SEPT 1994

SECOND QUARTER 1994 PROGRESS REPORT
L.E. CARPENTER SITE
WHARTON, NEW JERSEY

September 1, 1994

W.O. No.: 06720-018-001

Prepared on behalf of

L.E. CARPENTER AND COMPANY

For the

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Prepared by:

ROY F. WESTON, INC.
Raritan Plaza I, 4th Floor
Edison, New Jersey 08837

346032

WESTON
MANAGERS DESIGNERS/CONSULTANTS

TABLE OF CONTENTS

Section	Title	Page
1.0	INTRODUCTION AND SCOPE	1-1
	1.1 Groundwater Activities	1-1
	1.2 Groundwater Level Measurement	1-1
	1.3 Groundwater Sampling	1-2
	1.4 Product Recovery	1-2
2.0	RESULTS	2-1
	2.1 Groundwater Elevation Data	2-1
	2.2 BTEX Analytical Results	2-1
3.0	DISCUSSION	3-1
	3.1 Groundwater Flow Measurements	3-1
	3.2 Product Delineation Activities	3-1
	3.3 Summary	3-2

APPENDICES

APPENDIX A	Water Level and Product Thickness Data
APPENDIX B	Equipotential and Product Thickness Isopach Maps
APPENDIX C	BTEX Analytical Results
APPENDIX D	Summary of Analytical Results

LIST OF TABLES

Table No.	Title	Page
2-1	Summary of BTEX Analytical Results, Second Quarter 1994, L.E. Carpenter Site, Wharton, New Jersey	2-2
3-1	Comparison of Monitoring Well Data Since Second Quarter 1993	3-3

WESTON
MANAGERS DESIGNERS/CONSULTANTS

SECTION 1.0

INTRODUCTION AND SCOPE

This report presents the measurements and results of the second quarterly groundwater sampling event for 1994 at the L.E Carpenter site in Wharton, New Jersey. The report also provides a summary of project related events which occurred during the period May through July.

Activities performed during this period, and the month of August, include the bi-monthly maintenance of the passive recovery system, one synoptic round of water level and product thickness measurements from the monitoring point network, collection of groundwater samples for laboratory analysis, generation of this report, and development and generation of the Workplan For Phase I ROD Implementation which was submitted to the New Jersey Department of Environmental Protection (NJDEP) for review on 19 August. Presently, applications for Freshwater Wetlands General Permit #4, Transition Area Waiver, and a Stream Encroachment Permit are pending.

1.1 GROUNDWATER ACTIVITIES

On 29 June 1994 WESTON personnel performed the quarterly sampling of groundwater monitoring wells MW-4, MW-14S, MW-22, and MW-25 at the L.E. Carpenter site. Due to a rain event, water level and product thickness measurements were not collected on 29 June. As a result, quarterly groundwater levels and product thickness measurements were collected on 1 July 1994. All groundwater samples collected were analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX).

1.2 GROUNDWATER LEVEL MEASUREMENT

Water level and product thickness measurements were obtained using an oil/water interface probe at all of the wells and well points at the site. Water level measurements were also collected at eight (8) staff gauges and at the RP-1 measurement point on the concrete wall adjacent to the Rockaway River. Surface water elevations collected at the staff gauges and RP-1 were determined by measuring the vertical distance between the surveyed top of the staff gauge or paint mark, and the water surface.

1.3 GROUNDWATER SAMPLING

Groundwater monitoring wells MW-4, MW-14S, MW-22, and MW-25 were sampled on 29 June 1994 and analyzed for BTEX (U.S. EPA Method 602). Dedicated well wizard bladder pumps were utilized to purge a minimum of three well volumes prior to sampling MW-4, MW-14S, MW-22, and MW-25.

All samples were placed into 40 milliliter glass vials containing a sufficient volume of hydrochloric acid to obtain a sample pH of two or less. After collection, the samples were immediately placed in a designated sample cooler and preserved at four degrees centigrade.

All samples were shipped to WESTON Analyticals in Lionville, Pennsylvania via overnight courier following chain of custody procedures. WESTON Analyticals performed the BTEX analysis on all samples.

1.4 PRODUCT RECOVERY

During this quarter, the entire product recovery system was inspected on a bi-weekly basis. All components of this system were found to be in good operational condition. During the quarter approximately 100 gallons of product was recovered.

In addition to the operation of the passive product recovery system, product was removed by bailing. Product was bailed from well points WP-A1, WP-A4, and WP-B5. The removed product was containerized in the storage tank that holds product removed by the passive recovery system.

SECTION 2.0

ANALYTICAL RESULTS

2.1 GROUNDWATER ELEVATION DATA

Groundwater elevation data for the 1 July 1994 measurement event is presented in Table 1 in Appendix A. Equipotential maps for the shallow, intermediate and deep aquifer zones are presented in Appendix B. Water table depression caused by the presence of the Light Non-Aqueous Phase Liquid (LNAPL) was corrected for using the method presented in previous quarterly reports (WESTON, April 1992).

2.2 BTEX ANALYTICAL RESULTS

Analytical results for groundwater sample collected from MW-4, MW-14S, MW-22, and MW-25 are presented in Appendix C. The data are summarized in Table 2-1. Ethylbenzene was detected in MW-4 at a concentration of 0.0014 milligram per liter (mg/L) the equivalent to parts per million (ppm). Ethylbenzene and xylene were detected in MW-22 at concentrations of 0.270 ppm and 0.780 ppm; respectively. No BTEX parameters were detected in MW-14S and MW-25.

WESTON
MANAGERS DESIGNERS/CONSULTANTS

TABLE 2-1

SUMMARY OF BTEX ANALYTICAL RESULTS
SECOND QUARTER 1994
L.E. CARPENTER SITE, WHARTON, NEW JERSEY

Parameter	Concentration (ppm)			
	MW-4	MW-14S	MW-22	MW-25
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	.0014	ND	.270	ND
Xylene	ND	ND	.780	ND
Total BTEX	.0014	ND	1.05	ND

SECTION 3.0

DISCUSSION

3.1 GROUNDWATER ELEVATION MEASUREMENT

Groundwater levels and product measurements were collected from each monitoring well, well point, and stream gauge on 1 July 1994. Appendix A presents the water level and product thickness data. Equipotential maps of the shallow, intermediate, and deep aquifer zones are presented in Appendix B on Figures 1, 2, and 3; respectively.

Corrected water level elevations were compared to findings from the 31 March and 22 April 1994 measurement events (first quarter 1994). At all monitoring points, except MW-24 and WP-C3, there is a decrease in corrected water level elevations. At MW-24 and WP-C3, there is a measured increase of 0.50 feet and 0.10 feet; respectively. The range of the downward fluctuations in corrected water level elevations ranged between 0.20 feet at MW-23 to 5.05 feet at MW-25.

Equipotential maps of the shallow, intermediate, and deep aquifer zones were constructed based on the results of the 1 July 1994 measurement event. The equipotential maps generated from the second quarter 1994 data were compared to equipotential maps constructed during earlier quarters.

Generally, groundwater flow directions identified in this reporting period were similar to groundwater flow directions identified during the first quarter 1994. However, in the first quarter 1994, a slight groundwater mound was identified in the shallow aquifer in the vicinity of MW-11S, WP-B1, and WP-B3, which was not present in the second quarter. As mentioned in the first quarter 1994 report, the mound was probably the result of standing water in the infiltration gallery, as well as, melt water from snow accumulation. In addition, during the second quarter 1994, the 627.5 equipotential contour presented in the deep aquifer zone illustrates a pronounced "curve" and suggests a northward component of groundwater flow. A "curve" in the equipotential contours within the deep aquifer zone was present in this general area in the first quarter 1994 report as well. The curve found in the second quarter 1993 is not as pronounced.

3.2 PRODUCT DELINEATION ACTIVITIES

Product delineation was performed by measuring for LNAPL at each monitoring point. At each location where product was encountered, its thickness was measured with an oil/water interface

probe to one hundredth (0.01) of a foot. Appendix A provides the product thickness measurements. Figure 4 in Appendix B provides an isopach map presenting product thickness.

At the twenty-three (23) monitoring points where product was detected, its thickness ranged from a sheen at eight (8) monitoring points to 5.69 feet at MW-11S. At monitoring point locations MW-10 and WP-B9, no LNAPL was detected.

An increase in LNAPL thickness was noted in ten (10) monitoring points. These monitoring points and their respective increases in LNAPL thickness from the first quarter 1994 measurement event are: MW-6 (0.33 feet), MW-11S (2.94 feet), MW-12S (0.2 feet), RW-2 (0.02 feet), WP-A2 (0.03 feet), WP-A6 (2.3 feet), WP-A8 (4.23 feet), WP-B1 (0.24 feet), WP-B4 (0.29 feet), and WP-B5 (1.26 feet).

A decrease in product thickness was noted in six (6) monitoring points when compared to first quarter data. Monitoring points MW-1, MW-3, WP-A1, WP-A4, WP-B3, and WP-B7 displayed decreases in LNAPL thickness of 1.76 feet, 0.55 feet, 1.6 feet, 3.16 feet, 0.21 feet, and 0.12 feet; respectively.

3.3 SUMMARY

Total BTEX concentrations were slightly higher in comparison with concentrations detected in groundwater samples from MW-4 and MW-22 during the first quarter of 1994. At MW-22, a slight increase in the concentrations of ethylbenzene and xylene were detected at an increase of 0.12 ppm and 0.19 ppm; respectively. At MW-4, ethylbenzene was detected at a concentration of 0.14 ppm above first quarter 1994 results. No BTEX parameters were detected in MW-14S or MW-25, as was the case in the first quarter. The analytical results for the second quarter 1994 are presented in Table 2-1. A summary of analytical data collected since the third quarter of 1993 is presented in Table 3-1.

WESTON
MANAGERS DESIGNERS/CONSULTANTS

TABLE 3-1

COMPARISON OF MONITORING WELL DATA SINCE THE THIRD QUARTER 1993 L.E. CARPENTER SITE

All results in mg/l (ppm)

	3rdQ93	4thQ93	1stQ94	2ndQ94
MW-4				
Benzene	ND	ND	ND	ND
Toluene	.002	ND	ND	ND
Ethylbenzene	.0054	BRL	ND	.0014
Xylene	.0061	BRL	ND	ND
Total BTEX	.0135	ND/BRL	ND	.0014
MW-14S				
Benzene	ND	BRL	ND	ND
Toluene	ND	BRL	ND	ND
Ethylbenzene	ND	.086	ND	ND
Xylene	ND	.360	ND	ND
Total BTEX	ND	.447	ND	ND
MW-22				
Benzene	ND	BRL	ND	ND
Toluene	.0012	BRL	ND	ND
Ethylbenzene	.3000	.290	.150	.270
Xylene	1.200	1.20	.590	.780
Total BTEX	1.50	1.49	.740	1.05
MW-25				
Benzene	ND	BRL	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylene	ND	.260	ND	ND
Total BTEX	ND	.260	ND	ND

Notes:

ND - Not detected.
BRL - Below Reporting Limits.

APPENDIX A

WATER LEVEL AND PRODUCT THICKNESS DATA

TABLE 1
WATER LEVEL/PRODUCT THICKNESS MEASUREMENT DATA
SECOND QUARTER 1994
L.E. CARPENTER SITE
WHARTON, NEW JERSEY

MONITORING POINT DESIGNATION	MEASURING POINT ELEVATION (FT. MSL)	DEPTH TO PRODUCT (FT)	APPARENT PRODUCT THICKNESS (FT)	STATIC DEPTH TO WATER (FT)	CORRECTED DEPTH TO WATER (FT)	CORRECTED WATER LEVEL ELEVATION (FT MSL)
MW-1	639.18	12.92	1.28	14.20	13.10	626.08
MW-2	633.57	NONE	NONE	8.05	8.05	625.52
MW-3	632.56	6.99	0.19	7.18	7.02	625.54
MW-4	632.50	NONE	NONE	6.88	6.88	625.62
MW-5	632.42	NONE	NONE	6.35	6.35	626.07
MW-6	632.77	6.72	0.35	7.07	6.77	626.00
MW-7	630.68	NONE	NONE	4.86	4.86	625.82
MW-8	630.56	NONE	NONE	4.42	4.42	626.14
MW-9	631.69	NONE	NONE	5.60	5.60	626.09
MW-10	631.52	NONE	NONE	7.90	7.90	623.62
MW-11S	632.96	7.46	5.69	13.15	8.26	624.70
MW-11I	632.82	NONE	NONE	7.30	7.30	625.52
MW-11D	632.42	NONE	NONE	4.60	4.60	627.82
MW-12S	633.18	7.50	0.20	7.70	7.53	625.65
MW-12I	633.06	NONE	NONE	7.50	7.50	625.56
MW-13S	631.23	NONE	NONE	4.67	4.67	626.56
MW-13I	630.68	NONE	NONE	5.36	5.36	625.30
MW-14S	628.41	NONE	NONE	3.54	3.54	624.87
MW-14I	628.23	NONE	NONE	3.50	3.50	624.73
MW-14D	628.53	NONE	NONE	1.00	1.00	627.53
MW-15S	636.77	NONE	NONE	10.94	10.94	625.83
MW-15I	636.66	NONE	NONE	10.82	10.82	625.84
MW-16S	634.47	NONE	NONE	7.97	7.97	626.50
MW-16I	634.96	NONE	NONE	8.65	8.65	626.31
MW-17S	634.79	NONE	NONE	8.68	8.68	626.11
MW-17D	634.86	NONE	NONE	8.83	8.83	626.03
MW-18S	631.26	NONE	NONE	5.74	5.74	625.52
MW-18I	631.04	NONE	NONE	5.30	5.30	625.74
MW-18D	630.77	NONE	NONE	3.58	3.58	627.19
MW-19	638.88	NONE	NONE	12.25	12.25	626.63
MW-20	636.77	NONE	NONE	10.32	10.32	626.45
MW-21	628.80	NONE	NONE	3.84	3.84	624.96
MW-22	628.74	NONE	NONE	3.60	3.60	625.14
MW-23	630.64	NONE	NONE	2.50	2.50	628.14
MW-24	629.03	NONE	NONE	1.46	1.46	627.57
MW-25	627.33	NONE	NONE	5.55	5.55	621.78
RW-1	637.38	NONE	SHEEN	11.44	11.44	625.94
RW-2	631.68	6.34	0.02	6.36	6.34	625.34
RW-3	631.99	NONE	SHEEN	6.50	6.50	625.49
CW-1	NOT SURVEYED	NONE	SHEEN	8.83	8.83	NOT SURVEYED
CW-2	NOT SURVEYED	NONE	SHEEN	9.35	9.35	NOT SURVEYED
CW-3	NOT SURVEYED	NONE	SHEEN	7.98	7.98	NOT SURVEYED
GEI-1I	630.78	NONE	NONE	4.96	4.96	625.82
GEI-2S	637.67	NONE	NONE	11.10	11.10	626.57
GEI-2I	638.20	NONE	NONE	11.20	11.20	627.00
GEI-3I	639.85	NONE	NONE	13.30	13.30	626.55

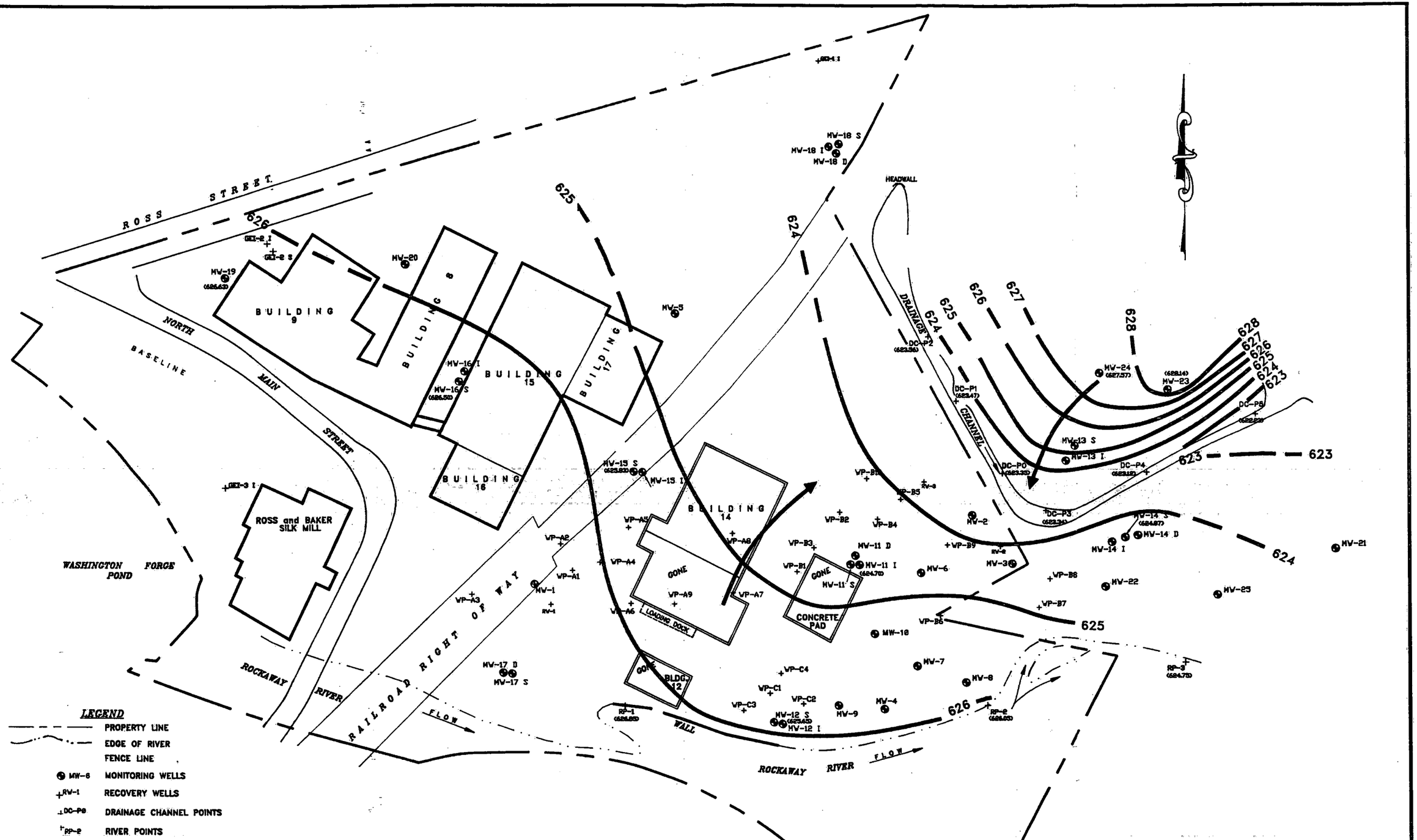
TABLE 1
WATER LEVEL/PRODUCT THICKNESS MEASUREMENT DATA
SECOND QUARTER 1994
L.E. CARPENTER SITE
WHARTON, NEW JERSEY

MONITORING POINT DESIGNATION	MEASURING POINT ELEVATION (FT. MSL)	DEPTH TO PRODUCT (FT)	APPARENT PRODUCT THICKNESS (FT)	STATIC DEPTH TO WATER (FT)	CORRECTED DEPTH TO WATER (FT)	CORRECTED WATER LEVEL ELEVATION (FT MSL)
WP-A1	635.81	9.80	1.70	11.50	10.04	625.77
WP-A2	639.20	13.35	0.05	13.40	13.36	625.84
WP-A3	635.56	NONE	NONE	9.40	9.40	626.16
WP-A4	635.10	9.08	2.37	11.45	9.41	625.69
WP-A5	637.85	NONE	NONE	12.01	12.01	625.84
WP-A6	637.28	11.3	2.95	14.25	11.71	625.57
WP-A7	634.88	NONE	SHEEN	9.50	9.50	625.38
WP-A8	637.56	11.56	4.54	16.10	12.20	625.36
WP-A9	639.45	NONE	SHEEN	13.25	13.25	626.20
WP-B1	633.65	7.22	0.34	7.56	7.27	626.38
WP-B2	632.25	NONE	NONE	6.70	6.70	625.55
WP-B3	633.33	NONE	SHEEN	7.22	7.22	626.11
WP-B4	631.92	6.02	4.48	10.50	6.65	625.27
WP-B5	632.11	6.55	1.35	7.90	6.74	625.37
WP-B6	631.86	NONE	NONE	5.40	5.40	626.46
WP-B7	629.49	4.06	0.24	4.30	4.09	625.40
WP-B8	629.29	NONE	NONE	4.04	4.04	625.25
WP-B9	632.37	NONE	NONE	6.80	6.80	625.57
WP-B10	632.63	NONE	NONE	7.10	7.10	625.53
WP-C1	634.44	NONE	NONE	7.92	7.92	626.52
WP-C2	634.46	NONE	NONE	7.84	7.84	626.62
WP-C3	632.64	NONE	NONE	6.36	6.36	626.28
WP-C4	634.59	NONE	NONE	8.72	8.72	625.87
DC-P0	625.73	NONE	NONE	2.38	2.38	623.35
DC-P1	625.26	NONE	NONE	1.79	1.79	623.47
DC-P2	626.79	NONE	NONE	3.23	3.23	623.56
DC-P3	625.22	NONE	NONE	1.88	1.88	623.34
DC-P4	625.10	NONE	NONE	1.98	1.98	623.12
DC-P5	625.16	NONE	NONE	2.93	2.93	622.23
RP-01	629.65	NONE	NONE	2.80	2.80	626.85
RP-02	627.75	NONE	NONE	1.70	1.70	626.05
RP-03	627.11	NONE	NONE	2.36	2.36	624.75

NOTE:
ASSUMES A PRODUCT SPECIFIC GRAVITY OF 0.86.
WATER LEVEL AND PRODUCT THICKNESSES WERE MEASURED ON 1 JULY 1994.

APPENDIX B

EQUIPOTENTIAL AND PRODUCT THICKNESS ISOPACH MAPS



LEGEND

- PROPERTY LINE
- EDGE OF RIVER
- FENCE LINE
- MW-6 MONITORING WELLS
- RV-1 RECOVERY WELLS
- DC-P0 DRAINAGE CHANNEL POINTS
- RP-2 RIVER POINTS
- GEI-3 I PIEZOMETERS
- GROUNDWATER CONTOUR ELEVATION (1.0 FEET) (DASHED WHERE INFERRED) ARROW INDICATES GROUNDWATER FLOW DIRECTION
- (628.86) CORRECTED WATER LEVEL ELEVATION AT MONITORING POINT (FT. ABOVE M.S.L.)
- VP-B10 WELL POINTS

GRAPHIC SCALE

100 0 50 100

1 Inch = 100 ft.

WESTON MANAGERS DESIGNERS/CONSULTANTS

PROJECT NAME: SECOND QUARTER 1994 PROGRESS REPORT

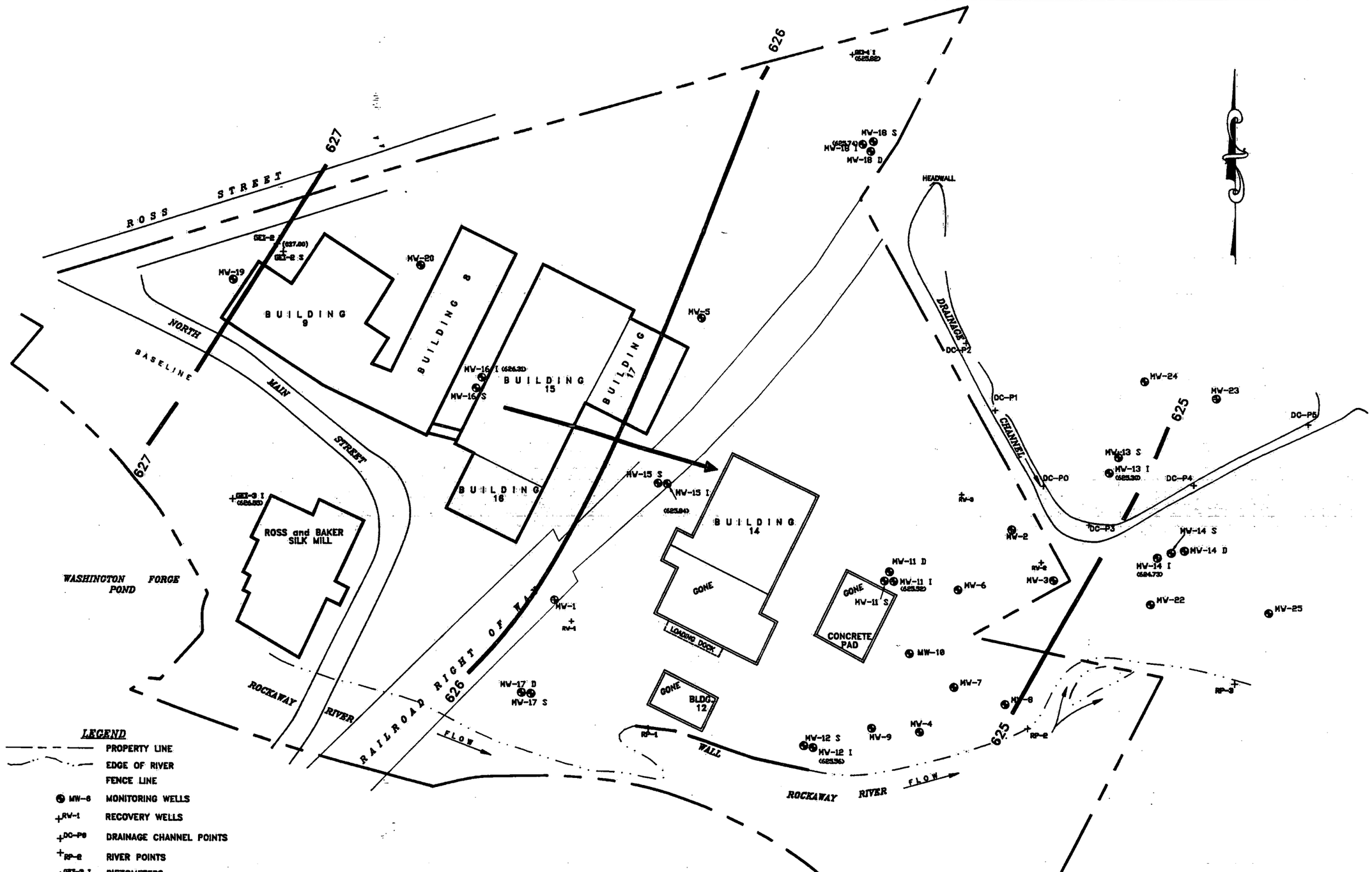
WHARTON, NEW JERSEY

CLIENT NAME: L.E. CARPENTER AND COMPANY

EQUIPOTENTIAL MAP OF THE SHALLOW AQUIFER ZONE MEASURED ON 7/1/94

DATE: 08/31/94

FIGURE #: 1



LEGEND

- PROPERTY LINE
- EDGE OF RIVER
- FENCE LINE
- MW-6 MONITORING WELLS
- RV-1 RECOVERY WELLS
- DC-P0 DRAINAGE CHANNEL POINTS
- RP-2 RIVER POINTS
- GEI-3 I PIEZOMETERS
- GROUNDWATER CONTOUR ELEVATION (1.0 FEET) (DASHED WHERE INFERRED) ARROW INDICATES GROUNDWATER FLOW DIRECTION
- (625.55) CORRECTED WATER LEVEL ELEVATION AT MONITORING POINT (FT. ABOVE M.S.L.)

GRAPHIC SCALE

100 0 50 100

1 Inch = 100 ft.

WESTON MANAGERS DESIGNERS/CONSULTANTS

PROJECT NAME: SECOND QUARTER 1994 PROGRESS REPORT

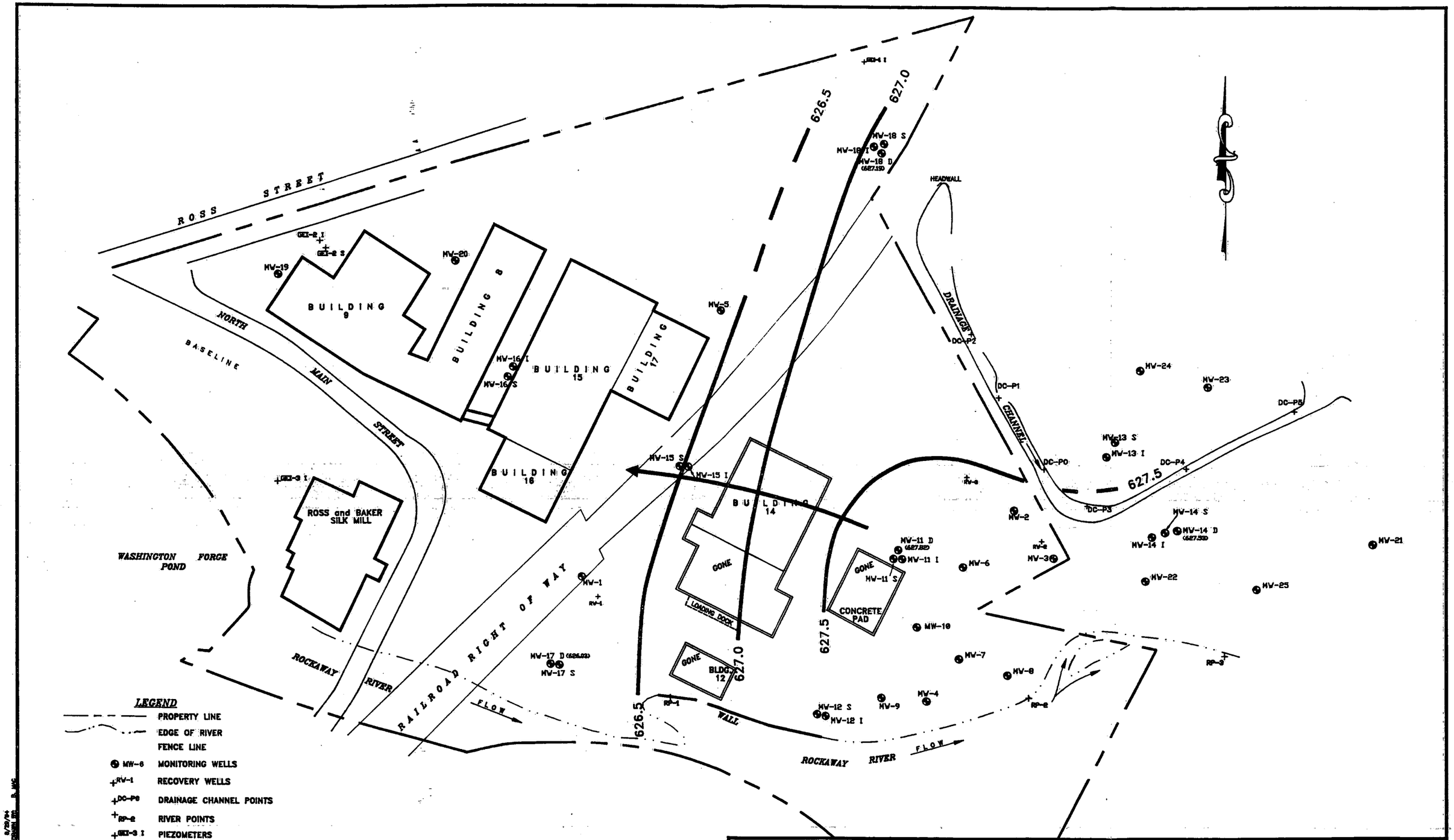
WHARTON, NEW JERSEY

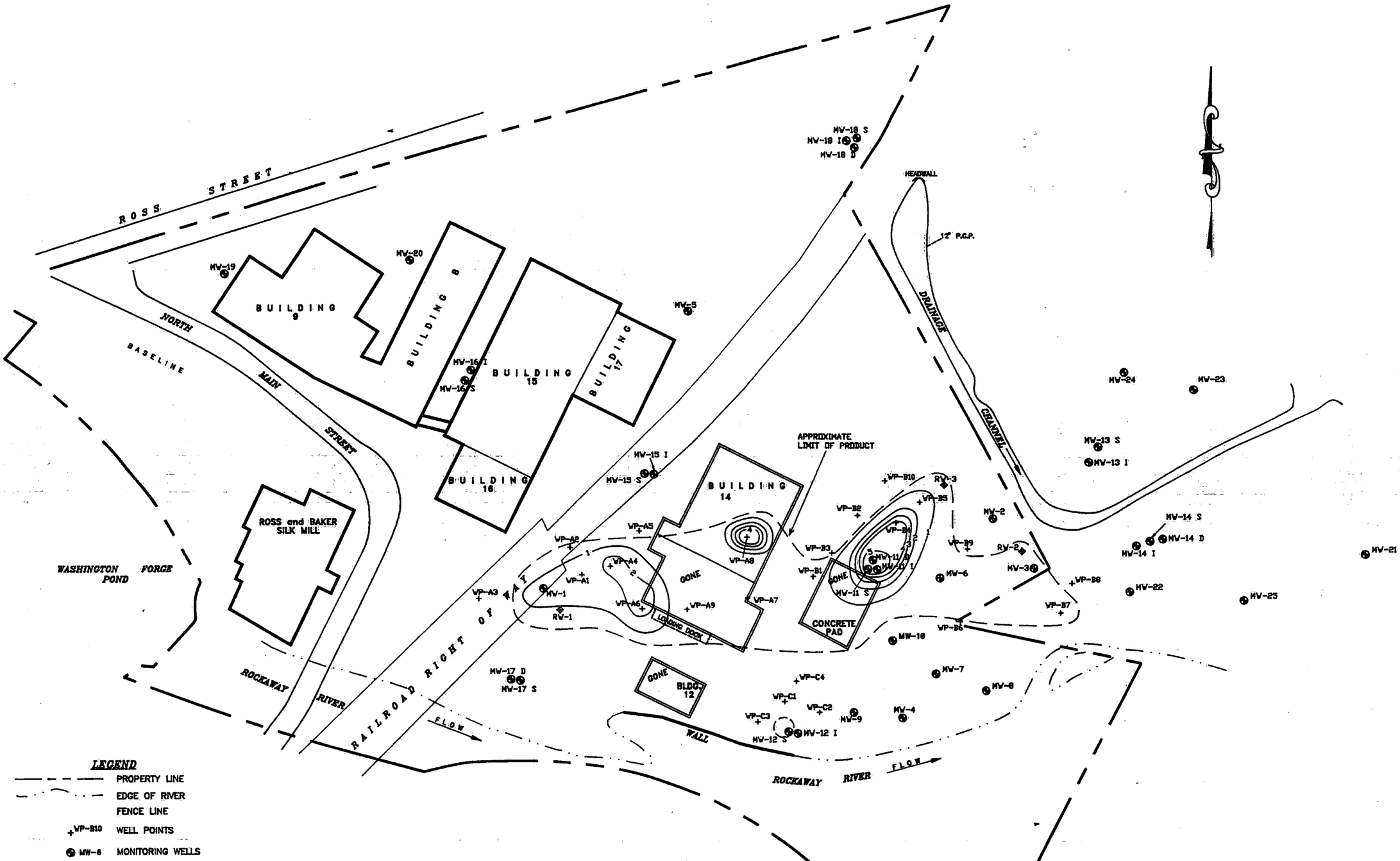
CLIENT NAME: L.E. CARPENTER AND COMPANY

EQUIPOTENTIAL MAP OF THE INTERMEDIATE AQUIFER ZONE MEASURED ON 7/1/94

DAT: 08/31/94

FIGURE #: 2


ROSS STREET
NORTH MAIN STREET
BASELINE
BUILDING 9
BUILDING 8
BUILDING 15
BUILDING 17
BUILDING 16
BUILDING 14
BLDG. 12
GONE
LOADING DOCK
CONCRETE PAD
ROSS and BAKER SILK MILL
WASHINGTON FORCE POND
ROCKAWAY RIVER
RAILROAD RIGHT OF WAY
FLOW
WALL
HEADWALL
DRAINAGE CHANNEL
626.5
627.0
627.5
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11 S
MW-11 I
MW-11 D (627.82)
MW-12 S
MW-12 I
MW-13 S
MW-13 I
MW-14 S
MW-14 I
MW-14 D (627.53)
MW-15 S
MW-15 I
MW-16 I
MW-16 S
MW-17 D (626.03)
MW-17 S
MW-18 S
MW-18 I
MW-18 D (627.15)
MW-19
MW-20
MW-21
MW-22
MW-23
MW-24
MW-25
RV-1
RV-2
RV-3
RP-1
RP-2
RP-3
DC-P0
DC-P1
DC-P2
DC-P3
DC-P4
DC-P5
GEI-2 I
GEI-2 S
GEI-3 I
GEI-4 I
LEGEND
PROPERTY LINE
EDGE OF RIVER
FENCE LINE
MW-6 MONITORING WELLS
RV-1 RECOVERY WELLS
DC-P0 DRAINAGE CHANNEL POINTS
RP-2 RIVER POINTS
GEI-3 I PIEZOMETERS
GROUNDWATER CONTOUR ELEVATION (0.5 FEET) (DASHED WHERE INFERRED) ARROW INDICATES GROUNDWATER FLOW DIRECTION
(627.82) CORRECTED WATER LEVEL ELEVATION AT MONITORING POINT (FT. ABOVE M.S.L.)
GRAPHIC SCALE
100 0 50 100
1 inch = 100 ft.
WESTON
MANAGERS DESIGNERS/CONSULTANTS
PROJECT NAME: SECOND QUARTER 1994 PROGRESS REPORT
WHARTON, NEW JERSEY
CLIENT NAME: L.E. CARPENTER AND COMPANY
EQUIPOTENTIAL MAP OF THE DEEP AQUIFER ZONE MEASURED ON 7/1/94
DATE: 08/31/94
FIGURE #: 3



WESTON
MANAGERS DESIGNERS/CONSULTANTS

PROJECT NAME: SECOND QUARTER 1994 PROGRESS REPORT

WHARTON, NEW JERSEY

CLIENT NAME: L.E. CARPENTER AND COMPANY

ISOPACH MAP OF PRODUCT THICKNESS MEASURED ON 7/1/94

DATE: 08/31/94

FIGURE #: 4

APPENDIX C

BTEX ANALYTICAL RESULTS

GC VOLATILES: COMPLETE SDG FILE (CSF) INVENTORY SHEET

LABORATORY NAME:	Roy F. Weston, Inc., Analytics Division
CITY/STATE:	Lionville, PA
CASE/SDG NO.:	9406L136
CLIENT NAME:	LE CARPENTER
WORK ORDER NO.:	06720018001 (0602)
METHOD BASED ON:	602

All documents in the Client's copy of the complete SDG file must be legible, clearly labeled, paginated, single-sided original documents; or of sufficient copy quality to be reproducible to fourth generation copies. (Purge file documents, e.g., original-copy chain-of-custody, etc. assembled per specific contract request only.)

