: VA062401
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.233	2334020	187234	23.58
2	BENZENE	17.144	2916317	219060	10.10
3	DIPE	18.166	1491160	116068	9.74
4	aaa-tft	22.889	4565641	339280	48.22
5	toluene	23.693	3086690	225177	10.02
6	chlorobenzene	24.840	3036664	217636	9.76
7	ethylbenzene	26.817	2905029	163504	10.10
8	meta-xylene	31.180	3443817	120165	10.57
9	o,p-xylene	32.177	6454222	195160	21.61
10	1,3 dichloroben	35.854	2906085	68550	10.41
11	1,2-dichloroben	36.917	2100005	59233	9.32
12	1.4-dichloroben	37.470	3133925	64309	10.35
TOTAL			38373575	1975376	183.78

96

W

ANALab inc. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

DAILY CALIBRATION CHECK SUMMARY

BTEX AND PURGABLE AROMATICS BY GC

DATE: 6/24/93 TIME: 10:58 DATA FILE ID: VA062401

DATE OF INITIAL CALIBRATION: 6/23/93 REVIEWED BY: MP

	INITIAL CALIBRATION ppb	CALIBRATION CHECK ppb	% RECOVERY
BENZENE	10	10.1	101
DIPE	10	9.74	97
TOLUENE	10	10.0	100
ETHYLBENZENE	10	10.1	101
CHLOROBENZENE	10	9.76	98
TOTAL XYLENE	30	32.2	107
TOTAL DICHLOROBENZENE	30	30.0	100
Methyl tert-Butyl Ether	25	23.6	94

* = Value outside of QC limits
QC Limit for reported compounds 85-115 % recovery (% D = +/- 15%).

CCC

ANALab INC 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

WET CHEMISTRY INITIAL AND CONTINUING CALIBRATION SUMMARY

TOTAL PETROLEUM HYDROCARBONS - IR

ANALab INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

Wet Chemistry - Initial Calibration Summary - TPHC

Method: EPA 418.1, EPA 418.1 (NJDEP MOD)

Instrument: P+E: 1430 Initial Calibration Date: 6/21/93

Authorized By: [signature] 6/21/93 Initial Calibration Time: 0900

Cell Path: 1.0 cm Analyst: MR

Initial Calibration Standards: Concentration - mg/100mL

Initial Calibration Stock Source Lot # WC-516

	Cal. Blank	STD #1	STD #2	STD #3	STD #4	STD #5
Conc.	Ø	0.75	2.0	5.0	10.0	20.0
ABS1	0.000	0.018	0.046	0.126	0.252	0.490
ABS2	0.000	0.018	0.047	0.130	0.250	0.490
ABS3	0.000	0.018	0.046	0.125	0.245	0.471
XABS	0.000	0.018	0.046	0.127	0.249	0.484

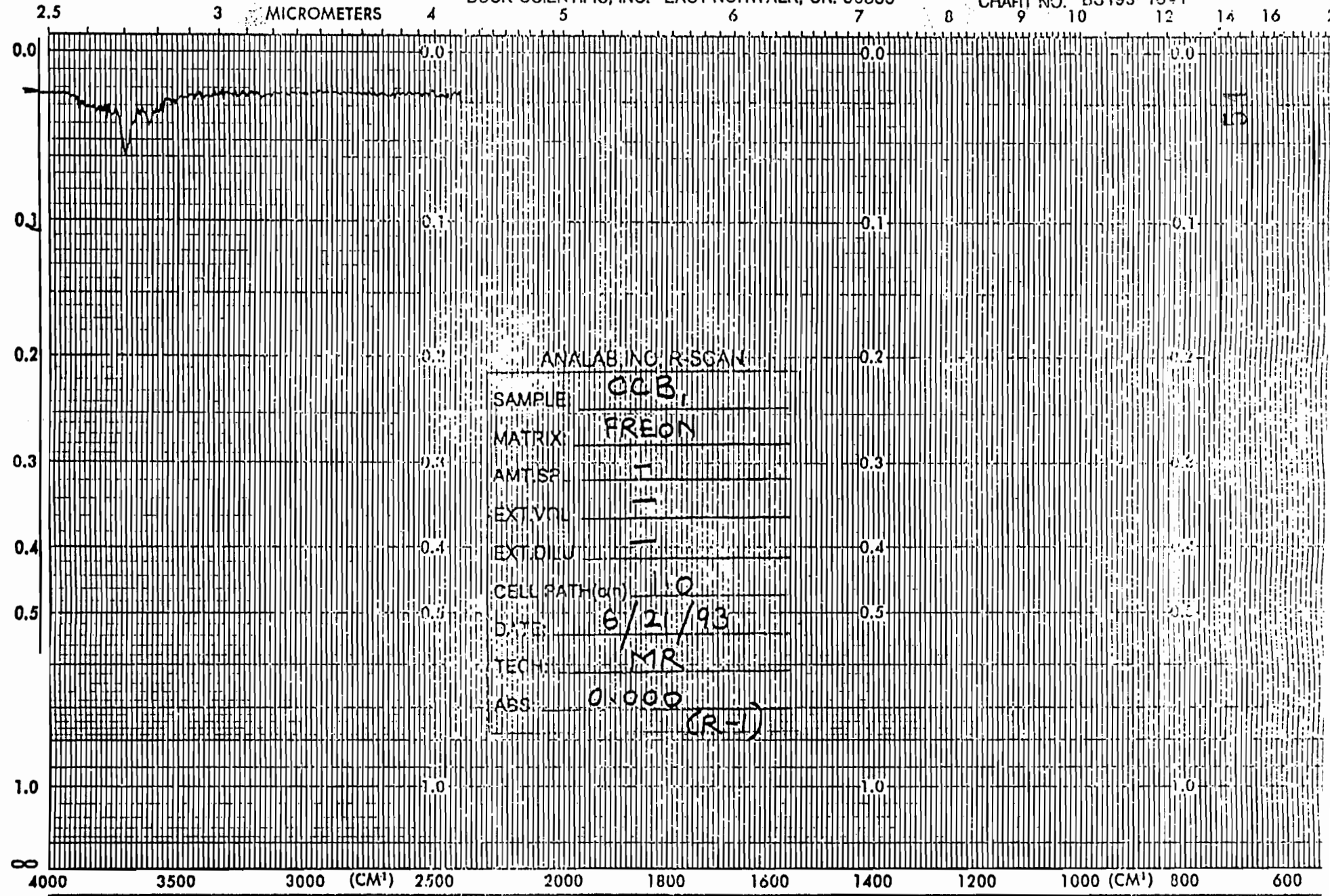
For X = MY + b Calibration Y = ABS @ 2930 cm

Slope: 0.02427
Intercept: 0.00159
Correlation: 0.99976

Initial Calibration Verification: (ICV) Source Lot: WC-517

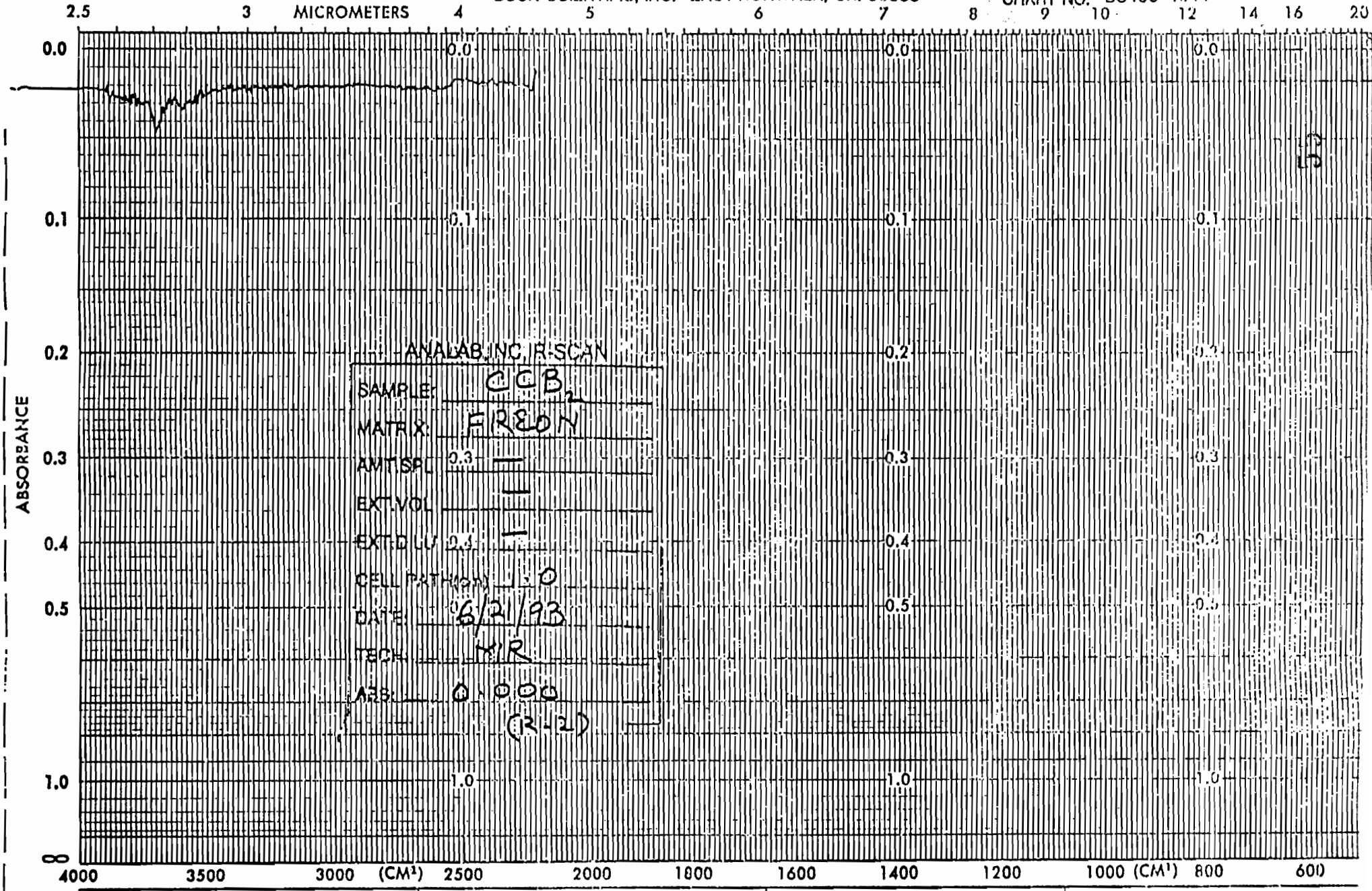
True Value mg/100mL	Found Value mg/100mL	%Rec	QC Limit
10.0	10.28	102.8	90-110

A:WCPHCIC



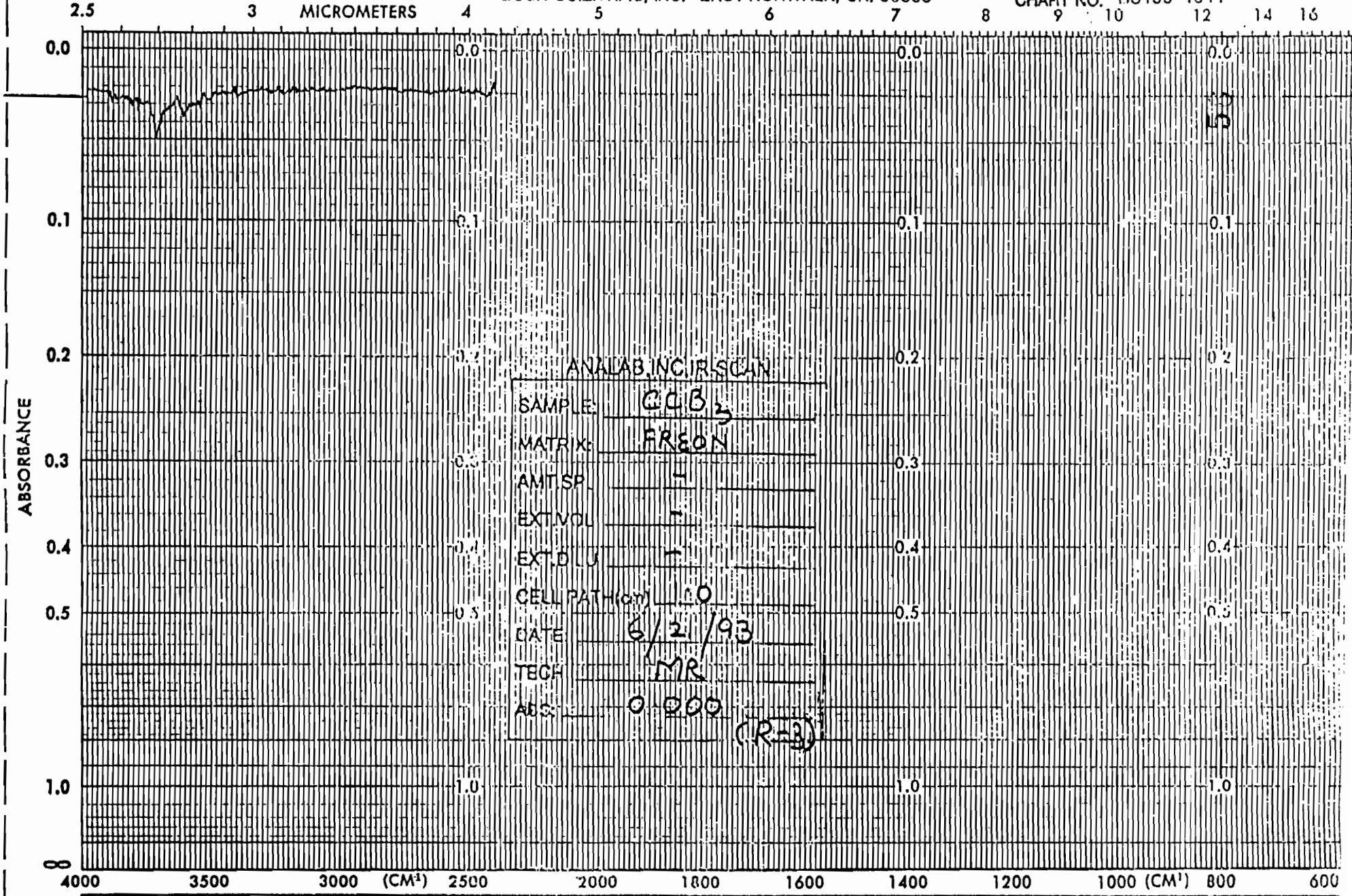
ABSCISSA	ORDINATE		
EXPANSION	EXPANSION	SCAN TIME	REP. SCAN SINGLE BE
	% T ABS	MULTIPLIER	TIME DRIVE
		SLIT PROGRAM	OPERATOR

SAMPLE	REMARKS	SOLVENT	CELL PATH
ORIGIN		CONCENTRATION	REFERENCE



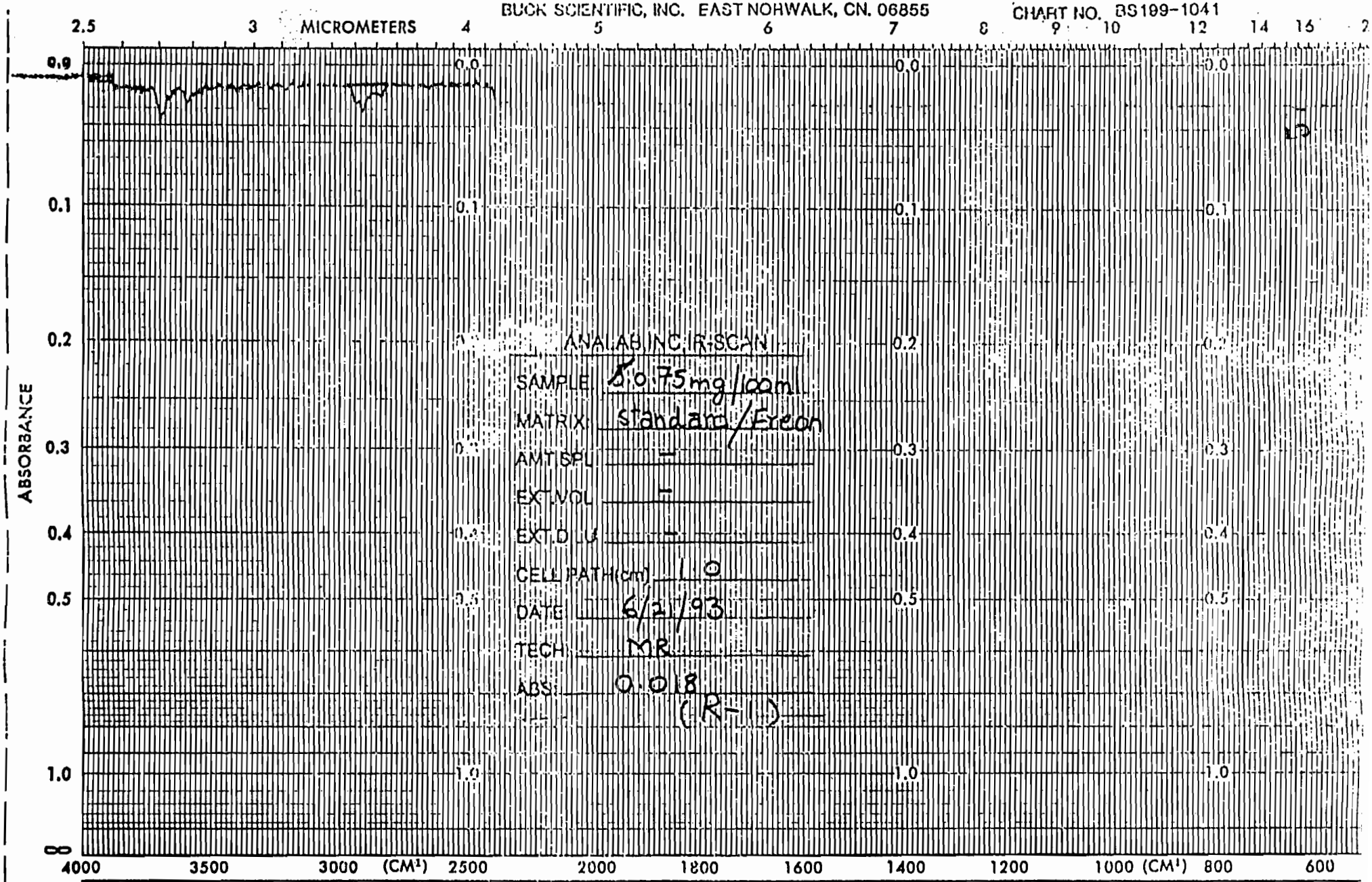
ABSCISSA	ORDINATE		
EXPANSION	EXPANSION	SCAN TIME	REP. SCAN ____ SINGLE BEA
	% T ____ ABS	MULTIPLIER	TIME DRIVE
		SLIT PROGRAM	OPERATOR

SAMPLE	REMARKS	SOLVENT	CELL PATH
ORIGIN		CONCENTRATION	REFERENCE



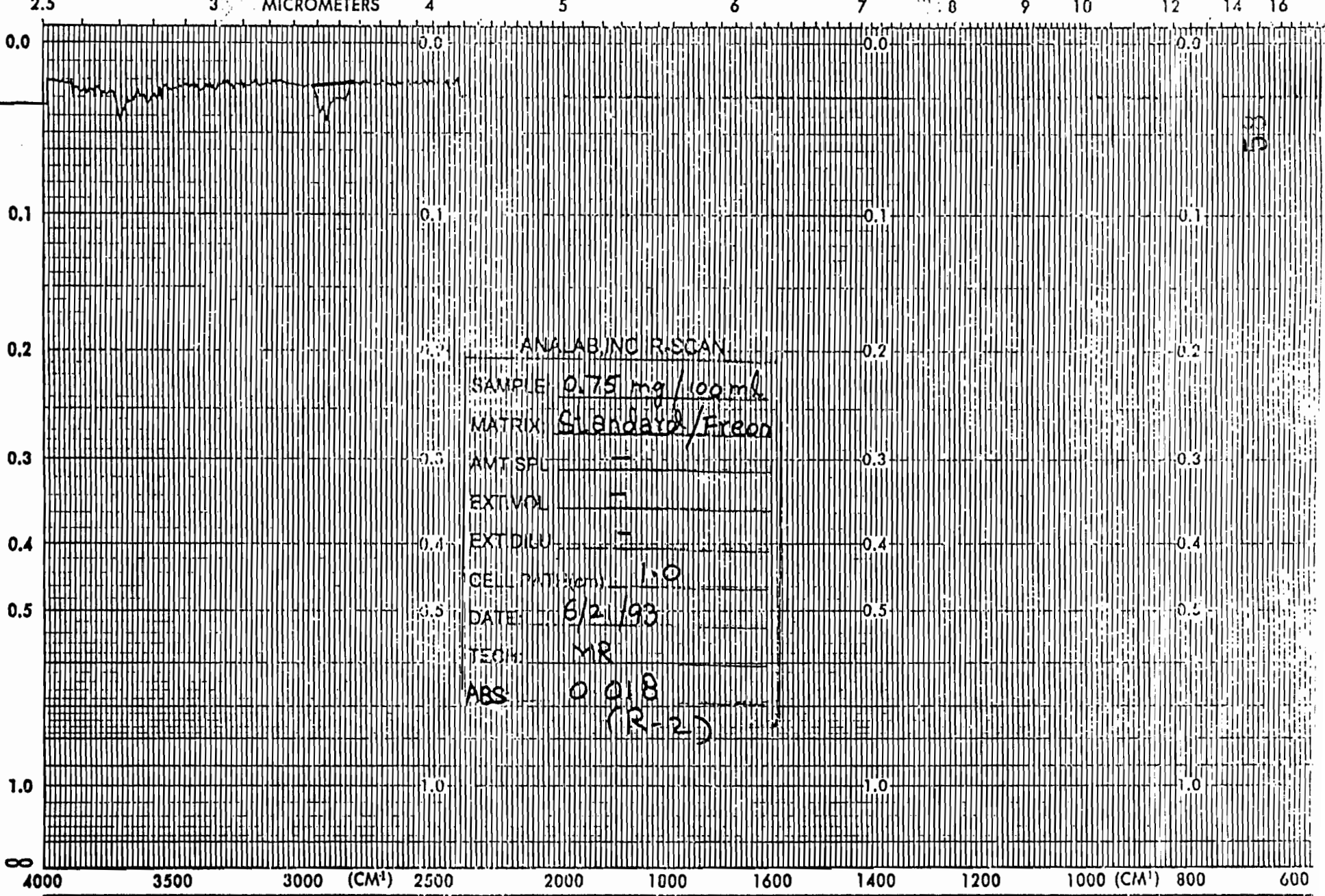
ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

SAMPLE _____	REMARKS _____	SOLVENT _____	CELL PATH ____
ORIGIN _____		CONCENTRATION _____	REFERENCE ____



ABSCISSA	ORDINATE		
EXPANSION	EXPANSION	SCAN TIME	REP. SCAN SINGLE BE
	% T ABS	MULTIPLIER	TIME DRIVE
		SLIT PROGRAM	OPERATOR

