Note: This is a reference cited in *AP 42, Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources.* AP42 is located on the EPA web site at www.epa.gov/ttn/chief/ap42/

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.

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Title: Emission Test Report--Determination Of Particulate, Condensible Particulate, Sulfur Dioxide, Carbon Monoxide, Total Hydrocarbon, And Polynuclear Aromatic Hydrocarbon Emission Rates,

2 volumes

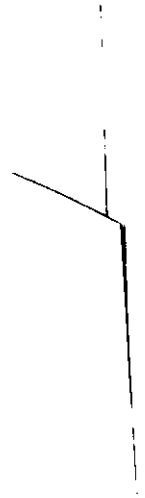
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WOODLAND PAVING COMPANY/NAPA
VOLUME I
JANUARY 1994

PLANT E
FROM
SUMMARY
DOCUMENT



AN EMISSION TEST REPORT

for

Determination of Process Stack Emissions

Submitted to:

WOODLAND PAVING CO.
3566 MILL CREEK N.E.
COMSTOCK PARK, MI 49321

and

NATIONAL ASPHALT PAVEMENT ASSOCIATION
5100 FORBES BOULEVARD
LANHAM, MARYLAND 20706

January 1994

EMISSION TEST REPORT

DETERMINATION OF PARTICULATE, CONDENSIBLE PARTICULATE, SULFUR DIOXIDE, CARBON MONOXIDE, TOTAL HYDROCARBON, AND POLYNUCLEAR AROMATIC HYDROCARBON EMISSION RATES

Prepared for

WOODLAND PAVING CO.
3566 MILL CREEK N.E.
COMSTOCK PARK, MI 49321

Prepared by

WW Engineering & Science
5555 Glenwood Hills Parkway, S.E.
Grand Rapids, Michigan

January 1994

Project 22327

SUBMITTED BY:

W.W. ENGINEERING & SCIENCE, INC.

JANUARY 1994

APPENDICES>>>>>>>

through

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A REPORT of EMISSIONS from the Hot Mix Asphalt Facility at WOODLAND ASPHALT PAVING CO.

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EXECUTIVE SUMMARY

WW Engineering & Science (WWES) was retained by Woodland Paving Company and the National Asphalt Paving Association to determine the particulate, condensible particulate, sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen oxides (NO_x), polynuclear aromatic hydrocarbons (PAH), formaldehyde, BTEX (benzene, toluene, ethyl benzene, and xylene), and total hydrocarbon (THC) emissions from the Hot Mix Asphalt (HMA) manufacturing process. The testing was conducted on June 2, 3, 8, 9, and 10, 1992.

1.0 INTRODUCTION

WW Engineering & Science (WWES) was retained by Woodland Paving Company and the National Asphalt Paving Association (NAPA) to determine the particulate, condensible particulate, sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen oxides (NO_x), polynuclear aromatic hydrocarbons (PAH), formaldehyde, BTEX (benzene, toluene, ethyl benzene, and xylene), and total hydrocarbon (THC) emissions from the Hot Mix Asphalt (HMA) manufacturing process. The particulate and polynuclear aromatic hydrocarbons were required by the Michigan Department of Natural Resources (MDNR). The other pollutants were sampled for the National Asphalt Paving Association's emission database program.

The testing was coordinated with process operations by plant personnel. The tests were conducted under the direction of Mr. Kevin Payler (WWES), with Barry Hunter, Paul Kantola, Joe Mason, and Gary Havlichek assisting with sampling which was conducted on June 2, 3, 8, 9, and 10 1992. In addition to determining the pollutant concentrations, measurements were made of the stack gas temperature, moisture, molecular weight, velocity and volumetric flow rate.

2.0 PROCESS DESCRIPTION

The air pollution source that was tested is commonly called a "Drum Mixer" by the Hot Mix Asphalt Industry. The aggregate in the drum mixer is dried continuously in a natural gas direct-fired, rotary dryer with parallel-flow heat exchange. The asphalt cement is injected into the drum, about one third of the drum length from the mix discharge point. The process gases pass through a large dropout chamber to remove large particulate prior to passing through a baghouse and into the atmosphere. The HMA facility being tested was originally fabricated by CMI, Inc. and installed in late 1990/ early 1991. The Woodland HMA facility had been modified, prior to initial operations, with an enclosure around the load out area under the storage silos. The gases are evacuated from this area and conveyed to the combustion zone of the process. Furthermore, fugitive organic emissions from the silos are ducted to this system.

3.0 SAMPLING AND ANALYTICAL PROCEDURES

The following sampling and analytical procedures were used in this test series:

3.1 SAMPLING POINT LOCATION

The sampling location and number of traverse points were selected according to U. S. EPA Reference Method 1 "Sample and Velocity Traverses for Stationary Sources." A drawing of the sampling location is presented in Figure 3.1.

3.2 VELOCITY AND STACK GAS TEMPERATURE

The stack gas velocity and temperature were determined using U.S. EPA Reference Method 2, "Determination of Stack Gas Temperature and Velocity (Type "S" Pitot Tube)." The stack temperature was measured using "K" type thermocouples.

3.3 MOLECULAR WEIGHT

The stack gas molecular weight was determined using U.S. EPA Reference Method 3A, "Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure)." The oxygen concentration was measured using a Milton Roy/Fuji Instruments Zirconia Oxygen Analyzer. The carbon dioxide concentration was measured using a Milton Roy/Fuji Instrument non-dispersive infrared (NDIR) analyzer.

3.4 MOISTURE

The stack gas moisture content was determined using U.S. EPA Reference Method 4, "Determination of Moisture in Stack Gases." The sample was collected as part of the particulate polynuclear hydrocarbon sampling trains. The sample was passed through a series of four impingers. The first two impingers initially contained 100 ml of distilled water in each of them. The third impinger was empty and used as a drop out impinger. The fourth impinger was filled with silica gel. All the impingers were weighed before and after each test to determine the moisture gain.

3.5 PARTICULATE

Particulate (filterable) emission samples were collected using U.S. EPA Reference Method 5 "Determination of Particulate Emissions from Stationary Sources." The emission samples were collected on heated balston filters. The front half of the sample train was recovered with distilled water and acetone rinses. The filters and rinses were desiccated to remove the uncombined water and then weighed to determine the weight of collected particulate. The back half of the sampling train was recovered and analyzed for condensible particulate using

the ether/chloroform extraction procedure (Method 202). The condensible particulate analysis was conducted for the NAPA database program. In addition to the field samples, distilled water, acetone and filter blanks were analyzed following the same procedures as for the field samples. A schematic of the sampling train is presented in Figure 3.2.

3.6 SULFUR DIOXIDE

The sulfur dioxide concentration was measured using U.S. EPA Reference Method 6C, "Determination of Sulfur Dioxide Emissions from Stationary Sources (Instrumental Analyzer Procedure)." A Western Research Pulsed fluorescence SO_2 analyzer was used. The analyzer was calibrated with U.S. EPA Protocol Gases prior to and at the completion of each test according to the guidelines of the Method. The stack gas sample was conditioned prior to the analyzer to remove particulate and moisture. Collected data from the analyzer was recorded by strip-chart. This data was collected for the NAPA database.

3.7 NITROGEN OXIDES

Emissions of nitrogen oxides were determined using U.S. EPA Reference Method 7E, "Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)." A Thermal Environmental Instruments chemiluminescence analyzer was used. The analyzer was calibrated with U.S. EPA Protocol Gases prior to and at the completion of each test according to the guidelines of the Method. The stack gas sample was conditioned prior to the analyzer to remove particulate and moisture. Collected data from the analyzer was recorded by strip-chart. This data was collected for the NAPA database.

3.8 CARBON MONOXIDE

The carbon monoxide emissions were determined using U.S. EPA Reference Method 10, "Determination of Carbon Monoxide Emissions From Stationary Sources." A non-dispersive infrared (NDIR) analyzer was used in this test series. The analyzer was calibrated with U.S. EPA Protocol Gases prior to and at the completion of each test according to the guidelines of the Method. The stack gas sample was conditioned prior to the analyzer to remove particulate and moisture. Collected data from the analyzer was recorded by strip-chart. This data was collected for the NAPA database.

3.9 TOTAL HYDROCARBON

The total hydrocarbon (THC) concentrations were measured using U.S. EPA Reference Method 25A, "Determination of Total Gaseous Organic Concentration Using a Flame

Ionization Analyzer." A heated Ratfisch Total Hydrocarbon analyzer calibrated with U.S. EPA Protocol Propane Standards was used. The sample was conveyed to the analyzer using a heated Teflon sample line. The sample was filtered to remove particulate prior to the analyzer. Tedlar bags were collected simultaneously with each THC test at a location prior to the gas entering the analyzer for methane analysis. The methane samples were collected to provide methane concentrations so that the THC emissions could be adjusted to provide non-methane THC emissions (NMTHC).

3.10 POLYNUCLEAR AROMATIC HYDROCARBONS

Polynuclear aromatic hydrocarbons (PAHs) were sampled using Modified Method 5 (MM5) and EPA SW-846 Method 8270. The sample train consisted of a Method 5 sampling train modified to include a sample cooling module and a sorbent trap containing a cleaned XAD-2 resin, glass sample nozzle, and a Teflon liner. A drawing of the sampling train is included in Figure 3.3. All glassware was pre-cleaned with a hot soapy water soak, rinsed three times with water, and then rinsed with distilled/deionized (DI) water. It was then rinsed with pesticide grade methylene chloride three times, pesticide grade methanol/methylene chloride three times and then baked at 450°F for two hours. All glassware was capped with methylene chloride-rinsed aluminum foil prior to assembly of the sampling train. A blank sample train was assembled on-site and loaded with a sorbent trap for the same period of time as an actual sample train for each day of MM5 testing. This train was analyzed for the same compounds of interest as the sample trains. The sorbent traps were capped and packed in a sample cooler with blue ice for transport to the laboratory. The MM5 samples were analyzed by Triangle Laboratories of Research Triangle Park, North Carolina. The filter, probe rinse, and XAD-2 were "pooled" for analysis to get the lowest possible detection limits. The impinger contents were analyzed separately to ensure that breakthrough of the XAD-2 had not occurred.

3.11 BENZENE, TOLUENE, ETHYL BENZENE, AND XYLENE

Samples for benzene, toluene, ethyl benzene, and xylene were collected after the filter and prior to the total hydrocarbon analyzer into tedlar gas sample bags. The samples were analyzed on-site by gas chromatography according to the procedures of EPA Method 18. This data was collected for the NAPA database.

3.12 FORMALDEHYDE

Samples were collected for formaldehyde analysis using U.S. EPA Method 0011, "Sampling

for Aldehyde and Ketone Emissions From Stationary Sources." The samples were collected isokinetically from the source in aqueous acidic 2,4-dinitrophenyl-hydrazine (DNPH) solution to detect for formaldehyde. The impinger solutions were prepared according to the directions in the Method included in Appendix E. This test was part of the NAPA database program.

3.13 Sample Custody Procedures

The sample custody procedures used during the sampling followed the U.S. EPA's recommended procedures as found in their publication, "Quality Assurance Handbook for Air Pollution Measurement Systems": Volume 3, Stationary Source-Specific Methods, 1977. Each sample was assigned a unique identification number for the purposes of sample tracking. The sample information was logged on chain-of-custody forms which were included with the samples submitted to the laboratories.

3.14 Equipment Quality Control

The sampling equipment used to collect the field samples was calibrated according to the guidelines of the appropriate Reference Method.

4.0 TEST RESULTS

The stack sampling was conducted over an eight day time period. This was necessary in order to test under the highest practicable operating conditions.

4.1 Plant Operating Conditions

The plant operating data for the particulate tests are summarized in Table 4.1. The average hot mix asphalt production rate during these tests was 390.2 tons per hour. The plant operating data for the PAH tests are summarized in Table 4.2. The average hot mix asphalt production rate for these tests was 368.57 tons per hour.

4.2 Stack Gas Conditions

The stack gas conditions are summarized in Table 4.3. The average stack gas flow rate during the particulate tests was 77,208 acfm (38,602 dscfm) at 273°F and contained 29.72% water vapor by volume. The average stack gas flow rate during the PAH tests was 75,160 acfm (40,188 dscfm) at 275°F and contained 25.2% water vapor by volume.

4.3 PARTICULATE

The results of the particulate tests are summarized in Table 4.4. The average filterable particulate emission was 0.0062 grains per dry standard cubic foot and 2.06 pounds per hour. The average condensible particulate concentration was 0.0033 grains per dry standard cubic foot and 1.08 pounds per hour.

4.4 POLYNUCLEAR AROMATIC HYDROCARBONS

PAH tests results for the MDNR are summarized for NAPA in Table 4.5. The results of the PAH tests are summarized for NAPA in Tables 4.5A and 4.5B. Detection limits are summarized in Table 4.6A for the MDNR, and Table 4.6B for NAPA.

The PAH samples were analyzed by high resolution mass spectrometry with the exception of cumene, 1,2 benzo(a)fluorene, and 2,3 benzo(a)flourene which had to be measured by low resolution mass spectrometry. In addition, the acenaphthene and fluorene were determined from the low resolution mass spectrometry for the third and fourth runs due to matrix interference in the samples that did not allow the analysis by high resolution. Furthermore, acenaphthene, 2-methylnaphthalene and naphthalene were determined from the low resolution mass spectrometry for all three runs. The average total PAH concentration for NAPA was 0.535 milligrams per cubic meter. The corresponding PAH mass emission rate average was 0.082 pounds per hour. The laboratory results for each run had the measureable blank values subtracted from them to reflect the values mentioned above. The results for the laboratory XAD blanks can be found in Table 4.8.

4.5 CEM DATA

The results from the continuous emissions monitoring for sulfur dioxide, nitrogen oxides, carbon monoxide, and volatile organic compounds are presented in Table 4.7. The average sulfur dioxide emission was 3.8 ppm and 1.43 lbs/hr during the particulate testing and 5.6 ppm and 2.38 lbs/hr during the PAH testing. The averages during the PAH testing were based upon the first two tests since data was not collected during the third test because of analyzer malfunctions. The average nitrogen oxide emission was 98.4 ppm and 16.59 lbs/hr during the particulate testing and 40.5 ppm and 17.27 lbs/hr during the PAH testing. The average carbon monoxide emission was 110.9 ppm and 18.35 lbs/hr during the particulate testing and 137.2 ppm and 25.31 lbs/hr during the PAH testing. The averages during the PAH testing were based upon the first two tests since data was not collected during the third test because of analyzer malfunctions. The average volatile organic compounds emissions

were 22.5 ppm and 8.47 lbs/hr during the particulate testing and 37.4 ppm and 10.27 lbs/hr during the PAH testing. The volatile organic compound results have not and cannot be adjusted for methane due to a laboratory error with the methane samples before they could be analyzed. Since the burner fuel being used in the facility is natural gas, it would be expected that methane emissions are among the THC results reported.

4.6 FORMALDEHYDE

No results were obtained for formaldehyde due to method preparation problems with the DNPH impinger solutions that were discovered after the sampling had occurred. The final step in the preparation of the impinger solution is explained in Section 3.5.5.4.2.1 of the "Formaldehyde Method 0011." This section explains the steps for the preparation of Aqueous Acidic DNPH Derivatizing Reagent. WWES Laboratory followed the guidelines of the method that was published on July 17, 1991, which refers to the use of a graduated cylinder, measuring 1.4 ml of concentrated hydrochloric acid and adding the DNPH crystals to the acid solution and repeating certain steps with stirring and filtration. Changes have been made to the method, and recent publication requires measuring 1.4 liters of concentrated hydrochloric acid rather than 1.4 ml, which means that the laboratory preparation for the impinger solutions were improper and incorrect. Therefore, no results were obtained for formaldehyde.

4.7 BTEX

The results for benzene, toluene, ethyl benzene, and xylene, which were conducted by on-site gas chromatography according to the procedures of EPA Method 18, were all less than the detection limit of 1 ppm. The BTEX lab results can be found in Appendix C, Laboratory Data.

Appendices to this report contain the field data, laboratory data, calculations and the QA/QC data.

Table 4.1

Summary of Operating Conditions
Particulate Emission Tests

TABLE 4.1

SUMMARY OF OPERATING CONDITIONS
PARTICULATE EMISSION TESTS

WOODLAND PAVING COMPANY
COMSTOCK PARK, MICHIGAN

DATE:	6/2/92	6/3/92	6/9/92	Average
RUN:	M5-1	M5-2	M5-3	
WEATHER:	Clear and Sunny	Clear and Sunny	Clear and Sunny	
DURATION OF SAMPLING[a]:	12:49-14:56	12:33-14:37	08:00-09:56	
SAMPLING TIME FOR RUN:	127	124	116	122
TONS OF AGGREGRATE CONSUMED:	858.8	761.5	738.9	786.4
TONS OF ASPHALT CEMENT CONSUMED:	40.19	45.93	43.69	43.3
AVG. MIX DISCHARGE TEMP:	294.0 °F	292.9 °F	295.7 °F	294.2 °F
AVG. BAGHOUS INLET TEMP:	303.1 °F	297.1 °F	291.8 °F	297.3 °F
AGGREGATE MOISTURE:				
Wet Weight	2,846.2	1,626.2	1,698.4	2,056.9
Dry Weight	2,749.9	1,550.7	1,615.0	1,971.9
Percent Moisture (Dry)	3.50	4.87	5.16	4.51
AVG. TONS PER HOUR-AGGREGATE[b]:	405.73	368.47	382.19	385.5
AVG. TONS PER HOUR-AC:	18.99	22.22	22.60	21.3
AVG. TONS PER HOUR-HMA[c]:	411.01	373.59	386.02	390.2
AVG % AC IN HMA:	4.62	5.95	5.85	5.47
BURNER FUEL CONSUMED ($100\ ft^3$ of natural gas)	1,090.0	1,007.0	941.0	1,012.7
BURNER FUEL CONSUMED PER TON OF DRY AGGREGATE (ft^3/ton)	131.36	138.67	133.93	134.7

[a]This represents the total time elapsed during the sampling, not the net sampling time.
[b]Avg. TPH=Tons consumed/minutes of sampling x 60 min./hr.
[c]$HMA_{TPH} = AGG \times [1 - \% H_2O/(100 + \% H_2O)] + AC_{TPH}$

Table 4.2

Summary of Operating Conditions
PAH Emission Tests

TABLE 4.2

SUMMARY OF OPERATING CONDITIONS
PAH EMISSION TESTS

WOODLAND PAVING COMPANY
COMSTOCK PARK, MICHIGAN

DATE:	6/8/92	6/8/92	6/10/92	Average
RUN:	MM5-2	MM5-3	MM5-4	
WEATHER:	Clear and Sunny	Clear and Sunny	Clear and Sunny	
DURATION OF SAMPLING[a]:	07:49-09:57	11:14-12:54	08:23-10:26	
SAMPLING TIME FOR RUN:	128	100	123	117
TONS OF AGGREGRATE CONSUMED:	768.9	629.2	737.5	711.87
TONS OF ASPHALT CEMENT CONSUMED:	36.10	29.73	43.94	36.59
AVG. MIX DISCHARGE TEMP:	285.7 °F	286.3 °F	284.9 °F	285.6 °F
AVG. BAGHOUS INLET TEMP:	304.4 °F	299.9 °F	290.3 °F	298.2 °F
AGGREGATE MOISTURE:				
Wet Weight	2,993.6	2,171.8	2,353.9	2,506.4
Dry Weight	2,863.8	2,078.3	2,247.3	2,396.5
Percent Moisture (Dry)	4.53	4.50	4.74	4.59
AVG. TONS PER HOUR-AGGREGATE[b]:	360.42	377.52	359.75	365.90
AVG. TONS PER HOUR-AC:	16.92	17.84	21.43	18.73
AVG. TONS PER HOUR-HMA[c]:	361.73	379.09	364.88	368.57
AVG % AC IN HMA:	4.68	4.71	5.87	5.09
BURNER FUEL CONSUMED (100 ft^3 of natural gas)	801.5	667.7	926.0	798.4
BURNER FUEL CONSUMED PER TON OF DRY AGGREGATE (ft^3/ton)	108.96	110.90	131.52	117.13

[a]This represents the total time elapsed during the sampling, not the net sampling time.
[b]Avg. TPH=Tons consumed/minutes of sampling x 60 min./hr.
[c]HMA_{TPH}=AGG x [1-% H_2O/(100 + % H_2O)] + AC_{TPH}.

Table 4.3

Summary of Stack Gas Conditions

TABLE 4.3

SUMMARY OF STACK GAS CONDITIONS
WOODLAND PAVING COMPANY
COMSTOCK PARK, MICHIGAN

Date 1992	Run No.	Velocity (fpm)	Velocity (mps)	Volumetric Flow Rate (acfm)	Volumetric Flow Rate (acm/min)	Volumetric Flow Rate (dscfm)	Volumetric Flow Rate (dscm/min)	Temp. (°F)	Moisture (%)	O_2 (%)	CO_2 (%)
Particulate											
June 2	M5-1	2,302	11.7	73,664	2,086	38.649	1,095	281	25.8	11.0	5.1
June 3	M5-2	2,659	13.5	85,102	2,410	38,985	1,104	270	36.1	12.0	5.3
June 9	M5-3	2,277	11.6	72,589	2,063	38,172	1,081	268	27.3	12.8	4.7
Average		2,413	12.3	77,208	2,186	38,602	1,093	273	29.7	11.9	5.0
PAH											
June 8	MM5-2	2,505	12.7	80,163	2,270	43,050	1,219	282	24.0	13.9	4.4
June 8	MM5-3	2,479	12.6	79,326	2,247	42,991	1,218	272	24.3	13.0	5.3
June 10	MM5-4	2,062	10.5	65,990	1,869	34,525	978	270	27.1	13.9	4.0
Average		2,348	11.9	75,160	2,129	40,188	1,138	275	25.2	13.6	4.5

[a] feet per minute
[b] actual cubic feet per minute
[c] dry standard cubic feet per minute

Table 4.4

Summary of Particulate Emissions

TABLE 4.4

SUMMARY OF PARTICULATE EMISSIONS
WOODLAND PAVING COMPANY
COMSTOCK PARK, MICHIGAN

Date 1992	Run No.	Condensible Particulate			Filterable Particulate		
		(gr/dscf)[a]	(lb/1000 lb stack gas)	(lb/hr)[c]	(gr/dscf)	(lb/1000 lb stack gas)	(lb/hr)
June 2	M5-1	0.0033	0.0052	1.10	0.0051	0.0080	1.69
June 3	M5-2	0.0042	0.0059	1.40	0.0052	0.0073	1.75
June 9	M5-3	0.0023	0.0035	0.74	0.0084	0.0128	2.73
	Average	0.0033	0.0049	1.08	0.0062	0.0094	2.06

a grains per dry standard cubic foot
b pounds per 1000 pounds of stack gas (dry)
c pounds per hour

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FOREWORD

In late 1991, Woodland Paving Company negotiated with the Michigan Department of Natural Resources Air Quality Division (AQD) for a Permit to Install (Permit No. 990-90) new Hot Mix Asphalt equipment to replace existing equipment on the site of 3566 Mill Creek, N.E., Comstock Park, Michigan. Two of the conditions in the Permit to Install involved Toxic Air Contaminants. Special Condition No. 27 specified that the emission concentration of ***"Total PAHs"*** (polynuclear aromatic hydrocarbons) would not be allowed to exceed 0.05 milligrams per cubic meter of dry exhaust gas corrected to 70 degrees Fahrenheit and 29.92 millimeters of mercury. Special Condition No. 28 provided a list of PAHs that would constitute the "Total PAHs" emission concentration. The list included 16 of the 17 PAHs normally sampled for in the National Institute for Occupational Safety and Health's (NIOSH) employee exposure sampling method 5506, plus an additional 8 PAHs AQD found mentioned in the literature reviewed by them. The 25 PAHs are as follows:

Acenaphthene*
Acenaphthylene*
Anthanthrene
Anthracene*
Benzo(a)anthracene*
Benzo(a)fluorene
Benzo(a)pyrene*
Benzo(b)fluoranthene*
Triphenylene
Benzo(b)fluorene
Benzo(c)fluorene
Benzo(e)pyrene*
Benzo(g,h,i)perylene*
Benzo(j)fluoranthene
Benzo(k)fluoranthene*
Chrysene*
Coronene
Dibenzo(a,h)anthracene*
Fluoranthene*
Fluorene*
Indeno(1,2,3-cd)pyrene*
Phenanthrene*
Picene
Pyrene*
* Perylene*

Because of weather constraints that affect the road construction industry, the stack testing that was required to demonstrate compliance with Special Conditions No. 27 and No. 28 was not conducted until June 1992. During this time period, the National Asphalt Pavement Association (NAPA) was in the midst of a Stack Testing Program designed to develop a data base of emissions of various criteria and toxic air pollutants from the Hot Mix Asphalt manufacturing process stack. To defray costs they would tie in with NAPA members that were scheduled to perform stack

testing for other reasons. NAPA was contacted about this testing and decided to tie in for sampling of additional air pollutants.

NAPA Stack Testing Protocol Requirements. The additional air pollutants specified in NAPA's Stack Testing Protocol were five of the six Criteria Air Pollutants (lead was not included), Condensible Particulate, Formaldehyde, the 17th NIOSH PAH (Naphthalene*, which includes 2-Chloro-Naphthalene* and 2-Methyl-Naphthalene*), and four compounds which are listed individually in the 1991 Clean Air Act Amendments (CAAA) Title III, Hazardous Air Pollutants (HAPs): o-Cresol, m-Cresol, p-Cresol, and Cumene. Formaldehyde is also designated as a HAP in the CAAA. NAPA's PAH list *did not* include perylene as does AQD's list of PAHs. – Analytical Procedure used ... study

The criteria pollutants Oxides of Nitrogen, Sulfur Dioxide, and Carbon Monoxide were sampled with continuous emission monitoring which also included oxygen and carbon dioxide measurements. Formaldehyde, particulate matter, condensible particulate, and the PAHs were sampled with isokinetic sampling trains using methods Draft SW-846/0011, 5, Proposed 202, and Draft SW-846/0010, respectively. The NAPA Protocol specified that high resolution GC/MS analysis be used as the analysis procedure for the PAHs, which is commonly referred to as CARB 429 (CARB=California Air Resources Board).

PAH Analysis Problems. The laboratory contracted by WW Engineering & Science, Triangle Laboratories Inc. (TLI), advised that only 20 of the total 35 PAHs and HAPs required by NAPA and AQD, combined, are routinely analyzed by high resolution GC/MS. The 20 compounds have been identified with an asterisk where listed. The remaining compounds would have to be analyzed by low resolution GC/MS analysis (commonly referred to as [SW-846] Method 8270 and is the analytical part of SW-846/0010).

TLI advised that standards are available for Benzo(a)fluorene and Benzo(b)fluorene and could be analyzed by Method 8270 using a single point calibration. This was also true for Coronene, Triphenylene and Benzo(j)fluoranthene, however, the latter two co-elute with other compounds--Triphenylene with Chrysene and Benzo(j)fluoranthene with both Benzo(b)fluoranthene and Benzo(k)fluoranthene. TLI stated that the retention time for Coronene was too long under the low resolution GC/MS conditions of Method 8270, and

therefore, they would not attempt to analyze for coronene. As for Anthanthrene, Benzo(a)fluorene, and Picene, standards are not commercially available for them, therefore, analysis for them could not be performed. Of the four HAPs, TLI advised that m-Cresol and p-Cresol would co-elute, and Cumene would be determined by a single point calibration.

Results Tables. The other stack tests conducted for the NAPA Stack Testing Program overlooked the four HAPs listed in the NAPA Stack Testing Protocol, and therefore, NAPA results for other stack tests did not include them in the "Total PAH" values that were reported. Since the list of PAHs that is of concern to AQD differs from NAPA's list and the four HAPs are not included in the other NAPA Stack Test reports, there are different tables for PAHs and two "Calculation" sheets for PAHs.

One table in section F, Table 4.5, provides the analytical results (including the calculated stack gas emission concentrations and rates) for all the PAHs specified by AQD. Table 4.5A provides the same for the "NAPA" PAHs, and Table 4.5B provides the same for the four HAPs not included in other NAPA stack test reports. Therefore, Table 4.5A reflects a list of PAHs identical to six other NAPA stack test reports, and the total PAH value can be compared directly to the results reported in those reports without any adjustments. One of the calculation sheets is for only the AQD PAHs, and the other calculation sheet was for all the PAHs required in the NAPA protocol.

"Not Detected" Compounds. The AQD required that when the analytical result for a compound was "Not Detected," the detection limit provided for the non-detected compound had to be used in the calculation of the Total PAH value to demonstrate compliance with Special Conditions No. 27 and No. 28. In the other six NAPA reports, the "Total PAH" values reported did not include any PAHs for which the analytical result was "Not Detected." Essentially, then, the value of a "Not Detected" compound was zero. For this reason, zeroes are found in the NAPA PAH table (4.5A) for the compounds reported as "Not Detected", while there is a value listed in the AQD PAH table (4.5) for the same compounds. Because of the high-resolution GC/MS analytical procedure, very few compounds had an analytical result of "Not Detected." The detection limits for those PAHs and HAPs that had "Not Detected" results are provided in Section G.

Laboratory XAD Blank Issues. The laboratory XAD blank that was subjected to the same clean-up, preparation, and analysis as all the field samples showed detected quantities of most of the PAHs in the AQD PAH list that were analyzed by high resolution GC/MS. According to the information provided by TLI, the amounts of the PAHs reported for the laboratory XAD blank are within the ratios that will permit adjustment of the field samples' analytical results with the analytical results of the laboratory XAD blank. This adjustment is reflected in the tables found in Section F. A table providing the analytical results for the laboratory XAD blank immediately follows the PAH tables in Section F.

Table 4.5

Summary of PAH - MDNR

TABLE 4.5

SUMMARY OF POLYNUCLEAR AROMATIC HYDROCARBONS
MDNR

WOODLAND PAVING COMPANY
COMSTOCK PARK, MICHIGAN

Date 1992	Run No.	Acenaphthene (mg/m^3)	Acenaphthene (lb/hr)	Acenaphthylene [a] (mg/m^3)	Acenaphthylene [a] (lb/hr)	Anthracene (mg/m^3)	Anthracene (lb/hr)	Benzo -a-Anthracene (mg/m^3)	Benzo -a-Anthracene (lb/hr)
June 8	MM5-2	3.79E-03	6.30E-04	7.61E-03	1.27E-03	6.35E-04	1.06E-04	9.96E-04	1.66E-04
June 8	MM5-3	2.57E-03 [a b]	4.27E-04 [a b]	3.96E-03 [b]	6.57E-04 [b]	5.35E-04	8.89E-05	2.62E-04	4.34E-05
June 10	MM5-4	1.00E-02 [a b]	1.33E-03 [a b]	7.42E-03 [b]	9.90E-04 [b]	1.50E-03	2.00E-04	1.51E-04	2.01E-05
	Average	5.45E-03	7.97E-04	6.33E-03	9.71E-04	8.90E-04	1.32E-04	4.70E-04	7.64E-05

Date 1992	Run No.	Benzo-b-Fluoranthene (mg/m^3)	Benzo-b-Fluoranthene (lb/hr)	Benzo-k-Fluorathene (mg/m^3)	Benzo-k-Fluorathene (lb/hr)	1,2 Benzo(a)flourene [a c] (mg/m^3)	1,2 Benzo(a)flourene [a c] (lb/hr)	2,3 Benzo(a)fluorene [a c] (mg/m^3)	2,3 Benzo(a)fluorene [a c] (lb/hr)
June 8	MM5-2	5.47E-04	9.10E-05	1.96E-04	3.27E-05	2.34E-03	3.90E-04	2.55E-03	4.25E-04
June 8	MM5-3	2.84E-04	4.72E-05	9.72E-05	1.62E-05	2.44E-03	4.05E-04	2.66E-03	4.41E-04
June 10	MM5-4	2.22E-04	2.96E-05	7.64E-05	1.02E-05	2.65E-03	3.54E-04	2.89E03	3.85E-04
	Average	3.51E-04	5.59E-05	1.23E-04	1.97E-05	2.48E-03	3.83E-04	2.70E-03	4.17E-04

Date 1992	Run No.	Benzo-ghi-Perylene (mg/m^3)	Benzo-ghi-Perylene (lb/hr)	Benzo-a-Pyrene (mg/m^3)	Benzo-a-Pyrene (lb/hr)	Benzo-e-Pyrene (mg/m^3)	Benzo-e-Pyrene (lb/hr)	Chrysene (mg/m^3)	Chrysene (lb/hr)
June 8	MM5-2	3.86E-05	6.42E-06	4.87E-05	8.10E-06	5.19E-04	8.63E-05	1.23E-03	2.04E-04
June 8	MM5-3	1.13E-04	1.88E-05	7.65E-06	1.27E-06	1.22E-04	2.03E-05	7.84E-04	1.30E-04
June 10	MM5-4	1.48E-04	1.97E-05	9.65E-06	1.29E-06	8.68E-05	1.16E-05	4.92E-04	6.56E-05
	Average	9.99E-05	1.50E-05	2.20E-05	3.55E-06	2.43E-04	3.94E-05	8.34E-04	1.33E-04

[a] Based on results reported by low resolution GC/MS, SW-846 Method 8270
[b] Results reported are estimated and are from low resolution GC/MS analysis
[c] These values are based on the reported detection limits, as required by MDNR

TABLE 4.5 *(Cont.)*

SUMMARY OF POLYNUCLEAR AROMATIC HYDROCARBONS
MDNR

WOODLAND PAVING COMPANY
COMSTOCK PARK, MICHIGAN

Date 1992	Run No.	Indeno-123-cd-Pyrene (mg/m^3)	(lb/hr)	Dibenzo-ah-Anthracene (mg/m^3)	(lb/hr)	Fluoranthene (mg/m^3)	(lb/hr)	Fluorene (mg/m^3)	(lb/hr)
June 8	MM5-2	1.62E-05	2.70E-06	3.41E-06	5.68E-07	3.81E-03	6.33E-04	3.98E-03	6.62E-04
June 8	MM5-3	1.15E-05	1.90E-06	6.57E-06 [c]	1.09E-06 [c]	2.06E-03	3.43E-04	3.47E-03 [a b]	5.76E-04 [a b]
June 10	MM5-4	2.36E-05	3.15E-06	9.82E-06 [c]	1.31E-06 [c]	1.43E-03	1.91E-04	1.10E-02 [a b]	1.46E-03 [a b]
	Average	1.71E-05	2.58E-06	6.60E-06	9.90E-07	2.43E-03	3.89E-04	6.14E-03	9.01E-04

Date 1992	Run No.	Phenathrene (mg/m^3)	(lb/hr)	Pyrene (mg/m^3)	(lb/hr)	Perylene (mg/m^3)	(lb/hr)
June 8	MM5-2	2.48E-02	4.12E-03	2.55E-03	4.23E-04	1.69E-05	2.81E-06
June 8	MM5-3	2.05E-02	3.40E-03	2.17E-03	3.61E-04	1.97E-06	3.27E-07
June 10	MM5-4	5.73E-02	7.65E-03	1.59E-03	2.13E-04	4.82E-05	6.43E-06
	Average	3.42E-02	5.06E-03	2.10E-03	3.32E-04	2.24E-05	3.19E-06

	MM5-2	MM5-3	MM5-4	Average
Total PAH Emission Rate (lb/hr)	9.26E-02	6.99E-03	1.29E-02	9.73E-03
Total PAH Concentration, mg/m^3	5.56E-02	4.21E-02	9.71E-02	6.49E-02

[a] Based on results reported by low resolution GC/MS, SW-846 Method 8270
[b] Results reported are estimated and are from low resolution GC/MS analysis
[c] These values are based on the reported detection limits, as required by MDNR

Table 4.5A

Summary of PAH - NAPA

TABLE 4.5A

SUMMARY OF POLYNUCLEAR AROMATIC HYDROCARBONS
NAPA

WOODLAND PAVING COMPANY
COMSTOCK PARK, MICHIGAN

Date 1992	Run No.	Acenaphthene (mg/m^3)	Acenaphthene (lb/hr)	Acenaphthylene [a] (mg/m^3)	Acenaphthylene [a] (lb/hr)	Anthracene (mg/m^3)	Anthracene (lb/hr)	Benzo -a-Anthracene (mg/m^3)	Benzo -a-Anthracene (lb/hr)
June 8	MM5-2	3.79E-03	6.30E-04	7.61E-03	1.27E-03	6.35E-04	1.06E-04	9.96E-04	1.66E-04
June 8	MM5-3	2.57E-03 [a b]	4.27E-04 [a b]	3.96E-03 [b]	6.57E-04 [b]	5.35E-04	8.89E-05	2.62E-04	4.34E-05
June 10	MM5-4	1.00E-02 [a b]	1.33E-03 [a b]	7.42E-03 [b]	9.90E-04 [b]	1.50E-03	2.00E-04	1.51E-04	2.01E-05
	Average	5.45E-03	7.97E-04	6.33E-03	9.71E-04	8.90E-04	1.32E-04	4.70E-04	7.64E-05

		Benzo-b-Fluoranthene (mg/m^3)	Benzo-b-Fluoranthene (lb/hr)	Benzo-k-Fluorathene (mg/m^3)	Benzo-k-Fluorathene (lb/hr)	Benzo-e-Pyrene (mg/m^3)	Benzo-e-Pyrene (lb/hr)	Chrysene (mg/m^3)	Chrysene (lb/hr)
June 8	MM5-2	5.47E-04	9.10E-05	1.96E-04	3.27E-05	5.19E-04	8.63E-05	1.23E-03	2.04E-04
June 8	MM5-3	2.84E-04	4.72E-05	9.72E-05	1.62E-05	1.22E-04	2.03E-05	7.84E-04	1.30E-04
June 10	MM5-4	2.22E-04	2.96E-05	7.64E-05	1.02E-05	8.68E-05	1.16E-05	4.92E-04	6.56E-05
	Average	3.51E-04	5.59E-05	1.23E-04	1.97E-05	2.43E-04	3.94E-05	8.34E-04	1.33E-04

		Benzo-ghi-Perylene (mg/m^3)	Benzo-ghi-Perylene (lb/hr)	Benzo-a-Pyrene (mg/m^3)	Benzo-a-Pyrene (lb/hr)	Dibenzo-ah-Anthracene (mg/m^3)	Dibenzo-ah-Anthracene (lb/hr)	Fluoranthene (mg/m^3)	Fluoranthene (lb/hr)
June 8	MM5-2	3.86E-05	6.42E-06	4.87E-05	8.10E-06	3.41E-06	5.68E-07	3.81E-03	6.33E-04
June 8	MM5-3	1.13E-04	1.88E-05	7.65E-06	1.27E-06	0.00	0.00	2.06E-03	3.43E-04
June 10	MM5-4	1.48E-04	1.97E-05	9.65E-06	1.29E-06	0.00	0.00	1.91E-04	1.91E-04
	Average	9.99E-05	1.50E-05	2.20E-05	3.55E-06	1.14E-06	1.89E-07	2.43E-03	3.89E-04

[a] Based on results reported by low resolution GC/MS, SW-846 Method 8270
[b] Results reported are estimated and are from low resolution GC/MS analysis

TABLE 4.5A *(Cont.)*

SUMMARY OF POLYNUCLEAR AROMATIC HYDROCARBONS
NAPA

WOODLAND PAVING COMPANY
COMSTOCK PARK, MICHIGAN

Date 1992	Run No.	2-Chloro-Naphthalene [a] (mg/m^3)	(lb/hr)	Phenathrene (mg/m^3)	(lb/hr)	Pyrene (mg/m^3)	(lb/hr)	Fluorene (mg/m^3)	(lb/hr)
June 8	MM5-2	BDL	BDL	2.48E-02	4.12E-03	2.55E-03	4.23E-04	3.98E-03	6.62E-04
June 8	MM5-3	BDL	BDL	2.05E-02	3.40E-03	2.17E-03	3.61E-04	3.47E-03 [a b]	5.76E-04 [a b]
June 10	MM5-4	BDL	BDL	5.73E-02	7.65E-03	1.59E-03	2.13E-04	1.11E-02 [a b]	1.46E-03 [a b]
	Average	BDL	BDL	3.42E-02	5.06E-03	2.10E-03	3.32E-04	6.14E-03	9.01E-04
		Indeno-123-cd-Pyrene (mg/m^3)	(lb/hr)	2-Methyl-Naphthalene [a] (mg/m^3)	(lb/hr)	Naphthalene [a] (mg/m^3)	(lb/hr)	Perylene (mg/m^3)	(lb/hr)
June 8	MM5-2	1.62E-05	2.70E-06	2.93E-01	4.88E-02	1.22E-01	2.03E-02	1.69E-05	2.81E-06
June 8	MM5-3	1.15E-05	1.90E-06	3.23E-01	5.37E-02	1.28E-01	2.12E-02	0.00	0.00
June 10	MM5-4	2.36E-05	3.15E-06	4.06E-01	5.42E-02	1.59E-01	2.12E-02	0.00	0.00
	Average	1.71E-05	2.58E-06	3.41E-01	5.22E-02	1.36E-01	2.09E-02	5.63E-06	9.37E-07

	MM5-2	MM5-3	MM5-4	Average
Total PAH Emission Rate (lb/hr)	7.76E-02	8.11E-02	8.76E-02	8.21E-02
Total PAH, Concentration, mg/m^3	4.63E-01	4.86E-01	6.56E-01	5.35E-01

[a] Based on results reported by low resoloution GC/MS, SW-846 Method 8270
[b] Results reported are estimated and are from low resolution GC/MS analysis

Table 4.5B

Summary of PAH - NAPA (Additional Analyzed Compounds)

TABLE 4.5B

SUMMARY OF POLYNUCLEAR AROMATIC HYDROCARBONS
NAPA (Additional Analyzed Compounds)

WOODLAND PAVING COMPANY
COMSTOCK PARK, MICHIGAN

Date 1992	Run No.	1, 2 Benzo(a)fluorene (mg/m^3)	(lb/hr)	2, 3 Benzo(a)fluorene (mg/m^3)	(lb/hr)	Cumene (mg/m^3)	(lb/hr)
June 8	MM5-2	BDL	BDL	BDL	BDL	2.26E-01	3.77E-02
June 8	MM5-3	BDL	BDL	BDL	BDL	2.56E-02	4.25E-03
June 10	MM5-4	BDL	BDL	BDL	BDL	3.47E-02	4.62E-03
	Average	BDL	BDL	BDL	BDL	9.56E-02	1.55E-03
		2 Methylphenol (o-Cresol)		3/4 Methylphenol (m- & p-Cresol)			
June 8	MM5-2	BDL	BDL	BDL	BDL		
June 8	MM5-3	BDL	BDL	BDL	BDL		
June 10	MM5-4	BDL	BDL	BDL	BDL		
	Average	BDL	BDL	BDL	BDL		

Table 4.8

Laboratory TLI XAD Blank Results

TABLE 4.8
LABORATORY TLI XAD BLANK RESULTS

WOODLAND PAVING COMPANY
COMSTOCK PARK, MICHIGAN

COMPOUND	AMOUNT (ng)
Acenaphthene	19.6
Acenaphthylene	2.3
Anthracene	1.7
Benzo-a-Anthracene	1.3
Benzo-b-Fluoranthene	8.3
Benzo-k-Fluorathene	3.4
Benzo-ghi-Perylene	2.2
Benzo-a-Pyrene	0.25
Benzo-e-Pyrene	4.0
2-Chloronaphthalene	0.47
Chrysene	8.5
Cumene	N/A*
Indeno-123-cd-Pyrene	0.39
Dibenzo-ah-Anthracene	0.07
Fluoranthene	10.2
Fluorene	12.8
2-Methylnaphthalene	128
Naphthalene	1520
Phenanthrene	39.7
Pyrene	7.4
Perylene	0.04

* laboratory results not available - blank values not subtracted from actual results

Table 4.6A

Detection Limits for PAH Compounds Reported as "Not Detected" - MDNR

TABLE 4.6A
DETECTION LIMITS FOR PAH COMPOUNDS REPORTED AS "NOT DETECTED"

MDNR COMPOUNDS

WOODLAND PAVING COMPANY
COMSTOCK PARK, MICHIGAN

HIGH-RESOLUTION RESULTS			
COMPOUND	Run 2	Run 3	Run 4
Dibenzo-ah-Anthracene		7.0 ng	8.7 ng
Fluorene		0.4 ng	0.9 ng
Perylene	18.5 ng	2.1 ng	

LOW-RESOLUTION RESULTS			
COMPOUND	Run 2	Run 3	Run 4
1,2 Benzo(a)flourene	2.56 ug	2.60 ug	2.35 ug
2,3 Benzo(a)fluorene	2.79 ug	2.83 ug	2.56 ug

Table 4.6B

Detection Limits for PAH Compounds Reported as "Not Detected" - NAPA

TABLE 4.6B
DETECTION LIMITS FOR PAH COMPOUNDS REPORTED AS "NOT DETECTED"

NAPA COMPOUNDS

WOODLAND PAVING COMPANY
COMSTOCK PARK, MICHIGAN

HIGH-RESOLUTION RESULTS			
COMPOUND	Run 2	Run 3	Run 4
Dibenzo-ah-Anthracene		7.0 ng	8.7 ng
Fluorene		0.4 ng	0.9 ng
2 Chloro-Naphthalene	5.5 ng		
Perylene	18.5 ng	2.1 ng	

LOW-RESOLUTION RESULTS			
COMPOUND	Run 2	Run 3	Run 4
2 Methylphenol (o-Cresol)	11.89 ug	11.98 ug	12.51 ug
3/4 Methylphenol (m- & P-Cresol)	11.67 ug	11.77 ug	12.28 ug
2 Chloro-Naphthalene		4.23 ug	4.40 ug
1,2 Benzo(a)flourene	2.56 ug	2.60 ug	2.35 ug
2,3 Benzo(a)fluorene	2.79 ug	2.83 ug	2.56 ug

Table 4.7

Summary of CEM Data

TABLE 4.7

SUMMARY OF CEM DATA
WOODLAND PAVING COMPANY
COMSTOCK PARK, MICHIGAN

Date 1992	Run No.	Carbon Monoxide (ppm)	Carbon Monoxide (lb/hr)	Sulfur Dioxide (ppm)	Sulfur Dioxide (lb/hr)	Nitrogen Oxides (ppm)	Nitrogen Oxides (lb/hr)	Volatile Organic Compounds[1] (ppm)	Volatile Organic Compounds[1] (lb/hr)
June 2	M5-1	124.6	20.65	2.4	0.91	195.8	16.61	7.8	2.74
June 3	M5-2	94.3	15.76	1.6	0.61	50.7	16.75 ←	26.1	10.75
June 9	M5-3	113.9	18.64	7.4	2.77	48.8	16.40	33.6	11.91
Average		110.9	18.35	3.8	1.43	98.4	16.59	22.5	8.47
June 8	MM5-2	170.0	31.38	2.9	1.22	39.4	18.50	51.3	14.92
June 8	MM5-3	104.3	19.23	8.4	3.54	41.7	18.47	29.7	8.62
June 10	MM5-4	NA	NA	NA	NA	40.3	14.83	31.2	7.28
Average		137.2	25.31	5.6	2.38	40.5	17.27	37.4	10.27

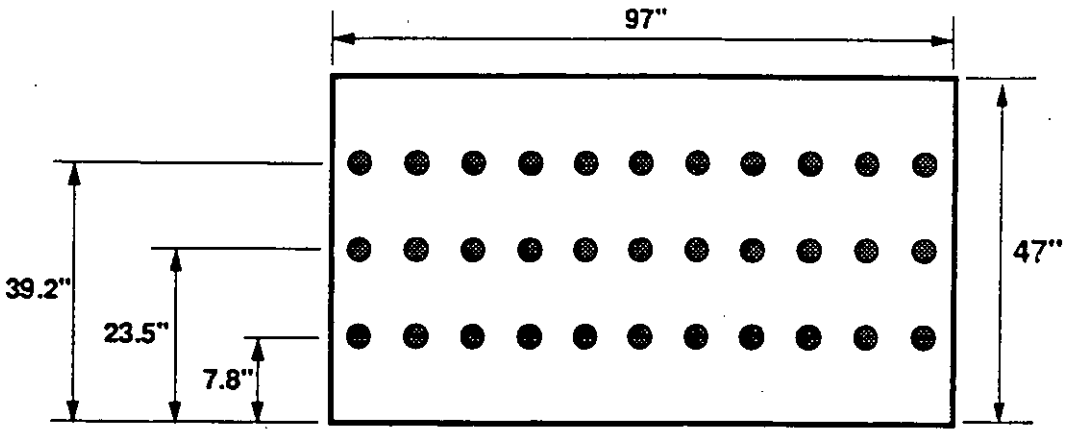
NA=Test not conducted.

? Methane all others?

(1) Volatile Organic Compound results are as propane and contain methane

Figure 3.1

Sampling Site Location



SAMPLING SITE CROSS-SECTION

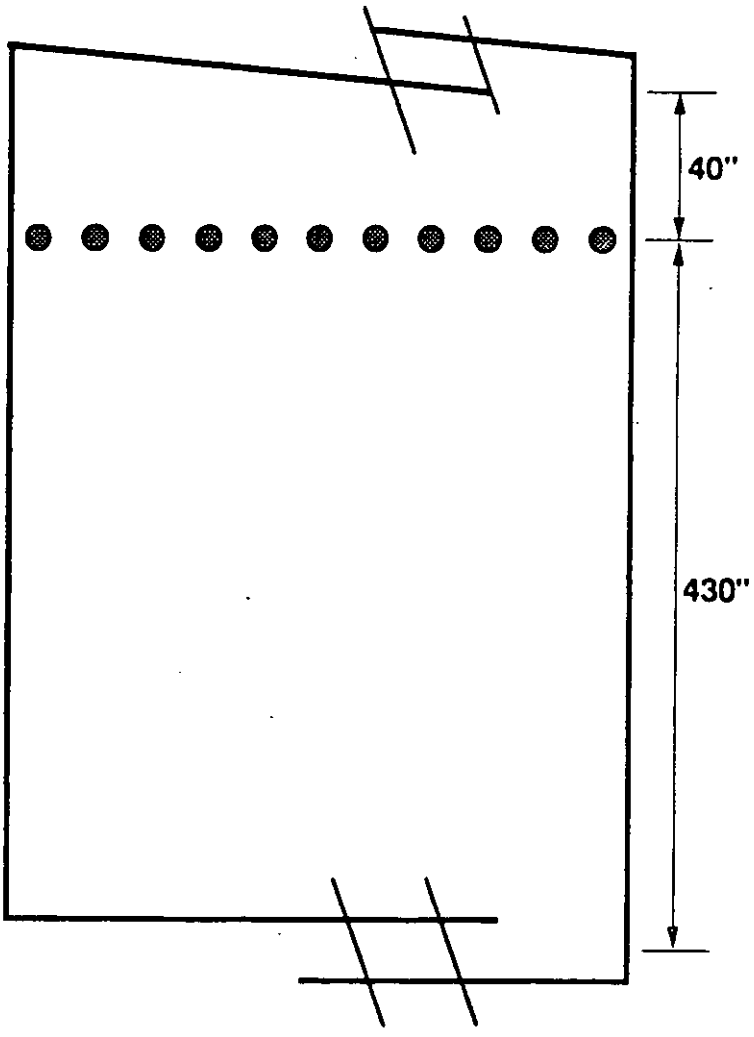


Figure 3.1

Sample Site Diagram

WOODLAND PAVING COMPANY

July 1992

22327

Figure 3.2

Particulate Sampling Train

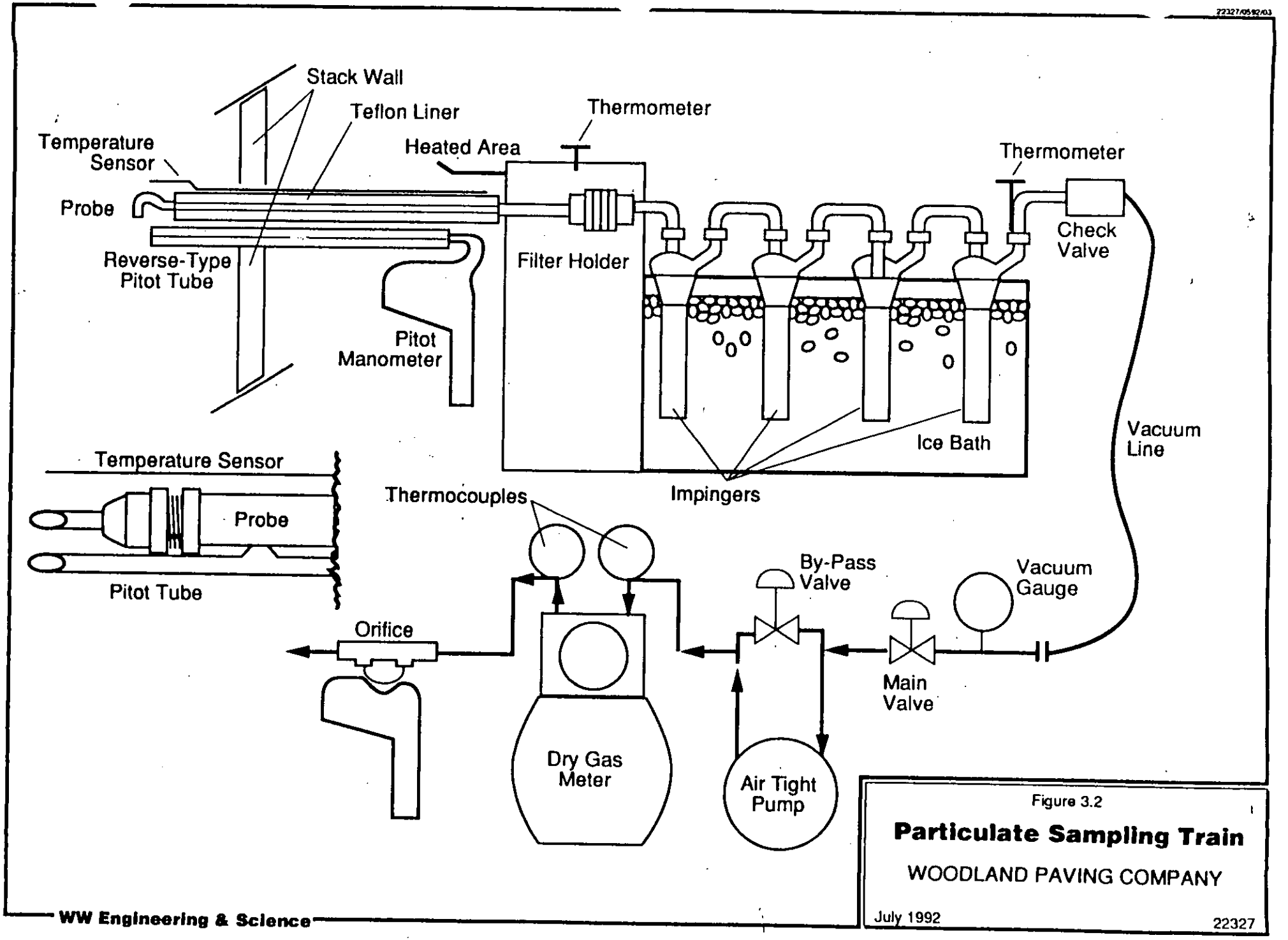


Figure 3.2

Particulate Sampling Train

WOODLAND PAVING COMPANY

July 1992

22327

Figure 3.3

Modified Method 5 Sampling Train

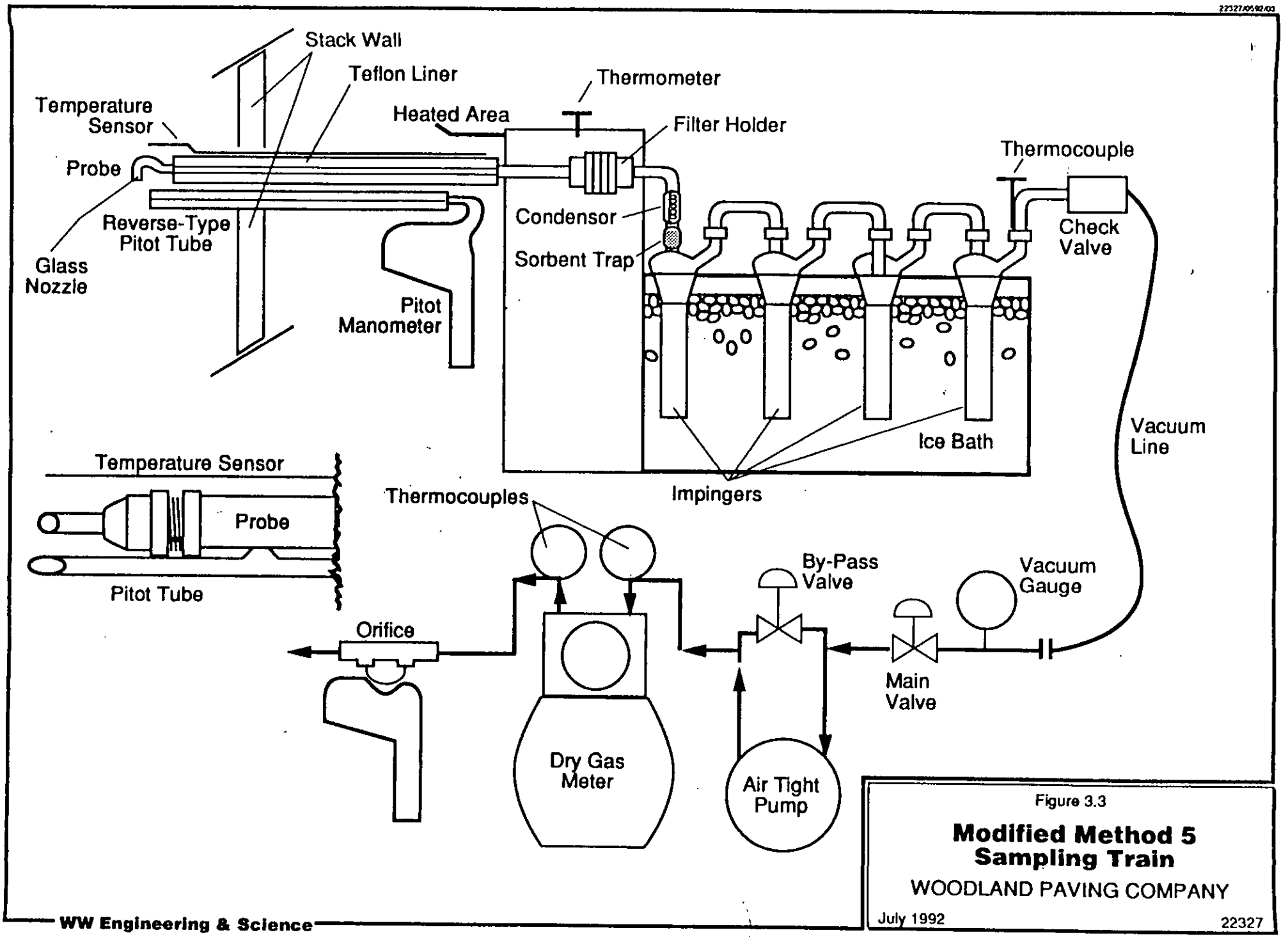


Figure 3.3

Modified Method 5 Sampling Train

WOODLAND PAVING COMPANY

July 1992

22327

MOISTURE
DETERMINATION
PM RUN #1

6/2/92

#1 1:40 pm

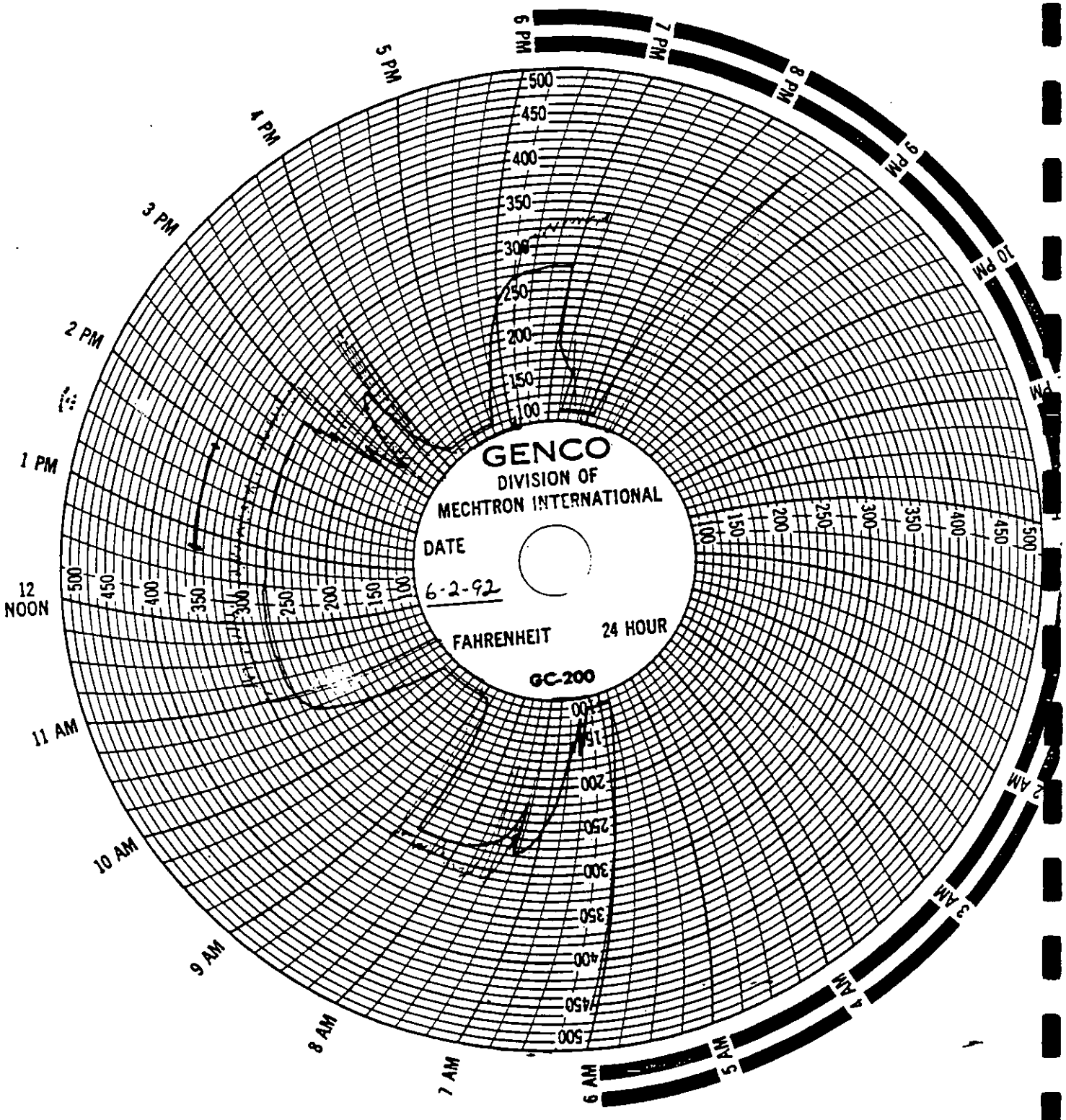
(Pan 1532.7g)

4282.6
2749.9

2846.2g
2749.9
96.3 3.5%

PM Run 1

TM Run #1


GENCO
DIVISION OF
MECHTRON INTERNATIONAL
DATE
6-2-92
FAHRENHEIT
24 HOUR
GC-200
12 NOON
1 PM
2 PM
3 PM
4 PM
5 PM
6 PM
7 PM
8 PM
9 PM
10 PM
11 PM
12 AM
1 AM
2 AM
3 AM
4 AM
5 AM
6 AM
7 AM
8 AM
9 AM
10 AM
11 AM
100
150
200
250
300
350
400
450
500

OPERATING INFORMATION FOR STACK TESTED HOT MI. PHALT FACILITY

DATE: 6-2-92

COMPANY NAME: Woodland Paving Co.

COMPANY REP.: Dave Muzzall - Plant Operator PHONE: 616-784-5220

LOCATION OF HMA FACILITY: 3566 Millcreek Ave Comstock Park, MI 49321 AC Type: 85/100 Mix Type: 2B Base

OEM: CMI MODEL: Drum

The loader operator was observed removing aggregate from the stockpiles at (circle): bottom side

TYPE OF CONTROL EQUIPMENT: Martin Engr.

TYPE OF FUEL USED DURING TESTING: Nat Gas FUEL UNIT: C/ft.

WEATHER INFORMATION

Record Ambient Temperature At:

Startup	Mid-day	Shutdown

Record Relative Humidity (%) at:

Startup	Mid-day	Shutdown

Name & Phone of Individual(s) recording operating information: Dave Muzzall - Plant Operator (616) 784-5220

1	2	3	4	5	6	7	8	9	10	11	12	13	14

PM Run #1

<< Remember to generate PRINT-OUTS >> ☐ Not available

Time	Fuel Used (cumulated)	MATERIALS PROCESSED (cumulated tons produced/used) Aggregate	RAP	AC	INLET Exhaust Gas Temperature	Materials Temperature	Pressure Drop	Damper Position	COMBUSTION MONITORING DATA				Other
24 hour		tons	tons	tons	°F	°F	in. wg.	open % closed	O_2 (%)	CO_2 (%)	CO (ppm)	THC (ppm)	
		397.2	—	18.43									
11:46	4413549 - 278952	689.9	—	30.67	312°	299	3	60%					
12:49	START TEST	1100.1	—	49.78	306	295	3	61%					
13:05	TOOK A/C SAMPLE	1207.7	—	54.79	302	293	3.2	61%					
13:09	SWITCHED A/C TANK	1235.9	—	56.11	302	293	3.1	61%					
13:21		1316.6	—	59.89	302	294	3	61%					
13:33	TOOK A/C Sample	1399.4		63.77	301	293	3	61%					
1338	4414470 - 278957	1428.7		65.14	301	293	3	61%					
1338	TOOK A&G SAMPLE	1428.7		65.14	301	293	3	61%					
13:53	4414541 - 278958 10	1534.2		70.09	301	293	3	62%					
					2416/8								

HEATING A NEW

PM Count!

Remember to generate PRINT-OUTS >> ☐ Not available

Time	Fuel Used (cumulated)	MATERIALS PROCESSED (cumulated tons produced/used)			Exhaust Gas Temperature	Materials Temperature	Pressure Drop	Damper Position	COMBUSTION MONITORING DATA				Other
		Aggregate	RAP	AC									
24 hour		tons	tons	tons	°F	°F	in. wg	% closed	O_2 (%)	CO_2 (%)	CO (ppm)	THC (ppm)	
14:11		1649.6	—	75.50	301	294	3	61%					
14:26		1752.1		80.29	301	293	3	61%					
14:41		1853.5		85.03	301	295	3	61%					
14:56		1958.9		89.97	301	297	3	61%					
1509	Bucket elev kicked out 4415240 - 2789765	2016.2		92.63	301	297	3	61%					

PM Kiln #1

VISIBLE EMISSIONS EVALUATION

NAME OF FACILITY Woodland Paving Co. CONTACT Gary

ADDRESS _____ TELEPHONE _____

WEATHER CONDITIONS:

TEMPERATURE: 76°F HUMIDITY: 44%

WIND SPEED: light & variable 8mph WIND DIRECTION: Variable

SKY CONDITIONS:

☒ SUNNY ☒ BLUE SKY ☐ PARTLY CLOUDY

☐ OVERCAST ☐ RAINING ☐ OTHER: _____

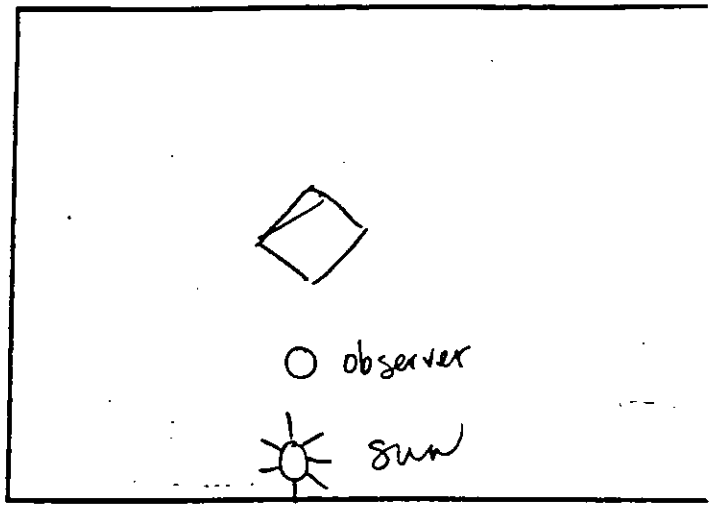
COLOR OF EMISSION: white

BACKGROUND: sky

LOCATION OF OBSERVER: _____

COMMENTS: does not appear to be steam because does not dissipate quickly

DIAGRAM OF OBSERVER, STACK, AND SUN



START TIME: 12:33 AM (PM)

Min	:15	:30	:45	:00	Min	:15	:30	:45	:00	Min	:15	:30	:45	:00
1	0	0	0	5	21					41				
2	0	0	0	5	22					42				
3	0	0	0	0	23					43				
4	5	0	0	0	24					44				
5	0	0	5	5	25					45				
6	0	5	0	10	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11		2.7%			31					51				
12					32					52				
13					33					53				
14					34					54				
15		avg			35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				
	5	5	5	25										

TOTAL NUMBER OF READINGS: 24 $\frac{40}{24} = \frac{10}{6} = \frac{5}{3}$ AVERAGE OPACITY: 2.7%

ADDITIONAL COMMENTS: _____

OBSERVER'S SIGNATURE _____ DATE: 6/2/92

VISIBLE EMISSIONS EVALUATION

NAME OF FACILITY Woodland Prairie Co. CONTACT Gary Stevens

ADDRESS 3566 Millcreek Ave TELEPHONE 7845220

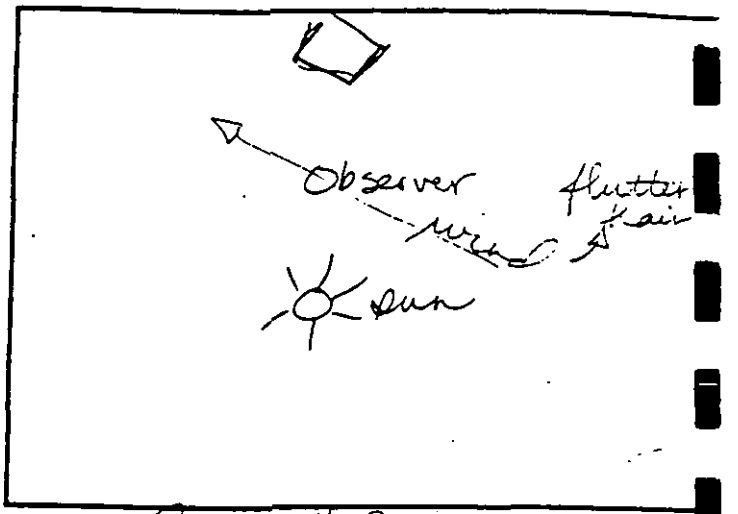
WEATHER CONDITIONS:

TEMPERATURE: 78°F HUMIDITY: 39% Grand R. weather serv.

WIND SPEED: 8 mph WIND DIRECTION: E (variable)

SKY CONDITIONS: 29.96 in Hg

DIAGRAM OF OBSERVER, STACK, AND SUN



☒ SUNNY ☒ mostly BLUE SKY ☐ PARTLY CLOUDY

☐ OVERCAST ☐ RAINING ☐ OTHER:

COLOR OF EMISSION:

BACKGROUND:

LOCATION OF OBSERVER: at top of Bruce stockpile

COMMENTS:

Run #2

START TIME: 1365 AM (PM)

Min	:15	:30	:45	:00	Min	:15	:30	:45	:00	Min	:15	:30	:45	:00
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7	0	0	0	0	27					47				
8	0	0	0	0	28					48				
9	0	0	0	0	29					49				
10	0	0	0	0	30					50				
11	0	0	0	0	31					51				
12	0	0	0	0	32					52				
13	0	0	0	0	33					53				
14	0	0	0	0	34					54				
15	0	0	0	0	35					55				
16	0	0	0	0	36					56				
17	0	0	0	0	37					57				
18	0	0	0	0	38					58				
19	0	0	0	0	39					59				
20	0	0	0	0	40					60				

TOTAL NUMBER OF READINGS: AVERAGE OPACITY:

ADDITIONAL COMMENTS: white puffy clouds, long, barely visible streaks of cloud * cloud blocked sun

OBSERVER'S SIGNATURE: [signature] DATE: 6/2/92

MOISTURE DETERMINATION
PM RUN #2

(#1)

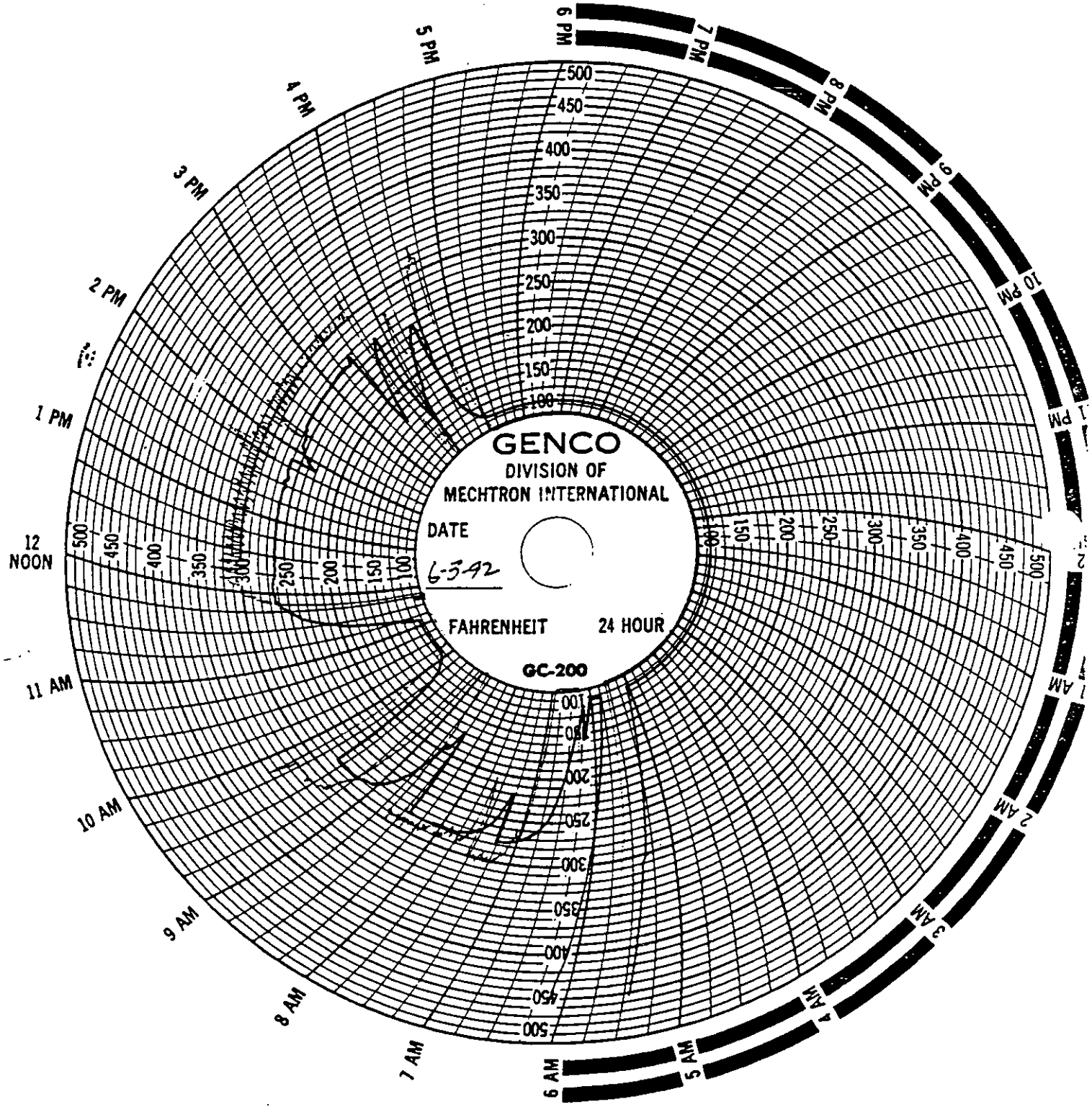
6/3/92
1:05 pm

Wet Wt	1626.2 g
Dry wt	1550.7
	75.5 g

% Moisture 4.9%

PM Run 2

PM Run #2


GENCO
DIVISION OF
MECHTRON INTERNATIONAL
DATE
6-5-92
FAHRENHEIT
24 HOUR
GC-200
12 NOON
1 PM
2 PM
3 PM
4 PM
5 PM
6 PM
7 PM
8 PM
9 PM
10 PM
11 PM
12 AM
1 AM
2 AM
3 AM
4 AM
5 AM
6 AM
7 AM
8 AM
9 AM
10 AM
11 AM
100
150
200
250
300
350
400
450
500

OPERATING INFORMATION FOR STACK TESTED HOT MI. PHALT FACILITY | **DATE:** 6-3-9?

COMPANY NAME: Woodland Paving Co

COMPANY REP.: Dave Muzzall - Plant Operator | PHONE: 616-7845220

LOCATION OF HMA FACILITY: 3566 Millcreek Ave Comstock Park MICH 49321 | AC Type: 120/150 | Mix Type: 11OOT 30AA

OEM: C.M.I. | MODEL: Drum

The loader operator was observed removing aggregate from the stockpiles at (circle): bottom (side)

TYPE OF CONTROL EQUIPMENT: Martin Engr.

TYPE OF FUEL USED DURING TESTING: NAT GAS | FUEL UNIT:

WEATHER INFORMATION

Record Ambient Temperature At:

Startup	Mid-day	Shutdown

Record Relative Humidity (%) at:

Startup	Mid-day	Shutdown

Name & Phone of Individual(s) recording operating information: Dave Muzzall - Plant Operator (616) 784-5220

1	2	3	4	5	6	7	8	9	10	11	12	13	14

TM Plant 2

<< Remember to generate PRINT-OUTS >> ☐ Not available

Page 3 of 3

Time	Fuel Used (cumulated)	MATERIALS PROCESSED (cumulated tons produced/used) Aggregate	RAP	AC	INLET Exhaust Gas Temperature	Materials Temperature	Pressure Drop	Damper Position	COMBUSTION MONITORING DATA				Other
12:30 24 hour	4477104 -279022	tons	tons	tons	°F	°F	in. wg.	% closed	O_2 (%)	CO_2 (%)	CO (ppm)	THC (ppm)	
12:33		455.4	—	24.55	300	298	3	61%					
12:49		541.0	—	29.89	292	292	3	60%					
12:40	TOOK A/C Sample		—		~~303~~	~~298~~	3	~~61%~~					
13:05		642.2	-	35.61	298	303	3	61%					
13:20		734.1	-	41.04	298	302	3	61%					
1336		839.8	—	47.15	298	289	3	60%.					
1345	CHANGED MIX TO Tack Sand 5100	901.7		51.00	285	301	3	61%					
1400		985.9		56.20	298	304	3.5	70%					
14:15	SHUT-DOWN LOST COMPUTER POWER	1074.8		61.75	280	279	3.5	66%					
1430		1162.5		67.12	289	298	3.2	65%					
14:37		1217.1		70.48	291	305	3.2	65%					

14:40 4418117

MOISTURE
DETERMINATION

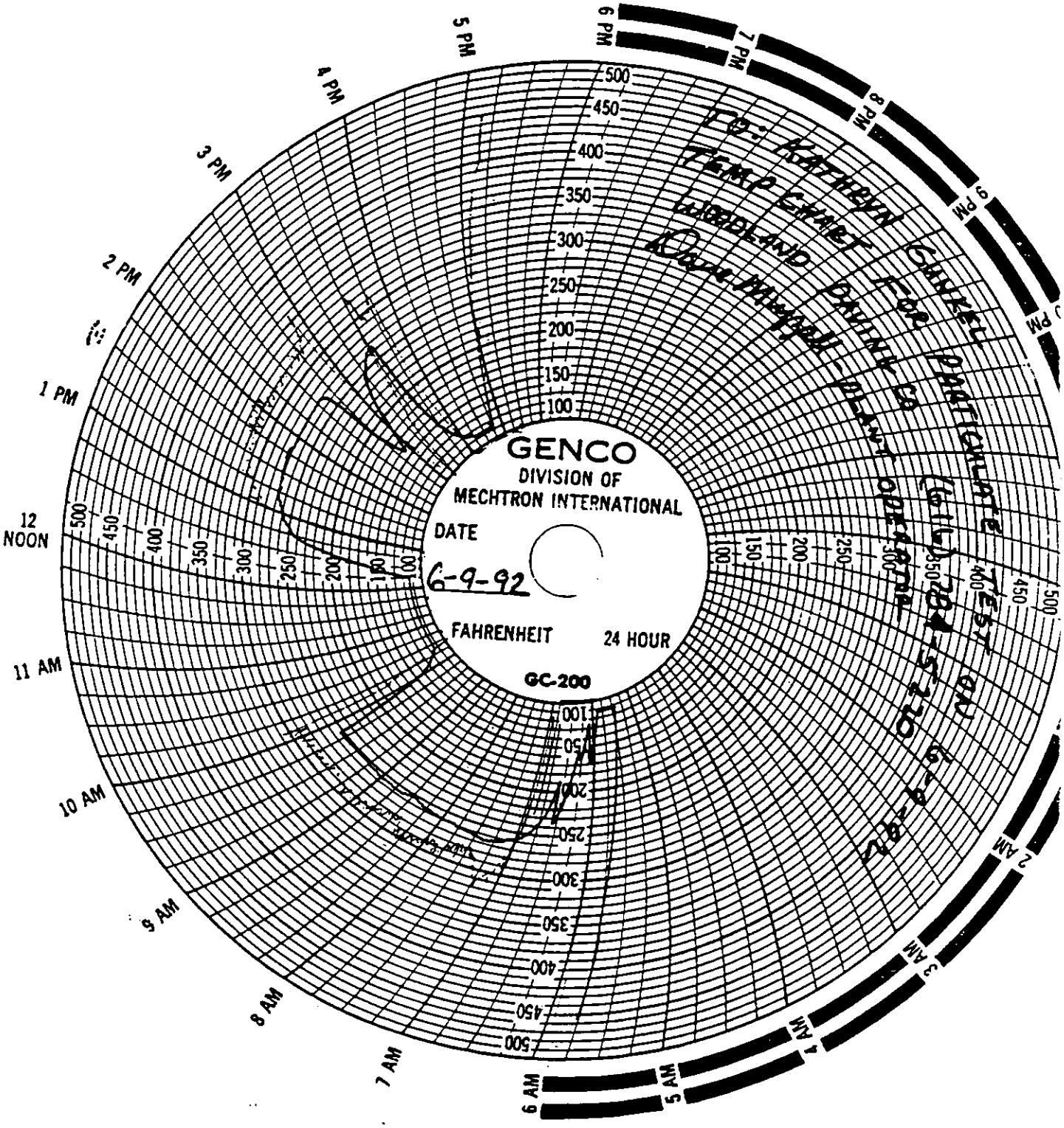
PM #3
6-9-92

Wet wt 1698.4g
Dry wt 1615.0g

83.4g = 5.2% moisture

PM2w3

PM Run #3


GENCO
DIVISION OF
MECHTRON INTERNATIONAL
DATE
6-9-92
FAHRENHEIT
24 HOUR
GC-200
12 NOON
1 PM
2 PM
3 PM
4 PM
5 PM
6 PM
7 PM
8 PM
9 PM
11 AM
10 AM
9 AM
8 AM
7 AM
6 AM
5 AM
4 AM
3 AM
2 AM
100
150
200
250
300
350
400
450
500

PARTICULATE TEST

OPERATING INFORMATION FOR STACK TESTED HOT M. ASPHALT FACILITY — DATE: 6-9-92

COMPANY NAME: WOODLAND PAVING CO

COMPANY REP.: DAVE MUZZALL - PLANT OPERATOR — PHONE: (616) 784-5220

LOCATION OF HMA FACILITY: 3566 MILLCREEK AVE Comstock Park MICH 49321 — AC Type: 85/100 — Mix Type: 1100T 20AA

OEM: C.M.I — MODEL: DRUM

The loader operator was observed removing aggregate from the stockpiles at (circle): bottom mid

TYPE OF CONTROL EQUIPMENT: MARTIN ENGR.

TYPE OF FUEL USED DURING TESTING: NAT GAS — FUEL UNIT:

WEATHER INFORMATION

Record Ambient Temperature At:

Startup	Mid-day	Shutdown

Record Relative Humidity (%) at:

Startup	Mid-day	Shutdown

Name & Phone of Individual(s) recording operating information: DAVE MUZZALL - PLANT OPERATOR (616) 784-5220

1	2	3	4	5	6	7	8	9	10	11	12	13	14

PM RUN #3

<< Remember to generate PRINT-OUTS >> ☐ Not available

Page ____ of ____

Time	Fuel Used (cumulated)	MATERIALS PROCESSED (cumulated tons produced/used) Aggregate	RAP	AC	~~Exhaust Gas Temperature~~	Materials Temperature	Pressure Drop	Damper Position	BAGHOUSE TEMP Burner Position	Inlet	Outlet		Other
24 hour		tons	tons	tons	°F	°F	in. wg.	% closed	O_2 (%)	CO_2 (%)	CO (ppm)	THC (ppm)	
08:00	443164300 27943100	315.0	—	17.00		300°	3.2	66%	35%	299°	257°		
08:15	443180200 27943500	434	—	24.00		294°	3.1	66%	35%	291°	252°		
08:30	443191400 27943600	525.7	—	29.43		292°	3.0	66%	34%	291°	250°		
8:34 08:45	443202600 27943600	550.0 616.7	—	30.95 34.77		299°	3.1	66%	28%	292	249°		
09:01	443216000 27943700	714.4	—	40.56		300°	3.1	65%	27½%	291°	249°		
09:15	443222000 27943800	804.6	—	45.89		299°	3.1	66%	27½	291°	248°		
09:30	443238500 27943900	894.6	—	51.24		296°	3.1	66%	27½	291	246°		
09:45	443249800 27943900	985.4	—	56.61		290°	3.1	65%	29%	290°	245°		
0956	443259000 27944000	1053.9	—	60.69		291°	3.1	66%	32½%	290	247°		
← END TEST													

Herman Grant Company

P. O. Box 15006
1100 Ashmore Avenue
Chattanooga, TN 37415
1-800-472-6826
In TN (615) 266-6138
FAX 615-266-7227

gas meter readings 6-9-92

B/O 279434
1st 4431643

2nd 279435
4431802

3rd 279436
4431914

4th 279436
4432026

5th 279437
4432146

6th 279438
4432270

7th 279439
4432385

88

Herman Grant Company

P. O. Box 15006
1100 Ashmore Avenue
Chattanooga, TN 37415
1-800-472-6826
In TN (615) 266-6138
FAX 615-266-7227

gas meter readings 6-9-92

8th 279439
4432498

9th 279440
4432590

10th

PM RUN #3

AGGREGATE
MOISTURE
DETERMINATION
PAH Runs #2 + 3

#1 6/8/92

wet wt 2993.6
Dry wt 2863.8

129.8

PAH Runs

4.5%

#2

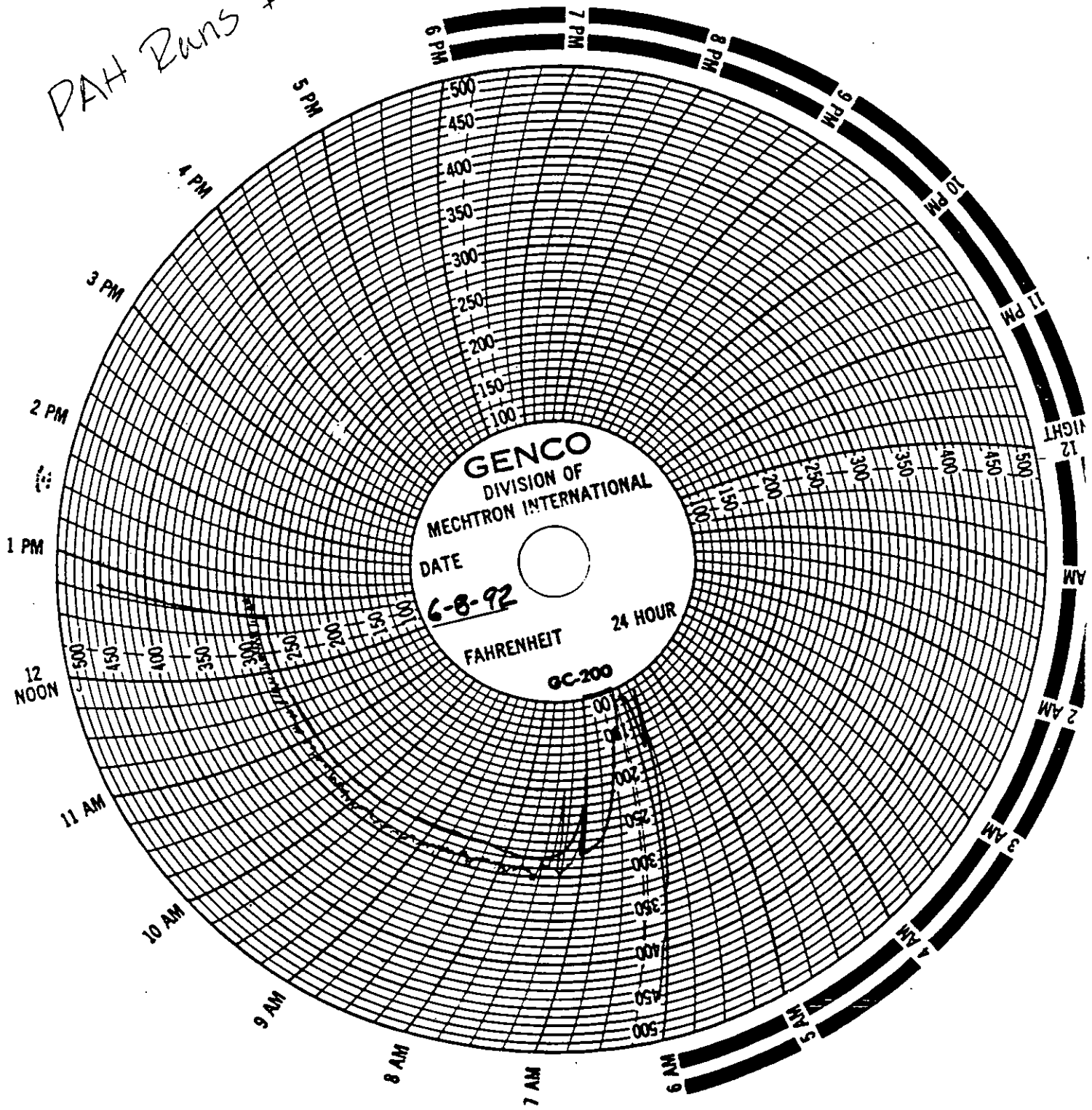
wet wt 2171.8
Dry wt 2078.3

93.5

PAH Runs

4.5%

PAH Runs #2 & 3


GENCO
DIVISION OF
MECHTRON INTERNATIONAL
DATE
6-8-92
FAHRENHEIT
24 HOUR
GC-200
12 NOON
1 PM
2 PM
3 PM
4 PM
5 PM
6 PM
7 PM
8 PM
9 PM
10 PM
11 PM
MIGHT
12 AM
1 AM
2 AM
3 AM
4 AM
5 AM
6 AM
7 AM
8 AM
9 AM
10 AM
11 AM
100
150
200
250
300
350
400
450
500

OPERATING INFORMATION FOR STACK TESTED HOT ASPHALT FACILITY

DATE: 6-8-92

COMPANY NAME: Woodland Paving Co

COMPANY REP.: Dave Muzzall - Plant Operator — PHONE: (616) 784-5220

LOCATION OF HMA FACILITY: 3566 Millcreek Ave Comstock Park Mi 49321 — AC Type: 85/100 — Mix Type: 2B Base

OEM: C.M.I — MODEL: Drum

The loader operator was observed removing aggregate from the stockpiles at (circle): bottom side

TYPE OF CONTROL EQUIPMENT: Martin Engr.

TYPE OF FUEL USED DURING TESTING: NAT GAS — FUEL UNIT:

WEATHER INFORMATION

Record Ambient Temperature At:

Startup	Mid-day	Shutdown

Record Relative Humidity (%) at:

Startup	Mid-day	Shutdown

Name & Phone of Individual(s) recording operating information: Dave Muzzall - Plant Operator (616) 784-5220

1	2	3	4	5	6	7	8	9	10	11	12	13	14

PAH Run #2

MATERIALS PROCESSED (cumulated tons produced/used)

<< Remember to generate PRINT-OUTS >> ☐ Not available

Page ____ of ____

Time (24 hour)	Fuel Used (cumulated)	Aggregate (tons)	RAP (tons)	AC (tons)	~~Exhaust Gas Temperature~~ (°F)	Materials Temperature (°F)	Pressure Drop (in. wg.)	Damper Position (% closed)	Burner Position	BAGHOUSE TEMP Inlet O_2 (%)	Outlet CO_2 (%)	Outlet CO (ppm)	Outlet THC (ppm)	Other
7:49	44277400 27936000	236.4	–	9.89		280°	3.5	69%	23%	312°	273°			
8:06	44279050 27936100	325.6	–	13.97		285°	3.2	68%	25%	310°	271°			
8:21	A/C Samp 8:10 7K5	415.3	–	18.05		290°	3.5	68%	27½%	309°	266°			
8:36 *	*	505.6	– *	22.31	*	290°	3.5	68%	27½%	305° *	263°			
8:50		590.8	–	26.33		289°	3.2	68%	26%	302°	263°			
9:07	44283300 27936400	699.7	–	31.51		286°	3.7	68%	26%	301°	264°			
9:21		784.3	–	35.51		281°	3.6	68%	27½%	300°	264°			
9:38		891.7		40.60		284°	3.5	68%	28%	300	264°			
957	44287100 27936650	1005.3		45.99		286°	3.4	68%	25%	301°	265°			
957	END FIRST TEST			(P.A.H.)										

PAH RUN #3

< Remember to generate PRINT-OUTS >> ☐ Not available

Time	Fuel Used (cumulated)	MATERIALS PROCESSED (cumulated tons produced/used) Aggregate	RAP	AC	~~Exhaust Gas Temperature~~	Materials Temperature	Pressure Drop	Damper Position	BAGHOUSE TEMP Burner Position	Inlet	Outlet		Other
24 hour		tons	tons	tons	°F	°F	in. wg.	% closed	O_2 (%)	CO_2 (%)	CO (ppm)	THC (ppm)	
11:14		1424.9	—	65.73		285°	3.5	68%	26%	300°	263°		
11:31	44293570027937125	1538.6 *	—	86.18 *	*	286°	3.5	67%	27½%	299*	262°		
1147	A/C Sample TK #2	16338	—	75.61		287°	3.5	68%	26%	300°	264°		
1210	44295760027937250	17838	—	82.72		285°	3.5	68%	26%	300°	264°		
1227	44297800027937400	18860	—	87.56		287°	3.6	67%	26%	300°	265°		
1247		2006.1	—	93.21		286°	3.5	68%	26%	300°	264°		
1254	44299720027937530	2054.1	—	95.46		288°	3.6	68%	26%	300	263°		
END	2ND TEST (PAH) AT 1254												

MOISTURE
DETERMINATION
RUN #4

PAH #4
6-10-92

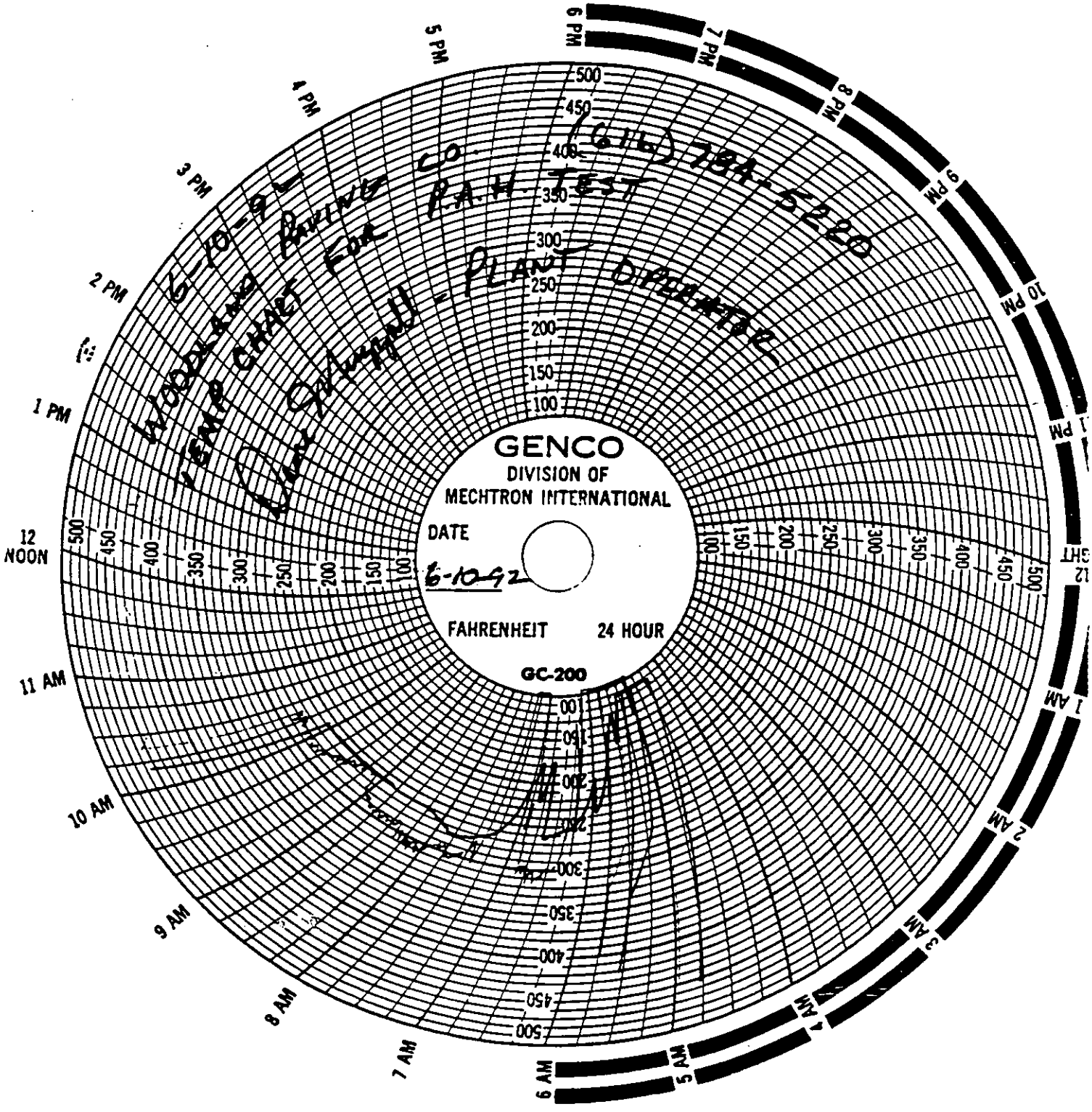
Wet wt 2353.9g
Dry wt 2247.3g

106.6g

= 4.7% Moisture

PAH Run 4

PAH Run #4


GENCO
DIVISION OF
MECHTRON INTERNATIONAL
DATE
6-10-92
FAHRENHEIT
24 HOUR
GC-200
12 NOON
1 PM
2 PM
3 PM
4 PM
5 PM
6 PM
7 PM
8 PM
9 PM
10 PM
11 PM
12 MIDNIGHT
1 AM
2 AM
3 AM
4 AM
5 AM
6 AM
7 AM
8 AM
9 AM
10 AM
11 AM
500
450
400
350
300
250
200
150
100
6-10-92
WOOD-MAC Service Co
TEMP CHART For
PAH Test
(614) 794-5220
PLANT Breaker

E.U.I.D. 1521

OPERATING INFORMATION FOR STACK TESTED HOT M. SPHALT FACILITY

DATE: 6-10-9-

COMPANY NAME: WOODLAND PAVING CO

COMPANY REP.: DAVE MUZZALL - PLANT OPERATOR PHONE: (616) 784-5220

LOCATION OF HMA FACILITY: 3566 MILLCREEK COMSTOCK PARK MICH 49321

AC Type: 85/100 Mix Type: 1100T 20AA

OEM: C.M.I MODEL: DRUM

The loader operator was observed removing aggregate from the stockpiles at (circle): bottom (side)

TYPE OF CONTROL EQUIPMENT: MARTIN ENGR.

TYPE OF FUEL USED DURING TESTING: NAT GAS FUEL UNIT:

WEATHER INFORMATION

Record Ambient Temperature At:

Startup	Mid-day	Shutdown

Record Relative Humidity (%) at:

Startup	Mid-day	Shutdown

Name & Phone of Individual(s) recording operating information: DAVE MUZZALL - PLANT OPERATOR (616) 784-5220

1	2	3	4	5	6	7	8	9	10	11	12	13	14

START TEST PAH RUN #4

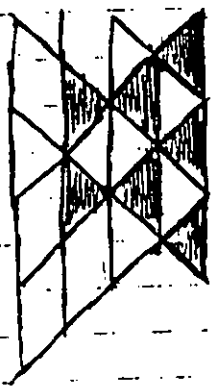
<< Remember to generate PRINT-OUTS >> ☐ Not available

Page 1 of 1

		MATERIALS PROCESSED (cumulated tons produced/used)											
Time	Fuel Used (cumulated)	Aggregate	RAP	AC	Exhaust Gas Temperature	Materials Temperature	Pressure Drop	Damper Position	Burner Position	BAGHOUSE TEMP Inlet	BAGHOUSE TEMP Outlet		Other
24 hour		tons	tons	tons	°F	°F	in. wg.	% closed	O_2 (%)	CO_2 (%)	CO (ppm)	THC (ppm)	
08:23	443462500 27950900	502.8	—	28.25		297.0°	3.1	68%	32½%	295°	260°		
08:36	443473100 27950900	586.1	—	33.24		287.0°	3.1	67%	25%	291°	254°		
08:53	443482900 27951000	678.7	—	38.79		286.0°	3.2	68%	31%	289°	252°		
09:08	443495200 27951100	769.1	—	44.15		293.°	3.2	67%	27½%	290°	252°		
09:21	443505400 27951100	843.7	—	48.59		281°	3.2	68%	28%	289°	251°		
0936	443518400 27951200	945.9	—	54.65		279°	3.2	69%	31%	289°	249°		
NOTE:	A/C sample taken at 0921			TK #2	85/100								
0950	443530300 27951300	1037.5	—	60.69		284°	3.2	69%	32%	290°	252°		
10:06	443541200 27951300	1125.5	—	65.36		284°	3.1	68%	31%	290°	252°		
10:21	443552000 27951400	1211.1		70.46		279°	3.1	69%	27½%	290°	252°		
10:26	443556000 27951400	1240.3		72.19		279°	3.2	69%	25%	290	251°		

FUEL METER READINGS

PAH RUN #4



1) 279508
4434628

2) 279509
4434731

3) 279510
4434829

4) 279511
4434957 — 10:14

5) 279511
4435054 — 10:24

6) 279512
4435184 — 1310

7) 279512½
4435303

8) 279513
4435412

9) 279514
4435520

4435560

CONTRACTORS STEEL COMPANY

2768 Dormax S.W. • Wyoming, Michigan 49509
Phone 616/531-4000
Toll Free From Michigan (1) 800-632-1853
Toll Free Outside of Michigan (1) 800-356-5449

michcon Michigan Consolidated Gas Company
200 Monroe Avenue, Grand Rapids, Michigan 49503

June 4, 1992

Ms. Kathryn Gunkel
Woodland Paving
3566 Millcreek, N.E.
Comstock Park, MI

Dear Ms. Gunkel,

In response to your request for a breakdown of the components of the natural gas that is located on the MichCon system, here is a sample that was taken from the South Grand Rapids Gate Station. The sample was taken at approximately 1:00 pm on Wednesday, March 11, 1992.

The sample test results were found to be comparable to those of samples of natural gas taken form various locations in the Grand Rapids area. That is, the natural gas was found to be quite dry, with less than 0.5 Lbs. of H2O per MMcf, and it contained a trace of Sulfur (less than 1.0 ppm of H2S).

The sample Btu content (Dry @ 14.650 PSIA & 60 Degrees F) was found to be 1020.0 Btu per cubic foot, and also (Sat. @ 14.650 PSIA & 60 Degrees F) 1002.3 Btu per cubic foot. The compressibility factor (1/z) was found to be 1.0022 and the Real Specific Gravity was 0.5941.

The molecular breakdown of the sample appears below:

Component	Molecular %	Btu Content
Methane	93.68	948.00
Propane	0.52	13.12
I-Butane	0.09	2.82
N-Butane	0.12	4.02
I-Pentane	0.04	1.53
N-Pentane	0.04	1.40
Nitrogen	1.93	0.00
Ethane	2.83	50.34
CO2	0.71	0.00
Neo C5	163EE-6	0.01
C6 +	0.04	2.12
	100.00	1023.36

As expected, the sample was almost 94% Methane.

I hope this information is useful to you. If you have any questions, please let me know. I can be reached at 776-2901.

Sincerely,

Mark T. Coaster

Mark T. Coaster
Industrial Marketing Consultant

WW Engineering & Science, Inc.
Environmental Services Division

TRAVERSE POINT LOCATION DATA
RECTANGULAR DUCTS

Client: Woodland Paving
Project Number:
Site:

Date: 6/2/92
Source: Bag house outlet
Calculated by: GH

Inside duct dimensions:

Nipple Length: 2.5"

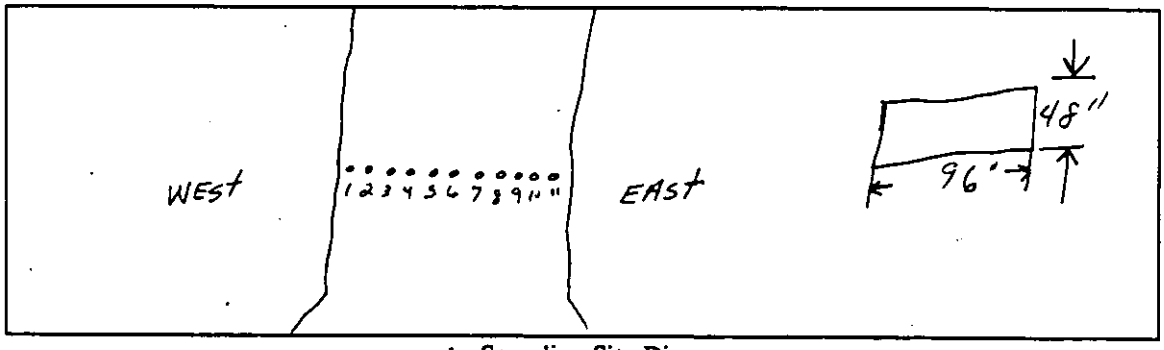
Equivalent Stack Diameter:

Nearest disturbance upstream of port: 20'

Nearest disturbance downstream of port: 23'

Sample Matrix:

Traverse Point Number	Inside of Near Wall to Traverse Point	Nipple Depth	Traverse Point Location	Port Location	Distance From Edge of Stack
1	12"	2.5"	14.5"	1	8"
2	24"		26.5"	1	8"
3	36"		38.5"	1	8"
1	12"		14.5"	2	16"
2	24"		26.5	2	16"
3	36"		38.5"	2	16"
1	12"		14.5"	3	24"
2	24"		26.5"	3	24"
3	36"		38.5"	3	24"
1	12"		14.5"	4	32"
2	24"		26.5"	4	32"
3	36"		38.5"	4	32"
1	12"		14.5"	5	40"
2	24"		26.5"	5	40"
3	36"		38.5"	5	40"



Sampling Site Diagram

WW Engineering & Science, Inc.
Environmental Services Division

TRAVERSE POINT LOCATION DATA
RECTANGULAR DUCTS

Page 2 of

Client: Woodland Paving
Project Number:
Site:

Date: 6/2/92
Source: Bag house outlet
Calculated by: GH

Inside duct dimensions:

Nipple Length: 2.5"

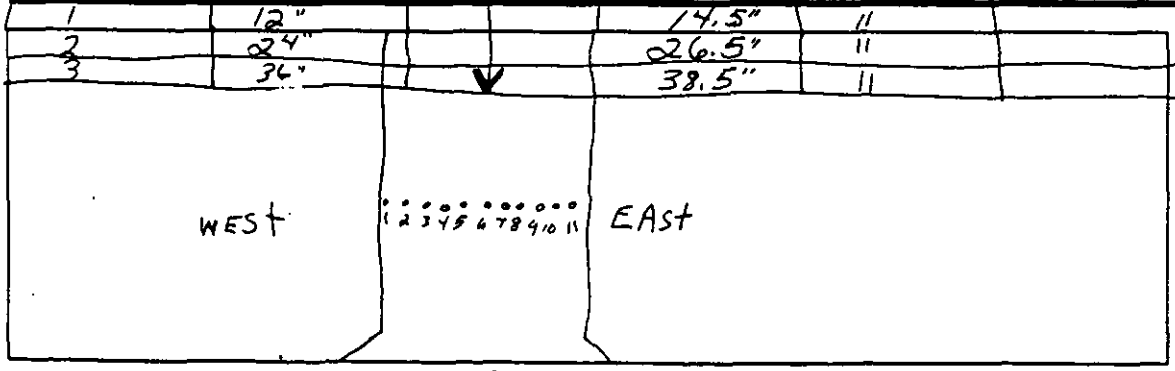
Equivalent Stack Diameter:

Nearest disturbance upstream of port: 20'

Nearest disturbance downstream of port: 23'

Sample Matrix:

Traverse Point Number	Inside of Near Wall to Traverse Point	Nipple Depth	Traverse Point Location	Port Location	Distance From Edge of Stack
1	12"	2.5"	14.5"	6	
2	24"		26.5"	6	
3	36"		38.5"	6	
1	12"		14.5"	7	
2	24"		26.5"	7	
3	36"		38.5"	7	
1	12"		14.5"	8	
2	24"		26.5"	8	
3	36"		38.5"	8	
1	12"		14.5"	9	
2	24"		26.5"	9	
3	36"		38.5"	9	
1	12"		14.5"	10	
2	24"		26.5"	10	
3	36"		38.5"	10	
1	12"		14.5"	11	
2	24"		26.5"	11	
3	36"		38.5"	11	



Sampling Site Diagram

WW Engineering & Science, Inc.
Environmental Services Division

Velocity Data Sheet

Client: Woodland
Project Number:
Source: Bag house outlet
Pitot Tube I.D.: Coefficient
Staff: PK JM GH BH KP
Wet Bulb Temp.:

Date: 6/2/92
Barometric Pressure: 29.56
Location:
Pitot Leak Check Pre:
Pitot Leak Check Post:
Static Pressure: .28 "H_2O

3 3
2.5

Port/Point	Pitot Tube ΔP	Stack Temperature (°F)	Point/Port	Pitot Tube ΔP	Stack Temperature (°F)
1-1	.50	—	6-2	.23	274
1-2	.39	—	6-3	.14	272
1-3	.30	—	7-1	.36	281
2-1	.45	—	7-2	.24	279
2-2	.35	—	7-3	.18	273
2-3	.31	—	8-1	.25	276
3-1	.44	276	8-2	.26	275
3-2	.34	271	8-3	.30	280
3-3	.25	271	9-1	.34	272
4-1	.43	280	9-2	.23	267
4-2	.30	271	9-3	.24	260
4-3	.19	271	10-1	.36	271
5-1	.38	277	10-2	.31	265
5-2	.24	270	10-3	.29	—
5-3	.18	270	11-1	.34	—
6-1	.37	274	11-2	.34	—
			11-3	.31	

.262
.265

$\%O_2$:: _____ $\%CO_2$: _____ Average $\sqrt{\Delta P}$ .5460 Average Stack Temp.: 2728

$\overline{\Delta P}$: .3042

WW Engineering & Science, Inc.
Environmental Services Division

Particulate Analysis

Client: Woodland Paving
Project Number: 22327

Date Received: 6/2/92
Run No.: 1

Field ID	Lab. ID 150 ml	Level Marked ?	Container Sealed ?	Comments (include acetone rinse volume)
FH 64	# 172		—	
BH 64	# 173		—	
ACI	171	—	—	200 ml

Filter Analysis

Filter Number: FH 64 Date and Time Desiccated: 6/2/92 1900 hrs

3.2686
68.2887
71.5573

Date: 6/3/92	Time: 531 PM	Weight: 71.5666
Date: 6/11/92	Time: 1201	Weight: [redacted] 71.5677
Date: 7/7/92	Time: 1438	Weight: 71.5654 g
Date: 7-13-92	Time: 0900	Weight: 71.5654 g
		Average: 71.5654
		Tare Weight: 71.5573
		Weight Gain: .0081 g

Filter Number: BH 64 Date and Time Desiccated: 6/2/92 1900 hrs.

3.2309
68.40725
71.63815

Date: 6/3/92	Time: 534 PM	Weight: 71.6380
Date: 6/11/92	Time: 1207	Weight: 71.6388 *
Date: 7/9/92	Time: 1408	Weight: 71.6379
Date: 7-13-92	Time: 0800	Weight: 71.6364 * 71.6364
7-13-92	1542	Average: 71.6364
		Tare Weight: 71.63815
		Weight Gain: -.00175 g

Acetone Rinse Analysis

Date in Oven: 7/7/92	Time in Oven: 0800	Oven Temperature: ~~250~~ 130°F
Date Removed: 7/7/92	Time Removed: 0930	Rinse Volume: 200 ml
Date: 7/9/92	Time: 1430	Weight: 67.9670 *
Date: 7-13-92	Time: 0900	Weight: 67.9662
Date: 7-13-92	Time: 1543	Weight: 67.9660
Date:	Time:	Weight: ~~67.9661~~
		Average: 67.9661
		Tare Weight: 67.9605
		Weight Gain: .0056 g

$C_a \times V_a \times pa$ = Acetone Blank Correction: 0.0000

Total Weight Gain Minus Acetone Blank: 11.95 mg

Analyzed By: Gary Hardtke Reviewed By: Paul Kebbe

WW Engineering & Science, Inc.
Environmental Services Division

#1

MOISTURE AND MOLECULAR WEIGHT DATA

Client: WOODLAND Date: 6-1 Project Number: 22327
Source: BAGHOUSE Site: OUTLET Run Number: BUCKET 1 METHOD 202
Staff:

MOISTURE DATA

	Container 1	Container 2	Container 3	Container 4	Container 5
Final Weight or Volume	856.99	575.13	462.79	657.20	
Tare Weight or Volume	580.5	591.2	458.4	657.4	
Gain					
Contents (ie silica gel)	276.49	-16.08	4.39	-.2	

936 ml of D.I. WATER + SAMPLE FOR ANALYSIS 264.6
260.4'

MOLECULAR WEIGHT DATA

Analysis Method:_____ Analysis Date:_____ Sample Type:_____

Run Number	Oxygen	Carbon Dioxide	Carbon Monoxide
1			
2			
3			
Average			

Blue liner compt. Red stack
Green compt.

WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

Client: Woodland
Project Number: 22327
Source: Baghouse outlet
Sampling Site:
Test Number: #1
Sample Type: Particulate

Pitot Tube I.D.: S-type 20 C_p: .85
Probe Length.:
Meter Box Number: 3
Meter Y Factor: 1.0197
Meter K_{iso}: 1834, 1853
Meter Factor: 4.5967

Barometric Pressure: 29.56
Static Pressure: .28
Estimated Moisture: 23%
Nozzle Diameter: .268
Initial Leak Check: 0.05 @ 4"
Final Leak Check: 0.015 @ 6"

Date: 6/2/92 Page 1 of 2
Staff: PK BH GH JM RP
Stack Size: 48 x 96
Orsat Leak Check Pre: — Post: /
Pitot Leak Check Pre: — Post: —
Filter Number(s): FH-0464

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
	0.0	1328	030.28									
BH 11-1	2.5		031.77	.35	1.24	1.5	106	105	281		262	
11-2	5.0		033.23	.34	1.19	1.5	106	105				
11-3	7.5		034.62	.30	1.05	1.5	106	105			249	
10-1	10.0		036.10	.34	1.19	1.5	108	104			260	
10-2	12.5		037.52	.33	1.15	1.5	108	104			260	
10-3	15.0		038.72	.20	.70	1.5	108	104			267	
9-1	17.5		040.12	.32	1.11	1.5	103	102			244	
9-2	20.0		041.43	.30	1.05	0	107	105			240	
9-3	22.5		042.71	.24	.84	0	108	105			232	
X 8-1	25.0		044.03	.29	1.01	0	108	105			245	
8-2	27.5		045.06	.28	.98	0	108	106			254	
8-3	30.0		047.05	.22	.77	0	108	105			265	
7-1	32.5		048.06	.31	1.08	.5	108	105			244	
7-2	35.0		049.36	.29	1.01	.5	108	105			256	
7-3	37.5		050.58	.20	.70	.5	108	105			234	
6-1	40.0		51.88	.34	1.19	.5	108	105				

Averages: Vol. 38.14 cu/ft. √ΔP: .5423 ΔH: ~~1.07~~ 1.04 T_m: 106.1 T_s: 281

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Avg ΔP = ~~1.5~~ 20

WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

Client: Woodland
Project Number: 22327
Source: Baghouse Outlet
Sampling Site:
Test Number: #1
Sample Type: Particulate

Pitot Tube I.D.: S-type Cp: .85
Probe Length.:
Meter Box Number: 3
Meter Y Factor: 1.0197
Meter K_{iso}: 1834.1853
Meter Factor: 4.5967

Barometric Pressure: 29.56
Static Pressure: .28
Estimated Moisture: 23%
Nozzle Diameter: .268
Initial Leak Check:
Final Leak Check: 0 @ 15 @ 6"

Date: 6/2/92 Page 2 of 2
Staff: PK BH JM KP GH
Stack Size:
Orsat Leak Check Pre: Post:
Pitot Leak Check Pre: — Post: —
Filter Number(s): FH-BH-64

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
6-2	42.5		053.01	.24	.83	0.5	105	103	281		263	
6-3	45.0		054.05	.21	.73	0.5	105	103			242	
5-1	47.5		055.42	.35	1.22	0.5	106	104				
5-2	50.0		056.48	.23	.80	1.0	107	105				
5-3	52.5		057.57	.26	.91	.0	108	105			253	
4-1	55.0		058.94	.39	1.36	1.0	107	105			245	
4-2	57.5		060.14	.28	.98	1.0	108	106			266	
4-3	60.0		061.38	.23	.80	1.0	108	106			262	
3-1	62.5		062.90	.42	1.47	1.5	109	106			255	
3-2	65.0		064.34	.32	1.12	1.5	109	106				
X 3-3	67.5		65.34	.25	.87	1.5	107	105			268	
X 2-1	70.0		66.32	.45	1.58	2.0	108	105			241	
X 2-2	72.5		67.43	.36	1.26	2.0	109	107			271	
X 2-3	75.0		68.42	.28	.98	2.0	109	107			259	
~~X~~ 1-1	77.5		Test	completed in			108	106			248	
1-2	80.0		75 minutes									
Averages:				√ΔP:	ΔH:	1.07	T_m:		T_s:			
1-3	82.5											

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WW Engineering & Science, Inc.
Environmental Services Division

Particulate Analysis

Client: Woodland
Project Number: 22327

Date Received: 6/2/92
Run No.: #2

Field ID	Lab. ID	Level Marked ?	Container Sealed ?	Comments (include acetone rinse volume)
FH60	#172			
BH60	#183			
~~H2O Blank~~ ACE	~~#166~~ 179	—	—	224 ml

Filter Analysis

68.34155
2.7354
71.07695

Filter Number: FH60 — Date and Time Desiccated: 6/5/92 1500

Date	Time	Weight
6/11/92	1214	71.0855
7/9/92	1125	71.0847
7-13-92	0820	71.0842
		~~71.0845~~
Average:		71.08445
Tare Weight:		71.07695
Weight Gain:		.0075 g

68.28405
3.4042
71.68825

Filter Number: BH60 — Date and Time Desiccated: 6/5/92 1500

Date	Time	Weight
6/11/92	1208	71.6786
7/9/92	1438	71.6768
7-13-92	0820	71.6767
Average:		71.67675
Tare Weight:		71.68825
Weight Gain:		-.0115 g

Acetone Rinse Analysis

Beaker #~~166~~

Date in Oven: ~~7/9/92~~ — Time in Oven: 09:00 pm — Oven Temperature: 200°F
Date Removed: ~~7/9/92~~ — Time Removed: ~~09:30~~ — Rinse Volume: 224ml

Date	Time	Weight
7/9/92	1434	70.1580
7-13-92	0821	70.1564
7-13-92	1544	70.1566
Average:		70.1562
Tare Weight:		70.1409
Weight Gain:		.0153 g

$C_a \times V_a \times pa$ = Acetone Blank Correction: 0.000

Total Weight Gain Minus Acetone Blank: 11.3 mg

Analyzed By: Gary Hankins — Reviewed By: Paul Kanto

WW Engineering & Science, Inc.
Environmental Services Division

MOISTURE AND MOLECULAR WEIGHT DATA

Client: Woodland Paving Date: 6/3/92 Project Number: 22327
Source: Outlet Bayform Site: Run Number: #2
Staff:

MOISTURE DATA

	Container 1	Container 2	Container 3	Container 4	Container 5
Final Weight or Volume	871.42	520.41	447.19	669.0	
Tare Weight or Volume	510.3	488.3	446.30	668.0	Toroc
Gain	361.12	32.11	.89	1.0	395.12
Contents (ie silica gel)					

MOLECULAR WEIGHT DATA

Analysis Method: Analysis Date: Sample Type:

Run Number	Oxygen	Carbon Dioxide	Carbon Monoxide
1			
2			
3			
Average			

WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

Client: Woodland Paving
Project Number: 22327
Source: Baghouse Outlet
Sampling Site:
Test Number: 2
Sample Type: Particulate

Pitot Tube I.D.: 20 C_p: 0.05
Probe Length.:
Meter Box Number: 3
Meter Y Factor: 1.0197
Meter K_{iso}: 1834.1853
Meter Factor: 3.63303

Barometric Pressure: 29.51
Static Pressure: .28
Estimated Moisture: 23%
Nozzle Diameter: .268
Initial Leak Check: 0.005"
Final Leak Check: 0 @ 5"

Date: 6/3/92 Page 1 of 2
Staff: PK, BH, JM, GH, KP
Stack Size: 48 x 96
Orsat Leak Check Pre: Post:
Pitot Leak Check Pre: Post:
Filter Number(s): BH FH 60

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
		1233	162.96									
1-1	2		164.15	.51	1.40	.5	103	103	280			
2	4		165.18	.33	.92	.5	101	100	266			
3	6		165.89	.09	.25	.5	101	100	270			
2-1	8		166.80	.29	.80	.5	102	101	271			
2	10		167.78	.35	.97	.5	102	101	270			
3	12		168.71	.25	.69	.5	102	101	271			
3-1	14		169.79	.47	1.31	.5	103	101	270			
2	16		170.85	.36	1.00	.5	103	101	273			
3	18		171.78	.28	.78	.5	104	101	272			
4-1	20		172.90	.39	1.09	.5	104	102	270			
2	22		173.94	~~.40~~ .35	.97	1.0	104	102	272			
3	24		174.86	.25	.69	1.0	105	103	273			
5-1	26		175.84	.37	.94	1.0	106	103	270			
2	28		176.91	.45	1.26	1.0	106	104	272			
3	30		178.10	.53	1.48	1.0	107	104	272			
6-1	32		179.34	.56	1.58	1.0	108	105	267			

Averages: Vol. 35.05 √ΔP: .6171 ΔH: 1.096 T_m: 104.4 T_s: 270

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1st ΔP .3927

%Iso 91.6

WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

Client: Woodland Paving
Project Number: 22322
Source: Baghouse Outlet
Sampling Site:
Test Number: 2
Sample Type: Particulate

Pitot Tube I.D.: 20 C_p: 0.85
Probe Length.:
Meter Box Number: 3
Meter Y Factor: 1.0197
Meter K_{iso}: 1834.1853
Meter Factor: 3.63303

Barometric Pressure: 29.51
Static Pressure: .28
Estimated Moisture: 2.3%
Nozzle Diameter: .268
Initial Leak Check: 0.005"
Final Leak Check: 0.01@5"

Date: 6/3/92 Page 2 of 2
Staff: PK, BH, JM, GH, KP
Stack Size: 48x56
Orsat Leak Check Pre: Post:
Pitot Leak Check Pre: Post:
Filter Number(s): BHFH 60

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
GH 6-2	34		180.69	.65	1.83	1.5	~~103~~ 107	~~103~~ 103	269		260	
3	36		182.08	.57	1.61	1.5	111	106	269			
7-1	38		183.28	.43	1.21	.5	108	106	268			
2	40		184.18	.29	.82	.5	108	106	268			
3	42		185.16	.30	.84	.5	107	105	269			
8-1	44		185.78	.17	.48	.5	107	105	266			
2	46		186.56	.31	.87	.5	107	105	270			
3	48		187.46	.25	.70	.5	105	105	268			
9-1	50		188.54	.43	1.21	.5	107	105	268			
2	52		189.66	.42	1.18	.5	106	104	269			
3	54		190.67	.30	.84	.5	106	104	269			
10-1	56		192.05	.57	1.60	1.0	106	104	271			
2	58		193.14	.43	1.21	1.0	105	103	267			
3	60		194.28	.41	1.15	1.0	106	104	270			
11-1	62		195.58	.60	1.69	1.0	106	104	268			
2	64		196.92	.55	1.54	1.5	107	105	271			
Averages: 3	66		198.01	√ΔP: .45	ΔH: 1.26	1.0	107 T_m:	105	270 T_s:			

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WW Engineering & Science, Inc.
Environmental Services Division

Particulate Analysis

Client: Woodland
Project Number: 22327

Date Received: 6/9/92
Run No.: 3

Field ID	Lab. ID 150 ml	Level Marked ?	Container Sealed ?	Comments (include acetone rinse volume)
FH 68	# 188	✓	✓	Acetone
BH 68	189			
Beaker 190				Acetone

Filter Analysis

68.6071 - N/A
3.2108
71.81745

Filter Number: FH 68
Date and Time Desiccated: 6/9/92 3:00

Date	Time	Weight
6/11/92	1200	71.8295 g
7/9/92	1416	71.8281 g
7-13-92	0824	71.8277

Average: 71.8279
Tare Weight: [redacted] 71.81745
Weight Gain: .01045

4.00655
69.03355 [redacted]
73.0401

Filter Number: BH 68
Date and Time Desiccated: 6/9/92 3:00

Date	Time	Weight
6/11/92	1152	73.0376
7/9/92	1123	73.0367
7-13-92	0822	73.0369

Average: 73.0368
Tare Weight: [redacted] 73.0401
Weight Gain: -.0033 g

Acetone Rinse Analysis

Beaker #190

Date in Oven: 6/9/92
Time in Oven: 4:00 pm
Oven Temperature: 140°F
Date Removed: 7/10/92
Time Removed: 345pm
Rinse Volume: 236 ml

Date	Time	Weight
6/11/92	1148	69.6566 g
7/9/92	1123	69.6551 g
7-13-92	0825	69.6546

Average: 69.65485
Tare Weight: 69.64385
Weight Gain: .0110 g

$C_a \times V_a \times pa$ = Acetone Blank Correction: 0.0000

Total Weight Gain Minus Acetone Blank: 18.15 mg

Analyzed By: Gary Hawbaker
Reviewed By: Paul Kuebb

WW Engineering & Science, Inc.
Environmental Services Division

MOISTURE AND MOLECULAR WEIGHT DATA

Client: _____ Date: _____ Project Number: _____
Source: _____ Site: _____ Run Number: _____
Staff: _____

MOISTURE DATA

	Container 1	Container 2	Container 3	Container 4	Container 5
Final Weight or Volume					
Tare Weight or Volume	601.00	552.39	4158.23	646.10	totals
Gain	230.91	27.50	1.41	5.27	265.19 g
Contents (ie silica gel)					

265.19 g

MOLECULAR WEIGHT DATA

Analysis Method: _____ Analysis Date: _____ Sample Type: _____

Run Number	Oxygen	Carbon Dioxide	Carbon Monoxide
1			
2			
3			
Average			

296.5
295.83

WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

Client: Woodland Paving
Project Number: 22327
Source: Baghouse Outlet
Sampling Site:
Test Number: Particulate-3
Sample Type:

Pitot Tube I.D.: 20 C_p: .85
Probe Length.:
Meter Box Number: 3
Meter Y Factor: 1.0197
Meter K_{iso}: 1834, 1853
Meter Factor: 3.8454

Barometric Pressure: 29.59
Static Pressure: .28
Estimated Moisture: 25%
Nozzle Diameter: .268
Initial Leak Check: 0.015@10"
Final Leak Check: 0.017@10"

Date: 6/9/92 Page 1 of 2
Staff: BH DM PK GH KP
Stack Size: 48x96
Orsat Leak Check Pre: Post:
Pitot Leak Check Pre: Post:
Filter Number(s): BH-F8-68

DH

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
		750	287.77									
1-1	2.0		289.12	.56	1.55	4.0	69	68	274	270	270	
1-2	4.0		290.41	.53	1.48	4.0	74	71	269	270	270	
1-3	6		291.73	.42	1.18	4.5	76	72	269	272	272	
2-1	8		292.63	.32	.90	4.5	78	73	268	271	271	
2-2	10		293.73	.40	1.13	5.5	28	74	269	265	265	
2-3	12		294.86	.32	.90	6.0	80	75	271	264	264	
3-1	14		295.83	.29	.82	5.0	81	76	271	262	262	
3-2	16		297.25	.38	1.07	6.0	81	76	270	253	253	
3-3	18		298.20	.27	.76	6.0	82	78	271	264	264	
4-1	20		299.33	.40	1.13	6.0	84	79	271	255	255	
4-2	22		300.36	.30	.85	6.0	85	79	272	276	276	
4-3	24		301.31	.23	.65	5.5	87	80	272	271	271	
5-1	26		302.24	.22	.62	5.5	85	79	269	244	244	
5-2	28		303.25	.23	.65	5.0	85	80	268	259	259	
5-3	30		304.99	.17	.48	3.0	86	81	268	268	268	
6-1	32		305.06	.33	.95	3.0	86	81	264	250	250	

Averages: √ΔP: .5348 ΔH: .84.84 T_m: 82.4 T_s: 267.9

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Vol. 33.9 cu/ft

Ave ΔP= .2980

WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

Client: Woodland Paving
Project Number: 22327
Source: Baghouse Outlet
Sampling Site:
Test Number: Particulate - 3
Sample Type:

Pitot Tube I.D.: 20 C_p: .85
Probe Length.:
Meter Box Number: 3
Meter Y Factor: 1.0197
Meter K_{iso}: 1834.1853
Meter Factor: 3.8454

Barometric Pressure: 29.59
Static Pressure: .28
Estimated Moisture: 25%
Nozzle Diameter: .268
Initial Leak Check: 0.015 @ 10"
Final Leak Check: 0.017 @ 10"

Date: 6/9/92 Page 2 of 2
Staff: PK KP DM BH GH
Stack Size: 48x96
Orsat Leak Check Pre: Post:
Pitot Leak Check Pre: Post:
Filter Number(s):

GH

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
6-2	34		306.01	.20	.57	3.5	86	81	267	272	272	
6-3	36		306.81	.16	.46	3.5	86	82	267	268	268	
7-1	38		307.84	.31	.89	4.0	86	81	267	250	250	
7-2	40		308.78	.22	.63	3.0	85	82	265	249	249	
7-3	42		309.58	.16	.46	3.0	86	83	266	259	259	
8-1	44		310.69	.30	.86	3.5	86	83	266	250	250	
8-2	46		311.53	.23	.66	3.0	87	83	268	268	268	
8-3	48		312.41	.20	.57	2.0	88	84	268	266	266	
9-1	50		313.41	.30	.86	4.0	89	84	267	254	254	
9-2	52		314.38	.24	.69	3.5	88	85	267	265	265	
9-3	54		315.29	.23	.66	3.5	89	85	267	266	266	
10-1	56		316.34	.32	.92	3.5	89	85	267	263	263	
10-2	58		317.48	.42	1.21	4.0	89	86	266	268	268	
10-3	60		318.47	.25	.72	4.0	90	86	269	270	270	
11-1	62		319.84	.34	.98	4.5	89	86	264	247	247	
11-2	64		320.66	.32	.93	4.0	90	87	264	255	255	
Averages: 11-3	66		321.70	√ΔP: .5348 .28	ΔH: .81	4.0	T_m: 90	87	T_s: 264	269	269	

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WW Engineering & Science, Inc.
Environmental Services Division

Particulate Analysis

Client: Woodland
Project Number: 22327

Date Received: 6/9/92
Run No.: BLANK

Field ID	Lab. ID	Level Marked ?	Container Sealed ?	Comments (include acetone rinse volume)
ACBLANK	176	—	—	221 ml

Filter Analysis

Filter Number:_____ Date and Time Desiccated:_____

Date:_____ Time:_____ Weight:_____
Date:_____ Time:_____ Weight:_____
Date:_____ Time:_____ Weight:_____
Date:_____ Time:_____ Weight:_____
Average:_____
Tare Weight:_____
Weight Gain:_____

Filter Number:_____ Date and Time Desiccated:_____

Date:_____ Time:_____ Weight:_____
Date:_____ Time:_____ Weight:_____
Date:_____ Time:_____ Weight:_____
Date:_____ Time:_____ Weight:_____
Average:_____
Tare Weight:_____
Weight Gain:_____

Acetone Rinse Analysis

Date in Oven: 7/7/92 Time in Oven: 0800 Oven Temperature: 120°F
Date Removed: 7/8/92 Time Removed: 0935 Rinse Volume: 221 ml

Date: 7/9/92 Time: 1436 Weight: 69.8089
Date: 7-13-92 Time: 0825 Weight: 69.8080
Date:_____ Time:_____ Weight: 69.8078
Date:_____ Time:_____ Weight:_____
Average: 69.8079
Tare Weight: 69.80955
Weight Gain: -.0006

$C_a \times V_a \times pa$ = Acetone Blank Correction: 0

Total Weight Gain Minus Acetone Blank:_____

Analyzed By: Paul K. Hoff Reviewed By:_____

STATEMENT OF DATA QUALIFICATIONS

CLIENT: Woodland Paving

SUBMITTAL: 30666-1

__X__ All analyses have been validated and comply with our Quality Control Program. No qualifications required.

_____ The following analyses have been qualified for the reasons cited.

KEY

1. Sample integrity suspect upon receipt (explain).
2. Analysis performed beyond EPA established maximum allowable holding time.
3. Detection limit elevated due to matrix interferences.
4. Laboratory control sample value outside established acceptable limits.
5. Matrix spike sample value outside established acceptable limits.
6. Duplicate analysis value outside established acceptable limits.
7. Surrogate/internal standard recoveries outside established acceptable limits.
8. Data point suspect due to potential laboratory contamination (explain).
9. Coelutes with the compound cited. Result may represent a combination of both compounds.
10. Other (explain).

Note: This document is included as part of the Analytical Report for the above referenced submittal and should be retained as a permanent record thereof.

WW Engineering & Science, Inc.
Environmental Laboratory Division

ANALYTICAL REPORT

Woodland Paving
Proj: Condensible Particulate and Formaldehyde Analysis
Subm: Air Analysis

Submittal Number: 30666- 1
Location:
CCS Number 22327.00
CCS Manager: Kevin Payler

	COND1	COND2	COND3	Detection Limit	Units
WWES Sample No:	24250	24251	24252		
Condensible-Particulate Matter (Organic)	0.7	2.1	2.6	0.1	mg
Condensible-Particulate Matter (Inorganic)	7.1	6.9	2.3	0.1	mg
Sampled by:	P.K.	P.K.	P.K.		
Date Sampled:	06/02/92	06/03/92	06/09/92		
Time Sampled:	09:00	11:00	12:00		
Date Received:	06/18/92	06/18/92	06/18/92		
Time Received:	16:15	16:15	16:15		

WOODLAND PAVING
PROJECT 22327

AIR SAMPLE RESULTS
ANALYST: STEVE BUTZ

BTEX SAMPLES

Sample ID	Result	Units
A	<1.0	ppm
B	<1.0	ppm
C	<1.0	ppm
D	<1.0	ppm
E	<1.0	ppm
F	<1.0	ppm
G	<1.0	ppm
H	<1.0	ppm
I	<1.0	ppm
J	<1.0	ppm
K	<1.0	ppm
L	<1.0	ppm
M	<1.0	ppm
N	<1.0	ppm
O	<1.0	ppm
P	<1.0	ppm
Q	<1.0	ppm
R	<1.0	ppm
S	<1.0	ppm
T	<1.0	ppm
U	<1.0	ppm
V	<1.0	ppm
W	<1.0	ppm
X	<1.0	ppm
Y	<1.0	ppm
Z	<1.0	ppm
AA	<1.0	ppm
AB	<1.0	ppm
AC	<1.0	ppm
AD	<1.0	ppm
AE	<1.0	ppm

WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

Client: Woodland Paving
Project Number: 22327
Source: Baghouse Outlet
Sampling Site:
Test Number: 3
Sample Type: MM5-3

Pitot Tube I.D.: S-Type C_p: .85
Probe Length.:
Meter Box Number: 3
Meter Y Factor: 1.0197
Meter K_{iso}: 1834.1853
Meter Factor: 2.9586

Barometric Pressure: 29.58
Static Pressure: .28
Estimated Moisture: 25%
Nozzle Diameter: .251
Initial Leak Check: 0.017@8"
Final Leak Check: 0.015@9"

Date: 6/8/92 Page 1 of 2
Staff: BHJMPKKPGA
Stack Size: 48x96
Orsat Leak Check Pre: Post:
Pitot Leak Check Pre: Post:
Filter Number(s):

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
		1113	246.46									
1-1	2.5		247.64	.35	.78	1.0	100	100	278	270	270	
1-2	5.0		248.91	.36	.78	2.5	101	100	281	270	270	
1-3	7.5		250.21	.39	.87	2.5	102	100	280	272	272	
2-1	10.0		251.29	.27	.60	2.0	102	100	279	270	270	
2-2	12.5		252.48	.33	.74	2.0	103	101	278	268	268	
2-3	15.0		253.81	.42	.94	2.5	103	101	280	261	261	
3-1	17.5		254.85	.25	.56	2.5	104	101	280	265	265	
3-2	20.0		256.00	.31	.69	2.5	104	101	279	262	262	
3-3	22.5		257.29	.40	.89	2.5	105	102	281	258	258	
4-1	25.0		258.04	.21	.47	2.0	105	102	282	262	262	
4-2	27.5		259.29	.28	.63	2.0	104	100	277	264	264	
4-3	30.0		260.62	.47	1.05	4.0	106	102	281	252	252	
5-1	32.5		261.49	.19	.42	2.0	107	103	283	255	255	
5-2	35.0		262.59	.28	.63	2.0	105	101	278	268	268	
5-3	37.5		263.85	.37	.83	3.5	106	102	281	260	260	
6-1	40.0		264.72	.20	.44	3.5	107	102	284	257	257	

Averages: √ΔP: ~~.5603~~ .5906 ΔH: .7930 T_m: 102.0 T_s: ~~277.5~~ 280

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Vol. 29.5 cu/ft.

WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

Client: Woodland Paving
Project Number: 22327
Source: Baghouse Outlet
Sampling Site:
Test Number: 3
Sample Type: MM-5-3

Pitot Tube I.D.: 20 C_p: .85
Probe Length.:
Meter Box Number: 3
Meter Y Factor: 1.0197
Meter K_{iso}: 1834.1853
Meter Factor: 2.9586

Barometric Pressure: 29.58
Static Pressure: .28
Estimated Moisture: 25%
Nozzle Diameter: .251
Initial Leak Check: 0.017@8"
Final Leak Check: 0.015@ 9"

Date: 6/8/92 Page 2 of 2
Staff: KP JM PK BH GH
Stack Size: 48x96
Orsat Leak Check Pre: Post:
Pitot Leak Check Pre: Post:
Filter Number(s):

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
6-2	42.5		265.84	.29	.65	3.0	105	101	277	256	256	
6-3	45.0		267.20	.45	1.01	3.0	107	103	283	246	246	
7-1	47.5		268.02	.16	.35	3.5	102	100	281	249	249	
7-2	50.0		269.14	.31	.69	2.0	102	100	276	247	247	
7-3	52.5		270.52	.48	1.07	3.0	105	101	282	234	234	
8-1	55.0		271.57	.26	.58	3.5	106	102	282	238	238	
8-2	57.0		272.70	.35	.64	3.0	102	100	277	246	246	
8-3	60.0		274.17	.49	1.09	3.0	101	100	280	234	234	
9-1	62.5		275.14	.24	.53	3.0	102	100	281	251	251	
9-2	65.0		276.39	.42	.94	3.5	102	100	280	252	252	
9-3	67.5		277.89	.56	1.25	4.5	102	99	281	235	235	
10-1	70.0		279.02	.31	.69	3.5	104	100	283	237	237	
10-2	72.5		280.32	.40	.89	3.5	103	99	278	244	244	
10-3	75.0		281.87	.61	1.37	5.0	104	100	279	235	235	
11-1	77.5		283.07	.34	.76	3.5	105	101	283	242	242	
11-2	80.0		284.45	.47	1.05	4.0	101	97	276	240	240	
Averages:				√ΔP: .5905	ΔH:	.79	T_m:	102.0	T_s:	271.5		
11-3	82.5		285.96	.58	1.29	4.5	99	98	277	227	227	

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Set #3 w/ #3 #4 from #5

WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

BH

Client: Woodland Paving
Project Number: 22327
Source: Baghouse Outlet
Sampling Site: Outlet
Test Number: 2
Sample Type: MM-5-2

Pitot Tube I.D.: S-Type Cp: .85
Probe Length.: 4' TFE
Meter Box Number: 3
Meter Y Factor: 1.0197
Meter K_{iso}: 1834.1853
Meter Factor: 2.9586

Barometric Pressure: 29.58
Static Pressure: .28
Estimated Moisture: ~~2.5%~~ 25%
Nozzle Diameter: .251
Initial Leak Check: 0.014 @ 15
Final Leak Check: 0.015 @ 21

Date: 6/8/92 Page 1 of 2
Staff: BH, JM, JK, GM, KP
Stack Size: 48 x 96
Orsat Leak Check Pre: Post:
Pitot Leak Check Pre: ✓ Post: —
Filter Number(s):

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
		0808	206.70									
1-1	2.5		207.40	0.36	0.75	2.5	70	64	288	256	256	65
1-2	5.0		209.12	0.45	0.94	4	72	67	284	260	260	65
1-3	7.5		210.57	0.58	1.2	5	82	70	284	268	268	65
2-1	10.0		211.93	0.45	0.96	4	82	70	284	270	270	65
2-2	12.5		213.18	0.35	0.84	4	82	74	282	270	270	64
2-3	15.0		214.70	0.52	1.11	5	82	76	285	271	271	63
3-1	17.5		215.88	0.32	.69	2	82	76	282	271	271	63
3-2	20.0		217.15	0.35	0.84	3	83	78	283	271	271	63
3-3	22.5		218.47	0.51	1.1	4	85	79	285	270	270	63
4-1	25.0		219.61	0.3	0.65	3	81	78	~~274~~ 254	254	254	64
4-2	27.5		220.97	0.38	0.82	4	83	79	278	270	270	64
4-3	30.0		222.12	0.49	1.1	5	84	80	280	258	258	65
5-1	32.5		223.40	0.23	.5	1	82	79	280	260	260	64
5-2	35.0		224.22	0.30	0.65	2	84	80	278	250	250	63
5-3	37.5		225.37	0.41	.89	5	85	82	280	240	240	64
6-1	40.0		226.59	0.2	0.44	1	85	83	278	250	250	64

Averages: Vol. 39.29 cu./ft. √ΔP: ~~.5422~~ .5933 ΔH: ~~.7866~~ Tm: 85 Ts: 281.5

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PK

Ave ΔP: ~~.6545~~ .6881

$D0^2$

WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

Client: Woodland Paving
Project Number: 22327
Source: Baghouse Outlet
Sampling Site:
Test Number: 2
Sample Type: MM5-2

Pitot Tube I.D.: 20 C_p: .85
Probe Length.:
Meter Box Number: 3
Meter Y Factor: 1.0197
Meter K_{iso}: 1834, 1853
Meter Factor:

Barometric Pressure: 29.58
Static Pressure: .28
Estimated Moisture: ~~23%~~ 25%
Nozzle Diameter: .251
Initial Leak Check:
Final Leak Check: 0.015 @ 2"

Date: 6/8/92 Page 2 of 2
Staff: BH, PK, JM, KR, GH
Stack Size: 48x96
Orsat Leak Check Pre: Post:
Pitot Leak Check Pre: — Post: —
Filter Number(s):

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
			226.57									
6-2	42.5		227.63	0.27	0.59	3	88	84	280	246	246	63
6-3	45.0		228.84	0.42	0.92	4	89	85	281	244	244	64
7-1	47.5		230.03	0.22	0.48	2	89	85	281	256	256	64
7-2	50.0		230.94	0.28	.61	3	89	85	281	257	257	64
7-3	52.5		232.14	0.39	.85	4	90	87	281	247	247	65
8-1	55.0		233.25	0.22	.48	2	88	87	280	264	264	64
8-2	57.5		234.45	0.28	0.61	3	90	89	280	254	254	64
8-3	60.0		235.51	0.36	0.71	3	89	85	281	246	246	64
9-1	62.5		236.39	0.26	0.57	3	91	90	281	248	248	65
9-2	65.0		237.55	0.34	0.75	4	92	91	281	256	256	65
9-3	67.5		238.88	0.42	0.92	4	93	93	283	260	260	65
10-1	70.0		240.11	0.28	0.62	4	94	94	283	265	265	66
10-2	72.5		241.22	6.31	0.68	4	92	95	282	262	262	66
10-3	75.0		242.47	0.4	0.88	4	92	92	282	253	253	67
11-1	77.5		243.55	0.31	0.66	3	95	95	282	261	261	67
11-2	80.0		244.81	0.38	0.85	4	99	98	282	261	261	67
Averages: 11-3	82.5		245.95	~~ΔP~~: 0.37	~~ΔH~~: 0.87	4	T_m: 99	99	T_s: 282	260	260	67

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5922 ΔH 7.46 ~ 95 2

WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

Client: Woodland Paving
Project Number: 22327
Source: Baghouse Outlet
Sampling Site:
Test Number: MM5-4
Sample Type: MOD 5

Pitot Tube I.D.: 20 C_p: .85
Probe Length.:
Meter Box Number: 2
Meter Y Factor: .99860
Meter K_{iso}: 1554.705
Meter Factor: 2.44143

Barometric Pressure: 29.57
Static Pressure: .28
Estimated Moisture: 26%
Nozzle Diameter: .251
Initial Leak Check: 0.015@8"
Final Leak Check: 0.015@8"

Date: 6/10/92 Page 2 of 2
Staff: BK AK KPJM GH
Stack Size: 48x96
Orsat Leak Check Pre: ✓ Post:
Pitot Leak Check Pre: Post:
Filter Number(s):

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
F 2	42.5		562.19	.13	.24	4.0	100	95	267		245	
F 3	45.0		563.22	.25	.46	4.5	101	95	267		244	
G 1	47.5		564.00	.13	.24	4.0	100	95	267		241	
G 2	50.0		564.88	.18	.33	4.0	101	97	269		241	
G 3	52.5		565.91	.24	.44	4.5	103	97	271		242	
H 1	55.0		566.72	.14	.26	.35	101	98	271		241	
2	57.5		207.78	.22	.41	4.0	104	99	269		242	
3	60.0		568.80	~~.30~~	.56	4.0	104	99	270		258	
I 1	62.5		569.65	.15	.28	4.0	103	99	271		256	
2	65.0		570.59	.21	~~.39~~	4.5	105	100	271		250	
3	67.5		571.65	.25	.47	4.5	106	101	271		247	
J 1	70.0		572.58	.20	.37	4.0	106	101	271		241	
2	72.5		573.63	.25	.47	5.0	108	102	271		233	
3	75.0		574.75	.28	.52	5.0	108	103	271		233	
K 1	77.5		575.72	.22	.41	4.5	107	103	270		230	
2	80.0		576.79	.25	.47	5.0	108	104	270		234	
Averages: K 3	82.5		577.88	.28	.53	4.5	110	104	271		234	

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WW Engineering & Science, Inc.
Environmental Services Division

MOISTURE AND MOLECULAR WEIGHT DATA

Client: Woodland Paving Date: 6/8/92 Project Number: 22327
Source: Baghouse Site: Outlet Run Number: MM5-3
Staff:

MOISTURE DATA

	Container 1	Container 2	Container 3	Container 4	Container 5
Final Weight or Volume	814.03	372.02	427.14	681.99	
Tare Weight or Volume	565.2	372.1	428.0	673.7	
Gain	248.83	-5.8	-0.86	8.29	
Contents (ie silica gel)					

MOLECULAR WEIGHT DATA

Analysis Method: Analysis Date: Sample Type:

Run Number	Oxygen	Carbon Dioxide	Carbon Monoxide
1			
2			
3			
Average			

WW Engineering & Science, Inc.
Environmental Services Division

MOISTURE AND MOLECULAR WEIGHT DATA

Client: [illegible] Date: 6/4/92 Project Number: [illegible]
Source: [illegible] Site: [illegible] Run Number: [illegible]
Staff: [illegible]

MOISTURE DATA

	Container 1	Container 2	Container 3	Container 4	Container 5
Final Weight or Volume	850.13	[illegible]	[illegible]	[illegible]	
Tare Weight or Volume	579.11	522.70	466.16	[illegible]	TOTAL
Gain	270.11	-27.40	4.68	9.78	257.17
Contents (ie silica gel)	PELL	PELL	[illegible]	[illegible]	

MOLECULAR WEIGHT DATA

Analysis Method:_____ Analysis Date:_____ Sample Type:_____

Run Number	Oxygen	Carbon Dioxide	Carbon Monoxide
1			
2			
3			
Average			

WW Engineering & Science, Inc.
Environmental Services Division

MOISTURE AND MOLECULAR WEIGHT DATA

Client: Woodland Paving Date: 6/10/92 Project Number: 6/10/92
Source: BAGHOUSE Site: COMSTOCK PLANT Run Number: MM5 #4
Staff:

MOISTURE DATA

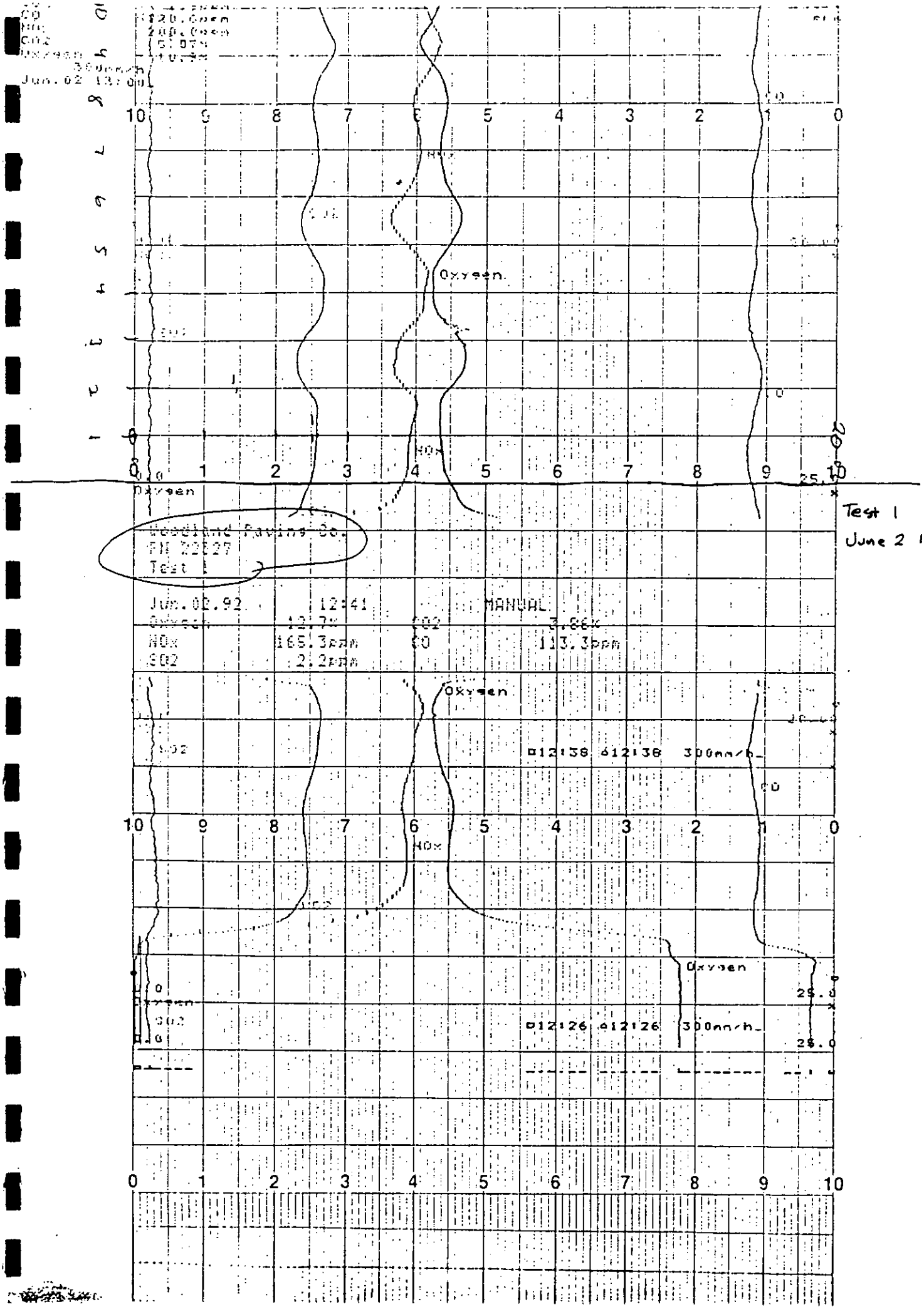
	Container 1	Container 2	Container 3	Container 4	Container 5
Final Weight or Volume	904.05	509.96	457.78	695.10	
Tare Weight or Volume	590.15g	587.07g	457.24g	689.61g	
Gain	~~78.11~~	-78.11g	.54g	~~5.49~~	TOTAL
Contents (ie silica gel)	313.9			gain 9.49	345.82

~~Total 402.04~~

MOLECULAR WEIGHT DATA

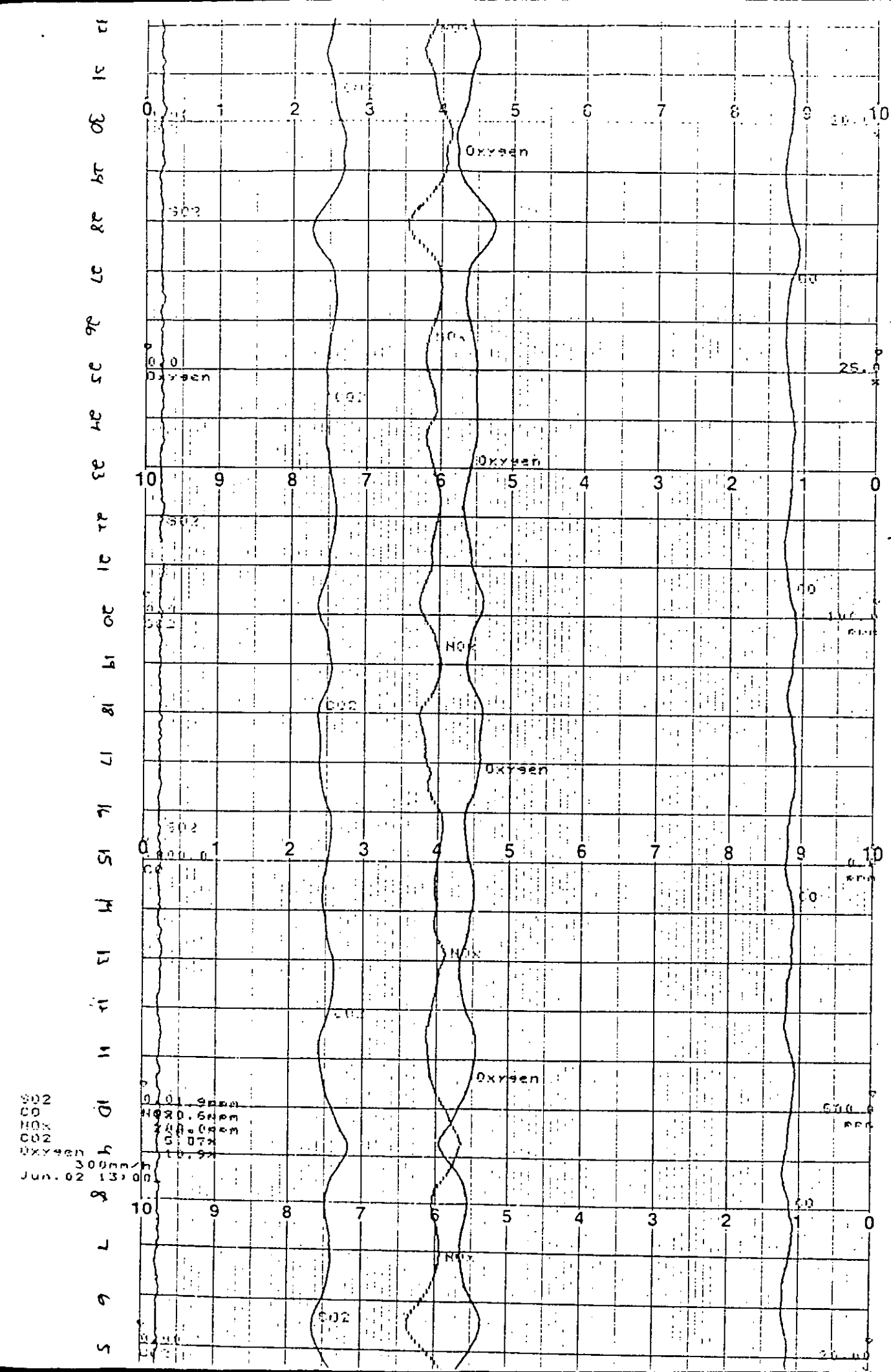
Analysis Method:_____ Analysis Date:_____ Sample Type:_____

Run Number	Oxygen	Carbon Dioxide	Carbon Monoxide
1			
2			
3			
Average			



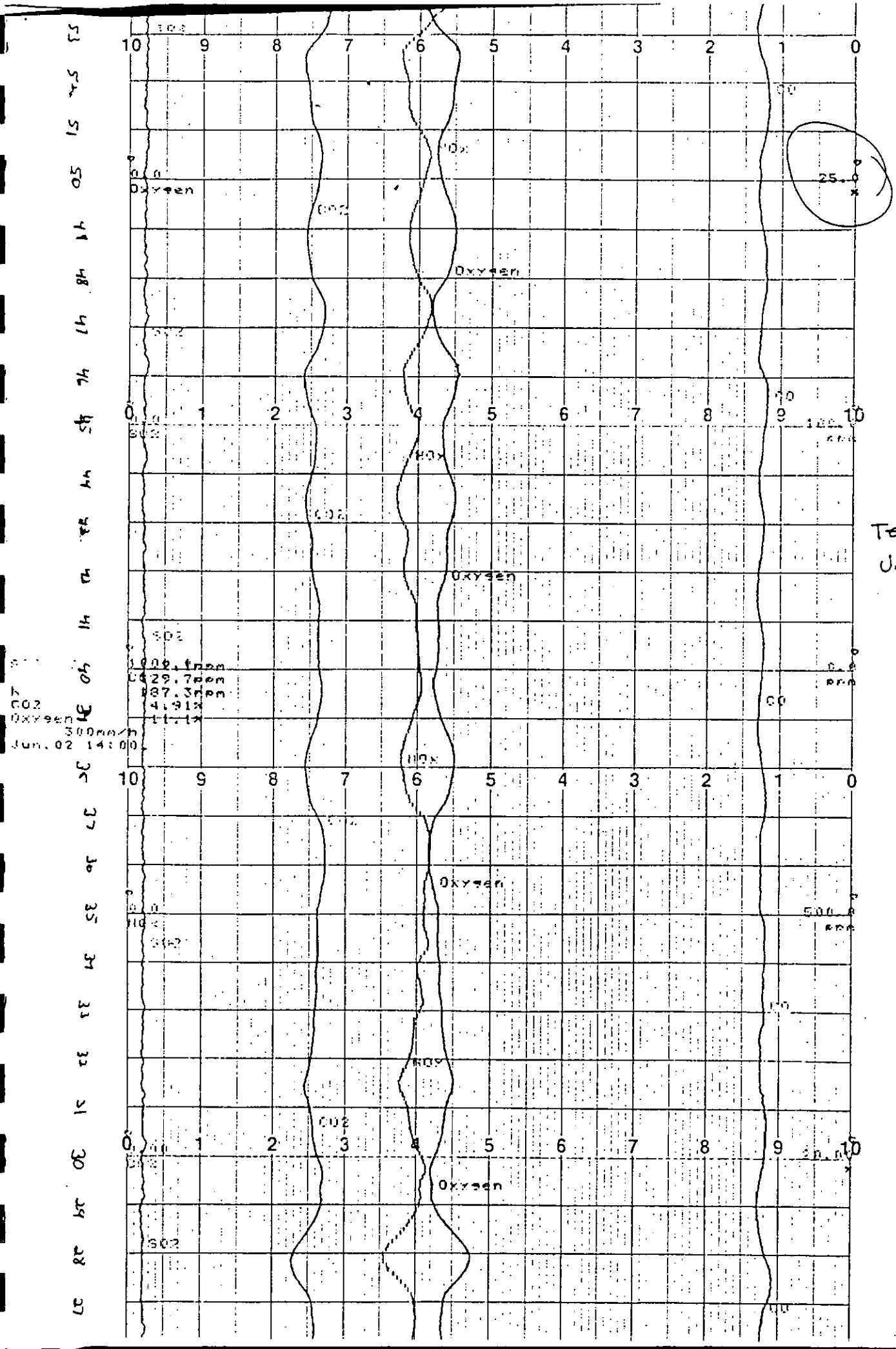
$O_2 + CO_2$

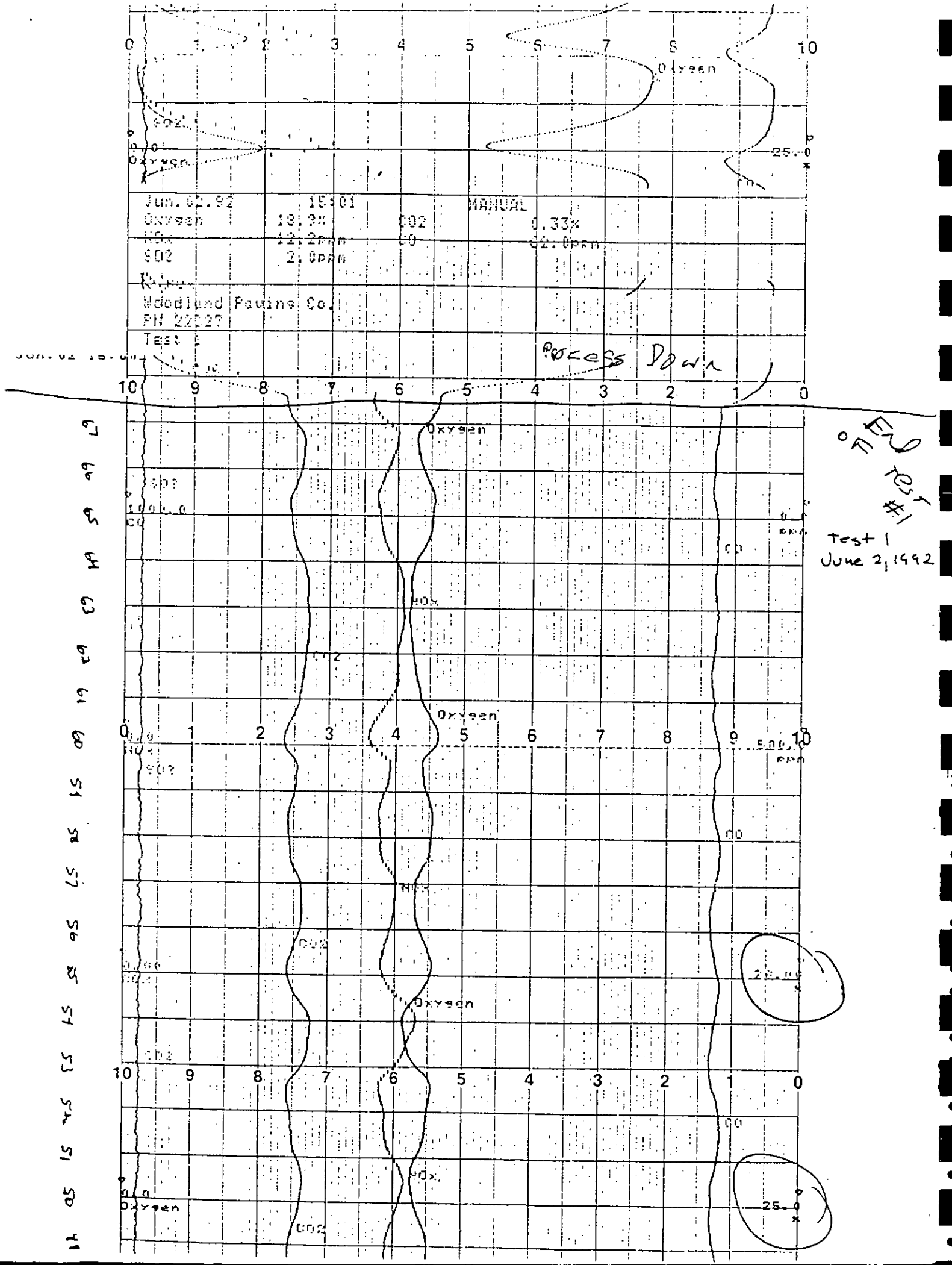
Test 1
June 2 1992

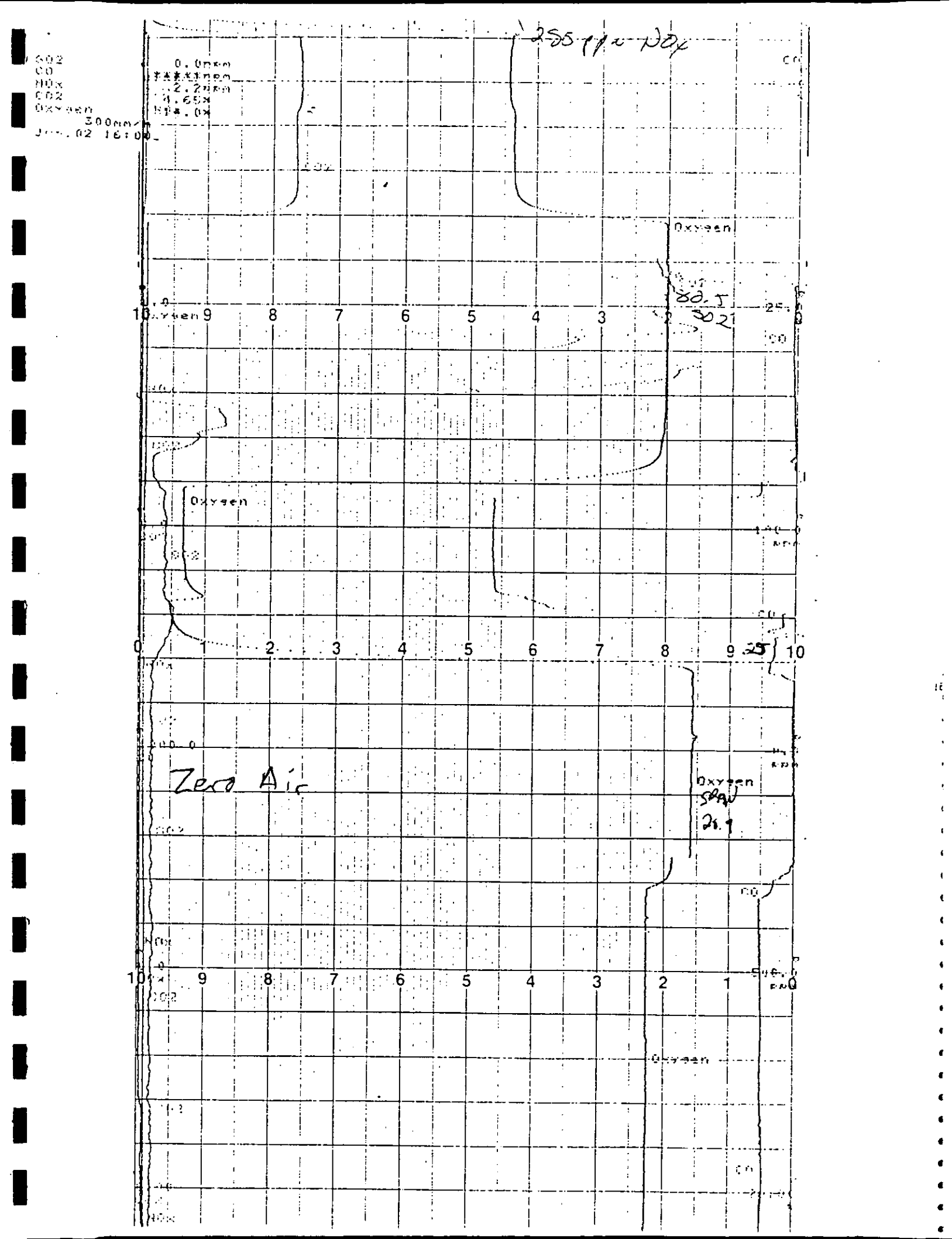


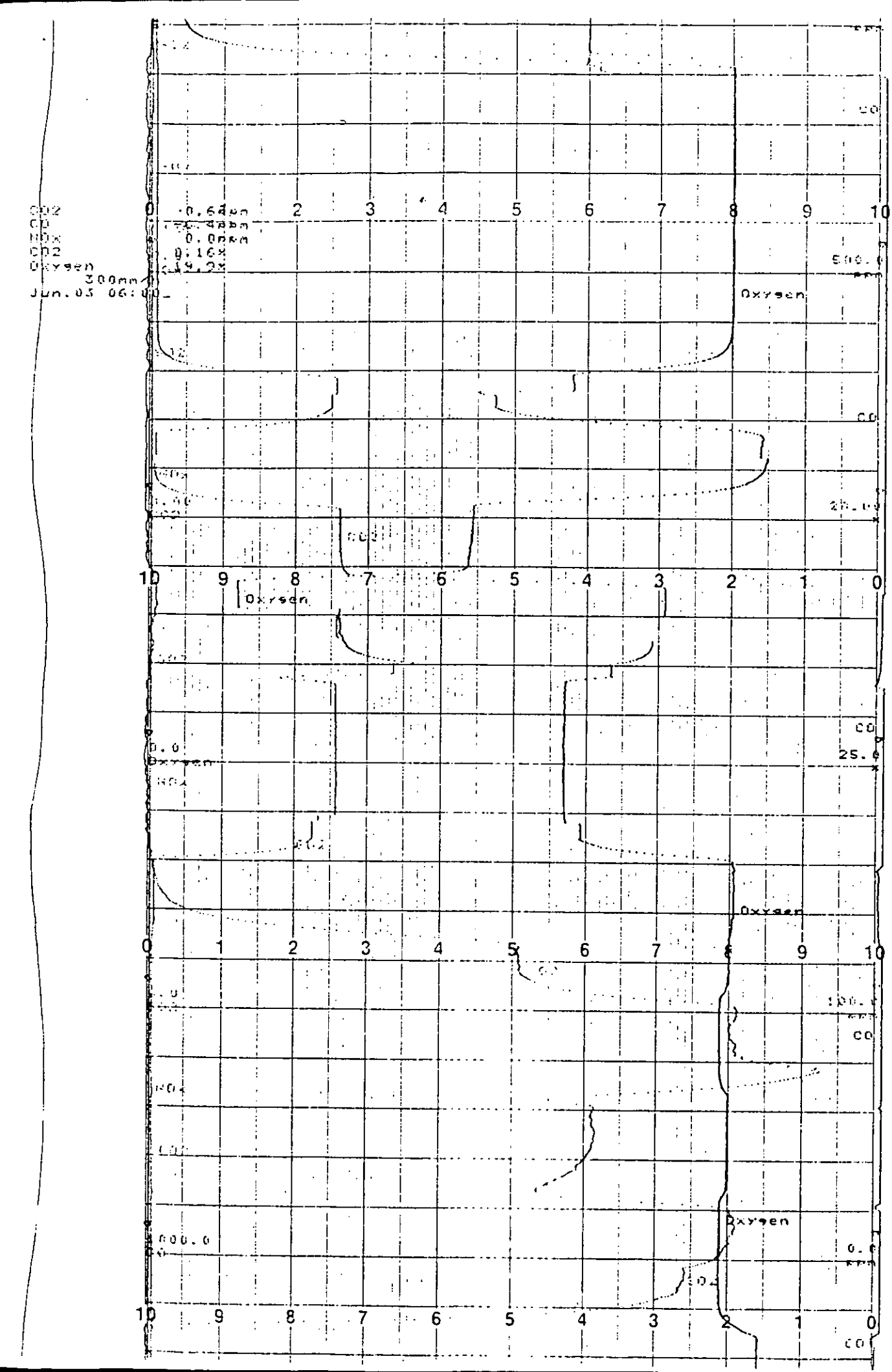
Test 1
June 2, 1992

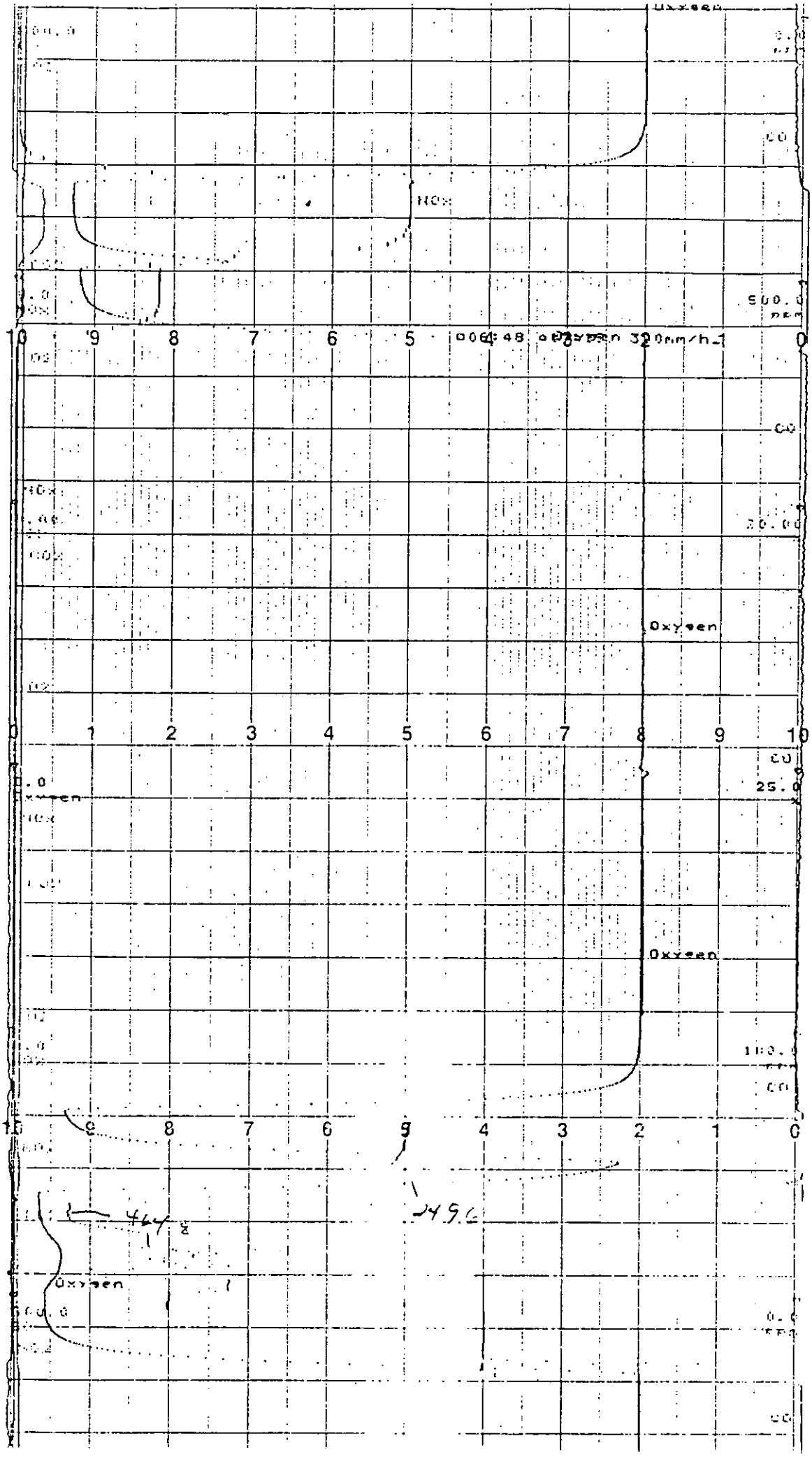
O2 +

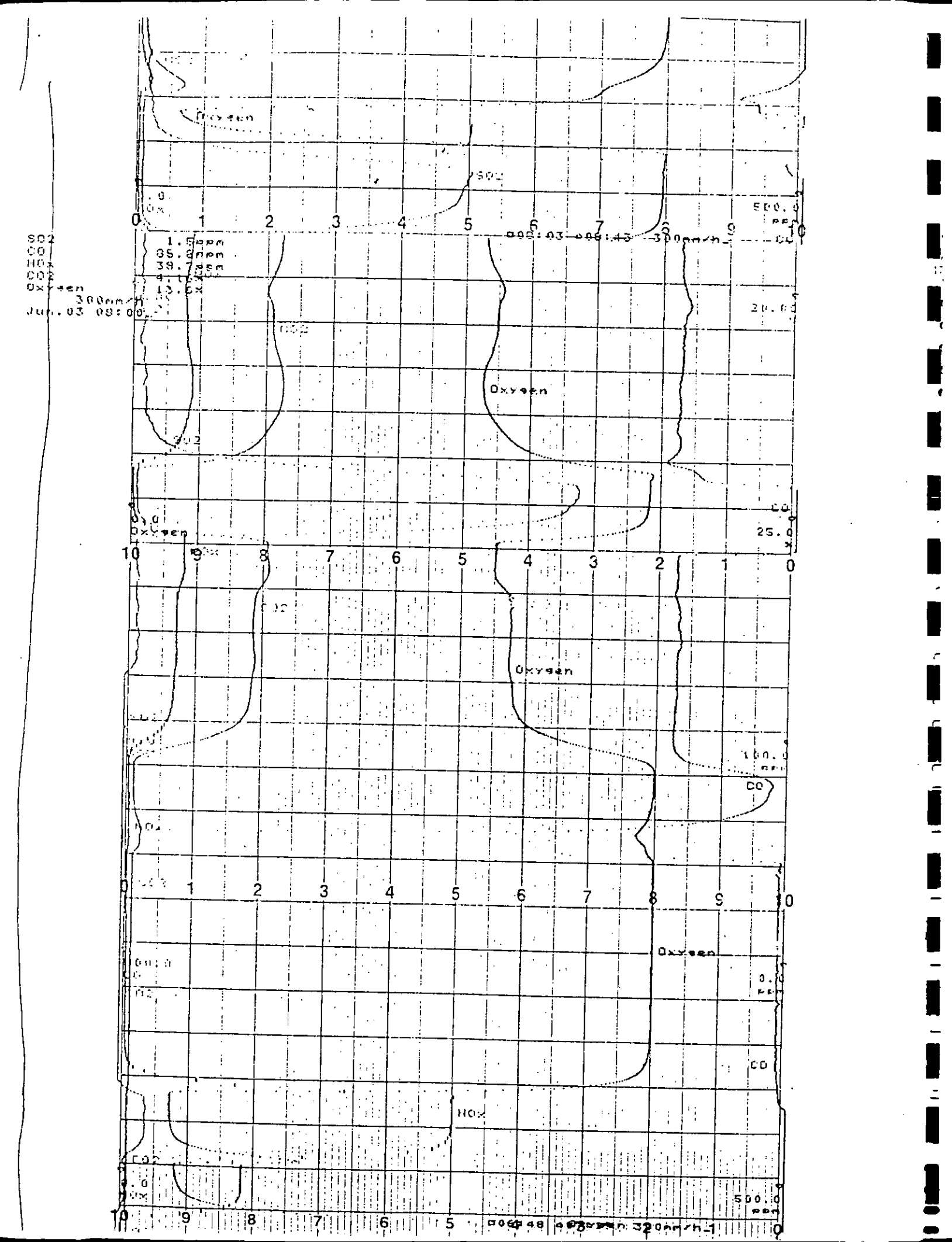

Test 1
June 7, 1992
Oxygen
CO2
SO2
25.0
500.0
Jun. 02 14:00

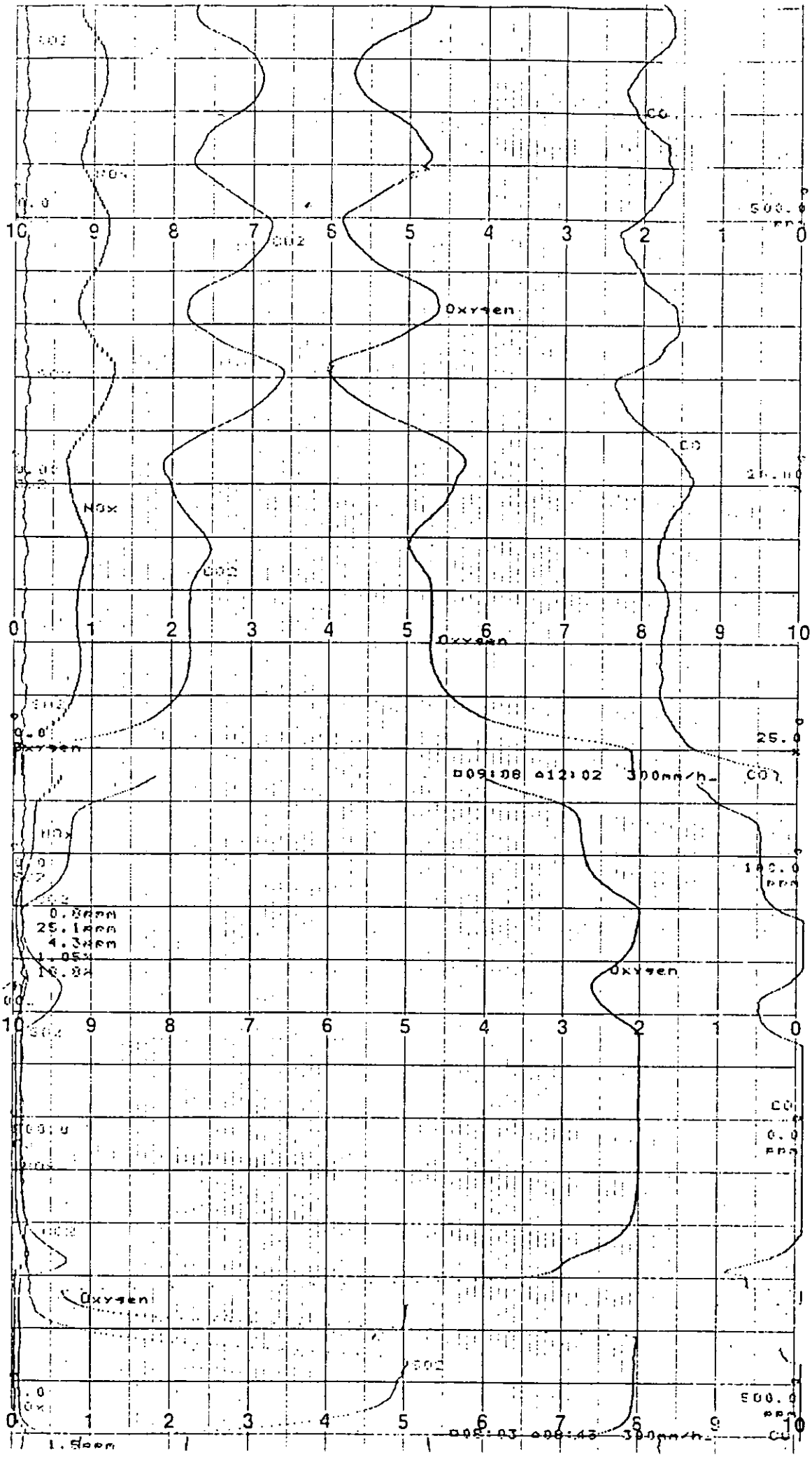

Jun. 02.92 15:01 MANUAL
Oxygen 18.9% CO2 0.33%
NOx 12.2ppm CO 62.0ppm
SO2 2.0ppm
Woodland Paving Co.
PN 22527
Test 1
Process Down
Oxygen
CO2
CO
NOx
SO2
End Test #1
Test 1
June 2, 1992

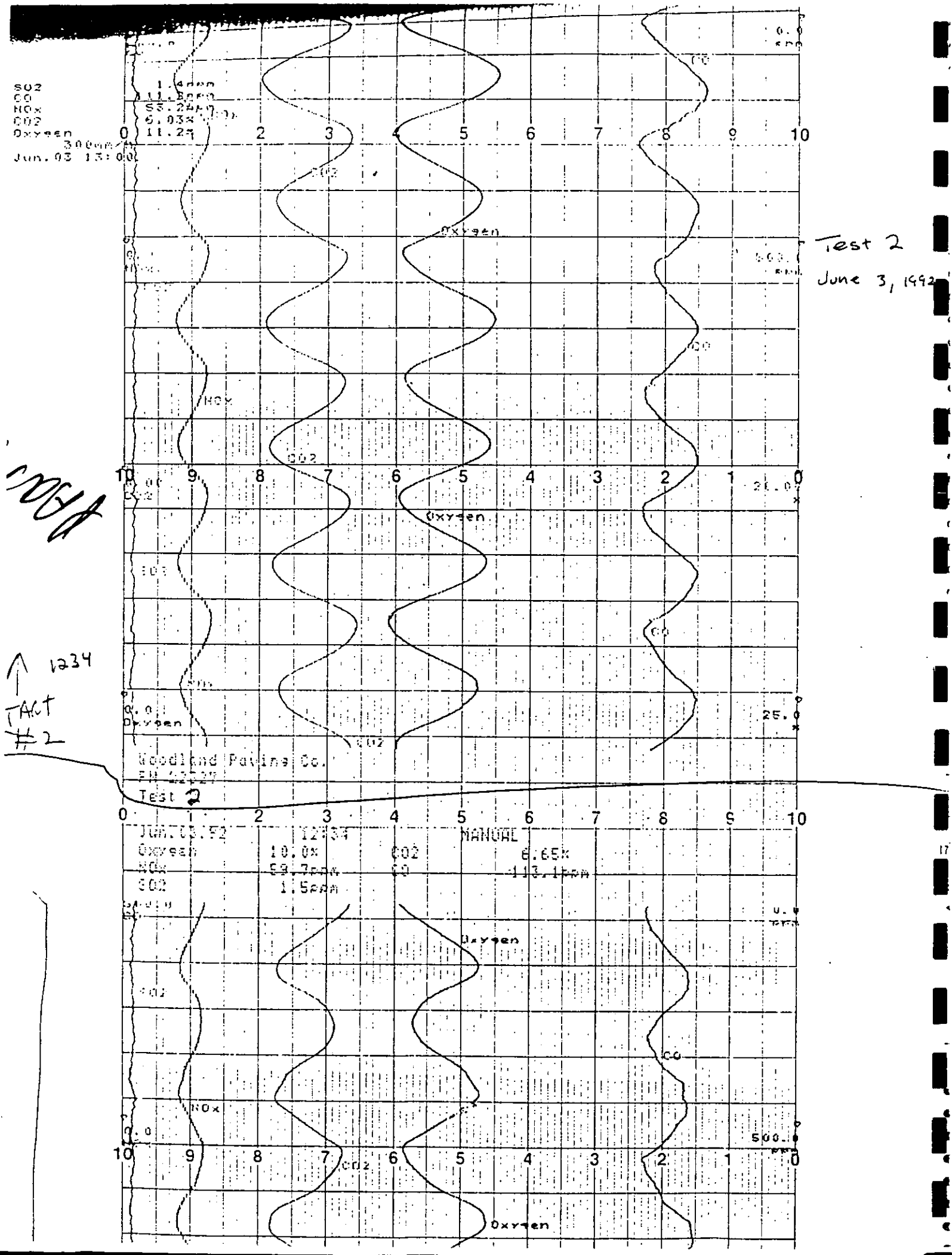

SO2
CO
NOx
CO2
Oxygen
0.0ppm
2.2ppm
4.65%
14.0%
300mm/h
Jan. 02 16:00
255 ppm NOx
Oxygen
80.5
20.9
Oxygen
0 1 2 3 4 5 6 7 8 9 10
Zero Air
Oxygen
Span
21.1
10 9 8 7 6 5 4 3 2 1 0
Oxygen


CO2
CO
NOx
SO2
Oxygen
300mm/
Jun.03 06:00
0.64ppm
0.48ppm
0.0ppm
0.16%
19.2%
Oxygen
CO
NO2
SO2
0
1
2
3
4
5
6
7
8
9
10


Oxygen
CO
NOx
500.0
10 9 8 7 6 5 4 3 2 1 0
CO
NOx
20.00
Oxygen
0 1 2 3 4 5 6 7 8 9 10
CO
25.0
Oxygen
Oxygen
100.0
CO
15 9 8 7 6 5 4 3 2 1 0
Oxygen
0.0
CO


SO2
CO
NOx
CO2
Oxygen
300nm/h
Jun.03 08:00
1.5ppm
35.0ppm
39.7ppm
4.1%
13.6%
Jun.03 08:00
Jun.03 08:45
300nm/h
Oxygen
SO2
CO
NOx
CO2
0
1
2
3
4
5
6
7
8
9
10
500.0
25.0
100.0
0.0
Jun.03 08:48
320nm/h


SO2
CO
NOx
CO2
Oxygen
Oxygen
CO
NOx
CO2
Oxygen
Oxygen
NOx
Oxygen
CO
Oxygen
SO2
0.8ppm
25.1ppm
4.3ppm
1.0%
16.8%
300mm/h
Sun. 03 09:00
09:08 12:02 300mm/h CO
09:03 09:43 300mm/h CO
1.5ppm
SO2

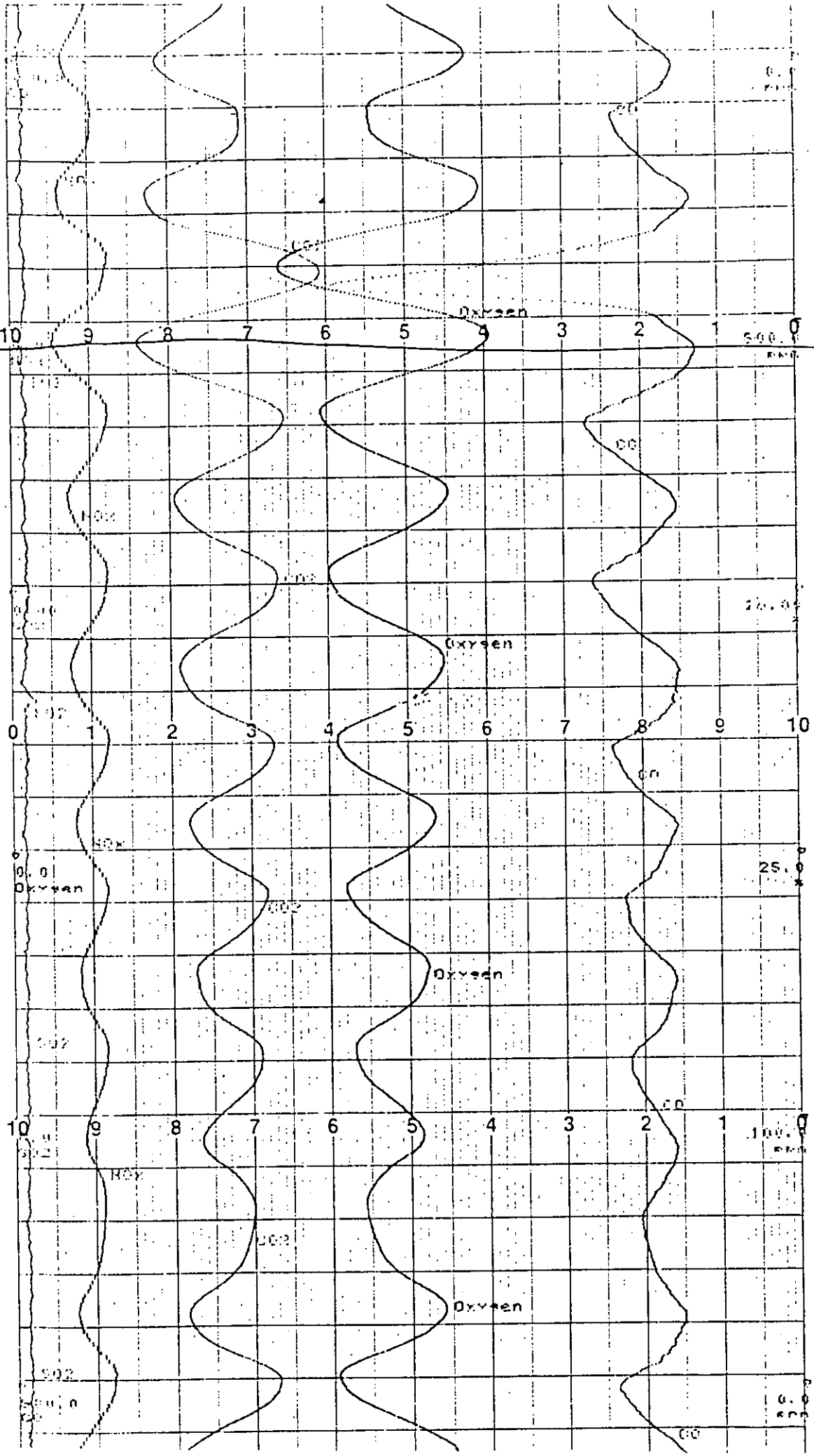


Test 2

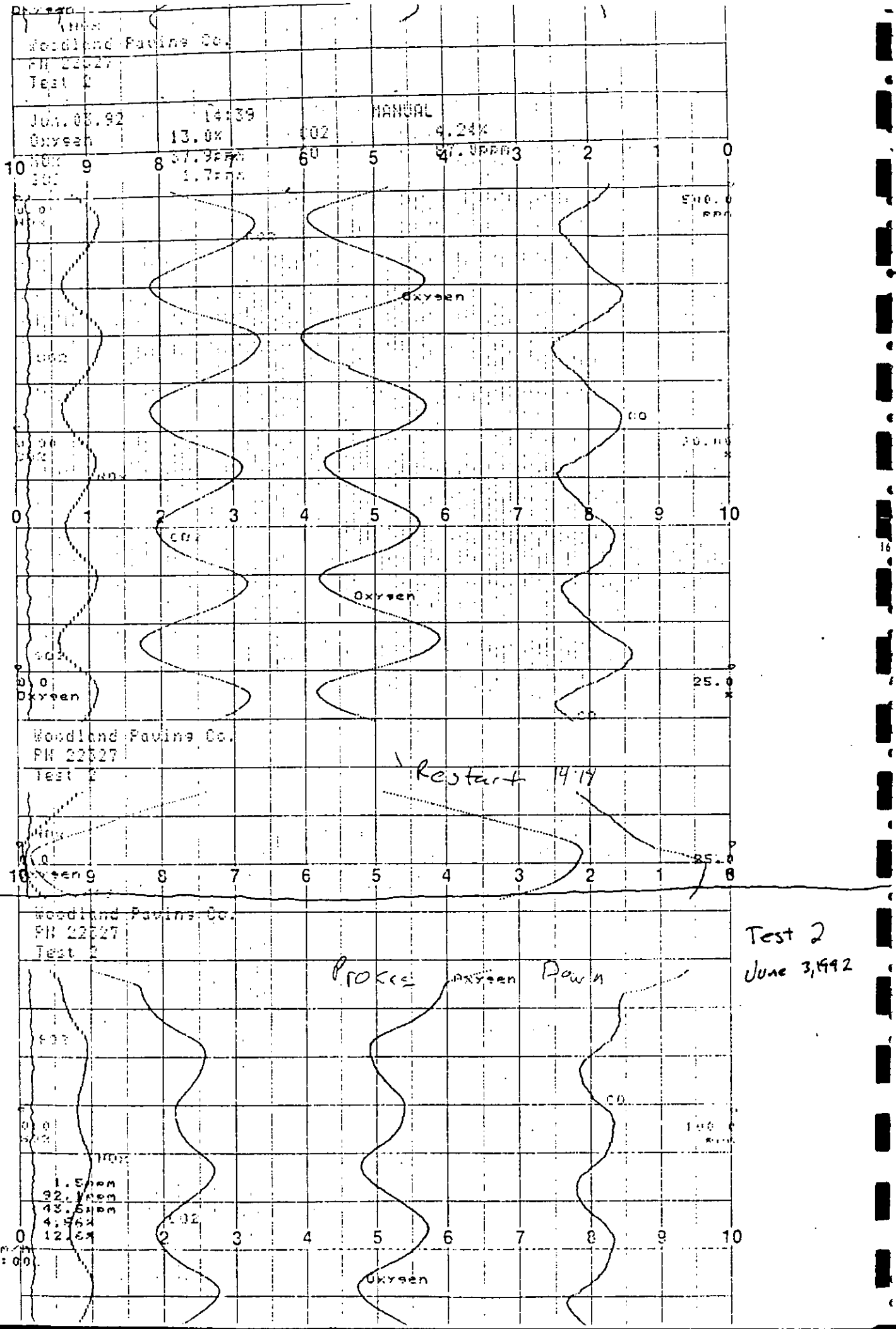
June 3, 1992

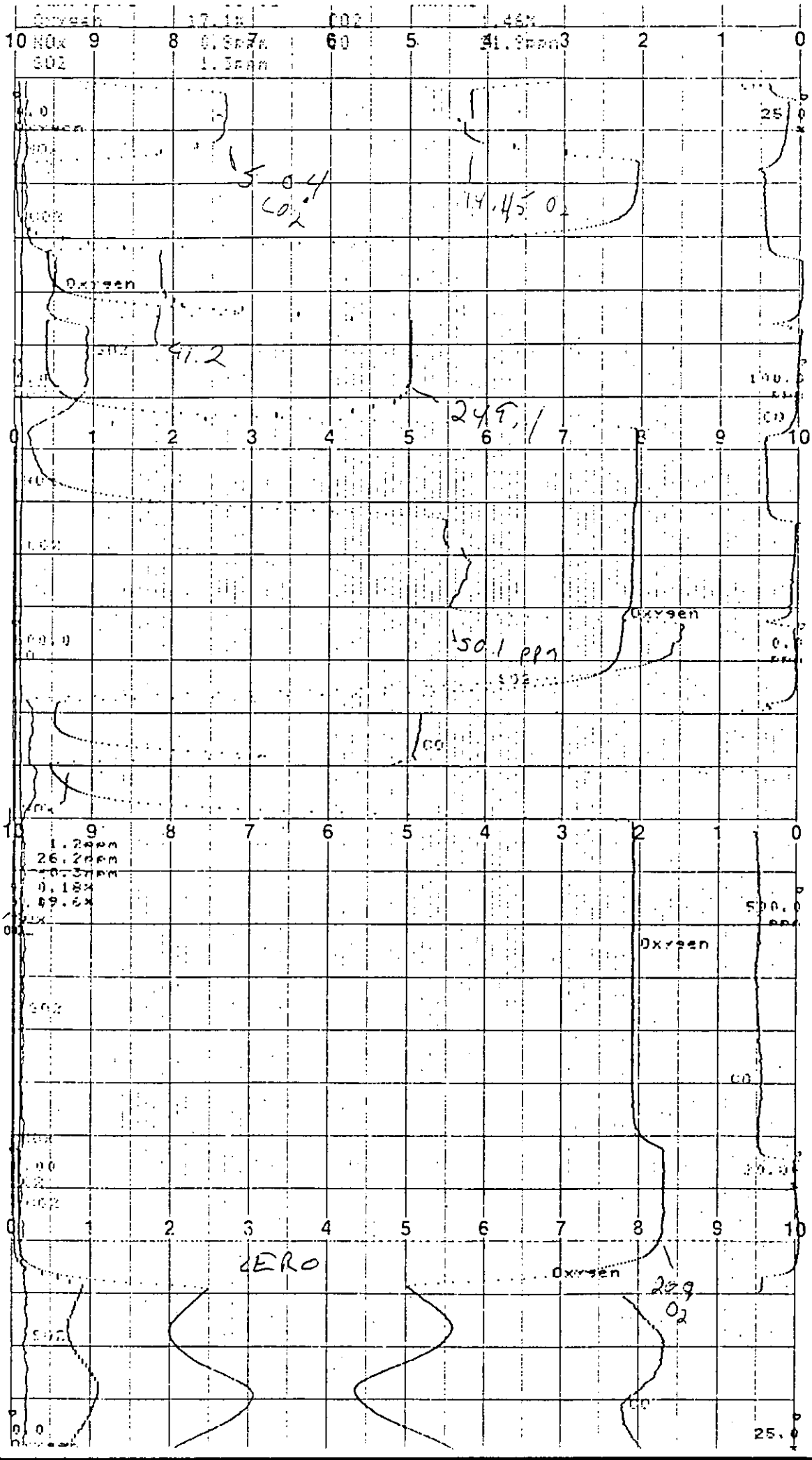
1234

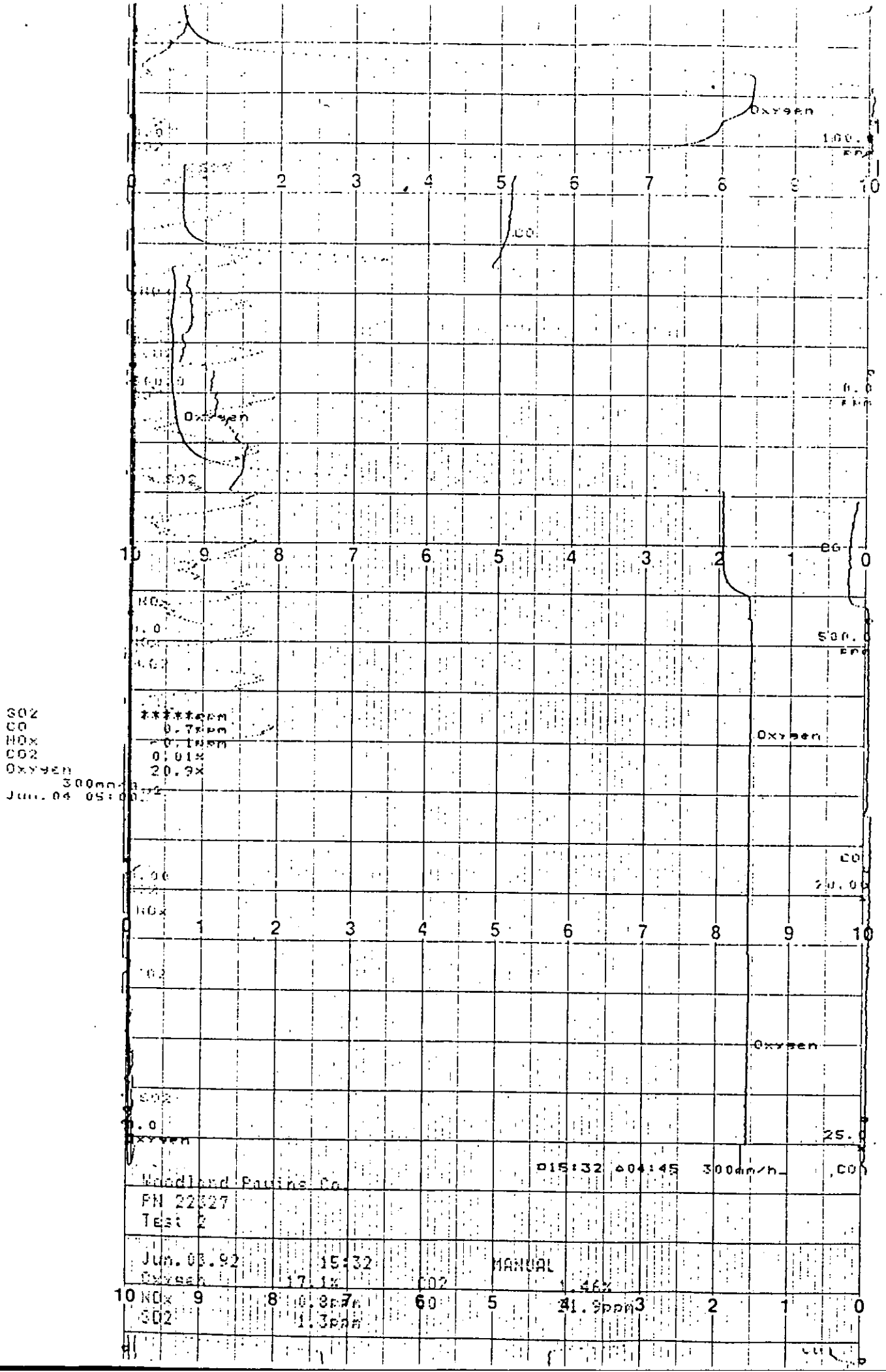
TAct #2

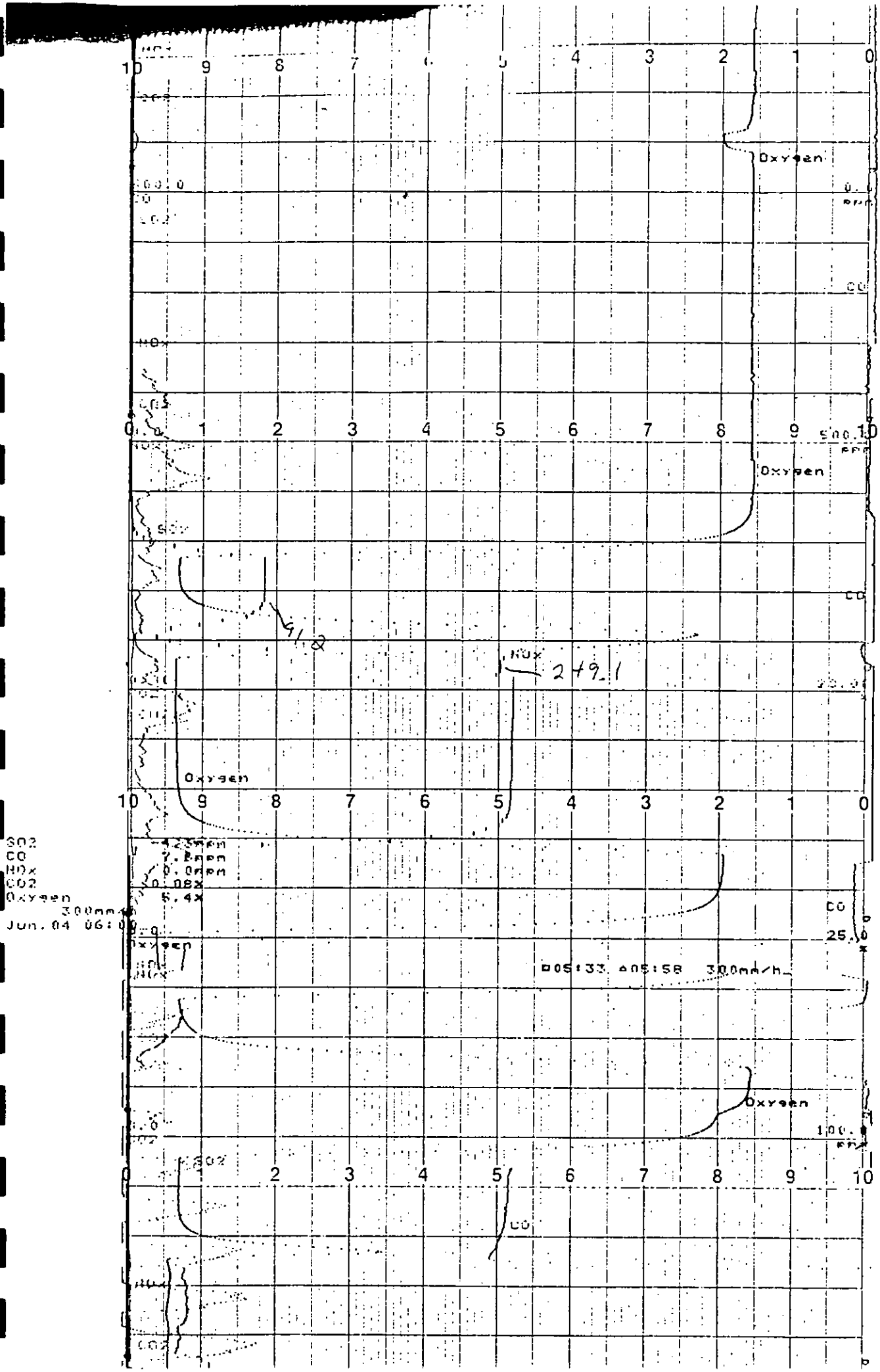


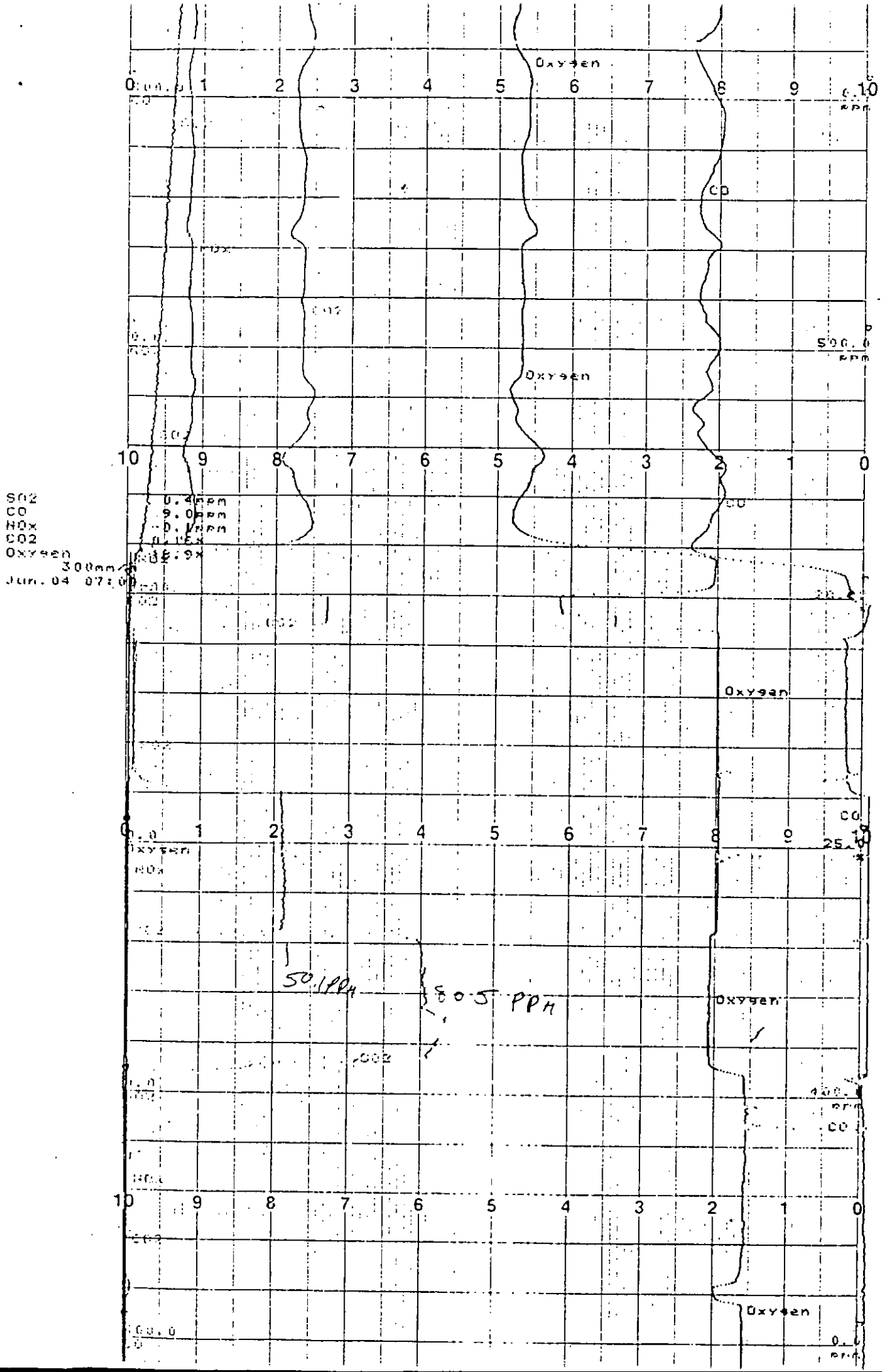
Test 2
June 3, 1992

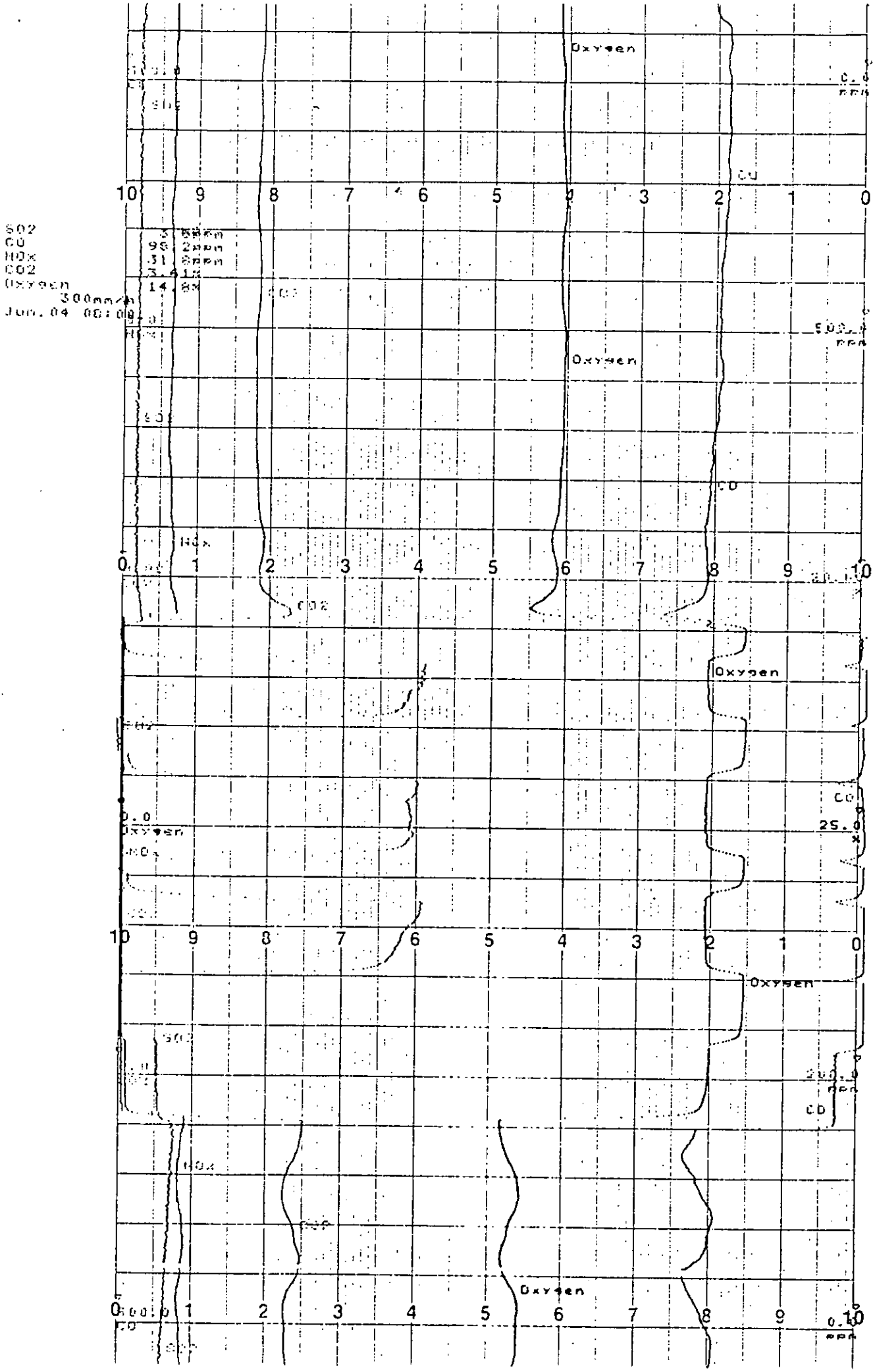

Woodland Paving Co.
PR 22527
Test 2
Jun.03.92 14:39 MANUAL
Oxygen 13.0% CO2 4.24%
Oxygen
CO2
CO
NOx
Restart 14:14
Process Down
Test 2
June 3,1992
SO2 1.5ppm
CO 92.1ppm
NOx 43.5ppm
CO2 4.96%
Oxygen 12.6%
300mm/h
Jun. 03 14:00

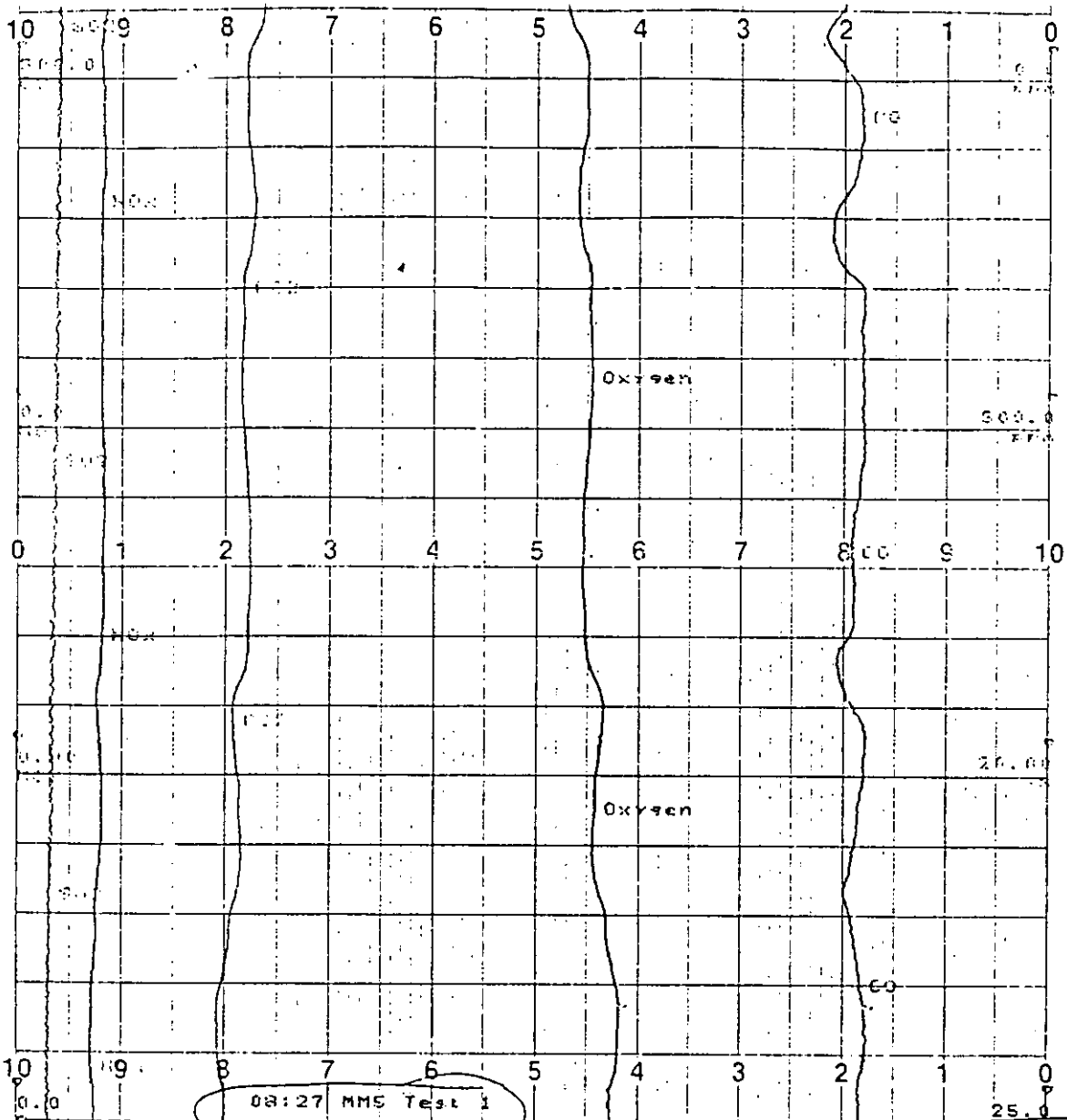

Oxygen
17.1%
CO2
4.5%
10 NOx 9 8 7 6 5 4 3 2 1 0
SO2
0.3ppm
1.3ppm
41.9ppm
4.0
25
5.04
CO2
14.45 O2
Oxygen
41.2
245.1
100.
CO
0
1 2 3 4 5 6 7 8 9 10
50.1 ppm
Oxygen
0.
SO2
CO
NOx
SO2 1.2ppm
CO 26.2ppm
NOx 0.3ppm
CO2 0.1%
Oxygen 19.6%
300mm/min
Jun. 03 15:02
500.0
Oxygen
SO2
CO
30.0
ZERO
Oxygen
20.9
O2
0.0
25.0


Oxygen
100.
CO
6.0
Oxygen
10 9 8 7 6 5 4 3 2 1 0
NOx
1.0
500.
SO2
*******ppm
0.7ppm
0.1ppm
0.01%
20.9%
300mm/h
Jun.04 05:00
Oxygen
CO
50.0
NOx
0 1 2 3 4 5 6 7 8 9 10
SO2
0.0
Oxygen
25.0
15:32 04:45 300mm/h CO
Woodland Paving Co.
PN 22827
Test 2
Jun.03.92 15:32 MANUAL
Oxygen 17.1% CO2 1.46%
10 NOx 9 8 7 6 5 4 3 2 1 0
SO2 1.3ppm 41.9ppm


Oxygen
CO
NOx
249.1
Oxygen
SO2
CO
NOx
CO2
Oxygen
300mm/h
Jun. 04 06:00
Oxygen
05:33 05:58 300mm/h
Oxygen
CO
SO2
CO


SO2
CO
NOx
CO2
Oxygen
300mm/h
Jun. 04 07:00
0.4ppm
9.0ppm
0.1ppm
8.9%
Oxygen
CO
Oxygen
CO
Oxygen
NOx
CO2
50.1PPM
80.5 PPM
Oxygen
CO
Oxygen

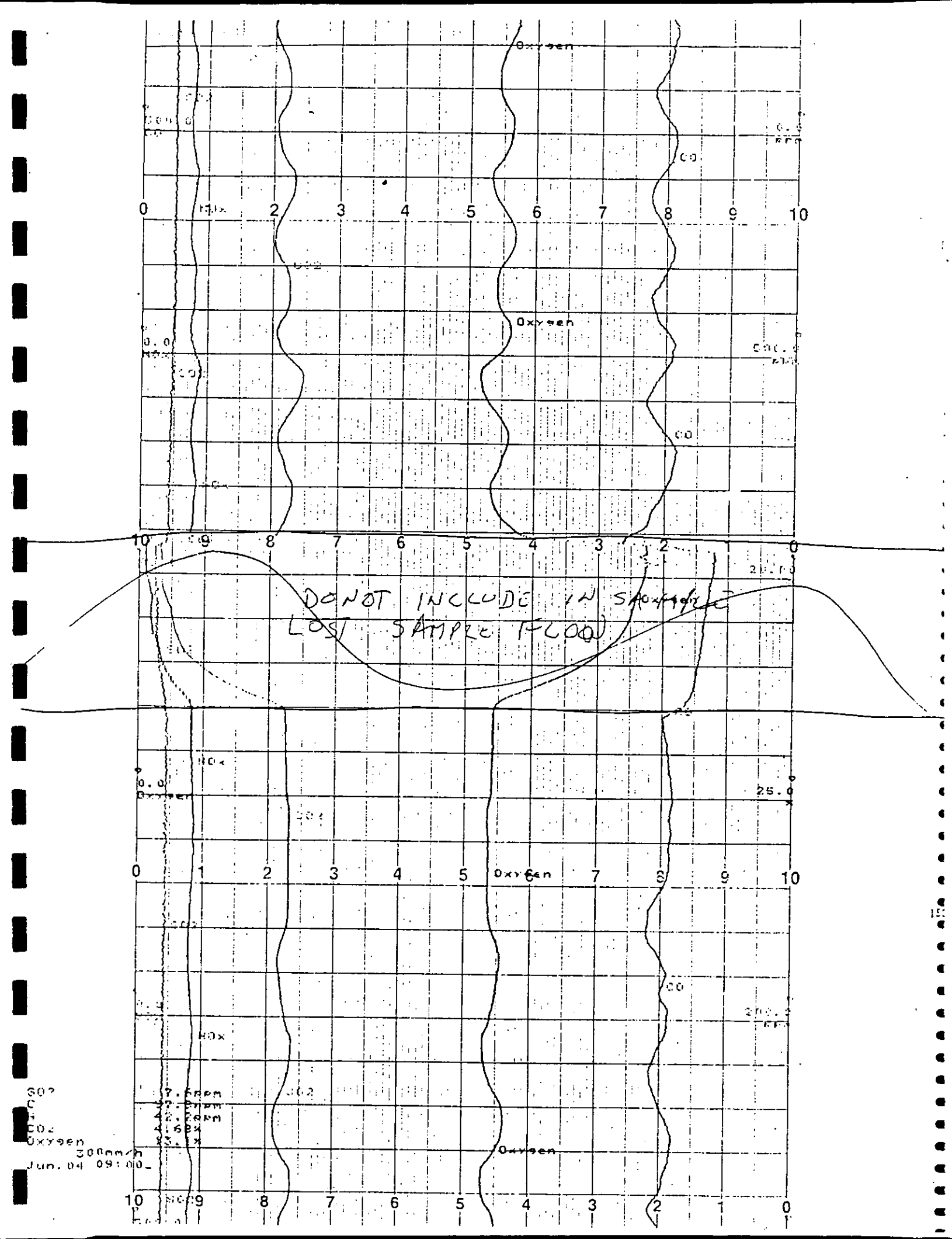

SO2
CO
NOx
CO2
Oxygen
300mm/h
Jun. 04 08:00
Oxygen
CO
NOx
CO2
Oxygen
CO
Oxygen
CO
25.0
Oxygen
CO
Oxygen
0 1 2 3 4 5 6 7 8 9 10

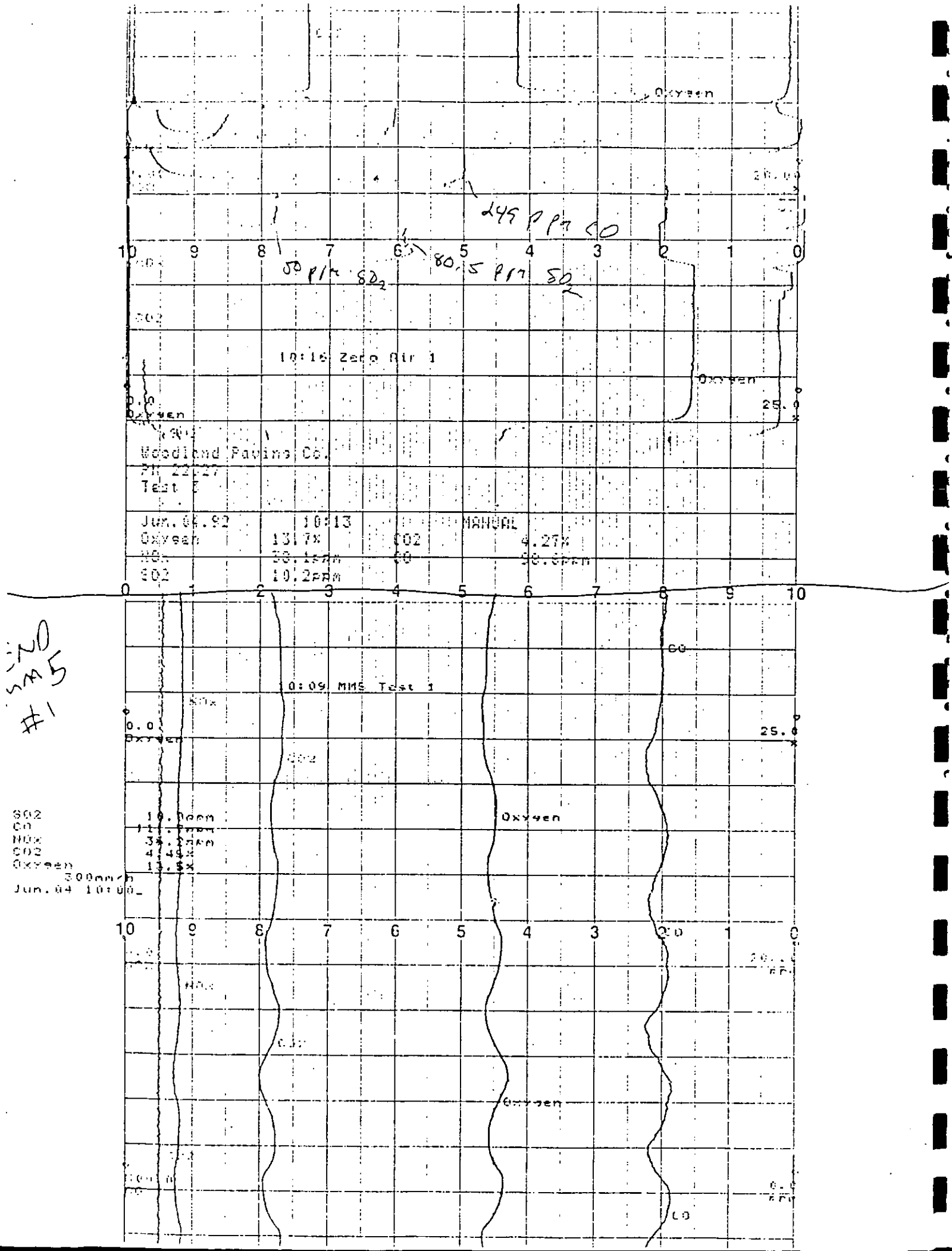


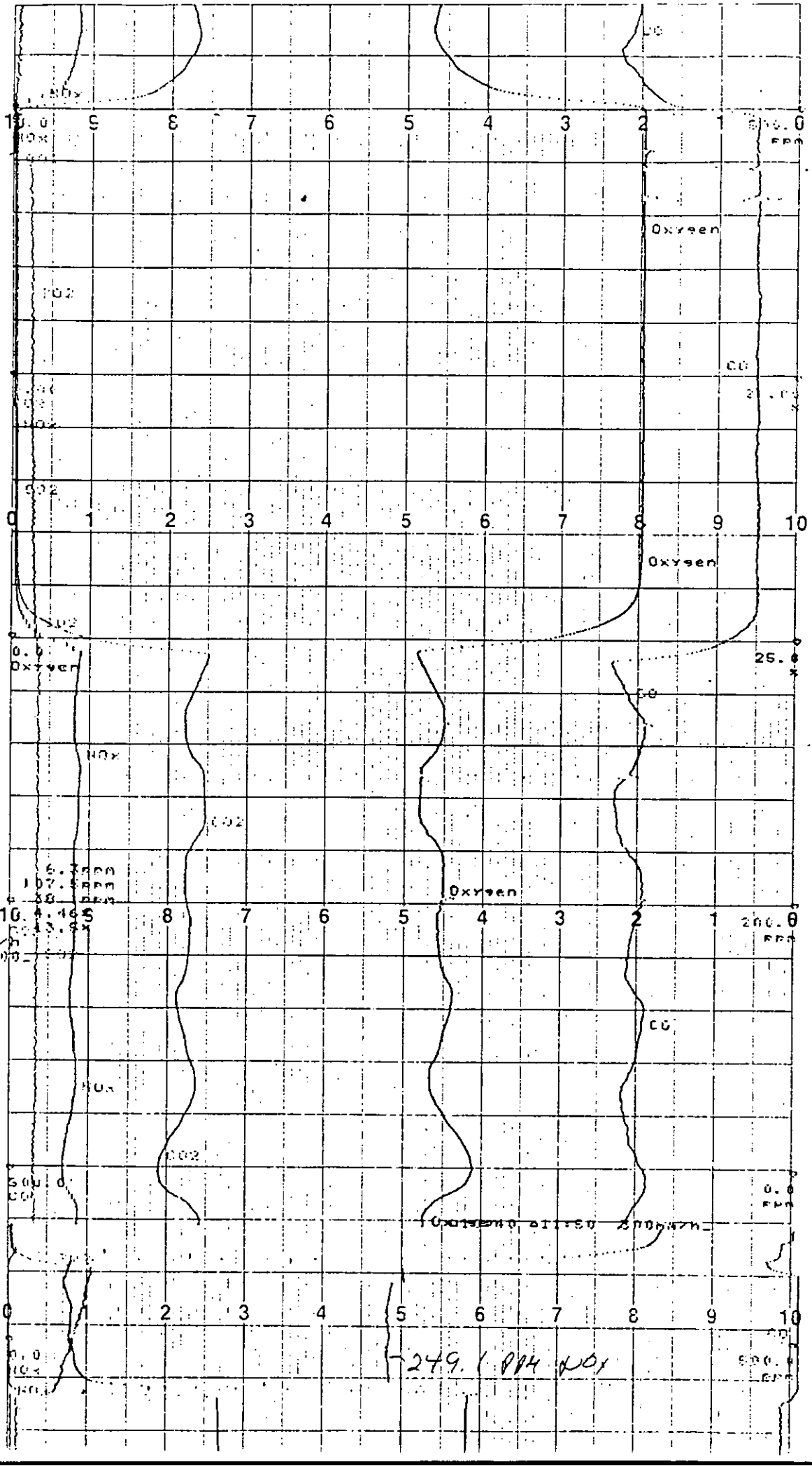
TANT
MMS
#1

Weidling Paving Co.
PN 22527
Test 2

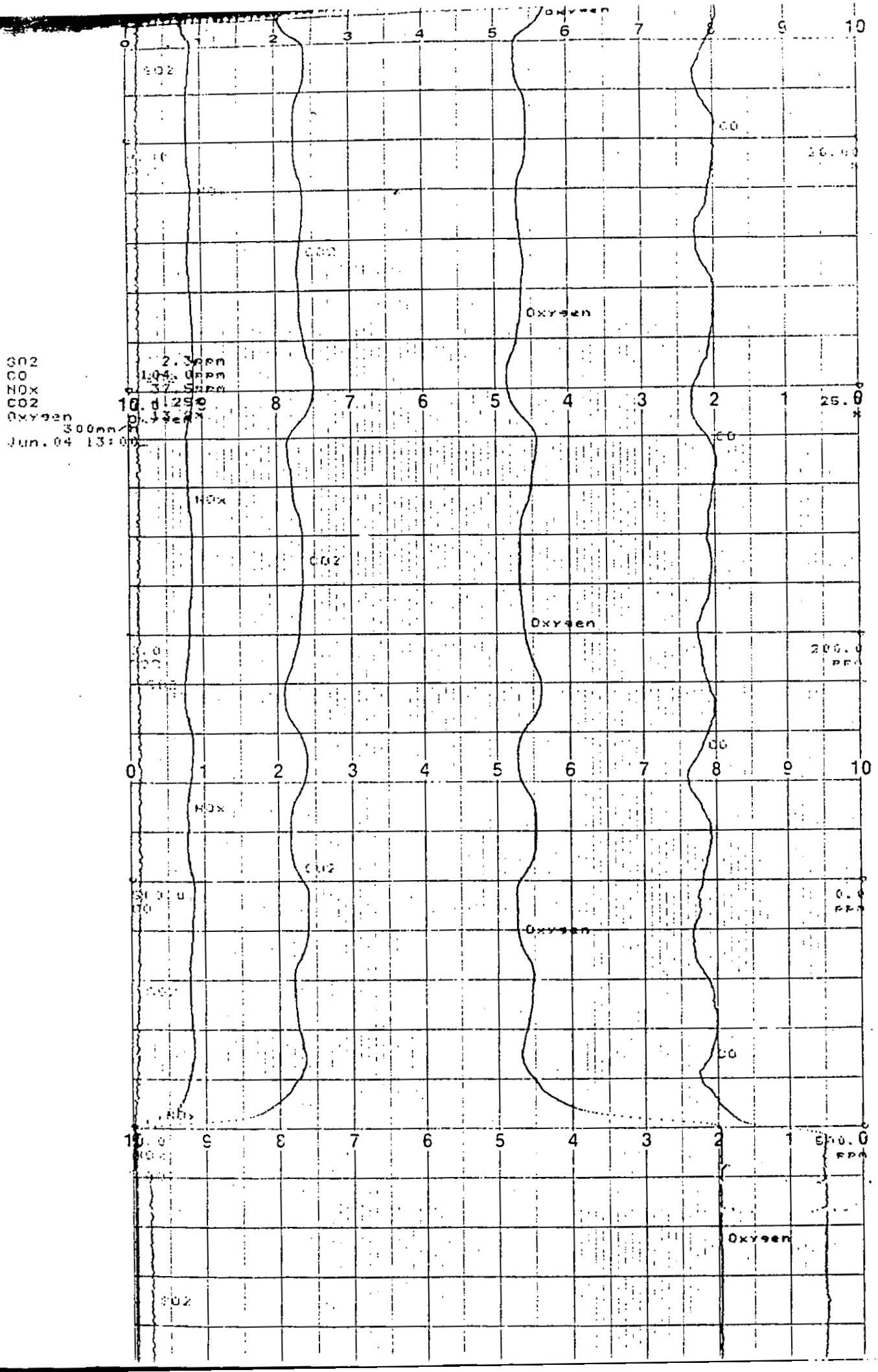
Jun.08.92 08:25 MANUAL
Oxygen 14.4% CO2 3.8%
NOx 34.3ppm CO 95.4ppm
SO2 5.2ppm

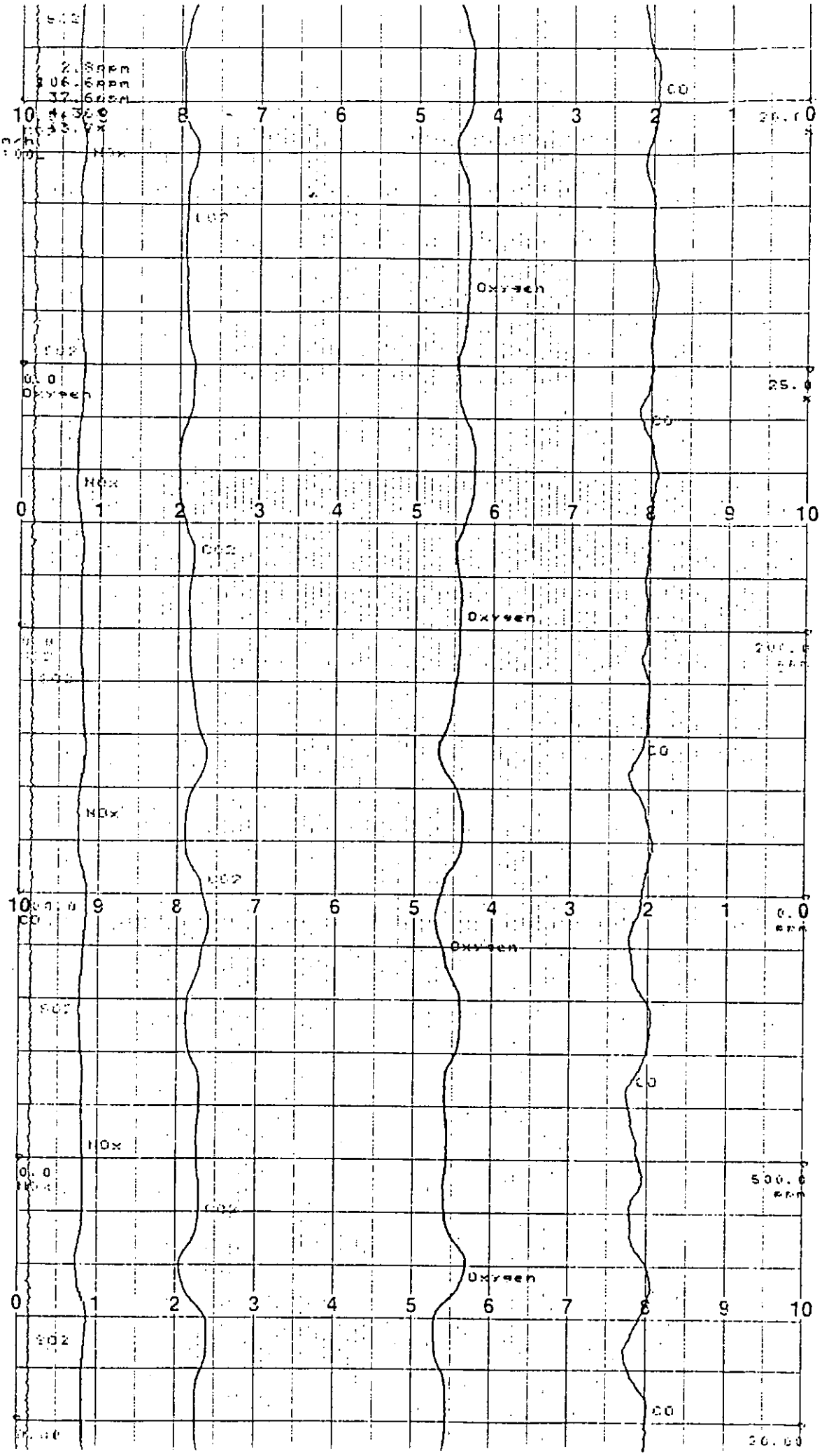

Oxygen
CO
NOx
CO2
0 1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1 0
DO NOT INCLUDE IN SAMPLE
LOST SAMPLE FLOW
25.0
SO2
CO
Oxygen
300mm/h
Jun. 04 09:00

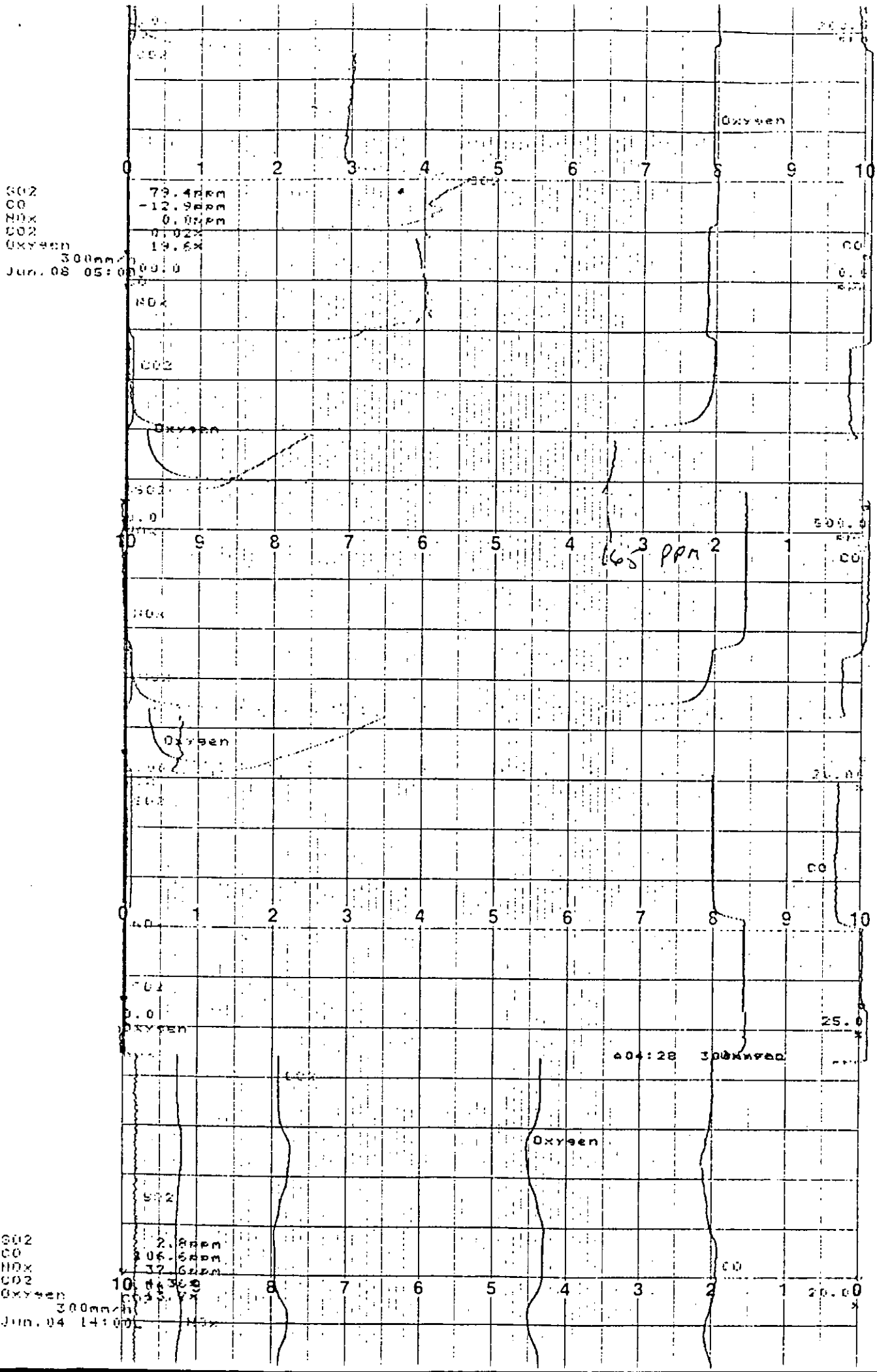

Oxygen
245 ppm CO
50 ppm SO2
80.5 ppm SO2
10:16 Zero Air 1
Oxygen
25.0
Woodland Paving Co.
Test 2
Jun. 04.92 10:13 MANUAL
Oxygen 13.7% CO2 4.2%
NO: 38.1ppm CO 58.8ppm
SO2 10.2ppm
0 1 2 3 4 5 6 7 8 9 10
10:09 MMS Test 1
0.0
Oxygen
25.0
SO2 10.0ppm
CO 11.1ppm
NOx 35.2ppm
CO2 4.4%
Oxygen 13.5%
300mm/h
Jun. 04 10:00
10 9 8 7 6 5 4 3 2 1 0
Oxygen
Oxygen
LO



SO2 6.3ppm
CO 107.8ppm
NOx 38 ppm
CO2
Oxygen 13.8%
300m³/h
Jun. 04 12:00

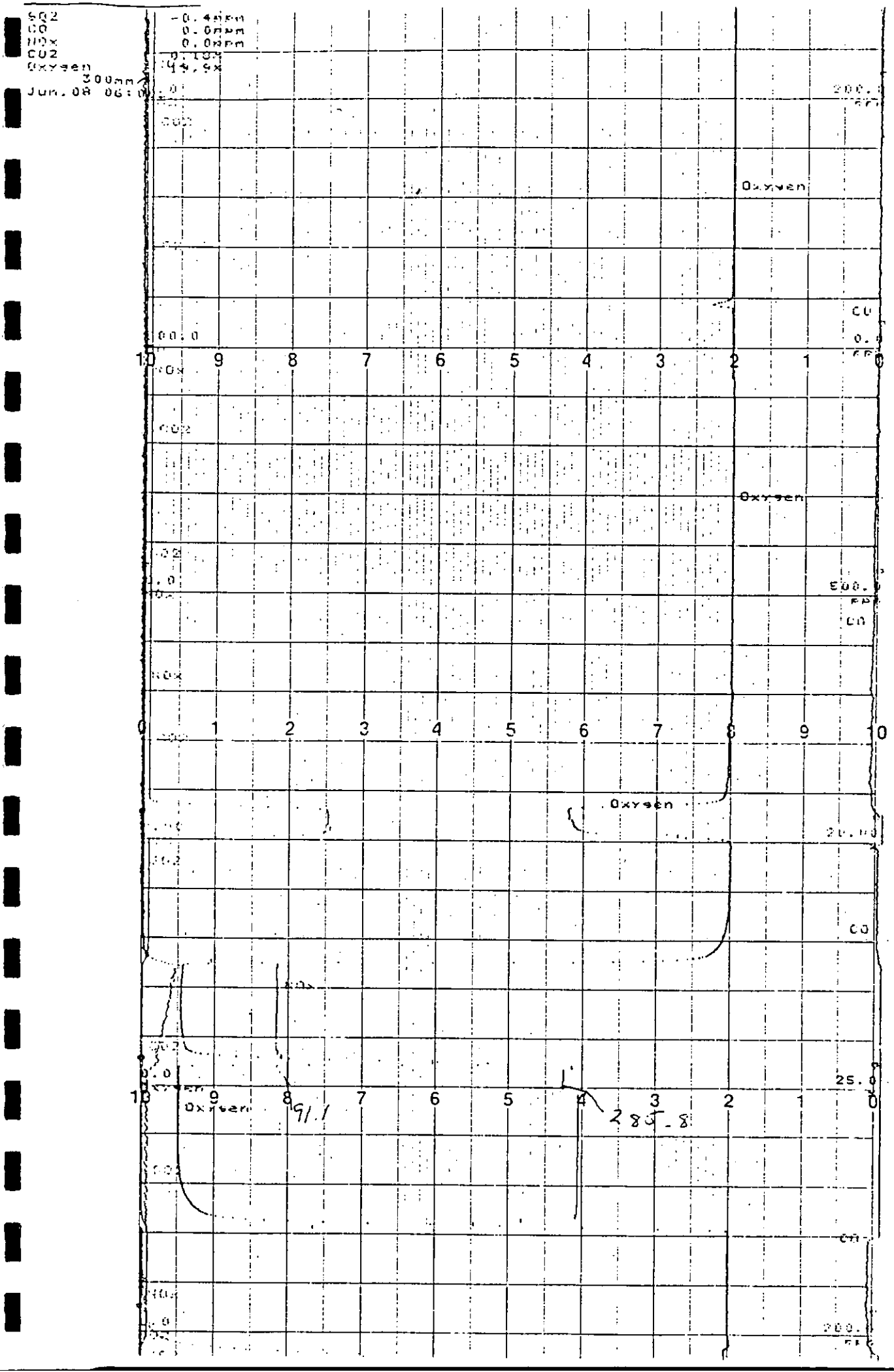

SO2
CO
NOx
CO2
Oxygen
300mm/Hr
Jun.04 13:00
0 1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1 0
SO2
CO
NOx
CO2
Oxygen

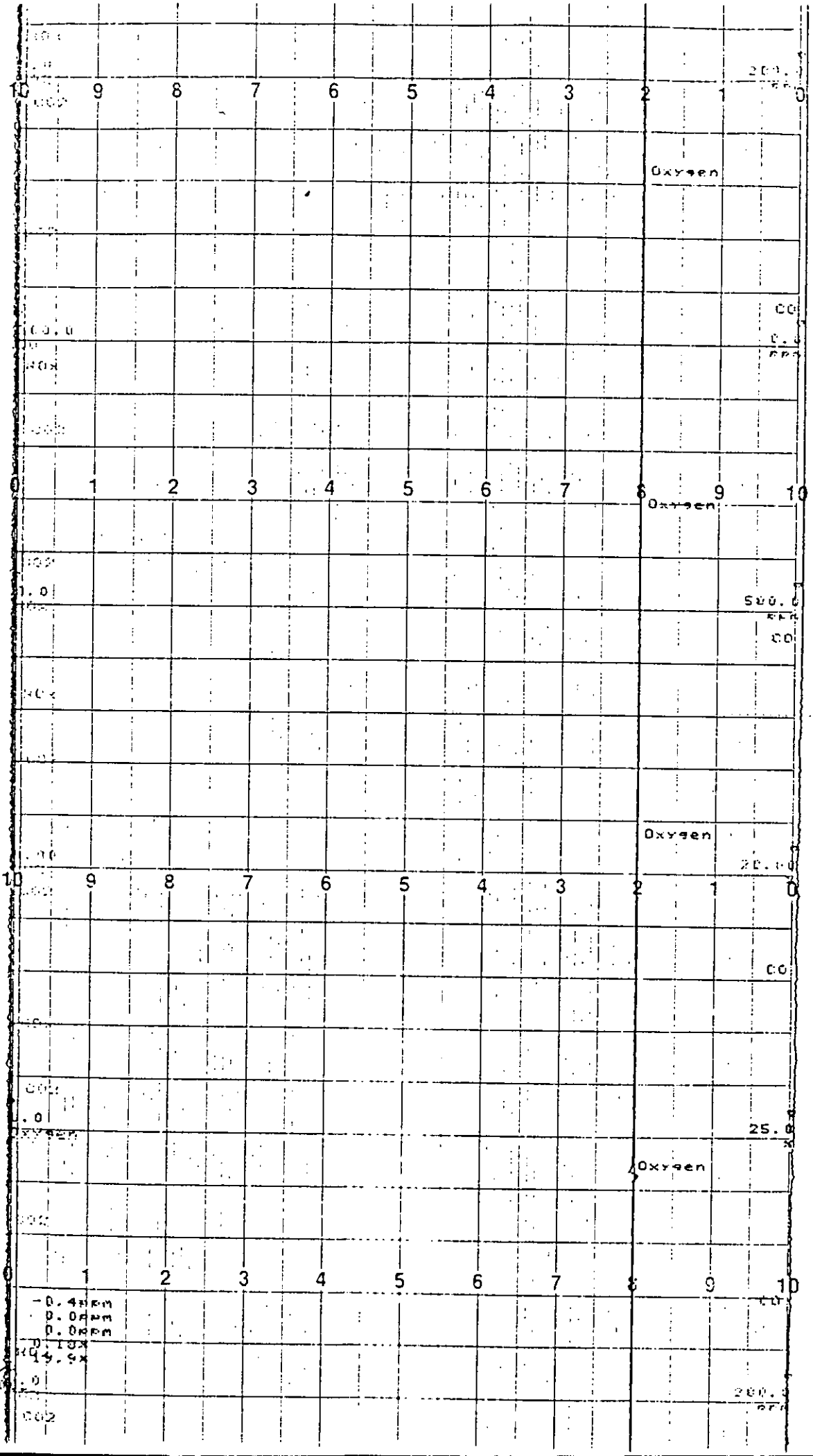

SO2
CO
NOx
CO2
Oxygen
2.5ppm
306.6ppm
32.6ppm
NOx
CO2
Oxygen
CO
SO2
Oxygen
CO
NOx
CO2
Oxygen
CO
SO2
Oxygen
CO
NOx
CO2
Oxygen
CO
SO2
Oxygen
CO

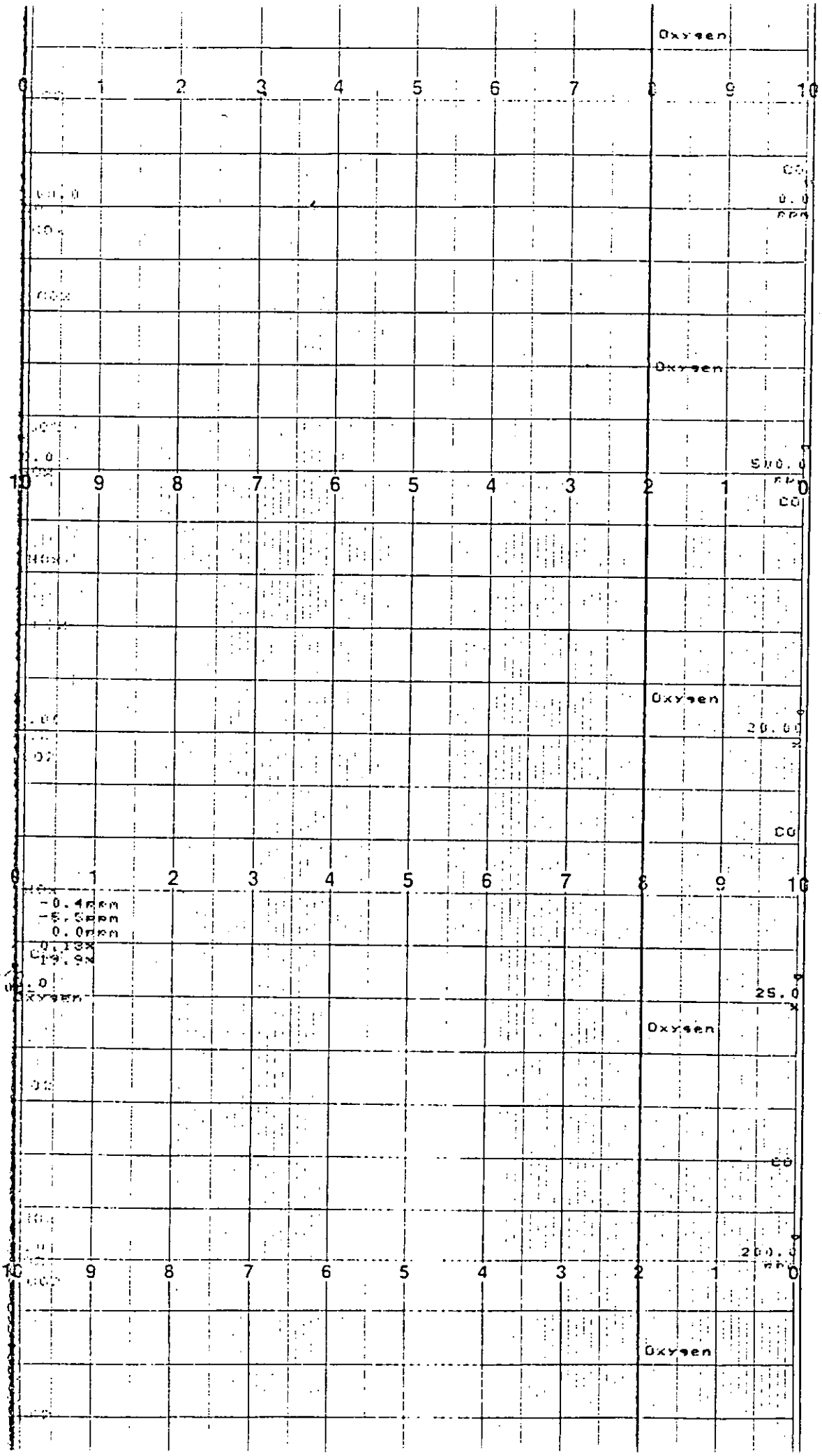


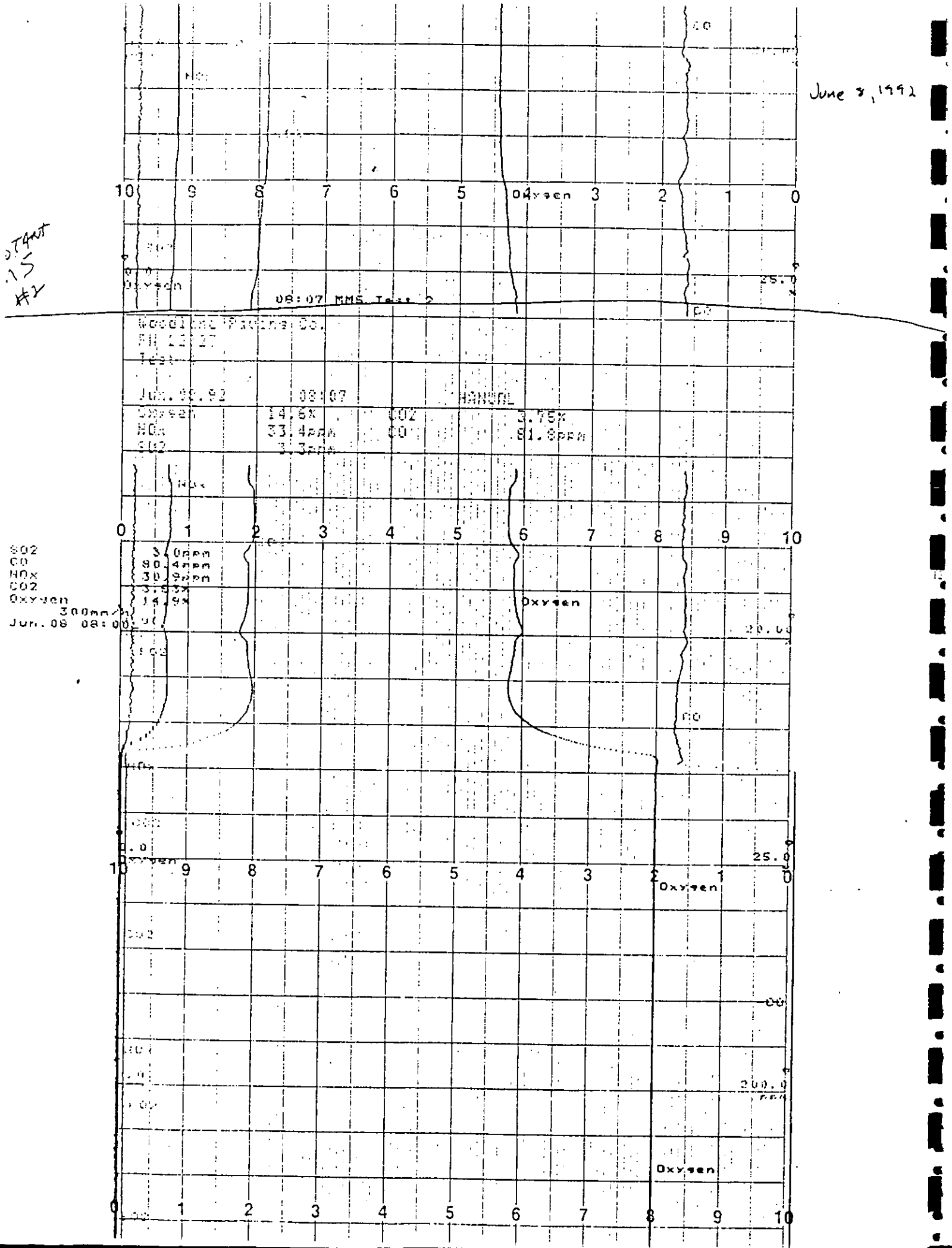
Test 3
June 8, 1992

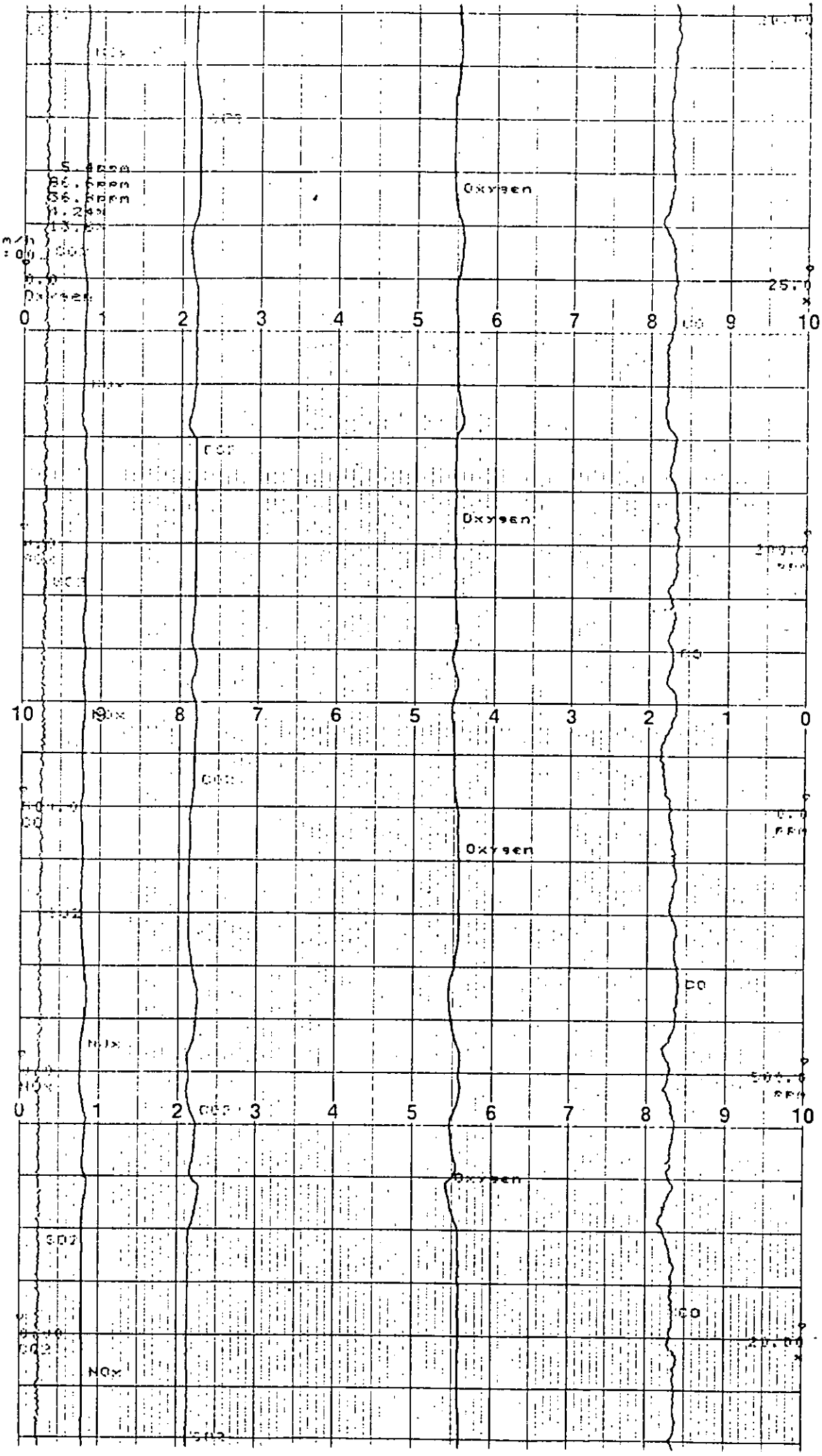
163 ppm


SO2
CO
NOx
CO2
Oxygen
300mm
Jun. 08 06:0
-0.4ppm
0.0ppm
0.0ppm
0.10%
14.9%
Oxygen
CO
NOx
CO2
Oxygen
CO
Oxygen
CO
Oxygen
9/1
285-8
Test 3
June 8, 1992


Oxygen
CO
Oxygen
Oxygen
CO
Oxygen
CO
SO2
CO
NOx
CO2
Oxygen
300mm
Jun. 08 06:
CO2

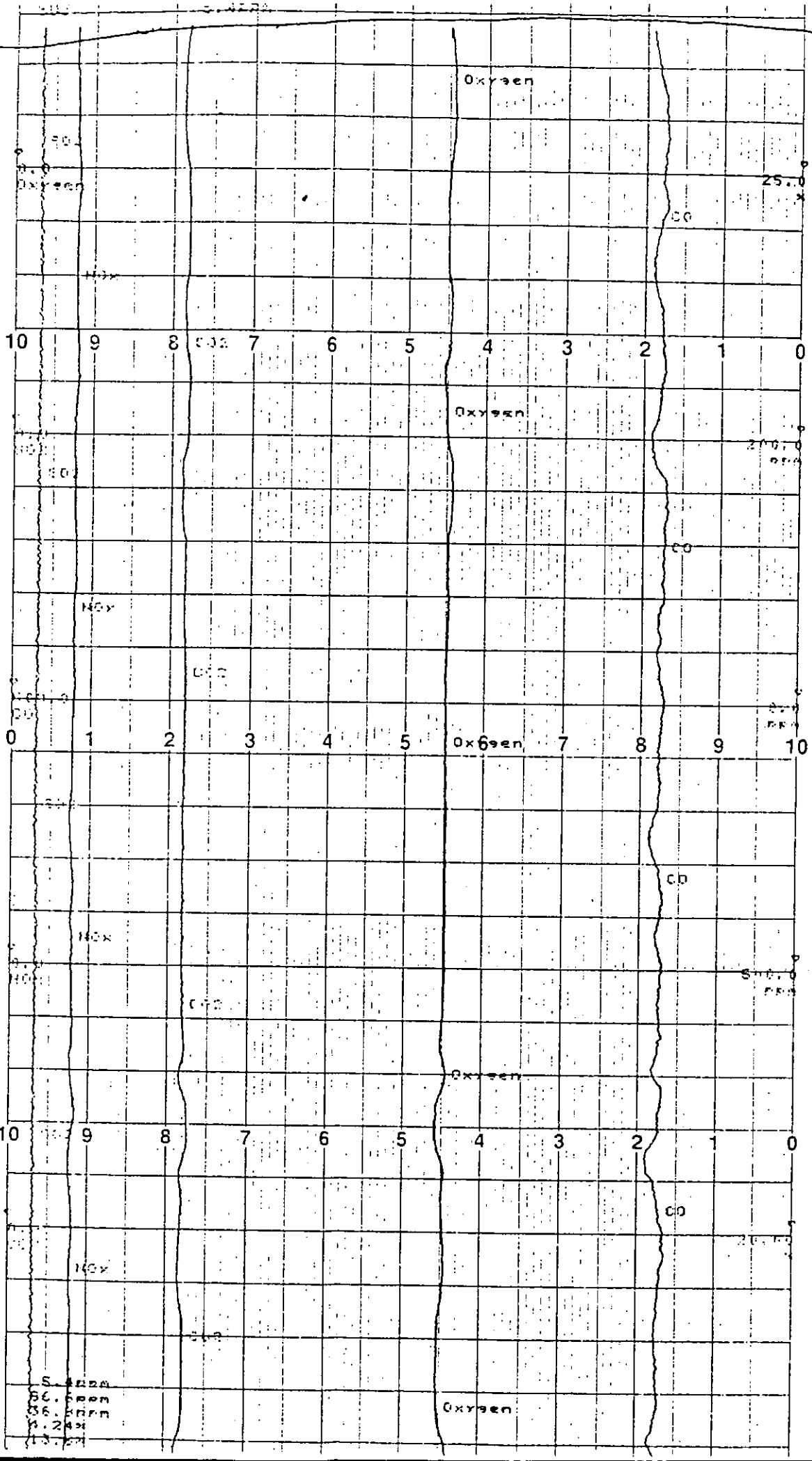

Oxygen
0 1 2 3 4 5 6 7 8 9 10
CO
0.0
ppm
Oxygen
500.0
10 9 8 7 6 5 4 3 2 1 0
CO
Oxygen
20.0
%
CO
0 1 2 3 4 5 6 7 8 9 10
SO2
CO
NOx
CO2
Oxygen
-0.4ppm
-5.5ppm
0.0ppm
0.13%
19.9%
300mm/
Jun.08 07:0
Oxygen
25.0
%
Oxygen
CO
200.0
ppm
10 9 8 7 6 5 4 3 2 1 0
Oxygen


June 8, 1992
08:07 MMS Test 2
Woodland Paper Co.
Jun. 08.92 08:07 HANSEN
Oxygen 14.6% CO2 3.75%
NOx 33.4ppm CO 81.8ppm
SO2 3.3ppm
SO2 3.0ppm
CO 80.4ppm
NOx 30.9ppm
CO2 3.83%
Oxygen 14.9%
300mm/h
Jun. 08 08:00:00
Oxygen
CO
NOx
SO2
0 1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1 0
25.0
20.0
200.0


NOx
CO2
Oxygen
300mm/h
Jun. 08 09:00
Oxygen
0 1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1 0
CO
NOx
SO2

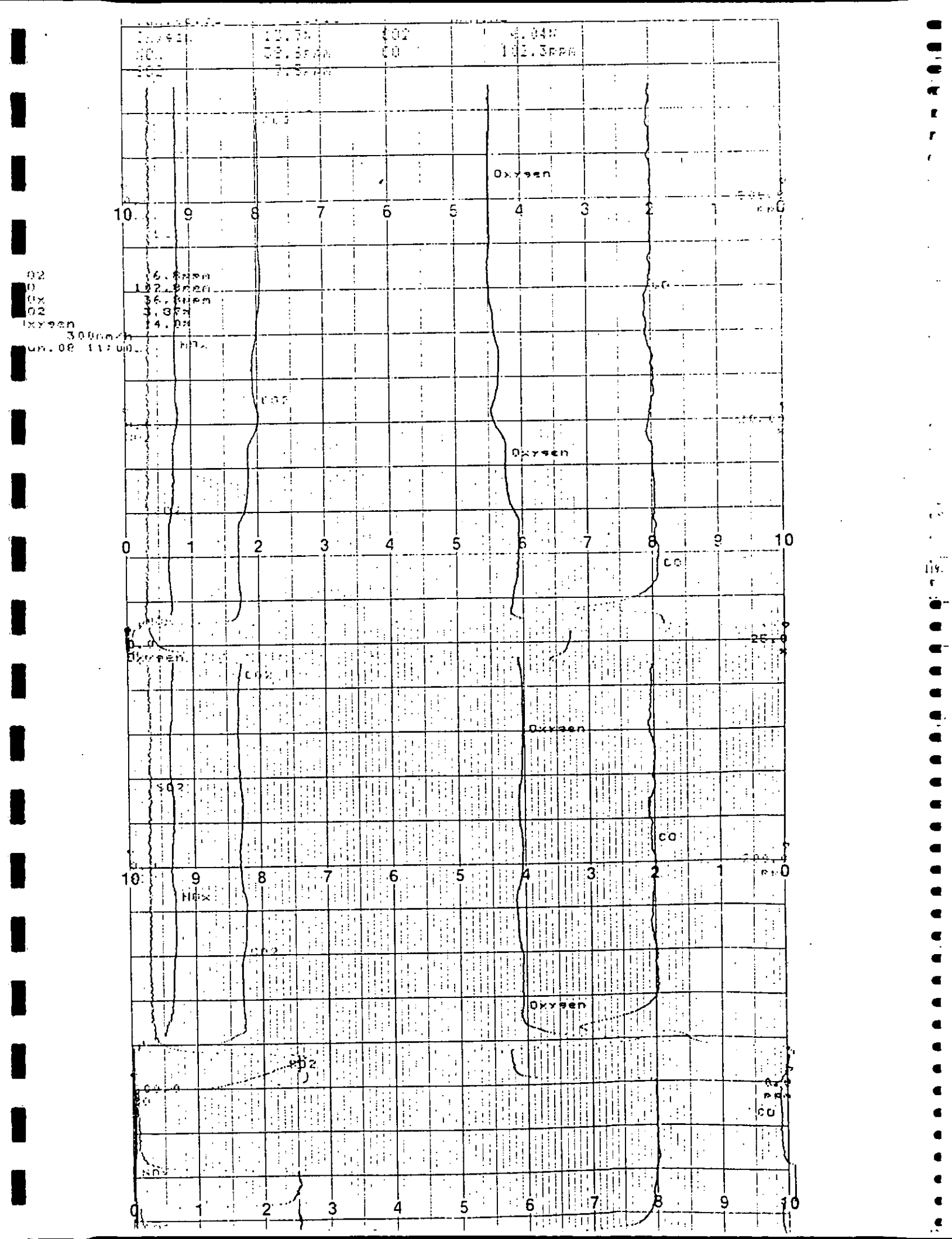
June 8, 1992

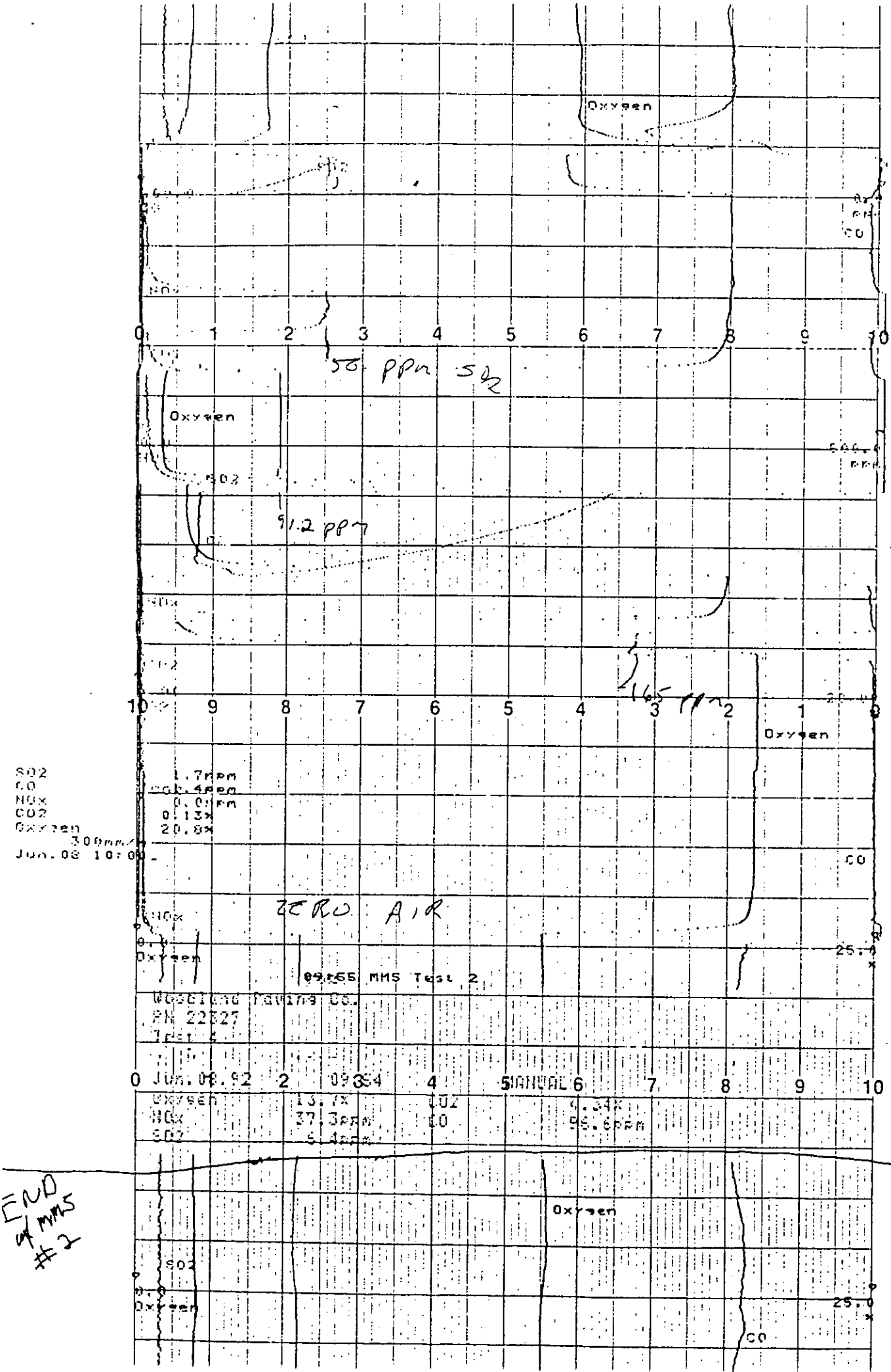
END of RUNS #2



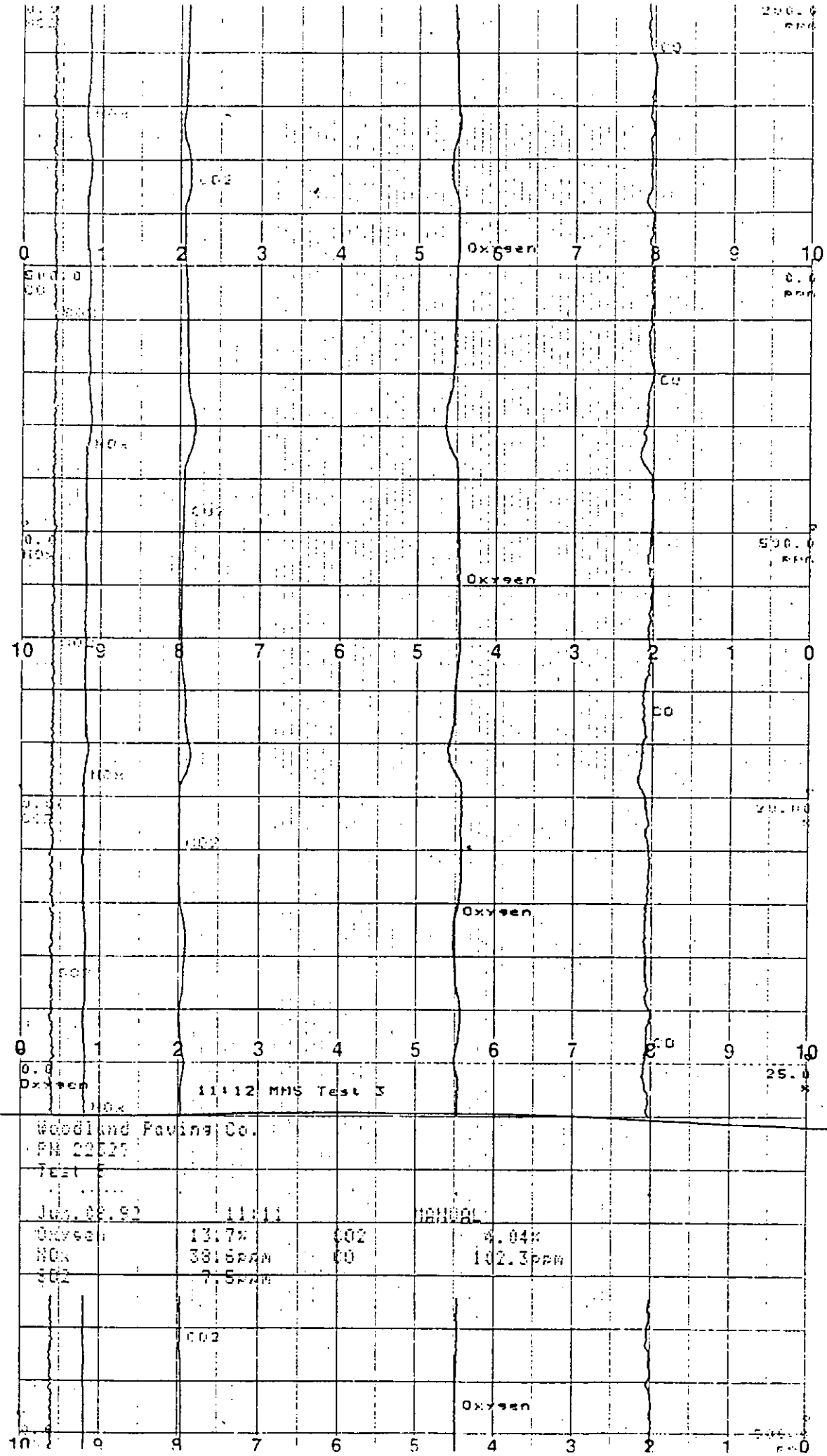
June 4, 1992

SO2
CO
NOx
CO2
Oxygen


Oxygen
Oxygen
Oxygen
Oxygen
CO
CO
CO
10
9
8
7
6
5
4
3
2
1
0

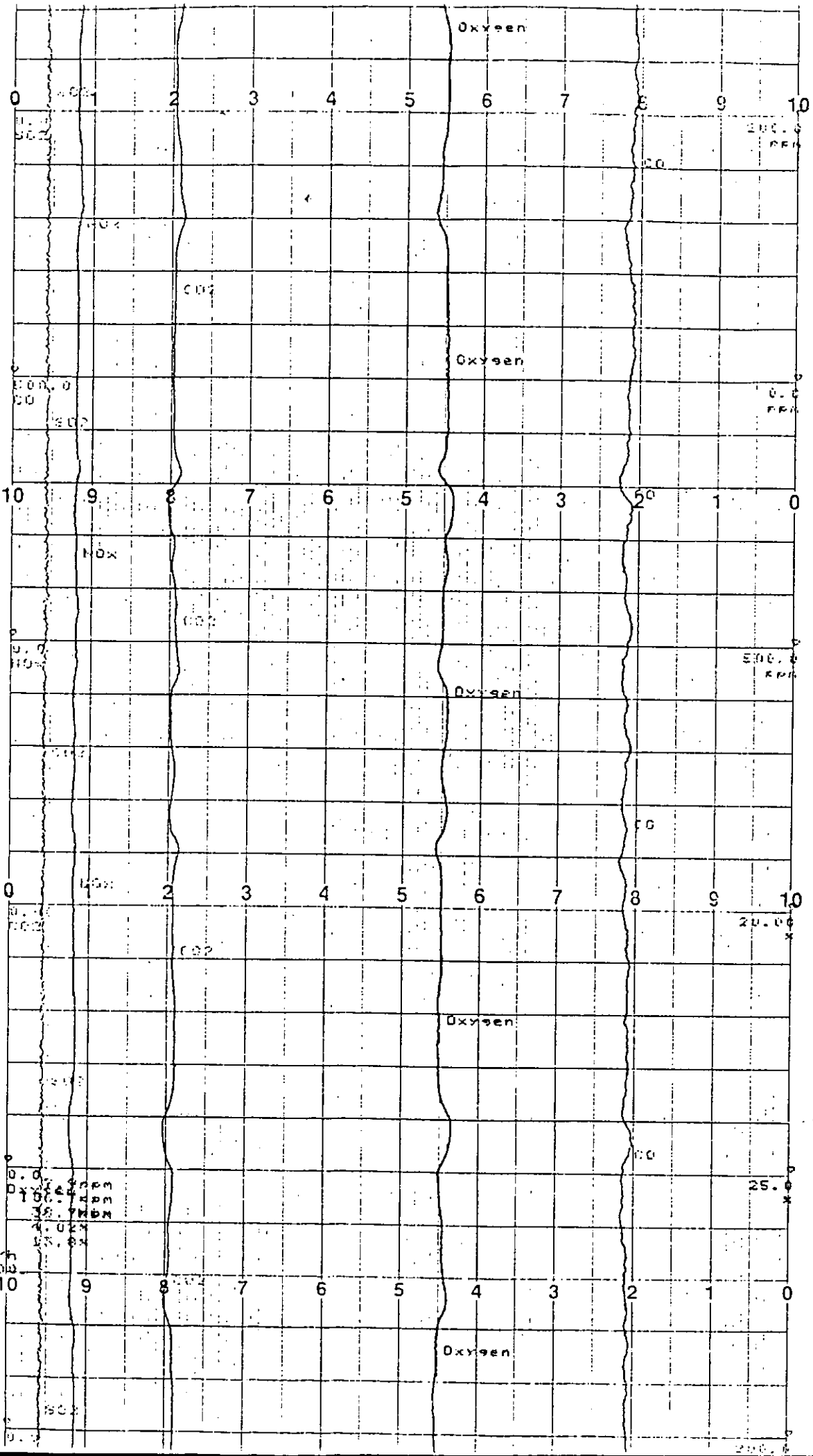

Oxygen
SO2
NOx
CO
0 1 2 3 4 5 6 7 8 9 10
50 PPM SR
Oxygen
SO2
91.2 PPM
NOx
10 9 8 7 6 5 4 3 2 1 0
165 PPM
Oxygen
SO2
CO
NOx
O2
Oxygen
300mm/
Jun.08 10:0
1.7ppm
0.4ppm
0.0ppm
0.13%
20.8%
CO
ZERO AIR
NOx
0.0
Oxygen
25.0
09:55 MMS Test 2
Woodland Paving Co.
PM 22827
Test 2
0 Jun.08.92 2 0934 4 SIGNAL 6 7 8 9 10
Oxygen 13.7% O2 9.34%
NOx 37.3ppm CO 95.6ppm
SO2 5.4ppm
Oxygen
SO2
0.0
Oxygen
25.0
CO

END of MMS #2

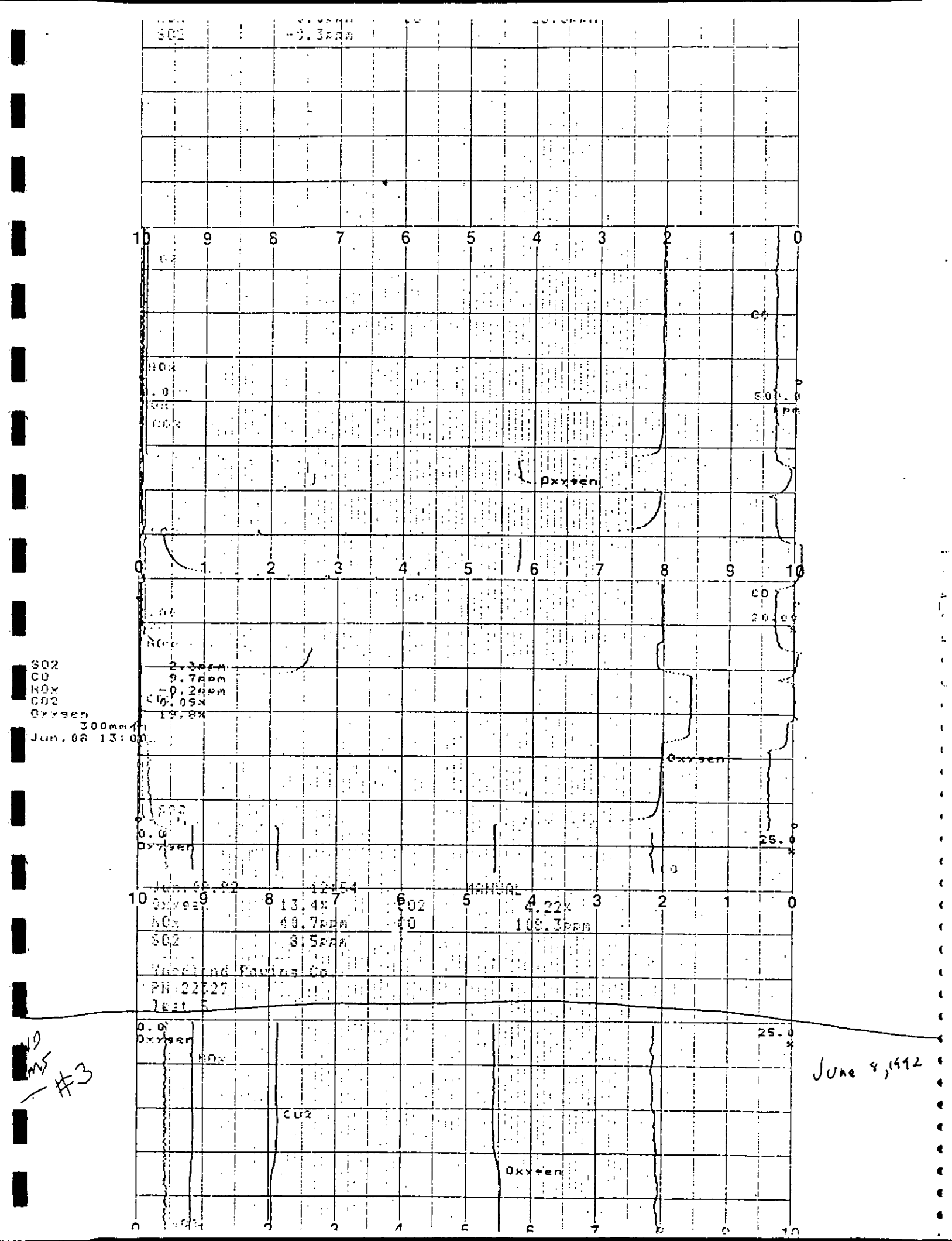


June 8, 1992

+ART MMS #3

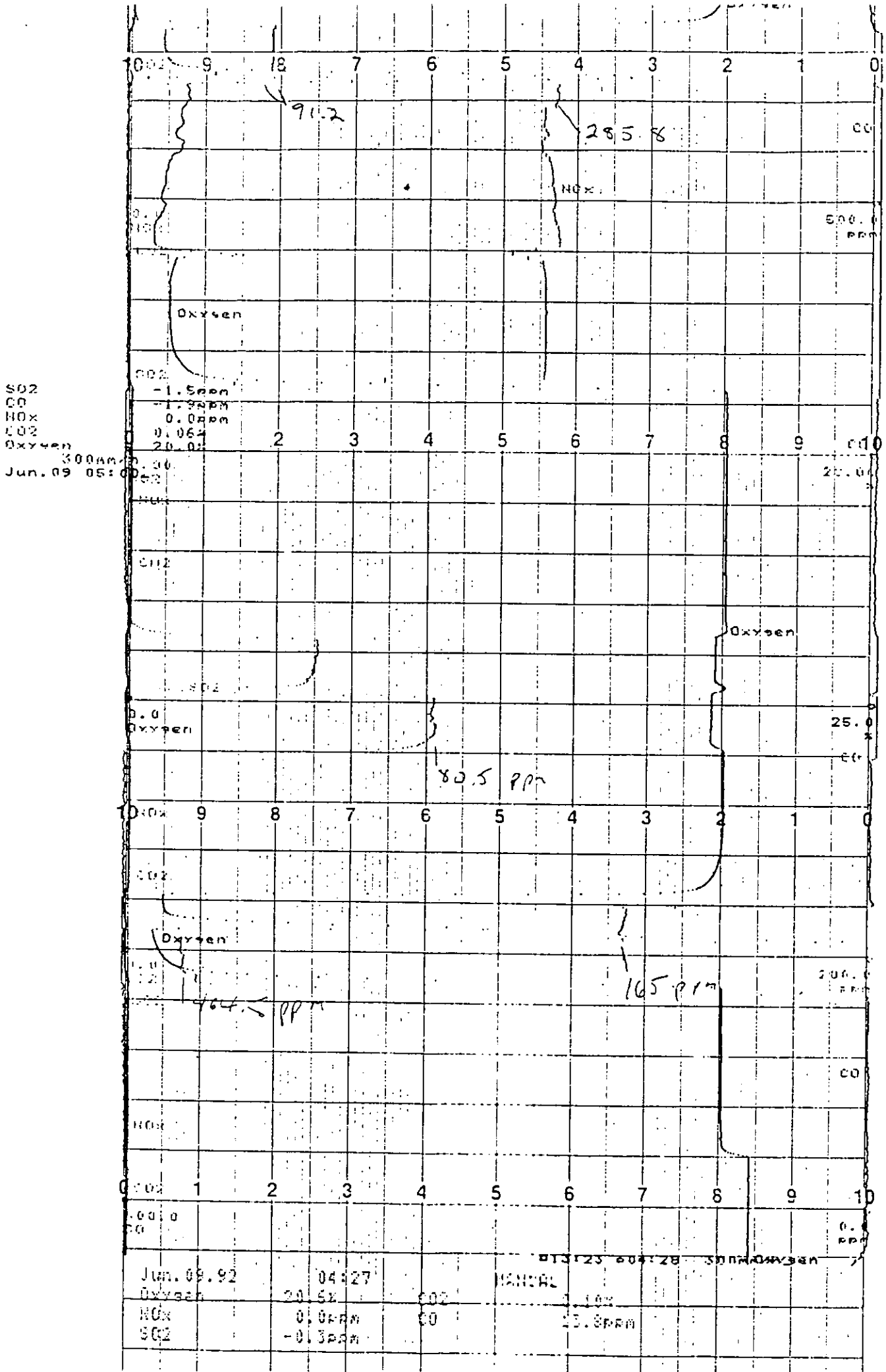

Oxygen
0 1 2 3 4 5 6 7 8 9 10
CO
NOx
CO2
Oxygen
10 9 8 7 6 5 4 3 2 1 0
NOx
CO2
Oxygen
CO
0 1 2 3 4 5 6 7 8 9 10
CO2
Oxygen
CO
10 9 8 7 6 5 4 3 2 1 0
Oxygen
SO2
CO
NOx
CO2
Oxygen
300mm.h
Jun.08 12:00