CLIENT: LE CARPENTER SDG No.: 9406L136		Page Nos		Check (initials/date)	
		From	To	Lab	Client
1	Cover Page (Lab Chron)	0001	0002	[illegible] 7/21/94	
2	Table of Contents (Document Inventory Sheet)	0003	0003		
3	Case Narrative w/ control limits	0004	0006		
4	Shipping, Receiving, and Custody Records • Lab Chain of Custody/Work Request • Client Custody Reports/Packing Lists • Airbills	0007	0008	[illegible] 7/21/94 N/A L	
5	GC Volatiles Sample QC/Data Summary • Data Summary (LIMS Summary Report) • Surrogate Recovery Summary • Matrix Spike/Matrix Spike Duplicate Recovery Summary • Blank Spike Recovery Summary	0009	0014	LKD 7/15/94	
6	Sample Data, for each Sample: • Target Compound Results - Organic Analysis Data Sheet (Form I) • Chromatogram/Quant Report, 1° column • Chromatogram/Quant Report, 2° column confirmation	0015	0034	LKD 7/15/94 No	
7	Calibration Standard Data	0035	0100		
	1° Column Standards Data Initial Calibration (ICAL): • Compound/Concentration/Curve Summary • ~~Retention Time Window Summary~~ NA [illegible] 7/18/94 • Chromatograms/Quant Reports ICAL Second Source Calibration Verification (ICV): • Summary Form • Chromatograms/Quant Reports			LKD 7/15/94	
	Daily Analytical Sequence (Run Log, 1° Column) Daily Calibration Verification (DCV): • Summary Form • Chromatograms/Quant Reports Continuing Calibration Verification (CCV): • Summary Form • Chromatograms/Quant Reports			LKD 7/15/94	

CLIENT: LE Carpenter SDG No.: 9406L136		Page Nos From	Page Nos To	Check (initials/date) Lab	Check (initials/date) Client
	2° Column Standards Data			NA	
	Initial Calibration (ICAL): • Compound/Concentration/Curve Summary • Retention Time Window Summary • Chromatograms/Quant Reports				
	ICAL Second Source Calibration Verification (ICV): • Summary Form • Chromatograms/Quant Reports				
	Daily Analytical Sequence (Run Log, 2° Column)				
	Daily Calibration Verification (DCV): • Summary Form • Chromatograms/Quant Reports				
	Continuing Calibration Verification (CCV): • Summary Form • Chromatograms/Quant Reports				
8	Raw QC Data: Blank and Matrix Spike Data	0101	0113		
	Blank Data • Target Compound Results Form • Chromatogram/Quant Report, 1° column • Chromatogram/Quant Report, 2° column confirmation	0102	0104	LKD 7/15/94 NA	
	Blank Spike (in some instances, will be same data presented in standards section for CCV) • Target Compound Results Form • Chromatogram/Quant Report, 1° column	0105	0107	LKD 7/15/94 [illegible] 7/15/94	
	Matrix Spike/Matrix Spike Duplicate • Target Compound Results Form • Chromatogram/Quant Report, 1° column	0108	0113	LKD 7/15/94 [illegible] 7/15/94	
9	Analysis Logbook Pages	0114	0118	LKD 7/15/94	
10	Standards Preparation Records	0119	0127		
	• Surrogate and Target Analyte Spike Solutions				
	• Calibration Standards				
11	Preparation Logs	0128	0129		
	• Sample Prep Records			[illegible] 7/21/94	
	• Screening Records (Logs, Chromatograms)			N/A	
	• % Moisture and/or % Solids Records				
12	Other/Miscellaneous	0130	0131		
	• MDL / IDL Table (circle one)			N/A	

COMMENTS:

Checked by: (Laboratory)	Mary M Ziegler Signature	Mary M Ziegler / Data Report Coord 10 Printed Name/Title	07-21-94 Date
Checked by: (Client)	Signature	Printed Name/Title	Date

I. Cover Page (Lab Chron)

Roy F. Weston, Inc. - Lionville Laboratory
602 ANALYTICAL DATA PACKAGE FOR
LE CARPENTER

DATE RECEIVED: 06/30/94 RFW LOT # :9406L136

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MW-25	001	W	94LVHP51	06/29/94	N/A	07/11/94
MW-25	001 MS	W	94LVHP51	06/29/94	N/A	07/11/94
MW-25	001 MSD	W	94LVHP51	06/29/94	N/A	07/11/94
MW-22	002	W	94LVHP51	06/29/94	N/A	07/12/94
MW-22	002 D1	W	94LVHP51	06/29/94	N/A	07/11/94
MW-14S	003	W	94LVHP51	06/29/94	N/A	07/11/94
MW-4	004	W	94LVHP51	06/29/94	N/A	07/11/94
TRIP BLANK	005	W	94LVHP51	06/29/94	N/A	07/11/94

LAB QC:

TBLKAC	MB1	W	94LVHP51	N/A	N/A	07/11/94
TBLKAC	MB1 BS	W	94LVHP51	N/A	N/A	07/11/94

TABLE OF CONTENTS

GC Volatiles

		Page No.
I.	Cover Page (Lab Chron)	1
II.	Table of Contents	3
III.	Case Narrative	4
IV.	Lab Chain of Custody/Work Request	7
V.	GC Volatiles Sample QC/Data Summary	9
VI.	Sample Data, for each Sample	15
VII.	Calibration Standard Data	35
VIII.	Raw QC Data: Blank and Matrix Spike Data	101
IX.	Analysis Logbook Pages	114
X.	Standards Preparation Records	119
XI.	Preparation Logs	128
XII.	Other/Miscellaneous	130

mmz\pas\10-93\table.gcv

III. Case Narrative

ROY F. WESTON, INC.
LIONVILLE ANALYTICAL LABORATORY
ANALYTICAL CASE NARRATIVE

Client: LE CARPENTER
RFW #: 9406L136

W.O. #: 06720-018-001-0002-00
Date Received: 06-30-94

GC VOLATILE

The set of samples consisted of five (5) water samples collected on 06-29-94.

The samples were analyzed according to criteria set forth in Method 602 for Selected Aromatic Volatile Organic target compounds on 07-11,12-94.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. All samples were packaged and stored as specified in the method protocol.

2. All samples were analyzed within fourteen (14) days of collection, which met holding time criteria.

3. All surrogate recoveries were within laboratory control limits.

4. All blank spike recoveries were within laboratory control limits.

5. All matrix spike recoveries were within laboratory control limits.

6. Sample MW-22 required 10-fold and 100-fold dilutions because it contained high levels of target compounds.

7. The linearity criteria for initial calibration were met for all analytes with a coefficient of determination (r^2) greater than or equal to 0.992. A minimum five-point linear regression analysis was performed for primary analyses over the concentration range of .5 ug/L to 40 ug/L.

8. One (1) analyte (Ethylbenzene) in a continuing calibration verification (CCV) standards was outside laboratory control limits during primary analyses; this out-of limit recovery has been flagged with an asterisk (*) on the Form 7GC.

9. Sample MW-4 contained some type of fuel oil, as there is a fuel fingerprint pattern. This interfered with the quantitation of target analytes; consequently, so all results are to be considered minimum values.

Margaret M. Beaty for
J. Peter Hershey, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

7/21/94
Date

sma/mmz/gcv/06-136vo.cn

GLOSSARY OF GC VOA DATA

DATA QUALIFIERS

Spreadsheet and Form 1 qualifiers:

U	=	Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.
B	=	This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
E	=	Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
D or NA	=	Identifies that a compound was diluted below reporting limit, or was reported in another analysis.
I	=	Interference.

Quantitation Report qualifiers:

>RTW	=	Indicates compound is outside a retention time window. This can be used at analyst discretion.
<RL	=	The calculated amount of compound is less than the reporting limit.
NT	=	The compound is either not a target compound for the client, or not a target compound for the detector.

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Suffix added to sample numbers to indicate that results are from a diluted analysis.
DF	=	Dilution Factor.
NR	=	Not Required / Not Reported.
SP	=	Indicates Spiked Compound.
NS	=	Not Spiked
C#	=	Confirmation analysis (if # > 1, then it is a confirmation dilution).

C:\WP\DATA\GCVOA.gcv

IV. Lab Chain of Custody/Work Request

WESTON Analytics Use Only
9406L136

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 1

Client: L E Carpenter
Est. Final Proj. Sampling Date:
Work Order #: 06720-018-001-0002-00
Project Contact/Phone #: Martin O'Neill
AD Project Manager: ~~Martin O~~ Mike Young
QC: CLP Del: CLP TAT: 30 Days
Date Rec'd: 6-30-94 Date Due: 7/30/94
Account #: LECARP-CLP

Refrigerator #		1
#/Type Container	Liquid	2 g
	Solid	
Volume	Liquid	40 ml
	Solid	
Preservatives		HCL

ANALYSES REQUESTED →

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	ORGANIC VOA	BNA	Pest/PCB	Herb	INORG Metal	CN
							0602					
001	MW-25			Water	6/29/94	10:00	X					
002	MW-22	✓	✓	"	"	10:45	X					
003	MW-14S			"	"	11:30	X					
004	MW-4			"	"	12:30	X					
005	Trip Blank			"	"		X					

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
EPA Method 602; BTEX
* Rec'd 4 Voas for trip blank.

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time
JF			
Fed Ex	I. Derris	6-30-94	9:30

Relinquished by	Received by	Date	Time
		6-30-94	

WESTON Analytics Use Only

Samples were:
1) Shipped X or Hand Delivered
Airbill # 1801579544
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RFW 21-21-001/A-7/91 L372 L373 L375 L377 L378 Ref# Cooler# 381-596a

V. GC Volatiles Sample QC/Data Summary

Roy F. Weston, Inc. - Lionville Laboratory
Purgeable Aromatics by GC, Method 602

RFW Batch Number: 9406L136 Client: LE CARPENTER Work Order: 06720018001 Page: 1 Report Date: 07/19/94 10:51

	Cust ID:	MW-25	MW-25	MW-25	MW-22	MW-22	MW-14S
Sample Information	RFW#:	001	001 MS	001 MSD	002	002 DL	003
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	10.0	100	1.00
	Units:	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Fluorobenzene		103 %	101 %	105 %	100 %	106 %	108 %
Benzene		1.0 U	119 %	117 %	10 U	NA	1.0 U
Toluene		1.0 U	117 %	116 %	10 U	NA	1.0 U
Ethylbenzene		1.0 U	122 %	120 %	270	NA	1.0 U
Xylenes (total)		1.0 U	1.0 U	1.0 U	E	780	1.0 U

	Cust ID:	MW-4	TRIP BLANK	TBLKAC	TBLKAC BS
Sample Information	RFW#:	004	005	94LVHP51-MB1	94LVHP51-MB1
	Matrix:	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00
	Units:	UG/L	UG/L	UG/L	UG/L
Fluorobenzene		101 %	112 %	110 %	101 %
Benzene		1.0 U	1.0 U	1.0 U	118 %
Toluene		1.0 U	1.0 U	1.0 U	119 %
Ethylbenzene		1.4	1.0 U	1.0 U	126 %
Xylenes (total)		1.0 U	1.0 U	1.0 U	1.0 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

WATER VOLATILE SURROGATE RECOVERY

Lab Name: Roy F. Weston, Inc. Contract: 6720-18-01

Case No.: LE CARPENTER

RFW Lot No.: 9406L136

	CLIENT SAMPLE NO.	S1 (FLB) #	S2 ( ) #	S3 ( ) #	OTHER	TOT OUT
01	MW-25	103				0
02	MW-25MS	101				0
03	MW-25MSD	105				0
04	MW-22	100				0
05	MW-22DL	106				0
06	MW-14S	108				0
07	MW-4	101				0
08	TRIP BLANK	112				0
09	TBLKACLVHP51-MB1	110				0
10	TBLKACLVHP51-MB1 BS	101				0

QC LIMITS

S1 (FLB) = Fluorobenzene (70-130)

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

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Roy F. Weston, Inc. Contract: 6720-18-01

Case No.: LE CARPENTER RFW Lot No.: 9406L136-001

MATRIX Spike - Sample No.: MW-25 Level:(low/med) LOW

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC
Benzene	10.0	0	11.9	119	70 -130
Toluene	10.0	0	11.7	117	70 -130
Ethylbenzene	10.0	0	12.2	122	70 -130

COMPOUND	SPIKE ADDED UG/L	MSD CONCENTRATION UG/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC
Benzene	10.0	11.7	117	1	20	70 -130
Toluene	10.0	11.6	116	0	20	70 -130
Ethylbenzene	10.0	12.0	120	1	20	70 -130

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

RPD: 0 out of 3 outside limits
Spike Recovery: 0 out of 6 outside limits

COMMENTS:

WATER VOLATILE MATRIX SPIKE RECOVERY

Lab Name: Roy F. Weston, Inc. Contract: 6720-18-01

Case No.: LE CARPENTER RFW Lot No.: 9406L136

MATRIX Spike - Sample No.: TBLKACLVHP51-MB1 Level:(low/med) LOW

COMPOUND	SPIKE ADDED UG/L	SAMPLE CONCENTRATION UG/L	MS CONCENTRATION UG/L	MS % REC #	QC LIMITS REC
Benzene	10.0	0	11.8	118	70 -130
Toluene	10.0	0	11.9	119	70 -130
Ethylbenzene	10.0	0	12.6	126	70 -130

Column to be used to flag recovery value with an asterisk
* Values outside of QC limits

Spike Recovery: 0 out of 3 outside limits

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: Roy F. Weston, Inc. Contract: 6720-18-01

Case No.: LE CARPENTER

Lab File ID: RAW2:GB447442 Lab Sample ID: 94LVHP51-MB1

Date Analyzed: 07/11/94 Time Analyzed: 1317

Matrix: (Soil/Water) WATER Level: (low/med) LOW

Instrument ID: 32

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	~~LAB FILE ID~~ Date	TIME ANALYZED
01	MW-25	9406L136-001	07/11/94	19:33
02	MW-25MS	9406L136-001S	07/11/94	20:34
03	MW-25MSD	9406L136-001T	07/11/94	21:35
04	MW-22	9406L136-002	07/12/94	00:38
05	MW-22DL	9406L136-002	07/11/94	22:36
06	MW-14S	9406L136-003	07/11/94	18:32
07	MW-4	9406L136-004	07/11/94	17:31
08	TRIP BLANK	9406L136-005	07/11/94	15:28
09	TBLKACLVHP51-MB1 BS	94LVHP51-MB1S	07/11/94	14:18

COMMENTS:

LKJ 7/15/94

VI. Sample Data, for each Sample

GC VOLATILES SHEET

CLIENT SAMPLE NO.

MW-25

Lab Name: Roy F. Weston, Inc. Work Order: 06720018001

Client: LE CARPENTER

Matrix: WATER

Lab Sample ID: 9406L136-001

Sample wt/vol: 10.0 (g/mL) ML

Lab File ID: GB447593

Level: (low/med) LOW

Date Received: 06/30/94

% Moisture: not dec. _____

Date Analyzed: 07/11/94

Column: (pack/cap) CAP

Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
71-43-2	Benzene	1.0	U
108-88-3	Toluene	1.0	U
100-41-4	Ethylbenzene	1.0	U
1330-20-7	Xylenes (total)	1.0	U

12/88 Rev.

9406L136-001

SAMPLE NO. : 07119432 .09

TEST NO. :

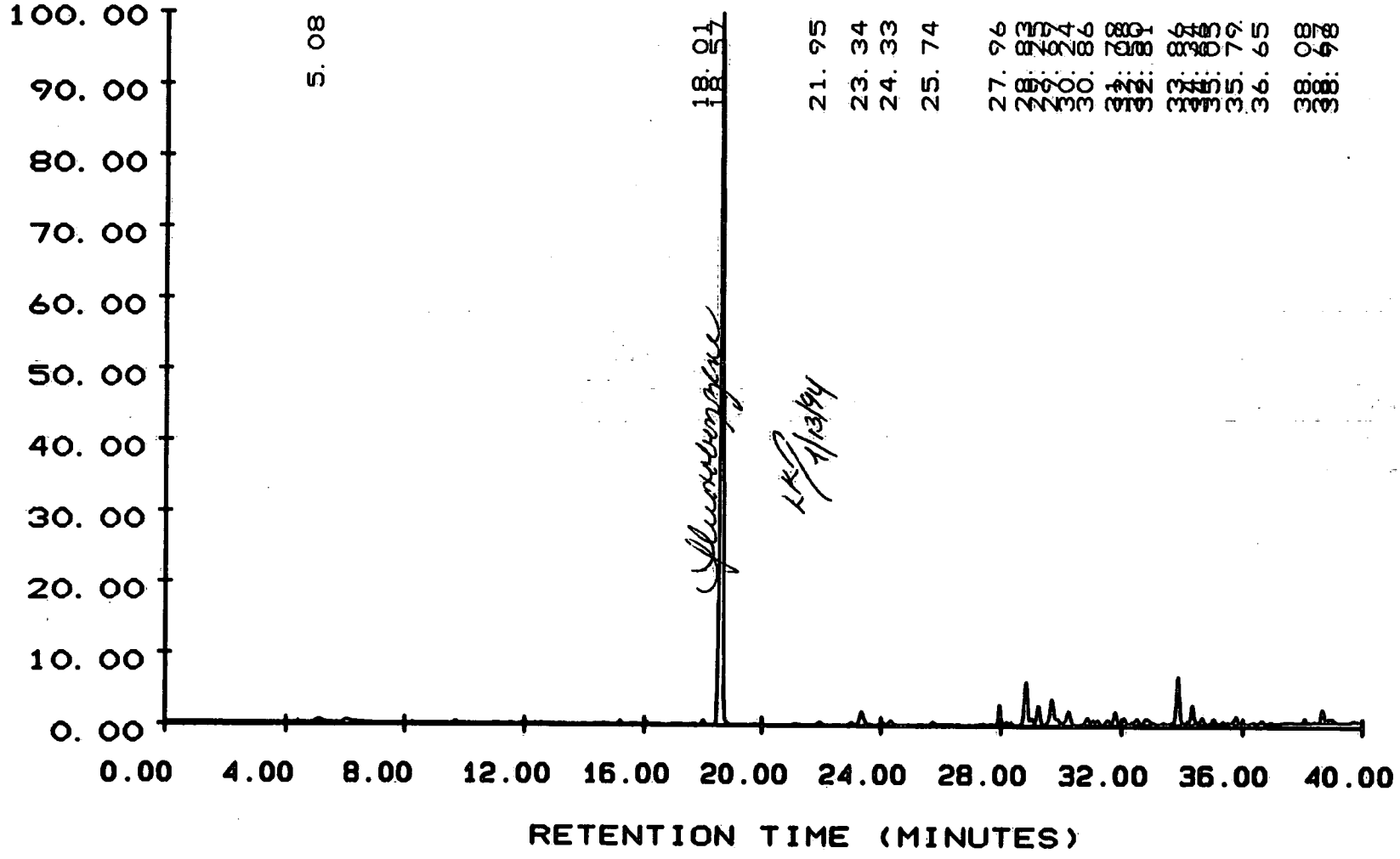
METHOD NO. : 32LD / 32LD

INSTRUMENT: 32

DATE TIME: 07/11/94 19:33:17

PAGE NO. : 01

0017



Y MAXIMUM: 52738.

Y MINIMUM: 49943.

START TIME: 0.00

END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 07/12/94 08:33:36

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 07119432 .09 INST:32 VIAL:F0 SEQ NUMBER:009
TEST : O602 DATE-TIME INJECTED : 07/11/94 19:33:17
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 07/12/94 08:33:36
METHOD: 32LD / 32LD REV #: 00016 ANALYST: LINDAD SAMP RATE: 1.56
CLIENT ID: MW-25 SAMPLE VOL: 10ML
CLIENT: LE CARPENTER COLUMN TYPE: RTX 502.2 105M
LAB ID: 9406L136-001 RAW FILE: RAW2:GB447593
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

LKD 7/15/94

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	2067	119		5.079			
				10.210	M	1,1-DICHLOROETHENE	
				12.428	M	TRANS-1,2-DICHLOROET	
				15.289	M	CIS-1,2-DICHLOROETHA	
002	1517	167	V	18.005	M	BENZENE	~~0.016~~ <RL
003	189658	27851		18.574	M	FLUOROBENZENE	10.303
004	1267	113		21.945			27851(3.617^{-04}) + 7.840^{-02} = 10.30256
				22.495	M	CIS-1,3-DICHLOROPROP	
005	6758	513	T	23.341	M	TOLUENE	~~0.037~~ <RL vs 32 F curve
				23.946	M	TRANS-1,3-DICHLOROPR	
006	2694	178	V	24.332			
007	4154	128	V	25.735			
008	7955	794	T	27.963	M	ETHYLBENZENE	~~0.210~~ <RL
				28.057	M	CHLOROBENZENE	
				28.202	M	ETHYLBENZENE	
				28.427	M	P-XYLENE	
				28.451	M	M-XYLENE	
009	15258	1651	T	28.833			
010	5606	728	T	29.248			
011	11136	982	T	29.693	M	STYRENE	~~0.190~~ NT
				29.841	M	O-XYLENE	
				29.904	M	STYRENE	
012	5651	525	V	30.238			
013	5203	274	T	30.860			
014	5894	502	T	31.788			
015	2131	260	T	32.081			
016	2707	228	T	32.504			
017	3808	232	T	32.810			
018	14714	1849	T	33.860			
019	6259	732	T	34.344			
020	2099	263	T	34.661			
021	1690	201	T	35.046			
				35.464	M	1,3-DICHLOROBENZENE	
022	4026	280	V	35.792	M	1,4-DICHLOROBENZENE	~~0.225~~ NT
023	1907	110	V	36.650			
				37.059	M	1,2-DICHLOROBENZENE	
024	1094	175	V	38.078			
025	3923	507	T	38.669			
026	2093	144		38.984			

GC VOLATILES SHEET

CLIENT SAMPLE NO.

MW-22

Lab Name: Roy F. Weston, Inc. Work Order: 06720018001

Client: LE CARPENTER

Matrix: WATER

Lab Sample ID: 9406L136-002

Sample wt/vol: 10.0 (g/mL) ML

Lab File ID: GC447669

Level: (low/med) LOW

Date Received: 06/30/94

% Moisture: not dec. _____

Date Analyzed: 07/12/94

Column: (pack/cap) CAP

Dilution Factor: 10.0

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

CAS NO.	COMPOUND		
71-43-2	Benzene	10	U
108-88-3	Toluene	10	U
100-41-4	Ethylbenzene	270	
1330-20-7	Xylenes (total)		E

12/88 Rev.

9406L136-002

SAMPLE NO. : 07119432 . 14

TEST NO. :

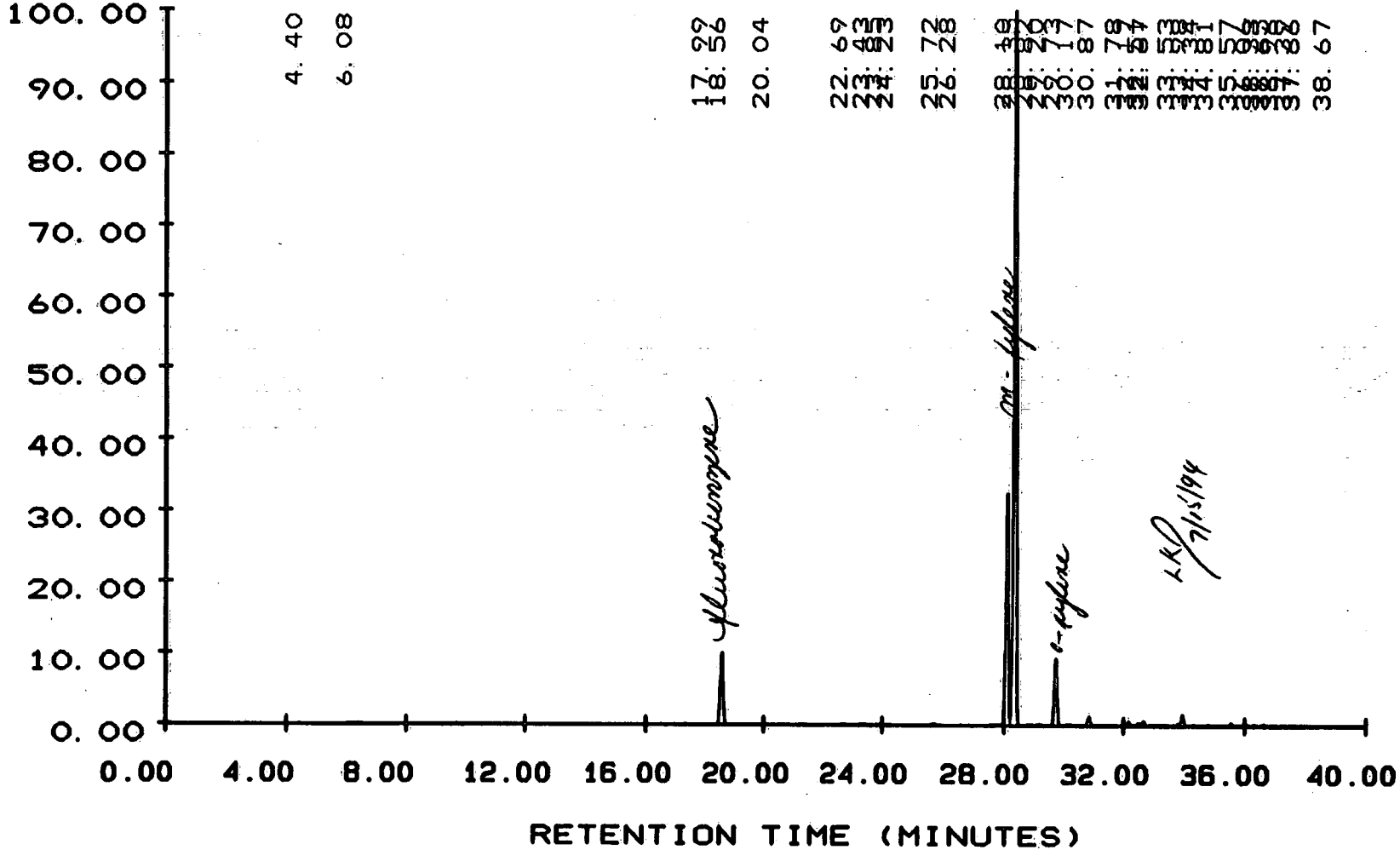
METHOD NO. : 32LD / 32LD

INSTRUMENT: 32

DATE TIME: 07/12/94 00:38:38

PAGE NO. : 01

0020



Y MAXIMUM: 77097.

Y MINIMUM: 49943.

START TIME: 0.00

END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 07/12/94 07:51:09

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 07119432 .14 INST:32 VIAL:F0 SEQ NUMBER:014
TEST : O602 DATE-TIME INJECTED : 07/12/94 00:38:38
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 07/12/94 07:51:09
METHOD: 32LD / 32LD REV #: 00016 ANALYST: LINDAD SAMP RATE: 1.56
CLIENT ID: MW-22 SAMPLE VOL: 10ML
CLIENT: LE CARPENTER COLUMN TYPE: RTX 502.2 105M
LAB ID: 9406L136-002 RAW FILE: RAW2:GC447669
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 10.0000

LKD 7/15/94

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	1293	303		4.400			
002	4115	164		6.081			
				10.210		1,1-DICHLOROETHENE	
				12.428		TRANS-1,2-DICHLOROET	
				15.289		CIS-1,2-DICHLOROETHA	
003	1056	145	V	17.989		BENZENE	~~0.093~~ D
004	182739	26953		18.561		FLUOROBENZENE	99.729/10 = 9.97
005	1779	151		20.043			
006	3443	350	T	22.690		CIS-1,3-DICHLOROPROP	~~3.186~~ NT
007	3539	196	T	23.430		TOLUENE	
008	2938	353	T	23.853		TRANS-1,3-DICHLOROPR	~~2.775~~ NT
009	2189	191	T	24.234			
010	6726	467	V	25.720			
011	1766	148		26.283			
				28.057		CHLOROBENZENE	
012	537798	87766	T	28.098		ETHYLBENZENE	273.626 ✓
013	1615533	269771	T	28.345		M-XYLENE	690.071 E
				28.427		P-XYLENE	
				28.451		M-XYLENE	
014	3219	329	T	28.822			
015	6931	434	T	29.195			
016	155834	25124		29.734		O-XYLENE	79.483 E
			T	29.900		STYRENE	
				29.904		STYRENE	
017	8339	532	T	30.167			
018	23008	3203	T	30.865			
019	5082	280	T	31.782			
020	11533	1542	T	32.167			
021	9498	993	T	32.512			
022	12218	1653	T	32.671			
023	2362	249	T	33.527			
024	29363	3973	T	33.977			
025	4691	381	T	34.340			
026	3680	360	V	34.811			
				35.464		1,3-DICHLOROBENZENE	
027	8429	982	T	35.568		1,4-DICHLOROBENZENE	~~4.042~~ NT
028	1907	319	T	36.064			
029	2797	299	T	36.328			
030	3846	611	T	36.647			
031	2029	202	V	36.955		1,2-DICHLOROBENZENE	1.~~247~~ NT

TOTAL XYLENES 770 E 7/19/94

0021

GC VOLATILES SHEET

CLIENT SAMPLE NO.

MW-22DL

Lab Name: Roy F. Weston, Inc. Work Order: 06720018001

Client: LE CARPENTER

Matrix: WATER

Lab Sample ID: 9406L136-002 DL

Sample wt/vol: 10.0 (g/mL) ML

Lab File ID: GB447639

Level: (low/med) LOW

Date Received: 06/30/94

% Moisture: not dec. _____

Date Analyzed: 07/11/94

Column: (pack/cap) CAP

Dilution Factor: 100

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

CAS NO.	COMPOUND		
71-43-2	Benzene	NA	
108-88-3	Toluene	NA	
100-41-4	Ethylbenzene	NA	
1330-20-7	Xylenes (total)	780	

12/88 Rev.

9406L136-002 D1

SAMPLE NO. : 07119432 .12

TEST NO. :

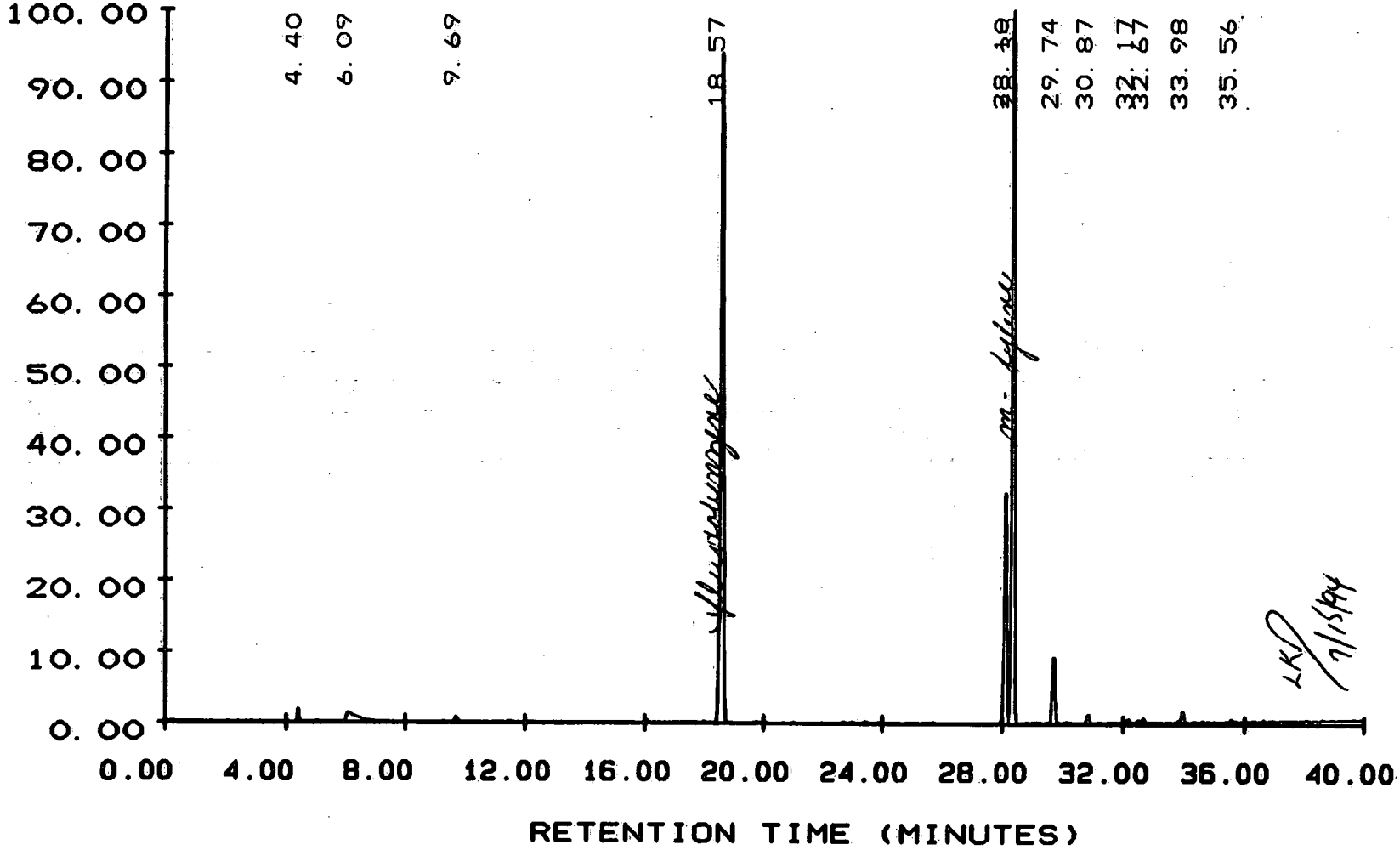
METHOD NO. : 32LD / 32LD

INSTRUMENT: 32

DATE TIME: 07/11/94 22:36:09

PAGE NO. : 01

0023



Y MAXIMUM: 53021.

Y MINIMUM: 49943.

START TIME: 0.00

END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 07/15/94 07:30:53

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 07119432 .12 INST:32 VIAL:F0 SEQ NUMBER:012
TEST : 0602 DATE-TIME INJECTED : 07/11/94 22:36:09
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 07/15/94 07:30:53
METHOD: 32LD / 32LD REV #: 00016 ANALYST: LINDAD SAMP RATE: 1.56
CLIENT ID: MW-22 SAMPLE VOL: 10ML
CLIENT: LE CARPENTER COLUMN TYPE: RTX 502.2 105M
LAB ID: 9406L136-002 RAW FILE: RAW2:GB447639
SAMPLE WT : % MOISTURE : DILUTION FACTOR :100.0000

LKD 7/15/94

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	2125	504		4.396			
002	10227	383		6.094			
003	1517	206		9.693			
				10.210		1,1-DICHLOROETHENE	
				12.428		TRANS-1,2-DICHLOROET	
				15.289		CIS-1,2-DICHLOROETHA	
				18.087		BENZENE	
004	194579	28799		18.566		FLUOROBENZENE	1.065E+3 /100 = 10.65
				22.495		CIS-1,3-DICHLOROPROP	
				23.541		TOLUENE	
				23.946		TRANS-1,3-DICHLOROPR	
				28.057		CHLOROBENZENE	
005	60038	9884	T	28.101		ETHYLBENZENE	~~394.782~~ NA
006	181958	30603	V	28.346		M-XYLENE	775.618 ✓
				28.427		P-XYLENE	
				28.451		M-XYLENE	
007	20237	2814		29.737		O-XYLENE	~~84.029~~ D <RL
			T	29.900		STYRENE	
				29.904		STYRENE	
008	2643	365	T	30.867			
009	2029	170	T	32.171			
010	2656	203	V	32.672			
011	4621	466		33.976			
				35.464		1,3-DICHLOROBENZENE	
012	1325	105	V	35.563		1,4-DICHLOROBENZENE	~~18.049~~ NT
				37.059		1,2-DICHLOROBENZENE	

7/19/94

All compounds were quantitated using method 32LD
except those which are labeled.

GC VOLATILES SHEET

CLIENT SAMPLE NO.

MW-14S

Lab Name: Roy F. Weston, Inc. Work Order: 06720018001

Client: LE CARPENTER

Matrix: WATER

Lab Sample ID: 9406L136-003

Sample wt/vol: 10.0 (g/mL) ML

Lab File ID: GB447571

Level: (low/med) LOW

Date Received: 06/30/94

% Moisture: not dec. _____

Date Analyzed: 07/11/94

Column: (pack/cap) CAP

Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
71-43-2	Benzene	1.0	U
108-88-3	Toluene	1.0	U
100-41-4	Ethylbenzene	1.0	U
1330-20-7	Xylenes (total)	1.0	U

12/88 Rev.

9406L136-003

0026

SAMPLE NO. : 07119432 .08

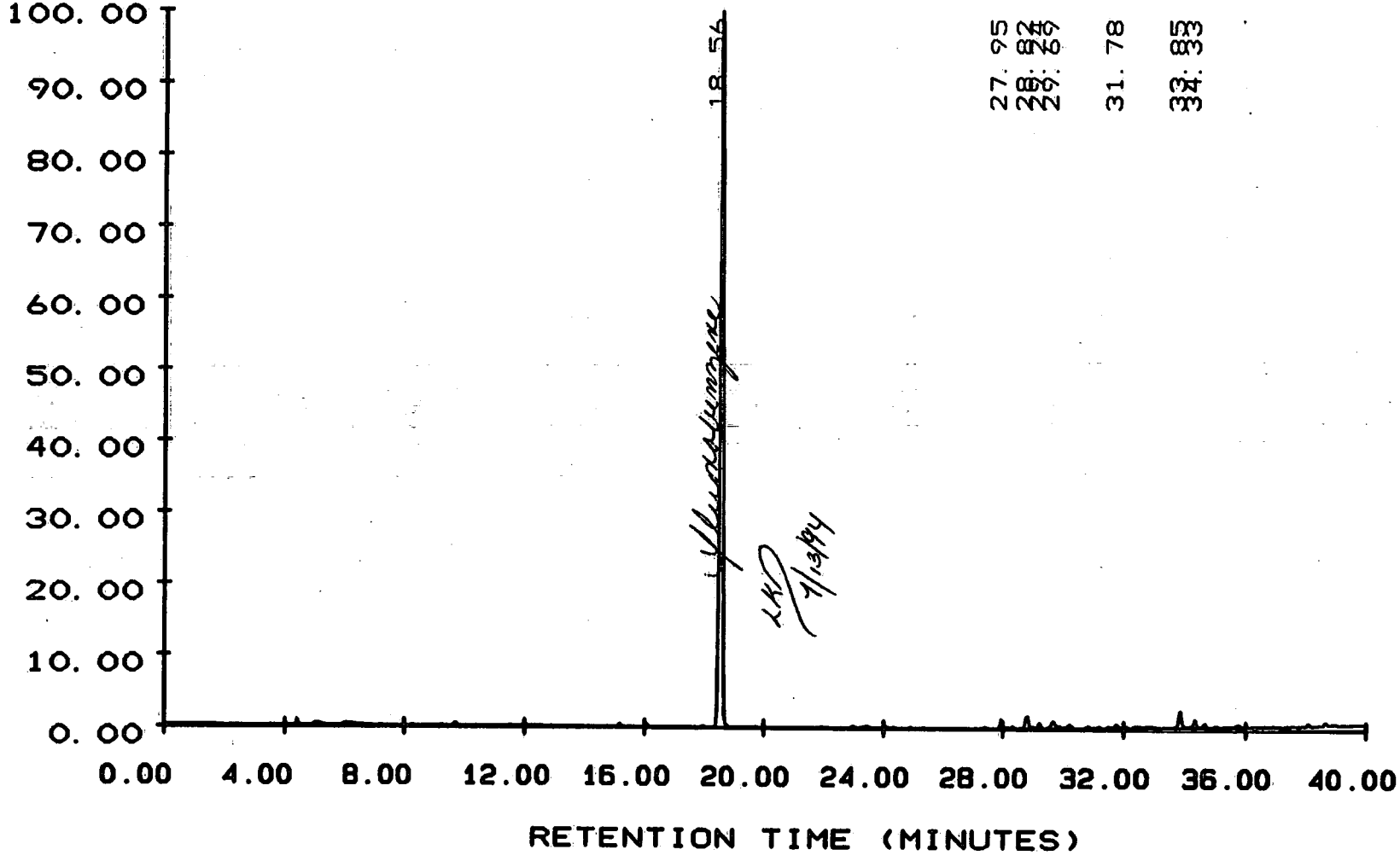
TEST NO. :

METHOD NO. : 32LD / 32LD

INSTRUMENT: 32

DATE TIME: 07/11/94 18:32:16

PAGE NO. : 01



Y MAXIMUM: 52870.

Y MINIMUM: 49945.

START TIME: 0.00

END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 07/12/94 08:29:54

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 07119432 .08 INST:32 VIAL:F0 SEQ NUMBER:008
TEST : 0602 DATE-TIME INJECTED : 07/11/94 18:32:16
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 07/12/94 08:29:54
METHOD: 32LD / 32LD REV #: 00016 ANALYST: LINDAD SAMP RATE: 1.56
CLIENT ID: MW-14S SAMPLE VOL: 10ML
CLIENT: LE CARPENTER COLUMN TYPE: RTX 502.2 105M
LAB ID: 9406L136-003 RAW FILE: RAW2:GB447571
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

LKD 7/15/94

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
				10.210	M	1,1-DICHLOROETHENE	
				12.428	M	TRANS-1,2-DICHLOROET	
				15.289	M	CIS-1,2-DICHLOROETHA	
				18.087	M	BENZENE	
003	198374	29110		18.557	M	FLUOROBENZENE	10.765 ✓
				22.495	M	CIS-1,3-DICHLOROPROP	
				23.541	M	TOLUENE	
				23.946	M	TRANS-1,3-DICHLOROPR	
006	3027	360	T	27.952	M	ETHYLBENZENE	~~0.074~~ <RL
				28.057	M	CHLOROBENZENE	
				28.202	M	ETHYLBENZENE	
				28.427	M	P-XYLENE	
				28.451	M	M-XYLENE	
007	4486	492	T	28.821			
008	1574	201	T	29.236			
009	5280	279	V	29.686	M	STYRENE	~~0.040~~ NT
				29.841	M	O-XYLENE	
				29.904	M	STYRENE	
010	4000	154	T	31.778			
012	5325	645	T	33.850			
013	3885	298	V	34.334			
				35.464	M	1,3-DICHLOROBENZENE	
				35.797	M	1,4-DICHLOROBENZENE	
				37.059	M	1,2-DICHLOROBENZENE	

GC VOLATILES SHEET

CLIENT SAMPLE NO.

MW-4

Lab Name: Roy F. Weston, Inc. Work Order: 06720018001

Client: LE CARPENTER

Matrix: WATER

Lab Sample ID: 9406L136-004

Sample wt/vol: 10.0 (g/mL) ML

Lab File ID: GB447552

Level: (low/med) LOW

Date Received: 06/30/94

% Moisture: not dec. _____

Date Analyzed: 07/11/94

Column: (pack/cap) CAP

Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
71-43-2	Benzene	1.0	U
108-88-3	Toluene	1.0	U
100-41-4	Ethylbenzene	1.4	
1330-20-7	Xylenes (total)	1.0	U

12/88 Rev.