SAMPLE	REMARKS	SOLVENT	CELL PATH
ORIGIN		CONCENTRATION	REFERENCE

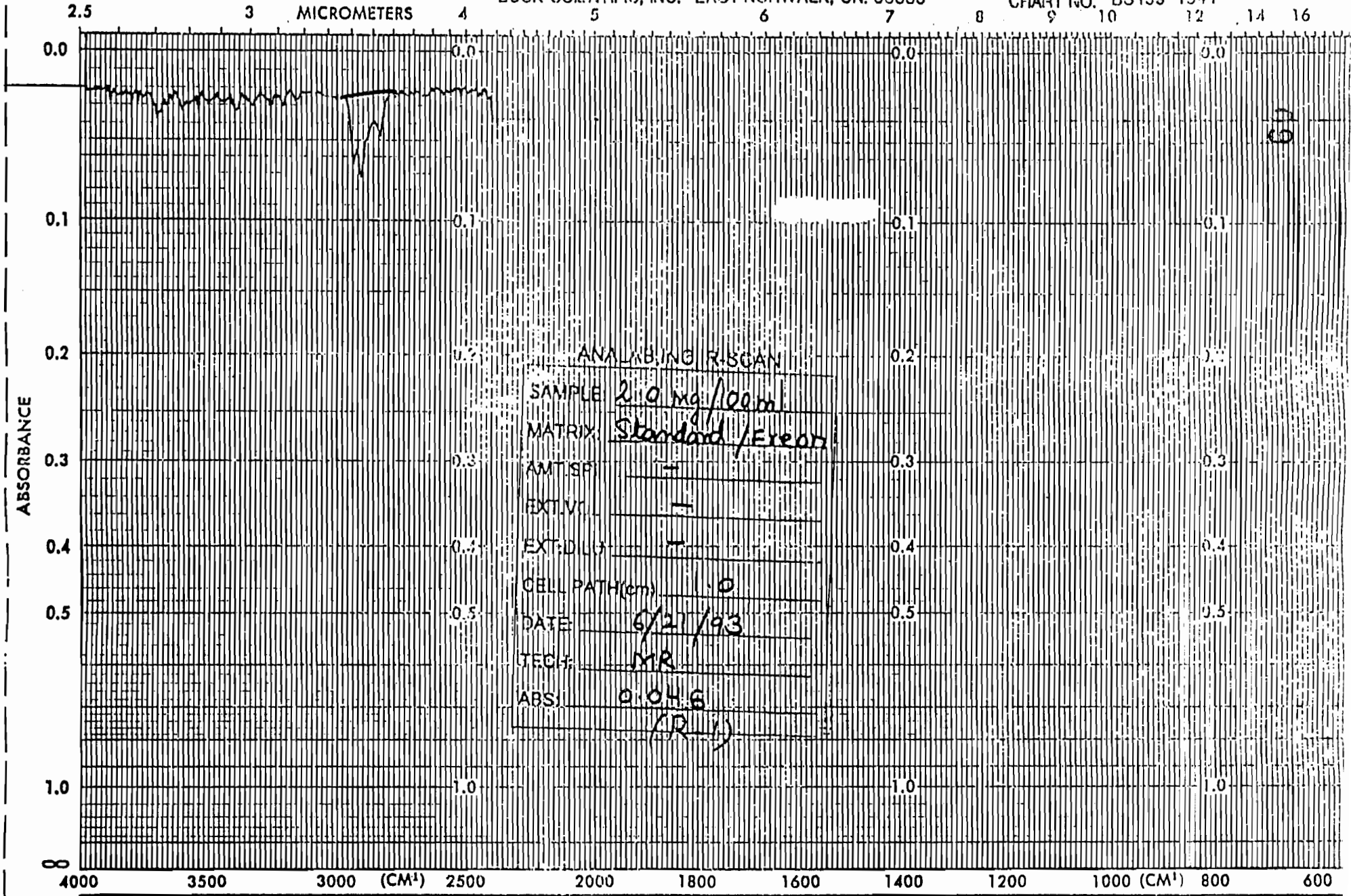


ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

SAMPLE _____	REMARKS _____	SOLVENT _____	CELL PATH _____
ORIGIN _____		CONCENTRATION _____	REFERENCE _____

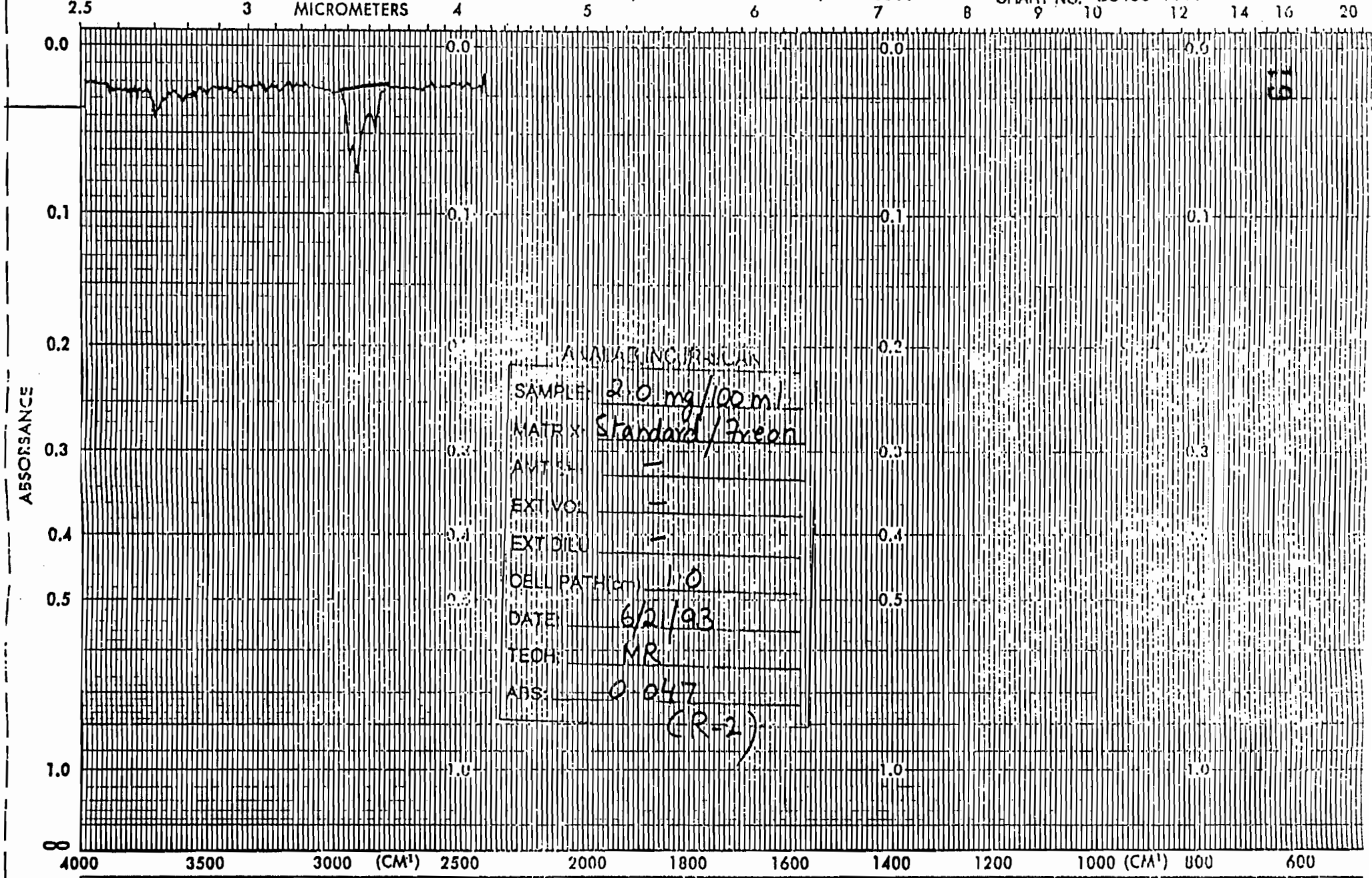
ABSCISSA	ORDINATE		
EXPANSION	EXPANSION	SCAN TIME	REP. SCAN SINGLE BI
	% T ABS	MULTIPLIER	TIME DRIVE
		SLIT PROGRAM	OPERATOR

SAMPLE	REMARKS	SOLVENT	CELL PATH
ORIGIN		CONCENTRATION	REFERENCE



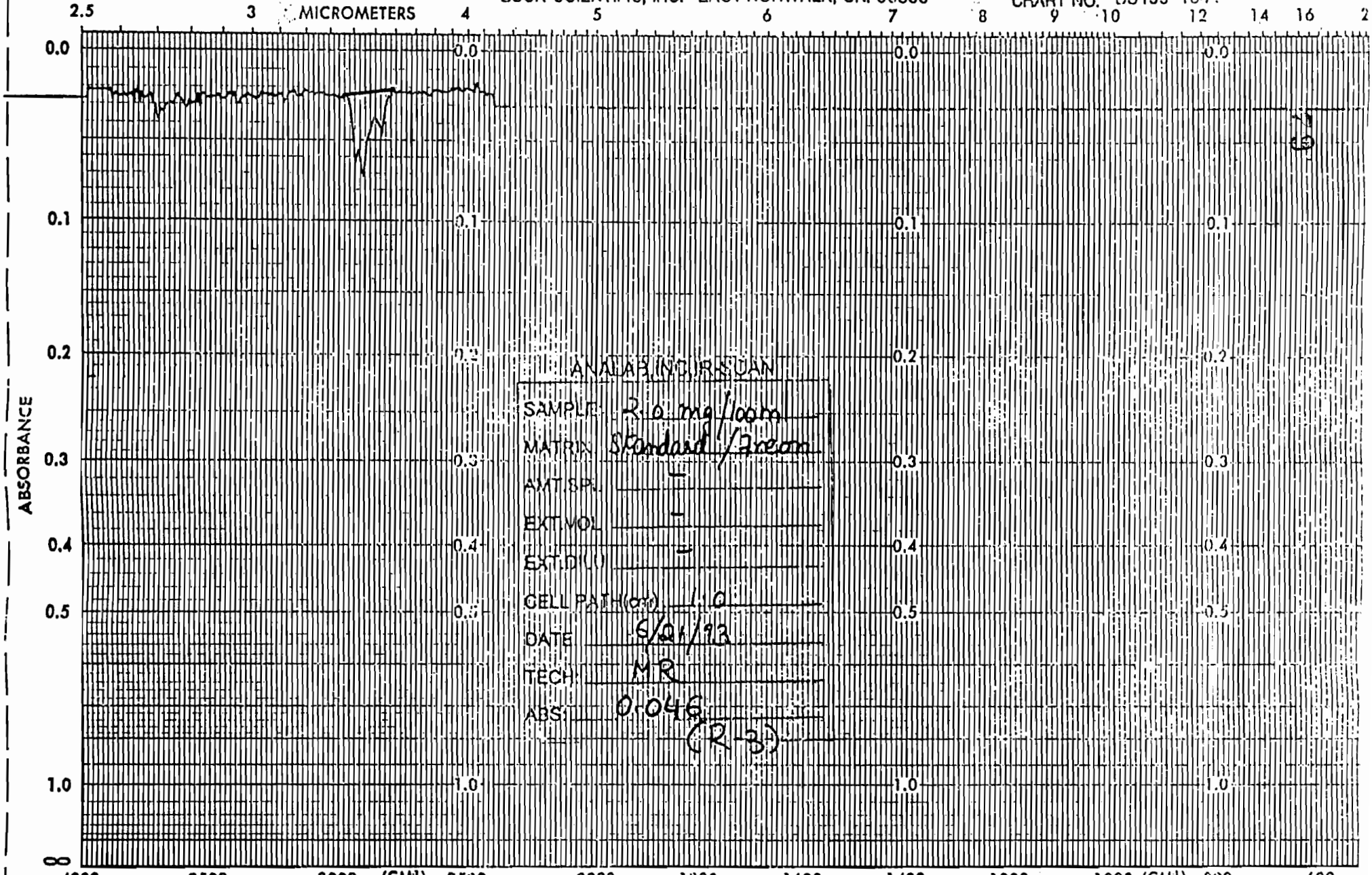
ABSCISSA	ORDINATE		
EXPANSION	EXPANSION	SCAN TIME	REP. SCAN SINGLE
	% T ABS	MULTIPLIER	TIME DRIVE
		SLIT PROGRAM	OPERATOR

SAMPLE	REMARKS	SOLVENT	CELL PATH
ORIGIN		CONCENTRATION	REFERENCE



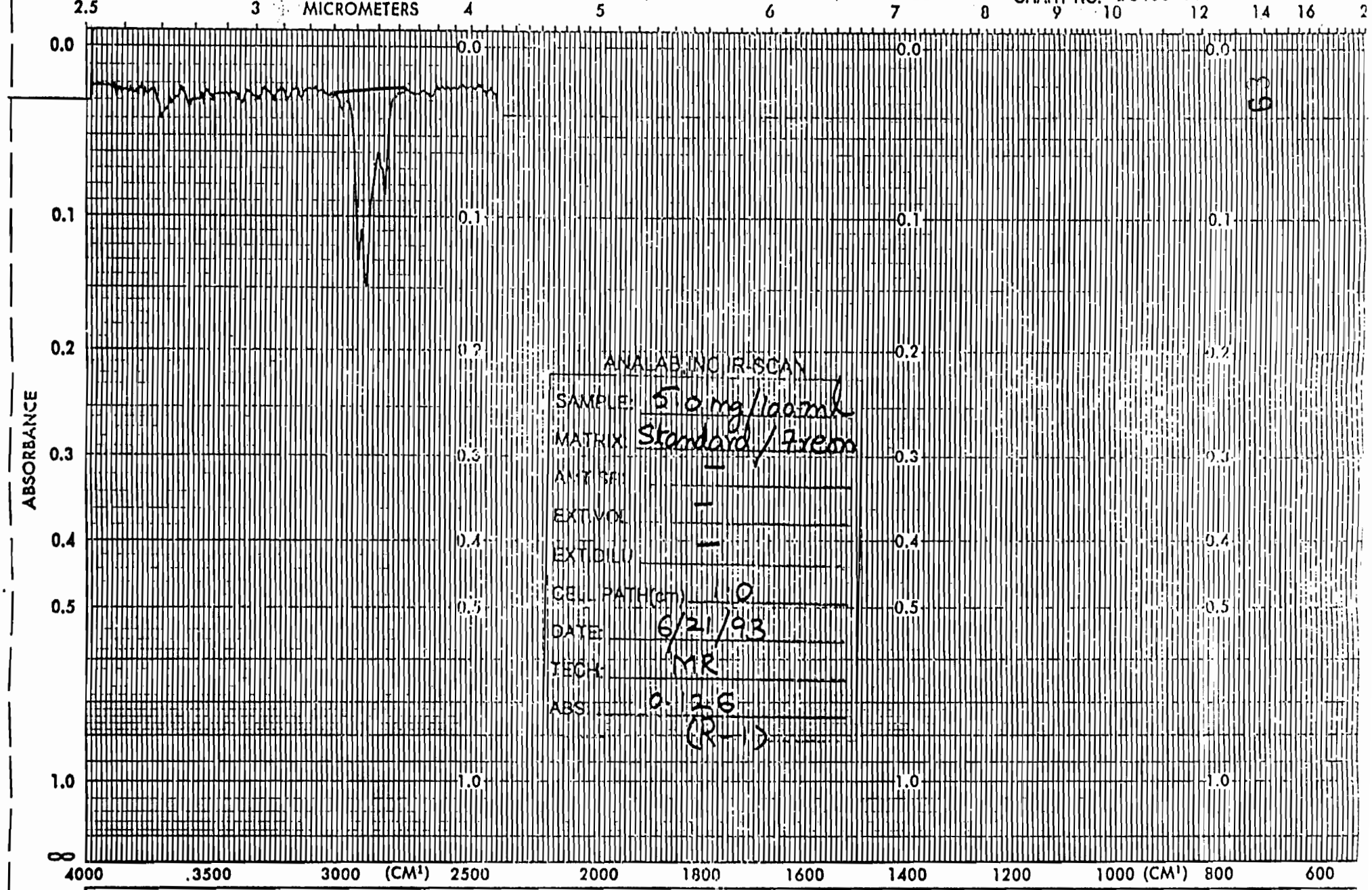
ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE BEAM
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

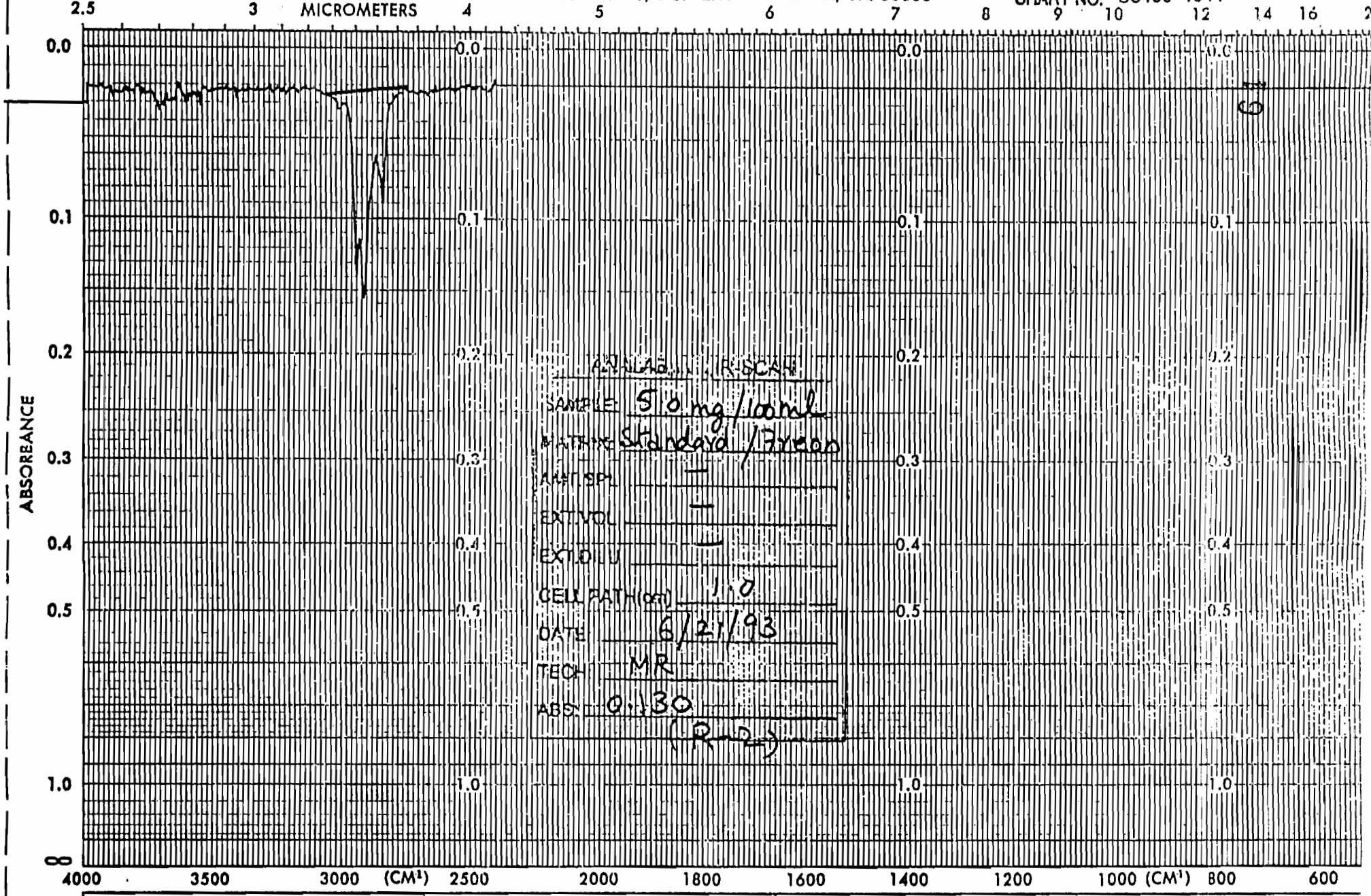
SAMPLE _____	REMARKS _____	SOLVENT _____	CELL PATH _____
ORIGIN _____		CONCENTRATION _____	REFERENCE _____



ABSCISSA	ORDINATE		
EXPANSION	EXPANSION	SCAN TIME	REP. SCAN ____ SINGLE BE
	% T ____ ABS ____	MULTIPLIER	TIME DRIVE
		SLIT PROGRAM	OPERATOR

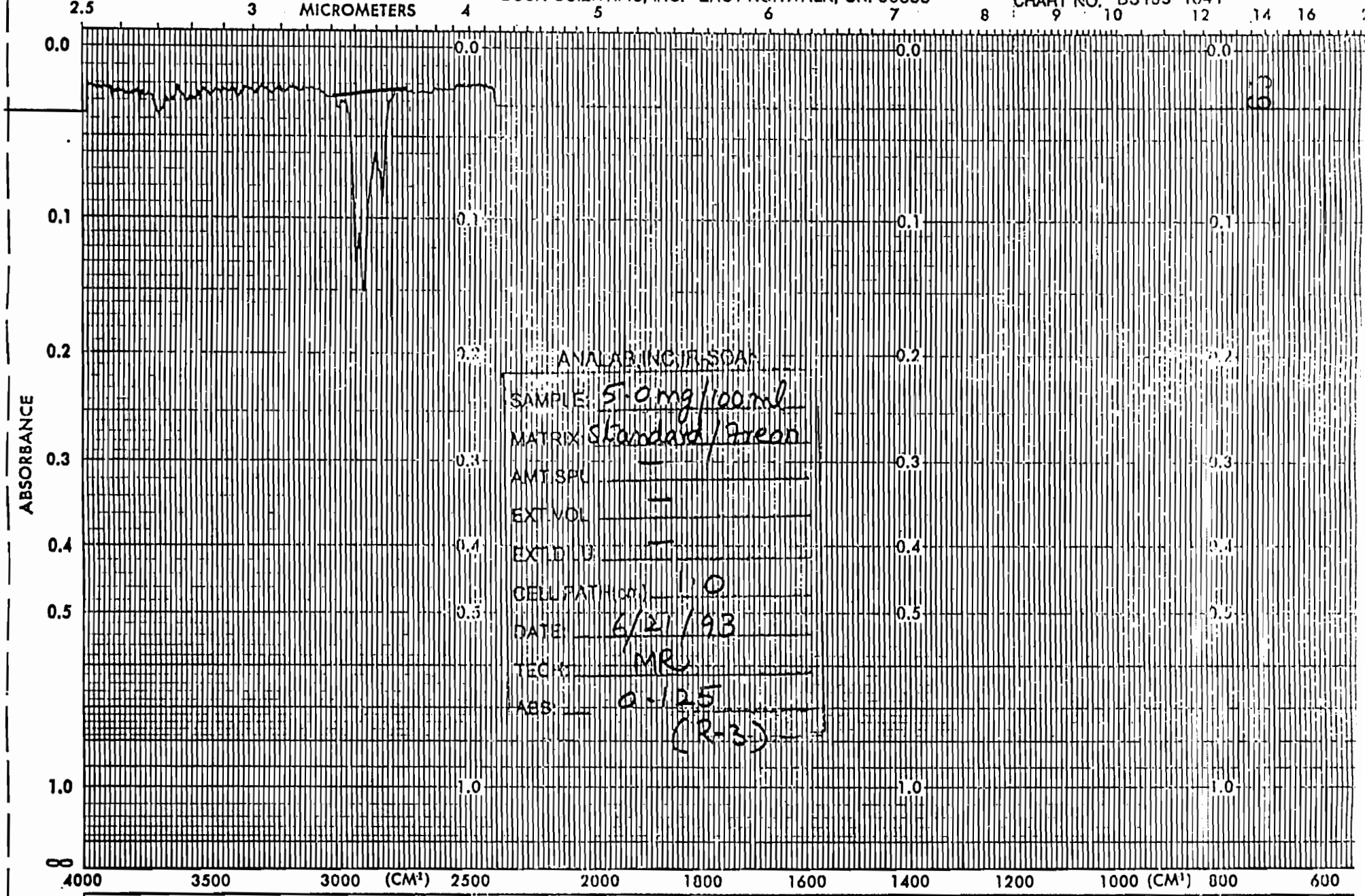
SAMPLE	REMARKS	SOLVENT	CELL PATH
ORIGIN		CONCENTRATION	REFERENCE


2.5
3
MICROMETERS
4
5
6
7
8
9
10
12
14
16
0.0
0.1
0.2
0.3
0.4
0.5
1.0
ABSORBANCE
ANALAB INC IR-SCAN
SAMPLE: 5.0 mg/100mL
MATRIX: Standard / Freon
AMT SA:
EXT.VOL:
EXT.DILU:
CELL PATH(cm): 1.0
DATE: 6/21/93
TECH: MR
ABS: 0.256
(R-1)
4000
3500
3000
(CM¹)
2500
2000
1800
1600
1400
1200
1000 (CM¹)
800
600
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
% T
ABS
SCAN TIME
MULTIPLIER
SLIT PROGRAM
REP. SCAN
SINGLE BE
TIME DRIVE
OPERATOR
SAMPLE
ORIGIN
REMARKS
SOLVENT
CONCENTRATION
CELL PATH
REFERENCE

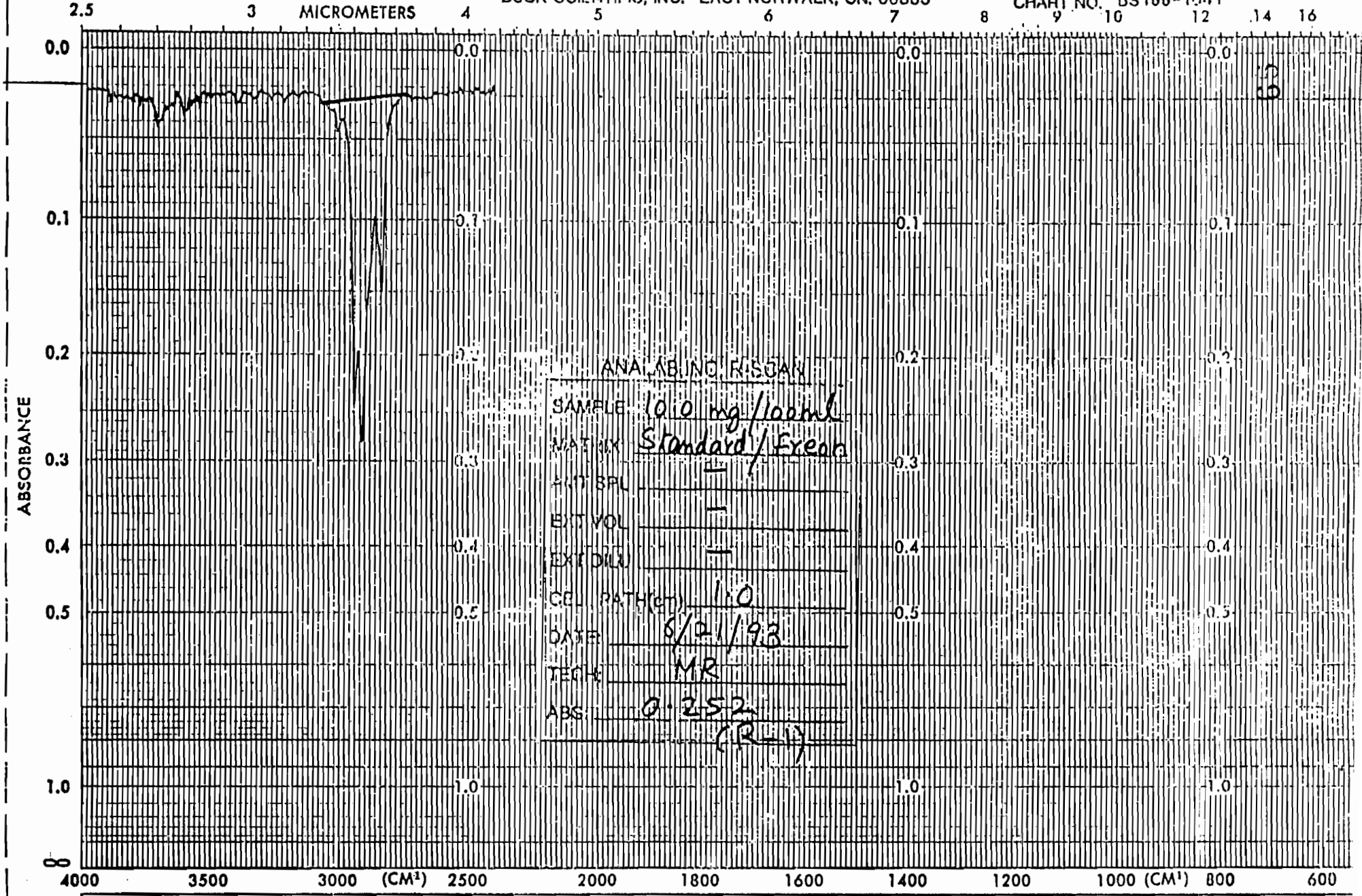


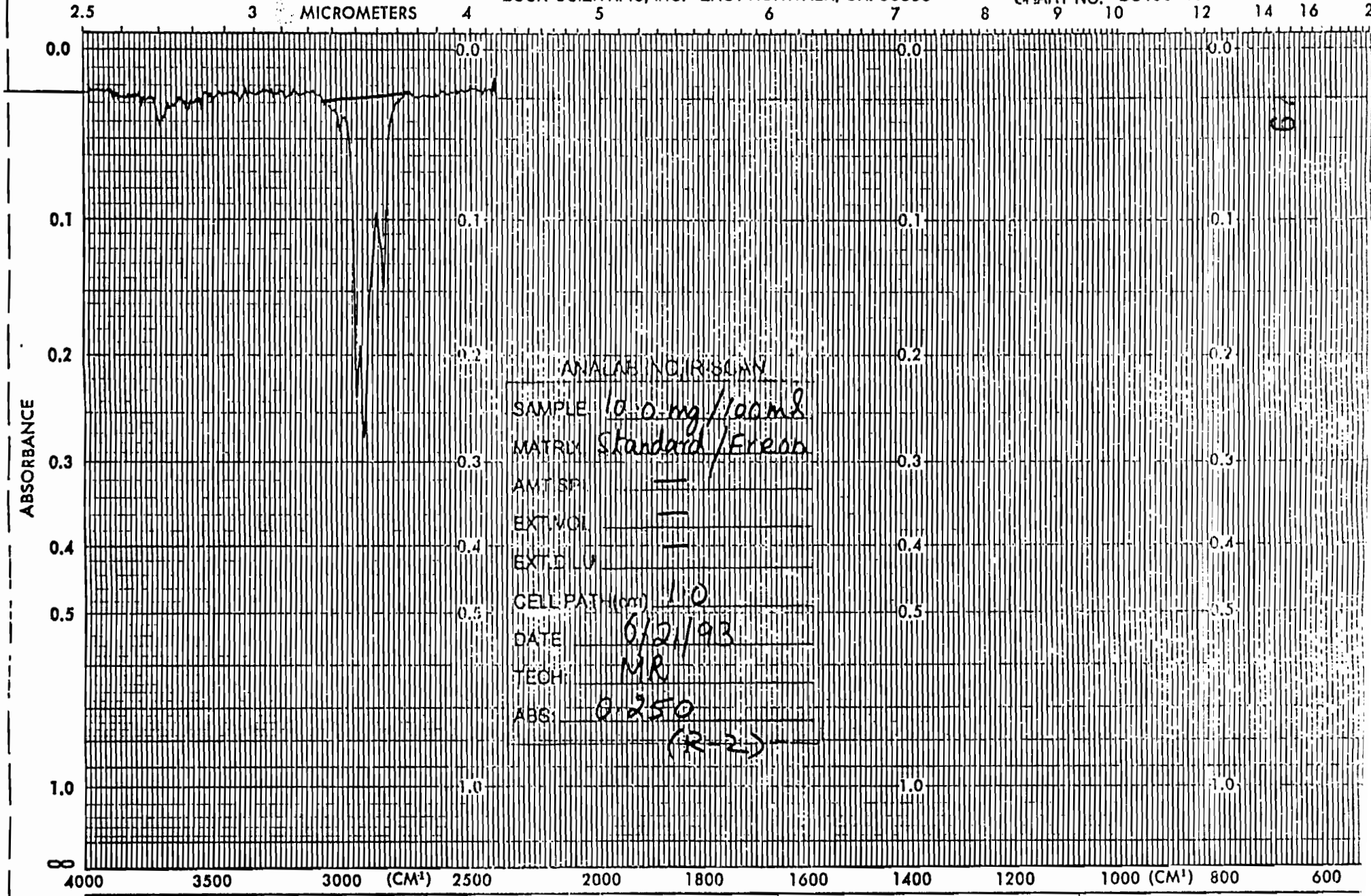
ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE BE
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