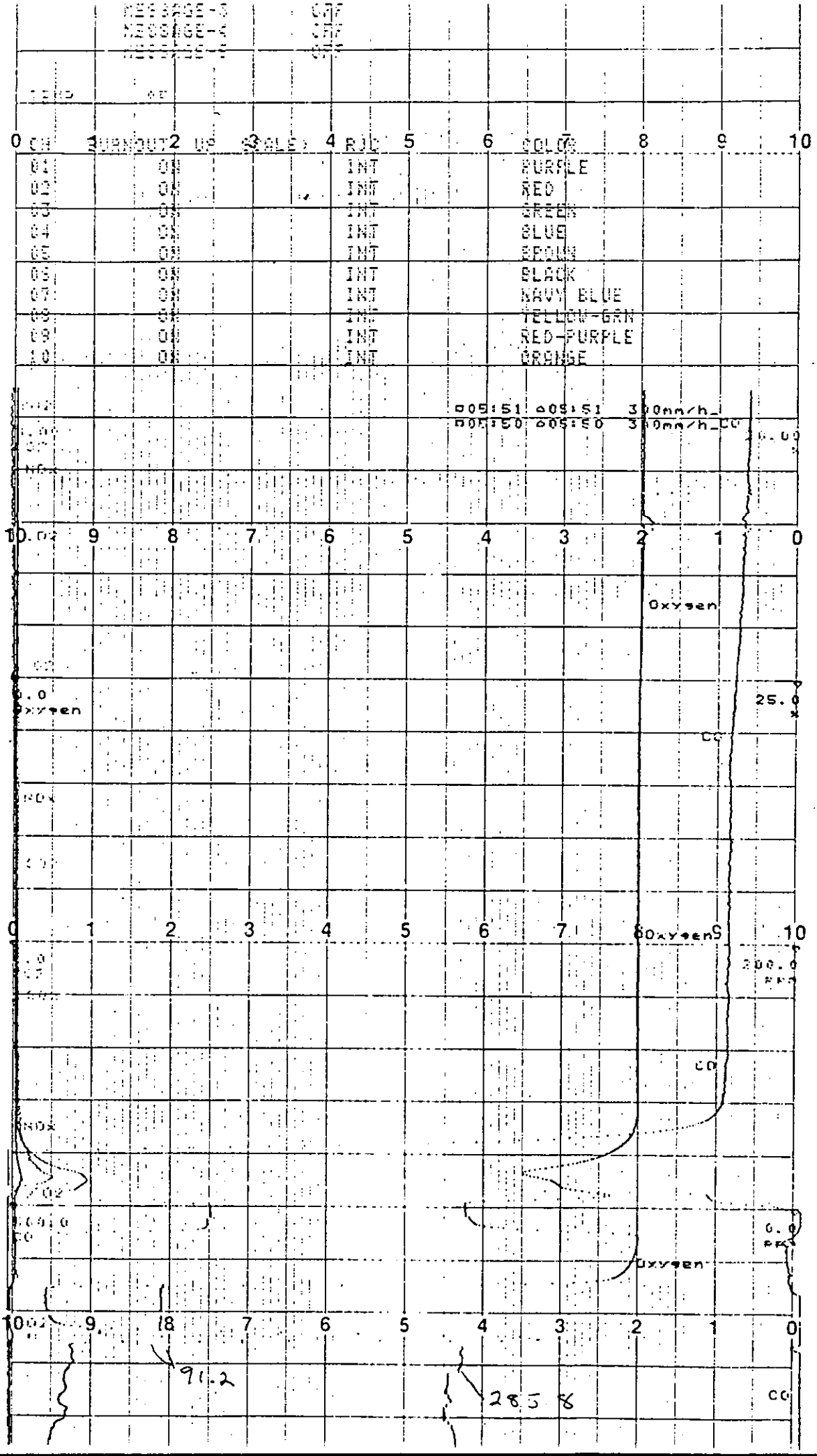
June 8, 1992

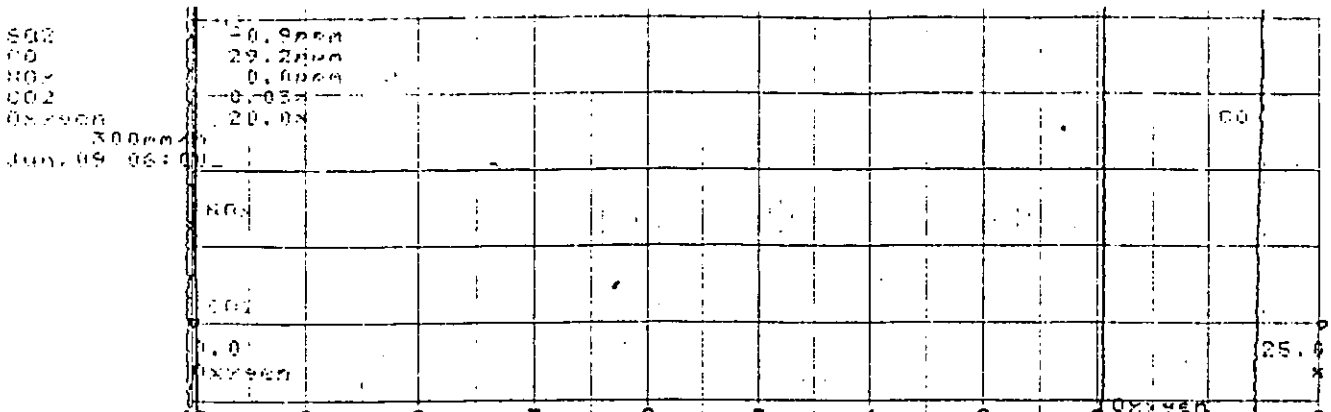

SO2
-0.3ppm
10 9 8 7 6 5 4 3 2 1 0
CO
NOx
.0
CO2
Oxygen
0 1 2 3 4 5 6 7 8 9 10
CO
.04
NOx
SO2
2.3ppm
CO
9.7ppm
NOx
-0.2ppm
CO2
0.05%
Oxygen
19.8%
300mm/h
Jun.08 13:00
Oxygen
25.0
0.0
Oxygen
10 9 8 7 6 5 4 3 2 1 0
Oxygen
13.4%
NOx
40.7ppm
SO2
3.5ppm
CO2
4.22%
CO
108.3ppm
Wheelabrator Frye Inc.
PH 22527
Test 5
0.0
Oxygen
NOx
CO2
Oxygen
25.0
0 1 2 3 4 5 6 7 8 9 10

June 4, 1992

#3


SO2
CO
NOx
CO2
Oxygen
Jun.09 05:00
-1.5ppm
0.0ppm
0.06%
20.0%
912
285
NOx
Oxygen
CO2
80.5 ppm
Oxygen
165 ppm
464.5 ppm
CO
NOx
Jun.09.92
04:27
Oxygen
20.6%
NOx
0.0ppm
SO2
-0.3ppm
CO
23.8ppm


MESSAGE-3 OFF
MESSAGE-4 OFF
MESSAGE-5 OFF
TEMP OFF
0 CH 1 BURNOUT 2 UP 3 SALE 4 RUN 5 6 COLOR 8 9 10
01 ON INT PURPLE
02 ON INT RED
03 ON INT GREEN
04 ON INT BLUE
05 ON INT BROWN
06 ON INT BLACK
07 ON INT NAVY BLUE
08 ON INT YELLOW-GRN
09 ON INT RED-PURPLE
10 ON INT ORANGE
05:51 05:51 300mm/h
05:50 05:50 300mm/h_CO
0.00
10.02 9 8 7 6 5 4 3 2 1 0
Oxygen
0.0
Oxygen
25.0
CO
NOx
0 1 2 3 4 5 6 7 8 Oxygen 9 10
200.0
CO
NOx
02
0.0
CO
Oxygen
0.0
10.02 9 8 7 6 5 4 3 2 1 0
91.2
285 8
CO

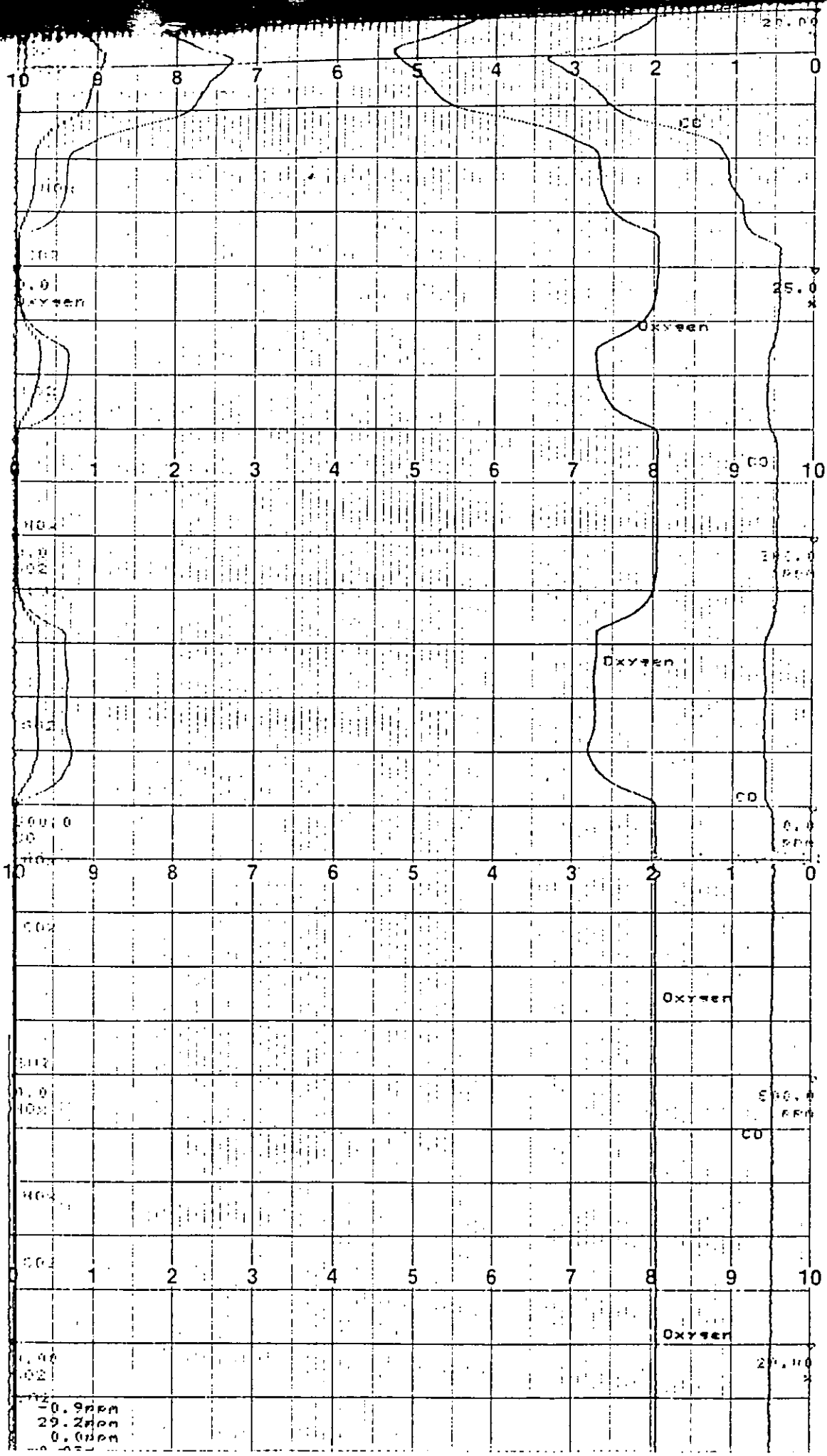


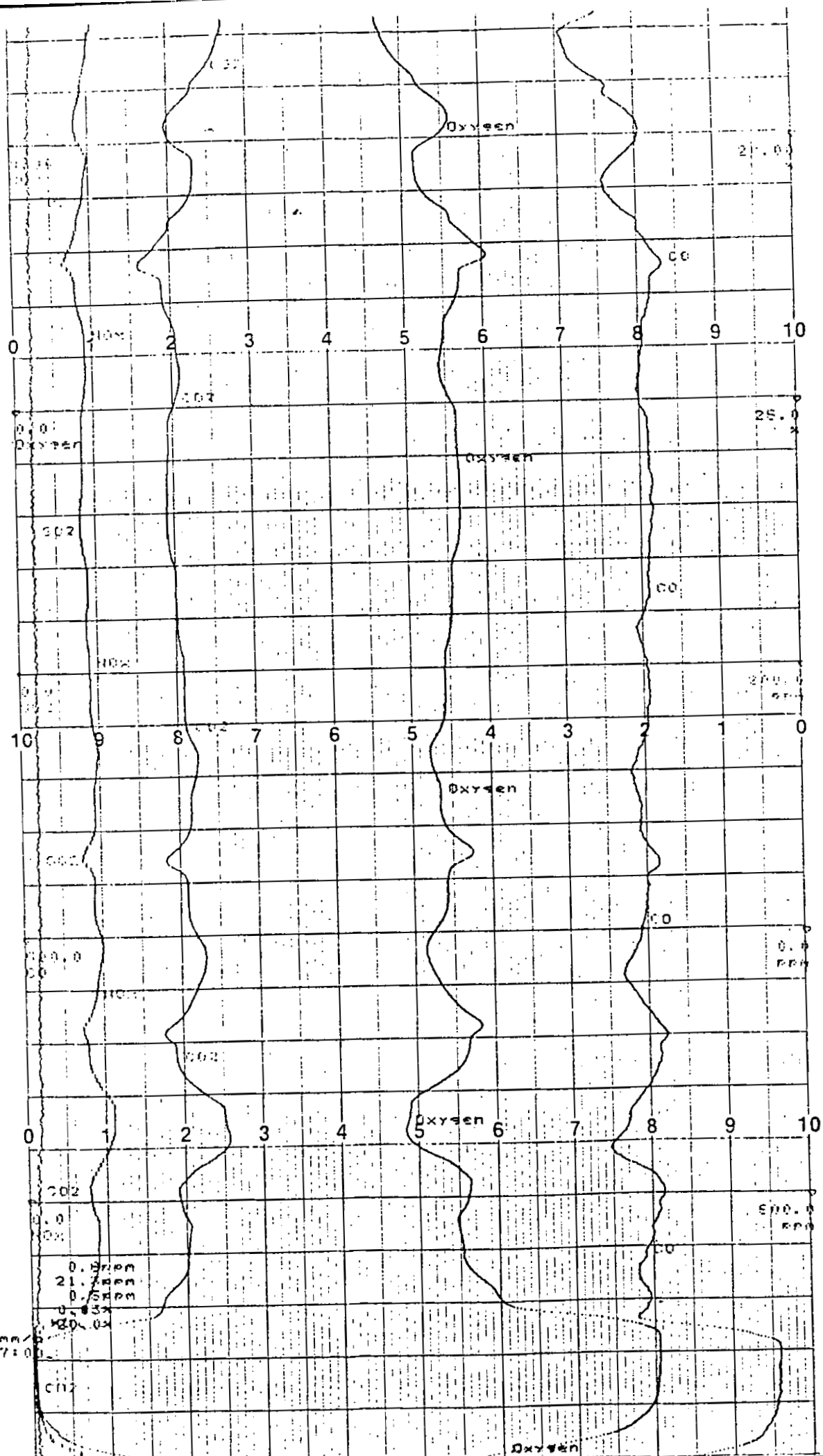
SET UP LIST

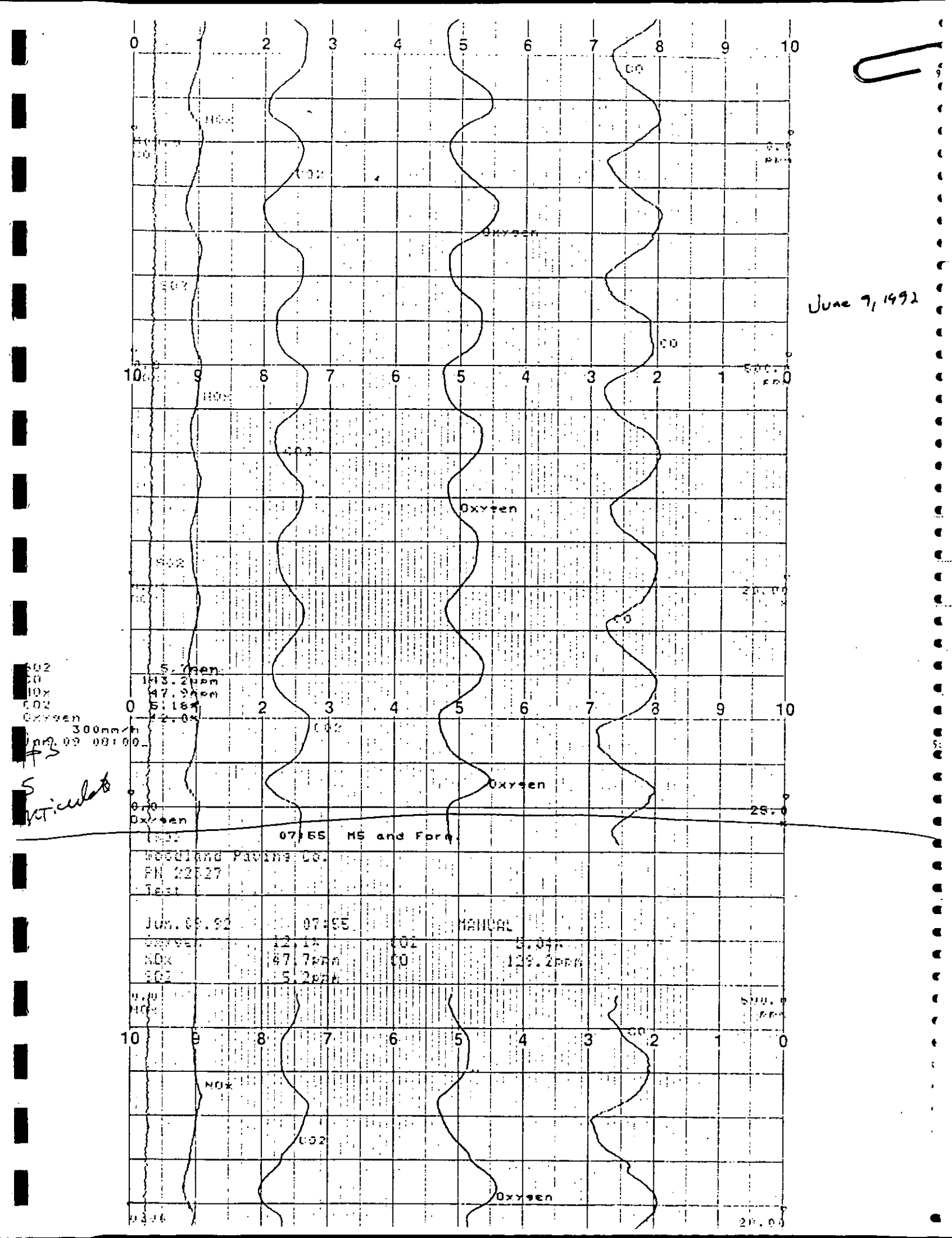
RECORD	CH & TAG	SCALE	DIGITAL PRINT	CH PITCH		
	TAG	0-100%	1-COLMN	12.5mm		
	TITLE PITCH	LOG FORMAT	SPEED PRINT	ON/OFF MARK		
	1500mm	HORIZON	ON	ON		
	PARTIAL	ALARM PRINT	TIC	INTEG OVER	MATH ERROR	
	OFF	ON	ON	RESET	+OVER	
INTERVAL	SCAN	LOG INTVL				
	2sec	SINGLE				
CONTROL	KEYLOCK	AND RLY INT	AND RLY SW	INT ALM	COMMAND	
	OFF	NONE	NONE	ENERGIZE	TRIGGER	
	DEMAND	ALARM ACK	RELAY HOLD	RH TIME	RL TIME	
	INT	OFF	OFF	1'	1'	
	ALARM HYS	DGTL PRINT	COMM INPUT	MEM INPUT		
	0.5%	INT	OFF	OFF		
KEY LOCK	START STOP	HEADER	LIST	MAN PRINT	CHART FEED	
	FREE	FREE	FREE	FREE	FREE	
	ALM ACK	ALM RESET				
	FREE	FREE				
COMM-SET	GPIB MODE	ADDRESS				
	ADDRESSABLE	1				
	RS232C MODE	BAUD RATE	DATA	PARITY	STOP BIT	HANDSHAKE
	SET & OUT	9600	8bit	NONE	2	XON/RS

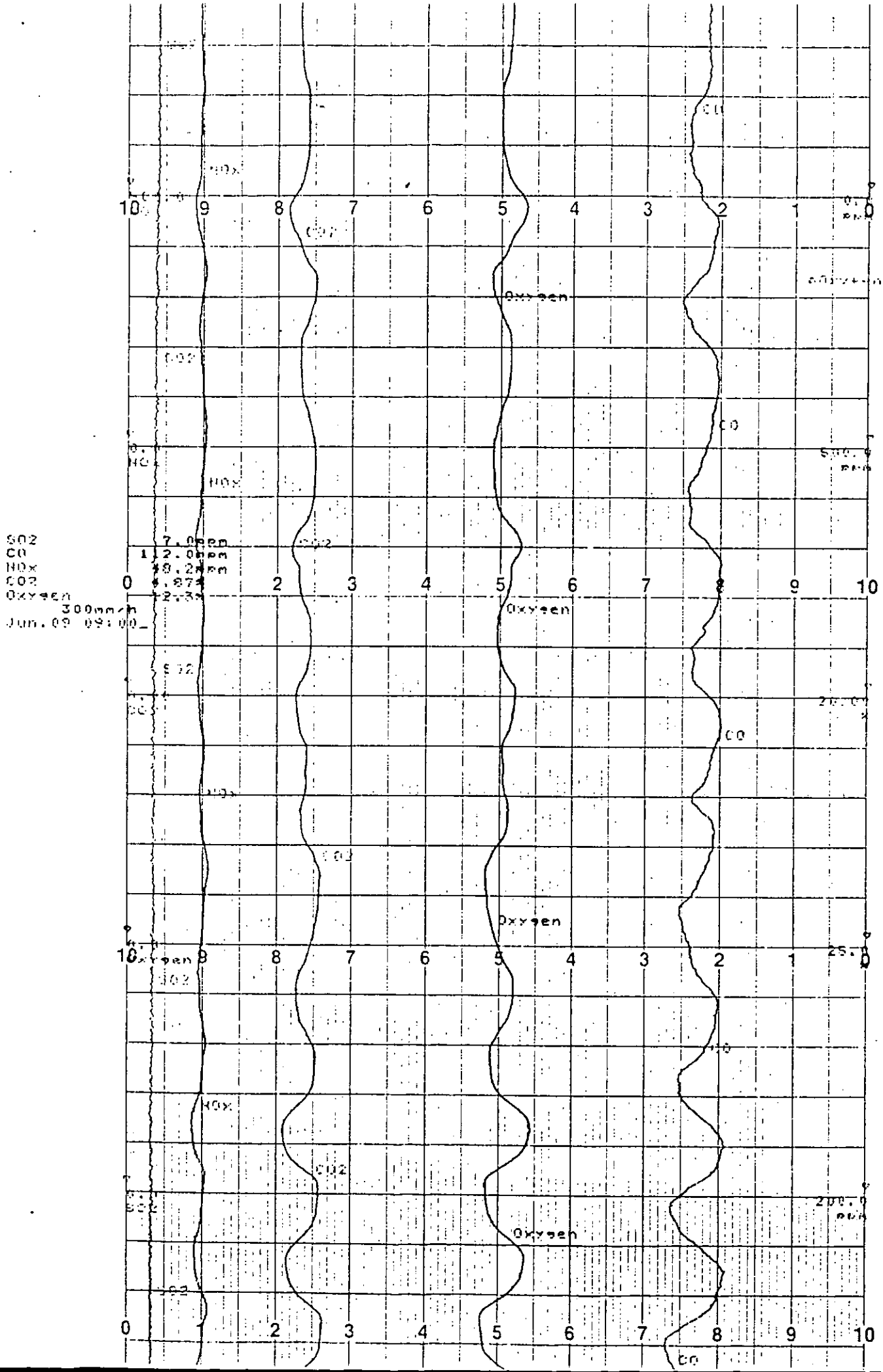
10 9 8 7 6 5 4 3 2 1 0

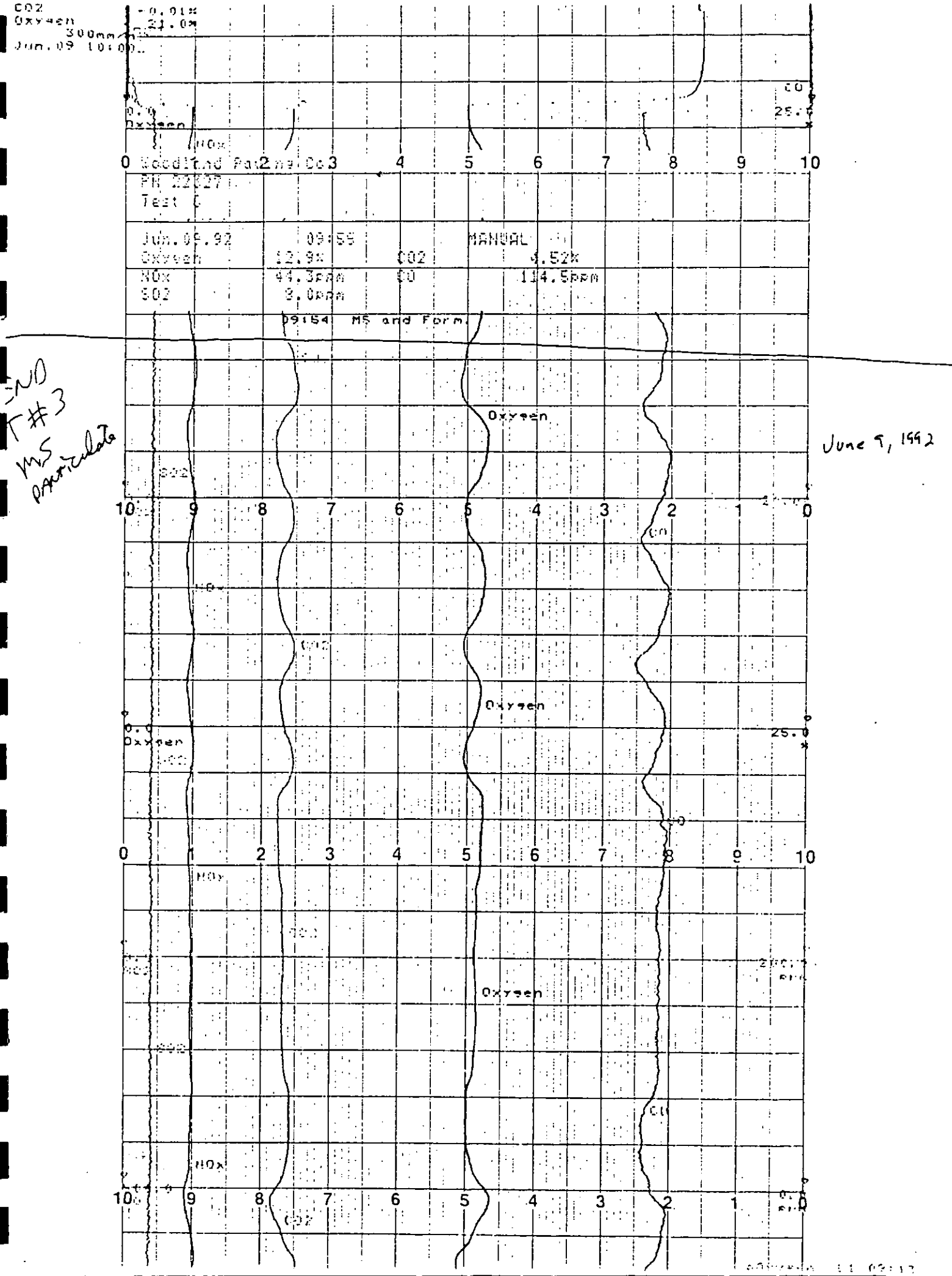
GROUP	G1 01-10	G2 11-20	G3 01-15			
	G4 01-20	G5 31-60	G6 01-60			
LOGIC	MODE	TRIGGER MODE	RELAY ID			
	START STOP	ALL				
	MAN PRINT	OFF				
	DGTL PRINT	OFF				
	CHNG SPEED	ALL				
	MESSAGE-1	OFF				
	MESSAGE-2	OFF				
	MESSAGE-3	OFF				
	MESSAGE-4	OFF				
	MESSAGE-5	OFF				
*END	OF					


10 9 8 7 6 5 4 3 2 1 0
CO
Oxygen
25.0
0 1 2 3 4 5 6 7 8 9 10
CO
Oxygen
CO
Oxygen
CO
Oxygen
SO2
-0.9ppm
29.2ppm
0.0ppm


Oxygen
CO
0 1 2 3 4 5 6 7 8 9 10
SO2
NOx
CO2
10 9 8 7 6 5 4 3 2 1 0
0 1 2 3 4 5 6 7 8 9 10
SO2
CO
NOx
CO2
Oxygen
SO2
CO
NOx
CO2
Oxygen
300mm/h
Jun.09 07:00

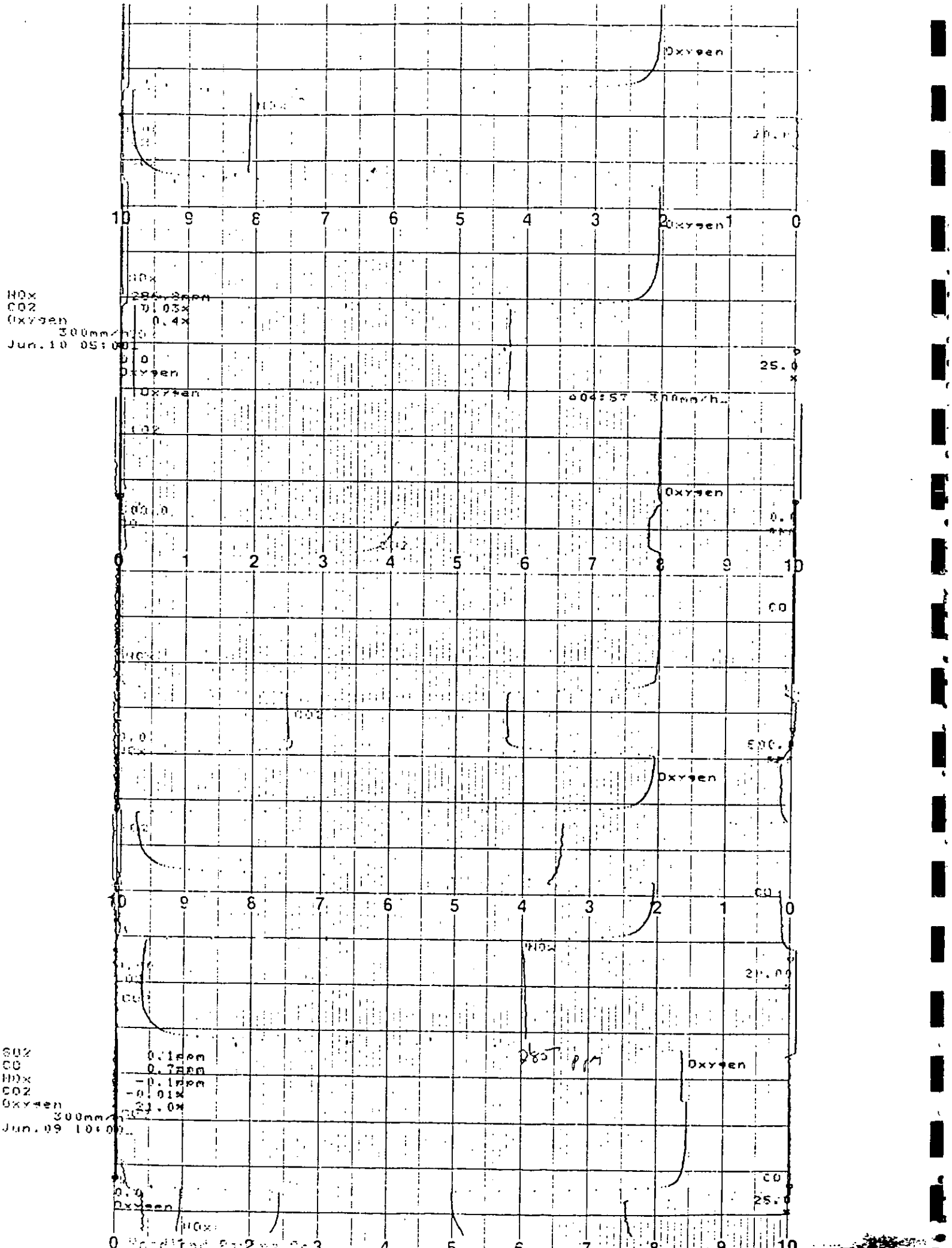

June 9, 1992
Oxygen
CO2
CO
NOx
Oxygen
CO2
CO
NOx
Oxygen
CO2
CO
NOx
Oxygen
CO2
CO
NOx
Oxygen
CO2
CO
NOx
Oxygen
CO2
CO
NOx
5.7%
113.2ppm
47.9ppm
5.2ppm
12.1%
5.3%
47.7ppm
139.2ppm
5.2ppm
300mm/h
Jun.09 09:00
#3
5 particulate
07:55 MS and Form
Woodland Paving Co.
FN 22527
Test
Jun.09.92 07:55 MANUAL
Oxygen 12.1% CO2 5.3%
NOx 47.7ppm CO 139.2ppm
SO2 5.2ppm

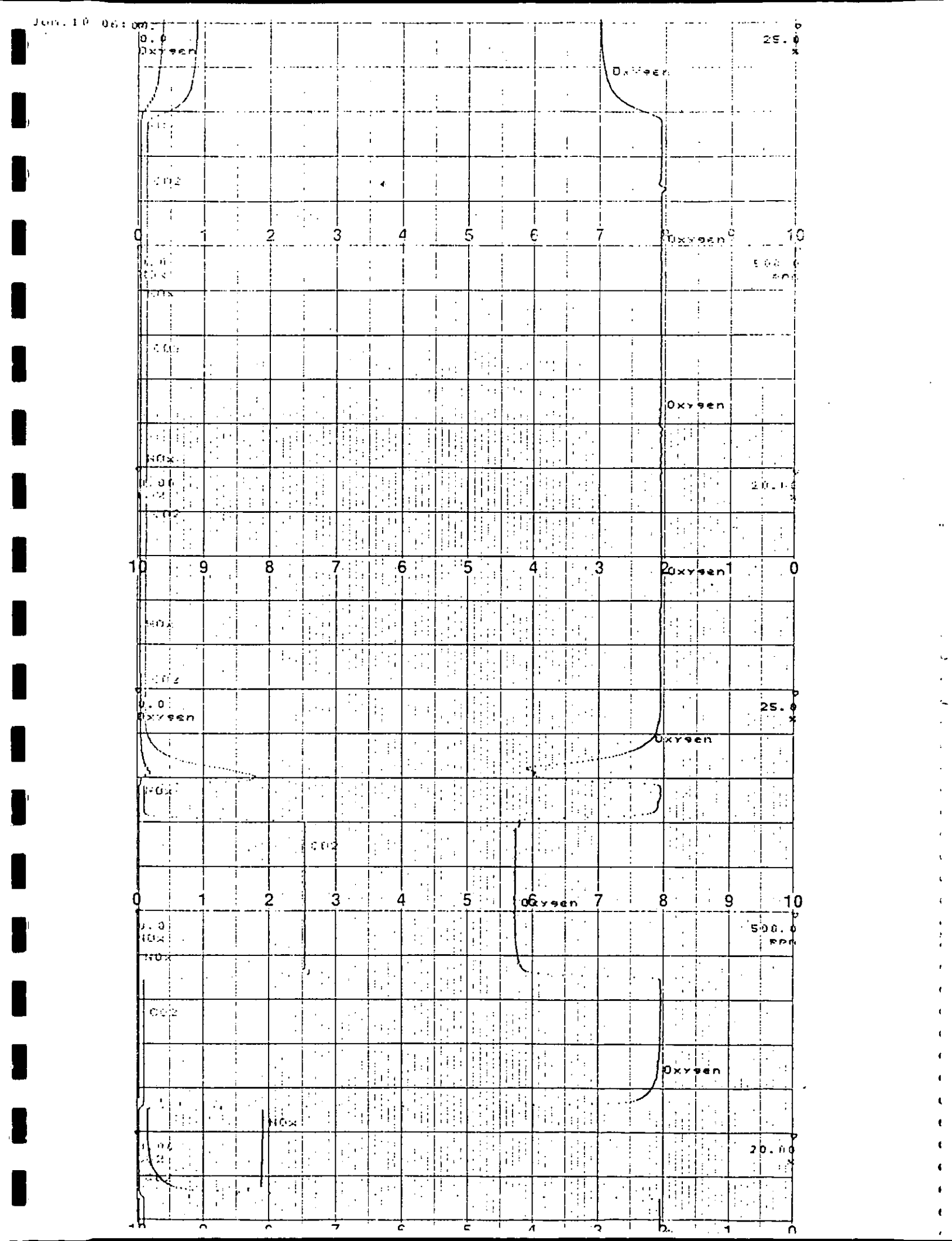

SO2
CO
NOx
CO2
Oxygen
7.0ppm
112.0ppm
10.2ppm
4.87%
12.3%
300mm/h
Jun.09 09:00
June 9, 1992

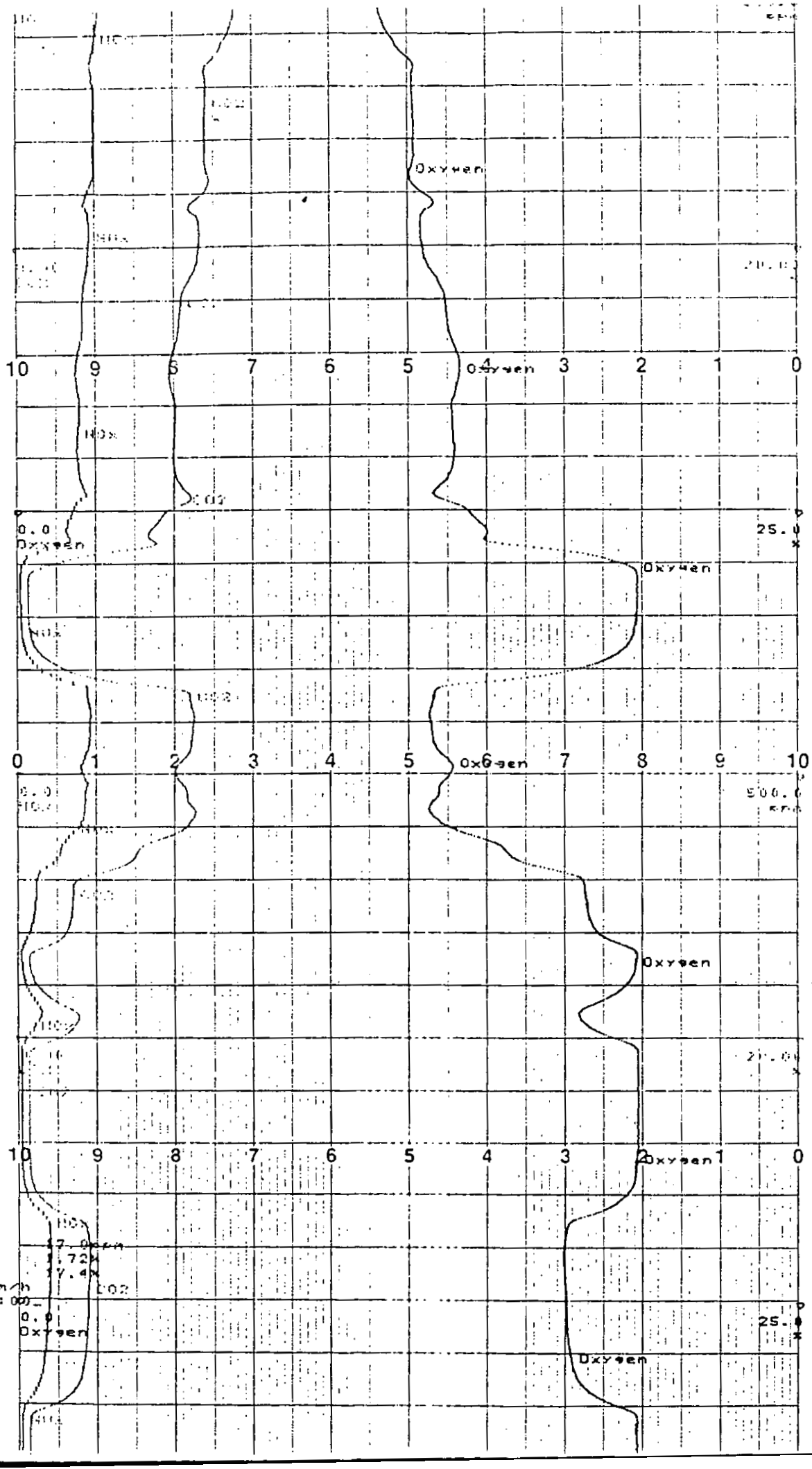


-NO
T#3
MS particulate

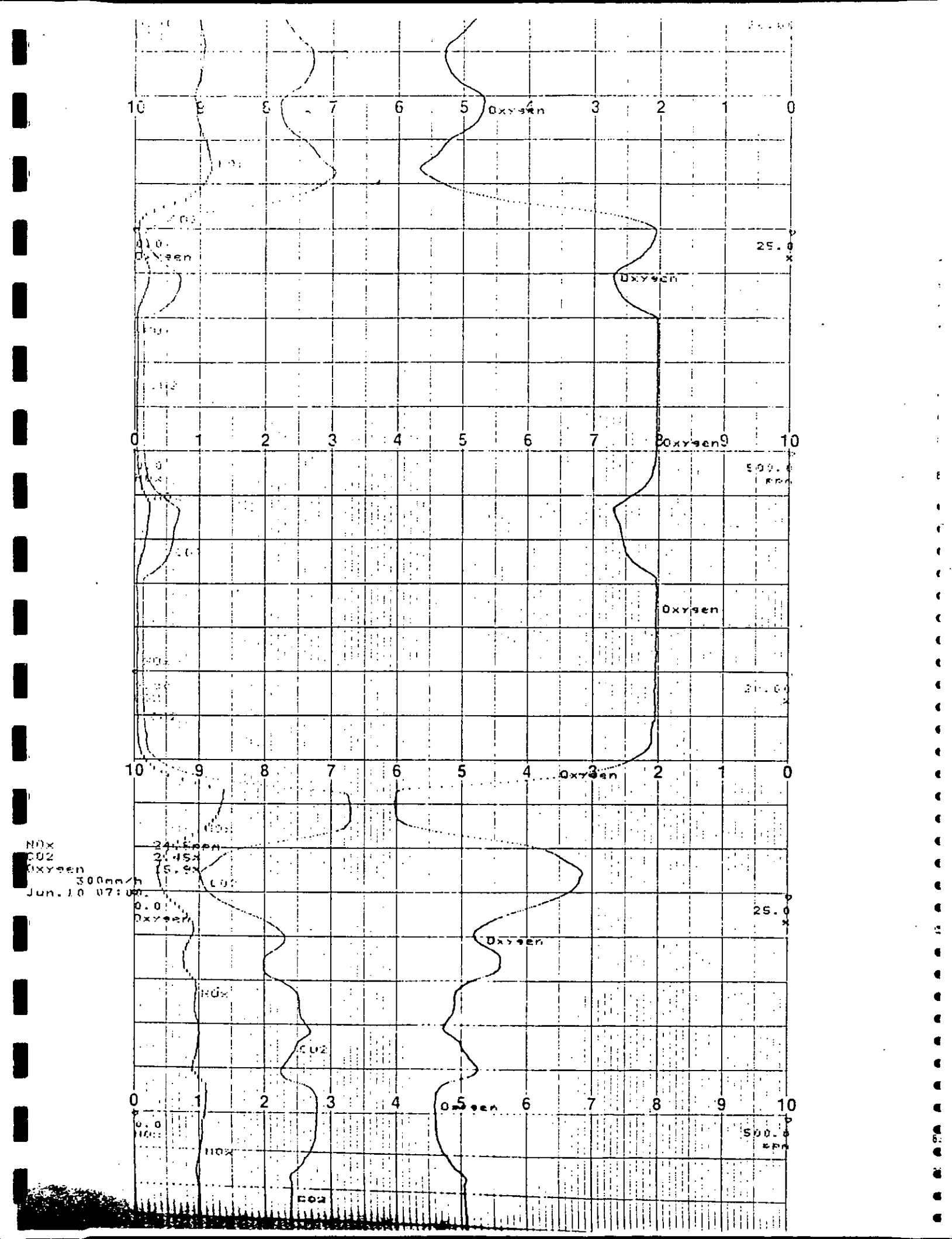
June 9, 1992

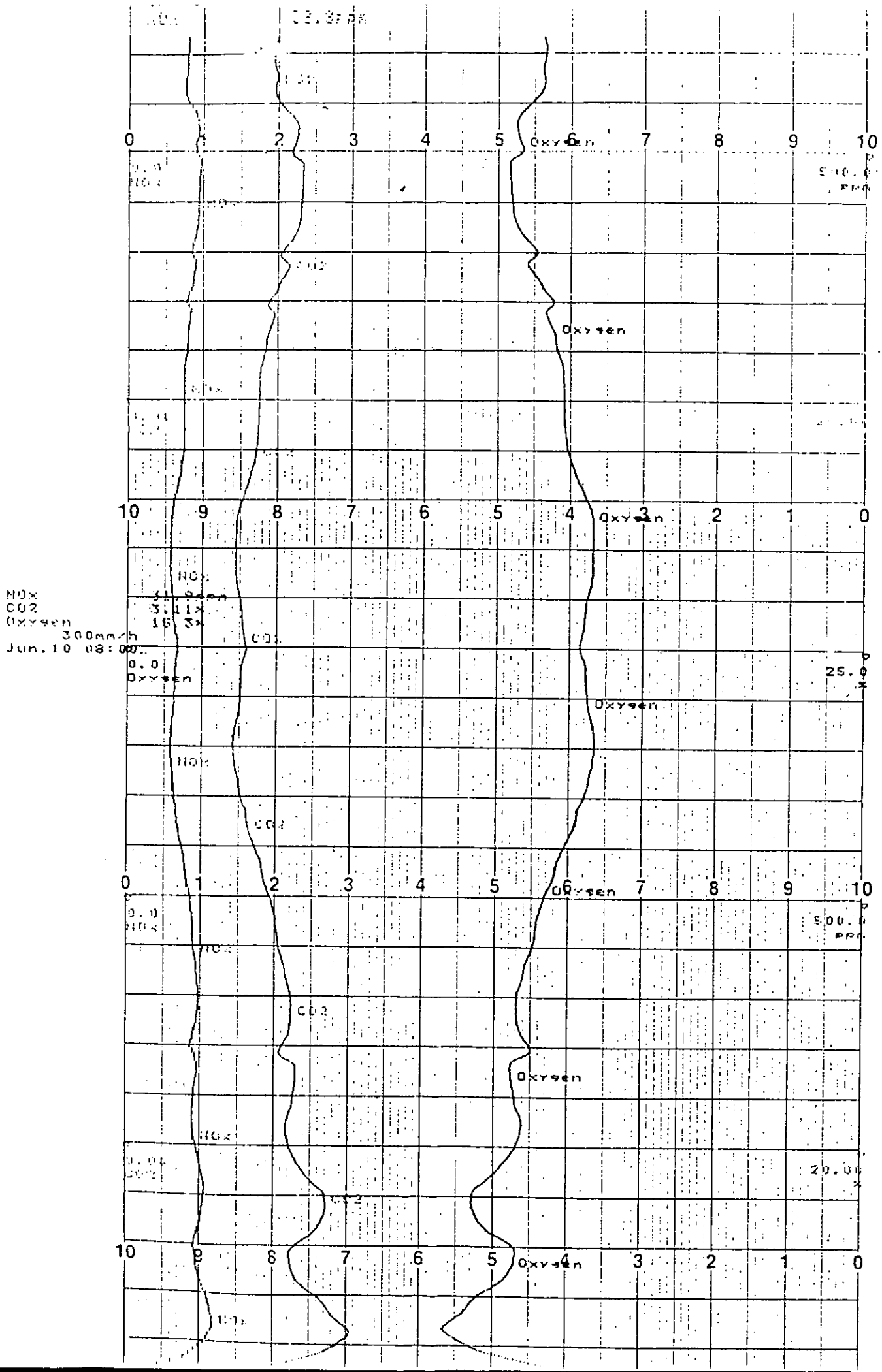

NOx
CO2
Oxygen
300mm/h
Jun.10 05:00
NOx
284.3ppm
0.03%
0.4%
Oxygen
CO2
CO
Oxygen
04:57 300mm/h
Oxygen
CO
Oxygen
CO
SO2
CO
NOx
CO2
Oxygen
0.1ppm
0.7ppm
-0.1ppm
-0.01%
21.0%
300mm/h
Jun.09 10:00
Oxygen
CO
Oxygen
NOx

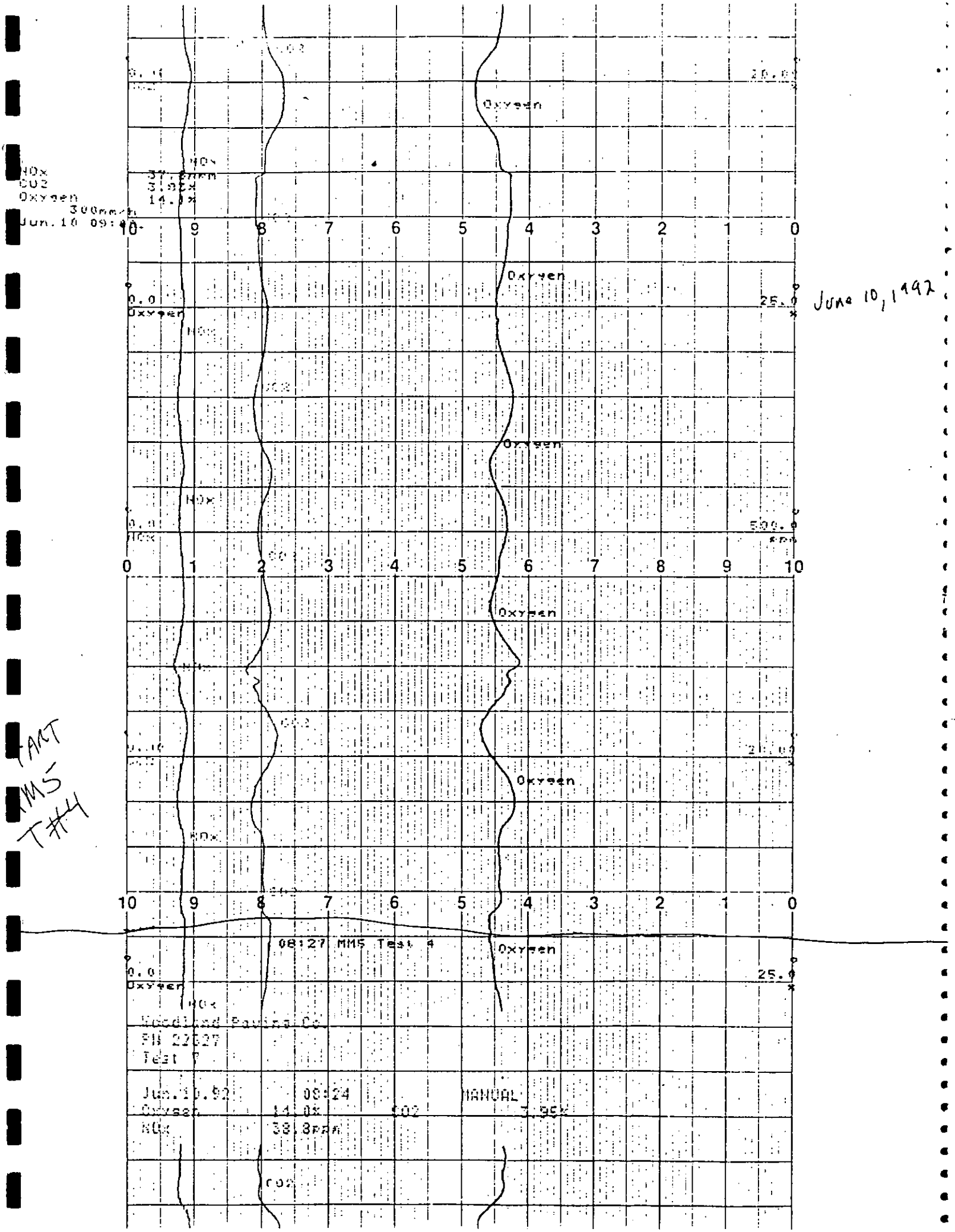

Jan. 10 06:00
0.0
Oxygen
25.0
Oxygen
CO2
0
1
2
3
4
5
6
7
Oxygen
10
0.0
NOx
500.0
PPM
CO
Oxygen
NOx
20.00
%
CO2
10
9
8
7
6
5
4
3
2
Oxygen
1
0
NOx
CO2
0.0
Oxygen
25.0
%
Oxygen
NOx
CO2
0
1
2
3
4
5
Oxygen
7
8
9
10
0.0
NOx
500.0
PPM
NOx
CO2
Oxygen
NOx
20.00
%



NOx
CO2
Oxygen
300mm/h
Jun.10 06:00

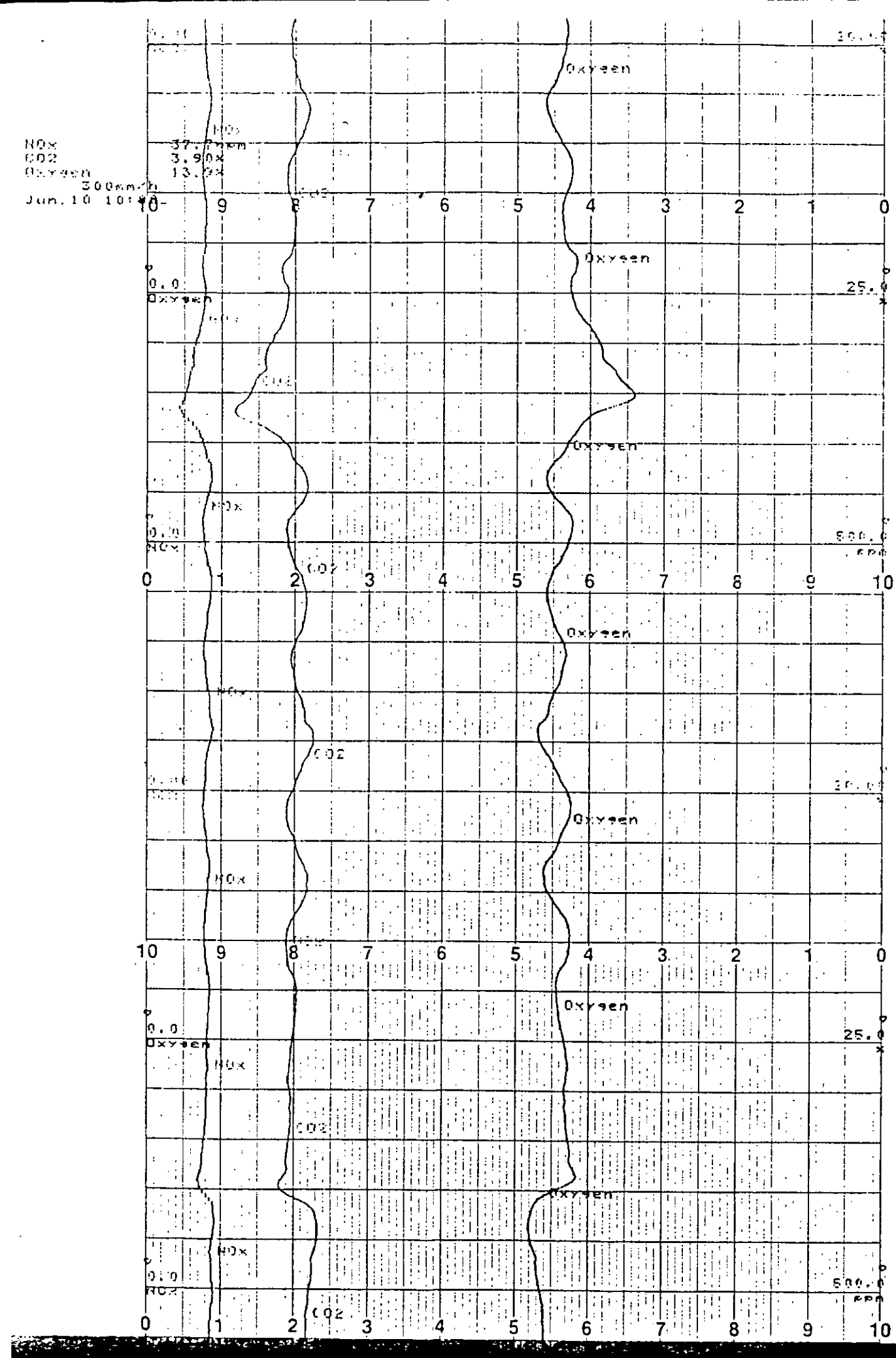

10 9 8 7 6 5 Oxygen 3 2 1 0
25.0
Oxygen
0 1 2 3 4 5 6 7 8 Oxygen 9 10
500.0
ppm
Oxygen
21.0
10 9 8 7 6 5 4 Oxygen 2 1 0
NOx
CO2
Oxygen
24.Feen
2.45%
15.9%
300mm/h
Jun.10 07:00
0.0
Oxygen
25.0
Oxygen
NOx
CO2
0 1 2 3 4 5 Oxygen 6 7 8 9 10
0.0
500.0
ppm
NOx
CO2

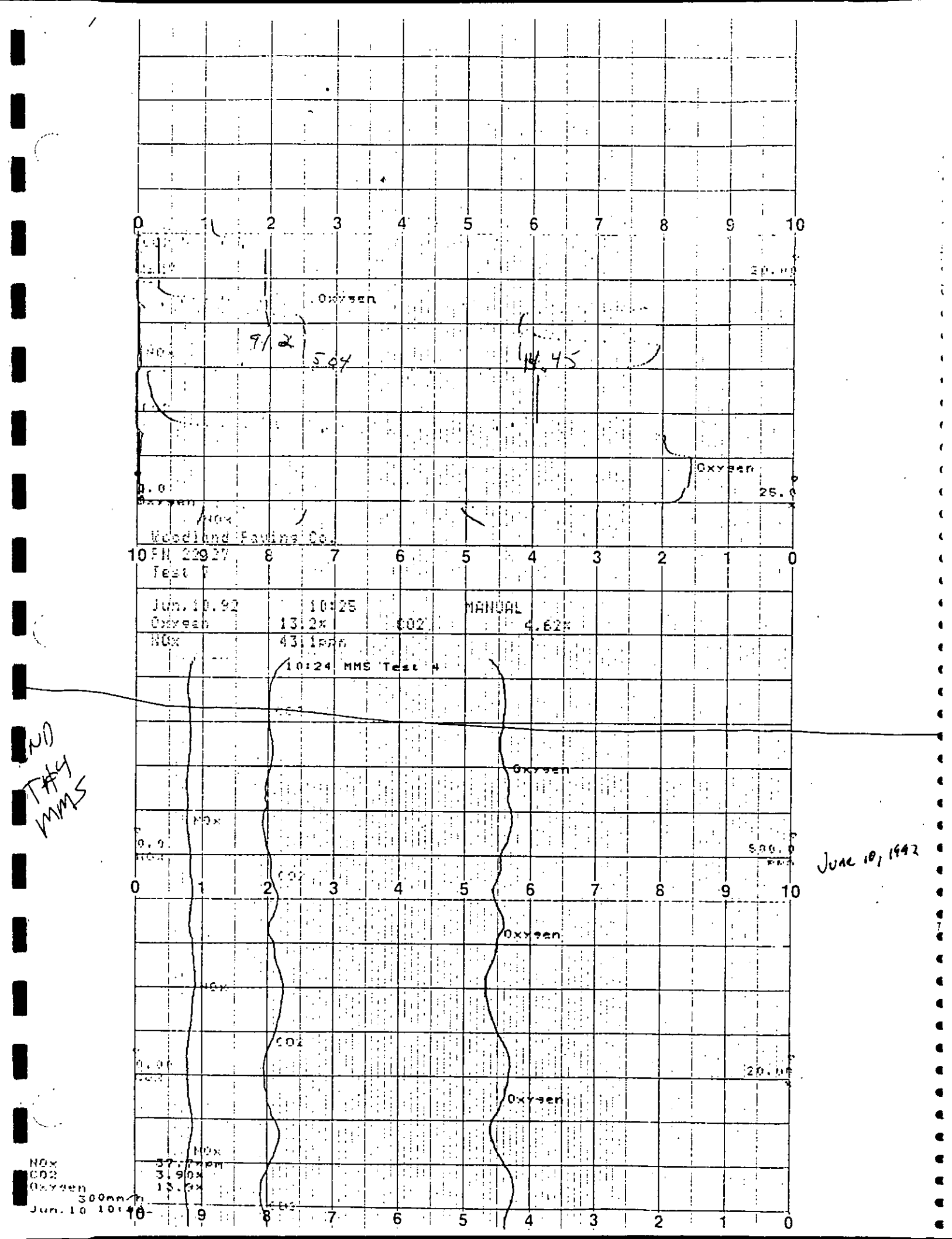

0 1 2 3 4 5 6 7 8 9 10
Oxygen
10 9 8 7 6 5 4 3 2 1 0
NOx
CO2
Oxygen
300mm/h
Jun.10 08:00
0.0
25.0 %
500.0 ppm
20.0 %

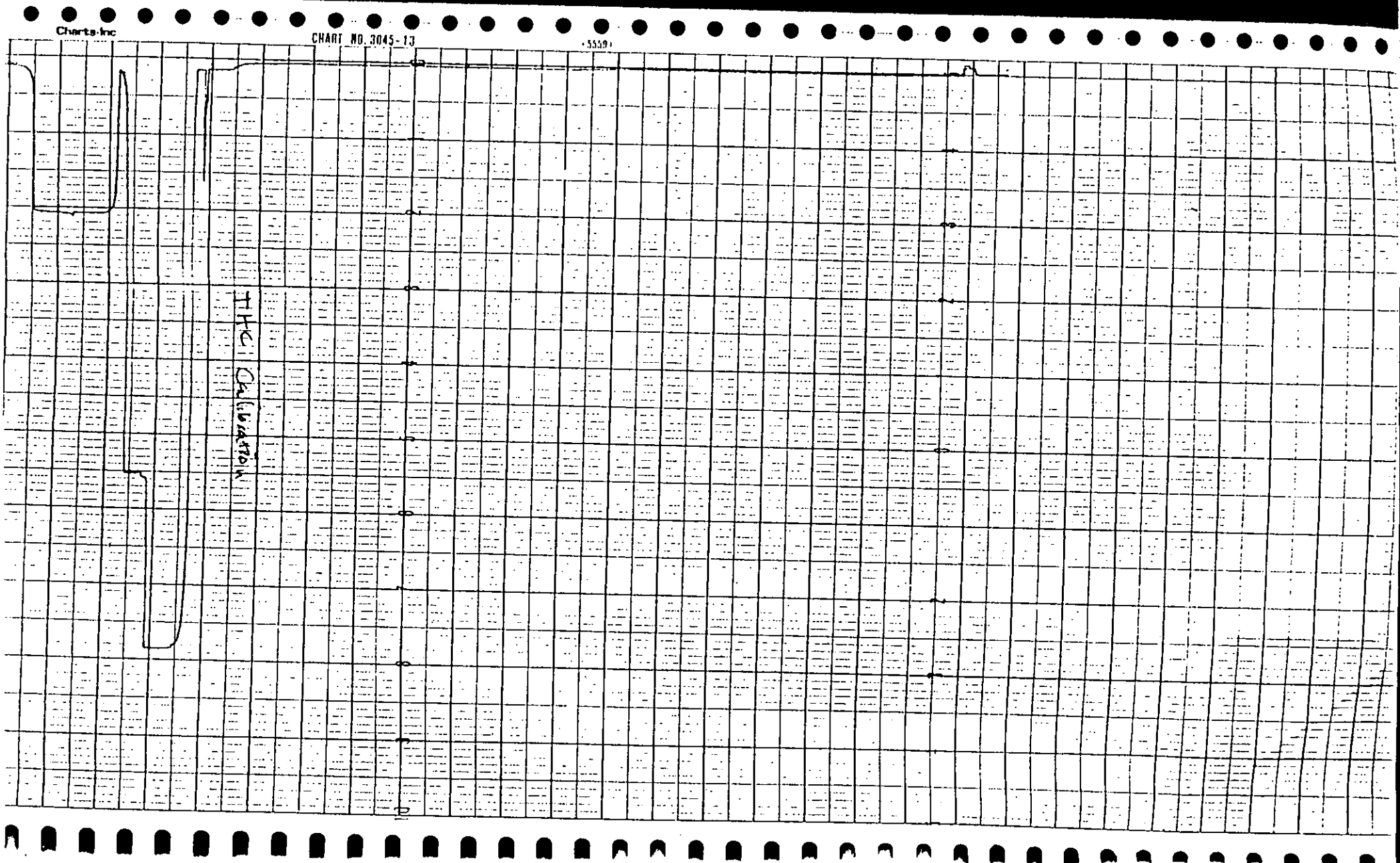


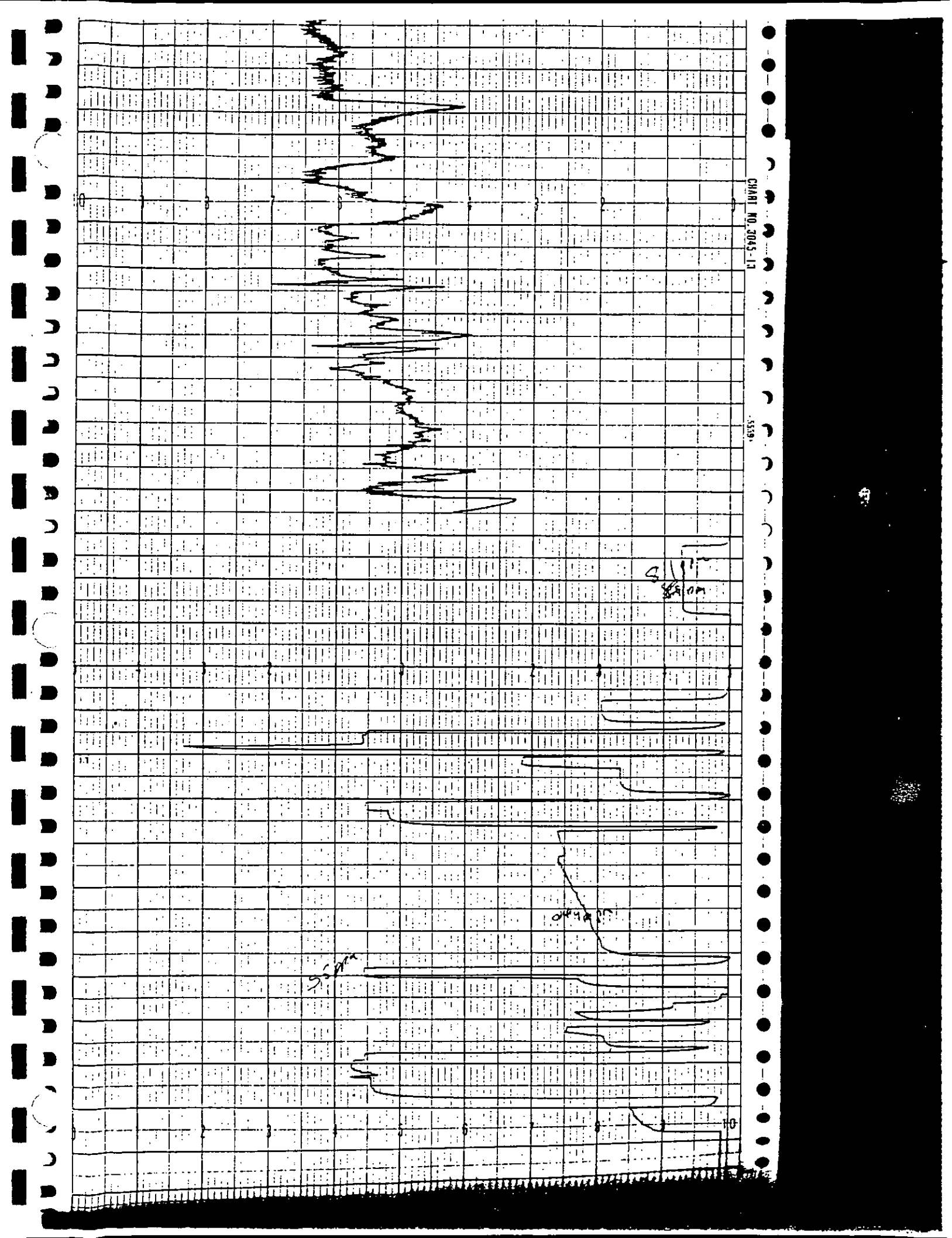
June 10, 1992

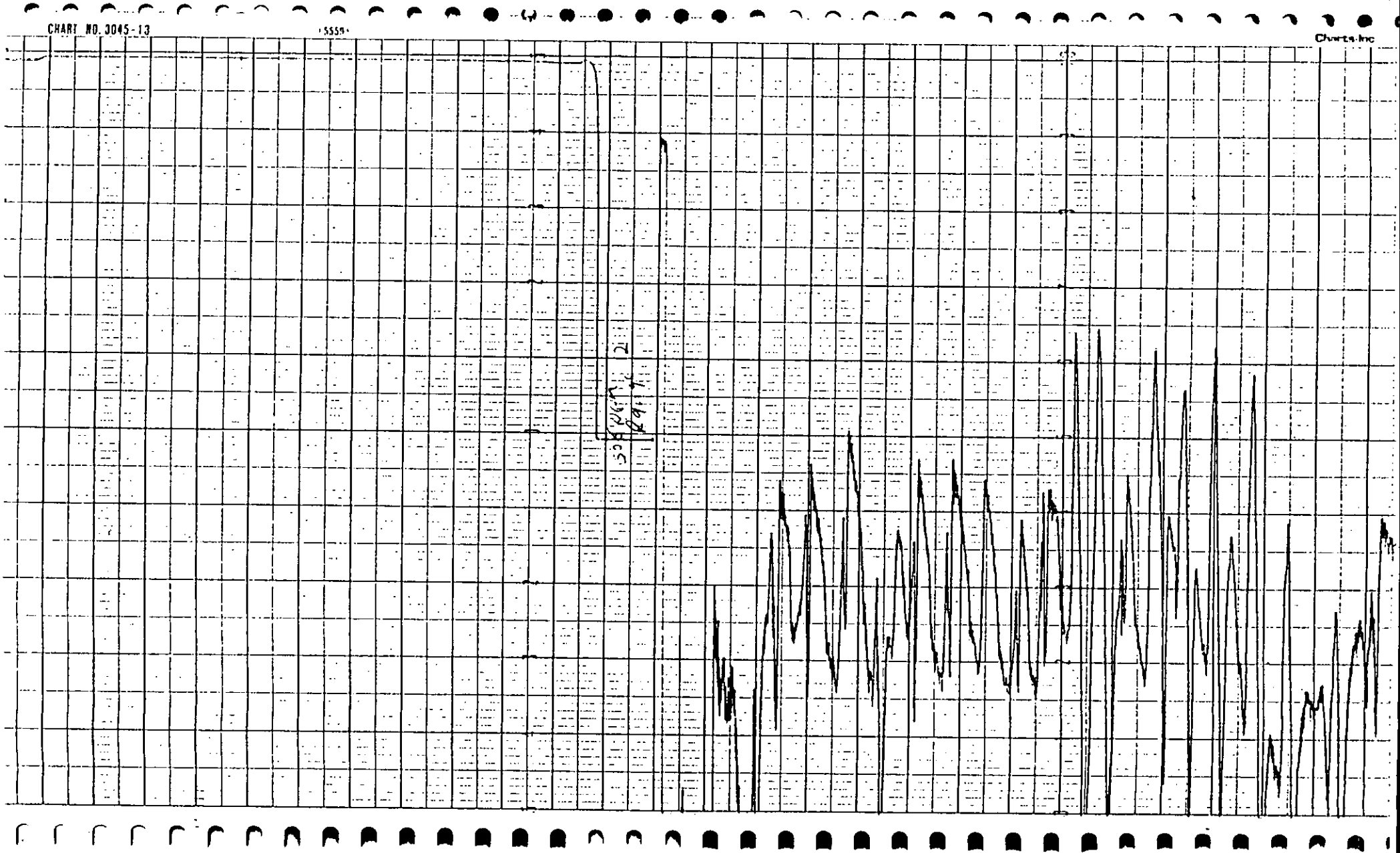
FACT
MMS
T#4


NOx
CO2
Oxygen
Jun.10 10:
10
9
8
7
6
5
4
3
2
1
0
0.0
25.0
500.0
ppm
Oxygen
NOx
CO2


0 1 2 3 4 5 6 7 8 9 10
Oxygen
NOx
9/2
50%
14.45
Oxygen
0.0
Oxygen
25.0
NOx
Woodland Paving Co.
10 FH 22927 8 7 6 5 4 3 2 1 0
Test 1
Jun.10.92 10:25 MANUAL
Oxygen 13.2% CO2 4.62%
NOx 43.1PPM
10:24 MMS Test 4
NO
TAG
MMS
Oxygen
NOx
0.0
500.0
PPM
CO2
0 1 2 3 4 5 6 7 8 9 10
June 10, 1992
Oxygen
NOx
CO2
0.0%
20.0%
Oxygen
NOx
NOx 57.7ppm
CO2 3.90%
Oxygen 13.9%
300mm/h
Jun.10 10:4
10 9 8 7 6 5 4 3 2 1 0


Charts Inc
CHART NO. 3045-13
HHC Calibration

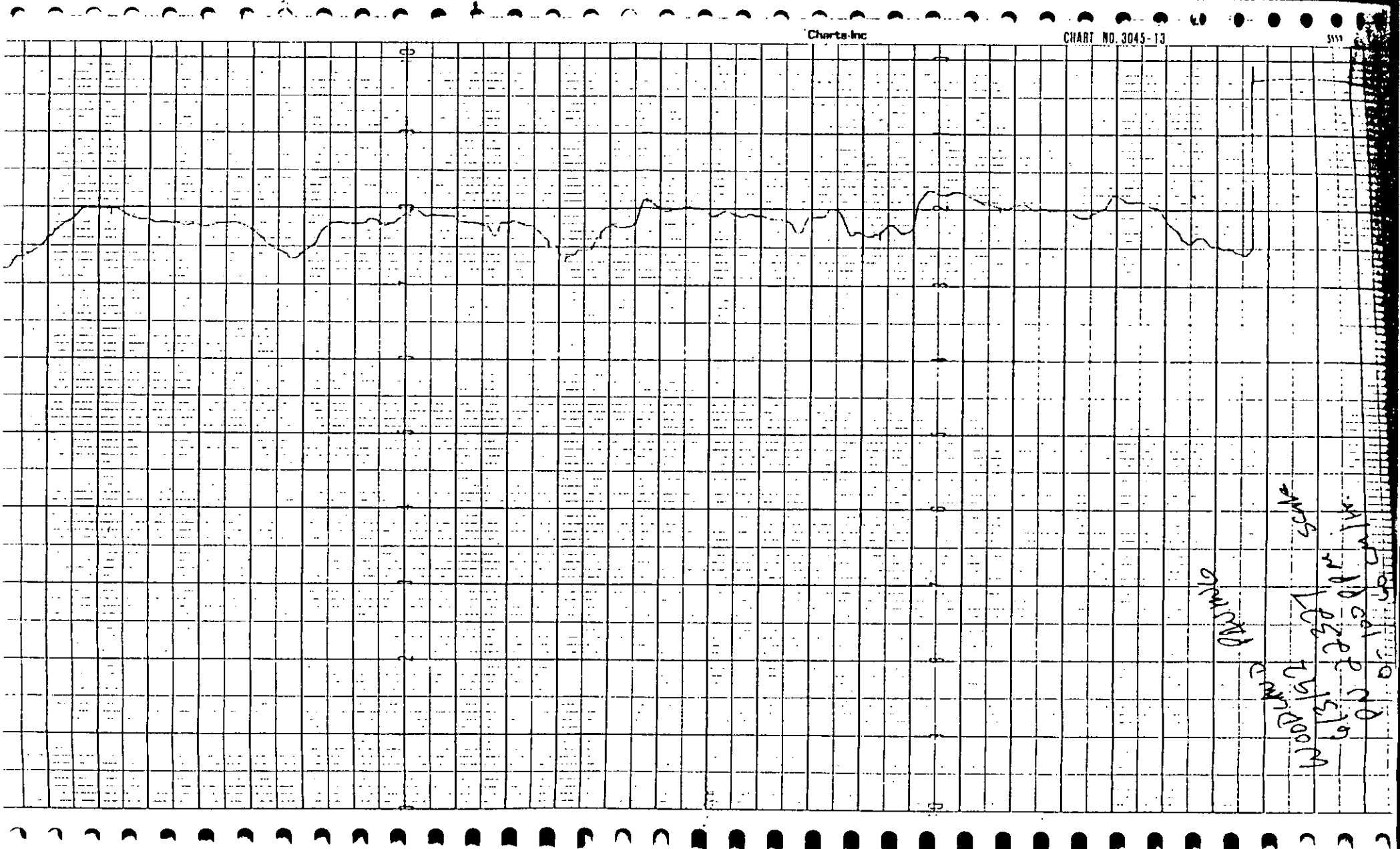

CHART NO. 3045-LT
5539
11
10

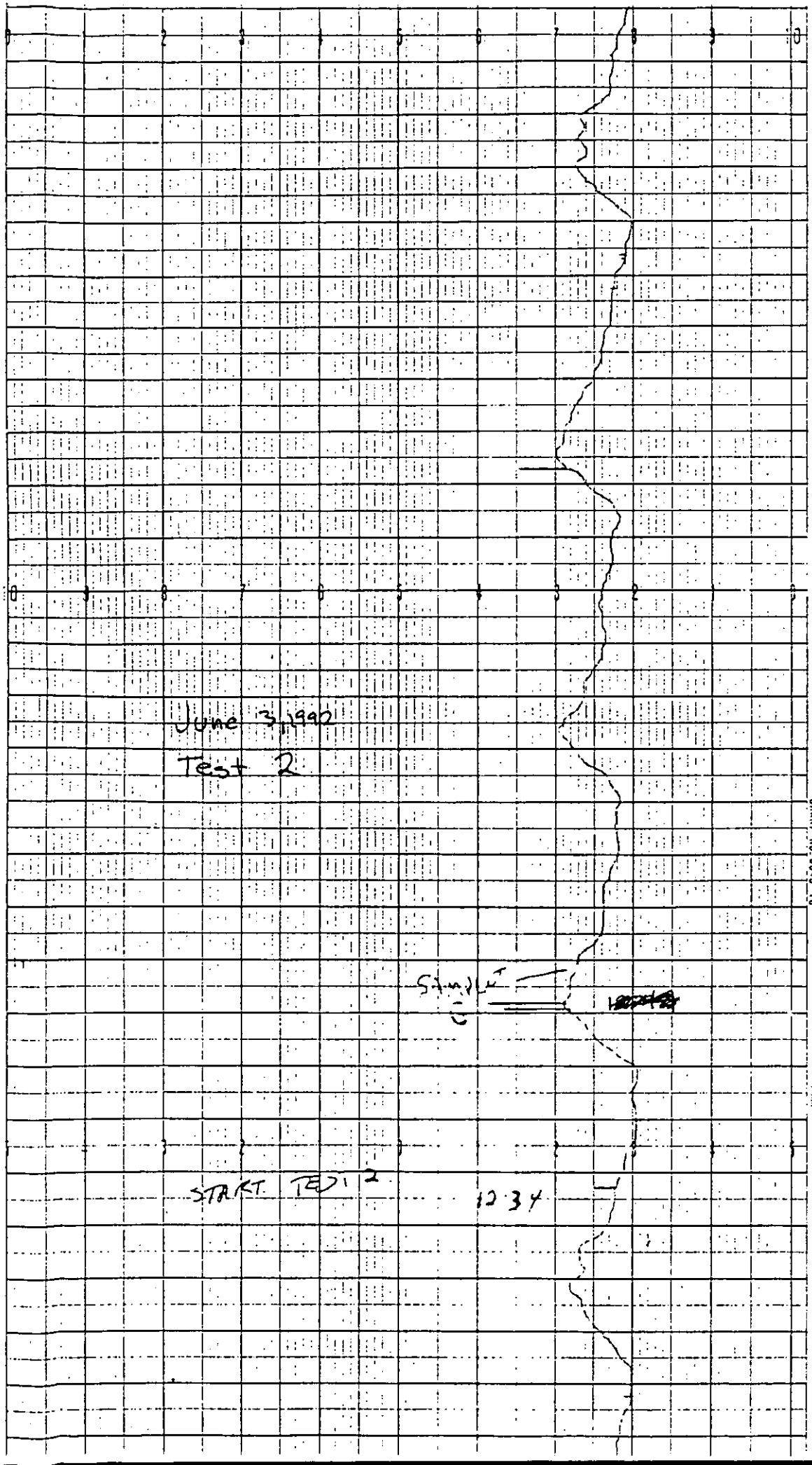

CHART NO. 3045-13
Charts Inc

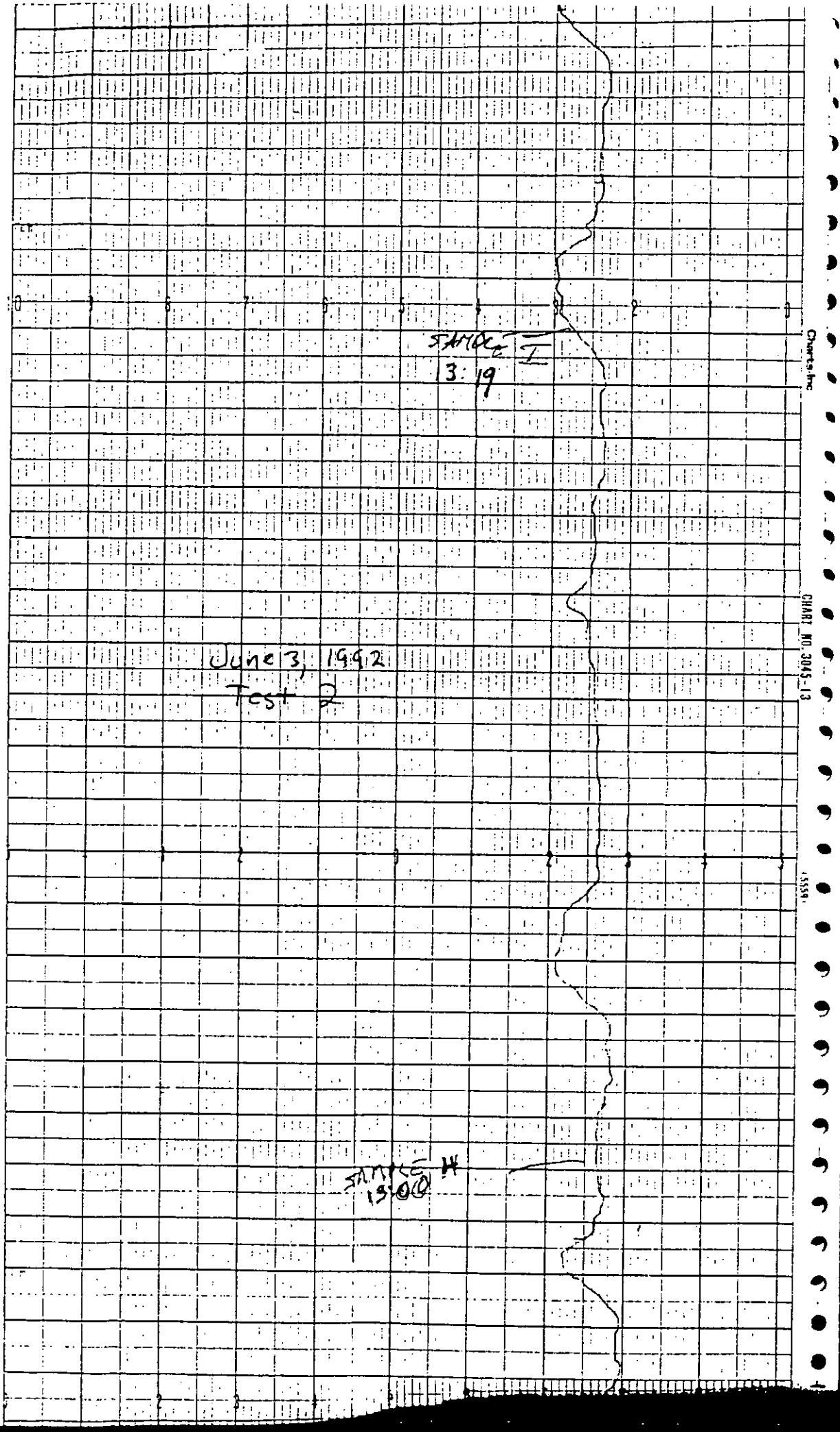
6:51 PN 2.20 psi
0-100 psi
60 cm/hr

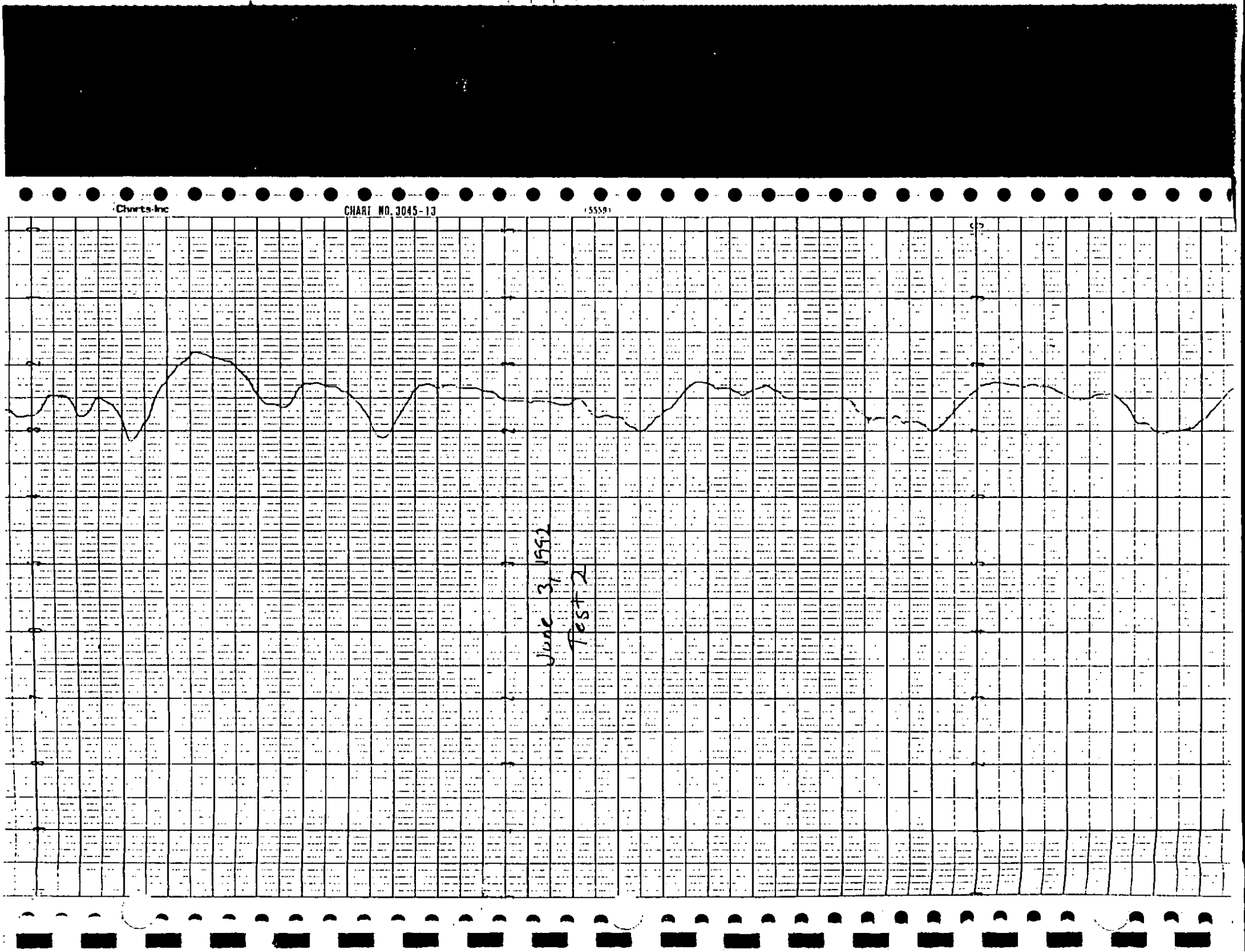
Charts, Inc

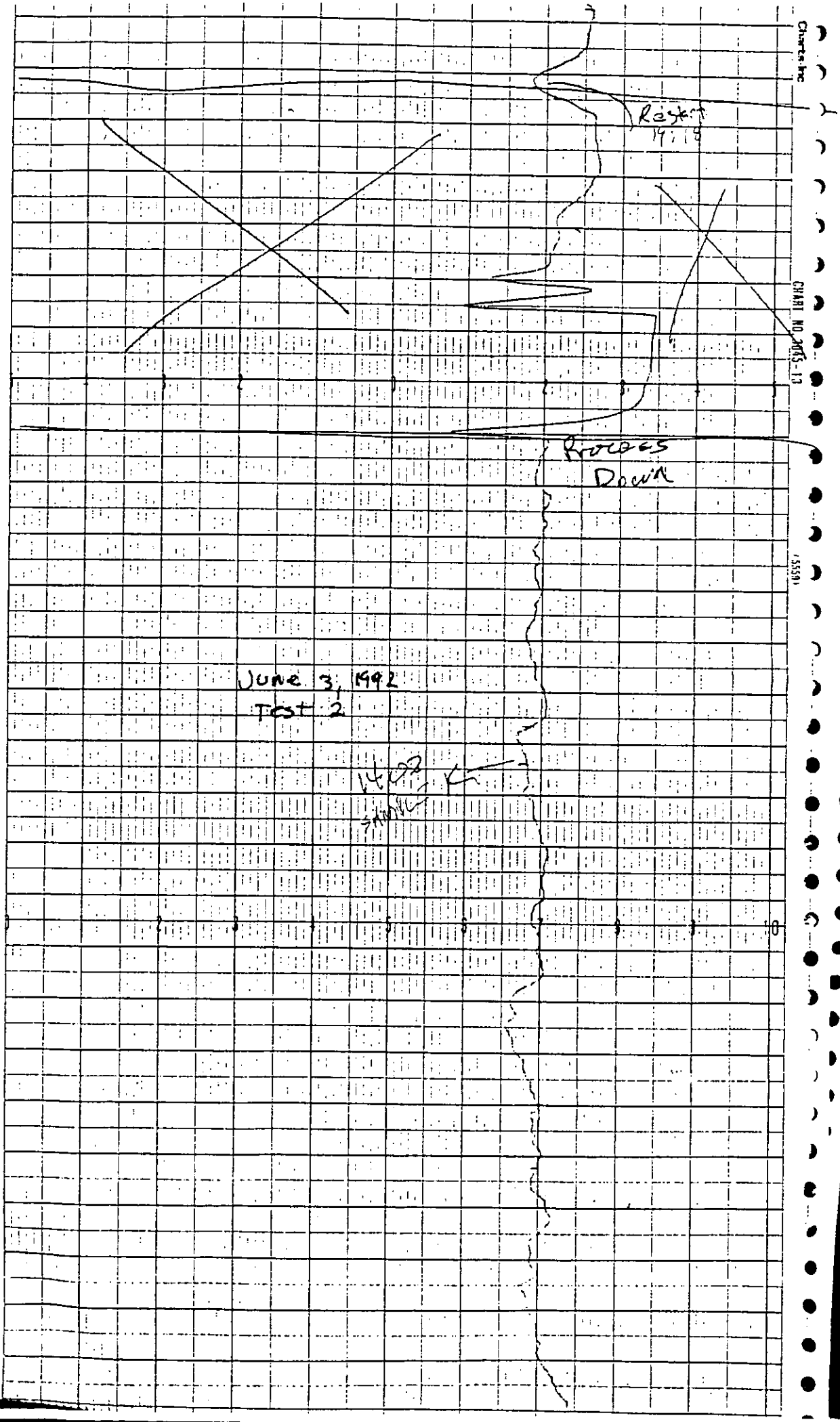
CHART NO. 1011

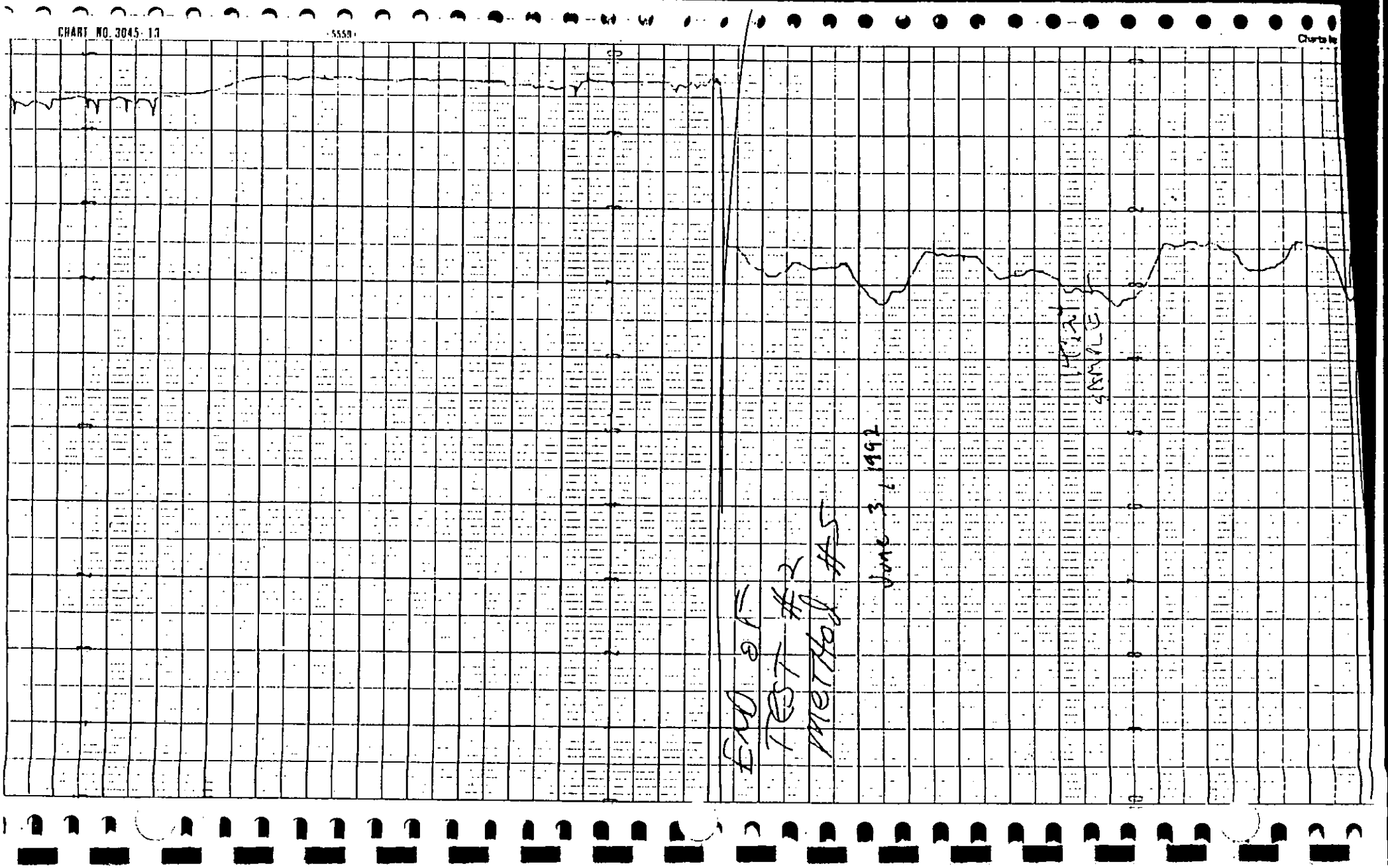

Charts Inc
CHART NO. 3045-13

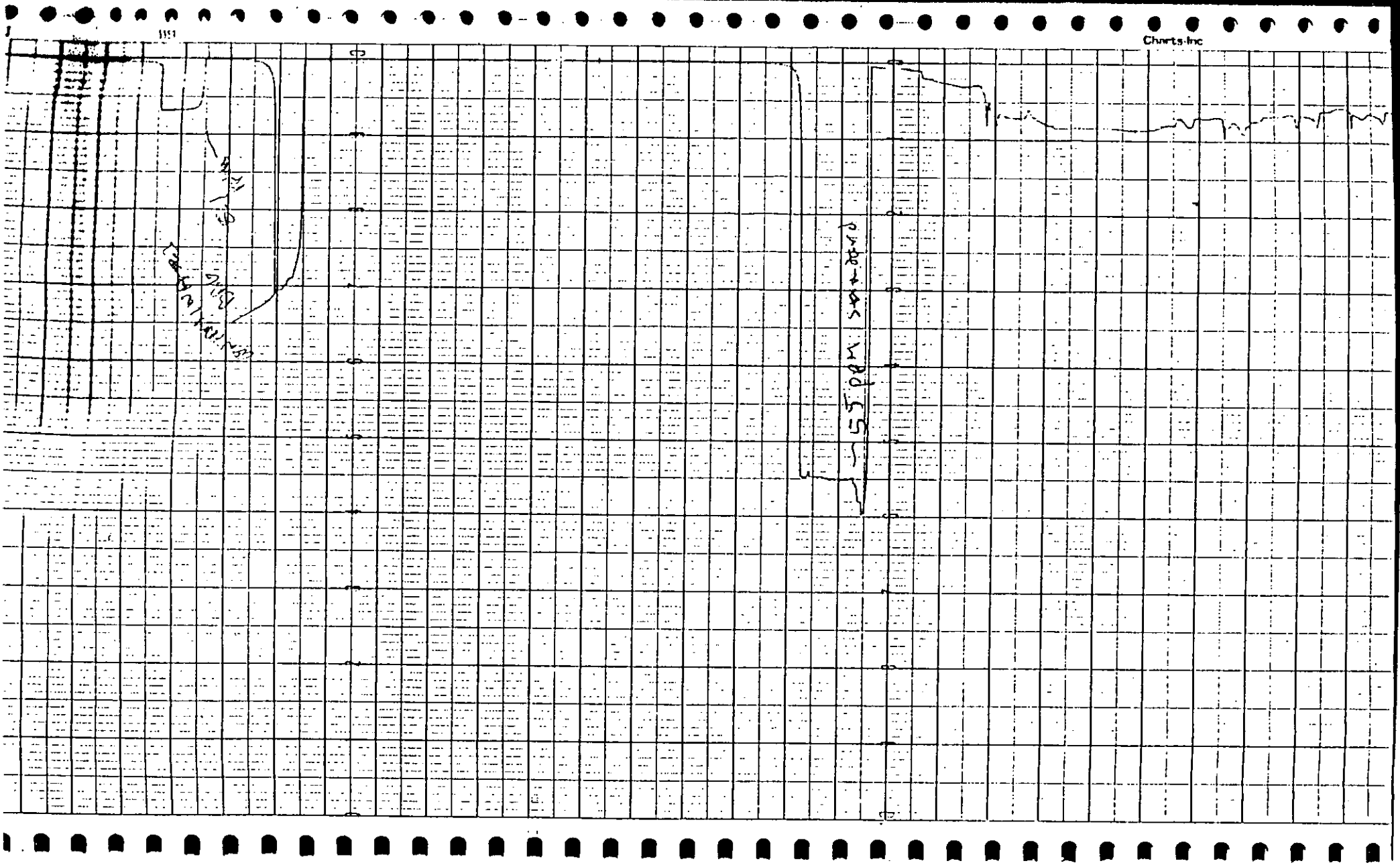

June 3, 1992
Test 2
START TEST 2
1034
Chart, Inc
CHART NO 3045-12

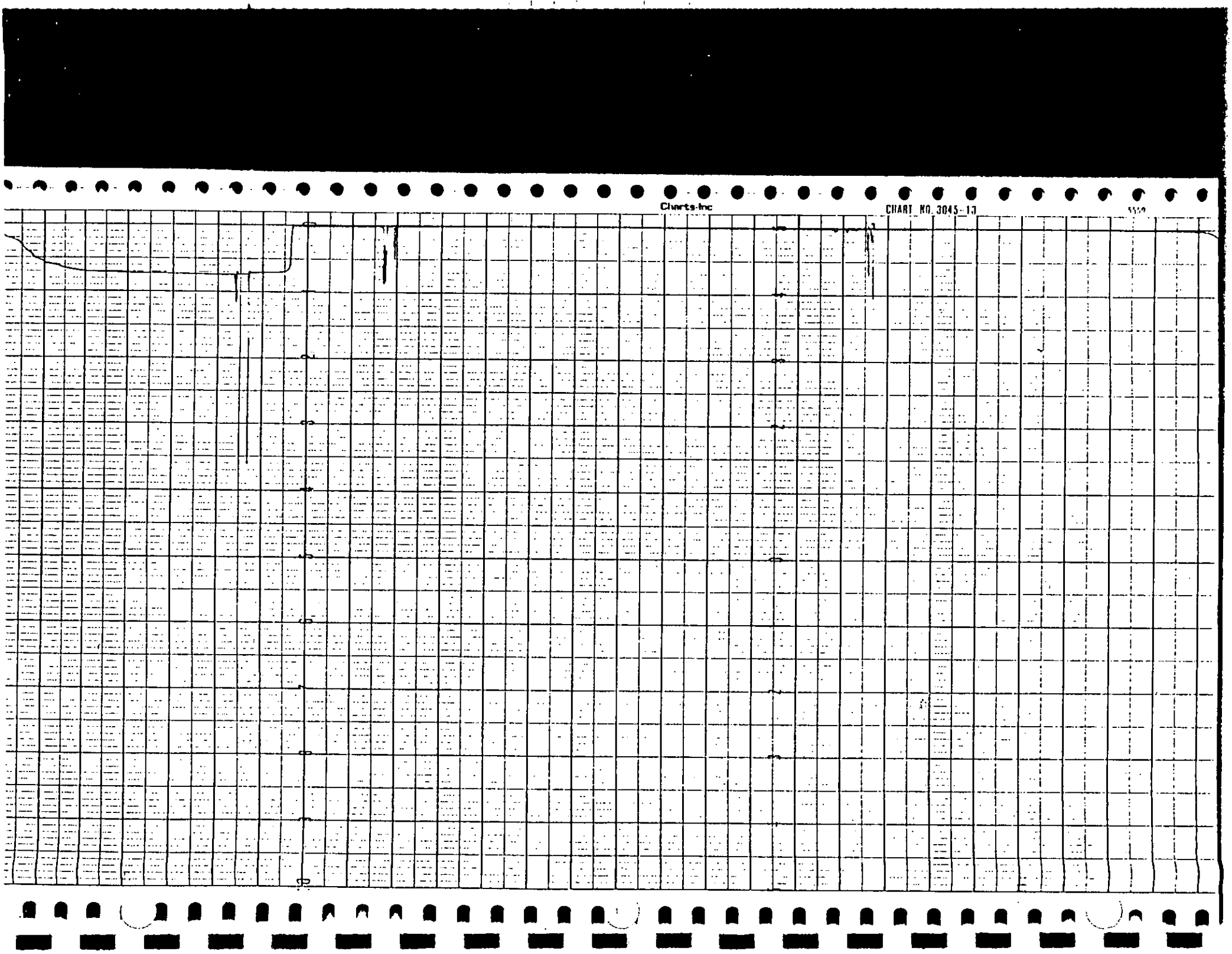

STARTED
13:19
June 3, 1992
Test 2
STARTED
15:00
Charts, Inc.
CHART NO. 3045-13

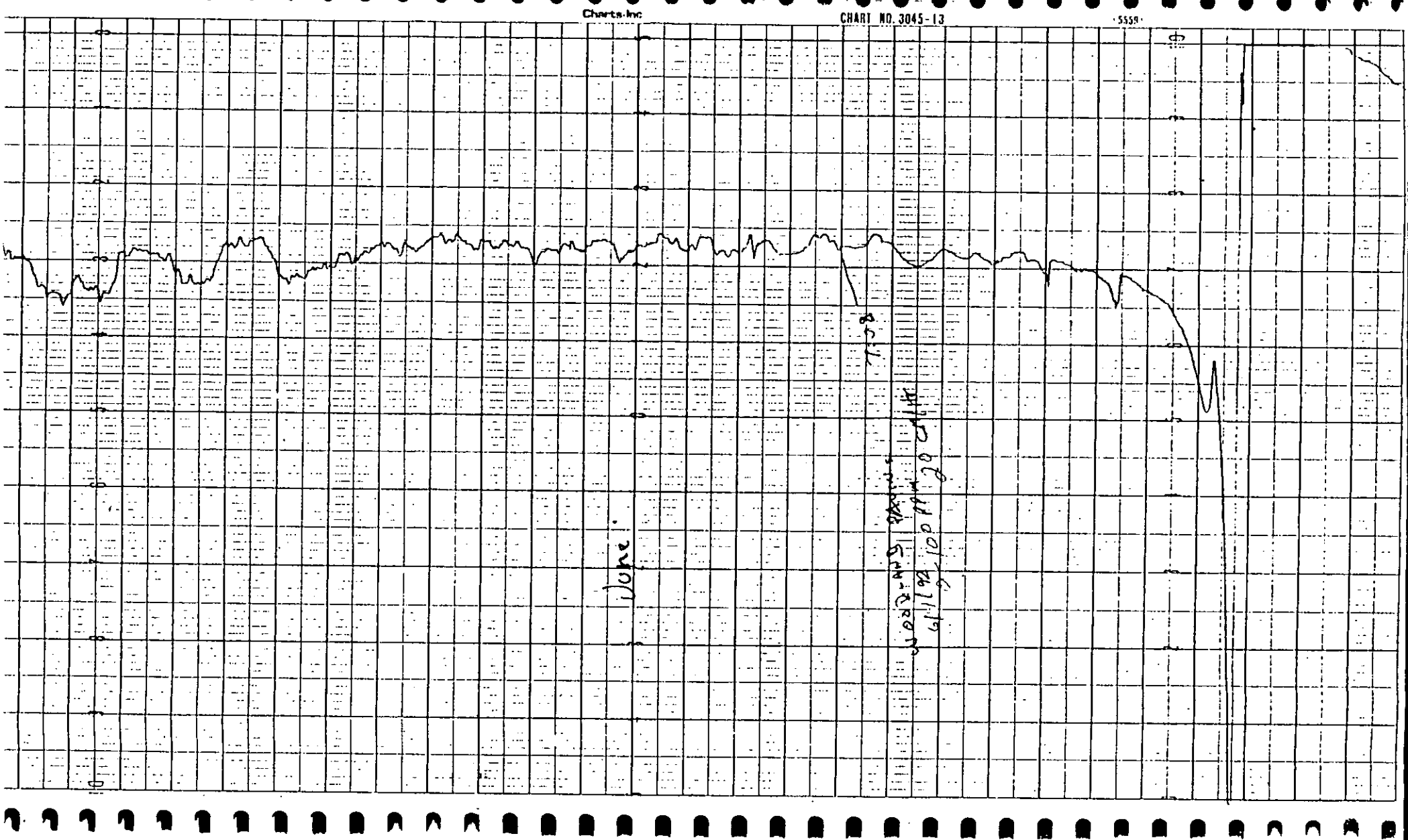

Charts Inc
CHART NO. 3045-13
June 3, 1992
Test 2

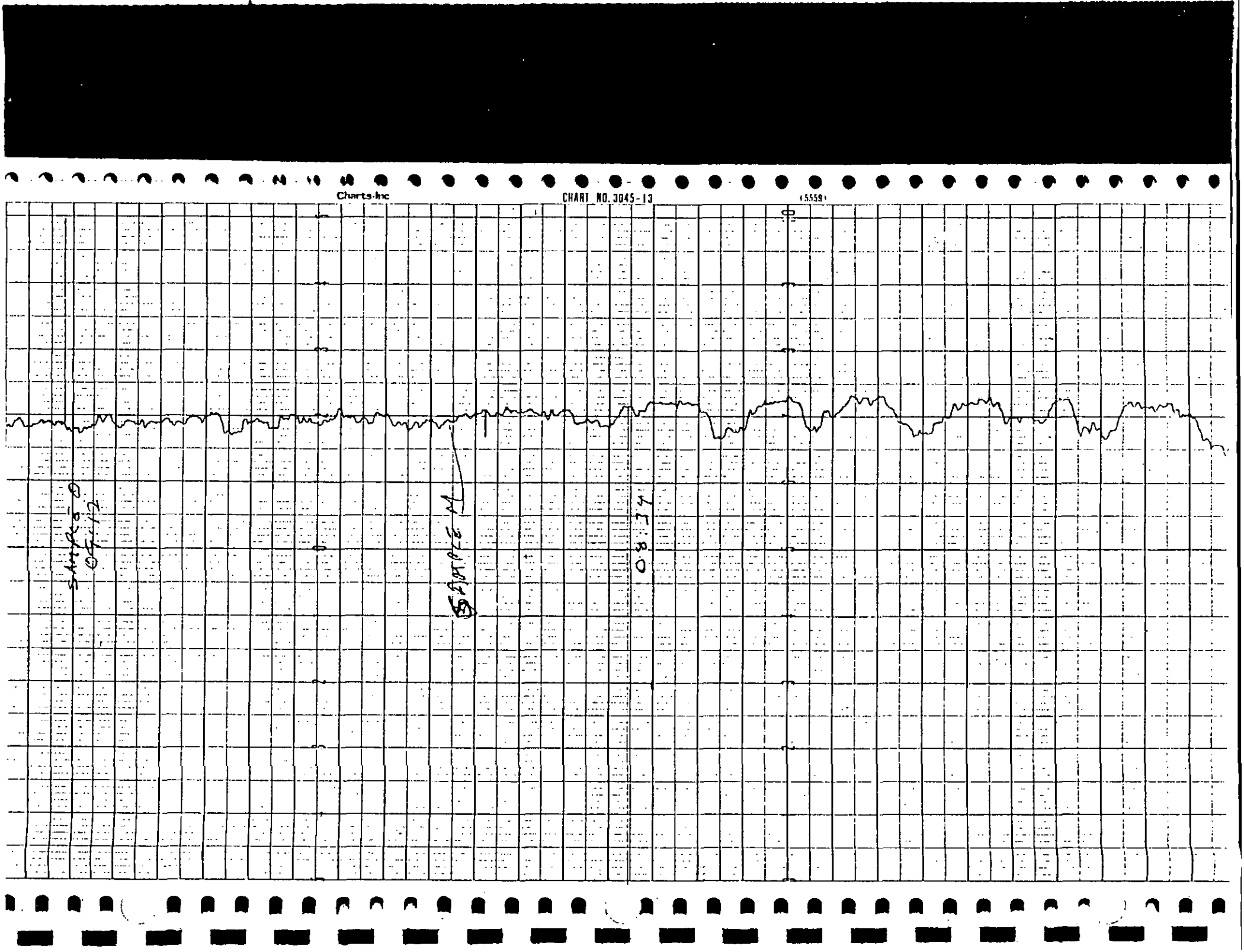

Charts Inc
CHART NO. 2005-13
Restart
14:19
Process
Down
June 3, 1992
Test 2
1402
start

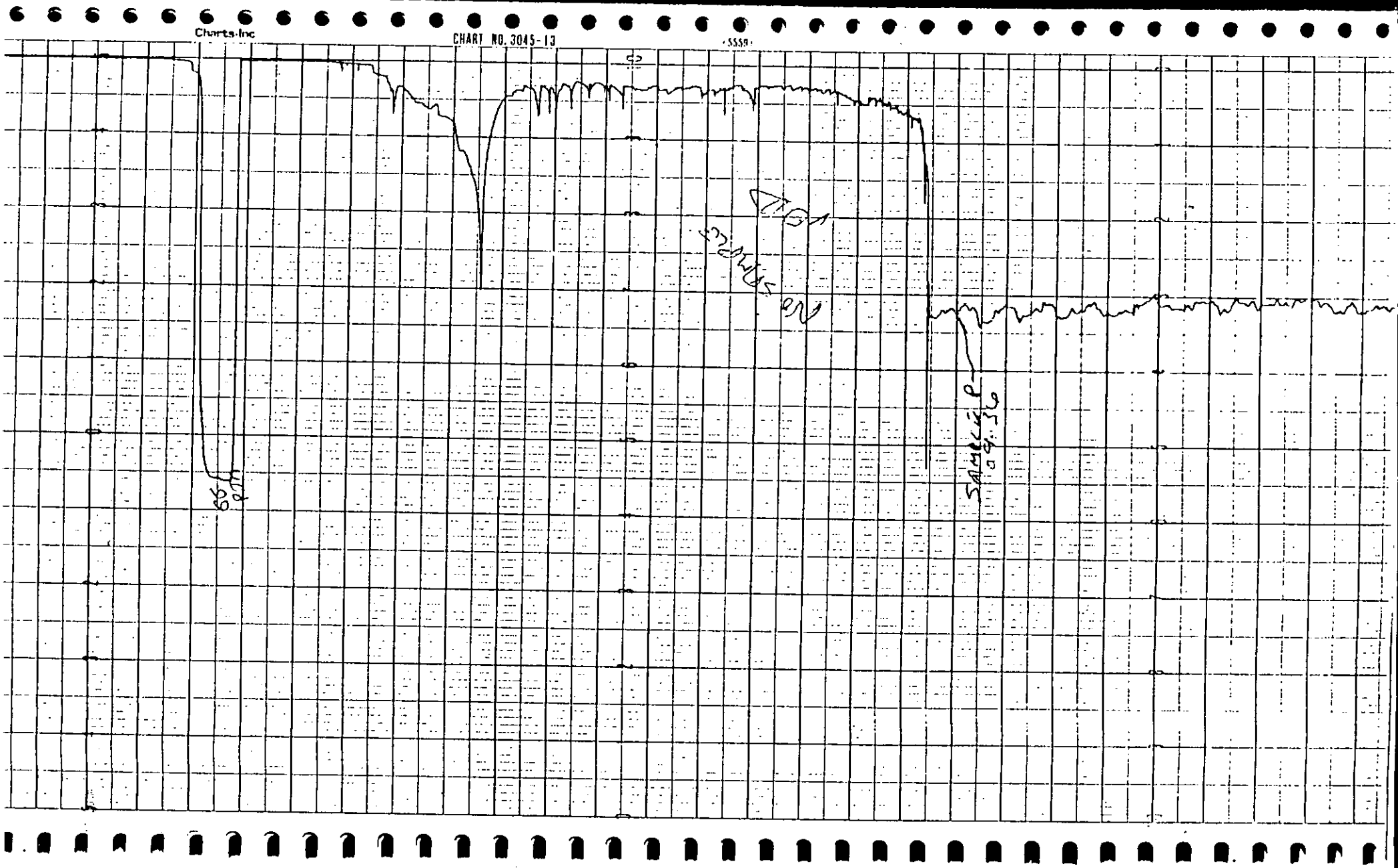

CHART NO. 3045-13
5550
END OF TEST #2
Methanol #5
June 3, 1992
HOURLY SAMPLE

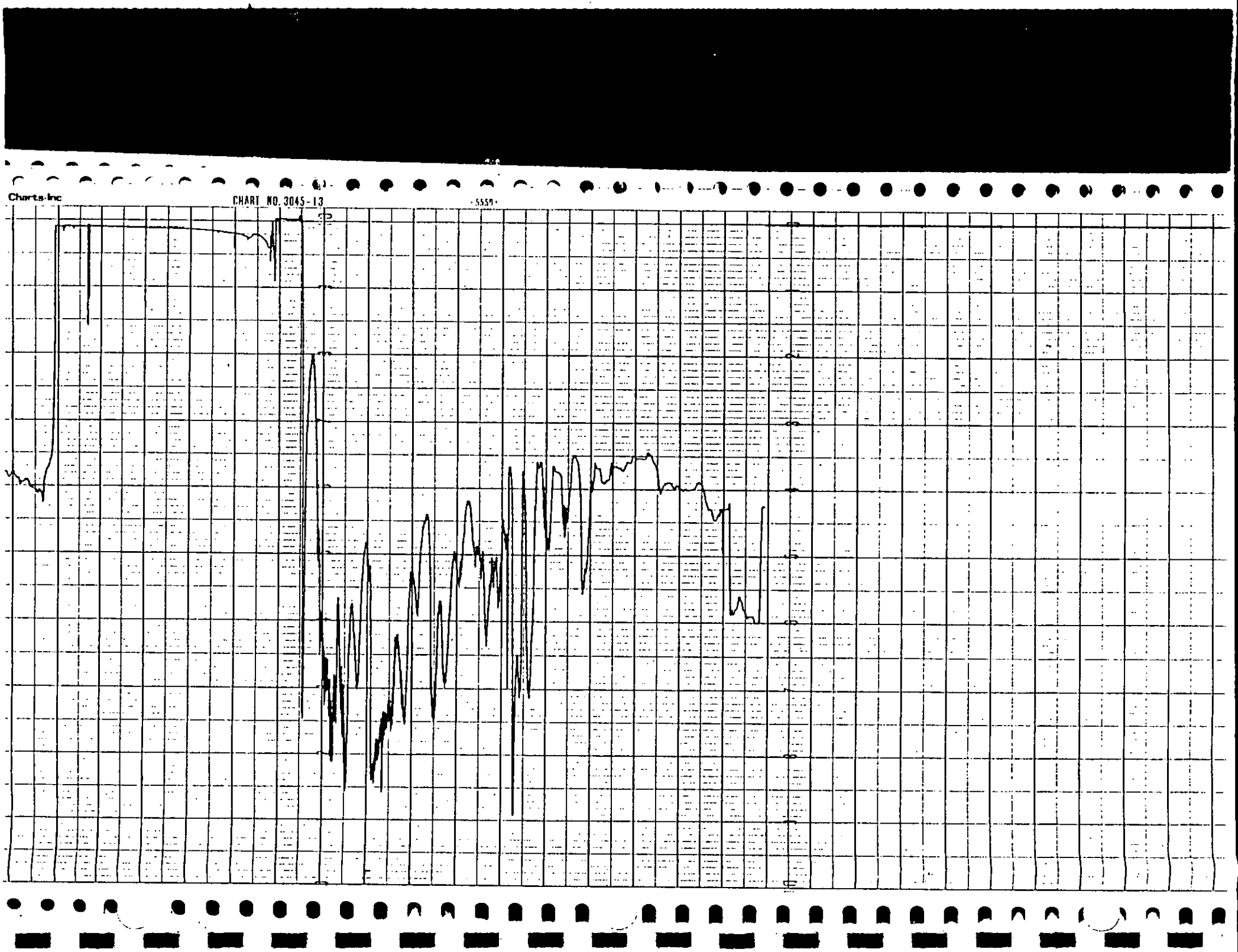

Chwrts-Inc

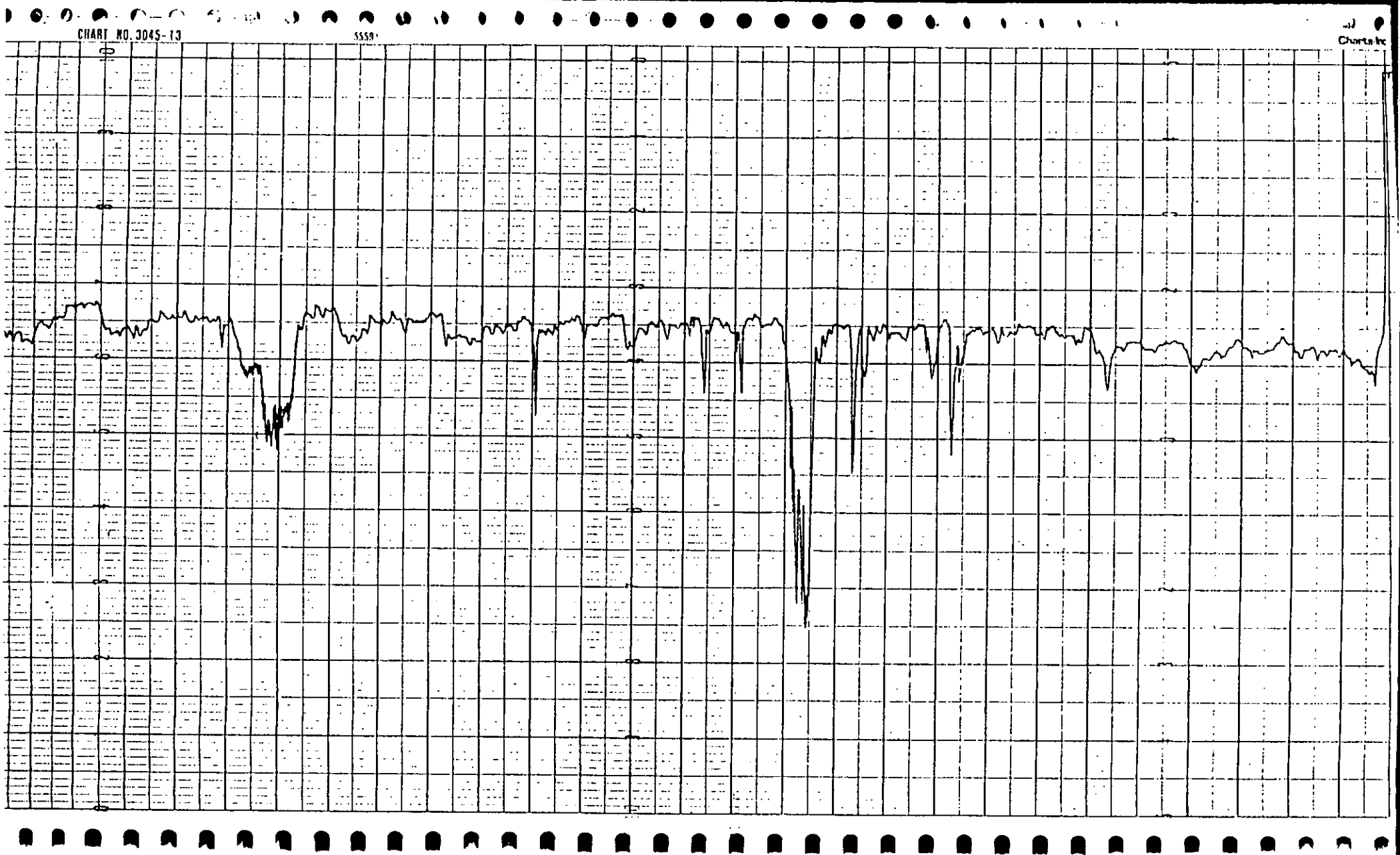

Charts Inc
CHART NO. 3045-13

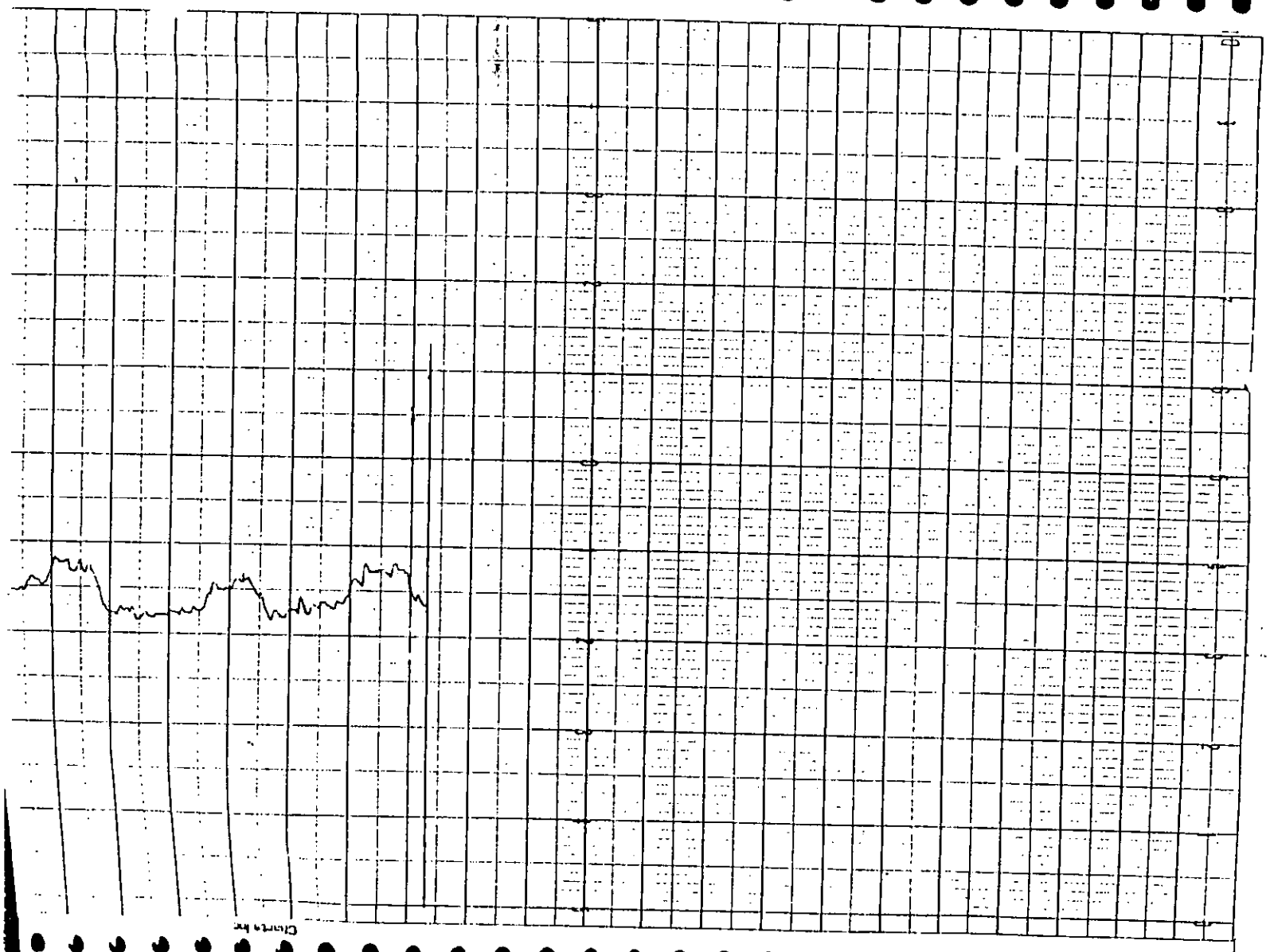

Charts Inc
CHART NO. 3045-13
5559
Bell
Hill Top Road
Sawbridgeworth
June


Charts Inc
CHART NO. 3045-13
SAMPLE #1
0.874
SAMPLE #1
OF 12


Charts Inc
CHART NO. 3045-13
SAMPLING


Charts Inc
CHART NO. 3045-13


CHART NO. 3045-13
Chart Inc



TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/10/92

FILE NAME....:	U105801	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	57-89-2A
CONCAL.....:	U105703	SAMPLE ID....:	MM5-2		
ANALYST.....:	JA	ANALYSIS DATE:	08/05/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	08/04/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	48120			4:51	
2-Me-Naph	39750			5:53	S
Acenaphthen	4160			8:01	
2-Cl-Naph	EMPC		5.5		
Acenaph	8320			7:38	
Fluorene	4360			9:11	
Phenan	27120			11:31	
Anth	696			11:38	
Fluoran	4170			14:32	
Pyrene	2790			15:06	
B-a-Anth	1090			18:12	
Chrysene	1350			18:17	PR
Perylene	ND		18.5		
B-b-Fluoran	606			21:36	PR
B-k-Fluoran	218			21:43	PR
B-a-Pyrene	53.5			22:55	
B-e-Pyrene	571			22:42	
B-ghi-Pery	44.4			30:49	
I-123-cd-Py	18.1			29:02	
DiB-ah-Anth	3.8			29:14	

SURROGATE RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	63000.0	63.0	15:30	S

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	83.2	83.2	11:35	

Reviewed By: AR 8/10/92

PAHJ_RPT 1.00, LARS 4.20

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/10/92

FILE NAME....:	U105801	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	57-89-2A
CONCAL.....:	U105703	SAMPLE ID....:	MM5-2		
ANALYST.....:	JA	ANALYSIS DATE:	08/05/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	08/04/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	35.4	35.4	4:49	V Q
d10-2-Me-Naph	116	116	5:54	Q
d7-2-Cl-Naph	43.5	43.5	6:44	RQ, Q
d8-Acenaph	60.4	60.4	7:37	Q
d10-Phenan	23.5	23.5	11:27	V
d12-B-a-Anth	78.0	78.0	18:08	
d10-Fluoran	41.0	41.0	14:29	
d12-Chrysene	74.5	74.5	18:13	
d12-Perylene	9.0	4.51	23:12	V
d12-B-b-Fluoran	118	59.0	21:30	
d12-B-k-Fluoran	98.7	49.3	21:37	
d12-B-a-Pyrene	59.6	29.8	22:49	
d12-B-ghi-Pery	175	87.4	30:38	
d12-I-123-cd-Py	165	82.7	28:52	I
d14-DiB-ah-Anth	233	117	29:02	

Reviewed By: AR 8/10/92

PAHJ_RPT 1.00, LARS 4.20

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/04/92

.E NAME....:	U096209	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	*
CONCAL.....:	U096001	SAMPLE ID....:	MM5-3		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Fluorene	ND		0.4		
Phenan	21880			11:37	B
Anth	572			11:45	B
Fluoran	2210			14:36	B
Pyrene	2320			15:10	B
B-a-Anth	280			18:16	B
Chrysene	844			18:21	B,PR
Perylene	ND		2.1		
B-b-Fluoran	311			21:43	B
B-k-Fluoran	107			21:50	B PR
B-a-Pyrene	8.4			23:04	B
B-e-Pyrene	134			22:50	B
B-ghi-Pery	123			31:05	B
I-123-cd-Py	12.6			29:16	B
DiB-ah-Anth	ND		7.0		

SURROGATE RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	72400.00	72.4	15:36	S

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	25.3	25.3	11:41	V,Q

* TLI SAMPLE ID: 57-89-3 AND 57-102-4,6.

Reviewed By: JJ for BR 8/6/92

PAHJ_RPT 1.00, LARS 4.20

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/04/92

FILE NAME....:	U096209	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	*
CONCAL.....:	U096001	SAMPLE ID....:	MM5-3		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Phenan	12.4	12.4	11:34	V,Q
d12-B-a-Anth	20.3	20.3	18:12	V,Q
d10-Fluoran	14.8	14.8	14:33	V
d12-Chrysene	12.2	12.2	18:17	V,Q
d12-Perylene	20.2	10.1	23:18	V
d12-B-b-Fluoran	19.2	9.58	21:36	V
d12-B-k-Fluoran	13.8	6.88	21:44	V
d12-B-a-Pyrene	16.3	8.16	22:57	V
d12-B-ghi-Pery	16.9	8.44	30:52	V
d12-I-123-cd-Py	23.1	11.6	29:05	V,I
d14-DiB-ah-Anth	10.8	5.39	29:15	V

* TLI SAMPLE ID: 57-89-3 AND 57-102-4,6.

Reviewed By: DJ for BR 8/6/92

PAHJ_RPT 1.00, LARS 4.20

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/04/92

FILE NAME....:	U096210	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	*
CONCAL.....:	U096001	SAMPLE ID....:	MM5-4		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Fluorene	ND		0.9		
Phenan	50820			11:38	B
Anth	1330			11:46	B
Fluoran	1280			14:37	B
Pyrene	1420			15:11	B
B-a-Anth	135			18:16	B,PR
Chrysene	444			18:21	B,PR
Perylene	42.7			23:53	
B-b-Fluoran	205			21:43	B
B-k-Fluoran	71.1			21:49	B
B-a-Pyrene	8.8			23:03	B
B-e-Pyrene	80.9			22:50	B
B-ghi-Pery	133			31:05	B
I-123-cd-Py	21.3			29:16	B
DiB-ah-Anth	ND		8.7		

SURROGATE RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	60300.00	60.3	15:37	S

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	24.7	24.7	11:43	VQ

* TLI SAMPLE ID: 57-89-4A AND 57-102-7,9.

Reviewed By: Stuart A for BR 8/6/92

PAHJ_RPT 1.00, LARS 4.20

FILE NAME....:	U096210	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	*
CONCAL.....:	U096001	SAMPLE ID....:	MM5-4		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Phenan	8.3	8.26	11:35	√
d12-B-a-Anth	31.6	31.6	18:12	√
d10-Fluoran	22.4	22.4	14:34	√
d12-Chrysene	13.8	13.8	18:12	√
d12-Perylene	15.0	7.48	23:20	√
d12-B-b-Fluoran	27.2	13.6	21:37	√
d12-B-k-Fluoran	19.7	9.86	21:44	√
d12-B-a-Pyrene	24.7	12.3	22:57	√
d12-B-ghi-Pery	27.1	13.5	30:52	√
d12-I-123-cd-Py	33.8	16.9	29:06	√
d14-DiB-ah-Anth	10.0	5.00	29:16	√

* TLI SAMPLE ID: 57-89-4A AND 57-102-7,9.