9406L136-004

SAMPLE NO. : 07119432 .07

TEST NO. :

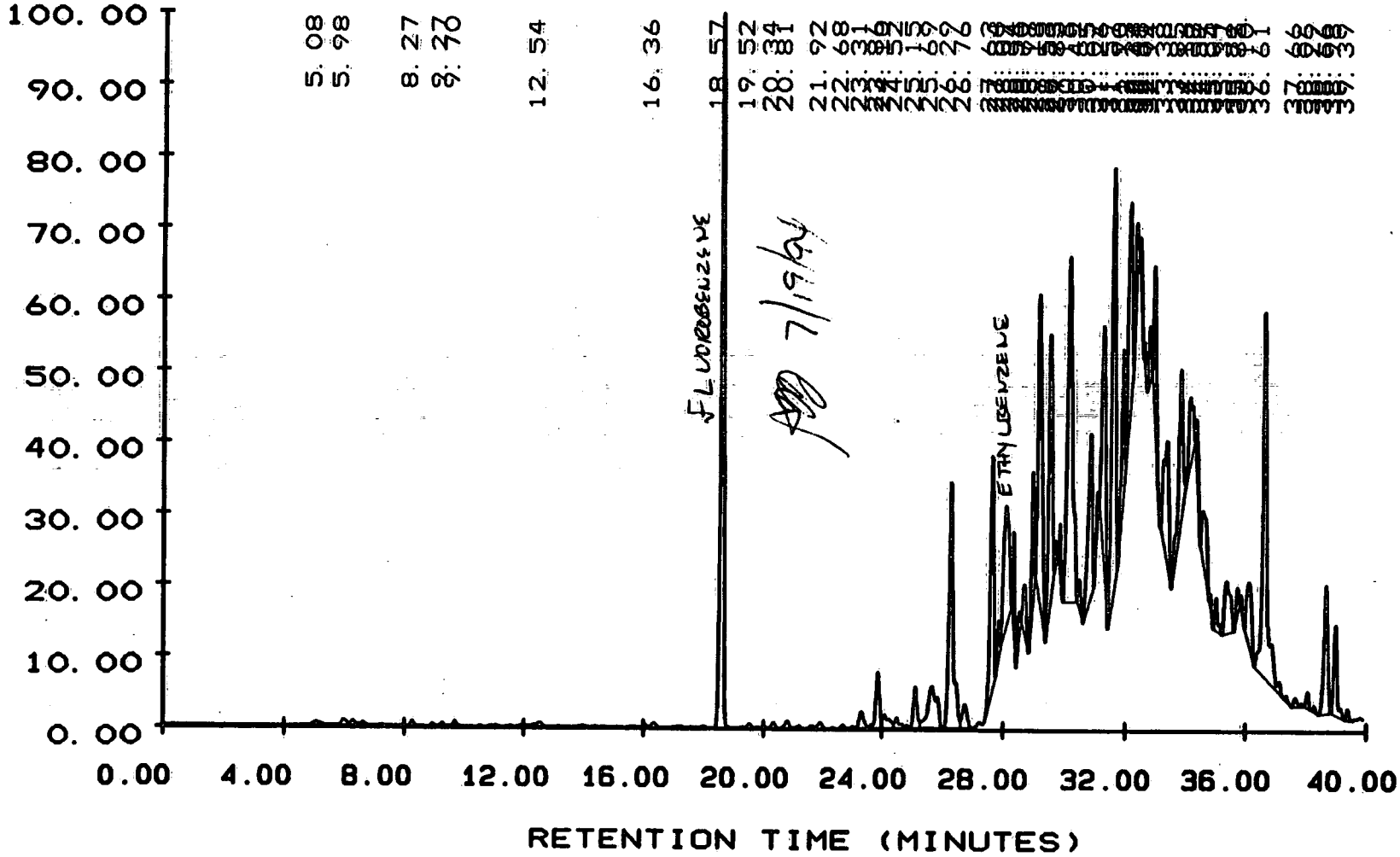
METHOD NO. : 32LD / 32LD

INSTRUMENT: 32

DATE TIME: 07/11/94 17:31:13

PAGE NO. : 01

0029



7/19/94

Y MAXIMUM: 52694.

Y MINIMUM: 49945.

START TIME: 0.00

END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 07/19/94 09:45:39

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 07119432 .07 INST:32 VIAL:F0 SEQ NUMBER:007
TEST : 0602 DATE-TIME INJECTED : 07/11/94 17:31:13
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 07/19/94 09:45:39
METHOD: 32LD / 32LD REV #: 00017 ANALYST: LINDAD SAMP RATE: 1.56
CLIENT ID: MW-4 SAMPLE VOL: 10ML
CLIENT: LE CARPENTER COLUMN TYPE: RTX 502.2 10
LAB ID: 9406L136-004 RAW FILE: RAW2:GB447552
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000
COLUMN ID: PID CAL ID : TEMP:L091593.26/25

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	3354	124	T	5.079			
002	7782	209		5.985			
003	2240	186	T	8.270			
004	1318	121	T	9.270			
005	3443	191	T	9.696			
				10.210	M	1,1-DICHLOROETHENE	
006	5402	161	T	12.543	M	TRANS-1,2-DICHLOROET	~~0.135~~ NT
				15.289	M	CIS-1,2-DICHLOROETHA	
008	3501	177	V	16.363			
				18.087	M	BENZENE	
011	186278	27421	V	18.567	M	FLUOROBENZENE	10.145 ✓
012	2470	153	T	19.520			
013	2566	222	T	20.337			
014	4160	281	T	20.808			
015	3814	225	V	21.919			
016	1606	131	T	22.675	M	CIS-1,3-DICHLOROPROP	~~0.057~~ NT
017	8224	634	T	23.307	M	TOLUENE	~~0.072~~ <RL
018	19654	2112	T	23.864	M	TRANS-1,3-DICHLOROPR	~~2.022~~ NT
019	8077	527	T	24.099			
020	5619	396	T	24.520			
021	14240	1566	T	25.146			
022	33222	1579	T	25.692			
023	90918	9409	T	26.292			
024	9594	891	V	26.762			
025	70810	9082	V	27.625			
026	7639	1468	V	27.841			
				28.057	M	CHLOROBENZENE	
027	59827	4657	V	28.092	M	ETHYLBENZENE	1.416 ✓
028	16898	3743	V	28.340	M	P-XYLENE	~~0.880~~ <RL
029	5252	972	V	28.539	M	M-XYLENE	~~0.168~~
030	14899	1903	V	28.696			
031	29728	5049	V	28.971			
032	107776	11723	V	29.177			
033	77491	10381	V	29.529			
034	3855	940	V	29.726			
				29.841	M	O-XYLENE	
035	8605	2030	V	29.851	M	STYRENE	~~0.423~~ NT
036	151194	13274	V	30.156			
037	6849	1158	V	30.485			
038	57632	6295	V	30.846			

SAMPLE: 07119432 .07 PAGE NUMBER: 2
DATE-TIME INJECTED : 07/11/94 17:31:13
DATE-TIME PROCESSED : 07/19/94 09:45:39

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
039	7952	1256	V	31.065			
040	80877	9175	V	31.259			
041	134221	16370	V	31.574			
042	38848	5472	V	31.897			
043	68768	7700	V	32.129			
044	16521	2758	V	32.327			
045	9402	1671	V	32.443			
046	3591	1063	V	32.607			
047	11460	2090	V	32.785			
048	32582	5946	V	32.941			
049	57370	4761	V	33.381			
050	58605	5704	V	33.848			
051	23546	2524	V	34.159			
052	9357	2105	V	34.373			
053	26080	2026	V	34.586			
054	2331	650	V	34.849			
055	8710	1254	V	35.036			
056	26650	2015	V	35.368	M	1,3-DICHLOROBENZENE	~~0.556~~ NT
057	5779	1035	V	35.722			
058	2939	653	V	35.848	M	1,4-DICHLOROBENZENE	~~0.320~~
059	27942	2437	V	36.100			
060	136960	13966	V	36.608			
				37.059	M	1,2-DICHLOROBENZENE	
061	3546	342	V	37.656			
062	3637	608	V	38.062			
063	1677	245	V	38.289			
064	41408	4893	V	38.660			
065	25920	3428	V	38.977			
066	2592	421		39.389			

GC VOLATILES SHEET

CLIENT SAMPLE NO.

TRIP BLANK

Lab Name: Roy F. Weston, Inc. Work Order: 06720018001

Client: LE CARPENTER

Matrix: WATER

Lab Sample ID: 9406L136-005

Sample wt/vol: 10.0 (g/mL) ML

Lab File ID: GB447487

Level: (low/med) LOW

Date Received: 06/30/94

% Moisture: not dec. _____

Date Analyzed: 07/11/94

Column: (pack/cap) CAP

Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
71-43-2	Benzene	1.0	U
108-88-3	Toluene	1.0	U
100-41-4	Ethylbenzene	1.0	U
1330-20-7	Xylenes (total)	1.0	U

12/88 Rev.

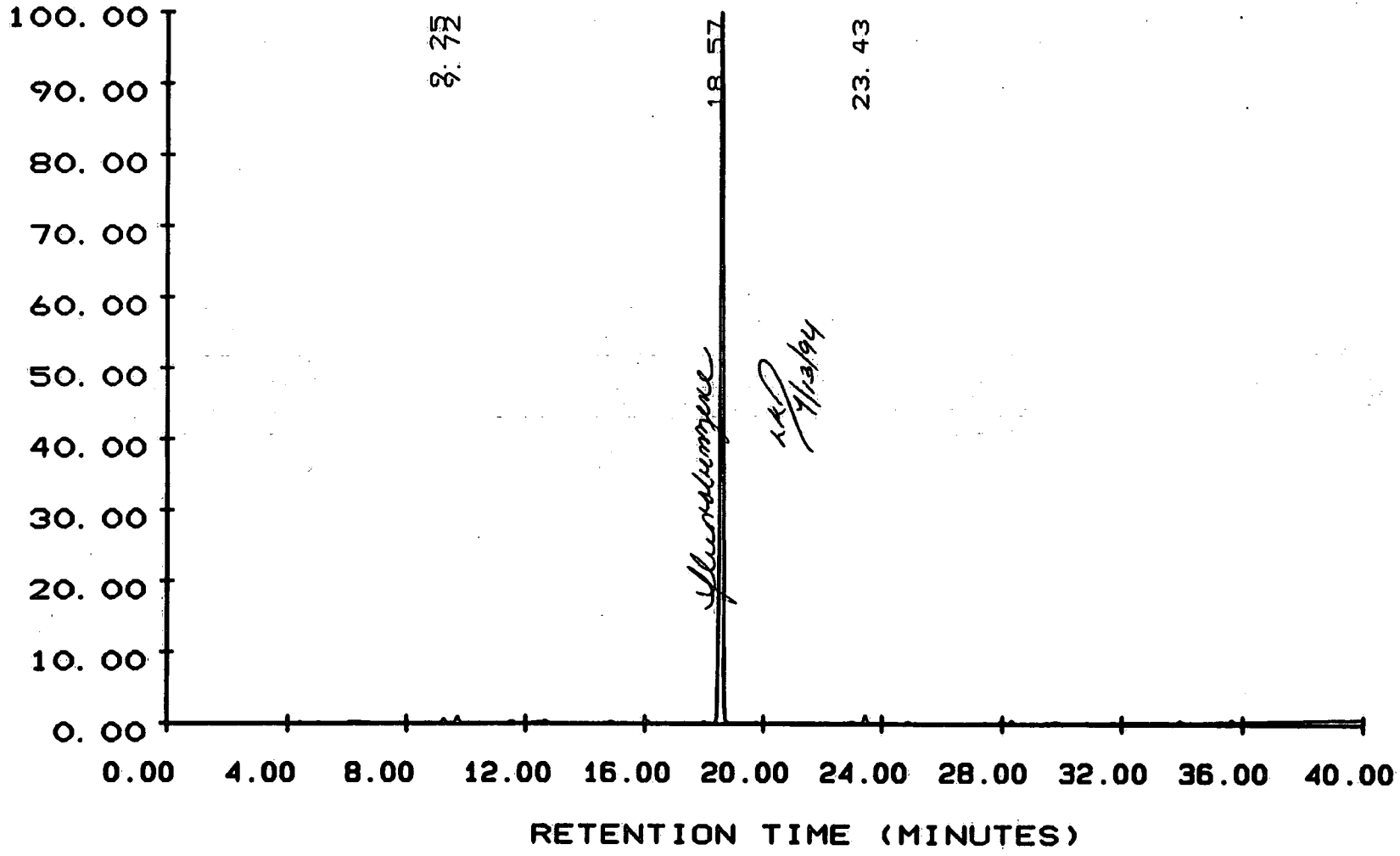
9406L136-005

0033

SAMPLE NO. : 07119432 .05 INSTRUMENT: 32

TEST NO. : DATE TIME: 07/11/94 15:28:53

METHOD NO. : 32LD / 32LD PAGE NO. : 01



Y MAXIMUM: 52976. START TIME: 0.00

Y MINIMUM: 49946. END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 07/11/94 16:09:44

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 07119432 .05 INST:32 VIAL:F0 SEQ NUMBER:005
TEST : O602 DATE-TIME INJECTED : 07/11/94 15:28:53
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 07/11/94 16:09:44
METHOD: 32LD / 32LD REV #: 00016 ANALYST: LINDAD SAMP RATE: 1.56
CLIENT ID: TRIP BLANK SAMPLE VOL: 10ML
CLIENT: LE CARPENTER COLUMN TYPE: RTX 502.2 105M
LAB ID: 9406L136-005 RAW FILE: RAW2:GB447487
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
002	1286	161	T	9.248			
003	1978	261		9.717			
				10.210	M	1,1-DICHLOROETHENE	
				12.428	M	TRANS-1,2-DICHLOROET	
				15.289	M	CIS-1,2-DICHLOROETHA	
				18.087	M	BENZENE	
006	203674	30167		18.566	M	FLUOROBENZENE	11.153
				22.495	M	CIS-1,3-DICHLOROPROP	
007	1926	296		23.434	M	TOLUENE	
				23.946	M	TRANS-1,3-DICHLOROPR	
				28.057	M	CHLOROBENZENE	
				28.202	M	ETHYLBENZENE	
				28.427	M	P-XYLENE	
				28.451	M	M-XYLENE	
				29.841	M	O-XYLENE	
				29.904	M	STYRENE	
				35.464	M	1,3-DICHLOROBENZENE	
				35.797	M	1,4-DICHLOROBENZENE	
				37.059	M	1,2-DICHLOROBENZENE	

LKD 7/14/94

VII. Calibration Standard Data

FORM6GC
WESTON ANALYTICS - LIONVILLE LABORATORY
GC VOLATILES - ICAL PREPARATION AND DATA CHECKLIST

INITIAL CALIBRATION CURVE (ICAL)
INSTRUMENT #: 32 Column ID: ——
GC Conditions: 35°C/2.5 min ; 5°C/min to 220°C
Detectors:
FID (Flame Ionization Detector) PID (Photoionization Detector)
HECD (Hall Electrolytic Conductivity Detector)

Analyte list included in ICAL (EPA or SW846 Method #):

EPA :	601	602	501	502.2	503	504
SW846:	8010	8020		8021	8030	8015

Other: ____
ICAL QC EVALUATION FOR LIMS METHOD# 32LD composed of individual methods 32B / 32C / 32F / ____.
ICAL Updated: 5/26/94 ICAL Range (ug/L): .5 to 40
Standard ID#'s: 3053-37-07 ; 42-05 ; 43-07 ; 44-06 ; 45-03 ; 39-02
Curve generated using peak height or peak area: peak height
Linearity Criteria met for all analytes [CORR COEFF(r^2) > 0.992]. Y or N

If N then list non-compliant analytes:

Number of points used to generate the curve: 5, 7

Second source ICAL concentration verification (ICV);
Source: supelco Standard ID: 3053-40-05 ; 40-06
Within QC Limits: Y or N
If N then list non-compliant analytes:

Sample Calculation:

Based upon COEFFICIENTS section of MULTILEVEL CALBRATION METHOD sheet.
i.e.

PEAK NAME	a	b	COEFFICIENTS c	d
BENZENE			8.594E-04	-1.677E+01

where c = slope of .0008549, d = y intercept of -16.77
Using y = mx + b will yield the concentration "y" of the analyte, whereas;
m = c ; x = area or height of analyte (from quantitation report);
and b = d

(1) Analyst Review: L.K. Anthony Date: 5/27/94
(2) Unit Review : [illegible] Date: 7/19/94

c:\wp51\data\ical3.sum

ADDENDUM
Multilevel Calibration Method Report

Calibration curve statistics are presented on the Multilevel Calibration Method report. This report includes the type of calibration performed, the FILE REFERENCE (i.e. 06159425.01-DATE,DETECTOR ID, AND SEQUENCE #) of the calibration standards used, the slope and intercept of the curve for each analyte, and the curve fit statistics. The column labeled as "CORR COEFF" presents the coefficient of determination (r^2) for each analyte. Our laboratory acceptance criteria are based on the correlation coefficient (r) being at least 0.996. Therefore, the minimum acceptable value for "CORR COEFF" (r^2) on the Multilevel Calibration Method report is 0.992.

Roy F. Weston, Inc. - Lionville Laboratory DISPLAY

001 - METHOD NUMBER : 32LD
002 - METHOD TITLE : 10ML,RTX 502.2 105M, PID
003 - ENTERED BY : LINDA DRURY
004 - DATE-TIME ENTERED : 05/26/94 08:57:20
005 - MODIFIED BY : LINDA DRURY
006 - DATE-TIME MODIFIED : 06/13/94 10:49:05
007 - # TIMES MODIFIED : 013
008 - CALIBRATION SMP : 09159326.10
009 - # TIMES CALIBRATED : 3
010 - CALIBRATION DATE : 09/28/93
011 - USER PROGRAMS : USER:MULTIV10
012 - PURGE : TOP
013 - TEST :

DATA COLLECTION PARAMETERS

014 - END COLLECTION TIME : 40.00 015 - SAMPLING RATE : 7

TIMED EVENTS

TIME	EVENT	VALUE	DESCRIPTION

DATA ANALYSIS PARAMETERS

016 - BASELINE SENSITIVITY : 20.00 017 - AREA SENSITIVITY : 100
018 - REJECTION MINIMUM : 100
019 - CALCULATION TYPE : E 020 - PEAK AREA HEIGHT : H

021 - PEAK MATCH WINDOW : 0.200 022 - % MATCH WINDOW : 0.5

023 - RF UPDATE : N 024 - RET TIME UPDATE : Y
025 - UNKNOWN RF TREATMENT : 0.00000
026 - RRT DISPLAY UNITS : MINUTES 027 - CONCENTRATION UNITS : PPB

TIMED EVENTS

	TIME	EVENT	VALUE	DESCRIPTION
028 -	0.100	PKDET	OFF	PEAK DETECT OFF
029 -	3.000	PKDET	ON	ENABLE PEAK DETECT
030 -	3.010	BASE	A	ABSOLUTE

REFERENCE PEAKS

031 - UNRETAINED PK RT : 0.000
032 - % REF RT WINDOW : 10.0

REF PK NO.	REF PK RT	END TIME	REF PK REL VALUE

COMPONENT TABLE

	NAME	GROUP	RET TIME	CAL WT	RESP FACT
033 -	1,1-DICHLOROETHENE	M	10.210	20.0000	1.000000
034 -	TRANS-1,2-DICHLOROET	M	12.428	20.0000	1.000000
035 -	CIS-1,2-DICHLOROETHA	M	15.289	20.0000	1.000000
036 -	BENZENE	M	18.087	20.0000	1.000000
037 -	FLUOROBENZENE	M	18.629	20.0000	1.000000

038 - CIS-1,3-DICHLOROPROP	M	22.495	20.0000	1.000000
039 - TOLUENE	M	23.541	20.0000	1.000000
040 - TRANS-1,3-DICHLOROPR	M	23.946	20.0000	1.000000
041 - CHLOROBENZENE	M	28.057	20.0000	1.000000
042 - ETHYLBENZENE	M	28.202	20.0000	1.000000
043 - P-XYLENE	M	28.427	20.0000	1.000000
044 - M-XYLENE	M	28.451	20.0000	1.000000
045 - O-XYLENE	M	29.841	20.0000	1.000000
046 - STYRENE	M	29.904	20.0000	1.000000
047 - 1,3-DICHLOROBENZENE	M	35.464	20.0000	1.000000
048 - 1,4-DICHLOROBENZENE	M	35.797	20.0000	1.000000
049 - 1,2-DICHLOROBENZENE	M	37.059	20.0000	1.000000

GROUP NAME TABLE

GROUP NAME	GROUP NUMBER

REPORT PARAMETERS

050 - REPORT PARAMETERS :
051 - PLOTTER :

052 - START-TIME : 0.00 053 - END TIME : 40.00
054 - %Y MINIMUM : 0.00 055 - %Y MAXIMUM : 100.00

MULTILEVEL CALIBRATION METHOD 32B 05/24/94 13:48:50
1ST ORDER EXTERNAL STANDARD CALIBRATION USING PEAK HEIGHT

TEST:

LEVEL	REPLICATE 1	REPLICATE 2	REPLICATE 3
A	05179432.01		
B	05179432.02		
C	05179432.03		
D	05179432.04		
E	05179432.05		
F	05179432.06		
G	05179432.07		

PEAK NAME	COEFFICIENTS a	b	c	d	SD OF FIT	CORR COEFF
NT ~~1,1-DICHLOROETHENE~~			~~8.973E-04~~	~~2.734E-01~~	~~0.37652~~	~~0.99951~~
NT ~~TRANS-1,2-DICHLOROET~~			~~2.608E-04~~	~~9.310E-02~~	~~0.43561~~	~~0.99935~~
NT ~~CIS-1,2-DICHLOROETHA~~			~~7.002E-04~~	~~1.016E-02~~	~~0.17842~~	~~0.99989~~
* P-XYLENE			2.255E-04	3.611E-02	0.36700	0.99954
NT ~~STYRENE~~			~~2.132E-04~~	~~-1.938E-02~~	~~0.27245~~	~~0.99974~~
NT ~~1,3-DICHLOROBENZENE~~			~~2.504E-04~~	~~5.142E-02~~	~~0.33737~~	~~0.99961~~
NT ~~1,4-DICHLOROBENZENE~~			~~2.551E-04~~	~~1.537E-01~~	~~0.32230~~	~~0.99964~~

AGG 7/9/94

Custom mix 1

Roy F. Weston, Inc. - Lionville Laboratory DISPLAY

001 - METHOD NUMBER : 32B
002 - METHOD TITLE : 10ML,RTX 502.2 105M, PID
003 - ENTERED BY : LINDA DRURY
004 - DATE-TIME ENTERED : 03/28/94 16:55:57
005 - MODIFIED BY : LINDA DRURY
006 - DATE-TIME MODIFIED : 06/13/94 10:36:31
007 - # TIMES MODIFIED : 014
008 - CALIBRATION SMP : 09159326.10
009 - # TIMES CALIBRATED : 3
010 - CALIBRATION DATE : 09/28/93
011 - USER PROGRAMS : USER:MULTIV10
012 - PURGE : TOP
013 - TEST :

DATA COLLECTION PARAMETERS

014 - END COLLECTION TIME : 40.00 015 - SAMPLING RATE : 7

TIMED EVENTS

TIME	EVENT	VALUE	DESCRIPTION

DATA ANALYSIS PARAMETERS

016 - BASELINE SENSITIVITY : 20.00 017 - AREA SENSITIVITY : 100
018 - REJECTION MINIMUM : 100
019 - CALCULATION TYPE : E 020 - PEAK AREA HEIGHT : H

021 - PEAK MATCH WINDOW : 0.200 022 - % MATCH WINDOW : 2.0

023 - RF UPDATE : N 024 - RET TIME UPDATE : Y
025 - UNKNOWN RF TREATMENT : 0.00000
026 - RRT DISPLAY UNITS : MINUTES 027 - CONCENTRATION UNITS : PPB

TIMED EVENTS

	TIME	EVENT	VALUE	DESCRIPTION
028 -	0.100	PKDET	OFF	PEAK DETECT OFF
029 -	3.000	PKDET	ON	ENABLE PEAK DETECT
030 -	3.010	BASE	A	ABSOLUTE

REFERENCE PEAKS

031 - UNRETAINED PK RT : 0.000
032 - % REF RT WINDOW : 10.0

REF PK NO.	REF PK RT	END TIME	REF PK REL VALUE

COMPONENT TABLE

	NAME	GROUP	RET TIME	CAL WT	RESP FACT
033 -	1,1-DICHLOROETHENE	M	10.210	20.0000	1.000000
034 -	TRANS-1,2-DICHLOROET	M	12.428	20.0000	1.000000
035 -	CIS-1,2-DICHLOROETHA	M	15.289	20.0000	1.000000
036 -	P-XYLENE	M	28.427	20.0000	1.000000
037 -	STYRENE	M	29.904	20.0000	1.000000

038 - 1,3-DICHLOROBENZENE	M	35.464	20.0000	1.000000
039 - 1,4-DICHLOROBENZENE	M	35.797	20.0000	1.000000

GROUP NAME TABLE

GROUP NAME	GROUP NUMBER

REPORT PARAMETERS

040 - REPORT PARAMETERS	:			
041 - PLOTTER	:			
042 - START-TIME	:	0.00	043 - END TIME	: 40.00
044 - %Y MINIMUM	:	0.00	045 - %Y MAXIMUM	: 100.00

Roy F. Weston, Inc. - Lionville Laboratory

METHOD NUMBER	: 32B
METHOD TITLE	: 10ML,RTX 502.2 105
USER PROGRAMS	: USER:MULTIV10
ORDER OF FIT	: 1
NUMBER OF LEVELS	: 7
REPORT PARAMETERS	:
NO.OF TIMES MODIFIED	: 10
NO.OF TIMES CALIBRAT	: 3

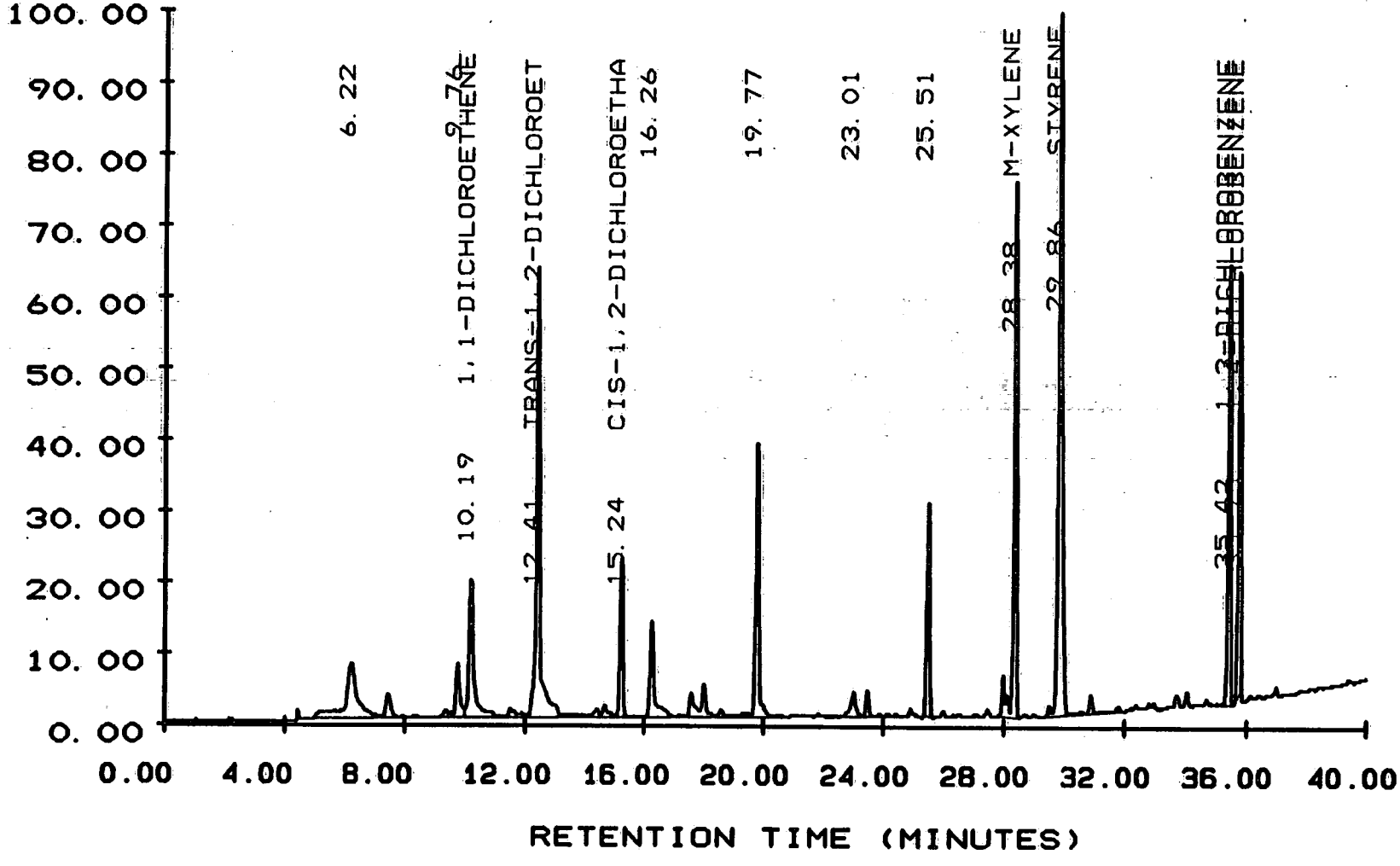
#	COMPONENT NAME	LEVEL A	LEVEL B	LEVEL C	LEVEL D	LEVEL E
		LEVEL F	LEVEL G			
1	1,1-DICHLOROETHENE	0.5000	1.0000	2.0000	10.0000	20.0000
		30.0000	40.0000			
2	TRANS-1,2-DICHLOROET	0.5000	1.0000	2.0000	10.0000	20.0000
		30.0000	40.0000			
3	CIS-1,2-DICHLOROETHA	0.5000	1.0000	2.0000	10.0000	20.0000
		30.0000	40.0000			
4	P-XYLENE	0.5000	1.0000	2.0000	10.0000	20.0000
		30.0000	40.0000			
5	STYRENE	0.5000	1.0000	2.0000	10.0000	20.0000
		30.0000	40.0000			
6	1,3-DICHLOROBENZENE	0.5000	1.0000	2.0000	10.0000	20.0000
		30.0000	40.0000			
7	1,4-DICHLOROBENZENE	0.5000	1.0000	2.0000	10.0000	20.0000
		30.0000	40.0000			

STD CMIX1 .5

SAMPLE NO. : 05179432 .01
TEST NO. :
METHOD NO. : 32 / 32LD

INSTRUMENT: 32
DATE TIME: 05/17/94 17:17:10
PAGE NO. : 01

0044



Y MAXIMUM: 50547.
Y MINIMUM: 50149.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/24/94 13:49:28

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05179432 .01 INST:32 VIAL:F0 SEQ NUMBER:001
TEST : DATE-TIME INJECTED : 05/17/94 17:17:10
COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 05/24/94 13:49:28
METHOD: 32 / 32B REV #: 00015 ANALYST: HOCKERM SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD CMIX1 .5 RAW FILE: RAW2:EH434448
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

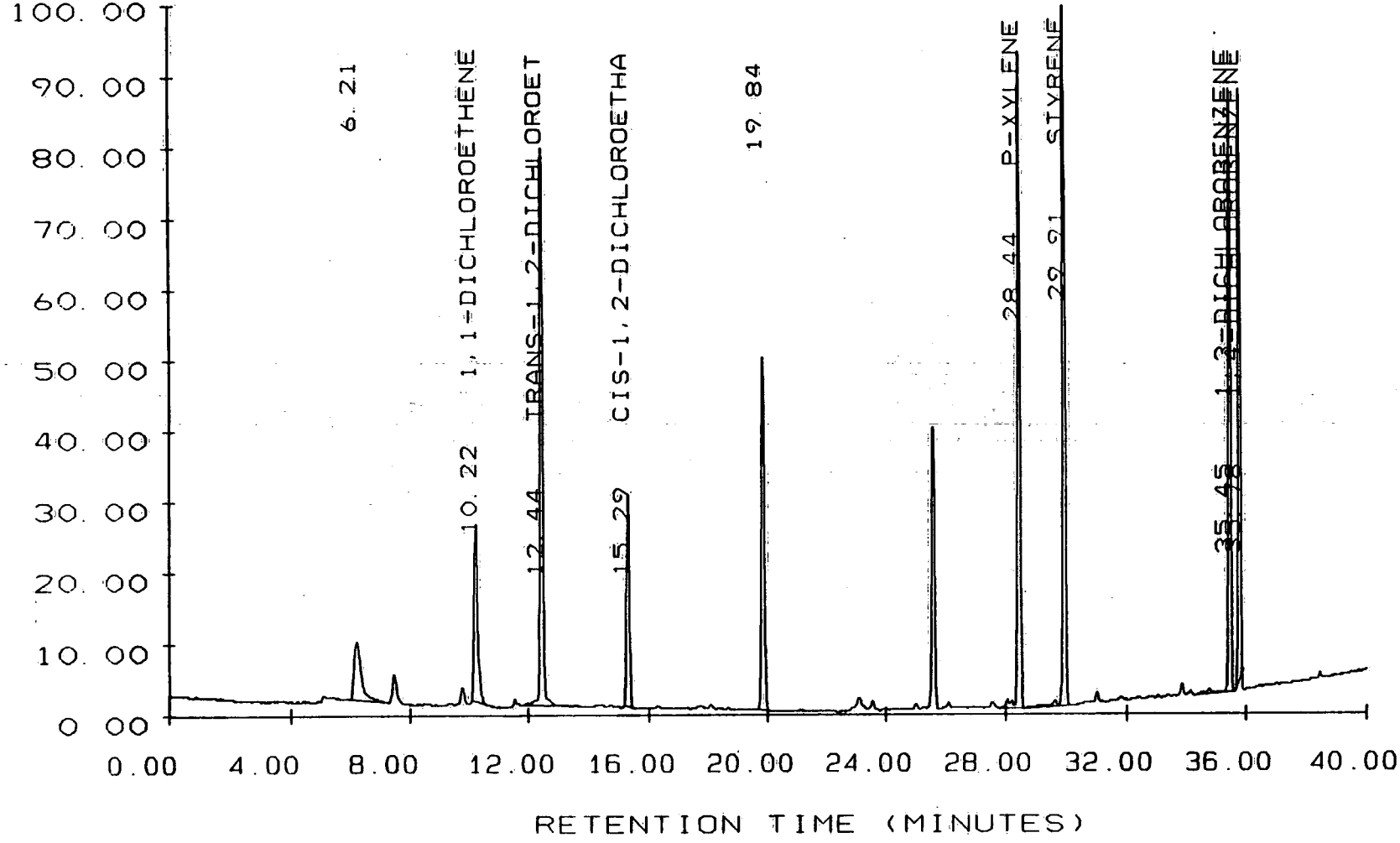
PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	5504	276		6.218			
002	1964	253	V	9.757			
003	7002	706	V	10.195	M	1,1-DICHLOROETHENE	0.360
004	21043	2359	V	12.406	M	TRANS-1,2-DICHLOROET	0.708
005	5508	828	V	15.244	M	CIS-1,2-DICHLOROETHA	0.590
006	5325	511	V	16.265			
007	10931	1448		19.773			
008	3008	127		23.012			
009	5080	923		25.507			
010	19891	2798	V	28.378	M	P-XYLENE	0.667
011	32563	3691		29.860	M	STYRENE	0.768
012	13478	2258	V	35.420	M	1,3-DICHLOROBENZENE	0.617
013	12428	2163		35.754	M	1,4-DICHLOROBENZENE	0.705

STD CMIX1 1

SAMPLE NO. : 05179432 . 02
TEST NO. :
METHOD NO. : 32 / 32B

INSTRUMENT: 32
DATE TIME: 05/17/94 18:18:47
PAGE NO. : 01

0046



Y MAXIMUM: 50585
Y MINIMUM: 50151.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/24/94 13:49:47

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05179432 .02 INST:32 VIAL:F0 SEQ NUMBER:002
TEST : DATE-TIME INJECTED : 05/17/94 18:18:47
COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 05/24/94 13:49:47
METHOD: 32 / 32B REV #: 00015 ANALYST: HOCKERM SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD CMIX1 1 RAW FILE: RAW2:EH434469
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

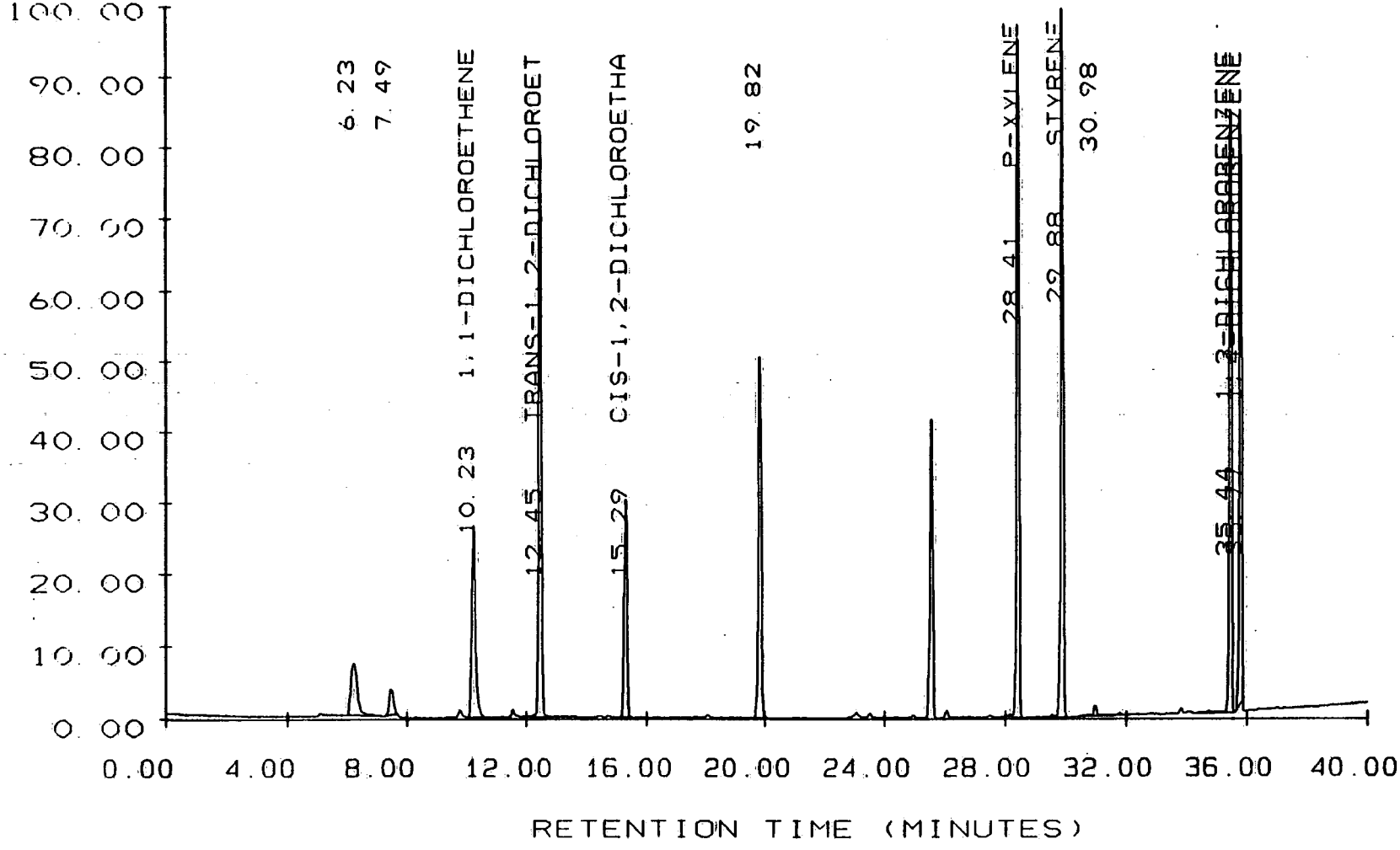
PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	6080	351		6.214			
002	8986	1012	V	10.215	M	1,1-DICHLOROETHENE	0.635
003	22310	3178		12.438	M	TRANS-1,2-DICHLOROET	0.922
004	8085	1220		15.289	M	CIS-1,2-DICHLOROETHA	0.864
005	13926	2056		19.835			
006	24256	3765	V	28.441	M	P-XYLENE	0.885
007	25498	3987		29.914	M	STYRENE	0.831
008	20518	3374	V	35.448	M	1,3-DICHLOROBENZENE	0.896
009	18044	3241		35.780	M	1,4-DICHLOROBENZENE	0.980

STD CMIX1 2

SAMPLE NO. : 05179432 . 03
TEST NO. :
METHOD NO. : 32 / 32B

INSTRUMENT: 32
DATE TIME: 05/17/94 19:21:30
PAGE NO. : 01

0048



Y MAXIMUM: 51222.
Y MINIMUM: 50154.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/24/94 13:50:07

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05179432 .03 INST:32 VIAL:F0 SEQ NUMBER:003
TEST : DATE-TIME INJECTED : 05/17/94 19:21:30
COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 05/24/94 13:50:07
METHOD: 32 / 32B REV #: 00015 ANALYST: HOCKERM SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD CMIX1 2 RAW FILE: RAW2:EH434493
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