SAMPLE _____	REMARKS _____	SOLVENT _____	CELL PATH _____
ORIGIN _____		CONCENTRATION _____	REFERENCE _____



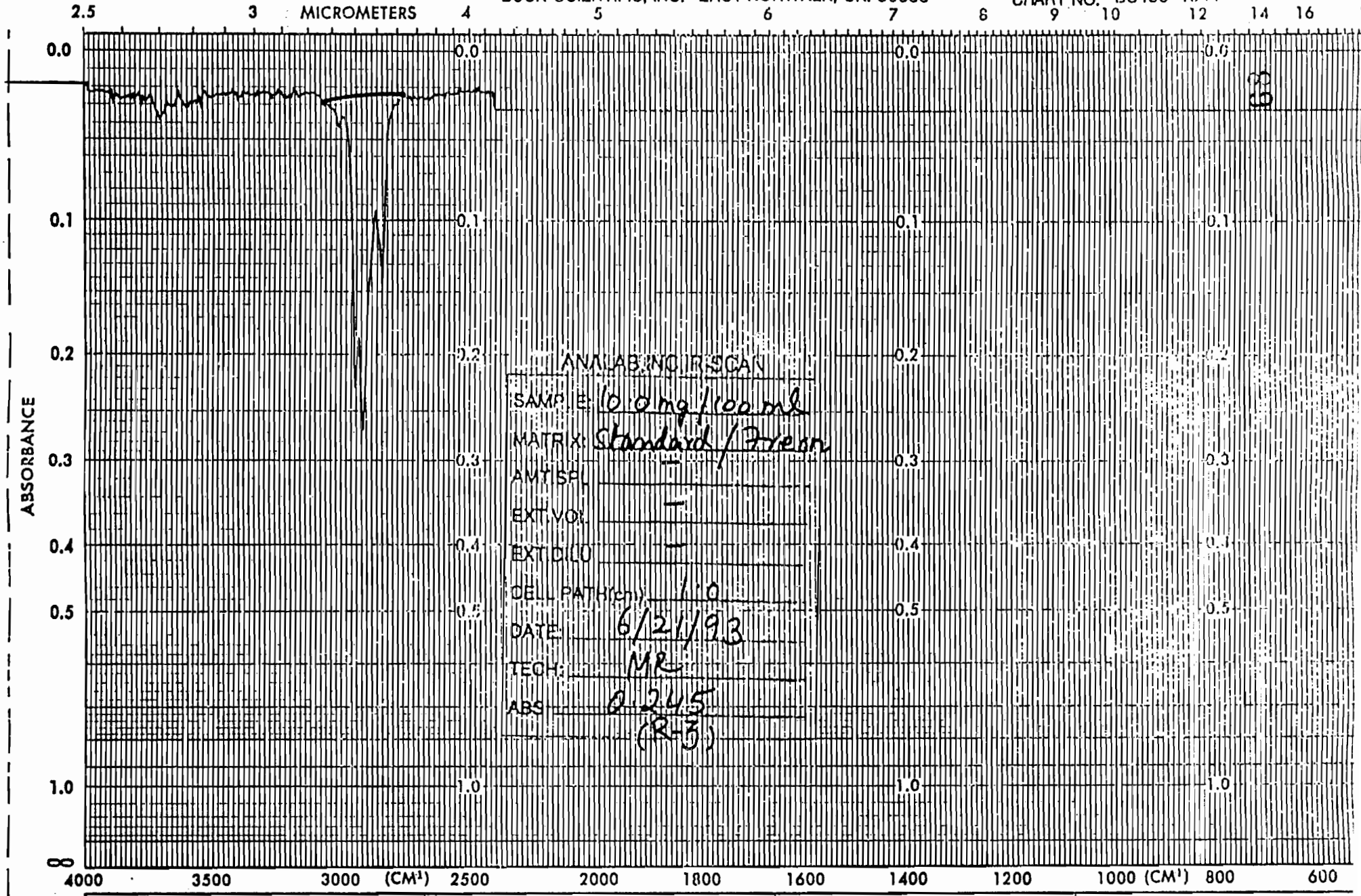
ABSCISSA	ORDINATE		
EXPANSION	EXPANSION	SCAN TIME	REP. SCAN SINGLE B
	% T ABS	MULTIPLIER	TIME DRIVE
		SLIT PROGRAM	OPERATOR
SAMPLE	REMARKS	SOLVENT	CELL PATH
ORIGIN		CONCENTRATION	REFERENCE


BOOK CORPORATION, INC. EAST NORWALK, CN. 06855
CHART NO. BS 166-1-MM
2.5
3
MICROMETERS
4
5
6
7
8
9
10
12
14
16
0.0
0.1
0.2
0.3
0.4
0.5
1.0
ABSORBANCE
ANALABINC R-SCAN
SAMPLE 10.0 mg/100ml
MATRIX Standard/Freon
EXT BPL —
EXT VOL —
EXT DIL —
CELL PATH(CM) 1.0
DATE 6/21/93
TECH MR
ABS 0.252
(R-11)
4000
3500
3000
(CM¹)
2500
2000
1800
1600
1400
1200
1000
800
600
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
% T
ABS
SCAN TIME
MULTIPLIER
SLIT PROGRAM
REP. SCAN
SINGLE B
TIME DRIVE
OPERATOR
SAMPLE
ORIGIN
REMARKS
SOLVENT
CONCENTRATION
CELL PATH
REFERENCE



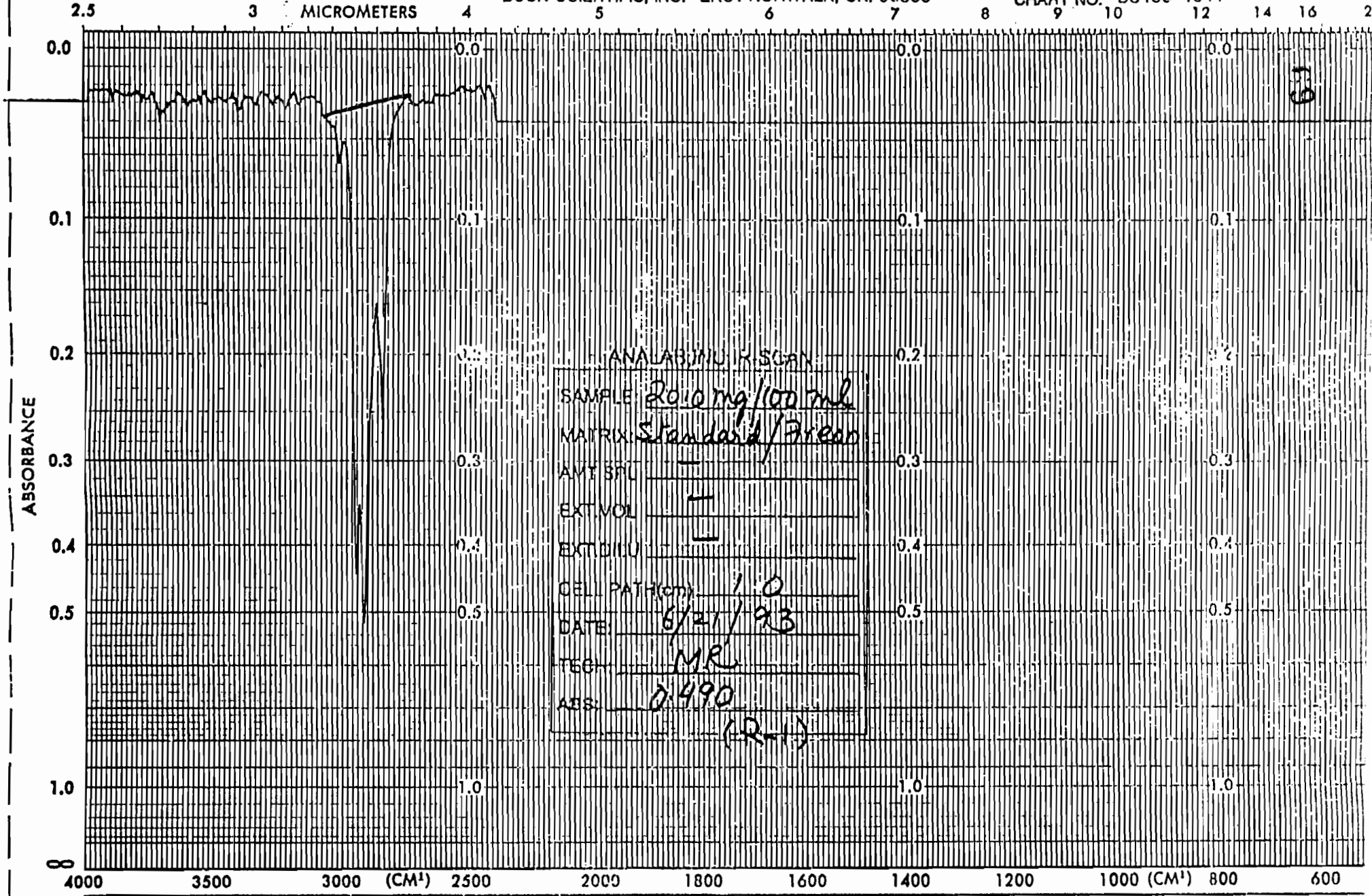
ABSCISSA	ORDINATE		
EXPANSION	EXPANSION	SCAN TIME	REP. SCAN _____ SINGLE BI
	% T _____ ABS	MULTIPLIER	TIME DRIVE
		SLIT PROGRAM	OPERATOR

SAMPLE	REMARKS	SOLVENT	CELL PATH
ORIGIN		CONCENTRATION	REFERENCE



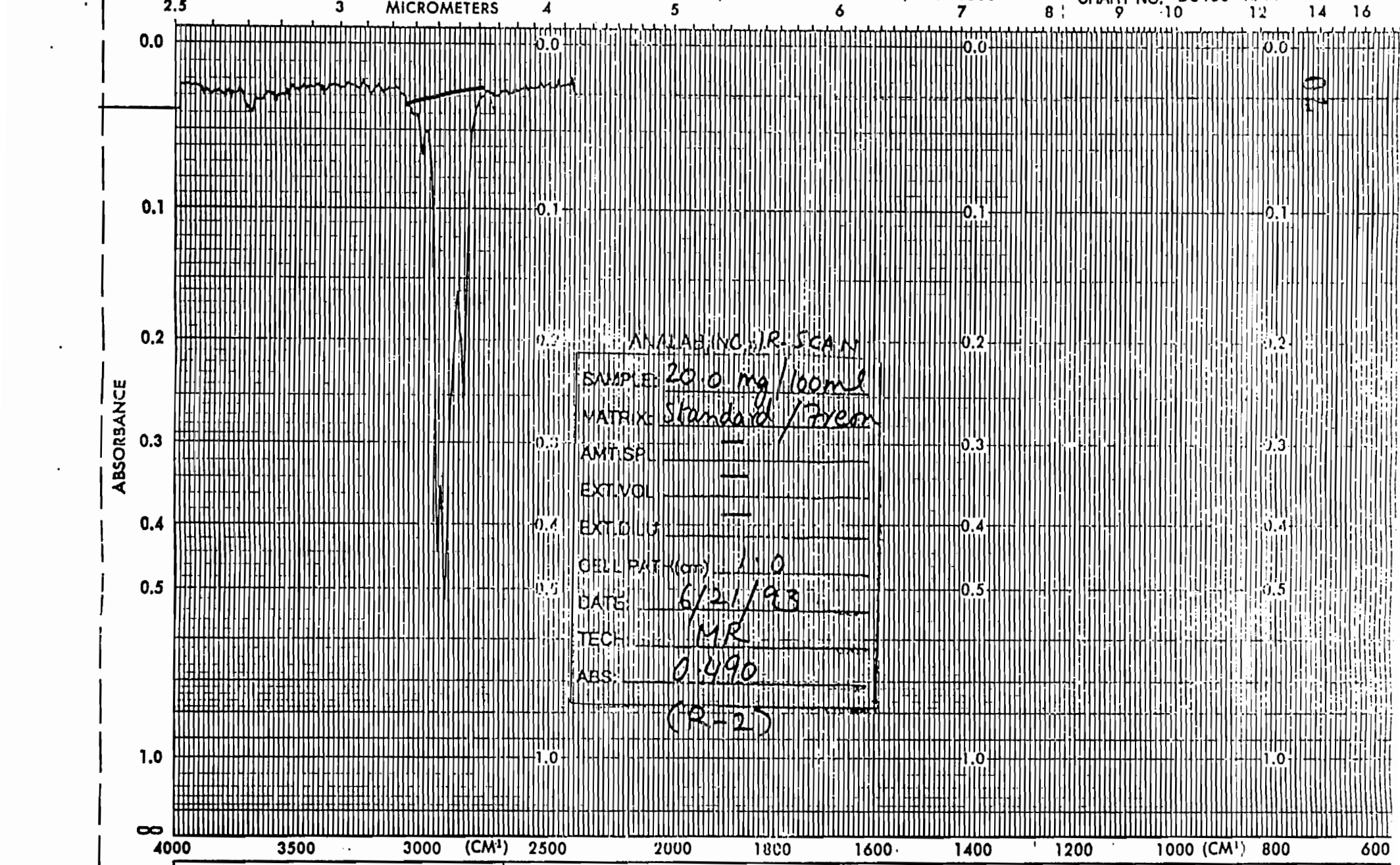
ABSCISSA	ORDINATE		
EXPANSION	EXPANSION	SCAN TIME	REP. SCAN SINGLE BI
	% T ABS	MULTIPLIER	TIME DRIVE
		SLIT PROGRAM	OPERATOR

SAMPLE	REMARKS	SOLVENT	CELL PATH
ORIGIN		CONCENTRATION	REFERENCE



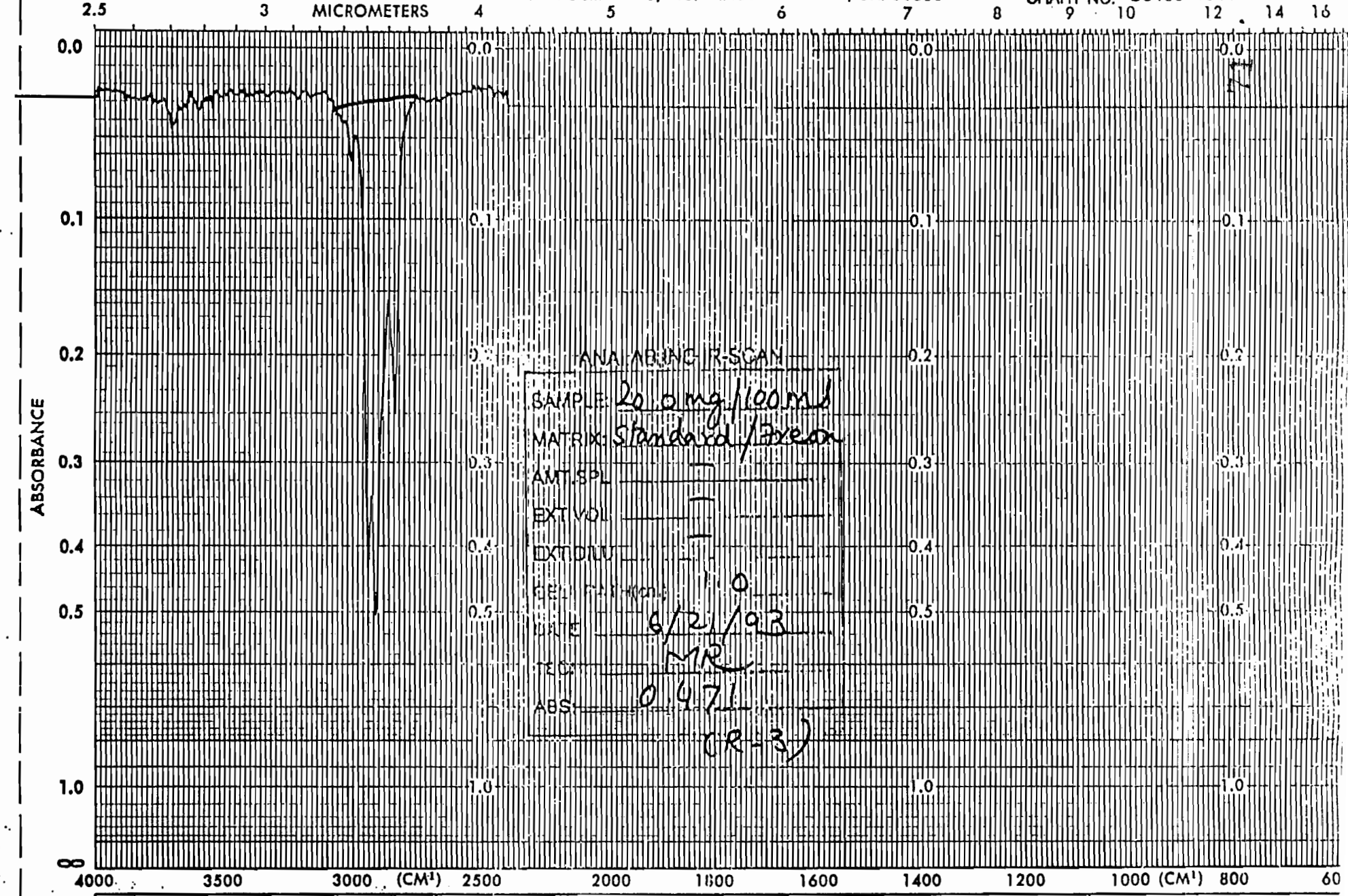
ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE BE.
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

SAMPLE _____	REMARKS _____	SOLVENT _____	CELL PATH _____
ORIGIN _____		CONCENTRATION _____	REFERENCE _____



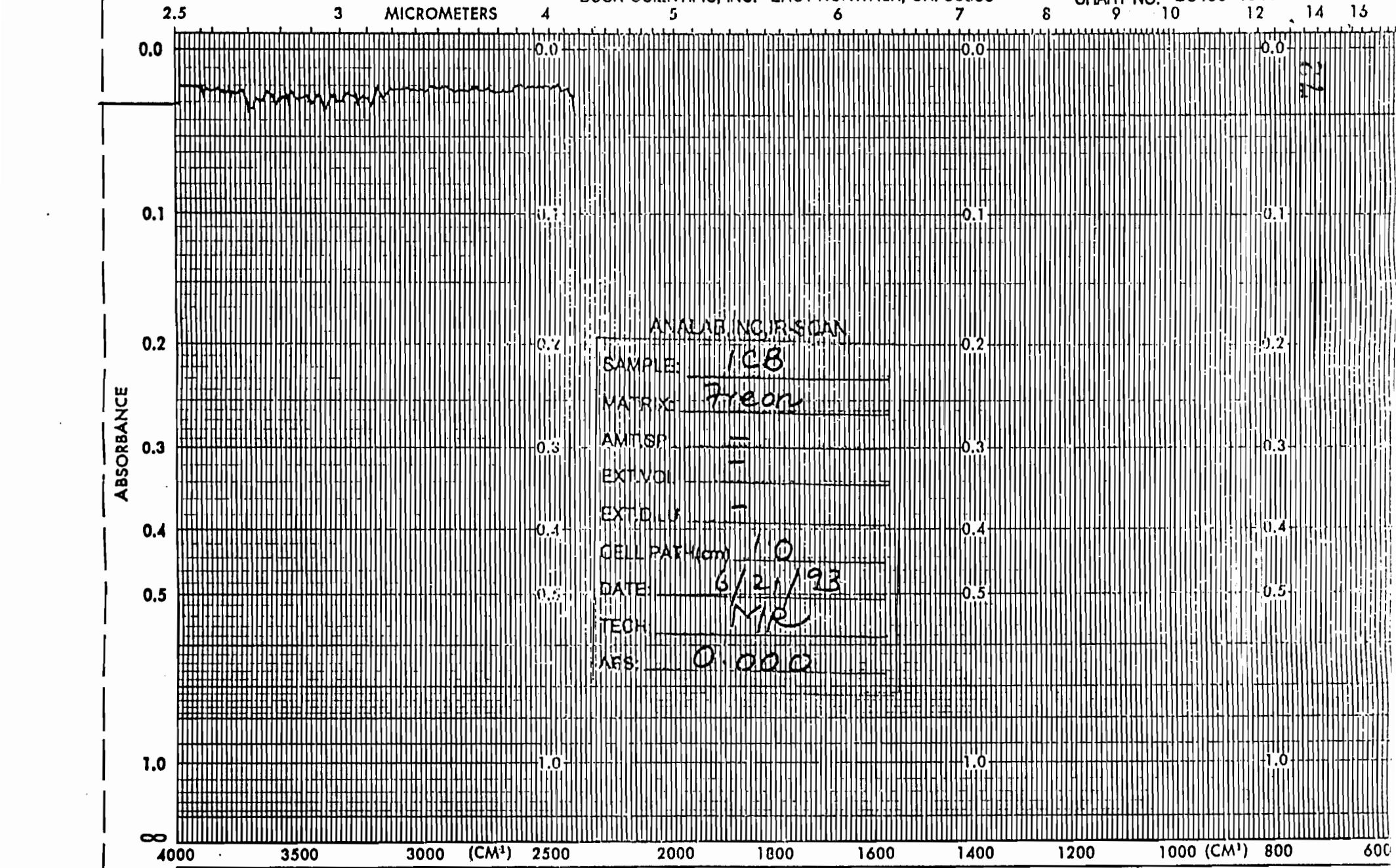
ABSCISSA	ORDINATE		
EXPANSION	EXPANSION	SCAN TIME	REP. SCAN ____ SINGLE
	% T ____ ABS ____	MULTIPLIER	TIME DRIVE
		SLIT PROGRAM	OPERATOR

SAMPLE	REMARKS	SOLVENT	CELL PATH
ORIGIN		CONCENTRATION	REFERENCE



ABSCISSA	ORDINATE	SCAN TIME	REP. SCAN / SINGLE
EXPANSION	EXPANSION	MULTIPLIER	TIME DRIVE
	% T / ABS	SLIT PROGRAM	OPERATOR

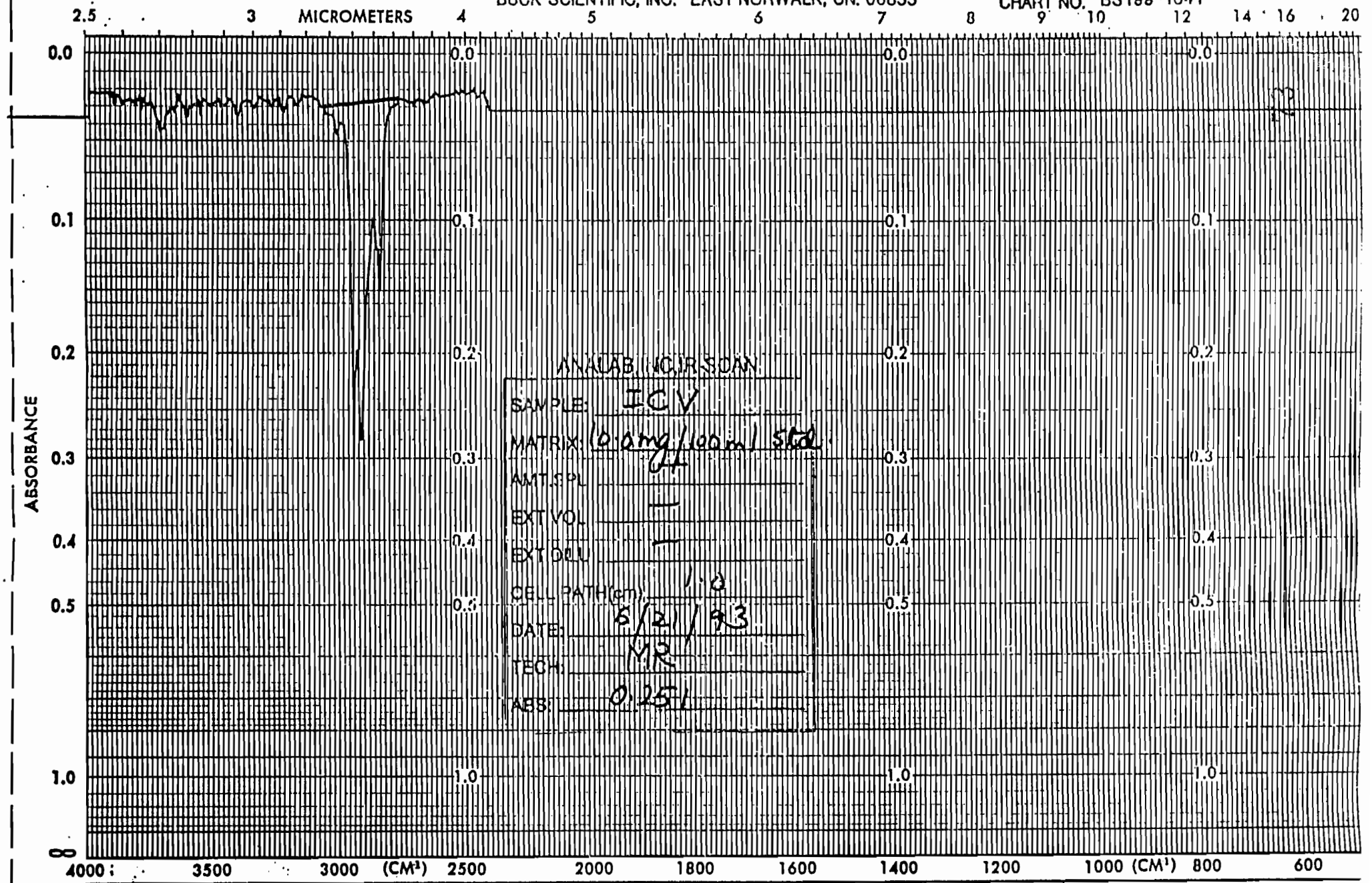
SAMPLE	REMARKS	SOLVENT	CELL PATH
ORIGIN		CONCENTRATION	REFERENCE



ABSCISSA	ORDINATE		
EXPANSION _____	EXPANSION _____	SCAN TIME _____	REP. SCAN _____ SINGLE
	% T _____ ABS _____	MULTIPLIER _____	TIME DRIVE _____
		SLIT PROGRAM _____	OPERATOR _____