Reviewed By: DJ for BR 8/6/92 PAHJ_RPT 1.00, LARS 4.20

High Resolution GC/MS Chromatograms
for
Sample No. MM5-2

Sample ID: MM5-2
TLI Sample ID: 57-89-2A
N=3 (278)

	Initial	Date
B-File/Header Changes	BR	8-10-92
Manual Integrations		
Transcription		
Dbase Corrections		

Page No. 1
08/10/92

Listing of U105801B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128	DC	0.00	0:00	1096.53	T	F	0.000	NL
		0.00	4:06	2382.57	T	F	0.851	
		0.00	4:12	3921.82	T	F	0.872	
		0.00	4:17	4797.82	T	F	0.889	
		0.00	4:22	7521.96	T	F	0.907	
		0.00	4:24	20780.60	T	F	0.913	
		0.00	4:28	36094.70	T	F	0.927	
		0.00	4:31	6071.80	T	F	0.938	
		0.00	4:36	20422.62	T	F	0.955	
		0.00	4:39	3668.21	T	F	0.965	
		0.00	4:46	65459.90	T	F	0.990	
		0.00	4:51	397530.20	T	T	1.007	— S
		0.00	4:59	15958.41	T	F	1.035	
		0.00	5:04	17438.46	T	F	1.052	
		0.00	5:10	41509.68	T	F	1.073	
		0.00	5:13	18257.67	T	F	1.083	
		0.00	5:20	30105.78	T	F	1.107	
		0.00	5:25	7975.36	T	F	1.125	
		0.00	5:28	39657.94	T	F	1.135	
		0.00	5:31	45375.23	T	F	1.145	
		0.00	5:35	12114.37	T	F	1.159	
		0.00	5:40	38208.11	T	F	1.176	
		0.00	5:44	34831.42	T	F	1.190	
		0.00	5:47	18302.15	T	F	1.201	
		0.00	5:51	22460.13	T	F	1.215	
		0.00	5:56	6396.97	T	F	1.232	
		0.00	6:02	21506.58	T	F	1.253	
		0.00	6:05	40004.71	T	F	1.263	
		0.00	6:12	11563.27	T	F	1.287	
		0.00	6:17	30271.94	T	F	1.304	
		0.00	6:20	6805.30	T	F	1.315	
		0.00	6:28	25625.79	T	F	1.343	
		0.00	6:33	8819.08	T	F	1.360	
		0.00	6:36	2963.83	T	F	1.370	
		0.00	6:39	4543.26	T	F	1.381	
	DC	0.00	6:44	2641.86	T	F	1.398	WH
	DC	0.00	6:50	26878.05	T	F	1.419	WH
	DC	0.00	6:56	91702.39	T	F	1.439	WH
128		*** Total ***		1191826.57	# of Peaks:		38	
136	DC	0.00	0:00	1.34	T	F	0.000	NL
		0.00	4:05	176.43	T	F	0.848	
		0.00	4:12	1324.33	T	F	0.872	

Listing of U1058018.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
136		0.00	4:16	100.39	T	F	0.886	
		0.00	4:28	790.63	T	F	0.927	
	DC	0.00	4:31	6.68	T	F	0.938	SN
		0.00	4:49	~~1194.17~~ 900.0	T	T	1.000	
		0.00	4:58	58.45	T	F	1.031	
		0.00	5:12	9.83	T	F	1.080	
		0.00	5:18	14.25	T	F	1.100	
		0.00	5:22	44.03	T	F	1.114	
		0.00	5:26	30.47	T	F	1.128	
		0.00	5:29	14.85	T	F	1.138	
		0.00	5:32	26.78	T	F	1.149	
		0.00	5:41	25.57	T	F	1.180	
		0.00	5:55	184.44	T	F	1.228	
		0.00	6:00	35.43	T	F	1.246	
		0.00	6:07	95.72	T	F	1.270	
		0.00	6:11	53.59	T	F	1.284	
		0.00	6:19	86.98	T	F	1.311	
		0.00	6:33	113.55	T	F	1.360	
		0.00	6:38	26.72	T	F	1.377	
		0.00	6:46	45.56	T	F	1.405	
		0.00	6:58	60.11	T	F	1.446	
136		*** Total ***		4430.30	# of Peaks:		24	
142	DC	0.00	0:00	3.23	T	F	0.000	NL
		0.00	4:46	1154.53	T	F	0.808	
		0.00	4:51	1326.05	T	F	0.822	
		0.00	5:03	613.53	T	F	0.856	
		0.00	5:11	1532.79	T	F	0.879	
		0.00	5:13	1201.30	T	F	0.884	
		0.00	5:20	418.59	T	F	0.904	
		0.00	5:28	509.56	T	F	0.927	
		0.00	5:32	2401.28	T	F	0.938	
		0.00	5:42	5059.49	T	F	0.966	
		0.00	5:53	592584.30	T	~~F~~ T	0.997	— S
		0.00	6:04	549934.10	T	F	1.028	
		0.00	6:12	447.11	T	F	1.051	
		0.00	6:17	912.45	T	F	1.065	
		0.00	6:28	840.12	T	F	1.096	
		0.00	6:33	951.84	T	F	1.110	
		0.00	6:50	2095.71	T	F	1.158	
		0.00	6:56	42644.27	T	F	1.175	
142		*** Total ***		1204630.25	# of Peaks:		18	
152	DC	0.00	0:00	0.96	T	F	0.000	NL
	DC	0.00	0:00	1138.86	T	F	0.000	NL
		0.00	4:15	111.57	T	F	0.558	
		0.00	4:23	66.60	T	F	0.575	
		0.00	4:26	15.16	T	F	0.582	
		0.00	4:39	9.22	T	F	0.611	
	DC	0.00	4:43	3.05	T	F	0.619	SN
		0.00	4:46	12.30	T	F	0.626	
		0.00	4:51	82.01	T	F	0.637	
		0.00	5:03	11.85	T	F	0.663	

Listing of U1058018.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
152		0.00	5:44	11.75	T	F	0.753	
		0.00	5:49	593.12	T	F	0.764	
		0.00	5:54•	1528.90	T	T	1.000	
		0.00	6:04	931.76	T	F	0.796	
		0.00	6:43	200.82	T	F	0.882	
		0.00	6:56	280.87	T	F	0.910	
		0.00	7:05	103168.00	T	F	0.930	
		0.00	7:14	173604.90	T	F	0.950	
		0.00	7:17	87907.20	T	F	0.956	
		0.00	7:29	91494.98	T	F	0.982	
		0.00	7:38•	79530.02	T	T	1.002	
		0.00	7:43	323.79	T	F	1.013	
		0.00	7:55	50934.77	T	F	1.039	
		0.00	8:02	42827.75	T	F	1.055	
		0.00	8:06	8110.47	T	F	1.063	
		0.00	8:11	75960.44	T	F	1.074	
		0.00	8:17	17726.80	T	F	1.088	
		0.00	8:24	57107.74	T	F	1.103	
		0.00	8:30	47179.76	T	F	1.116	
		0.00	8:40	29739.46	T	F	1.138	
		0.00	8:44	30992.88	T	F	1.147	
		0.00	8:53	45545.55	T	F	1.166	
		0.00	9:04	15306.06	T	F	1.190	
152		*** Total ***		962459.37	# of Peaks:		33	
154	DC	0.00	0:00	192.83	T	F	0.000	NL
		0.00	7:05	34074.03	T	F	0.930	
		0.00	7:14	52468.34	T	F	0.950	
		0.00	7:17	24658.21	T	F	0.956	
		0.00	7:21	3481.22	T	F	0.965	
		0.00	7:28	29052.56	T	F	0.980	
		0.00	7:38	17061.12	T	F	1.002	
		0.00	7:43	183.82	T	F	1.013	
		0.00	8:01•	25891.52	T	T	1.053	
		0.00	8:11	50714.82	T	F	1.074	
		0.00	8:17	11171.85	T	F	1.088	
		0.00	8:24	30366.56	T	F	1.103	
		0.00	8:29	25271.32	T	F	1.114	
		0.00	8:35	2221.07	T	F	1.127	
		0.00	8:40	16577.23	T	F	1.138	
		0.00	8:44	13070.03	T	F	1.147	
		0.00	8:53	24017.61	T	F	1.166	
		0.00	9:04	5664.17	T	F	1.190	
154		*** Total ***		366138.31	# of Peaks:		18	
160	DC	0.00	0:00	41.19	T	F	0.000	NL
		0.00	7:37•	927.88	T	T	1.000	
		0.00	7:56	943.65	T	F	1.042	
		0.00	8:00	127.95	T	F	1.050	
		0.00	8:19	377.88	T	F	1.092	
160		*** Total ***		2418.55	# of Peaks:		5	
162	DC	2.83	0:00	0.23	T	F	0.000	NL

Listing of U1058018.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
162		1.70	6:05	252.35	F	F	0.903	
		5.61	6:48	~~524.72~~ 40.36	F	~~F~~ T	~~1.012~~ 1.000	RJ
162		*** Total ***		777.30	# of Peaks:		3	
164	DC	0.00	0:00	3.50	T	F	0.000	NL
	DC	0.00	0:00	0.06	T	F	0.000	NL
		0.00	6:05	93.55	T	F	0.763	
		0.00	6:49	79.33	T	F	0.855	
		0.00	7:56	2287.80	T	~~F~~ T	~~0.995~~ 1.000	
		0.00	8:02	13.26	T	F	1.008	
164		*** Total ***		2477.50	# of Peaks:		6	
166	DC	0.00	0:00	3.44	T	F	0.000	NL
	DC	0.00	8:02	8084.08	T	F	0.702	WL
	DC	0.00	8:07	10113.83	T	F	0.709	WL
	DC	0.00	8:16	4296.70	T	F	0.722	WL
	DC	0.00	8:22	6468.59	T	F	0.731	WL
	DC	0.00	8:30	2785.82	T	F	0.742	WL
	DC	0.00	8:43	568.83	T	F	0.761	WL
	DC	0.00	8:55	3424.55	T	F	0.779	WL
	~~DC~~	0.00	9:11	~~44867.35~~ 37400.0	T	T	0.802	~~WL~~
	DC	0.00	9:21	1176.89	T	F	0.817	WL
		0.00	9:30	186.05	T	F	0.830	
		0.00	10:14	979.84	T	F	0.894	
		0.00	10:29	5034.13	T	F	0.916	
		0.00	10:46	1103.63	T	F	0.940	
		0.00	10:57	2884.00	T	F	0.956	
		0.00	11:07	1230.50	T	F	0.971	
166		*** Total ***		93208.23	# of Peaks:		16	
169	DC	4.00	0:00	0.05	F	F	0.000	NL
		1.47	6:05	94.51	F	F	0.903	
	CK	3.99	6:44	575.32	~~F~~ T	T	1.000	RJ
169		*** Total ***		669.38	# of Peaks:		3	
176	DC	0.00	0:00	3.10	T	F	0.000	NL
		0.00	11:31	58.71	T	F	1.261	
176		*** Total ***		61.81	# of Peaks:		2	
178	DC	0.00	0:00	1.54	T	F	0.000	NL
		0.00	10:28	7674.70	T	F	0.914	
		0.00	11:31	398028.20	T	T	1.006	
		0.00	11:38	8410.15	T	T	1.016	
178		*** Total ***		414114.59	# of Peaks:		4	
188	DC	0.00	0:00	9.00	T	F	0.000	NL
		0.00	11:27	1834.73	T	T	1.000	
		0.00	11:35	5124.64	T	T	0.998	
188		*** Total ***		6968.37	# of Peaks:		3	
202	DC	0.00	0:00	104.93	T	F	0.000	NL
		0.00	14:09	2008.35	T	F	0.977	
		0.00	14:32	91055.19	T	T	1.003	

Listing of U1058018.dbf

Matched GC Peaks / Ratio / Ret. Time

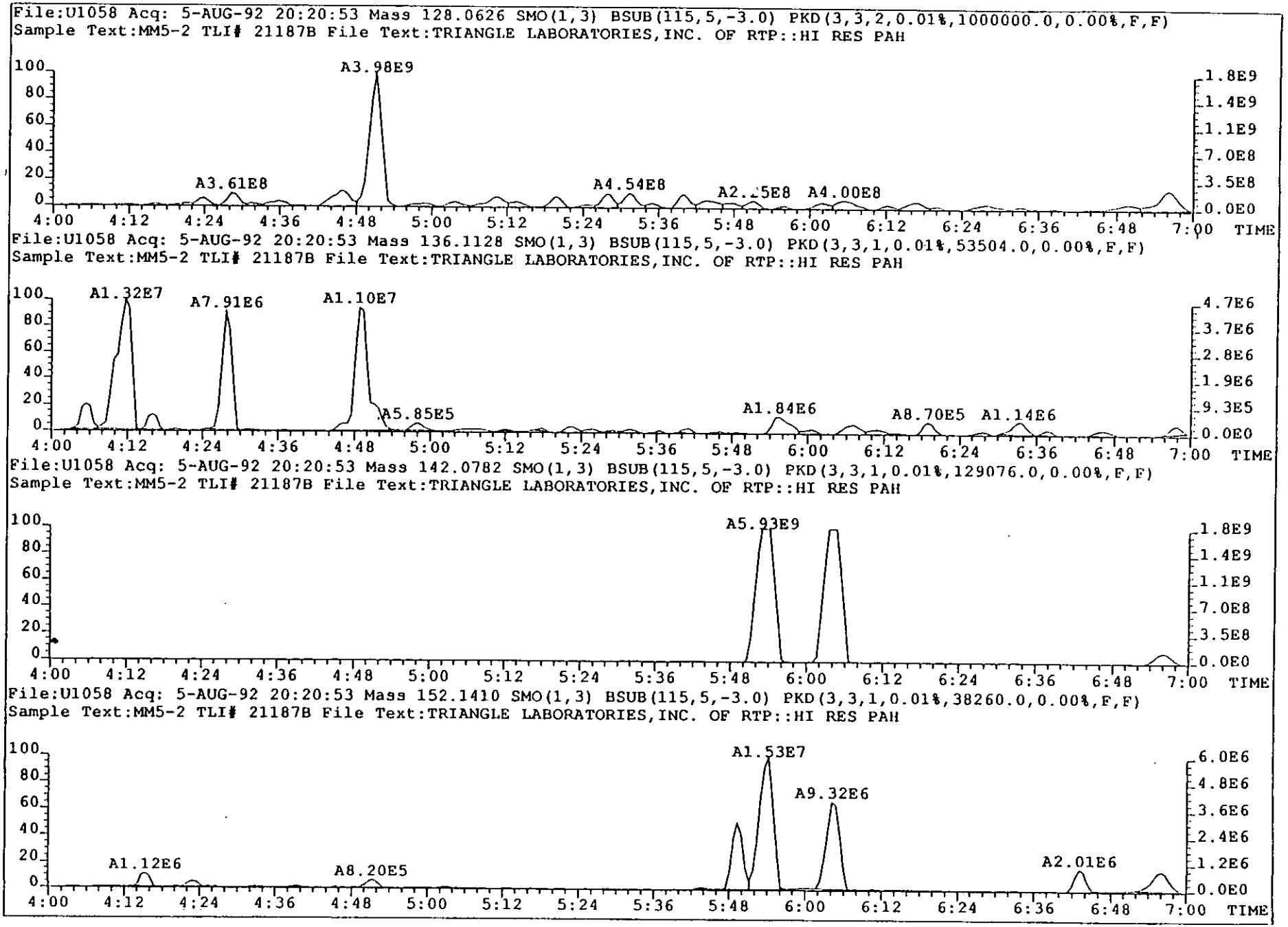
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
202		0.00	15:06 *	60217.04	T	T	1.043	
		0.00	15:34	812.33	T	F	1.075	
		0.00	15:54	3921.72	T	F	1.098	
202		*** Total ***		158119.56	# of Peaks:		6	
212	DC	0.00	0:00	0.83	T	F	0.000	NL
		0.00	14:29 *	2325.72	T	T	1.000	
		0.00	15:03 *	9209.18	T	T	0.999	
		0.00	15:34	82299.03	T	F	1.034	
212		*** Total ***		93834.76	# of Peaks:		4	
228	DC	0.00	0:00	1.34	T	F	0.000	NL
		0.00	15:34	388.49	T	F	0.858	
		0.00	17:39	2482.57	T	F	0.973	
		0.00	18:12 *	17043.29	T	T	1.004	
	clk	0.00	18:17 *	~~27511.70~~ 21900.0	T	T	1.008	— PR
228		*** Total ***		47427.39	# of Peaks:		5	
240	DC	0.00	0:00	0.40	T	F	0.000	NL
		0.00	15:34	163817.30	T	F	0.858	
		0.00	18:08 *	1863.96	T	T	1.000	
		0.00	18:13 *	2914.29	T	T	1.005	
240		*** Total ***		168595.95	# of Peaks:		4	
244	DC	0.00	0:00	0.06	T	F	0.000	NL
		0.00	15:30 *	1195255.00	T	~~F~~T	~~0.777~~ 1.000	— S
244		*** Total ***		1195255.06	# of Peaks:		2	
	252		21:42(2)	2260.0	T	T	1.000	— PR
252	DC	0.00	0:00	0.53	T	F	0.000	NL
		0.00	21:36 (1)	~~10113.87~~ 8270.0	T	~~F~~T	0.947	— PR
5) ND		0.00	22:42 (3)	4348.22	T	~~F~~T	0.995	
		0.00	22:55 (4)	249.73	T	T	1.004	
252		*** Total ***		14712.15	# of Peaks:		4	
264	DC	0.00	0:00	0.09	T	F	0.000	NL
		0.00	21:30 (1)	3118.85	T	~~F~~T	0.942	
		0.00	21:37 (2)	2354.98	T	~~F~~T	0.947	
23:08		0.00	22:35 (3)	9548.00	T	T	1.002	
		0.00	22:49 (4)	1016.23	T	T	1.000	
		0.00	23:48	40160.83	T	F	1.043	
264		*** Total ***		56198.98	# of Peaks:		6	
	264		23:12	96.5	T	T	1.000	
276	DC	0.00	0:00	0.97	T	F	0.000	NL
		0.00	29:02 *	130.26	T	T	0.948	
		0.00	30:49 *	416.83	T	T	1.006	
276		*** Total ***		548.06	# of Peaks:		3	
278	DC	0.00	0:00	0.45	T	F	0.000	NL
		0.00	29:14 *	~~13.57~~ 30.5	T	T	1.007	
278		*** Total ***		14.02	# of Peaks:		2	
288	DC	0.00	0:00	0.10	T	F	0.000	NL
		0.00	28:00	185.51	T	F	0.914	

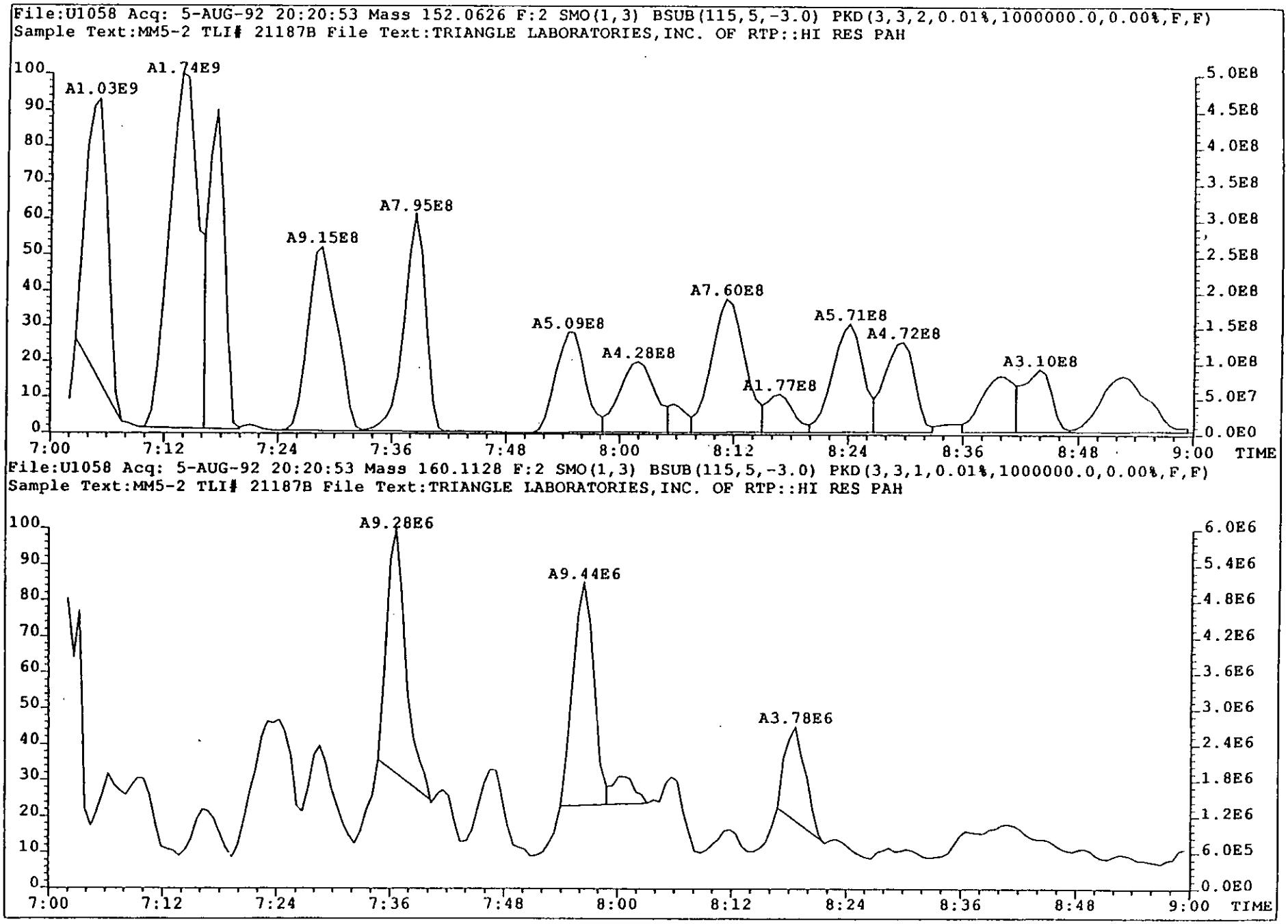
Listing of U1058018.dbf

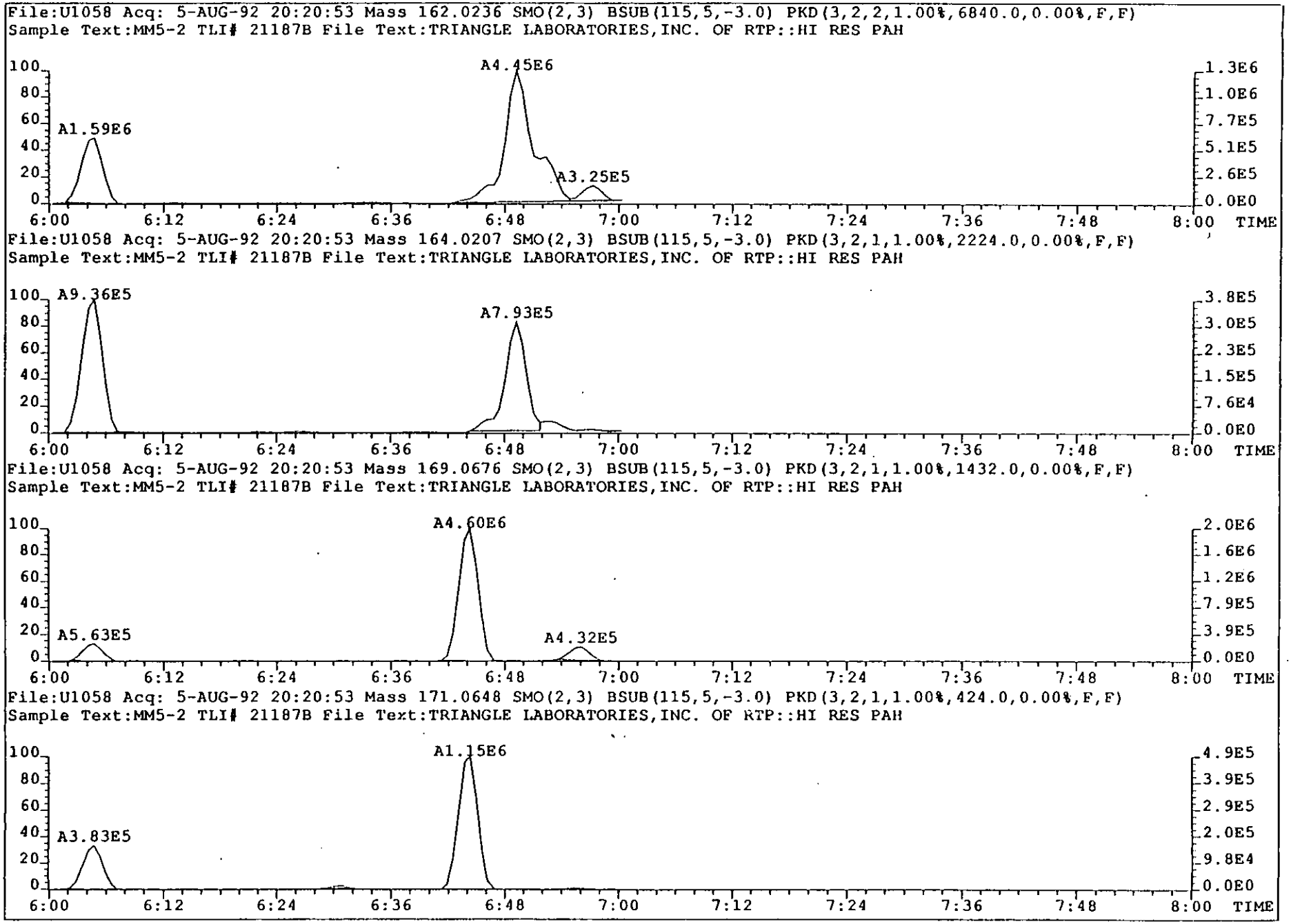
Matched GC Peaks / Ratio / Ret. Time

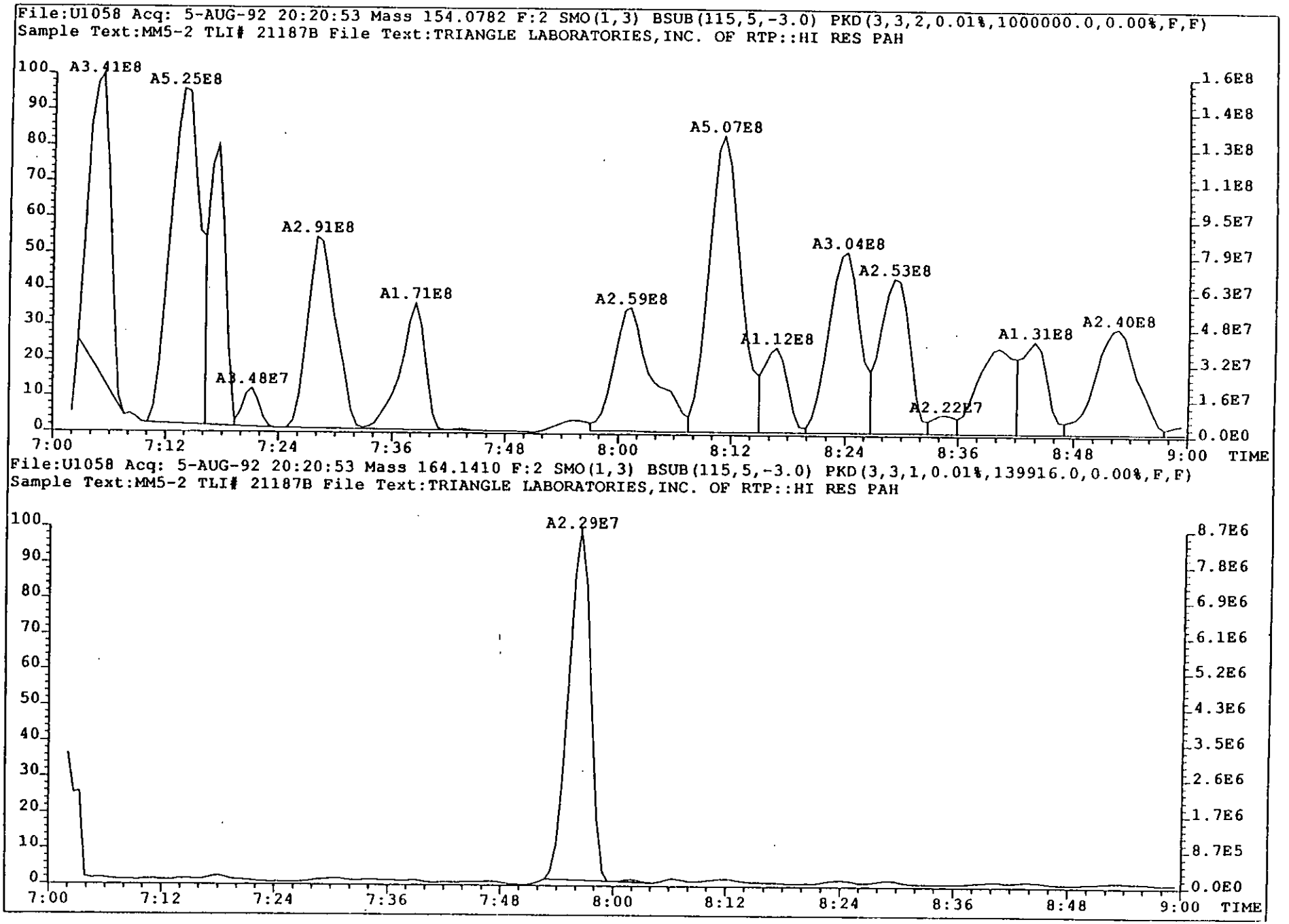
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
288		0.00	28:52 *	1129.44	T	T	0.942	— I
		0.00	29:02	562.20	T	F	0.948	
		0.00	30:38 *	2826.04	T	T	1.000	
288		*** Total ***		4703.29	# of Peaks:		5	
292	DC	0.00	0:00	0.06	T	F	0.000	NL
		0.00	28:00	585.97	T	F	0.964	
		0.00	29:02 *	1985.63	T	T	1.000	
292		*** Total ***		2571.66	# of Peaks:		3	

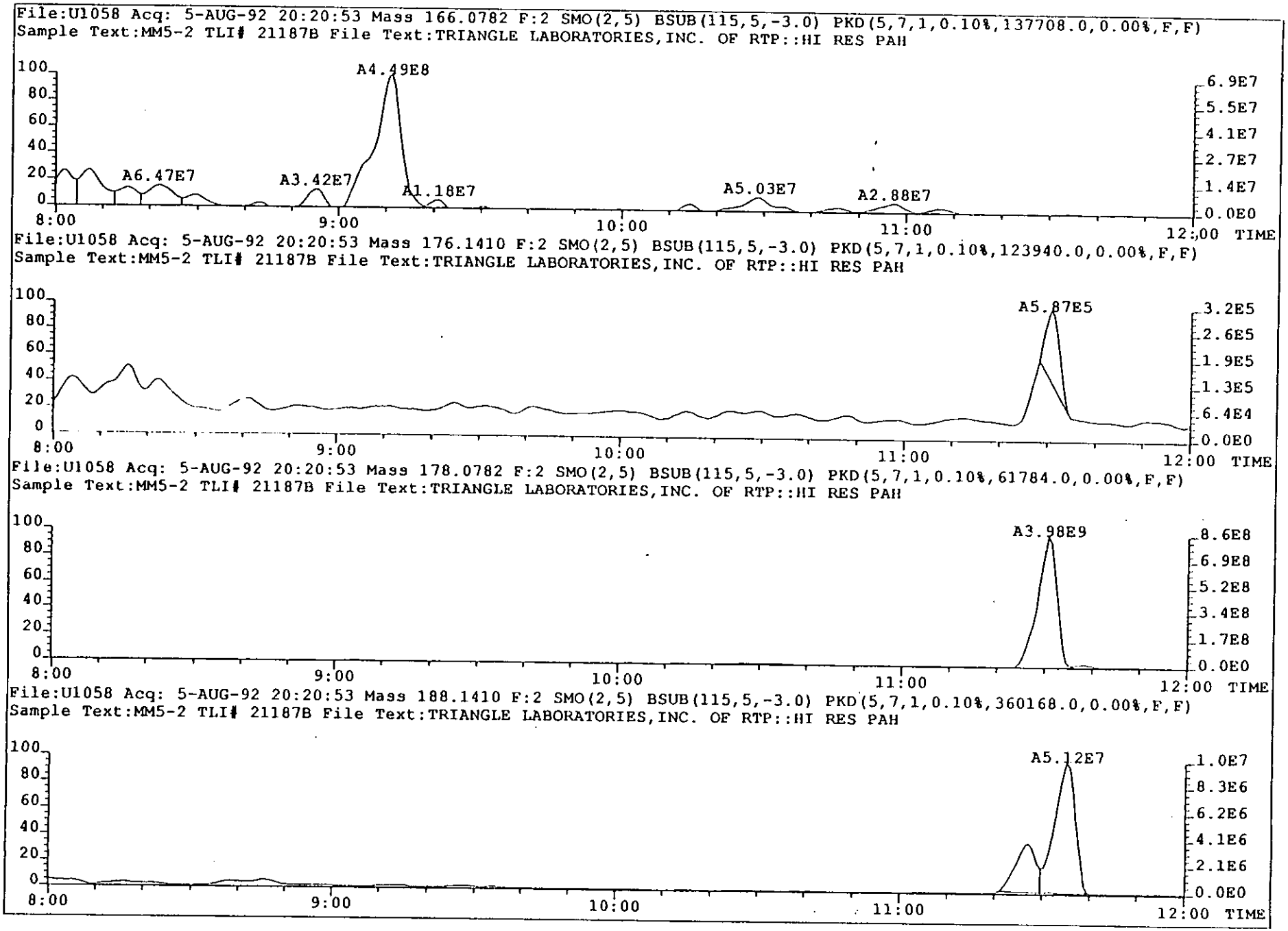
*** End of Report ***

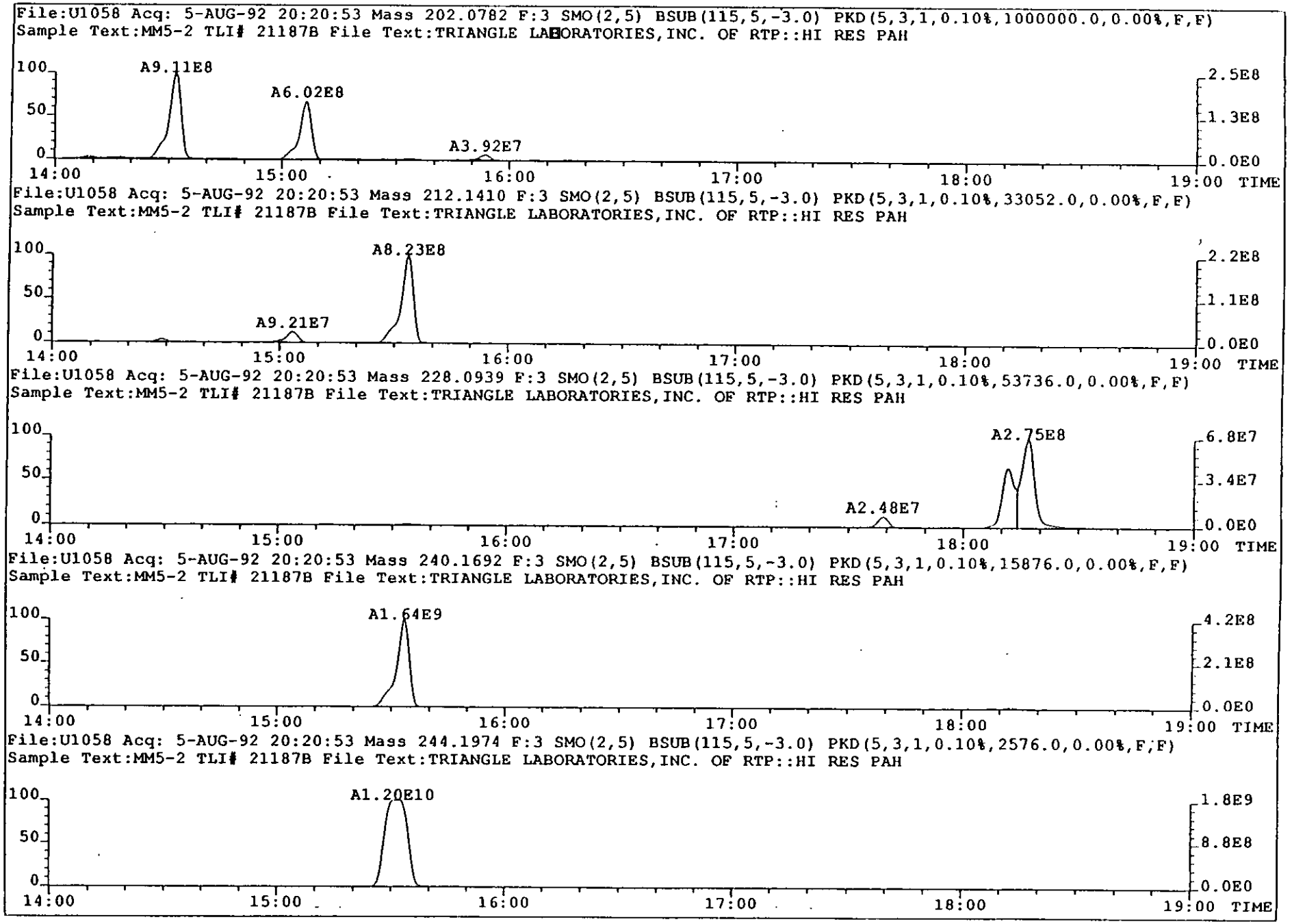

File:U1058 Acq: 5-AUG-92 20:20:53 Mass 128.0626 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,1000000.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A3.98E9
A3.61E8
A4.54E8
A4.00E8
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 136.1128 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,53504.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A1.32E7
A7.91E6
A1.10E7
A5.85E5
A1.84E6
A8.70E5
A1.14E6
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 142.0782 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,129076.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A5.93E9
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 152.1410 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,38260.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A1.53E7
A9.32E6
A1.12E6
A8.20E5
A2.01E6
TIME

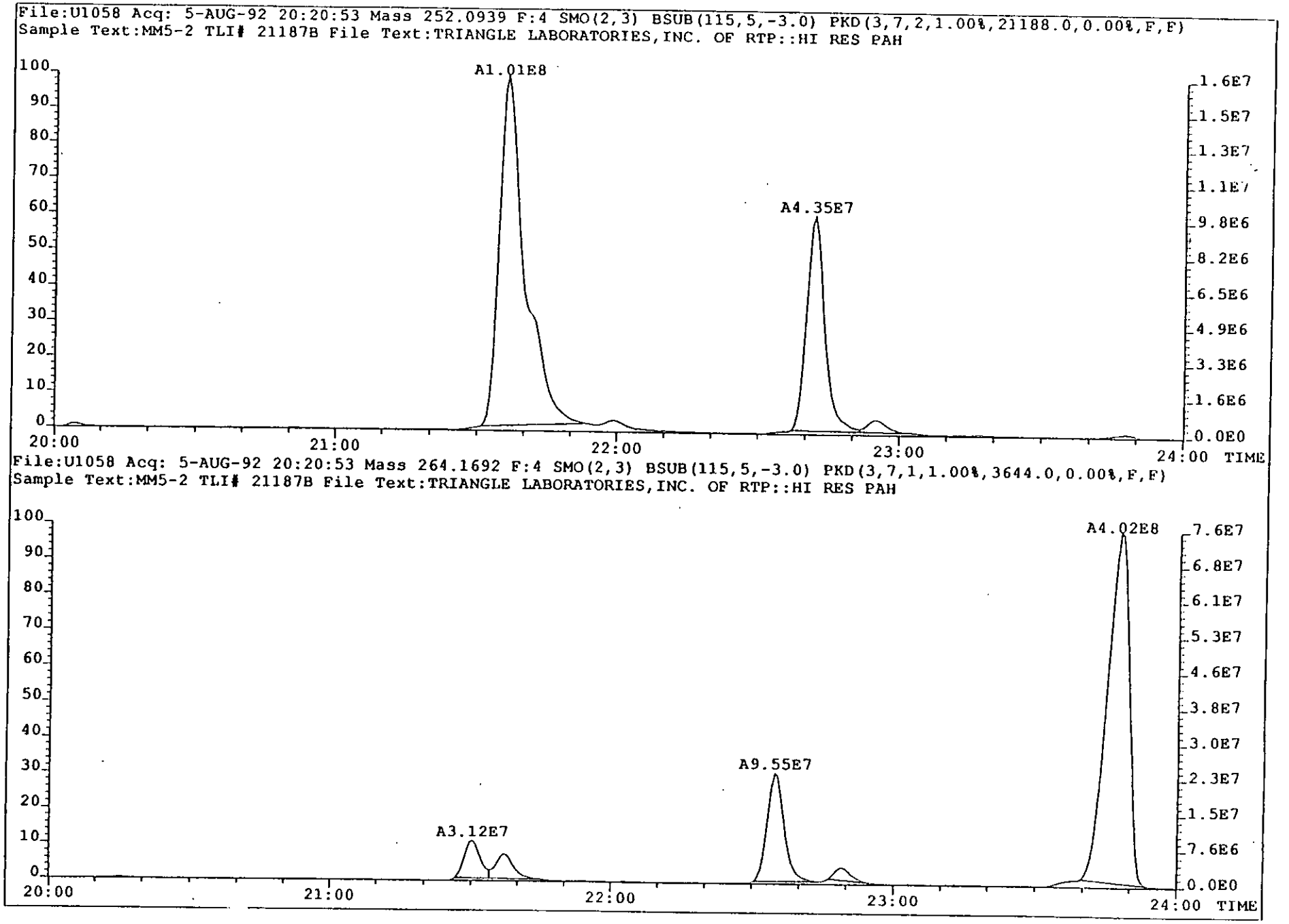

File:U1058 Acq: 5-AUG-92 20:20:53 Mass 152.0626 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,1000000.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A1.03E9
A1.74E9
A9.15E8
A7.95E8
A5.09E8
A4.28E8
A7.60E8
A1.77E8
A5.71E8
A4.72E8
A3.10E8
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 160.1128 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,1000000.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A9.28E6
A9.44E6
A3.78E6
TIME

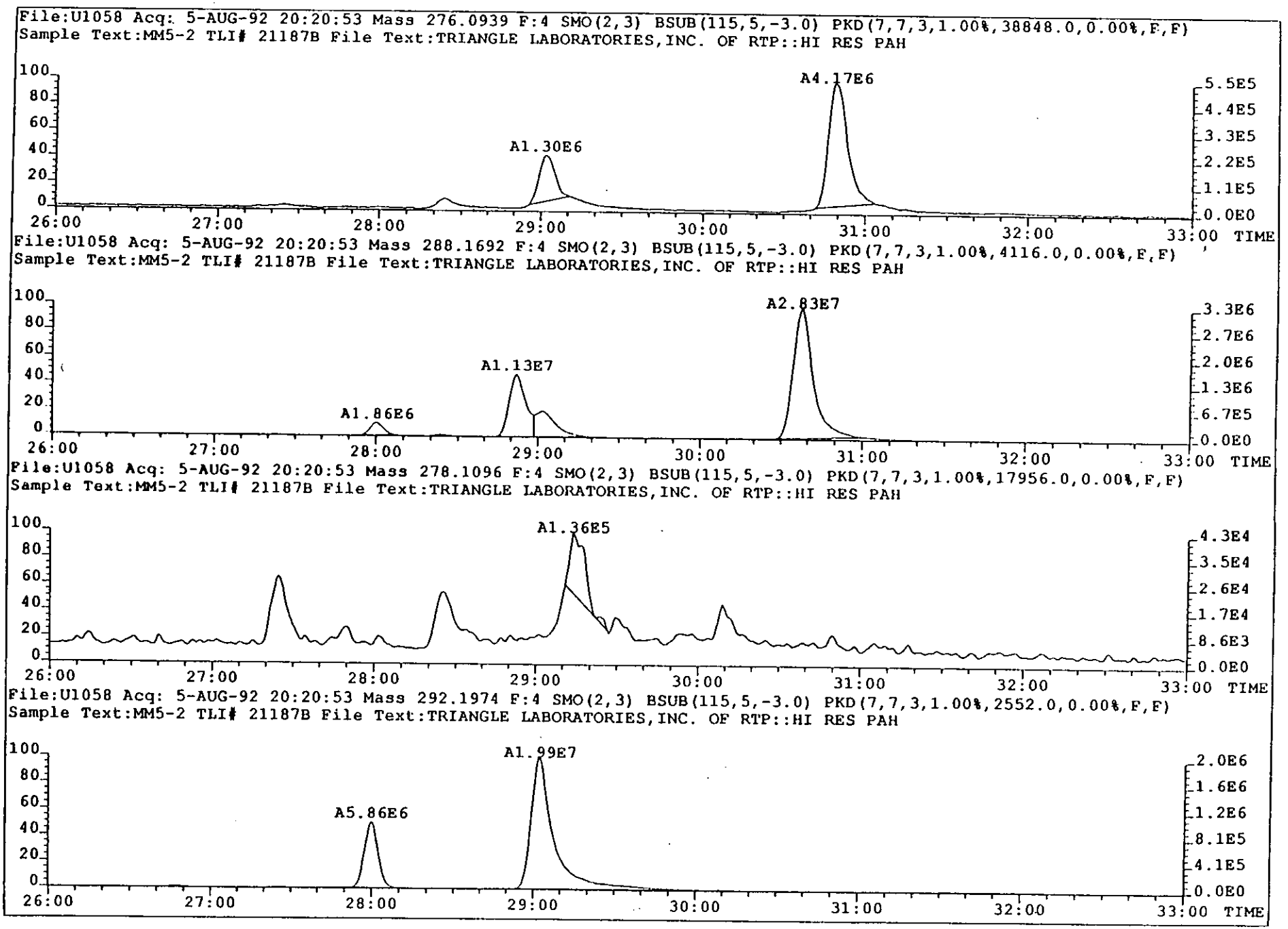

File:U1058 Acq: 5-AUG-92 20:20:53 Mass 162.0236 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,2,1.00%,6840.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A4.45E6
A1.59E6
A3.25E5
100
80
60
40
20
0
1.3E6
1.0E6
7.7E5
5.1E5
2.6E5
0.0E0
6:00
6:12
6:24
6:36
6:48
7:00
7:12
7:24
7:36
7:48
8:00
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 164.0207 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,2224.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A9.36E5
A7.93E5
3.8E5
3.0E5
2.3E5
1.5E5
7.6E4
0.0E0
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 169.0676 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,1432.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A4.60E6
A5.63E5
A4.32E5
2.0E6
1.6E6
1.2E6
7.9E5
3.9E5
0.0E0
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 171.0648 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,424.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A1.15E6
A3.83E5
4.9E5
3.9E5
2.9E5
2.0E5
9.8E4
0.0E0

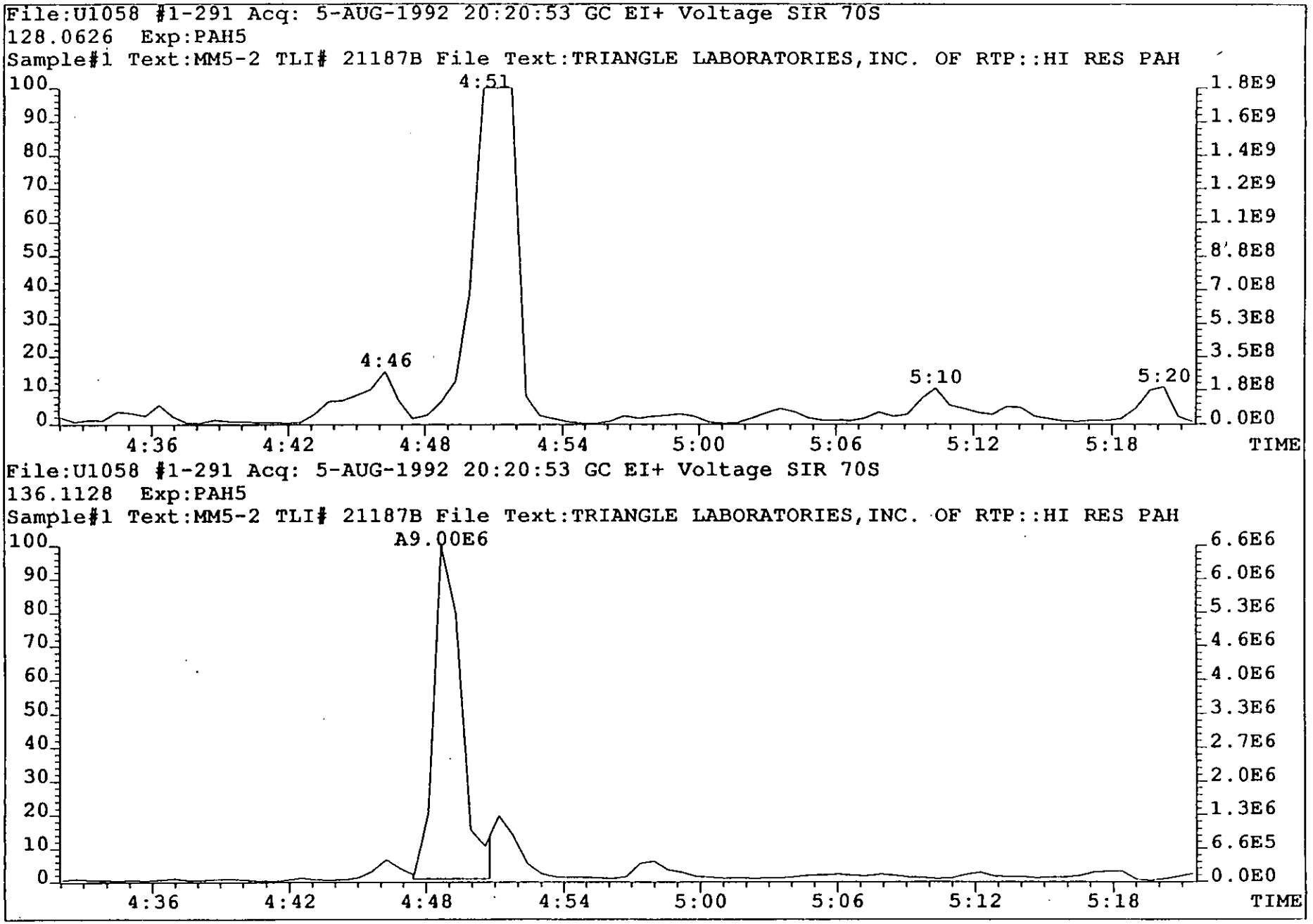

File:U1058 Acq: 5-AUG-92 20:20:53 Mass 154.0782 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,1000000.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A3.41E8
A5.25E8
A3.48E7
A2.91E8
A1.71E8
A2.59E8
A5.07E8
A1.12E8
A3.04E8
A2.53E8
A2.22E7
A1.31E8
A2.40E8
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 164.1410 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,139916.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A2.29E7
TIME

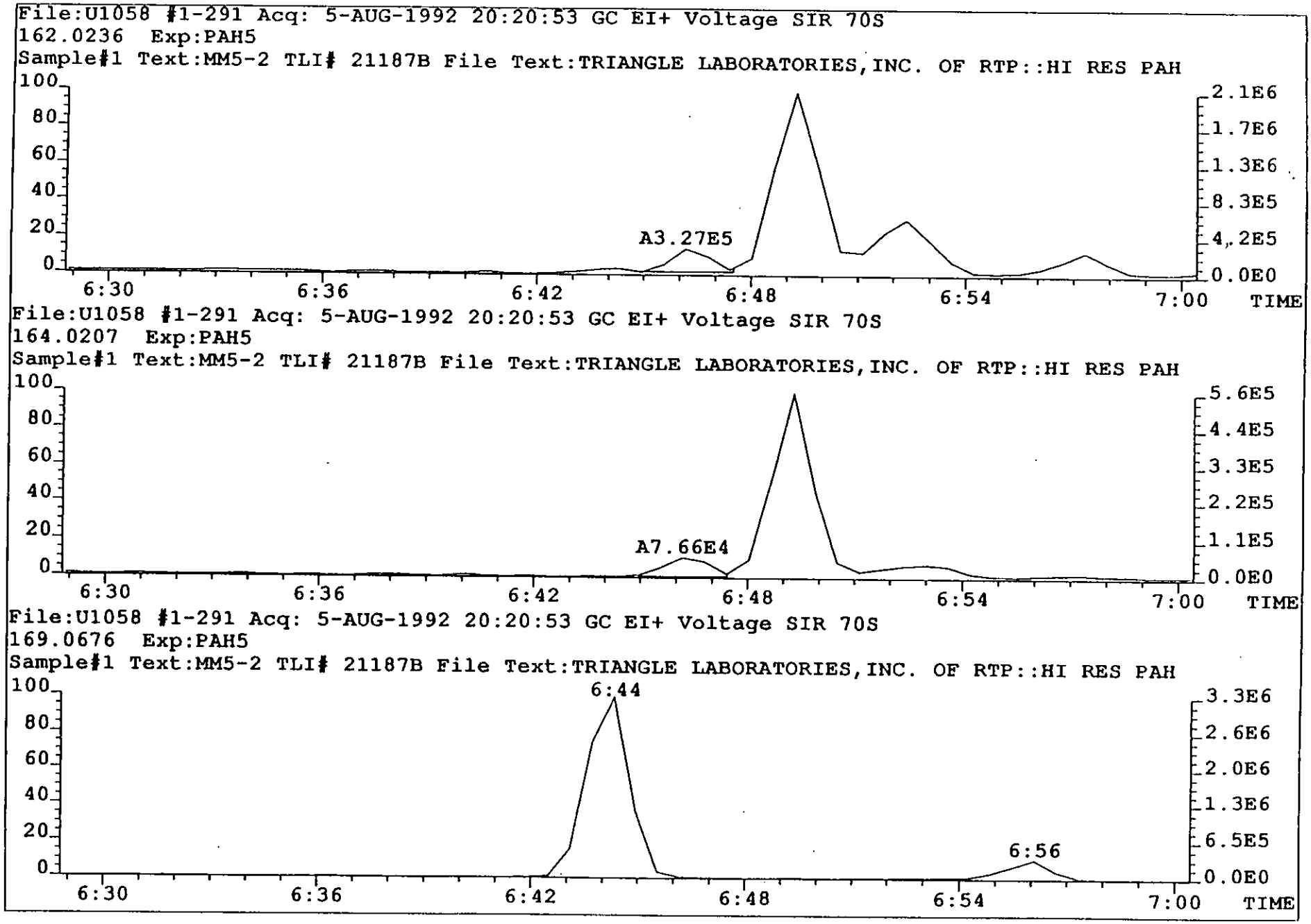

File:U1058 Acq: 5-AUG-92 20:20:53 Mass 166.0782 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,137708.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A4.49E8
A6.47E7
A3.42E7
A1.18E7
A5.03E7
A2.88E7
6.9E7
5.5E7
4.1E7
2.7E7
1.4E7
0.0E0
8:00
9:00
10:00
11:00
12:00 TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 176.1410 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,123940.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A5.87E5
3.2E5
2.6E5
1.9E5
1.3E5
6.4E4
0.0E0
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 178.0782 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,61784.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A3.98E9
8.6E8
6.9E8
5.2E8
3.4E8
1.7E8
0.0E0
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 188.1410 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,360168.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A5.12E7
1.0E7
8.3E6
6.2E6
4.1E6
2.1E6
0.0E0

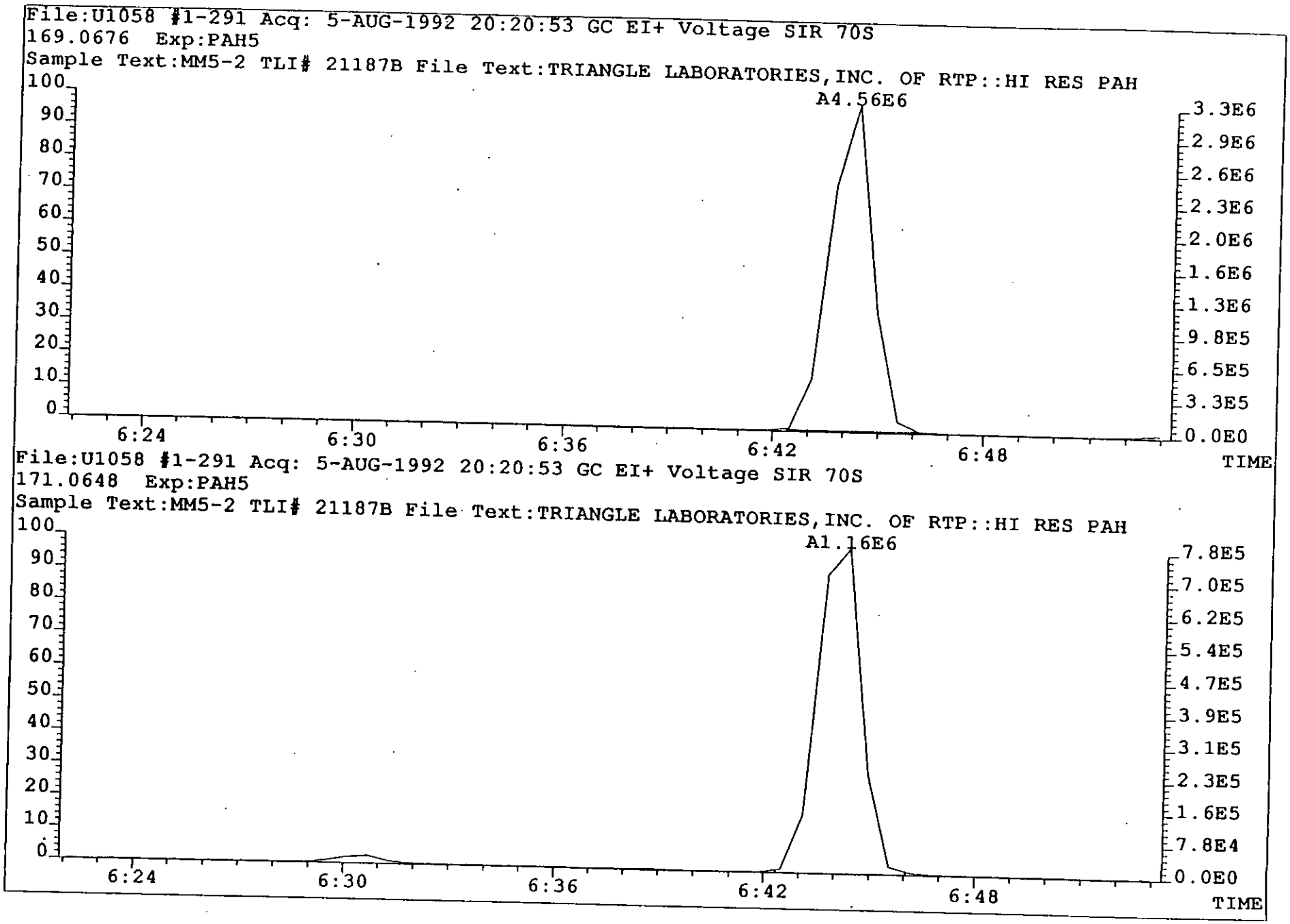

File:U1058 Acq: 5-AUG-92 20:20:53 Mass 202.0782 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,1000000.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A9.11E8
A6.02E8
A3.92E7
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 212.1410 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,33052.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A8.23E8
A9.21E7
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 228.0939 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,53736.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A2.75E8
A2.48E7
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 240.1692 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,15876.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A1.64E9
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 244.1974 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,2576.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A1.20E10
100
50
0
14:00
15:00
16:00
17:00
18:00
19:00
TIME
2.5E8
1.3E8
0.0E0
2.2E8
1.1E8
6.8E7
3.4E7
4.2E8
2.1E8
1.8E9
8.8E8

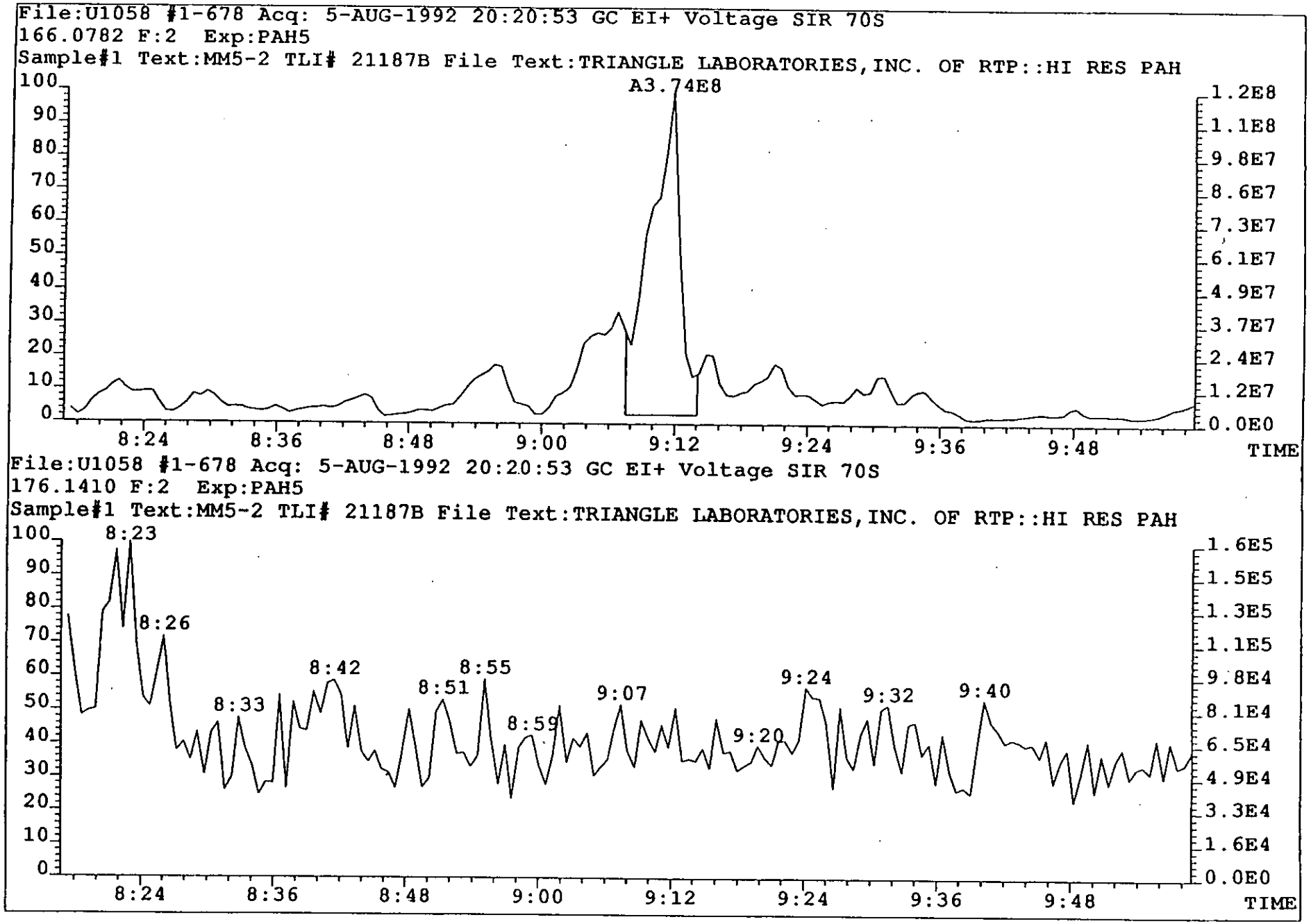

File:U1058 Acq: 5-AUG-92 20:20:53 Mass 252.0939 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,2,1.00%,21188.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A1.01E8
A4.35E7
100
90
80
70
60
50
40
30
20
10
0
1.6E7
1.5E7
1.3E7
1.1E7
9.8E6
8.2E6
6.5E6
4.9E6
3.3E6
1.6E6
0.0E0
20:00
21:00
22:00
23:00
24:00 TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 264.1692 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,1,1.00%,3644.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A4.02E8
A9.55E7
A3.12E7
100
90
80
70
60
50
40
30
20
10
0
7.6E7
6.8E7
6.1E7
5.3E7
4.6E7
3.8E7
3.0E7
2.3E7
1.5E7
7.6E6
0.0E0
20:00
21:00
22:00
23:00
24:00 TIME

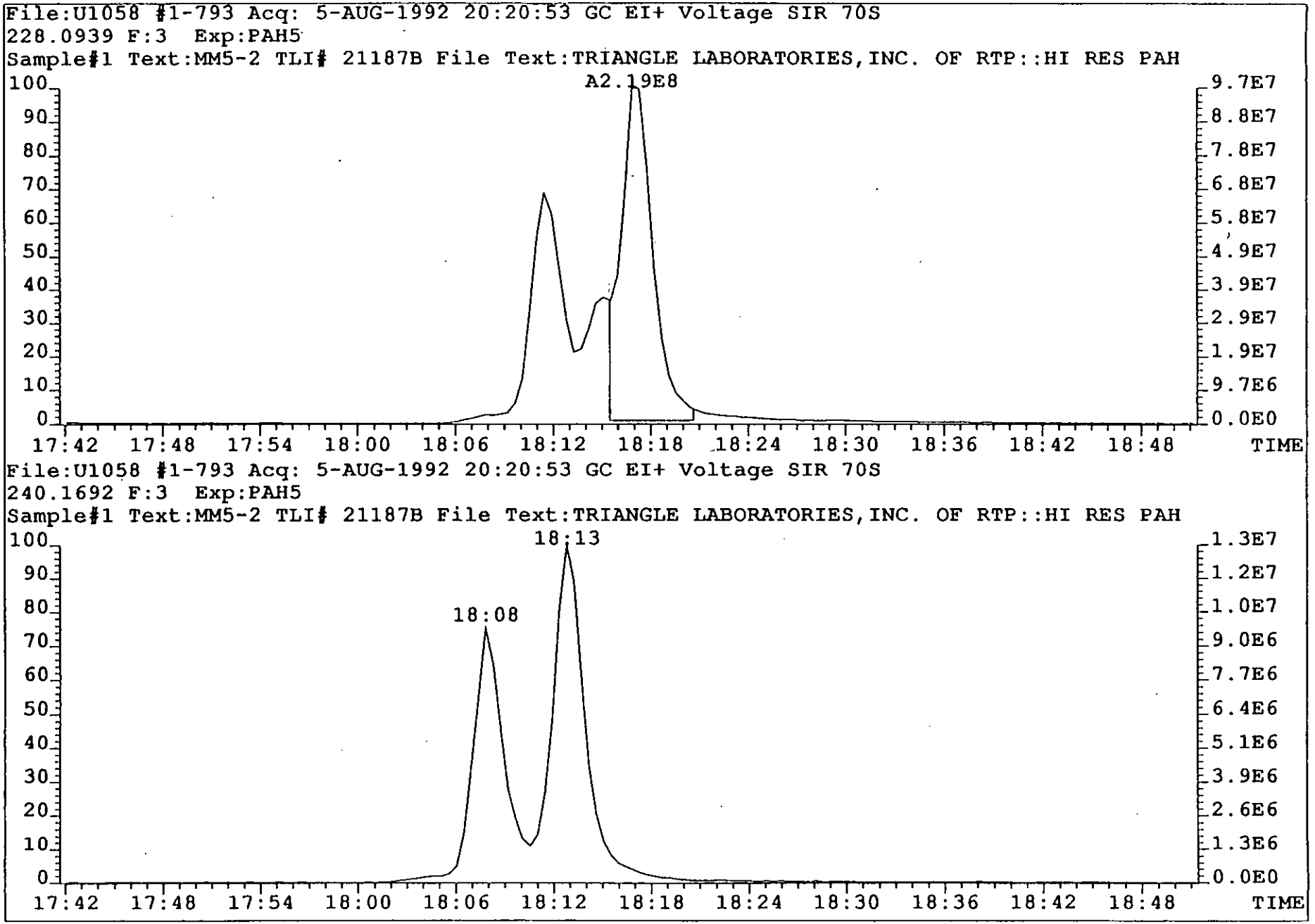

File:U1058 Acq: 5-AUG-92 20:20:53 Mass 276.0939 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,38848.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A4.17E6
A1.30E6
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 288.1692 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,4116.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A2.83E7
A1.13E7
A1.86E6
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 278.1096 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,17956.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A1.36E5
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 292.1974 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,2552.0,0.00%,F,F)
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A1.99E7
A5.86E6
TIME

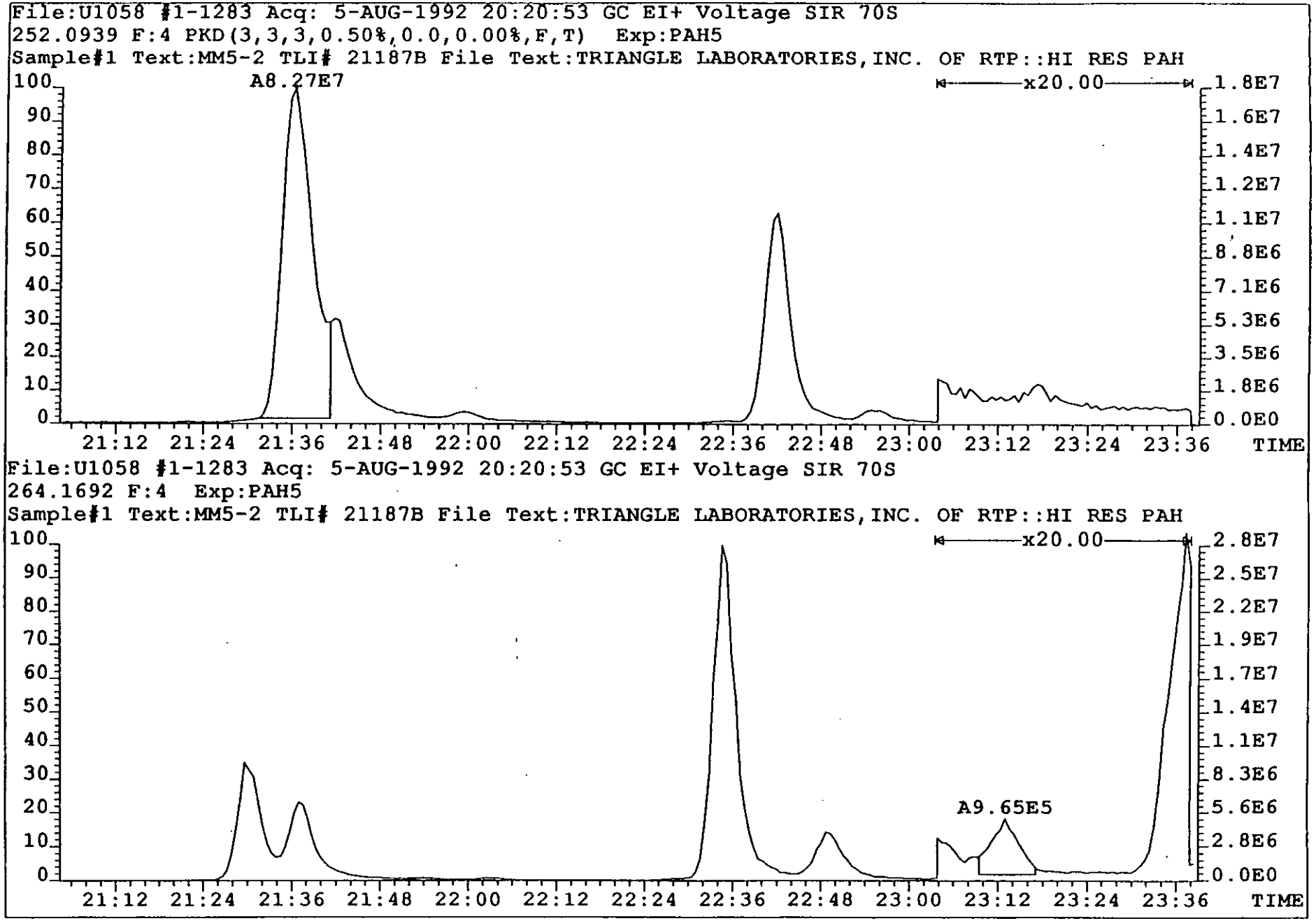

File:U1058 #1-291 Acq: 5-AUG-1992 20:20:53 GC EI+ Voltage SIR 70S
128.0626 Exp:PAH5
Sample#1 Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
4:51
4:46
5:10
5:20
TIME
File:U1058 #1-291 Acq: 5-AUG-1992 20:20:53 GC EI+ Voltage SIR 70S
136.1128 Exp:PAH5
Sample#1 Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A9.00E6
TIME

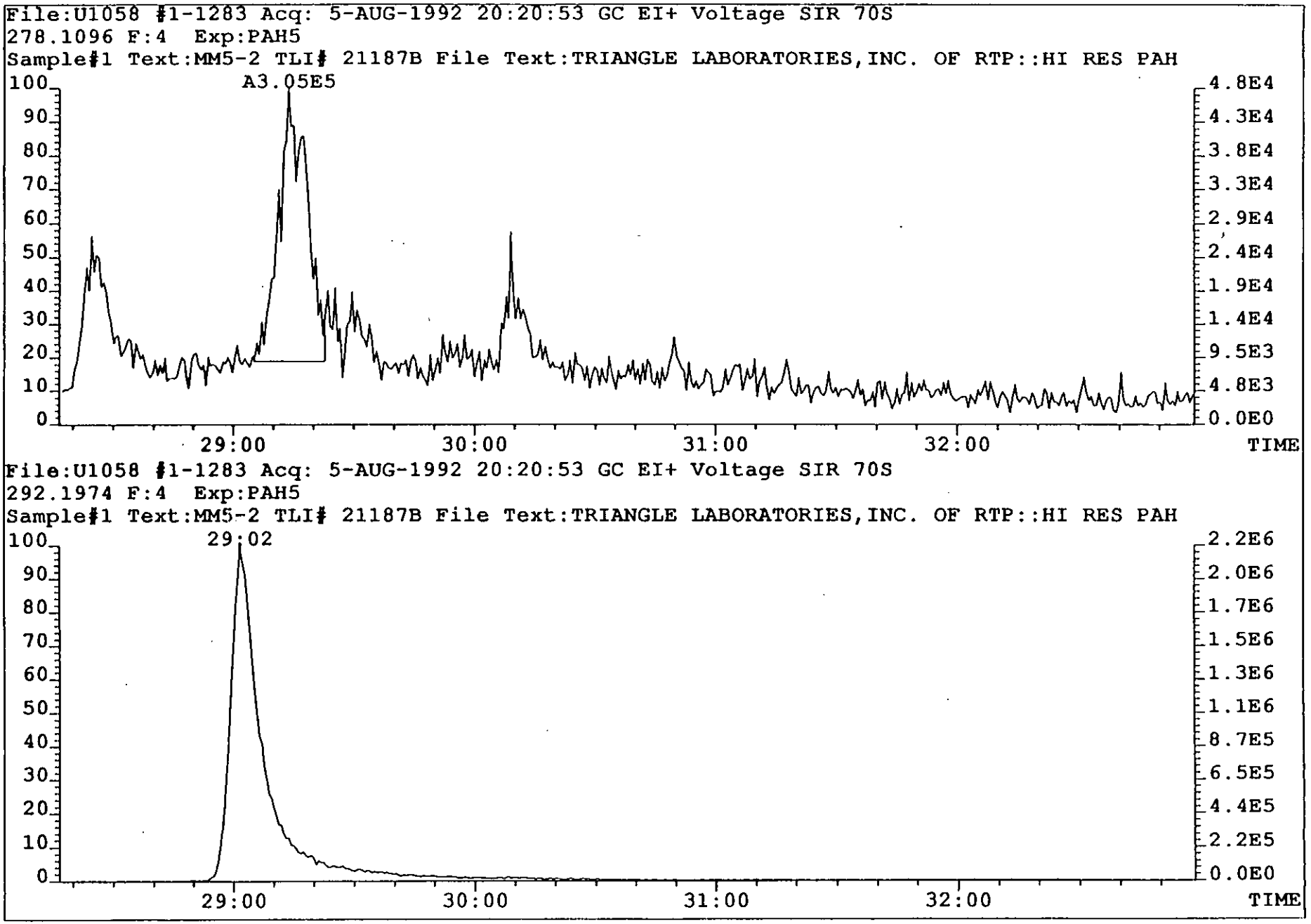

File:U1058 #1-291 Acq: 5-AUG-1992 20:20:53 GC EI+ Voltage SIR 70S
162.0236 Exp:PAH5
Sample#1 Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
80
60
40
20
0
A3.27E5
2.1E6
1.7E6
1.3E6
8.3E5
4.2E5
0.0E0
6:30
6:36
6:42
6:48
6:54
7:00
TIME
File:U1058 #1-291 Acq: 5-AUG-1992 20:20:53 GC EI+ Voltage SIR 70S
164.0207 Exp:PAH5
Sample#1 Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
80
60
40
20
0
A7.66E4
5.6E5
4.4E5
3.3E5
2.2E5
1.1E5
0.0E0
6:30
6:36
6:42
6:48
6:54
7:00
TIME
File:U1058 #1-291 Acq: 5-AUG-1992 20:20:53 GC EI+ Voltage SIR 70S
169.0676 Exp:PAH5
Sample#1 Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
80
60
40
20
0
6:44
6:56
3.3E6
2.6E6
2.0E6
1.3E6
6.5E5
0.0E0
6:30
6:36
6:42
6:48
6:54
7:00
TIME

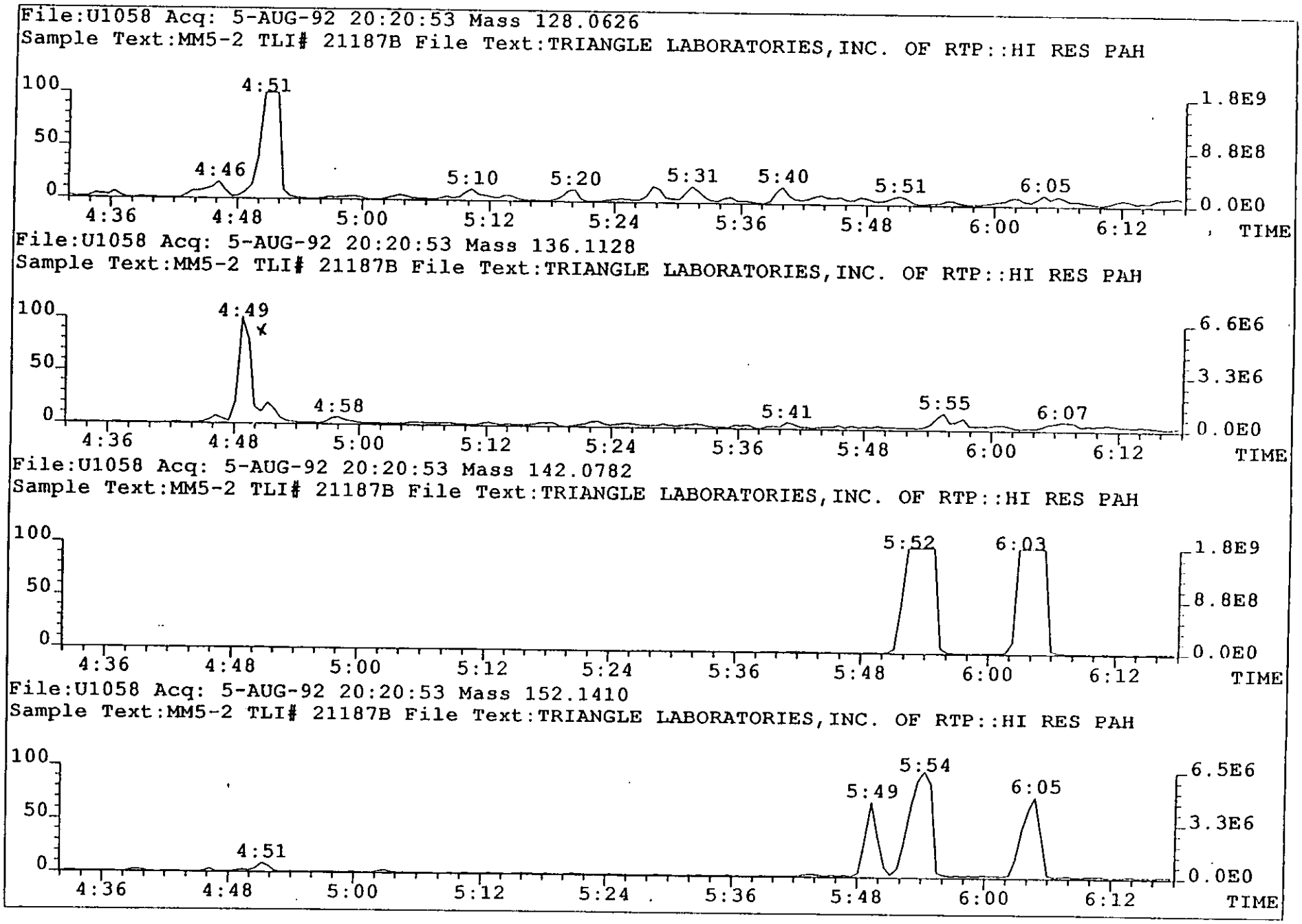

File:U1058 #1-291 Acq: 5-AUG-1992 20:20:53 GC EI+ Voltage SIR 70S
169.0676 Exp:PAH5
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A4.56E6
100
90
80
70
60
50
40
30
20
10
0
3.3E6
2.9E6
2.6E6
2.3E6
2.0E6
1.6E6
1.3E6
9.8E5
6.5E5
3.3E5
0.0E0
6:24
6:30
6:36
6:42
6:48
TIME
File:U1058 #1-291 Acq: 5-AUG-1992 20:20:53 GC EI+ Voltage SIR 70S
171.0648 Exp:PAH5
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A1.16E6
100
90
80
70
60
50
40
30
20
10
0
7.8E5
7.0E5
6.2E5
5.4E5
4.7E5
3.9E5
3.1E5
2.3E5
1.6E5
7.8E4
0.0E0
6:24
6:30
6:36
6:42
6:48
TIME

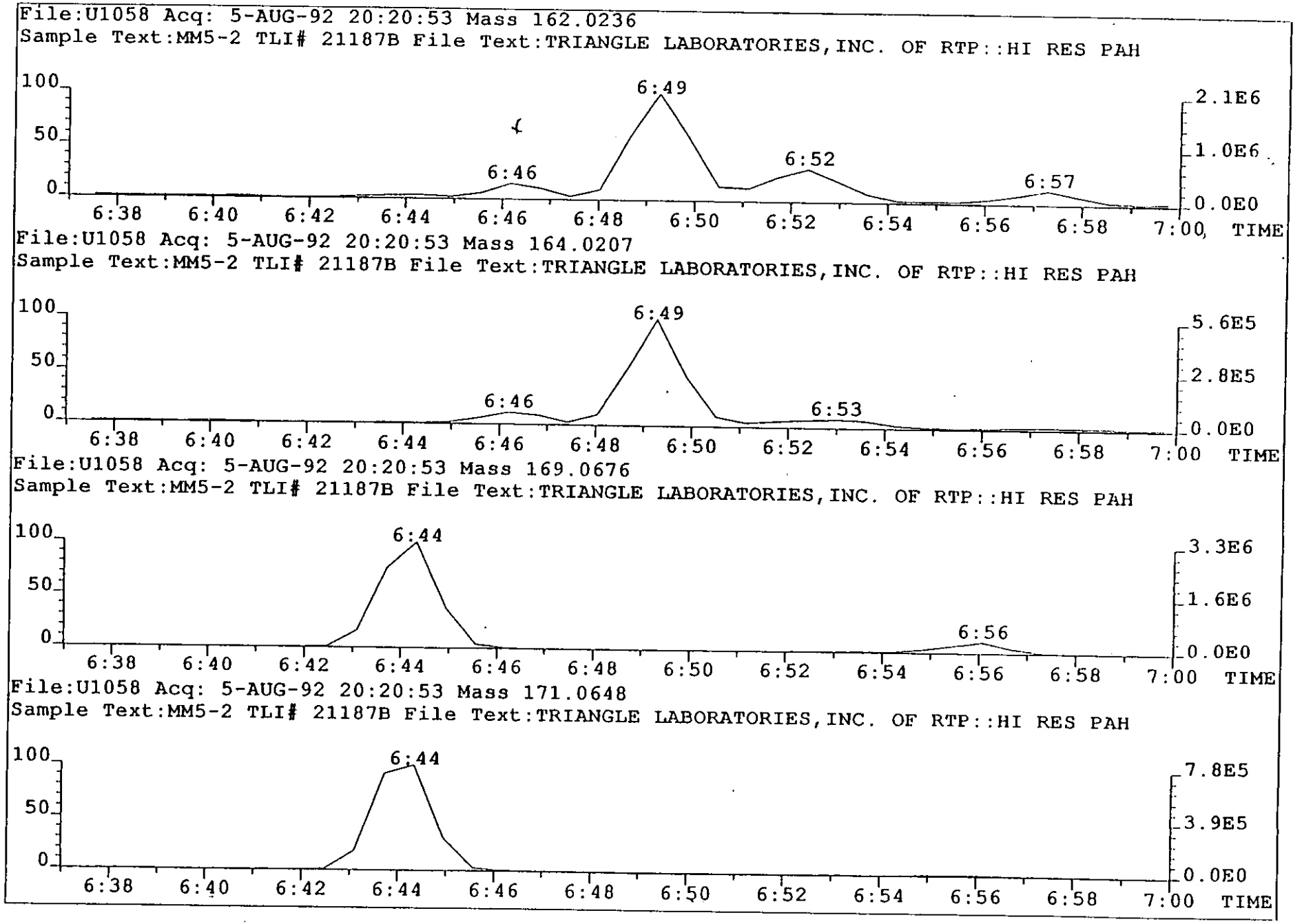

File:U1058 #1-678 Acq: 5-AUG-1992 20:20:53 GC EI+ Voltage SIR 70S
166.0782 F:2 Exp:PAH5
Sample#1 Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A3.74E8
100
90
80
70
60
50
40
30
20
10
0
1.2E8
1.1E8
9.8E7
8.6E7
7.3E7
6.1E7
4.9E7
3.7E7
2.4E7
1.2E7
0.0E0
8:24
8:36
8:48
9:00
9:12
9:24
9:36
9:48
TIME
File:U1058 #1-678 Acq: 5-AUG-1992 20:20:53 GC EI+ Voltage SIR 70S
176.1410 F:2 Exp:PAH5
Sample#1 Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
8:23
8:26
8:33
8:42
8:51
8:55
8:59
9:07
9:20
9:24
9:32
9:40
1.6E5
1.5E5
1.3E5
1.1E5
9.8E4
8.1E4
6.5E4
4.9E4
3.3E4
1.6E4
0.0E0
TIME

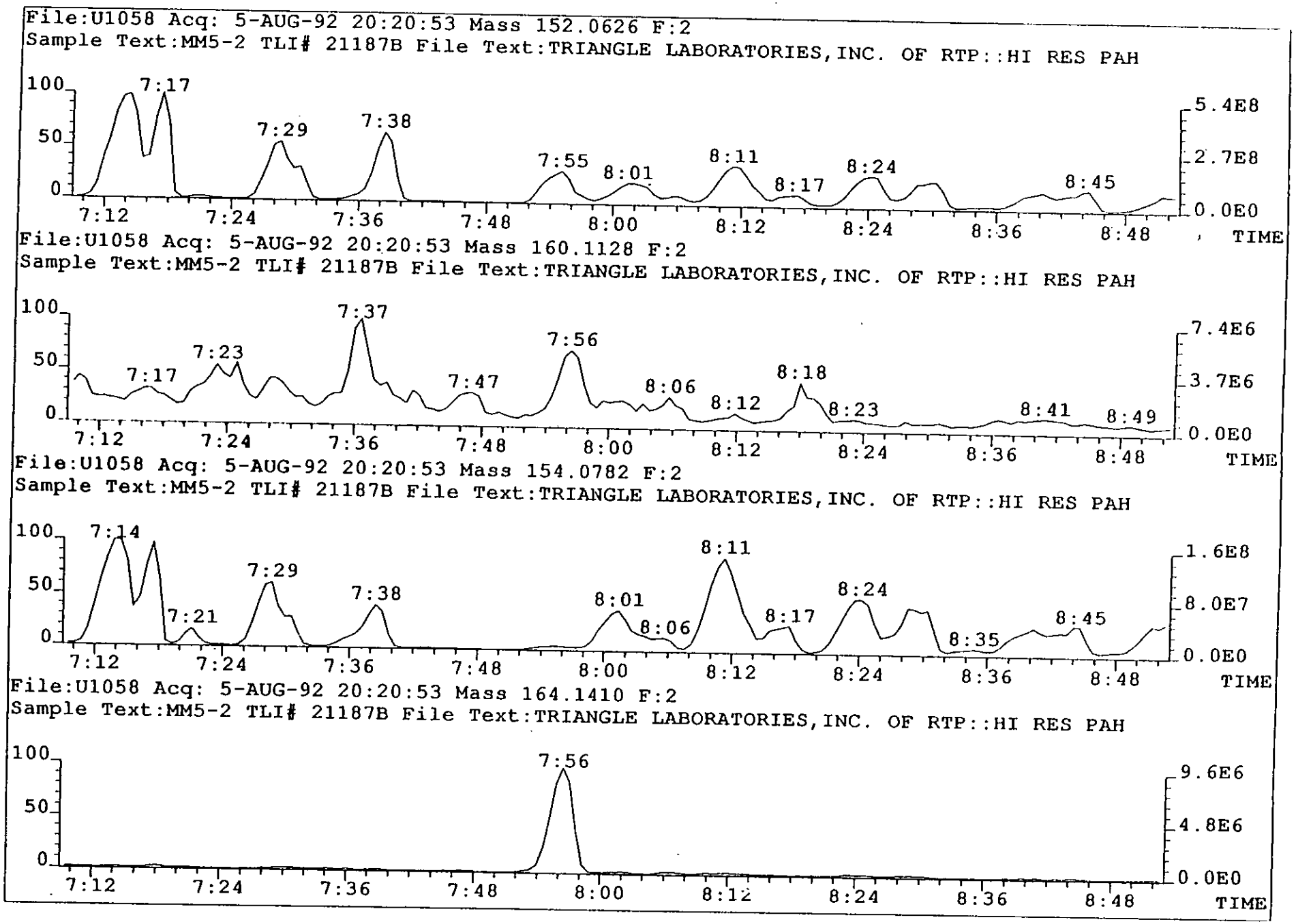

File:U1058 #1-793 Acq: 5-AUG-1992 20:20:53 GC EI+ Voltage SIR 70S
228.0939 F:3 Exp:PAH5
Sample#1 Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A2.19E8
100
90
80
70
60
50
40
30
20
10
0
9.7E7
8.8E7
7.8E7
6.8E7
5.8E7
4.9E7
3.9E7
2.9E7
1.9E7
9.7E6
0.0E0
17:42 17:48 17:54 18:00 18:06 18:12 18:18 18:24 18:30 18:36 18:42 18:48
TIME
File:U1058 #1-793 Acq: 5-AUG-1992 20:20:53 GC EI+ Voltage SIR 70S
240.1692 F:3 Exp:PAH5
Sample#1 Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
18:13
18:08
100
90
80
70
60
50
40
30
20
10
0
1.3E7
1.2E7
1.0E7
9.0E6
7.7E6
6.4E6
5.1E6
3.9E6
2.6E6
1.3E6
0.0E0
17:42 17:48 17:54 18:00 18:06 18:12 18:18 18:24 18:30 18:36 18:42 18:48
TIME

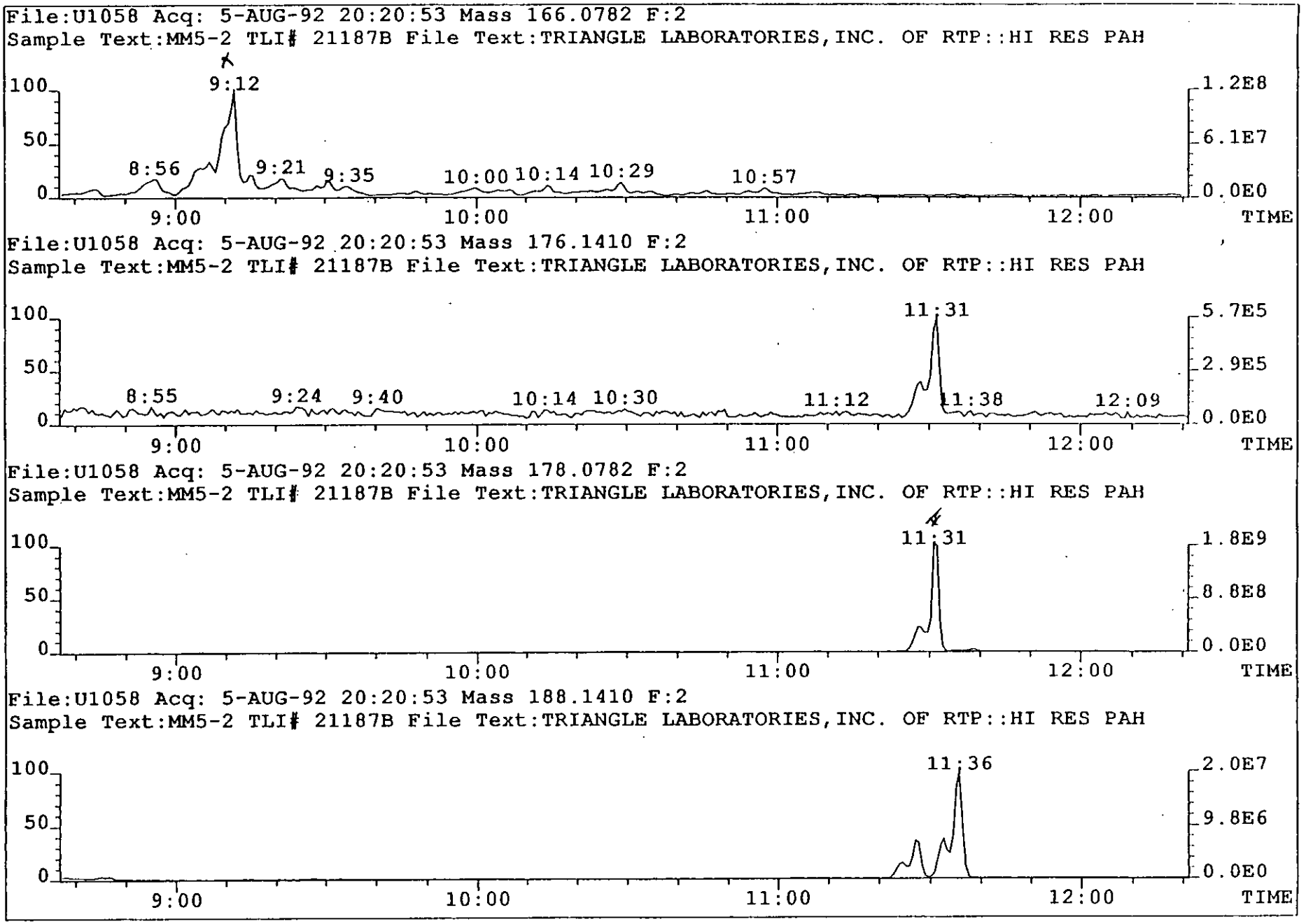

File:U1058 #1-1283 Acq: 5-AUG-1992 20:20:53 GC EI+ Voltage SIR 70S
252.0939 F:4 PKD(3,3,3,0.50%,0.0,0.00%,F,T) Exp:PAH5
Sample#1 Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A8.27E7
x20.00
100
90
80
70
60
50
40
30
20
10
0
1.8E7
1.6E7
1.4E7
1.2E7
1.1E7
8.8E6
7.1E6
5.3E6
3.5E6
1.8E6
0.0E0
21:12 21:24 21:36 21:48 22:00 22:12 22:24 22:36 22:48 23:00 23:12 23:24 23:36 TIME
File:U1058 #1-1283 Acq: 5-AUG-1992 20:20:53 GC EI+ Voltage SIR 70S
264.1692 F:4 Exp:PAH5
Sample#1 Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
x20.00
A9.65E5
100
90
80
70
60
50
40
30
20
10
0
2.8E7
2.5E7
2.2E7
1.9E7
1.7E7
1.4E7
1.1E7
8.3E6
5.6E6
2.8E6
0.0E0
21:12 21:24 21:36 21:48 22:00 22:12 22:24 22:36 22:48 23:00 23:12 23:24 23:36 TIME

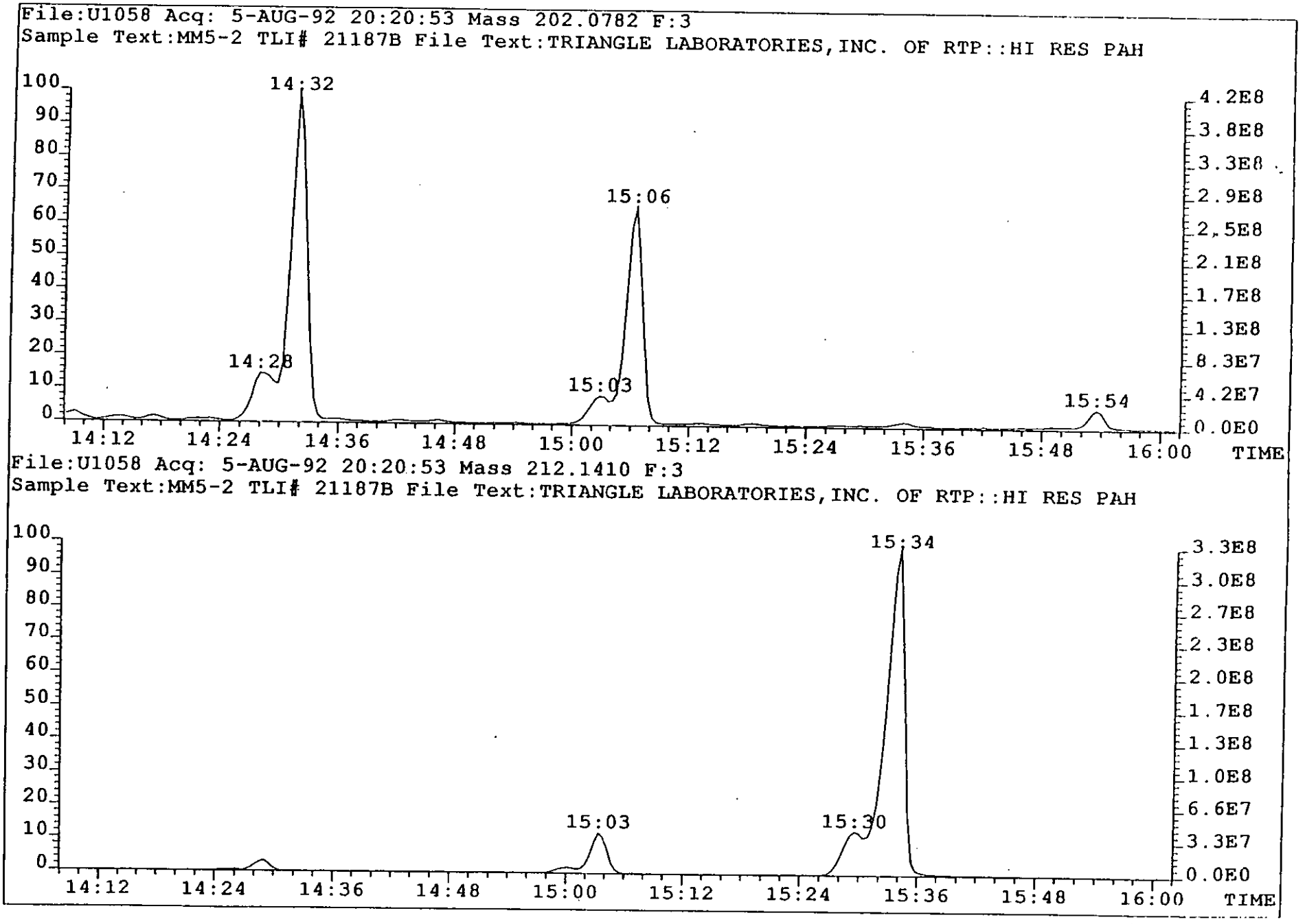

File:U1058 #1-1283 Acq: 5-AUG-1992 20:20:53 GC EI+ Voltage SIR 70S
278.1096 F:4 Exp:PAH5
Sample#1 Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
A3.05E5
100
90
80
70
60
50
40
30
20
10
0
4.8E4
4.3E4
3.8E4
3.3E4
2.9E4
2.4E4
1.9E4
1.4E4
9.5E3
4.8E3
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U1058 #1-1283 Acq: 5-AUG-1992 20:20:53 GC EI+ Voltage SIR 70S
292.1974 F:4 Exp:PAH5
Sample#1 Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
29:02
100
90
80
70
60
50
40
30
20
10
0
2.2E6
2.0E6
1.7E6
1.5E6
1.3E6
1.1E6
8.7E5
6.5E5
4.4E5
2.2E5
0.0E0
29:00
30:00
31:00
32:00
TIME

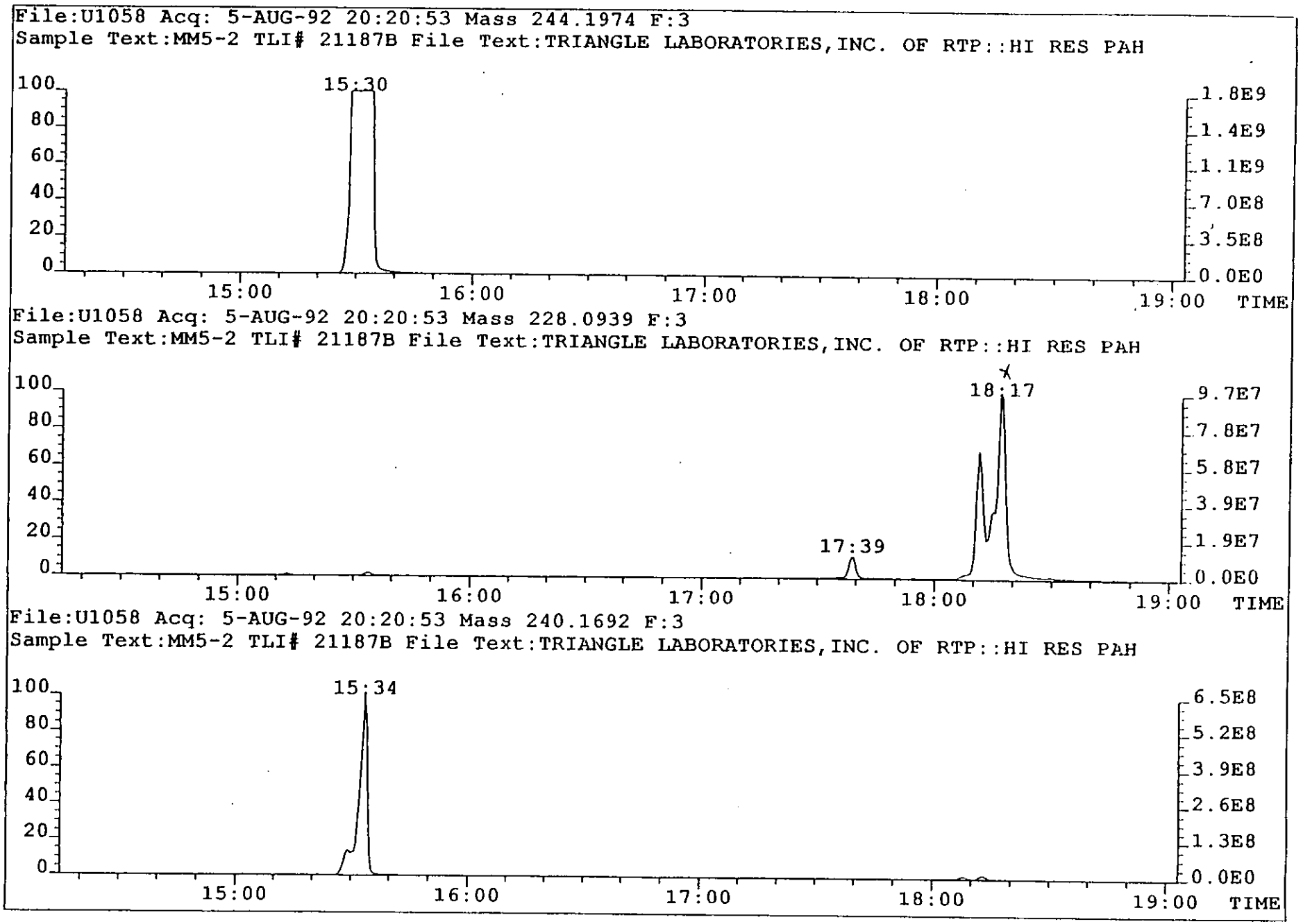

File:U1058 Acq: 5-AUG-92 20:20:53 Mass 128.0626
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
4:51
4:46
5:10
5:20
5:31
5:40
5:51
6:05
1.8E9
8.8E8
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 136.1128
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
4:49
4:58
5:41
5:55
6:07
6.6E6
3.3E6
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 142.0782
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
5:52
6:03
1.8E9
8.8E8
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 152.1410
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
4:51
5:49
5:54
6:05
6.5E6
3.3E6
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME

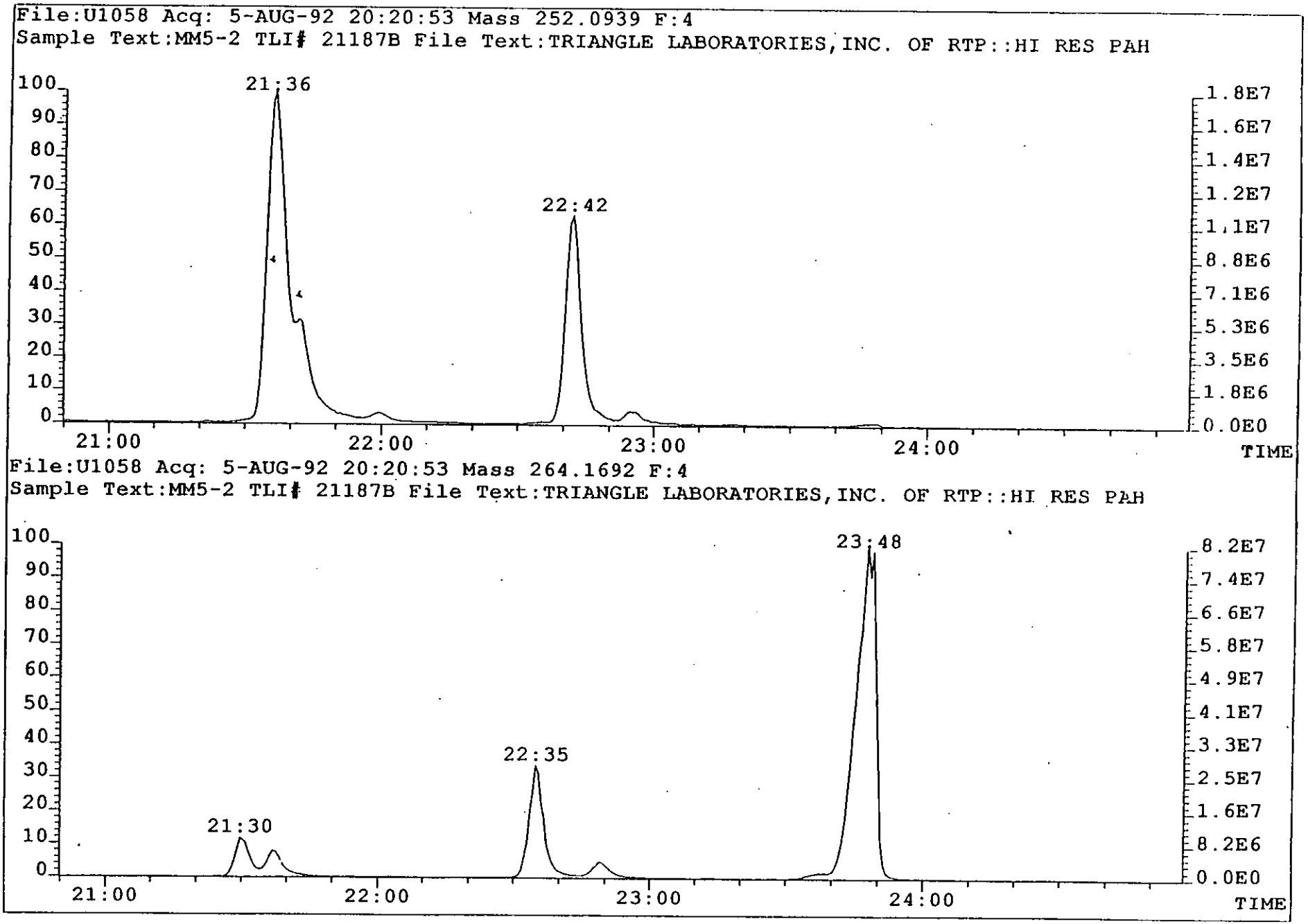

File:U1058 Acq: 5-AUG-92 20:20:53 Mass 162.0236
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
6:49
6:46
6:52
6:57
2.1E6
1.0E6
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 164.0207
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
6:49
6:46
6:53
5.6E5
2.8E5
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 169.0676
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
6:44
6:56
3.3E6
1.6E6
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 171.0648
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
6:44
7.8E5
3.9E5
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME

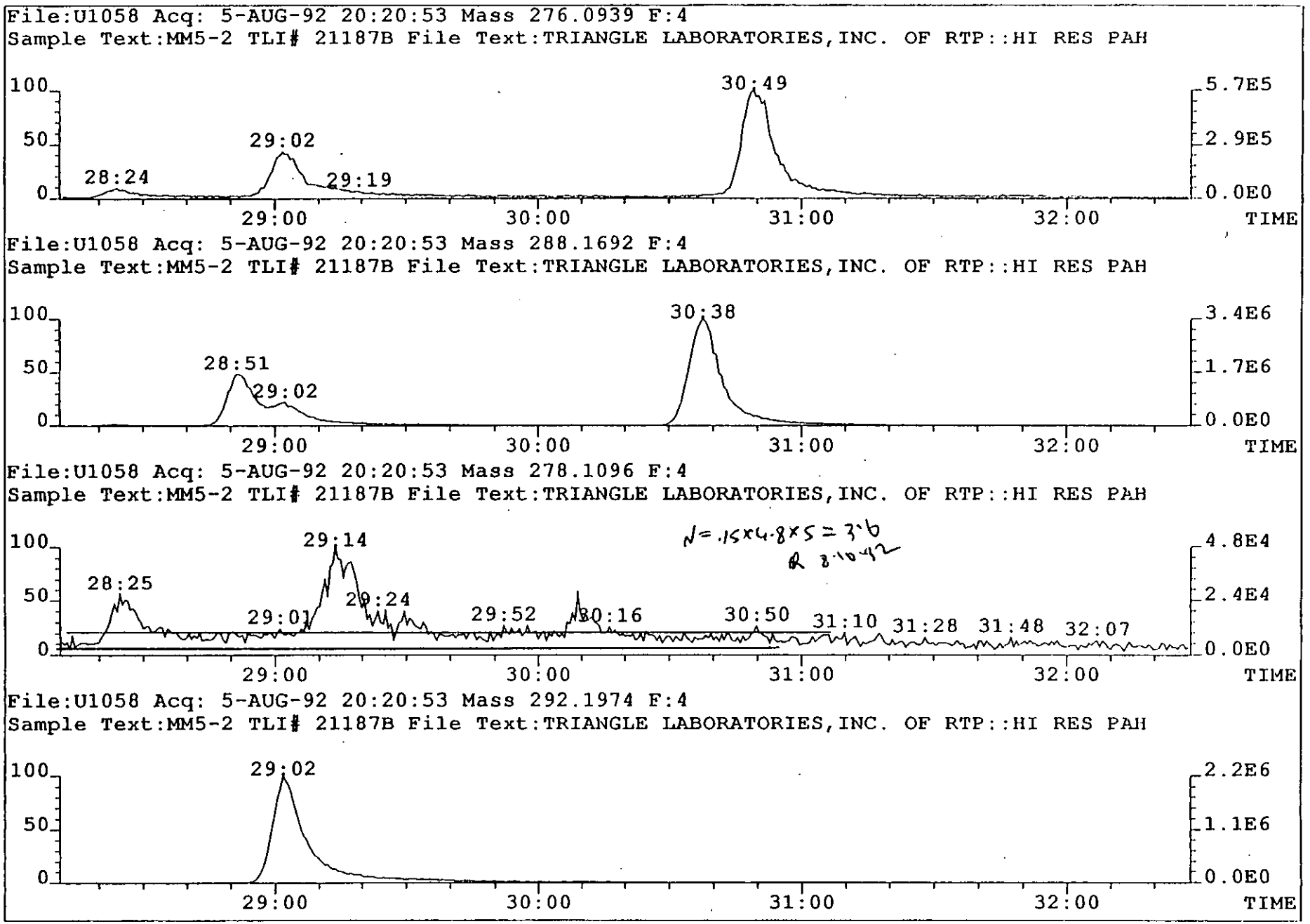

File:U1058 Acq: 5-AUG-92 20:20:53 Mass 152.0626 F:2
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
7:17
7:29
7:38
7:55
8:01
8:11
8:17
8:24
8:45
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
5.4E8
2.7E8
0.0E0
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 160.1128 F:2
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
7:17
7:23
7:37
7:47
7:56
8:06
8:12
8:18
8:23
8:41
8:49
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
7.4E6
3.7E6
0.0E0
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 154.0782 F:2
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
7:14
7:21
7:29
7:38
8:01
8:06
8:11
8:17
8:24
8:35
8:45
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
1.6E8
8.0E7
0.0E0
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 164.1410 F:2
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
7:56
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
9.6E6
4.8E6
0.0E0
TIME

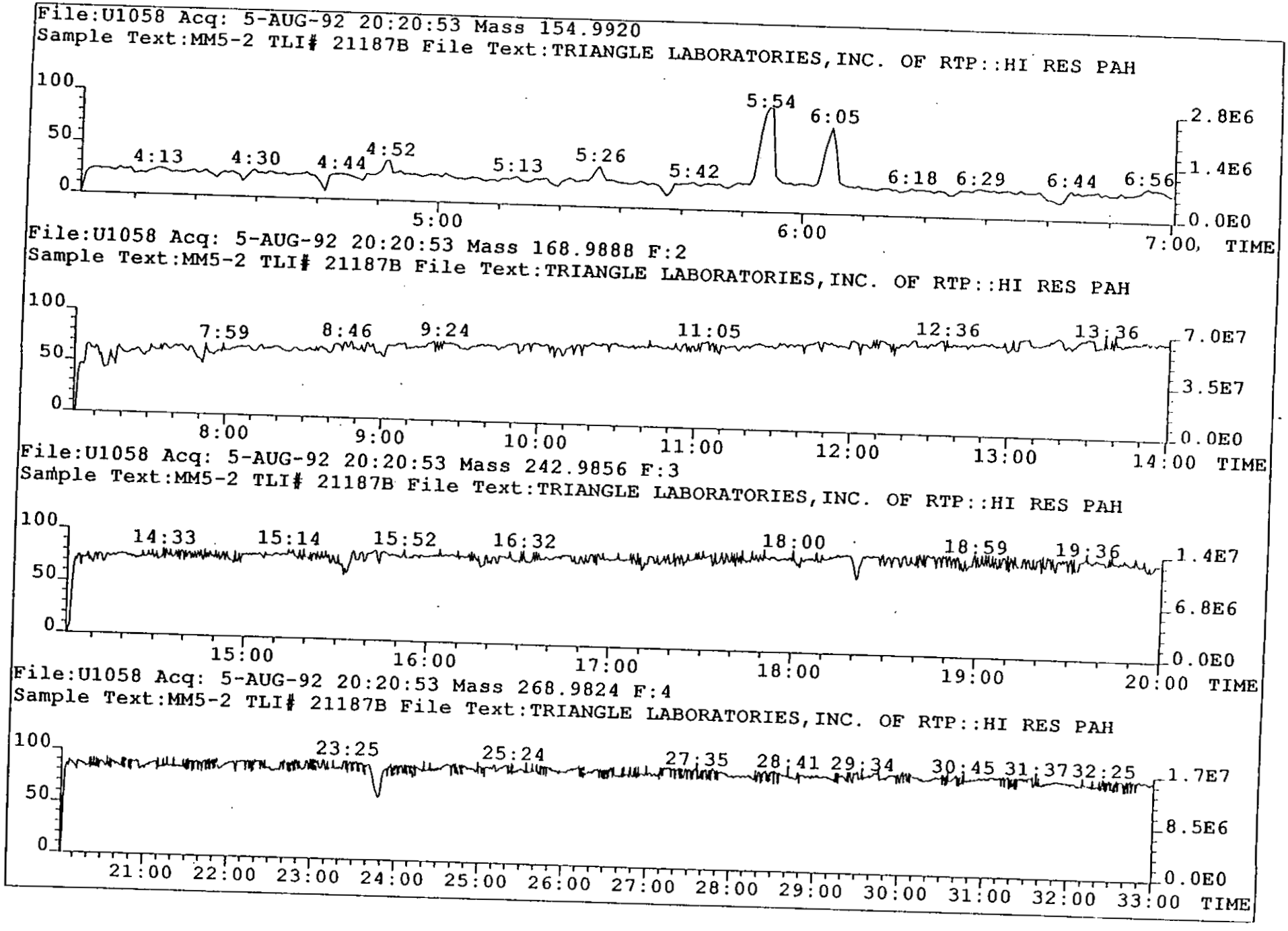

File:U1058 Acq: 5-AUG-92 20:20:53 Mass 166.0782 F:2
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
9:12
8:56
9:21
9:35
10:00
10:14
10:29
10:57
1.2E8
6.1E7
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 176.1410 F:2
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
11:31
8:55
9:24
9:40
10:14
10:30
11:12
11:38
12:09
5.7E5
2.9E5
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 178.0782 F:2
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
11:31
1.8E9
8.8E8
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 188.1410 F:2
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
11:36
2.0E7
9.8E6
0.0E0
9:00
10:00
11:00
12:00
TIME


File:U1058 Acq: 5-AUG-92 20:20:53 Mass 202.0782 F:3
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
14:32
15:06
14:28
15:03
15:54
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 212.1410 F:3
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
15:34
15:03
15:30
TIME


File:U1058 Acq: 5-AUG-92 20:20:53 Mass 244.1974 F:3
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
15:30
100
80
60
40
20
0
1.8E9
1.4E9
1.1E9
7.0E8
3.5E8
0.0E0
15:00
16:00
17:00
18:00
19:00
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 228.0939 F:3
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
18:17
17:39
9.7E7
7.8E7
5.8E7
3.9E7
1.9E7
0.0E0
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 240.1692 F:3
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
15:34
6.5E8
5.2E8
3.9E8
2.6E8
1.3E8
0.0E0


File:U1058 Acq: 5-AUG-92 20:20:53 Mass 252.0939 F:4
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
21:36
22:42
100
90
80
70
60
50
40
30
20
10
0
1.8E7
1.6E7
1.4E7
1.2E7
1.1E7
8.8E6
7.1E6
5.3E6
3.5E6
1.8E6
0.0E0
21:00
22:00
23:00
24:00
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 264.1692 F:4
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
23:48
22:35
21:30
100
90
80
70
60
50
40
30
20
10
0
8.2E7
7.4E7
6.6E7
5.8E7
4.9E7
4.1E7
3.3E7
2.5E7
1.6E7
8.2E6
0.0E0
21:00
22:00
23:00
24:00
TIME


File:U1058 Acq: 5-AUG-92 20:20:53 Mass 276.0939 F:4
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
28:24
29:02
29:19
30:49
5.7E5
2.9E5
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 288.1692 F:4
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
28:51
29:02
30:38
3.4E6
1.7E6
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 278.1096 F:4
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
N = .15x4.8x5 = 3.6
R 8.10.92
100
50
0
28:25
29:01
29:14
29:24
29:52
30:16
30:50
31:10
31:28
31:48
32:07
4.8E4
2.4E4
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 292.1974 F:4
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
29:02
2.2E6
1.1E6
0.0E0
29:00
30:00
31:00
32:00
TIME


File:U1058 Acq: 5-AUG-92 20:20:53 Mass 154.9920
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
4:13
4:30
4:44
4:52
5:13
5:26
5:42
5:54
6:05
6:18
6:29
6:44
6:56
2.8E6
1.4E6
0.0E0
5:00
6:00
7:00
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 168.9888 F:2
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
7:59
8:46
9:24
11:05
12:36
13:36
7.0E7
3.5E7
0.0E0
8:00
9:00
10:00
11:00
12:00
13:00
14:00
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 242.9856 F:3
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
14:33
15:14
15:52
16:32
18:00
18:59
19:36
1.4E7
6.8E6
0.0E0
15:00
16:00
17:00
18:00
19:00
20:00
TIME
File:U1058 Acq: 5-AUG-92 20:20:53 Mass 268.9824 F:4
Sample Text:MM5-2 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP::HI RES PAH
100
50
0
23:25
25:24
27:35
28:41
29:34
30:45
31:37
32:25
1.7E7
8.5E6
0.0E0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
28:00
29:00
30:00
31:00
32:00
33:00
TIME

High Resolution GC/MS Chromatograms
for
Sample No. MM5-3

Sample ID: MM5-3

TLI Sample ID: *

N=04 (278)

	Initial	Date
B-File/Header Changes	RR	7-31-92
Manual Integrations		
Transcription		
Obase Corrections		

Page No. 1
07/29/92

Listing of U096209B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128	DC	0.00	0:00	580.90	T	F	0.000	NL
	DC	0.00	4:33	4561.73	T	F	0.652	SN
		0.00	4:49	363996.10	T	F	0.690	
	DC	0.00	5:04	2762.00	T	F	0.726	SN
	DC	0.00	5:11	5092.92	T	F	0.742	SN
		0.00	5:22	6011.64	T	F	0.768	
		0.00	5:35	39019.58	T	F	0.800	
	DC	0.00	5:44	2167.48	T	F	0.821	SN
		0.00	5:51	27206.41	T	F	0.838	
	DC	0.00	6:05	2327.81	T	F	0.871	SN
		0.00	6:14	35160.00	T	F	0.893	
		0.00	6:25	29550.31	T	F	0.919	
		0.00	6:38	19699.64	T	F	0.950	
		0.00	6:44	15267.91	T	F	0.964	
	DC	0.00	6:59	1613.23	T	F	1.000	WH
128		*** Total ***		555017.66	# of Peaks:		15	
136	DC	0.00	0:00	7.16	T	F	0.000	NL
	DC	0.00	6:59	19.40	T	T	1.000	SN
136		*** Total ***		26.56	# of Peaks:		2	
142	DC	0.00	0:00	32.01	T	F	0.000	NL
		0.00	5:58	1265547.00	T	F	0.694	
		0.00	6:13	746256.80	T	F	0.723	
142		*** Total ***		2011835.81	# of Peaks:		3	
152	DC	0.00	0:00	7.98	T	F	0.000	NL
	DC	0.00	0:00	1468.92	T	F	0.000	NL
	DC	0.00	5:58	76.88	T	F	0.797	SN
		0.00	6:11	160.79	T	F	0.826	
		0.00	7:07	23342.54	T	F	0.951	
		0.00	7:17	64404.10	T	F	0.973	
		0.00	7:27	76752.14	T	F	0.996	
		0.00	7:30	19879.32	T	T	1.002	
		0.00	7:40	33874.32	T	F	1.024	
		0.00	7:50	30323.07	T	F	1.047	
		0.00	7:55	137.89	T	F	1.058	
		0.00	8:06	10803.24	T	F	1.082	
		0.00	8:13	16694.04	T	F	1.098	
		0.00	8:17	4674.25	T	F	1.107	
		0.00	8:24	35372.31	T	F	1.122	
		0.00	8:28	9198.79	T	F	1.131	

Listing of U096209B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
152		0.00	8:41	21860.60	T	F	1.160	
		0.00	8:46	1205.83	T	F	1.171	
		0.00	8:51	14921.94	T	F	1.183	
		0.00	8:55	15105.14	T	F	1.192	
		0.00	9:03	15047.88	T	F	1.209	
152		*** Total ***		419558.54	# of Peaks:		22	
154	DC	0.00	0:00	409.65	T	F	0.000	NL
		0.00	7:07	8213.39	T	F	0.951	
		0.00	7:16	24954.73	T	F	0.971	
		0.00	7:27	25296.25	T	F	0.996	
		0.00	7:30	6503.92	T	F	1.002	
		0.00	7:40	11165.30	T	F	1.024	
		0.00	7:50	8269.70	T	F	1.047	
	DC	0.00	7:55	143.99	T	T	1.058	SN
		0.00	8:12	9129.37	T	F	1.096	
		0.00	8:23	23769.32	T	F	1.120	
		0.00	8:28	5770.12	T	F	1.131	
		0.00	8:36	12660.52	T	F	1.149	
		0.00	8:41	11056.70	T	F	1.160	
		0.00	8:51	7396.55	T	F	1.183	
		0.00	8:55	7188.25	T	F	1.192	
		0.00	9:03	10969.10	T	F	1.209	
154		*** Total ***		172896.86	# of Peaks:		16	
160	DC	0.00	0:00	90.03	T	F	0.000	NL
	DC	0.00	7:29	129.56	T	T	1.000	SN
	DC	0.00	8:07	622.85	T	F	1.085	SN
		0.00	8:30	1042.94	T	F	1.136	
	DC	0.00	8:34	139.58	T	F	1.145	SN
	DC	0.00	8:48	232.65	T	F	1.176	SN
160		*** Total ***		2257.61	# of Peaks:		6	
162	DC	16.00	0:00	0.34	F	F	0.000	NL
		1.60	6:03	145.49	F	F	0.879	
		1.64	6:13	78.29	F	F	0.903	
162		*** Total ***		224.12	# of Peaks:		3	
164	DC	0.00	0:00	0.02	T	F	0.000	NL
	DC	0.00	0:00	5.71	T	F	0.000	NL
		0.00	6:03	56.02	T	F	0.677	
		0.00	6:13	29.63	T	F	0.695	
		0.00	8:07	1526.46	T	F	0.908	
		0.00	8:14	42.98	T	F	0.921	
164		*** Total ***		1660.82	# of Peaks:		6	
166	DC	0.00	0:00	0.92	T	F	0.000	NL
	DC	0.00	8:06	5093.47	T	F	0.693	WL
	DC	0.00	8:13	2984.48	T	F	0.703	WL
	DC	0.00	8:18	3596.50	T	F	0.710	WL
	DC	0.00	8:26	2087.63	T	F	0.722	WL
	DC	0.00	8:35	1426.10	T	F	0.735	WL
	DC	0.00	8:41	966.60	T	F	0.743	WL

Listing of U0962098.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
166	DC	0.00	8:54	472.83	T	F	0.762	WL
	DC	0.00	9:05	1470.98	T	F	0.777	WL
	DC	0.00	9:16	4529.24	T	F	0.793	WL
	DC	0.00	9:21	8943.58	T	T	0.800	WL
		0.00	9:31	2176.75	T	F	0.815	
		0.00	9:40	981.23	T	F	0.827	
		0.00	10:08	865.15	T	F	0.867	
		0.00	10:14	378.20	T	F	0.876	
		0.00	10:22	793.84	T	F	0.887	
		0.00	10:30	432.40	T	F	0.899	
		0.00	10:36	1660.50	T	F	0.907	
		0.00	10:42	206.63	T	F	0.916	
		0.00	10:52	174.21	T	F	0.930	
		0.00	11:04	1139.23	T	F	0.947	
		0.00	11:14	526.06	T	F	0.961	
		0.00	11:40	220.90	T	F	0.999	
		0.00	11:51	282.81	T	F	1.014	
		0.00	12:02	63.74	T	F	1.030	
166		*** Total ***		41473.98	# of Peaks:		25	
169	DC	2.86	0:00	0.01	T	F	0.000	NL
		1.46	6:03	56.09	F	F	0.879	
		1.61	6:13	27.68	F	F	0.903	
		4.32	6:53	325.57	F	T	1.000	
169		*** Total ***		409.35	# of Peaks:		4	
176	DC	0.00	0:00	4.34	T	F	0.000	NL
	DC	0.00	8:06	26.08	T	F	0.815	SN
176		*** Total ***		30.42	# of Peaks:		2	
178	DC	0.00	0:00	0.39	T	F	0.000	NL
		0.00	8:18	1188.55	T	F	0.710	
		0.00	9:05	844.44	T	F	0.777	
		0.00	9:15	3281.14	T	F	0.792	
		0.00	9:25	1320.85	T	F	0.806	
		0.00	10:22	740.86	T	F	0.887	
		0.00	10:36	1470.06	T	F	0.907	
		0.00	10:42	937.91	T	F	0.916	
		0.00	11:37	76659.94	T	~~F~~T	0.994	
		0.00	11:45	1768.86	T	T	1.006	
		0.00	11:51	1110.15	T	~~T~~F	1.014	
178		*** Total ***		89323.15	# of Peaks:		11	
188	DC	0.00	0:00	22.25	T	F	0.000	NL
		0.00	11:34	472.82	T	~~F~~T	0.958	
		0.00	11:41	830.60	T	T	1.000	
188		*** Total ***		1325.67	# of Peaks:		3	
202	DC	0.00	0:00	12.71	T	F	0.000	NL
		0.00	14:13	318.02	T	F	0.910	
		0.00	14:36	6540.79	T	~~F~~T	0.935	
		0.00	15:10	6964.76	T	~~F~~T	0.971	
		0.00	15:57	616.35	T	F	1.021	

Listing of U096209B.dbf

Matched GC Peaks / Ratio / Ret. Time

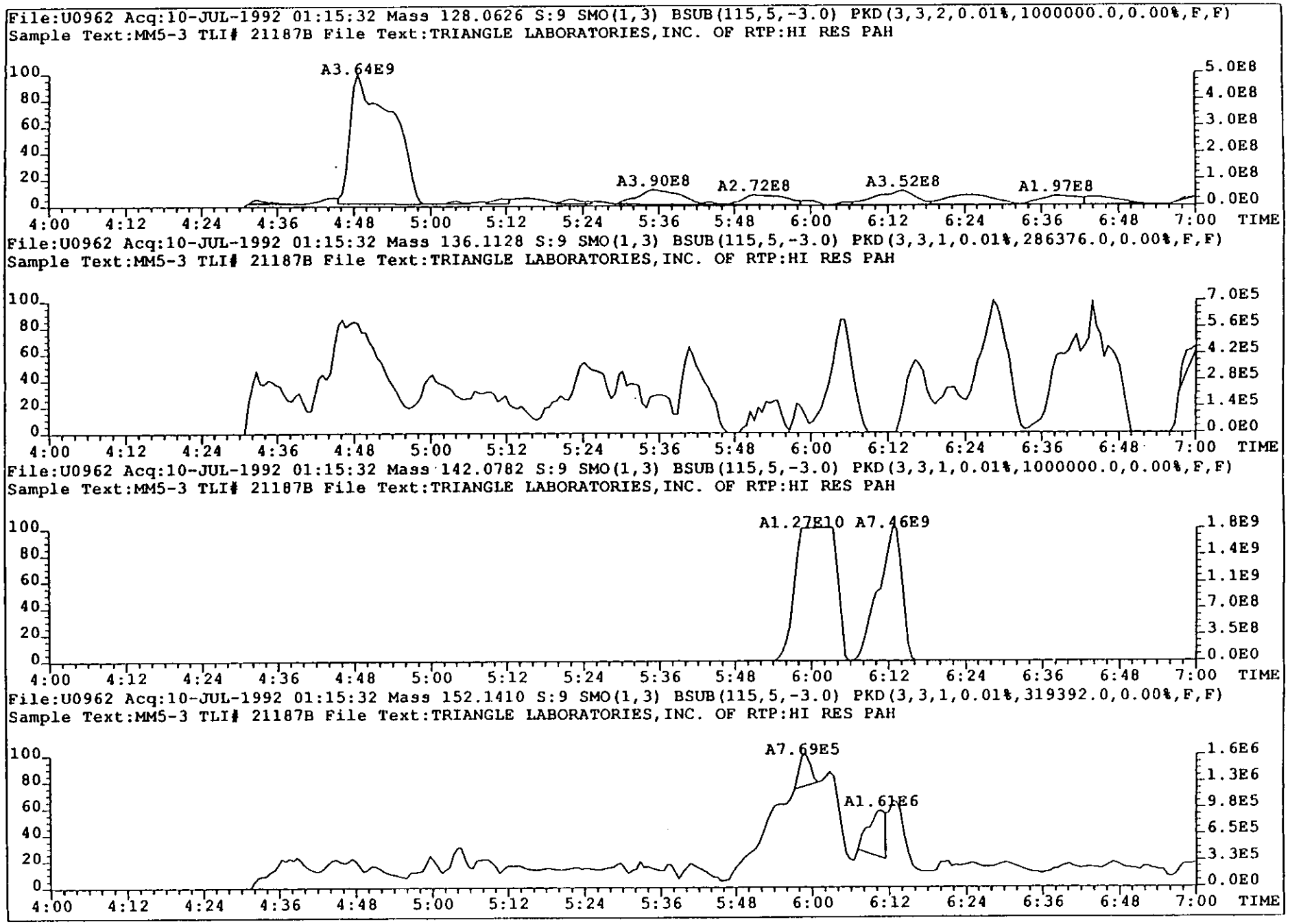
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
202		*** Total ***		14452.63	# of Peaks:		5	
212	DC	0.00	0:00	1.44	T	F	0.000	NL
		0.00	14:33 *	346.77	T	~~F~~T	0.965	
		0.00	15:08 *	3877.76	T	~~F~~T	1.004	
		0.00	15:37	9587.84	T	~~F~~F	1.000	
212		*** Total ***		13813.81	# of Peaks:		4	
228	DC	0.00	0:00	0.35	T	F	0.000	NL
		0.00	14:32	20.96	T	F	0.932	
		0.00	15:16	38.04	T	F	0.979	
		0.00	15:37	15.74	T	~~F~~F	1.001	
		0.00	17:43	150.79	T	F	1.136	
		0.00	18:16 *	562.30	T	~~F~~T	1.171	
		0.00	18:21 *	1282.58	T	~~F~~T	1.176	— PR
228		*** Total ***		2070.76	# of Peaks:		7	
240	DC	0.00	0:00	1.51	T	F	0.000	NL
		0.00	15:36	21361.85	T	~~F~~F	1.000	
		0.00	18:12 *	216.54	T	~~F~~T	1.167	
		0.00	18:17 *	298.10	T	~~F~~T	1.172	
240		*** Total ***		21878.00	# of Peaks:		4	
244	DC	0.00	0:00	0.19	T	F	0.000	NL
		0.00	15:36 *	291533.00	T	~~F~~T	1.007	
244		*** Total ***		291533.19	# of Peaks:		2	
	252		21:42(7)	8604	T	T	1.000	PR
252	DC	0.00	0:00	0.13	T	F	0.000	NL
		0.00	21:43(6)	275.61	T	~~F~~T	0.956	
	CL & ND	0.00	22:50(6)	140.83	T	T	1.005	
		0.00	23:53	16.82	T	F	1.051	
252		*** Total ***		433.39	# of Peaks:		4	
	252 -		23:04 (4)	5.41	T	T	1.000	
264	DC	0.00	0:00	0.09	T	F	0.000	NL
		0.00	21:36 *	180.54	T	T	1.000	
		0.00	21:44 *	199.66	T	~~F~~T	0.957	
	CL(6)	0.00	22:43 *	4469.99	T	T	1.000	
		0.00	22:57 *	140.59	T	~~F~~T	1.010	
		0.00	~~23:53~~ 18(6)	~~2716.51~~ 103.9	T	~~F~~T	~~1.051~~ 1.000	- PR
264		*** Total ***		7707.38	# of Peaks:		6	
276	DC	0.00	0:00	0.06	T	F	0.000	NL
		0.00	29:16 *	4.67	T	~~F~~T	1.037	
		0.00	31:05 *	58.98	T	~~F~~T	1.102	
276		*** Total ***		63.71	# of Peaks:		3	
278	DC	0.00	0:00	0.06	T	F	0.000	NL
278		*** Total ***		0.06	# of Peaks:		1	
288	DC	0.00	0:00	0.06	T	F	0.000	NL
		0.00	27:32	2.23	T	F	0.976	
		0.00	28:13	99.42	T	T	1.000	
		0.00	28:37	7.36	T	F	1.014	

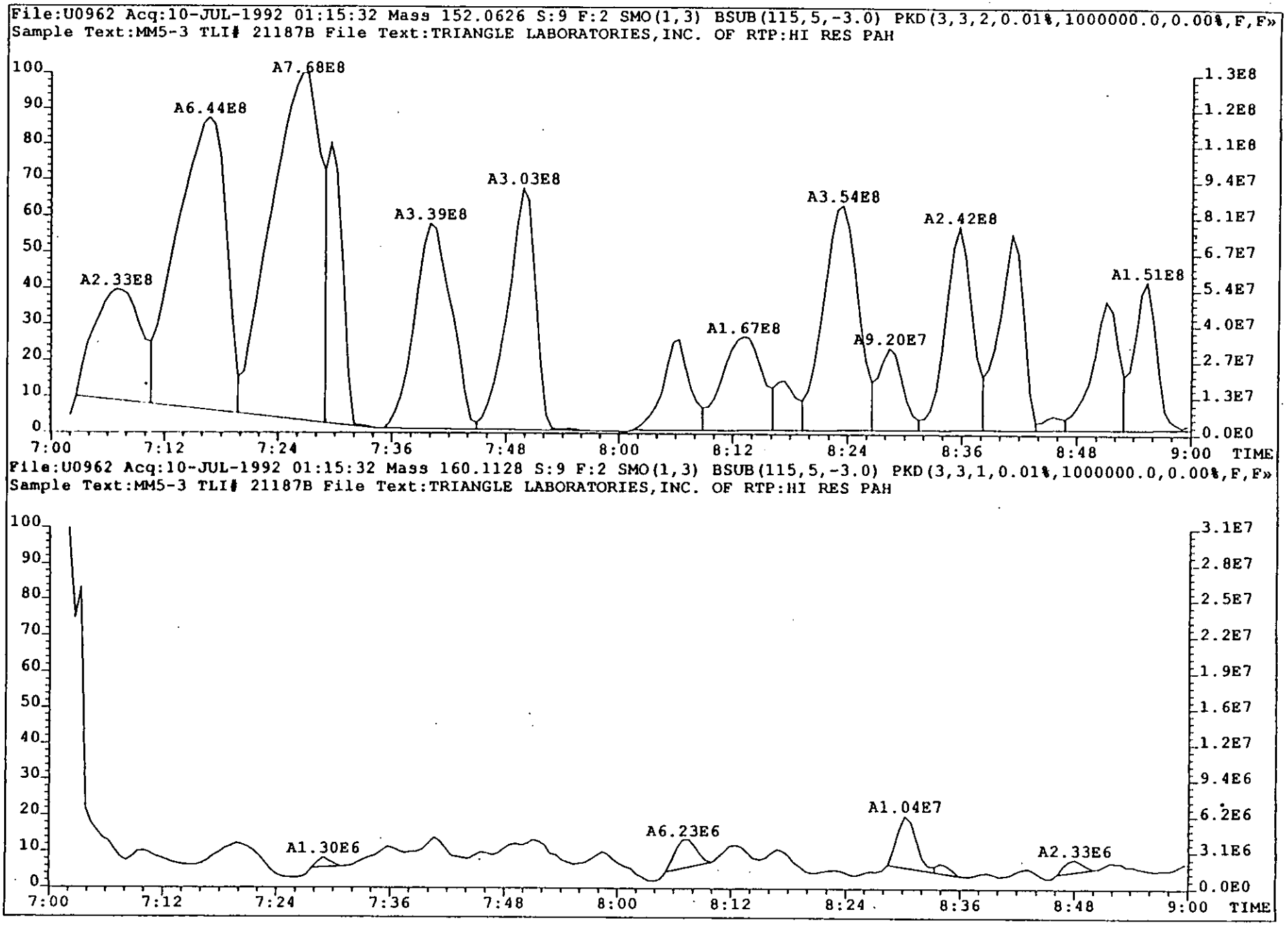
Listing of U096209B.dbf

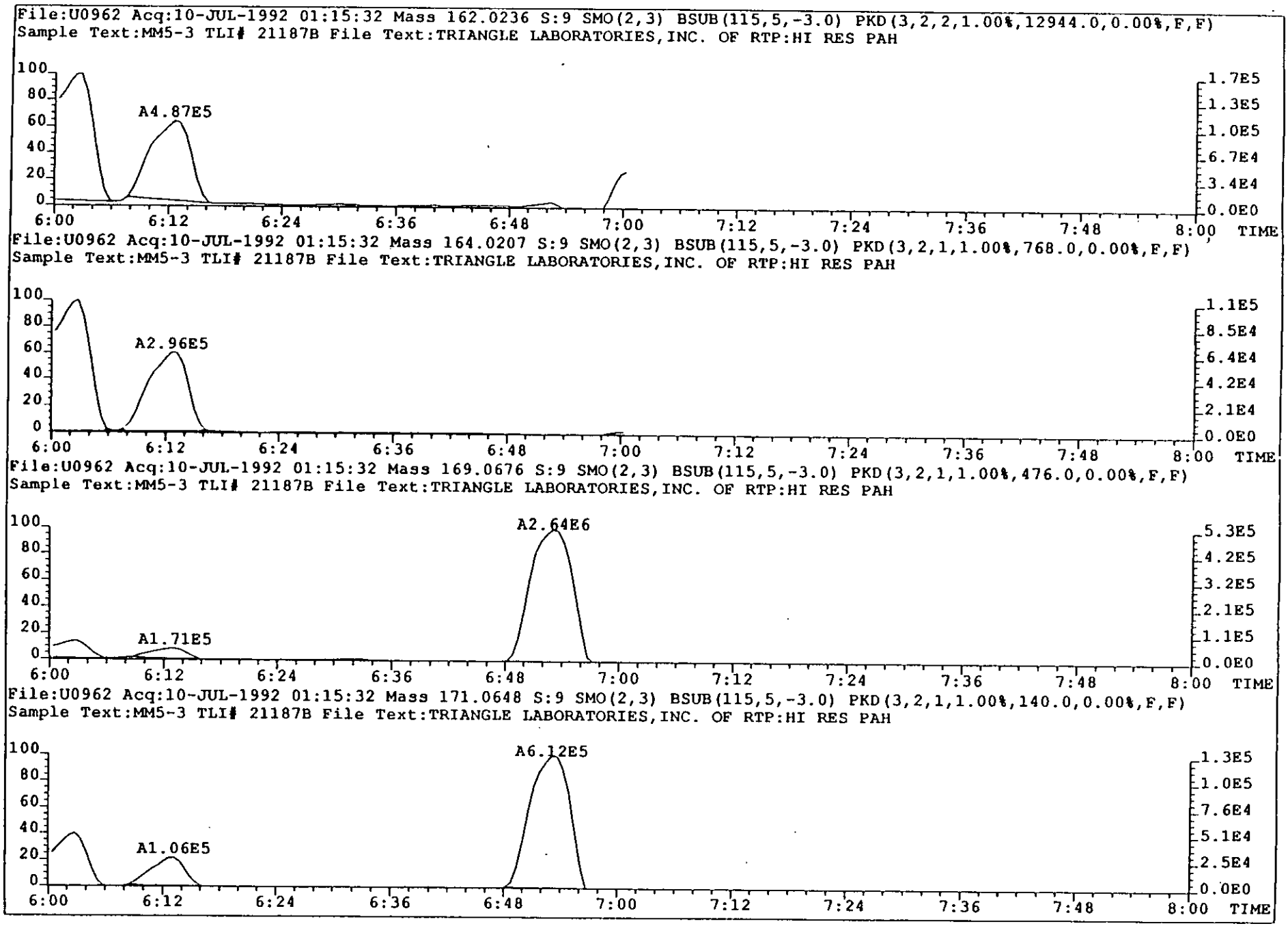
Matched GC Peaks / Ratio / Ret. Time

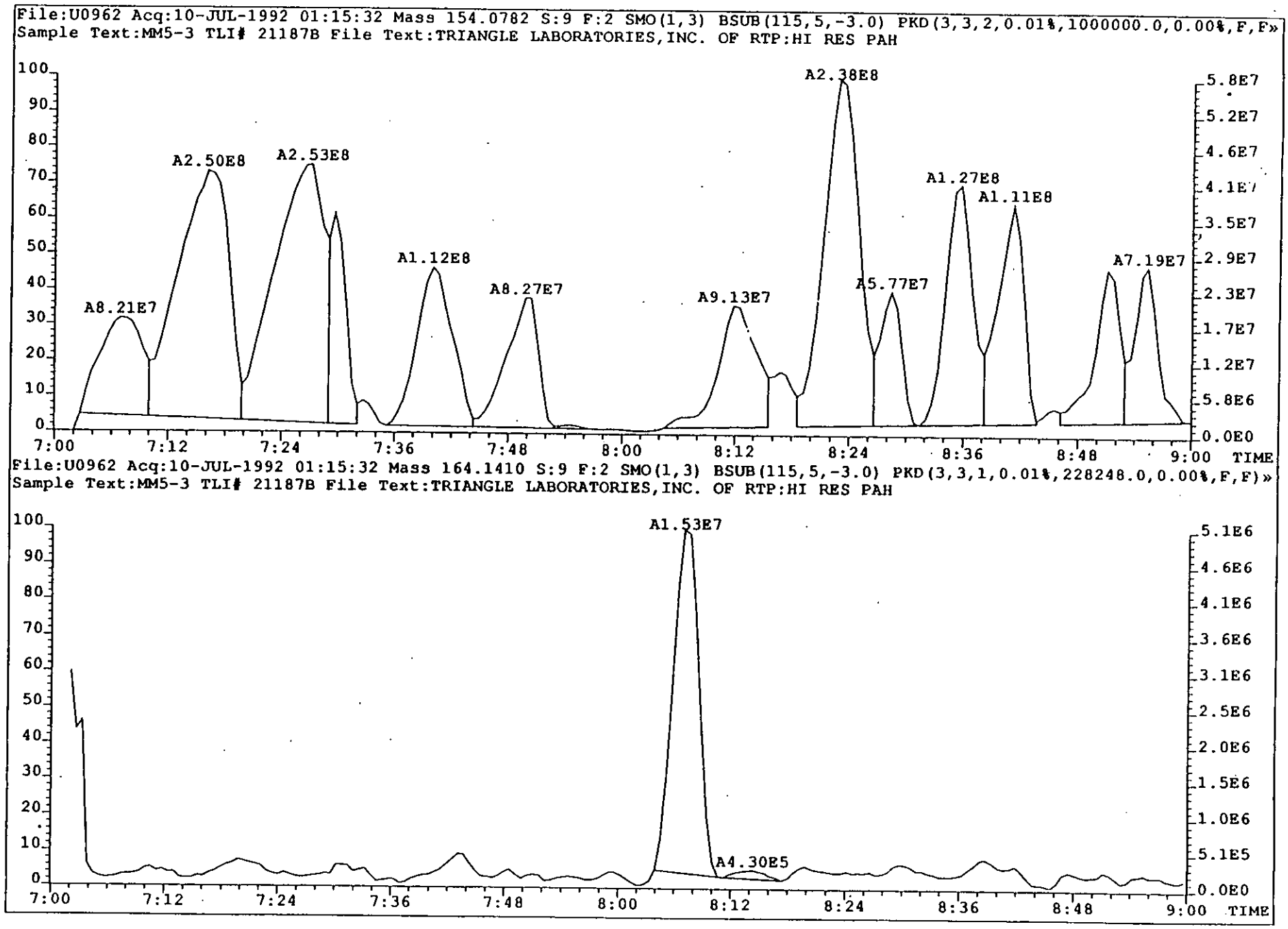
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
288		0.00	29:05*	44.99	T	FT	~~1.031~~ 1.000 - I	
		0.00	29:16	19.85	T	F	1.037	
		0.00	30:52*	119.63	T	FT	1.094	
288		*** Total ***		293.54	# of Peaks:		7	
292	DC	0.00	0:00	0.04	T	F	0.000	NL
		0.00	28:12	606.57	T	TF	1.000	
		0.00	29:15*	39.05	T	FT	1.037	
292		*** Total ***		645.66	# of Peaks:		3	

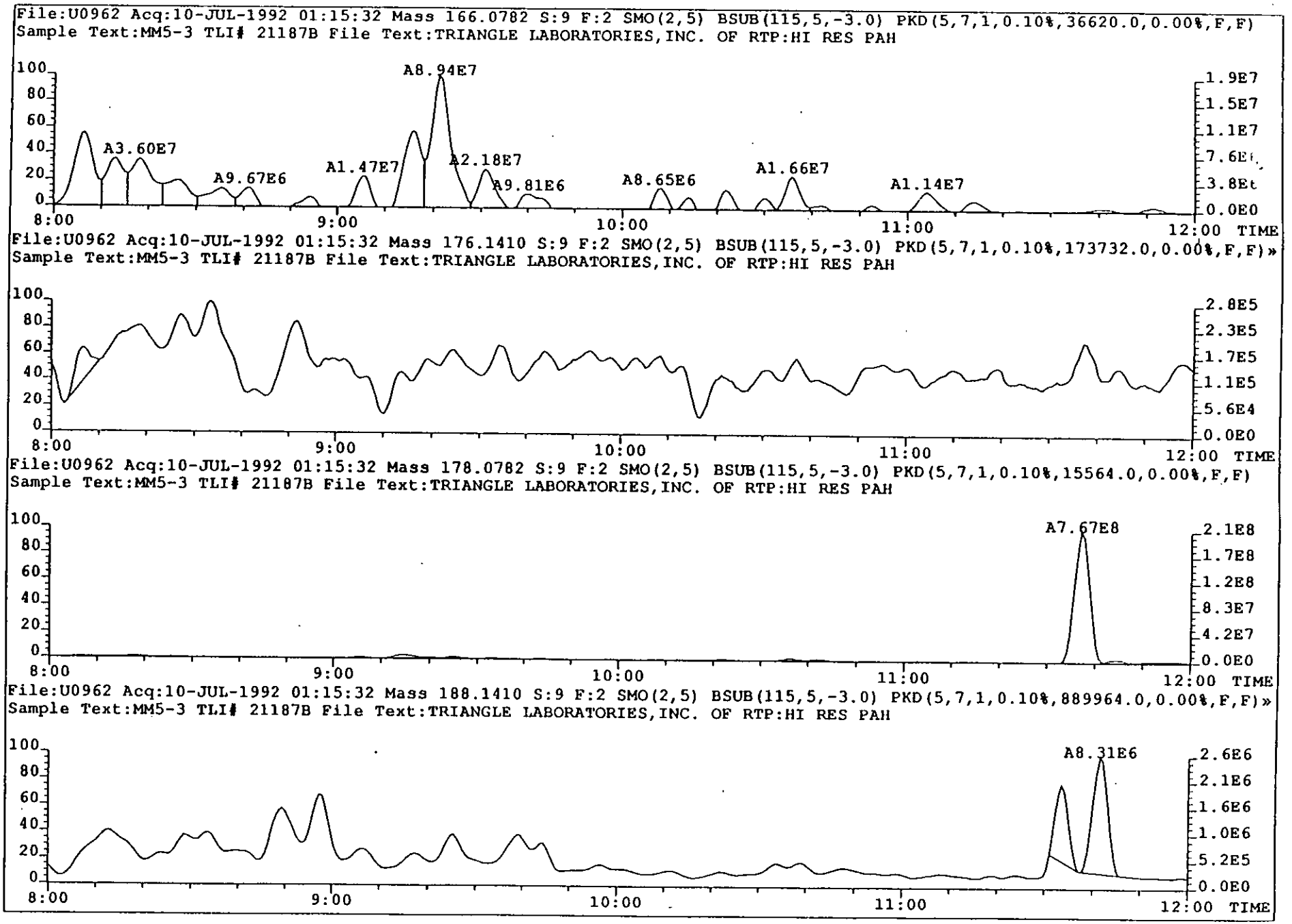
*** End of Report ***

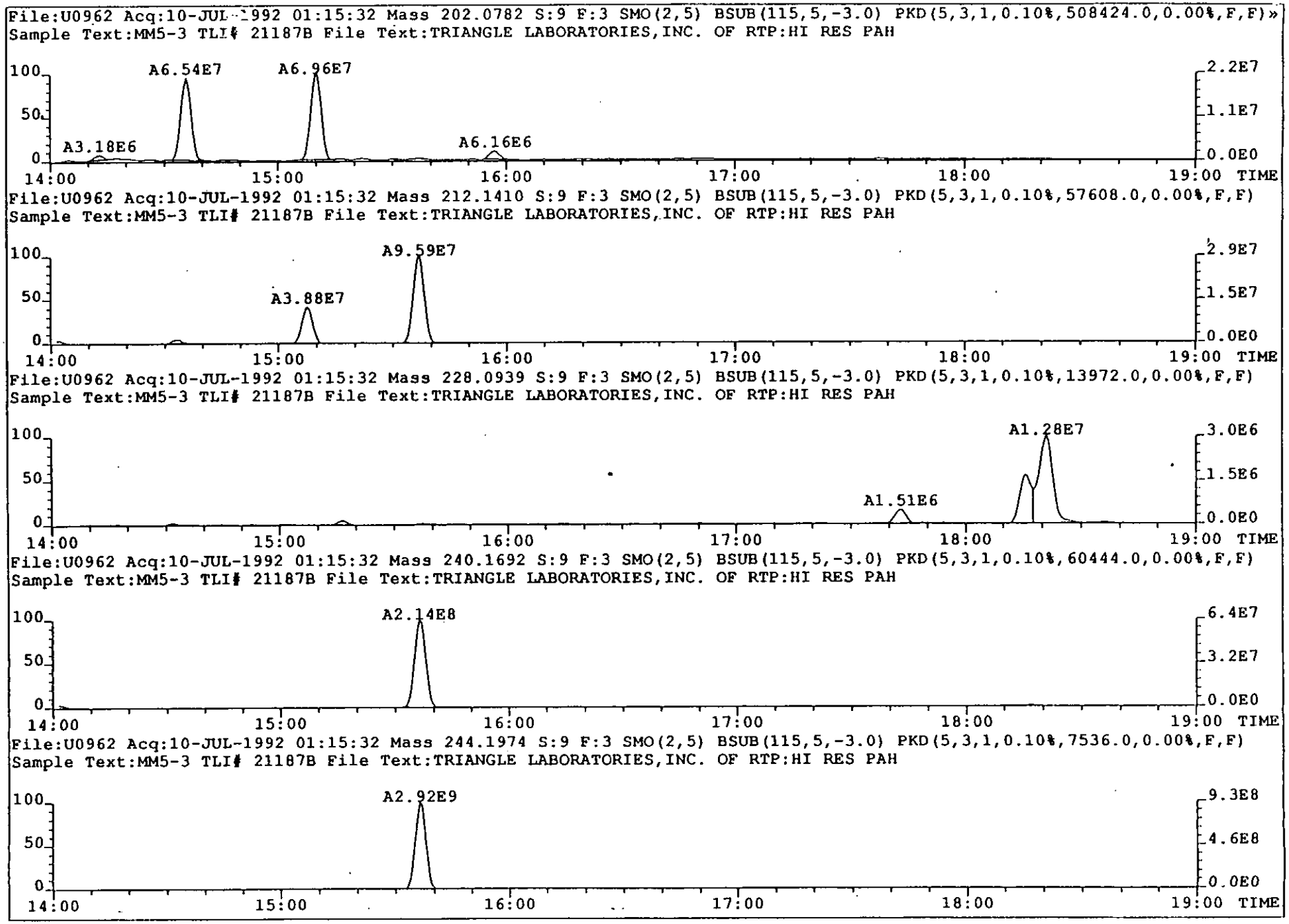

File:U0962 Acq:10-JUL-1992 01:15:32 Mass 128.0626 S:9 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,1000000.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.64E9
A3.90E8
A2.72E8
A3.52E8
A1.97E8
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 136.1128 S:9 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,286376.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 142.0782 S:9 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,1000000.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.27E10
A7.46E9
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 152.1410 S:9 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,319392.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.69E5
A1.61E6
TIME

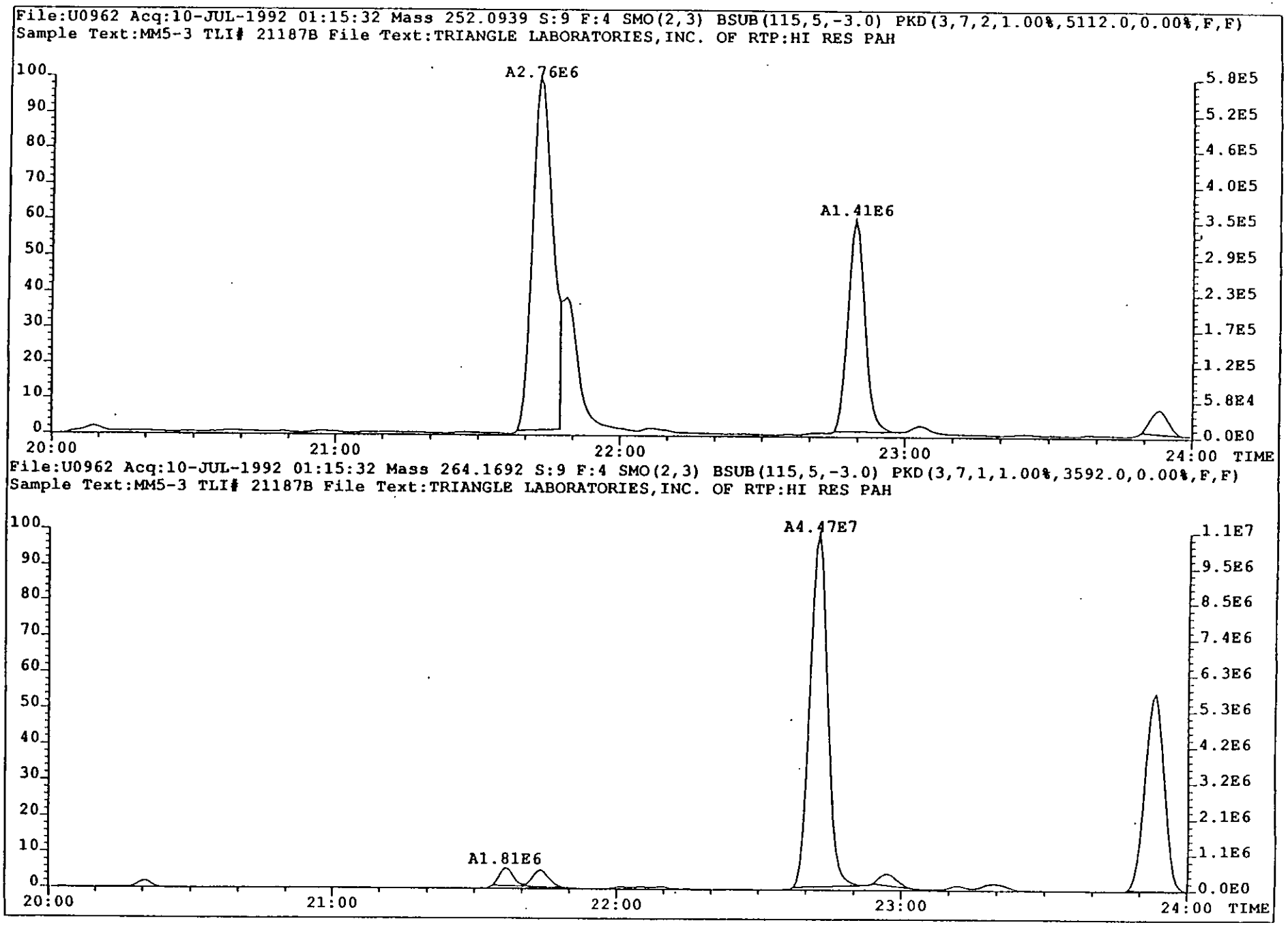

File:U0962 Acq:10-JUL-1992 01:15:32 Mass 152.0626 S:9 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,1000000.0,0.00%,F,F»
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.33E8
A6.44E8
A7.68E8
A3.39E8
A3.03E8
A1.67E8
A3.54E8
A9.20E7
A2.42E8
A1.51E8
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 160.1128 S:9 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,1000000.0,0.00%,F,F»
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.30E6
A6.23E6
A1.04E7
A2.33E6
TIME