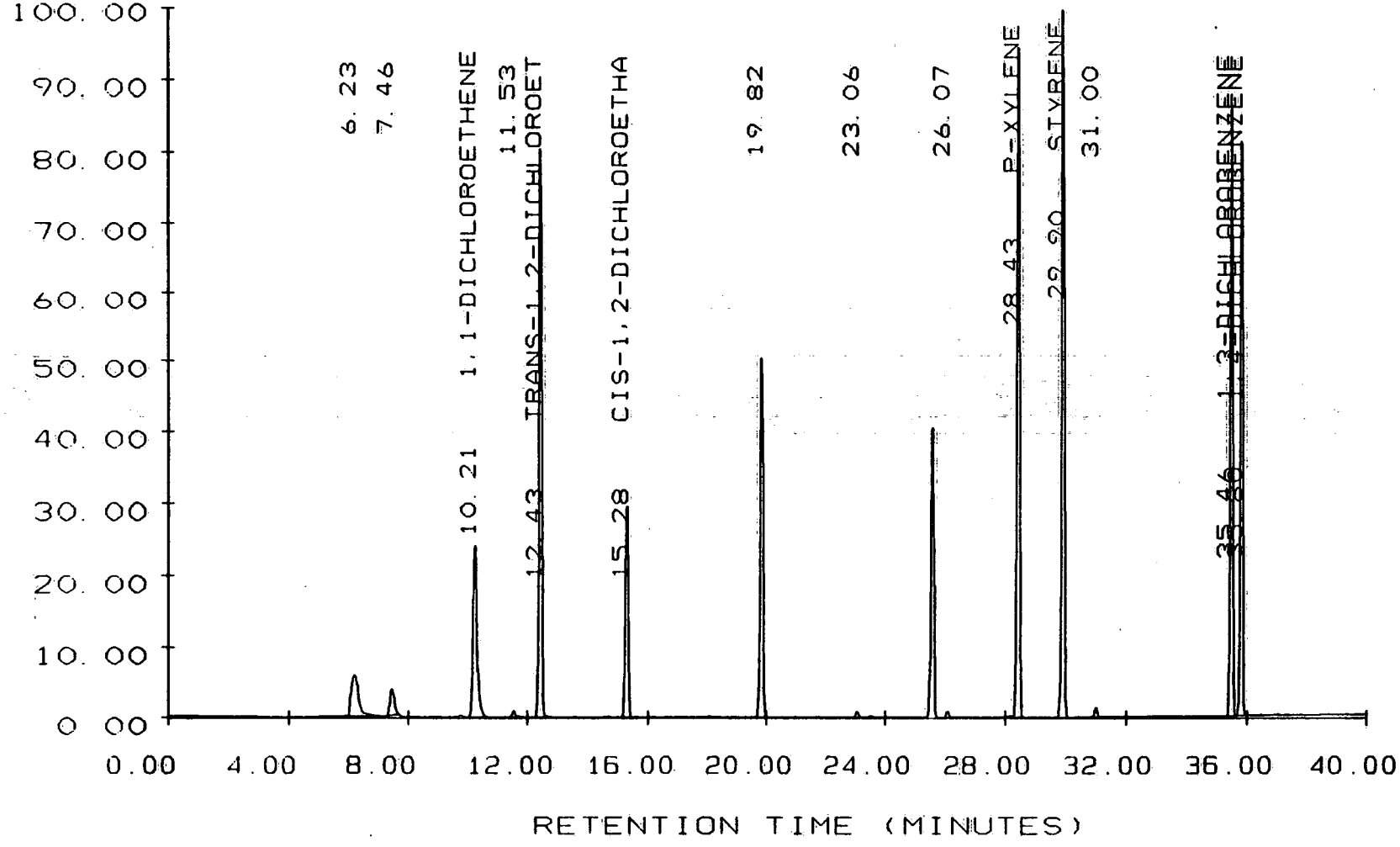
PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	12134	766	V	6.229			
002	3640	373		7.493			
003	23539	2674	V	10.231	M	1,1-DICHLOROETHENE	2.126
004	53107	8129		12.449	M	TRANS-1,2-DICHLOROET	2.213
005	20283	3056		15.288	M	CIS-1,2-DICHLOROETHA	2.150
006	34573	5122		19.815			
007	58957	9451	V	28.409	M	P-XYLENE	2.167
008	61235	9848	V	29.884	M	STYRENE	2.080
009	2317	140		30.978			
010	50240	8269	V	35.439	M	1,3-DICHLOROBENZENE	2.122
011	45086	7979		35.772	M	1,4-DICHLOROBENZENE	2.189

STD CMIX1 10

SAMPLE NO. : 05179432 04
TEST NO. :
METHOD NO. : 32 / 32B

INSTRUMENT: 32
DATE TIME: 05/17/94 20:22:43
PAGE NO. : 01

0050



Y MAXIMUM: 55285.
Y MINIMUM: 50151.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/24/94 13:50:19

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05179432 .04 INST:32 VIAL:F0 SEQ NUMBER:004
TEST : DATE-TIME INJECTED : 05/17/94 20:22:43
COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 05/24/94 13:50:19
METHOD: 32 / 32B REV #: 00015 ANALYST: HOCKERM SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD CMIX1 10 RAW FILE: RAW2:EH434519
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

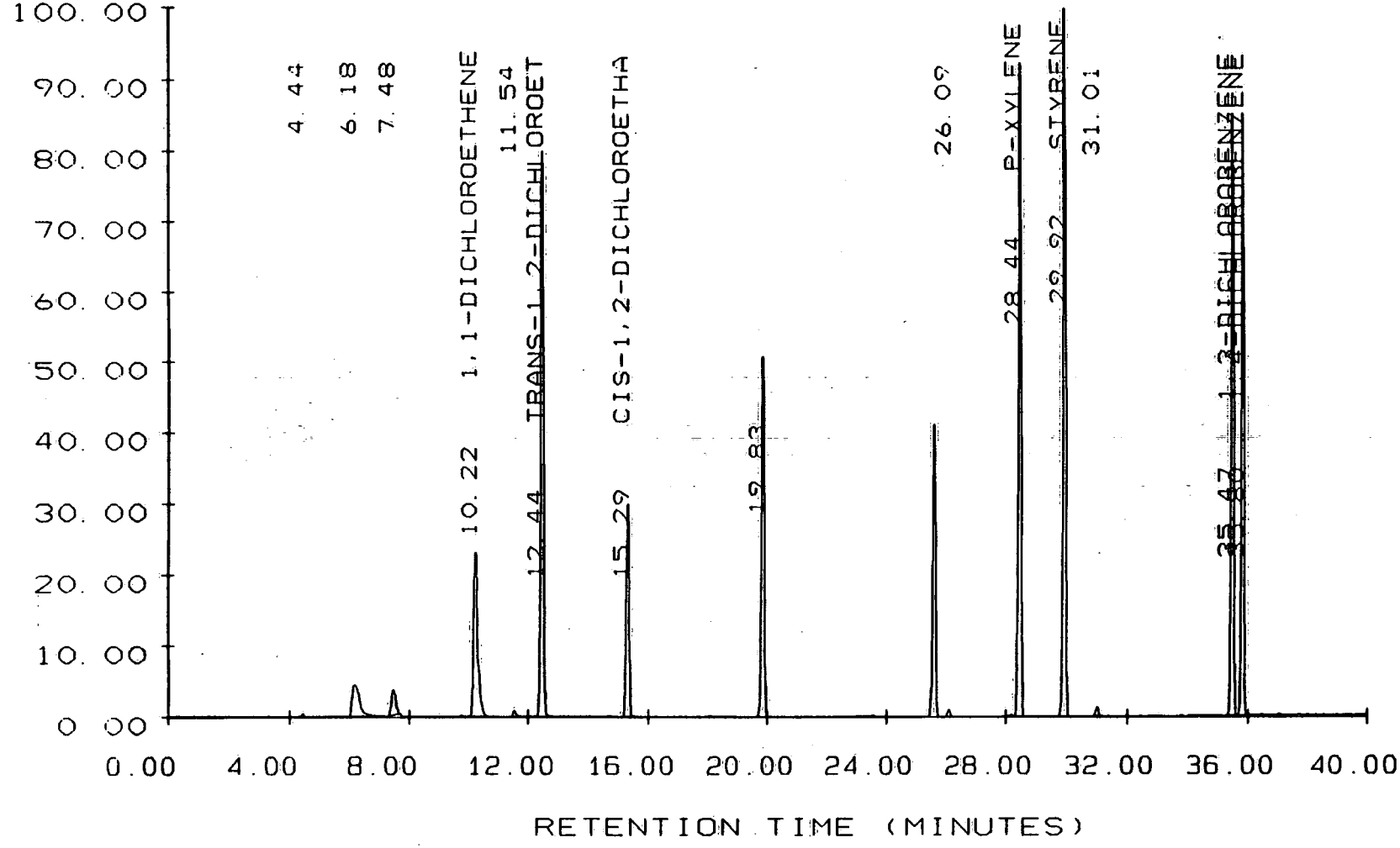
PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	51341	3013	V	6.226			
002	19456	1919		7.463			
003	113613	12001	V	10.210	M	1,1-DICHLOROETHENE	10.495
004	3507	451	V	11.527			
005	247821	38585		12.428	M	TRANS-1,2-DICHLOROET	10.156
006	98022	14377		15.276	M	CIS-1,2-DICHLOROETHA	10.077
007	165197	24512		19.815			
008	4851	395		23.063			
009	2982	452	V	26.071			
010	279603	45074	V	28.427	M	P-XYLENE	10.200
011	288179	47333	T	29.904	M	STYRENE	10.072
012	4557	637	V	30.999			
013	237792	40238	V	35.464	M	1,3-DICHLOROBENZENE	10.127
014	227469	38236		35.797	M	1,4-DICHLOROBENZENE	9.908

STD CMIX1 20

SAMPLE NO. : 05179432 . 05
TEST NO. :
METHOD NO. : 32 / 32B

INSTRUMENT: 32
DATE TIME: 05/17/94 21:24:49
PAGE NO. : 01

0052



Y MAXIMUM: 60103.
Y MINIMUM: 50153.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/24/94 13:50:35

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05179432 .05 INST:32 VIAL:F0 SEQ NUMBER:005
TEST : DATE-TIME INJECTED : 05/17/94 21:24:49
COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 05/24/94 13:50:35
METHOD: 32 / 32B REV #: 00015 ANALYST: HOCKERM SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD CMIX1 20 RAW FILE: RAW2:EH434537
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

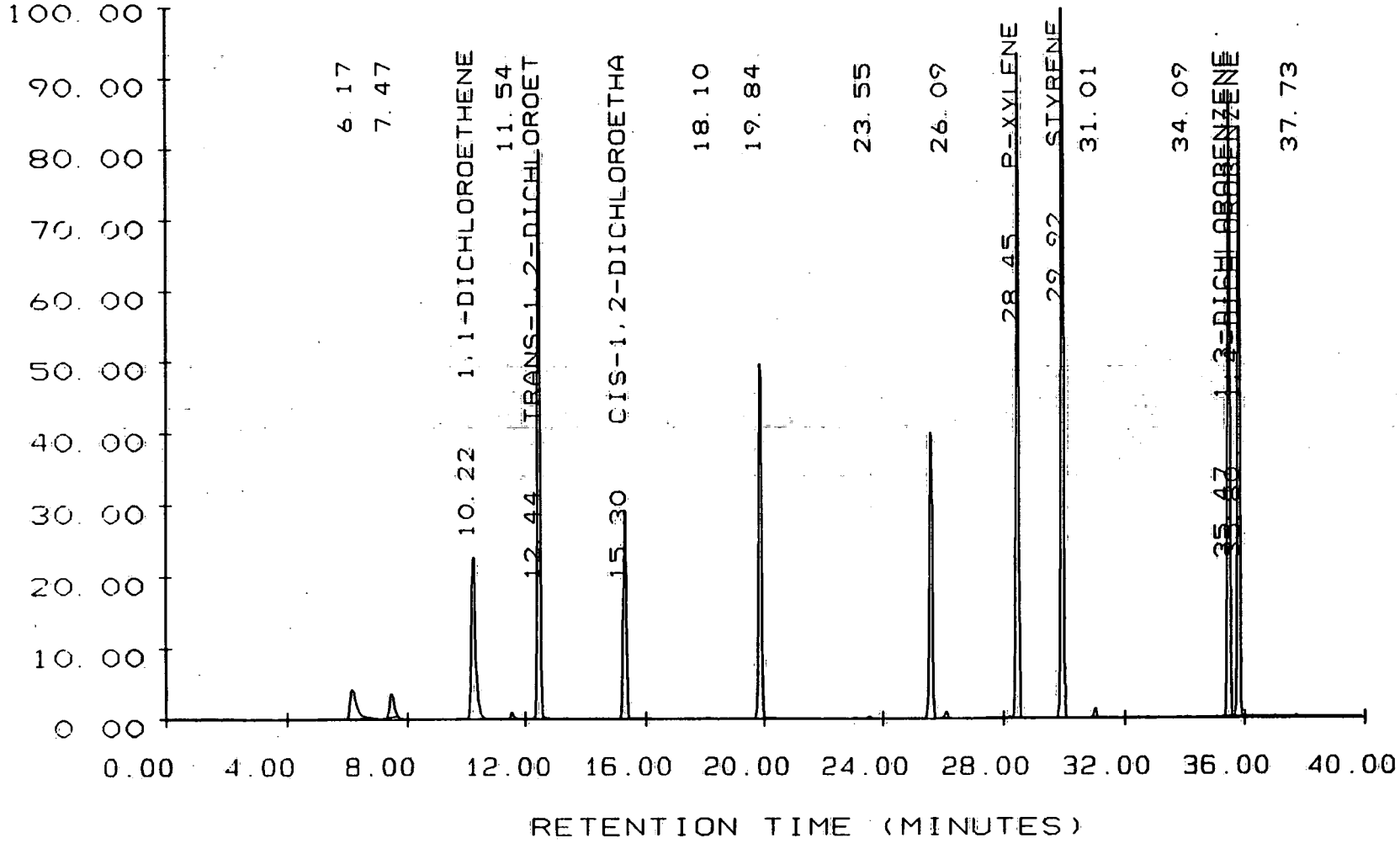
PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	1434	310		4.442			
002	78259	4434	V	6.175			
003	35563	3517		7.475			
004	219507	22424	V	10.219	M	1,1-DICHLOROETHENE	19.848
005	6899	855	V	11.538			
006	477389	73144	V	12.441	M	TRANS-1,2-DICHLOROET	19.169
007	189914	28154		15.289	M	CIS-1,2-DICHLOROETHA	19.724
008	317811	47758		19.831			
009	5965	930	V	26.085			
010	537510	85406	V	28.441	M	P-XYLENE	19.295
011	555584	91655	T	29.917	M	STYRENE	19.521
012	11520	1244	V	31.012			
013	459899	77222	T	35.472	M	1,3-DICHLOROBENZENE	19.388
014	441664	76163		35.805	M	1,4-DICHLOROBENZENE	19.583

STD CMIX1 30

SAMPLE NO. : 05179432 . 06
TEST NO. :
METHOD NO. : 32 / 32B

INSTRUMENT: 32
DATE TIME: 05/17/94 22:27:06
PAGE NO. : 01

0054



Y MAXIMUM: 65514.
Y MINIMUM: 50154.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/24/94 13:50:50

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05179432 .06 INST:32 VIAL:F0 SEQ NUMBER:006
TEST : DATE-TIME INJECTED : 05/17/94 22:27:06
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 05/24/94 13:50:50
METHOD: 32 / 32B REV #: 00015 ANALYST: HOCKERM SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD CMIX1 30 RAW FILE: RAW2:EH434557
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

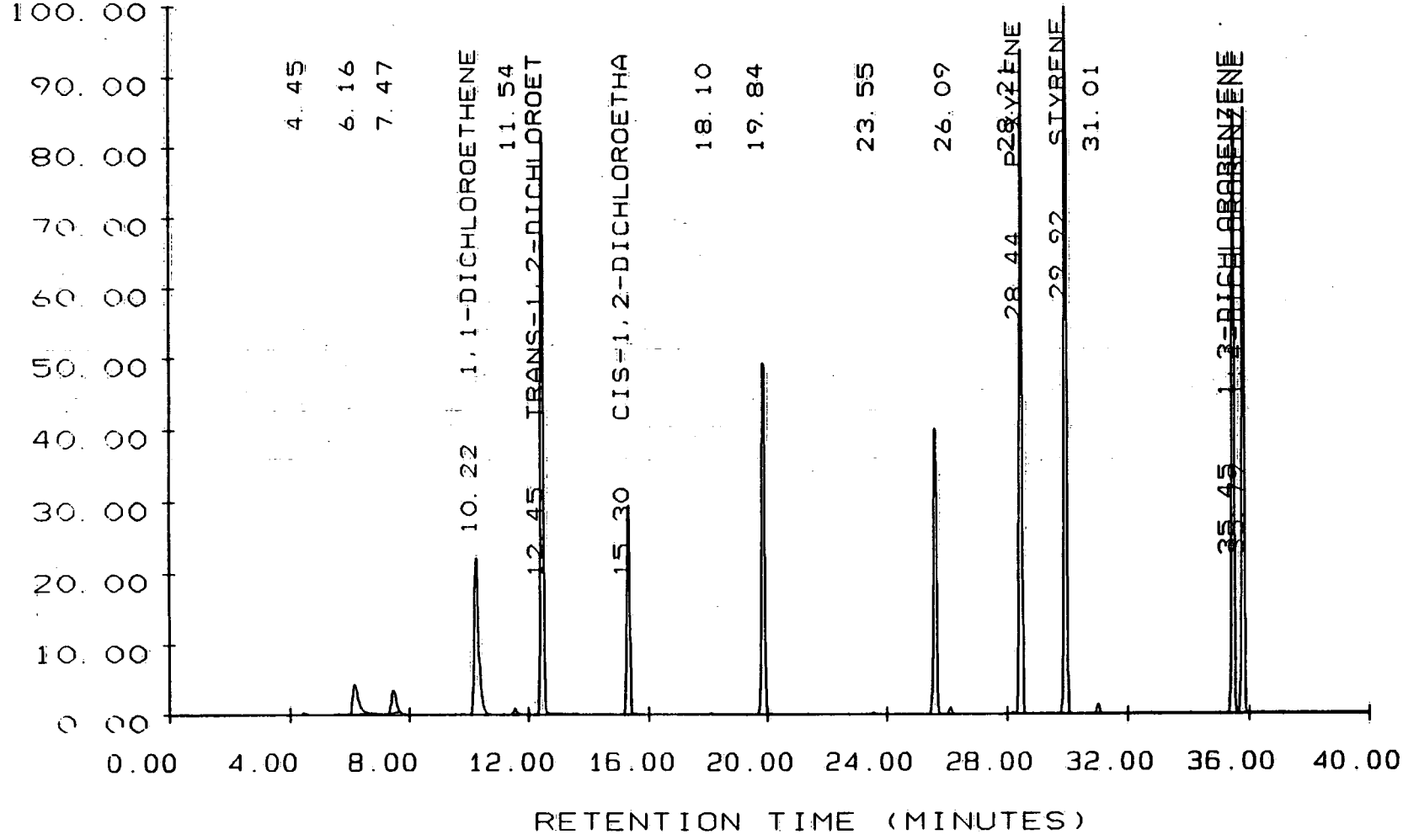
PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	104243	6447	V	6.170			
002	53261	5182		7.474			
003	342477	34167	V	10.221	M	1,1-DICHLOROETHENE	30.385
004	10637	1277	V	11.542			
005	740250	114531	V	12.445	M	TRANS-1,2-DICHLOROET	29.963
006	293146	42738		15.295	M	CIS-1,2-DICHLOROETHA	29.935
007	2355	235	V	18.095			
008	491738	72555		19.837			
009	3840	376		23.547			
010	8973	1342	V	26.090			
011	826906	133113	T	28.446	M	P-XYLENE	30.053
012	854246	141218	T	29.921	M	STYRENE	30.088
013	17984	1887	V	31.014			
014	2291	149	V	34.094			
015	712152	121087	T	35.468	M	1,3-DICHLOROBENZENE	30.372
016	684736	115900	T	35.800	M	1,4-DICHLOROBENZENE	29.720
017	3994	374		37.730			

STD CMIX1 40

SAMPLE NO. : 05179432 .07
TEST NO. :
METHOD NO. : 32 / 32B

INSTRUMENT: 32
DATE TIME: 05/17/94 23:29:32
PAGE NO. : 01

0056



Y MAXIMUM: 70620.
Y MINIMUM: 50155.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/24/94 13:51:10

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05179432 .07 INST:32 VIAL:F0 SEQ NUMBER:007
TEST : DATE-TIME INJECTED : 05/17/94 23:29:32
COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 05/24/94 13:51:10
METHOD: 32 / 32B REV #: 00015 ANALYST: HOCKERM SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD CMIX1 40 RAW FILE: RAW2:EH434579
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	1250	348		4.447			
002	127411	8699	V	6.165			
003	68410	6598		7.474			
004	458854	44491	V	10.223	M	1,1-DICHLOROETHENE	39.648
005	13645	1693	V	11.544			
006	992614	154440	V	12.446	M	TRANS-1,2-DICHLOROET	40.371
007	394573	57332		15.297	M	CIS-1,2-DICHLOROETHA	40.154
008	2317	280	V	18.096			
009	661709	96111		19.840			
010	3020	460		23.550			
011	11418	1753		26.090			
012	4711	579	T	28.206			
013	1103655	178352	T	28.444	M	P-XYLENE	40.254
014	1138381	188412	T	29.918	M	STYRENE	40.150
015	27315	2534	V	31.008			
016	953854	159423	T	35.453	M	1,3-DICHLOROBENZENE	39.971
017	913728	157862		35.785	M	1,4-DICHLOROBENZENE	40.424

MULTILEVEL CALIBRATION METHOD 32C 05/24/94 11:31:08
1ST ORDER EXTERNAL STANDARD CALIBRATION USING PEAK HEIGHT

TEST:

LEVEL	REPLICATE 1	REPLICATE 2	REPLICATE 3
A	05179432.08		
B	05179432.09		
C	05179432.10		
D	05179432.11		
E	05179432.12		
F	05179432.13		
G	05179432.14		

PEAK NAME	COEFFICIENTS a	b	c	d	SD OF FIT	CORR COEFF
BENZENE			2.931E-04	-3.322E-02	0.35961	0.99956
NT ~~aaa-TRIFLUOROTOLUENE~~			~~8.391E-04~~	~~-1.855E-01~~	~~0.37643~~	~~0.99951~~
NT ~~CIS-1,3-DICHLOROPROP~~			~~1.197E-03~~	~~-1.003E-01~~	~~0.257~~	~~0.99977~~
TOLUENE			2.845E-04	-1.086E-01	0.32725	0.99963
NT ~~TRANS-1,3-DICHLOROPR~~			~~9.917E-04~~	~~-7.256E-02~~	~~0.24761~~	~~0.99979~~
NT ~~CHLOROBENZENE~~			~~2.634E-04~~	~~-1.076E-01~~	~~0.40583~~	~~0.99944~~
ETHYLBENZENE			3.122E-04	-3.796E-02	0.47999	0.99921
M-XYLENE			2.561E-04	-8.125E-02	0.30951	0.99967
O-XYLENE			3.186E-04	-5.625E-02	0.36618	0.99954
NT ~~1,2-DICHLOROBENZENE~~			~~4.012E-04~~	~~-4.363E-02~~	~~0.33747~~	~~0.99961~~

ABA 7/19/94

Custom mix 2

Roy F. Weston, Inc. - Lionville Laboratory

METHOD NUMBER	: 32C
METHOD TITLE	: 10ML,RTX 502.2 105
USER PROGRAMS	: USER:MULTIV10
ORDER OF FIT	: 1
NUMBER OF LEVELS	: 7
REPORT PARAMETERS	:
NO.OF TIMES MODIFIED	: 1
NO.OF TIMES CALIBRAT	: 3

#	COMPONENT NAME	LEVEL A LEVEL F	LEVEL B LEVEL G	LEVEL C	LEVEL D	LEVEL E
1	BENZENE	0.5000 30.0000	1.0000 40.0000	2.0000	10.0000	20.0000
2	CIS-1,3-DICHLOROPROP	0.5000 30.0000	1.0000 40.0000	2.0000	10.0000	20.0000
3	TOLUENE	0.5000 30.0000	1.0000 40.0000	2.0000	10.0000	20.0000
4	TRANS-1,3-DICHLOROPR	0.5000 30.0000	1.0000 40.0000	2.0000	10.0000	20.0000
5	CHLOROBENZENE	0.5000 30.0000	1.0000 40.0000	2.0000	10.0000	20.0000
6	ETHYLBENZENE	0.5000 30.0000	1.0000 40.0000	2.0000	10.0000	20.0000
7	M-XYLENE	0.5000 30.0000	1.0000 40.0000	2.0000	10.0000	20.0000
8	O-XYLENE	0.5000 30.0000	1.0000 40.0000	2.0000	10.0000	20.0000
9	1,2-DICHLOROBENZENE	0.5000 30.0000	1.0000 40.0000	2.0000	10.0000	20.0000

001 - METHOD NUMBER : 32C
002 - METHOD TITLE : 10ML,RTX 502.2 105M, PID
003 - ENTERED BY : LINDA DRURY
004 - DATE-TIME ENTERED : 03/28/94 14:56:46
005 - MODIFIED BY : LINDA DRURY
006 - DATE-TIME MODIFIED : 06/13/94 10:40:46
007 - # TIMES MODIFIED : 010
008 - CALIBRATION SMP : 09159326.10
009 - # TIMES CALIBRATED : 3
010 - CALIBRATION DATE : 09/28/93
011 - USER PROGRAMS : USER:MULTIV10
012 - PURGE : TOP
013 - TEST :

DATA COLLECTION PARAMETERS

014 - END COLLECTION TIME : 40.00 015 - SAMPLING RATE : 7

TIMED EVENTS

TIME	EVENT	VALUE	DESCRIPTION

DATA ANALYSIS PARAMETERS

016 - BASELINE SENSITIVITY : 20.00 017 - AREA SENSITIVITY : 100
018 - REJECTION MINIMUM : 100
019 - CALCULATION TYPE : E 020 - PEAK AREA HEIGHT : H

021 - PEAK MATCH WINDOW : 0.200 022 - % MATCH WINDOW : 1.0

023 - RF UPDATE : N 024 - RET TIME UPDATE : Y
025 - UNKNOWN RF TREATMENT : 0.00000
026 - RRT DISPLAY UNITS : MINUTES 027 - CONCENTRATION UNITS : PPB

TIMED EVENTS

	TIME	EVENT	VALUE	DESCRIPTION
028 -	0.100	PKDET	OFF	PEAK DETECT OFF
029 -	3.000	PKDET	ON	ENABLE PEAK DETECT
030 -	3.010	BASE	A	ABSOLUTE

REFERENCE PEAKS

031 - UNRETAINED PK RT : 0.000
032 - % REF RT WINDOW : 10.0

REF PK NO.	REF PK RT	END TIME	REF PK REL VALUE

COMPONENT TABLE

	NAME	GROUP	RET TIME	CAL WT	RESP FACT
033 -	BENZENE	M	18.087	20.0000	1.000000
034 -	CIS-1,3-DICHLOROPROP	M	22.495	20.0000	1.000000
035 -	TOLUENE	M	23.541	20.0000	1.000000
036 -	TRANS-1,3-DICHLOROPR	M	23.946	20.0000	1.000000
037 -	CHLOROBENZENE	M	28.057	20.0000	1.000000

038 - ETHYLBENZENE	M	28.202	20.0000	1.000000
039 - M-XYLENE	M	28.451	20.0000	1.000000
040 - O-XYLENE	M	29.841	20.0000	1.000000
041 - 1,2-DICHLOROBENZENE	M	37.059	20.0000	1.000000

GROUP NAME TABLE

GROUP NAME	GROUP NUMBER

REPORT PARAMETERS

042 - REPORT PARAMETERS :
043 - PLOTTER :

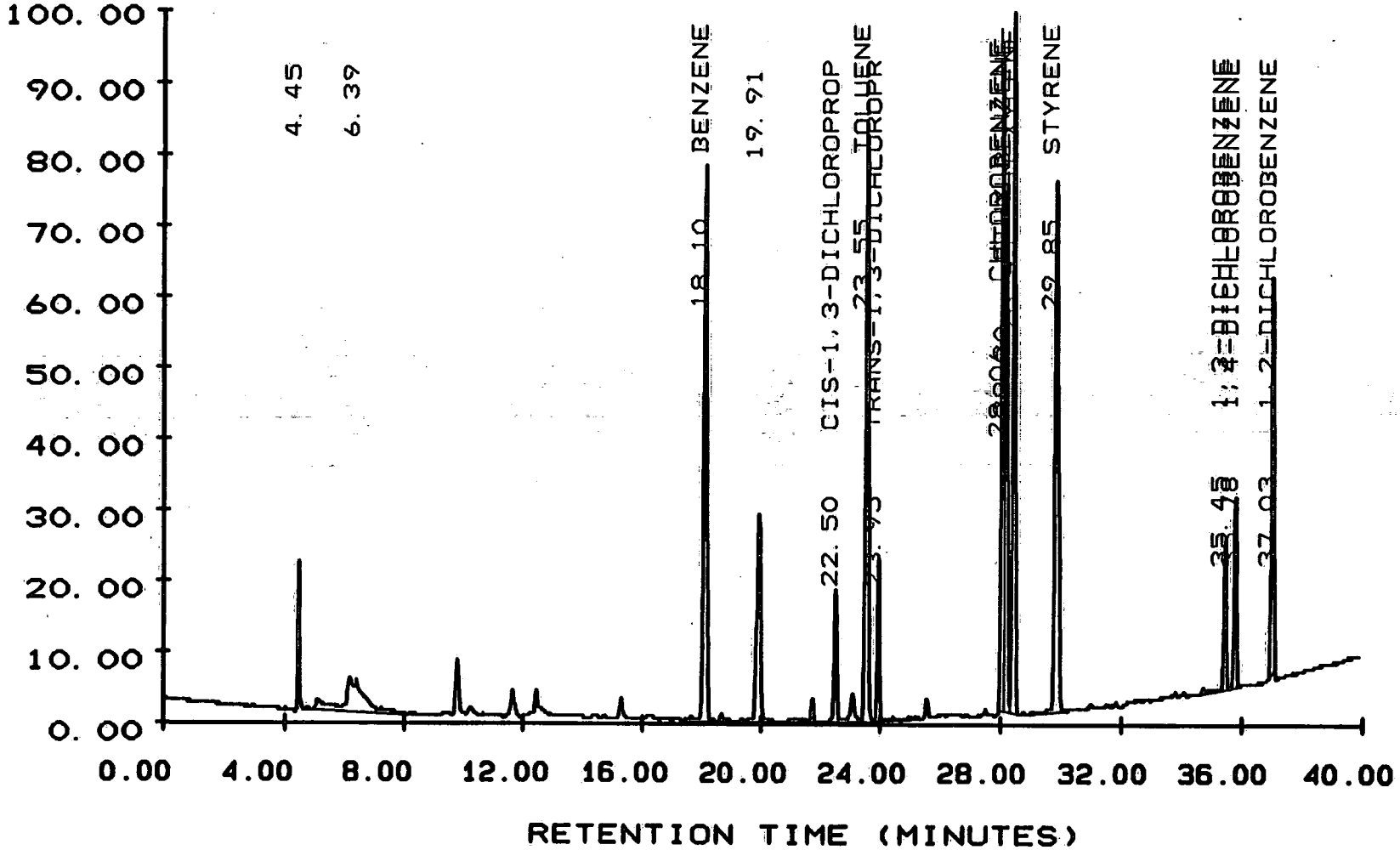
044 - START-TIME : 0.00 045 - END TIME : 40.00
046 - %Y MINIMUM : 0.00 047 - %Y MAXIMUM : 100.00

STD CMIX2 . 5

SAMPLE NO. : 05179432 . 08
TEST NO. :
METHOD NO. : 32 / 32LD

INSTRUMENT: 32
DATE TIME: 05/18/94 00:31:54
PAGE NO. : 01

0062



Y MAXIMUM: 50432.
Y MINIMUM: 50152.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/26/94 08:59:12

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05179432 .08 INST:32 VIAL:F0 SEQ NUMBER:008
TEST : DATE-TIME INJECTED : 05/18/94 00:31:54
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 05/26/94 08:59:12
METHOD: 32 / 32C REV #: 00012 ANALYST: HOCKERM SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD CMIX2 .5 RAW FILE: RAW2:EI434599
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

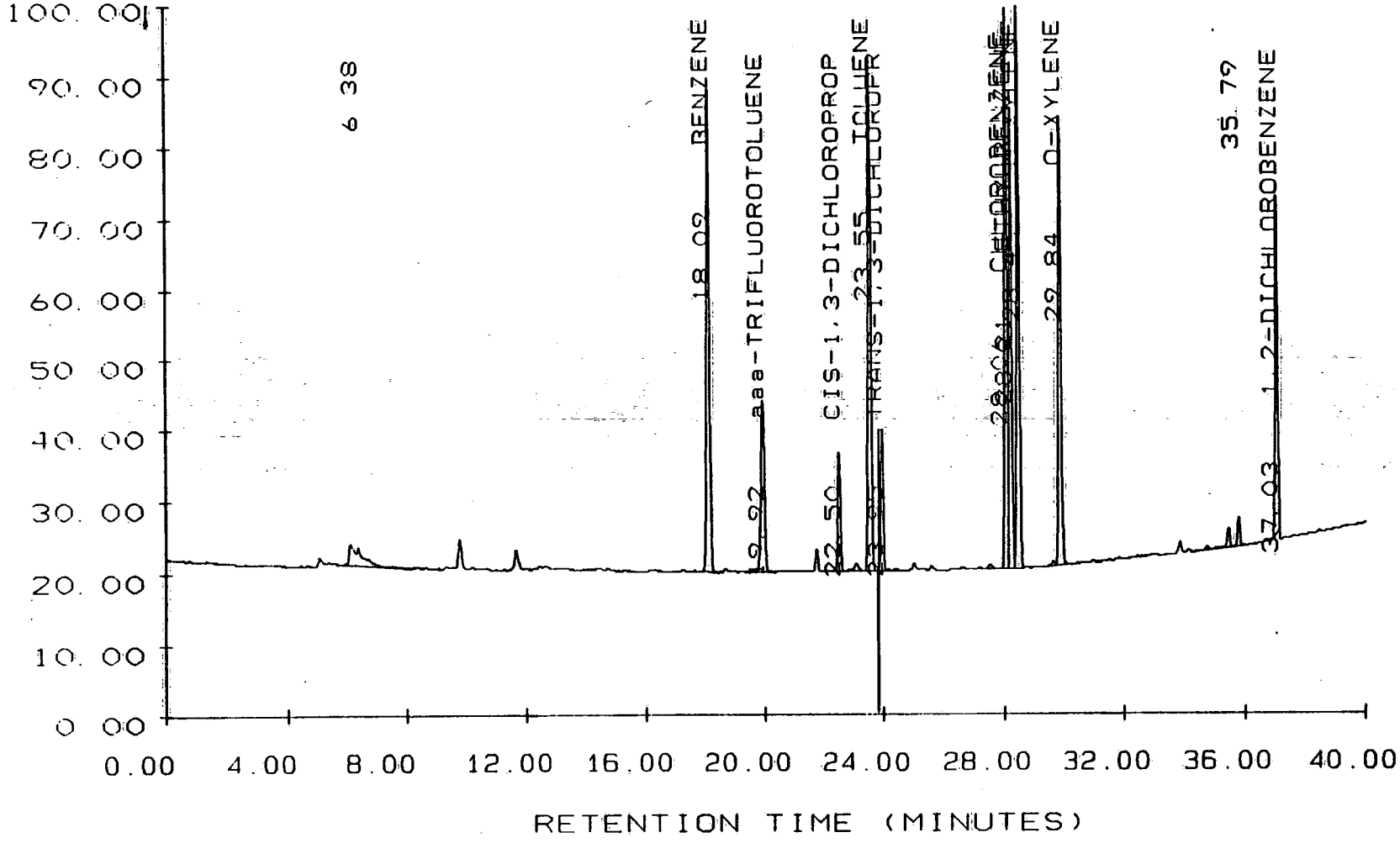
PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	1265	332		4.449			
002	4378	106		6.391			
003	15834	2112	V	18.096	M	BENZENE	0.586
004	8154	802	V	19.915			
005	4365	487	V	22.503	M	CIS-1,3-DICHLOROPROP	0.483
006	14886	2197	V	23.548	M	TOLUENE	0.516
007	3904	581		23.953	M	TRANS-1,3-DICHLOROPR	0.504
008	14865	2362	T	28.060	M	CHLOROBENZENE	0.515
009	12476	1961	T	28.204	M	ETHYLBENZENE	0.574
010	16508	2586	V	28.451	M	M-XYLENE	0.581
011	16538	2005		29.847	M	O-XYLENE	0.583
012	3533	539	V	35.450			
013	3949	686	V	35.783			
014	8410	1437		37.031	M	1,2-DICHLOROBENZENE	0.620

STD CMIX2 1

SAMPLE NO : 05179432 09
TEST NO. :
METHOD NO. : 32 / 32C

INSTRUMENT: 32
DATE TIME: 05/18/94 01:34:20
PAGE NO. : 01

0064



Y MAXIMUM: 50520.
Y MINIMUM: 50061.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/26/94 09:00:16

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05179432 .09 INST:32 VIAL:F0 SEQ NUMBER:009
TEST : DATE-TIME INJECTED : 05/18/94 01:34:20
COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 05/26/94 09:00:16
METHOD: 32 / 32C REV #: 00012 ANALYST: HOCKERM SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD CMIX2 1 RAW FILE: RAW2:EI434618
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

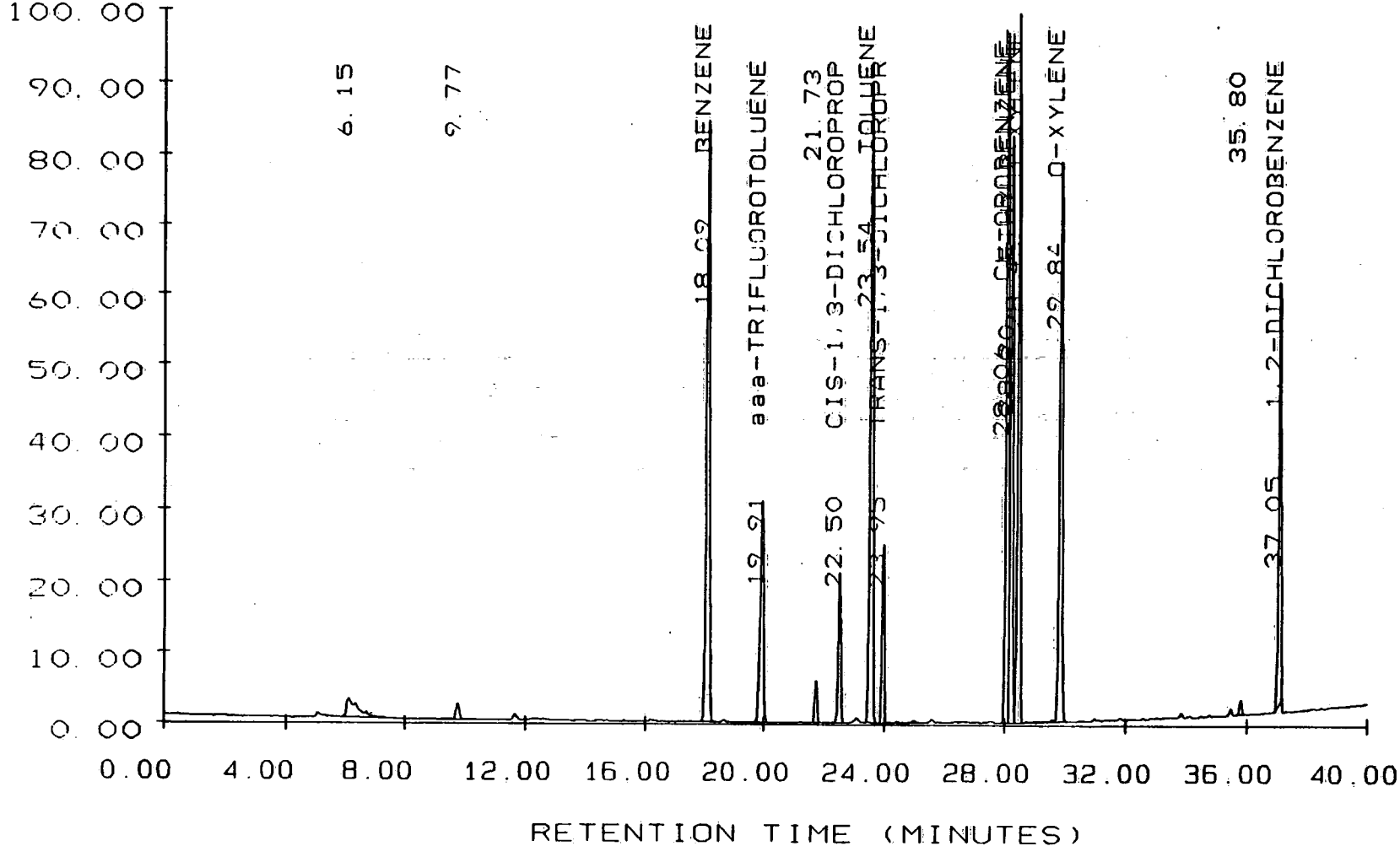
PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	4122	107		6.384			
002	22234	3024	V	18.093	M	BENZENE	0.853
003	8858	1078	V	19.916			
004	4442	709	V	22.502	M	CIS-1,3-DICHLOROPROP	0.748
005	21312	3115	V	23.547	M	TOLUENE	0.778
006	4966	829		23.952	M	TRANS-1,3-DICHLOROPR	0.750
007	21466	3365	T	28.061	M	CHLOROBENZENE	0.779
008	17984	2812	T	28.206	M	ETHYLBENZENE	0.840
009	22170	3437	V	28.454	M	M-XYLENE	0.799
010	18842	2746		29.842	M	O-XYLENE	0.819
011	2163	164	V	35.786			
012	11976	2035		37.034	M	1,2-DICHLOROBENZENE	0.860