SAMPLE _____	REMARKS _____	SOLVENT _____	CELL PATH _____
ORIGIN _____		CONCENTRATION _____	REFERENCE _____

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855 CHART NO. BS188 10-71



ABSCISSA	ORDINATE		
EXPANSION	EXPANSION	SCAN TIME	REP. SCAN SINGLE BEA
	% T ABS	MULTIPLIER	TIME DRIVE
		SLIT PROGRAM	OPERATOR
SAMPLE	REMARKS	SOLVENT	CELL PATH
ORIGIN		CONCENTRATION	REFERENCE

93-06-234

ANALAB INC. 205 Campus Plaza * Raritan Center Edison, NJ 08837 Tel (908) 225-4111 Fax (908) 225-4117

WET CHEMISTRY - CONTINUING CALIBRATION SUMMARY - TPHC
METHOD: EPA 418.1, & EPA 418.1 (NJDEPE MOD)

INSTRUMENT: P & E 1430 CONTINUING CALIBRATION DATE: 6/22/93

AUTHORIZED BY: MR CONTINUING CALIBRATION TIME: 3° PM

CELL PATH: 1.0 CM ANALYST: SRT/MO/MR

ALL UNITS: MG/100ML INITIAL CALIBRATION DATE: 6/21/93

CONTINUING CALIBRATION VERIFICATION (CCV): SOURCE LOT WC 505

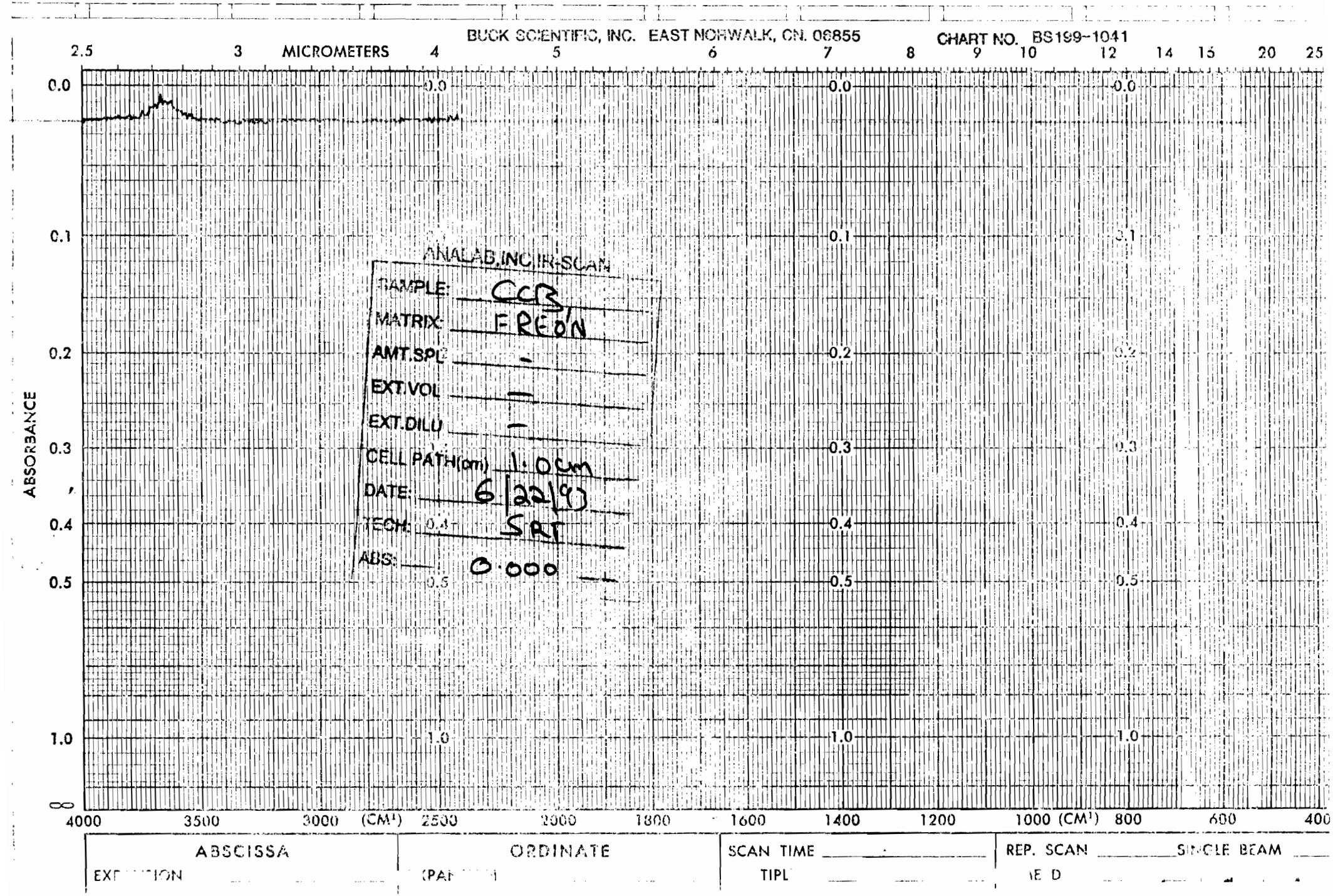
CONTINUING CALIBRATION BLANK (CCB): FREON SOURCE LOT: HK344

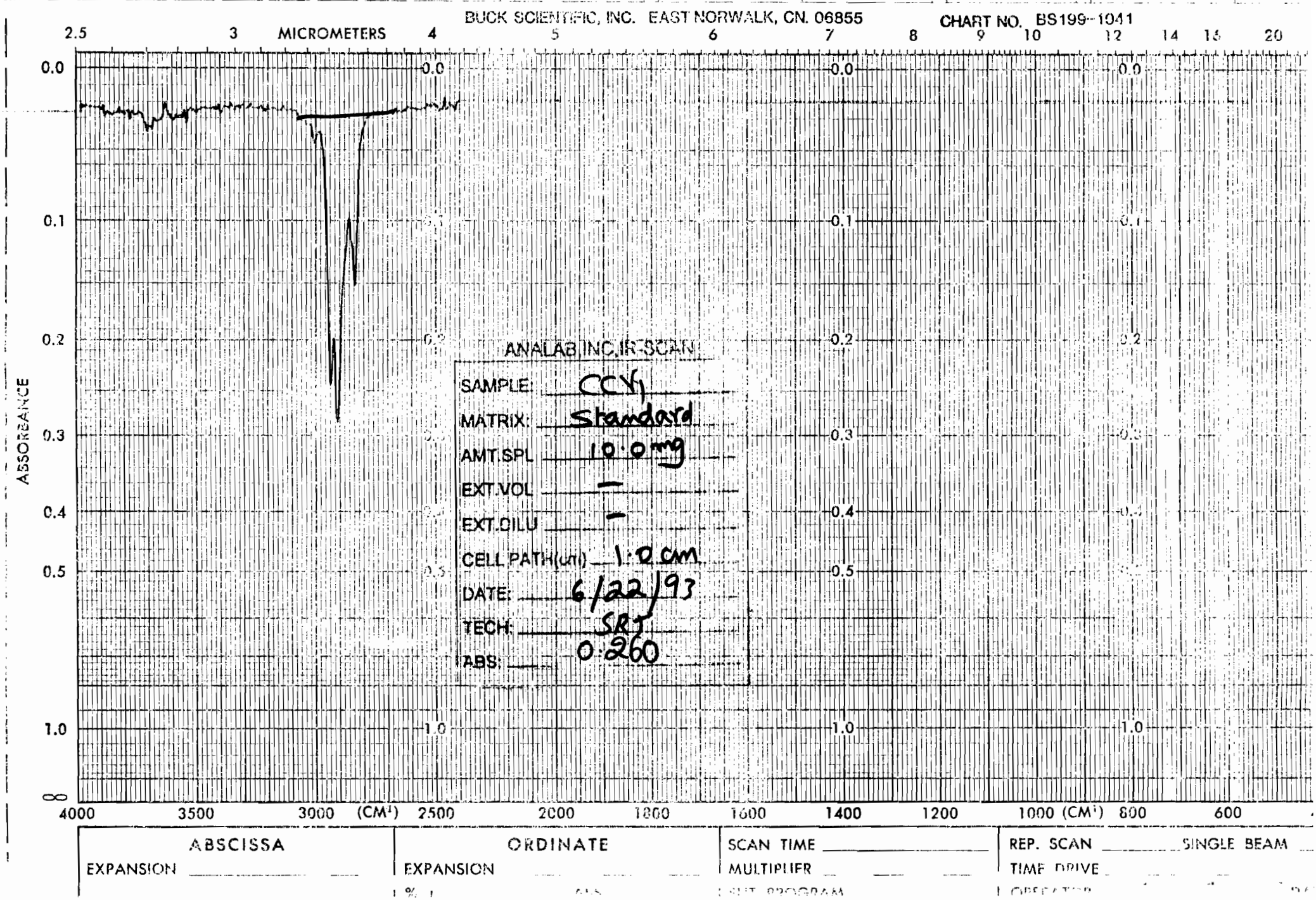
IDL = 0.75 MG/100 ML, MDL AQUEOUS = 1.0 MG/L, SOIL MDL = 25 MG/KG

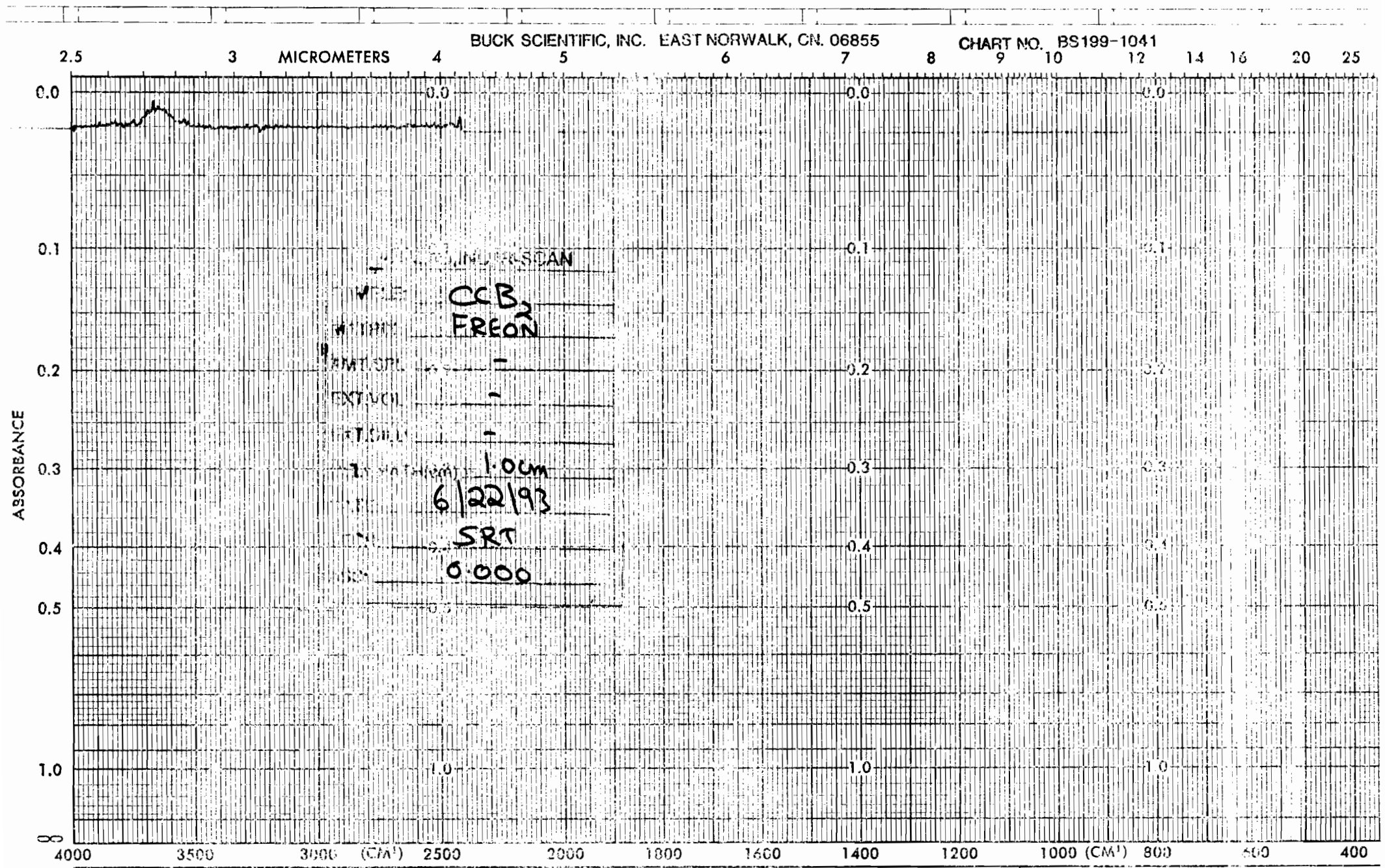
TYPE CC CHECK	FOUND RESULT	TRUE VALUE	PERCENT REC.	QC LIMIT % REC.
CCB-1	<0.75	N/A	N/A	< MDL
CCV-1	10.65	10.0	106.5	90-110
CCB-2	<0.75	N/A	N/A	< MDL
CCV-2	10.85	10.0	108.5	90-110
CCB-3	<0.75	N/A	N/A	< MDL
CCV-3	10.44	10.0	104.4	90-110
CCB-4		N/A	N/A	< MDL
CCV-4		10.0		90-110
CCB-5		N/A	N/A	< MDL
CCV-5		10.0		90-110
CCB-6		N/A	N/A	< MDL
CCV-6		10.0		90-110

COMMENTS: MDL = METHOD DETECTION LIMIT
N/A = NOT APPLICABLE
IDL = INSTRUMENT DETECTION LIMIT (LOWEST STANDARD)

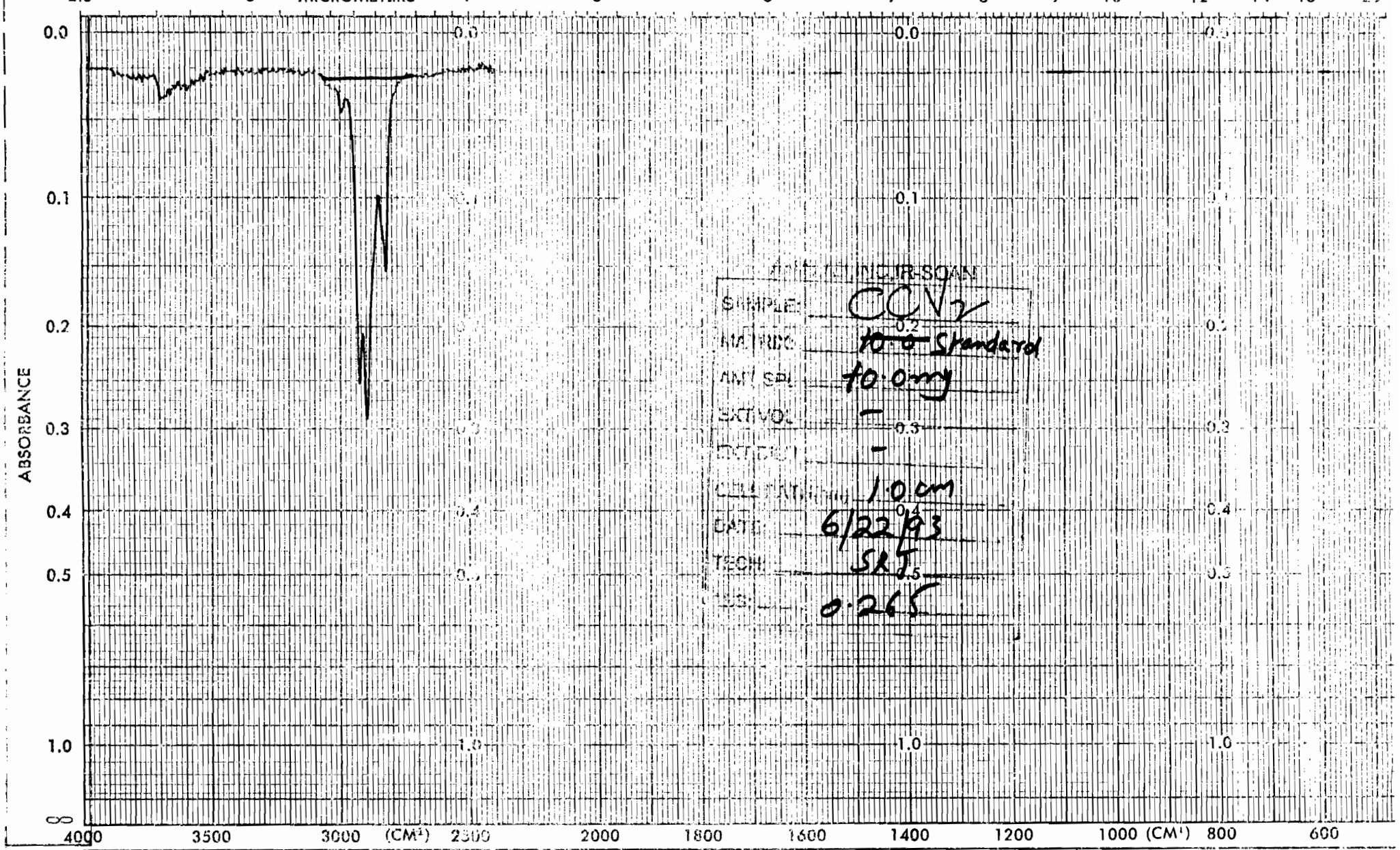
Q&A: A:\WCPHCCC


BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5 3 MICROMETERS 4 5 6 7 8 9 10 12 14 15 20 25
ABSORBANCE
0.0 0.1 0.2 0.3 0.4 0.5 1.0 ∞
4000 3500 3000 (CM¹) 2500 2000 1800 1600 1400 1200 1000 (CM¹) 800 600 400
ANALAB,INC IR-SCAN
SAMPLE: CCl3
MATRIX: FREON
AMT.SPL: -
EXT.VOL: -
EXT.DILU: -
CELL PATH(cm): 1.0cm
DATE: 6/22/90
TECH: SRT
ABS: 0.000
ABSCISSA
ORDINATE
SCAN TIME
REP. SCAN
SINGLE BEAM


BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5 3 MICROMETERS 4 5 6 7 8 9 10 12 14 15 20
ABSORBANCE
0.0 0.1 0.2 0.3 0.4 0.5 1.0
4000 3500 3000 (CM⁻¹) 2500 2000 1800 1600 1400 1200 1000 (CM⁻¹) 800 600
ANALAB INC.IR-SCAN
SAMPLE: CCl4
MATRIX: Standard
AMT.SPL 10.0 mg
EXT.VOL —
EXT.DILU —
CELL PATH(um) 1.0 cm
DATE: 6/22/93
TECH: SRJ
ABS: 0.260
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
SCAN TIME
MULTIPLIER
REP. SCAN
SINGLE BEAM
TIME DRIVE

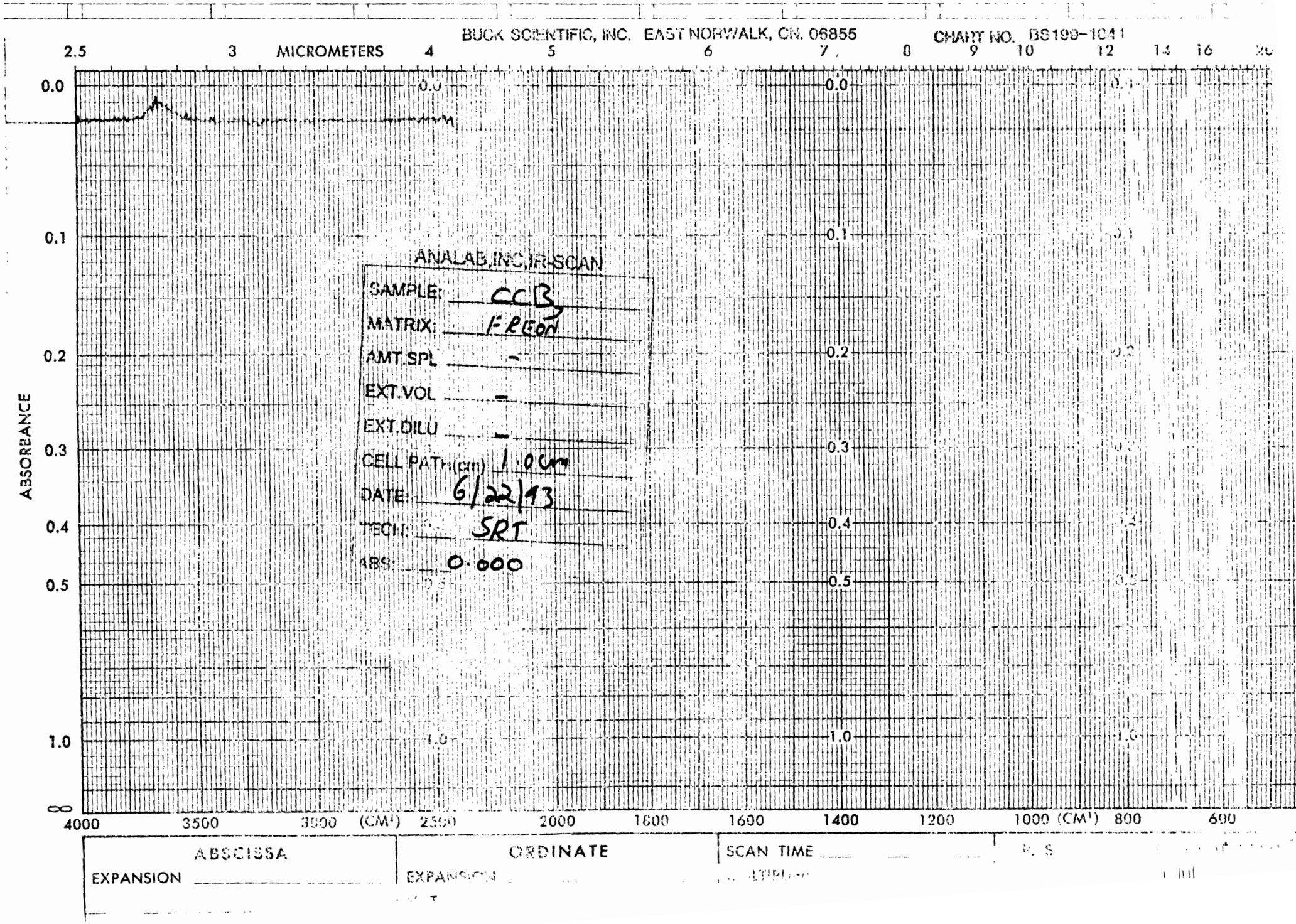

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5
3
MICROMETERS
4
5
6
7
8
9
10
12
14
16
20
25
ABSORBANCE
0.0
0.1
0.2
0.3
0.4
0.5
1.0
4000
3500
3000 (CM¹)
2500
2000
1800
1600
1400
1200
1000 (CM¹)
800
600
400
CCB,
FREON
1.0cm
6/22/93
SRT
6.000
ABSCISSA
ORDINATE
SCAN TIME
REP. SCAN
SINGLE BEAM