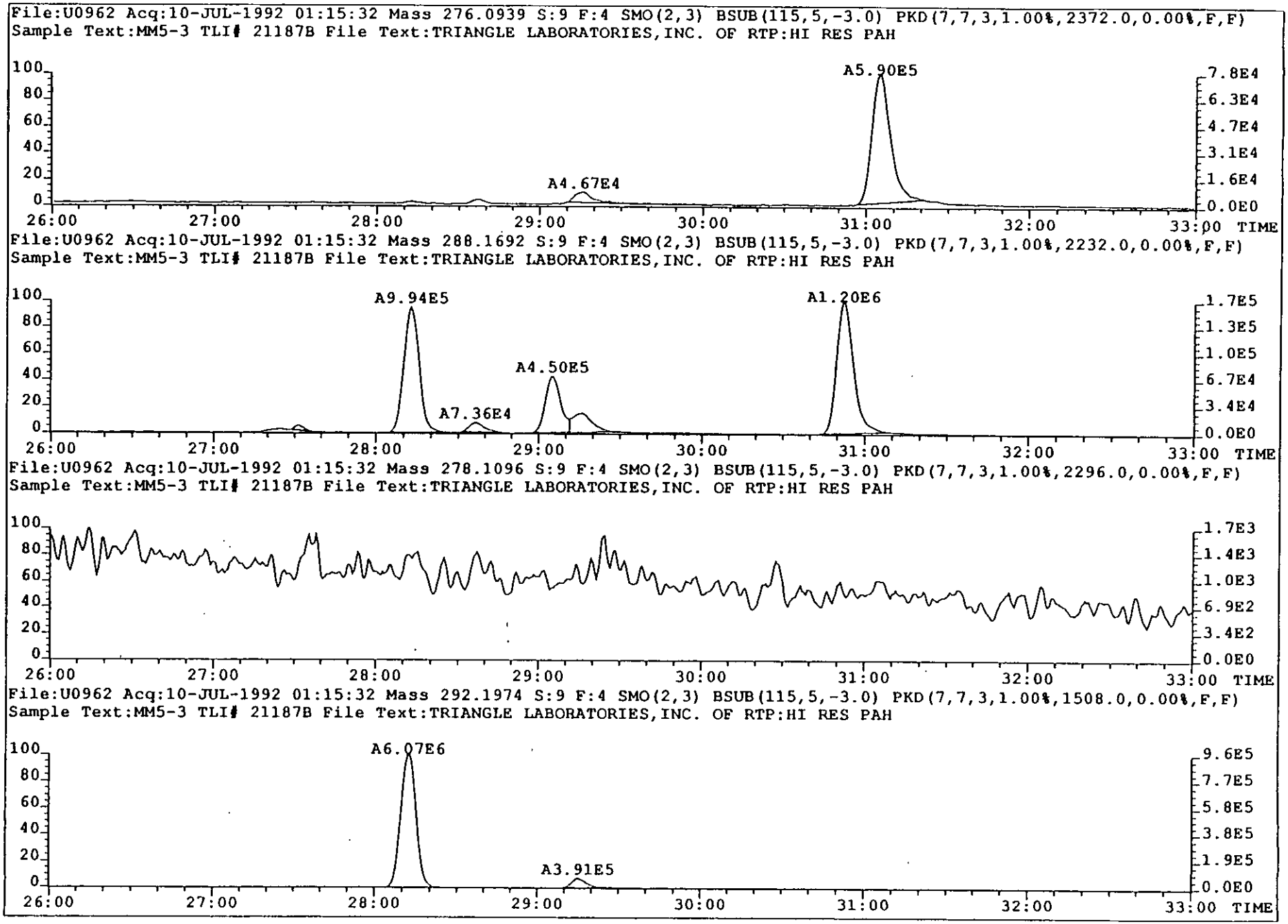

File:U0962 Acq:10-JUL-1992 01:15:32 Mass 162.0236 S:9 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,2,1.00%,12944.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A4.87E5
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 164.0207 S:9 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,768.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.96E5
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 169.0676 S:9 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,476.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.64E6
A1.71E5
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 171.0648 S:9 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,140.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.12E5
A1.06E5
6:00
6:12
6:24
6:36
6:48
7:00
7:12
7:24
7:36
7:48
8:00
TIME

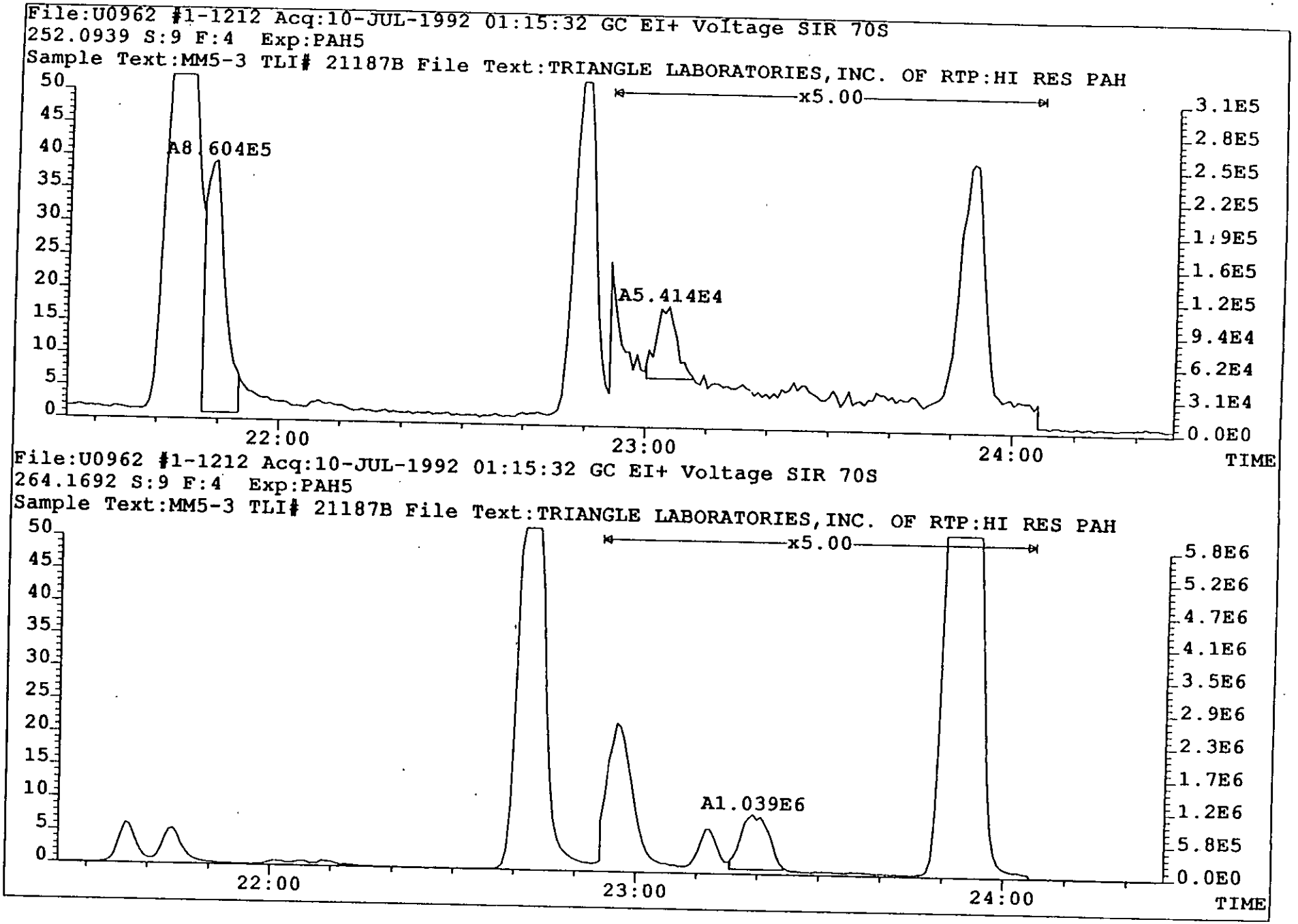

File:U0962 Acq:10-JUL-1992 01:15:32 Mass 154.0782 S:9 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,1000000.0,0.00%,F,F)»
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A8.21E7
A2.50E8
A2.53E8
A1.12E8
A8.27E7
A9.13E7
A2.38E8
A5.77E7
A1.27E8
A1.11E8
A7.19E7
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 164.1410 S:9 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,228248.0,0.00%,F,F)»
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.53E7
A4.30E5
TIME

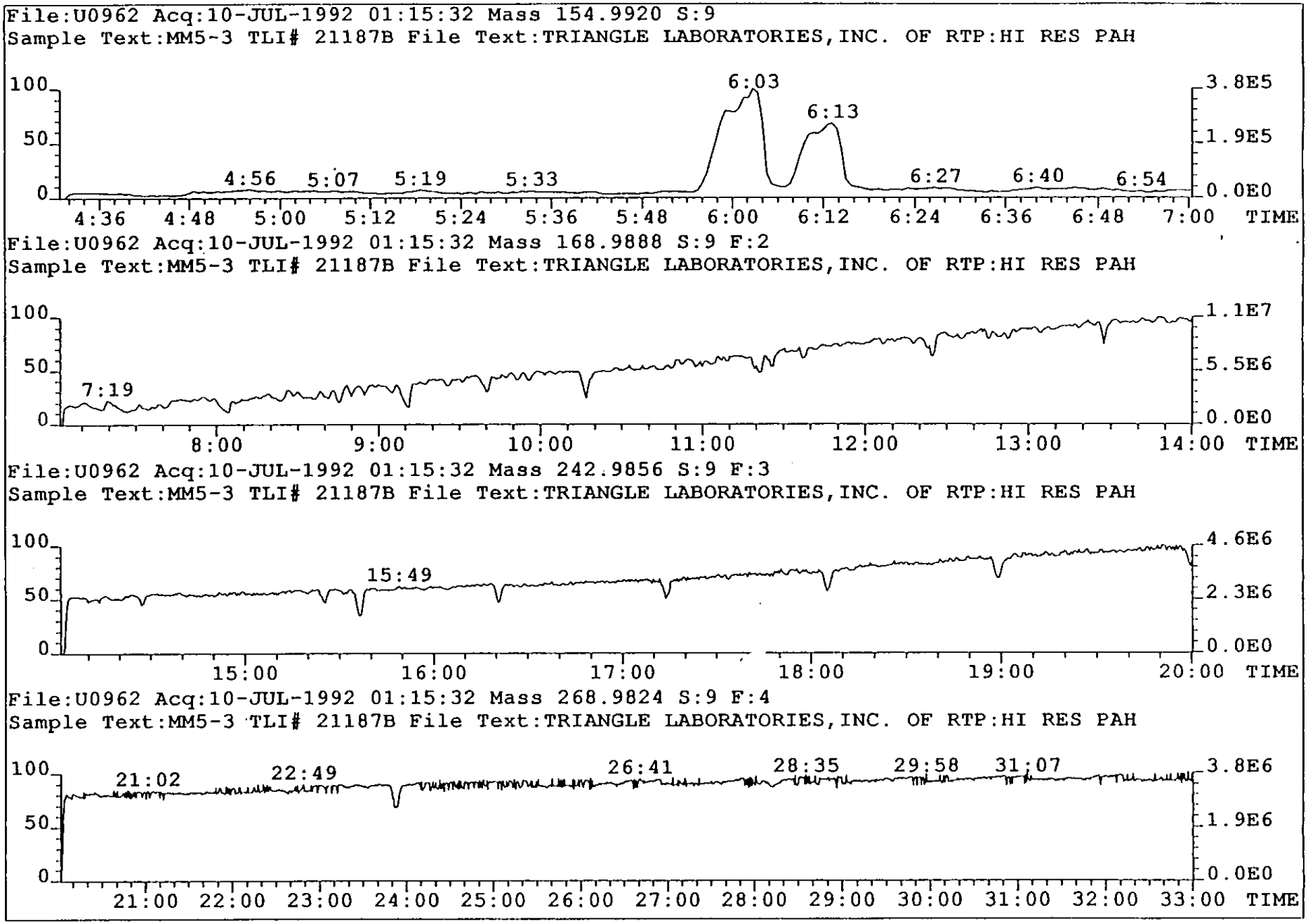

File:U0962 Acq:10-JUL-1992 01:15:32 Mass 166.0782 S:9 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,36620.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A8.94E7
A3.60E7
A9.67E6
A1.47E7
A2.18E7
A9.81E6
A8.65E6
A1.66E7
A1.14E7
1.9E7
1.5E7
1.1E7
7.6E6
3.8E6
0.0E0
8:00
9:00
10:00
11:00
12:00 TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 176.1410 S:9 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,173732.0,0.00%,F,F)»
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
2.8E5
2.3E5
1.7E5
1.1E5
5.6E4
0.0E0
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 178.0782 S:9 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,15564.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.67E8
2.1E8
1.7E8
1.2E8
8.3E7
4.2E7
0.0E0
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 188.1410 S:9 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,889964.0,0.00%,F,F)»
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A8.31E6
2.6E6
2.1E6
1.6E6
1.0E6
5.2E5
0.0E0

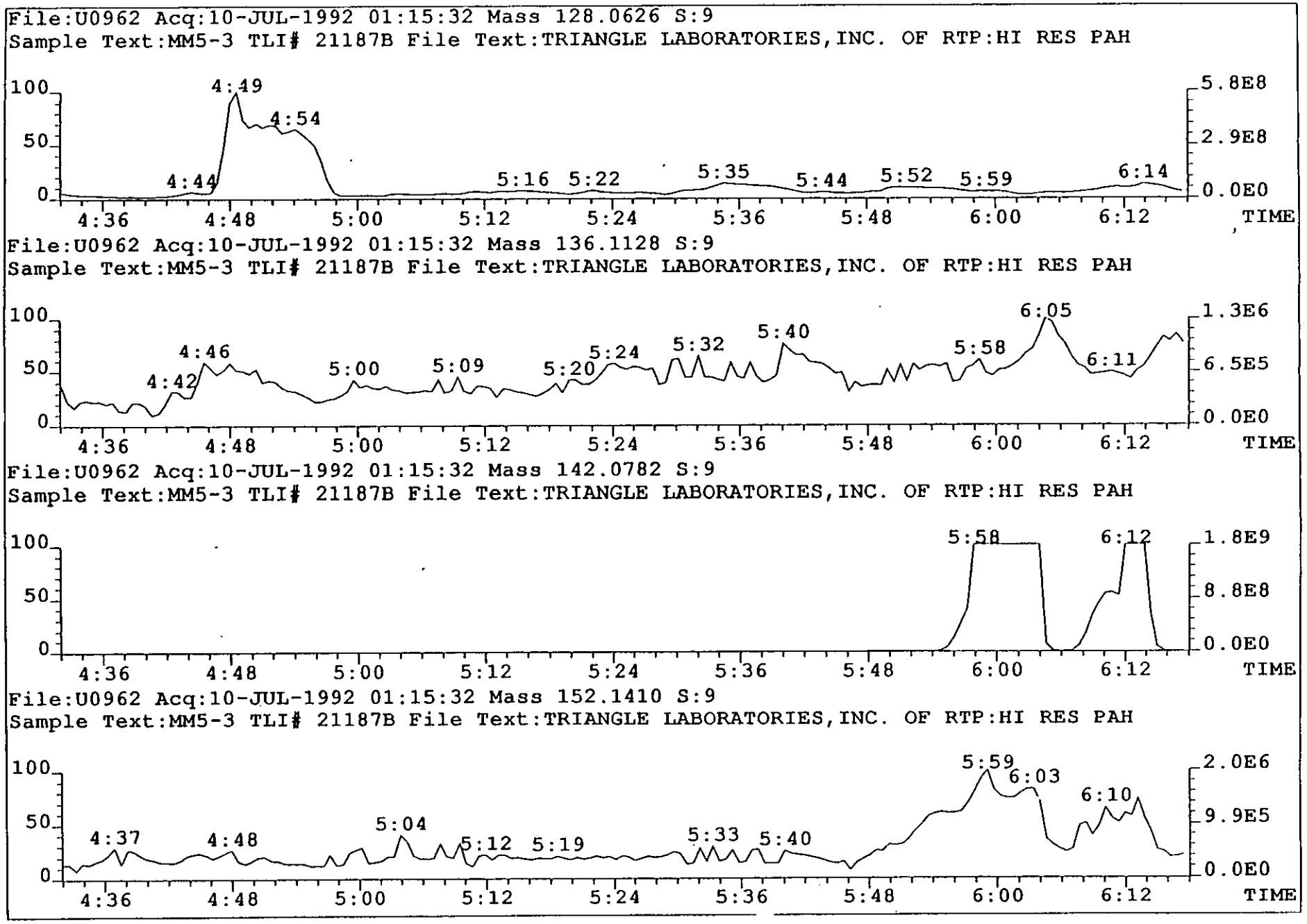

File:U0962 Acq:10-JUL-1992 01:15:32 Mass 202.0782 S:9 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,508424.0,0.00%,F,F)»
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.54E7
A6.96E7
A3.18E6
A6.16E6
2.2E7
1.1E7
0.0E0
14:00
15:00
16:00
17:00
18:00
19:00 TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 212.1410 S:9 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,57608.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.59E7
A3.88E7
2.9E7
1.5E7
0.0E0
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 228.0939 S:9 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,13972.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.28E7
A1.51E6
3.0E6
1.5E6
0.0E0
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 240.1692 S:9 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,60444.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.14E8
6.4E7
3.2E7
0.0E0
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 244.1974 S:9 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,7536.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.92E9
9.3E8
4.6E8
0.0E0
100
50
0


File:U0962 Acq:10-JUL-1992 01:15:32 Mass 252.0939 S:9 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,2,1.00%,5112.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.76E6
A1.41E6
100
90
80
70
60
50
40
30
20
10
0
5.8E5
5.2E5
4.6E5
4.0E5
3.5E5
2.9E5
2.3E5
1.7E5
1.2E5
5.8E4
0.0E0
20:00
21:00
22:00
23:00
24:00 TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 264.1692 S:9 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,1,1.00%,3592.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A4.47E7
A1.81E6
100
90
80
70
60
50
40
30
20
10
0
1.1E7
9.5E6
8.5E6
7.4E6
6.3E6
5.3E6
4.2E6
3.2E6
2.1E6
1.1E6
0.0E0
20:00
21:00
22:00
23:00
24:00 TIME

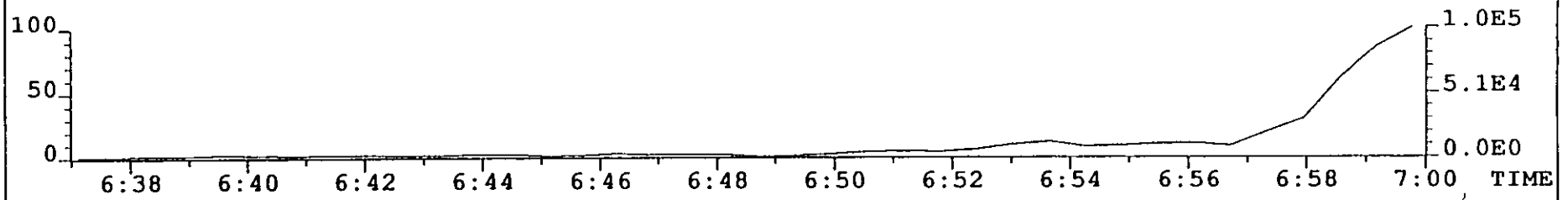

File:U0962 Acq:10-JUL-1992 01:15:32 Mass 276.0939 S:9 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,2372.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A5.90E5
A4.67E4
7.8E4
6.3E4
4.7E4
3.1E4
1.6E4
0.0E0
26:00
27:00
28:00
29:00
30:00
31:00
32:00
33:00 TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 288.1692 S:9 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,2232.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.94E5
A1.20E6
A4.50E5
A7.36E4
1.7E5
1.3E5
1.0E5
6.7E4
3.4E4
0.0E0
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 278.1096 S:9 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,2296.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
1.7E3
1.4E3
1.0E3
6.9E2
3.4E2
0.0E0
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 292.1974 S:9 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,1508.0,0.00%,F,F)
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.07E6
A3.91E5
9.6E5
7.7E5
5.8E5
3.8E5
1.9E5
0.0E0


File:U0962 #1-1212 Acq:10-JUL-1992 01:15:32 GC EI+ Voltage SIR 70S
252.0939 S:9 F:4 Exp:PAH5
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
x5.00
A8.604E5
A5.414E4
TIME
File:U0962 #1-1212 Acq:10-JUL-1992 01:15:32 GC EI+ Voltage SIR 70S
264.1692 S:9 F:4 Exp:PAH5
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
x5.00
A1.039E6
TIME

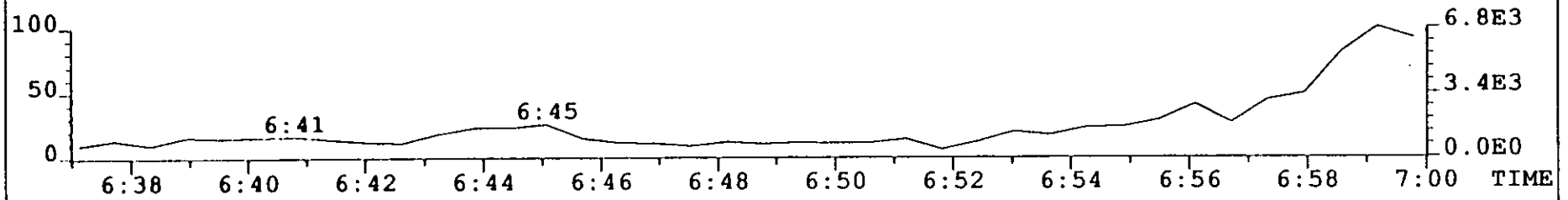

File:U0962 Acq:10-JUL-1992 01:15:32 Mass 154.9920 S:9
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
3.8E5
1.9E5
0.0E0
6:03
6:13
4:56
5:07
5:19
5:33
6:27
6:40
6:54
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
6:24
6:36
6:48
7:00
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 168.9888 S:9 F:2
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
1.1E7
5.5E6
0.0E0
7:19
8:00
9:00
10:00
11:00
12:00
13:00
14:00
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 242.9856 S:9 F:3
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4.6E6
2.3E6
0.0E0
15:49
15:00
16:00
17:00
18:00
19:00
20:00
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 268.9824 S:9 F:4
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
3.8E6
1.9E6
0.0E0
21:02
22:49
26:41
28:35
29:58
31:07
21:00
22:00
23:00
24:00
25:00
26:00
27:00
28:00
29:00
30:00
31:00
32:00
33:00
TIME


File:U0962 Acq:10-JUL-1992 01:15:32 Mass 128.0626 S:9
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:49
4:54
4:44
5:16
5:22
5:35
5:44
5:52
5:59
6:14
5.8E8
2.9E8
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 136.1128 S:9
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:46
4:42
5:00
5:09
5:20
5:24
5:32
5:40
5:58
6:05
6:11
1.3E6
6.5E5
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 142.0782 S:9
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
5:58
6:12
1.8E9
8.8E8
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 152.1410 S:9
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:37
4:48
5:04
5:12
5:19
5:33
5:40
5:59
6:03
6:10
2.0E6
9.9E5
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME

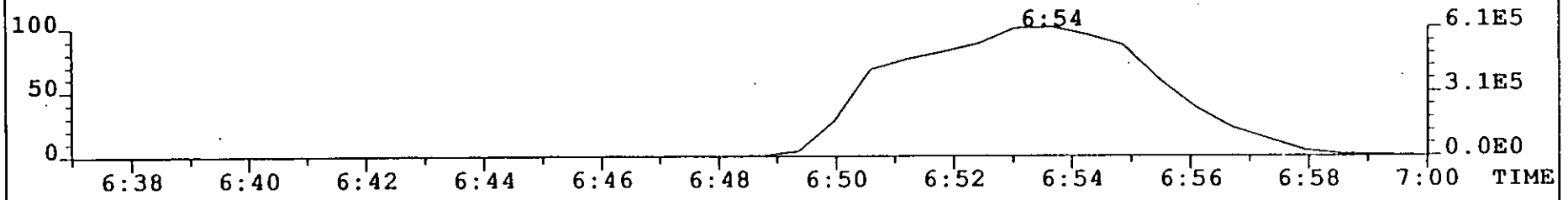
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 162.0236 S:9
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH



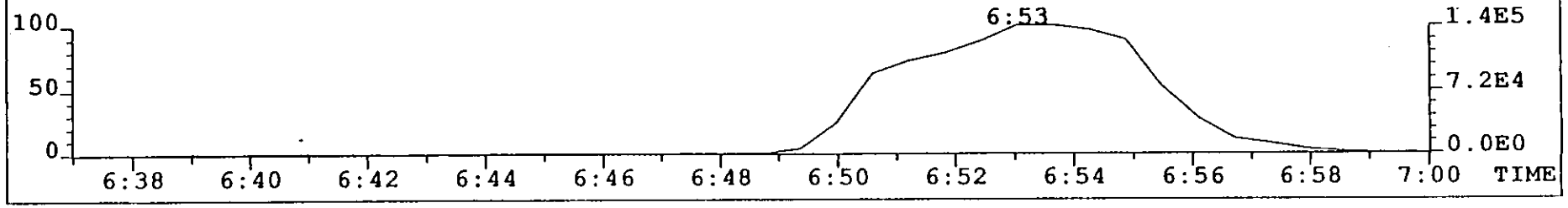
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 164.0207 S:9
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH

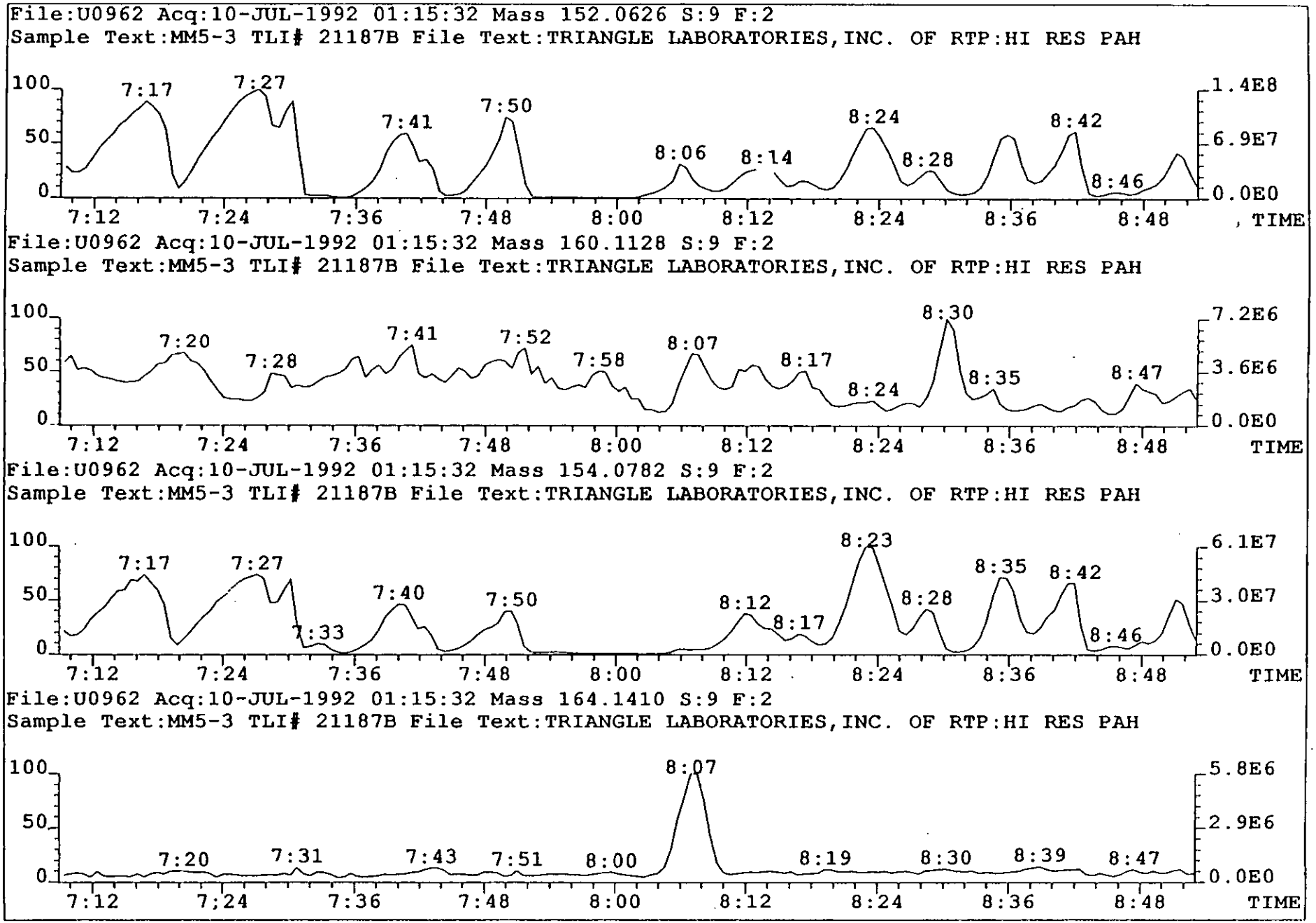


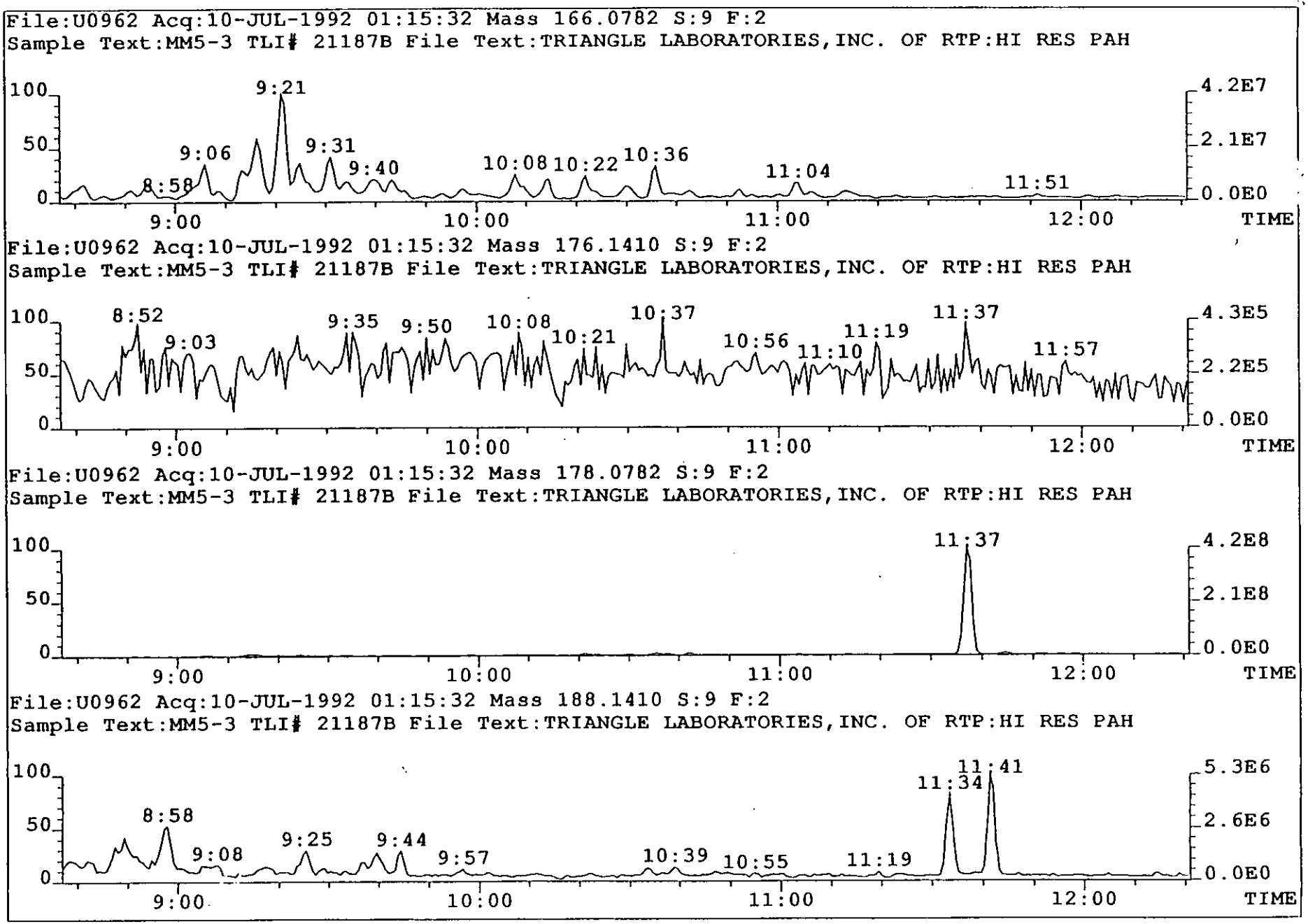
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 169.0676 S:9
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH

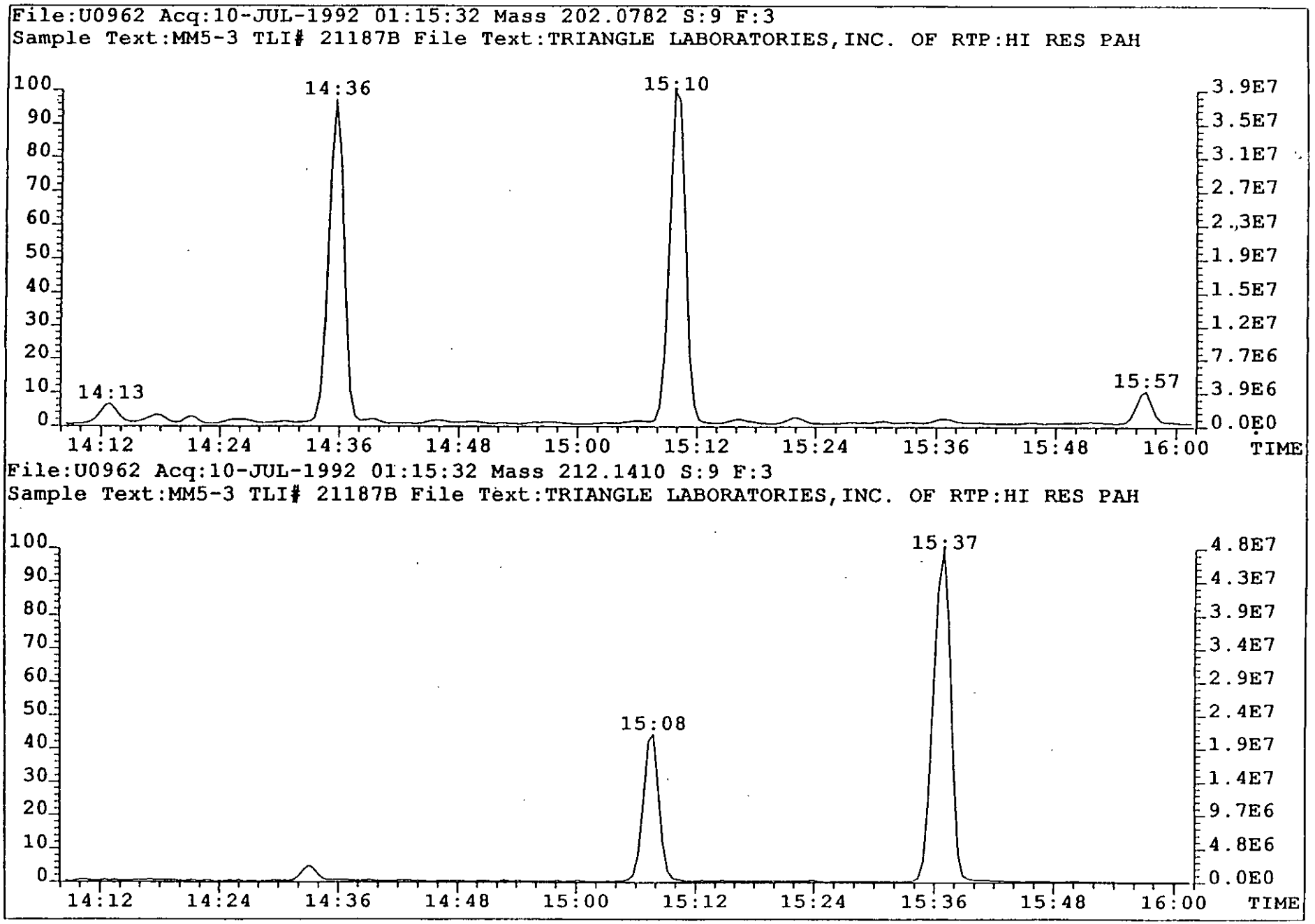


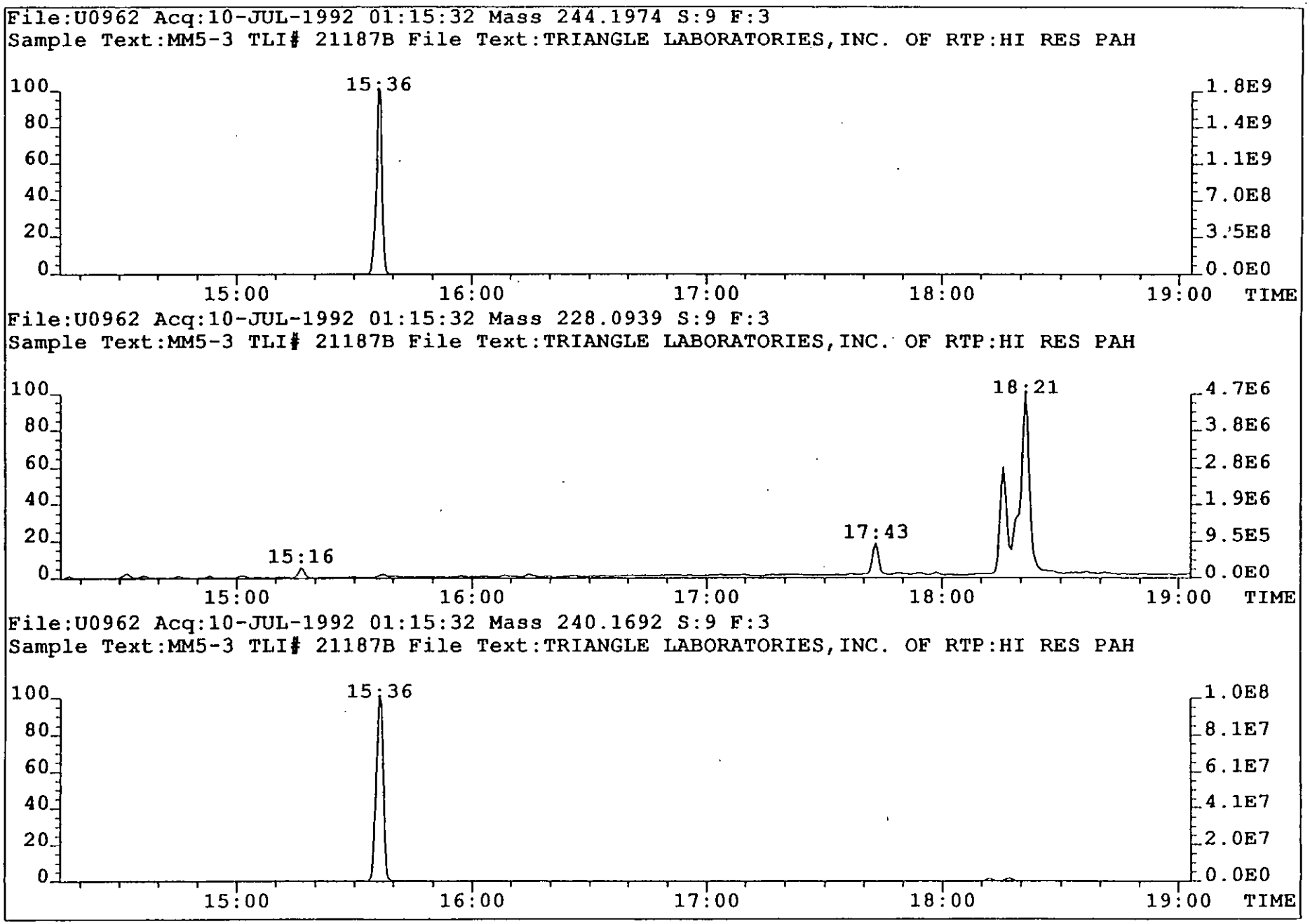
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 171.0648 S:9
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH

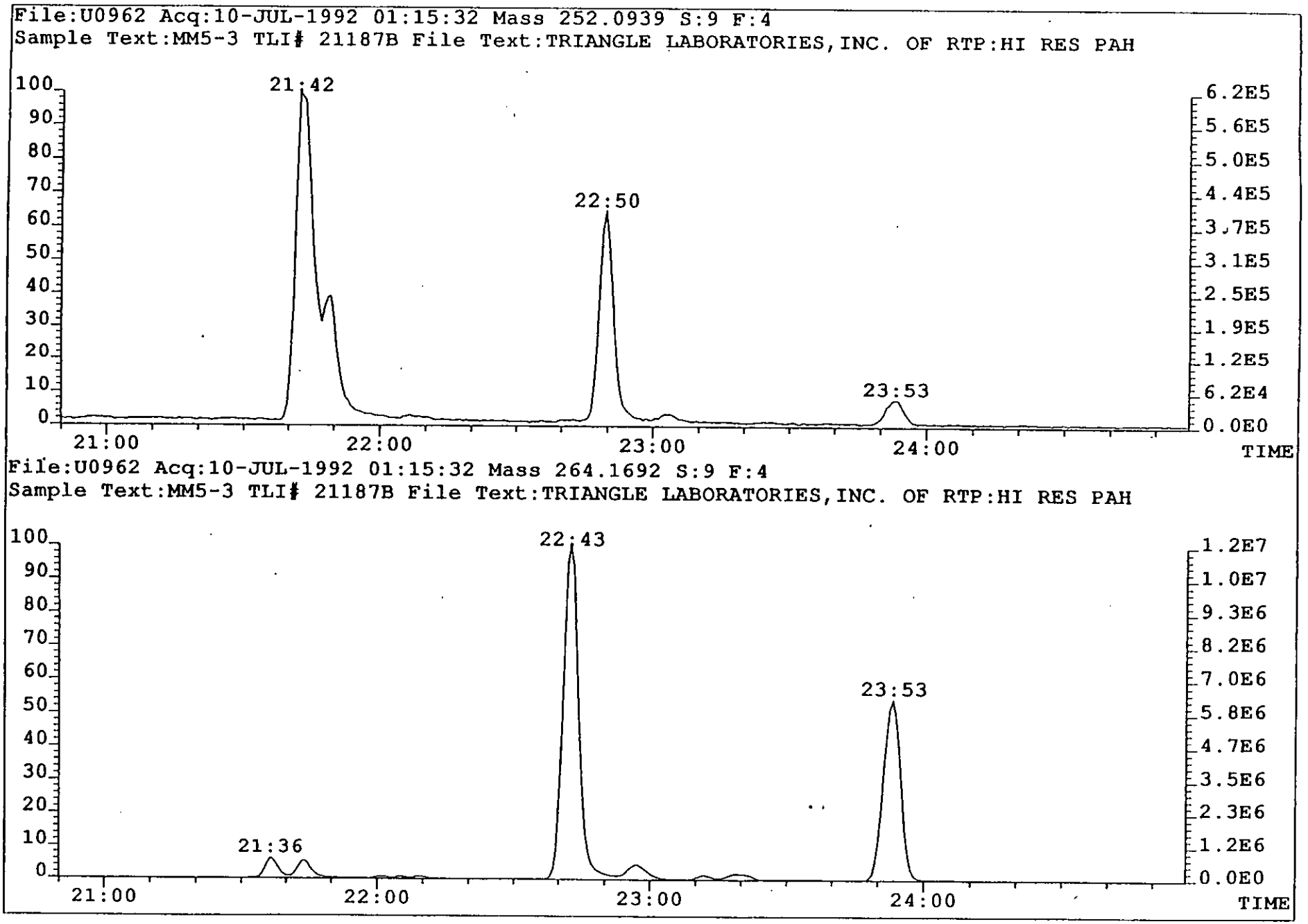


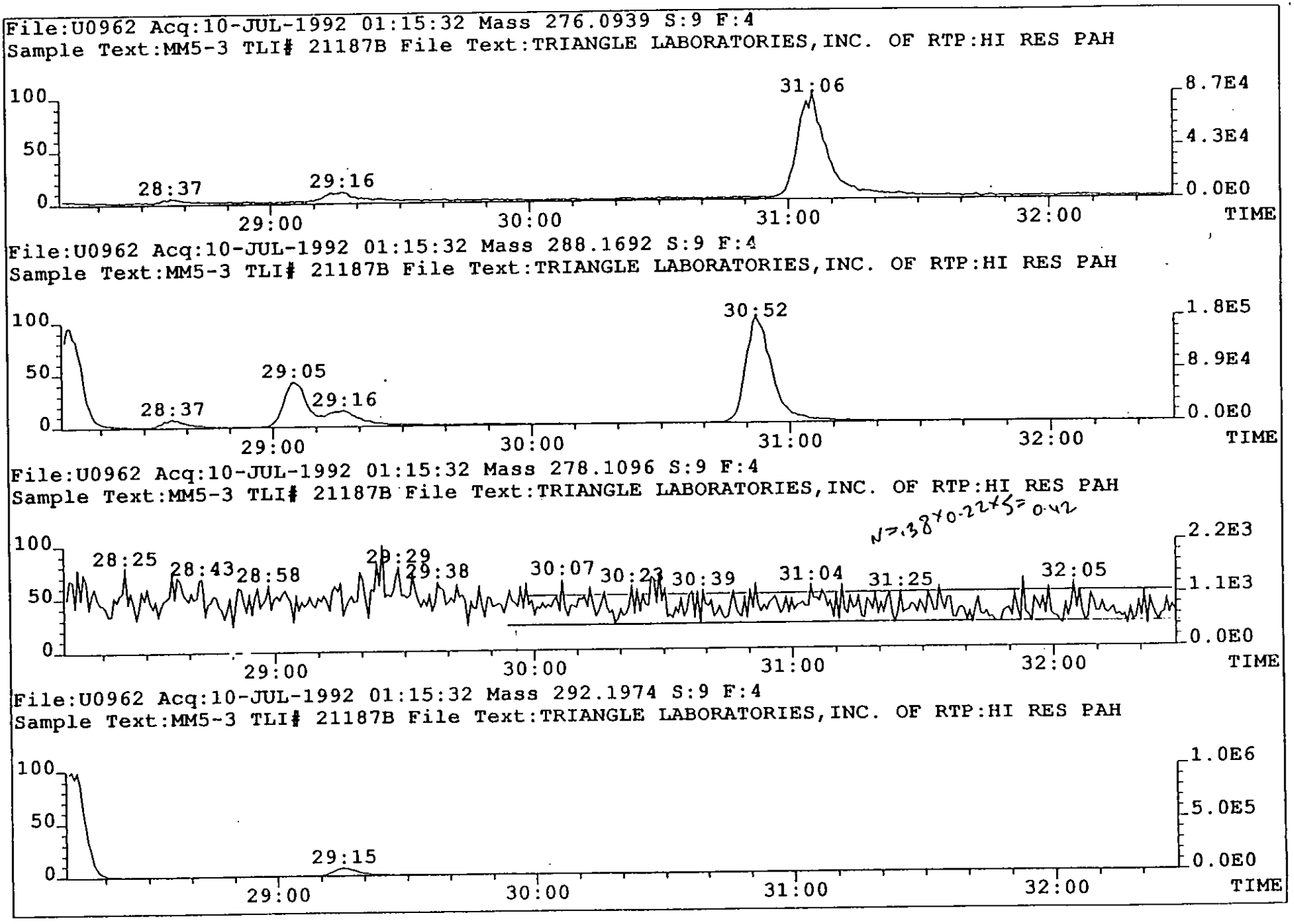

File:U0962 Acq:10-JUL-1992 01:15:32 Mass 152.0626 S:9 F:2
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:17
7:27
7:41
7:50
8:06
8:14
8:24
8:28
8:42
8:46
1.4E8
6.9E7
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 160.1128 S:9 F:2
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:20
7:28
7:41
7:52
7:58
8:07
8:17
8:24
8:30
8:35
8:47
7.2E6
3.6E6
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 154.0782 S:9 F:2
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:17
7:27
7:33
7:40
7:50
8:12
8:17
8:23
8:28
8:35
8:42
8:46
6.1E7
3.0E7
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 164.1410 S:9 F:2
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:20
7:31
7:43
7:51
8:00
8:07
8:19
8:30
8:39
8:47
5.8E6
2.9E6
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME


File:U0962 Acq:10-JUL-1992 01:15:32 Mass 166.0782 S:9 F:2
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:21
9:06
9:31
8:58
9:40
10:08
10:22
10:36
11:04
11:51
4.2E7
2.1E7
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 176.1410 S:9 F:2
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
8:52
9:03
9:35
9:50
10:08
10:21
10:37
10:56
11:10
11:19
11:37
11:57
4.3E5
2.2E5
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 178.0782 S:9 F:2
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
11:37
4.2E8
2.1E8
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 188.1410 S:9 F:2
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
8:58
9:08
9:25
9:44
9:57
10:39
10:55
11:19
11:34
11:41
5.3E6
2.6E6
0.0E0
9:00
10:00
11:00
12:00
TIME


File:U0962 Acq:10-JUL-1992 01:15:32 Mass 202.0782 S:9 F:3
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
14:36
15:10
14:13
15:57
100
90
80
70
60
50
40
30
20
10
0
3.9E7
3.5E7
3.1E7
2.7E7
2.3E7
1.9E7
1.5E7
1.2E7
7.7E6
3.9E6
0.0E0
14:12
14:24
14:36
14:48
15:00
15:12
15:24
15:36
15:48
16:00
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 212.1410 S:9 F:3
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:37
15:08
100
90
80
70
60
50
40
30
20
10
0
4.8E7
4.3E7
3.9E7
3.4E7
2.9E7
2.4E7
1.9E7
1.4E7
9.7E6
4.8E6
0.0E0
14:12
14:24
14:36
14:48
15:00
15:12
15:24
15:36
15:48
16:00
TIME


File:U0962 Acq:10-JUL-1992 01:15:32 Mass 244.1974 S:9 F:3
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:36
100
80
60
40
20
0
1.8E9
1.4E9
1.1E9
7.0E8
3.5E8
0.0E0
15:00
16:00
17:00
18:00
19:00
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 228.0939 S:9 F:3
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:21
17:43
15:16
4.7E6
3.8E6
2.8E6
1.9E6
9.5E5
0.0E0
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 240.1692 S:9 F:3
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:36
1.0E8
8.1E7
6.1E7
4.1E7
2.0E7
0.0E0


File:U0962 Acq:10-JUL-1992 01:15:32 Mass 252.0939 S:9 F:4
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:42
22:50
23:53
100
90
80
70
60
50
40
30
20
10
0
6.2E5
5.6E5
5.0E5
4.4E5
3.7E5
3.1E5
2.5E5
1.9E5
1.2E5
6.2E4
0.0E0
21:00
22:00
23:00
24:00
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 264.1692 S:9 F:4
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
22:43
23:53
21:36
100
90
80
70
60
50
40
30
20
10
0
1.2E7
1.0E7
9.3E6
8.2E6
7.0E6
5.8E6
4.7E6
3.5E6
2.3E6
1.2E6
0.0E0
21:00
22:00
23:00
24:00
TIME


File:U0962 Acq:10-JUL-1992 01:15:32 Mass 276.0939 S:9 F:4
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
28:37
29:16
31:06
8.7E4
4.3E4
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 288.1692 S:9 F:4
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
28:37
29:05
29:16
30:52
1.8E5
8.9E4
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 278.1096 S:9 F:4
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
N=.38*0.225=0.42
100
50
0
28:25
28:43
28:58
29:29
29:38
30:07
30:23
30:39
31:04
31:25
32:05
2.2E3
1.1E3
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 01:15:32 Mass 292.1974 S:9 F:4
Sample Text:MM5-3 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:15
1.0E6
5.0E5
0.0E0
29:00
30:00
31:00
32:00
TIME

High Resolution GC/MS Chromatograms
for
Sample No. MM5-4

Sample ID: MM5-4 $\sqrt{=0.49}$ (27?

TLI Sample ID: *

	Initial	Date
B-File/Header Changes	AR	7-31-92
Manual Integrations		
Transcription		
Obase Corrections		

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07/29/92

Listing of U096210B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128	DC	0.00	0:00	421.49	T	F	**.***	NL
	DC	0.00	4:33	758.37	T	F	**.***	SN
		0.00	4:47	141379.60	T	F	**.***	
	DC	0.00	4:57	540.72	T	F	**.***	SN
	DC	0.00	5:02	795.42	T	F	**.***	SN
		0.00	5:13	8005.03	T	F	**.***	
		0.00	5:20	6835.15	T	F	**.***	
		0.00	5:32	27646.44	T	F	**.***	
		0.00	5:46	20617.10	T	F	**.***	
		0.00	5:53	6967.93	T	F	**.***	
	DC	0.00	6:00	2803.02	T	F	**.***	SN
		0.00	6:10	26346.92	T	F	**.***	
		0.00	6:21	20517.60	T	F	**.***	
		0.00	6:35	11919.80	T	F	**.***	
		0.00	6:40	17483.43	T	F	**.***	
	DC	0.00	6:54	2415.87	T	F	**.***	WH
128		*** Total ***		295453.89	# of Peaks:		16	
142	DC	0.00	0:00	6.99	T	F	0.000	NL
		0.00	5:46	2301.55	T	F	0.975	
		0.00	5:55	760292.20	T	F	1.000	
		0.00	6:07	304925.10	T	F	1.034	
		0.00	6:35	998.13	T	F	1.113	
		0.00	6:39	2413.34	T	F	1.124	
142		*** Total ***		1070937.31	# of Peaks:		6	
152	DC	0.00	0:00	3.86	T	F	0.000	NL
	DC	0.00	0:00	8.16	T	F	0.000	NL
		0.00	5:55	204.42	T	T	1.000	
		0.00	6:08	108.78	T	F	0.786	
	DC	0.00	6:53	22.91	T	F	0.882	SN
		0.00	7:04	3489.54	T	F	0.906	
		0.00	7:12	43551.49	T	F	0.923	
		0.00	7:22	51870.15	T	F	0.944	
		0.00	7:25	16799.14	T	F	0.951	
		0.00	7:36	24487.92	T	F	0.974	
		0.00	7:46	21046.88	T	F	0.996	
		0.00	7:51	435.67	T	T	1.006	
		0.00	7:55	56.66	T	F	1.015	
		0.00	8:03	8496.85	T	F	1.032	
		0.00	8:10	24471.55	T	F	1.047	
		0.00	8:20	40752.01	T	F	1.068	

Listing of U0962108.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
152		0.00	8:34	31992.09	T	F	1.098	
		0.00	8:39	26969.09	T	F	1.109	
		0.00	8:43	732.72	T	F	1.118	
		0.00	8:50	21312.10	T	F	1.132	
		0.00	8:54	15542.94	T	F	1.141	
		0.00	9:02	16165.74	T	F	1.158	
152		*** Total ***		358790.22	# of Peaks:		23	
154	DC	0.00	0:00	44.36	T	F	0.000	NL
		0.00	7:04	1404.84	T	F	0.906	
		0.00	7:12	16125.14	T	F	0.923	
		0.00	7:22	16840.01	T	F	0.944	
		0.00	7:25	5456.03	T	F	0.951	
		0.00	7:36	8048.61	T	F	0.974	
		0.00	7:46	6402.81	T	F	0.996	
		0.00	8:09	14188.96	T	F	1.045	
		0.00	8:20	27220.37	T	F	1.068	
		0.00	8:26	6248.87	T	F	1.081	
		0.00	8:34	14710.14	T	F	1.098	
		0.00	8:39	12721.30	T	F	1.109	
		0.00	8:50	7450.38	T	F	1.132	
		0.00	8:54	5329.57	T	F	1.141	
		0.00	9:02	9366.71	T	F	1.158	
154		*** Total ***		151558.10	# of Peaks:		15	
160	DC	0.00	0:00	84.17	T	F	0.000	NL
		0.00	7:16	1334.40	T	F	0.932	
	DC	0.00	7:36	472.14	T	F	0.974	SN
	DC	0.00	7:48	799.54	T	T	1.000	SN
	DC	0.00	8:04	775.67	T	F	1.034	SN
		0.00	8:28	1108.69	T	F	1.085	
	DC	0.00	8:33	133.29	T	F	1.096	SN
	DC	0.00	8:46	268.91	T	F	1.124	SN
160		*** Total ***		4976.81	# of Peaks:		8	
162	DC	16.00	0:00	0.17	F	F	0.000	NL
		1.99	5:57	57.32	F	F	0.873	
		2.68	6:07	20.93	T	F	0.897	
		4.98	6:57	7.30	F	F	1.020	
162		*** Total ***		85.72	# of Peaks:		4	
164	DC	0.00	0:00	4.94	T	F	0.000	NL
	DC	0.00	0:00	0.01	T	F	0.000	NL
	DC	0.00	5:57	19.19	T	F	0.726	WL
	DC	0.00	6:08	5.69	T	F	0.748	SN
	DC	0.00	6:59	1.22	T	F	0.852	SN
		0.00	8:04	1618.13	T	F	0.984	
	DC	0.00	8:11	20.61	T	T	0.998	SN
164		*** Total ***		1669.79	# of Peaks:		7	
166	DC	0.00	0:00	0.30	T	F	0.000	NL
	DC	0.00	8:03	4082.86	T	F	0.687	WL
	DC	0.00	8:10	3186.98	T	F	0.697	WL

Listing of U0962108.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
166	DC	0.00	8:16	4194.83	T	F	0.706	WL
	DC	0.00	8:24	1636.76	T	F	0.717	WL
	DC	0.00	8:33	1415.12	T	F	0.730	WL
	DC	0.00	8:39	818.63	T	F	0.738	WL
	DC	0.00	8:52	99.28	T	F	0.757	WL
	DC	0.00	9:05	1351.63	T	F	0.775	WL
	DC	0.00	9:16	3669.30	T	F	0.791	WL
	DC	0.00	9:21	13737.72	T	F	0.798	WL
	DC	0.00	9:30	4337.91	T	F	0.811	WL
		0.00	9:39	445.20	T	F	0.824	
		0.00	9:44	173.65	T	F	0.831	
		0.00	9:57	80.69	T	F	0.849	
		0.00	10:09	1707.97	T	F	0.866	
		0.00	10:14	902.59	T	F	0.873	
		0.00	10:23	1037.11	T	F	0.886	
		0.00	10:31	693.68	T	F	0.898	
		0.00	10:37	3811.91	T	F	0.906	
		0.00	10:43	1219.26	T	F	0.915	
		0.00	10:54	797.83	T	F	0.930	
		0.00	11:05	2558.22	T	F	0.946	
		0.00	11:16	1343.21	T	F	0.962	
		0.00	11:41	545.12	T	F	0.997	
		0.00	11:53	323.96	T	F	1.014	
		0.00	12:03	93.58	T	F	1.028	
166		*** Total ***		54265.30	# of Peaks:		27	
169	DC	4.00	0:00	0.01	F	F	0.000	NL
		2.33	5:57	13.02	F	F	0.873	
		3.18	6:08	2.80	T	F	0.900	
		8.98	6:49	68.95	F	T	1.000	
169		*** Total ***		84.78	# of Peaks:		4	
176	DC	0.00	0:00	4.75	T	F	0.000	NL
176		*** Total ***		4.75	# of Peaks:		1	
178	DC	0.00	0:00	0.57	T	F	0.000	NL
		0.00	9:14	2409.02	T	F	0.788	
		0.00	9:25	1796.33	T	F	0.804	
		0.00	9:33	2365.67	T	F	0.815	
		0.00	10:23	808.13	T	F	0.886	
		0.00	10:37	3498.64	T	F	0.906	
		0.00	10:43	3153.00	T	F	0.915	
		0.00	11:38	98162.20	T	~~F~~ T	0.993	
		0.00	11:46	2265.09	T	T	1.004	
		0.00	11:53	2445.85	T	~~T~~ F	1.014	
		0.00	11:59	2602.60	T	F	1.023	
178		*** Total ***		119507.10	# of Peaks:		11	
188	DC	0.00	0:00	27.17	T	F	0.000	NL
	~~DC~~	0.00	11:35	260.65	T	~~F~~ T	0.978	~~SH~~
		0.00	11:43	669.55	T	T	1.000	
188		*** Total ***		957.37	# of Peaks:		3	

Listing of U096210B.dbf

Matched GC Peaks / Ratio / Ret. Time

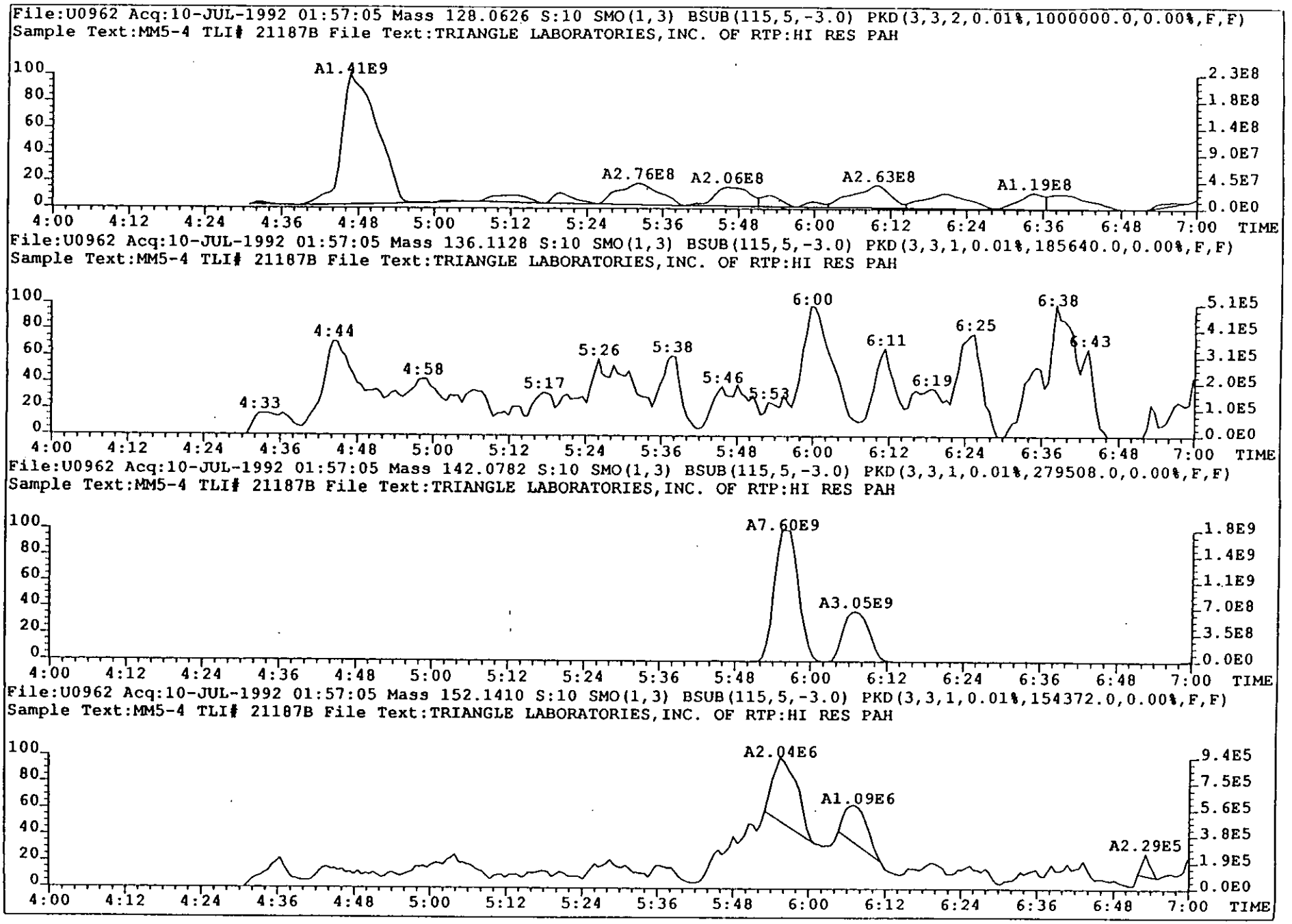
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
202	DC	0.00	0:00	19.05	T	F	0.000	NL
		0.00	14:14	910.70	T	F	0.941	
		0.00	14:37*	4727.79	T	FT	0.966	
		0.00	15:11*	5329.55	T	T	1.003	
		0.00	15:57	963.06	T	F	1.054	
202		*** Total ***		11950.15	# of Peaks:		5	
212	DC	0.00	0:00	1.67	T	F	0.000	NL
		0.00	14:34*	434.25	T	FT	0.951	
		0.00	15:08*	3207.84	T	T	1.000	
		0.00	15:37	10551.05	T	F	1.019	
212		*** Total ***		14194.81	# of Peaks:		4	
228	DC	0.00	0:00	1.69	T	F	0.000	NL
		0.00	14:33	39.56	T	F	0.796	
		0.00	15:17	83.25	T	F	0.836	
		0.00	17:44	70.03	T	F	0.970	– PR
		0.00	18:16*	348.64	T	FT	0.999	
	CK –	0.00	18:21*	~~747.68~~ 631.5	T	T	1.004	– PR
228		*** Total ***		1290.85	# of Peaks:		6	
240	DC	0.00	0:00	0.95	T	F	0.000	NL
		0.00	15:37	23665.99	T	F	0.854	
		0.00	18:12*	279.17	T	FT	0.995	
		0.00	18:17*	358.69	T	T	1.000	
240		*** Total ***		24304.80	# of Peaks:		4	
244	DC	0.00	0:00	0.40	T	F	0.000	NL
		0.00	15:37*	304389.00	T	FT	0.988	
244		*** Total ***		304389.40	# of Peaks:		2	
252	DC	0.00	0:00	0.21	T	F	0.000	NL
		0.00	21:43*	258.71	T	FT	0.909	
		0.00	21:49*	82.46	T	FT	0.913	
		0.00	22:07	3.48	T	F	0.926	
CK 5) DP		0.00	22:50*	129.11	T	FT	0.956	
		0.00	23:03*	8.59	T	FT	0.965	
		0.00	23:53	15.86	T	F	1.000	
252		*** Total ***		498.42	# of Peaks:		7	
264	DC	0.00	0:00	0.23	T	F	0.000	NL
		0.00	20:21	100.34	T	F	0.852	
		0.00	21:37*	257.02	T	FT	0.905	
		0.00	21:44*	286.99	T	FT	0.910	
		0.00	22:43*	4486.64	T	FT	0.951	
		0.00	22:57*	213.48	T	T	1.003	
		0.00	23:20*	77.38	T	FT	0.977	
		0.00	23:53	2524.57	T	FF	1.000	
264		*** Total ***		7946.65	# of Peaks:		8	
276	DC	0.00	0:00	0.05	T	F	0.000	NL
		0.00	28:37	1.48	T	F	0.927	
		0.00	29:16*	11.56	T	T	0.948	

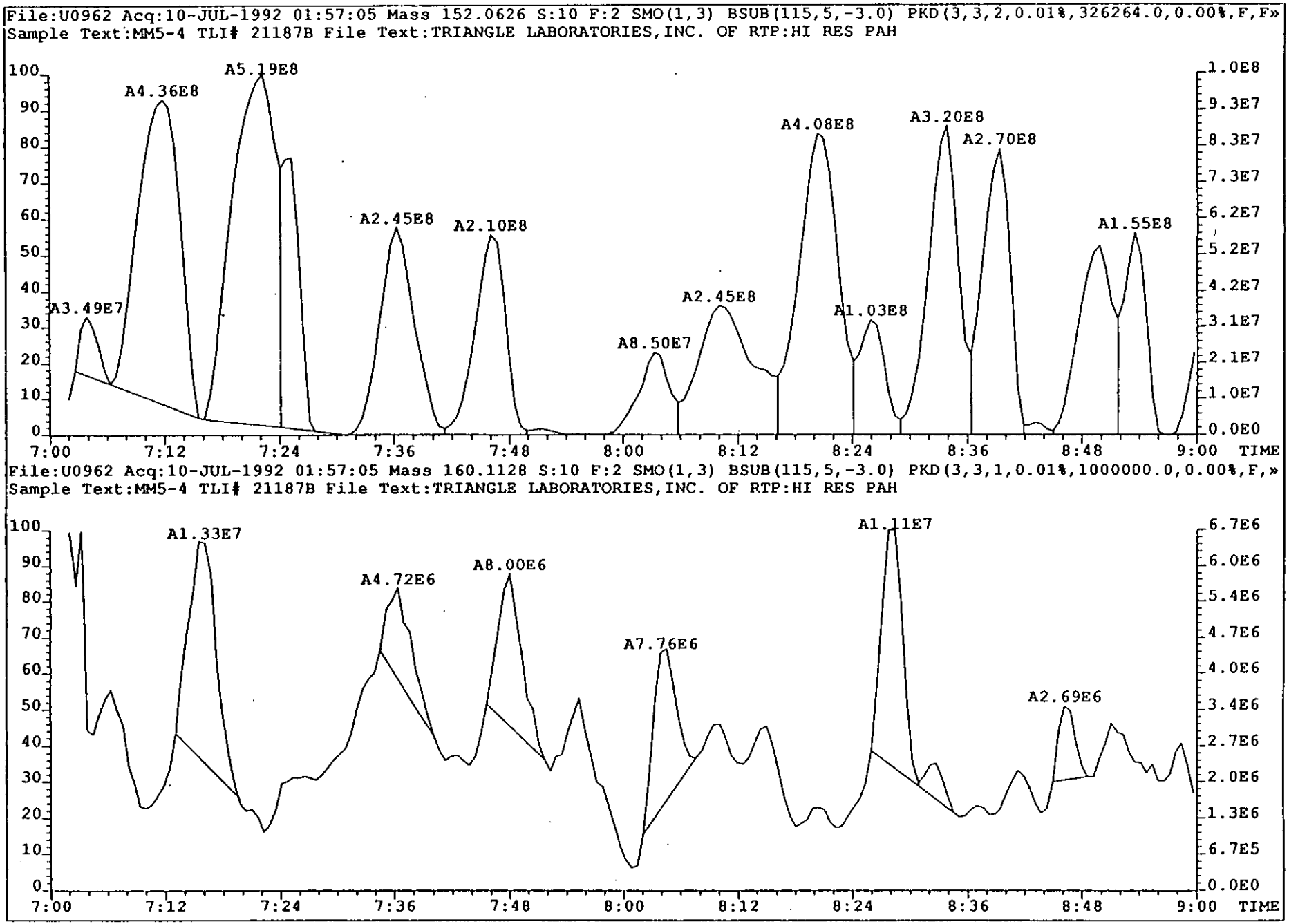
Listing of U096210B.dbf

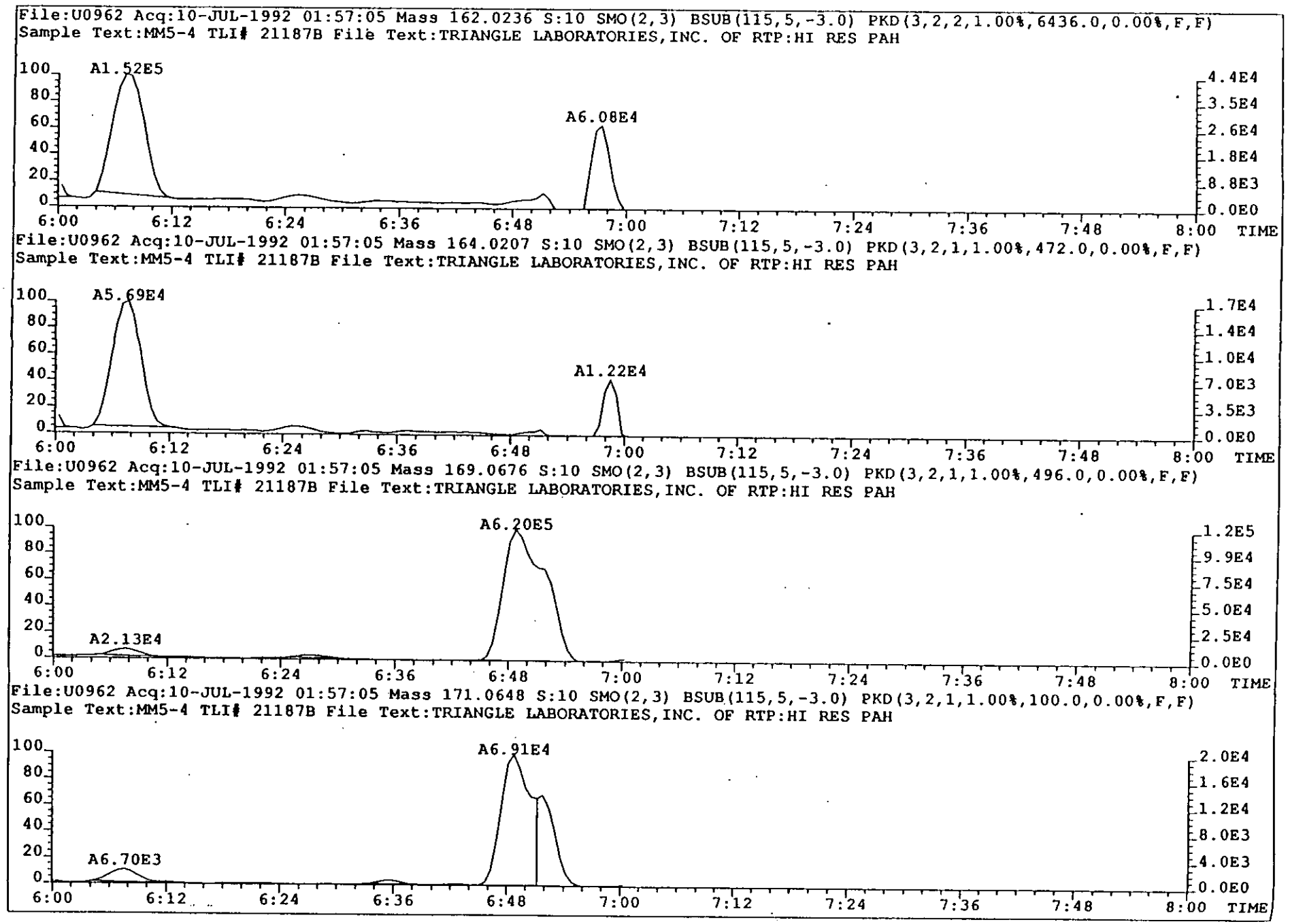
Matched GC Peaks / Ratio / Ret. Time

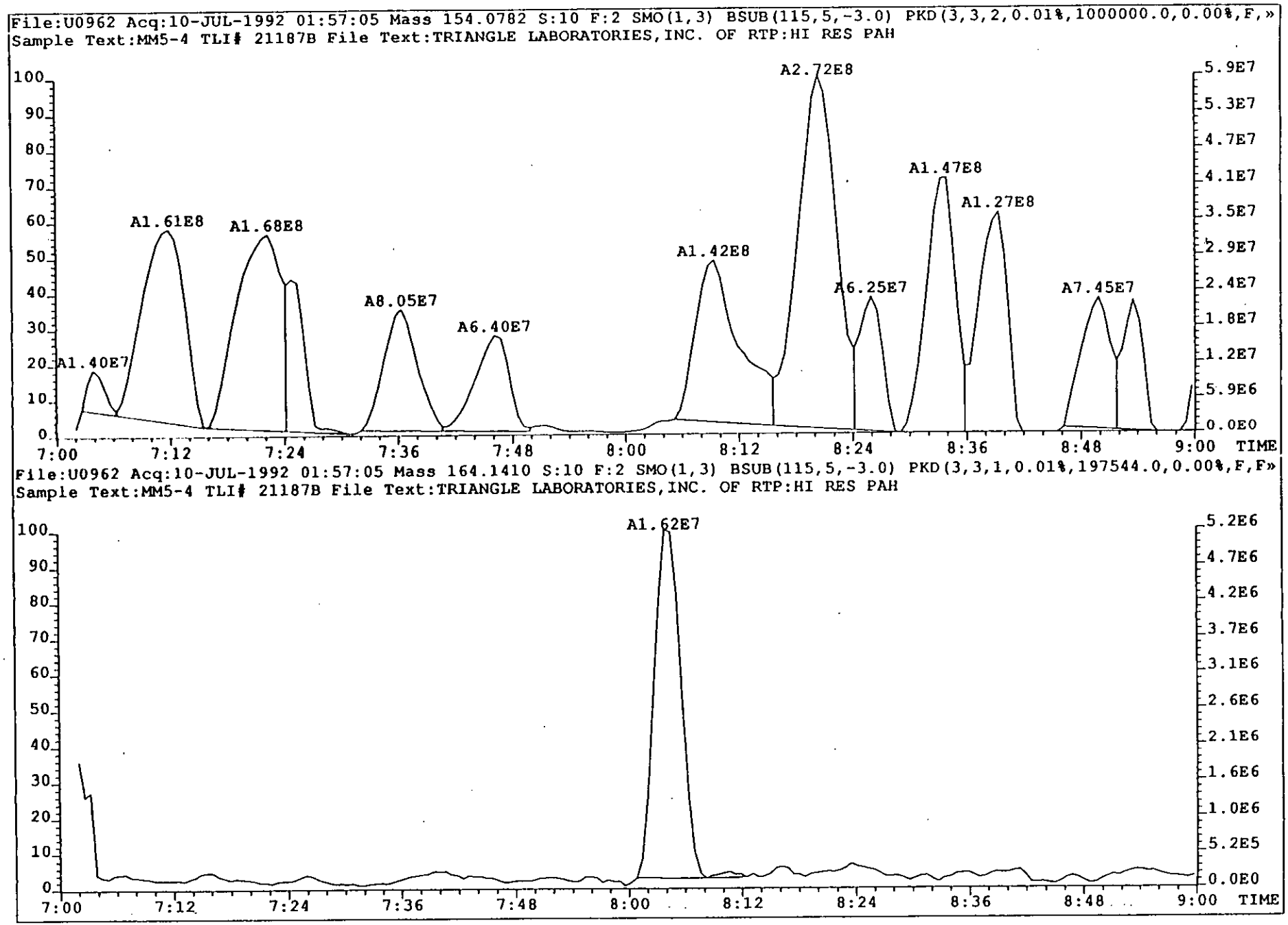
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
276		0.00	31:05*	102.72	T	T	1.007	
276		*** Total ***		115.81	# of Peaks:		4	
278	DC	0.00	0:00	0.10	T	F	0.000	NL
278		*** Total ***		0.10	# of Peaks:		1	
288	DC	0.00	0:00	0.15	T	F	0.000	NL
		0.00	28:13	119.71	T	F	0.914	
		0.00	28:37	17.44	T	F	0.927	
		0.00	29:06*	65.92	T	T	0.943	— I
		0.00	29:16	23.14	T	F	0.948	
		0.00	30:52*	192.58	T	T	1.000	
288		*** Total ***		418.94	# of Peaks:		6	
292	DC	0.00	0:00	0.03	T	F	0.000	NL
		0.00	28:13	924.29	T	F	0.964	
		0.00	29:16*	36.31	T	T	1.000	
292		*** Total ***		960.63	# of Peaks:		3	

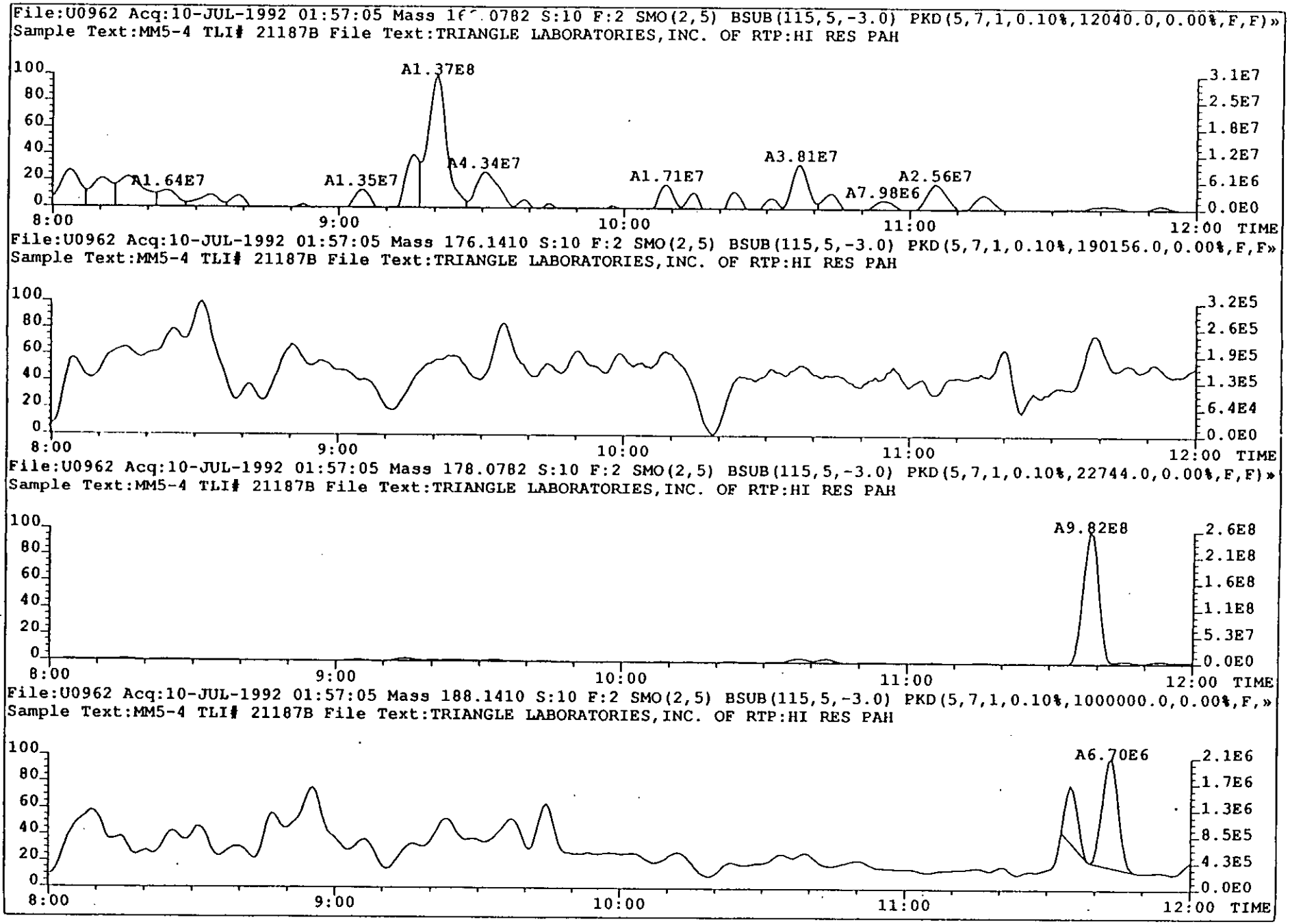
*** End of Report ***

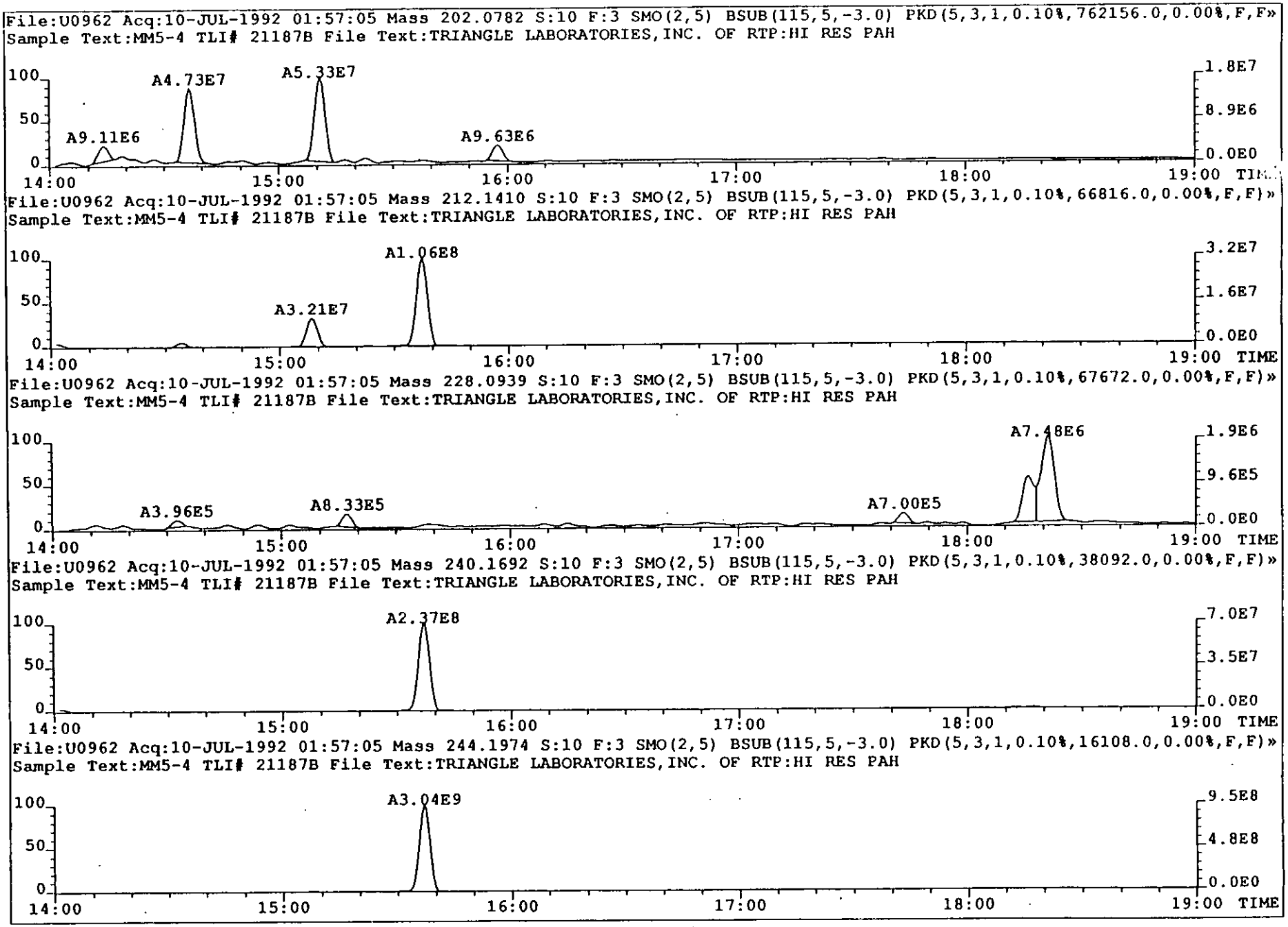

File:U0962 Acq:10-JUL-1992 01:57:05 Mass 128.0626 S:10 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,1000000.0,0.00%,F,F)
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.41E9
A2.76E8
A2.06E8
A2.63E8
A1.19E8
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 136.1128 S:10 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,185640.0,0.00%,F,F)
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
4:33
4:44
4:58
5:17
5:26
5:38
5:46
5:53
6:00
6:11
6:19
6:25
6:38
6:43
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 142.0782 S:10 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,279508.0,0.00%,F,F)
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.60E9
A3.05E9
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 152.1410 S:10 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,154372.0,0.00%,F,F)
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.04E6
A1.09E6
A2.29E5
TIME

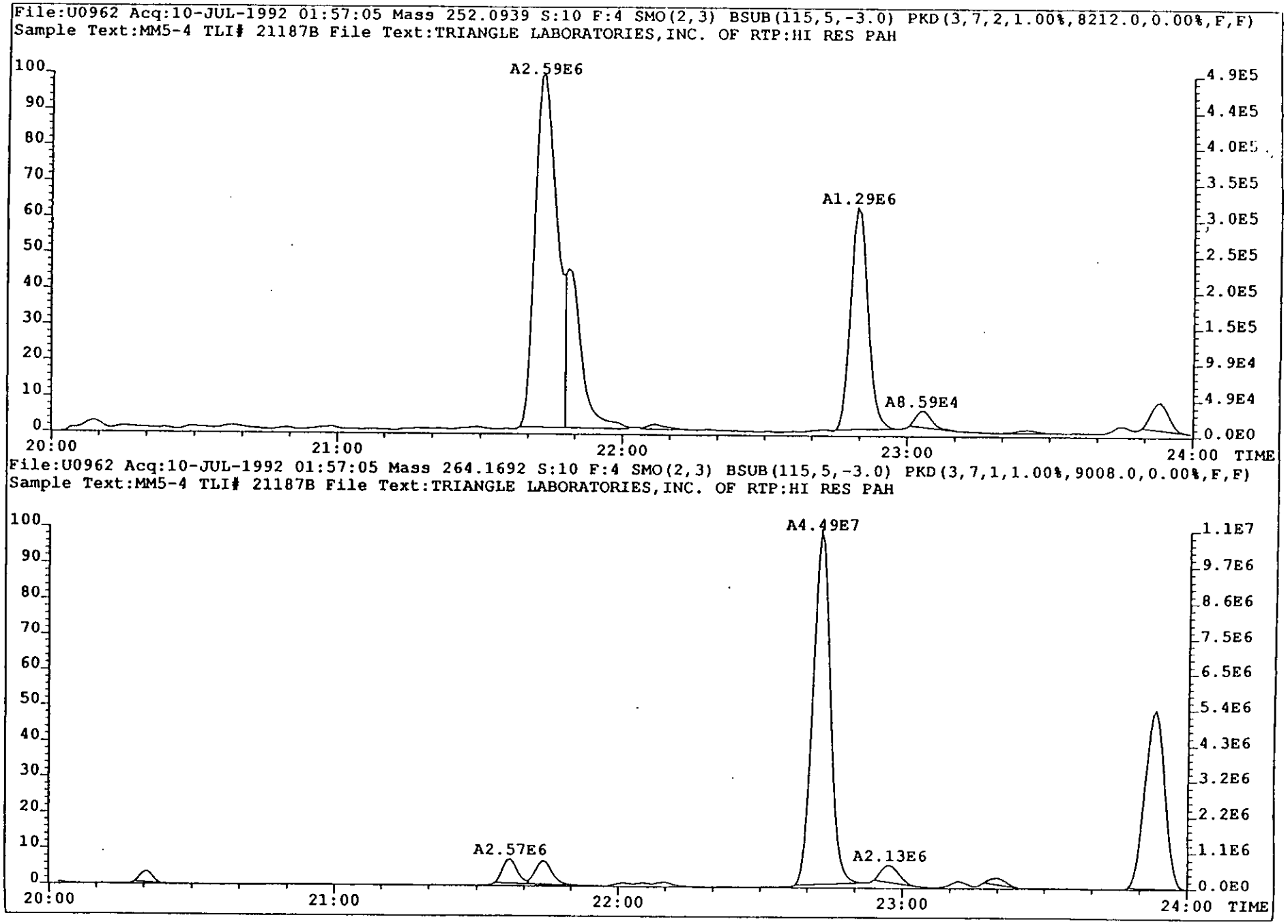

File:U0962 Acq:10-JUL-1992 01:57:05 Mass 152.0626 S:10 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,326264.0,0.00%,F,F»
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.49E7
A4.36E8
A5.19E8
A2.45E8
A2.10E8
A8.50E7
A2.45E8
A4.08E8
A1.03E8
A3.20E8
A2.70E8
A1.55E8
7:00
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
9:00
TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 160.1128 S:10 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,1000000.0,0.00%,F,»
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.33E7
A4.72E6
A8.00E6
A7.76E6
A1.11E7
A2.69E6
7:00
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
9:00
TIME

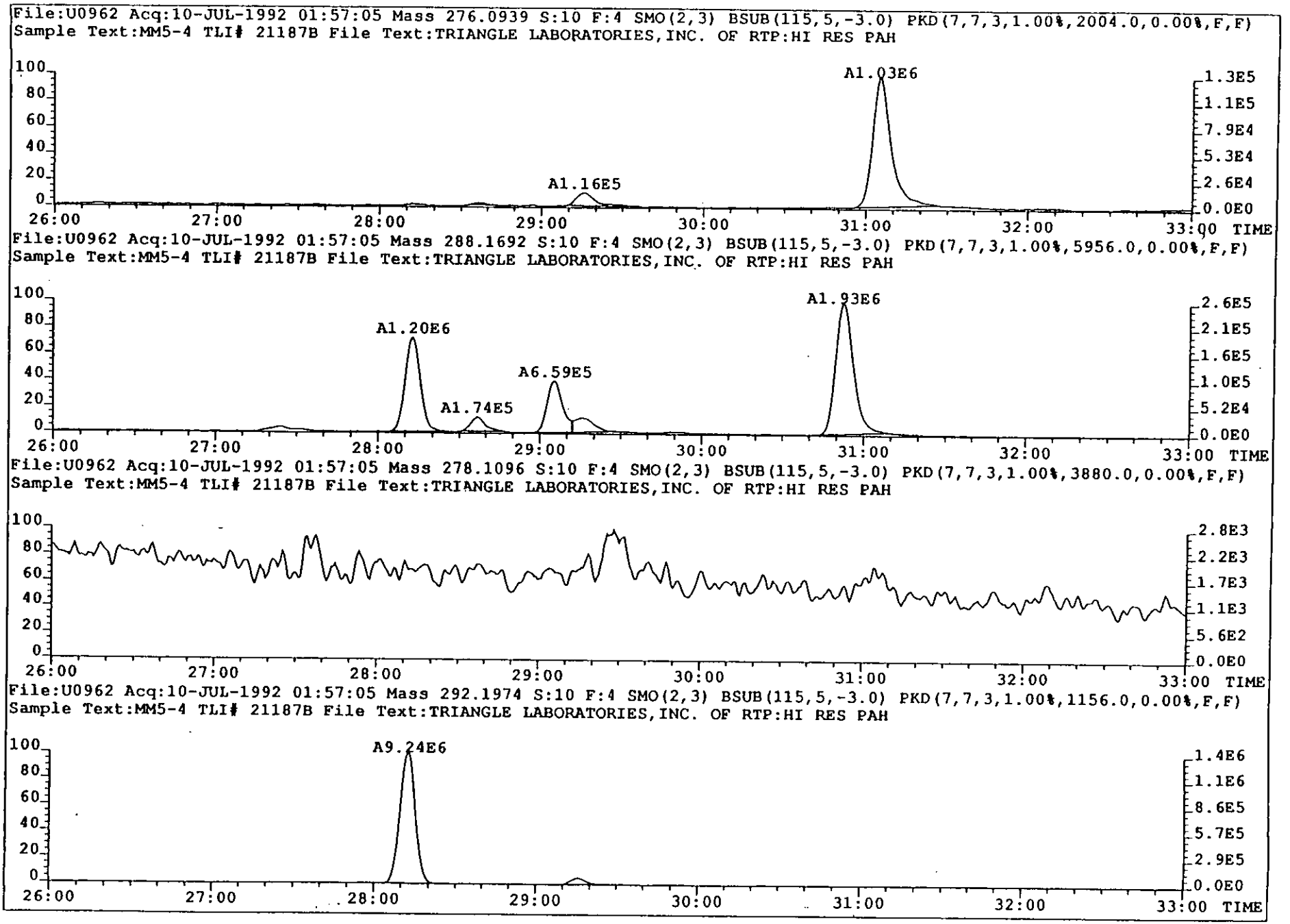

File:U0962 Acq:10-JUL-1992 01:57:05 Mass 162.0236 S:10 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,2,1.00%,6436.0,0.00%,F,F)
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.52E5
A6.08E4
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 164.0207 S:10 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,472.0,0.00%,F,F)
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A5.69E4
A1.22E4
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 169.0676 S:10 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,496.0,0.00%,F,F)
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.20E5
A2.13E4
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 171.0648 S:10 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,100.0,0.00%,F,F)
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.91E4
A6.70E3
6:00
6:12
6:24
6:36
6:48
7:00
7:12
7:24
7:36
7:48
8:00
TIME

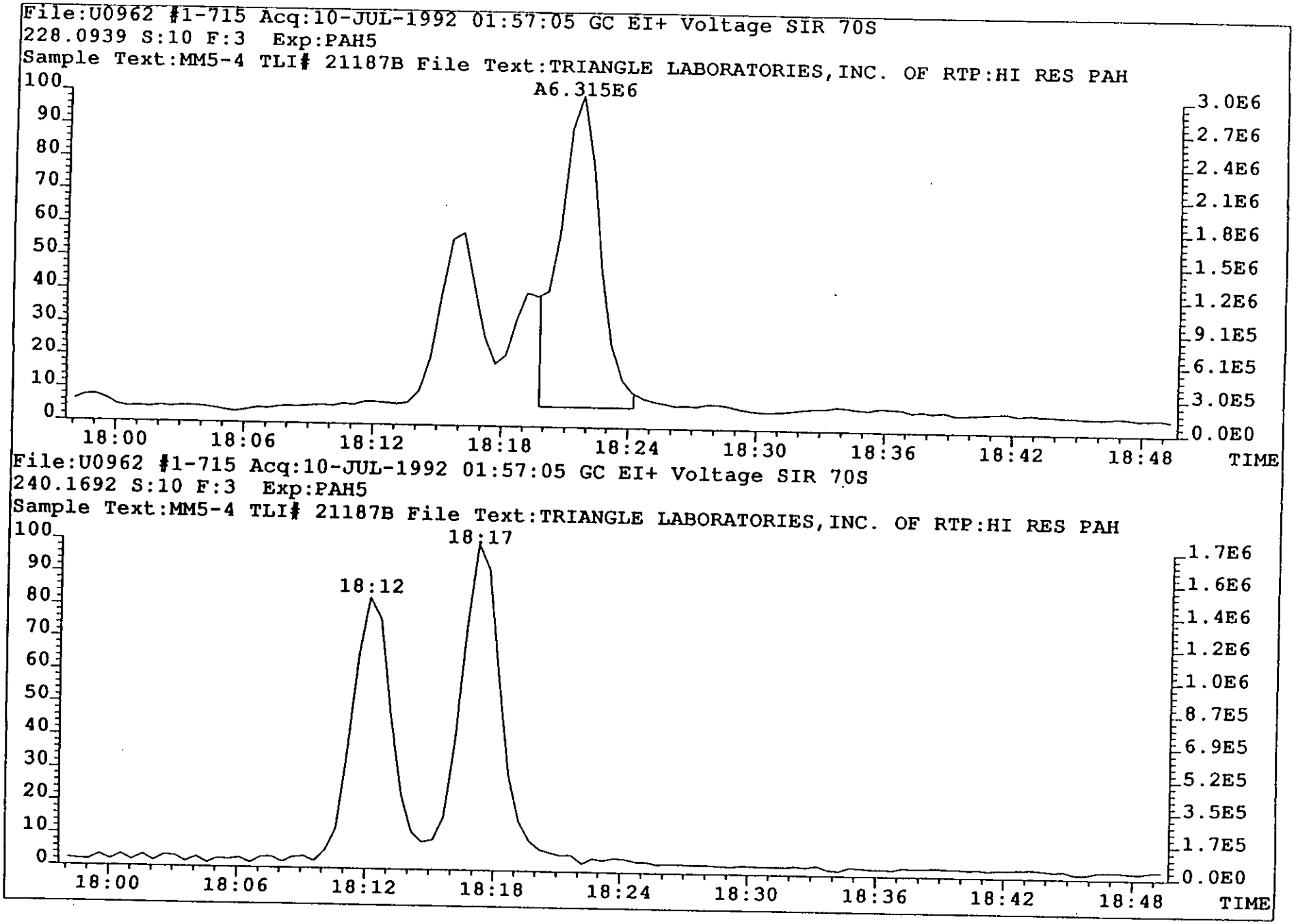

File:U0962 Acq:10-JUL-1992 01:57:05 Mass 154.0782 S:10 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,1000000.0,0.00%,F,»
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.40E7
A1.61E8
A1.68E8
A8.05E7
A6.40E7
A1.42E8
A2.72E8
A6.25E7
A1.47E8
A1.27E8
A7.45E7
TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 164.1410 S:10 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,197544.0,0.00%,F,F»
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.62E7
TIME

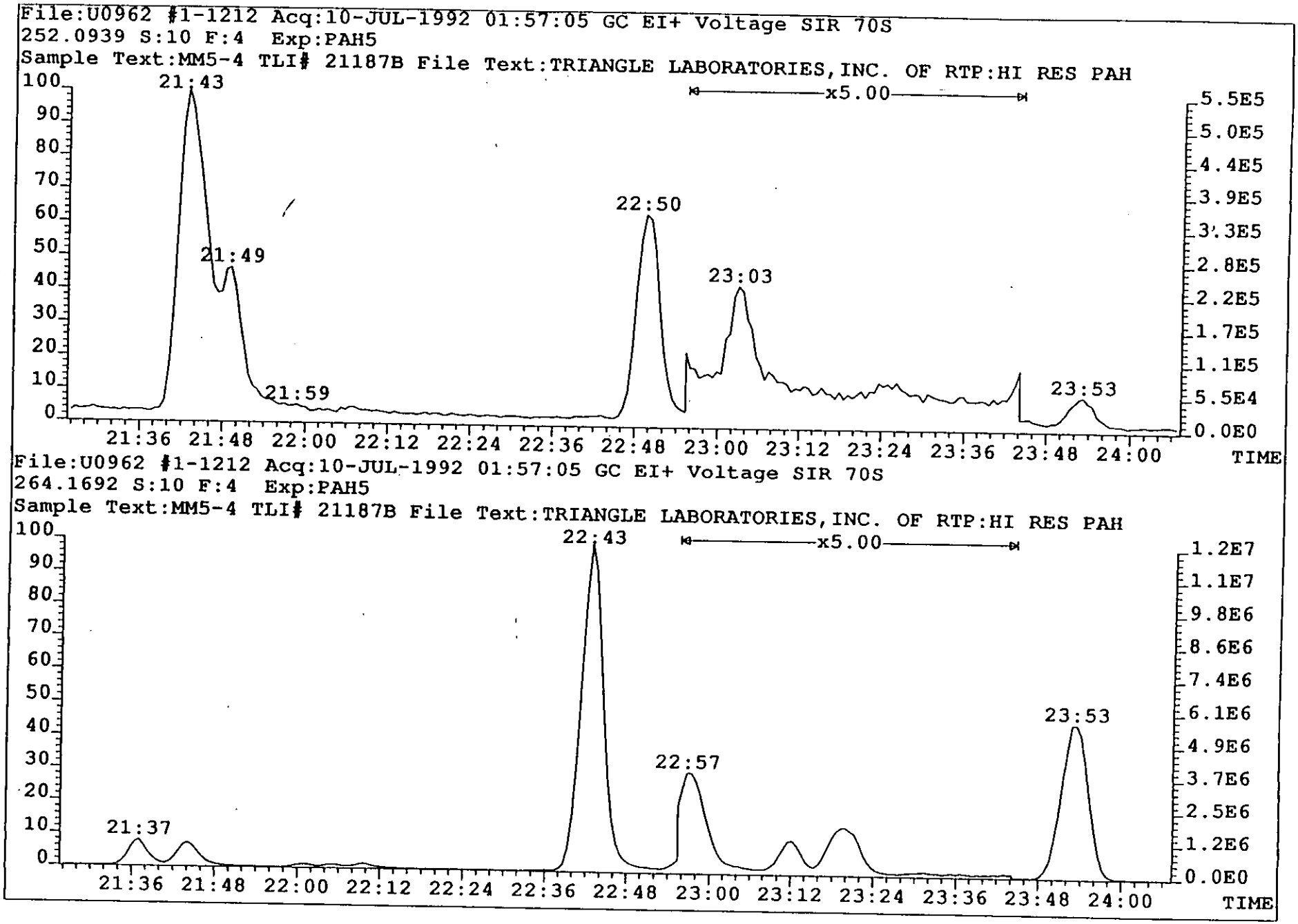

File:U0962 Acq:10-JUL-1992 01:57:05 Mass 176.1410 S:10 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,190156.0,0.00%,F,F)»
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 178.0782 S:10 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,22744.0,0.00%,F,F)»
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.82E8
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 188.1410 S:10 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,1000000.0,0.00%,F,»
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.70E6
8:00
9:00
10:00
11:00
12:00 TIME

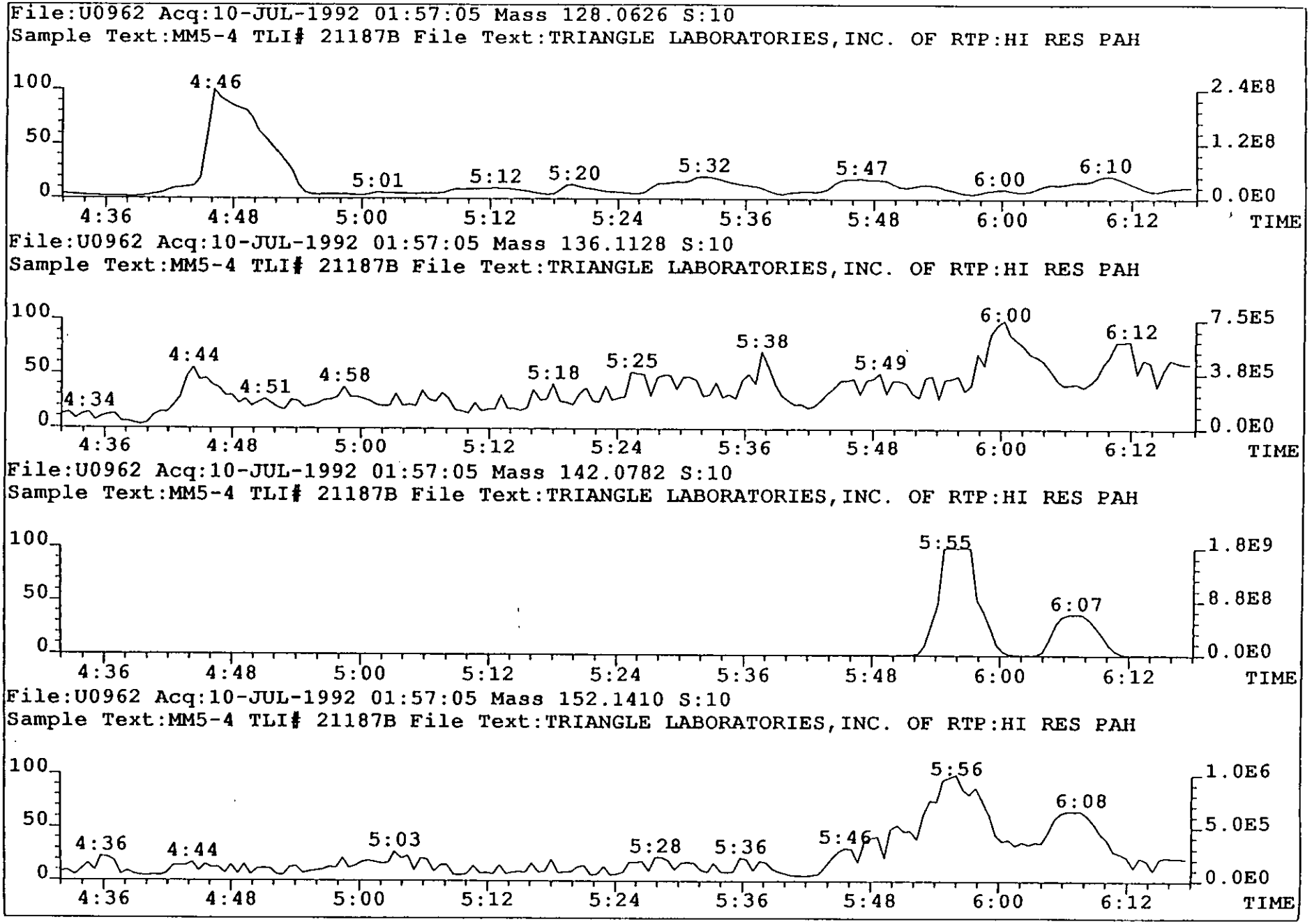

File:U0962 Acq:10-JUL-1992 01:57:05 Mass 202.0782 S:10 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,762156.0,0.00%,F,F)»
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.11E6
A4.73E7
A5.33E7
A9.63E6
1.8E7
8.9E6
0.0E0
14:00
15:00
16:00
17:00
18:00
19:00 TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 212.1410 S:10 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,66816.0,0.00%,F,F)»
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.21E7
A1.06E8
3.2E7
1.6E7
0.0E0
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 228.0939 S:10 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,67672.0,0.00%,F,F)»
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.96E5
A8.33E5
A7.00E5
A7.48E6
1.9E6
9.6E5
0.0E0
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 240.1692 S:10 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,38092.0,0.00%,F,F)»
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.37E8
7.0E7
3.5E7
0.0E0
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 244.1974 S:10 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,16108.0,0.00%,F,F)»
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.04E9
9.5E8
4.8E8
0.0E0

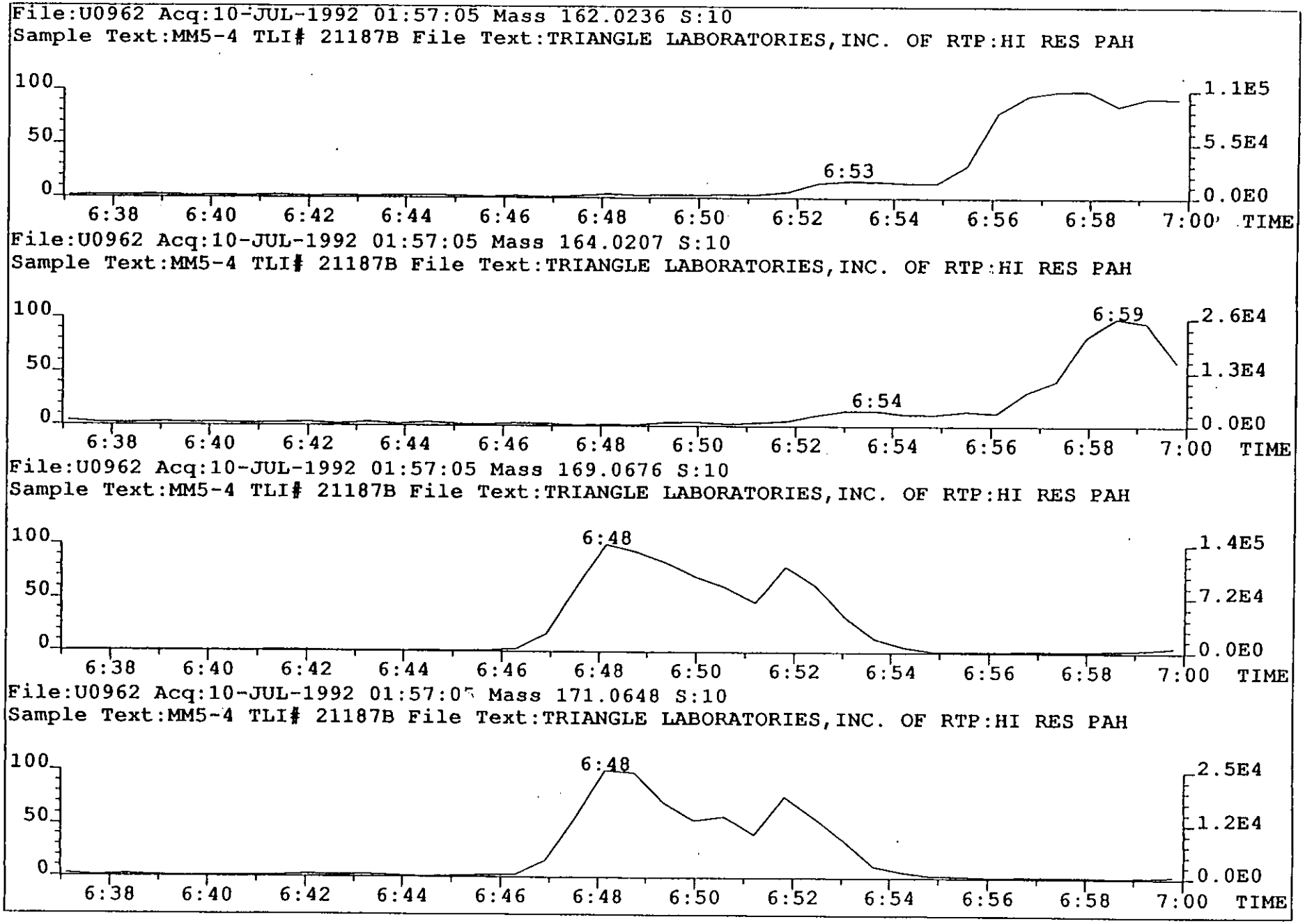

File:U0962 Acq:10-JUL-1992 01:57:05 Mass 252.0939 S:10 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,2,1.00%,8212.0,0.00%,F,F)
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.59E6
A1.29E6
A8.59E4
TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 264.1692 S:10 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,1,1.00%,9008.0,0.00%,F,F)
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A4.49E7
A2.57E6
A2.13E6
TIME

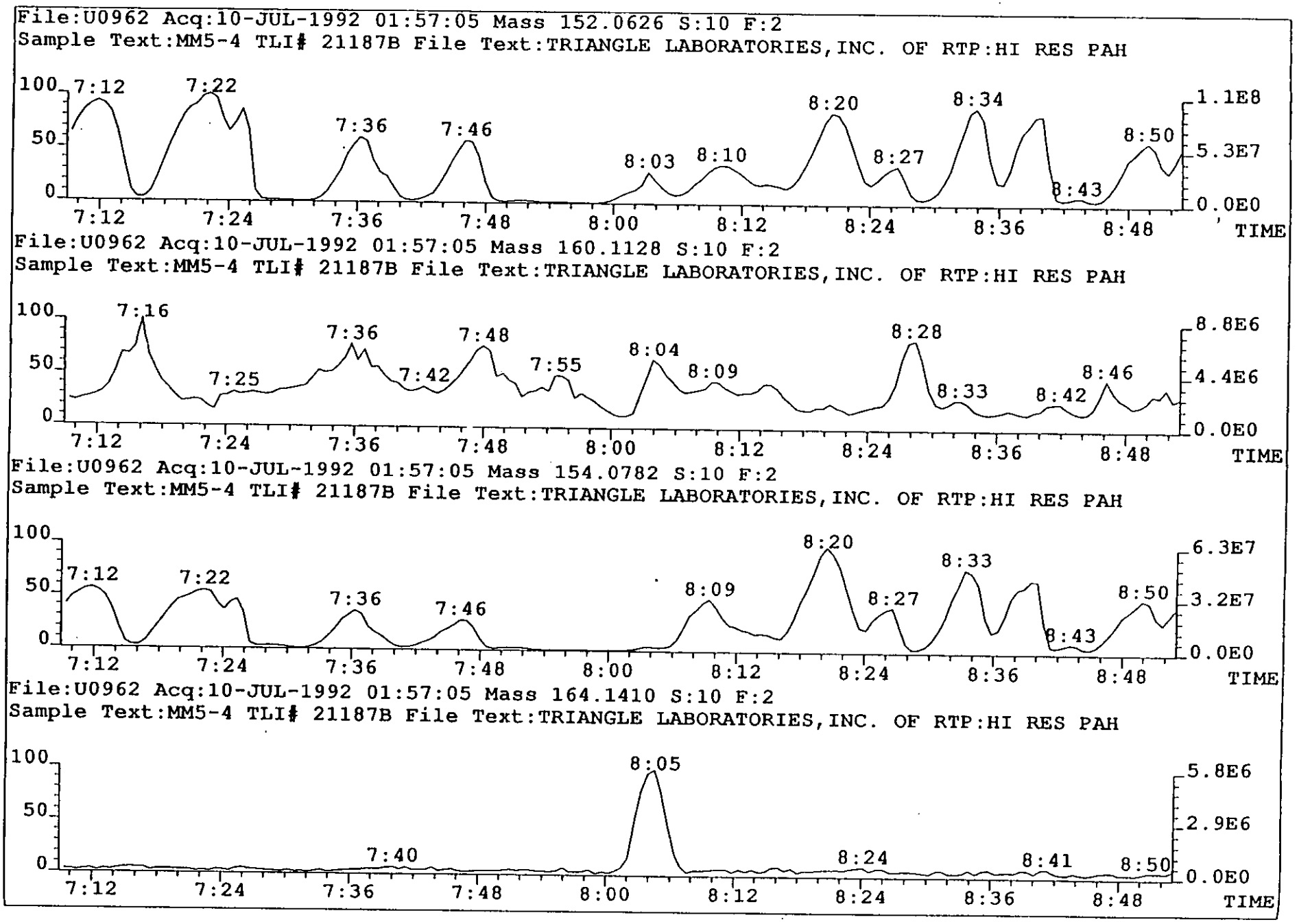

File:U0962 Acq:10-JUL-1992 01:57:05 Mass 276.0939 S:10 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,2004.0,0.00%,F,F)
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.03E6
A1.16E5
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 288.1692 S:10 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,5956.0,0.00%,F,F)
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.93E6
A1.20E6
A6.59E5
A1.74E5
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 278.1096 S:10 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,3880.0,0.00%,F,F)
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 292.1974 S:10 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,1156.0,0.00%,F,F)
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.24E6
TIME

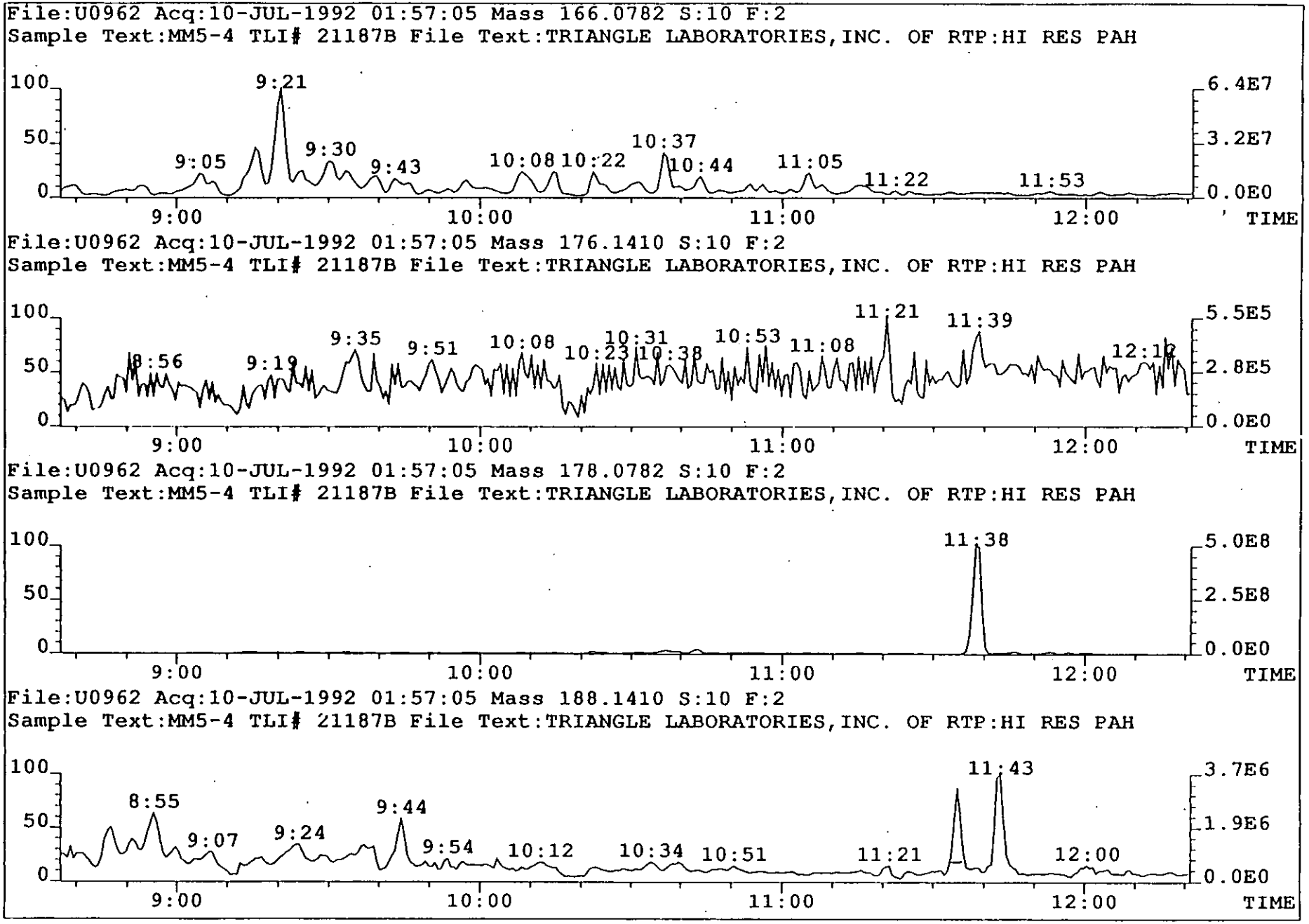

File:U0962 #1-715 Acq:10-JUL-1992 01:57:05 GC EI+ Voltage SIR 70S
228.0939 S:10 F:3 Exp:PAH5
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.315E6
100
90
80
70
60
50
40
30
20
10
0
3.0E6
2.7E6
2.4E6
2.1E6
1.8E6
1.5E6
1.2E6
9.1E5
6.1E5
3.0E5
0.0E0
18:00
18:06
18:12
18:18
18:24
18:30
18:36
18:42
18:48
TIME
File:U0962 #1-715 Acq:10-JUL-1992 01:57:05 GC EI+ Voltage SIR 70S
240.1692 S:10 F:3 Exp:PAH5
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:17
18:12
100
90
80
70
60
50
40
30
20
10
0
1.7E6
1.6E6
1.4E6
1.2E6
1.0E6
8.7E5
6.9E5
5.2E5
3.5E5
1.7E5
0.0E0
18:00
18:06
18:12
18:18
18:24
18:30
18:36
18:42
18:48
TIME

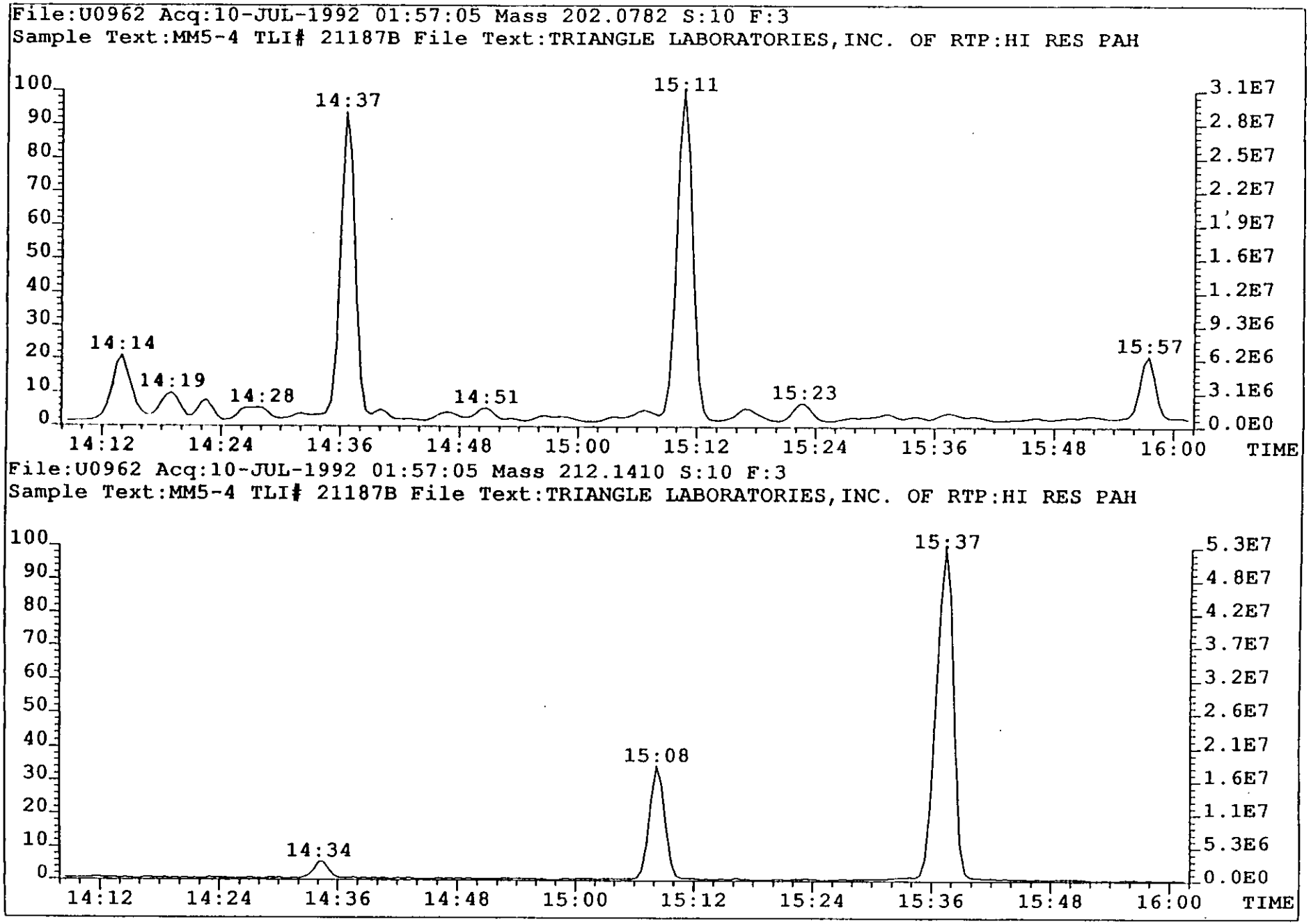

File:U0962 #1-1212 Acq:10-JUL-1992 01:57:05 GC EI+ Voltage SIR 70S
252.0939 S:10 F:4 Exp:PAH5
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
x5.00
21:43
21:49
21:59
22:50
23:03
23:53
TIME
File:U0962 #1-1212 Acq:10-JUL-1992 01:57:05 GC EI+ Voltage SIR 70S
264.1692 S:10 F:4 Exp:PAH5
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
x5.00
22:43
21:37
22:57
23:53
TIME

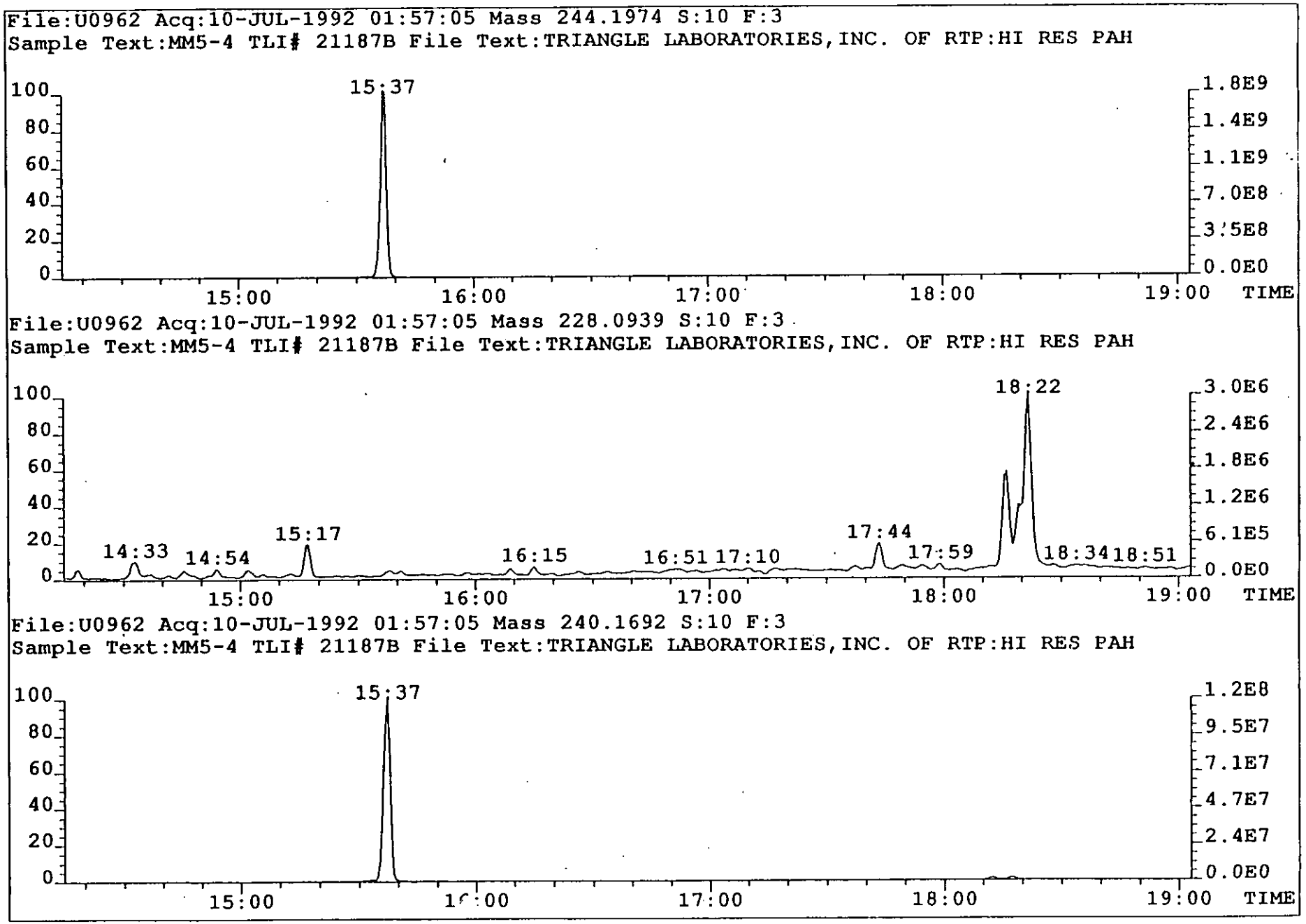

File:U0962 Acq:10-JUL-1992 01:57:05 Mass 128.0626 S:10
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:46
5:01
5:12
5:20
5:32
5:47
6:00
6:10
2.4E8
1.2E8
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 136.1128 S:10
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:34
4:44
4:51
4:58
5:18
5:25
5:38
5:49
6:00
6:12
7.5E5
3.8E5
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 142.0782 S:10
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
5:55
6:07
1.8E9
8.8E8
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 152.1410 S:10
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:36
4:44
5:03
5:28
5:36
5:46
5:56
6:08
1.0E6
5.0E5
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME

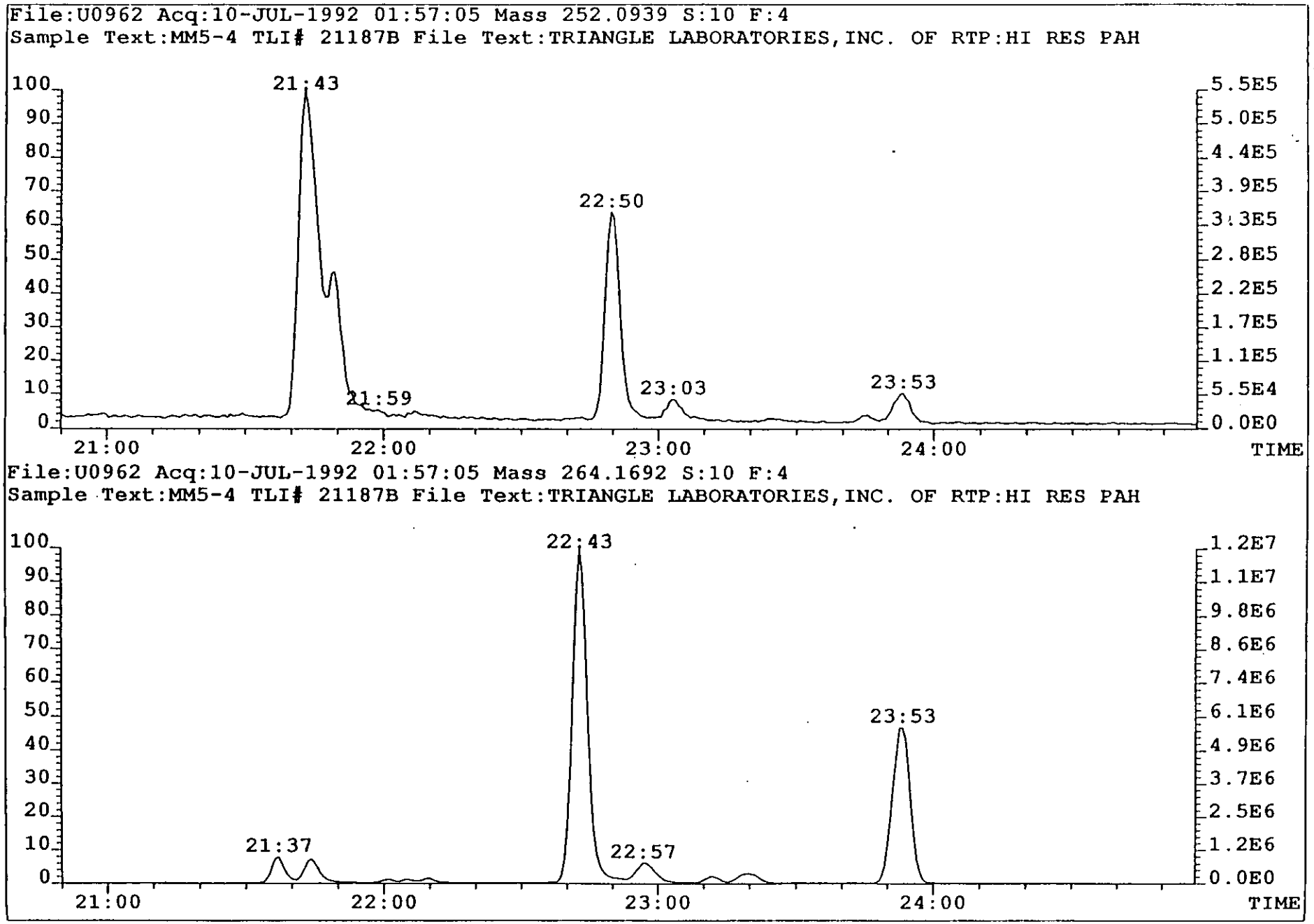

File:U0962 Acq:10-JUL-1992 01:57:05 Mass 162.0236 S:10
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
1.1E5
5.5E4
0.0E0
6:53
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 164.0207 S:10
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
2.6E4
1.3E4
0.0E0
6:59
6:54
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 169.0676 S:10
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
1.4E5
7.2E4
0.0E0
6:48
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 171.0648 S:10
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
2.5E4
1.2E4
0.0E0
6:48
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME

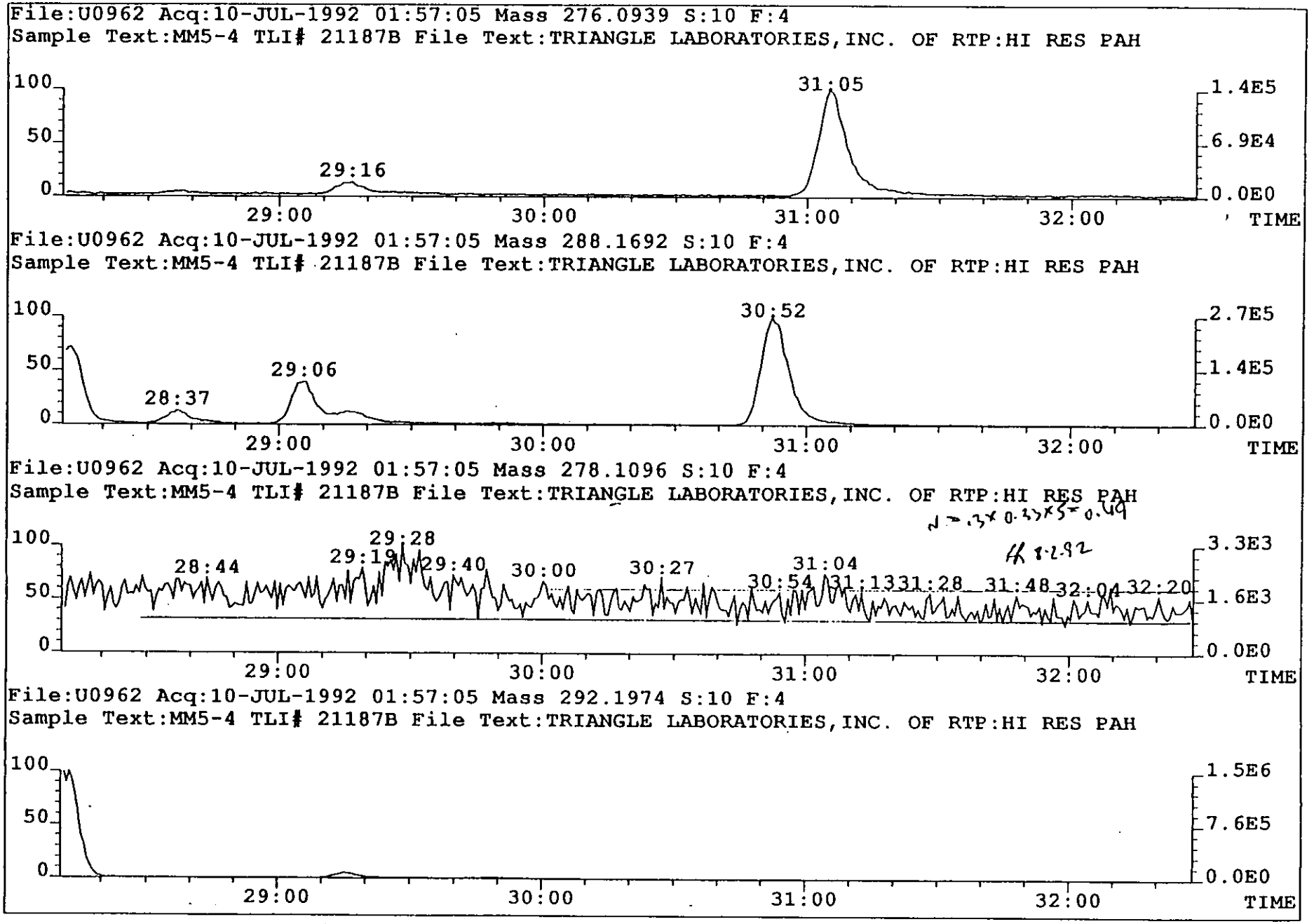

File:U0962 Acq:10-JUL-1992 01:57:05 Mass 152.0626 S:10 F:2
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:12
7:22
7:36
7:46
8:03
8:10
8:20
8:27
8:34
8:43
8:50
1.1E8
5.3E7
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 160.1128 S:10 F:2
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
7:16
7:25
7:36
7:42
7:48
7:55
8:04
8:09
8:28
8:33
8:42
8:46
8.8E6
4.4E6
0.0E0
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 154.0782 S:10 F:2
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
6.3E7
3.2E7
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 164.1410 S:10 F:2
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
7:40
8:05
8:24
8:41
8:50
5.8E6
2.9E6

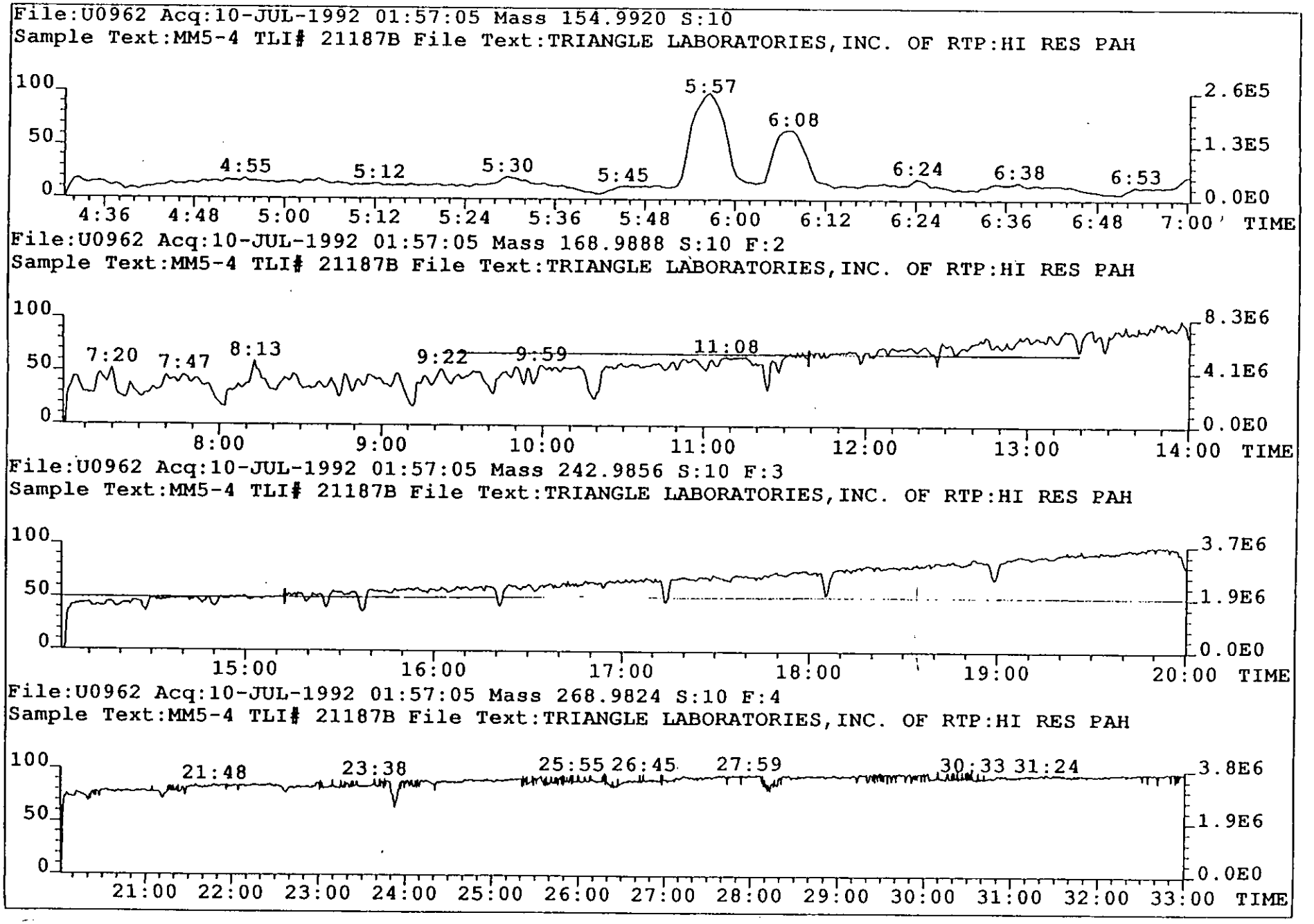

File:U0962 Acq:10-JUL-1992 01:57:05 Mass 166.0782 S:10 F:2
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:21
9:05
9:30
9:43
10:08
10:22
10:37
10:44
11:05
11:22
11:53
6.4E7
3.2E7
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 176.1410 S:10 F:2
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
8:56
9:19
9:35
9:51
10:08
10:23
10:31
10:38
10:53
11:08
11:21
11:39
5.5E5
2.8E5
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 178.0782 S:10 F:2
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
11:38
5.0E8
2.5E8
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 188.1410 S:10 F:2
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
8:55
9:07
9:24
9:44
9:54
10:12
10:34
10:51
11:21
11:43
12:00
3.7E6
1.9E6
0.0E0
9:00
10:00
11:00
12:00
TIME


File:U0962 Acq:10-JUL-1992 01:57:05 Mass 202.0782 S:10 F:3
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
14:14
14:19
14:28
14:37
14:51
15:11
15:23
15:57
TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 212.1410 S:10 F:3
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
14:34
15:08
15:37
TIME


File:U0962 Acq:10-JUL-1992 01:57:05 Mass 244.1974 S:10 F:3
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:37
100
80
60
40
20
0
1.8E9
1.4E9
1.1E9
7.0E8
3.5E8
0.0E0
15:00
16:00
17:00
18:00
19:00
TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 228.0939 S:10 F:3
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:22
14:33
14:54
15:17
16:15
16:51
17:10
17:44
17:59
18:34
18:51
3.0E6
2.4E6
1.8E6
1.2E6
6.1E5
0.0E0
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 240.1692 S:10 F:3
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:37
1.2E8
9.5E7
7.1E7
4.7E7
2.4E7
0.0E0


File:U0962 Acq:10-JUL-1992 01:57:05 Mass 252.0939 S:10 F:4
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:43
22:50
21:59
23:03
23:53
100
90
80
70
60
50
40
30
20
10
0
5.5E5
5.0E5
4.4E5
3.9E5
3.3E5
2.8E5
2.2E5
1.7E5
1.1E5
5.5E4
0.0E0
21:00
22:00
23:00
24:00
TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 264.1692 S:10 F:4
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
22:43
23:53
21:37
22:57
100
90
80
70
60
50
40
30
20
10
0
1.2E7
1.1E7
9.8E6
8.6E6
7.4E6
6.1E6
4.9E6
3.7E6
2.5E6
1.2E6
0.0E0
21:00
22:00
23:00
24:00
TIME