STD CMIX2 2

SAMPLE NO. : 05179432 10
TEST NO. :
METHOD NO. : 32 / 32C

INSTRUMENT: 32
DATE TIME: 05/18/94 02:36:35
PAGE NO. : 01

0066



Y MAXIMUM: 51074.
Y MINIMUM: 50152.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/26/94 09:01:03

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05179432 .10 INST:32 VIAL:F0 SEQ NUMBER:010
TEST : DATE-TIME INJECTED : 05/18/94 02:36:35
COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 05/26/94 09:01:03
METHOD: 32 / 32C REV #: 00012 ANALYST: HOCKERM SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD CMIX2 2 RAW FILE: RAW2:EI434639
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

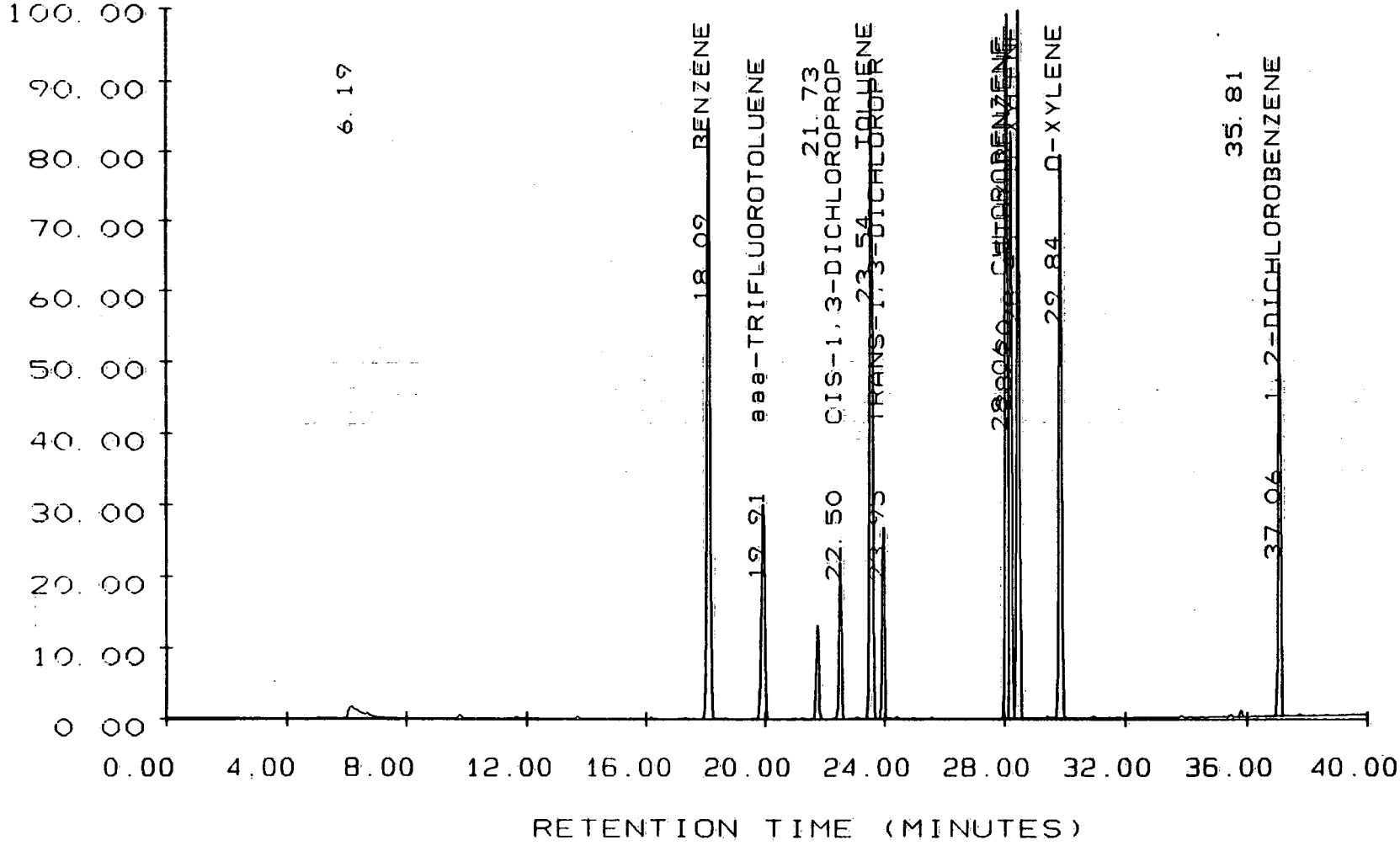
PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	6835	245		6.148			
002	2138	209		9.775			
003	55219	7463	V	18.090	M	BENZENE	2.154
004	21734	2723	V	19.913			
005	3026	505	V	21.731			
006	11315	1813	V	22.496	M	CIS-1,3-DICHLOROPROP	2.070
007	51861	7845	V	23.541	M	TOLUENE	2.123
008	13133	2130		23.946	M	TRANS-1,3-DICHLOROPR	2.040
009	53862	8311	T	28.056	M	CHLOROBENZENE	2.082
010	44314	7013	T	28.201	M	ETHYLBENZENE	2.151
011	55027	8611	V	28.450	M	M-XYLENE	2.124
012	45773	6849		29.841	M	O-XYLENE	2.126
013	1088	179	V	35.805			
014	29574	5035		37.054	M	1,2-DICHLOROBENZENE	2.064

STD CMIX2 10

SAMPLE NO. : 05179432 . 11
TEST NO. :
METHOD NO. : 32 / 32C

INSTRUMENT: 32
DATE TIME: 05/18/94 03:38:52
PAGE NO. : 01

0068



Y MAXIMUM: 54492.
Y MINIMUM: 50152.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/26/94 09:01:36

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05179432 .11 INST:32 VIAL:F0 SEQ NUMBER:011
TEST : DATE-TIME INJECTED : 05/18/94 03:38:52
COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 05/26/94 09:01:36
METHOD: 32 / 32C REV #: 00012 ANALYST: HOCKERM SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD CMIX2 10 RAW FILE: RAW2:EI434661
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

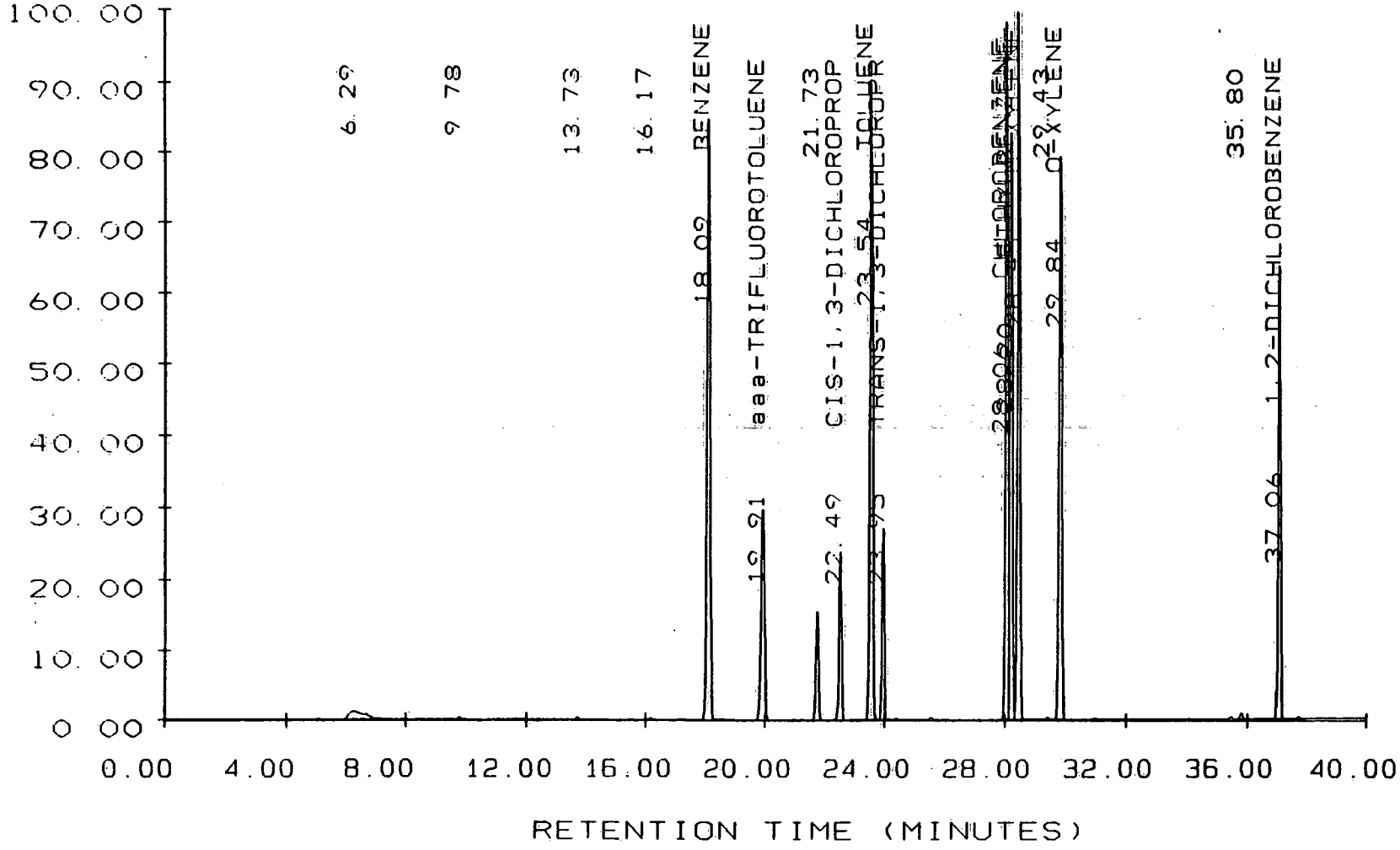
PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	23232	728		6.190			
002	260058	35115	V	18.090	M	BENZENE	10.259
003	100352	12655	V	19.913			
004	33549	5279	V	21.731			
005	55117	8804	V	22.497	M	CIS-1,3-DICHLOROPROP	10.438
006	247360	37141	V	23.542	M	TOLUENE	10.458
007	62413	10575		23.947	M	TRANS-1,3-DICHLOROPR	10.415
008	254958	39855	T	28.058	M	CHLOROBENZENE	10.390
009	210814	32968	T	28.203	M	ETHYLBENZENE	10.255
010	260858	40691	T	28.452	M	M-XYLENE	10.340
011	215552	32452		29.842	M	O-XYLENE	10.283
012	1940	344	V	35.807			
013	155187	25542		37.060	M	1,2-DICHLOROBENZENE	10.291

STD CMIX2 20

SAMPLE NO. : 05179432 . 12
TEST NO. :
METHOD NO. : 32 / 32C

INSTRUMENT: 32
DATE TIME: 05/18/94 04:40:54
PAGE NO. : 01

0070



Y MAXIMUM: 58300.
Y MINIMUM: 50152.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/26/94 09:02:06

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05179432 .12 INST:32 VIAL:F0 SEQ NUMBER:012
TEST : DATE-TIME INJECTED : 05/18/94 04:40:54
COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 05/26/94 09:02:06
METHOD: 32 / 32C REV #: 00012 ANALYST: HOCKERM SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD CMIX2 20 RAW FILE: RAW2:EI434679
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

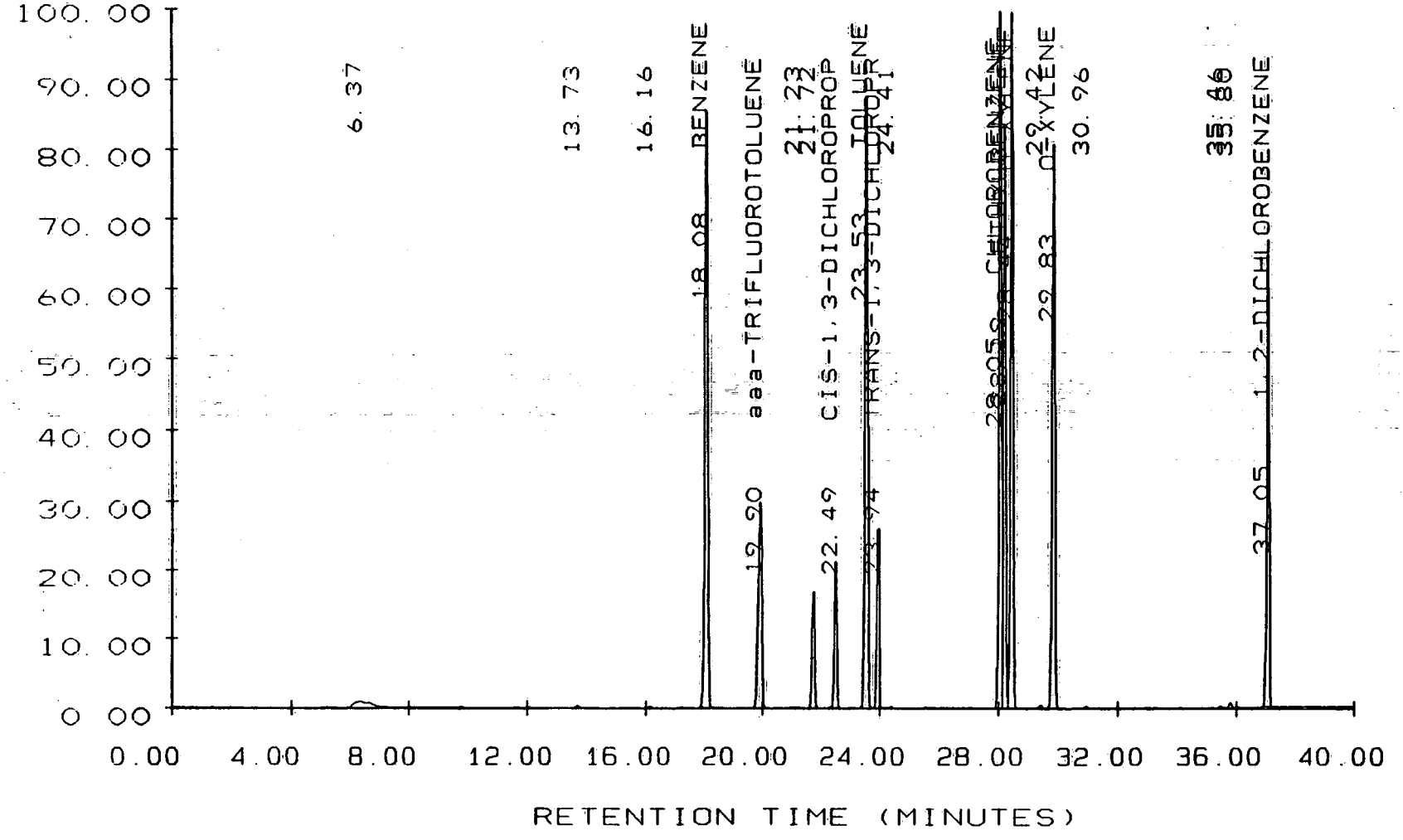
PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	38694	977		6.287			
002	2291	279	V	9.778			
003	3635	296		13.735			
004	1933	191	V	16.173			
005	484723	66076	V	18.087	M	BENZENE	19.334
006	190349	23528	V	19.910			
007	73139	11825	V	21.729			
008	104333	16642	V	22.495	M	CIS-1,3-DICHLOROPROP	19.820
009	460595	69383	V	23.541	M	TOLUENE	19.631
010	118554	20154		23.946	M	TRANS-1,3-DICHLOROPR	19.914
011	479554	74230	T	28.057	M	CHLOROBENZENE	19.445
012	392722	61727	T	28.202	M	ETHYLBENZENE	19.233
013	488742	76345	T	28.451	M	M-XYLENE	19.471
014	2522	274	T	29.426			
015	401267	60977		29.841	M	O-XYLENE	19.371
016	3811	665	V	35.805			
017	293926	48197		37.059	M	1,2-DICHLOROBENZENE	19.380

STD CMIX2 30

SAMPLE NO. : 05179432 13
TEST NO. :
METHOD NO. : 32 / 32C

INSTRUMENT: 32
DATE TIME: 05/18/94 05:42:19
PAGE NO. : 01

0072



Y MAXIMUM: 62710.
Y MINIMUM: 50152.

START TIME 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/26/94 09:02:50

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05179432 .13 INST:32 VIAL:F0 SEQ NUMBER:013
TEST : DATE-TIME INJECTED : 05/18/94 05:42:19
COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 05/26/94 09:02:50
METHOD: 32 / 32C REV #: 00012 ANALYST: HOCKERM SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD CMIX2 30 RAW FILE: RAW2:EI434699
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

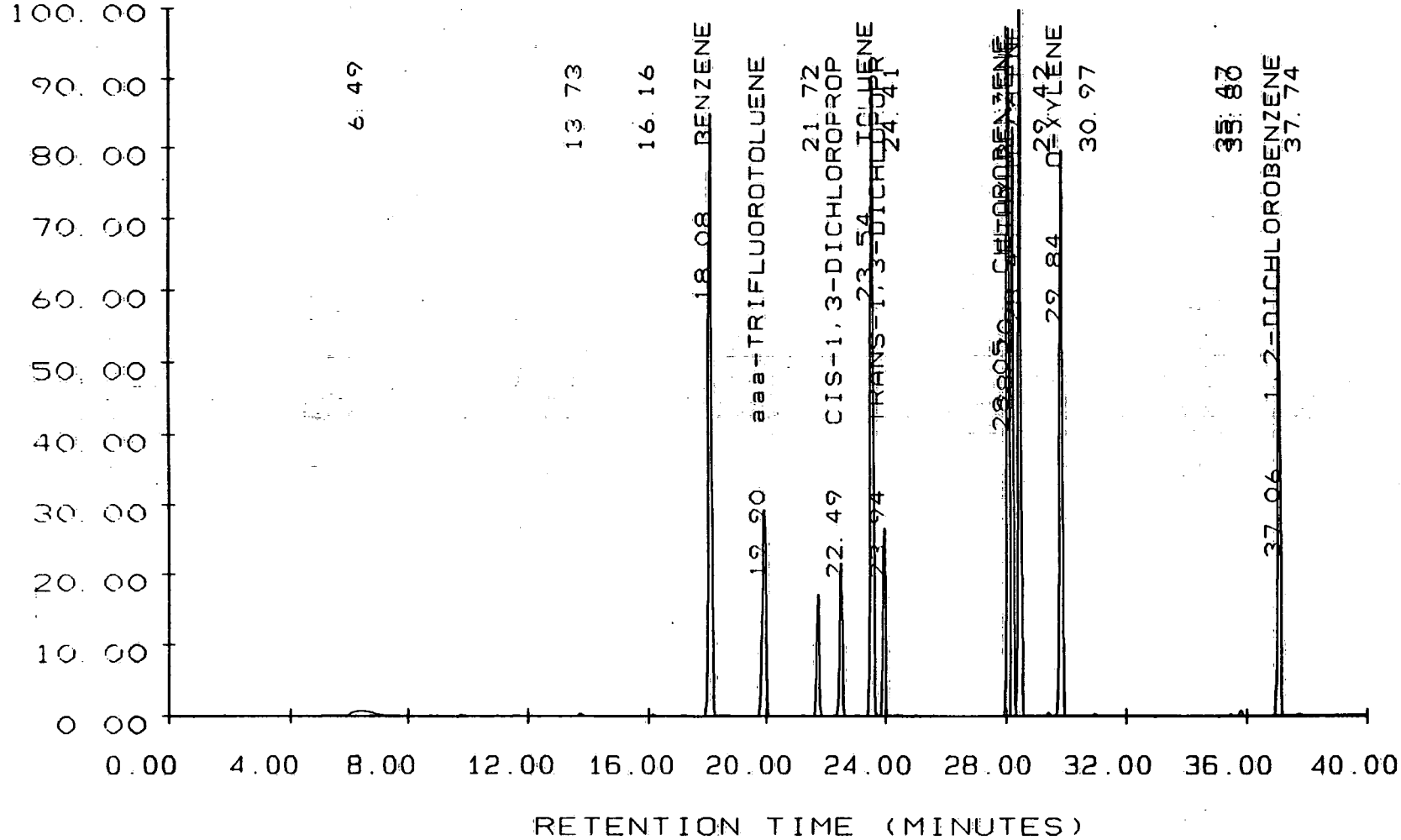
PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	49459	1143		6.368			
002	4621	426		13.730			
003	4314	305	V	16.162			
004	753293	103438	V	18.077	M	BENZENE	30.284
005	293146	36488	V	19.901			
006	1805	132	V	21.231			
007	124826	19727	V	21.720			
008	161485	24999	V	22.486	M	CIS-1,3-DICHLOROPROP	29.824
009	714048	104930	V	23.531	M	TOLUENE	29.744
010	181363	30096	V	23.936	M	TRANS-1,3-DICHLOROPR	29.774
011	1946	291		24.409			
012	768688	116223	T	28.048	M	CHLOROBENZENE	30.506
013	587456	98259	T	28.193	M	ETHYLBENZENE	30.639
014	759270	117859	T	28.443	M	M-XYLENE	30.102
015	4966	557	T	29.417			
016	617408	95495	T	29.833	M	O-XYLENE	30.368
017	8141	305	V	30.963			
018	2342	287	T	35.463			
019	5326	879	V	35.797			
020	456998	75285		37.051	M	1,2-DICHLOROBENZENE	30.248

STD CMIX2 40

SAMPLE NO. : 05179432 14
TEST NO. :
METHOD NO. : 32 / 32C

INSTRUMENT: 32
DATE TIME: 05/18/94 06:43:36
PAGE NO. : 01

0074



Y MAXIMUM: 66908.
Y MINIMUM: 50151.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/26/94 09:03:26

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05179432 .14 INST:32 VIAL:F0 SEQ NUMBER:014
TEST : DATE-TIME INJECTED : 05/18/94 06:43:36
COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 05/26/94 09:03:26
METHOD: 32 / 32C REV #: 00012 ANALYST: HOCKERM SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD CMIX2 40 RAW FILE: RAW2:EI434715
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	59379	1199		6.488			
002	5952	583	V	13.732			
003	6080	414	V	16.161			
004	996429	136737	V	18.079	M	BENZENE	40.044
005	387635	47627	V	19.904			
006	166618	26658	V	21.724			
007	212262	33569	V	22.491	M	CIS-1,3-DICHLOROPROP	40.082
008	944410	141833	V	23.537	M	TOLUENE	40.243
009	238349	40517	V	23.942	M	TRANS-1,3-DICHLOROPR	40.108
010	2995	389		24.414			
011	992368	151408	T	28.055	M	CHLOROBENZENE	39.773
012	801274	127625	T	28.200	M	ETHYLBENZENE	39.807
013	1004045	156910	T	28.449	M	M-XYLENE	40.103
014	5594	722	T	29.424			
015	814810	125540	T	29.839	M	O-XYLENE	39.941
016	6246	379	T	30.969			
017	1894	309	T	35.472			
018	6899	1123	V	35.804			
019	602870	99674	T	37.060	M	1,2-DICHLOROBENZENE	40.033
020	5440	316		37.745			

MULTILEVEL CALIBRATION METHOD 32F 05/26/94 08:55:54
1ST ORDER EXTERNAL STANDARD CALIBRATION USING PEAK HEIGHT

TEST:

LEVEL	REPLICATE 1	REPLICATE 2	REPLICATE 3
A	05259432.05		
B	05259432.06		
C	05259432.07		
D	05259432.08		
E	05259432.09		

PEAK NAME	COEFFICIENTS a	b	c	d	SD OF FIT	CORR COEFF
FLUOROBENZENE			3.671E-04	7.846E-02	0.35812	0.99840

SURROGATE

ADD 7/19/94

001 - METHOD NUMBER : 32F
002 - METHOD TITLE : 20ML,RTX502.2 105M,PID
003 - ENTERED BY : LINDA DRURY
004 - DATE-TIME ENTERED : 05/26/94 08:22:40
005 - MODIFIED BY : LINDA DRURY
006 - DATE-TIME MODIFIED : 05/26/94 08:25:16
007 - # TIMES MODIFIED : 001
008 - CALIBRATION SMP : 03229320.07
009 - # TIMES CALIBRATED : 1
010 - CALIBRATION DATE : 03/22/93
011 - USER PROGRAMS : USER:MULTIV2
012 - PURGE : TOP
013 - TEST :

DATA COLLECTION PARAMETERS

014 - END COLLECTION TIME : 40.00 015 - SAMPLING RATE : 8

TIMED EVENTS

TIME	EVENT	VALUE	DESCRIPTION

DATA ANALYSIS PARAMETERS

016 - BASELINE SENSITIVITY : 50.00 017 - AREA SENSITIVITY : 50
018 - REJECTION MINIMUM : 100
019 - CALCULATION TYPE : E 020 - PEAK AREA HEIGHT : H

021 - PEAK MATCH WINDOW : 0.020 022 - % MATCH WINDOW : 0.5

023 - RF UPDATE : N 024 - RET TIME UPDATE : Y
025 - UNKNOWN RF TREATMENT : 0.00000
026 - RRT DISPLAY UNITS : MINUTES 027 - CONCENTRATION UNITS : PPB

TIMED EVENTS

	TIME	EVENT	VALUE	DESCRIPTION
028 -	0.100	PKDET	OFF	
029 -	3.000	PKDET	ON	ENABLE
030 -	3.010	SKIM	ON	

REFERENCE PEAKS

031 - UNRETAINED PK RT : 0.000
032 - % REF RT WINDOW : 10.0

REF PK NO.	REF PK RT	END TIME	REF PK REL VALUE

COMPONENT TABLE

	NAME	GROUP	RET TIME	CAL WT	RESP FACT
033 -	FLUOROBENZENE	M	18.629	20.0000	1.000000

GROUP NAME TABLE

GROUP NAME	GROUP NUMBER

REPORT PARAMETERS

034 - REPORT PARAMETERS	:				
035 - PLOTTER	:				
036 - START-TIME	:	0.00	037 - END TIME	:	40.00
038 - %Y MINIMUM	:	0.00	039 - %Y MAXIMUM	:	100.00

Roy F. Weston, Inc. - Lionville Laboratory

METHOD NUMBER	: 32F
METHOD TITLE	: 20ML,RTX502.2 105M
USER PROGRAMS	: USER:MULTIV2
ORDER OF FIT	: 1
NUMBER OF LEVELS	: 5
REPORT PARAMETERS	:
NO.OF TIMES MODIFIED	:
NO.OF TIMES CALIBRAT	: 1

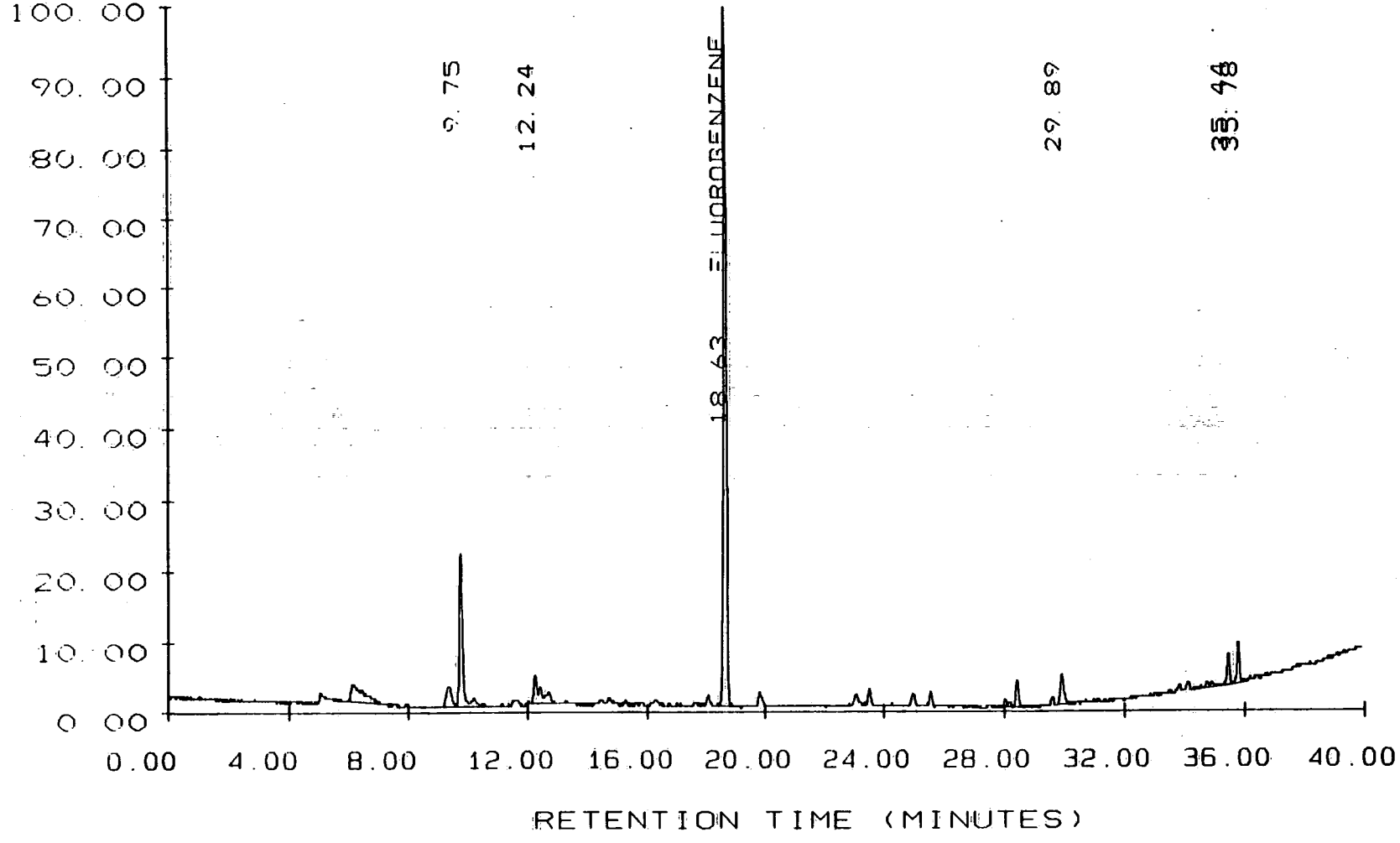
#	COMPONENT NAME	LEVEL A	LEVEL B	LEVEL C	LEVEL D	LEVEL E
1	FLUOROBENZENE	1.0000	2.0000	5.0000	10.0000	20.0000

STD SURR 1

SAMPLE NO : 05259432 . 05
TEST NO. :
METHOD NO. : 32LD / 32F

INSTRUMENT: 32
DATE TIME: 05/25/94 16:37:49
PAGE NO. : 01

0080



Y MAXIMUM: 50185.
Y MINIMUM: 49938.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/26/94 09:17:22

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05259432 .05 INST:32 VIAL:F0 SEQ NUMBER:005
TEST : DATE-TIME INJECTED : 05/25/94 16:37:49
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 05/26/94 09:17:22
METHOD: 32LD / 32F REV #: 00002 ANALYST: HOCKERM SAMP RATE: 1.56
CLIENT ID: SAMPLE VOL: 20ML
CLIENT: COLUMN TYPE: RTX502.2 105M,
LAB ID: STD SURR 1 RAW FILE: RAW3:EP455842
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

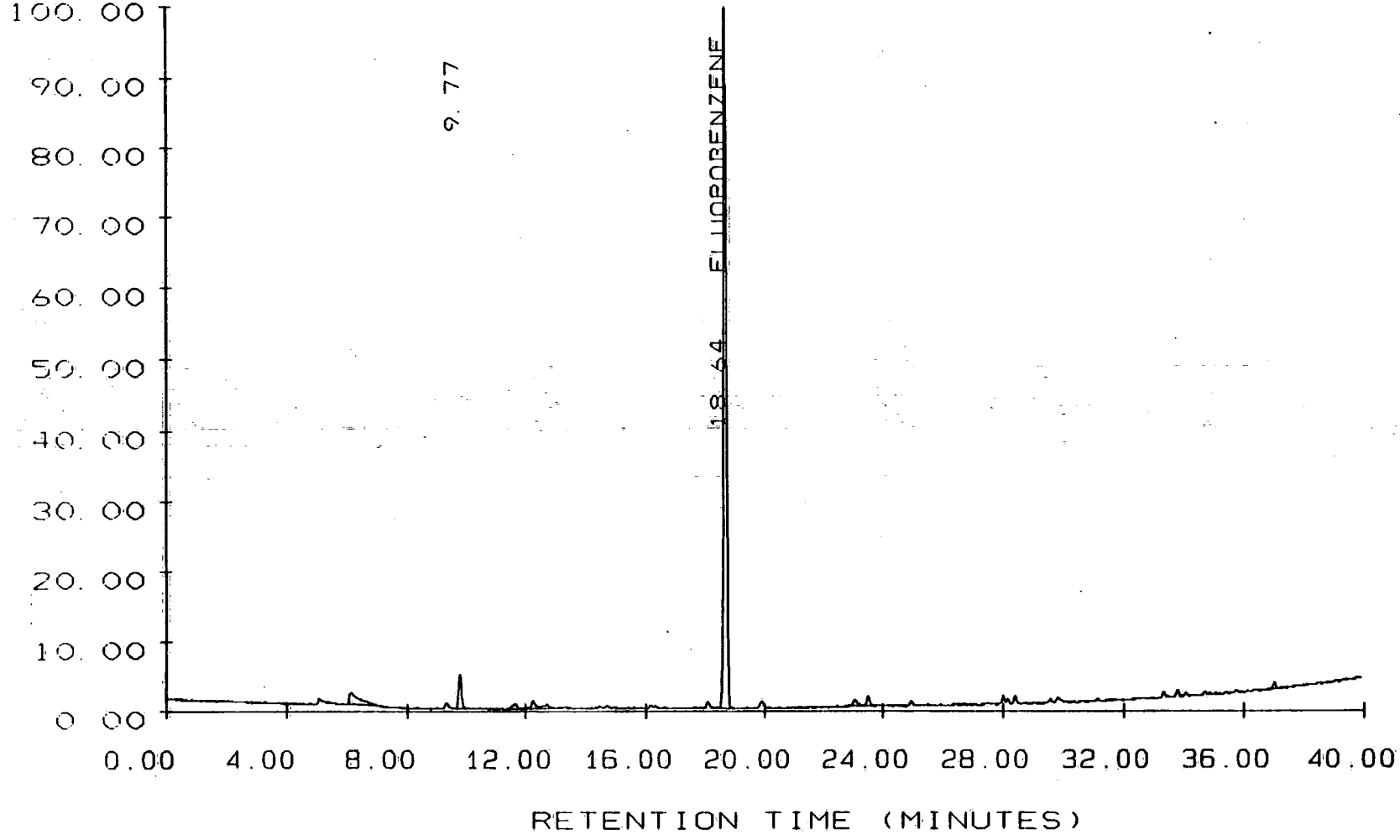
PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
003	4230	535		9.752			
004	1677	100		12.238			
005	16781	2453		18.625	M	FLUOROBENZENE	0.979
007	896	107		29.893			
008	1222	112	V	35.436			
009	954	145		35.776			

STD SURR 2

SAMPLE NO. : 05259432 06
TEST NO. :
METHOD NO. : 32LD / 32F

INSTRUMENT: 32
DATE TIME: 05/25/94 17:39:58
PAGE NO. : 01

0082



Y MAXIMUM: 50447
Y MINIMUM: 49937.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/26/94 09:17:47

MULTILEVEL EXTERNAL STANDARD

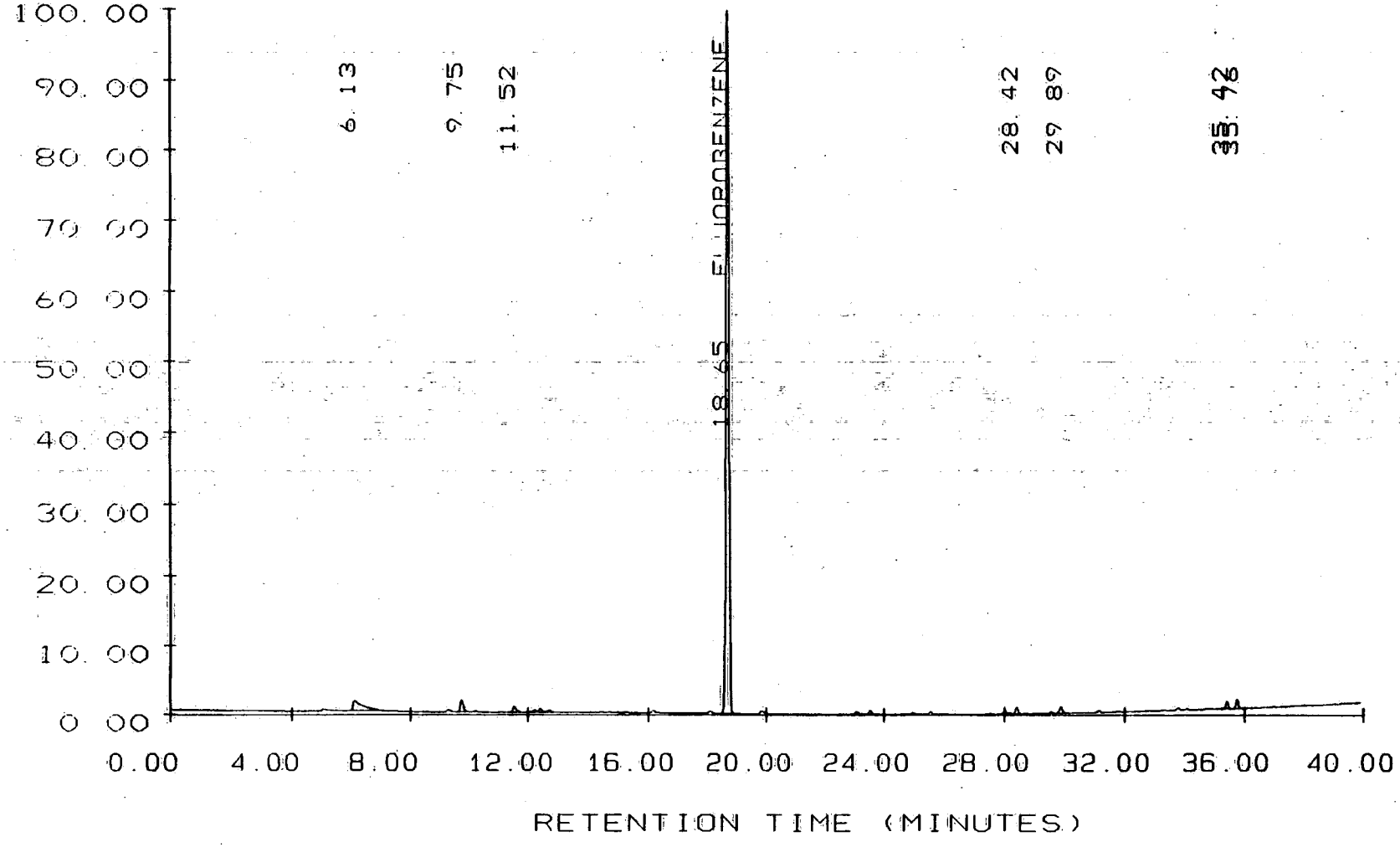
SAMPLE: 05259432 .06 INST:32 VIAL:F0 SEQ NUMBER:006
TEST : DATE-TIME INJECTED : 05/25/94 17:39:58
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 05/26/94 09:17:47
METHOD: 32LD / 32F REV #: 00002 ANALYST: HOCKERM SAMP RATE: 1.56
CLIENT ID: SAMPLE VOL: 20ML
CLIENT: COLUMN TYPE: RTX502.2 105M,
LAB ID: STD SURR 2 RAW FILE: RAW3:EP455866
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
002	1741	247		9.772			
005	34253	5072		18.640	M	FLUOROBENZENE	1.940

STD SURR 5

SAMPLE NO. : 05259432 07
TEST NO. :
METHOD NO. : 32LD / 32F

INSTRUMENT: 32
DATE TIME: 05/25/94 18:41:14
PAGE NO. : 01



Y MAXIMUM: 51393.
Y MINIMUM: 49936.