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06655 CHART NO. BS 199-1041

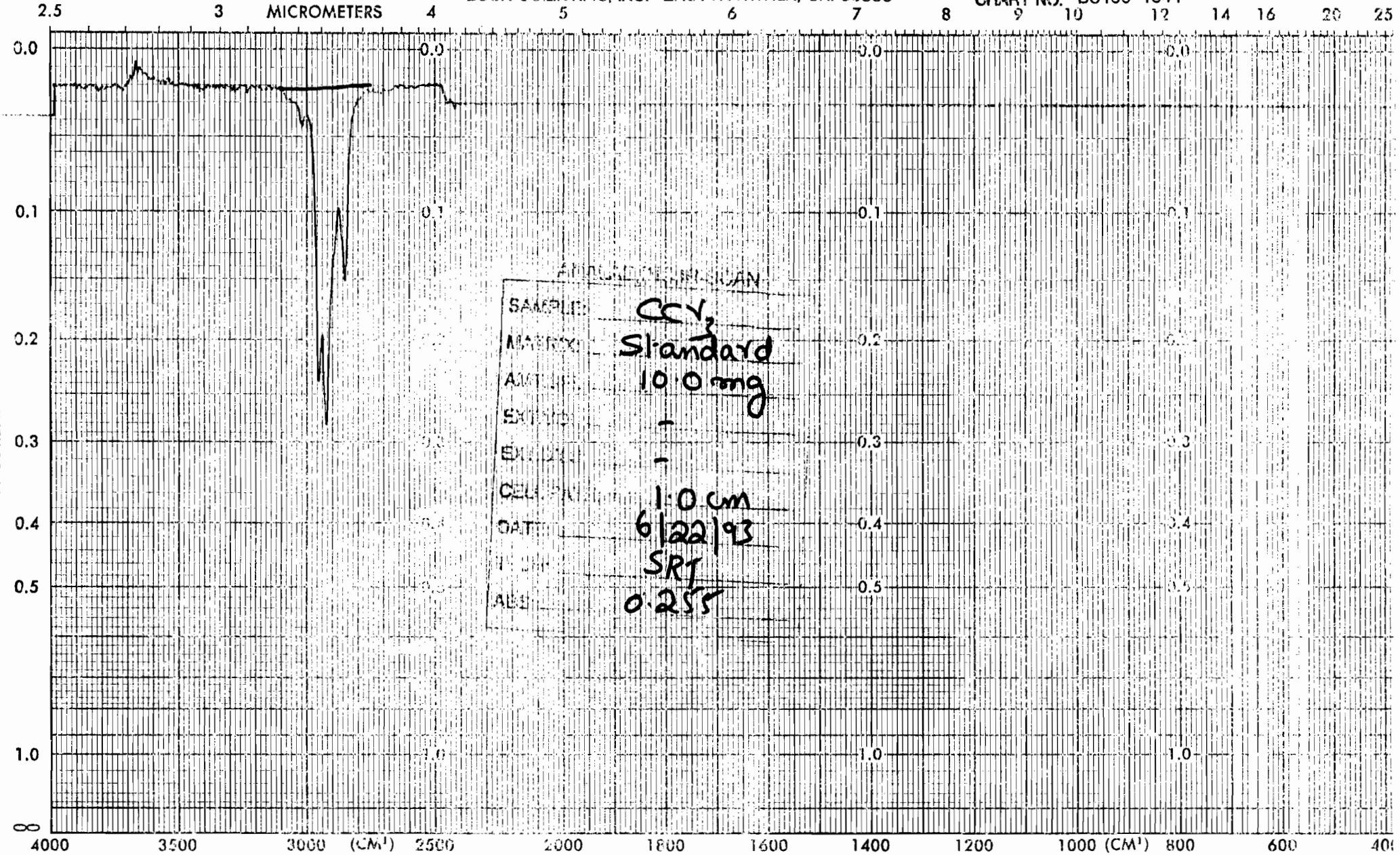


ABSCISSA	ORDINATE		
EXPANSION	EXPANSION	SCAN TIME	REP. SCAN SINGLE BEAM
	% T ABS	MULTIPLIER	TIME DRIVE
		SLIT PROGRAM	OPERATOR

SAMPLE	REMARKS	SOLVENT	CELL PATH
ORIGIN		CONCENTRATION	REFERENCE


BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5
3
MICROMETERS
4
5
6
7
8
9
10
12
14
16
20
0.0
0.1
0.2
0.3
0.4
0.5
1.0
ABSORBANCE
4000
3500
3000
(CM¹)
2500
2000
1600
1600
1400
1200
1000 (CM¹)
800
600
ANALAB,INC.IR-SCAN
SAMPLE: CCB
MATRIX: FREON
AMT.SPL: -
EXT.VOL: -
EXT.DILU: -
CELL PATH(cm): 1.0cm
DATE: 6/22/93
TECH: SRT
ABS: 0.000
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
SCAN TIME

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855 CHART NO. BS199-1041



ABSCISSA	ORDINATE	SCAN TIME	REP. SCAN
EXPANSION			SINGLE BEAM

ANALAB INC. 205 Campus Plaza 1, Raritan Center Edison, NJ 08837 Tel: (908) 225-4111, Fax: (908) 225-4113

WET CHEMISTRY - CONTINUING CALIBRATION SUMMARY - TPHC
METHOD: EPA 418.1, & EPA 418.1 (NJDEPE MOD)

INSTRUMENT: P & E 1430 CONTINUING CALIBRATION DATE: 6/23/93

AUTHORIZED BY: [signature] CONTINUING CALIBRATION TIME: 3^00 PM

CELL PATH: 1.0 CM ANALYST: SRT

ALL UNITS: MG/100ML INITIAL CALIBRATION DATE: 6/21/93

CONTINUING CALIBRATION VERIFICATION (CCV): SOURCE LOT WC505

CONTINUING CALIBRATION BLANK (CCB): FREON SOURCE LOT: HK344

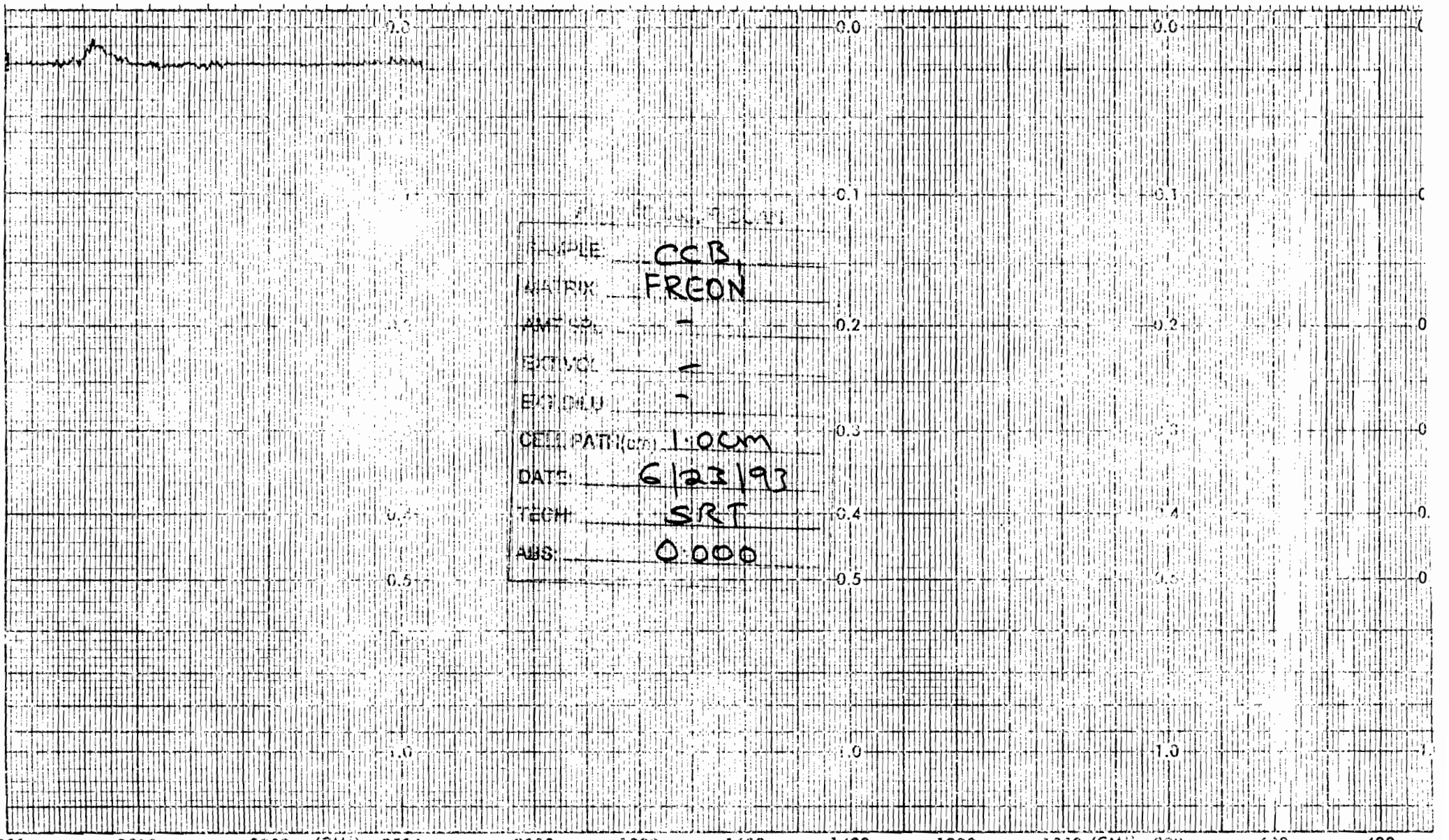
IDL = 0.75 MG/100 ML, MDL AQUEOUS = 1.0 MG/L, SOIL MDL = 25 MG/KG

TYPE CC CHECK	FOUND RESULT	TRUE VALUE	PERCENT REC.	QC LIMIT % REC.
CCB-1	<0.75	N/A	N/A	< MDL
CCV-1	10.65	10.0	106.5	90-110
CCB-2	<0.75	N/A	N/A	< MDL
CCV-2	10.85	10.0	108.5	90-110
CCB-3	<0.75	N/A	N/A	< MDL
CCV-3	9.62	10.0	96.2	90-110
CCB-4		N/A	N/A	< MDL
CCV-4		10.0		90-110
CCB-5		N/A	N/A	< MDL
CCV-5		10.0		90-110
CCB-6		N/A	N/A	< MDL
CCV-6		10.0		90-110

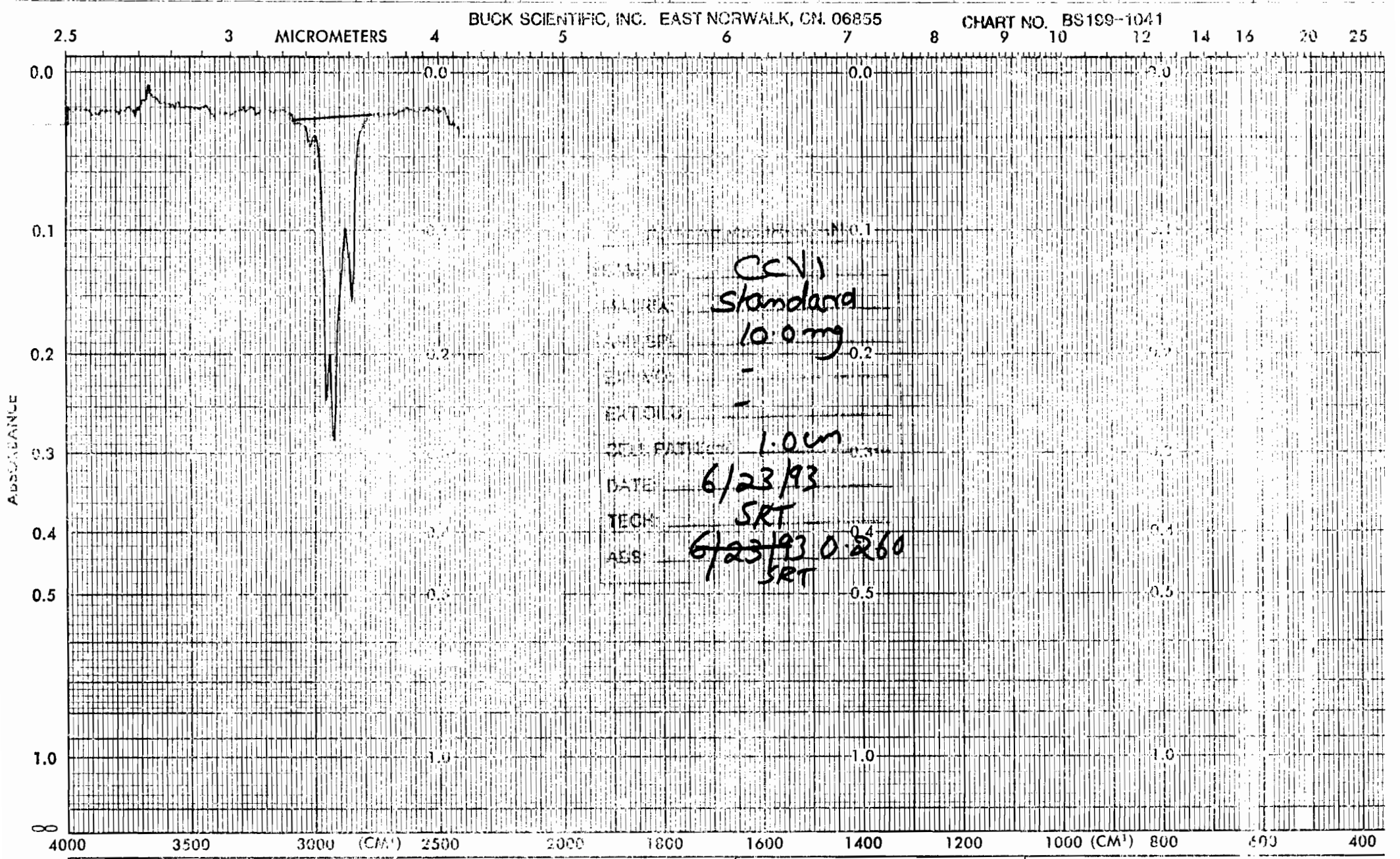
COMMENTS: MDL = METHOD DETECTION LIMIT
N/A = NOT APPLICABLE
IDL = INSTRUMENT DETECTION LIMIT (LOWEST STANDARD)

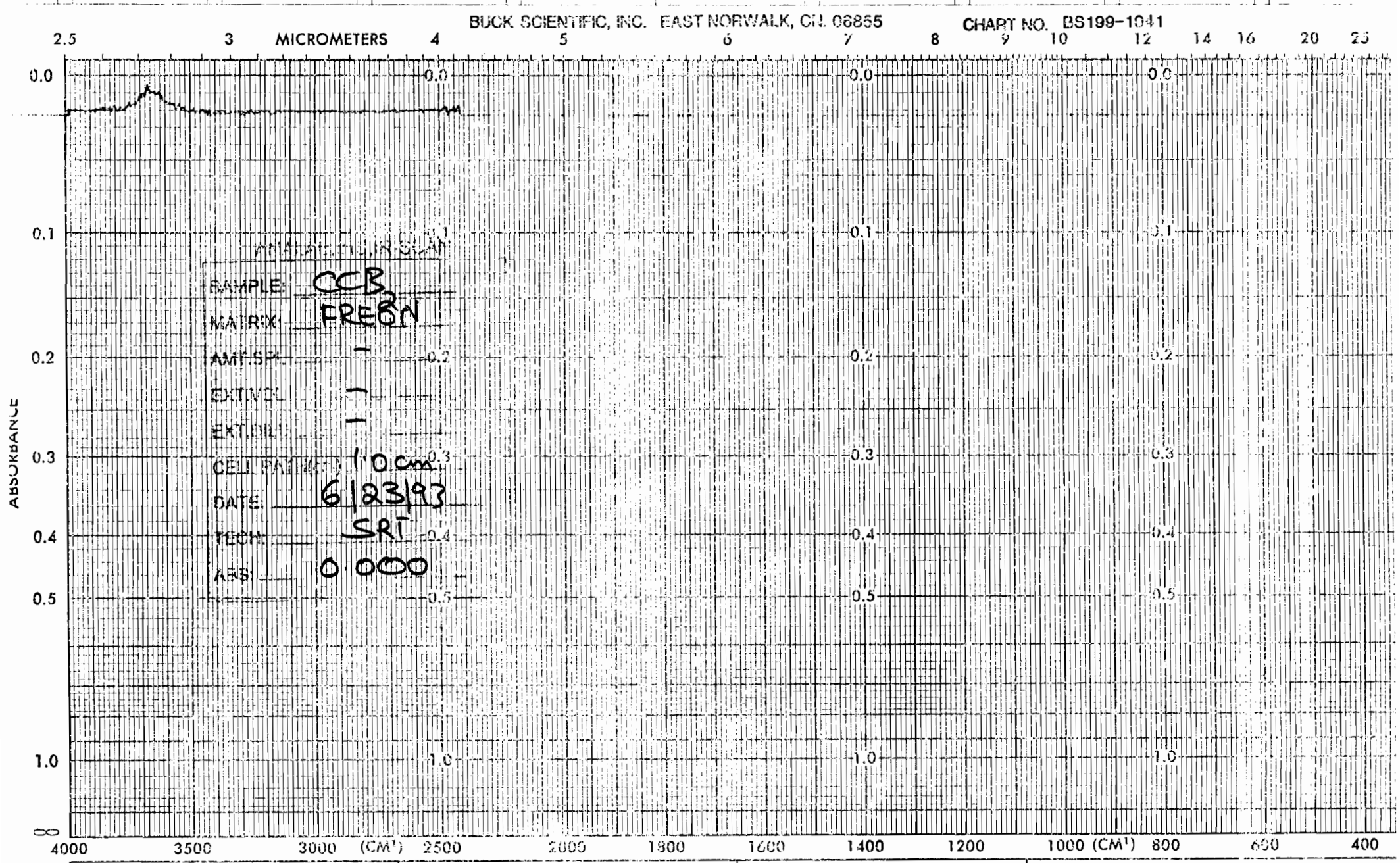
Q&A: A:\WCPHCCC

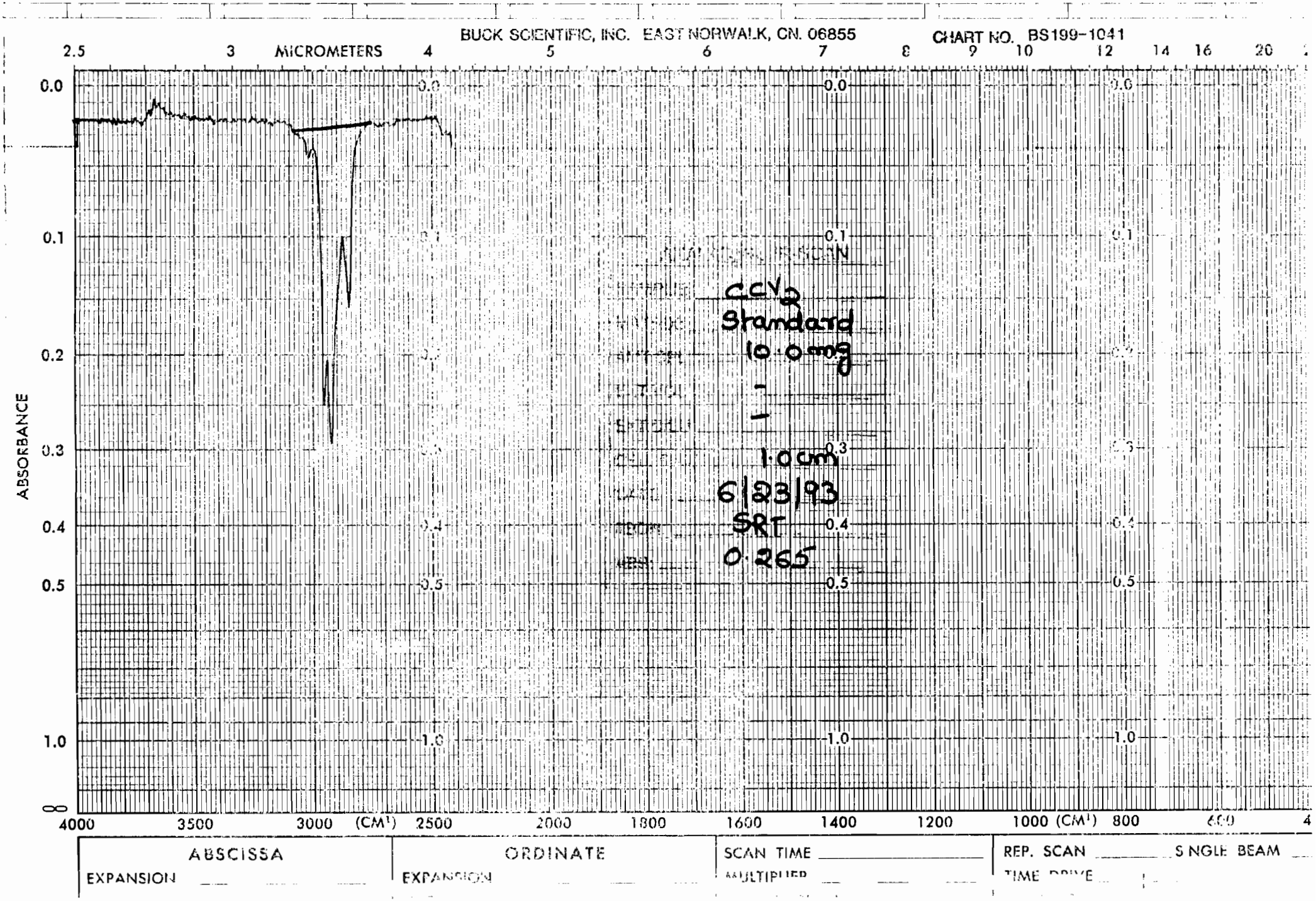
BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855 CHART NO. BS199-1041

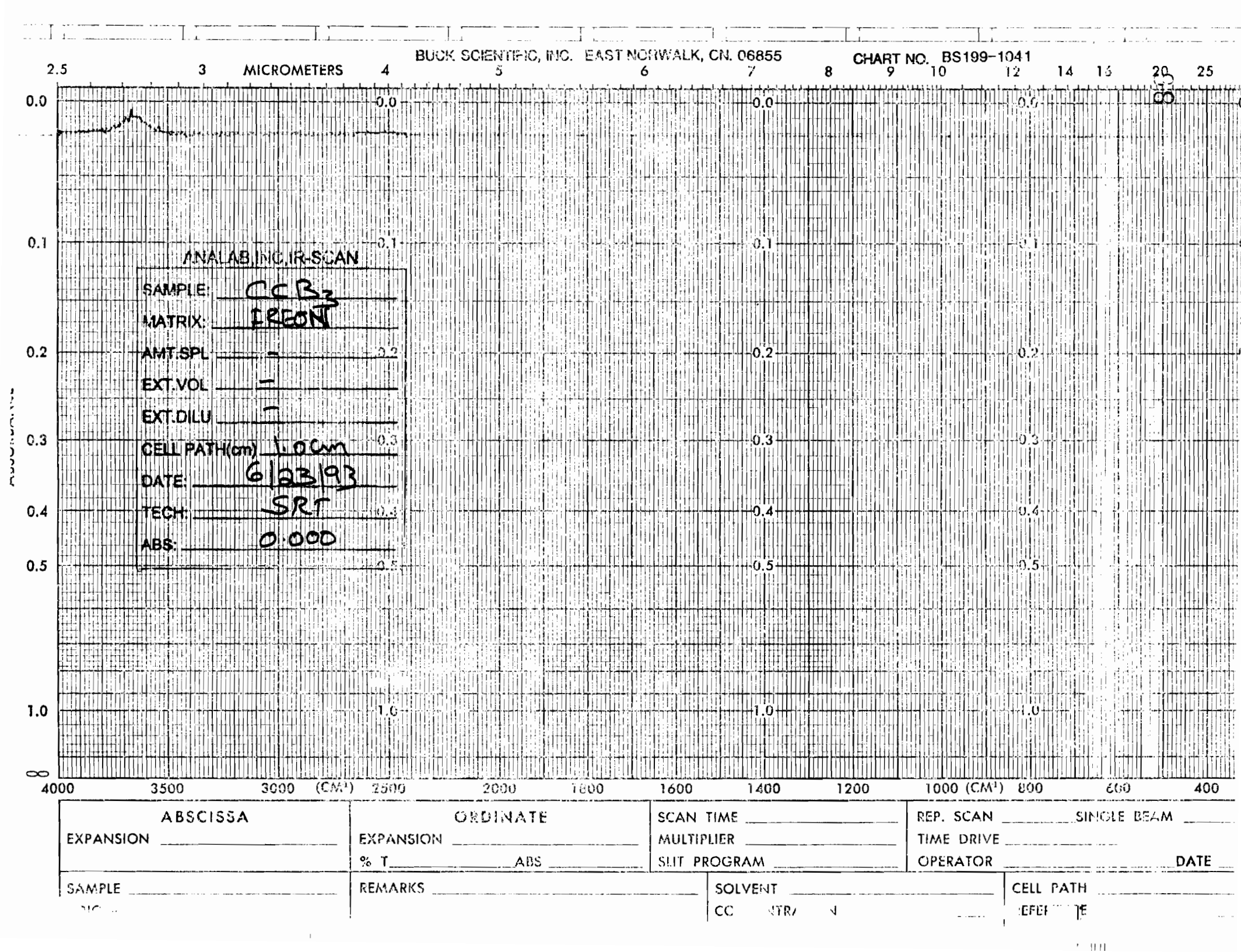


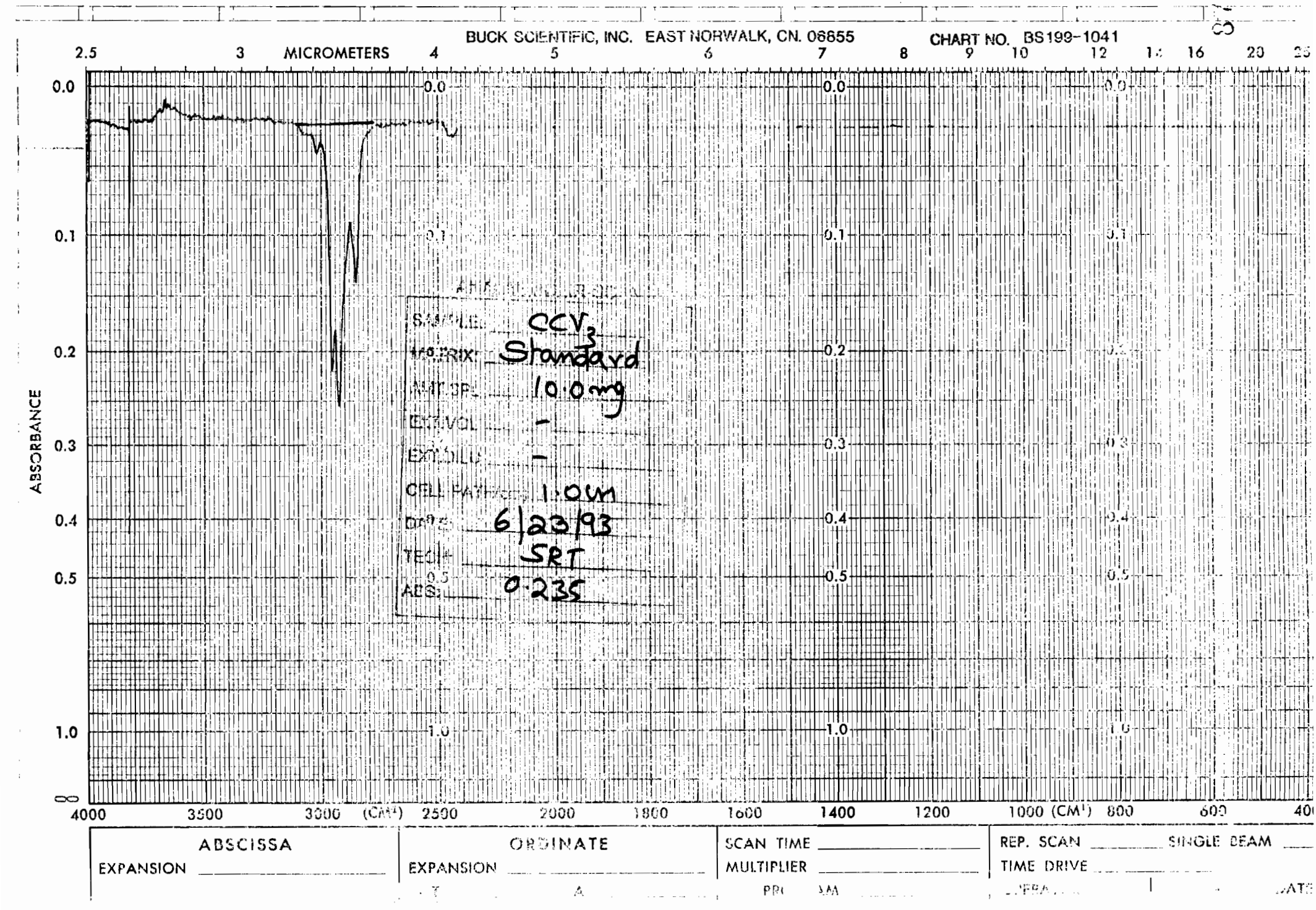
ABSCISSA | ORDINATE | SCAN TIME | MULTIPLIER | REP. SCAN | SINGLE BEAM | TIME DRIVE | OF | FOR | DATE


BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5 3 MICROMETERS 4 5 6 7 8 9 10 12 14 16 20 25
0.0 0.1 0.2 0.3 0.4 0.5 1.0
ABSORBANCE
4000 3500 3000 (CM¹) 2500 2000 1800 1600 1400 1200 1000 (CM¹) 800 600 400
CCV1
standard
10.0 mg
1.0 cm
6/23/93
SRT
6/23/93 0.260
SRT
ABSCISSA
EXPANSION
ORDINATE
SCAN TIME
MULTIPLIER
REP. SCAN
SINGLE BEAM


BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5
3
MICROMETERS
4
5
6
7
8
9
10
12
14
16
20
25
0.0
0.1
0.2
0.3
0.4
0.5
1.0
ABSORBANCE
SAMPLE: CCB
MATRIX: FREON
AMT.SP: 1
EXTN: 1
EXT.DIL: 1
CELL PATH: 1.0cm
DATE: 6/23/93
TECH: SRT
ABS: 0.000
4000
3500
3000 (CM¹)
2500
2000
1800
1600
1400
1200
1000 (CM¹)
800
600
400
ABSCISSA
ORDINATE
SCAN TIME
REP. SCAN
SINGLE BEAM
1


BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5
3
MICROMETERS
4
5
6
7
8
9
10
12
14
16
20
0.0
0.1
0.2
0.3
0.4
0.5
1.0
ABSORBANCE
4000
3500
3000
(CM¹)
2500
2000
1800
1600
1400
1200
1000 (CM¹)
800
CCV
Standard
10.0 mg
1.0 cm
6/23/93
SRT
0.265
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
SCAN TIME
MULTIPLIER
REP. SCAN
SINGLE BEAM
TIME DRIVE


BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5 3 MICROMETERS 4 5 6 7 8 9 10 12 14 16 20 25
0.0 0.1 0.2 0.3 0.4 0.5 1.0
ANALAB INC.IR-SCAN
SAMPLE: CCB3
MATRIX: FREON
AMT.SPL: -
EXT.VOL: -
EXT.DILU: -
CELL PATH(cm): 1.0cm
DATE: 6/23/93
TECH: SRT
ABS: 0.000
4000 3500 3000 (CM⁻¹) 2500 2000 1800 1600 1400 1200 1000 (CM⁻¹) 800 600 400
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
% T ABS
SCAN TIME
MULTIPLIER
SLIT PROGRAM
REP. SCAN SINGLE BEAM
TIME DRIVE
OPERATOR DATE
SAMPLE
REMARKS
SOLVENT
CELL PATH


BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
MICROMETERS
2.5
3
4
5
6
7
8
9
10
12
16
20
ABSORBANCE
0.0
0.1
0.2
0.3
0.4
0.5
1.0
∞
4000
3500
3000 (CM⁻¹)
2500
2000
1800
1600
1400
1200
1000 (CM⁻¹)
800
600
SAMPLE: CCV3
MATRIX: Standard
WT OR VOL: 10.0 mg
EXT VOL: -
DILUTION: -
CELL PATH: 1.0 cm
DATE: 6/23/93
TECH: SRT
ABS: 0.235
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
SCAN TIME
MULTIPLIER
REP. SCAN
SINGLE BEAM
TIME DRIVE

ANA INC 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

QUALITY CONTROL SUMMARY REPORTS

GC VOLATILE ORGANICS

ANALab INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

METHOD BLANK SUMMARY
BTEX AND PURGABLE AROMATICS BY GC

NON-AQUEOUS (SOIL) MATRIX

LAB ID: METHOD BLANK
MATRIX: SOLID
REVIEWED BY: JJ

LAB DATA FILE: VA062220
ANALYSIS DATE: 06/23/93

COMPOUND	RESULTS (UG/KG)	MDL (UG/KG)
METHYL TERT-BUTYL ETHER	25.00 U	25.00
BENZENE	5.00 U	5.00
TOLUENE	5.00 U	5.00
ETHYLBENZENE	5.00 U	5.00
XYLENES (TOTAL)	5.00 U	5.00
CHLOROBENZENE	5.00 U	5.00
DICHLOROBENZENES (TOTAL)	5.00 U	5.00

COMMENTS:

U = ANALYZED FOR BUT NOT DETECTED (ND)
J = ESTIMATED VALUE, COMPOUND PRESENT BELOW MDL

S-BLK

ANALab inc. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

METHOD BLANK SUMMARY
BTEX AND PURGABLE AROMATICS BY GC

NON-AQUEOUS (SOIL) MATRIX

LAB ID: METHOD BLANK
MATRIX: SOLID
REVIEWED BY: MP

LAB DATA FILE: VA062402
ANALYSIS DATE: 06/24/93

COMPOUND	RESULTS (UG/KG)	MDL (UG/KG)
METHYL TERT-BUTYL ETHER	25.00 U	25.00
BENZENE	5.00 U	5.00
DIPE	5.00 U	5.00
TOLUENE	5.00 U	5.00
ETHYLBENZENE	5.00 U	5.00
XYLENES (TOTAL)	5.00 U	5.00
CHLOROBENZENE	5.00 U	5.00
DICHLOROBENZENES (TOTAL)	5.00 U	5.00

COMMENTS:

U = ANALYZED FOR BUT NOT DETECTED (ND)
J = ESTIMATED VALUE, COMPOUND PRESENT BELOW MDL

S-BLK

ANALab INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

QUALITY CONTROL SUMMARY - GC
PURGABLE AROMATICS QC BLANK SPIKE RECOVERY SUMMARY

SOLID MATRIX

SPIKED SAMPLE: BLANK MATRIX FILE ID: VA062404
ANALYSIS DATE: 06/24/93
ANALYST: MP

CONCENTRATION IN ppb

COMPOUND	SPIKE CONC.	BS CONC.	% RECOVERY
MTBE	50	41.7	83
Benzene	20	14.7	74
DIPE	20	14.6	73
Toluene	20	14.7	74
EthylBenzene	20	14.8	74
Chlorobenzene	20	15.0	75
Total Xylenes	60	44.8	75
Total Dichlorobenzenes	60	45.1	75

ACCEPTABLE RECOVERY LIMITS	
MTBE	** - ***
Benzene	49 - 121
DIPE	** - ***
Toulene	52 - 118
EthylBenzene	55 - 119
Chlorobenzene	51 - 121
Total Xylenes	54 - 122
Total Dichlorobenzenes	36 - 122

RPD % - 0 - 45
BS = QC BLANK SPIKE
MTBE = Methyl-tert-butyl Ether
* = Recovery outside QC limits
Note: Spike recoveries are based on intralaboratory QC limits.

Recovery = 0 out of 6 outside acceptable limits

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QUALITY CONTROL SUMMARY - GC
PURGABLE AROMATICS MS/MSD RECOVERY SUMMARY

NON-AQUEOUS (SOIL) MATRIX

SPIKED SAMPLE: 9306243-1 SAMPLE FILE ID: VA062314
ANALYSIS DATE: 06/24/93 MS FILE ID: VA062405
ANALYST: MP MSD FILE ID: VA062406

CONCENTRATION IN ppb

COMPOUND	SPIKE CONC.	SAMPLE CONC.	MS CONC.	%REC	MSD CONC.	%REC	RPD
MTBE	50	1.81	49.4	95	48.6	94	1
Benzene	20	0	16.2	81	14.5	72	12
DIPE	20	0	18.1	90	17.5	88	2
Toluene	20	0	16.1	80	14.1	70	13
EthylBenzene	20	0	14.5	72	10.7	54	29
Chlorobenzene	20	0	16.7	84	15.5	78	7
Total Xylenes	60	0	41.0	68	23.8	40*	52*
Total DCB	60	0	44.6	74	41.1	68	8

ACCEPTABLE RECOVERY LIMITS	%REC
MTBE	** - ***
Benzene	49 - 121
DIPE	** - ***
Toluene	52 - 118
EthylBenzene	55 - 119
Chlorobenzene	51 - 121
Total Xylenes	54 - 122
Total Dichlorobenzenes	36 - 122

RPD % - 0 - 45
MTBE = Methyl-tert-butyl Ether
DCB = Dichlorobenzene

NOTE: Spike Recoveries are based on intralaboratory QC Limits

* = RECOVERY OUTSIDE QC LIMITS
MS = MATRIX SPIKE
MSD = MATRIX SPIKE DUPLICATE
RPD = RELATIVE PERCENT DIFFERENCE

Recovery = 1 out of 14 outside acceptable limits
RPD = 1 out of 8 outside acceptable limits

MSMSD

ANA lab INC 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

PURGEABLE AROMATICS BY GC

SURROGATE RECOVERY FOR aaa TRIFLUOROTOLUENE

MATRIX: **SOIL**

ANALYST: MP

LABORATORY ID	% RECOVERY
METHOD BLANK 6/23/93	109
METHOD BLANK 6/24/93	97
BLANK SPIKE 6/24/93	73
93-06-0243-1 MS	82
93-06-0243-1 MSD	70
93-06-0234-1	50
93-06-0234-2	65
93-06-0234-3	81

ACCEPTABLE LIMITS

SOIL = 45 - 121 0 out of 8 outside acceptable limits

390SUR
RH/

ANA Lab inc. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

QUALITY CONTROL SUMMARY REPORTS

WET CHEMISTRY

ANALAB INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

INORGANICS WET CHEMISTRY
QUALITY CONTROL SUMMARY SOIL MATRIX

Extraction Date: 6/21/93
Reviewed By: QV
Reviewed Date: 6/29/93

Analysis Date: 6/22,23/93
Analyst: MR/ST

(Results in MG/KG unless otherwise indicated)

Parameter	Sample ID	MDL	Method Blank Results	Sample Conc.	Spike Conc.	Spiked Sample Conc.	%Rec.
TPHC	METHOD BLANK	25.0	<25.0	--	--	--	--
	BLANK SPIKE	25.0	<25.0	--	333	286	85.9
	93-06-0243-1 MS	25.0	--	25.4	333	314	86.7
	93-06-0243-1 MSD	25.0	--	25.4	333	307	84.6

DUPLICATES:

Parameter	Sample ID	MS % Rec.	MSD % Rec.	RPD%
TPHC	93-06-0243-1	86.7	84.6	2.45

ADVISORY LIMITS: BLANK SPIKE 80-120%, MATRIX SPIKE 75-125%, RPD+/-20%

SUMMARY APPLIES TO THE FOLLOWING SAMPLES:

METHOD BLANK	93-06-0249-2	93-06-0235-3
QC BLANK SPIKE	93-06-0249-3	93-06-0235-4
93-06-0243-1 MS	93-06-0229-1	93-06-0235-5
93-06-0243-1 MSD	93-06-0234-1	93-06-0237-1
93-06-0206-1	93-06-0234-2	93-06-0242-1
93-06-0206-5	93-06-0234-3	93-06-0242-2
93-06-0206-6	93-06-0235-1	93-06-0242-3
93-06-0243-1	93-06-0235-2	93-06-0242-4

COMMENTS:
MDL = METHOD DETECTION LIMIT
MS = BLANK SPIKE
RDP = RELATIVE PERCENT DIFFERENCE
MS = MATRIX SPIKE
MSD = MATRIX SPIKE DUPLICATE
N/A = NOT APPLICABLE

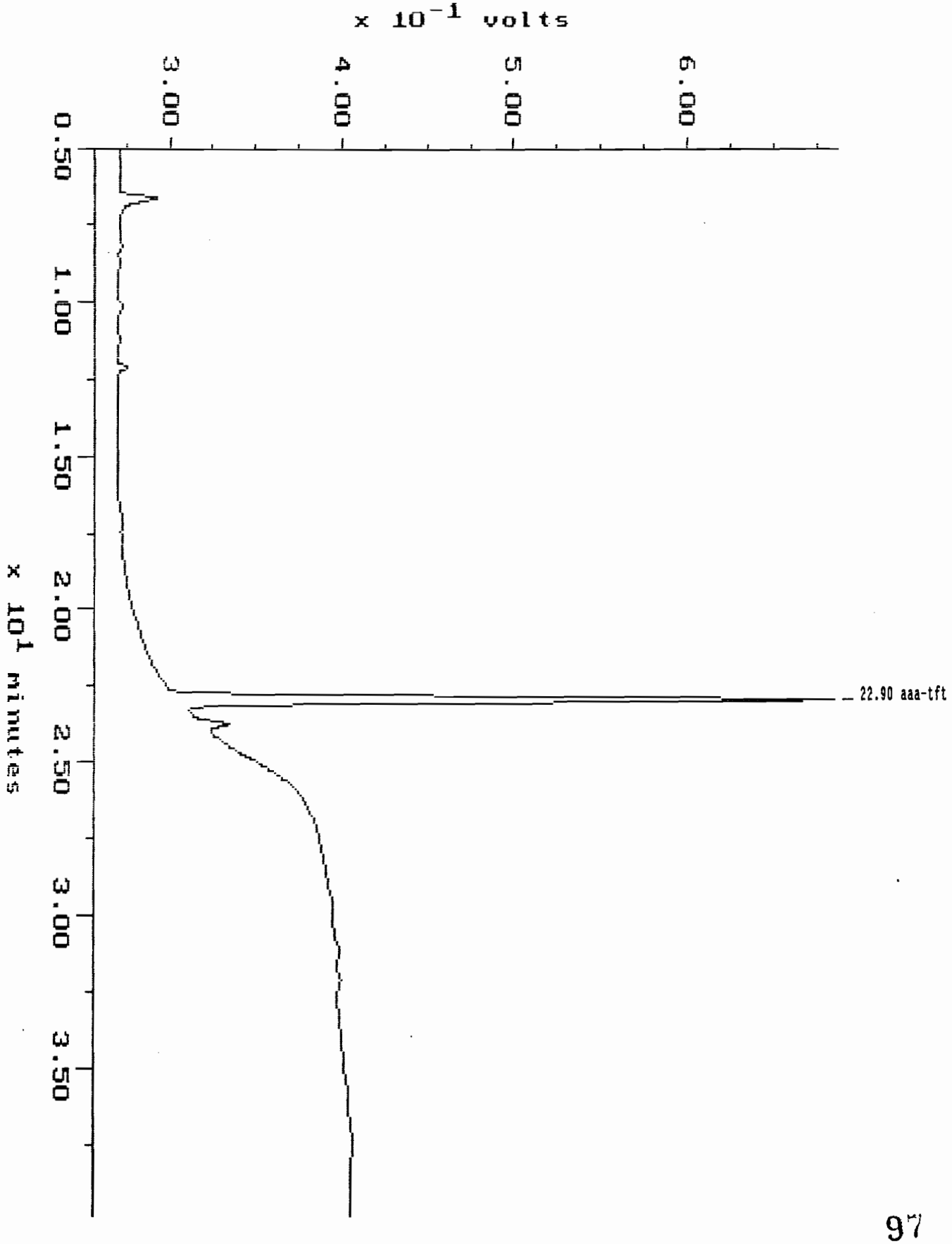
Form 102S.176 REV. 8.92
RH/lee

ANA lab INC. 205 Campus Plaza 1, Raritan Center, Edison, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

RAW DATA

GC VOLATILE ORGANICS

Sample: BLANK Channel: PID Filename: VA062220
Acquired: 23-JUN-93 13:57 Method: C:\MAX\DATA2\VA06-22A Operator: JJ



MAXIMA 820 CUSTOM REPORT

Printed: 24-JUN-1993 10:23:22

SAMPLE: BLANK
#7 in Method: BTEX 602/8020/MTBE/TBAbyPID&FID
Acquired: 23-JUN-1993 13:57
Rate: 2.0 points/sec
Duration: 39.899 minutes
Operator: JJ

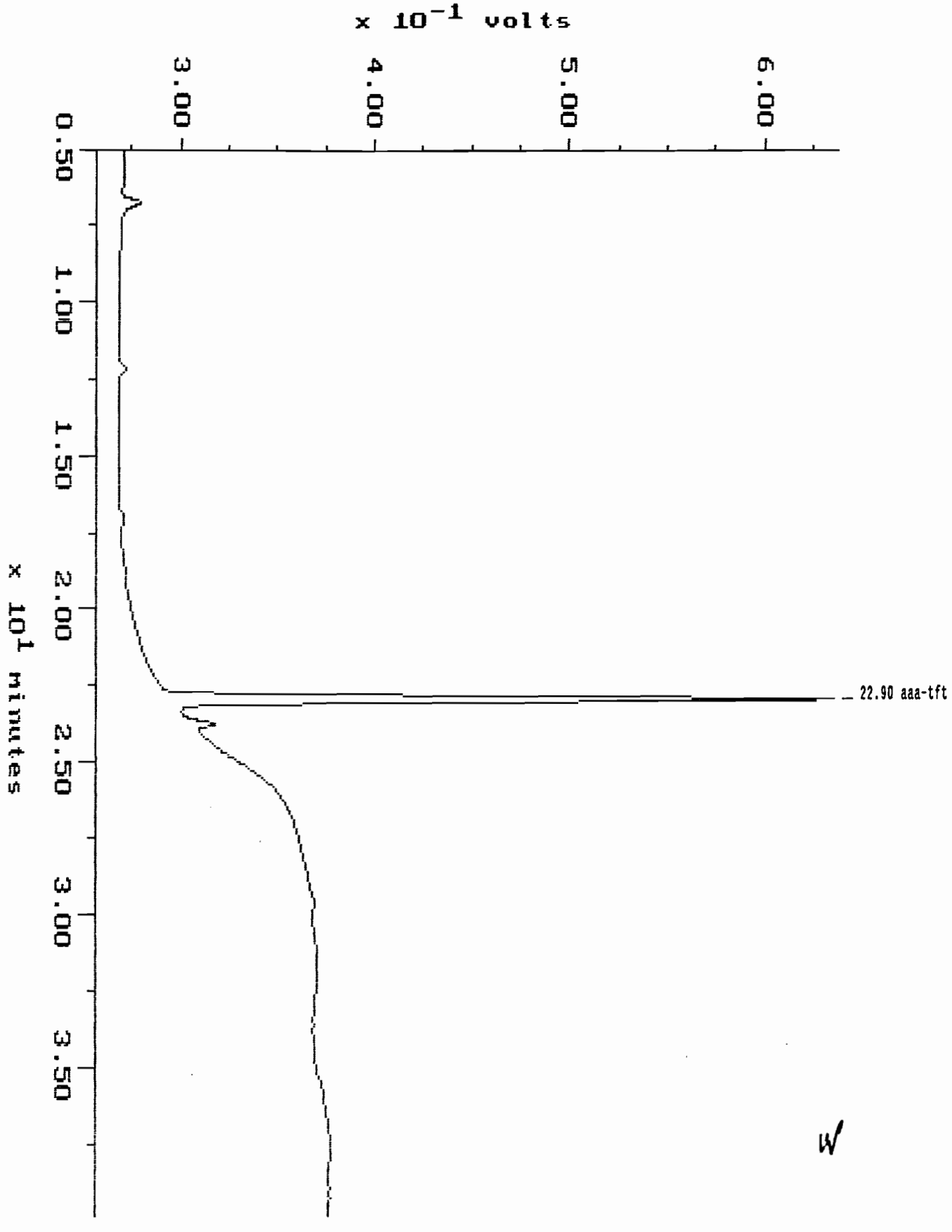
Type: UNKN
Instrument: Instrument 2
Filename: VA062220
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	aaa-tft	22.897	5147011	379057	54.36!
TOTAL			5147011	379057	54.36!

! Result calculation based on peak response ratio outside of calibration range.

Sample: BLANK Channel: PID Filename: VA062402
Acquired: 24-JUN-93 11:55 Method: C:\MAX\DATA2\VA06-24 Operator: JJ



W

MAXIMA 820 CUSTOM REPORT

Printed: 25-JUN-1993 9:05:39

SAMPLE: BLANK
#7 in Method: BTEX 602/8020/MTBE/TBAbyPID&FID
Acquired: 24-JUN-1993 11:55
Rate: 2.0 points/sec
Duration: 39.899 minutes
Operator: JJ

Type: UNKN
Instrument: Instrument 2
Filename: VA062402
Index: Disk

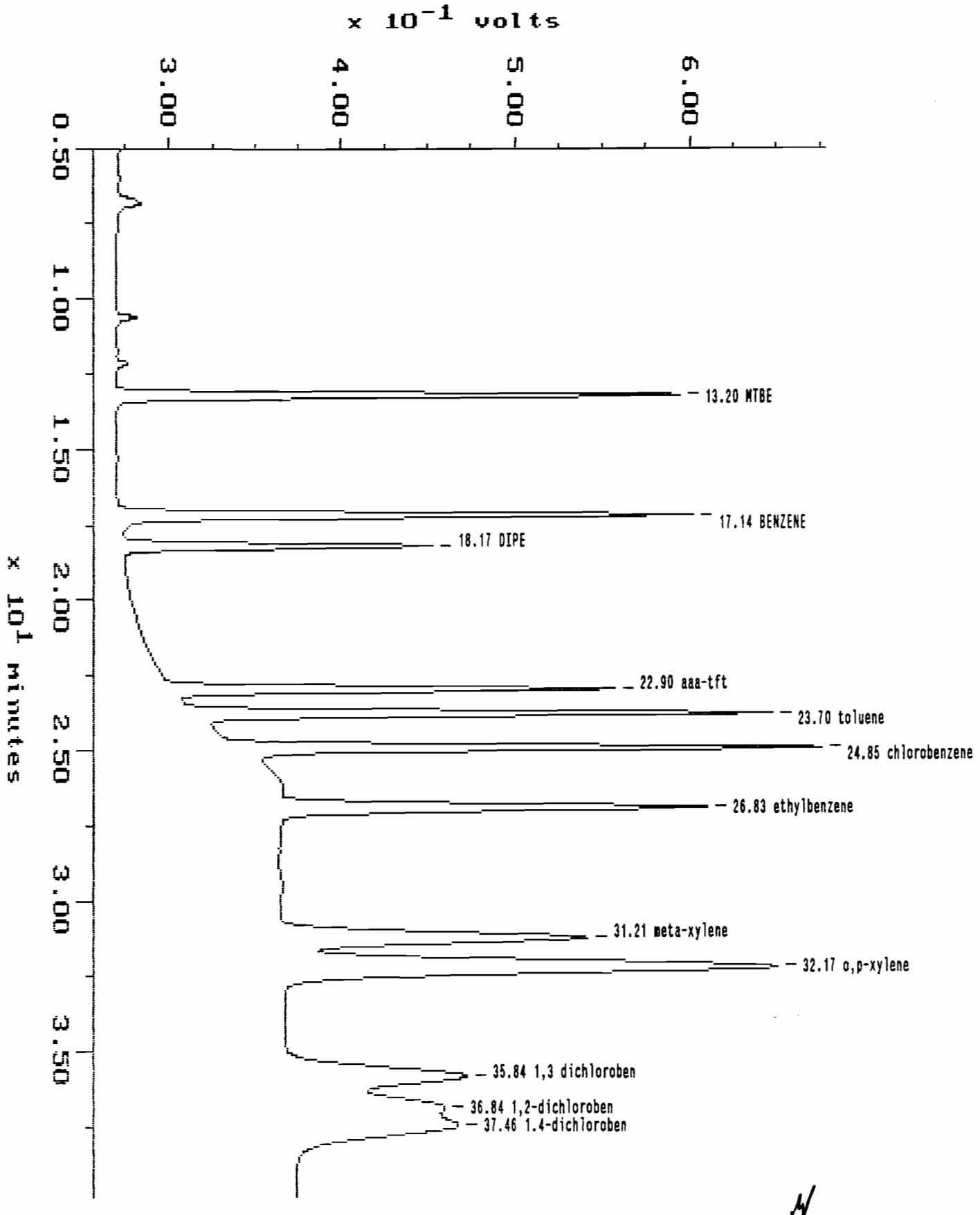
DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	aaa-tft	22.897	4608517	339894	48.68
TOTAL			4608517	339894	48.68

97

N

Sample: BLANK SPIKE Channel: PID Filename: VA062404
Acquired: 24-JUN-93 13:37 Method: C:\MAX\DATA2\VA06-24 Operator: JJ



MAXIMA 820 CUSTOM REPORT

Printed: 25-JUN-1993 9:08:36

SAMPLE: BLANK SPIKE
#9 in Method: BTEX 602/8020/MTBE/TBAbyPID&FID
Acquired: 24-JUN-1993 13:37
Rate: 2.0 points/sec
Duration: 39.899 minutes
Operator: JJ