File:U0962 Acq:10-JUL-1992 01:57:05 Mass 276.0939 S:10 F:4
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:16
31:05
1.4E5
6.9E4
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 288.1692 S:10 F:4
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
28:37
29:06
30:52
2.7E5
1.4E5
0.0E0
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 278.1096 S:10 F:4
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
28:44
29:19
29:28
29:40
30:00
30:27
30:54
31:04
31:13
31:28
31:48
32:04
32:20
3.3E3
1.6E3
0.0E0
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 292.1974 S:10 F:4
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
1.5E6
7.6E5
0.0E0


File:U0962 Acq:10-JUL-1992 01:57:05 Mass 154.9920 S:10
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:55
5:12
5:30
5:45
5:57
6:08
6:24
6:38
6:53
2.6E5
1.3E5
0.0E0
4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 6:24 6:36 6:48 7:00 TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 168.9888 S:10 F:2
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:20
7:47
8:13
9:22
9:59
11:08
8.3E6
4.1E6
0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 242.9856 S:10 F:3
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
3.7E6
1.9E6
0.0E0
15:00 16:00 17:00 18:00 19:00 20:00 TIME
File:U0962 Acq:10-JUL-1992 01:57:05 Mass 268.9824 S:10 F:4
Sample Text:MM5-4 TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
21:48
23:38
25:55
26:45
27:59
30:33
31:24
3.8E6
1.9E6
0.0E0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 33:00 TIME

TRIANGLE LABORATORIES OF RTP, INC.
801 Capitola Drive
Durham, NC 27713
Telephone: (919) 544-5729

DATA FILE: JA32207
RF FILE: JA321
DATE: 08/31/92
TLI PROJ #: 21187

SAMPLE ID: MM5-2 FILTER, XAD RINSE
TLI ID: 57-89-2A
57-102-1,3
DILN FACTOR: 2
ANALYSIS DATE: 8/03/92

METHOD 8270 QUANTITATION REPORT

	NAME	AREA	RF	RT	ISID	AMOUNT, ug	CODE	QUAN LIMIT
1	1,4-Dichlorobenzene-d4	243208		12.35	1		IS	
9	2-Methylphenol	0	1.1066	.00	1	11.89	ND	20
11	3-/4-Methylphenol	0	1.1270	.00	1	11.67	ND	20
14	Naphthalene-d8	1040558		15.58	14		IS	
23	Naphthalene	1587996	.9054	15.63	14	134.85	D	20
27	2-Methylnaphthalene	2897738	.6944	17.45	14	320.83	D	20
28	Acenaphthene-d10	653459		20.22	28		IS	
32	2-Chloronaphthalene	0	1.0936	.00	28	4.48	ND	20
35	Acenaphthylene	88037	1.7394	19.85	28	6.20	E	20
37	Acenaphthene	24759	1.0107	20.32	28	3.00	E	20
45	Fluorene	40189	1.0993	21.69	28	4.48	E	20
47	Phenanthrene-d10	933079		24.21	47		IS	
53	Phenanthrene	201884	.9928	24.28	47	17.43	E	20
54	Anthracene	0	1.0770	.00	47	3.18	ND	20
56	Fluoranthene	55764	1.3220	27.58	47	3.62	E	20
57	Chrysene-d12	642788		33.16	57		IS	
58	Pyrene	36087	1.7206	28.33	57	2.61	E	20
61	Benzo(a)anthracene	0	1.4688	.00	57	3.39	ND	20
62	Chrysene	0	1.3077	.00	57	3.81	ND	20
64	Perylene-d12	1446876		40.69	64		IS	
66	Benzo(b)fluoranthene	0	1.3932	.00	64	1.59	ND	20
67	Benzo(k)fluoranthene	0	1.3054	.00	64	1.69	ND	20
93	Perylene	0	.9243	.00	64	2.39	ND	20
68	Benzo(a)pyrene	0	1.1350	.00	64	1.95	ND	20
89	Benzo(e)pyrene	0	1.1478	.00	64	1.93	ND	20
69	Indeno(1,2,3-cd)pyrene	0	.8928	.00	64	2.48	ND	20
91	Dibenzo(a,h)anthracene	0	.7274	.00	64	3.04	ND	20
71	Benzo(g,h,i)perylene	0	.7834	.00	64	2.82	ND	20
	Cumene	1283770	1.7060	10.46	1	247.53	E	50
	1,2-Benzofluorene	0	1.3420	0.00	47	2.56	ND	50
	2,3-Benzofluorene	0	1.2310	0.00	47	2.79	ND	50

SURROGATE SUMMARY		AREA	RF	RT	ISID	AMOUNT	CODE	% RECOVERY
74	Terphenyl-d14	1151502	1.6043	28.75	57	89.33	D	89.3
75	Phenol-d5	405126	1.3523	11.37	1	98.54	D	98.5
77	2,4,6-Tribromophenol	167661	.2419	22.32	28	84.87	D	84.9
81	1,4-Dibromobenzene-d4	251063	.8977	15.70	1	91.99	D	92.0

CODES: ND = Not Detected; D = Detected; E = Estimated; IS = Internal Standard

TRIANGLE LABORATORIES OF RTP, INC.
801 Capitola Drive
Durham, NC 27713
Telephone: (919) 544-5729

DATA FILE: JA32209
RF FILE: JA321
DATE: 08/31/92
TLI PROJ #: 21187

SAMPLE ID: MM5-3 FILTER, XAD RINSE
TLI ID: 57-89-3
57-102-4,6
DILN FACTOR: 2
ANALYSIS DATE: 8/03/92

METHOD 8270 QUANTITATION REPORT

	NAME	AREA	RF	RT	ISID	AMOUNT, ug	CODE	QUAN LIMIT
1	1,4-Dichlorobenzene-d4	241325		12.34	1		IS	
9	2-Methylphenol	0	1.1066	.00	1	11.98	ND	20
11	3-/4-Methylphenol	0	1.1270	.00	1	11.77	ND	20
14	Naphthalene-d8	944483		15.57	14		IS	
23	Naphthalene	1468003	.9054	15.63	14	137.34	D	20
27	2-Methylnaphthalene	2826721	.6944	17.44	14	344.81	D	20
28	Acenaphthene-d10	592337		20.22	28		IS	
32	2-Chloronaphthalene	0	1.0936	.00	28	4.23	ND	20
35	Acenaphthylene	63581	1.7394	19.84	28	4.22	E	20
37	Acenaphthene	24163	1.0107	20.32	28	2.76	E	20
45	Fluorene	35332	1.0993	21.68	28	3.71	E	20
47	Phenanthrene-d10	918666		24.21	47		IS	
53	Phenanthrene	157837	.9928	24.27	47	13.84	E	20
54	Anthracene	0	1.0770	.00	47	3.23	ND	20
56	Fluoranthene	26476	1.3220	27.58	47	1.74	E	20
57	Chrysene-d12	613800		33.16	57		IS	
58	Pyrene	18810	1.7206	28.33	57	1.42	E	20
61	Benzo(a)anthracene	0	1.4688	.00	57	3.55	ND	20
62	Chrysene	0	1.3077	.00	57	3.99	ND	20
64	Perylene-d12	1415103		40.68	64		IS	
66	Benzo(b)fluoranthene	0	1.3932	.00	64	1.62	ND	20
67	Benzo(k)fluoranthene	0	1.3054	.00	64	1.73	ND	20
93	Perylene	0	.9243	.00	64	2.45	ND	20
68	Benzo(a)pyrene	0	1.1350	.00	64	1.99	ND	20
69	Benzo(e)pyrene	0	1.1478	.00	64	1.97	ND	20
69	Indeno(1,2,3-cd)pyrene	0	.8928	.00	64	2.53	ND	20
91	Dibenzo(a,h)anthracene	0	.7274	.00	64	3.11	ND	20
71	Benzo(g,h,i)perylene	0	.7834	.00	64	2.89	ND	20
	Cumene	140281	1.7060	10.46	1	27.26	E	50
	1,2-Benzofluorene	0	1.3420	0.00	47	2.60	ND	50
	2,3-Benzofluorene	0	1.2310	0.00	47	2.83	ND	50

	SURROGATE SUMMARY	AREA	RF	RT	ISID	AMOUNT	CODE	% RECOVERY
74	Terphenyl-d14	1217667	1.6043	28.76	57	98.93	D	98.9
75	Phenol-d5	392255	1.3523	11.36	1	96.16	D	96.2
77	2,4,6-Tribromophenol	169949	.2419	22.33	28	81.20	D	81.2
81	1,4-Dibromobenzene-d4	223333	.8977	15.70	1	82.47	D	82.5

CODES: ND = Not Detected; D = Detected; E = Estimated; IS = Internal Standard

TRIANGLE LABORATORIES OF RTP, INC.
801 Capitola Drive
Durham, NC 27713
Telephone: (919) 544-5729

DATA FILE: JA32210
RF FILE: JA321
DATE: 08/31/92
TLI PROJ #: 21187

SAMPLE ID: MM5-4 FILTER, XAD RINSE
TLI ID: 57-89-4A 57-102-7,9
DILN FACTOR: 2
ANALYSIS DATE: 8/03/92

METHOD 8270 QUANTITATION REPORT

	NAME	AREA	RF	RT	ISID	AMOUNT, ug	CODE	QUAN LIMIT
1	1,4-Dichlorobenzene-d4	231181		12.36	1		IS	
9	2-Methylphenol	0	1.1066	.00	1	12.51	ND	20
11	3-/4-Methylphenol	0	1.1270	.00	1	12.28	ND	20
14	Naphthalene-d8	993030		15.59	14		IS	
23	Naphthalene	1601777	.9054	15.64	14	142.53	D	20
27	2-Methylnaphthalene	3102867	.6944	17.46	14	359.99	D	20
28	Acenaphthene-d10	664878		20.24	28		IS	
32	2-Chloronaphthalene	0	1.0936	.00	28	4.40	ND	20
35	Acenaphthylene	95177	1.7394	19.86	28	6.58	E	20
37	Acenaphthene	74612	1.0107	20.32	28	8.88	E	20
45	Fluorene	88974	1.0993	21.70	28	9.74	E	20
47	Phenanthrene-d10	1015640		24.23	47		IS	
53	Phenanthrene	275121	.9928	24.29	47	21.83	D	20
54	Anthracene	0	1.0770	.00	47	2.93	ND	20
56	Fluoranthene	20974	1.3220	27.59	47	1.25	E	20
57	Chrysene-d12	753004		33.17	57		IS	
58	Pyrene	21846	1.7206	28.34	57	1.35	E	20
61	Benzo(a)anthracene	0	1.4688	.00	57	2.89	ND	20
62	Chrysene	0	1.3077	.00	57	3.25	ND	20
64	Perylene-d12	1549647		40.70	64		IS	
66	Benzo(b)fluoranthene	0	1.3932	.00	64	1.48	ND	20
67	Benzo(k)fluoranthene	0	1.3054	.00	64	1.58	ND	20
93	Perylene	0	.9243	.00	64	2.23	ND	20
68	Benzo(a)pyrene	0	1.1350	.00	64	1.82	ND	20
89	Benzo(e)pyrene	0	1.1478	.00	64	1.80	ND	20
69	Indeno(1,2,3-cd)pyrene	0	.8928	.00	64	2.31	ND	20
91	Dibenzo(a,h)anthracene	0	.7274	.00	64	2.84	ND	20
71	Benzo(g,h,i)perylene	0	.7834	.00	64	2.64	ND	20
	Cumene	151390	1.7060	10.47	1	30.71	E	50
	1,2-Benzofluorene	0	1.3420	0.00	47	2.35	ND	50
	2,3-Benzofluorene	0	1.2310	0.00	47	2.56	ND	50

SURROGATE SUMMARY		AREA	RF	RT	ISID	AMOUNT	CODE	% RECOVERY
74	Terphenyl-d14	1441992	1.6043	28.77	57	95.49	D	95.5
75	Phenol-d5	360807	1.3523	11.39	1	92.33	D	92.3
77	2,4,6-Tribromophenol	201116	.2419	22.37	28	100.06	D	100.1
81	1,4-Dibromobenzene-d4	240083	.8977	15.72	1	92.54	D	92.5

CODES: ND = Not Detected; D = Detected; E = Estimated; IS = Internal Standard

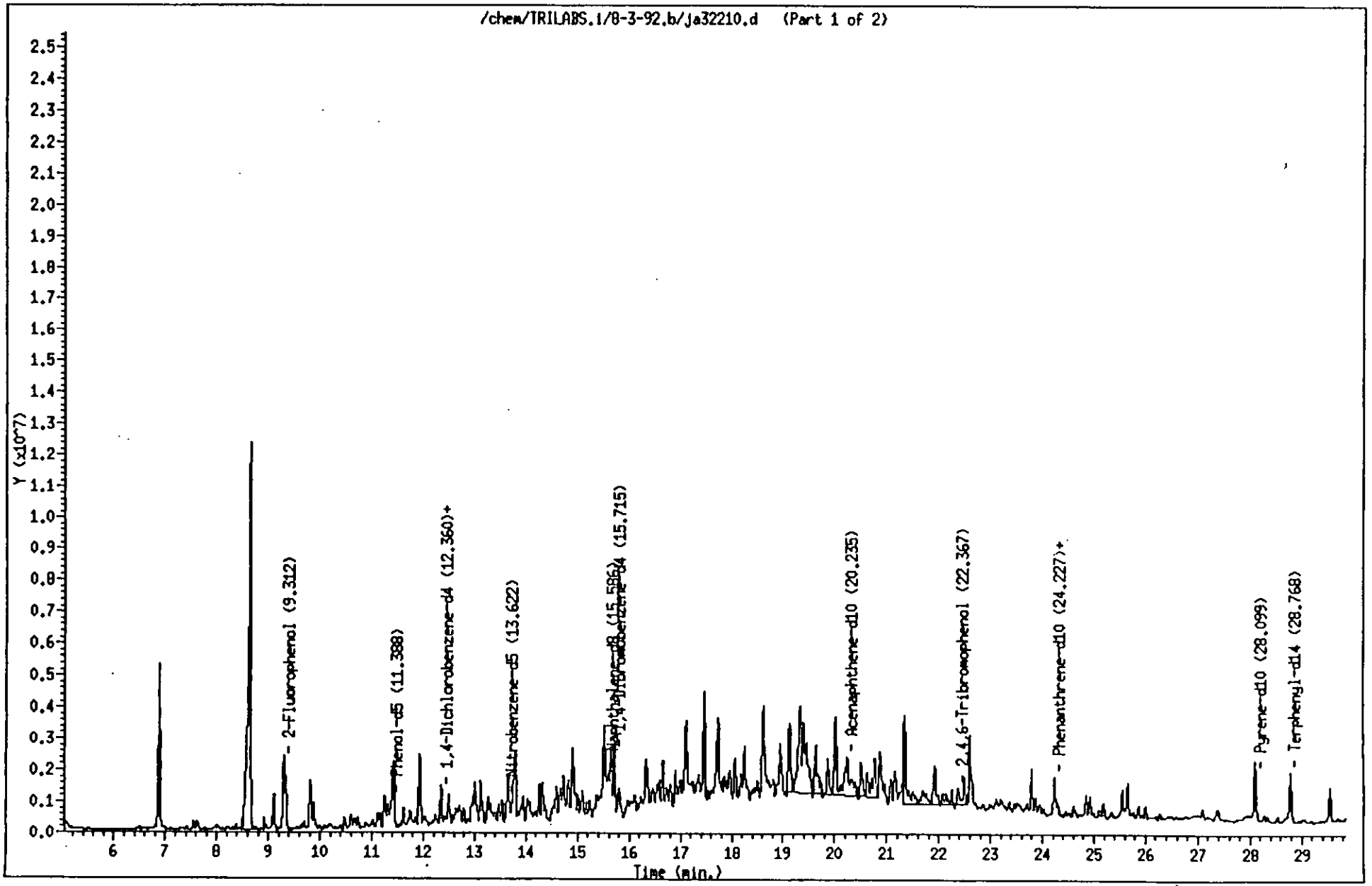
Low Resolution GC/MS Scans & Chromatograms
for
Sample No. MM5-2

Triangle Laboratories Kit, Inc

Data File: /chem/TRILABS.1/8-3-92.b/Ja32210.d
Date : 03-AUG-1992 22:03
Instrument : TRILABS.1
Sample ID : mm5-4
Column phase : DB-5
Volume Injected (uL) : 1.0

8/25/92

Column diameter : 0.32



Triangle Laboratories of RTP, INC

Data File: /chem/TRILABS.1/8-3-92.b/Ja32210.d 8/15/12

Date : 03-AUG-1992 22:03

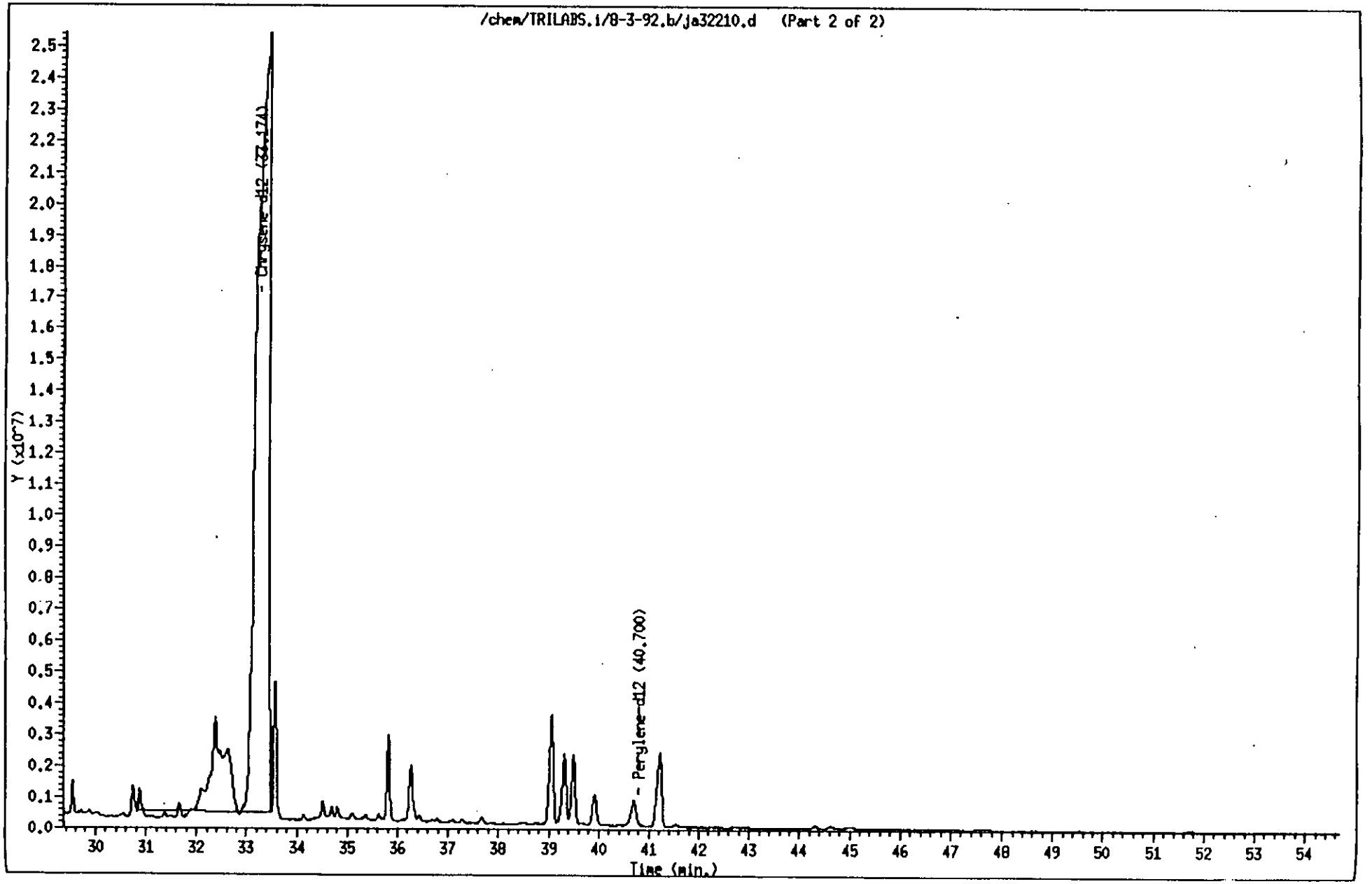
Instrument : TRILABS.1

Sample ID : mm5-4

Column phase : DB-5

Volume Injected (uL) : 1.0

Column diameter : 0.32



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

QUANTITATION 8-3-92

SEMI-VOLATILE ~~QUANTATATION~~ REPORT

Data file : /chem/TRILABS.i/8-3-92.b/ja32210.d
Lab. Id. :
Inj Date : 03-AUG-92 22:03 Autotune Date: 22-Jul-92 12:21:3
Operator : mick Inst ID: TRILABS.i
Smp Info : mm5-4
Misc Info : tli#21187b 57-89-4a 57-102-7,9
Comment :
Method : /chem/TRILABS.i/8-3-92.b/tlibna.m
Meth Date : 20-Aug-1992 09:06 target
Cal Date : 03-AUG-1992 09:52 Cal File: ja321.d
Als bottle: 10
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: all.sub
Rpt Date : 20-Aug-1992 09:11 Sample Type: mm5

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
•	1	1,4-Dichlorobenzene	12.360(1.000)	231181	40.00	40.00
*	2	Naphthalene-d8	15.586(1.000)	993030	40.00	40.00
*	3	Acenaphthene-d10	20.235(1.000)	664878	40.00	40.00
•	4	Phenanthrene-d10	24.227(1.000)	1015640	40.00	40.00
*	5	Chrysene-d12	33.174(1.000)	753004	40.00	40.00
*	6	Perylene-d12	40.700(1.000)	1549647	40.00	40.00
$	7	2-Fluorophenol	9.312(0.753)	4158	0.74	0.78(aQR)
$	8	Phenol-d5	11.388(0.921)	360807	46.16	48.47(QR)
$	9	2-Chlorophenol-d4		Compound Not Detected.		
$	10	1,2-Dichlorobenzene	~~12.360(1.000)~~	~~231181~~	~~50.53~~	~~53.05(Q)~~
$	11	Nitrobenzene-d5	13.622(0.874)	44388	4.36	4.58(aQR)
$	12	1,3,5-Trichlorobenz		Compound Not Detected.		
$	13	1,4-Dibromobenzene-	15.715(1.271)	240083	46.27	48.58(R)
$	14	2-Fluorobiphenyl		Compound Not Detected.		
$	15	2,4,6-Tribromopheno	22.367(1.105)	201116	50.02	52.53
$	16	Anthracene-d10	~~24.227(1.000)~~	~~1015640~~	~~37.96~~	~~39.86(R)~~
$	17	Pyrene-d10	28.099(0.847)	14857	0.53	0.55(aR)
$	18	Terphenyl-d14	28.768(0.867)	1441992	47.74	50.13
	19	N-Nitrosodimethylam		Compound Not Detected.		
	~~20~~	~~Phenol~~	~~11.428(0.925)~~	~~1559369~~	~~201.39~~	~~211.46(A)~~
	21	Aniline		Compound Not Detected.		
	22	bis(2-Chloroethyl)e	~~11.611(0.939)~~	~~8084~~	~~1.16~~	~~1.21(aQ)~~
	23	2-Chlorophenol		Compound Not Detected.		
	24	1,3-Dichlorobenzene		Compound Not Detected.		
	25	1,4-Dichlorobenzene		Compound Not Detected.		
	26	1,2-Dichlorobenzene		Compound Not Detected.		
	~~27~~	~~2-Methylphenol~~	~~12.895(1.043)~~	~~23109~~	~~3.61~~	~~3.79(aQ)~~
	~~28~~	~~2,2'-oxybis(1-Chlor~~	~~13.031(1.054)~~	~~9243~~	~~3.61~~	~~3.79(aQ)~~
	~~29~~	~~Benzyl alcohol~~	~~12.624(1.021)~~	~~2477~~	~~0.85~~	~~0.90(aQ)~~
	~~30~~	~~4-Methylphenol~~	~~13.263(1.073)~~	~~37759~~	~~5.79~~	~~6.08(aQ)~~
	~~31~~	~~N-Nitroso-di-n-prop~~	~~13.151(1.064)~~	~~57169~~	~~12.17~~	~~12.78(Q)~~
	32	Hexachloroethane		Compound Not Detected.		

Data Review: RK
Date: 8/25/92

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug)
~~33 Nitrobenzene~~	~~13.751(0.882)~~	~~38151~~	~~3.91~~	~~4.11(aQ)~~ RKO
~~34 Isophorone~~	~~14.367(0.922)~~	~~77727~~	~~4.25~~	~~4.46(aQ)~~ N.T.
~~35 2-Nitrophenol~~	~~14.331(0.952)~~	~~33086~~	~~6.89~~	~~7.24(aQ)~~ RKO
~~36 2,4-Dimethylphenol~~	~~14.815(0.951)~~	~~466769~~	~~77.58~~	~~81.46~~ RKO
~~37 bis(2-Chloroethoxy)~~	~~14.551(0.934)~~	~~24334~~	~~2.18~~	~~2.29(aQ)~~ RKO
~~38 Benzoic acid~~	~~14.815(0.951)~~	~~466769~~	~~123.99~~	~~130.19~~ N.T.
39 2,4-Dichlorophenol		Compound Not Detected.		
~~40 1,2,4-Trichlorobenz~~	~~15.425(0.990)~~	~~4651~~	~~0.57~~	~~0.60(aQ)~~ RKO
41 Naphthalene	15.642(1.004)	1601777	71.26	74.82
~~42 4-Chloroaniline~~	~~15.642(1.004)~~	~~257829~~	~~27.34~~	~~28.71(Q)~~ RKO
43 Hexachlorobutadiene		Compound Not Detected.		
44 4-Chloro-3-methylph		Compound Not Detected.		
45 2-Methylnaphthalene	17.462(1.120)	3102867	179.99	188.99(A)
46 Hexachlorocyclopent		Compound Not Detected.		
47 2,4,6-Trichlorophen		Compound Not Detected.		
48 2,4,5-Trichlorophen		Compound Not Detected.		
~~49 2-Chloronaphthalene~~	~~18.980(0.938)~~	~~68661~~	~~3.77~~	~~3.96(aQ)~~ RKO
~~50 2-Nitroaniline~~	~~18.932(0.936)~~	~~67379~~	~~12.20~~	~~12.81(Q)~~ RKO
~~51 Dimethylphthalate~~	~~19.425(0.960)~~	~~19480~~	~~0.93~~	~~0.98(aQ)~~ RKO
52 2,6-Dinitrotoluene		Compound Not Detected.		
~~53 2,4-Dinitrotoluene~~	~~20.770(1.026)~~	~~65418~~	~~8.96~~	~~9.40(a)~~ RKO
54 Acenaphthylene	19.855(0.981)	95177	3.29	3.45(aQ)
~~55 3-Nitroaniline~~	~~19.693(0.973)~~	~~33739~~	~~6.14~~	~~6.44(aQ)~~ RKO
56 Acenaphthene	20.324(1.004)	74612	4.44	4.66(aQ)
57 2,4-Dinitrophenol		Compound Not Detected.		
58 4-Nitrophenol		Compound Not Detected.		
~~59 Dibenzofuran~~	~~20.786(1.027)~~	~~148956~~	~~6.32~~	~~6.64(aQ)~~ N.T.
~~60 Diethylphthalate~~	~~21.297(1.052)~~	41359	~~1.88~~	~~1.98~~(aQ) N.T.
~~61 4-Chlorophenyl-phen~~	~~21.370(1.056)~~	~~672~~	~~0.08~~	~~0.08(aQ)~~ RKO
62 Fluorene	21.702(1.073)	88974	4.86	5.11(aQ)
63 4-Nitroaniline		Compound Not Detected.		
64 4,6-Dinitro-2-methy		Compound Not Detected.		
~~65 N-Nitrosodiphenylam~~	~~22.067(0.911)~~	~~31516~~	~~2.71~~	~~2.85(aQ)~~ N.T.
66 4-Bromophenyl-pheny		Compound Not Detected.		
67 Hexachlorobenzene		Compound Not Detected.		
68 Pentachlorophenol		Compound Not Detected.		
69 Phenanthrene	24.292(1.003)	275121	10.91	11.45
~~70 Anthracene~~	~~24.292(1.003)~~	~~274888~~	~~10.05~~	~~10.55~~ RKO
~~71 Carbazole~~	~~24.824(1.025)~~	~~24900~~	~~0.82~~	~~0.86(aQ)~~ RKO
~~72 Di-n-butylphthalate~~	~~25.656(1.059)~~	~~1183431~~	~~24.95~~	~~26.20~~ N.T.
73 Fluoranthene	27.592(1.139)	20974	0.62	0.65(aQ)
74 Pyrene	28.341(0.854)	21846	0.67	0.70(a)
75 Benzidine		Compound Not Detected.		
~~76 Butylbenzylphthalat~~	~~30.537(0.920)~~	~~77072~~	~~3.23~~	~~3.39(aQ)~~ N.T.
77 3,3'-Dichlorobenzid		Compound Not Detected.		
~~78 bis(2-Ethylhexyl)ph~~	~~33.424(1.008)~~	~~109517915~~	~~3283.08~~	~~3447.23(A)~~ N.T.
79 Di-n-octylphthalate		Compound Not Detected.		
80 Benzo(a)anthracene		Compound Not Detected.		
81 Chrysene		Compound Not Detected.		
82 Benzo(b)fluoranthen		Compound Not Detected.		
83 Benzo(k)fluoranthen		Compound Not Detected.		

Data Reviewer : RKO
Date: 8/25/92

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug)
84 Benzo(e)pyrene		Compound Not Detected.		
85 Benzo(a)pyrene		Compound Not Detected.		
86 Perylene	41.219(1.013)	89749	2.50	2.63(aQ) RKO
87 Indeno(1,2,3-cd)pyr		Compound Not Detected.		
88 Dibenzo(a,h)anthrac		Compound Not Detected.		
89 Benzo(g,h,i)perylen		Compound Not Detected.		

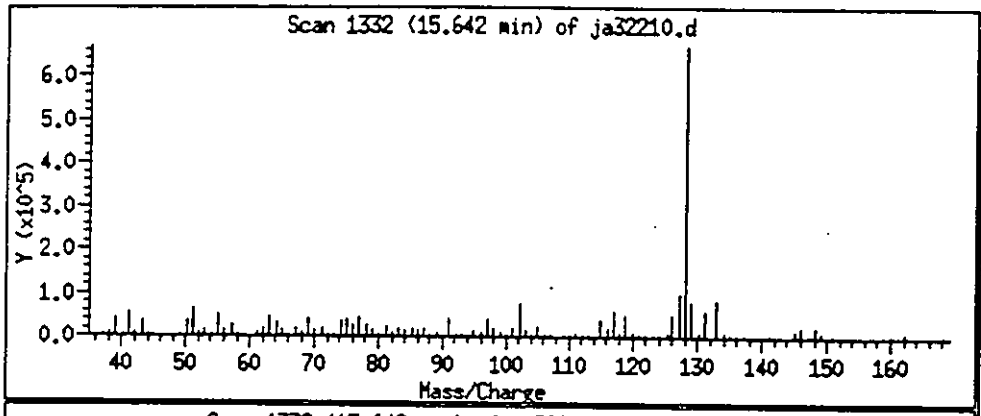
QC Flag Legend

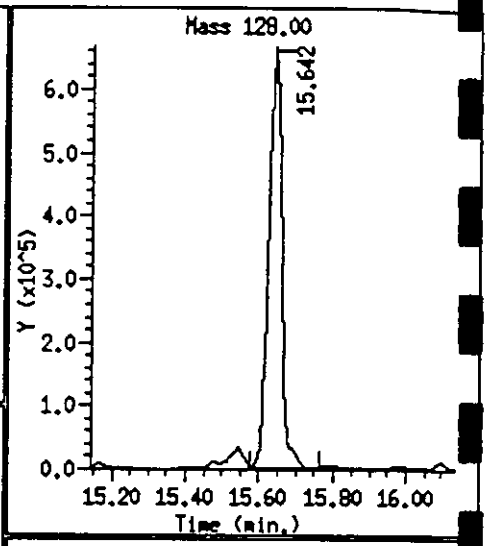
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.

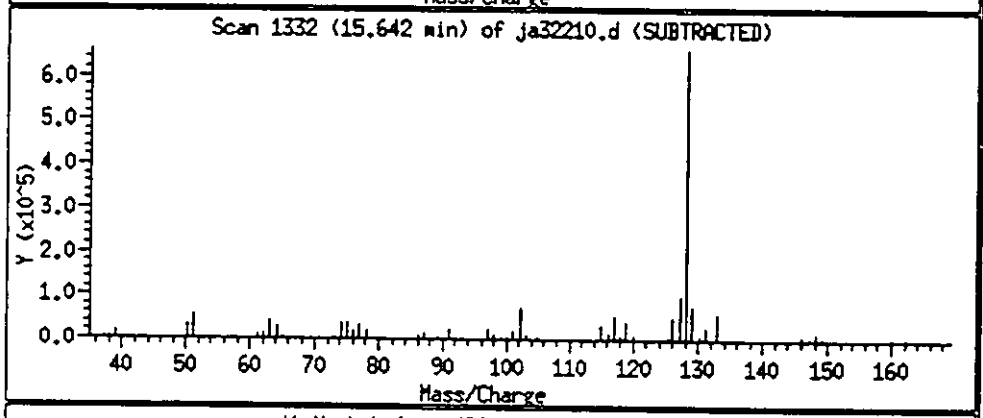
Data Review: RK
Date: 8/25/92

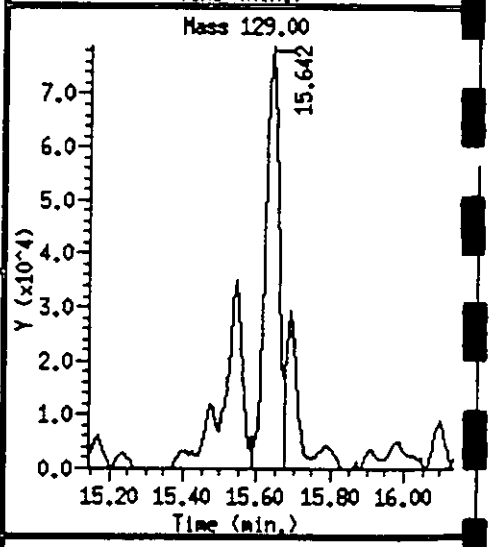
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Date : 03-AUG-1992 22:03
Instrument : TRILABS.i
Sample ID : ms5-4
Column phase : DB-5
Column diameter : 0.32
Volume Injected (uL) : 1.0

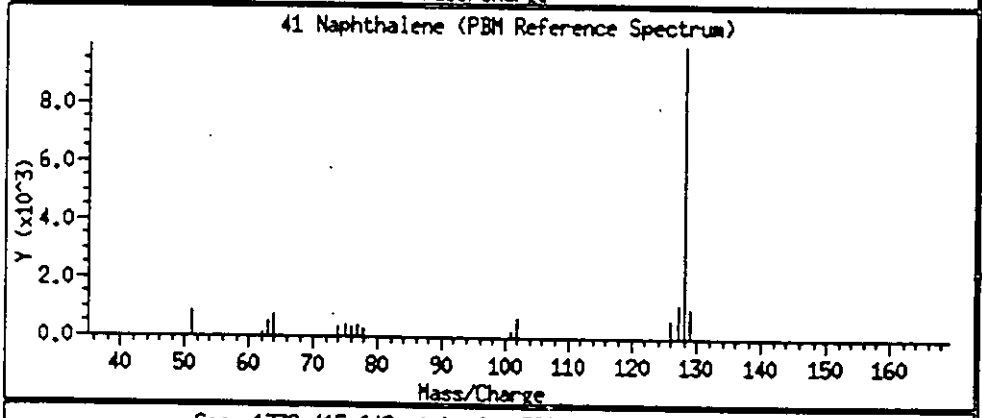
41 Naphthalene

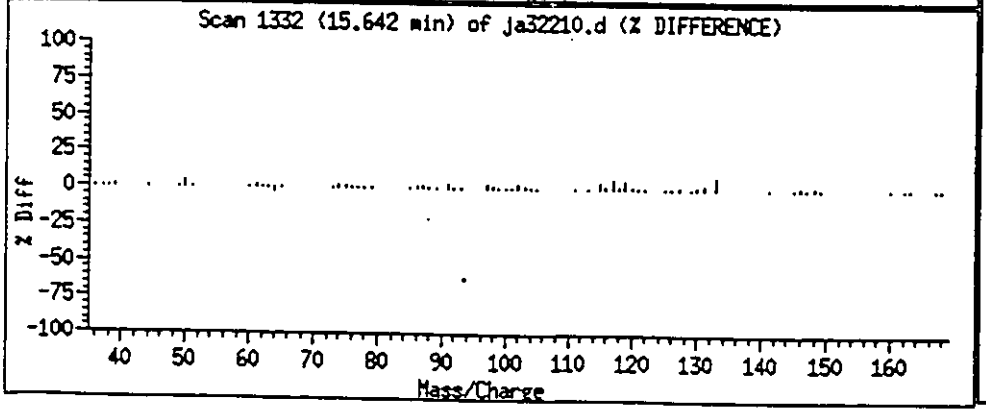


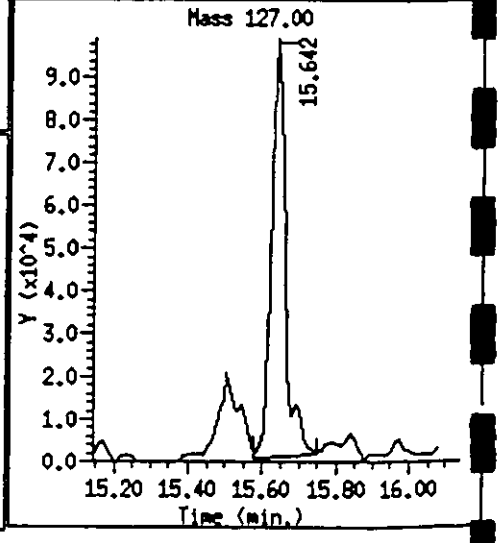






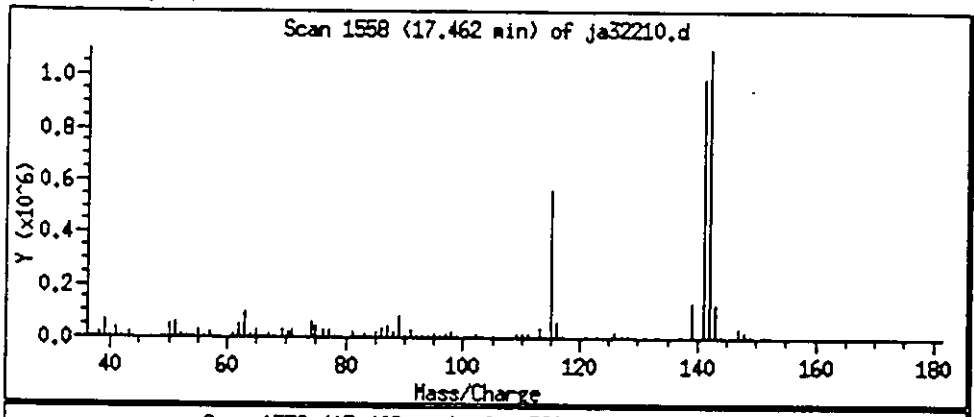


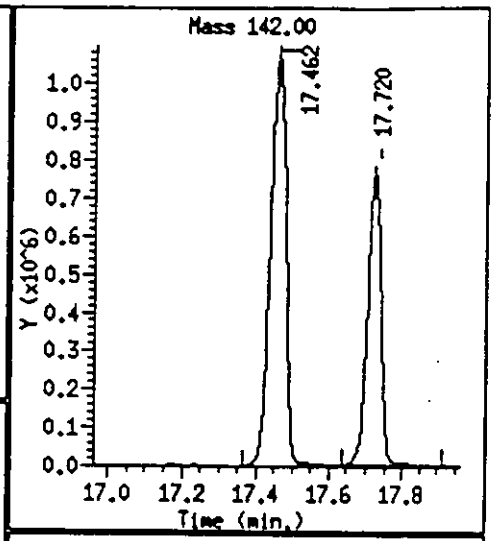


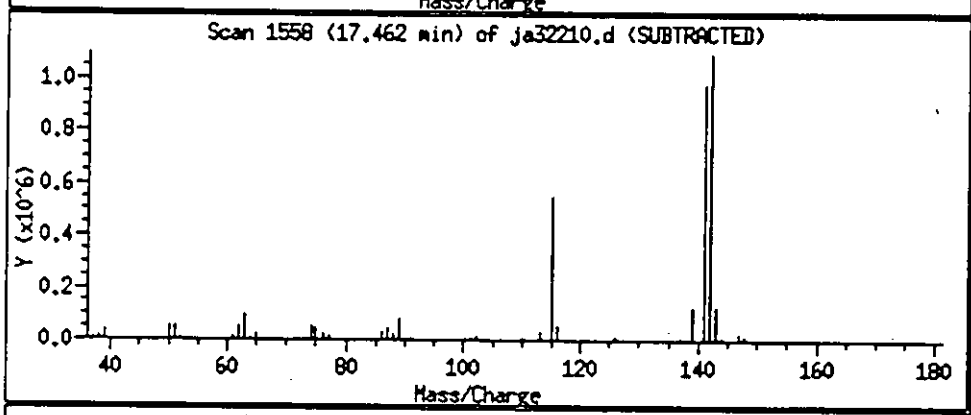


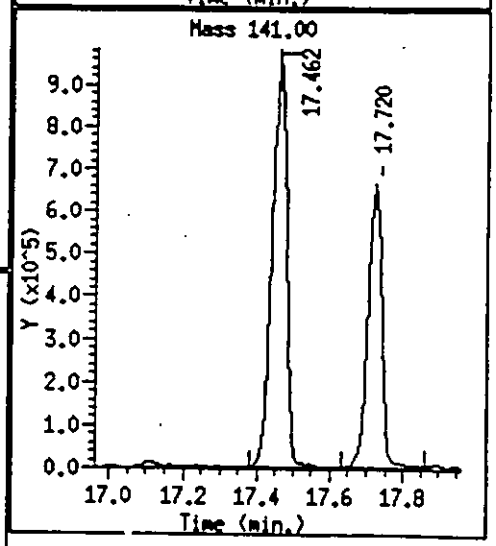
Data File: /chem/TRILABS.i/8-3-92.b/ja32210.d
Date : 03-AUG-1992 22:03
Instrument : TRILABS.i
Sample ID : mm5-4
Column phase : DB-5
Column diameter : 0.32
Volume Injected (uL) : 1.0

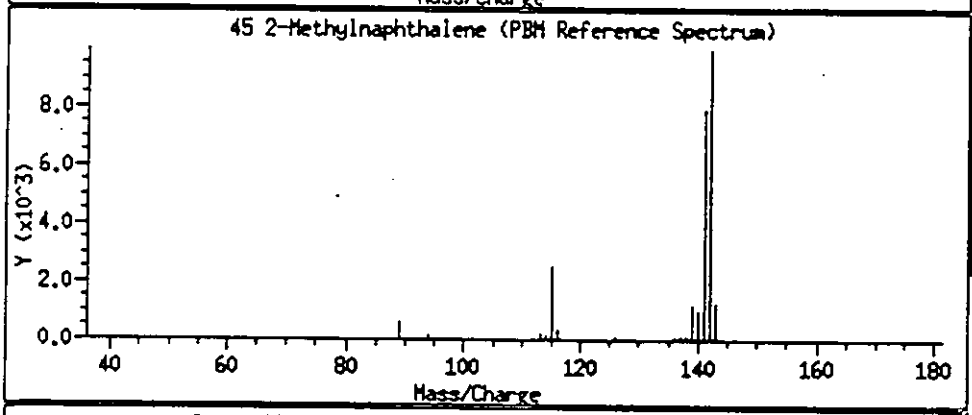
45 2-Methylnaphthalene

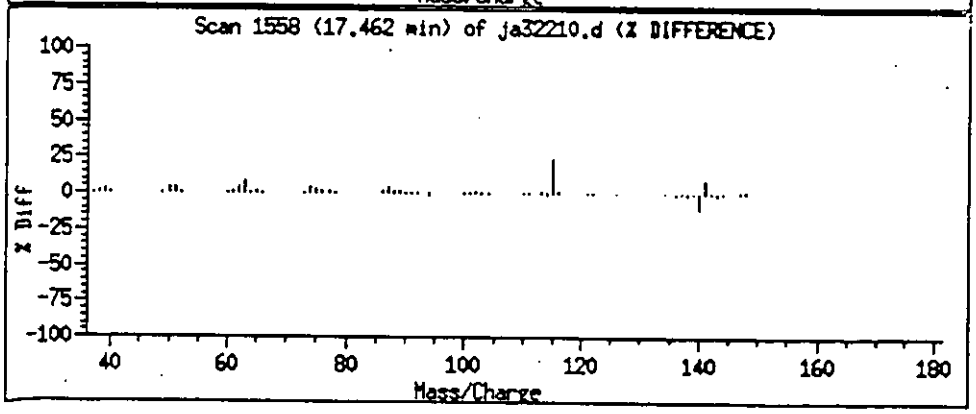






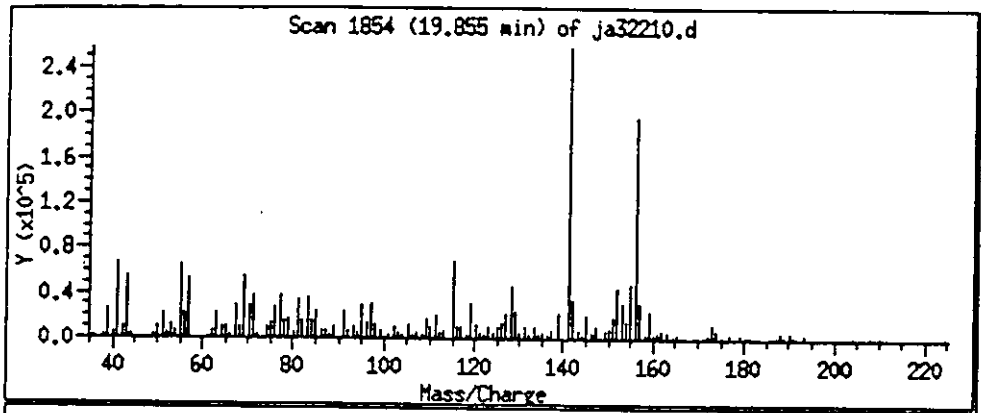


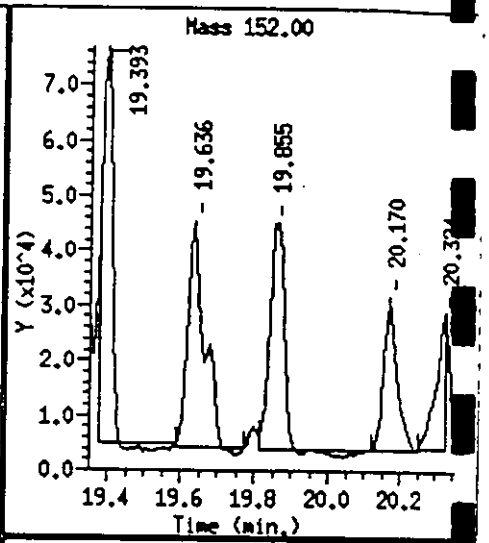


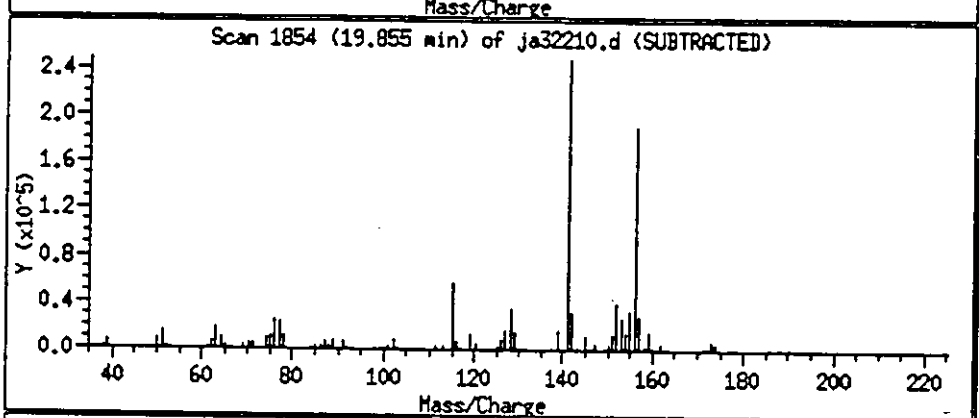


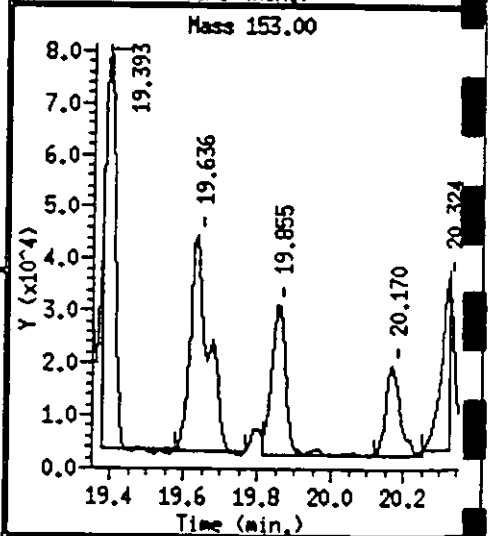
Data File: /chem/TRILABS.i/8-3-92.b/ja32210.d
Date : 03-AUG-1992 22:03
Instrument : TRILABS.i
Sample ID : mm5-4
Column phase : DB-5
Column diameter : 0.32
Volume Injected (uL) : 1.0

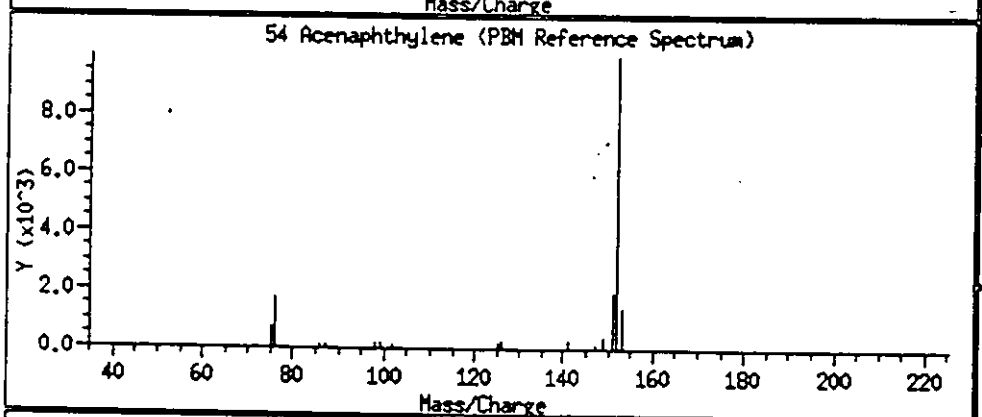
54 Acenaphthylene

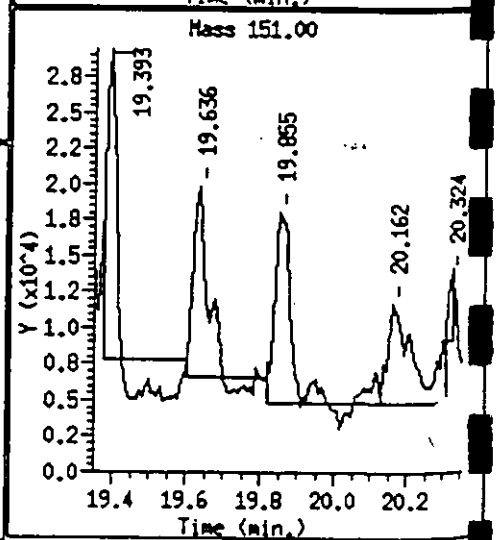


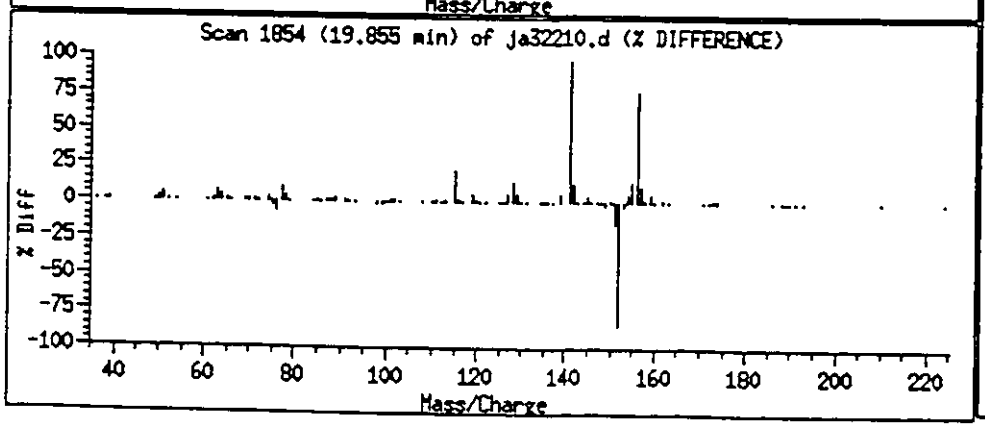






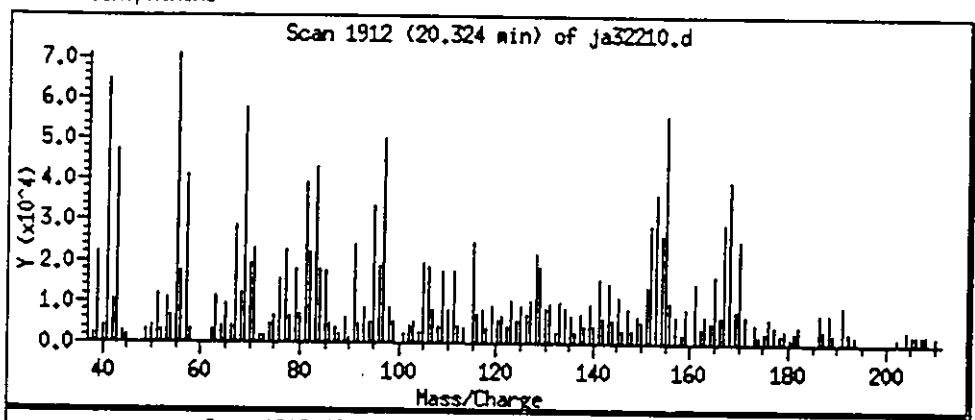


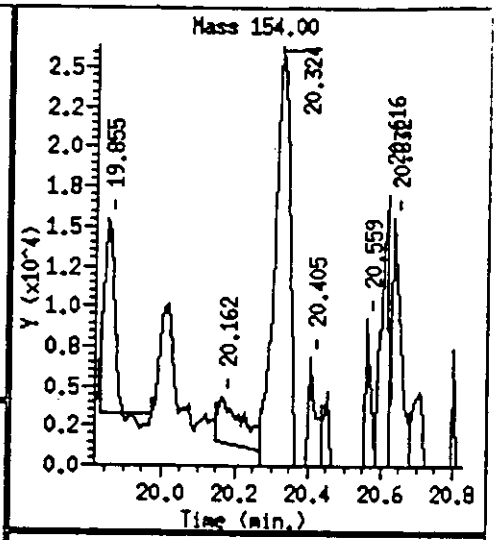


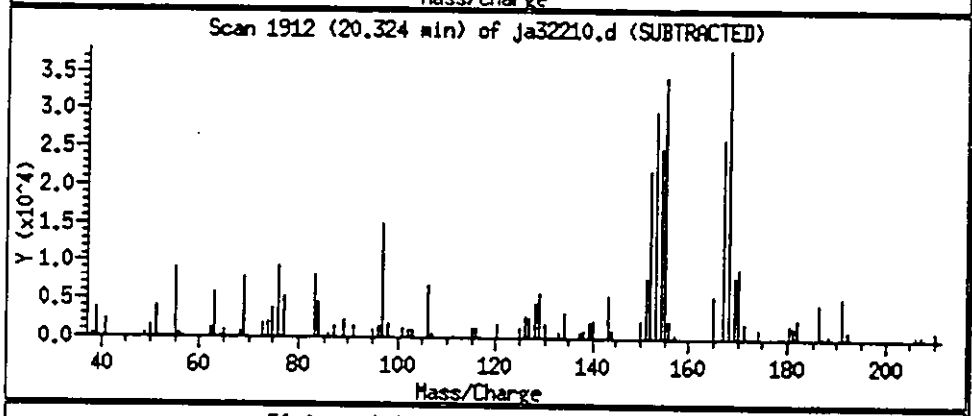


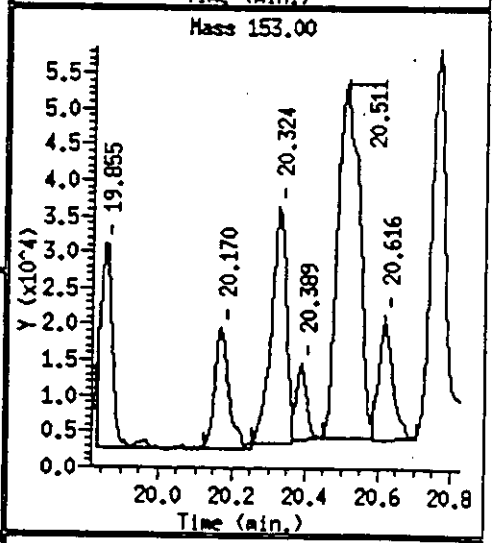
Data File: /chem/TRILABS.i/8-3-92.b/ja32210.d
Date : 03-AUG-1992 22:03
Instrument : TRILABS.i
Sample ID : ms5-4
Column phase : DB-5
Column diameter : 0.32
Volume Injected (uL) : 1.0

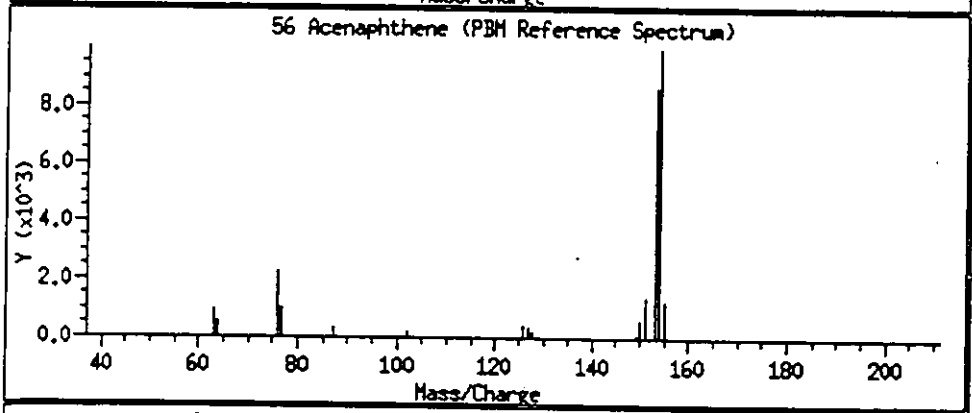
56 Acenaphthene

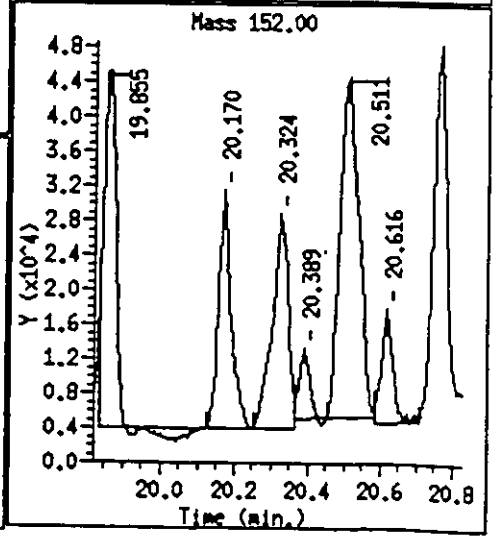


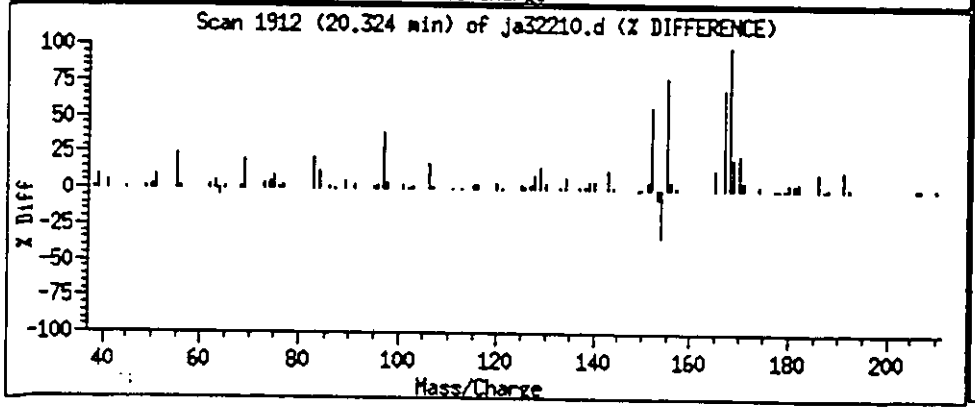












Data File: /chem/TRILABS.i/8-3-92.b/ja32210.d

Date : 03-AUG-1992 22:03

Instrument : TRILABS.i

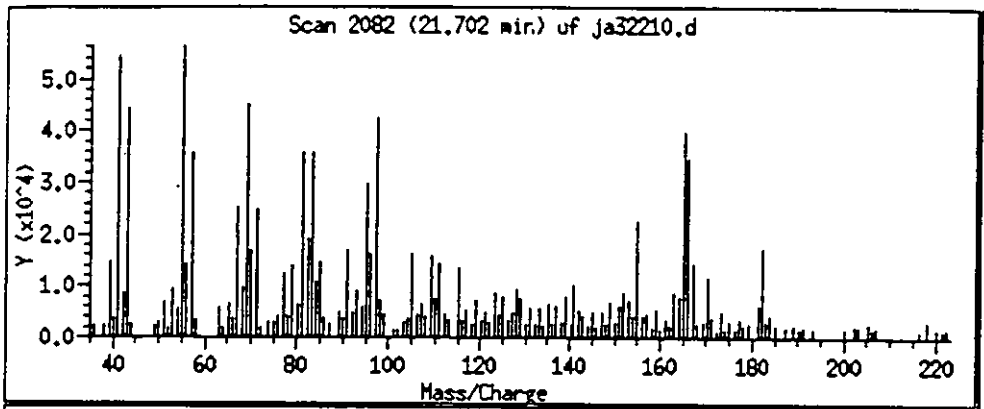
Sample ID : ms5-4

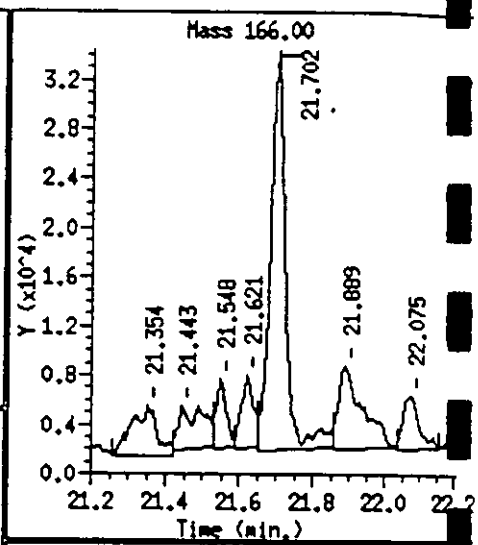
Column phase : DB-5

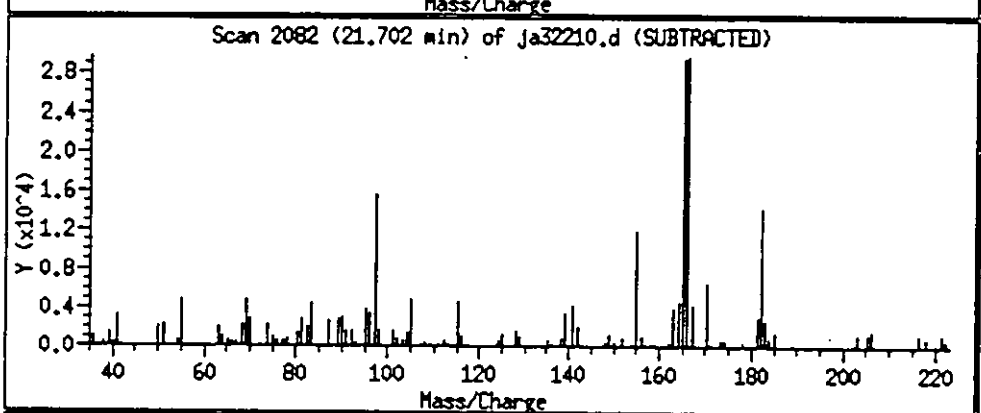
Column diameter : 0.32

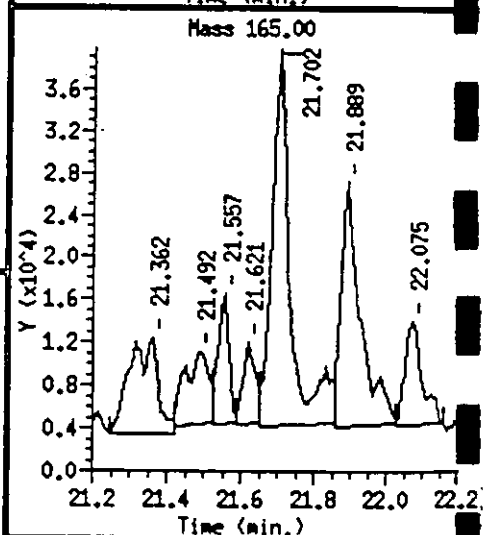
Volume Injected (uL) : 1.0

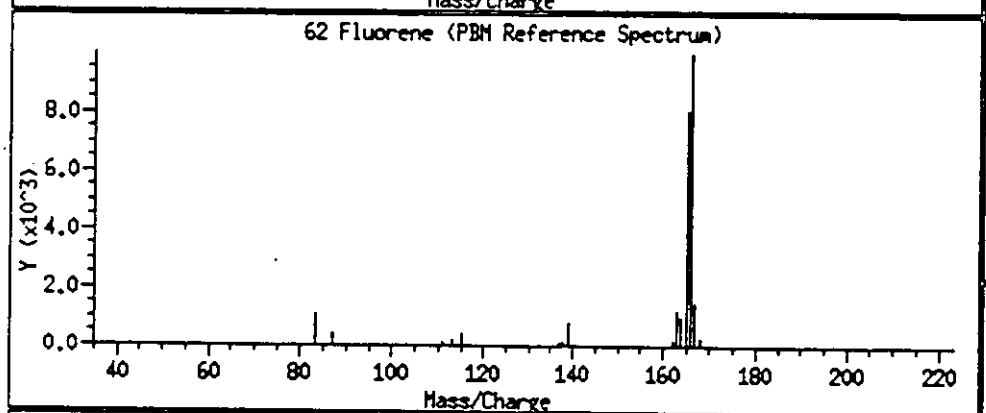
62 Fluorene

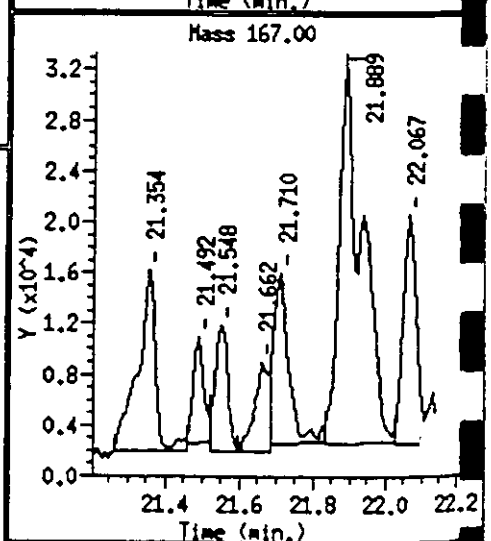


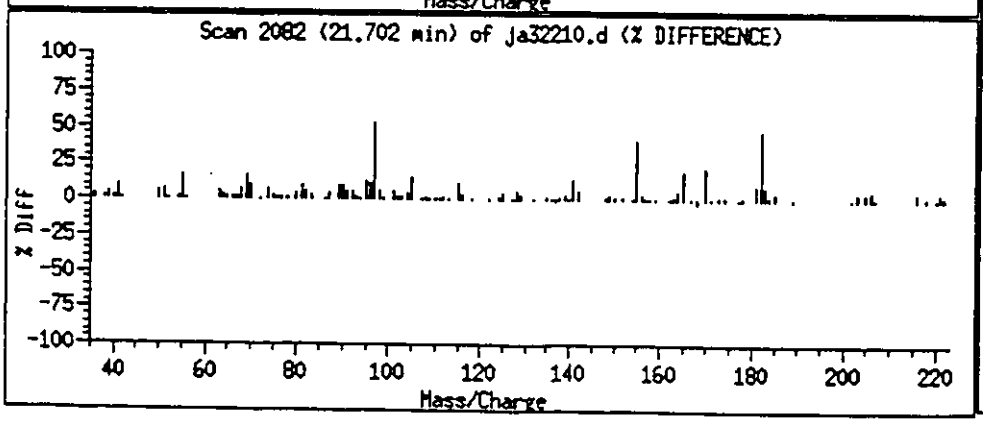












Data File: /chem/TRILABS.i/8-3-92.b/ja32210.d

Date : 03-AUG-1992 22:03

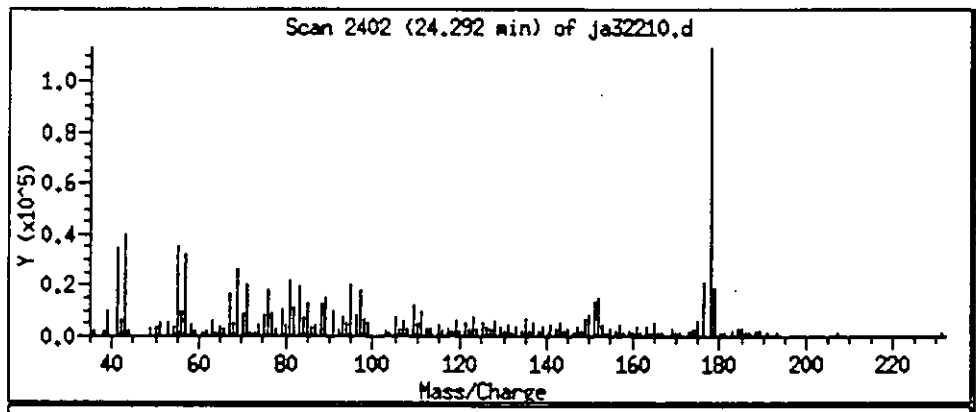
Instrument : TRILABS.i

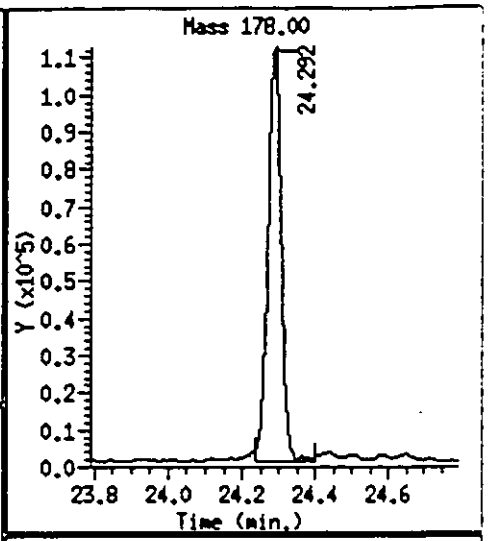
Sample ID : mm5-4

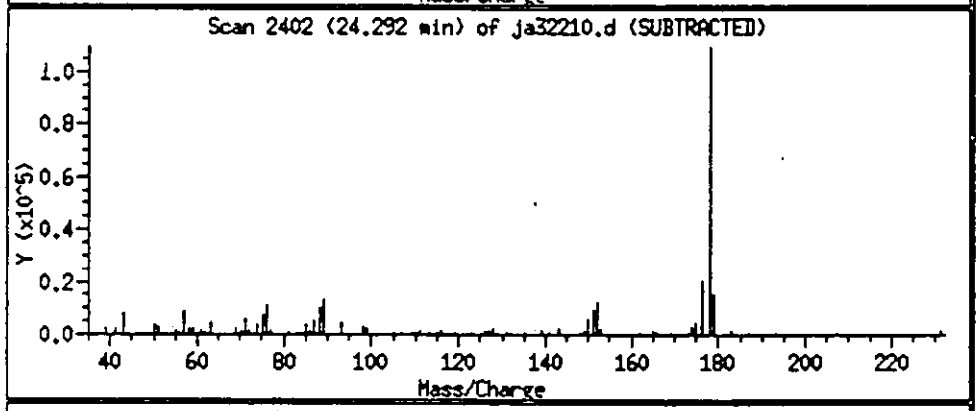
Column phase : DB-5 Column diameter : 0.32

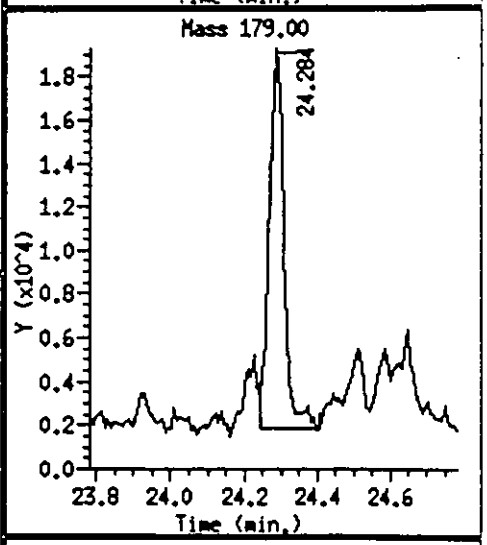
Volume Injected (uL) : 1.0

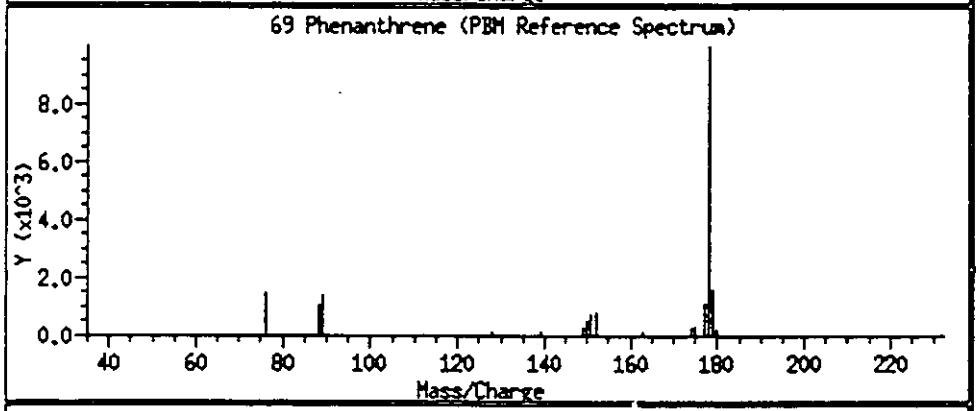
69 Phenanthrene

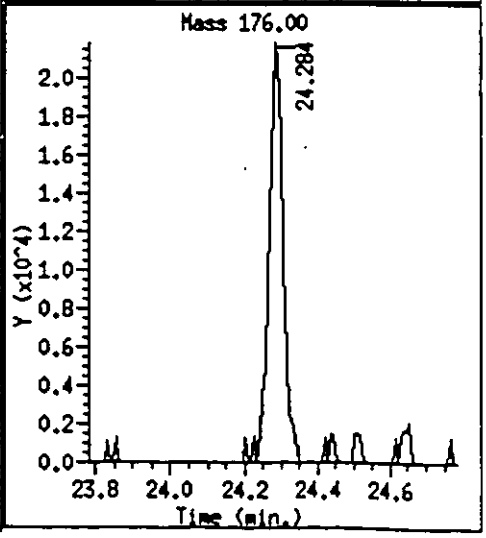


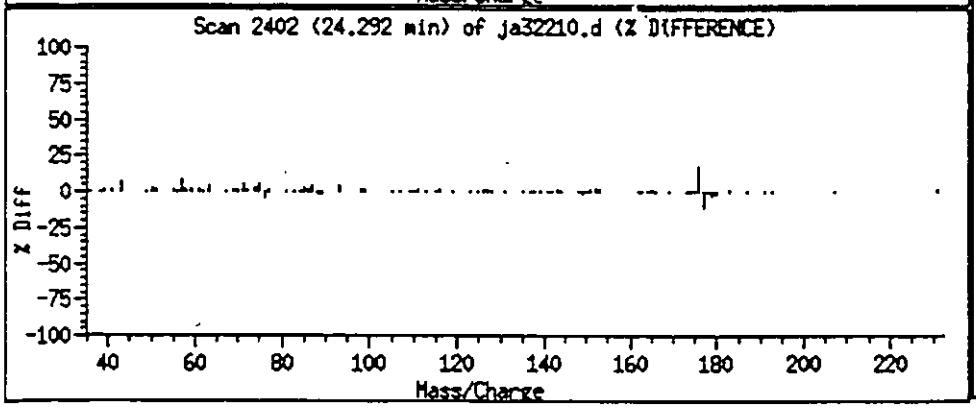






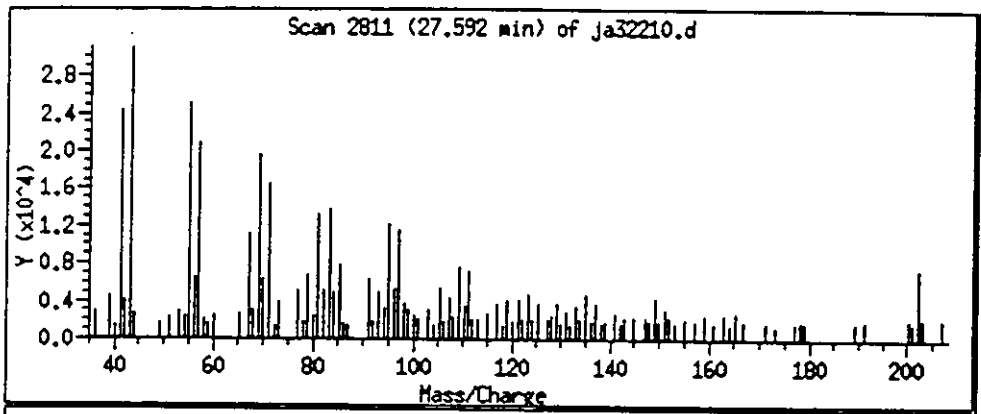


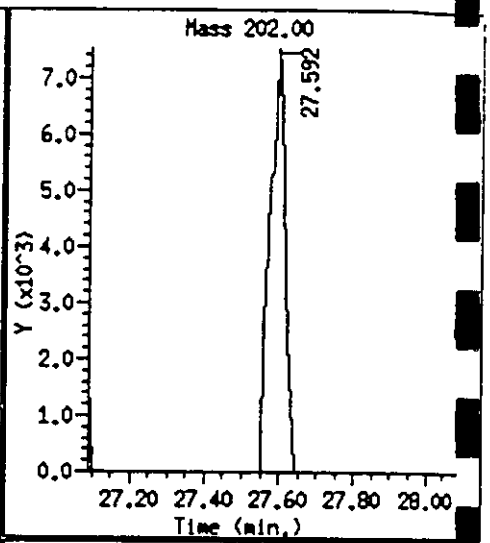


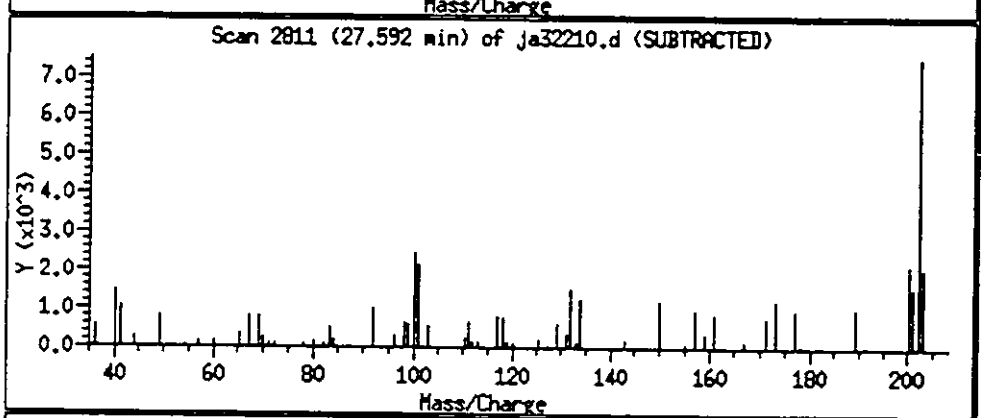


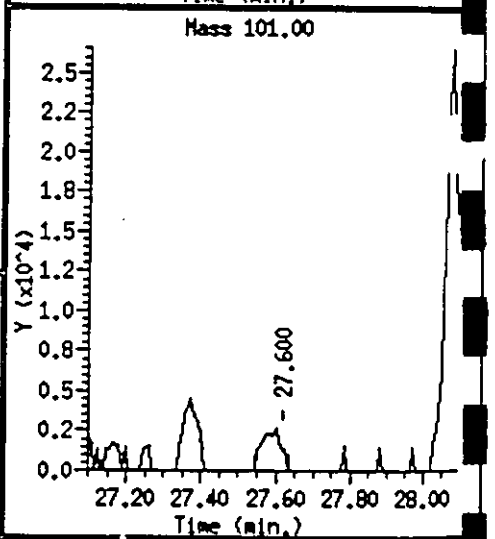
Data File: /chem/TRILABS.i/8-3-92.b/ja32210.d
Date : 03-AUG-1992 22:03
Instrument : TRILABS.i
Sample ID : mm5-4
Column phase : DB-5
Column diameter : 0.32
Volume Injected (uL) : 1.0

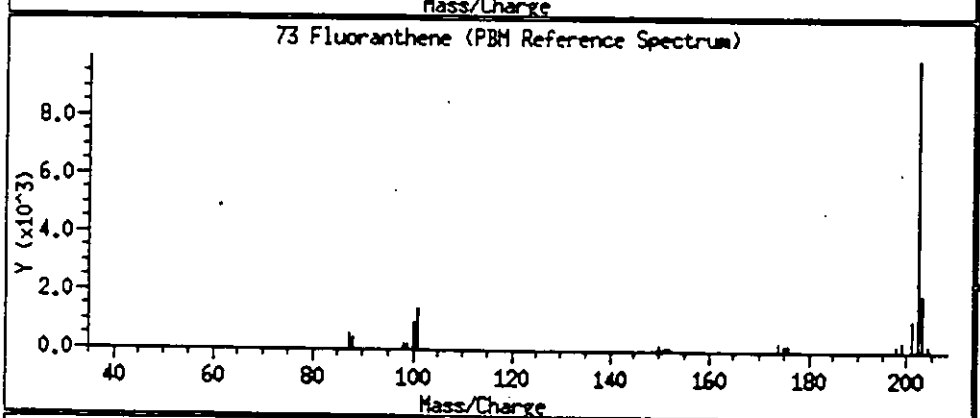
73 Fluoranthene

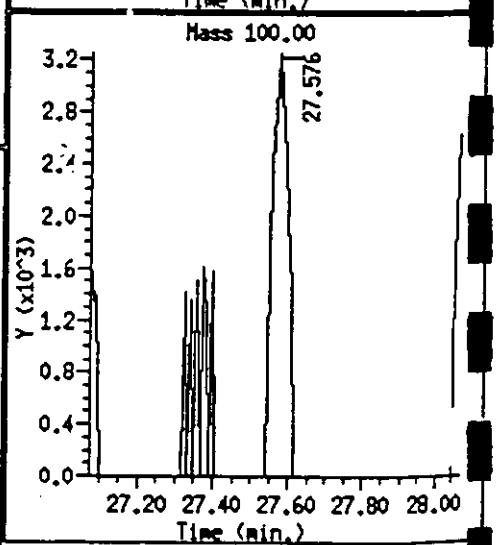


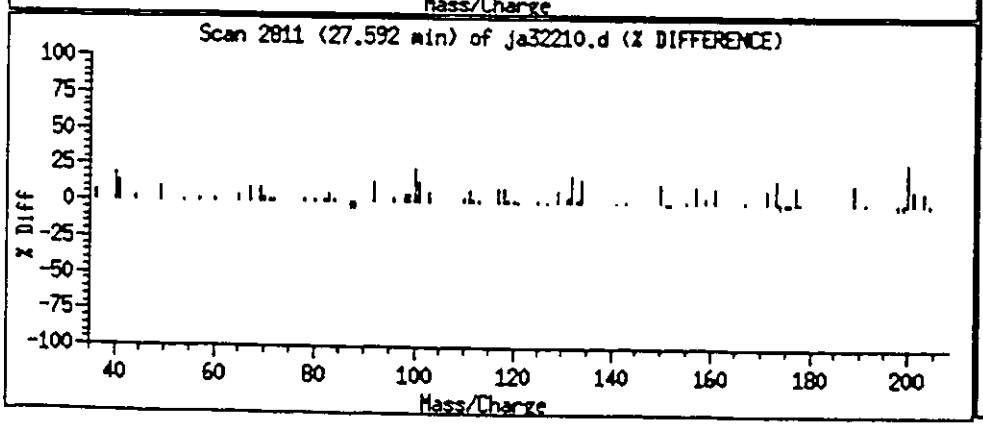






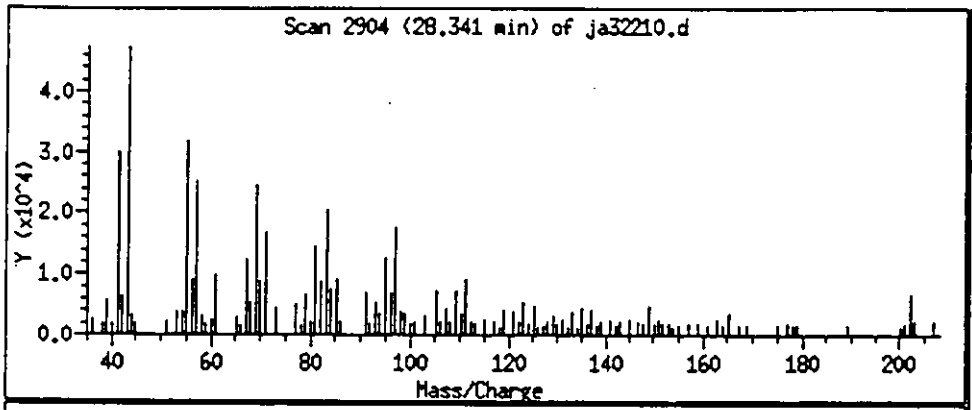


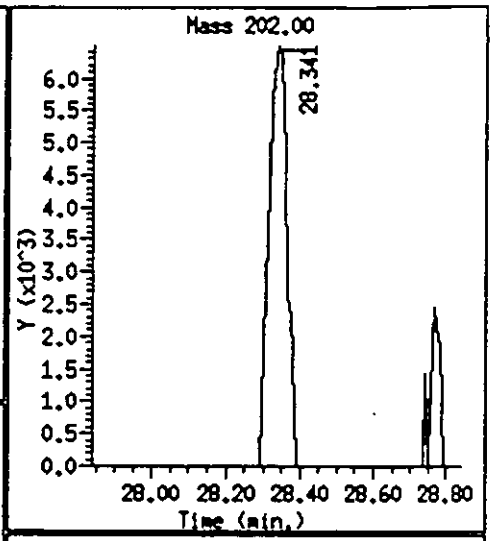


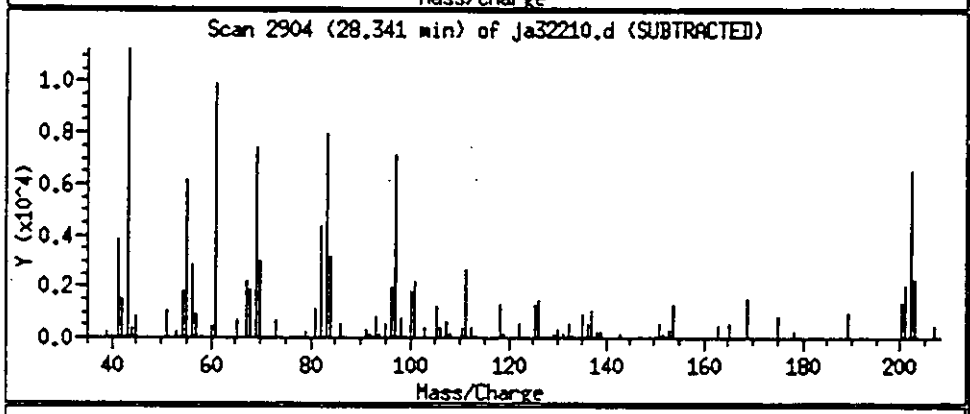


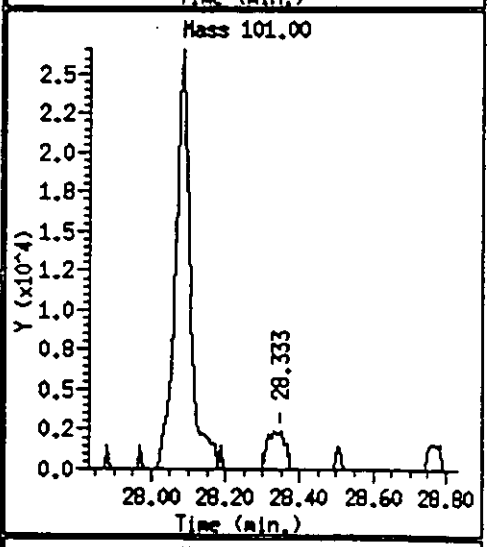
Data File: /chem/TRILABS.i/8-3-92.b/ja32210.d
Date : 03-AUG-1992 22:03
Instrument : TRILABS.i
Sample ID : ms5-4
Column phase : DB-5 Column diameter : 0.32
Volume Injected (uL) : 1.0

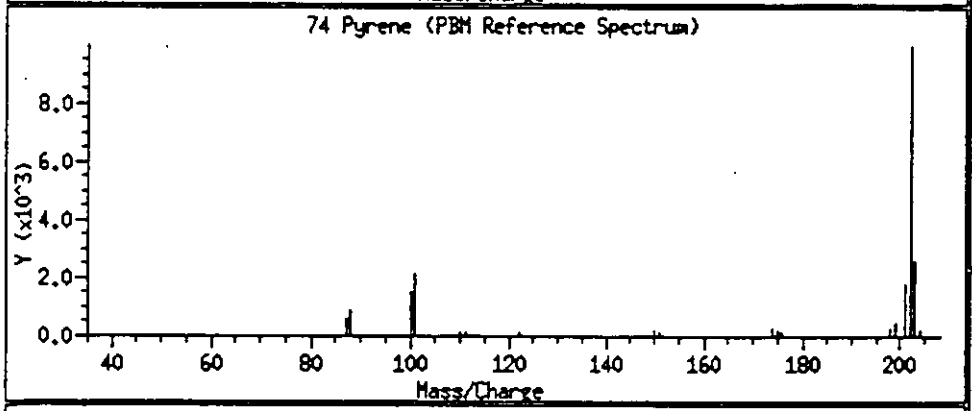
74 Pyrene

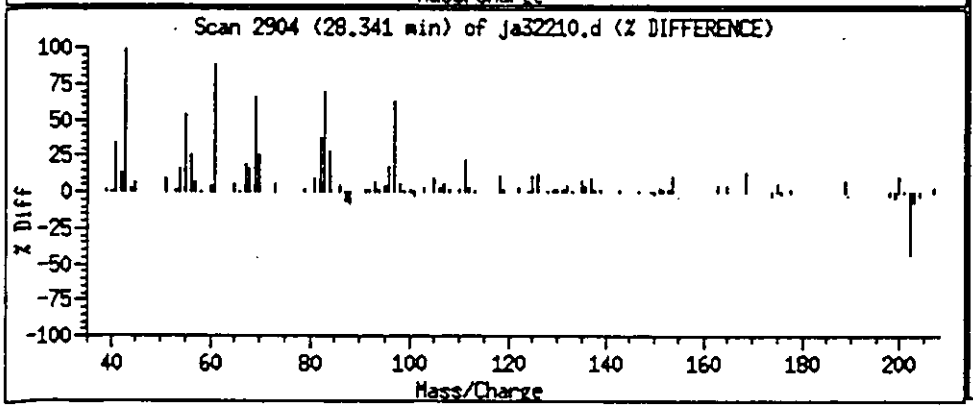


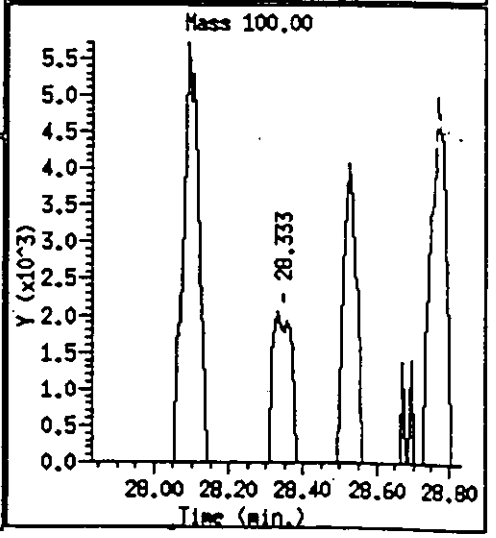


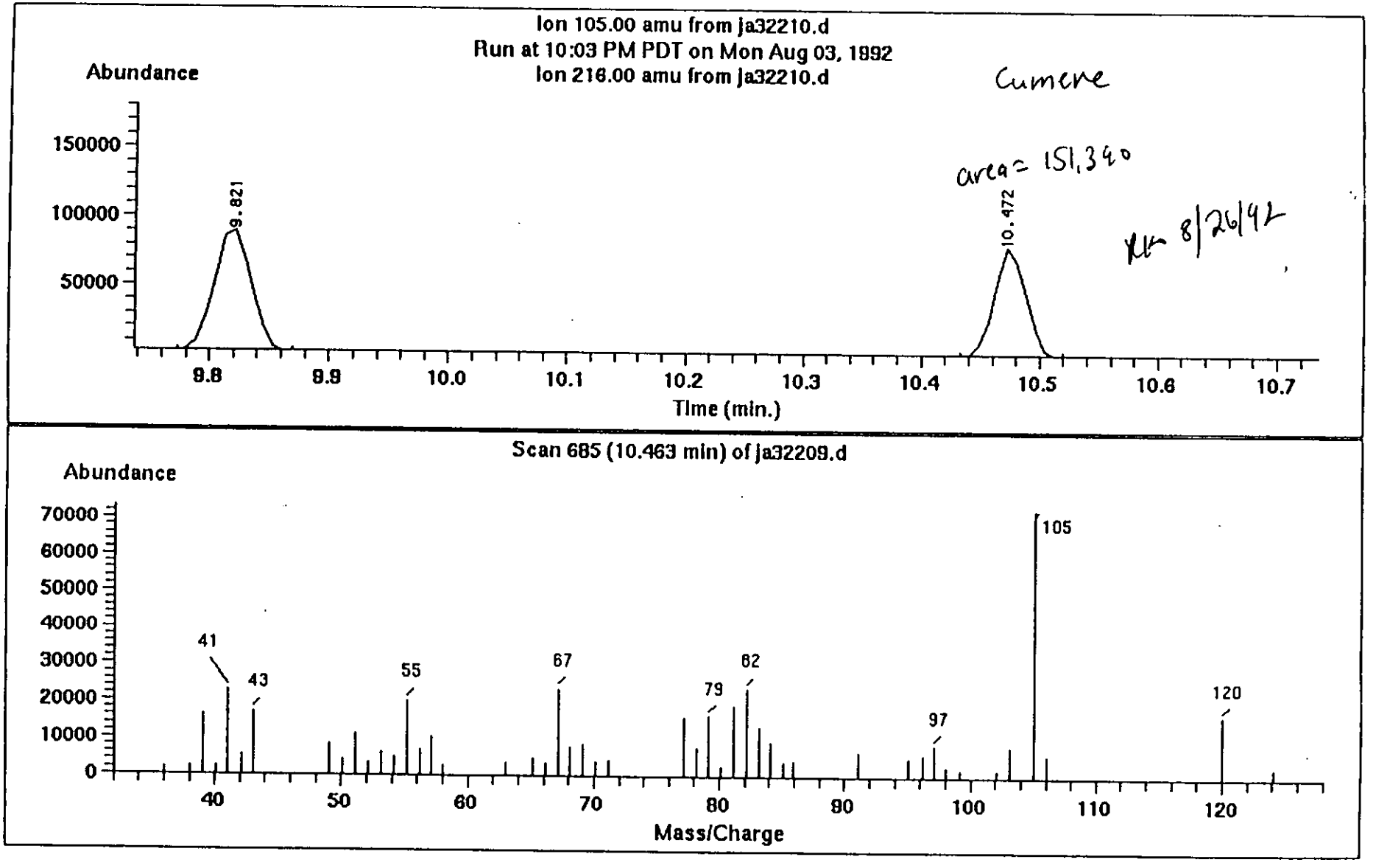


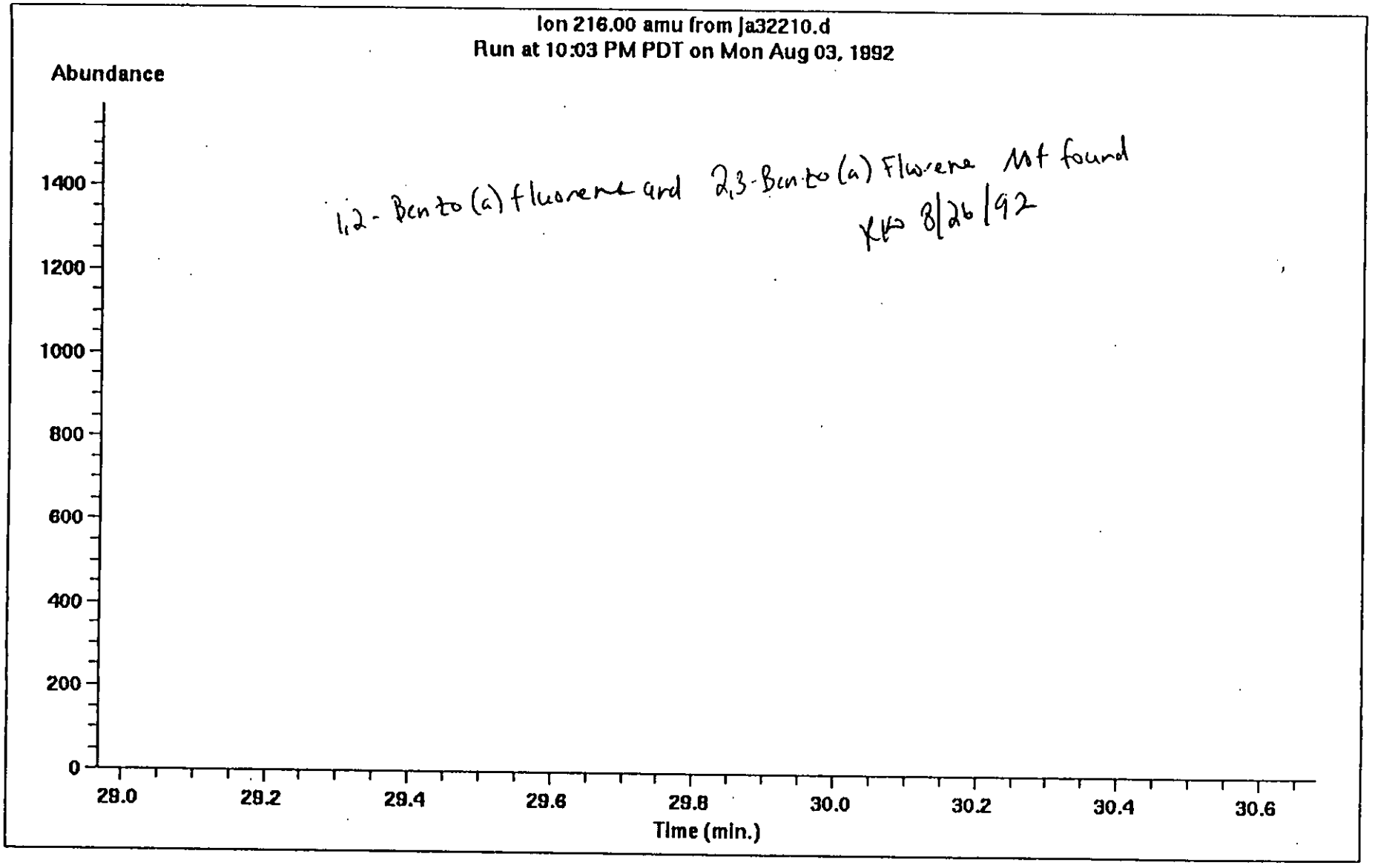









Ion 105.00 amu from ja32210.d
Run at 10:03 PM PDT on Mon Aug 03, 1992
Ion 216.00 amu from ja32210.d
Abundance
Cumene
area = 151,340
KH 8/26/92
9.821
10.472
Time (min.)
Scan 685 (10.463 min) of ja32209.d
Abundance
105
41
43
55
67
62
79
97
120
Mass/Charge


Ion 216.00 amu from Ja32210.d
Run at 10:03 PM PDT on Mon Aug 03, 1992
Abundance
1400
1200
1000
800
600
400
200
0
29.0
29.2
29.4
29.6
29.8
30.0
30.2
30.4
30.6
Time (min.)
1,2-Benzo(a)fluorene and 2,3-Benzo(a)Fluorene not found
KP 8/26/92

Ion 105.00 amu from ja32210.d

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	9.304	RTE	0.128	489870	9.257	9.384
2	9.821	RTE	0.096	196588	9.773	9.869
3	10.472	RTE	0.087	151390	10.433	10.520
4	11.244	RTE	0.080	773961	11.204	11.284
5	11.316	RTE	0.088	464706	11.284	11.372
6	11.412	RTE	0.096	311861	11.372	11.468
7	11.619	RTE	0.096	404256	11.571	11.667
8	11.938	RTE	0.120	1082257	11.882	12.002
9	12.241	RTE	0.088	143302	12.201	12.288
10	12.496	RTE	0.128	717796	12.440	12.568
11	12.943	RTE	0.064	143617	12.903	12.967
12	13.007	RTE	0.088	605142	12.967	13.055
13	13.111	RTE	0.096	401109	13.055	13.151
14	13.175	RTE	0.064	59531	13.151	13.215
15	13.303	RTE	0.144	501668	13.223	13.367
16	13.479	RTE	0.072	68703	13.438	13.511
17	13.654	RTE	0.112	77975	13.582	13.694
18	13.926	RTE	0.112	235732	13.870	13.982
19	14.087	RTE	0.096	86982	14.055	14.151
20	14.207	RTE	0.080	65138	14.159	14.239
21	14.535	RTE	0.088	57266	14.479	14.567
22	14.679	RTE	0.088	118654	14.615	14.703
23	14.831	RTE	0.088	443793	14.791	14.880
24	14.960	RTE	0.088	269171	14.920	15.008
25	15.088	RTE	0.169	400183	15.024	15.193
26	15.578	RTE	0.113	93924	15.498	15.610
27	15.795	RTE	0.096	72047	15.747	15.843
28	16.221	RTE	0.121	70038	16.165	16.285
29	16.325	RTE	0.097	81362	16.285	16.382
30	16.479	RTE	0.089	205104	16.438	16.527
31	16.623	RTE	0.105	175467	16.559	16.664
32	16.728	RTE	0.105	235721	16.664	16.768
33	16.897	RTE	0.081	93702	16.849	16.929
34	17.163	RTE	0.105	96125	17.107	17.211
35	17.324	RTE	0.105	70472	17.260	17.365
36	17.429	RTE	0.105	88637	17.365	17.470
37	17.542	RTE	0.097	125966	17.470	17.566
38	17.591	RTE	0.073	71983	17.566	17.639
39	17.744	RTE	0.105	139146	17.704	17.809
40	17.841	RTE	0.089	92398	17.809	17.897
41	18.051	RTE	0.097	196204	17.994	18.091
42	18.196	RTE	0.097	115390	18.156	18.253
43	18.293	RTE	0.081	157993	18.253	18.334
44	18.964	RTE	0.057	57361	18.940	18.996
45	19.531	RTE	0.097	128267	19.482	19.579
46	19.684	RTE	0.081	71458	19.644	19.725
47	19.782	RTE	0.073	105298	19.749	19.822
48	21.184	RTE	0.081	64892	21.135	21.216
49	22.877	RTE	0.097	61375	22.837	22.934
50	33.174	RTE	0.218	604093	32.972	33.190

Ion 216.00 amu from ja32210.d

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	20.665	RTE	0.040	3513	20.649	20.689
2	21.386	RTE	0.016	657.00	21.378	21.394
3	21.402	RTE	0.016	766.00	21.394	21.411

4	21.638	RTE	0.016	574.00	21.629	21.646
5	21.654	RTE	0.016	727.00	21.646	21.662
6	21.711	RTE	0.032	2011	21.686	21.719
7	21.727	RTE	0.016	652.00	21.719	21.735
8	21.759	RTE	0.024	1443	21.743	21.767
9	21.800	RTE	0.024	1324	21.792	21.816
10	21.889	RTE	0.032	2373	21.865	21.897
11	21.913	RTE	0.024	1462	21.897	21.921
12	21.929	RTE	0.024	1520	21.921	21.946
13	21.962	RTE	0.016	763.00	21.954	21.970
14	21.978	RTE	0.016	823.00	21.970	21.986
15	21.994	RTE	0.024	1451	21.986	22.011
16	22.019	RTE	0.016	677.00	22.011	22.027
17	22.083	RTE	0.016	704.00	22.075	22.092
18	22.100	RTE	0.032	2512	22.092	22.124
19	22.148	RTE	0.024	653.00	22.132	22.156
20	22.164	RTE	0.016	730.00	22.156	22.173
21	22.181	RTE	0.016	753.00	22.173	22.189
22	22.221	RTE	0.065	6216	22.189	22.254
23	22.270	RTE	0.016	717.00	22.262	22.278
24	22.286	RTE	0.032	2289	22.278	22.310
25	22.318	RTE	0.016	758.00	22.310	22.326
26	22.383	RTE	0.033	2161	22.359	22.391
27	22.399	RTE	0.016	783.00	22.391	22.408
28	22.416	RTE	0.016	784.00	22.408	22.424
29	22.432	RTE	0.032	2274	22.424	22.456
30	22.472	RTE	0.016	1580	22.464	22.481
31	22.537	RTE	0.024	2213	22.521	22.545
32	22.553	RTE	0.016	432.00	22.545	22.562
33	22.578	RTE	0.032	2833	22.562	22.594
34	22.610	RTE	0.024	2360	22.594	22.618
35	22.683	RTE	0.024	1730	22.675	22.699
36	22.715	RTE	0.024	1972	22.699	22.723
37	22.950	RTE	0.032	2154	22.934	22.966
38	23.022	RTE	0.016	727.00	23.014	23.031

Low Resolution GC/MS Scans & Chromatograms
for
Sample No. MM5-3

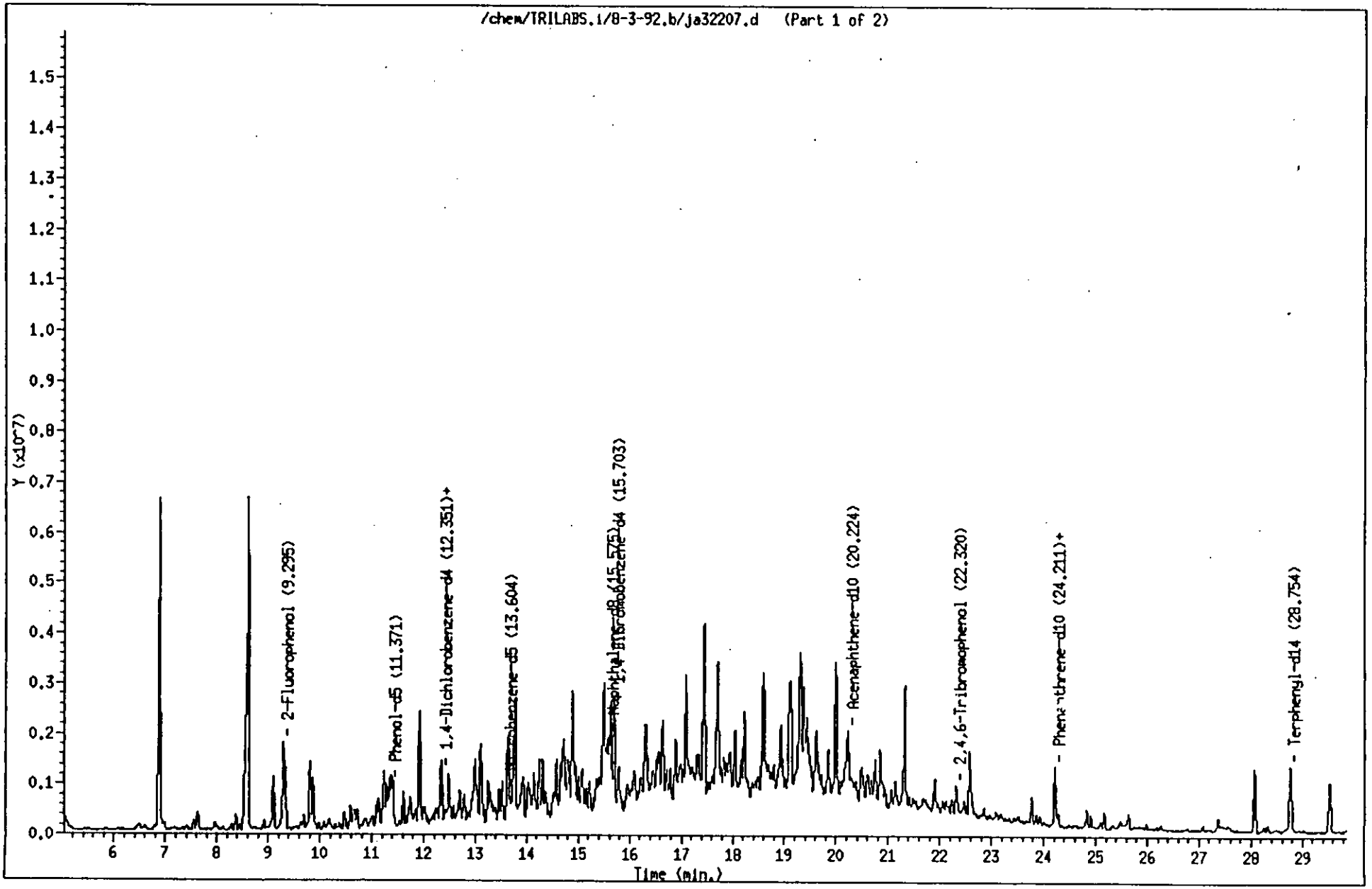
Triangle Laboratories of RTP, INC

Data file: /chem/TRILABS.1/8-3-92.b/ja32207.d
Date : 03-AUG-1992 18:46
Instrument : ~~TRILABS.1~~
Sample ID : mm5-2
Column phase : DB-5
Volume Injected (uL) : 1.0

KLH 8/25/92

J SA8-2692

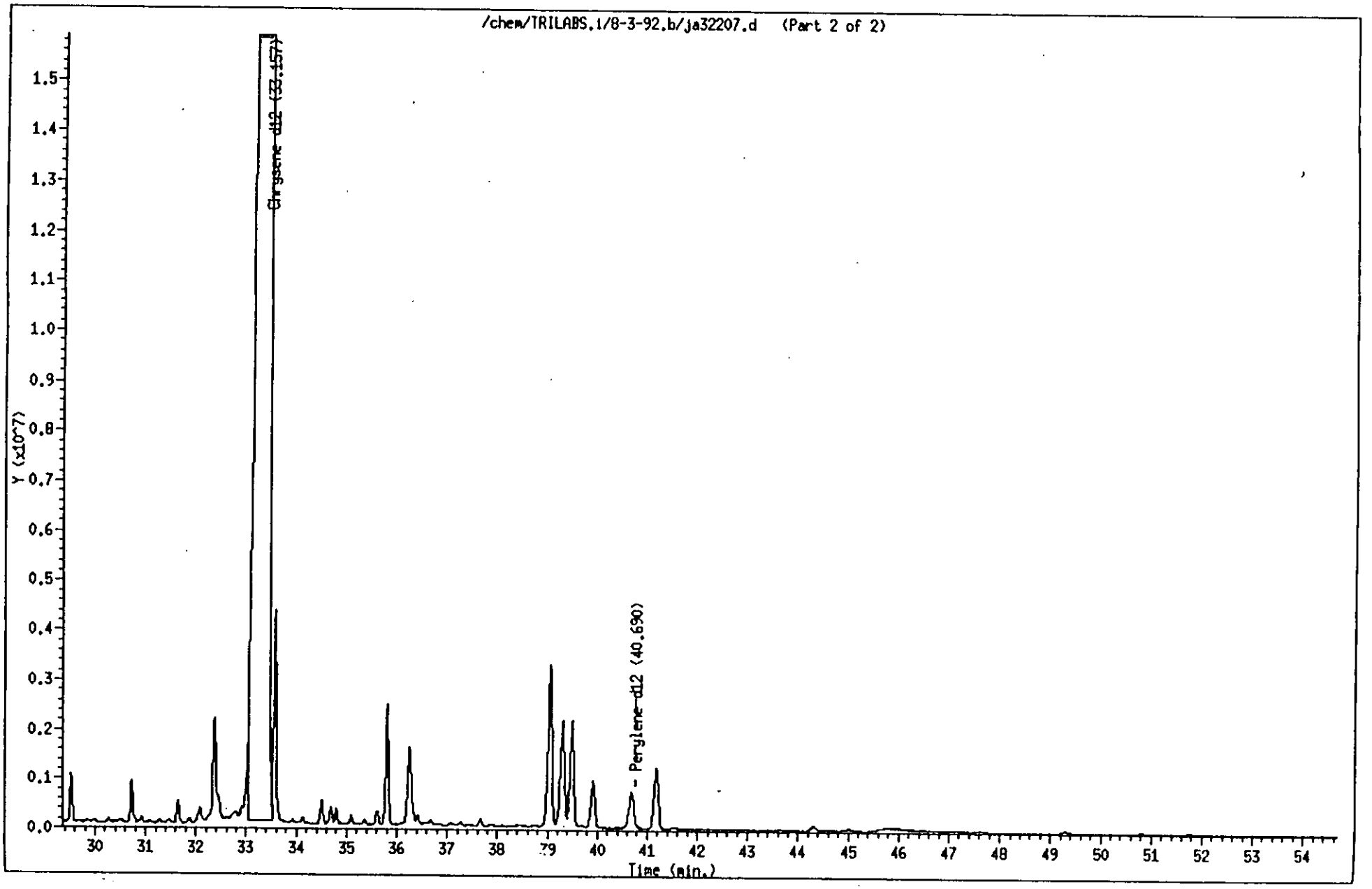
Column diameter : 0.32



Triangle Laboratories at RTP, NC
RKO 8/25/92

Data File: /chem/TRILABS.1/8-3-92.b/Ja32207.d
Date : 03-AUG-1992 18:46
Instrument : TRILABS.1
Sample ID : mm5-2
Column phase : DB-5
Volume Injected (uL) : 1.0

Column diameter : 0.32



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

QUANTITATION 8/3-3192

SEMI-VOLATILE ~~QUANTATATION~~ REPORT

Data file : /chem/TRILABS.i/8-3-92.b/ja32207.d
Lab. Id. : 57-89-2a 57-102-1,3
Inj Date : 03-AUG-1992 18:46 Autotune Date: 22-Jul-92 12:21:3
Operator : mick Inst ID: TRILABS.i
Smp Info : mm5-2 XAD, FILTER, RINSES 8/8-26-92
Misc Info : tli#21187b 57-89-2a 57-102-1,3
Comment :
Method : /chem/TRILABS.i/8-3-92.b/tlibna.m
Meth Date : 20-Aug-1992 09:06 target
Cal Date : 03-AUG-1992 09:52 Cal File: ja321.d
Als bottle: 7
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: all.sub
Rpt Date : 20-Aug-1992 09:10 Sample Type: mm5

	Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)	
•	1 1,4-Dichlorobenzene	12.351(1.000)	243208	40.00	40.00	
•	2 Naphthalene-d8	15.575(1.000)	1040558	40.00	40.00	
*	3 Acenaphthene-d10	20.224(1.000)	653459	40.00	40.00	
•	4 Phenanthrene-d10	24.211(1.000)	933079	40.00	40.00	
•	5 Chrysene-d12	33.157(1.000)	642788	40.00	40.00	
•	6 Perylene-d12	40.690(1.000)	1446876	40.00	40.00	
$	7 2-Fluorophenol	9.295(0.753)	5719	0.97	2.03(aQR)	
$	8 Phenol-d5	11.371(0.921)	405126	49.27	103.47(Q)	
$	9 2-Chlorophenol-d4		Compound Not Detected.			
$	10 1,2-Dichlorobenzene	~~12.351(1.000)~~	~~243208~~	~~50.53~~	~~106.11(Q)~~	∞ Biochem
$	11 Nitrobenzene-d5	13.604(0.873)	108117	10.14	21.31(QR)	
$	12 1,3,5-Trichlorobenz		Compound Not Detected.			
$	13 1,4-Dibromobenzene-	15.703(1.271)	251063	45.99	96.59	
$	14 2-Fluorobiphenyl		Compound Not Detected.			
$	15 2,4,6-Tribromopheno	22.320(1.104)	167661	42.43	89.11	
$	16 Anthracene-d10	~~24.211(1.000)~~	~~933079~~	~~37.96~~	~~79.73~~	∞ Biochem
$	17 Pyrene-d10		Compound Not Detected.			
$	18 Terphenyl-d14	28.754(0.867)	1151502	44.66	93.79	
	19 N-Nitrosodimethylam		Compound Not Detected.			
	~~20 Phenol~~	~~11.395(0.923)~~	~~389307~~	~~47.79~~	~~100.36~~	N.T.
	~~21 Aniline~~	~~11.234(0.910)~~	~~6202~~	~~0.59~~	~~1.24(aQ)~~	N.T.
	~~22 bis(2-Chloroethyl)e~~	~~11.602(0.939)~~	~~4069~~	~~0.55~~	~~1.16(aQ)~~	N.T.
	23 2-Chlorophenol		Compound Not Detected.			
	24 1,3-Dichlorobenzene		Compound Not Detected.			
	25 1,4-Dichlorobenzene		Compound Not Detected.			
	26 1,2-Dichlorobenzene		Compound Not Detected.			
	~~27 2-Methylphenol~~	~~12.885(1.043)~~	~~3970~~	~~0.59~~	~~1.23(aQ)~~	RLG
	~~28 2,2'-oxybis(1-Chlor~~	~~13.045(1.056)~~	~~5529~~	~~2.05~~	~~4.32(aQ)~~	N.T.
	~~29 Benzyl alcohol~~	~~12.885(1.043)~~	~~3970~~	~~1.30~~	~~2.74(aQ)~~	N.T.
	~~30 4-Methylphenol~~	~~13.260(1.074)~~	~~7516~~	~~1.09~~	~~2.30(aQ)~~	RLG
	~~31 N-Nitroso-di-n-prop~~	~~13.125(1.063)~~	~~41264~~	~~8.35~~	~~17.54(Q)~~	N.T.
	32 Hexachloroethane		Compound Not Detected.			

Data Reviewer: RLG
Date: 8/25/92

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug)
33 Nitrobenzene	13.740(0.882)	33815	3.31	6.95(aQ)
34 Isophorone	14.356(0.922)	87365	4.56	9.57(aQ)
35 2-Nitrophenol	14.564(0.935)	9846	1.95	4.11(aQ)
36 2,4-Dimethylphenol		Compound Not Detected.		
37 bis(2-Chloroethoxy)		Compound Not Detected.		
38 Benzoic acid	14.780(0.949)	389221	98.67	207.20(Q)
39 2,4-Dichlorophenol		Compound Not Detected.		
40 1,2,4-Trichlorobenz	15.414(0.990)	3541	0.41	0.87(aQ)
41 Naphthalene	15.631(1.004)	1587996	67.42	141.59
42 4-Chloroaniline	15.832(1.017)	25975	2.62	5.52(a)
43 Hexachlorobutadiene		Compound Not Detected.		
44 4-Chloro-3-methylph		Compound Not Detected.		
45 2-Methylnaphthalene	17.448(1.120)	2897738	160.41	336.87(A)
46 Hexachlorocyclopent		Compound Not Detected.		
47 2,4,6-Trichlorophen		Compound Not Detected.		
48 2,4,5-Trichlorophen		Compound Not Detected.		
49 2-Chloronaphthalene	18.964(0.938)	51269	2.87	6.02(aQ) RKO
50 2-Nitroaniline	18.932(0.936)	78108	14.40	30.24(Q)
51 Dimethylphthalate	19.409(0.960)	7161	0.84	1.76(aQ)
52 2,6-Dinitrotoluene	19.182(0.948)	36309	7.22	15.17(Q)
53 2,4-Dinitrotoluene	20.750(1.026)	16023	2.23	4.68(aQ)
54 Acenaphthylene	19.845(0.981)	88037	3.09	6.50(aQ)
55 3-Nitroaniline	20.184(0.998)	14584	2.70	5.67(aQ)
56 Acenaphthene	20.321(1.005)	24759	1.50	3.14(aQ)
57 2,4-Dinitrophenol		Compound Not Detected.		
58 4-Nitrophenol	20.192(0.998)	105789	61.15	128.41(Q)
59 Dibenzofuran	20.766(1.027)	117266	5.06	10.64
60 Diethylphthalate	21.282(1.052)	33971	1.57	3.30(aQ)
61 4-Chlorophenyl-phen		Compound Not Detected.		
62 Fluorene	21.685(1.072)	40189	2.23	4.69(aQ)
63 4-Nitroaniline	21.322(1.054)	46515	7.68	16.14(Q)
64 4,6-Dinitro-2-methy		Compound Not Detected.		
65 N-Nitrosodiphenylam	21.902(0.905)	33698	3.16	6.63(aQ)
66 4-Bromophenyl-pheny		Compound Not Detected.		
67 Hexachlorobenzene		Compound Not Detected.		
68 Pentachlorophenol		Compound Not Detected.		
69 Phenanthrene	24.275(1.003)	201884	8.71	18.30
70 Anthracene	24.275(1.003)	201884	8.03	16.87 RKO
71 Carbazole		Compound Not Detected.		
72 Di-n-butylphthalate	25.640(1.059)	309384	7.10	14.91
73 Fluoranthene	27.583(1.139)	55764	1.80	3.79(a)
74 Pyrene	28.331(0.854)	36087	1.30	2.74(a)
75 Benzidine		Compound Not Detected.		
76 Butylbenzylphthalat		Compound Not Detected.		
77 3,3'-Dichlorobenzid		Compound Not Detected.		
78 bis(2-Ethylhexyl)ph	33.447(1.009)	120666444	4237.53	8898.81(A)
79 Di-n-octylphthalate		Compound Not Detected.		
80 Benzo(a)anthracene		Compound Not Detected.		
81 Chrysene		Compound Not Detected.		
82 Benzo(b)fluoranthen		Compound Not Detected.		
83 Benzo(k)fluoranthen		Compound Not Detected.		

Data Review: RKO
Date: 8/25/92

Compounds	RT	(REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
84 Benzo(e)pyrene			Compound Not Detected.		
85 Benzo(a)pyrene			Compound Not Detected.		
86 Perylene			Compound Not Detected.		
87 Indeno(1,2,3-cd)pyr			Compound Not Detected.		
88 Dibenzo(a,h)anthrac			Compound Not Detected.		
89 Benzo(g,h,i)perylen			Compound Not Detected.		

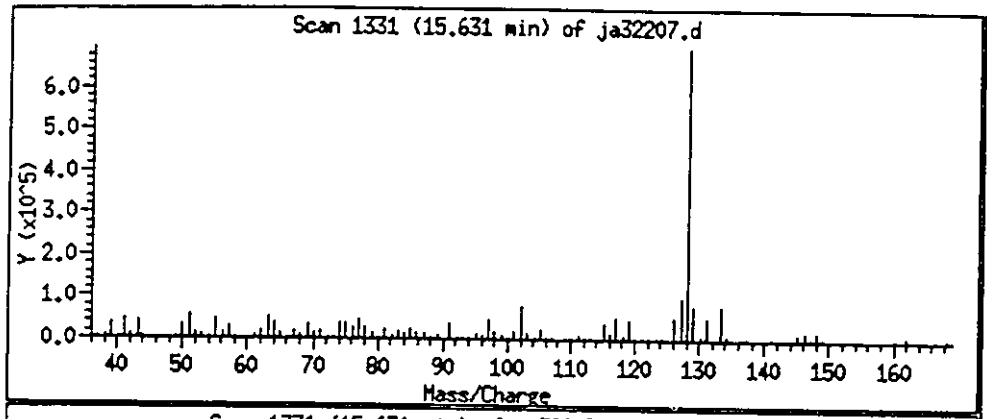
QC Flag Legend

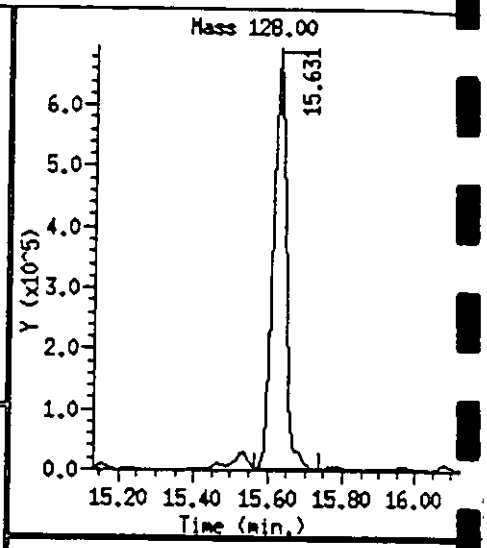
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount
exceeded maximum amount.
Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.