START TIME: 0.00
END TIME: 40.00

0084

Roy F. Weston, Inc. - Lionville Laboratory 05/26/94 09:18:22

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05259432 .07 INST:32 VIAL:F0 SEQ NUMBER:007
TEST : DATE-TIME INJECTED : 05/25/94 18:41:14
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 05/26/94 09:18:22
METHOD: 32LD / 32F REV #: 00002 ANALYST: HOCKERM SAMP RATE: 1.56
CLIENT ID: SAMPLE VOL: 20ML
CLIENT: COLUMN TYPE: RTX502.2 105M,
LAB ID: STD SURR 5 RAW FILE: RAW3:EP455892
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

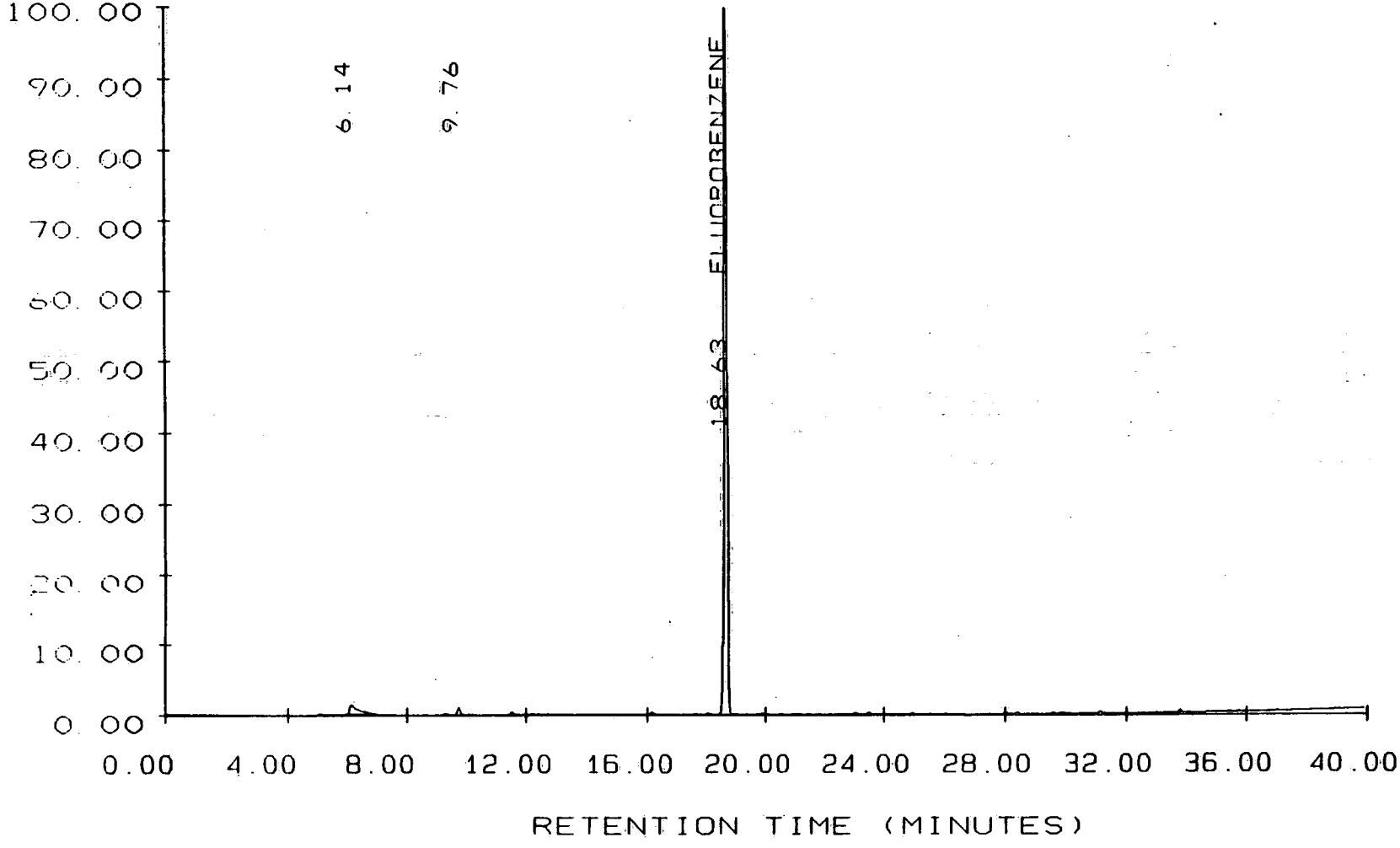
PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	4934	212		6.125			
002	2048	244		9.749			
003	922	120	T	11.522			
005	98157	14544		18.650	M	FLUOROBENZENE	5.418
008	1050	141		28.421			
009	1338	139		29.893			
010	877	155	T	35.424			
011	1171	196		35.759			

STD SURR 10

SAMPLE NO. : 05259432 . 08
TEST NO. :
METHOD NO. : 32LD / 32F

INSTRUMENT: 32
DATE TIME: 05/25/94 19:43:18
PAGE NO. : 01

0086



Y MAXIMUM: 52529.
Y MINIMUM: 49939.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/26/94 09:18:49

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05259432 .08
TEST :
COLLECTION TIME : 39.90
METHOD: 32LD / 32F REV #: 00002
CLIENT ID:
CLIENT:
LAB ID: STD SURR 10
SAMPLE WT : % MOISTURE :

INST:32 VIAL:F0 SEQ NUMBER:008
DATE-TIME INJECTED : 05/25/94 19:43:18
DATE-TIME PROCESSED : 05/26/94 09:18:49
ANALYST: HOCKERM SAMP RATE: 1.56
SAMPLE VOL: 20ML
COLUMN TYPE: RTX502.2 105M,
RAW FILE: RAW3:EP455912
DILUTION FACTOR : 1.0000

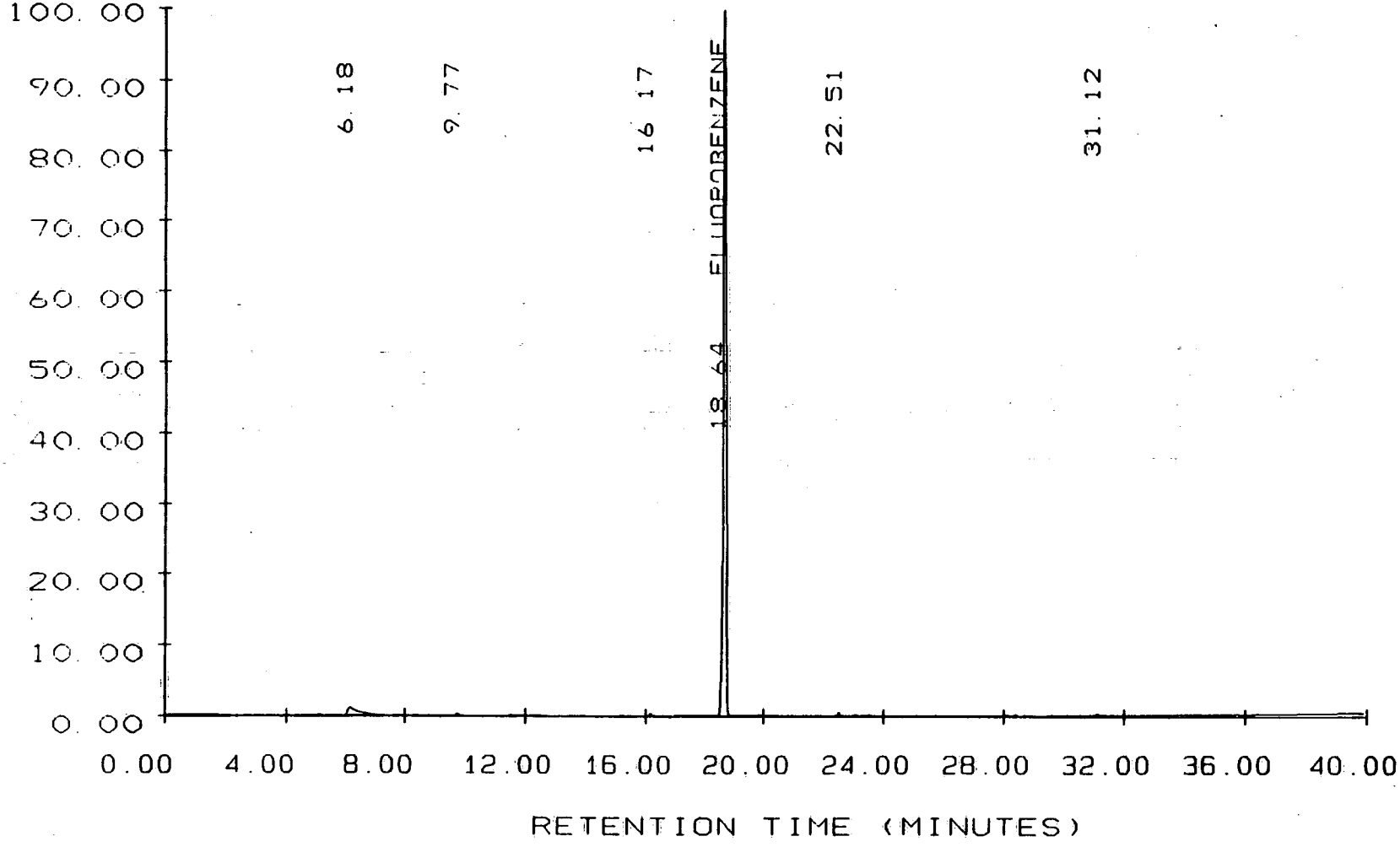
PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	7302	339		6.137			
002	2150	270		9.755			
005	173734	25821		18.629	M	FLUOROBENZENE	9.557

STD SURR 20

SAMPLE NO. : 05259432 . 09
TEST NO. :
METHOD NO. : 32LD / 32F

INSTRUMENT: 32
DATE TIME: 05/25/94 20:45:31
PAGE NO. : 01

0088



Y MAXIMUM: 55401.
Y MINIMUM: 49938.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/26/94 09:19:16

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05259432 .09 INST:32 VIAL:F0 SEQ NUMBER:009
TEST : DATE-TIME INJECTED : 05/25/94 20:45:31
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 05/26/94 09:19:16
METHOD: 32LD / 32F REV #: 00002 ANALYST: HOCKERM SAMP RATE: 1.56
CLIENT ID: SAMPLE VOL: 20ML
CLIENT: COLUMN TYPE: RTX502.2 105M,
LAB ID: STD SURR 20 RAW FILE: RAW3:EP455935
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	15712	575		6.177			
002	1024	165		9.771			
005	1664	209		16.169			
006	367142	54546		18.643	M	FLUOROBENZENE	20.102
008	2368	191		22.515			
009	973	160		31.120			

FORM7GC

GC Volatiles Continuing Calibration

RFW: 9406L136
Work Order Number: 06720-018-001-0
Client Name: LE CARPENTER
Date of Init. Calibration: 05/17/94

Instrument Number: 32
Column Used: RTX 502.2 10
Matrix: WATER
True Concentration: 10 (ppb)

MIX NO.	GC SAMPLE ID	DESCRIPTION	DATE/TIME ANALYZED
1	05179432.15	STD ICV T1 10	05/18/94 07:45:15

COMPOUND NAME	MIX	RT#	RT WINDOW	CON(ppb)	% REC	QC LIMITS(ppb)	QC LIMITS(%)
Benzene	01	18.106	17.95-18.26	10.89	109.0	8.0 - 12.0	80.0 - 120.0
Toluene	01	23.558	23.40-23.71	10.92	109.3	8.0 - 12.0	80.0 - 120.0
Ethylbenzene	01	28.208	28.05-28.36	11.25	112.5	8.0 - 12.0	80.0 - 120.0
Xylenes (total)	01	28.444	28.29-28.60	10.88	108.8	8.0 - 12.0	80.0 - 120.0

* - outside QC limits NR - not reported

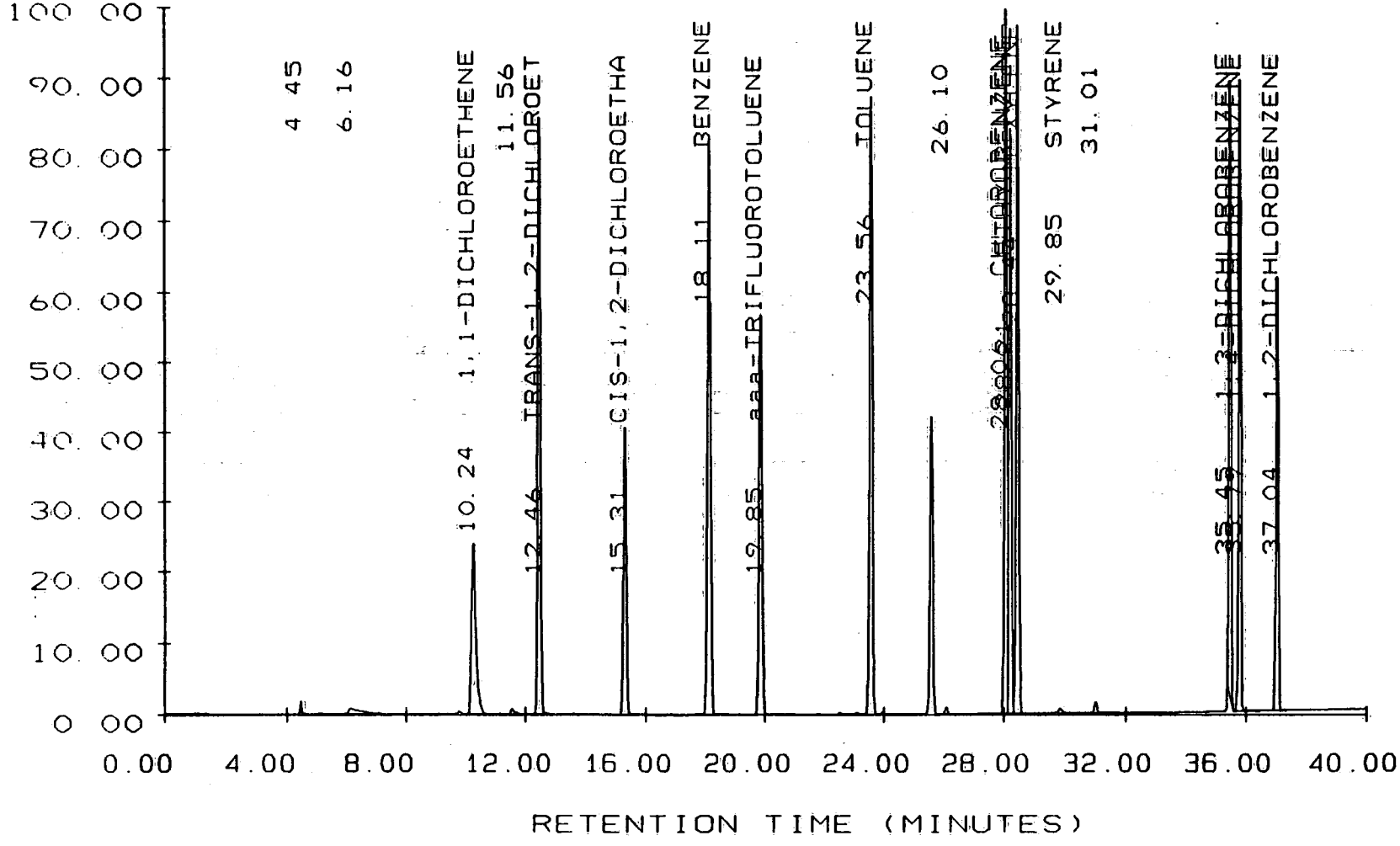
STD ICV T1 10

SAMPLE NO. : 05179432 . 15 INSTRUMENT: 32

TEST NO. : DATE TIME: 05/18/94 07:45:15

METHOD NO. : 32 / 32LD PAGE NO. : 01

0090



Y MAXIMUM: 54940. START TIME 0.00

Y MINIMUM: 50149. END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 05/24/94 15:47:39

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 05179432 .15 INST:32 VIAL:F0 SEQ NUMBER:015
TEST : DATE-TIME INJECTED : 05/18/94 07:45:15
COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 05/24/94 15:47:39
METHOD: 32 / 32LD REV #: 00016 ANALYST: HOCKERM SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD ICV T1 1 RAW FILE: RAW2:EI434727
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	2050	501		4.454			
002	11443	384		6.161			
003	118336	11261	V	10.242	M	1,1-DICHLOROETHENE	~~9.831~~ NT
004	3264	355	V	11.556			
005	248090	37963		12.456	M	TRANS-1,2-DICHLOROET	~~9.994~~ NT
006	123213	18408		15.306	M	CIS-1,2-DICHLOROETHA	~~12.899~~ NT
007	272550	37293	V	18.106	M	BENZENE	10.897 ✓
008	171738	25788		19.849	M	aaa-TRIFLUOROTOLUENE	~~21.453~~ NT
				22.495	M	CIS-1,3-DICHLOROPROP	
009	260659	38795		23.558	M	TOLUENE	10.929 ✓
				23.946	M	TRANS-1,3-DICHLOROPR	
010	3085	443	V	26.096			
011	274778	44106	T	28.063	M	CHLOROBENZENE	~~11.510~~ NT
012	230894	36156	T	28.208	M	ETHYLBENZENE	11.250 ✓
				28.427	M	P-XYLENE	
013	264363	42818	T	28.444	M	M-XYLENE	10.884 ✓
				29.841	M	O-XYLENE	
014	4557	333	T	29.849	M	STYRENE	~~0.052~~ NT
015	4685	683		31.007			
016	223444	38489	V	35.453	M	1,3-DICHLOROBENZENE	~~9.689~~ NT
017	221658	38760	T	35.786	M	1,4-DICHLOROBENZENE	10.041
018	166541	27306		37.037	M	1,2-DICHLOROBENZENE	~~10.989~~

AM 7/19/94

FORM7GC

GC Volatiles Continuing Calibration

RFW: 9406L136
Work Order Number: 06720-018-001-0
Client Name: LE CARPENTER
Date of Init. Calibration: 05/17/94

Instrument Number: 32
Column Used: RTX 502.2 105M, PID
Matrix: WATER
True Concentration: 10 (ppb)

MIX NO.	GC SAMPLE ID	DESCRIPTION	DATE/TIME ANALYZED
1	07119432.02	STD #2 DCV	07/11/94 11:56:22

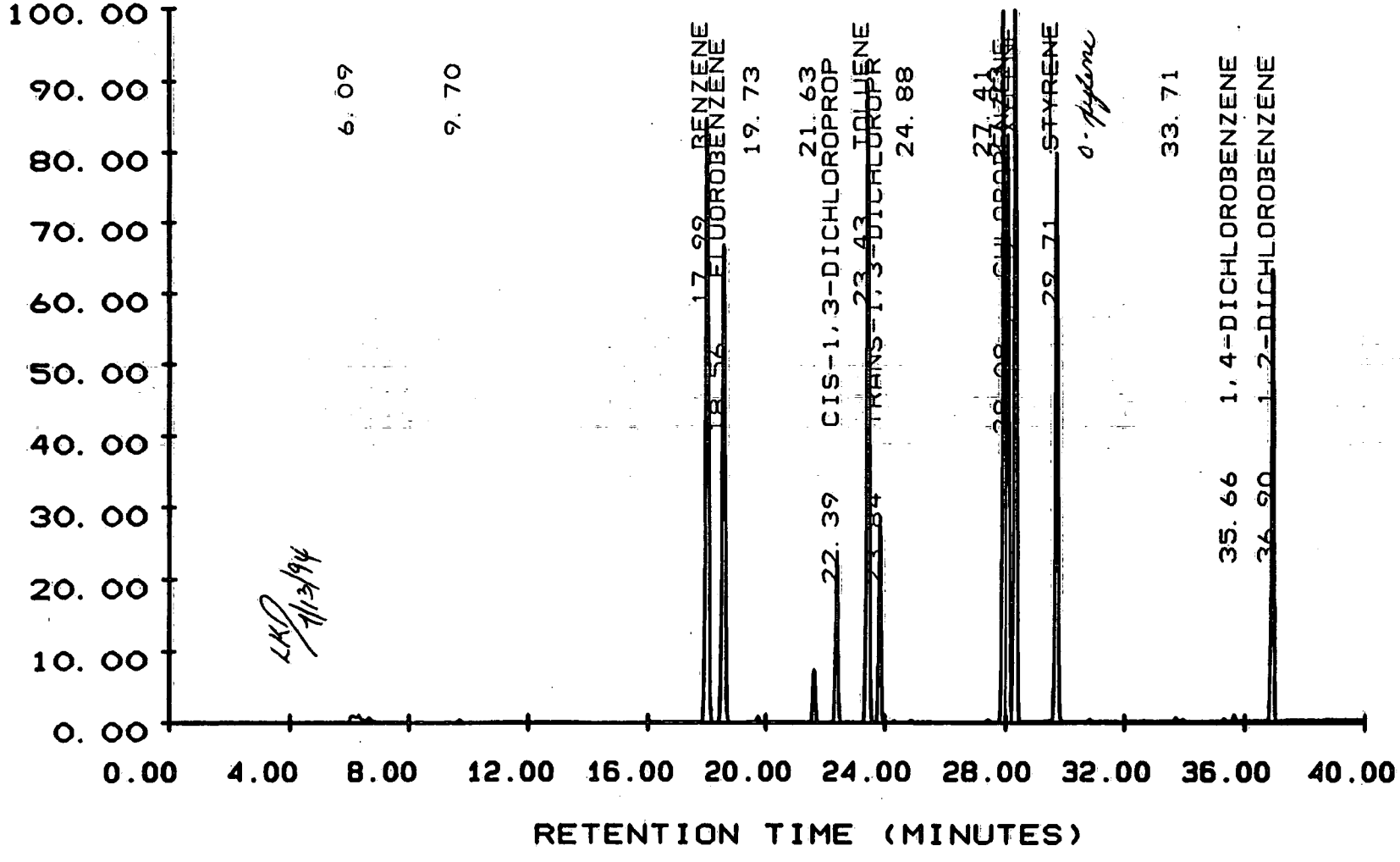
COMPOUND NAME	MIX	RT#	RT WINDOW	CON(ppb)	% REC		QC LIMITS(ppb)	QC LIMITS(%)
Benzene	01	17.990	17.84-18.14	10.96	109.6		8.0 - 12.0	80.0 - 120.0
Toluene	01	23.429	23.28-23.58	11.14	111.4		8.0 - 12.0	80.0 - 120.0
Ethylbenzene	01	28.076	27.92-28.23	11.35	113.6		8.0 - 12.0	80.0 - 120.0
Xylenes (total)	01	28.325	28.17-28.48	11.22	112.2		8.0 - 12.0	80.0 - 120.0

* - outside QC limits NR - not reported

STD #2 DCV

SAMPLE NO. : 07119432 .02
TEST NO. :
METHOD NO. : 32LD / 32LD

INSTRUMENT: 32
DATE TIME: 07/11/94 11:56:22
PAGE NO. : 01



LKD 7/13/94

Y MAXIMUM: 54394.
Y MINIMUM: 49949.

START TIME: 0.00
END TIME: 40.00

0093

Roy F. Weston, Inc. - Lionville Laboratory 07/11/94 12:55:19

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 07119432 .02 INST:32 VIAL:F0 SEQ NUMBER:002
TEST : 602 DATE-TIME INJECTED : 07/11/94 11:56:22
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 07/11/94 12:55:19
METHOD: 32LD / 32LD REV #: 00016 ANALYST: LINDAD SAMP RATE: 1.56
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD #2 DCV RAW FILE: RAW2:GB447398
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

LK 7/15/94

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
			T	0.000			
001	12595	393		6.089			
002	1626	158		9.696			
				10.210		1,1-DICHLOROETHENE	
				12.428		TRANS-1,2-DICHLOROET	
				15.289		CIS-1,2-DICHLOROETHA	
003	259936	37509	V	17.990		BENZENE	10.961 ✓
004	200134	29509		18.560		FLUOROBENZENE	10.911 ✓
005	2336	346		19.730			
006	18349	3249	V	21.627			
007	57645	9760	T	22.388		CIS-1,3-DICHLOROPROP	1~~1.582~~ NT
008	247110	39543	V	23.429		TOLUENE	11.141 ✓
009	64544	12028	T	23.835		TRANS-1,3-DICHLOROPR	1~~1.856~~ NT
010	1722	130		24.877			
011	1126	152	V	27.414			
012	254861	43993	T	27.931		CHLOROBENZENE	~~11.480~~ NT
013	213389	36496		28.076		ETHYLBENZENE	11.356 ✓
014	263430	44133		28.325		M-XYLENE	11.221 ✓
				28.427		P-XYLENE	
				28.451		M-XYLENE	
015	214080	35339		29.711		O-XYLENE	11.203 ✓
				29.900		STYRENE	
				29.904		STYRENE	
016	1926	210		33.712			
				35.464		1,3-DICHLOROBENZENE	
017	2163	363		35.657		1,4-DICHLOROBENZENE	~~0.246~~ NT
018	153389	27878		36.905		1,2-DICHLOROBENZENE	~~11.228~~ NT

7/19/94

All compounds were quantitated using method 32LD
except those which are labeled.

FORM7GC

GC Volatiles Continuing Calibration

RFW: 9406L136
Work Order Number: 06720-018-001-0
Client Name: LE CARPENTER
Date of Init. Calibration: 05/17/94

Instrument Number: 32
Column Used: RTX 502.2 105M, PID
Matrix: WATER
True Concentration: 10 (ppb)

MIX NO.	GC SAMPLE ID	DESCRIPTION	DATE/TIME ANALYZED
1	07119432.13	STD #2 CCV	07/11/94 23:37:34

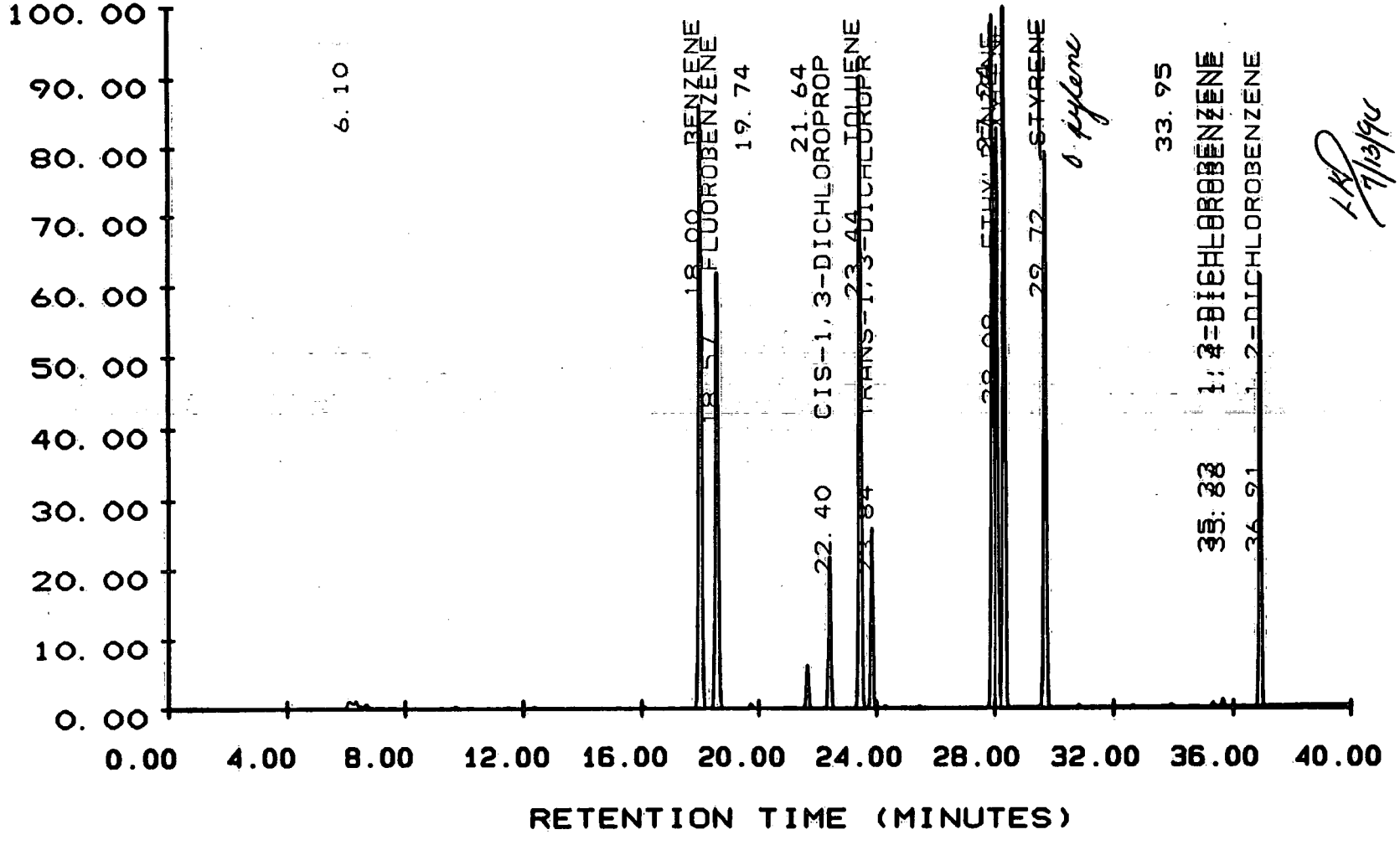
COMPOUND NAME	MIX	RT#	RT WINDOW	CON(ppb)	% REC	QC LIMITS(ppb)	QC LIMITS(%)
Benzene	01	18.001	17.85-18.15	11.05	110.5	8.0 - 12.0	80.0 - 120.0
Toluene	01	23.439	23.29-23.59	11.14	111.4	8.0 - 12.0	80.0 - 120.0
Ethylbenzene	01	28.083	27.93-28.24	11.29	112.9	8.0 - 12.0	80.0 - 120.0
Xylenes (total)	01	28.332	28.18-28.49	11.08	110.9	8.0 - 12.0	80.0 - 120.0

* - outside QC limits NR - not reported

STD #2 CCV

SAMPLE NO. : 07119432 .13
TEST NO. :
METHOD NO. : 32LD / 32LD

INSTRUMENT: 32
DATE TIME: 07/11/94 23:37:34
PAGE NO. : 01



Y MAXIMUM: 54344.
Y MINIMUM: 49943.

START TIME: 0.00
END TIME: 40.00

0096

Roy F. Weston, Inc. - Lionville Laboratory 07/12/94 07:50:29

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 07119432 .13 INST:32 VIAL:F0 SEQ NUMBER:013
TEST : 602 DATE-TIME INJECTED : 07/11/94 23:37:34
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 07/12/94 07:50:29
METHOD: 32LD / 32LD REV #: 00016 ANALYST: LINDAD SAMP RATE: 1.56
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD #2 CCV RAW FILE: RAW2:GB447655
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

LK 7/15/94

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB	
001	11712	408		6.096				
				10.210		1,1-DICHLOROETHENE		
				12.428		TRANS-1,2-DICHLOROET		
				15.289		CIS-1,2-DICHLOROETHA		
003	261882	37817	V	18.001		BENZENE	11.051	
004	184147	27199		18.570		FLUOROBENZENE	10.063	
005	1696	257		19.740				
006	14874	2668	T	21.636				
007	54848	9458	V	22.398		CIS-1,3-DICHLOROPROP	11.221	
008	247590	39550	T	23.439		TOLUENE	11.143	
009	61734	11242		23.844		TRANS-1,3-DICHLOROPR	11.076	
010	254150	43239	T	27.938				
				28.057		CHLOROBENZENE		
011	209369	36289	T	28.083		ETHYLBENZENE	11.291	
012	262118	43615		28.332		M-XYLENE	11.089	
				28.427		P-XYLENE		
				28.451		M-XYLENE		
013	211078	34729		29.717		O-XYLENE	11.008	
				29.900		STYRENE		
				29.904		STYRENE		
015	1523	136	T	33.953				
016	1114	195	V	35.330		1,3-DICHLOROBENZENE	~~0.100~~	NT
017	2381	417		35.663		1,4-DICHLOROBENZENE	~~0.260~~	NT
018	146144	26715		36.913		1,2-DICHLOROBENZENE	10.762	

All compounds were quantitated using method 32LD
except those which are labeled.

FORM7GC

GC Volatiles Continuing Calibration

RFW: 9406L136
Work Order Number: 06720-018-001-0
Client Name: LE CARPENTER
Date of Init. Calibration: 05/17/94

Instrument Number: 32
Column Used: RTX 502.2 105M, PID
Matrix: WATER
True Concentration: 10 (ppb)

MIX NO.	GC SAMPLE ID	DESCRIPTION	DATE/TIME ANALYZED
1	07119432.20	STD #2 CCV	07/12/94 06:46:00

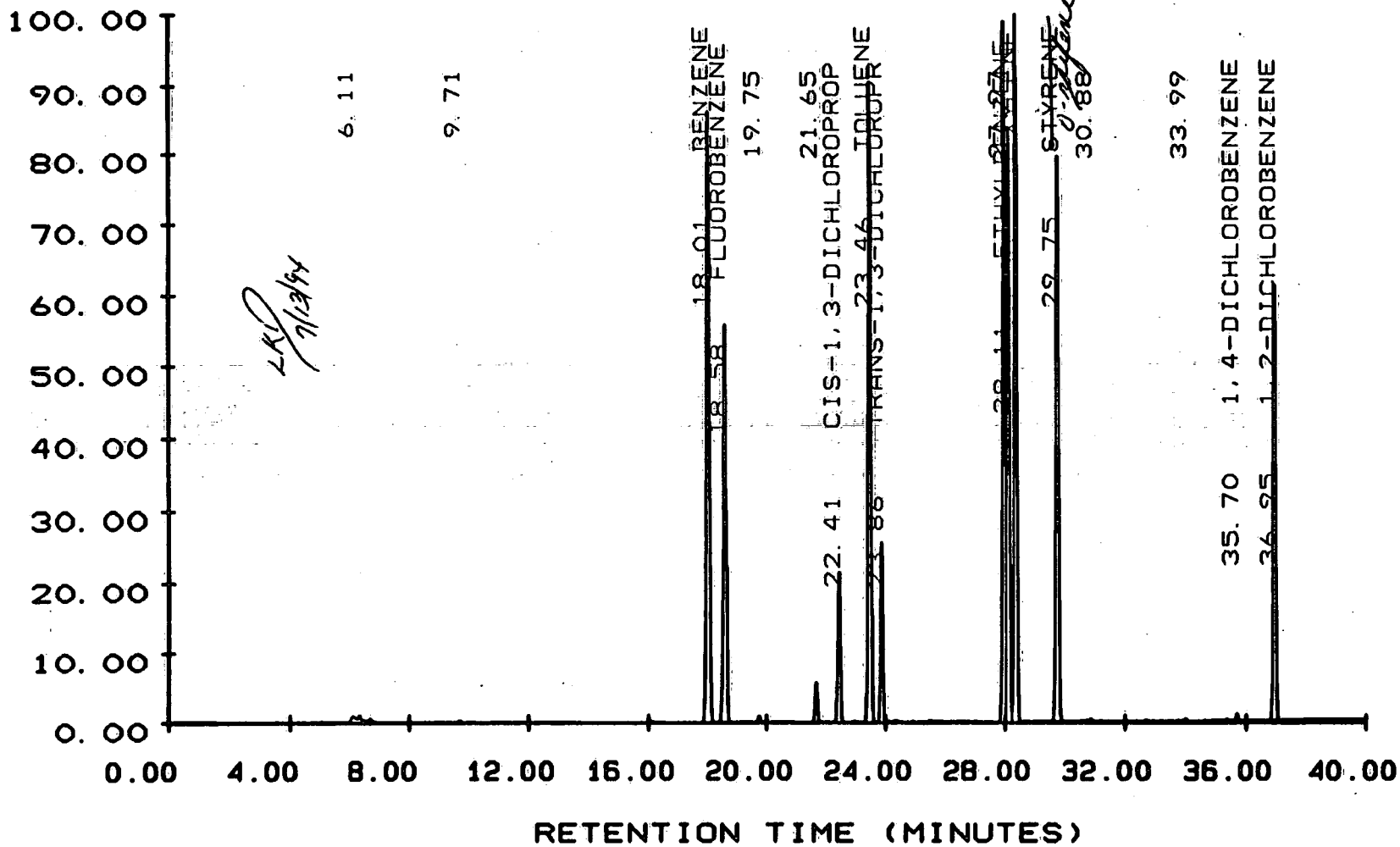
COMPOUND NAME	MIX	RT#	RT WINDOW	CON(ppb)	% REC		QC LIMITS(ppb)	QC LIMITS(%)
Benzene	01	18.009	17.86-18.16	11.80	118.0		8.0 - 12.0	80.0 - 120.0
Toluene	01	23.458	23.30-23.61	11.89	118.9		8.0 - 12.0	80.0 - 120.0
Ethylbenzene	01	28.113	27.96-28.27	12.13	121.4	*	8.0 - 12.0	80.0 - 120.0
Xylenes (total)	01	28.362	28.21-28.51	11.82	118.3		8.0 - 12.0	80.0 - 120.0

* - outside QC limits NR - not reported

STD #2 CCV

SAMPLE NO. : 07119432 .20
TEST NO. :
METHOD NO. : 32LD / 32LD

INSTRUMENT: 32
DATE TIME: 07/12/94 06:46:00
PAGE NO. : 01



Y MAXIMUM: 54627.
Y MINIMUM: 49943.

START TIME: 0.00
END TIME: 40.00

0099

Roy F. Weston, Inc. - Lionville Laboratory 07/12/94 07:54:23

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 07119432 .20 INST:32 VIAL:F0 SEQ NUMBER:020
TEST : L02 DATE-TIME INJECTED : 07/12/94 06:46:00
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 07/12/94 07:54:23
METHOD: 32LD / 32LD REV #: 00016 ANALYST: LINDAD SAMP RATE: 1.56
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: STD #2 CCV RAW FILE: RAW2:GC447743
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

LKD 7/15/94

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
			T	0.000			
001	12454	410		6.112			
002	1587	137		9.713			
				10.210		1,1-DICHLOROETHENE	
				12.428		TRANS-1,2-DICHLOROET	
				15.289		CIS-1,2-DICHLOROETHA	
003	280646	40387	T	18.009		BENZENE	11.804
004	176499	26059		18.580		FLUOROBENZENE	9.645
005	2694	426		19.751			
006	14554	2624	V	21.651			
007	57587	9965	V	22.414		CIS-1,3-DICHLOROPROP	11.828
008	265395	42180	T	23.458		TOLUENE	11.892
009	64653	11834		23.864		TRANS-1,3-DICHLOROPR	11.663
010	265472	46054		27.967		CHLOROBENZENE	12.023
011	231176	38994	T	28.113		ETHYLBENZENE	12.136
012	279354	46497		28.362		M-XYLENE	11.827
				28.427		P-XYLENE	
				28.451		M-XYLENE	
013	225389	37035		29.749		O-XYLENE	11.743
			T	29.900		STYRENE	
				29.904		STYRENE	
014	5978	178		30.881			
015	1395	162	V	33.989			
				35.464		1,3-DICHLOROBENZENE	
016	4723	456	V	35.699		1,4-DICHLOROBENZENE	~~0.270~~ NT
017	157747	28466	T	36.949		1,2-DICHLOROBENZENE	11.464

All compounds were quantitated using method 32LD
except those which are labeled.

VIII. Raw QC Data: Blank and Matrix Spike Data

GC VOLATILES SHEET

CLIENT SAMPLE NO.