Type: UNKN
Instrument: Instrument 2
Filename: VA062404
Index: Disk

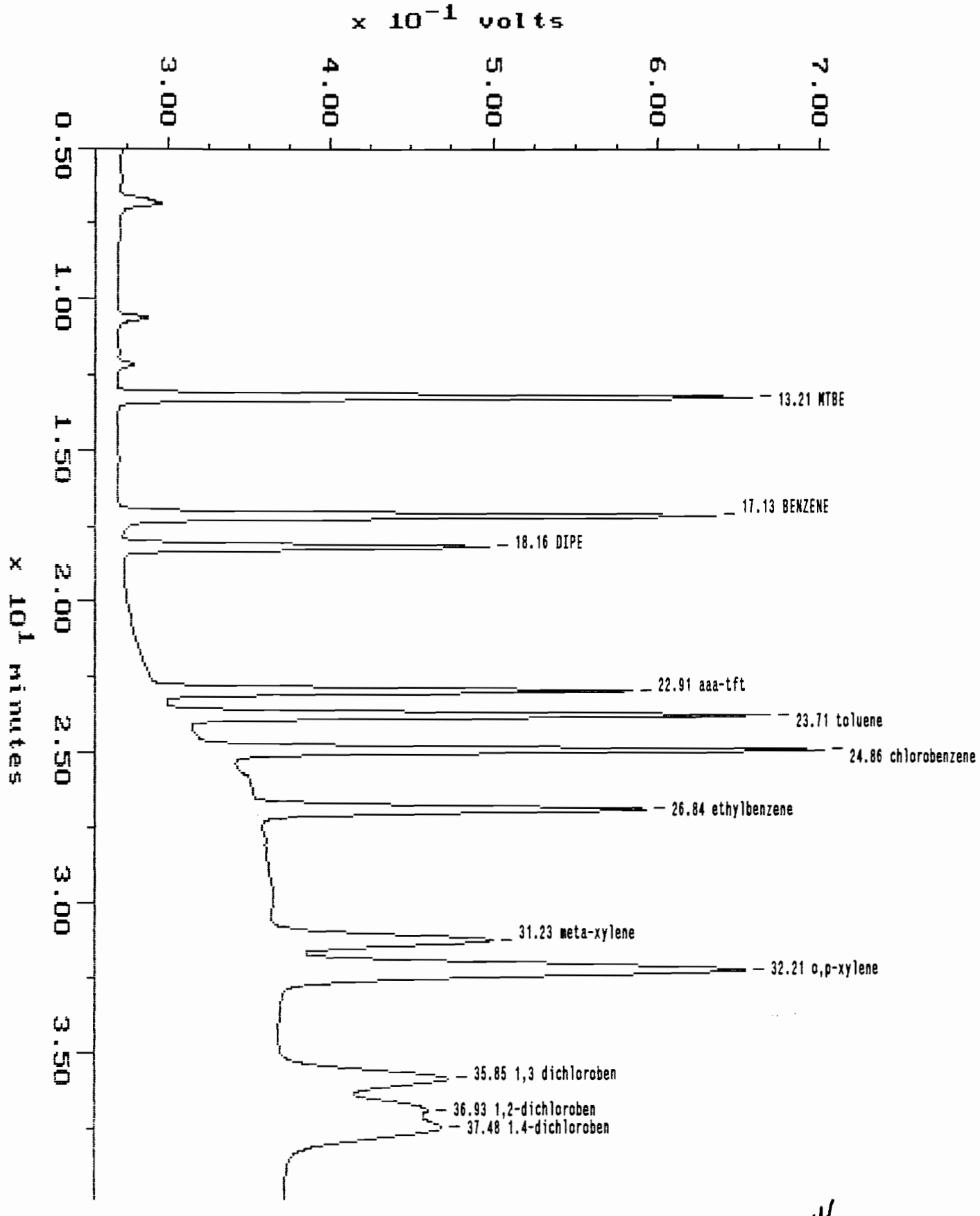
DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.199	4078988	324576	41.67
2	BENZENE	17.135	4383630	330216	14.74
3	DIPE	18.166	2307688	178391	14.57
4	aaa-tft	22.897	3436208	254537	36.29
5	toluene	23.701	4533054	339847	14.66
6	chlorobenzene	24.849	4808210	333117	15.02
7	ethylbenzene	26.825	4285103	244133	14.82
8	meta-xylene	31.205	4886401	175738	14.96
9	o,p-xylene	32.169	8975679	284524	29.86
10	1,3 dichloroben	35.837	4374338	103148	15.42
11	1,2-dichloroben	36.842	3713741	89203	16.25
12	1,4-dichloroben	37.462	4087170	95991	13.45
TOTAL			53870212	2743413	241.70

73

N

Sample: 9306243-1 MS Channel: PID Filename: VA062405
Acquired: 24-JUN-93 14:28 Method: C:\MAX\DATA2\VA06-24 Operator: JJ



MAXIMA 820 CUSTOM REPORT

Printed: 25-JUN-1993 9:10:05

SAMPLE: 9306243-1 MS
#10 in Method: BTEX 602/8020/MTBE/TBAbyPID&FID
Acquired: 24-JUN-1993 14:28
Rate: 2.0 points/sec
Duration: 39.899 minutes
Operator: JJ

Type: UNKN
Instrument: Instrument 2
Filename: VA062405
Index: Disk

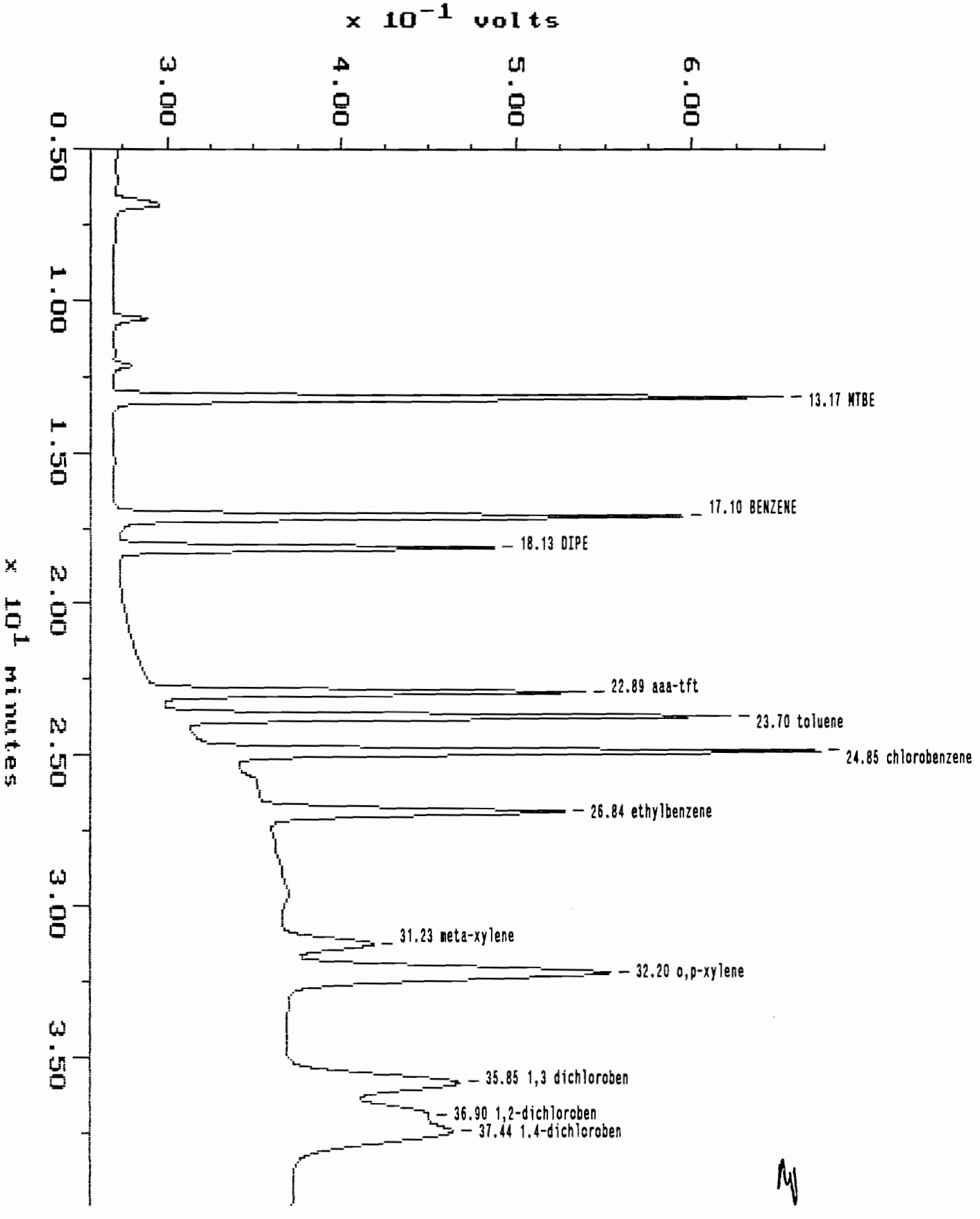
DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.208	4823508	388646	49.39
2	BENZENE	17.127	4831204	365686	16.15
3	DIPE	18.157	2910666	224520	18.13
4	aaa-tft	22.906	3901019	290053	41.20
5	toluene	23.710	4973882	362132	16.03
6	chlorobenzene	24.857	5362216	371163	16.67
7	ethylbenzene	26.842	4191690	238198	14.50
8	meta-xylene	31.231	3713083	133951	11.39
9	o,p-xylene	32.210	8912715	285668	29.65
10	1,3 dichloroben	35.845	4263453	103154	15.04
11	1,2-dichloroben	36.934	3314131	89246	14.54
12	1.4-dichloroben	37.478	4580887	97580	15.06
TOTAL			55778454	2949997	257.79

82

N

Sample: 9306243-1 MSD Channel: PID Filename: VA062406
Acquired: 24-JUN-93 15:19 Method: C:\MAX\DATA2\VA06-24 Operator: JJ



MAXIMA 820 CUSTOM REPORT

Printed: 25-JUN-1993 9:11:30

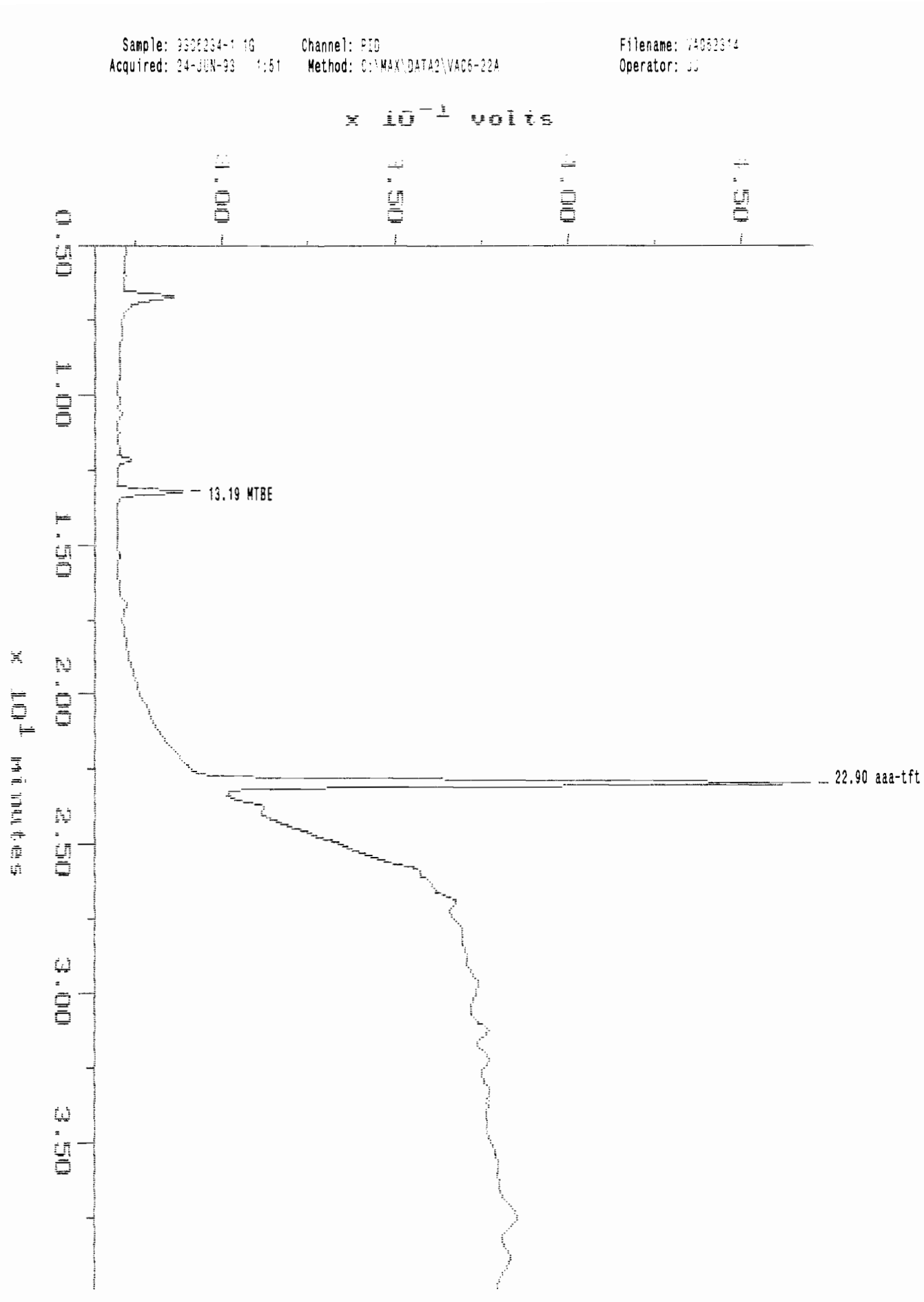
SAMPLE: 9306243-1 MSD
#11 in Method: BTEX 602/8020/MTBE/TBAbyPID&FID
Acquired: 24-JUN-1993 15:19
Rate: 2.0 points/sec
Duration: 39.899 minutes
Operator: JJ

Type: UNKN
Instrument: Instrument 2
Filename: VA062406
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.166	4749998	381528	48.63
2	BENZENE	17.102	4320521	324161	14.54
3	DIPE	18.132	2801774	215129	17.48
4	aaa-tft	22.889	3297381	244319	34.83
5	toluene	23.701	4353010	315360	14.09
6	chlorobenzene	24.849	4969467	342448	15.50
7	ethylbenzene	26.842	3066468	171001	10.65
8	meta-xylene	31.231	1445821	52257	4.50
9	o,p-xylene	32.202	5756302	184239	19.32
10	1,3 dichloroben	35.845	4088396	97824	14.44
11	1,2-dichloroben	36.900	2627917	79302	11.59
12	1.4-dichloroben	37.436	4597405	92851	15.11
TOTAL			46074461	2500919	220.68

70


Sample: 9306234-1 1G
Acquired: 24-JUN-93 1:51
Channel: PID
Method: C:\MAX\DATA2\VAC6-22A
Filename: VA062314
Operator: JJ
x 10⁻¹ volts
0.00
0.04
0.08
0.12
0.50
1.00
1.50
2.00
2.50
3.00
3.50
minutes x 10¹
13.19 MTBE
22.90 aaa-tft

MAXIMA 820 CUSTOM REPORT

Printed: 24-JUN-1993 10:37:20

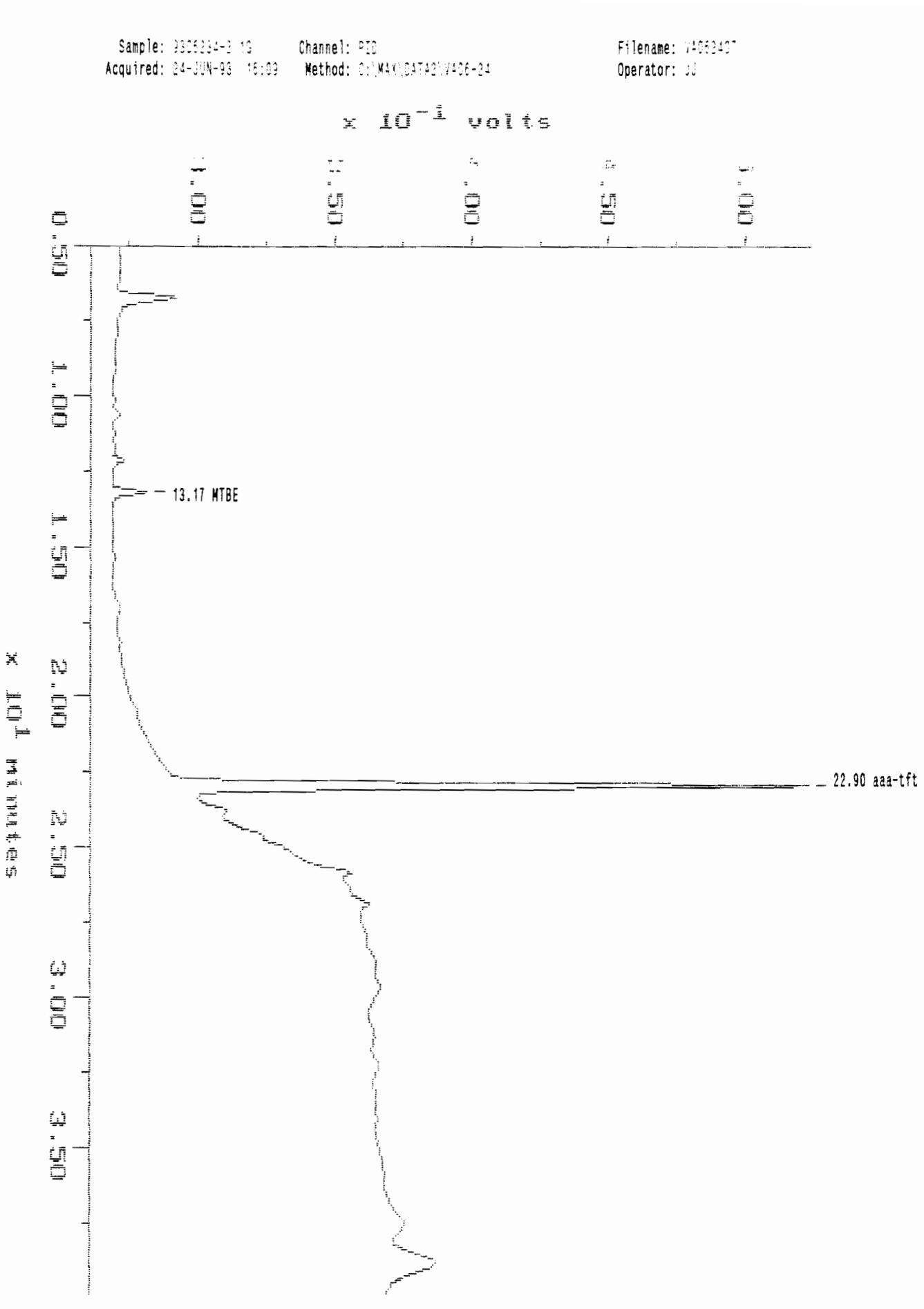
SAMPLE: 9306234-1 1G
#21 in Method: BTEX 602/8020/MTBE/TBAbyPID&FID
Acquired: 24-JUN-1993 1:51
Rate: 2.0 points/sec
Duration: 39.899 minutes
Operator: JJ

Type: UNKN
Instrument: Instrument 3
Filename: VA062314
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.191	234922	18640	1.81!!
2	aaa-tft	22.897	2376732	173029	25.10
TOTAL			2611660	191668	26.92!!

!! Result calculation based on peak response more than 10% outside of calibration range.


Sample: 9306334-2 1G
Acquired: 24-JUN-93 16:09
Channel: PID
Method: C:\M4X\DAT42\V406-24
Filename: V4062407
Operator: JJ
x 10⁻⁴ volts
0.50
1.00
1.50
2.00
2.50
3.00
3.50
x 10¹ minutes
13.17 MTBE
22.90 aaa-tft

MAXIMA 820 CUSTOM REPORT

Printed: 25-JUN-1993 9:13:04

SAMPLE: 9306234-2 1G
#12 in Method: BTEX 602/8020/MTBE/TBAbyPID&FID
Acquired: 24-JUN-1993 16:09
Rate: 2.0 points/sec
Duration: 39.899 minutes
Operator: JJ

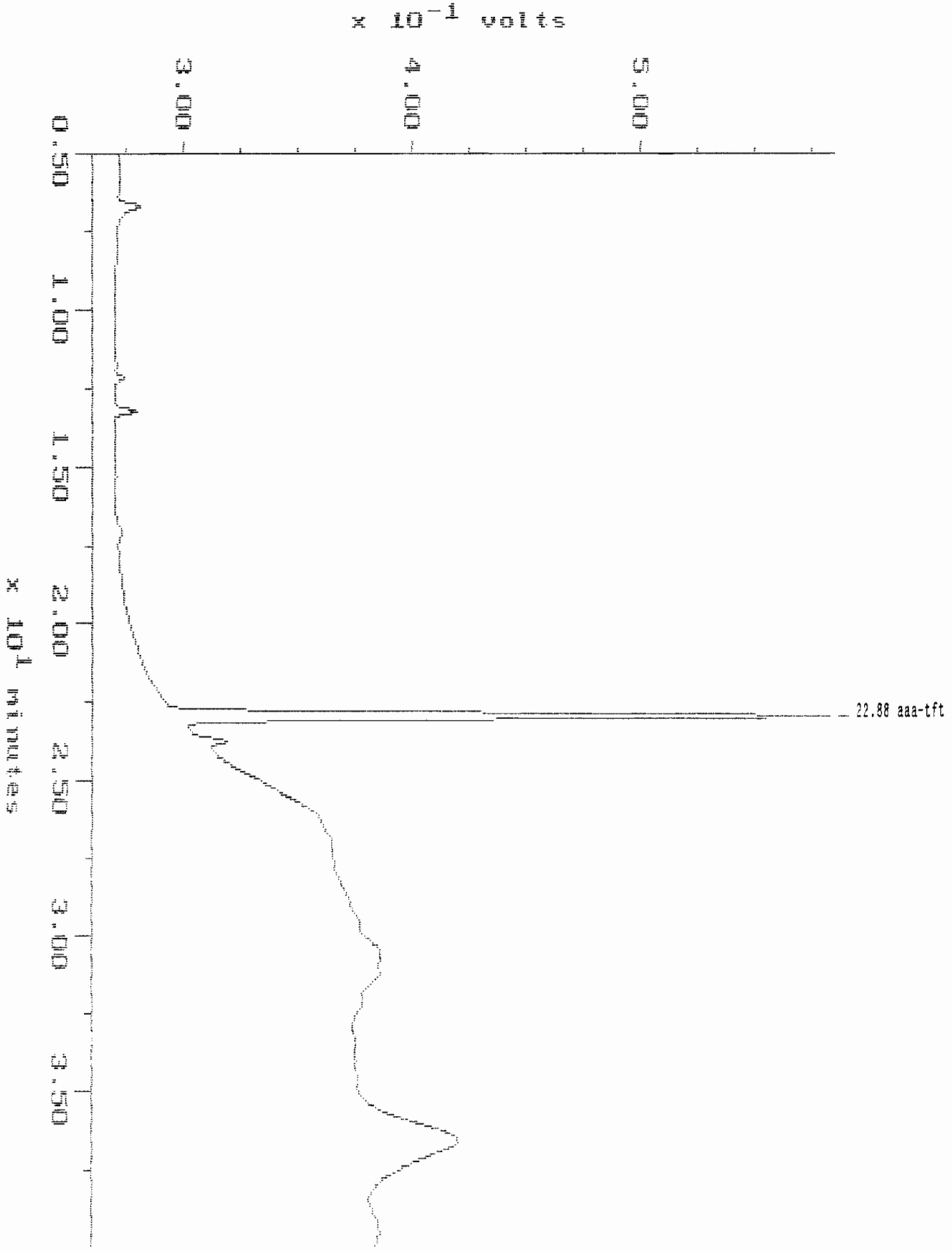
Type: UNKN
Instrument: Instrument 2
Filename: VA052407
Index: Disk

DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	MTBE	13.174	157833	12224	1.01!!
2	aaa-tft	22.897	3094298	227328	32.69
TOTAL			3252*9*	239605	33.70!!

!! Result calculation based on peak response more than 10% outside of calibration range.