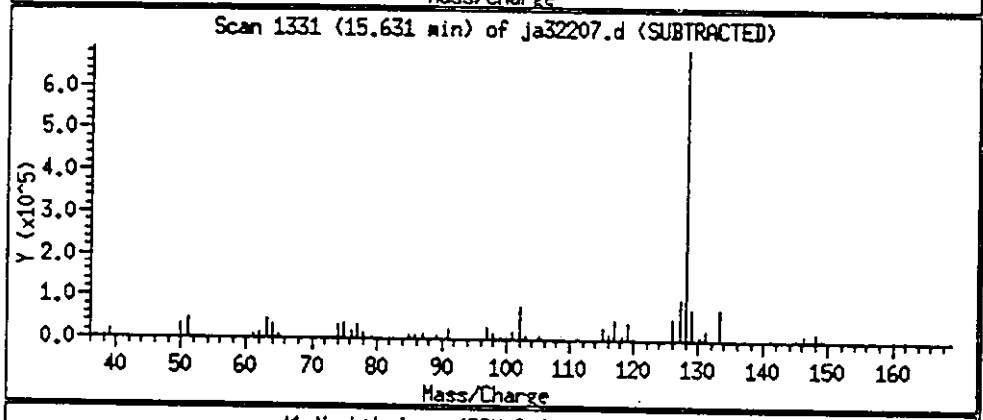
Data Reviewer: RK
Date: 8/25/92

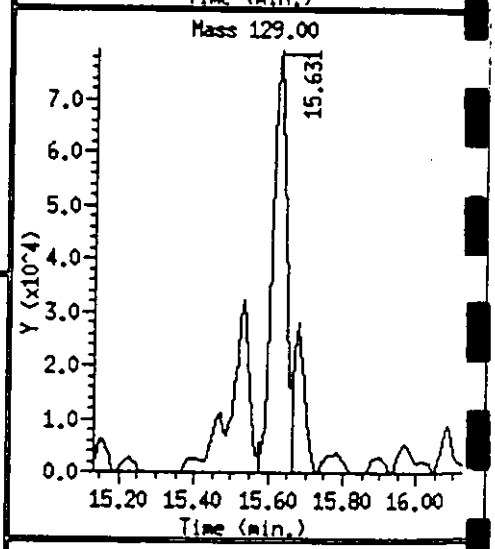
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Date : 03-AUG-1992 18:46
Instrument : TRILABS.i
Sample ID : ms5-2
Column phase : DB-5
Column diameter : 0.32
Volume Injected (uL) : 1.0

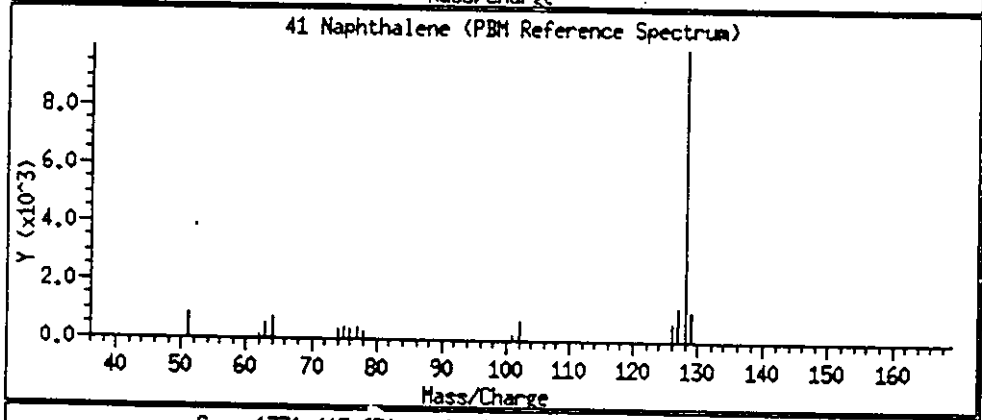
41 Naphthalene

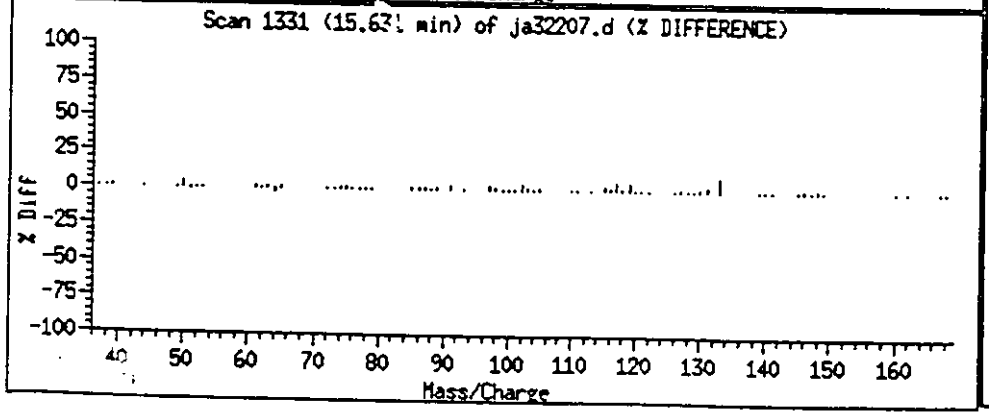


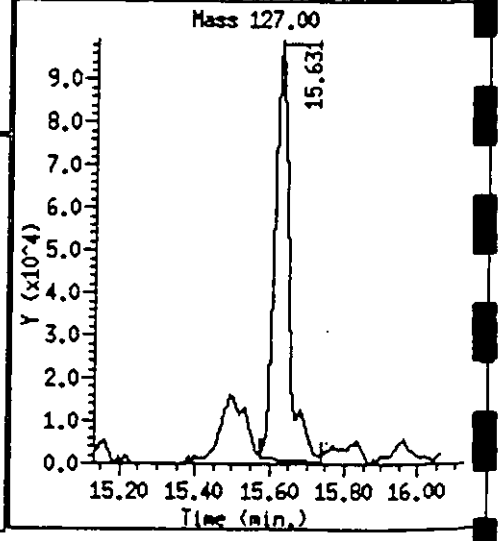






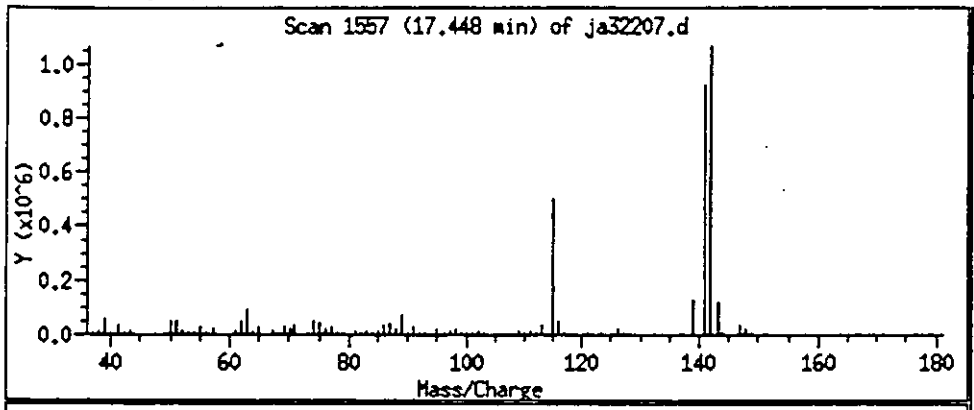


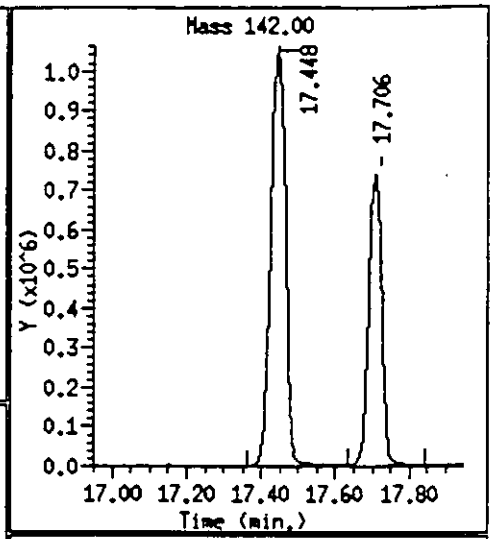


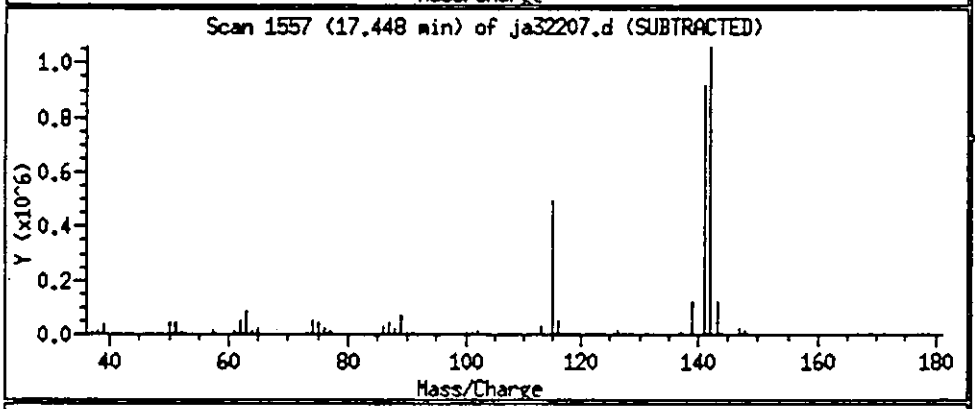


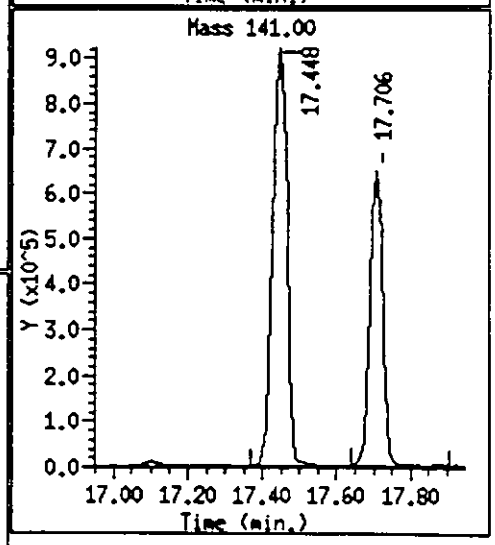
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Date : 03-AUG-1992 18:46
Instrument : TRILABS.i
Sample ID : mm5-2
Column phase : DB-5 Column diameter : 0.32
Volume Injected (uL) : 1.0

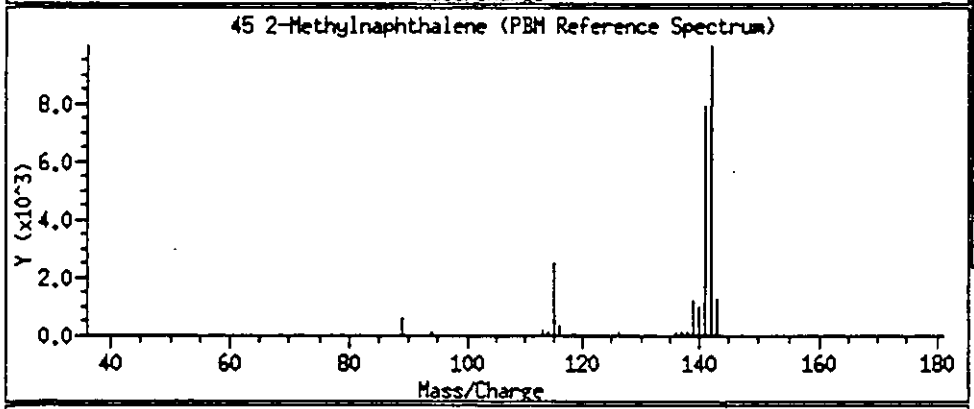
45 2-Methylnaphthalene

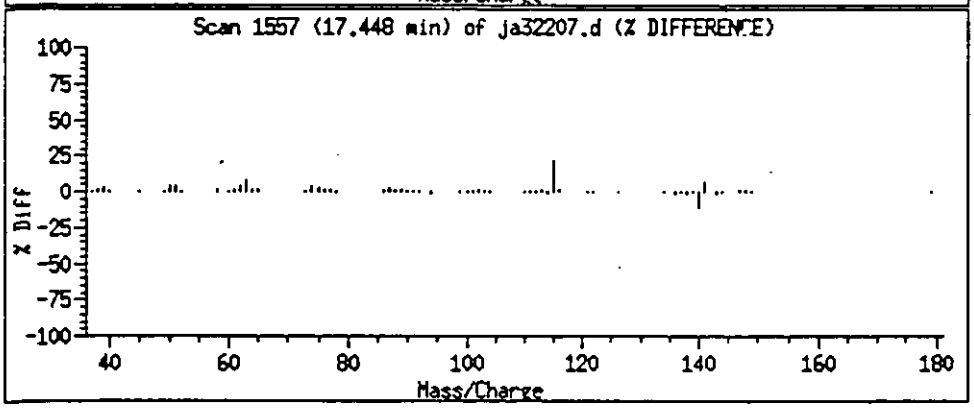






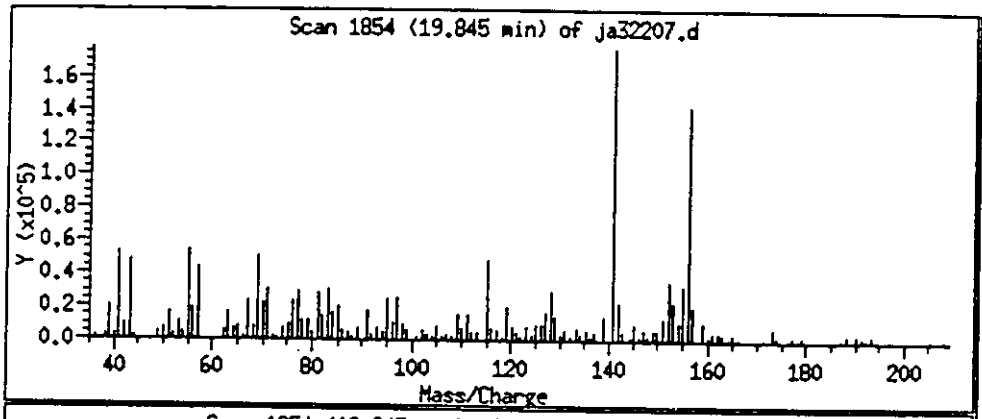


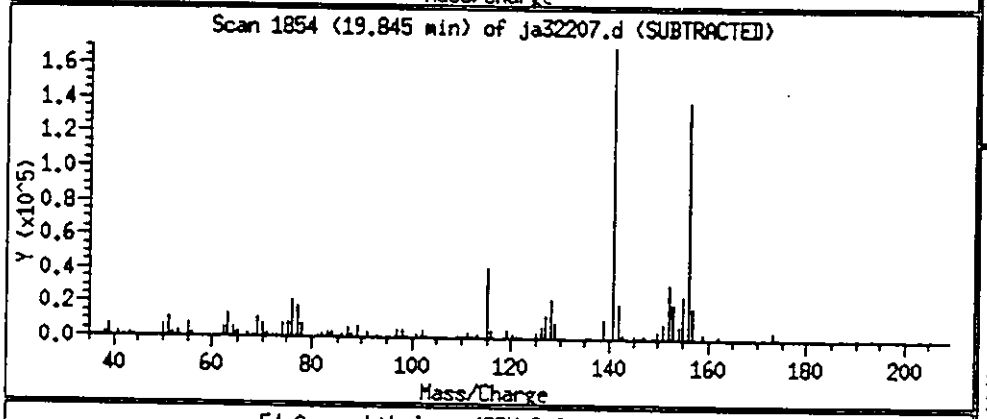


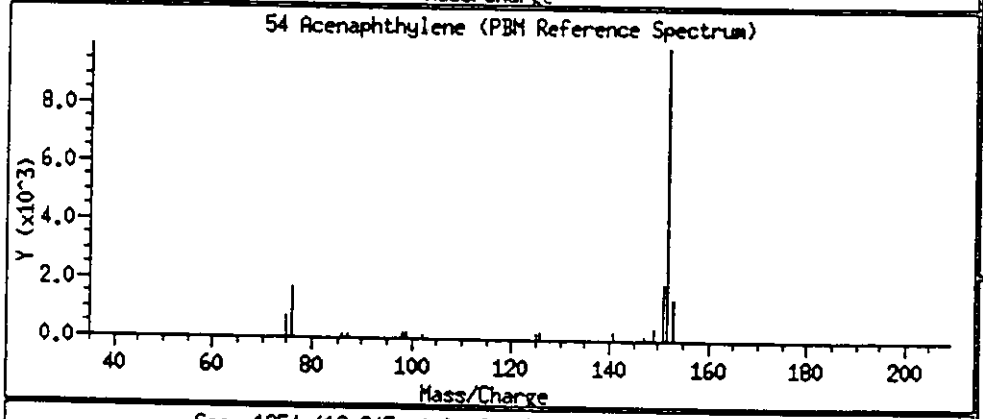


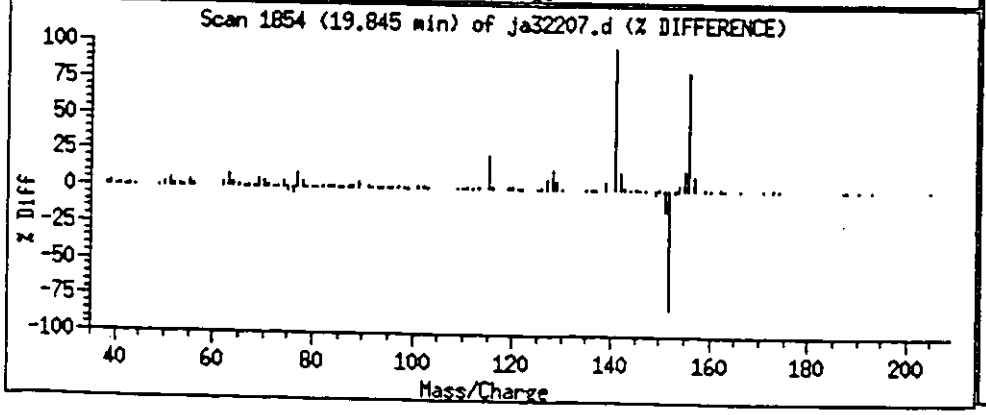
Data File: /chem/TRILABS.i/8-3-92.b/ja32207.d
Date : 03-AUG-1992 18:46
Instrument : TRILABS.i
Sample ID : mm5-2
Column phase : DB-5
Column diameter : 0.32
Volume Injected (uL) : 1.0

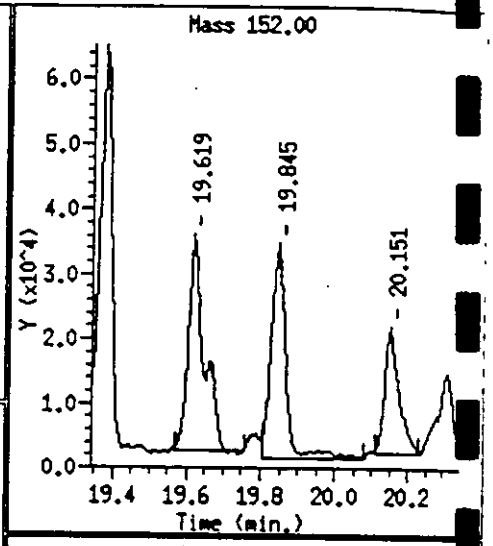
54 Acenaphthylene

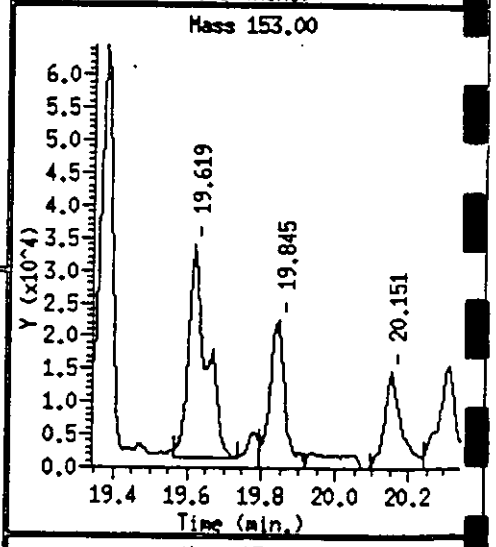


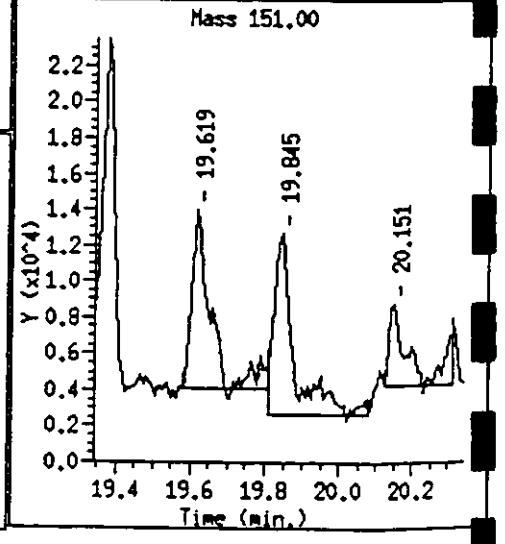






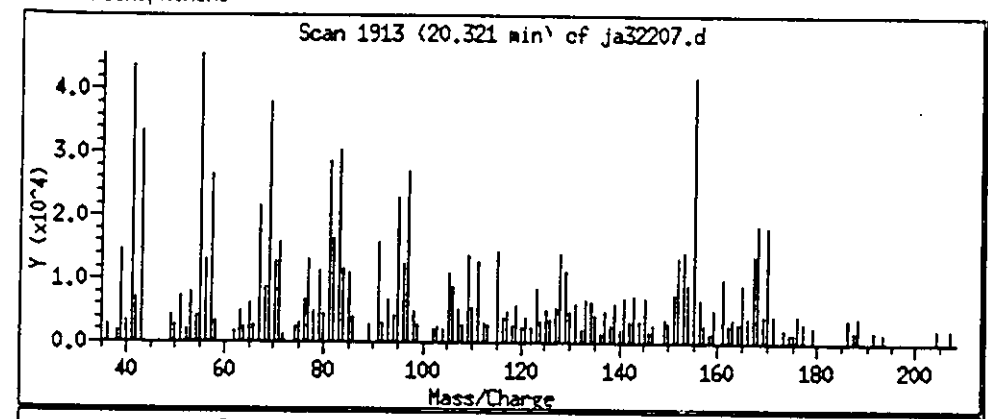


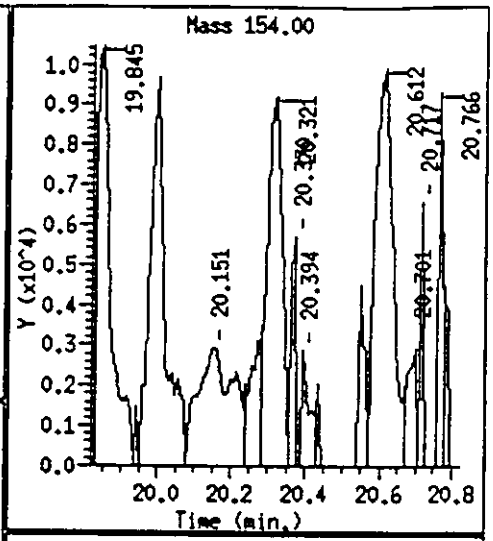


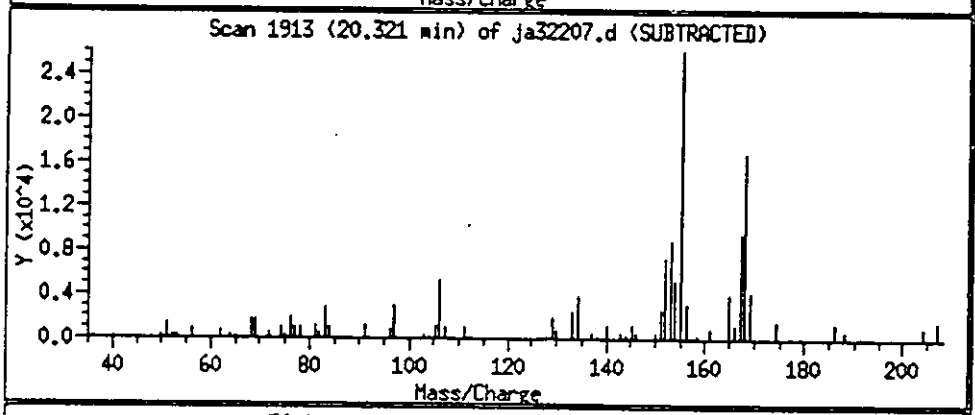


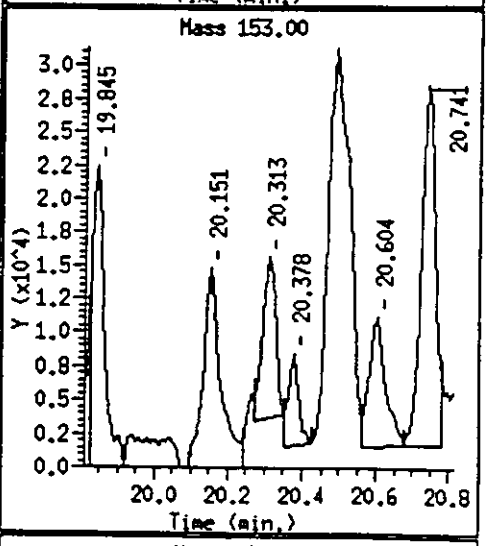
Data File: /chem/TRILABS.i/8-3-92.b/ja32207.d
Date : 03-AUG-1992 18:46
Instrument : TRILABS.i
Sample ID : ms5-2
Column phase : DB-5
Column diameter : 0.32
Volume Injected (uL) : 1.0

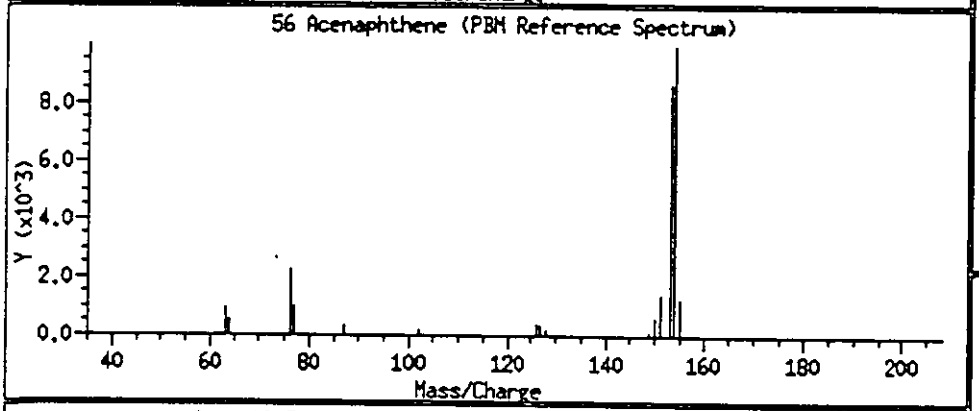
56 Acenaphthene

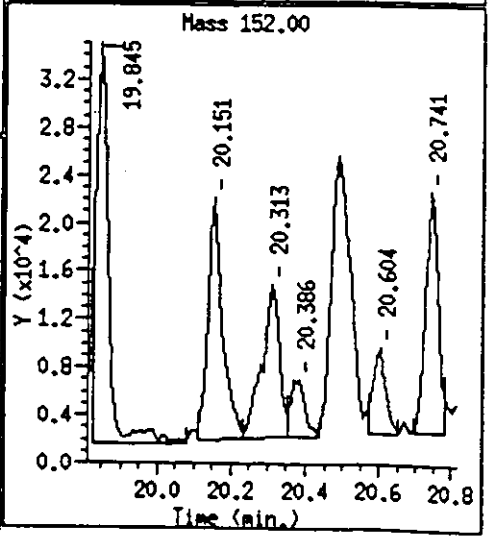


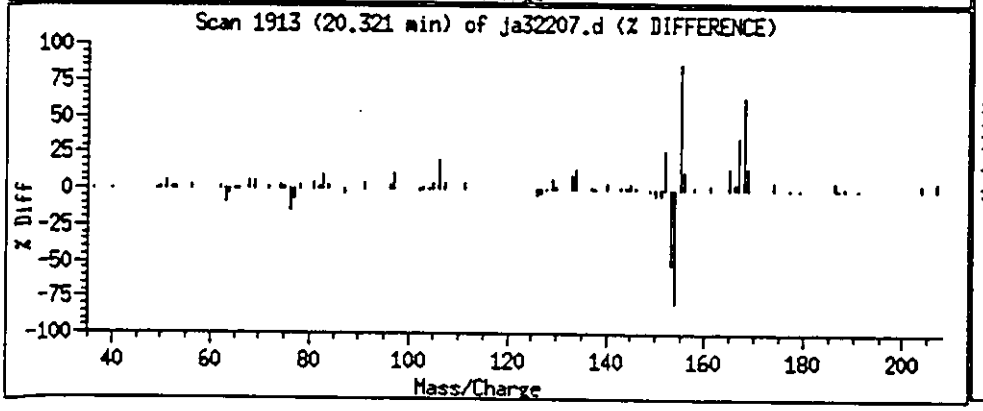












Data File: /chem/TRILABS.i/8-3-92.b/ja32207.d

Date : 03-AUG-1992 18:46

Instrument : TRILABS.i

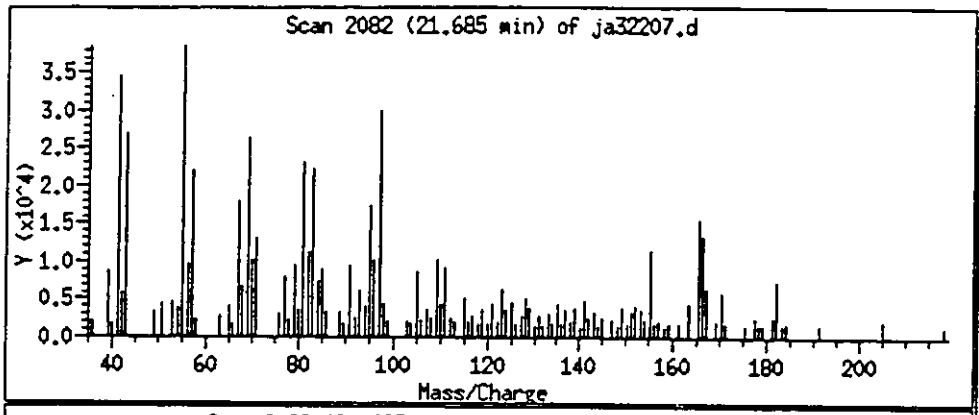
Sample ID : mm5-2

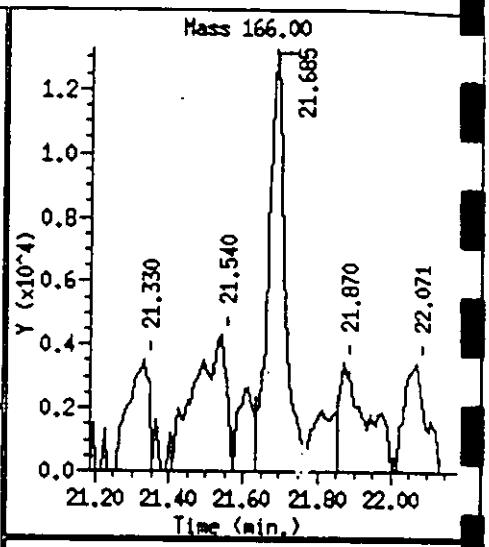
Column phase : DB-5

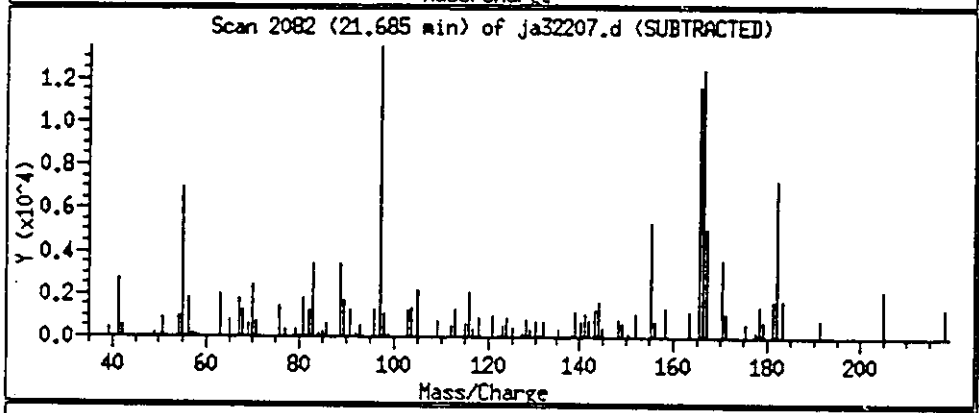
Column diameter : 0.32

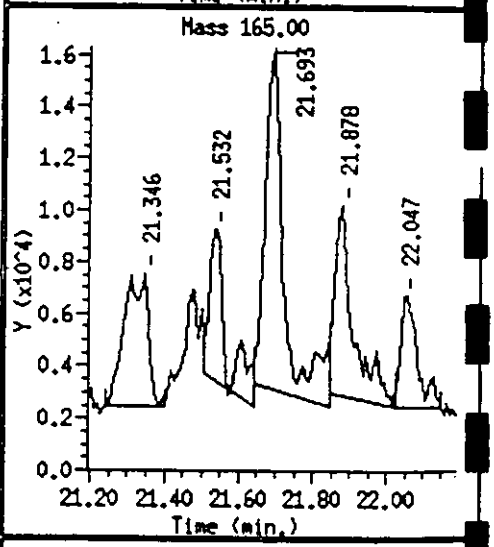
Volume Injected (uL) : 1.0

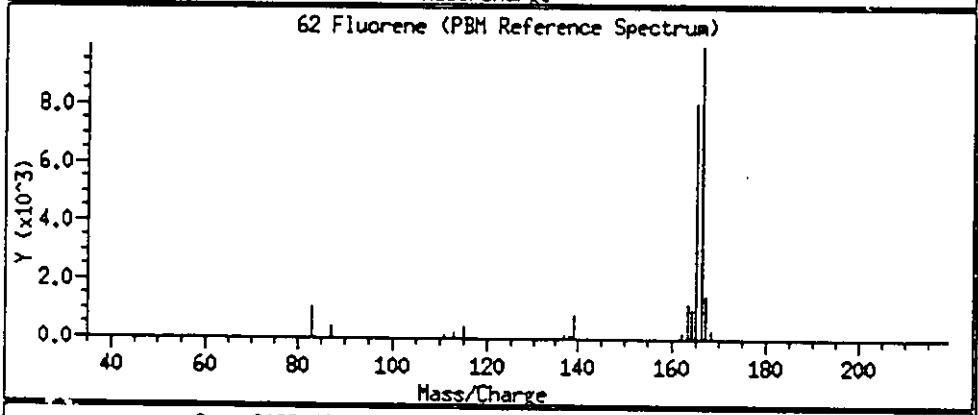
62 Fluorene

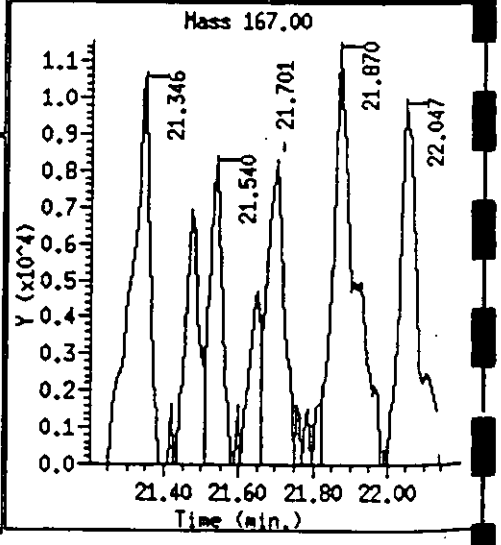


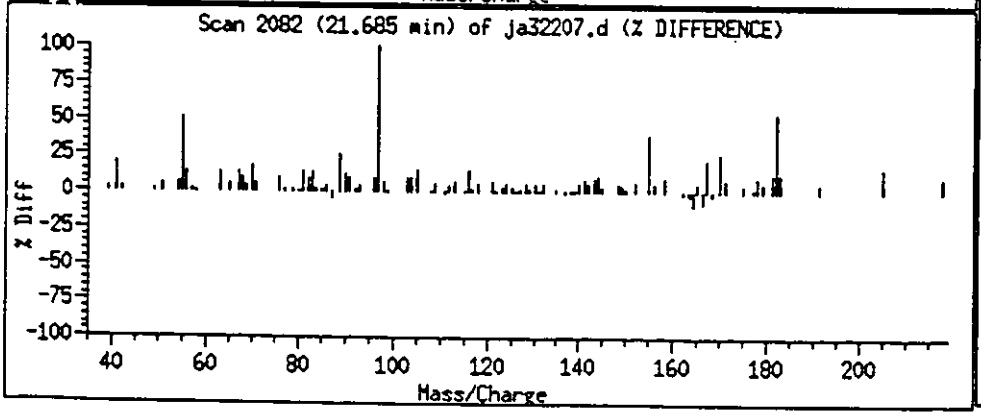






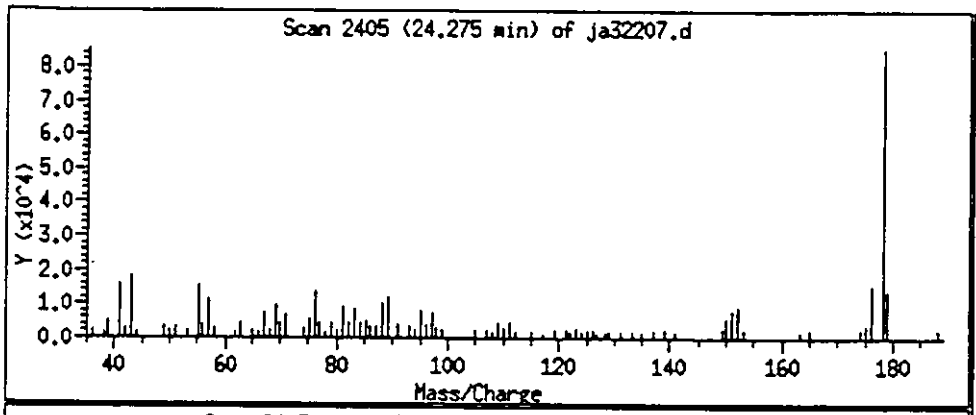


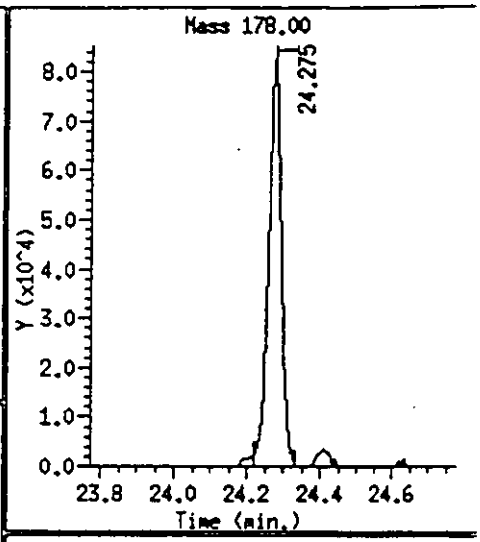


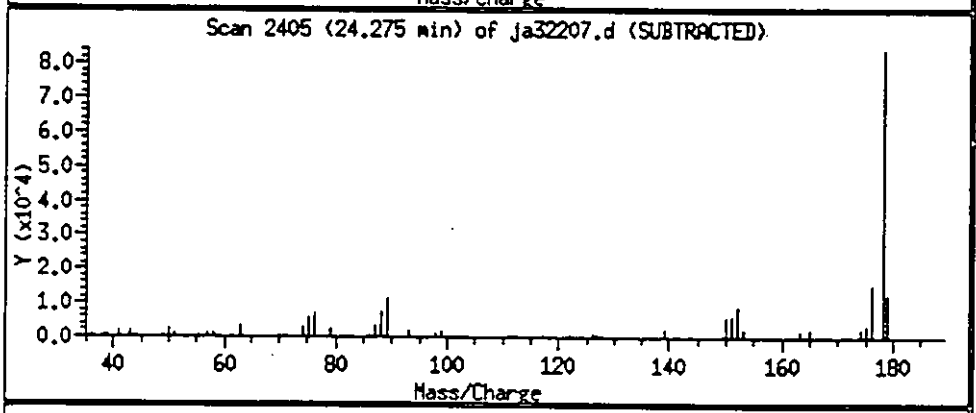


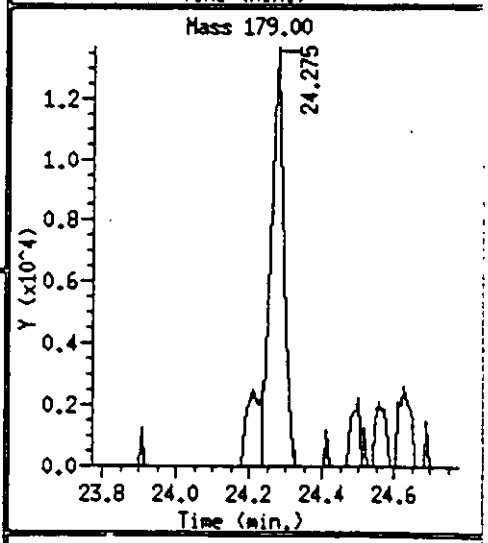
Data File: /chem/TRILABS.i/8-3-92.b/ja32207.d
Date : 03-AUG-1992 18:46
Instrument : TRILABS.i
Sample ID : mm5-2
Column phase : DB-5 Column diameter : 0.32
Volume Injected (uL) : 1.0

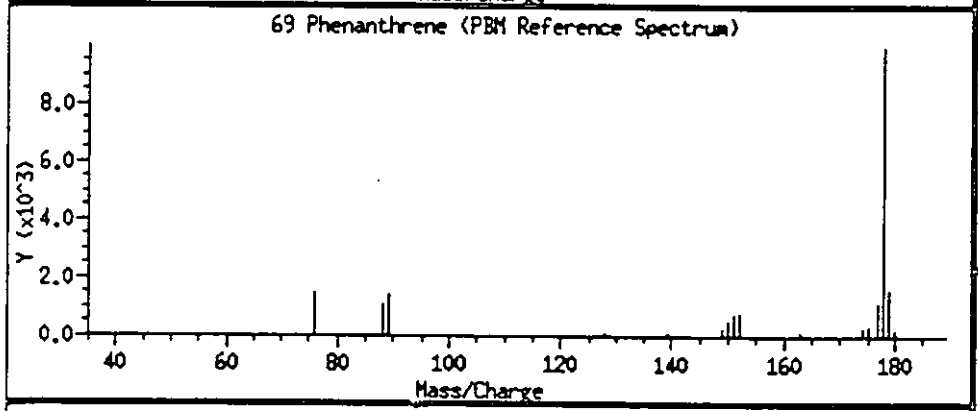
69 Phenanthrene

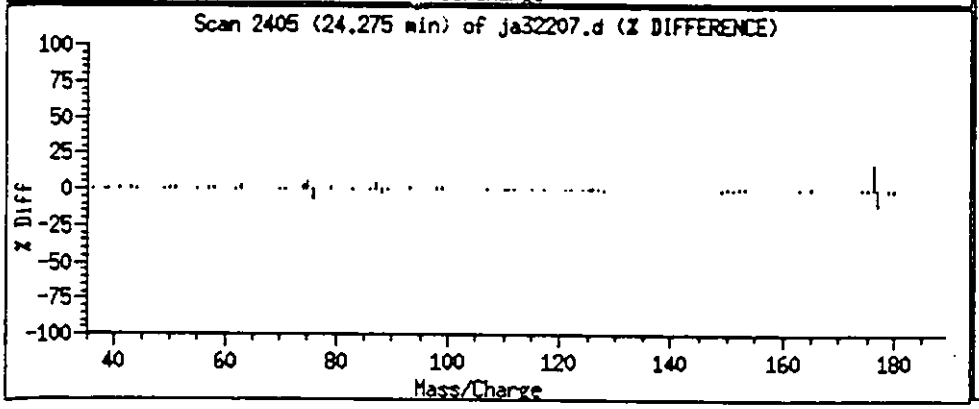


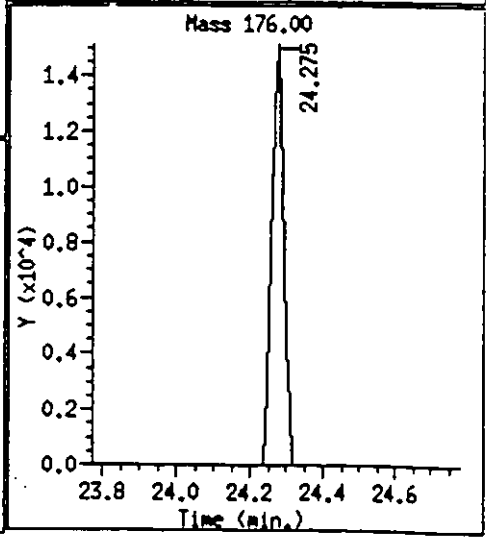












Data File: /chem/TRILABS.i/8-3-92.b/ja32207.d

Date : 03-AUG-1992 18:46

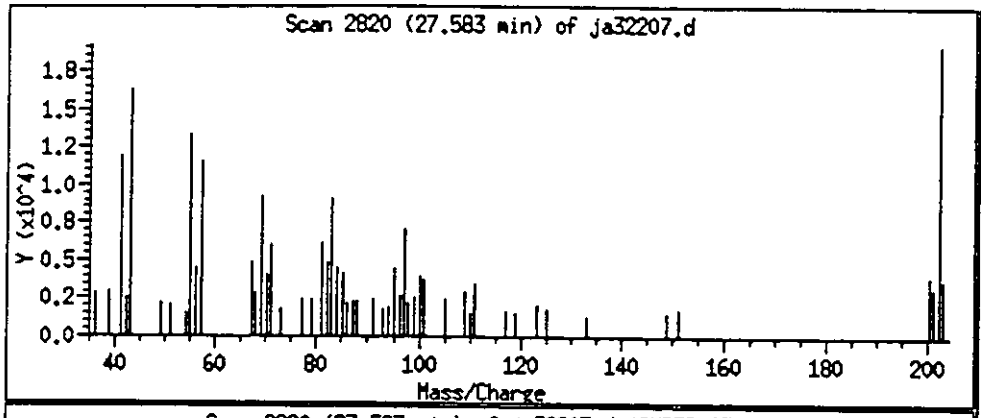
Instrument : TRILABS.i

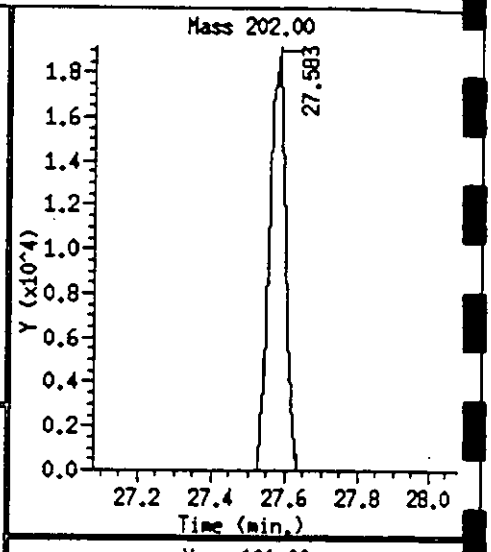
Sample ID : ms5-2

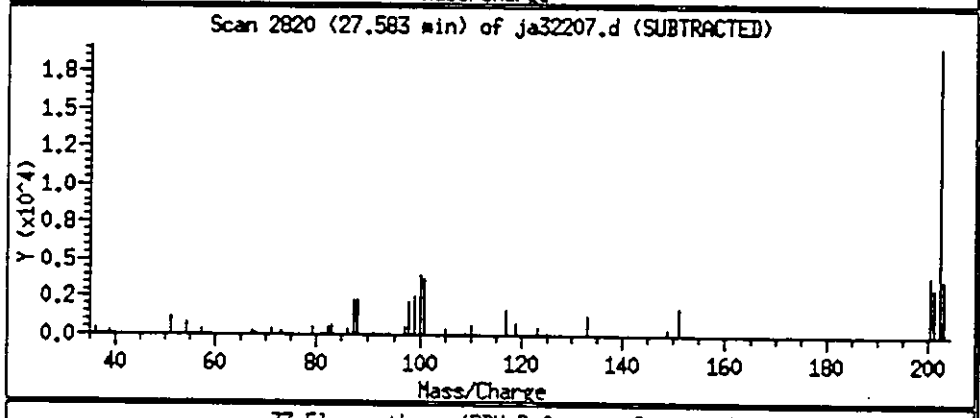
Column phase : DB-5 Column diameter : 0.32

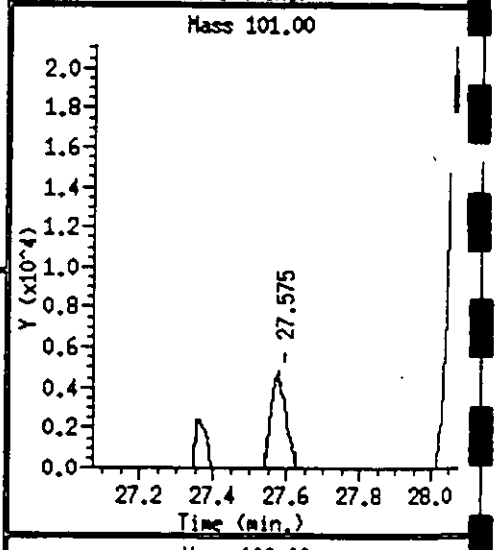
Volume Injected (uL) : 1.0

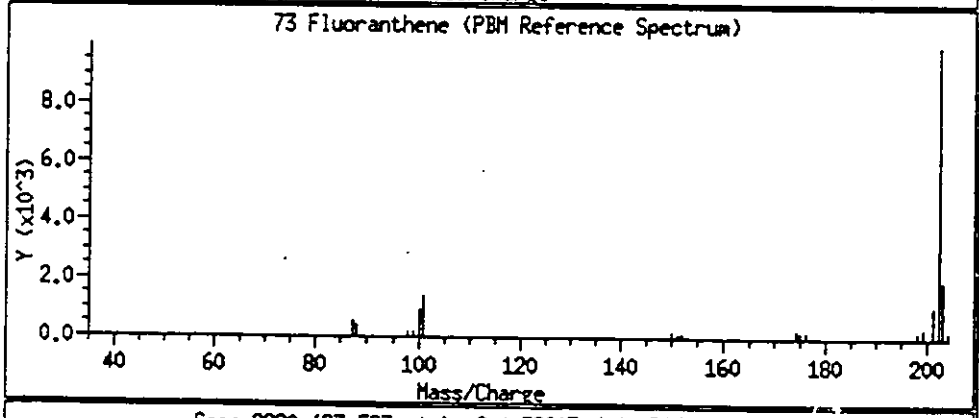
73 Fluoranthene

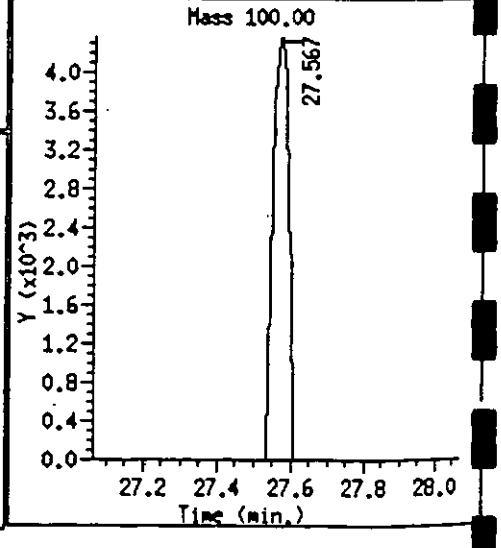


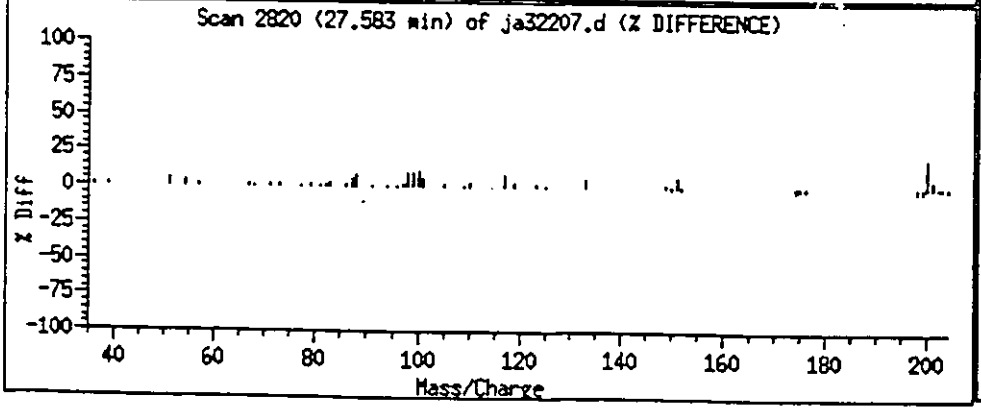












Data File: /chem/TRILABS.i/8-3-92.b/ja32207.d

Date : 03-AUG-1992 18:46

Instrument : TRILABS.i

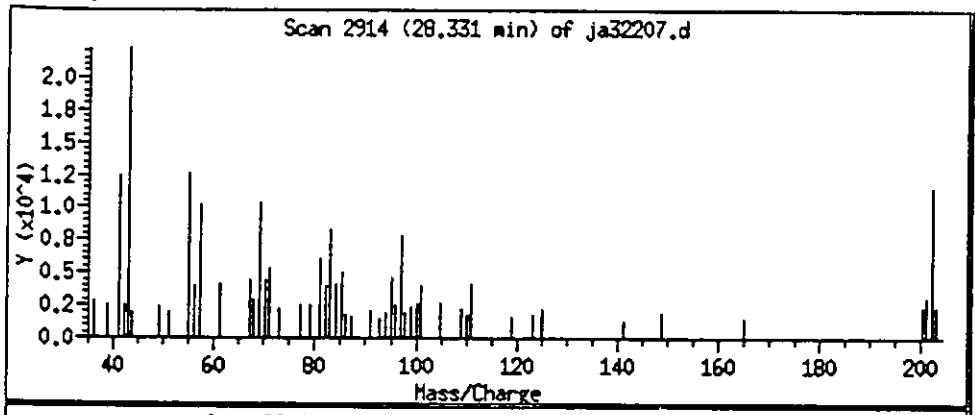
Sample ID : mm5-2

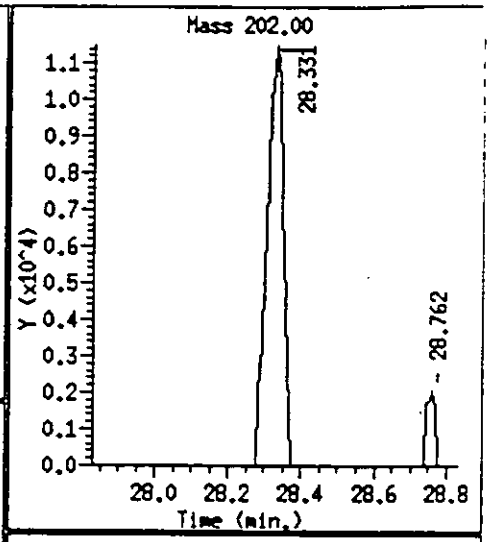
Column phase : DB-5

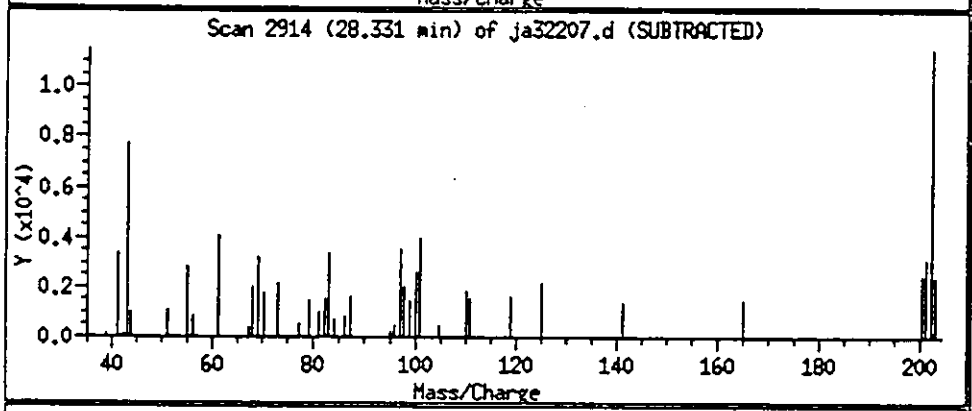
Column diameter : 0.32

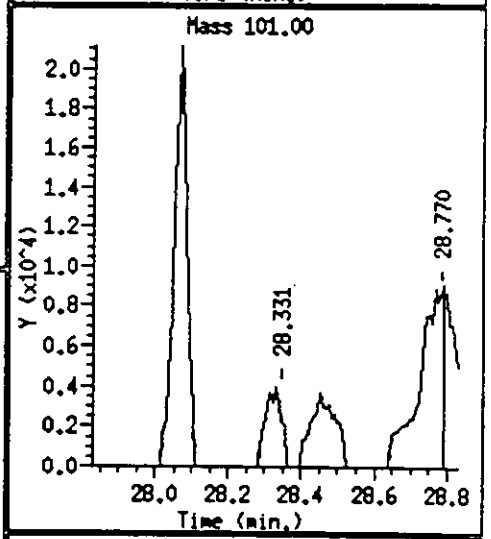
Volume Injected (uL) : 1.0

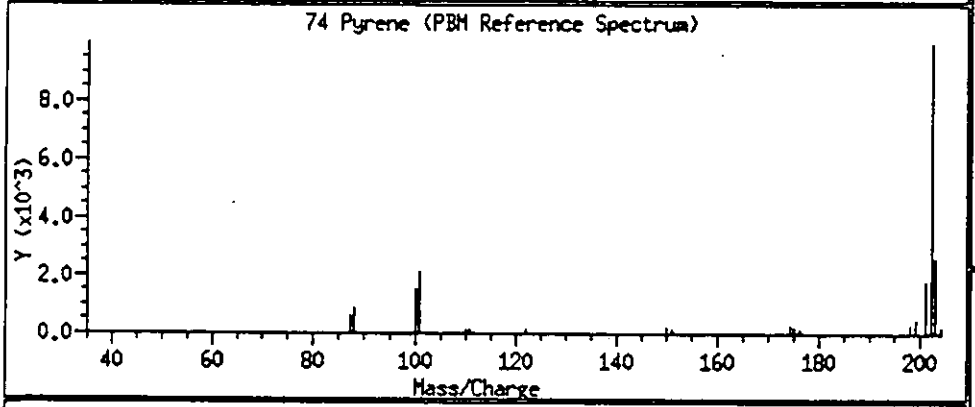
74 Pyrene

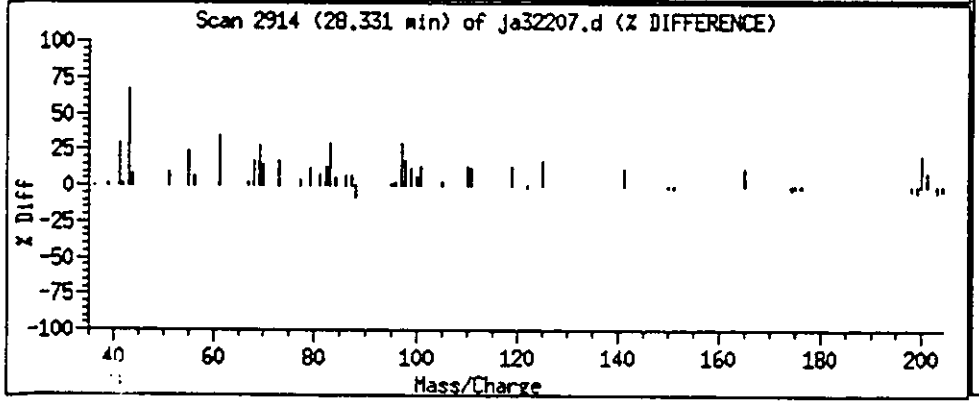


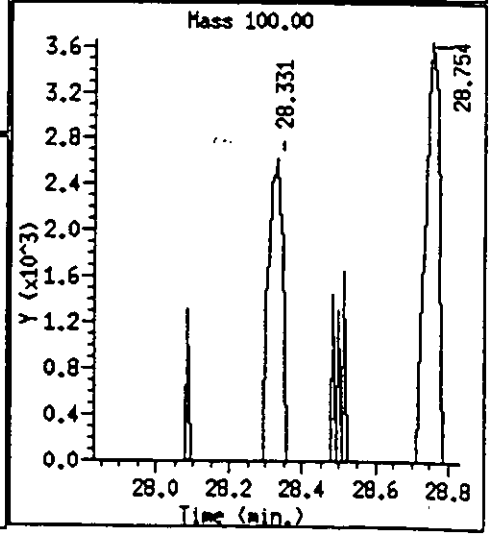


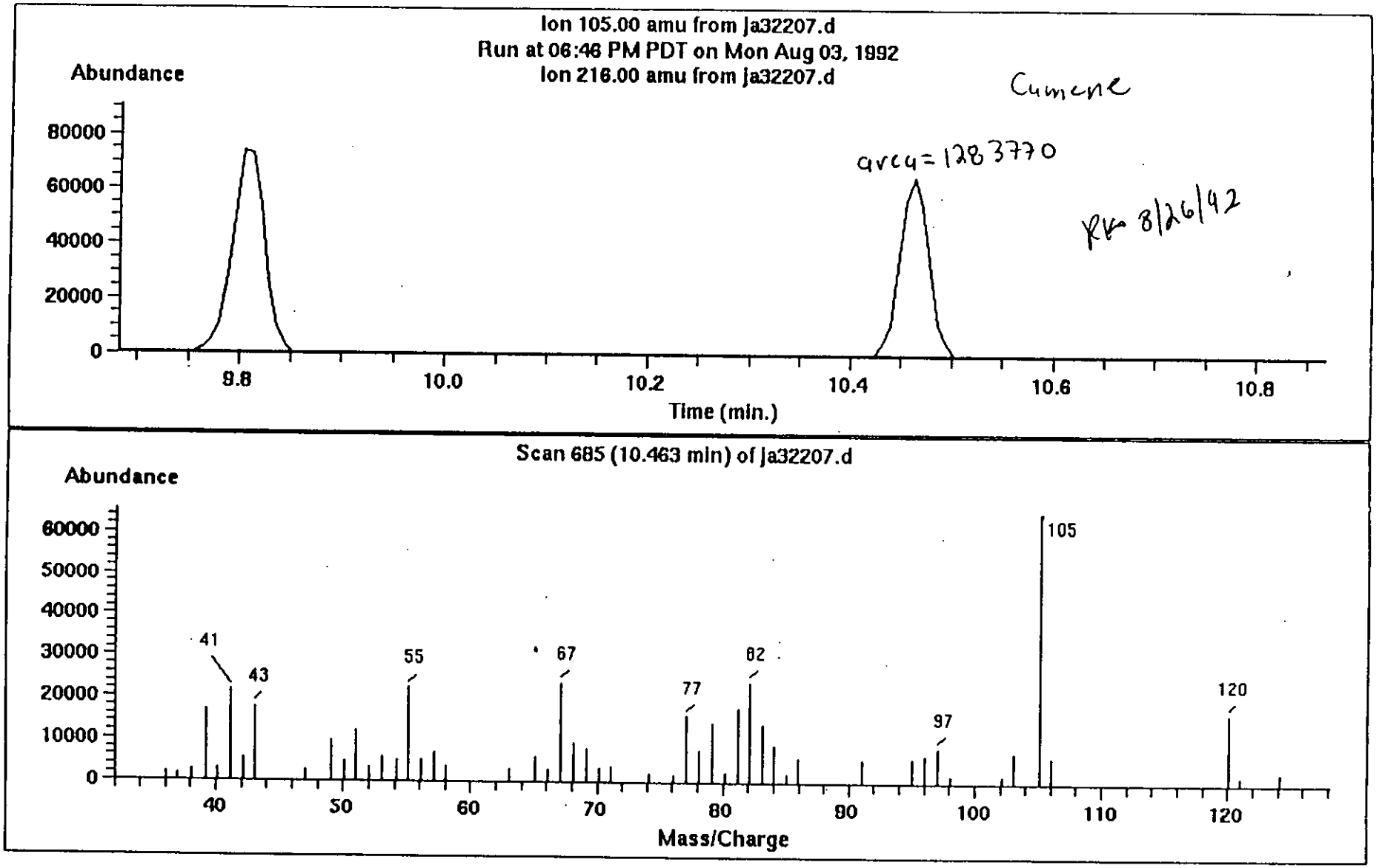


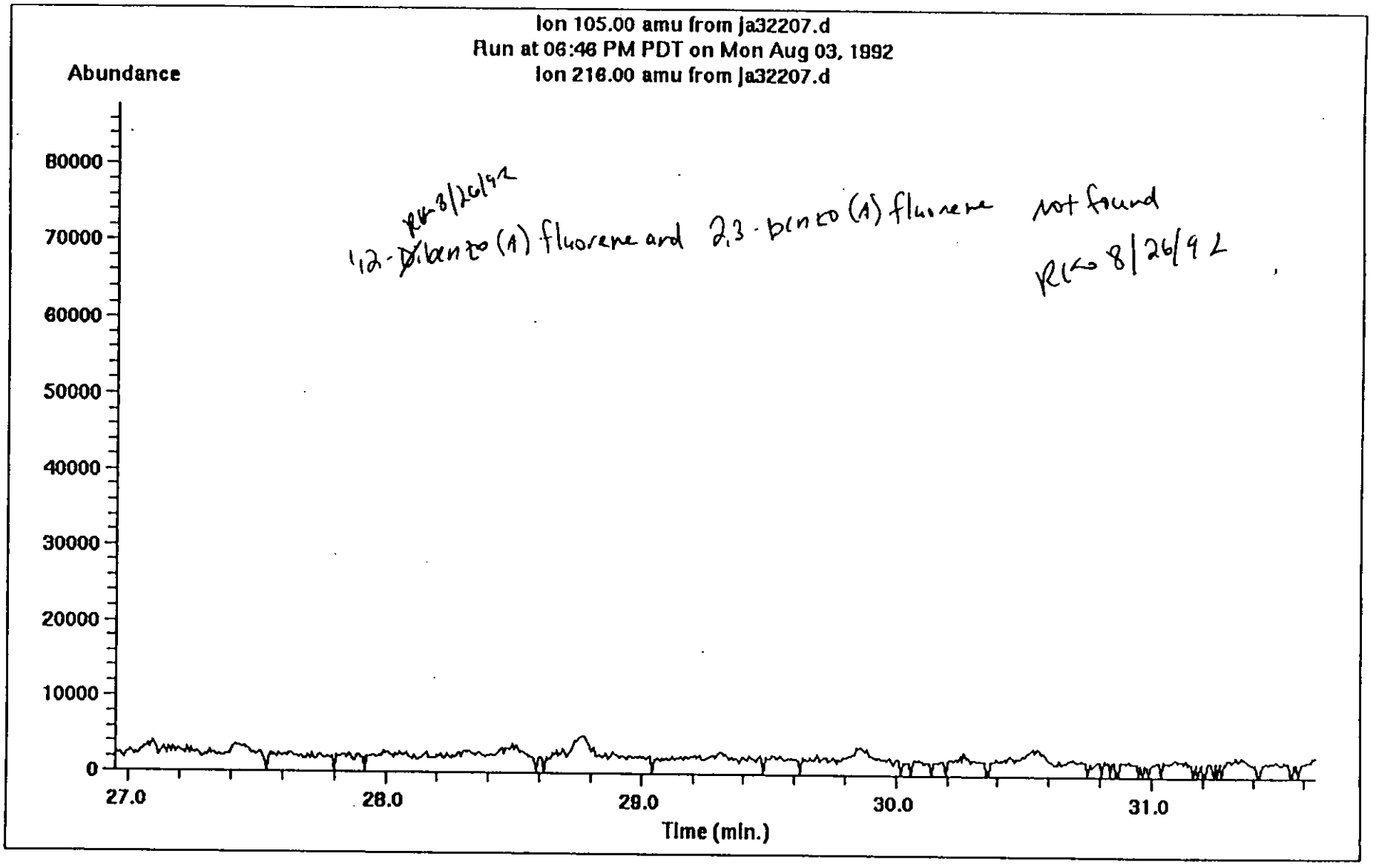









Ion 105.00 amu from Ja32207.d
Run at 06:46 PM PDT on Mon Aug 03, 1992
Ion 216.00 amu from Ja32207.d
Abundance
Cumene
area = 1283770
RF 8/26/92
80000
60000
40000
20000
0
9.8
10.0
10.2
10.4
10.6
10.8
Time (min.)
Scan 685 (10.463 min) of Ja32207.d
Abundance
60000
50000
40000
30000
20000
10000
0
41
43
55
67
77
82
97
105
120
40
50
60
70
80
90
100
110
120
Mass/Charge


Ion 105.00 amu from ja32207.d
Run at 06:46 PM PDT on Mon Aug 03, 1992
Ion 216.00 amu from ja32207.d
Abundance
80000
70000
60000
50000
40000
30000
20000
10000
0
27.0
28.0
29.0
30.0
31.0
Time (min.)
1,12-Dibenzo(a)fluorene and 2,3-benzo(a)fluorene not found
RLs 8/26/92
RLs 8/26/92

Ion 105.00 amu from ja32207.d

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	10.463	MM	0.033	1283770	10.400	10.511

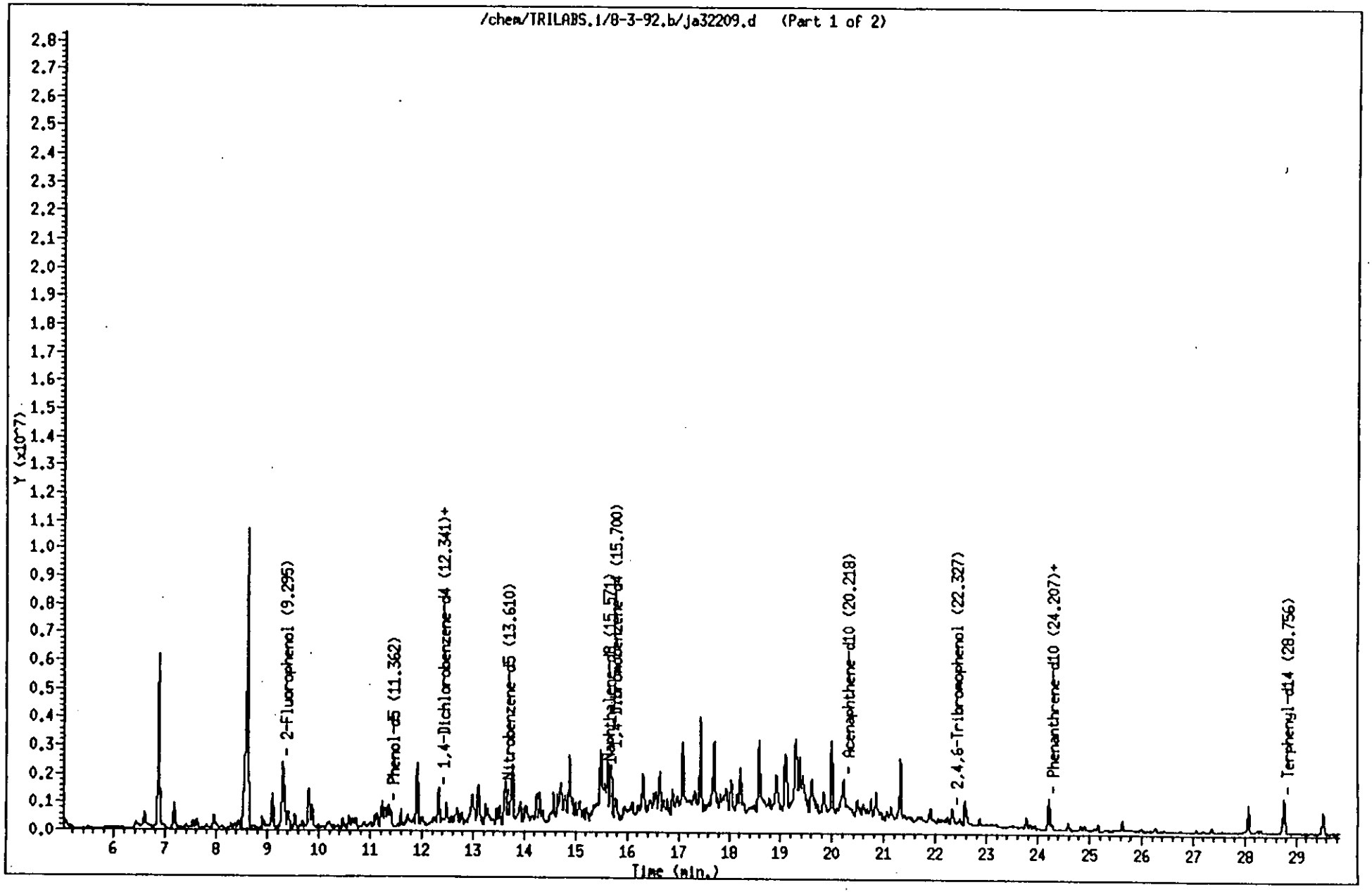
Low Resolution GC/MS Scans & Chromatograms
for
Sample No. MM5-4

Triangle Laboratories of RTP, INC

Data File: /chem/TRILABS.1/8-3-92.b/Ja32209.d
Date : 03-AUG-1992 20:57
Instrument : TRILABS.1
Sample ID : mm5-3
Column phase : DB-5
Volume Injected (uL) : 1.0

KK 8/25/92

Column diameter : 0.32



Triangle Laboratories of RTP, INC

Data File: /chem/TRILABS.1/8-3-92.b/Ja32209.d RKB 8/25/92

Date : 03-AUG-1992 20:57

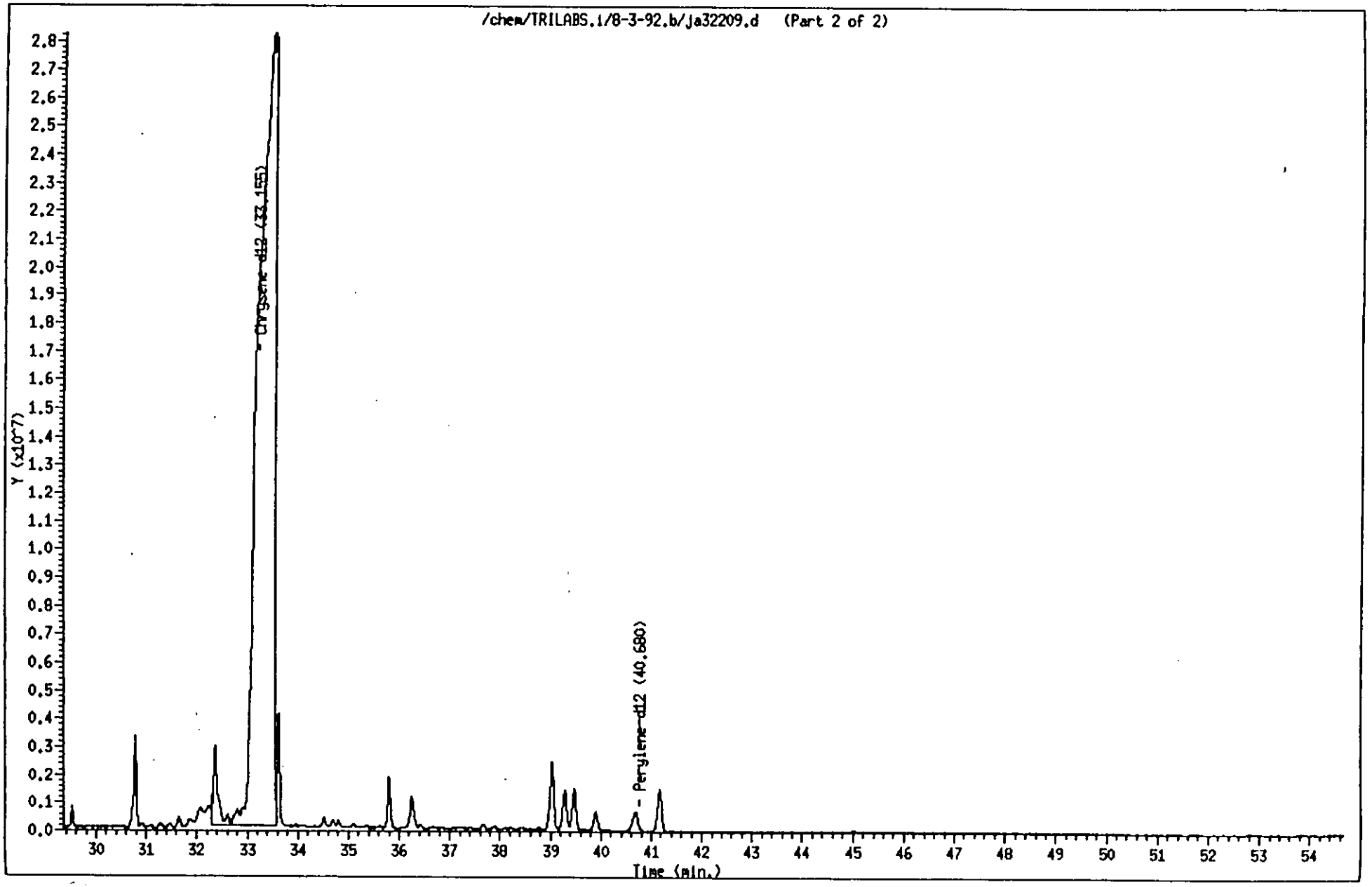
Instrument : TRILABS.1

Sample ID : mm5-3

Column phase : DB-5

Column diameter : 0.32

Volume Injected (uL) : 1.0



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

QUANTITATION 8-31-92

SEMI-VOLATILE ~~QUANTATATION~~ REPORT

Data file : /chem/TRILABS.i/8-3-92.b/ja32209.d
Lab. Id. :
Inj Date : 03-AUG-1992 20:57 Autotune Date: 22-Jul-92 12:21:3
Operator : mick Inst ID: TRILABS.i
Smp Info : mm5-3 FILTER, RADS RINSES 8-8-2692
Misc Info : tli#21187b 57-89-3 57-102-4,6
Comment :
Method : /chem/TRILABS.i/8-3-92.b/tlibna.m
Meth Date : 20-Aug-1992 09:06 target
Cal Date : 03-AUG-1992 09:52 Cal File: ja321.d
Als bottle: 9
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: all.sub
Rpt Date : 20-Aug-1992 09:11 Sample Type: mm5

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)	
*	1	1,4-Dichlorobenzene	12.341(1.000)	241325	40.00	40.00	
*	2	Naphthalene-d8	15.571(1.000)	944483	40.00	40.00	
*	3	Acenaphthene-d10	20.218(1.000)	692337	40.00	40.00	
•	4	Phenanthrene-d10	24.207(1.000)	918666	40.00	40.00	
*	5	Chrysene-d12	33.155(1.000)	613800	40.00	40.00	
*	6	Perylene-d12	40.680(1.000)	1415103	40.00	40.00	
$	7	2-Fluorophenol	9.295(0.753)	5654	0.96	2.03(aQR)	
$	8	Phenol-d5	11.362(0.921)	392255	48.07	100.96(Q)	
$	9	2-Chlorophenol-d4		Compound Not Detected.			
$	10	1,2-Dichlorobenzene	~~12.341(1.000)~~	~~241325~~	~~50.53~~	~~106.11(Q)~~	NO Biolog
$	11	Nitrobenzene-d5	13.610(0.874)	48049	4.96	10.43(QR)	
$	12	1,3,5-Trichlorobenz		Compound Not Detected.			
$	13	1,4-Dibromobenzene-	15.700(1.272)	223333	41.23	86.59	
$	14	2-Fluorobiphenyl		Compound Not Detected.			
$	15	2,4,6-Tribromopheno	22.327(1.104)	169949	40.59	85.25	
$	16	Anthracene-d10	~~24.207(1.000)~~	~~918666~~	~~37.96~~	~~79.73~~	NO Biolog
$	17	Pyrene-d10		Compound Not Detected.			
$	18	Terphenyl-d14	28.756(0.867)	1217667	49.46	103.87	
	19	N-Nitrosodimethylam		Compound Not Detected.			
	~~20~~	~~Phenol~~	~~11.394(0.923)~~	~~19228~~	~~2.37~~	~~4.99(aQ)~~	NT.
	~~21~~	~~Aniline~~	~~11.593(0.939)~~	~~3280~~	~~0.31~~	~~0.66(aQ)~~	NT.
	~~22~~	~~bis(2-Chloroethyl)e~~	~~11.593(0.939)~~	~~3280~~	~~0.45~~	~~0.94(aQ)~~	NT.
	23	2-Chlorophenol		Compound Not Detected.			
	24	1,3-Dichlorobenzene		Compound Not Detected.			
	25	1,4-Dichlorobenzene		Compound Not Detected.			
	26	1,2-Dichlorobenzene		Compound Not Detected.			
	27	2-Methylphenol		Compound Not Detected.			
	~~28~~	~~2,2'-oxybis(1-Chlor~~	~~13.003(1.054)~~	~~1549~~	~~0.58~~	~~1.22(aQ)~~	NT
	29	Benzyl alcohol		Compound Not Detected.			
	30	4-Methylphenol		Compound Not Detected.			
	~~31~~	~~N-Nitroso-di-n-prop~~	~~13.123(1.063)~~	~~38363~~	~~7.82~~	~~16.44(Q)~~	NT.
	32	Hexachloroethane		Compound Not Detected.			

Data Review: RKO
Date: 3/15/92

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug)
33 Nitrobenzene	13.730(0.882)	30819	3.32	6.98(aQ) NT
34 Isophorone	14.354(0.922)	44026	2.53	5.31(aQ) NT
35 2-Nitrophenol	14.697(0.944)	30633	6.71	14.09(Q) NT
36 2,4-Dimethylphenol		Compound Not Detected.		
37 bis(2-Chloroethoxy)	14.537(0.934)	23227	2.19	4.61(aQ)
38 Benzoic acid	14.778(0.949)	355869	99.39	208.72(Q)
39 2,4-Dichlorophenol		Compound Not Detected.		
40 1,2,4-Trichlorobenz		Compound Not Detected.		
41 Naphthalene	15.627(1.004)	1468003	68.67	144.20
42 4-Chloroaniline	15.627(1.004)	241456	26.92	56.54(Q)
43 Hexachlorobutadiene		Compound Not Detected.		
44 4-Chloro-3-methylph		Compound Not Detected.		
45 2-Methylnaphthalene	17.444(1.120)	2826721	172.40	362.04(A)
46 Hexachlorocyclopent		Compound Not Detected.		
47 2,4,6-Trichlorophen		Compound Not Detected.		
48 2,4,5-Trichlorophen		Compound Not Detected.		
49 2-Chloronaphthalene	18.958(0.938)	52151	2.75	5.78(aQ) RKO
50 2-Nitroaniline	18.918(0.936)	49307	8.58	18.01(Q) NT
51 Dimethylphthalate	19.411(0.960)	20251	0.93	1.96(aQ) NT
52 2,6-Dinitrotoluene	19.847(0.982)	9935	1.86	3.91(aQ) NT
53 2,4-Dinitrotoluene	20.751(1.026)	24478	3.22	6.76(aQ) NT
54 Acenaphthylene	19.839(0.981)	63581	2.11	4.43(aQ)
55 3-Nitroaniline		Compound Not Detected.		
56 Acenaphthene	20.315(1.005)	24163	1.38	2.90(aQ)
57 2,4-Dinitrophenol		Compound Not Detected.		
58 4-Nitrophenol	20.185(0.998)	94941	51.79	108.77(Q) NT
59 Dibenzofuran	20.767(1.027)	96673	3.94	8.28(aQ) NT
60 Diethylphthalate	21.282(1.053)	36994	1.62	3.40(aQ) NT
61 4-Chlorophenyl-phen		Compound Not Detected.		
62 Fluorene	21.676(1.072)	35332	1.85	3.90(aQ)
63 4-Nitroaniline		Compound Not Detected.		
64 4,6-Dinitro-2-methy		Compound Not Detected.		
65 N-Nitrosodiphenylam	21.910(0.905)	21143	2.01	4.23(aQ) NT
66 4-Bromophenyl-pheny		Compound Not Detected.		
67 Hexachlorobenzene		Compound Not Detected.		
68 Pentachlorophenol		Compound Not Detected.		
69 Phenanthrene	24.271(1.003)	157837	6.92	14.53
70 Anthracene	24.271(1.003)	157837	6.38	13.40 RKO
71 Carbazole		Compound Not Detected.		
72 Di-n-butylphthalate	25.635(1.059)	442353	10.31	21.66 NT
73 Fluoranthene	27.578(1.139)	26476	0.87	1.83(a)
74 Pyrene	28.326(0.854)	18810	0.71	1.49(a)
75 Benzidine		Compound Not Detected.		
76 Butylbenzylphthalat		Compound Not Detected.		
77 3,3'-Dichlorobenzid		Compound Not Detected.		
78 bis(2-Ethylhexyl)ph	33.510(1.011)	132774639	4882.95	10254.21(A) NT
79 Di-n-octylphthalate		Compound Not Detected.		
80 Benzo(a)anthracene		Compound Not Detected.		
81 Chrysene		Compound Not Detected.		
82 Benzo(b)fluoranthen		Compound Not Detected.		
83 Benzo(k)fluoranthen		Compound Not Detected.		

Data Review: RKO
Date: 8/25/92

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
84 Benzo(e)pyrene		Compound Not Detected.		
85 Benzo(a)pyrene		Compound Not Detected.		
86 Perylene		Compound Not Detected.		
87 Indeno(1,2,3-cd)pyr		Compound Not Detected.		
88 Dibenzo(a,h)anthrac		Compound Not Detected.		
89 Benzo(g,h,i)perylen		Compound Not Detected.		

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.

Data Reviewer: RK
Date: 8/25/92

Data File: /chem/TRILABS.i/8-3-92.b/ja32209.d

Date : 03-AUG-1992 20:57

Instrument : TRILABS.i

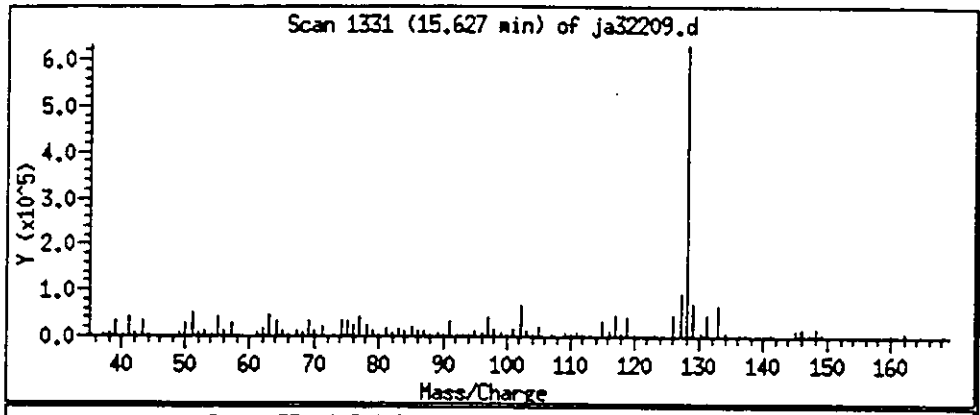
Sample ID : ms5-3

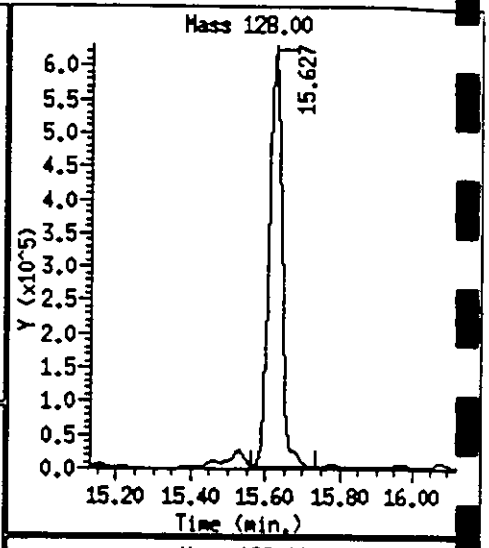
Column phase : DB-5

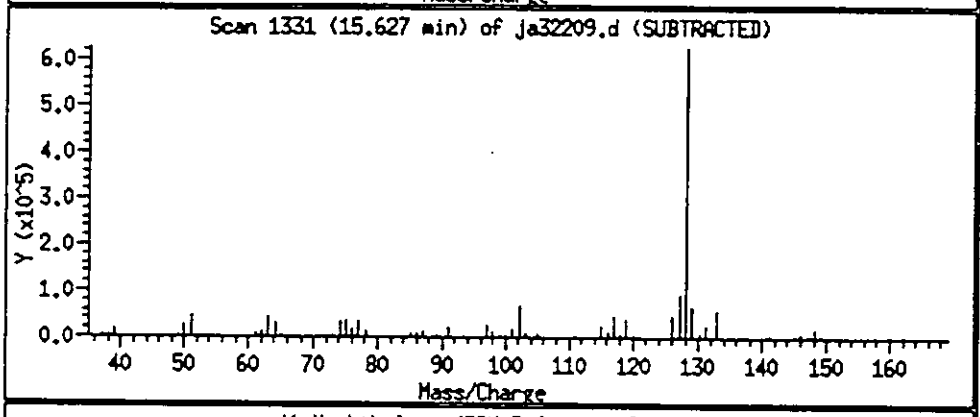
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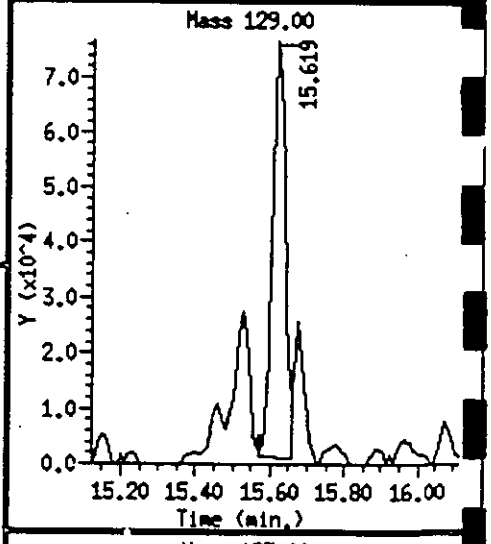
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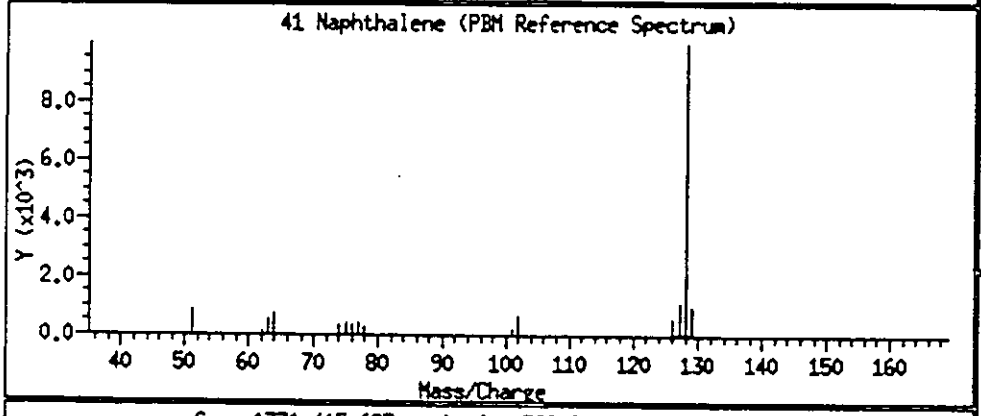
41 Naphthalene

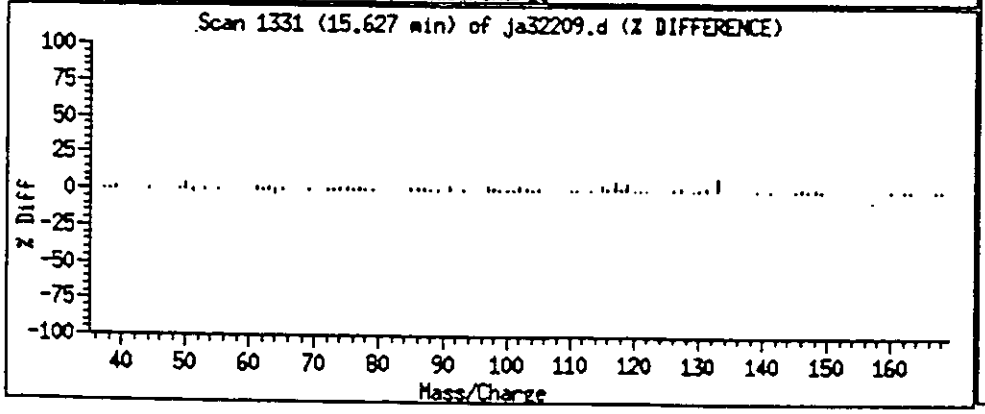


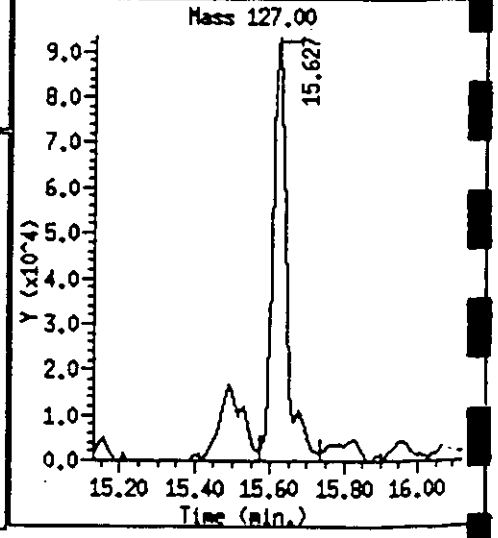












Data File: /chem/TRILABS.i/8-3-92.b/ja32209.d

Date : 03-AUG-1992 20:57

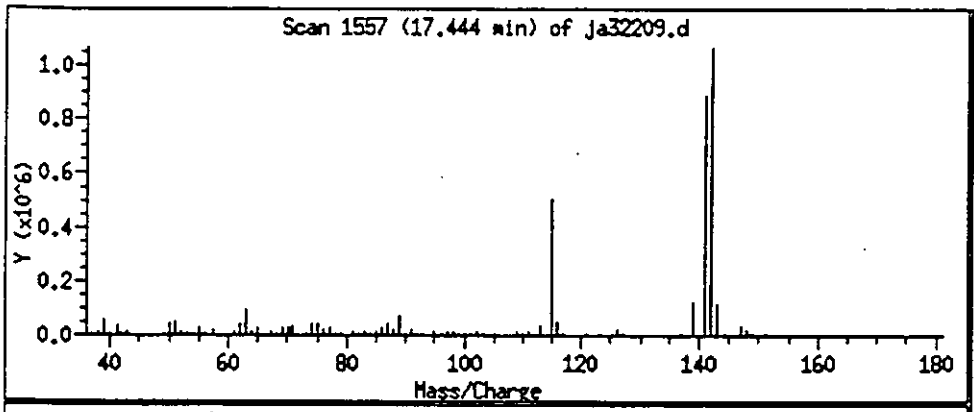
Instrument : TRILABS.i

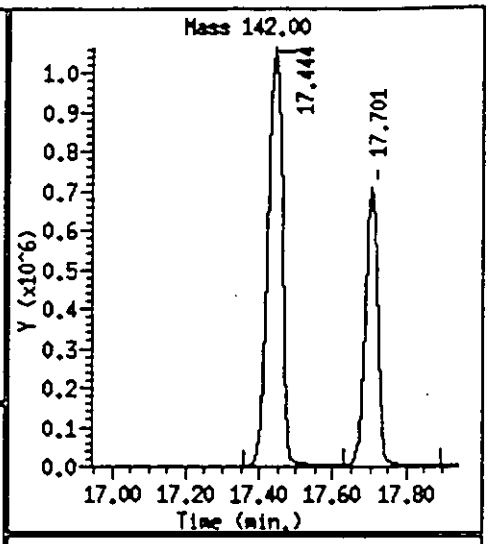
Sample ID : mm5-3

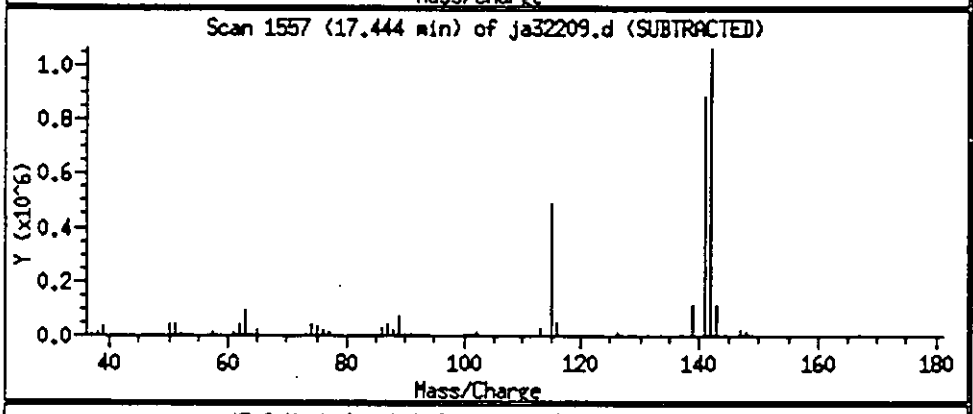
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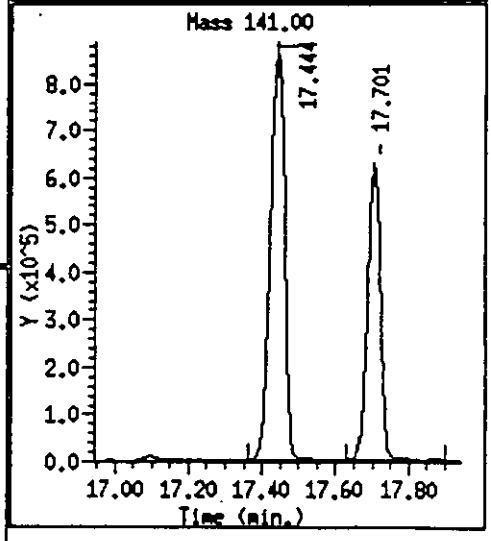
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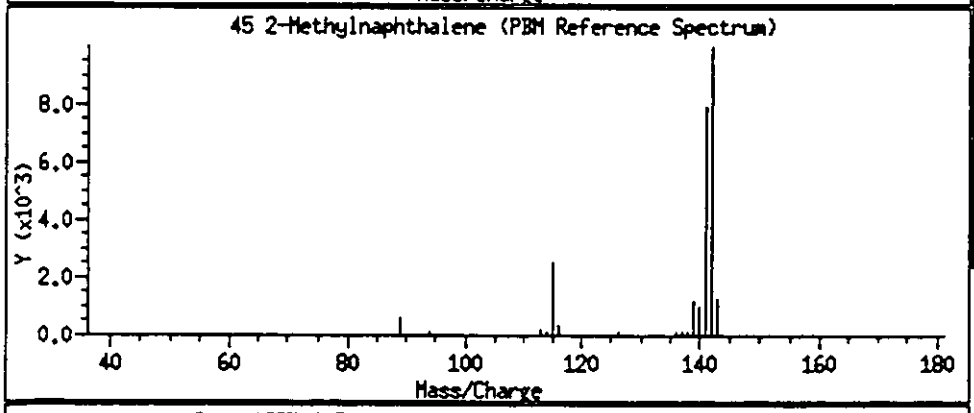
45 2-Methylnaphthalene

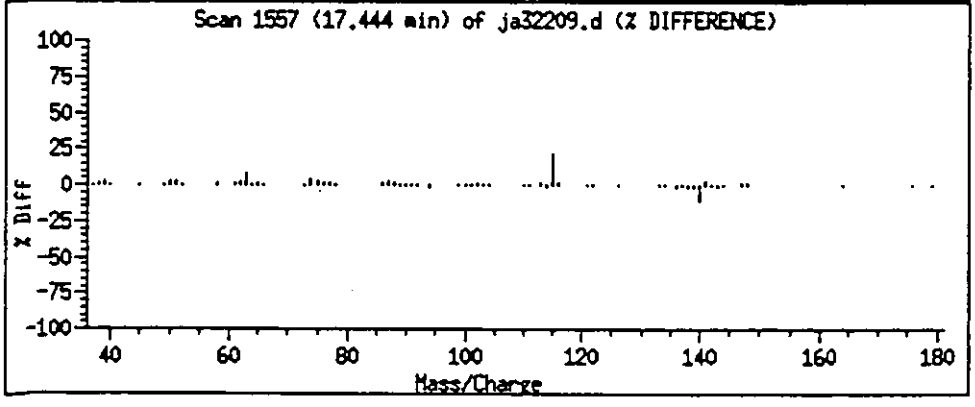












Data File: /chem/TRILABS.i/8-3-92.b/ja32209.d

Date : 03-AUG-1992 20:57

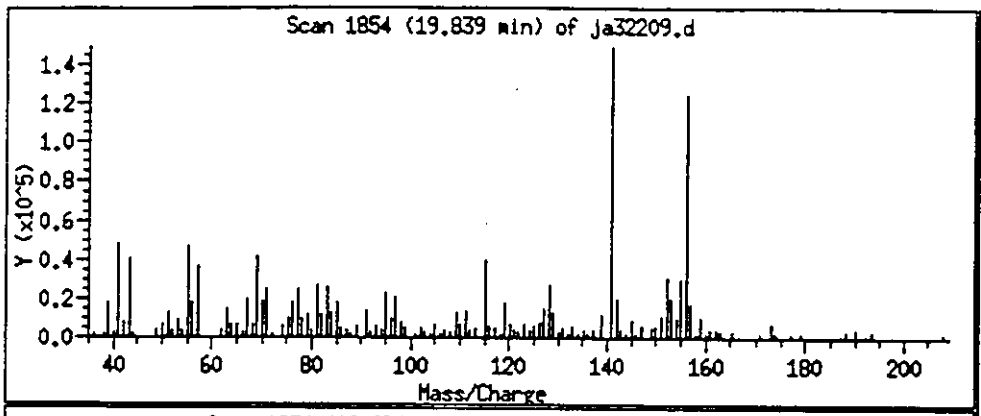
Instrument : TRILABS.i

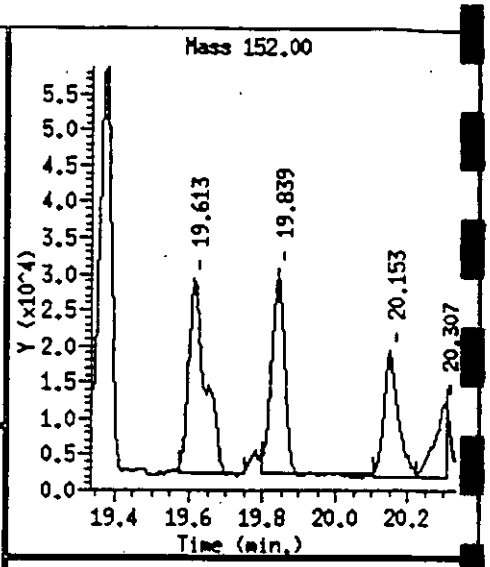
Sample ID : mm5-3

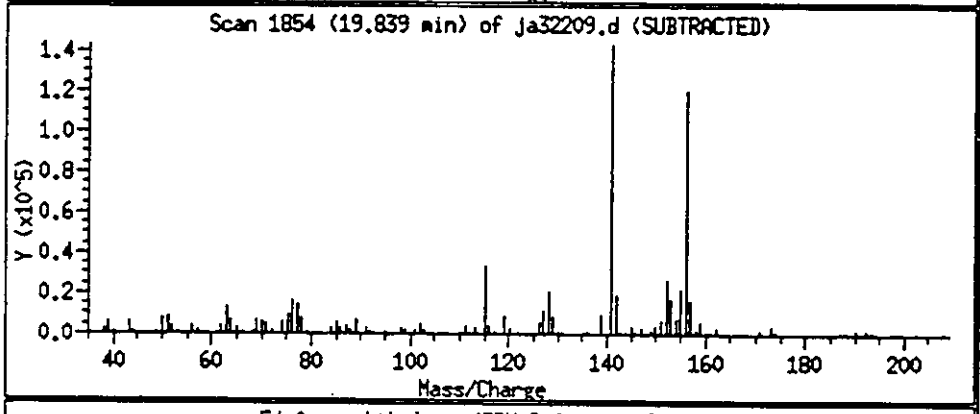
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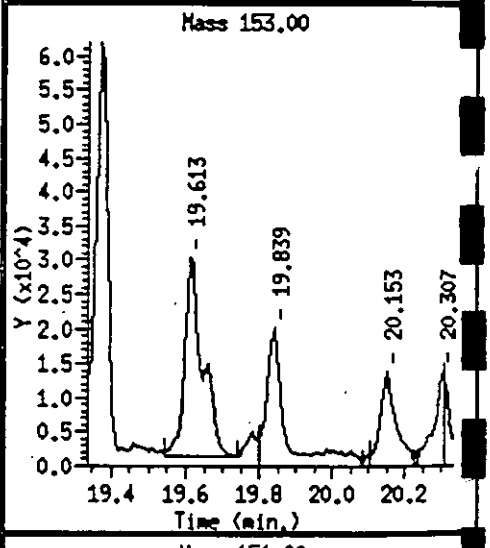
Volume Injected (uL) : 1.0

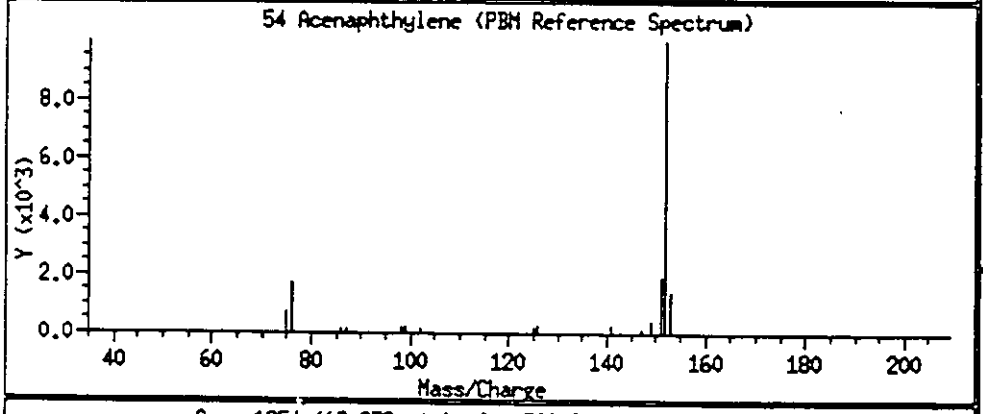
54 Acenaphthylene

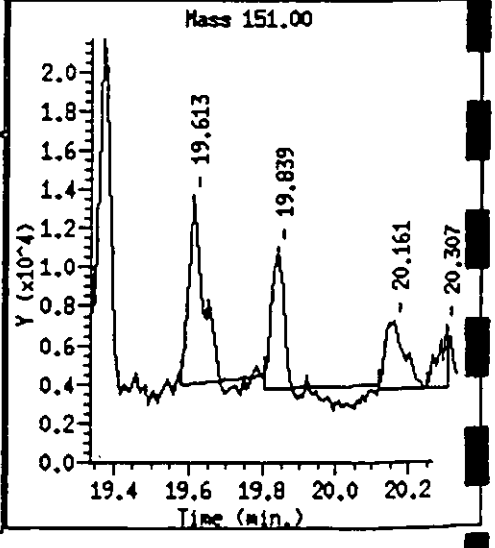


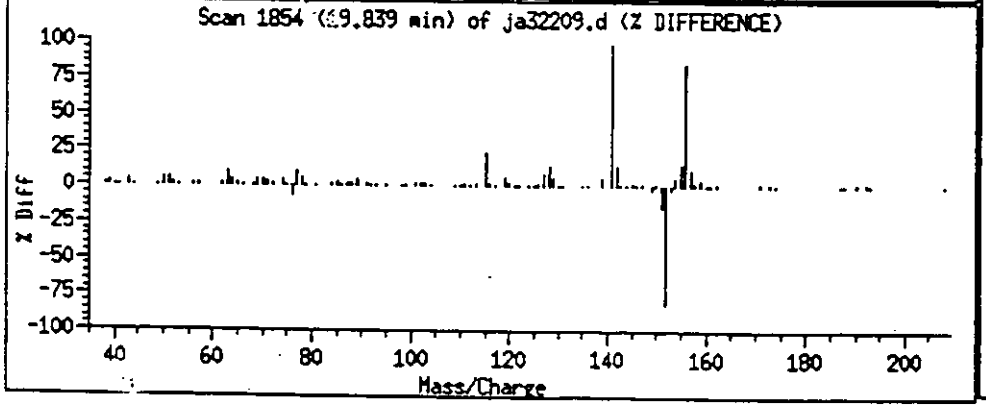






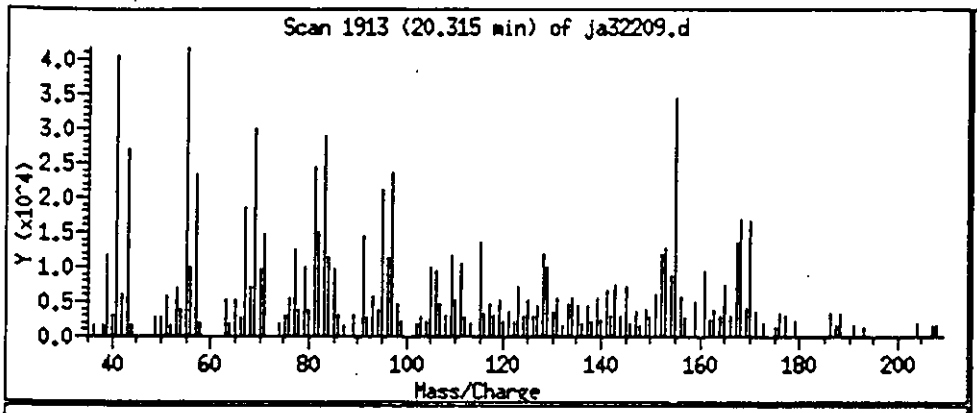


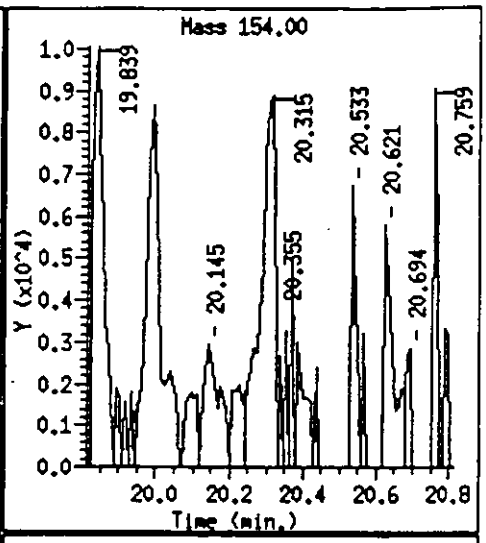


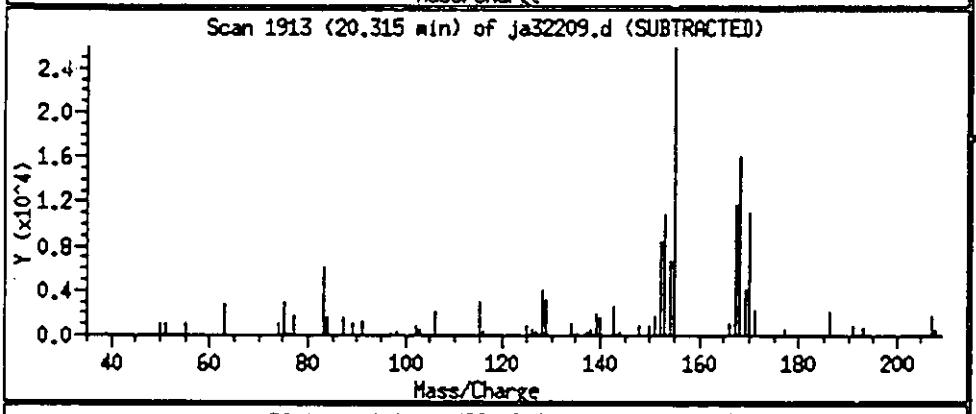


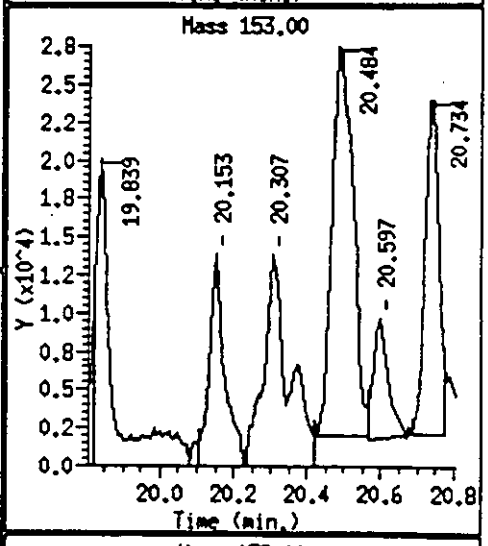
Data File: /chem/TRILABS.i/8-3-92.b/ja32209.d
Date : 03-AUG-1992 20:57
Instrument : TRILABS.i
Sample ID : mm5-3
Column phase : DB-5
Column diameter : 0.32
Volume Injected (uL) : 1.0

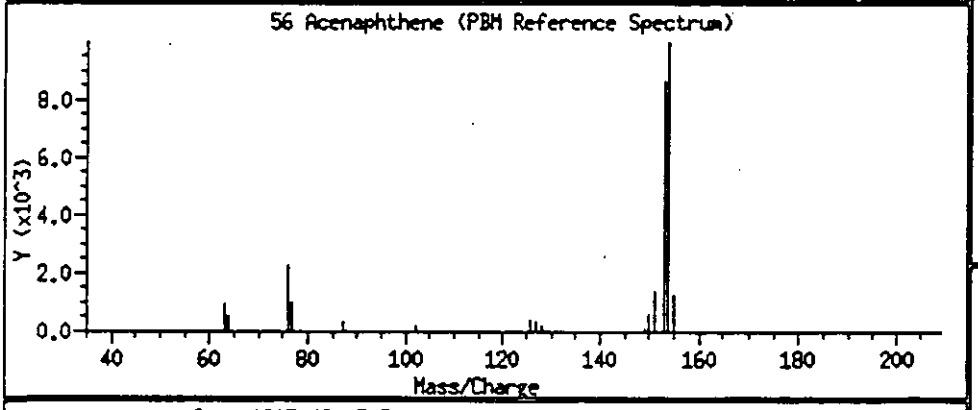
56 Acenaphthene

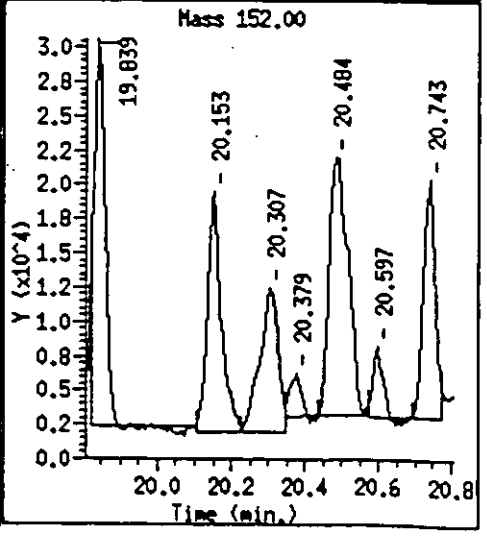


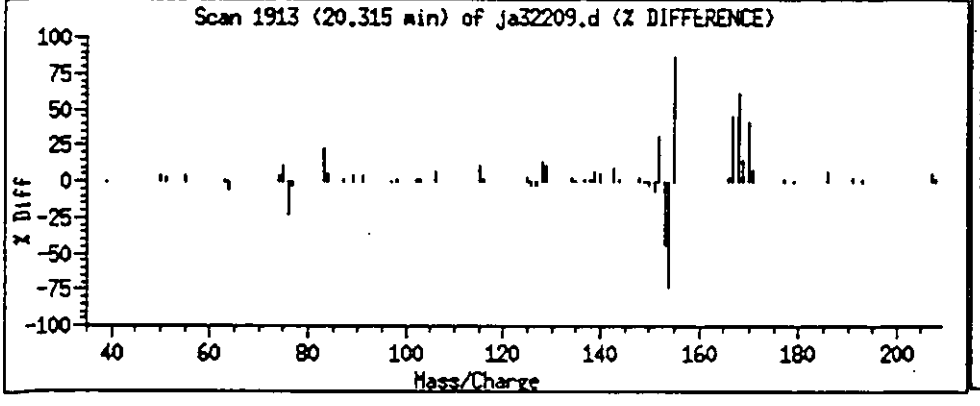












Data File: /chem/TRILABS.i/8-3-92.b/ja32209.d

Date : 03-AUG-1992 20:57

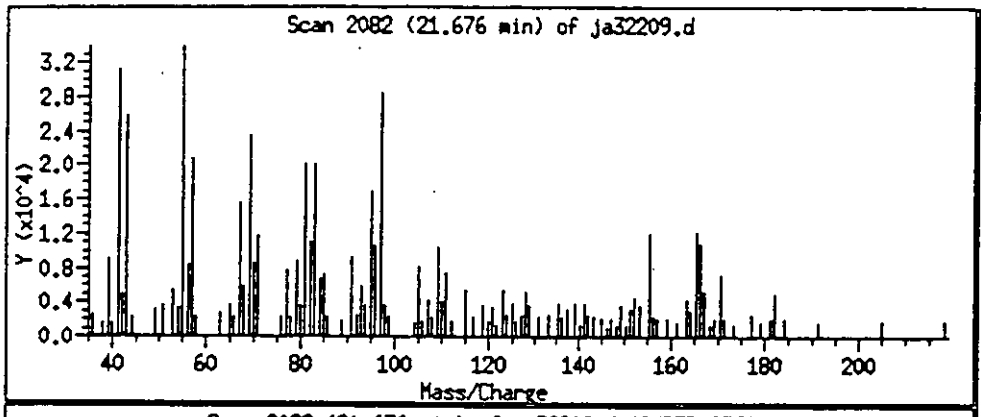
Instrument : TRILABS.i

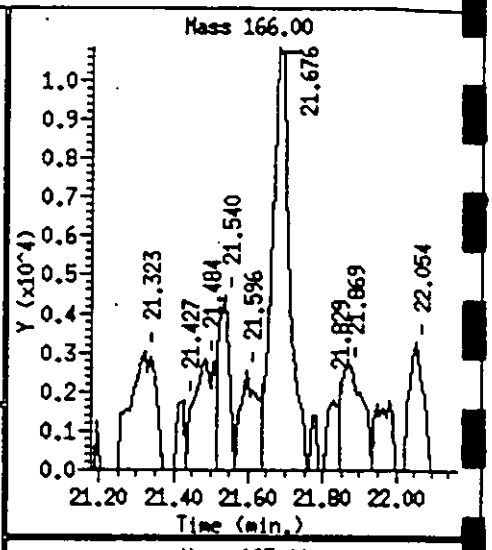
Sample ID : ms5-3

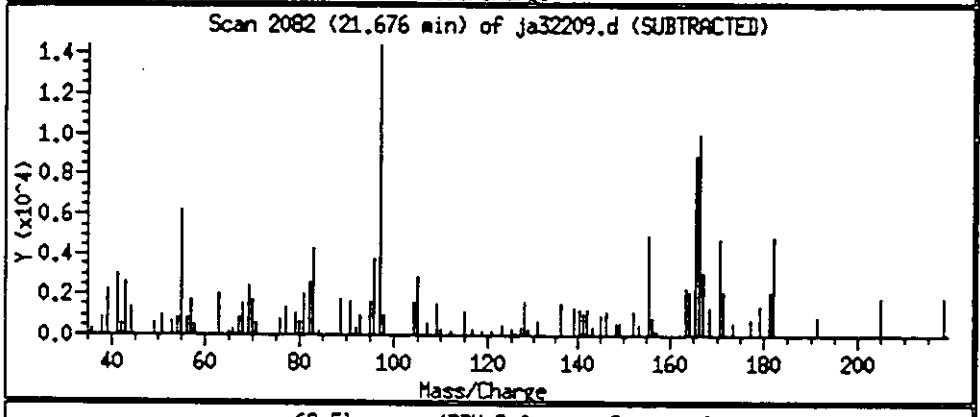
Column phase : DB-5 Column diameter : 0.32

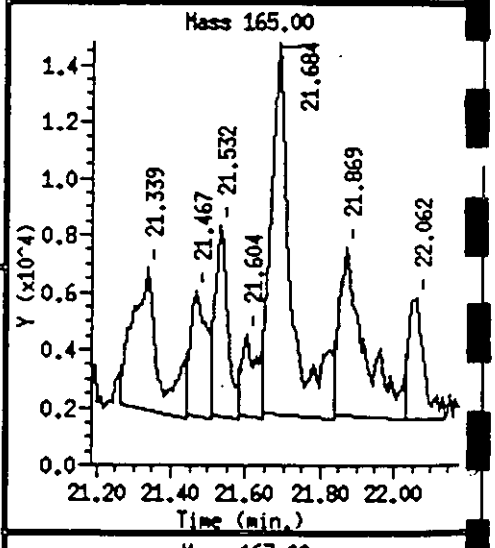
Volume Injected (uL) : 1.0

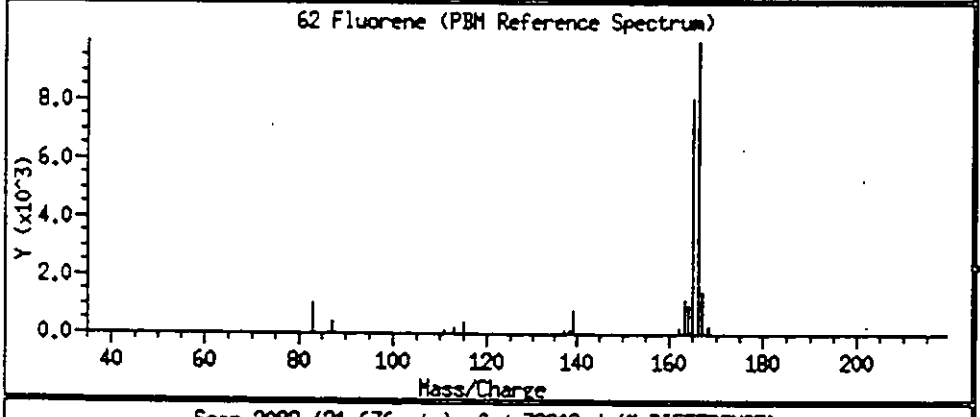
62 Fluorene

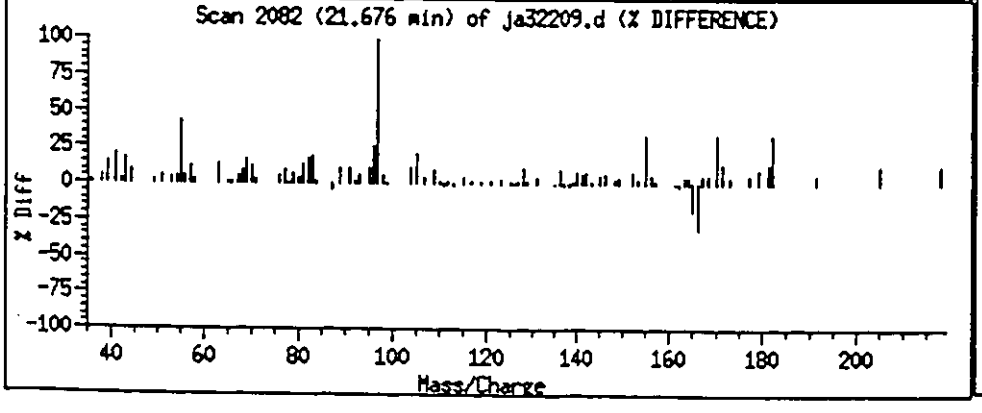


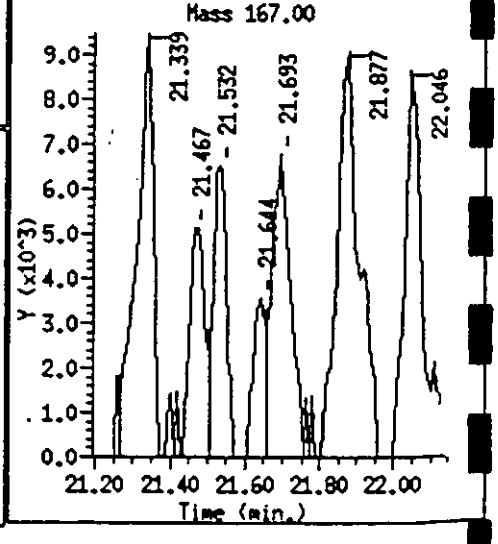






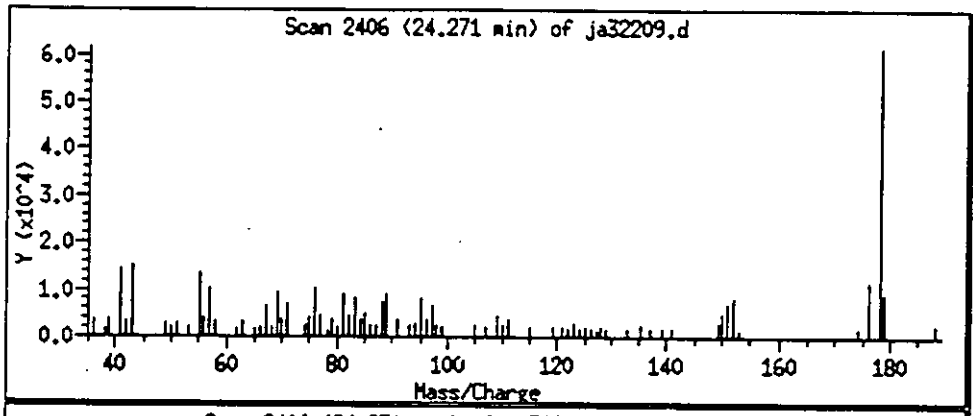


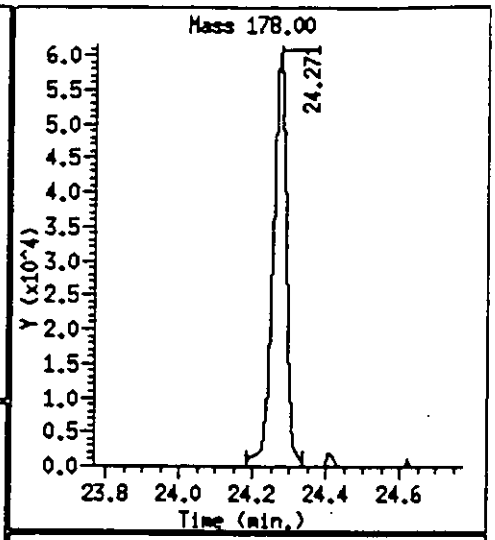


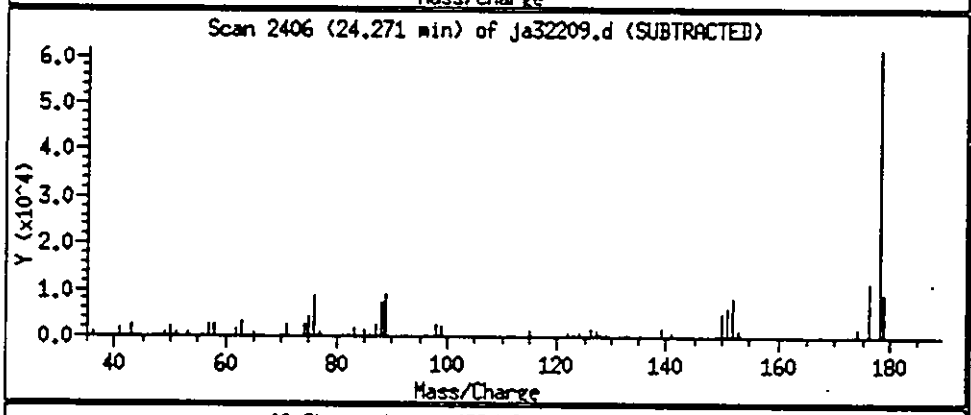


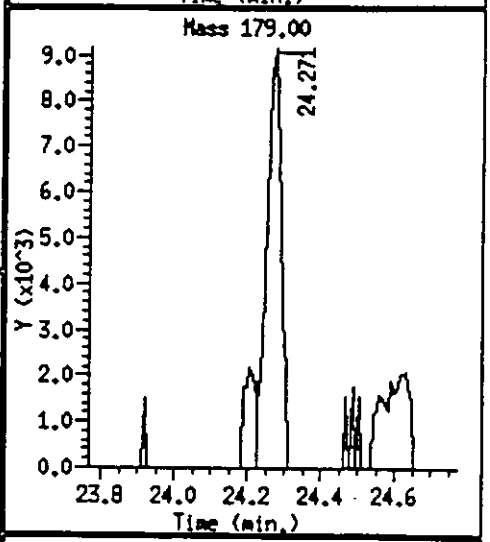
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Column diameter : 0.32
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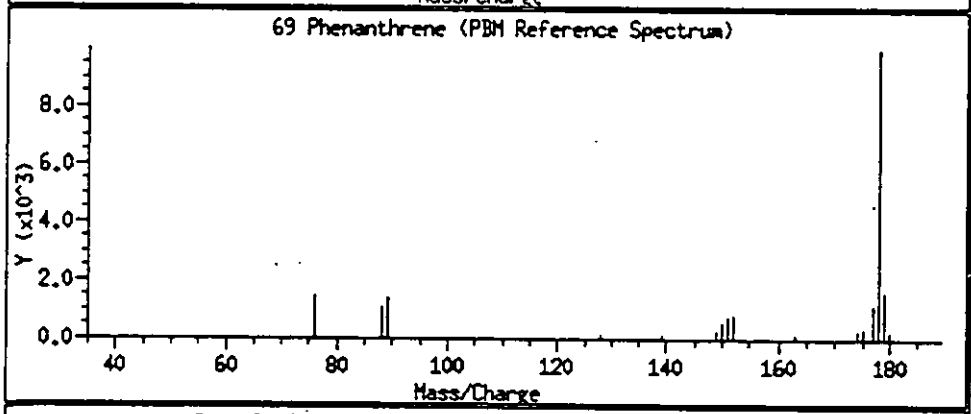
69 Phenanthrene

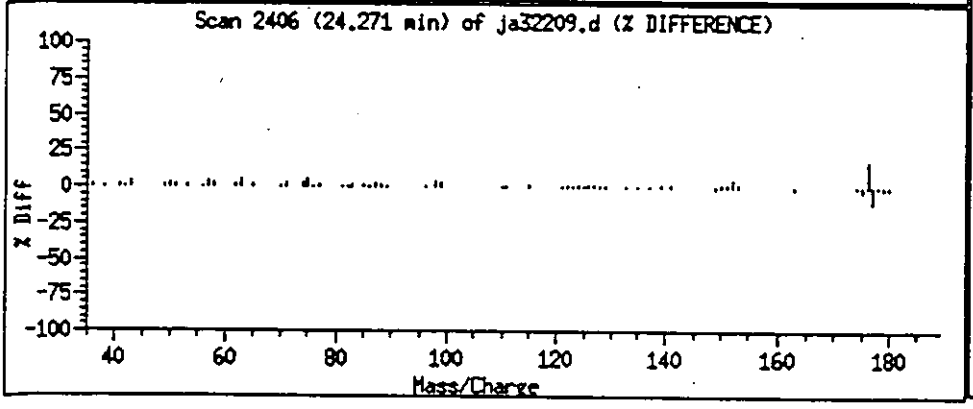


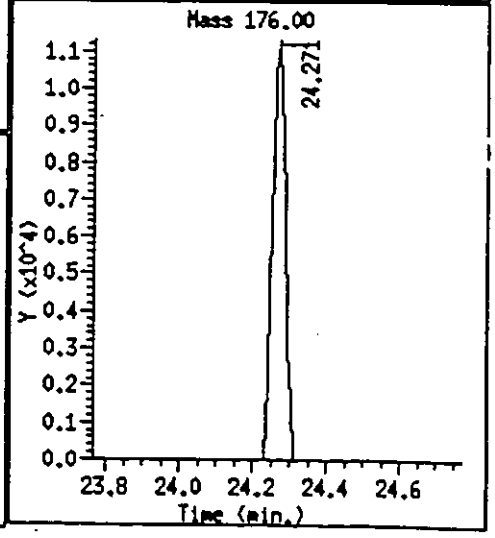






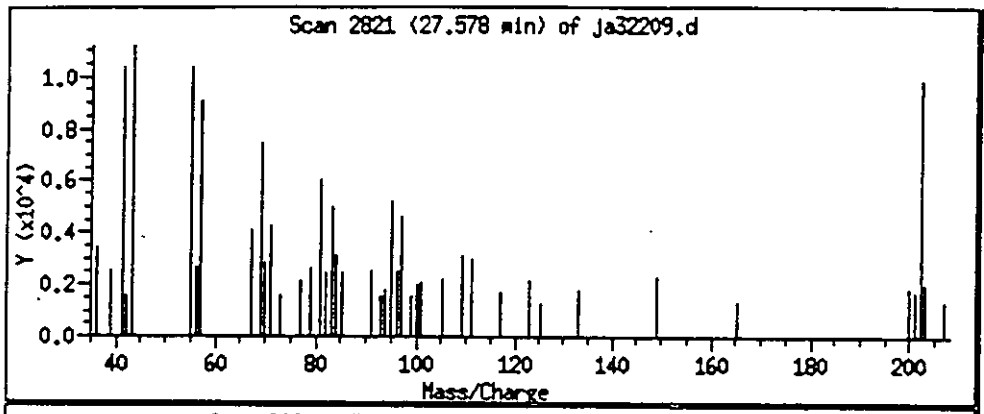


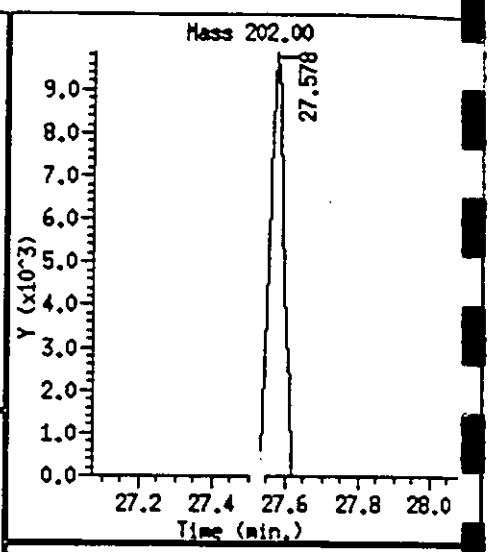


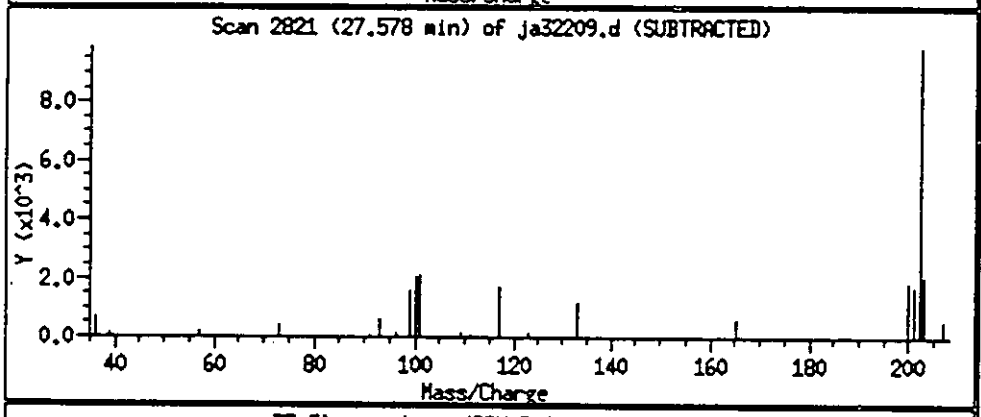


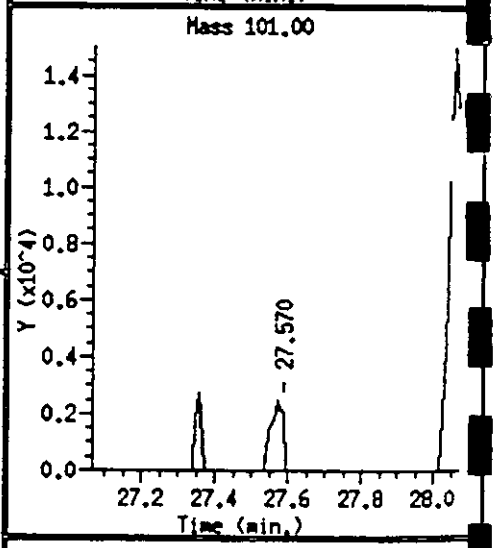
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Sample ID : mm5-3
Column phase : DB-5 Column diameter : 0.32
Volume Injected (uL) : 1.0

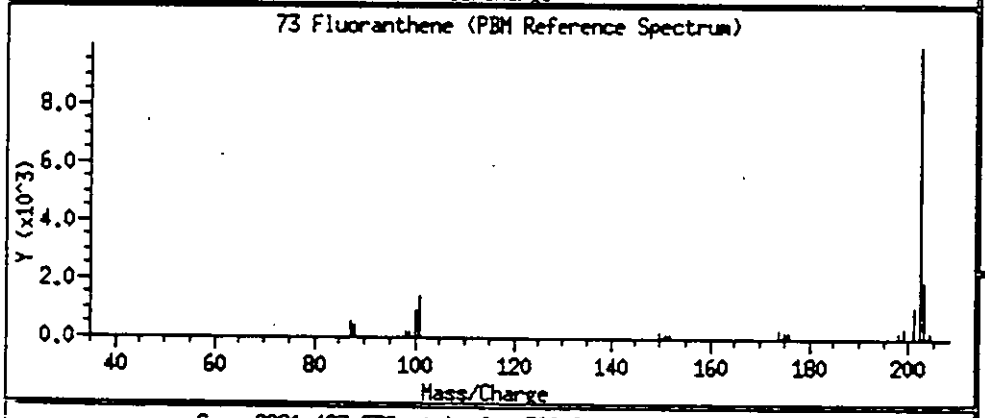
73 Fluoranthene

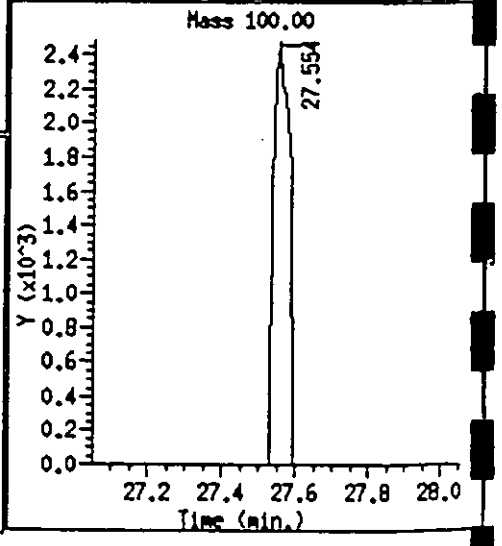


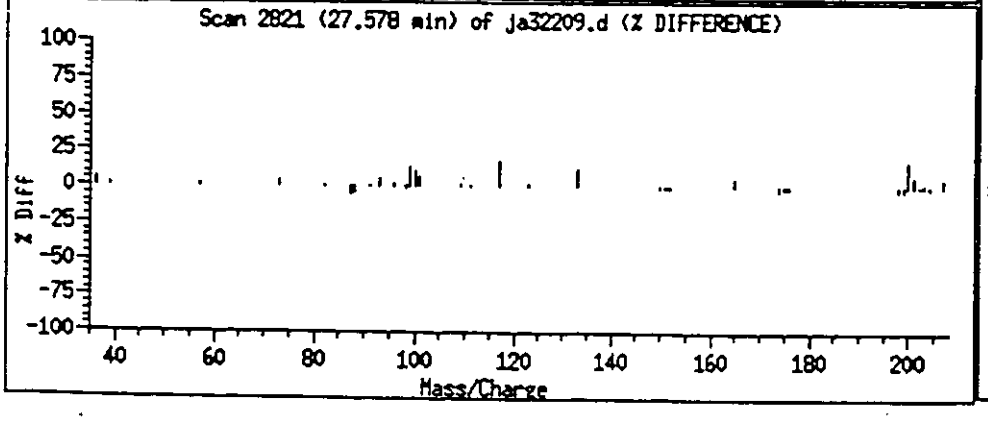












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Instrument : TRILABS.i

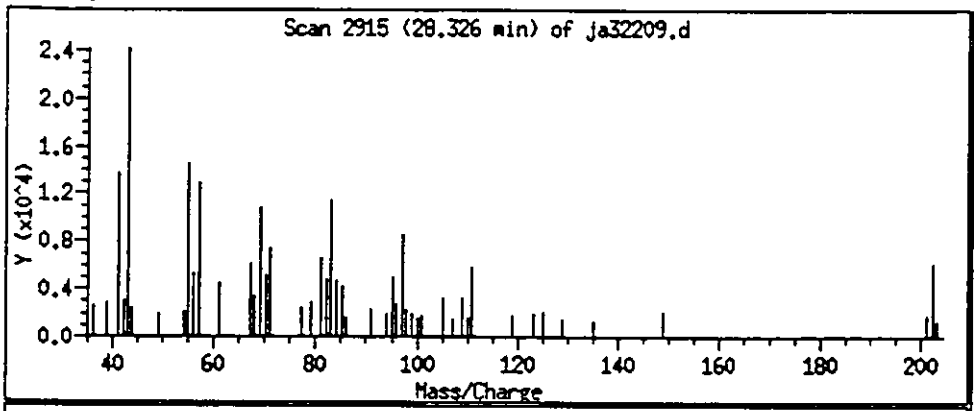
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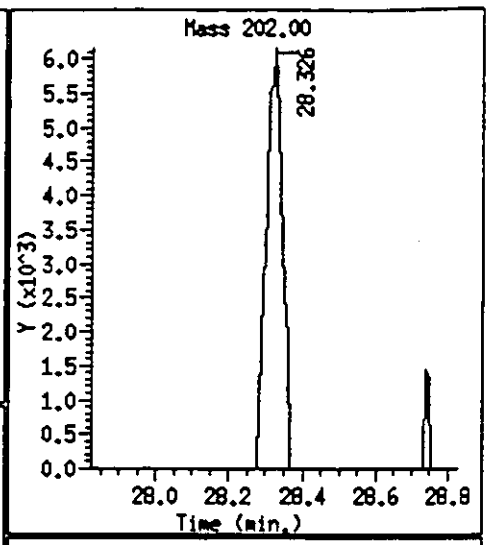
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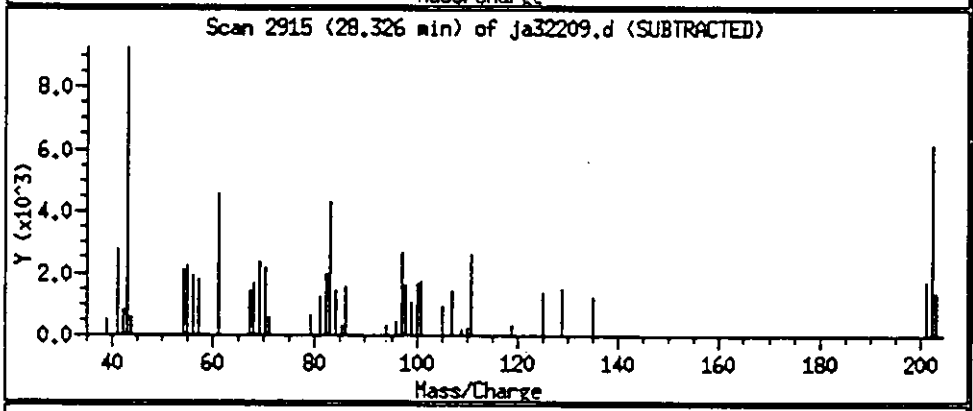
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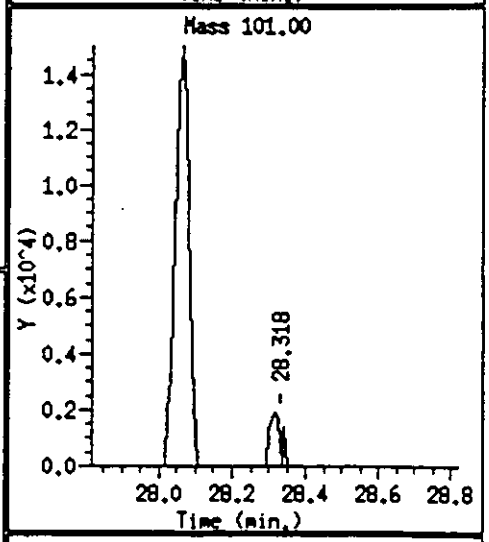
Volume Injected (uL) : 1.0

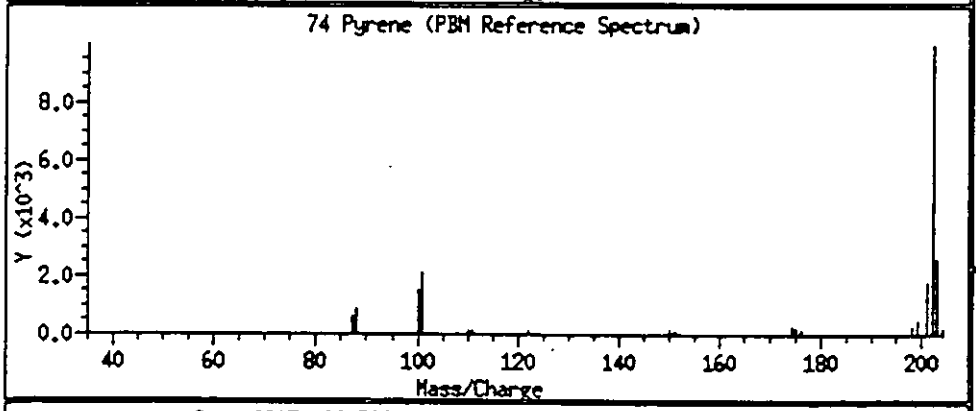
74 Pyrene

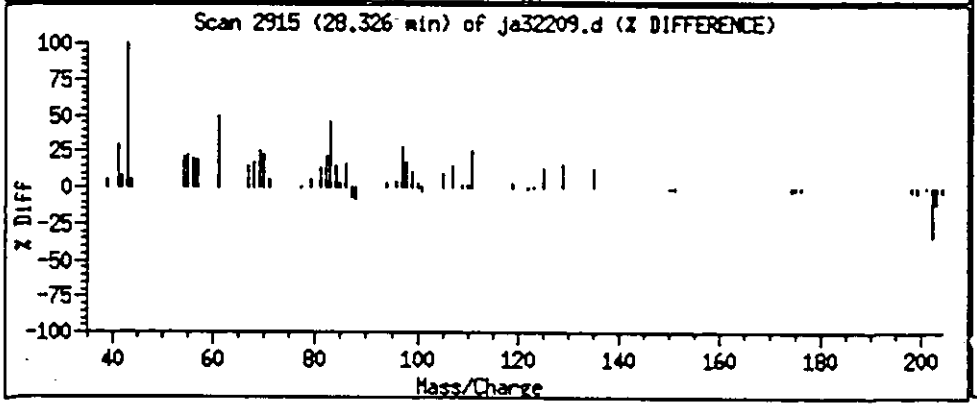


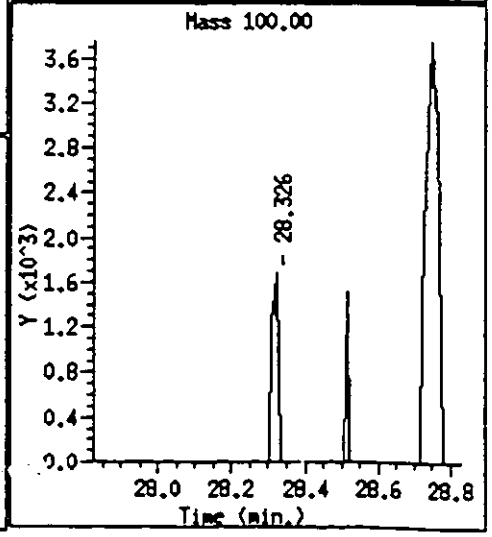


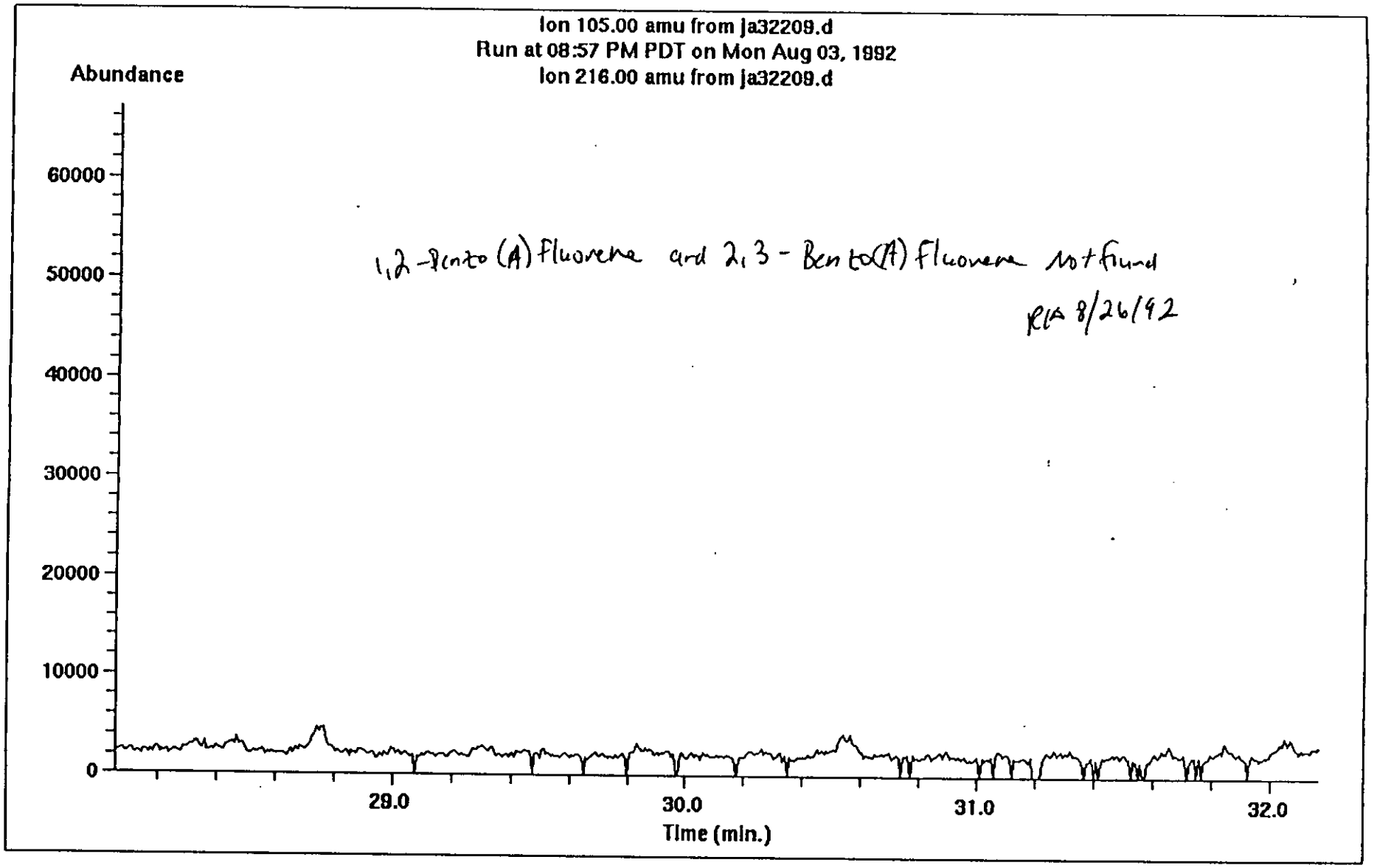






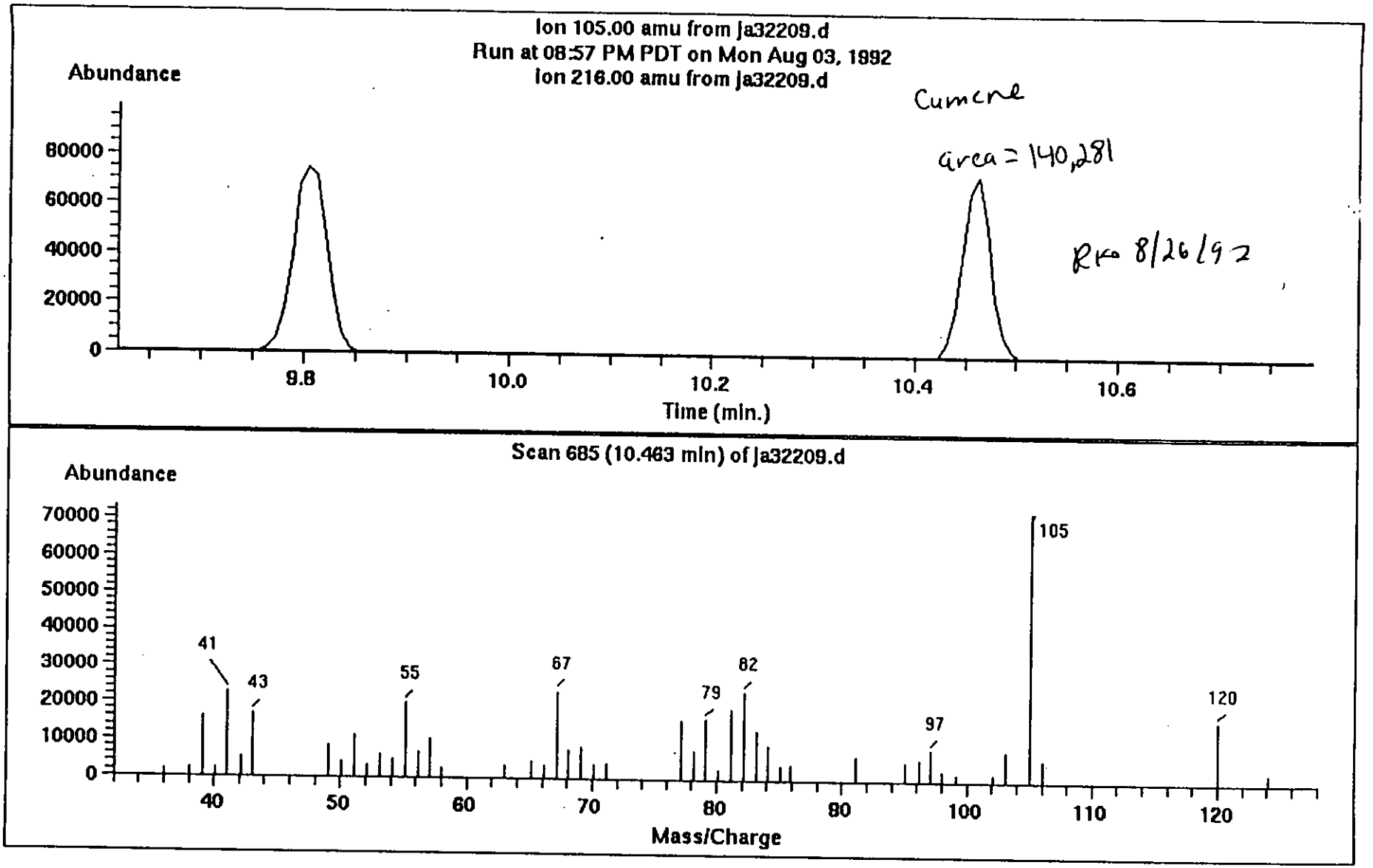






1,2-Benzo(A)Fluorene and 2,3-Benzo(A)Fluorene not found

RLA 8/26/92


Ion 105.00 amu from Ja32209.d
Run at 08:57 PM PDT on Mon Aug 03, 1992
Ion 216.00 amu from Ja32209.d
Abundance
80000
60000
40000
20000
0
9.8
10.0
10.2
10.4
10.6
Time (min.)
Cumene
area = 140,281
RK 8/26/92
Scan 685 (10.463 min) of Ja32209.d
Abundance
70000
60000
50000
40000
30000
20000
10000
0
41
43
55
67
79
82
97
105
120
40
50
60
70
80
90
100
110
120
Mass/Charge

Ion 105.00 amu from ja32209.d

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	9.295	RTE	0.128	461277	9.248	9.375
2	9.804	RTE	0.096	174123	9.756	9.852
3	10.463	RTE	0.080	140281	10.423	10.503
4	11.234	RTE	0.080	726767	11.186	11.266
5	11.306	RTE	0.088	424375	11.266	11.354
6	11.402	RTE	0.096	371086	11.354	11.450
7	11.601	RTE	0.096	383862	11.561	11.656
8	11.927	RTE	0.120	1051452	11.871	11.991
9	12.230	RTE	0.088	133680	12.182	12.270
10	12.477	RTE	0.112	632158	12.421	12.533
11	12.923	RTE	0.072	144838	12.884	12.955
12	12.995	RTE	0.096	587118	12.955	13.051
13	13.099	RTE	0.080	397176	13.051	13.131
14	13.155	RTE	0.072	59486	13.131	13.203
15	13.291	RTE	0.112	428241	13.243	13.354
16	13.458	RTE	0.072	60977	13.418	13.490
17	13.634	RTE	0.080	71041	13.594	13.674
18	13.914	RTE	0.104	214963	13.866	13.970
19	14.074	RTE	0.096	70341	14.042	14.137
20	14.185	RTE	0.080	58520	14.146	14.225
21	14.657	RTE	0.088	111764	14.601	14.689
22	14.778	RTE	0.104	321757	14.689	14.794
23	14.818	RTE	0.072	237509	14.794	14.866
24	14.946	RTE	0.088	240062	14.906	14.994
25	15.074	RTE	0.168	341258	15.010	15.178
26	15.563	RTE	0.113	79797	15.483	15.595
27	15.780	RTE	0.096	58031	15.732	15.828
28	16.205	RTE	0.112	62107	16.149	16.261
29	16.310	RTE	0.104	66705	16.261	16.366
30	16.462	RTE	0.088	180521	16.422	16.510
31	16.599	RTE	0.105	151000	16.542	16.647
32	16.711	RTE	0.104	187204	16.647	16.751
33	16.880	RTE	0.080	81403	16.840	16.920
34	17.154	RTE	0.089	70670	17.097	17.186
35	17.307	RTE	0.081	56345	17.266	17.347
36	17.411	RTE	0.105	69724	17.347	17.452
37	17.524	RTE	0.097	92305	17.452	17.548
38	17.572	RTE	0.072	53957	17.548	17.621
39	17.726	RTE	0.097	101537	17.693	17.790
40	17.822	RTE	0.089	64623	17.790	17.879
41	18.032	RTE	0.113	149061	17.967	18.080
42	18.177	RTE	0.097	78357	18.145	18.241
43	18.281	RTE	0.113	127436	18.241	18.354
44	19.225	RTE	0.105	56945	19.144	19.249
45	19.516	RTE	0.097	80470	19.467	19.564
46	19.766	RTE	0.081	69042	19.734	19.814
47	22.856	RTE	0.112	115041	22.808	22.920
48	32.355	RTE	0.144	71349	32.283	32.428
49	33.147	RTE	0.193	512456	32.962	33.155
50	41.181	RTE	0.208	71167	41.053	41.261

Ion 216.00 amu from ja32209.d

No peaks detected

[redacted]

TRIANGLE LABS

October 4, 1993

Barry Hunter
WW Engineering & Science
5555 Glenwood Hills Parkway, SE
Grand Rapids, MI 49512
Phone : (616)-942-9600
Fax : (616)-942-6499

Dear Barry:

As per your verbal request on September 30th, 1993, regarding **WW Engineering & Science Project for Woodland Paving** (your P.O. # 518), the results of analysis for each sample by EPA Method 8270 (PAHs by High-Resolution GC/Low-Resolution MS) and by CARB Method 429 (PAHs by High-Resolution GC/High-Resolution MS) are displayed on the same page for comparison purposes. All these analyses were conducted by Triangle Laboratories of RTP, Inc., under TLI Projects 21187 (8270 analyses) & 21187A and 21187B (CARB Method 429 analyses), during the months of July and August 1992.

If you have any questions please do not hesitate to call me at (919)-544-8351.