TBLKAC

Lab Name: Roy F. Weston, Inc. Work Order: 06720018001

Client: LE CARPENTER

Matrix: WATER

Lab Sample ID: 94LVHP51-MB1

Sample wt/vol: 10.0 (g/mL) ML

Lab File ID: GB447442

Level: (low/med) LOW

Date Received: 07/11/94

% Moisture: not dec. _____

Date Analyzed: 07/11/94

Column: (pack/cap) CAP

Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
71-43-2	Benzene	1.0	U
108-88-3	Toluene	1.0	U
100-41-4	Ethylbenzene	1.0	U
1330-20-7	Xylenes (total)	1.0	U

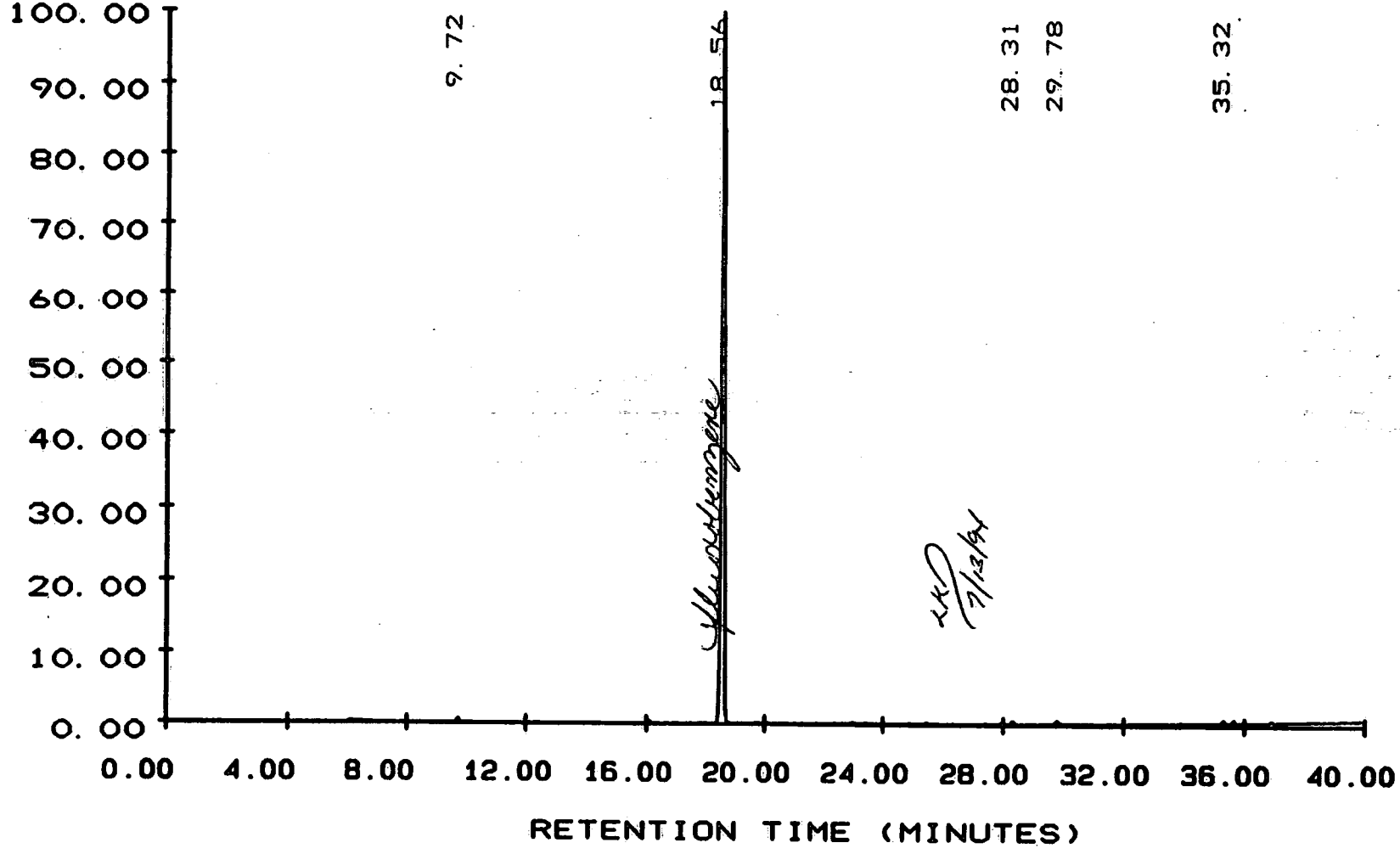
12/88 Rev.

94LVHP51-MB1

SAMPLE NO. : 07119432 .03
TEST NO. :
METHOD NO. : 32LD / 32LD

INSTRUMENT: 32
DATE TIME: 07/11/94 13:17:19
PAGE NO. : 01

0103



Y MAXIMUM: 52921.
Y MINIMUM: 49945.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 07/11/94 14:02:30

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 07119432 .03 INST:32 VIAL:F0 SEQ NUMBER:003
TEST : 602 DATE-TIME INJECTED : 07/11/94 13:17:19
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 07/11/94 14:02:30
METHOD: 32LD / 32LD REV #: 00016 ANALYST: LINDAD SAMP RATE: 1.56
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: 94LVHP51-MB1 RAW FILE: RAW2:GB447442
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

LK 7/15/94

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
002	1107	167		9.717			
				10.210		1,1-DICHLOROETHENE	
				12.428		TRANS-1,2-DICHLOROET	
				15.289		CIS-1,2-DICHLOROETHA	
				18.087		BENZENE	
003	201363	29646	V	18.560		FLUOROBENZENE	10.962 ✓
				22.495		CIS-1,3-DICHLOROPROP	
				23.541		TOLUENE	
				23.946		TRANS-1,3-DICHLOROPR	
				28.057		CHLOROBENZENE	
				28.202		ETHYLBENZENE	
005	1581	146		28.311		M-XYLENE	
				28.427		P-XYLENE	
				28.451		M-XYLENE	
006	1574	141		29.779		STYRENE	~~0.011~~ NT
				29.841		O-XYLENE	
				29.904		STYRENE	
007	1536	131		35.320		1,3-DICHLOROBENZENE	~~0.084~~ NT
				35.797		1,4-DICHLOROBENZENE	
				37.059		1,2-DICHLOROBENZENE	

All compounds were quantitated using method 32LD
except those which are labeled.

GC VOLATILES SHEET

CLIENT SAMPLE NO.

TBLKACMS

Lab Name: Roy F. Weston, Inc. Work Order: 06720018001

Client: LE CARPENTER

Matrix: WATER

Lab Sample ID: 94LVHP51-MB1 BS

Sample wt/vol: 10.0 (g/mL) ML

Lab File ID: GB447467

Level: (low/med) LOW

Date Received: 07/11/94

% Moisture: not dec. _____

Date Analyzed: 07/11/94

Column: (pack/cap) CAP

Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
71-43-2	Benzene		SP
108-88-3	Toluene		SP
100-41-4	Ethylbenzene		SP
1330-20-7	Xylenes (total)	1.0	U

SP: SPIKE COMPOUND

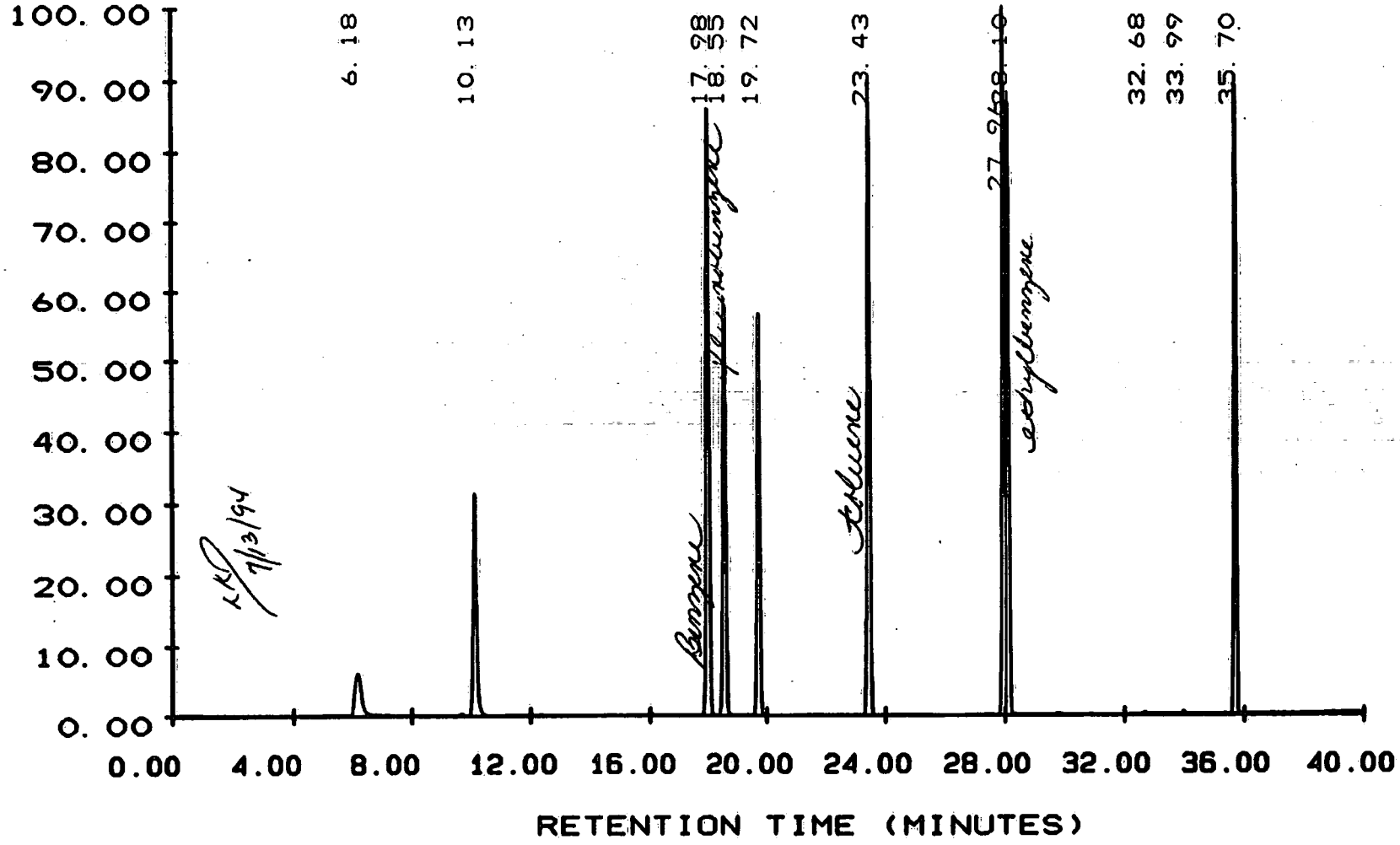
12/88 Rev.

94LVHP51-MB1S

SAMPLE NO. : 07119432 . 04
TEST NO. :
METHOD NO. : 32LD / 32LD

INSTRUMENT: 32
DATE TIME: 07/11/94 14:18:32
PAGE NO. : 01

0106



Y MAXIMUM: 54656.
Y MINIMUM: 49947.

START TIME: 0.00
END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 07/11/94 15:00:12

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 07119432 .04 INST:32 VIAL:F0 SEQ NUMBER:004
TEST : 602 DATE-TIME INJECTED : 07/11/94 14:18:32
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 07/11/94 15:00:12
METHOD: 32LD / 32LD REV #: 00016 ANALYST: LINDAD SAMP RATE: 1.56
CLIENT ID: SAMPLE VOL: 10ML
CLIENT: COLUMN TYPE: RTX 502.2 105M
LAB ID: 94LVHP51-MB1MS RAW FILE: RAW2:GB447467
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

LKD 7/13/94

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
			T	0.000			
001	45043	2802		6.180			
002	117677	14667		10.133		1,1-DICHLOROETHENE	~~12.887~~ NT
				12.428		TRANS-1,2-DICHLOROET	
				15.289		CIS-1,2-DICHLOROETHA	
003	281946	40369	T	17.983		BENZENE	11.799
004	183776	27194	V	18.554		FLUOROBENZENE	10.061
005	167686	26566		19.724			
				22.495		CIS-1,3-DICHLOROPROP	
006	265952	42143		23.435		TOLUENE	11.881
				23.946		TRANS-1,3-DICHLOROPR	
007	269792	46651		27.955		CHLOROBENZENE	~~12.180~~ NT
008	240358	40629		28.101		ETHYLBENZENE	12.646
				28.420		P-XYLENE	
				28.427		P-XYLENE	
				28.451		M-XYLENE	
				29.841		O-XYLENE	
				29.904		STYRENE	
010	1440	145		32.682			
011	1427	206		33.991			
				35.464		1,3-DICHLOROBENZENE	
012	215494	41413	T	35.702		1,4-DICHLOROBENZENE	~~10.718~~ NT
				37.059		1,2-DICHLOROBENZENE	

DJM 7/18/94

All compounds were quantitated using method 32LD
except those which are labeled.

GC VOLATILES SHEET

CLIENT SAMPLE NO.

MW-25MS

Lab Name: Roy F. Weston, Inc. Work Order: 06720018001

Client: LE CARPENTER

Matrix: WATER

Lab Sample ID: 9406L136-001 MS

Sample wt/vol: 10.0 (g/mL) ML

Lab File ID: GB447609

Level: (low/med) LOW

Date Received: 06/30/94

% Moisture: not dec. _____

Date Analyzed: 07/11/94

Column: (pack/cap) CAP

Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
71-43-2	Benzene		SP
108-88-3	Toluene		SP
100-41-4	Ethylbenzene		SP
1330-20-7	Xylenes (total)	1.0	U

SP: SPIKE COMPOUND

12/88 Rev.

0109

9406L136-001S

SAMPLE NO. : 07119432 . 10

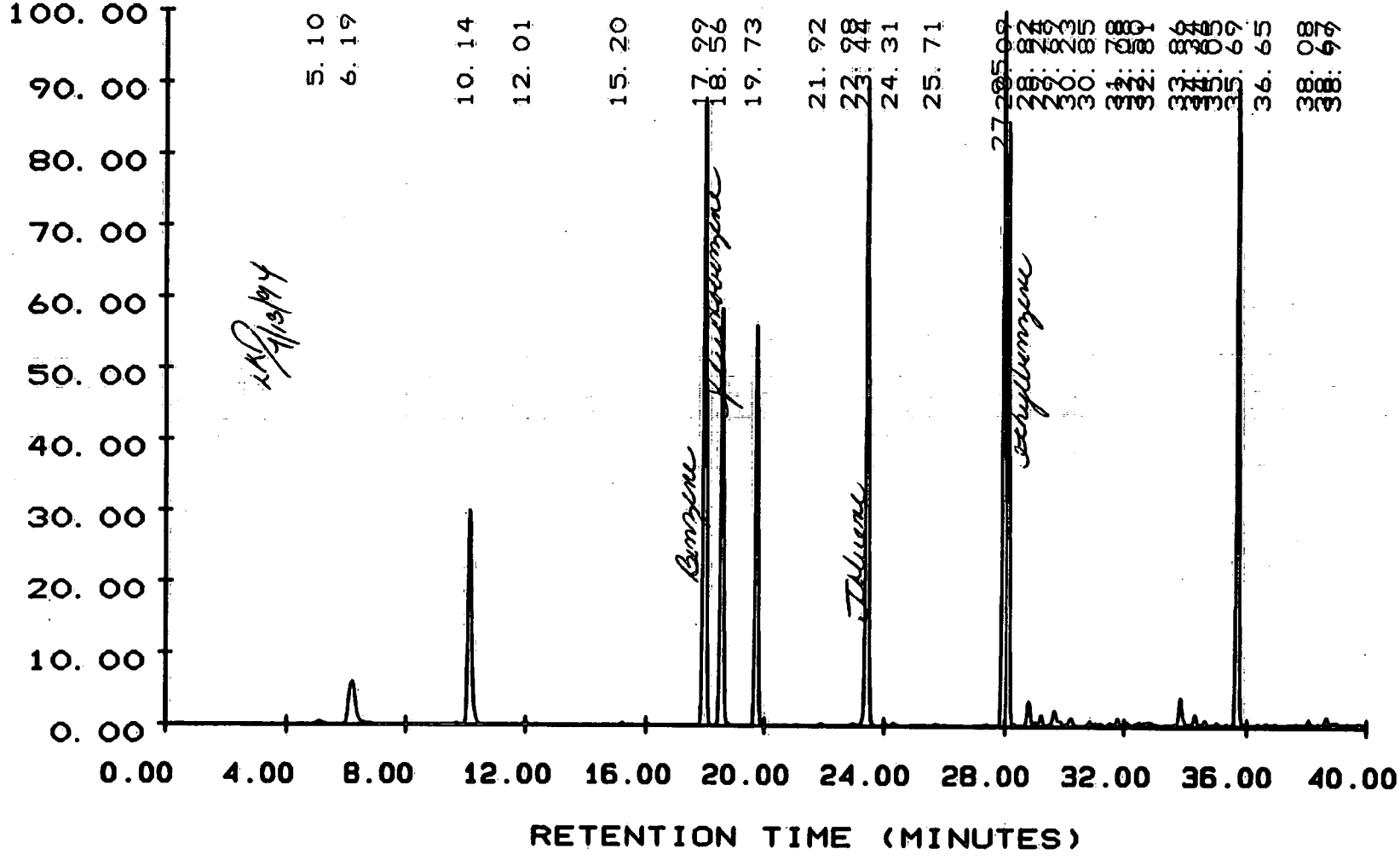
TEST NO. :

METHOD NO. : 32LD / 32LD

INSTRUMENT: 32

DATE TIME: 07/11/94 20:34:20

PAGE NO. : 01



Y MAXIMUM: 54624.

Y MINIMUM: 49944.

START TIME: 0.00

END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 07/12/94 08:37:28

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 07119432 .10
TEST : O602
COLLECTION TIME : 39.90
METHOD: 32LD / 32LD REV #: 00016
CLIENT ID: MW-25
CLIENT: LE CARPENTER
LAB ID: 9406L136-001MS
SAMPLE WT : % MOISTURE :

INST:32 VIAL:F0 SEQ NUMBER:010
DATE-TIME INJECTED : 07/11/94 20:34:20
DATE-TIME PROCESSED : 07/12/94 08:37:28
ANALYST: LINDAD SAMP RATE: 1.56
SAMPLE VOL: 10ML
COLUMN TYPE: RTX 502.2 105M
RAW FILE: RAW2:GB447609
DILUTION FACTOR : 1.0000

LKD 7/15/94

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
			T	0.000			
001	2803	180	T	5.098			
002	46925	2776		6.193			
003	115667	13975	V	10.143		1,1-DICHLOROETHENE	~~12.268~~ NT
004	2432	114		12.007			
				12.428		TRANS-1,2-DICHLOROET	
005	998	158		15.201		CIS-1,2-DICHLOROETHA	
006	282355	40622	T	17.992		BENZENE	11.873 ✓
007	185459	27255	V	18.562		FLUOROBENZENE	10.084 ✓
008	164672	26118		19.731			
009	1491	110		21.920			
				22.495		CIS-1,3-DICHLOROPROP	
010	1088	121	T	22.983			
011	265907	41654	V	23.437		TOLUENE	11.742 ✓
				23.946		TRANS-1,3-DICHLOROPR	
012	2784	179	V	24.311			
013	3917	118		25.708			
015	275910	46372		27.947		CHLOROBENZENE	~~12.107~~ NT
016	228000	39314		28.093		ETHYLBENZENE	12.236 ✓
			T	28.420		P-XYLENE	
				28.427		P-XYLENE	
				28.451		M-XYLENE	
017	14566	1552	T	28.820			
018	5357	685	T	29.236			
019	11846	955	T	29.686		STYRENE	~~0.184~~ NT
				29.841		O-XYLENE	
				29.904		STYRENE	
020	5363	488	T	30.228			
021	5638	314	V	30.855			
022	5741	475	T	31.783			
023	2195	241	T	32.077			
024	2803	235	T	32.500			
025	4486	221	T	32.810			
026	15021	1747	T	33.858			
027	5549	678	T	34.343			
028	2534	324	T	34.656			
029	1280	174	V	35.046			
				35.464		1,3-DICHLOROBENZENE	
030	216230	41262	T	35.694		1,4-DICHLOROBENZENE	10.680 NT
031	1997	107	V	36.651			

7/19/94

GC VOLATILES SHEET

CLIENT SAMPLE NO.

MW-25MSD

Lab Name: Roy F. Weston, Inc. Work Order: 06720018001

Client: LE CARPENTER

Matrix: WATER

Lab Sample ID: 9406L136-001 MSD

Sample wt/vol: 10.0 (g/mL) ML

Lab File ID: GB447624

Level: (low/med) LOW

Date Received: 06/30/94

% Moisture: not dec. _____

Date Analyzed: 07/11/94

Column: (pack/cap) CAP

Dilution Factor: 1.00

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

CAS NO.	COMPOUND		
71-43-2	Benzene		SP
108-88-3	Toluene		SP
100-41-4	Ethylbenzene		SP
1330-20-7	Xylenes (total)	1.0	U

SP: SPIKE COMPOUND

12/88 Rev.

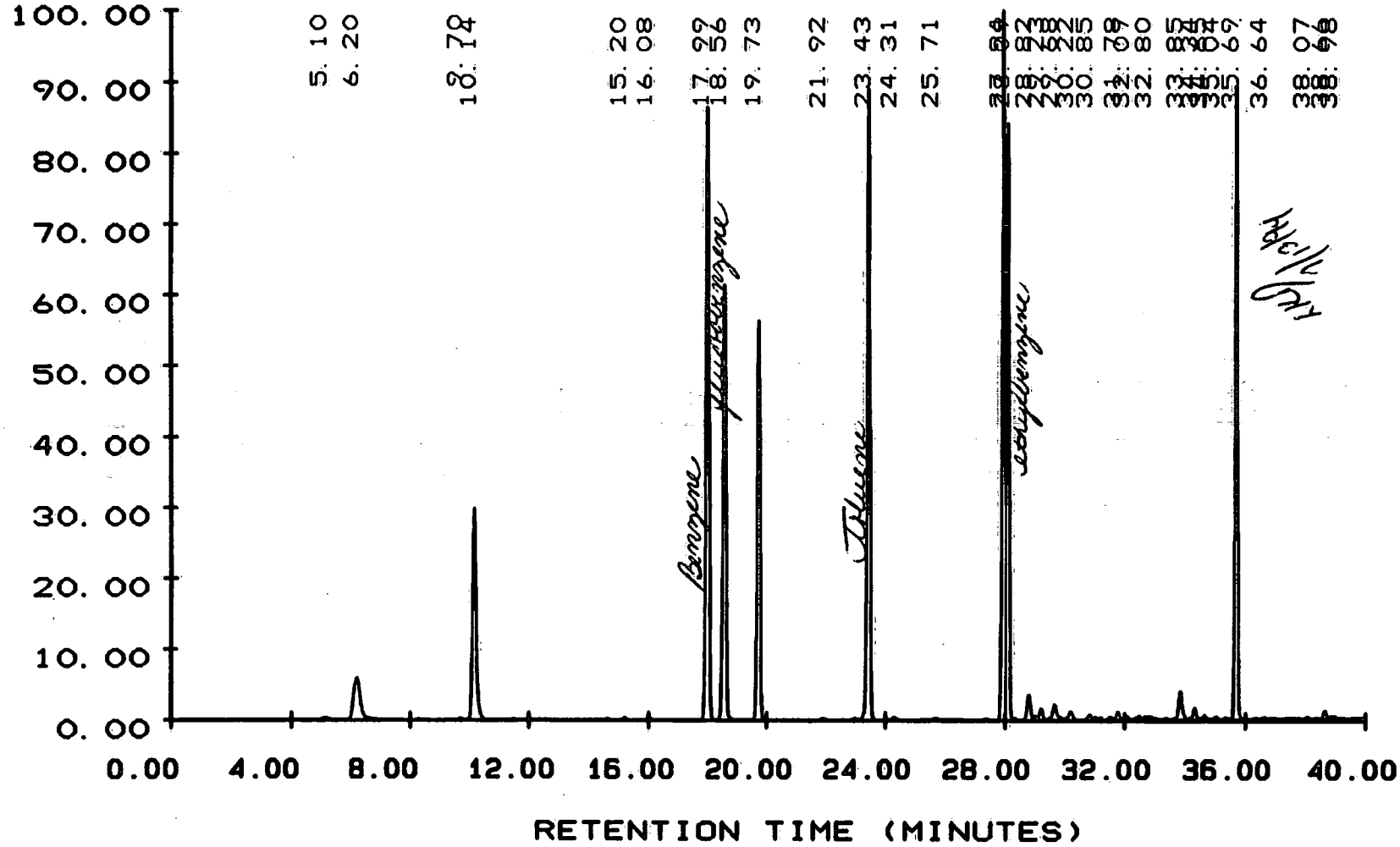
9406L136-001T

SAMPLE NO. : 07119432 . 11 INSTRUMENT: 32

TEST NO. : DATE TIME: 07/11/94 21:35:15

METHOD NO. : 32LD / 32LD PAGE NO. : 01

0112



Y MAXIMUM: 54582. START TIME: 0.00

Y MINIMUM: 49945. END TIME: 40.00

Roy F. Weston, Inc. - Lionville Laboratory 07/12/94 08:43:54

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 07119432 .11 INST:32 VIAL:F0 SEQ NUMBER:011
TEST : 0602 DATE-TIME INJECTED : 07/11/94 21:35:15
COLLECTION TIME : 39.90 DATE-TIME PROCESSED : 07/12/94 08:43:54
METHOD: 32LD / 32LD REV #: 00016 ANALYST: LINDAD SAMP RATE: 1.56
CLIENT ID: MW-25 SAMPLE VOL: 10ML
CLIENT: LE CARPENTER COLUMN TYPE: RTX 502.2 105M
LAB ID: 9406L136-001MSD RAW FILE: RAW2:GB447624
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

LKD 7/15/94

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
			T	0.000			
001	2880	159	T	5.101			
002	47200	2709		6.198			
003	1587	128	T	9.703			
004	114643	13821	V	10.142		1,1-DICHLOROETHENE	12.~~128~~ NT
				12.428		TRANS-1,2-DICHLOROET	
006	1082	163	V	15.197		CIS-1,2-DICHLOROETHA	
007	1818	115	V	16.079			
008	278650	39986	T	17.987		BENZENE	11.687 ✓
009	193050	28407	V	18.557		FLUOROBENZENE	10.507 ✓
010	163354	26011		19.726			
011	1280	109		21.920			
				22.495		CIS-1,3-DICHLOROPROP	
012	262138	40980	V	23.431		TOLUENE	11.550 ✓
				23.946		TRANS-1,3-DICHLOROPR	
013	2982	181	T	24.310			
014	3603	121	V	25.707			
016	267712	46044		27.942		CHLOROBENZENE	12.~~020~~ NT
017	228928	38709		28.088		ETHYLBENZENE	12.047 ✓
			T	28.420		P-XYLENE	
				28.427		P-XYLENE	
				28.451		M-XYLENE	
018	14963	1601	T	28.815			
019	5517	708	T	29.232			
020	10906	976	T	29.679		STYRENE	~~0.189~~ NT
				29.841		O-XYLENE	
				29.904		STYRENE	
021	5555	503	T	30.221			
022	5658	318	V	30.850			
023	5984	489	T	31.777			
024	2208	246	T	32.075			
025	8038	228	T	32.800			
026	14893	1794	T	33.851			
027	5786	702	T	34.336			
028	2509	266	T	34.651			
029	1299	181	V	35.038			
				35.464		1,3-DICHLOROBENZENE	
030	213862	40897	T	35.686		1,4-DICHLOROBENZENE	10.~~587~~ NT
031	2138	117	V	36.639			
				37.059		1,2-DICHLOROBENZENE	

AM 7/19/94

IX. Analysis Logbook Pages

WESTON®

GC VOA ANALYSIS LOG: 94 (YEAR)

INSTRUMENT #: 31/32
DETECTOR: ELCD/ELCD
CALIB. DATE: In Progress

COLUMN TYPE: RTX 502.2 105m
COLUMN SERIAL #: —
TEMP OR TEMP PROGRAM: 35°C for 5min/5°C/min to 220°C

LOGBOOK #: 3980
ANALYST: [illegible]
METHOD: 501.1 502.2 601 602 8010 8020

ANALYSIS DATE	ANALYSIS TIME	RUN NO	STATION NO	RFW SAMPLE NUMBER	CLAS ID #	DILUTION FACTOR	COMMENTS
5/17/94	1717	1	1	STD CMIX1 @ ~~10~~ .5 ppb 5/19/94	051794 31/32 .01		CMIX1 : 3053-37-07
	1818	2	2	1	.02		MIX C : 3053-42-08
	1921	3	~~STD~~ 3	2	.03		
	2022	4	4	10	.04		
	2124	5	5	20	.05		
	2227	6	6	30	.06		
	2329	7	7	40	.07		
5/18/94	0031	8	8	STD CMIX2 @ .5 ppb	.08		CMIX 2: 3053-43-07
	0134	9	9	1	.09		SURR : 3053-44-06
	0236	10	10	2	.10		FREON 113 : 3053-45-03
	0338	11	11	10	.11		
	0440	12	12	20	.12		
	0542	13	13	30	.13		
	0643	14	14	40	.14		
	0745	15	15	STD ICV T1 @ 10ppb	.15		3053-40-05
	0848	16	16	STD ICV T2 @ 10ppb	.16		3053-40-06

RFW # 21-21-022/C-02/92

REVIEWED BY/DATE: [illegible] 5/19/94

WESTON®

GC VOA ANALYSIS LOG: 1994 (YEAR)

INSTRUMENT #: 31/32
DETECTOR: HALL / PID
CALIB. DATE: 5/24/94

COLUMN TYPE: Rtx 502.2 105m
COLUMN SERIAL #: —
TEMP OR TEMP PROGRAM: 35°C for 5min, 5°C/min to 220°C

LOGBOOK #: 3980
ANALYST: LKD
METHOD: 501.1 502.2 601 602 8010 802

ANALYSIS DATE	ANALYSIS TIME	RUN NO	STATION NO	RFW SAMPLE NUMBER	CLAS ID #	DILUTION FACTOR	COMMENTS
5/25/94	10:14	1	1	STD #1 DCV	052594 31/32 .01		gases low
	11:16	2	2	STD #2 DCV	.02		3053-43-07 ; 45-03 ; 44-0
	12:51	3	3	STD #1 DCV	.03		3053-37-07 ; 42-05
	15:34	4	4	94LV HP24-MB1	.04		3053-44-06
	16:31	5	1 5	STD SURR 1	.05		3053-~~45-03~~ 39-02 LKD 5/25/94
	17:39	6	2 6	2	.06		calibration for fluo
	18:41	7	3 7	5	.07		benzene
	19:43	8	4 8	10	.08		
	20:45	9	5 9	20	.09		
	21:47	10	6 10	94LV HP24-MB1	.10		SURR 3053-39-02
	22:48	11	7 11	MB15	.11		3053-37-09
	23:50	12	8 12	9405L606-001	.12		pH 7 ok
5/26/94	00:52	13	9 13	650-001	.13	1:500	Dilution too high
	01:54	14	10 14	STD #1 CCV 1	.14		ok
	02:56	15	11 15	STD #2 CCV	.15		ok
	03:57	16	12 16	9405L650-001	.16	1:100	Dilution too high

LKD 5/25/94

RFW # 21-21-022/C-02/92

REVIEWED BY/DATE: [signature] 5/27/94

PAGE # 50

WESTON®

GC VOA ANALYSIS LOG: 1994 (YEAR)

0117

INSTRUMENT #: 31/32
DETECTOR: HALL/PID
CALIB. DATE: 6/22/94 ; 5/24/94

COLUMN TYPE: RTX 502 105 m
COLUMN SERIAL #: —
TEMP OR TEMP PROGRAM: 45°C 4 min ; 5°/min to 220°C

LOGBOOK #: 3980
ANALYST: LKD
METHOD: 501.1 502.2 601 602 8010 8020 LKD 7/11/94

ANALYSIS DATE	ANALYSIS TIME	RUN NO	STATION NO	RFW SAMPLE NUMBER	CLAS ID #	DILUTION FACTOR	COMMENTS
7/11/94	10:55	1	1	STD #1 DEV	071194 31/32 01		HL 3053-48-01 ; 45-03
	11:56	2	2	STD #3 DEV	02		HL 3053-48-02 ; 43-06
	13:17	3	3	94LVHP51 · MB1	03		HL 3053-43-06
	14:18	4	4	MB15	04		HL 3053-37-09
	15:28	5	5	94062136 · 005	05		ph2 HL
	16:30	6	6	94072156 - 005	06		
	17:31	7	7	94062136 - 004	07		
	18:32	8	8	003	08		
	19:33	9	9	001	09		
	20:34	10	10	001S	10		
	21:35	11	11	001T	11		
	22:36	12	12	002	12	1:100	D1
	23:37	13	13	STD #2 DEV	13		
7/12/94	00:38	14	14	94062136 002	14	1:10	ph2
	01:39	15	15	water	15		
	02:41	16	16	94072156 · 004	16		ph2

RFW # 21-21-022/C-02/92

REVIEWED BY/DATE: 7/14/94

PAGE # 99

WESTON®

GC VOA ANALYSIS LOG: 1994 (YEAR)

0118

INSTRUMENT #: 31/32
DETECTOR: HALL / PID
CALIB. DATE: 6/22/94 ; 5/24/94

COLUMN TYPE: Rtx 502.2 105 m
COLUMN SERIAL #:
TEMP OR TEMP PROGRAM: 35°C/ 5 min ; 5°C/min to 220°C

LOGBOOK #: 3980
ANALYST: LKD
METHOD: 501.1 502.2 601 602 8010 8020

ANALYSIS DATE	ANALYSIS TIME	RUN NO	STATION NO	RFW SAMPLE NUMBER	CLAS ID #	DILUTION FACTOR	COMMENTS
7/12/94	3:42	17	1	9407L156-003	071194 31/32 17		ph 2
	4:43	18	2	002	18		
	5:44	19	3	001	19		air bubble - both vials
	6:46	20	4	STD #2 00V	20		ok

end of queue LKD 7/12/94

RFW # 21-21-022/C-02/92

Transcribed by LKD 7/12/94

REVIEWED BY/DATE: JGG 7/14/94

PAGE # 100

X. Standards Preparation Records

TITLE GCVOA STDS PREP

Project No.

Book No. 3053

From Page No. #	COMPOUND STD ID	SUPPLIER LOT #'S	ug/ml INIT CONC	DENSITY	ul VOL INJ	ml FINAL VOL	SOLVENT SUPPLIER LOT#	ug/ml FINAL CONC	EXP DATE	COMMENT
01 TERRAN SURR	TERRAN STOCK 3053-36-10	3053-36-10	1000	/	100	10	B&J MeOH BG409	10ug/ml	5/10/94	
							PREP: AGG 2/22/94			
TERRAN 1 02 MIX 1	TERRAN MIX 1 Stock	3053-34-06	100	VOID	1000	10	B&J	10ug/ml	6/27/94	
		VOID						LKD	2/28/94	
acrolein surr 02	8030 SURR acrolein	3053-36-02	5000 ug/ml	—	100ul	10 ml	Lisited DI water 2/28/94	50ug/ml	6/28/94	
					LKD					
03 TERRAN MIX #2	TERRAN 2 STOCK VINYL CHLORIDE FREON-113	3053-35-02 CHEMSERVICE LOT: 119-88B ULTRA SCI LOT NO: F-[illegible]	100ug/ml	—	500ul	5ml	B+J MeOH BG833	10ug/ml	EXP: 5/1/94	
							PREP DATE 3/1/94		MJB	
04 TERRAN MIX #1	TERRAN #1 STOCK 30 MJB 3/2/94	3053-34-06	100ug/ml	/	1000	10	B+J MeOH BG833	10ug/ml	EXP: 7/2/94	
							PREP DATE: 3/2/94		MJB 6/8/94	
05	601/602 surr	3053-36-07	1000 ug/ml	/	100ul	10 ml	B&J MeOH BF637	10 ug/ml	exp: 6/10/94	5/10/94
								prep: [illegible] 3/9/94		
06	CIS-1,2-DCE	3053-31-03	10000 ug/ml	/	1 ml	10 ml	B&J MeOH BF637	1000ug/ml	exp 7/23/94	
								prep: [illegible] 3/9/94		
07	Custom mix 1 CIS-1,2-DCE	Supelco LA41063 3053-37-06	200ug/ml 1000ug/ml	/	500ul 100ul	10ml	B&J MeOH BF637	10 ug/ml	exp 7/23/94	
								prep: [illegible] 3/9/94		
08	Custom mix 2	Supelco LA 4047	200ug/ml	/	500ul	10ml	B&J MeOH BF637	10 ug/ml	exp 5/9/94	
								Prep: [illegible] 3/9/94		
09	Custom SPIKE mix	Supelco LA 41044	200ug/ml	/	500ul	10ml	B&J MeOH BF637	10 ug/ml	exp 5/9/94	
								prep: [illegible] 3/9/94		
10	purgeable C	Supelco LA-36376	200ug/ml	/	500ul	10ml	B&J MeOH BF637	10 ug/ml	exp 5/9/94	
								prep: [illegible] 3/9/94		
11 TERRAN SURR	TERRAN SURR	3053-36-10	1000 ug/ml	—	1000 ul	10ml	B&J BG833 MeOH	100ug/ml	5/10/94	

To Page No.

Witnessed & Understood by me, DKirk Cromer

Date 3/25/94

Invented by

Recorded by

Date

TITLE GC VOA STD PREP

Project No.

Book No. 3053

From Page No. #	COMPOUND STD ID	LOT # SUPPLIER	MG/ml INIT CONC	DENSITY	ML VOL INJ	ml FINAL VOL	SOLVENT SUPPLIER LOT #	MG/ml FINAL CONC	EXP DATE CONC	COMMENTS
01 MND SURR CONF STOCK	BCM	3053-38-01	10000	/	100	10ml	B&J MeOH B6833	100ug/ml	9/18/94	
	FLO	3053-38-02	↓	/	100	↓				
	1,HDBT	3013-38-04	↓	/	100	↓		PREP:	ADD 3/18/94	
02 MND CONF SURR	MOUND CONFIRM SURR STOCK	3053-39-01	100	—	1000	10ml	B&J MeOH B6833	10ug/ml	9/18/94	
								PREP:	ADD 3/18/94	
03 TERRAN MIX #2	TERRAN 2 STOCK	3053-35-02	100ug/ml	—	500	5ml	B+J MeOH B6833	10ug/ml	EXP: 5/21/94	
	VINYL CALORIDE	CHEMSERVICE LOT NO: 119-88B			500					
	FREON-113	ULTRA SCI LOT NO: F-0682		—	500					
							PREP: 3/21/94		MAB	
03 TERRAN MIX #1	TERRAN 1 STOCK	~~3056~~ MAB 3/21/94	100ug/ml	—	1000	10	BJ MeOH B6833	10ug/ml	EXP: ~~5/21/94~~ 6/8/94	
		3053-34-06					PREP: 3/21/94		MAB	ADD 4/22/94
Acrolein 04 SURR	8030 SURR ACROLEIN	3053-36-02	5000 ug/ml	—	100 ul	10ml	boiled DI Water 3/21/94	50ug/ml	EXP 7/21/94	
05 TERRAN MIX #2	TERRAN 2 STOCK	3053-35-02	100ug/ml	—	500ul	5ml	B+J MeOH	10ug/ml	EXP: 5/22/94	
	FREON113	ULTA SCI LOT NO: H-0054	100ug/ml	—	500ul	5ml	B6833			
	VINYL CHLORIDE	SUPELCO LOT NO: LA40286	200ug/ml	—	250ul	5ml	PREP: 3/22/94			
06 CUSTOM SPIKE	SUPIKE CUSTOM MIX 13713	LA41044 SUPELCO	200	—	1000	20ml	BJ MeOH B6833	10ug/ml	EXP: ~~6/22/94~~ 5/22/94	ADD 3/22/94
							PREP: ADD 3/22/94			

To Page No. 4/22/

Witnessed & Understood by me, D Kirk Cromer

Date 4/14/94

Invented by

Recorded by

Date 0121

TITLE GC-VOA Std. Prep.

Project No.

Book No. 3053

From Page No. #	Compound Std ID	Vol# Supplier	ug/mL Init. Conc.	Density	µL Vol. Inj.	mL Final Vol	Solvent Supplier Lot#	ug/mL Final Conc.	Exp Date	Comments
01 8030 Comf. Surr	Propionitrile 8030 Conf. Surr. Stock 3053-40-01	Ultra Sci. Lot# G-0038	100	—	—	—	—	100	5-17-94	Ampule opened 3-17-94
8030MIX 02	Supelco #LA 39841 8030 MIX	Supelco LA 39841	2,000	na	1 ml	4 ml	Boiled Di water	500 ug/ml	7/29/94	
						prep	3/29/94	LKD		
03 8030 ICA1	LKD 3/29/94 ~~3053-40-02~~ 8030 ICA1	3053-40-02	500 ug/ml	NC	1 ml	10 m	Boiled Di water prep 3/29/94	50 ug/ml	7/29/94	
04 Acrolein SURR	Acrolein ~~3053-36-02~~ SURR	LKD 4/5/94 3053-36-02	5000 ug/ml	NA	100 ul	10 ml	Boiled Di water	50 ug/ml	8/5/94	
			prep	4/5/94		LKD				
05 T1	Terran 1 ~~Vinyl~~ 4/10/94	3053-34-06	100	—	1 ml	10 ml	Baxter MeOH	10 ug/ml	exp 6/8/94	
								Prep	4/10/94	
06 T2	Terran 2 Vinyl chloride freon	3053-35-02 Sup. lot# LA40286 Ultra Sci. lot# H-0054	100 200 100	— — —	1 ml 500 ul 1 ml	10 ml	Baxter MeOH	10 ug/ml	exp 6/8/94	
								Prep	4/10/94	
07 TERRAN MIX #1	TERRAN #1 STOCK	3053-34-06	100	NA	1000 ul	10 ml	B+J MeOH LOT NO# BG833	10 ug/ml	EXP: ~~8/11/94~~ 6/8/94	
							PREP: 4/11/94			
08 RARITAN DCV STOCK	t-1,2-DCE	3053-27-10	10,000	/	200	10	B+J MeOH BG833	200 ug/ml	EXP: 6/8/94	
	111 TCA	-24-15								
	BENZENE	-24-07								
	TCE	-25-13						200 ug/ml		
	TOLUENE	-25-11								
	PCE	-24-14								
	CTET	-24-09								
	p-XYL	-25-02								
	1,4-DCB	-25-03					PREP - 4/12/94			
09 RARITAN CCV	RARITAN DCV	3053-40-08	200	/	500	10 ml	B+J MeOH BG833	10 ug/ml	EXP: 6/8/94	
	VC	CHEM SERV. 119-88B	100	/	1000					
								PREP	4/12/94	

To Page No.