Sample: 9306234-3 1G Channel: PID Filename: VA062313
Acquired: 24-JUN-93 1:00 Method: C:\MAX\DATA2\VA06-22A Operator: JJ



MAXIMA 820 CUSTOM REPORT

Printed: 24-JUN-1993 10:27:08

SAMPLE: 9306234-3 1G
#20 in Method: BTEX 602/8020/MTBE/TBAby/PID&FID
Acquired: 24-JUN-1993 1:00
Rate: 2.0 points/sec
Duration: 39.899 minutes
Operator: JJ

Type: UNKN
Instrument: Instrument 2
Filename: VA062313
Index: Disk

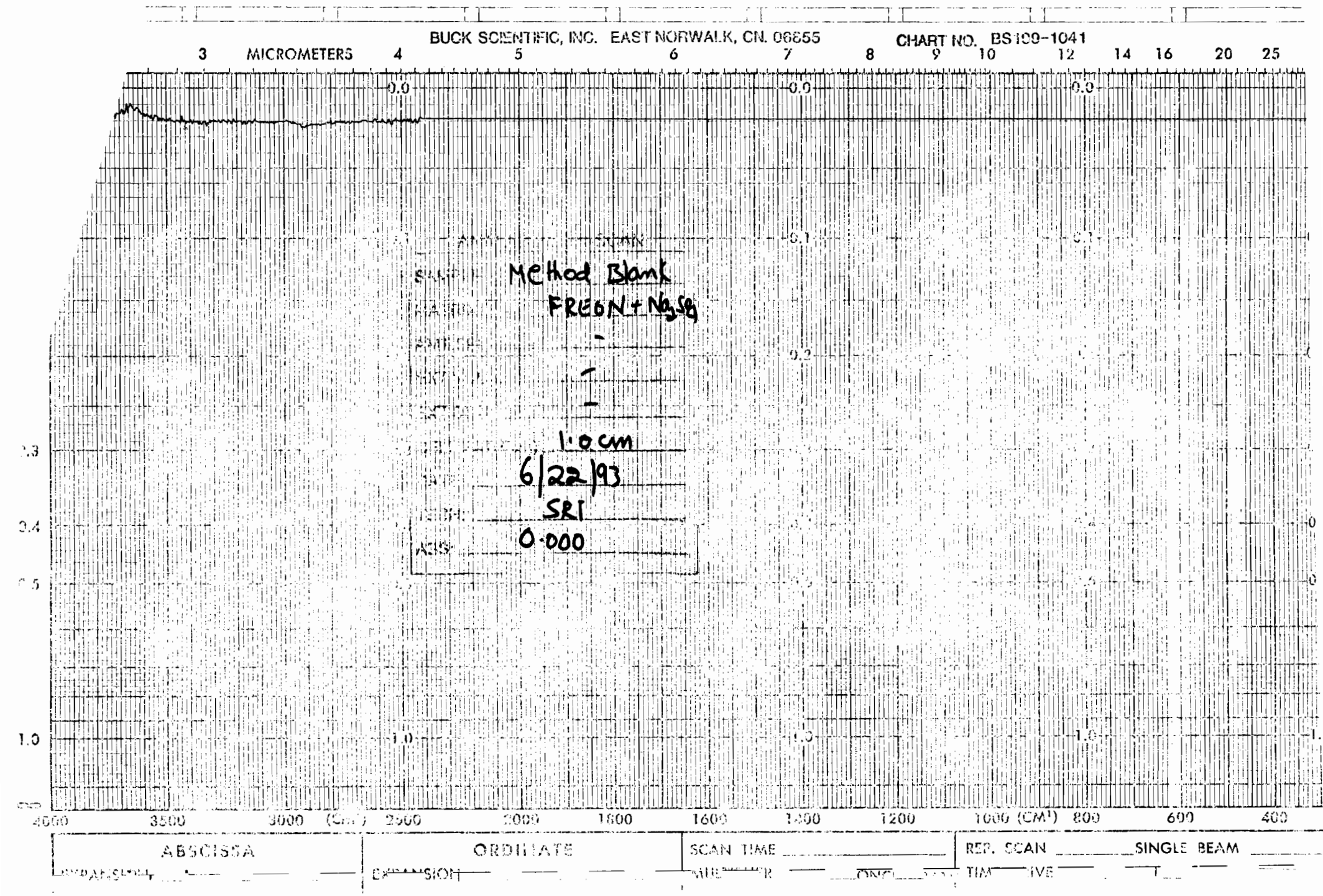
DETECTOR: PID

PK#	Component Name	Retention Time (minutes)	Peak Area	Peak Height	Solution Conc (PPB)
1	aaa-tft	22.881	3833618	285031	40.49
TOTAL			3833618	285031	40.49

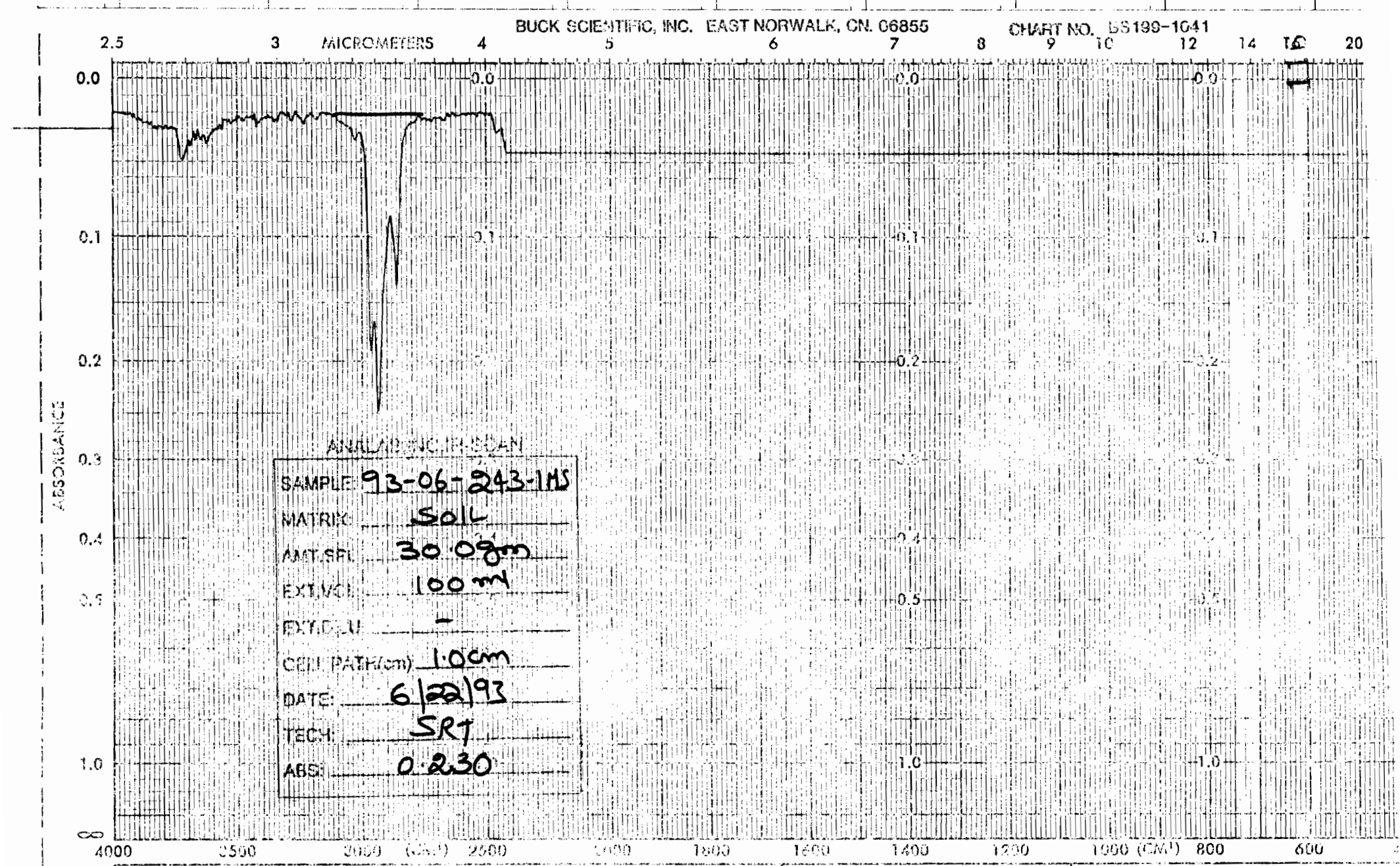
ANALab INC. 205 Campus Plaza 1, Raritan Center, Edisan, NJ 08837, Tel: (908) 225-4111, Fax: (908) 225-4110

RAW DATA

WET CHEMISTRY TOTAL PETROLEUM HYDROCARBONS - IR

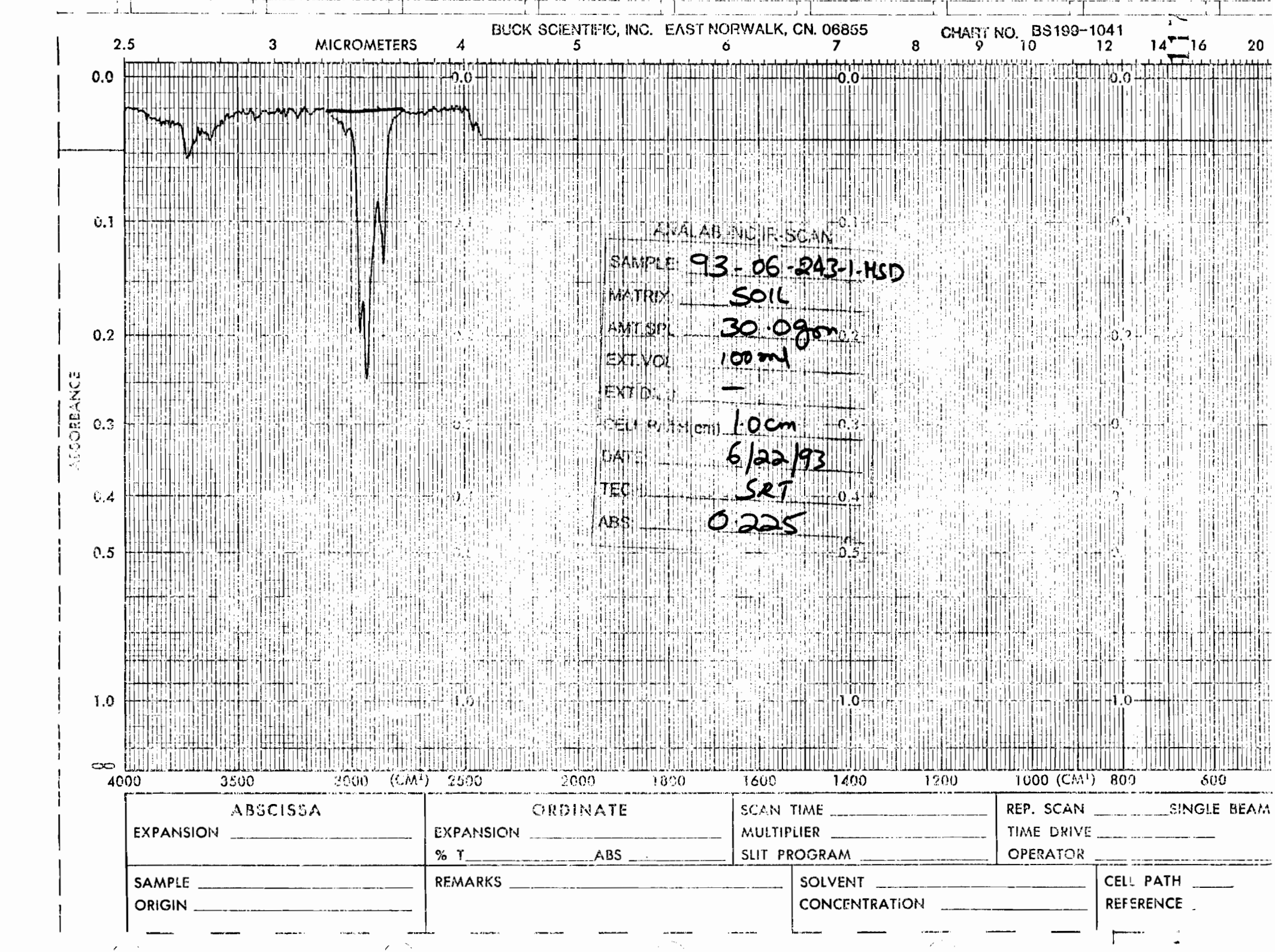

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS100-1041
3 MICROMETERS 4 5 6 7 8 9 10 12 14 16 20 25
Method Blank
FREON + Na2SO4
1.0 cm
6/22/93
SRI
0.000
4000 3500 3000 2500 2000 1800 1600 1400 1200 1000 800 600 400
ABSCISSA
ORDINATE
SCAN TIME
REP. SCAN
SINGLE BEAM

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855 CHART NO. BS199-1041

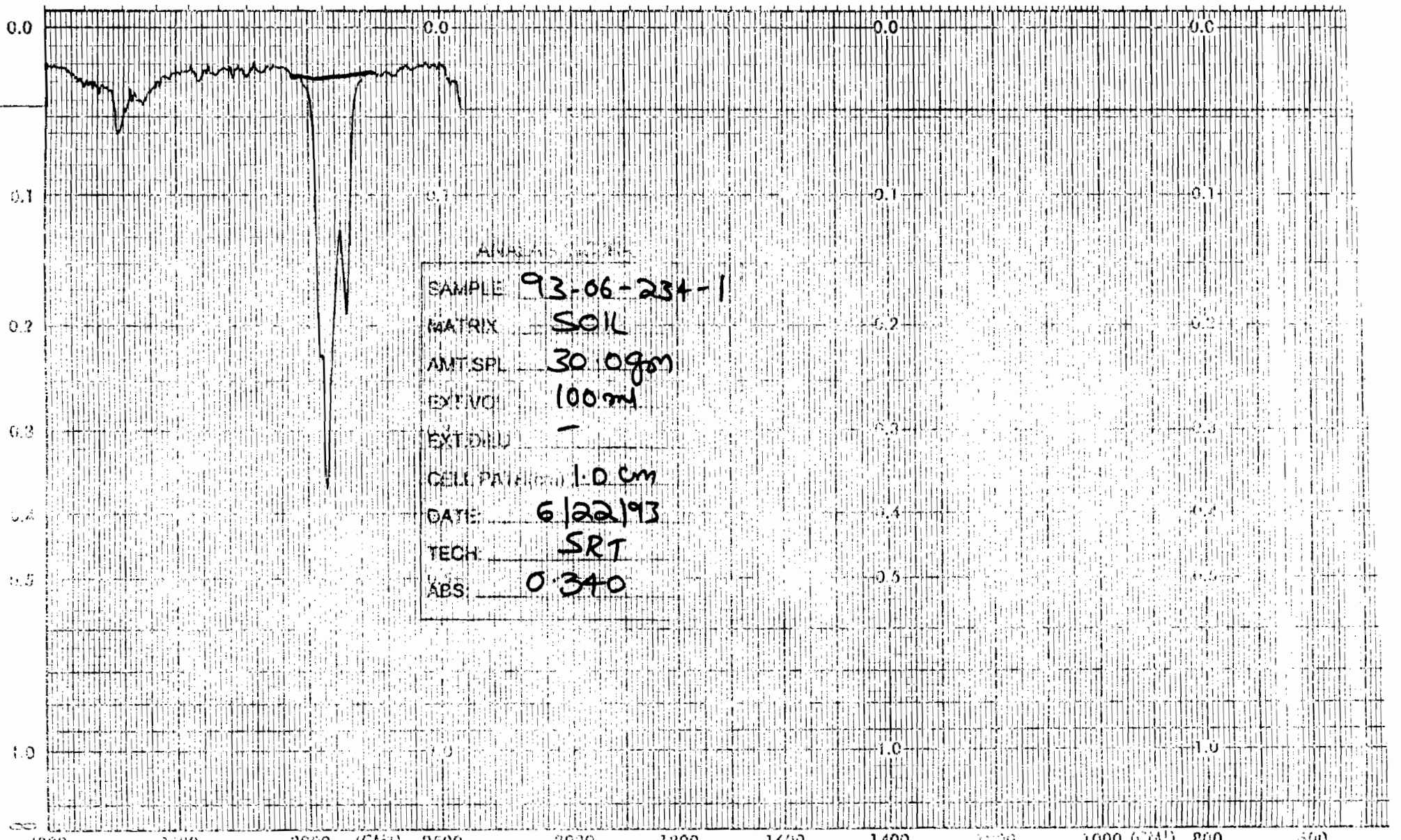


ABSCISSA	ORDINATE	SCAN TIME	REP. SCAN ____ SINGLE BEAM
EXPANSION	EXPANSION	MULTIPLIER	TIME DRIVE
	% T ____ ABS	SLIT PROGRAM	OPERATOR ____ DA

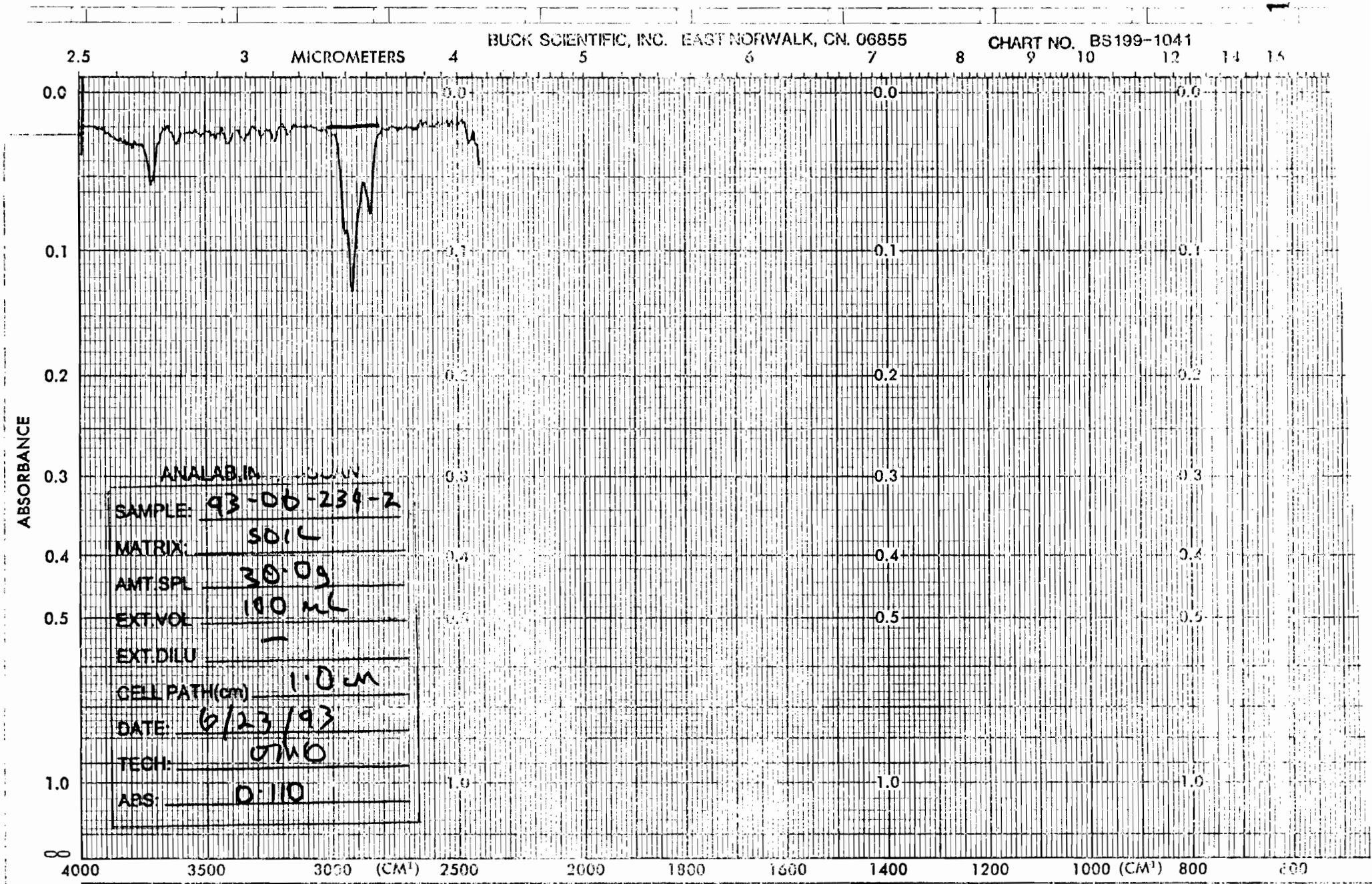
SAMPLE	REMARKS	SOLVENT	CELL PATH
ORIGIN		CONCENTRATION	REFERENCE

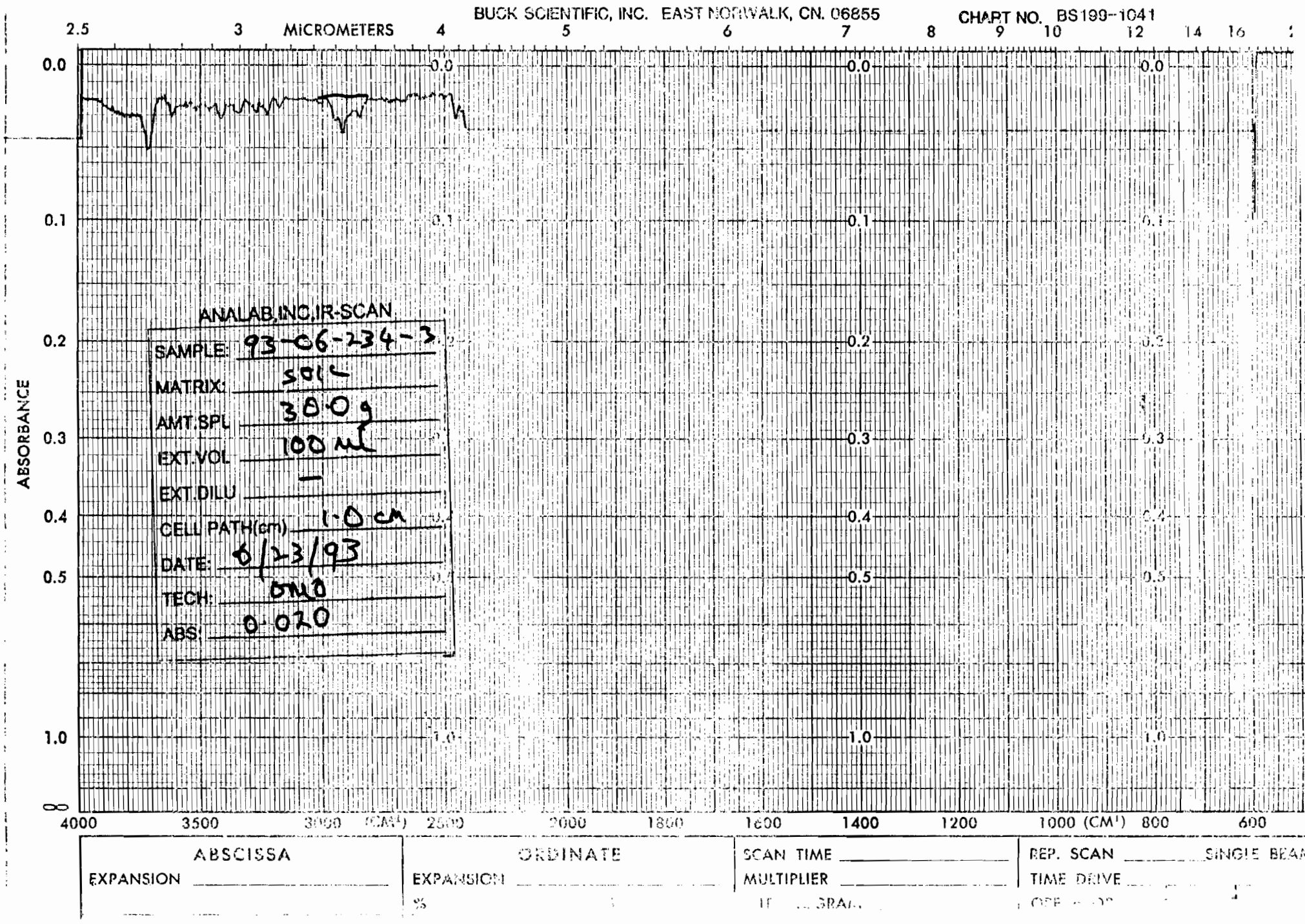

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5 3 MICROMETERS 4 5 6 7 8 9 10 12 14 16 20
0.0 0.1 0.2 0.3 0.4 0.5 1.0
ABSORBANCE
4000 3500 3000 (CM¹) 2500 2000 1800 1600 1400 1200 1000 (CM¹) 800 600
AVALAB NC IR-SCAN
SAMPLE: 93-06-243-1-MSD
MATRIX: SOIL
AMT.SPL: 30.09gm
EXT.VOL: 100ml
EXT.D.F.: —
CELL PATH(cm): 1.0cm
DAT: 6/22/93
TEC: SRT
ABS: 0.225
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
% T ABS
SCAN TIME
MULTIPLIER
SLIT PROGRAM
REP. SCAN SINGLE BEAM
TIME DRIVE
OPERATOR
SAMPLE
ORIGIN
REMARKS
SOLVENT
CONCENTRATION
CELL PATH
REFERENCE

BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855 CHART NO. BS199-1041



ABSCISSA	ORDINATE	SCAN TIME	REP. SCAN SINGLE BEAM
EXPANSION	EXPANSION	MULTIPLIER	TIME DRIVE


BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5
3
MICROMETERS
4
5
6
7
8
9
10
12
14
15
0.0
0.1
0.2
0.3
0.4
0.5
1.0
ABSORBANCE
ANALAB,IN
SAMPLE: 93-00-234-2
MATRIX: SOIL
AMT.SPL 30.09
EXT.VOL 100 mL
EXT.DILU 1
CELL PATH(cm) 1.0 cm
DATE: 6/23/93
TECH: DMO
ABS: 0.110
4000
3500
3000
(CM¹)
2500
2000
1800
1600
1400
1200
1000 (CM¹)
800
600
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
SCAN TIME
MULTIPLIER
REP. SCAN
SINGLE BEAM
TIME DRIVE


BUCK SCIENTIFIC, INC. EAST NORWALK, CN. 06855
CHART NO. BS199-1041
2.5
3
MICROMETERS
4
5
6
7
8
9
10
12
14
16
ABSORBANCE
0.0
0.1
0.2
0.3
0.4
0.5
1.0
ANALAB,INC.IR-SCAN
SAMPLE: 93-06-234-3
MATRIX: SOIL
AMT.SPL 30.0 g
EXT.VOL 100 mL
EXT.DILU —
CELL PATH(cm) 1.0 cm
DATE: 6/23/93
TECH: DMO
ABS: 0.020
4000
3500
3000
2500
2000
1800
1600
1400
1200
1000 (CM⁻¹)
800
600
ABSCISSA
EXPANSION
ORDINATE
EXPANSION
%
SCAN TIME
MULTIPLIER
REP. SCAN
SINGLE BEAM
TIME DRIVE

APPENDIX IV

Copy of certified letter to Vic Construction

Merit Oil Corporation

551 WEST LANCASTER AVENUE, HAVERFORD, PENNSYLVANIA 19041-1494 • (215) 527-7900

Christopher D. Hein
Counsel

First Class Mail and
Certified Mail
Return Receipt Requested
P 312 067 578

February 17, 1994

Mr. Charles Nalbone, President
Vic Construction
242 Randolph Street
Brooklyn, New York 11237

Dear Mr. Nalbone:

As I am sure you are aware, Merit is currently faced with the responsibility to declare and pay taxes to the State of New York on waste removed and disposed from its various locations in the state. In that regard, in preparation of its return it was discovered that Merit has no copies of invoices for contaminated soils and tanks removed from its "Grant" and "Greenpoint" stations in conjunction with Vic Construction Corp.'s prior reconstruction efforts. There was certainly, without question, such waste and disposal conducted by Vic Construction.

In an effort to locate copies of the existing manifests, Merit contacted the New York State Department of Environmental Compliance ("NYSDEC") to obtain a copy of such records as they may have. According to the NYSDEC, there is no record of any waste being removed from either the Grant or Greenpoint stations nor any record of disposal of any such waste. Obviously such removal and disposal occurred, as the old tanks and soils do not remain on the properties. Merit therefore demands that Vic produce the required manifests and documentation evidencing the lawful removal and disposal of such waste. Merit views this non-performance as a material item and demands all such documentation be provided both to Merit and the State <u>immediately</u>.

To the extent that such documentation is not received on or before February 28, 1994, it is Merit's intention to immediately pursue the matter with the NYSDEC to avoid liability to Merit. Merit will also evaluate the desirability of initiating legal proceedings against Vic and/or you personally for the non-provision of such documentation in view of the potential liability of Merit for Vic's deficiencies. Additionally, Merit will make its records and personnel available to the NYSDEC, to the extent they choose to file and pursue any civil or criminal actions against Vic and/or you personally.

FAX NO. (215) 527-7906

I cannot over-emphasize the critical nature of this matter. Please respond immediately, as Merit intends to pursue every avenue against every entity and/or individual to avoid liability due to Vic's actions or inactions.

Sincerely,

Christopher D. Hein

CDH:dcm

cc: New York State Department of Environmental Compliance
Mr. Robert M. Harting
Mr. Ronald H. Bamer

Is your RETURN ADDRESS completed on the reverse side?

PS Form **3811**, December 1991 *U.S. GPO: 1992—323-402 **DOMESTIC RETURN RECEIPT**

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

3. Article Addressed to:
Mr. Charles Nalbone, President
Vic Construction
242 Randolph Street
Brooklyn, New York 11237

4a. Article Number
P 312 067 578

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery
Consult postmaster for fee.

Thank you for using Return Receipt Service.

RETURNED TO SENDER
UNCLAIMED
DO NOT REMAIL
IN THIS ENVELOPE

DH

Fold at line over top of envelope to the right of the return address

CERTIFIED

P 312 067 578

MAIL

PHILADELPHIA PA FEB 18'94 PB METER

U.S. POSTAGE 2.29

Merit Oil Corporation
551 WEST LANCASTER AVENUE, HAVERFORD, PENNSYLVANIA 19041

RETURNED TO SENDER
UNCLAIMED
DO NOT REMAIL
IN THIS ENVELOPE

Mr. Charles Nalbone, President
Vic Construction
242 Randolph Street
Brooklyn, NY 11237

FEB 2
FEB 27
MAR 09