Witnessed & Understood by me, D Kirk Cromer

Date 4/14/94

Invented by

Recorded by

Date

TITLE GC-VOA STD PREP

Project No.

Book No. 3053

4

From Page No. #	COMPOUND STD ID	LOT # SUPPLIER	ug/ml INIT. CONC	DENSITY	ul VOL INJ	ml FINAL VOL	SOLVENT SUPPLIER LOT #	ug/ml FINAL CONC	EXP. DATE COMMENT
01	CIS-1,2-DICHLOROETHENE	CHEMSERV F821	NEAT	1.284	50	6.42 MeOH	B+J MeOH BG833	10,000	~~8/13/94~~ 10/13/94 [illegible] 4/20/94
								PREP:	MTB 4/13/94
~~02 TERRAN MIX #1~~	~~TERRAN #1 STOCK~~	~~3053-41-03~~	~~100~~	~~—~~	~~1000~~	~~10ml~~	~~B+J MeOH BG833~~	~~10ug/ml~~	~~FAM [illegible] CONFIRMATION 8/13/94~~
								~~PREP:~~	~~MTB 4/13/94~~
~~03 TERRAN MIX #1 @ 50ug/ml~~	~~TERRAN #1 STOCK~~	~~3053-41-03~~	~~100~~	~~—~~	~~4 ~~5 ml~~ 2ml~~	~~10ml~~	~~B+J MeOH BG833~~	~~40ug/ml 50ug/ml~~	~~8/14/94~~
			VOID	[illegible] 4/13/94				PREP:	MTB 4/14/94
~~04 TERRAN MIX #1~~	~~TERRAN MIX #1~~	~~3053-42-03~~	~~50~~	~~—~~	~~25ml 2ml 1.25ml~~	~~10ml 5ml~~	~~B+J MeOH BG833~~	~~10ug/ml~~	~~8/14/94~~
			VOID	4/13/94			[illegible]	PREP:	MTB 4/14/94
05	Acrolein Sure	3053-36-02	5000 ug/ml	NA	100 ul	10 ml	Boiled Di Water	50ug/ml	~~8/16/94~~ 8/10/94 LKD [illegible] 4/22/94
		PREP	4/16/94			LKD			
06	Custom mix 1	Supelco LA41063 (opposite page of 35)	200	NA	500 ul	10 mL	B & J MeOH	10 ug/mL	Exp. ~~8/18/94~~ 10/18/ prep: [illegible] 4/18/9
07	Custom mix 2	Supelco LA 41047 (opposite Page of 35)	200	NA	500 ul	10 mL	B & J MeOH	10ug/mL	Exp. 6/18/94 prep: [illegible] 4/18/94
08 MIX C	SUPELCO MIX C	LOT LA 36376	200	/	1000ul	20ml	B&J MeOH BG833	10ug/ml	Exp: 6-19-94
							PREP:	[illegible] 4/19/94	To Page No.

Witnessed & Understood by me, [illegible] 4/26/94 [illegible] 4/26/94

Date

Invented by

Recorded by

Date 0123

TITLE GC VOA STD PREP

Project No.

Book No. 3053

From Page No. #	COMPOUND STD ID	LOT # SUPPLIER	µg/ml INIT. CONC.	DENSITY	VOL ADD INJ	ml FINAL VOL	SOLVENT SUPP. LOT #	µg/ml FINAL CONC.	EXP DATE
01	3053-42-01 CIS-12 DCE STOCK	WESTON	10,000	—	10µl	10ml	B&J MeOH B6833	1µg/ml	EXP: 10/13/94 PREP: AJD 7/19/94
02	BENZENE	3053-24-07	10,000	NA	200	10 ml	B&J MeOH B6833		EXP: 6/5/94
	CARBON TETRA.	24-09							
	DCM	32-02						200µg/ml	
	12 DICHLOROPROPANE	25-08							
WSRC 5.1.2 STOCK	Ethyl BENZENE	24-12							
	STYRENE	25-09							
	1,1,2,2 PCA	25-10							
	TOLUENE	25-11							
	TCE	25-13							PREP: AJD 4/22/94
03 WSRC 5.1.2 HIGH	3053-43-02 WSRC STOCK	3053-4302	200	—	500	10ml	B&J MeOH B6833	10µg/ml	EXP: 6/5/94 PREP: AJD 4/22/94
04 WSRC 5.1.2 LOW	MIX C 3053-43-03	3053-43-08 WSRC 5.1.2 HIGH	10 / 10	— / —	1000 / 1000	10ml / 10ml	B&J MeOH B6833	1µg/ml	EXP: 6/8/94 PREP: AJD 4/22
05 WSRC STOCK	3053-32-03	WSRC TCE	100	—	1000	10ml	B&J MeOH B6833	10µg/ml	EXP: 6/8/94 PREP: AJD 4/20/94
06 WSRC STOCK	DCM FLUOROBENZENE	3053-38-01 / 3053-38-02	10,000 / 10,000	— / —	100 / 100	10ml	B&J MeOH B6833	100µg/ml	EXP: 9/18/94 PREP: AJD 4/20/94
07	custom mix 2	LA41047 Supelco	200	—	500	10ml	B&J MeOH	10 µg/ml	exp: 7/10/94 Prep: [illegible] 5/10/94
08	1 CHLORO-2 BROMOPROPANE							10,000	FOR FIELD GROUP TOOLS SAMPLES REFERENCE ONLY
09 VOC MIX 1	VOC MIX 1	SUPELCO ~~LOT NO. LA40877~~	2000	—	50	10µl	B&J MeOH B6833	10µg/ml	EXP: ~~9/10/94~~ 11/10/94 PREP: 5/10/94 ~~MNB~~ 6/6/

To Page No.

Witnessed & Understood by me, BKC 5/23/94

Date

Invented by

Recorded by

Date 24

TITLE GC-VOA STD PREP

Project No.

Book No. 3053

From Page No.

#	COMPOUND ID	LOT# SUPPLIER	ug/ml INIT CONC	DENSITY	VOL ul INJ	ml FINAL VOL	SOLVENT SUPPLIER LOT #	ug/ml FINAL CONC	EXP. DATE
01	VOC MIX 6	SUPELCO LOT# LA40059	2000	—	50	10	B+J MeOH LOT# B6833	10 ug/ml PREP: 5/10/94	EXP: 7/10/9
02	VOC MIX 4	SUPELCO LOT# LA39779	2000	—	50	10	B+J MeOH LOT# B6833	10 ug/ml PREP: 5/11/94	EXP: ~~9/11/94~~ 11/11/9
03	VOC MIX 3	SUPELCO LOT# LA39755	2000	—	50	10	B+J MeOH LOT# B6833	10 ug/ml PREP: 5/11/94	EXP: ~~9/11/94~~ 11/11/94
04	SEE BACK OF PG 44 AGG 5/12/94 VOC MIX 2	SUPELCO LOT# LA40268	2000	—	50	10	B+J MeOH LOT# B6833	10 ug/ml PREP: 5/11/94	EXP: ~~9/11/9~~ 11/11/94
05	~~aaa~~ TRIFLUORO-TOLUENE	CHEMSERV 92-57B	NEAT	1.189	100	11.89	B+J MeOH B6833 PREP: AGG 5/12/94	10,000	EXP: ~~11/12/94~~ 11/12/94
STOCK 06 601/602	aaa TFT BCM	3053-44-05 3053-38-01	10,000 10,000	/	100 100	10	B+J MeOH B6833 PREP: AGG 5/12/94	100	EXP: ~~11/12/94~~ 9/18/94
07 601/602	601/602 STOCK	3053-44-06	100	/	2000	20	B+J MeOH B6833	10 PREP: AGG 5/12/94	EXP: ~~11/12/9~~ 9/18/9
AMP SURR 08 STOCK	BCM FLUOROBENZENE aaa TFT 1,4-DICHLBUTANE 1 Cl HEXANE	3053-38-01 - 38-02 - 44-05 - 38-04 - 30-03	10,000	/	100	10	B+J MeOH B6833 PREP: AGG 5/12/94	100	EXP: 7/21/94
AMP SURR 09	AMP SURR STOCK	3053-44-08	100	/	1000	10	B+J MeOH B6833 PREP: AGG 5/12/94	10	EXP: 7/21/94

To Page No.

Witnessed & Understood by me, DKC 5/23/94

Date

Invented by

Recorded by

Date 25

TITLE GC-VOA STD PREP

Project No.

Book No. 3053

From Page No.

#	COMPOUND STD ID	LOT# SUPPLIER	µg/ml INIT CONC	DENSITY	VOL µl INJ	ml VOL FINAL	SOLVENT SUPPLIER LOT#	µg/ml FINAL CONC	EXP. DATE
01 SURR STOCK (502)	FLUOROBENZENE	3053-38-02	10,000	—	100	10 ml	B+J MeOH LOT# B6833	100	7/21/ EXP: ~~11/13/94~~ AJB 5/1
	1-CHLORO HEPTANE	3053-30-03	10,000	—	100	10 ml			PREP: 5/13/94 MMB
02 SURR (502)	FLUOROBENZENE 1-CHLORO HEPTANE STOCK	3053-45-01	100	—	1000	10 ml	B+J MeOH LOT# B6833	10	EXP: ~~11/13/94~~ 7/21/9 AJB 5/1
									PREP: 5/13/94 MMB
03	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE FREON-113	ULTRA SCIENTIFIC H-0054	100	—	1000	10	B+J MeOH LOT B6833	10	EXP: 7/13/94
									PREP AJB 5/13/94
04	TRICHLORO FLUORO METHANE	3053-25-16	10,000	—	100	10	B+J MeOH LOT B6833	10	EXP: 6/8/94
							PREP: AJB 5/17/94		
05	CUSTOM MIX 1	SUPELCO LOT# LA41063	200	—	500 µl	10 ml	B+J MeOH LOT B6833	10	EXP: 11/19/9
									PREP: MMB 5/19/94
06	CUSTOM MIX 2	SUPELCO LOT# LA41047	200	—	500 µl	10 ml	B+J MeOH LOT B6833	10 µg/ml	EXP: ~~5~~ 7/20/9
									PREP: 5/20/94 MMB
07 601/602 SURR	601/602 SURROGATE STOCK	3053-44-06	100	—	1000 µl	10 ml	B+J MeOH LOT# B6833	10 µg/ml	EXP: ~~9/23/94~~ 9/18/94
							PREP: 5/23/94		AJB 6/6/94

To Page No.

Witnessed & Understood by me: 6/6/94 DKC 6/6/94

Date

Invented by

Recorded by

Date

TITLE GC VOG STD. Prep.

Project No.

Book No. 3053

From Page No.

#	Compound STD # ID	lot# Supplier	ug/ml INIT CONC	Density	ul VOL INJ	ml FINAL VOL	Solvent Supplier lot#	ug/ml Final conc	exp DATE Comments
cmix1		Supelco (opposite)					Baxter/meoH		
01	Custom mix 1	lot#: LA41063 exp 6/15/94	200	NA	500ul	10ml	BG409	10 ug/ml	exp 12/14/94
	cis-1,2-DCE	NSI exp 4/95	1000	NA	100ul			prep: 6/14/94	
cmix2		Supelco (opposite)					Baxter/meoH		
02	Custom mix 2	lot# → LA41047	200	NA	500ul	10ml	BG409	10 ug/ml	exp: 8/14/94
								prep: 6/14/94	
		Supelco (opposite)					Baxter/meoH		
03	mix C	lot#: LA40635	200	NA	500ul	10ml	BG409	10 ug/ml	exp 8/14/94
		exp. JAN-95						prep 6/14/94	
							Baxter/meoH		9/18/94
04	601/602 Surr	3053-44-06	100	NA	1 ml	10ml	BG409	10 ug/ml	exp ~~10/14/94~~
								prep 6/14/94	
05	1,1,1,2-TCA	Chem Service lot# 100-138B	Neat	1.541	50ul	7.71 meoH	Baxter Meoh BG833	10,000 ug/ml	exp 12/16/94
								prep 6/16/94 psl	
06	1,1,2-TCA	Chem Service lot# 100-115A	Neat	1.442	50ul	7.21 meoH	Baxter BG833	10,000 ug/ml	exp 12/16/94
								prep psl 6/16/94	
07	1,2-Dichloropropane	Chem Service lot# 114-80C	Neat	1.163	100	11.63	Baxter BG833	10,000 ug/ml	exp 12/16/94
								prep psl 6/16/94	
08	2-chloroethyl-vinyl ether	~~Chem service~~ psl NSI 110-75-8	Neat	1.045	100	10.45	Baxter BG833	10,000 ug/ml	exp 12/16/94
								prep psl 6/16/94	
09	cis 1,3-Dichloro Propene	Chem service lot# 119-53A	Neat	1.204	50	6.02	Baxter BG833	10,000 ug/ml	exp 12/16/94
								prep psl 6/16/94	
10	trans 1,3-Dichloro Propene	Chem Service lot# 119-55A	Neat	1.217	50	6.09	Baxter BG833	10,000 ug/ml	exp 12/16/94
								Prep psl 6/16/94	
11	Methylene Chloride	Chem Service lot# A78-17	Neat	1.326	50	6.63	Baxter BG833	10,000 ug/ml	exp 12/16/94
								Prep psl 6/16/94	

DKC

To Page No.

Witnessed & Understood by me, DKC 6/17/94

Date

Invented by

Recorded by

Date 127

XI. Preparation Logs

Roy F. Weston, Inc. Lionville, Lab.

SAMPLE PREP RECORD

Sheet no.: 1

Extract. Date: 07/11/94 Extraction Batch No: 94LVHP51 Analyst: LD Method: N/A

Test: O602 Cleanup Date: Analyst: Client: LE CARPENTER

LIMS Report Date: 07/14/94 Solvent: Adsorbent:

0129

Sample No:	Client Name Client ID	pH	Initial WT/VOL	Surr. Mult.	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
9406L136-	LE CARPENTER										
001	MW-25	2	10	1.0		10		1.0	N	0.0	1.0
001 -S	MW-25	2	10	1.0	1.0	10		1.0	N	0.0	1.0
001 -T	MW-25	2	10	1.0	1.0	10		1.0	N	0.0	1.0
002	MW-22	2	10	10.0		10		1.0	N	0.0	1.0
002 D1	MW-22	2	10	100.		10		1.0	N	0.0	1.0
003	MW-14S	2	10	1.0		10		1.0	N	0.0	1.0
004	MW-4	2	10	1.0		10		1.0	N	0.0	1.0
005	TRIP BLANK	2	10	1.0		10		1.0	N	0.0	1.0
94LVHP51-MB1		7	10	1.0		10		1.0	N	0.0	1.0
94LVHP51-MB1 -S		7	10	1.0	1.0	10		1.0	N	0.0	1.0

Comments:
Surrogate: 10 UL 3053-43-06
Spike: 10 UL 3053-37-09

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer

XII. Other/Miscellaneous

End of Data Package

APPENDIX D

SUMMARY OF ANALYTICAL RESULTS

TABLE 1
WATER LEVEL/PRODUCT THICKNESS MEASUREMENT DATA
SECOND QUARTER 1994
L.E. CARPENTER SITE
WHARTON, NEW JERSEY

MONITORING POINT DESIGNATION	MEASURING POINT ELEVATION (FT. MSL)	DEPTH TO PRODUCT (FT)	APPARENT PRODUCT THICKNESS (FT)	STATIC DEPTH TO WATER (FT)	CORRECTED DEPTH TO WATER (FT)	CORRECTED WATER LEVEL ELEVATION (FT MSL)
MW-1	639.18	12.92	1.28	14.20	13.10	626.08
MW-2	633.57	NONE	NONE	8.05	8.05	625.52
MW-3	632.56	6.99	0.19	7.18	7.02	625.54
MW-4	632.50	NONE	NONE	6.88	6.88	625.62
MW-5	632.42	NONE	NONE	6.35	6.35	626.07
MW-6	632.77	6.72	0.35	7.07	6.77	626.00
MW-7	630.68	NONE	NONE	4.86	4.86	625.82
MW-8	630.56	NONE	NONE	4.42	4.42	626.14
MW-9	631.69	NONE	NONE	5.60	5.60	626.09
MW-10	631.52	NONE	NONE	7.90	7.90	623.62
MW-11S	632.96	7.46	5.69	13.15	8.26	624.70
MW-11I	632.82	NONE	NONE	7.30	7.30	625.52
MW-11D	632.42	NONE	NONE	4.60	4.60	627.82
MW-12S	633.18	7.50	0.20	7.70	7.53	625.65
MW-12I	633.06	NONE	NONE	7.50	7.50	625.56
MW-13S	631.23	NONE	NONE	4.67	4.67	626.56
MW-13I	630.66	NONE	NONE	5.36	5.36	625.30
MW-14S	628.41	NONE	NONE	3.54	3.54	624.87
MW-14I	628.23	NONE	NONE	3.50	3.50	624.73
MW-14D	628.53	NONE	NONE	1.00	1.00	627.53
MW-15S	636.77	NONE	NONE	10.94	10.94	625.83
MW-15I	636.66	NONE	NONE	10.82	10.82	625.84
MW-16S	634.47	NONE	NONE	7.97	7.97	626.50
MW-16I	634.96	NONE	NONE	8.65	8.65	626.31
MW-17S	634.79	NONE	NONE	8.68	8.68	626.11
MW-17D	634.86	NONE	NONE	8.83	8.83	626.03
MW-18S	631.26	NONE	NONE	5.74	5.74	625.52
MW-18I	631.04	NONE	NONE	5.30	5.30	625.74
MW-18D	630.77	NONE	NONE	3.58	3.58	627.19
MW-19	638.88	NONE	NONE	12.25	12.25	626.63
MW-20	636.77	NONE	NONE	10.32	10.32	626.45
MW-21	628.80	NONE	NONE	3.84	3.84	624.96
MW-22	628.74	NONE	NONE	3.60	3.60	625.14
MW-23	630.64	NONE	NONE	2.50	2.50	628.14
MW-24	629.03	NONE	NONE	1.46	1.46	627.57
MW-25	627.33	NONE	NONE	5.55	5.55	621.78
RW-1	637.38	NONE	SHEEN	11.44	11.44	625.94
RW-2	631.68	6.34	0.02	6.36	6.34	625.34
RW-3	631.99	NONE	SHEEN	6.50	6.50	625.49
CW-1	NOT SURVEYED	NONE	SHEEN	8.83	8.83	NOT SURVEYED
CW-2	NOT SURVEYED	NONE	SHEEN	9.35	9.35	NOT SURVEYED
CW-3	NOT SURVEYED	NONE	SHEEN	7.98	7.98	NOT SURVEYED
GEI-1I	630.78	NONE	NONE	4.96	4.96	625.82
GEI-2S	637.67	NONE	NONE	11.10	11.10	626.57
GEI-2I	638.20	NONE	NONE	11.20	11.20	627.00
GEI-3I	639.85	NONE	NONE	13.30	13.30	626.55

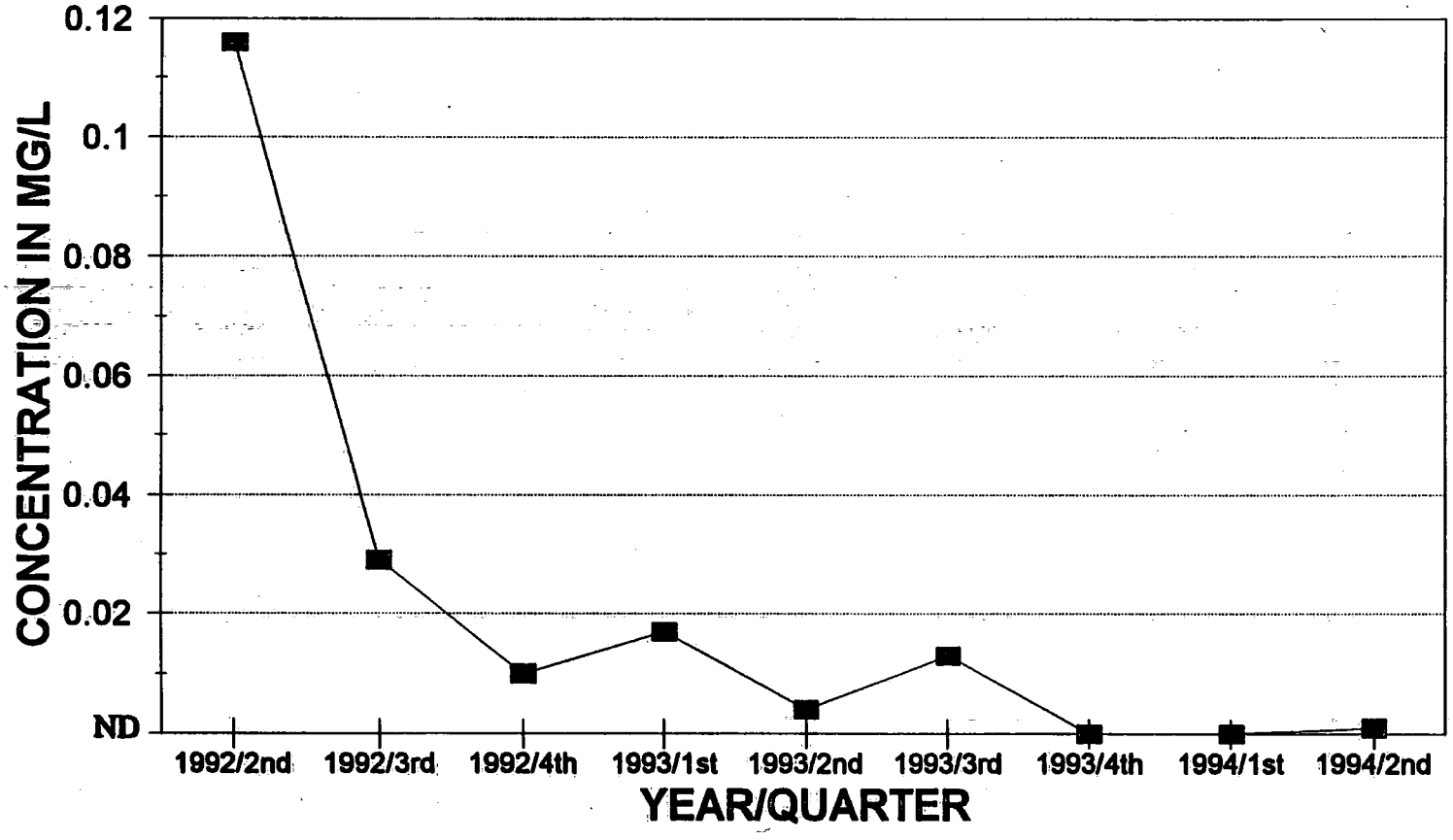
TABLE 1
WATER LEVEL/PRODUCT THICKNESS MEASUREMENT DATA
SECOND QUARTER 1994
L.E. CARPENTER SITE
WHARTON, NEW JERSEY

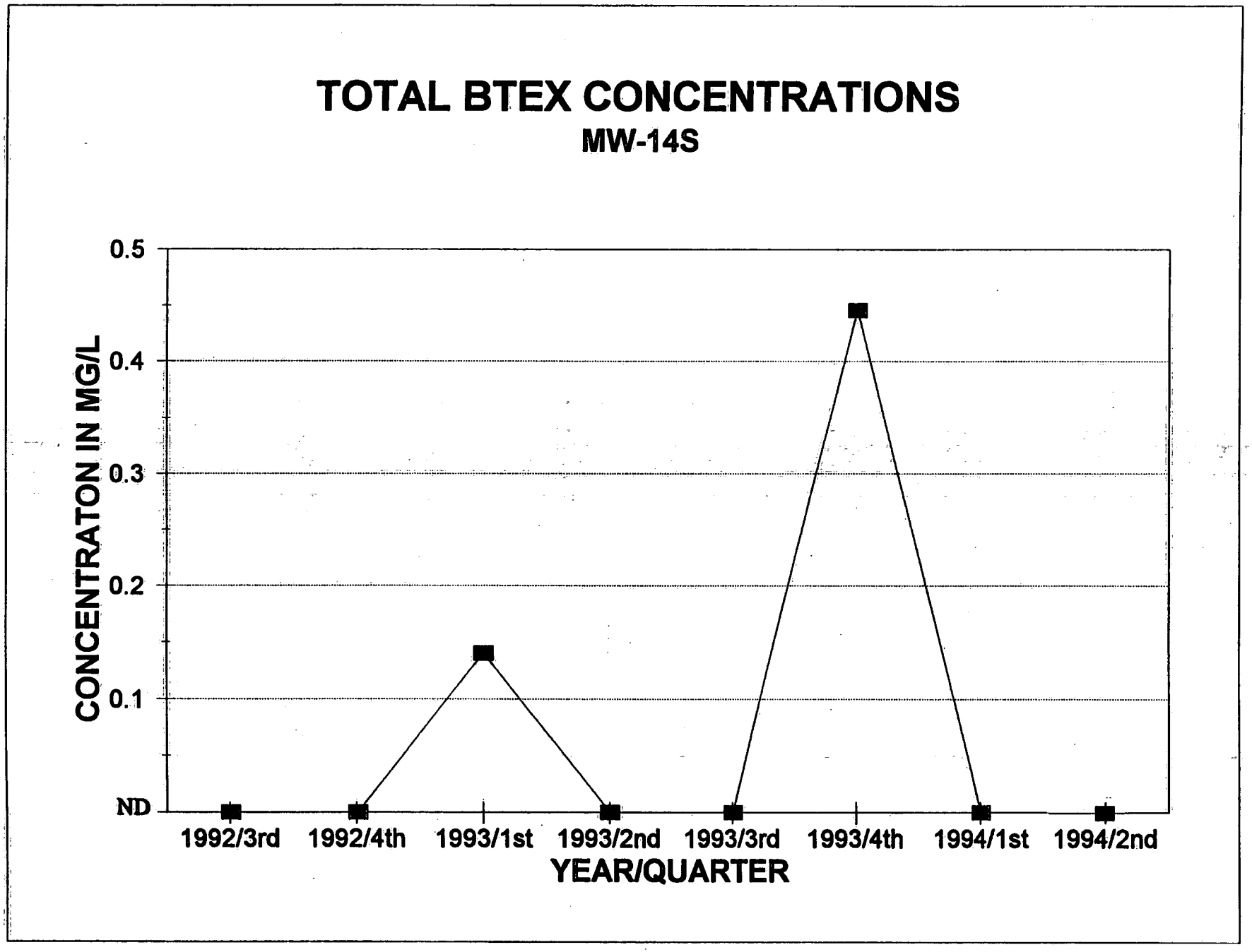
MONITORING POINT DESIGNATION	MEASURING POINT ELEVATION (FT. MSL)	DEPTH TO PRODUCT (FT)	APPARENT PRODUCT THICKNESS (FT)	STATIC DEPTH TO WATER (FT)	CORRECTED DEPTH TO WATER (FT)	CORRECTED WATER LEVEL ELEVATION (FT MSL)
WP-A1	635.81	9.80	1.70	11.50	10.04	625.77
WP-A2	639.20	13.35	0.05	13.40	13.36	625.84
WP-A3	635.56	NONE	NONE	9.40	9.40	626.16
WP-A4	635.10	9.08	2.37	11.45	9.41	625.69
WP-A5	637.85	NONE	NONE	12.01	12.01	625.84
WP-A6	637.28	11.3	2.95	14.25	11.71	625.57
WP-A7	634.88	NONE	SHEEN	9.50	9.50	625.38
WP-A8	637.56	11.56	4.54	16.10	12.20	625.36
WP-A9	639.45	NONE	SHEEN	13.25	13.25	626.20
WP-B1	633.65	7.22	0.34	7.56	7.27	626.38
WP-B2	632.25	NONE	NONE	6.70	6.70	625.55
WP-B3	633.33	NONE	SHEEN	7.22	7.22	626.11
WP-B4	631.92	6.02	4.48	10.50	6.65	625.27
WP-B5	632.11	6.55	1.35	7.90	6.74	625.37
WP-B6	631.86	NONE	NONE	5.40	5.40	626.46
WP-B7	629.49	4.06	0.24	4.30	4.09	625.40
WP-B8	629.29	NONE	NONE	4.04	4.04	625.25
WP-B9	632.37	NONE	NONE	6.80	6.80	625.57
WP-B10	632.63	NONE	NONE	7.10	7.10	625.53
WP-C1	634.44	NONE	NONE	7.92	7.92	626.52
WP-C2	634.46	NONE	NONE	7.84	7.84	626.62
WP-C3	632.64	NONE	NONE	6.36	6.36	626.28
WP-C4	634.59	NONE	NONE	8.72	8.72	625.87
DC-P0	625.73	NONE	NONE	2.38	2.38	623.35
DC-P1	625.26	NONE	NONE	1.79	1.79	623.47
DC-P2	626.79	NONE	NONE	3.23	3.23	623.56
DC-P3	625.22	NONE	NONE	1.88	1.88	623.34
DC-P4	625.10	NONE	NONE	1.98	1.98	623.12
DC-P5	625.16	NONE	NONE	2.93	2.93	622.23
RP-01	629.65	NONE	NONE	2.80	2.80	626.85
RP-02	627.75	NONE	NONE	1.70	1.70	626.05
RP-03	627.11	NONE	NONE	2.36	2.36	624.75

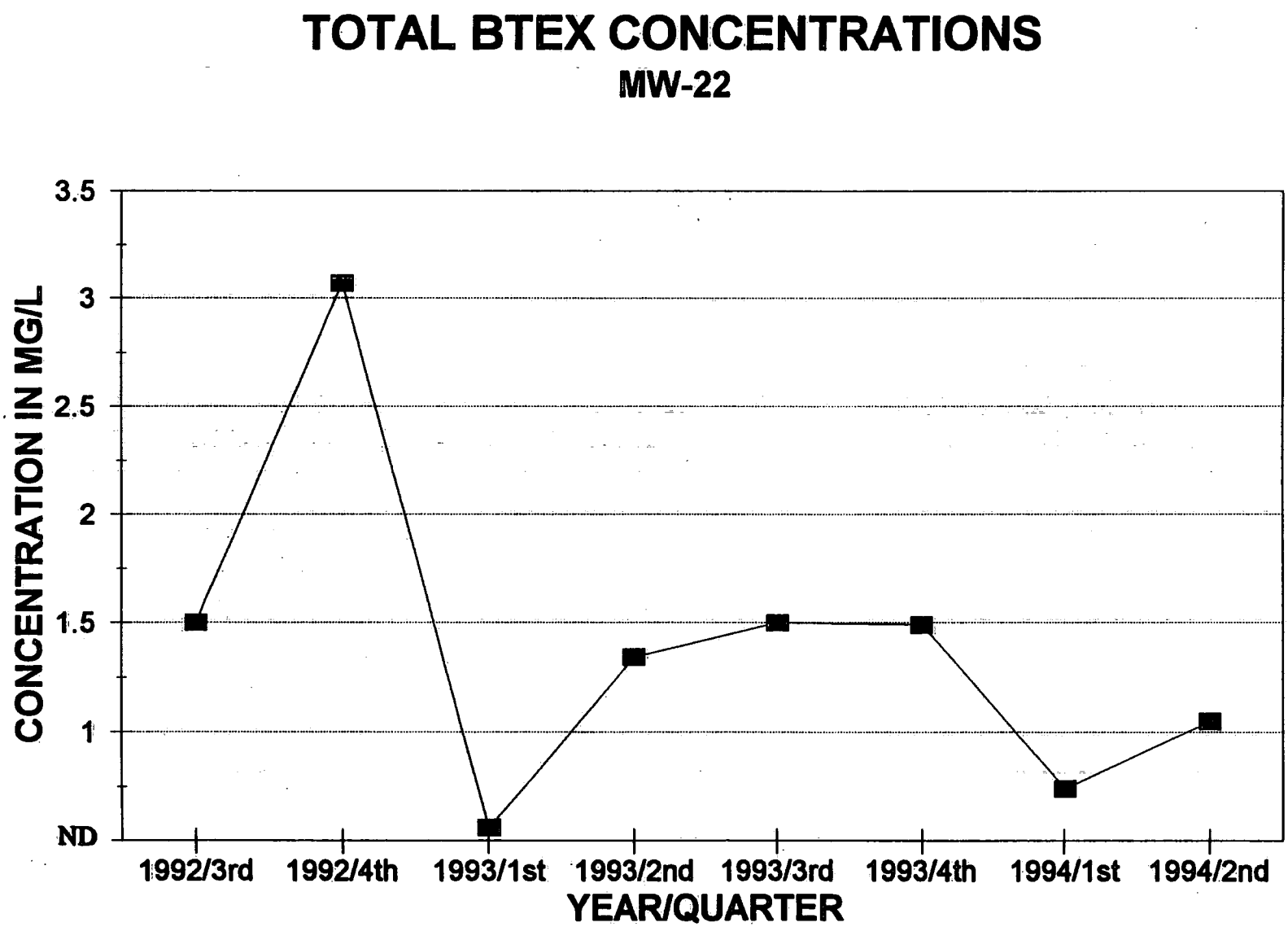
NOTE:
ASSUMES A PRODUCT SPECIFIC GRAVITY OF 0.86.
WATER LEVEL AND PRODUCT THICKNESSES WERE MEASURED ON 1 JULY 1994.

TOTAL BTEX CONCENTRATIONS

MW-4




TOTAL BTEX CONCENTRATIONS
MW-14S
CONCENTRATON IN MG/L
0.5
0.4
0.3
0.2
0.1
ND
1992/3rd
1992/4th
1993/1st
1993/2nd
1993/3rd
1993/4th
1994/1st
1994/2nd
YEAR/QUARTER


TOTAL BTEX CONCENTRATIONS
MW-22
CONCENTRATION IN MG/L
3.5
3
2.5
2
1.5
1
ND
1992/3rd
1992/4th
1993/1st
1993/2nd
1993/3rd
1993/4th
1994/1st
1994/2nd
YEAR/QUARTER

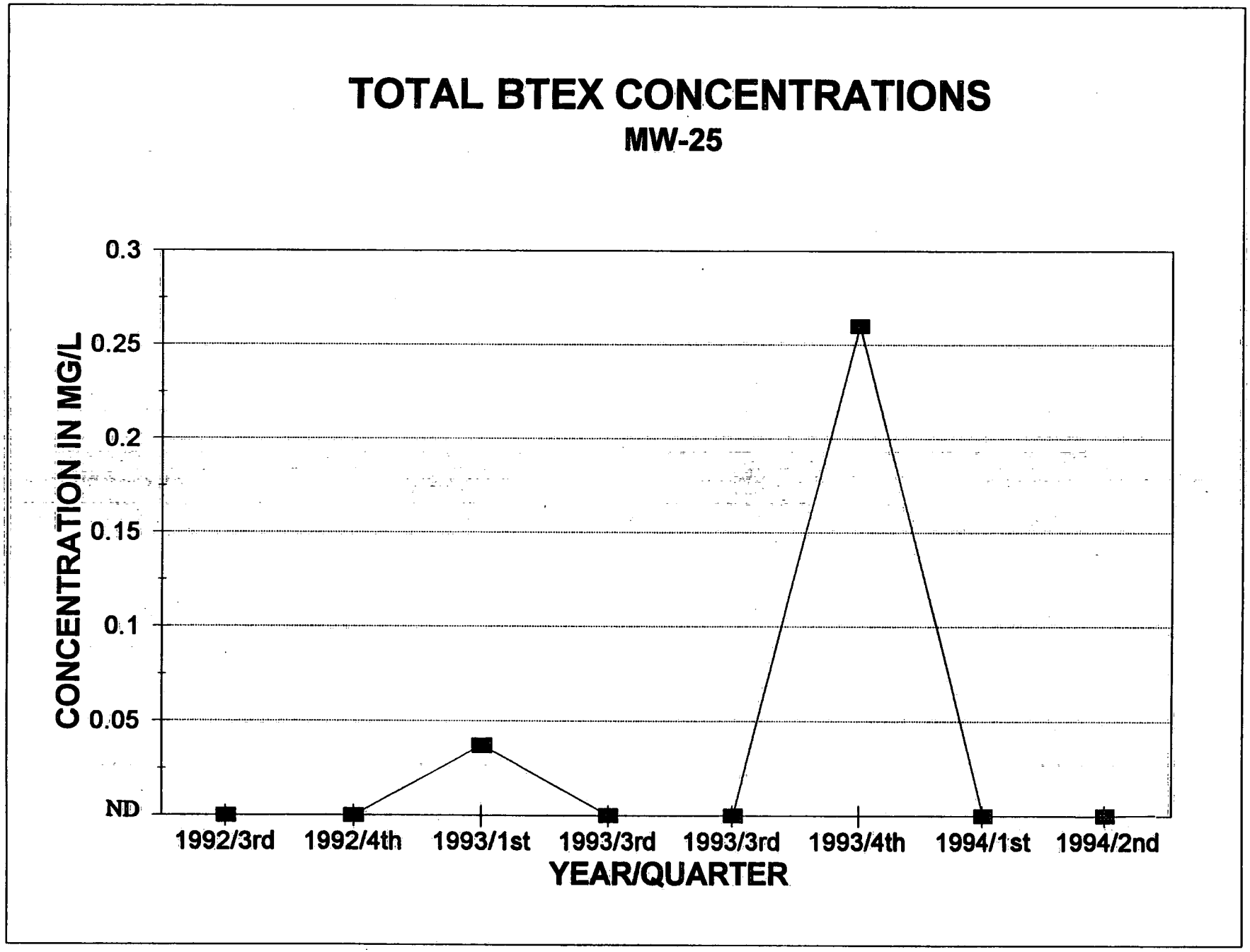

TOTAL BTEX CONCENTRATIONS
MW-25
CONCENTRATION IN MG/L
0.3
0.25
0.2
0.15
0.1
0.05
ND
1992/3rd
1992/4th
1993/1st
1993/3rd
1993/3rd
1993/4th
1994/1st
1994/2nd
YEAR/QUARTER

TABLE 1
BTEX CONCENTRATIONS (mg/L)
L.E. CARPENTER SITE
WHARTON, NEW JERSEY

SAMPLING POINT DESIGNATION	YEAR/QUARTER	BENZENE	TOLUENE	ETHYLBENZENE	XYLENE	TOTAL BTEX
MW-2	1991/4th	N/A	ND	0.023	0.190	NA
MW-3	1991/4th	N/A	0.013	2.600	25.000	NA
MW-4	1991/4th	N/A	ND	0.390	1.700	NA
	1992/2nd	ND	ND	0.033	0.083	0.116
	1992/3rd	ND	ND	ND	0.029	0.029
	1992/4th	ND	ND	0.004	0.006	0.010
	1993/1st	ND	ND	0.012	0.005	0.017
	1993/2nd	ND	0.002	ND	0.002	0.004
	1993/3rd	ND	0.002	0.005	0.006	0.013
	1993/4th	ND	ND	ND	ND	ND
	1994/1st	ND	ND	ND	ND	ND
	1994/2nd	ND	ND	0.001	ND	0.001
MW-5	1991/4th	N/A	ND	ND	0.002J	NA
MW-14S	1992/2nd	ND	ND	0.034	0.160	0.194
	1992/3rd	ND	ND	ND	ND	ND
	1992/4th	ND	ND	ND	ND	ND
	1993/1st	ND	ND	ND	0.014	0.140
	1993/2nd	ND	ND	ND	ND	ND
	1993/3rd	ND	ND	ND	ND	ND
	1993/4th	ND	ND	0.086	0.360	0.446
	1994/1st	ND	ND	ND	ND	ND
	1994/2nd	ND	ND	ND	ND	ND
MW-22	1992/2nd	0.002	0.003	2.500	20.000	22.505
	1992/3rd	ND	ND	ND	1.500	1.500
	1992/4th	ND	ND	0.470	2.600	3.070
	1993/1st	ND	ND	0.120	0.440	0.560
	1993/2nd	ND	0.340	ND	1.000	1.340
	1993/3rd	ND	0.001	0.300	1.200	1.501
	1993/4th	ND	ND	0.290	1.200	1.490
	1994/1st	ND	ND	0.150	0.590	0.740
	1994/2nd	ND	ND	0.27	0.78	1.05
MW-25	1992/2nd	ND	ND	ND	ND	ND
	1992/3rd	ND	ND	ND	ND	ND
	1992/4th	ND	ND	ND	ND	ND
	1993/1st	ND	ND	0.013	0.024	0.037
	1993/2nd	ND	ND	ND	ND	ND
	1993/3rd	ND	ND	ND	ND	ND
	1993/4th	ND	ND	ND	0.260	0.260
	1994/1st	ND	ND	ND	ND	ND
	1994/2nd	ND	ND	ND	ND	ND
MW-15S	1992/2nd	ND	ND	ND	ND	ND
	1992/3rd	N/A	N/A	N/A	N/A	N/A
	1992/4th	N/A	N/A	N/A	N/A	N/A
	1993/1st	ND	ND	0.280	0.810	1.090
	1993/2nd	N/A	N/A	N/A	N/A	N/A
	1993/3rd	ND	ND	0.002	0.005	0.007
	1993/4th	N/A	N/A	N/A	N/A	N/A
	1994/1st	ND	ND	ND	ND	ND

NOTE:
N/A DENOTES NOT ANALYZED.
NA DENOTES NOT APPLICABLE.
ND DENOTES NOT DETECTED.