Sincerely,
Hani Karam
Hani Karam, Ph.D.
Air Quality Client Services manager

Triangle Laboratories of RTP, Inc.
801 Capitola Drive
Durham, NC 27713
919-544-5729
P.O. Box 13485
Research Triangle Park, NC 27709
Fax # 919-544-5491

Comparison of PAH Results for Sample MM5-2 (Filter, XAD-2 and Rinses) from HRGC/LRMS (Method 8270) and HRGC/HRMS (CARB 429)

Analyte	Amt (ng) HRGC/LRMS File JA32207 Method 8270 TLI Project 21187	Amt (ng) HRGC/HRMS File U105801 CARB Method 429 TLI Project 21187B	
Naphthalene	134,850	48,120	(S)
2-Methylnaphthalene	320,830	39,750	(S)
2-Chloronaphthalene	4,480 (ND)	5.5	(EMPC)
Acenaphthylene	6,200 (E)	8,320	
Acenaphthene	3,000 (E)	4,160	
Fluorene	4,480 (E)	4,360	
Phenanthrene	17,430 (E)	27,120	(S)
Anthracene	3,180 (ND)	696	
Fluoranthene	3,620 (E)	4,170	
Pyrene	2,610 (E)	2,790	
Benzo-a-anthracene	3,390 (ND)	1,090	
Chrysene	3,810 (ND)	1,350	
Benzo-b-fluoranthene	1,590 (ND)	606	
Benzo-k-fluoranthene	1,690 (ND)	218	
Perylene	2,390 (ND)	18.5	(ND)
Benzo-a-pyrene	1,950 (ND)	53.5	
Benzo-e-pyrene	1,930 (ND)	571	
Indeno-123-cd-pyrene	2,480 (ND)	18.1	
Dibenz-ah-anthracene	3,040 (ND)	3.8	
Benzo-ghi-perylene	2,820 (ND)	44.4	

ND : Not Detected
E : Estimated
S : Saturated
EMPC: Estimated Maximum Possible Concentration

Comparison of PAH Results for Sample MM5-3 (Filter, XAD-2 and Rinses) from HRGC/LRMS (Method 8270) and HRGC/HRMS (CARB 429)

Analyte	Amt (ng) HRGC/LRMS File JA32209 Method 8270 TLI Project 21187	Amt (ng) HRGC/HRMS File U096209 CARB Method 429 TLI Project 21187B
Naphthalene	137,340	NA
2-Methylnaphthalene	344,810	NA
2-Chloronaphthalene	4,230 (ND)	NA
Acenaphthylene	4,220 (E)	NA
Acenaphthene	2,760 (E)	NA
Fluorene	3,710 (E)	0.4 (ND)
Phenanthrene	13,840 (E)	21,880 ✓ (S)
Anthracene	3,230 (ND)	572
Fluoranthene	1,740 (E)	2,210 ✓
Pyrene	1,420 (E)	2,320 ✓
Benzo-a-anthracene	3,550 (ND)	280
Chrysene	3,990 (ND)	844
Benzo-b-fluoranthene	1,620 (ND)	311
Benzo-k-fluoranthene	1,730 (ND)	107
Perylene	2,450 (ND)	2.1 (ND)
Benzo-a-pyrene	1,990 (ND)	8.4
Benzo-e-pyrene	1,970 (ND)	134
Indeno-123-cd-pyrene	2,530 (ND)	12.6
Dibenz-ah-anthracene	3,110 (ND)	7.0 (ND)
Benzo-ghi-perylene	2,890 (ND)	123

NA : Not Applicable
ND : Not Detected
E : Estimated
S : Saturated

Comparison of PAH Results for Sample MM5-4 (Filter, XAD-2 and Rinses) from HRGC/LRMS (Method 8270) and HRGC/HRMS (CARB 429)

Analyte	Amt (ng) HRGC/LRMS File JA32210 Method 8270 TLI Project 21187	Amt (ng) HRGC/HRMS File U096210 CARB Method 429 TLI Project 21187B
Naphthalene	142,530	NA
2-Methylnaphthalene	359,990	NA
2-Chloronaphthalene	4,400 (ND)	NA
Acenaphthylene	6,580 (E)	NA
Acenaphthene	8,880 (E)	NA
Fluorene	9,740 (E)	0.9 (ND)
Phenanthrene	21,830 (E)	50,820 (S)
Anthracene	2,930 (ND)	1330
Fluoranthene	1,250 (E)	1,280
Pyrene	1,350 (E)	1,420
Benzo-a-anthracene	2,890 (ND)	135
Chrysene	3,250 (ND)	444
Benzo-b-fluoranthene	1,480 (ND)	205
Benzo-k-fluoranthene	1,580 (ND)	71.1
Perylene	2,230 (ND)	42.7
Benzo-a-pyrene	1,820 (ND)	8.8
Benzo-e-pyrene	1,800 (ND)	80.9
Indeno-123-cd-pyrene	2,310 (ND)	21.3
Dibenz-ah-anthracene	2,840 (ND)	8.7 (ND)
Benzo-ghi-perylene	2,640 (ND)	133

NA : Not Applicable
ND : Not Detected
E : Estimated
S : Saturated
EMPC: Estimated Maximum Possible Concentration

Comparison of PAH Results for **Sample MM5-2 & 3 Blank (Filter, XAD-2 and Rinses)** from HRGC/LRMS (Method 8270) and HRGC/HRMS (CARB 429)

Analyte	Amt (ng) HRGC/LRMS File JA32208 Method 8270 TLI Project 21187	Amt (ng) HRGC/HRMS File U096208 CARB Method 429 TLI Project 21187B
Naphthalene	3,870 (ND)	2690
2-Methylnaphthalene	5,040 (ND)	898
2-Chloronaphthalene	5,550 (ND)	20.6 (EMPC)
Acenaphthylene	3,490 (ND)	40.2
Acenaphthene	6,010 (ND)	98.0
Fluorene	5,530 (ND)	193
Phenanthrene	4,210 (ND)	368
Anthracene	3,880 (ND)	33.2
Fluoranthene	3,160 (ND)	33.3
Pyrene	3,750 (ND)	308
Benzo-a-anthracene	4,390 (ND)	6.8
Chrysene	4,930 (ND)	13.5
Benzo-b-fluoranthene	2,730 (ND)	10.5
Benzo-k-fluoranthene	2,920 (ND)	4.4
Perylene	4,120 (ND)	3.0 (ND)
Benzo-a-pyrene	3,360 (ND)	3.0
Benzo-e-pyrene	3,320 (ND)	12.7
Indeno-123-cd-pyrene	4,270 (ND)	2.1
Dibenz-ah-anthracene	5,240 (ND)	0.4 (ND)
Benzo-ghi-perylene	4,860 (ND)	32.6

ND : Not Detected
E : Estimated
S : Saturated
EMPC: Estimated Maximum Possible Concentration

Comparison of PAH Results for Sample MM5-4 Blank (Filter, XAD-2 and Rinses) from HRGC/LRMS (Method 8270) and HRGC/HRMS (CARB 429)

Analyte	Amt (ng) HRGC/LRMS File JA32203 Method 8270 TLI Project 21187	Amt (ng) HRGC/HRMS File U096211 CARB Method 429 TLI Project 21187B
Naphthalene	3,280 (ND)	2570
2-Methylnaphthalene	4,280 (ND)	393
2-Chloronaphthalene	4,710 (ND)	0.31 EMPC
Acenaphthylene	2,960 (ND)	14.0
Acenaphthene	5,100 (ND)	77.7
Fluorene	4,690 (ND)	115
Phenanthrene	3,600 (ND)	331
Anthracene	3,320 (ND)	0.06 (ND)
Fluoranthene	2,710 (ND)	58.2
Pyrene	4,150 (ND)	171
Benzo-a-anthracene	4,860 (ND)	3.8
Chrysene	5,450 (ND)	15.0
Benzo-b-fluoranthene	2,760 (ND)	21.2
Benzo-k-fluoranthene	2,940 (ND)	4.3
Perylene	4,160 (ND)	1.4 (ND)
Benzo-a-pyrene	3,390 (ND)	1.2
Benzo-e-pyrene	3,350 (ND)	11.5
Indeno-123-cd-pyrene	4,310 (ND)	6.6
Dibenz-ah-anthracene	5,280 (ND)	9.2 (ND)
Benzo-ghi-perylene	4,910 (ND)	104

ND : Not Detected
E : Estimated
S : Saturated
EMPC: Estimated Maximum Possible Concentration

Comparison of PAH Results for **Sample TLI XAD Blank** from HRGC/LRMS (Method 8270) and HRGC/HRMS (CARB 429)

Analyte	Amt (ng) HRGC/LRMS Method 8270 File JA32201 TLI Project 21187	Amt (ng) HRGC/HRMS CARB Method 429 File U096203 TLI Project 21187A&B
Naphthalene	3,550 (ND)	1420
2-Methylnaphthalene	4,630 (ND)	128
2-Chloronaphthalene	5,320 (ND)	0.47 EMPC
Acenaphthylene	3,350 (ND)	2.3
Acenaphthene	5,760 (ND)	19.6
Fluorene	5,290 (ND)	12.8
Phenanthrene	3,740 (ND)	39.7
Anthracene	3,440 (ND)	1.7
Fluoranthene	2,810 (ND)	10.2
Pyrene	3,100 (ND)	7.4
Benzo-a-anthracene	3,630 (ND)	1.3
Chrysene	4,080 (ND)	8.5
Benzo-b-fluoranthene	4,260 (ND)	8.3
Benzo-k-fluoranthene	4,550 (ND)	3.4
Perylene	6,420 (ND)	0.04 (ND)
Benzo-a-pyrene	5,230 (ND)	0.25
Benzo-e-pyrene	5,170 (ND)	4.0
Indeno-123-cd-pyrene	6,650 (ND)	0.39
Dibenz-ah-anthracene	8,160 (ND)	0.07 (ND)
Benzo-ghi-perylene	7,580 (ND)	2.2

ND : Not Detected
E : Estimated
S : Saturated
EMPC: Estimated Maximum Possible Concentration

Comparison of PAH Results for **Sample MM5-2 Impinger** from HRGC/LRMS (Method 8270) and HRGC/HRMS (CARB 429)

Analyte	Amt (ng) HRGC/LRMS File JA33914 Method 8270 TLI Project 8270	Amt (ng) HRGC/HRMS File U096212 CARB Method 429 TLI Project 21187B
Naphthalene	3,410 (ND)	136
2-Methylnaphthalene	4,000 (ND)	71.5
2-Chloronaphthalene	4,730 (ND)	2.2 (EMPC)
Acenaphthylene	3,090 (ND)	1.9
Acenaphthene	4,740 (ND)	5.9
Fluorene	4,410 (ND)	6.8
Phenanthrene	3,370 (ND)	17.8
Anthracene	3,160 (ND)	1.1
Fluoranthene	4,110 (ND)	8.3
Pyrene	3,340 (ND)	6.1
Benzo-a-anthracene	5,770 (ND)	1.4
Chrysene	6,690 (ND)	3.5
Benzo-b-fluoranthene	6,170 (ND)	1.4
Benzo-k-fluoranthene	6,010 (ND)	0.76
Perylene	8,540 (ND)	0.04 (ND)
Benzo-a-pyrene	6,820 (ND)	0.40
Benzo-e-pyrene	6,890 (ND)	0.87
Indeno-123-cd-pyrene	11,220 (ND)	0.40
Dibenz-ah-anthracene	10,180 (ND)	0.14
Benzo-ghi-perylene	9,990 (ND)	3.7

ND : Not Detected
E : Estimated
S : Saturated
EMPC: Estimated Maximum Possible Concentration

Comparison of PAH Results for **Sample MM5-3 Impinger** from - HRGC/LRMS (Method 8270) and HRGC/HRMS (CARB 429)

Analyte	Amt (ng) HRGC/LRMS File JA33915 Method 8270 TLI Project 21187	Amt (ng) HRGC/HRMS File U096214 CARB Method 429 TLI Project 21187B
Naphthalene	3,940 (ND)	98.7
2-Methylnaphthalene	4,630 (ND)	72.1
2-Chloronaphthalene	4,810 (ND)	0.85 EMPC
Acenaphthylene	3,140 (ND)	2.3
Acenaphthene	4,830 (ND)	7.0
Fluorene	4,480 (ND)	11.3
Phenanthrene	3,210 (ND)	40.3
Anthracene	3,020 (ND)	2.1
Fluoranthene	3,920 (ND)	14.2
Pyrene	2,460 (ND)	9.1
Benzo-a-anthracene	4,250 (ND)	2.1
Chrysene	4,930 (ND)	5.4
Benzo-b-fluoranthene	5,030 (ND)	1.3
Benzo-k-fluoranthene	4,890 (ND)	0.95
Perylene	6,950 (ND)	0.06 (ND)
Benzo-a-pyrene	5,550 (ND)	0.58
Benzo-e-pyrene	5,610 (ND)	0.74
Indeno-123-cd-pyrene	9,140 (ND)	0.67
Dibenz-ah-anthracene	8,280 (ND)	0.30
Benzo-ghi-perylene	8,140 (ND)	4.3

ND : Not Detected
E : Estimated
S : Saturated
EMPC: Estimated Maximum Possible Concentration

Comparison of PAH Results for **Sample MM5-4 Impinger** from HRGC/LRMS (Method 8270) and HRGC/HRMS (CARB 429)

Analyte	Amt (ng) HRGC/LRMS File JA33912 Method 8270 TLI Project 21187	Amt (ng) HRGC/HRMS File U096215 CARB Method 429 TLI Project 21187B
Naphthalene	2,140 (ND)	179
2-Methylnaphthalene	2,520 (ND)	183
2-Chloronaphthalene	3,000 (ND)	2.3
Acenaphthylene	1,960 (ND)	11.6
Acenaphthene	3,000 (ND)	15.4
Fluorene	2,790 (ND)	35.1
Phenanthrene	2,610 (ND)	225
Anthracene	2,450 (ND)	2.3
Fluoranthene	3,190 (ND)	23.2
Pyrene	7,320 (ND)	12.5
Benzo-a-anthracene	12,660 (ND)	1.7
Chrysene	14,660 (ND)	5.3
Benzo-b-fluoranthene	39,460 (ND)	1.5
Benzo-k-fluoranthene	38,410 (ND)	0.91
Perylene	54,570 (ND)	0.04 (ND)
Benzo-a-pyrene	43,600 (ND)	0.43
Benzo-e-pyrene	44,070 (ND)	0.60
Indeno-123-cd-pyrene	71,740 (ND)	0.42
Dibenz-ah-anthracene	65,050 (ND)	0.17
Benzo-ghi-perylene	63,880 (ND)	1.8

ND : Not Detected
E : Estimated
S : Saturated
EMPC: Estimated Maximum Possible Concentration

Comparison of PAH Results for **Sample M-2&3 DI Blank** from HRGC/LRMS (Method 8270) and HRGC/HRMS (CARB 429)

Analyte	Amt (ng) HRGC/LRMS File JA33913 Method 8270 TLI Project 21187	Amt (ng) HRGC/HRMS File U096213 CARB Method 429 TLI Project 21187B
Naphthalene	3,110 (ND)	130
2-Methylnaphthalene	3,650 (ND)	68.6
2-Chloronaphthalene	4,010 (ND)	0.80 EMPC
Acenaphthylene	2,620 (ND)	2.0
Acenaphthene	4,020 (ND)	6.5
Fluorene	3,740 (ND)	8.6
Phenanthrene	3,090 (ND)	17.7
Anthracene	2,900 (ND)	2.4
Fluoranthene	3,770 (ND)	9.2
Pyrene	3,450 (ND)	6.3
Benzo-a-anthracene	5,970 (ND)	1.8
Chrysene	6,920 (ND)	4.2
Benzo-b-fluoranthene	8,560 (ND)	4.7
Benzo-k-fluoranthene	8,330 (ND)	1.8
Perylene	11,840 (ND)	0.1 (ND)
Benzo-a-pyrene	9,460 (ND)	1.2
Benzo-e-pyrene	9,560 (ND)	0.75
Indeno-123-cd-pyrene	15,560 (ND)	0.75
Dibenz-ah-anthracene	14,110 (ND)	0.60
Benzo-ghi-perylene	13,860 (ND)	4.9

ND : Not Detected
E : Estimated
S : Saturated
EMPC: Estimated Maximum Possible Concentration

Comparison of PAH Results for **Sample MM5-4 DI Blank** from HRGC/LRMS (Method 8270) and HRGC/HRMS (CARB 429)

Analyte	Amt (ng) HRGC/LRMS File JA32204 Method 8270 TLI Project 21187	Amt (ng) HRGC/HRMS File U096216 CARB Method 429 TLI project 21187B
Naphthalene	4,150 (ND)	133
2-Methylnaphthalene	5,410 (ND)	86.3
2-Chloronaphthalene	5,990 (ND)	1.1 (EMPC)
Acenaphthylene	3,770 (ND)	1.5
Acenaphthene	6,480 (ND)	6.7
Fluorene	5,960 (ND)	10.2
Phenanthrene	4,330 (ND)	20.9
Anthracene	3,990 (ND)	2.6
Fluoranthene	3,250 (ND)	6.6
Pyrene	3,870 (ND)	11.9
Benzo-a-anthracene	4,530 (ND)	1.7
Chrysene	5,090 (ND)	3.8
Benzo-b-fluoranthene	4,310 (ND)	2.4
Benzo-k-fluoranthene	4,600 (ND)	1.6
Perylene	6,500 (ND)	0.19
Benzo-a-pyrene	5,290 (ND)	1.7
Benzo-e-pyrene	5,230 (ND)	1.3
Indeno-123-cd-pyrene	6,720 (ND)	1.3
Dibenz-ah-anthracene	8,250 (ND)	0.29
Benzo-ghi-perylene	7,660 (ND)	3.7

ND : Not Detected
E : Estimated
S : Saturated
EMPC: Estimated Maximum Possible Concentration

Comparison of PAH Results for **Sample TLI H_2O Blank** from HRGC/LRMS (Method 8270) and HRGC/HRMS (CARB 429)

Analyte	Amt (ng) HRGC/LRMS Method 8270 File JA32202 TLI Project 21187	Amt (ng) HRGC/HRMS CARB Method 429 File U096205 TLI Project 21187B
Naphthalene	3,810 (ND)	140
2-Methylnaphthalene	4,970 (ND)	132
2-Chloronaphthalene	5,470 (ND)	0.76 EMPC
Acenaphthylene	3,440 (ND)	1.9
Acenaphthene	5,920 (ND)	7.0
Fluorene	5,440 (ND)	9.0
Phenanthrene	4,010 (ND)	16.0
Anthracene	3,700 (ND)	1.8
Fluoranthene	3,010 (ND)	4.0
Pyrene	3,560 (ND)	4.4
Benzo-a-anthracene	4,170 (ND)	1.7
Chrysene	4,690 (ND)	2.6
Benzo-b-fluoranthene	4,250 (ND)	1.5
Benzo-k-fluoranthene	4,530 (ND)	1.6
Perylene	6,400 (ND)	0.09 (ND)
Benzo-a-pyrene	5,210 (ND)	1.1
Benzo-e-pyrene	5,160 (ND)	0.87
Indeno-123-cd-pyrene	6,630 (ND)	0.75
Dibenz-ah-anthracene	8,140 (ND)	0.53
Benzo-ghi-perylene	7,560 (ND)	5.1

ND : Not Detected
E : Estimated
S : Saturated
EMPC: Estimated Maximum Possible Concentration

Modified Method 5 Sampling Train Calculations (Michigan DNR)				
Client:	Woodland			
Project No:	22327			
Date:	6/8/92			
Test No:	#2	#3	#4	Averages
Pitot Tube Calibration Factor:	0.85	0.85	0.85	
Meter Calibration Factor:	1.0197	1.0197	0.9986	
Stack Length, inches:	96	96	96	
Stack Width, inches:	48	48	48	
Stack Diameter, inches:				
Nozzle Diameter, inches:	0.251	0.251	0.251	
Barometric Pressure, inches Hg:	29.58	29.58	29.57	
Static Pressure in Stack, Inches Water:	0.28	0.28	0.28	
Duration of Sample, minutes	82.5	82.5	82.5	
Meter Leak Rate, cubic feet per min.:	0.015	0.015	0.015	
Meter Start Volume, cubic feet:	206.7	246.46	544.84	
Meter Final Volume, cubic feet:	245.99	285.96	577.88	
Average Meter Pressure, Inches Water:	0.78	0.79	0.44	
Average Meter Temperature, degrees F:	85	102	93	
Average Sqrt. Velocity Pressure:	0.5922	0.5905	0.4878	
Stack Gas Temperature, degrees F:	282	272	270	275
Percent Carbon Dioxide:	4.35	5.25	4.03	4.5
Percent Oxygen:	13.87	13	13.93	13.6
Percent Carbon Monoxide:	0	0	0	
Liquid Volume Collected, milliliters:	257.17	255.38	245.82	
Sample Train Calculations				
Meter Volume, Actual, cubic feet:	39.29	39.5	33.04	
Meter Volume, Actual, cubic meters	1.113	1.119	0.936	
Meter Volume, STP, cubic feet:	38.593	37.627	31.286	
Meter Volume, STP, cubic meters	1.093	1.066	0.886	
Volume of Water Vapor Condensed:	12.190	12.105	11.652	
Total Gas Sampled:	50.783	49.732	42.938	
Percent Moisture:	24.00	24.34	27.14	25.2
Area of Stack, Square Feet:	32.00	32.00	32.00	
Excess Air at Test Location:	179.67	151.48	180.24	170.46
Density Dry at STP:	0.0756	0.0759	0.0755	
Density Wet at STP:	0.0686	0.0687	0.0676	
Density Wet at Stack Cond:	0.0485	0.0492	0.0486	
Isokinetic, %	101.19	98.80	102.29	
Molecular Weight, lb/lb-Mole	29.26	29.37	29.21	
Velocity and Flow Calculations				
Average Stack Gas Velocity FPM:	2505.1	2478.9	2062.2	2348.7
Average Stack Gas Velocity, Meters/Sec.	12.7	12.6	10.5	11.9
Stack Gas Flow Rate, ACFM:	80162.8	79325.6	65990.3	75159.5
Stack Gas Flow Rate, ACM/Min:	2270.2	2246.5	1868.8	2128.5
Stack Gas Velocity, SCFM:	56647.0	56821.2	47382.5	53616.9
Stack Gas Flow Rate, SCM/Min:	1604.2	1609.2	1341.9	1518.4
Stack Gas Velocity, DSCFM:	43049.6	42990.6	34524.5	40188.2
Stack Gas Flow Rate, DSCM/Min:	1219.2	1217.5	977.7	1138.1
Absolute Stack Gas Pressure Inches Hg:	29.6	29.6	29.6	
Pounds of Gas Sampled, Dry	2.919	2.856	2.362	
Pounds of Gas Sampled, Wet	3.485	3.419	2.904	
CEM Emission Data				
CO Concentration, ppm	170	104.3	NA	
SO2 Concentration, ppm	2.9	8.4	NA	
NOx Concentration, ppm	39.4	41.7	40.3	
VOC Concentration, ppm	51.30	29.70	31.20	
CO Emission Rate, lb/hr	31.38	0.54	NA	
SO2 Emission Rate, lb/hr	1.22	0.10	NA	
NOx Emission Rate, lb/hr	18.50	0.52	0.42	
VOC Emission Rate, lb/hr	14.92	0.24	0.21	
PAH Emission Calculations (All values corrected to detection limits)				
	#2	#3	#4	AVERAGE
Acenaphthene				
Amount (ng)	4140.4 E	2740.4 E	8860.4	
Conc. (mg/m3)	3.79E-03	2.57E-03	1.00E-02	5.45E-03
Emission Rate (lbs/hr)	6.30E-04	4.27E-04	1.33E-03	7.97E-04
Acenaphthylene				
Amount (ng)	8317.7 E	4217.7 E	6577.7	
Conc. (mg/m3)	7.61E-03	3.96E-03	7.42E-03	6.33E-03
Emission Rate (lbs/hr)	1.27E-03	6.57E-04	9.90E-04	9.71E-04
Anthracene				
Amount (ng)	694.3	570.3	1328.3	
Conc. (mg/m3)	6.35E-04	5.35E-04	1.50E-03	8.90E-04
Emission Rate (lbs/hr)	1.06E-04	8.89E-05	2.00E-04	1.32E-04
Benzo-a-Anthracene				
Amount (ng)	1088.7	278.7	133.7	
Conc. (mg/m3)	9.96E-04	2.62E-04	1.51E-04	4.70E-04
Emission Rate (lbs/hr)	1.66E-04	4.34E-05	2.01E-05	7.64E-05

Benzo-b-Fluoranthene				
Amount (ng)	597.7	302.7	196.7	
Conc. (mg/m3)	5.47E-04	2.84E-04	2.22E-04	3.51E-04
Emission Rate (lbs/hr)	9.10E-05	4.72E-05	2.96E-05	5.59E-05
Benzo-k-Fluoranthene				
Amount (ng)	214.6	103.6	67.7	
Conc. (mg/m3)	1.96E-04	9.72E-05	7.64E-05	1.23E-04
Emission Rate (lbs/hr)	3.27E-05	1.62E-05	1.02E-05	1.97E-05
1,2 Benzo(a)fluorene				
Amount (ng)	2560 DL	2600 DL	2350	
Conc. (mg/m3)	2.34E-03	2.44E-03	2.65E-03	2.48E-03
Emission Rate (lbs/hr)	3.90E-04	4.05E-04	3.54E-04	3.83E-04
2,3 Benzo(a)fluorene				
Amount (ng)	2790 DL	2830 DL	2560	
Conc. (mg/m3)	2.55E-03	2.66E-03	2.89E-03	2.70E-03
Emission Rate (lbs/hr)	4.25E-04	4.41E-04	3.85E-04	4.17E-04
Benzo-ghi-Perylene				
Amount (ng)	42.2	120.8	130.8	
Conc. (mg/m3)	3.86E-05	1.13E-04	1.48E-04	9.99E-05
Emission Rate (lbs/hr)	6.42E-06	1.88E-05	1.97E-05	1.50E-05
Benzo-a-Pyrene				
Amount (ng)	53.25	8.15	8.55	
Conc. (mg/m3)	4.87E-05	7.65E-06	9.65E-06	2.20E-05
Emission Rate (lbs/hr)	8.10E-06	1.27E-06	1.29E-06	3.55E-06
Benzo-e-Pyrene				
Amount (ng)	567	130	76.9	
Conc. (mg/m3)	5.19E-04	1.22E-04	8.68E-05	2.43E-04
Emission Rate (lbs/hr)	8.63E-05	2.03E-05	1.16E-05	3.94E-05
Chrysene				
Amount (ng)	1341.5 E	835.5 E	435.5	
Conc. (mg/m3)	1.23E-03	7.84E-04	4.92E-04	8.34E-04
Emission Rate (lbs/hr)	2.04E-04	1.30E-04	6.56E-05	1.33E-04
Dibenzo-ah-Anthracene				
Amount (ng)	3.73 DL	7 DL	8.7	
Conc. (mg/m3)	3.41E-06	6.57E-06	9.82E-06	6.60E-06
Emission Rate (lbs/hr)	5.68E-07	1.09E-06	1.31E-06	9.90E-07
Fluoranthene				
Amount (ng)	4159.8	2199.8	1269.8	
Conc. (mg/m3)	3.81E-03	2.06E-03	1.43E-03	2.43E-03
Emission Rate (lbs/hr)	6.33E-04	3.43E-04	1.91E-04	3.89E-04
Fluorene				
Amount (ng)	4347.2 E	3697.2 E	9727.2	
Conc. (mg/m3)	3.98E-03	3.47E-03	1.10E-02	6.14E-03
Emission Rate (lbs/hr)	6.62E-04	5.76E-04	1.46E-03	9.01E-04
Indeno-123-cd-Pyrene				
Amount (ng)	17.71	12.21	20.91	
Conc. (mg/m3)	1.62E-05	1.15E-05	2.36E-05	1.71E-05
Emission Rate (lbs/hr)	2.70E-06	1.90E-06	3.15E-06	2.58E-06
Perylene				
Amount (ng)	18.46 DL	2.1 DL	42.7	
Conc. (mg/m3)	1.69E-05	1.97E-06	4.82E-05	2.24E-05
Emission Rate (lbs/hr)	2.81E-06	3.27E-07	6.43E-06	3.19E-06
Phenanthrene				
Amount (ng)	27080.3	21840.3	50780.3	
Conc. (mg/m3)	2.48E-02	2.05E-02	5.73E-02	3.42E-02
Emission Rate (lbs/hr)	4.12E-03	3.40E-03	7.65E-03	5.06E-03
Pyrene				
Amount (ng)	2782.6	2312.6	1412.6	
Conc. (mg/m3)	2.55E-03	2.17E-03	1.59E-03	2.10E-03
Emission Rate (lbs/hr)	4.23E-04	3.61E-04	2.13E-04	3.32E-04
Total PAH Emission Rate (MDNR):	9.26E-03	6.99E-03	1.29E-02	9.73E-03
Total PAH , concentration, mg/m3 (MDNR):	5.56E-02	4.21E-02	9.71E-02	6.49E-02

Note: BOLD components analyzed by HIGH resolution mass spectrometry.
Note: NONBOLD components analyzed by LOW resolution mass spectrometry
DL: Detection Limit Values
E: Estimated Values

Modified Method 5 Sampling Train Calculations (NAPA)				
Client:	Woodland			
Project No:	22327			
Date:	6/8/92			
Test No:	#2	#3	#4	Averages
Pitot Tube Calibration Factor:	0.85	0.85	0.85	
Meter Calibration Factor:	1.0197	1.0197	0.9986	
Stack Length, inches:	96	96	96	
Stack Width, inches:	48	48	48	
Stack Diameter, inches:				
Nozzle Diameter, inches:	0.251	0.251	0.251	
Barometric Pressure, inches Hg:	29.58	29.58	29.57	
Static Pressure in Stack, Inches Water:	0.28	0.28	0.28	
Duration of Sample, minutes	82.5	82.5	82.5	
Meter Leak Rate, cubic feet per min.:	0.015	0.015	0.015	
Meter Start Volume, cubic feet:	206.7	246.46	544.84	
Meter Final Volume, cubic feet:	245.99	285.96	577.88	
Average Meter Pressure, Inches Water:	0.78	0.79	0.44	
Average Meter Temperature, degrees F:	85	102	93	
Average Sqrt. Velocity Pressure:	0.5922	0.5905	0.4878	
Stack Gas Temperature, degrees F:	282	272	270	275
Percent Carbon Dioxide:	4.35	5.25	4.03	4.5
Percent Oxygen:	13.87	13	13.93	13.6
Percent Carbon Monoxide:	0	0	0	
Liquid Volume Collected, milliliters:	257.17	255.38	245.82	
Sample Train Calculations				
Meter Volume, Actual, cubic feet:	39.29	39.5	33.04	
Meter Volume, Actual, cubic meters	1.113	1.119	0.936	
Meter Volume, STP, cubic feet:	38.593	37.627	31.286	
Meter Volume, STP, cubic meters	1.093	1.066	0.886	
Volume of Water Vapor Condensed:	12.190	12.105	11.652	
Total Gas Sampled:	50.783	49.732	42.938	
Percent Moisture:	24.00	24.34	27.14	25.2
Area of Stack, Square Feet:	32.00	32.00	32.00	
Excess Air at Test Location:	179.67	151.48	180.24	170.46
Density Dry at STP:	0.0756	0.0759	0.0755	
Density Wet at STP:	0.0686	0.0687	0.0676	
Density Wet at Stack Cond:	0.0485	0.0492	0.0486	
Isokinetic, %	101.19	98.80	102.29	
Molecular Weight, lb/lb-Mole	29.26	29.37	29.21	
Velocity and Flow Calculations				
Average Stack Gas Velocity FPM:	2505.1	2478.9	2062.2	2348.7
Average Stack Gas Velocity, Meters/Sec	12.7	12.6	10.5	11.9
Stack Gas Flow Rate, ACFM:	80162.8	79325.6	65990.3	75159.5
Stack Gas Flow Rate, ACM/Min:	2270.2	2246.5	1868.8	2128.5
Stack Gas Velocity, SCFM:	56647.0	56821.2	47382.5	53616.9
Stack Gas Flow Rate, SCM/Min:	1604.2	1609.2	1341.9	1518.4
Stack Gas Velocity, DSCFM:	43049.6	42990.6	34524.5	40188.2
Stack Gas Flow Rate, DSCM/Min:	1219.2	1217.5	977.7	1138.1
Absolute Stack Gas Pressure, Inches Hg:	29.6	29.6	29.6	
Pounds of Gas Sampled, Dry	2.919	2.856	2.362	
Pounds of Gas Sampled, Wet	3.485	3.419	2.904	
CEM Emission Data				
CO Concentration, ppm	170	104.3	NA	
SO2 Concentration, ppm	2.9	8.4	NA	
NOx Concentration, ppm	39.4	41.7	40.3	
VOC Concentration, ppm	51.30	29.70	31.20	
CO Emission Rate, lb/hr	31.38	0.54	NA	
SO2 Emission Rate, lb/hr	1.22	0.10	NA	
NOx Emission Rate, lb/hr	18.50	0.52	0.42	
VOC Emission Rate, lb/hr	14.92	0.24	0.21	

PAH Emission Calculations (All values corrected to reported detection limits)				
	#2	#3	#4	AVERAGE
Acenaphthene				
Amount (ng)	4140.4 E	2740.4 E	8860.4	
Conc. (mg/m3)	3.79E-03	2.57E-03	1.00E-02	5.45E-03
Emission Rate (lbs/hr)	6.30E-04	4.27E-04	1.33E-03	7.97E-04
Acenaphthylene				
Amount (ng)	8317.7 E	4217.7 E	6577.7	
Conc. (mg/m3)	7.61E-03	3.96E-03	7.42E-03	6.33E-03
Emission Rate (lbs/hr)	1.27E-03	6.57E-04	9.90E-04	9.71E-04
Anthracene				
Amount (ng)	694.3	570.3	1328.3	
Conc. (mg/m3)	6.35E-04	5.35E-04	1.50E-03	8.90E-04
Emission Rate (lbs/hr)	1.06E-04	8.89E-05	2.00E-04	1.32E-04
Benzo-a-Anthracene				
Amount (ng)	1088.7	278.7	133.7	
Conc. (mg/m3)	9.96E-04	2.62E-04	1.51E-04	4.70E-04
Emission Rate (lbs/hr)	1.66E-04	4.34E-05	2.01E-05	7.64E-05
Benzo-b-Fluoranthene				
Amount (ng)	597.7	302.7	196.7	
Conc. (mg/m3)	5.47E-04	2.84E-04	2.22E-04	3.51E-04
Emission Rate (lbs/hr)	9.10E-05	4.72E-05	2.96E-05	5.59E-05
Benzo-k-Fluoranthene				

Amount (ng)	214.6	103.6	67.7	
Conc. (mg/m3)	1.96E-04	9.72E-05	7.64E-05	1.23E-04
Emission Rate (lbs/hr)	3.27E-05	1.62E-05	1.02E-05	1.97E-05
1,2 Benzo(a)fluorene				
Amount (ng)	0	0	0	
Conc. (mg/m3)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Emission Rate (lbs/hr)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2,3 Benzo(a)fluorene				
Amount (ng)	0	0	0	
Conc. (mg/m3)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Emission Rate (lbs/hr)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo-ghi-Perylene				
Amount (ng)	42.2	120.8	130.8	
Conc. (mg/m3)	3.86E-05	1.13E-04	1.48E-04	9.99E-05
Emission Rate (lbs/hr)	6.42E-06	1.88E-05	1.97E-05	1.50E-05
Benzo-a-Pyrene				
Amount (ng)	53.25	8.15	8.55	
Conc. (mg/m3)	4.87E-05	7.65E-06	9.65E-06	2.20E-05
Emission Rate (lbs/hr)	8.10E-06	1.27E-06	1.29E-06	3.55E-06
Benzo-e-Pyrene				
Amount (ng)	567	130	76.9	
Conc. (mg/m3)	5.19E-04	1.22E-04	8.68E-05	2.43E-04
Emission Rate (lbs/hr)	8.63E-05	2.03E-05	1.16E-05	3.94E-05
2-Chloro-Naphthalene				
Amount (ng)	0	0	0	
Conc. (mg/m3)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Emission Rate (lbs/hr)	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chrysene				
Amount (ng) E	1341.5 E	835.5 E	435.5	
Conc. (mg/m3)	1.23E-03	7.84E-04	4.92E-04	8.34E-04
Emission Rate (lbs/hr)	2.04E-04	1.30E-04	6.56E-05	1.33E-04
Cumene				
Amount (ng)	247530	27260	30710	
Conc. (mg/m3)	2.26E-01	2.56E-02	3.47E-02	9.56E-02
Emission Rate (lbs/hr)	3.77E-02	4.25E-03	4.62E-03	1.55E-02
Dibenzo-ah-Anthracene				
Amount (ng)	3.73	0	0	
Conc. (mg/m3)	3.41E-06	0.00E+00	0.00E+00	1.14E-06
Emission Rate (lbs/hr)	5.68E-07	0.00E+00	0.00E+00	1.89E-07
Fluoranthene				
Amount (ng)	4159.8	2199.8	1269.8	
Conc. (mg/m3)	3.81E-03	2.06E-03	1.43E-03	2.43E-03
Emission Rate (lbs/hr)	6.33E-04	3.43E-04	1.91E-04	3.89E-04
Fluorene				
Amount (ng) E	4347.2 E	3697.2 E	9727.2	
Conc. (mg/m3)	3.98E-03	3.47E-03	1.10E-02	6.14E-03
Emission Rate (lbs/hr)	6.62E-04	5.76E-04	1.46E-03	9.01E-04
Indeno-123-cd-Pyrene				
Amount (ng)	17.71	12.21	20.91	
Conc. (mg/m3)	1.62E-05	1.15E-05	2.36E-05	1.71E-05
Emission Rate (lbs/hr)	2.70E-06	1.90E-06	3.15E-06	2.58E-06
2-Methyl-Naphthalene				
Amount (ng)	320702	344682	359862	
Conc. (mg/m3)	2.93E-01	3.23E-01	4.06E-01	3.41E-01
Emission Rate (lbs/hr)	4.88E-02	5.37E-02	5.42E-02	5.22E-02
Naphthalene				
Amount (ng)	133430.0	135920	141110	
Conc. (mg/m3)	1.22E-01	1.28E-01	1.59E-01	1.36E-01
Emission Rate (lbs/hr)	2.03E-02	2.12E-02	2.12E-02	2.09E-02
Perylene				
Amount (ng)	18.46	0	0	
Conc. (mg/m3)	1.69E-05	0.00E+00	0.00E+00	5.63E-06
Emission Rate (lbs/hr)	2.81E-06	0.00E+00	0.00E+00	9.37E-07
Phenanthrene				
Amount (ng)	27080.3	21840.3	50780.3	
Conc. (mg/m3)	2.48E-02	2.05E-02	5.73E-02	3.42E-02
Emission Rate (lbs/hr)	4.12E-03	3.40E-03	7.65E-03	5.06E-03
Pyrene				
Amount (ng)	2782.6	2312.6	1412.6	
Conc. (mg/m3)	2.55E-03	2.17E-03	1.59E-03	2.10E-03
Emission Rate (lbs/hr)	4.23E-04	3.61E-04	2.13E-04	3.32E-04
Total PAH Emission Rate	7.76E-02	8.11E-02	8.76E-02	8.21E-02
Total PAH concentration, mg/m3	4.63E-01	4.86E-01	6.56E-01	5.35E-01

Note: BOLD components analyzed by HIGH resolution mass spectrometry.
Note: NONBOLD components analyzed by LOW resolution mass spectrometry
E: Estimated Values

MOISTURE TRAIN CALCULATIONS

M1. BAROMETRIC PRESSURE, inches of mercury

M2. DURATION OF SAMPLE, minutes

M3. METER CALIBRATION FACTOR

M4. AVERAGE METER TEMPERATURE, degrees F

M5. AVERAGE METER PRESSURE, inches of water

M6. METER VOLUME, ACTUAL, cubic feet

M7. METER VOLUME, STP, cubic feet

$$M7 = M3 * M6 * \frac{530}{M1+460} * \frac{M1 + 0.07355 * M5}{29.92}$$

M8. LIQUID VOLUME OF WATER COLLECTED, milliliters

M9. VAPOR VOLUME OF WATER CONDENSED, @ STP, cubic feet

$$M9 = M8 * 0.0474$$

M10. TOTAL GAS SAMPLED, @ STP, cubic feet

$$M10 = M7 + M9$$

M11. PERCENT MOISTURE

$$M11 = 100 * \frac{M9}{M10}$$

EXHAUST GAS CALCULATIONS

G1. STACK DIMENSIONS, inches

G2. AREA OF STACK, square feet

$$G2(ROUND) = \frac{3.14159 * \left(\frac{DIA}{2}\right)^2}{144}$$

$$G2(RECT.) = \frac{WIDTH * LENGTH}{144}$$

G3. BAROMETRIC PRESSURE, inches of mercury

G4. STATIC PRESSURE IN STACK, inches of water

G5. STACK GAS TEMPERATURE, degrees F

G6. AVG. SQRT. VELOCITY PRESSURE OF POINTS SAMPLED

G7. PERCENT MOISTURE AT TEST LOCATION

$$G7 = 100 * \frac{P13}{P14}$$

G8. PERCENT MOISTURE BEFORE COLLECTOR

G9. DRY GAS COMPOSTION, $\%O_2$, $\%CO_2$, %CO, $\%N_2$

G10. PERCENT EXCESS AIR AT TEST LOCATION

$$G10 = 100 * \frac{\%O_2 - 0.5 * \%CO}{0.264 * \%N_2 - \%O_2 + 0.5 * CO}$$

G11. DENSITY, DRY, @ STP, lbs./cu. ft.

$$G11 = \frac{0.827 * \%O_2 + 0.1137 * \%CO_2 + (\%CO + \%N_2) * 0.0724}{100}$$

G12. DENSITY, WET, @ STP, lbs./cu.ft.

$$G12 = G11 * \frac{100 - G7}{100} + 0.0465 * \frac{G7}{100}$$

G13. DENSITY, WET, @ STACK GAS CONDITIONS, lbs./cu. ft.

$$G13 = G12 * \frac{530}{G5 + 460} * \frac{G3 + 0.07355 * G4}{29.92}$$

G14. MOLECULAR WEIGHT, DRY, lb/lb-mole

$$G14 = G11 * 386.9$$

G15. AVERAGE STACK GAS VELOCITY, feet/minute

$$G15 = P5 * G6 * \frac{1096}{\sqrt{G13}}$$

G16. STACK GAS FLOW RATE, ACFM

$$G16 = G2 * G15$$

G17. STACK GAS FLOW RATE, SCFM

$$G17 = G16 * \frac{530}{G5 + 460} * \frac{G3 + 0.07355 * G4}{29.92}$$

G18. STACK GAS FLOW RATE, DSCFM

$$G18 = G17 * \frac{100 - G7}{100}$$

PARTICULATE CALCULATIONS

P1. NUMBER OF POINTS SAMPLED

P2. DURATION OF SAMPLE, minutes

P3. NOZZLE DIAMETER, inches

P4. NOZZLE AREA, square feet

$$P4 = \frac{3.14159 * \left(\frac{P3}{2}\right)^2}{144}$$

P5. PITOT TUBE CALIBRATION FACTOR

P6. METER CALIBRATION FACTOR

P7. AVERAGE FILTER TEMPERATURE, degrees F

P8. AVERAGE METER TEMPERATURE, degrees F

P9. AVERAGE METER PRESSURE, inches water

P10. METER VOLUME, ACTUAL, cubic feet

P11. METER VOLUME, @ STP, cubic feet

$$P11 = P10 * P6 * \frac{530}{P8 + 460} * \frac{G3 + 0.07355 * P9}{29.92}$$

P12. LIQUID VOLUME OF WATER CONDENSED, milliliters

P13. VAPOR VOLUME OF WATER CONDENSED, @ STP, cubic feet

$$P13 = P12 * 0.0474$$

P14. TOTAL GAS SAMPLED, @ STP, cubic feet

$$P14 = P11 + P13$$

P15. WEIGHT OF GAS SAMPLED, DRY, pounds

$$P15 = P11 * G11$$

P16. WEIGHT OF GAS SAMPLED, WET, pounds

$$P16 = P14 * G12$$

P17. PERCENT ISOKINETICS

$$P17 = \frac{100 * 29.92 * (G5 + 460) * P14}{530 * (G3 + 0.07355 * G4) * P2 * P4 * G15}$$

CONCENTRATION CONVERSION FACTORS:

P18. 50 % EXCESS AIR, AFTER COLLECTOR

$$P18 = \frac{G14 + 18 * \frac{G7}{100 - G7}}{0.1826 * \%N_2 - 2.0592 * \%O_2 + G14 + 18 * \frac{G7}{100-G7}}$$

P19. 50 % EXCESS AIR, BEFORE COLLECTOR

$$P19 = \frac{G14 + 18 * \frac{G7}{100 - G7}}{0.1826 * \%N_2 - 2.0592 * \%O_2 + G14 + 18 * \frac{G8}{100 - G8}}$$

P20. MOISTURE BEFORE COLLECTOR

$$P20 = \frac{G14 + 18 * \frac{G7}{100 - G7}}{G14 + 18 * \frac{G8}{100-G8}}$$

PARTICULATE EMISISON CALCULATIONS:

E1. TOTAL WEIGHT OF PARTICULATE, grams

E2. LBS. PARTICULATE/1000 LBS GAS, ACTUAL

$$E2 = E1 * \frac{1000}{454 * P16}$$

E3. LBS PARTICULATE/1000 LBS. GAS, DRY

$$E3 = E2 * P20$$

E4. LBS. PARTICULATE/1000 LBS. GAS, WET, 50% EA

$$E4 = E2 * P18$$

E5. LBS. PARTICULATE/1000 LBS. GAS, DRY, 50% EA

$$E5 = E2 * P19$$

E6. GRAINS/DRY STANDARD CUBIC FOOT

$$E6 = \frac{E1 * 7000 * 100}{454 * P16}$$

E7. POUNDS/HOUR

$$E7 = \frac{G17 * G12 * 1000 * E1 * 0.06}{454 * P16}$$

PAH CALCULATIONS

PAH 1. METER VOLUME, @ STP, cubic meters

$$PAH\ 1 = P14 * 0.02832$$

PAH 2. MASS OF COMPOUND IN SAMPLE, milligrams

PAH 3. CONCENTRATION, mg/cubic meter

$$\text{PAH 3} = \frac{\text{PAH 2}}{\text{PAH 1}}$$

PAH 4. EMISSION RATE, Pounds per Hour

PAH 4 = PAH 3 * G18*6.44E-08*60

WW ENGINEERING & SCIENCE
METER CALIBRATIONS

Date: 8-Feb-92 Calibration Meter I.D.: Wet Test Yds.: 1.0208 Barometric: 29.38

Meter Box Identification: GR STD Calibrators Initials: RHS Approved By: MJM

	Orifice Reading (H) in H20	Calibration Meter Gas Volume (Vda) ft3	Meter Box Meter Gas Volume (Vd) ft3	Temperature		Calibration Meter Pressure (p) in H20	Time (O) min	Orifice Pressure Differential (H@)	Meter Box Meter Coefficient (Yd)	Kd
				Calibration Meter Average (tda) F	Meter Box Meter Average (td) F					
Stop	0.5	1265.52	42.79	70	75.5	-0.5	12.5	1.68251	1.03384	0.13723
Start	0.5	1260.47	37.77	70	73	-0.5				
Average:	0.5	5.05	5.0	70	74.25	-0.5				
Stop	1.0	1270.46	47.79	70	73.5	-0.7	9	1.83097	1.01220	0.13181
Start	1.0	1265.52	42.79	70	73	-0.7				
Average:	1.0	4.94	5.00	70	73.25	-0.7				
Stop	2.0	1275.44	52.8	70	72	-1.4	6.5	1.89514	1.01249	0.12998
Start	2.0	1270.46	47.79	70	71	-1.4				
Average:	2.0	4.98	5.01	70	71.5	-1.4				
Stop	3.0	1285.37	62.81	70	75.5	-2	10.5	1.86886	1.01126	0.13090
Start	3.0	1275.44	52.8	70	71	-2				
Average:	3.0	9.93	10.01	70	73.25	-2				
Stop	4.0	1295.33	72.87	70	76	-2.6	9	1.82619	1.00819	0.13256
Start	4.0	1285.37	62.81	70	72	-2.6				
Average:	4.0	9.96	10.06	70	74	-2.6				
Stop	5.0	1305.19	82.83	70	77.5	-3.2	8	1.84523	1.00795	0.13194
Start	5.0	1295.33	72.87	70	73	-3.2				
Average:	5.0	9.86	9.96	70	75.25	-3.2				
							Average:	1.82462	1.01438	0.13240
									Kisa=	1563.012

WW ENGINEERING & SCIENCE
METER CALIBRATIONS

Date: 23-Apr-92 Calibration Meter I.D.: Wet Test Yda.: 1.0208 Barometric: 29.12

Meter Box Identification: GR 2 Calibrators Initials: JM Approved By: KAP

	Orifice Reading (H) in H2O	Calibration Meter Gas Volume (Vda) ft3	Meter Box Meter Gas Volume (Vd) ft3	Temperature		Calibration Meter Pressure (p) in H2O	Time (O) min	Orifice Pressure Differential (H@)	Meter Box Meter Coefficient (Yd)	Kd
				Calibration Meter Average (tda) F	Meter Box Meter Average (td) F					
Stop	0.5	399.93	654.6	78	99	-0.4				
Start	0.5	395.21	649.6	79	92.5	-0.4	11.65	1.67511	0.99325	0.13594
Average:	0.5	4.72	5.0	78.5	95.75	-0.4				
Stop	1.0	404.68	659.6	79	102.5	-0.6				
Start	1.0	399.93	654.6	79	98	-0.6	8.42	1.72164	1.00545	0.13375
Average:	1.0	4.75	5.00	79	100.25	-0.6				
Stop	3.0	418.7	674.6	79	103	-2				
Start	3.0	409.42	664.6	79	101	-2	9.73	1.81632	1.00209	0.13032
Average:	3.0	9.28	9.80	79	103	-2				
Stop	4.0	428.08	684.6	79	105	-2.5				
Start	4.0	418.7	674.6	79	102	-2.5	8.55	1.83788	0.99102	0.12974
Average:	4.0	9.38	10.00	79	103.5	-2.5				
Stop	5.0	437.52	694.75	79	107	-3				
Start	5.0	428.08	684.6	79	101.5	-3	6	1.12111	1.00121	0.16631
Average:	5.0	9.44	9.95	79	104.25	-3				
							Average:	1.63441	0.99880	0.13921
									Kise=	1413.800

Thermocouple Readout Calibration

Readout I.D.: Meter Box GR 2
Date: 5/14/92

Calibrated By: KAP
Standard: Omega Thermocouple Simulator SN 201

Input Degrees F	Reading Degrees F	Difference %
0	0	0
100	99	1.0
300	299	0.3
500	499	0.2
700	701	0.1
900	902	0.2
1100	1102	0.2
1300	1303	0.2

Thermocouple Readout Calibration

Readout I.D.: Meter Box GR 3
Date: 5/14/92

Calibrated By: KAP
Standard: Omega Thermocouple Simulator SN 201

Input Degrees F	Reading Degrees F	Difference %
0	0	0
100	101	1.0
300	302	0.7
500	502	0.4
700	701	0.1
900	902	0.2
1100	1100	0.0
1300	1299	0.1

Pitot Tube Calibration

Pitot Tube: 20 **Calibrated By:** RHS
Date: 9/26/91

A Side Calibration				
Run No.	Std. Pitot Reading	S Type Reading	Cp	Deviation Cp-Avg. Cp
1	0.345	0.470	0.848	0.001
2	0.352	0.480	0.848	0.000
3	0.351	0.480	0.847	0.001
		Avg. Cp	0.848	0.001

B Side Calibration				
Run No.	Std. Pitot Reading	S Type Reading	Cp	Deviation Cp-Avg. Cp
1	0.345	0.470	0.848	0.002
2	0.350	0.480	0.845	0.005
3	0.357	0.475	0.858	0.008
		Avg. Cp	0.851	0.005

Cp(A)-Cp(B)=	0.003

The deviation from the average Cp must be less than 0.01. The difference between the average Cp of the "A" side and the average Cp of the "B" side must be less than 0.01.

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Wood Land Pining
Date: 6/2/92
Location: Outlet
Test Personnel: KP

Project Number: 22327
Source: HRA
Analyzer: CO
Type Analyzer: NDIR

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0	0	
Mid-Range Gas	249.6	250	0.4	
High Range Gas	512.9	511	1.9	

System Response Time

Test 1: 50.3
Test 2: 50.3
Test 3: 50.3
Average: 50.3

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1	0	250	511
2			
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paving
Date: 6/3/92
Location: Outlet
Test Personnel: KAM

Project Number: 22327
Source: HMA
Analyzer: CO
Type Analyzer: NDIR

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0	0	
Mid-Range Gas	249.6	250	6.4	
High Range Gas	512.9	513	0.1	

System Response Time

Test 1: 50.3
Test 2: 50.5
Test 3: 50.7
Average: 50.5

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1			
2	0	250	511
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paving
Date: 6/8/92
Location: outlet
Test Personnel: EP

Project Number: 22327
Source: HMA
Analyzer: CO
Type Analyzer: NDIR

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0		
Mid-Range Gas	249.6	249	0.6	
High Range Gas	512.9	513	0.1	

System Response Time

Test 1: 51.2
Test 2: 51.2
Test 3: 51.3
Average: 51.2

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1 3	0	251	511
2 4	0	251	511
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paving
Date: 6/9/92
Location: Outlet
Test Personnel: KP

Project Number: 22327
Source: HMA
Analyzer: CO
Type Analyzer: NDIR

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0	0	
Mid-Range Gas	249.6	250	0.4	
High Range Gas	512.9	511	1.5	

System Response Time

Test 1: 51.2
Test 2: 51.2
Test 3: 51.2
Average: 51.2

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
X 5	0	250	511
2			
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Weyerhaeuser
Date: 6/2/92
Location: Outlet
Test Personnel: EP

Project Number: 22327
Source: HMA
Analyzer: SO_2
Type Analyzer: Pulsar Flor.

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0	0	
Mid-Range Gas	50.5	51	0.5	
High Range Gas	512	502	10	2.0

System Response Time

Test 1: 60.2
Test 2: 60.2
Test 3: 60.2
Average: 60.2

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1	0	52	506
2			
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paper
Date: 6/3/92
Location: Outlet
Test Personnel: KP

Project Number: 22227
Source: Outlet
Analyzer: SO_2
Type Analyzer: Pulsed Fluor.

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0	0	
Mid-Range Gas	50.5	51	0.5	
High Range Gas	512	510	2	

System Response Time

Test 1: 60.3
Test 2: 60.4
Test 3: 60.5
Average: 60.4

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1			
2	0	52	508
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paving
Date: 6/8/92
Location: Outlet
Test Personnel: KAP

Project Number: 22327
Source: HMA
Analyzer: SO2
Type Analyzer: Ppb Fpd.

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0	0	0
Mid-Range Gas	50.5	51	0.5	
High Range Gas	512	510	2	

System Response Time

Test 1: 60.4
Test 2: 60.4
Test 3: 60.4
Average: 60.4

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1 3	0	52	512
2 4	0	53	512
3			
Max. Deviation		2	0

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paving
Date: 6/9/92
Location: Outlet
Test Personnel: KAA

Project Number: 27327
Source: HMA
Analyzer: SO2
Type Analyzer: Pulsed Flor.

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0	0	
Mid-Range Gas	50.5	52	1.5	
High Range Gas	512	511	1	

System Response Time

Test 1: 60.4
Test 2: 60.5
Test 3: 60.3
Average: 60.4

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
X 5	0	51	511
2			
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: WOODLAND PAVING
Date: 06/03/92
Location: Outlet
Test Personnel: FAP

Project Number: 2232J
Source: HMA
Analyzer: NOX
Type Analyzer: Chem.lum.

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0	0	0
Mid-Range Gas	245.7	245	0.7	
High Range Gas	502	502	0	0

System Response Time

Test 1: 45.7
Test 2: 45.3
Test 3: 45.3
Average: 45.4

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1	0	245	502
2			
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paving
Date: 6/3/92
Location: Outlet
Test Personnel: KD

Project Number: 22327
Source: HMA
Analyzer: NOx
Type Analyzer: Chemilum.

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0	0	
Mid-Range Gas	245.7	245	0	
High Range Gas	502	502	0	0

System Response Time

Test 1: 46.2
Test 2: 46.1
Test 3: 46.2
Average: 46.2

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1			
2	0	245	502
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paving
Date: 6/8/92
Location: outlet Stack
Test Personnel: KP

Project Number: 22327
Source: HMA
Analyzer: NOx
Type Analyzer: Chem. Lum.

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0	0	
Mid-Range Gas	245.7	246	0.3	
High Range Gas	502	501	1	

System Response Time

Test 1: 46.4
Test 2: 46.3
Test 3: 46.3
Average: 46.3

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1 3	0	246	502
2 4	0	245	501
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Weyerhaeuser
Date: 6/5/92
Location: Outer
Test Personnel: EP

Project Number: 20327
Source: HMA
Analyzer: NOx
Type Analyzer: Chemiluminescent

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0	0	
Mid-Range Gas	245.7	246	0.3 ~~502~~	
High Range Gas	502	502	0	

System Response Time

Test 1: 45.9
Test 2: 45.9
Test 3: 45.9
Average: 45.9

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1 5	0	246	502
2			
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paving
Date: 6/10/92
Location: Outlet
Test Personnel: EP

Project Number: 22327
Source: Hot A
Analyzer: NOx
Type Analyzer: Chem.lum.

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0	0	
Mid-Range Gas	245.7	244.0	~~1.7~~ 1.3	
High Range Gas	502	503	1	

System Response Time

Test 1: 46.3
Test 2: 46.2
Test 3: 46.3
Average: 46.3

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1 6	0	246	503
2			
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paving
Date: 6/2/92
Location: Outlet Stack
Test Personnel: RD

Project Number: 22327
Source: HMA
Analyzer: Total Hydrocarbon
Type Analyzer: FID

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0.0	0	0	
Mid-Range Gas	85.41	85	0.4	0.5
High Range Gas	505.9 ppm	501	4.9	1.0

System Response Time

Test 1: 25.2
Test 2: 25.7
Test 3: 25.2
Average: 25.4

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1	0	84	502
2			
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paving
Date: 6/9/92
Location: Outlet Stack
Test Personnel: KP

Project Number: 22327
Source: HMA
Analyzer: THC
Type Analyzer: FID

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0	0	0
Mid-Range Gas	85.4	85	0.4	0.5
High Range Gas	505.9	502	3.9	0.8

System Response Time

Test 1: 25.2
Test 2: 25.2
Test 3: 25.2
Average: 25.2

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1			
2	0	85	505
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paving
Date: 6/8/92
Location: Outlet Stack
Test Personnel: KP

Project Number: 22227
Source: HMA
Analyzer: THC
Type Analyzer: FID

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0	0	0
Mid-Range Gas	85	85	85	0
High Range Gas	505.9	505	0.9	0.2

System Response Time

Test 1: 25.3
Test 2: 25.3
Test 3: 25.3
Average: 25.3

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1 3	0	85	502
2 4	0	85	502
3			
Max. Deviation	0	0	3

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodward Pavin
Date: 06/9/92
Location: Outlet Stack
Test Personnel: KP

Project Number: 22317
Source: HMA
Analyzer: THC
Type Analyzer: FID

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0	0	
Mid-Range Gas	85.41	86	85	
High Range Gas	505.9	506	0.1	0.0

System Response Time

Test 1: 25.6
Test 2: 25.6
Test 3: 25.6
Average: 25.6

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1 5	0	85	504
2			
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paving
Date: 06/10/92
Location: Outlet
Test Personnel: WP

Project Number: 22327
Source: HMA
Analyzer: THC
Type Analyzer: FID

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0	0	0	
Mid-Range Gas	85	55	85	
High Range Gas	505.4	505	505	0

System Response Time

Test 1: 25.7
Test 2: 25.7
Test 3: 26.7
Average: 25.7

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
X 6	0	85	505
2			
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paving
Date: 6/2/92
Location: Outlet
Test Personnel: KP

Project Number: 22327
Source: HMA
Analyzer: CO2/O2
Type Analyzer: NDIR/fuel cell

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0/20.9	0/20.9	0/0	0
Mid-Range Gas	5.04/14.49	5./14.5	0.06/0	~~0~~
High Range Gas	14.08/5.22	14./5.2	0.02/0	

CO_2/O_2

System Response Time

Test 1: 50.3/52.0
Test 2: 50.3/52.0
Test 3: 50.3/52.0
Average: 50.3/52.0

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1	0/20.9	5.2/14.45	14.2/5.22
2			
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paving
Date: 6/3/92
Location: Outlet
Test Personnel: KAH

Project Number: 22327
Source: HMA
Analyzer: CO_2 / O_2
Type Analyzer: NDIR / Fuel Cell

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0 / 20.9	0 / 20.9	0	
Mid-Range Gas	~~5.0~~ 5.04 / 14.45	5.0 / 14.5	0.04	
High Range Gas	14.08 / 5.22	14.0 / 5.2	0.08	

System Response Time

Test 1: 50.3
Test 2: 50.5
Test 3: 50.7
Average: 50.5

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1			
2	0 / 20.9	5.0 / 14.4	14.1 / 5.2
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paving
Date: 6/8/92
Location: Outlet
Test Personnel: EP

Project Number: 22327
Source: HMA
Analyzer: CO2
Type Analyzer: NDIR

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0/20.9	0/20.9	0	
Mid-Range Gas	5.04/14.45	5.1/14.5	0.06	
High Range Gas	14.08/5.22	14.1/5.1	0.02	

System Response Time

Test 1: 51.2
Test 2: 51.2
Test 3: 51.3
Average: 51.2

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
X 3	0.2/20.8	5.1/14.5	14.0/5.2
I 4	0.0 5.04/20.9	5.1/14.6	14.0/5.2
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paving
Date: 6/9/92
Location: Outlet
Test Personnel: ICP

Project Number: 22327
Source: HMA
Analyzer: CO_2
Type Analyzer: NDIR

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0/20.9	0/20.9	0/	
Mid-Range Gas	5.04/14.45	5.1/14.5	0.06/	
High Range Gas	14.08/5.22	14.1/5.2	0.02/	

System Response Time

Test 1: 57.2
Test 2: 51.2
Test 3: 51.2
Average: 51.2

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
1 5	0/20.9	5.04/14.5	14.1/5.2
2			
3			
Max. Deviation			

WW Engineering & Science, Inc.
Environmental Services Division

Analyzer Calibration Data

Client: Woodland Paper
Date: 6/10/92
Location: Outlet
Test Personnel: KAP

Project Number: 22327
Source: HMA
Analyzer: CO_2
Type Analyzer: NDIR

Initial Calibration Data

Instrument Range:	Cylinder Value (Indicate Units)	Analyzer Response (Indicate Units)	Absolute Difference (Indicate Units)	Difference (% of Span)
Zero Gas	0/20.9	0/20.9	0	
Mid-Range Gas	5.04/1445	5.1/[illegible].6	0.06	
High Range Gas	14.08/5.2	14.1/5.2	0.02	

System Response Time

Test 1: 51.3
Test 2: 51.5
Test 3: 51.7
Average: 51.5

Time to 95 % of response for high cal gas.

Calibration Drift Check

Run Number	Concentration		
	Zero	Mid-Range	High-Range
X 6	0	5.1	14.1
2			
3			
Max. Deviation			

Scott Specialty Gases

a division of
Scott Environmental Technology, Inc.

1290 COMBERMERE STREET, TROY, MICHIGAN 48084 (313) 589-2950

ANALYZED CYLINDER

COMPONENT	CERTIFIED CONC.
CARBON DIOXIDE	14.08 %

BALANCE GAS : NITROGEN

REFERENCE STD

SRM # (CRM #)	CYLINDER NUMBER	CONC.
1675	ALM-001324	14.02 %
GMIS†	ALM-004805	18.35 %

INSTRUMENTATION

INSTR/MODEL/SERIAL #	LAST CALIBRATION DATE	ANALYTICAL PRINCIPLE
HORIBA FIR-2000	11-23-91	NON-DISPERSIVE INFRARED

ANALYSIS

DATE : 1-15-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS %	REFERENCE GAS CONC.	(mV)	RESULTS %
0.00	110.80	14.09	14.02 %	110.50	14.03
0.00	110.80	14.09		110.50	14.03
0.00	110.80	14.09		110.50	14.03

CALCULATED RESULTS: 14.08, 14.08, 14.08

AVERAGE : 14.08 %

CALIBRATION CURVE — 3 rd DEGREE

SRM # (CRM #)	CONC. %	SPLIT PT (%)	DVM (mV)	FITTED VALUE	PERCENT ERROR
	18.35	100	130.00	18.34	-0.00
1675	14.02	76	110.50	14.03	0.08
	9.999	55	88.30	9.992	-0.07
	5.013	27	52.30	5.017	0.07
	0.0000	0	0.00	0.0000	0.00
		0		0.0000	0.00
		0		0.00	0.00
GMIS	5.013	LOW	52.30	5.017	0.07
1675	14.02		110.50	14.03	0.08

† GMIS - GAS MANUFACTURER'S INTERNAL STANDARD

Analyst : Rohit Patel

Approved By : J. Shapiro

The only liability of this Company for gas which fails to comply with this analysis shall be replacement thereof by the Company without extra cost.

Scott Specialty Gases

a division of
Scott Environmental Technology, Inc.

1290 COMBERMERE STREET, TROY, MICHIGAN 48084 (313) 589-2950

Customer :
KW ENGINEERING & SCIENCE
5730 EAGLE DRIVE
GRAND RAPIDS MI 49508

Your P.O. # : 518

CERTIFICATE OF ANALYSIS - EPA PROTOCOL GASES # # #

PERFORMED ACCORDING TO SECTION 3.0.4

Certified For Traceability Procedure # 81
Protocol # 1

File # 1980

Certified Accuracy 1 % NBS Traceable

Expiration Date : 7-15-93

Cylinder Number : CAL-12547

Cylinder Pressure 1900 psig

ANALYZED CYLINDER

COMPONENT	CERTIFIED CONC.
CARBON DIOXIDE	5.04 %

BALANCE GAS : NITROGEN

REFERENCE STD

SRM # (CRM #)	CYLINDER NUMBER	CONC.
1675	ALM-001324	14.02 %
GMIS#	ALM-004805	18.35 %

INSTRUMENTATION

INSTR/MODEL/SERIAL #	LAST CALIBRATION DATE	ANALYTICAL PRINCIPLE
HORIBA PIR-2000	11-23-91	NON-DISPERSIVE INFRARED

ANALYSIS

DATE : 1-15-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS %	REFERENCE GAS CONC.	(mV)	RESULTS %
0.00	52.50	5.04	14.02 %	110.50	14.03
0.00	52.50	5.04		110.50	14.03
0.00	52.50	5.04		110.50	14.03

CALCULATED RESULTS 5.04
5.04
5.04

AVERAGE : 5.04 %

CALIBRATION CURVE 3 rd DEGREE

SRM # (CRM #)	CONC. %	SPLIT PT (%)	DVM (mV)	FITTED VALUE	PERCENT ERROR
	18.35	100	130.00	18.34	-0.00
1675	14.02	76	110.50	14.03	0.08
	9.999	55	88.30	9.992	-0.07
	5.013	27	52.30	5.017	0.07
	0.0000	0	0.00	0.0000	0.00
		9		0.0000	0.00
		0		0.00	0.00
GMIS	5.013	LOW	52.30	5.017	0.07
1675	14.02		110.50	14.03	0.08

1 GMIS - GAS MANUFACTURER'S INTERNAL STANDARD

Analyst : Rohit Patel

Approved By : S Shapiro

[redacted] only liability of this Company [redacted] which [redacted] com[redacted]h t[redacted] is sh[redacted]eplac[redacted]there [redacted]e Co[redacted] with[redacted] a cos[redacted]

scott Specialty Gases

a division of Scott Environmental Technology, Inc.

1290 COMBERMERE STREET, TROY, MICHIGAN 48084 (313) 589-2950

Shipped From : scott Michigan

Our Project # : 536865

Your P.O. # : 518

Expiration Date : 11-21-93

Cylinder Number : BLM-001367

Cylinder Pressure 1900 psig

1 of 1 Component(s)

Customer :
NW ENGINEERING & SCIENCE
5730 EAGLE DRIVE
GRAND RAPIDS, MI. 49508

CERTIFICATE OF ANALYSIS - EPA PROTOCOL GASES # # #
PERFORMED ACCORDING TO SECTION 3.0.4

Certified Per Traceability Protocol # 1 Procedure # 81

File # PO-3375

Certified Accuracy 1 % NBS Traceable

ANALYZED CYLINDER

COMPONENT	CERTIFIED CONC.
CARBON MONOXIDE	159.0 PPM

BALANCE GAS : NITROGEN

REFERENCE STD

SRM # (CRM #)	CYLINDER NUMBER	CONC.
1681	ALM-010502	967.1 PPM
1680	AAL-16199	475.0 PPM

INSTRUMENTATION

INSTR/MODEL/SERIAL #	LAST CALIBRATION DATE	ANALYTICAL PRINCIPLE
HORIBA OPE-144E 560172153	3-3-92	NON-DISPERSIVE INFRARED

FIRST ANALYSIS DATE : 5-15-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	(mV)	RESULTS PPM
0.00	17.30	158.8	243.4 PPM	26.40	243.8
0.00	17.30	158.8		26.40	243.8
0.00	17.30	158.8		26.40	243.8

CALCULATED RESULTS 158.5 158.5 158.5

AVERAGE : 158.5 PPM

SECOND ANALYSIS DATE : 5-21-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	(mV)	RESULTS PPM
0.00	17.40	159.7	243.4 PPM	26.40	243.8
0.00	17.40	159.7		26.40	243.8
0.00	17.40	159.7		26.40	243.8

CALCULATED RESULTS 159.4 159.4 159.4

AVERAGE : 159.4 PPM

CALIBRATION CURVE 2 nd DEGREE

SRM # (CRM #)	CONC. PPM	SPLIT PT (%)	DVM (mV)	FITTED VALUE	PERCENT ERROR
1681	967.1	100	100.00	967.1	0.00
1680	475.0	49	50.60	474.6	-0.08
2636	243.4	25	26.40	243.8	0.16
1679	96.67	10	10.60	96.77	0.11
	0.0000	0	0.00	0.0000	0.00
		0		0.0000	0.00
		0		0.00	0.00
1680	475.0	LOW	50.60	474.62	-0.08
1681	967.1	HIGH	100.00	967.1	0.00

GMIS - GAS MANUFACTURER'S INTERNAL STANDARD

Analyst : F. Dora

Approved By : L. Shapiro

The only liability of this Company for gas which fails to comply with this analysis shall be replacement thereof by the Company without extra cost.

Scott Specialty Gases

a division of Scott Environmental Technology, Inc.

1290 COMBERMERE STREET, TROY, MICHIGAN 48084 (313) 589-2950

Customer :
C.W. ENGINEERING & SCIENCE
SUITE 110
5330 EAGLE DRIVE
GRAND RAPIDS, MI. 49508

Your Project # :

Your P.O. # : 519

Expiration Date : 7-22-92

Cylinder Number : CAL-6523

Cylinder Pressure 1500 psig

**** CERTIFICATE OF ANALYSIS - EPA PROTOCOL GASES ****
PERFORMED ACCORDING TO SECTION 3.0.4
Certified for Traceability Procedure # G1
Protocol # 1
File # FO-1997
Certified Accuracy 1 % NBS Traceable

ANALYZED CYLINDER

COMPONENT	CERTIFIED CONC.
CARBON MONOXIDE	249.5 PPM

BALANCE GAS : NITROGEN

REFERENCE STD

SRM # (CRM #)	CYLINDER NUMBER	CONC.
1681	ALM-019502	967.1 PPM
1680	AAL-15133	475.0 PPM

INSTRUMENTATION

INSTR/MODEL/SERIAL #	LAST CALIBRATION DATE	ANALYTICAL PRINCIPLE
HORIBA UFE-144E 560172153	12-14-91	NON-DISPERSIVE INFRARED

FIRST ANALYSIS — DATE : 1-15-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	(mV)	RESULTS PPM
0.00	27.00	249.4	475.0 PPM	50.60	474.6
0.00	27.00	249.4		50.60	474.6
0.00	27.00	249.4		50.60	474.6
CALCULATED RESULTS		249.6			
		249.6			
		249.6			
AVERAGE :		249.6 PPM			

SECOND ANALYSIS — DATE : 1-22-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	(mV)	RESULTS PPM
0.00	27.00	249.4	475.0 PPM	50.60	474.6
0.00	27.00	249.4		50.60	474.6
0.00	27.00	249.4		50.60	474.6
CALCULATED RESULTS		249.6			
		249.6			
		249.6			
AVERAGE :		249.6 PPM			

CALIBRATION CURVE — 2 nd DEGREE

SRM # (CRM #)	CONC. PPM	SPLIT FT (%)	DVM (mV)	FITTED VALUE	PERCENT ERROR
1681	967.1	100	100.00	967.1	0.00
1680	475.0	49	50.60	474.6	-0.08
2636	243.4	25	26.40	243.6	0.16
1679	96.67	10	10.60	96.77	0.11
	0.0000	0	0.00	0.0000	0.00
		0		0.0000	0.00
		0		0.00	0.00
1679	96.67	LOW	10.60	96.77	0.11
1681	967.1	HIGH	100.00	967.1	0.00

GMIS - GAS MANUFACTURER'S INTERNAL STANDARD

Analyst : Rohit Patel

Approved By : J. Shapiro

[illegible] only [illegible]ty of [illegible]mpan[illegible]s wh[illegible] to c[illegible]wit. [illegible]alysis [illegible] repl[illegible]t the [illegible] the [illegible]ly wi[illegible]xtra c[illegible]

Scott Specialty Gases a division of Scott Environmental Technology, Inc.
1290 COMBERMERE STREET, TROY, MICHIGAN 48084 (313) 589-2950

Shipped From : [illegible] Michigan

Our Project # : 539838

Your P.O. # : 518

Customer :
AM ENGINEERING & SCIENCE
5730 EAGLE DRIVE
GRAND RAPIDS MI 49508

CERTIFICATE OF ANALYSIS - EPA PROTOCOL GASES # # #
PERFORMED ACCORDING TO SECTION 3.0.4

Certified Per Traceability Protocol # 1 — Procedure # G1

File # FO-4369

Certified Accuracy 1 % NBS Traceable

Expiration Date : 2-14-94

Cylinder Number : BLM001378

Cylinder Pressure 1990 psig

1 of 1 Component(s)

ANALYZED CYLINDER		REFERENCE STD			INSTRUMENTATION		
COMPONENT	CERTIFIED CONC.	SRM # (CRM #)	CYLINDER NUMBER	CONC.	INSTR/MODEL/SERIAL #	LAST CALIBRATION DATE	ANALYTICAL PRINCIPLE
CARBON MONOXIDE	512.9 PPM	1691	ALM-019992	967.1 PPM	HORIBA	[illegible]	NON-DISPERSIVE INFRARED
		1689	AAL-16179	475.0 PPM	OPE-144E		
					560172153		

BALANCE GAS : NITROGEN

FIRST ANALYSIS — DATE : [illegible]

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	(mV)	RESULTS PPM
0.00	54.60	513.4	967.1 PPM	100.00	967.1
0.00	54.60	513.4		100.00	967.1
0.00	54.60	513.4		100.00	967.1
CALCULATED RESULTS		513.4			
		513.4			
		513.4			
AVERAGE :		513.4 PPM			

SECOND ANALYSIS — DATE : [illegible]

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	(mV)	RESULTS PPM
0.00	54.50	512.5	967.1 PPM	100.00	967.1
0.00	54.50	512.5		100.00	967.1
0.00	54.50	512.5		100.00	967.1
CALCULATED RESULTS		512.5			
		512.5			
		512.5			
AVERAGE :		512.5 PPM			

CALIBRATION CURVE — 2 nd DEGREE

SRM # (CRM #)	CONC. PPM	SPLIT PT (%)	DVM (mV)	FITTED VALUE	PERCENT ERROR
1691	967.1	100	100.00	967.1	0.00
1689	475.0	49	50.60	474.6	-0.09
2636	243.4	25	26.40	243.8	0.16
1679	96.67	10	10.60	96.77	0.11
	0.0000	0	0.00	0.0000	0.00
		0		0.0000	0.00
		0		0.00	0.00
1680	475.0	LOW	50.60	474.62	-0.08
1691	967.1	HIGH	100.00	967.1	0.00

GMIS - GAS MANUFACTURER'S INTERNAL STANDARD

Approved for Release

The only liability of this Company for gas which fails to comply with this analysis shall be replacement thereof by the Company without extra cost.

Scott Specialty Gases

a division of Scott Environmental Technology, Inc.

1290 COMBERMERE STREET, TROY, MICHIGAN 48084 (313) 589-2950

Shipped From : Scott Michigan

Our Project # : 533590

Your P.O. # : 518

Expiration Date : 9-11-93

Cylinder Number : BAL-370

Cylinder Pressure 1900 psig

1 of 1 Component(s)

Customer :
NW ENGINEERING & SCIENCE
5730 EAGLE DRIVE
GRAND RAPIDS, MI. 49508

CERTIFICATE OF ANALYSIS - EPA PROTOCOL GASES

PERFORMED ACCORDING TO SECTION 3.0.4

Certified Per Traceability Protocol # 1

Procedure # G1

File # PO-2422

Certified Accuracy 1% NBS TRACEABLE

ANALYZED CYLINDER

COMPONENT	CERTIFIED CONC.
PROPANE	505.9 PPM

BALANCE GAS : AIR

REFERENCE STD

SRM # (CRM #)	CYLINDER NUMBER	CONC.
1669B	CLM-000702	466.0 PPM
1668B	CLM-000694	95.00 PPM

INSTRUMENTATION

INSTR/MODEL/SERIAL #	LAST CALIBRATION DATE	ANALYTICAL PRINCIPLE
BECKMAN 400 1002059	1-23-92	FLAME IONIZATION DETECTOR

ANALYSIS

DATE : 3-11-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	(mV)	RESULTS PPM
0.00	108.40	505.9	466.0 PPM	100.00	466.0
0.00	108.40	505.9		100.00	466.0
0.00	108.40	505.9		100.00	466.0
CALCULATED RESULTS		505.9			
		505.9			
		505.9			
AVERAGE :		505.9 PPM			

CALIBRATION CURVE 2 nd DEGREE

SRM # (CRM #)	CONC. PPM	SPLIT PT (%)	DVM (mV)	FITTED VALUE	PERCENT ERROR
1669B	466.0	100	100.00	466.0	0.00
	315.8	68	68.10	315.6	-0.08
	199.9	43	43.30	199.7	-0.10
1668B	95.00	20	20.80	95.45	0.47
	0.0000	0	0.00	0.0000	0.00
		0		0.0000	0.00
		0		0.00	0.00
1668B	95.00	LOW	20.80	95.45	0.47
1669B	466.0	HIGH	100.00	466.0	0.00

GM [redacted] GAS M[redacted] (URE[redacted] NTER[redacted] STANDA[redacted] this [redacted] my [redacted] which [redacted] [redacted] shall [redacted] [redacted] [redacted] [redacted] without [redacted] cost. [redacted]

Scott Specialty Gases

a division of Scott Environmental Technology, Inc.

1290 COMBERMERE STREET, TROY, MICHIGAN 48084 (313) 589-2950

Customer :
WW ENGINEERING & SCIENCE
SUITE 110
33203 WEST 6 MILE ROAD
LIVONIA MI 48152

Sales Request # : 531725

Your P.O. # : 518

Expiration Date : 7-20-93

Cylinder Number : BAL 1689

Cylinder Pressure 1900 psig

**** CERTIFICATE OF ANALYSIS - EPA PROTOCOL GASES ****
PERFORMED ACCORDING TO SECTION 3.0.4

Certified For Traceability Procedure # G1
Protocol # 1

File # 1919

Certified Accuracy 1 % NBS Traceable

ANALYZED CYLINDER

COMPONENT	CERTIFIED CONC.
PROPANE	85.41 PPM

BALANCE GAS : AIR

REFERENCE STD

SRM # (CRM #)	CYLINDER NUMBER	CONC.
1668B	CLM-000694	95.30 PPM
GMIS*	ALM-008846	31.20 PPM

INSTRUMENTATION

INSTR/MODEL/SERIAL #	LAST CALIBRATION DATE	ANALYTICAL PRINCIPLE
BECKMAN 400 1002059	9-25-91	FLAME IONIZATION DETECTOR

ANALYSIS

DATE : 1-20-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	(mV)	RESULTS PPM
0.00	85.50	85.38	95.30 PPM	95.30	95.30
0.00	85.50	85.38		95.30	95.30
0.00	85.60	85.48		95.30	95.30

CALCULATED RESULTS 85.38
85.38
85.48

AVERAGE : 85.41 PPM

CALIBRATION CURVE 2 nd DEGREE

SRM # (CRM #)	CONC. PPM	SPLIT PT (%)	DVM (mV)	FITTED VALUE	PERCENT ERROR
1668B	95.30	100	95.30	95.30	-0.00
	31.20	33	31.60	31.30	0.32
	22.61	24	22.70	22.45	-0.72
	8.171	9	8.30	8.171	0.00
	0.0000	0	0.00	0.0000	0.00
		0		0.0000	0.00
		0		0.00	0.00
GMIS	8.171	LOW	8.30	8.171	0.00
1668B	95.30	HIGH	95.30	95.30	-0.00

* GMIS - GAS MANUFACTURER'S INTERNAL STANDARD

Analyst : Rohit Patel

Approved By : S Shapiro

The only liability of this Company for gas which fails to comply with this analysis shall be replacement thereof by the Company without extra cost.

Scott Specialty Gases

a division of
Scott Environmental Technology, Inc.

1290 COMBERMERE STREET, TROY, MICHIGAN 48084 (313) 589-2950

Shipped From : Scott Michigan

Our Project # : 533590

Your P.O. # : 518

Expiration Date : 9-11-93

Cylinder Number : BAL-5260

Cylinder Pressure 1900 psig

1 of 1 Component(s)

Customer :
W.W. ENGINEERING & SCIENCE
5730 EAGLE DRIVE
GRAND RAPIDS, MI. 49508

CERTIFICATE OF ANALYSIS - EPA PROTOCOL GASES

PERFORMED ACCORDING TO SECTION 3.0.4

Certified Per Traceability Procedure # G1
Protocol # 1

File # PO-2420

Certified Accuracy 1 % NBS Traceable

ANALYZED CYLINDER

COMPONENT	CERTIFIED CONC.
PROPANE	24.93 PPM

BALANCE GAS : AIR

REFERENCE STD

SRM # (CRM #)	CYLINDER NUMBER	CONC.
1668B	CLM-000694	95.30 PPM
GMIS	ALM-008846	31.20 PPM

INSTRUMENTATION

INSTR/MODEL/SERIAL #	LAST CALIBRATION DATE	ANALYTICAL PRINCIPLE
BECKMAN 400 1002059	2-17-92	FLAME IONIZATION DETECTOR

ANALYSIS

DATE : 3-11-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	(mV)	RESULTS PPM
0.00	25.20	24.93	95.30 PPM	95.30	95.30
0.00	25.20	24.93		95.30	95.30
0.00	25.20	24.93		95.30	95.30

CALCULATED RESULTS
24.93
24.93
24.93

AVERAGE : 24.93 PPM

CALIBRATION CURVE 2 nd DEGREE

SRM # (CRM #)	CONC. PPM	SPLIT PT (%)	DVM (mV)	FITTED VALUE	PERCENT ERROR
1668B	95.30	100	95.30	95.30	-0.00
	31.20	33	31.30	31.00	-0.64
	22.61	24	22.70	22.45	-0.72
	8.171	9	8.30	8.171	0.00
	0.0000	0	0.00	0.0000	0.00
		0		0.0000	0.00
		0		0.00	0.00
GMIS	8.171	LOW	8.30	8.171	0.00
1668B	95.30	HIGH	95.30	95.30	-0.00

[illegible]

Scott Specialty Gases

a division of
Scott Environmental Technology, Inc.

1290 COMBERMERE STREET, TROY, MICHIGAN 48084 (313) 589-2950

Shipped From : Scott Michigan

Our Project # : 533590

Your P.O. # : 518

Expiration Date : 9-11-93

Cylinder Number : BAL-3707

Cylinder Pressure 1900 psig

1 of 1 Component(s)

Customer :
W.W. ENGINEERING & SCIENCE
9730 EAGLE DRIVE
GRAND RAPIDS, MI. 49508

CERTIFICATE OF ANALYSIS - EPA PROTOCOL GASES # # #

PERFORMED ACCORDING TO SECTION 3.0.4

Certified Per Traceability Procedure # G1
Protocol # 1

File # PO-2419

Certified Accuracy 1 % NBS Traceable

ANALYZED CYLINDER		REFERENCE STD			INSTRUMENTATION		
COMPONENT	CERTIFIED CONC.	SRM # (CRM #)	CYLINDER NUMBER	CONC.	INSTR/MODEL/SERIAL #	LAST CALIBRATION DATE	ANALYTICAL PRINCIPLE
PROPANE	8.121 PPM	NARM	ALM-008899	16.40 PPM	BECKMAN 400	2-18-92	FLAME IONIZATION DETECTOR
		NARM	ALM-008884	7.82 PPM			

BALANCE GAS : AIR

ANALYSIS DATE : 3-11-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	(mV)	RESULTS PPM
0.00	19.70	8.121	16.40 PPM	40.00	16.40
0.00	19.70	8.121		40.00	16.40
0.00	19.70	8.121		40.00	16.40
CALCULATED RESULTS		8.121			
		8.121			
		8.121			
AVERAGE :		8.121 PPM			

CALIBRATION CURVE 3 rd DEGREE

SRM # (CRM #)	CONC. PPM	SPLIT PT (%)	DVM (mV)	FITTED VALUE	PERCENT ERROR
NARM	16.40	100	40.00	16.40	-0.00
	10.08	61	24.40	10.07	-0.07
NARM	7.820	48	19.00	7.829	0.12
	2.610	16	6.40	2.605	-0.21
	0.0000	0	0.00	0.0000	0.00
		0		0.0000	0.00
		0		0.00	0.00
BMIS	2.610	LOW	6.40	2.605	-0.21
NARM	16.40	HIGH	40.00	16.40	-0.00

1 BMIS - GAS MANUFACTURER'S INTERNAL STANDARD

The responsibility of this Company for any which fails to comply with this analysis shall be replacement thereof by the Company without extra cost.

ANALYST

APPROVED BY

Scott Specialty Gases

a division of
Scott Environmental Technology, Inc.

1290 COMBERMERE STREET, TROY, MICHIGAN 48084 (313) 589-2950

Customer :
WW ENGINEERING & SCIENCE
5730 EAGLE DRIVE
GRAND RAPIDS, MI. 49503

Your P.O. # : STP

Expiration Date : 7-21-93

Cylinder Number : CAL-12901

Cylinder Pressure 1906 psig

*** * * * CERTIFICATE OF ANALYSIS - EPA PROTOCOL GASES * * * ***
PERFORMED ACCORDING TO SECTION 3.0.4

Certified For Traceability Procedure # G1
Protocol # 1

File # FO-1958

Certified Accuracy ± 2 NBS Traceable

ANALYZED CYLINDER

COMPONENT	CERTIFIED CONC.
SULFUR DIOXIDE	50.51 PPM

BALANCE GAS : NITROGEN

REFERENCE STD

SRM # (CRM #)	CYLINDER NUMBER	CONC.
1694B	AAL12015	94.20 PPM
1693	AAL19012	48.80 PPM

INSTRUMENTATION

INSTR/MODEL/SERIAL #	LAST CALIBRATION DATE	ANALYTICAL PRINCIPLE
HORIBA OPE-135 56037204	10-25-91	NON-DISPERSIVE INFRARED

FIRST ANALYSIS DATE : 1-15-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	(mV)	RESULTS PPM
0.00	51.50	50.76	94.20 PPM	94.90	94.75
0.00	51.50	50.76		94.90	94.75
0.00	51.50	50.76		94.90	94.75
CALCULATED RESULTS		50.46			
		50.46			
		50.46			
AVERAGE :		50.46 PPM			

SECOND ANALYSIS DATE : 1-21-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	(mV)	RESULTS PPM
0.00	52.00	50.86	94.20 PPM	94.90	94.75
0.00	52.00	50.86		94.90	94.75
0.00	52.00	50.86		94.90	94.75
CALCULATED RESULTS		50.56			
		50.56			
		50.56			
AVERAGE :		50.56 PPM			

CALIBRATION CURVE 2 nd DEGREE

SRM # (CRM #)	CONC. PPM	SPLIT PT (%)	DVM (mV)	FITTED VALUE	PERCENT ERROR
GMIS	99.22	100	99.20	99.22	0.00
	79.70	80	79.80	79.16	0.58
	59.13	60	60.50	59.45	0.55
	39.49	40	40.90	39.71	0.55
	19.81	20	21.00	19.93	0.60
	9.83	10	10.80	9.8975	0.71
	0.00	0	0.60	0.00	0.00
1693	48.80		49.60	48.44	-0.74
1694A	94.20		94.90	94.75	0.58

* GMIS - GAS MANUFACTURER'S INTERNAL STANDARD

Analyst : Rohit Patel

Approved By : L. Shapiro

[redacted] only [redacted] of th[redacted]pany [redacted] whic[redacted]o con[redacted]th t[redacted]vsis sh[redacted] repla[redacted] there[redacted]he Co[redacted] with[redacted]re co[redacted]

Scott Specialty Gases

a division of
Scott Environmental Technology, Inc.

1290 COMBERMERE STREET, TROY, MICHIGAN 48084 (313) 589-2950

Customer :
RM ENGINEERING & SCIENCE
5730 EAGLE DRIVE
GRAND RAPIDS, MI. 49506

Our Project # :

Your P.O. # : 519

Expiration Date : 7-21-93

Cylinder Number : CAL-12283

Cylinder Pressure 1900 psig

*** * * * CERTIFICATE OF ANALYSIS - EPA PROTOCOL GASES * * * ***
PERFORMED ACCORDING TO SECTION 3.0.4

Certified For Traceability Procedure # G1
Protocol # 1

File # PO-1999

Certified Accuracy: 1 % NBS Traceable

ANALYZED CYLINDER

COMPONENT	CERTIFIED CONC.
SULFUR DIOXIDE	511.6 PPM

BALANCE GAS : NITROGEN

REFERENCE STD

SRM # (CRM #)	CYLINDER NUMBER	CONC.
1663	AAL-17697	1428 PPM
1661	FF-16345	457.0 PPM

INSTRUMENTATION

INSTR/MODEL/SERIAL #	LAST CALIBRATION DATE	ANALYTICAL PRINCIPLE
HORIBA	12-2-91	NON-DISPERSIVE INFRARED
OPE-135		
56037204		

FIRST ANALYSIS — DATE : 1-15-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	REFERENCE GAS (mV)	REFERENCE GAS RESULTS PPM
0.00	61.90	510.1	1428 PPM	129.90	1428
0.00	61.90	510.1		129.90	1428
0.00	61.90	510.1		129.90	1428
CALCULATED RESULTS		510.1			
		510.1			
		510.1			
AVERAGE :		510.1 PPM			

SECOND ANALYSIS — DATE : 1-21-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	REFERENCE GAS (mV)	REFERENCE GAS RESULTS PPM
0.00	62.20	513.2	1428 PPM	129.90	1428
0.00	62.20	513.2		129.90	1428
0.00	62.20	513.2		129.90	1428
CALCULATED RESULTS		513.2			
		513.2			
		513.2			
AVERAGE :		513.2 PPM			

CALIBRATION CURVE — 3rd DEGREE

SRM # (CRM #)	CONC. PPM	SPLIT PT (%)	DVM (mV)	FITTED VALUE	PERCENT ERROR
1663	1428	100	129.90	1428	0.00
	997.6	70	102.40	997.6	-0.00
	461.9	32	57.20	462.9	0.22
1661	457.0	32	56.50	456.9	-0.22
	0.0000	0	0.00	0.0000	0.00
		0		0.0000	0.00
		0		0.00	0.00
1661	457.0	LOW	56.50	456.9	-0.22
1663	1428	HIGH	129.90	1428	0.00

* GMIS - GAS MANUFACTURER'S INTERNAL STANDARD

Analyst : Rohit Patel

Approved By : L Shapiro

The only liability of this Company for gas which fails to comply with this analysis shall be replacement thereof by the Company without extra cost.

Scott Specialty Gases

a division of
Scott Environmental Technology, Inc.

1290 COMBERMERE STREET, TROY, MICHIGAN 48084 (313) 589-2950

Our Project # : 5313-5

Your P.O. # : 316

Customer :
W.M. ENGINEERING & SCIENCE
5730 EAGLE DRIVE
GRAND RAPIDS, MI. 49509

CERTIFICATE OF ANALYSIS - EPA PROTOCOL GASES
PERFORMED ACCORDING TO SECTION 3.0.4

Certified Per Traceability Protocol # 1 — Procedure # G1

File # FO-1989

Certified Accuracy 1 % NBS Traceable

Expiration Date : 7-13-93

Cylinder Number CAL-3993

Cylinder Pressure 1900 psig

REFERENCE STD					GAS ANALYZER		
COMPONENT	CERTIFIED CONC.	SRM # (CRM #)	CYLINDER NUMBER	CONC.	MAKE/MODEL/SERIAL #	LAST CALIBRATION DATE	ANALYTICAL PRINCIPLE
OXYGEN	5.224 %	2659	AAL-18601	20.67 %	BECKMAN/755/1001192	1-13-92	PARAMAGNETIC
		2658	AAL-18521	10.08 %			

BALANCE GAS : NITROGEN

ANALYSIS — DATE : 1-13-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS %	REFERENCE GAS CONC.	REFERENCE GAS (mV)	RESULTS %
0.00	24.70	5.223	10.08 %	47.80	10.08
0.00	24.70	5.223		47.80	10.08
0.00	24.70	5.223		47.80	10.08
CALCULATED RESULTS		5.224			
		5.224			
		5.224			
AVERAGE :		5.224 %			

CALIBRATION CURVE — 1 st DEGREE

SRM # (CRM #)	CONC. %	SPLIT PT (%)	DVM (mV)	FITTED VALUE	PERCENT ERROR
2659	20.67	100	98.20	20.67	-0.00
	10.08	49	47.80	10.08	-0.02
	9.994	48	47.20	9.951	-0.43
	6.018	29	28.40	6.000	-0.30
	3.007	15	14.10	2.995	-0.41
	0.0000	0	0.00	0.0000	0.00
		0		0.00	0.00
2658	10.08	LOW	47.80	10.08	-0.02
2659	20.67	HIGH	98.20	20.67	-0.00

[illegible] GAS [illegible] URE [illegible] NTER [illegible] AND [illegible] f this [illegible] ty f [illegible] hich [illegible] [illegible] [illegible] sha [illegible] place [illegible] App [illegible] Cop [illegible] rith [illegible] [illegible] [illegible] [illegible]

Scott Specialty Gases

a division of Scott Environmental Technology, Inc.

1290 COMBERMERE STREET, TROY, MICHIGAN 48084 (313) 589-2950

Customer :
WW ENGINEERING & SCIENCE
246 WOODMORY LANE
PALATINE IL 60067

Your P.O. # : 518

CERTIFICATE OF ANALYSIS - EPA PROTOCOL GASES
PERFORMED ACCORDING TO SECTION 3.0.4

Certified Per Traceability Procedure # G1
Protocol # 1

File # 1923

Certified Accuracy 1 % NBS Traceable

Expiration Date : 7-13-92

Cylinder Number CAL-12547

Cylinder Pressure 1900 psig

	REFERENCE STD			GAS ANALYZER		
COMPONENT	CERTIFIED CONC.	SRM # (CRM #)	CYLINDER NUMBER	CONC.	MAKE/MODEL/SERIAL #	LAST CALIBRATION DATE	ANALYTICAL PRINCIPLE
OXYGEN	14.45 %	2659	AAL-18501	20.67 %	BECKMAN/755/1001192	1-13-92	PARAMAGNETIC
		2658	AAL-18521	10.08 %			

BALANCE GAS : NITROGEN

ANALYSIS DATE : 1-13-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS %	REFERENCE GAS CONC.	REFERENCE GAS (mV)	RESULTS %
0.00	68.60	14.45	20.67 %	98.20	20.67
0.00	68.60	14.45		98.20	20.67
0.00	68.60	14.45		98.20	20.67

CALCULATED RESULTS 14.45
14.45
14.45

AVERAGE : 14.45 %

CALIBRATION CURVE 1 st DEGREE

SRM # (CRM #)	CONC. %	SPLIT PT (%)	DVM (mV)	FITTED VALUE	PERCENT ERROR
2659	20.67	100	98.20	20.67	-0.00
	10.08	49	47.80	10.08	-0.02
	9.994	48	47.20	9.951	-0.43
	6.018	29	28.40	6.000	-0.30
	3.007	15	14.10	2.995	-0.41
	0.0000	0	0.00	0.0000	0.00
		0		0.00	0.00
2658	10.08	LOW	47.80	10.08	-0.02
2659	20.67	HIGH	98.20	20.67	-0.00

GMIS - GAS MANUFACTURER'S INTERNAL STANDARD

Analyst : Rohit Patel

Approved By : J. Shapero

The only liability of this Company for gas which fails to comply with this analysis shall be replacement thereof by the Company without extra cost.

Scott Specialty Gases

a division of Scott Environmental Technology, Inc.

1290 COMBERMERE STREET, TROY, MICHIGAN 48084 (313) 589-2950

Shipped From : Scott Michigan

Our Project # : 536865

Your P.O. # : 518

Expiration Date : 11-18-93

Cylinder Number : CAL-12557

Cylinder Pressure 1900 psig

1 of 1 Component(s)

Customer :
WW ENGINEERING & SCIENCE
5730 EAGLE DRIVE
GRAND RAPIDS, MI. 49508

CERTIFICATE OF ANALYSIS - EPA PROTOCOL GASES # # #

PERFORMED ACCORDING TO SECTION 3.0.4

Certified Per Traceability Procedure # 61
Protocol # 1

File # PO-3373

Certified Accuracy 1 % NBS Traceable

ANALYZED CYLINDER

COMPONENT	CERTIFIED CONC.
CARBON DIOXIDE	18.13 %

BALANCE GAS : NITROGEN

REFERENCE STD

SRM # (CRM #)	CYLINDER NUMBER	CONC.
1675	ALM-001324	14.02 %
GMIS#	ALM-004805	18.35 %
GMIS	XA-1793	5.013 %

INSTRUMENTATION

INSTR/MODEL/SERIAL #	LAST CALIBRATION DATE	ANALYTICAL PRINCIPLE
HORIBA PIR-2000	4-20-92	NON-DISPERSIVE INFRARED

ANALYSIS

DATE : 5-18-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS %	REFERENCE GAS CONC.	(mV)	RESULTS %
0.00	129.10	18.13	18.35 %	130.00	18.34
0.00	129.10	18.13		130.00	18.34
0.00	129.10	18.13		130.00	18.34
CALCULATED RESULTS		18.13			
		18.13			
		18.13			
AVERAGE :		18.13 %			

CALIBRATION CURVE 3 rd DEGREE

SRM # (CRM #)	CONC. %	SPLIT PT (%)	DVM (mV)	FITTED VALUE	PERCENT ERROR
GMIS	18.35	100	130.00	18.34	-0.00
1675	14.02	76	110.50	14.03	0.08
GMIS	9.999	55	88.30	9.992	-0.07
GMIS	5.013	27	52.30	5.017	0.07
	0.0000	0	0.00	0.0000	0.00
		0		0.0000	0.00
		0		0.00	0.00
GMIS	5.013	LOW	52.30	5.017	0.07
1675	14.02	HIGH	110.50	14.03	0.08

GMIS - GAS [redacted] ACTUBER'S INTERNAL STANDARD

Analyst [redacted] Approved By [redacted]

Scott Specialty Gases

a division of
Scott Environmental Technology, Inc.

1290 COMBERMERE STREET, TROY, MICHIGAN 48084 (313) 589-2950

Our Project # : 540365

Your P.O. # : 518

Customer :
W.A. ENGINEERING & SCIENCE
5730 EAGLE DRIVE
GRAND RAPIDS, MI. 49508

CERTIFICATE OF ANALYSIS - EPA PROTOCOL GASES # # #
PERFORMED ACCORDING TO SECTION 3.0.4

Certified For Traceability Procedure # G1
Protocol # 1

File # FD-4547

Certified Accuracy 1 % NBS Traceable

Expiration Date : 3-1-94

Cylinder Number : BAL-1043

Cylinder Pressure 1900 psig

1 of 1 Component(s)

ANALYZED CYLINDER

COMPONENT	CERTIFIED CONC.
NITRIC OXIDE	502.0 PPM

BALANCE GAS : NITROGEN

REFERENCE STD

SRM # (CRM #)	CYLINDER NUMBER	CONC.
1697	ALM-014665	965.5 PPM
1685	ALM-008709	250.3 PPM

INSTRUMENTATION

INSTR/MODEL/SERIAL #	LAST CALIBRATION DATE	ANALYTICAL PRINCIPLE
BECKMAN 951A 270-0828998	3-25-92	CHEMILUMINESCENCE

NITROGEN DIOXIDE 0.00 PPM (FROM SECOND ANALYSIS)

FIRST ANALYSIS DATE : 3-[illegible]-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	REFERENCE GAS (mV)	RESULTS PPM
0.00	50.20	502.0	965.5 PPM	96.50	965.5
0.00	50.20	502.0		96.50	965.5
0.00	50.20	502.0		96.50	965.5
CALCULATED RESULTS		502.0			
		502.0			
		502.0			
AVERAGE :		502.0 PPM			

SECOND ANALYSIS DATE : [illegible]-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	REFERENCE GAS (mV)	RESULTS PPM
0.00	50.20	502.0	965.5 PPM	96.50	965.5
0.00	50.20	502.0		96.50	965.5
0.00	50.20	502.0		96.50	965.5
0.00	50.20 NOX	502.0			
CALCULATED RESULTS		502.0			
		502.0			
		502.0	502.0 PPM NOX		
AVERAGE :		502.0 PPM			

CALIBRATION CURVE 1 ST DEGREE

SRM # (CRM #)	CONC. PPM	SPLIT PT (%)	DVM (mV)	FITTED VALUE	PERCENT ERROR
1687	965.5	100	96.50	965.5	0.00
GMIS	748.0	77	75.00	750.3	0.30
GMIS	395.0	41	39.60	395.9	0.22
1685	250.3	26	25.10	250.7	0.16
	0.0000	0	0.00	0.0000	0.00
		0		0.0000	0.00
		0		0.00	0.00
1685	250.3	LOW	25.10	250.7	0.16
16948	965.5	HIGH	96.50	965.5	0.00

GMIS - GAS MANUFACTURER'S INTERNAL STANDARD

Analyst : [signature]

Approved By : [signature]

The only liability of this Company for gas which fails to comply with this analysis shall be replacement thereof by the Company without extra cost.

Scott Specialty Gases

a division of
Scott Environmental Technology, Inc.

1290 COMBERMERE STREET, TROY, MICHIGAN 48084 (313) 589-2950

Shipped From : Scott Michigan

Our Project # : 536847

Your P.O. # : 918

Customer :
NW ENG. & SCIENCE
5730 EAGLE DR.
GRAND RAPIDS, MI. 49508

CERTIFICATE OF ANALYSIS - EPA PROTOCOL GASES # # #
PERFORMED ACCORDING TO SECTION 3.0.4

Certified Per Traceability Procedure # G1
Protocol # 1

File # PO-3284

Certified Accuracy 1 % NBS Traceable

Expiration Date : 11-20-93

Cylinder Number : CLM-005471

Cylinder Pressure : 1900 psig

1 of 1 Component(s)

ANALYZED CYLINDER		REFERENCE STD			INSTRUMENTATION		
COMPONENT	CERTIFIED CONC.	SRM # (CRM #)	CYLINDER NUMBER	CONC.	INSTR/MODEL/SERIAL #	LAST CALIBRATION DATE	ANALYTICAL PRINCIPLE
NITRIC OXIDE	245.7 PPM	1685	ALM-008700	250.3 PPM	BECKMAN	5-11-92	CHEMILUMINESCENCE
		GMIS‡	AAL-14484	145.3 PPM	951A		
BALANCE GAS : NITROGEN							

NITROGEN DIOXIDE 0.00 PPM (FROM SECOND ANALYSIS)

FIRST ANALYSIS DATE : 5-11-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	(mV)	RESULTS PPM
0.00	83.00	246.2	250.3 PPM	84.40	250.3
0.00	83.00	246.2		84.40	250.3
0.00	83.00	246.2		84.40	250.3
CALCULATED RESULTS		246.2			
		246.2			
		246.2			
AVERAGE :		246.2 PPM			

SECOND ANALYSIS DATE : 5-20-92

ZERO GAS (mV)	TEST GAS (mV)	RESULTS PPM	REFERENCE GAS CONC.	(mV)	RESULTS PPM
0.00	82.70	245.3	250.3 PPM	84.40	250.3
0.00	82.70	245.3		84.40	250.3
0.00	82.70	245.3		84.40	250.3
0.00	82.70 NOX	245.3			
CALCULATED RESULTS		245.3			
		245.3			
		245.3	245.3 PPM NOX		
AVERAGE :		245.3 PPM			

CALIBRATION CURVE 1 st DEGREE

SRM # (CRM #)	CONC. PPM	SPLIT PT (%)	DVM (mV)	FITTED VALUE	PERCENT ERROR
1685	250.3	100	84.40	250.3	-0.00
GMIS	236.0	94	79.80	236.7	0.28
GMIS	145.3	58	48.90	145.1	-0.15
1684	97.30	39	32.80	97.36	0.06
	0.0000	0	0.00	0.0000	0.00
		0		0.0000	0.00
		0		0.00	0.00
GMIS	145.30	LOW	48.90	145.08	-0.15
1685	250.3	HIGH	84.40	250.3	-0.00

‡ GMIS - GAS MANUFACTURER'S INTERNAL STANDARD

Analyst : L Dorsey

Approved By : Bob Pate

[redacted] only [redacted] of th[redacted]pany [redacted] whic[redacted]o con[redacted]th .. [redacted]sis sh[redacted]repla[redacted] there[redacted]he Co[redacted] with[redacted]ra co[redacted]

TRIANGLE LABORATORIES OF RTP, INC.
801 CAPITOLA DRIVE
DURHAM, NC 27713

Phone: (919) 544-5729
Fax: (919) 544-5491

DATE :	* AUGUST 07, 1992
CLIENT ID :	* WW ENGINEERING & SCIENCE, INC.
P.O. NUMBER :	* 518
TLI PROJECT No. :	* 21187B

CASE NARRATIVE
MODEL HRPAH

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Four MM5 and four impinger solution samples were received from WW ENGINEERING & SCIENCE, INC. in good condition June 17, 1992 and stored in a refrigerator at 4°C. The samples were extracted and analyzed according to procedures described in the Triangle Labs User Manual provided with this data package. Any particular difficulties encountered during the sample handling by Triangle Labs will be discussed in the QA/QC remark section below.

Quality Control Samples

A laboratory method blank -- identified as the TLI Blank -- is prepared along with the sample.

QA/QC Remarks

The release of this particular set of WW ENGINEERING & SCIENCE, INC. analytical data by Triangle Labs was authorized by the Quality Assurance Officer who has reviewed each sample data package individually following a series of inspections/reviews conducted at two other levels of the data production line. When applicable, general deviations from acceptable QC requirements are identified below. Comments on the effect of these deviations upon the validity and reliability of the results can be obtained from the User Manual (Data Quality Objectives; Section 5). Specific QA/QC Problems Associated with this Particular Project are:

Sample Preparation Laboratory: None

Mass Spectrometry: None

Data Review: Analytes were found in the TLI Blanks. Any analyte detected in the TLI BLANK should not be considered truly present in the field sample when its concentration does not exceed five times the level reported for the blank.

Some of the samples present low recoveries for some of the standards, but all the standards meet 10:1 signal to noise ratio and are therefore considered valid and flagged "V" on the report.

100 ug of d14-Terphenyl was prespiked into some of the samples in this project, but was not prespiked to the impinger solution samples and the associated blank sample in this project. Although this spiked level is the right amount for the semivolatiles method 8270, a normal prespike for high resolution PAH analysis (method 429X) would be 100 ng. Due to this difference, prespiked samples all show saturated peaks for this standard and reported results should be considered underestimated.

Samples MM5-4 (TLI# 57-89-4A and 57-102-7,9) and MM5-3 (TLI# 57-89-3 and 57-102-4,6) present severe QC ion instabilities as a result of matrix related quantitative interference. Due to a

total loss of sensitivity the GC peaks of the labeled and unlabeled isomers of
Acenaphthene and Acenaphthylene cannot be detected and therefore deleted of the report. The reanalysis of these two samples present the same quantitative interference effect.

Sample MM5-2 XAD Blank (TLI# 57-89-4B and 57-102-13,15) presents QC interference of the d10-Pyrene recovery standard. Quantitation of associated internal standards may be affected and hence these internal standards are flagged "Q-RS".

Sample MM5-2 has been reanalyzed due to rejection of the initial calibration associated with this sample.

Addendum to Section 3.3.1 in the Data User's Manual

A "B" flag is used to indicate that an analyte has been detected in the laboratory method blank as well as in an associated field sample. This flag denotes possible contribution of background laboratory contamination to the concentration or amount of that analyte detected in the field sample. Under Triangle Laboratories of RTP guidelines for the analysis of PAHs by HRGC/HRMS, a laboratory blank is acceptable if analyte levels in the samples are equal to or greater than five times the level detected in the associated blank.

A "Q" flag is used to indicate the presence of QC ion instabilities caused by quantitative interferences. Affected analytes may be overestimated or underestimated as a result of this interference. A peak is flagged "Q" only if it is affected by a QC ion deviation greater than 20% full scale as determined relative to the labeled standard against which it is quantitated. Total PAH quantitations will be flagged "Q" if the interferences affect ten percent or more of the total PAH peak areas.

A "U" flag is used to indicate that a specific isomer cannot be resolved from a large, coeluting interferent GC peak. The specific isomer is reported as not detected as a valid concentration/amount cannot be determined. The calculated detection limit, therefore, should be considered an underestimated value.

A "V" flag is used to indicate that, although the percent recovery of a labeled standard may be below a specific QC limit, the signal-to-noise ratio of the peak is greater than 10:1. The standard is considered reliably quantifiable. All quantitations derived from the standard are considered valid as well.

A "PR" flag is used to indicate that a GC peak is poorly resolved. This resolution problem may be seen as two closely eluting peaks without a reasonable valley between the peak tops, overly broad peaks, or peaks whose shapes vary greatly from a normal distribution. The concentrations or amounts reported for such peaks are most likely overestimated.

An "I" flag is used to indicate labeled standards have been interfered with on the GC column by coeluting, interferent peaks. The interference may have caused the standard's area to be overestimated. All quantitations relative to this standard, therefore, may be underestimated.

Should WW ENGINEERING & SCIENCE, INC. have any questions or comments regarding this data package please feel free to contact us.

For Triangle Laboratories,

Laboratory Management	Quality Assurance Unit	Report Preparation/ Quality Control
Signed:		
Title:		
Robert Smith	Diane Williford	Bracha Rosenberg
Process Control Manager	QA Specialist	Report Preparation Chemist

TRIANGLE LABORATORIES, INC.

FACSIMILE TRANSMISSION COVER SHEET

PHONE: 919-544-5729
FAX: 919-544-5491

FROM:

TRIANGLE LABS

Hani S. Karam, Ph.D.
Scientist

Triangle Laboratories, Inc.

801-10 Capitola Drive
Durham, NC 27713
919-544-5729

P.O. Box 13485
Research Triangle Park, NC 27709
FAX # 919-544-5491

▶▶▶ TO: BARRY HUNTER

▶▶▶ FAX No.: 616-949-6023

▶▶▶ COMPANY: WW Eng.

SUBJECT: _____

_____

NUMBER of PAGES (including cover page): _____

CASE NARRATIVE

TRIANGLE LABORATORIES OF RTP, INC
801 Capitola Drive
Durham, NC 27713
Phone:(919) 544-5729
Fax: (919) 544-5491

DATE: August 31, 1992
CLIENT P.O. NO: 518
TLI NO: 21187

OBJECTIVE: Analysis of ten MM5 fractions by Method 8270 for polyaromatic hydrocarbons, 2-,3-,4-methylphenol , and for cumene, 1,2-benzofluorene and 2,3-benzofluorene using a single point analysis.

METHOD

The XAD traps used for sampling were pre-spiked with 100 micrograms (ug) of terphenyl-d_{14} prior to sampling. Prior to extraction, the XAD, filter, and rinses were spiked with 100 ug of phenol-d_5, 1,4-dibromobenzene-d_4, and 2,4,6-tribromophenol. These portions of the MM5 trains were Soxhlet extracted with methylene chloride for 16 hours. The impinger rinses of the MM5 train were spiked with 100 ug each of phenol-d_5, 1,4-dibromobenzene-d_4, and 2,4,6-tribromophenol and extracted with methylene chloride using a separatory funnel. Fifty percent of each extract was taken for high-resolution PAH analysis and the semivolatile extracts were concentrated to a final volume of 1.0 milliliter relinquished to GC/MS for analysis.

The internal standards, 1,4-dichlorobenzene-d_4, naphthalene-d_8, acenaphthene-d_{10}, phenanthrene-d_{10}, perylene-d_{12} and chrysene-d_{12} were added such that the final concentration was 40 ug/milliliter immediately prior to analysis by GC/MS.

The GC/MS analysis conditions are listed below:

GC CONDITIONS:

Column:	J&W DB5-625, 30m x .32mm x 25u
Program:	40C hold 3 min, ramp at 8C/min to 230C , ramp at 3C/min to 250C, ramp at 20C/min to 310 C
Carrier Gas:	Helium

MS CONDITIONS:

Instrument:	HP MSD, Chemsystem and Target data systems

Enclosed with the case narrative are the client request for analysis sheet and chain of custody, TLI chain of custody sheets, wet laboratory extraction information sheets, analyst worksheets, run logs and tracking forms. All initial and continuing calibration data is located behind the samples in the back of the data package.

The data are reported as quantitation reports, chromatograms, interim reports, and spectra of detected compounds. The quantitation report headers list the sample and calibration file names. The client sample name, TLI identification number, dilution factor, TLI project number, date of report, and analysis date are also listed in the quantitation report header. The raw responses and retention time values found on the quantitation report are from the interim report located behind the quantitation report. The response factor (RF) is from the continuing calibration. The ISID is the internal standard identifier. Those compounds matched to perylene-d12 for example, are flagged with ISID number 64. The quantitations for the target compounds and surrogate standards are reported in units of total micrograms (ug). Some example calculations are listed below in the Sample Calculations section of the narrative. If the target compound is detected, a code of 'D' is reported. If the target compound is detected but the amount is below the quantitation limit, a code of 'E' or estimated is reported. If the target compound is not detected, a code of 'ND' is reported. Amounts reported for target compounds that are not detected are calculated using an area of 40,000 counts.

Immediately following the sample report are two pages which comprise the total ion chromatograms. Labeled internal and surrogate standards present in the sample have their identifications and retention time printed above their peak on the chromatogram. On the interim report from the instrument, which follows the chromatograms, a $ is indicative of a surrogate standard and a * represents an internal standard. The interim report is the source of much of the information found in the final report, including areas, retention times, and calculated concentrations. The interim report from the instrument is followed by the target spectra of detected compounds. Four spectral plots are included for each compound: a raw spectrum of the peak, a background subtracted version of the same spectrum, a library spectrum of the compound, and a plot showing the percent difference between the library spectrum and the background subtracted spectrum. Extracted ion current profiles are plotted on the right-hand side of the page showing the quantitation mass and one or two other prominent ions known to be present in the target compound as they appear in the sample peak.

TRIANGLE LABORATORIES OF RTP, INC. DATE: August 27, 1992
CASE NARRATIVE PROJECT NUMBER: 21187

RESULTS

By client request the impinger portions of the samples were extracted and analyzed separately from the XAD, filter, and rinse portions.

All internal standards met QC criteria, with the exception of perylene-d_{12} in samples MM5-2 XAD, Filter, and Rinses, MM5-3 XAD, Filter, and Rinses, and MM5-4 XAD, Filter, and Rinses. This internal standard was above criteria in all three field samples of this particular matrix. This high area was almost certainly due to an effect of the matrix, as reanalysis of the samples did not correct the problem.

All surrogate standard recoveries for the samples appeared normal and consistent between samples of the same matrix. Please note that the recoveries were significantly lower for the impinger samples than they were in the XAD, filter, and rinse fractions. The surrogate standard terphenyl-d_{14} was not reported in impinger samples as it was spiked only into the XAD portion of the MM5s.

No contaminating compounds were detected in either the XAD SBLK 062392 or the H2O SBLK 062392.

Although all of the samples were extracted within the method holding times, they were all analyzed outside of the analytical holding time.

Please note that MM5-4 XAD, filter, and rinse was analyzed outside of the twelve hour instrumental tune by a few minutes. This sample, therefore, does not meet method criteria.

By client request the three compounds cumene, 1,2-benzofluorene, and 2,3-benzofluorene were quantitated using a single point calibration. Copies of the manual searches for the compounds are included with each sample package, and the calibration point used for the samples is located in the back of the data package. The additional compounds are reported at the bottom of the sample topsheet. Because they are not quantitated against a multi-point calibration, all quantitations of these compounds must be considered estimates.

The compound benzo(j)fluoranthene is known to co-elute with the two target analytes benzo(b)fluoranthene and benzo(k)fluoranthene. Since benzo(b)fluoranthene and benzo(k)fluoranthene separate from one another sufficiently, they were calibrated and searched for in the samples. None of the three compounds were found in any of the samples.

Sample Calculations

Response Factor (RF):

$$\frac{(\text{Area X} * \text{Amount IS})}{(\text{Area Int Std} * \text{Amount X})}$$

Amount of analyte in ug:

$$\frac{(\text{area analyte in sample}) \times (\text{amt IS}) \times \text{DF}}{(\text{area IS in sample}) \times (\text{RF from ccal})}$$

amount IS = 40 ug
amount analyte X in the ccal = 50 ug
IS = internal standard
DF = dilution factor

For Triangle Laboratories of RTP, Inc.,

Laboratory Management	Quality Assurance Unit	Report Generation /Quality Control
for Robert W. Smith Process Control Manager	Penny Brock Assistant QA Manager	Selena Armistead Report Preparation Chemist

TRIANGLE LABORATORIES, INC.

DOCUMENT CONTROL

Custody Seal: (Present) / Absent / (Intact) Not Intact | TLI Project Number: 21201

Chain of Custody: (Present) / Absent

Sample Tags: (Present) / Absent | Client: WE02 | W. E. ENGINEERING & SCIENCE

Sample Tag Numbers: (Listed) / Not Listed on Chain of Custody

SMO Forms: Present (Absent) | Date Received: 06/18/92 | By: Robert Hall

(Ice Chest) Styro Cooler/Cardboard Box | Dry Ice (Ice) (Ambient) | Carrier and Number: FEDX#201248277

Sample ID TLI	Client	Matrix	Storage Location	To Lab Date/Initial	To Storage Date/Initial	To Lab Date/Initial
57-102-1	MM5-2-CONTAINER	FILTER	COOLER#1	6/23/92 CA		
57-102-2	-IMPINGER	IMP	COOLER#1		6/23/92 CA	6/23/92 SA
57-102-3	-ACETONE	RINSE	COOLER#1			
57-102-4	MM5-3-CONTAINER	FILTER	COOLER#1			
57-102-5	-IMPINGER	IMP	COOLER#1		6/23/92 CA	6/23/92 SA
57-102-6	-ACETONE	RINSE	COOLER#1			
57-102-7	MM5-4-CONTAINER	FILTER	COOLER#1			
57-102-8	-IMPINGER	IMP	COOLER#1		6/23/92 CA	6/23/92 SA
57-102-9	-ACETONE	RINSE	COOLER#1			
57-102-10	MM5-BLANK	FILTER	COOLER#1			
57-102-11		DI	COOLER#1		6/23/92 CA	6/23/92 SA
57-102-12		RINSE	COOLER#1			
57-102-13	MM5-2 AND 3-BLANK	FILTER	COOLER#1			
57-102-14		DI	COOLER#1		6/23/92 CA	6/23/92 SA
57-102-15		RINSE	COOLER#1			

Receiving Remarks: NO ANALYSIS WAS STATED ON C.O.C.

Archive Remarks:

Custody Seal: Present / Absent // Intact / Not Intact
Chain of Custody: Present / Absent
Sample Tags: Present / Absent
Sample Tag Numbers: Listed / Not Listed on Chain of Custody
SMO Forms: Present / Absent

TLI Project Number: 21187
Client: WW01 WW ENGINEERING & SCIENCE
Date Received: 06/17/92 By: Bierbaum

Ice Chest: Styro Cooler/Cardboard Box Dry Ice / Ice / Ambient
Carrier and Number: FEDX5327932280

Sample ID TLI	Sample ID Client	Matrix	Storage Location	To Lab Date/Initial	To Storage Date/Initial	To Lab Date/Initial
57-89-1A	MM5-1	FILTER	COOLER#1	6/23/92 CA		
57-89-1B		IMP	COOLER#1		6/23/92 CA	6/24/92 SM
57-89-1C		ACE/MECL2 RINSE	COOLER#1			
57-89-1D		XAD	COOLER#1			
57-89-2A	MM5-2	XAD	COOLER#1			
57-89-2B	MM5-2 XAD BLANK	XAD	COOLER#1			
57-89-3	MM5-3	XAD	COOLER#1			
57-89-4A	MM5-4	XAD	COOLER#1			
57-89-4B	MM5-4 XAD BLANK	XAD	COOLER#1			

Receiving Remarks:

Archive Remarks:

TRIANGLE LABORATORIES RTP, INC.

PAH SAMPLE TRACKING & MANAGEMENT FORM

GENERAL INFORMATION

TLI PROJECT NUMBER: 21187B01

OTHER TLI PROJECTS: 1_____, 1_____

P.O. NO.: awarded

CUSTOMER NAME: W. W. Engineering

CLIENT CODE: _____

RECEIVING DATE: 6/18/92 Click Starts 6/23/92

PRODUCT MANAGER: H. Hansen

TURN-AROUND TIME: Hardcopy 14 Days

SHIPT/EPISODE NO: _____

DUE DATE: 7/6/92

SAMPLE ORIGIN: Westland Paving Co.

COLLECTION DATE: see c-c

SAMPLE PREPARATION LABORATORY INSTRUCTIONS

MATRIX TYPE [NUMBER OF SAMPLES]:

MM5 [5] PUF [ ]
SOIL [ ] WATER [ ]
ASH [ ] OTHER [ ] _____

EXTRACTION DATE: _____ / _____ / _____

ARCHIVE ~~50%~~ 25% SAMPLE EXTRACT: (YES) NO

EXTRACT to/from DIOXIN: YES (NO)

DIOXIN TLI PROJECT NUMBER: N/A

SPECIAL PROJECT COORDINATOR APPROVAL: Dani K

SAMPLE FORTIFICATION

Solution ID:	PAH-I	PAH-S (Prespike)	PAH-A
Before Extraction:	(YES)	(YES) NO	YES (NO)
Before Cleanup:	NO	YES (NO)	(YES) NO

OTHER: _____

CONCENTRATION: 100 ng/µL Volume: _____ µL

The XAD-2 resins or the PUF cartridges were prespiked with 100 ng of the surrogate carbon-labeled standards (PAH-S ; TLI# _____).

TRIANGLE LABORATORIES RTP, INC.

[PAGE 1]

PAH SAMPLE TRACKING & MANAGEMENT FORM

GENERAL INFORMATION

TLI PROJECT NUMBER: 21187B01

OTHER TLI PROJECTS: 1_____, 1_____

P.O. NO.: needed

CUSTOMER NAME: K.K. Engineering

CLIENT CODE: _____

RECEIVING DATE: 6/18/92 Clock Starts 6/22/92

PRODUCT MANAGER: H. Hsuan

TURN-AROUND TIME: Hardcopy 14 Days

SHIPT/EPISODE NO: _____

DUE DATE: 7/6/92

SAMPLE ORIGIN: Woodland Paving Co.

COLLECTION DATE: see c-o-c

SAMPLE PREPARATION LABORATORY INSTRUCTIONS

MATRIX TYPE [NUMBER OF SAMPLES]:

MM5 [5] PUF [ ]
SOIL [ ] WATER [ ]
ASH [ ] OTHER [ ] _____

EXTRACTION DATE: ____ / ____ / ____

ARCHIVE ~~50%~~ 25% SAMPLE EXTRACT: (YES) ~~NO~~

EXTRACT to/from DIOXIN: YES (NO)

DIOXIN TLI PROJECT NUMBER: N/A

SPECIAL PROJECT COORDINATOR APPROVAL: Hani K

SAMPLE FORTIFICATION

Solution ID:	PAH-I	PAH-S (Prespike)	PAH-A
Before Extraction:	(YES)	(YES) NO	YES (NO)
Before Cleanup:	NO	YES (NO)	(YES) ~~NO~~

OTHER: _____

CONCENTRATION: 100 ng/μL Volume: _____ μL

The XAD-2 resins or the PUF cartridges were prespiked with 100 ng of the surrogate carbon-labeled standards (PAH-S ; TLI# _____).

TRIANGLE LABORATORIES, INC (PSINF 2)

Special Instructions For NON-ROUTINE Projects

TLI Project Number: 27 1 1 X 7 / 21201 Pg 1 of 2

READ CAREFULLY AND SIGN AT THE BOTTOM OF THE PAGE IF YOU ARE RESPONSIBLE FOR THE PROCESSSING OF THIS NON-ROUTINE PROJECT

SPECIAL INSTRUCTIONS

Project consists of 4 MMS runs and 2 blanks. Client wants runs MMS-1 to be reported separately. To do that, split the project into A and B / the A project is for Run MMS-1, and the B project for runs MMS-2, MMS-3, MMS-4, MMS-2 Blank + MMS-4 Blank. It is not clear yet if the unspiked fraction is going to be analyzed separately from the rest of the train. Bobby Hamilton from WRI esq (616-942-9600) will clarify this on Monday ~~Tue~~ June 22nd, 1992. see next page 6/22/92

Analysis requested: ~~Tue~~ On each sample extract the lab will perform two analyses: (1) HRPAH for the 20 target PAHs and (2) SVO for the same target PAHs, plus O-Cresol, m-cresol / p-Cresol, carbazole (single pt calibration)

PRIOR TO INITIATION OF WORK:

Sample Preparation Laboratories: CME 6/23/92 EG 6/23/91 Date: _____

GC & GC/MS Laboratories: _____ Date: _____

Report Generation: _____ Date: _____

Data Review: _____ Date: _____

QA (Required): _____ Date: _____

Product Manager (Required): _____ Date: _____

REQUIRED UPON COMPETION:

Process control: _____ Date: _____

REV 10: 3/08/91

TRIANGLE LABORATORIES, INC [PSINF 2]

Special Instructions For NON-ROUTINE Projects

TLI Project Number: 21 1 1 8 7 / 21201

READ CAREFULLY AND SIGN AT THE BOTTOM OF THE PAGE IF YOU ARE RESPONSIBLE FOR THE PROCESSSING OF THIS NON-ROUTINE PROJECT

SPECIAL INSTRUCTIONS

Benzo-a-fluorene & Benzo-b-fluorene (mixed pt Cal. Isomers)
Please refer to the letter to Kathryn Gudat dated May 6, 1992.

If impinger fraction is to be done combined, follow flow chart MMS-19E.

If impinger fraction is to be done separate, follow flow chart MMS-19EE.

On Monday June 22nd, Barry Hunter from WW Eng. decided to do the impingers separate from the ACIMeCl, rinse, filter & XAD fraction. See follow chart MMS-19EE CMR

PRIOR TO INITIATION OF WORK:

Sample Preparation Laboratories: CMR 6/23/92 Date: _____

GC & GC/MS Laboratories: _____ Date: _____

Report Generation: _____ Date: _____

Data Review: _____ Date: _____

QA (Required): _____ Date: _____

Product Manager (Required): Tom White Date: 6/22/92

REQUIRED UPON COMPETION:

Process control: _____ Date:

TRIANGLE LABORATORIES RTP, INC. [PSTMF 2]

PROJECT COMMUNICATION TRACKING SHEET

TLI Project Number: 211876

Use this form to record all exchanges of information between production units as well as personnel handling this project. Decisions, corrective actions and recommendations must also appear on this tracking document.

Date	Name	Comment / Decision / Resolution / Action / Observation
6/18/92	Log Rec	Project to Hygiene for special instructions
6/23/92	CMR	Do we do a BNA on the impinger? No - do 1/2 extraction but check & record pH per L. White. Received folder 6/23/92 8AM
6/24/92	CMR	Per L White per Hank K. process 'AS IS' water extract and archive Acid fraction extract. We need to process this project as the one before because this is a re-testing
6/25/92	CMR	For HRPAH, do we split the extract again in order to archive 1/2 (= 1/4 of total extract)? This is usually the case but FPSC chart doesn't address this
6/25/92	CMR	per Lorna White - yes First spike HRPAH-A @ 1/2 normal. Volume then split 50:50 w/ 50% archive 1/2 of HRPAH 50% - cleanup other 1/2.
6/26/92	JCL	No HR-GC was done. This is due to the fact that the SOW 1991 LCS contains PAH's at 100 ug/mL
6/30/92	JS	After the KD step (after silica column) #4 was found to have a water layer in it (possibly from KD'ing with a loose concentrator tube). Therefore, it will be archived (just in c and the other archived 1/4 will be processed for relinquish

[PSTMF 2]

TRIANGLE LABORATORIES, INC.

21187

PROJECT COMMUNICATION TRACKING SHEET

Use this form to record all exchanges of information between production units as well as personnel handling this project. Decisions, corrective actions and recommendations must also appear on this tracking document.

Date	Name	Comment / Decision / Resolution / Action / Observation
6/23/92	CA	The Thi ID's 57-102-10, 57-102-11, 57-102-12, & 57-89-4B are grouped together as MM5-BlaK. Our Chain of custody calls the XAD MM5-4 XAD BlaK. All of these samples have 6/10/92 on them except for the XAD which has 6/8/92 on it. (that is all it says to distinguish itself. The other set MM5-2 & 3BlaK are grouped together as 57-102-13, 57-102-14, 57-102-15, & 57-89-2B. Our chain of custody calls the XAD blaK as MM5-2 XAD BlaK. All of the sample in this row have 6/8/92 on them except for the blaK XAD which has 6/10/92 on it. (that is DII IS says to distinguish itself. Should we go ahead And change the traps to match the dates?
6/23/92	MW	Contacted Barry Hunter → said to go by the dates on the traps Blank 2+3 was collected on the 8th and MM5-4 Blank was collected on the 10th. Switch the XAD traps to reflect these dates.
6/23/92	CA	We will switch the traps Accordingly to the dates As per client & Lori White

REV 103 10/16/90

TRIANGLE LABORATORIES RTP, INC.

211873(1)

PAH SAMPLE TRACKING & MANAGEMENT FORM
(page 2 out of 6)

SAMPLE PREPARATION LABORATORY INSTRUCTIONS
(continued)

Sample Size: ____ g ____ L Other: _____ N/A

Sample Extraction: Soxhlet: Toluene (MeCl2)
Others:
ASME Front/Back Halves Combined YES (NO) N/A
* Filter Sample after Fortification YES (NO) N/A
• Combine both Extracts before cleanup YES (NO) N/A

Other: _____ (see Special Instructions)

Sample Fractionation: Acid/Base
[ORGANIC] (PAH) (Silica Gel)
Other: _____

Quality Assurance / Quality Control Samples

Laboratory Method Blank (TLI Blank): (yes) no 1
Duplicate (DUP): ID _____ yes (no) ___
Matrix Spike (MS): ID _____ yes (no) ___
Lab Control Spike: (yes) no 2
Matrix Spike Duplicate (MSD): yes (no) ___
• MS Solution ID: PAH-MX Other: ___
Ongoing Precision Accuracy: yes no ___
* MS Solution Conc.: ____ ng/μL
• MS Solution Vol.: ____ μL

HIGH-RESOLUTION MASS SPECTROMETRY LABORATORY INSTRUCTIONS

Recovery Standards

Solution ID: PAH-RS Other: _____
Concentration: ____ pg/μL Volume: ____ μL
Volume of Pure Toluene: ____ μL

HRGC/HRMS Method

PAHH PAHI PAHJ PAHN

VERSION _____

System Definition

PAHH Other: _____
Retention Window Check yes no
GC Column Performance Check yes no

GC Column Type DB-5 LENGTH

TRIANGLE LABORATORIES RTP, INC.

21187(1)

PAH SAMPLE TRACKING & MANAGEMENT FORM
(page 3 out of 6)

REPORT GENERATION INSTRUCTIONS

Report Results on Dry-Weigh Basis: yes no n/a

Analyte Concentration Units: ppt pg ppb ng

Relative Response Factors from I-CAL: yes no

Run Type	HRGC/HRMS Analyses	HRGC/HRMS Repeats
I-CAL Date	___ / ___ / ___	___ / ___ / ___
CON-CAL File	_____	_____
RETCHECK File	_____	_____
For GC/MS Files	_____ to _____	_____ to _____
CON-CAL File	_____	_____
RETCHECK File	_____	_____
For GC/MS Files	_____ to _____	_____ to _____
CON-CAL File	_____	_____
RETCHECK File	_____	_____
For GC/MS Files	_____ to _____	_____ to _____

QUALITY ASSURANCE / QUALITY CONTROL REMARKS

SPECIAL INSTRUCTIONS

SAMPLE PREPARATION LABORATORY
SAMPLE EXTRACTION AND CLEANUP TRACKING FORM
ORGANIC WET LABORATORY

TLI PROJECT NO. 21187B

SAMPLE NO.	STEP NO. AND DESCRIPTION	INITIAL	DATE	TIME
1-5	K/D Acc/mech solvent Rinses to 1ml	CA, SBM	6/23/92	
1-5	Prep thimble w/ Filter/XAD Add conc. Rinses	SBM		
1-5	Spike 100ng PAH-I-S to the XAD	BEL/SBM		
1-5	Spike 1ml of SS Spikes I & III to the XAD @ 100ng/ml			
1-5	Soxhlet extract 16hrs mech			
1-5	K/D Extract to 5mls	SBM	6/24/92	
1-5	Split 50:50	JJ	6/25/92	
1-5	1/2 used for 8270 Analysis N2 to 1ml			
1-5	Transfer to vial w/ 2 x 5mls CH_2Cl_2 Rinse	BEL	6/25/92	
1-5	N2 to 1ml			
1-5	Relinquish to G-C/MS for Analysis	JJ	6/26/92	
1-5	1/2 used for HRPAH Analysis N2 to 1ml	JJ	6/29/92	
1-5	Solvent exchange 2 X 3mls Iso-oct	JJ	6/29/92	
1-5	N2 to 1ml	JJ		
1-5	Silica Gel column cleanup	SBM	6/29/92	

WATER BATH TEMPERATURE: _____
TOTAL HOURS: _____
COMMENTS: Iso Octane Lot # 913977
Hexane Lot # 922091
Methylene Chloride Lot # 921976

Spike w/ 500 µL of PAH-A WM+JJ 6/26/92
Split 50:50 → archive 1/4 total extract JJ 6/29/92

SAMPLE PREPARATION LABORATORY
SAMPLE EXTRACTION AND CLEANUP TRACKING FORM
ORGANIC WET LABORATORY

TLI PROJECT NO. 21187B

SAMPLE NO.	STEP NO. AND DESCRIPTION	INITIAL	DATE	TIME
1-5	KD to 5mls	MM	6/4	
1-5	N2 to 1ml	JS	1	
1-5	Solvent xchange 2x3mls Hexane	JS	1	
1-5	N2 to 100ul	BN	1	
1-5	Relinquish to ARCL/ms for analysis	RL	V	
1-5	Setup Sep funnels w/ Impngers check pH Record pH	SBm	6/23/92	
1-5	Spike 100ng PAHJ IS to the H2O	BEL, SBm	|	
1-5	Spike 1ml SS Spike I + III @ 100ng/ml	BEL, SBm	|	
1-5	Extract 3x60mls CH2Cl2	SBm, BEL	↓	
1-5	KD to 5mls	mm	6/24/92	
1-5	Split 50:50	SBm	6/24/92	
1-5	1/2 for 8270, N2, Transfer, Rinse Transfer, Make to 1mL	BEL	6/25/92	
1-5	~~Archive~~, Relinquish to GCMS	BB	6/26/92	

WATER BATH TEMPERATURE: _____
TOTAL HOURS: _____
COMMENTS: _____

SAMPLE PREPARATION LABORATORY
SAMPLE EXTRACTION AND CLEANUP TRACKING FORM
ORGANIC WET LABORATORY

TLI PROJECT NO. 21878

SAMPLE NO.	STEP NO. AND DESCRIPTION	INITIAL	DATE	TIME
1-5	Spike W/500 µL PAH-A	LM, JR	6/26/92	
1-5	Offer 1/2 for HRPAH - split 50:50 N2 to 1ml (archive 1/4 total extract)	JR	6/29/92	
1-5	Solvent Xchange 2x 3mls Hex-ect	JR	6/29/92	
1-5	N2 to 1ml	↓	↓	
1-5	Silica Gel Colum Cleanup	SBM	6/29/92	
1-5	KD to 5mls	MM	6/30/92	
1-5	N2 to 1ml	TS		
1-5	Solvent Xchange 2x 3mls Hex-ect	CS		
1-5	N2 to 100.µl	SBM		
1-5	Relinquish to HRGC/ms	GJL	↓	

WATER BATH TEMPERATURE: _____
TOTAL HOURS: _____
COMMENTS: _____

TRIANGLE LABORATORIES RTP, INC.

21187B(1)

PAH SAMPLE TRACKING & MANAGEMENT FORM

SAMPLE INFORMATION

No	TLI Sample ID	Client Sample ID	Sample Size g/mL N/A	PAH-I Vol. µL	PAH-I Ex/Cl Init.	PAH-S Vol. µL	PAH-S Ex/Cl Init.	COMMENTS	PAH-A Vol. µL	PAH-A Ex/Cl Init.	PAH-MX Volume µL	PAH-MX Extr. Init.	% MOIST.
0	TLI Blank	See 21187A XAD method blank)		1000									
1	57-89-2A 57-102-1 + 3	mm5-2		1000	SBM				500	JF			
2	57-89-4B 57-102-13,15	mm5-2 XAD Blank		1000	SBM				500	JF			
3	57-89-3 57-102-4,6	mm5-3		1000	SBM				500	JF			
4	57-89-4A 57-102-7,9	mm5-4		1000	SBM				500	JF			
5	57-89-QB 57-102-10,12	mm5-4 XAD Blank		1000	SBM				500	JF			
6	TLI Blank	See 21187A H_2O method Blank		1000									
7	57-102-2	mm5-2 imp		1000	SBM				500	JF			
8	57-102-14	mm5-2 blank		1000	SBM				500	JF			
9	57-102-5	mm5-3 imp		1000	SBM				500	JF			

(a) Reason for Scheduling the Sample for Re-Extraction:
[LR] = Low Recoveries
[CC] = Cross-Contamination
[Other]: See page 5 for additional details.

(b) Please Indicate By YES or NO If Entire Sample Was Used or Not.

(c) Indicate Below the TLI Identification Number of the Sample Fortification Solutions: HA1-116-1 @ 1 mL

PAH-I : CARB 4245 Exp. 21 Sept 92

PAH-S : _____

PAH-OPA: _____

PAH-MX : _____

OTHER : HA2-3-2 PAH-A 0.1 ng/mL Exp 14 Nov 92

Notes: _____

LOT # (packing material): _____

LOT # (solvents): _____

TRIANGLE LABORATORIES RTP, INC.

PAH SAMPLE TRACKING & MANAGEMENT FORM

(page 4 out of 6)

2119TB(1)

SAMPLE INFORMATION

No	TLI Sample ID	Client Sample ID	Sample Size g/mL N/A	PAH-I Vol. µL	PAH-I Ex/Cl Init.	PAH-S Vol. µL	PAH-S Ex/Cl Init.	COMMENTS	PAH-A Vol. µL	PAH-A Ex/Cl Init.	PAH-HX Volume µL	PAH-HX Extr. Init.	% MOIST.
10	57-102-8	mm5-4 imp		1000	SBM				500	JS			
11	57-102-11	mm5-4 blank		1000	SBM				500	JS			

(a) Reason for Scheduling the Sample for Re-Extraction:
[LR] - Low Recoveries
[CC] - Cross-Contamination
[Other]: See page 5 for additional details.

(b) Please Indicate By YES or NO If Entire Sample Was Used or Not.

(c) Indicate Below the TLI Identification Number of the Sample Fortification Solutions:

PAH-I : HH-116-1 0.1 µg/mL Exp 26/sept92

PAH-S : _____

PAH-OPA: _____

PAH-MX : _____

OTHER : _____

Notes: _____

LOT # (packing material): _____

LOT # (solvents): _____

TRIANGLE LABORATORIES RTP, INC.

PAH SAMPLE TRACKING & MANAGEMENT FORM
(page 5 out of 6)

21187BC1

SAMPLE INFORMATION

No	TLI Sample ID	Client Sample ID	GC/MS File Name Column: DB5	RS VOL	OBSERV. INITIALS & DATE	COMMENTS AND OBSERVATIONS DD.
0	TLJ-BLK	See 21187A XAD Method BLK				
1	57-84-2A 57-102-1,3 C7-36-4B	MM5-1	ho962 #6	10µl	CARB129-RS 5-10 ng/mL	D
2	57-102-13,14	MM5-2 XAD BLK	ho962 #7	10µl	* HA1-112-1 VC	D
3	57-84-3 57-102-11	MM5-3	ho962 #9	10µl	C/30/50	D
4	C7-84-4A 57-102-7	MM5-4	10	10µl	VC DNC EE 6/14/91	D
5	57-84-2B 57-102-10	MM5-4 XAD BLK	ho962 11	10µl	VC	D
6	TLJ-BLK	See 21187A H2O Method BLK				
7	57-102-2	MM5-2 imp	ho962 12	10µl	VC	D
8	57-102-14	MM5-2 BLK	13	10µl	VC	D
9	57-102-5	MM5-3 imp	14	10µl	VC	D
10	57-102-8	MM5-4 imp	15	10µl	VC	D

GENERAL NATURE OF THE PROBLEM: _____

Client Contacted & Informed on: ___ / ___ / 19__ at ___ A.M. ___ P.M.

Summary of the Discussion: _____

RS-ID : _____

CORRECTIVE ACTION(S): _____

Implementation Date : ___ / ___ / 19__

TLI Project No. for the Corrective Action :

1 __ __ __ __ __

TRIANGLE LABORATORIES RTP, INC.

PAH SAMPLE TRACKING & MANAGEMENT FORM
(page 5 out of 6)

21187B(1)

SAMPLE INFORMATION

No	TLI Sample ID	Client Sample ID	GC/MS File Name Column: RTX5	RS VOL	OBSERV. INITIALS & DATE	COMMENTS AND OBSERVATIONS
11	57-102-11	MW5-4-052111	40912 16	10µl	CARB429-RS 5-10ng/mL VC HA 1-112-1	

GENERAL NATURE OF THE PROBLEM: _____

Client Contacted & Informed on: ___ / ___ / 19__ at ___ A.M. ___ P.M.

Summary of the Discussion: _____

RS-ID : _____

CORRECTIVE ACTION(S): _____

Implementation Date : ___ / ___ / 19__

TLI Project No. for the Corrective Action :

1 __ __ __ __ __

TRIANGLE LABORATORIES RTP INC.

PAH SAMPLE TRACKING & MANAGEMENT FORM

(page 6 out of 6)

21187B(1)

SAMPLE INFORMATION

No	TLI Sample ID	Client Sample ID	CHAIN OF CUSTODY			
			FROM WET LAB		TO MASS SPEC LAB	
			DATE AND TIME SAMPLE RELEASED	INITIAL	DATE AND TIME SAMPLE ACCEPTED	INITIAL
0	TLI-BLK	XAD Method BLK	6/30/92 1450	BEC		
1	57-89-2A 57-102-13	MM5-2	↓ ↓	↓		
2	57-89-4B 57-102-13B	MM5-2 XAD-BLK				
3	57-89-3 57-102-4,6	MM5-3				
4	57-89-4A 57-102,7,9	MM5-4				
5	57-89-3B 57-102-10,12	MM5-4 XADBLK	6/30/92 1450	BEC		
6	TLI-BLK	see 21187A H2O	BLK ↓ ↓	↓		
7	57-102-2	MM5-2 Imp				
8	57-102-14	MM5-2 BLK				
9	57-102-5	MM5-3 Imp				
10	57-102-8	MM5-4 - Imp				

COMMENTS

TRIANGLE LABORATORIES RTP INC.

PAH SAMPLE TRACKING & MANAGEMENT FORM

(page 6 out of 6)

21187B(1)

SAMPLE INFORMATION

No	TLI Sample ID	Client Sample ID	CHAIN OF CUSTODY			
			FROM WET LAB		TO MASS SPEC LAB	
			DATE AND TIME SAMPLE RELEASED	INITIAL	DATE AND TIME SAMPLE ACCEPTED	INITIAL
11	57-102-11	MM5-4-BL-K	6/30/92 1450	[illegible]		

COMMENTS

MS#	COLUMN TYPE	COLUMN #	PLOT NAME	PKD	AMOUNT INJ	ACQUISITION	G/C
704	DB5 MS 0.25	2460543	PLOT-PAH5	PAHs DB5	2.0 µl	PAH5	PAHITY

DATE	TIME	PROJECT#	SAMPLE#	No	CLIENT SAMPLE ID	COMMENTS	332	OP INIT	P	Q	SYR #	FILE #
7/9/2			HA2-5-5		Inf Ical 500.0			VC			Auto	210957-05
					~~Ical 10.0~~ 7.9/2 Calib Ck.							
	0952		~~HA2-5-1~~		~~Ical 10.0~~			M			Auto	4970558
	1028		HA2-5-1		ICAL 10.0			DA		✓	Auto	4970559 01
	1047		HA2-5-7		Calibration 0	N.G.		DA			Auto	02
	1102		HA2-5-3		Calibration 100.0	Sapphire liner		DA		✓	Auto	03
	1331		HA2-5-1 Ical		ICAL 10.0			DA	✓	✓	Auto	4970601
					Preliminary			M		✓	Auto	02
	1502		HA2-5-2		ICAL 50.0				✓			03
	1517		HA2-5-4		ICAL 200.0				✓			04
	1532		HA2-5-5		ICAL 500.0				✓			05
	1548				Blank Run							06
	1737		HA2-5-1		ICAL 10.0	N.G.						07
	1816		HA5-1		ICAL 10.0	N.G.						08
	1857		HA2-5-1		ICAL 10.0			DA			Auto	4970601

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RUN LOG

MS#	COLUMN TYPE	COLUMN #	PLOT NAME	PKD	AMOUNT INJ	ACQUISISTION	G/C
V6200	Q05 MS	2460843	Plot_PAH5	PAH4_PAH5	2 µl	PAH5	PAH4

DATE	TIME	PROJECT#	SAMPLE#	No	CLIENT SAMPLE ID	COMMENTS	332	OP INIT	P	Q	SYR #	FILE #
7/9/92	1943	20,6801.qc	HHAH #1	1	X10 50x0			JA	✓	/	HHo	40762 #1
	2024	20,6801.qc	HHAH #2	2	Lot # 648			λ	✓	/		02
	2105	21187 A	—	9	TLI-Blank XAD			VC	✓	/	AuAD	03
	2147		57-89-1 A,L,D	1	MM5-1	no ~~mpm~~ PK 128 ~~resolv~~			✓			04
	2228		—	4	TCI-Blank H2O	~~no~~ m			✓	/		05
	2310		57-89,1B	5	MM5-1 imp.				✓	/		06
	2352	21187 B	57-89.2A 57.102-1,3	1	MM5-2	no PK 128 resolv			✓			07
7/10/92	0033		57-89-3B 57.102-4,6	2	MM5-2 XAD	BIL			✓	/		08
	0115		57-89-3 57.102.4,6	3	MM5-3	P.S I.S.			/	/		09
	0157		57-89-4A 57,102-7,9	4	MM5-4	↓				/		10
	0238		57-89.2B 57.102.10,12	5	MM5-4 XAD	BUT			✓	/		11
	0320		57-102-2	7	MM5-2 imp				✓	/		12
	0402		57-102-14	8	MM5-2 @ BIL				✓	/		13
	0444		57-102.5	9	MM5-3 imp				✓	/		14
	0524	↓	57-102.8	10	MM5-4 Imp				✓	/		15

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RUN LOG

MS#	COLUMN TYPE	COLUMN #	PLOT NAME	PKD	AMOUNT INJ	ACQUISISTION	G/C
702	DB5 MS	2460843	PLOT PAH5	PAH4-DB5	2.0 µl	PAH5	PAH4/PAH5

DATE	TIME	PROJECT#	SAMPLE#	No	CLIENT SAMPLE ID	COMMENTS	332	OP INIT	P	Q	SYR #	FILE #
1.10.92	0650	21187B	57102.11	11	MM5-4-BLK			VC		/	Auto	710962_16
	07	21187A		1	MM5-1	DT out of order 2.10.92						.17
		21187B		1	MM5-2							18
	830		HA2.5.3		Conca 100.0							
			HA2.5.3		Conca 100.0 (Calib)	Say Benzene ACC		JA	/	/	Auto	40963.01
	1052		HA2.5.1		Conca 10.0			JA	/	/	Auto	40964.01
	1116		-2		Conca 50.0				/	/		40965.01
	1153		-4		Conca 200.0							02
	1235		-5		Conca 500.0							03
	1317		-3		Conca 100.0							04
	1442		HA2.5.1		Conca 10.0							05
	1530		-6		Conca 50.0			JA		/	Auto	40966.01
	1612		-4		Conca 200.0			OA		/		40967.01
	1654		-5		Conca 500.0					/		02
			-3		Conca 100.0					/		03
										/		04

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May 6, 1992

TRIANGLE LABS

Kathryn Gunkel
Wildwood Envl. Engrg. Consultants, Inc.
P.O. Box 16690
Baltimore, MD 21221-0690
Phone: 410-780-9663
Fax : 410-780-7094

Re: Thompson-McCully Job

Dear Kathryn:

This letter is in response to the request for information regarding the analysis of four to five Modified Method 5 (MM5) samples for a number of polyaromatic hydrocarbons (PAHs) by high-resolution gas chromatography/High-resolution mass spectrometry (HRGC/HRMS), using Modified CARB 429 Method; and for a number of other PAHs and semivolatile organics (SVOs) by high-resolution gas chromatography/low-resolution mass spectrometry (HRGC/LRMS), using SW-846 EPA Method 8270. Here is what we can or cannot do:

1) PAH compounds done routinely by HRGC/HRMS

Acenaphthene
Acenaphthylene
Anthracene
Benz-a-anthracene
Benzo-a-pyrene
Benzo-e-pyrene
Benzo-ghi-perylene
Benzo-b-fluoranthene
Benzo-k-fluoranthene
Chrysene
2-Chloronaphthalene
Dibenz-ah-anthracene
Fluoranthene
Fluorene
Indeno-123,cd-pyrene
2-Methyl-naphthalene
Naphthalene
Perylene
Phenanthrene
Pyrene

Target detection limits for most of the PAHs above are 1-10 ng (except for naphthalene and 2-methyl-naphthalene, where XAD blank contamination is on the order of 2-20 ug for naphthalene, and up to 1 ug of 2-methyl-naphthalene).

Triangle Laboratories, Inc.
801-10 Capitola Drive
Durham, NC 27713
919-544-5729
P.O. Box 13485
Research Triangle Park, NC 27709
Fax # 919-544-5491

2) PAH compounds not on target list above for which standards can be purchased, can be done by Method 8270 using a single point calibration

Benzo-a-Fluorene
Benzo-b-fluorene
Coronene[a]
Triphenylene[b]
Benzo-j-fluoranthene[c]

[a]: Retention time too long under the GC/MS conditions of Method 8270. Will not be attempted.

[b]: Coelutes with chrysene

[c]: Coelutes with benzo-b-fluoranthene and benzo-k-fluoranthene. A total concentration will be determined for all three isomers.

3)PAH compounds not on target list above , standards for which cannot be found commercially

Anthanthrene
Benzo-c-fluorene
Picene

4) Other SVO compounds requested, can be done by 8270

o-Cresol (2-Methyl-phenol)
m-cresol,p-cresol (3 & 4-methyl phenols; coelute, total will be provided)
Cumene (Isopropyl Benzene) - Single point calibration

In order to analyze for all the PAHs and SVOs off the same MM5 train, two analyses are required: A) analyze the MM5 extract for the 20 target PAHs (item 1 above) by HRGC/HRMS, using modified CARB (California Air Resources Board) Method 429; and B) analyze for the other PAHs and SVOs (items 2 and 4 above) by HRGC/LRMS, using EPA Method 8270 procedures.

Target detection limits of PAHs by Method 8270 are on the order of 1-2 ug/sample, and for cresols by the same method are on the order of 2-5 ug/sample.

Please do not hesitate to call if you have questions regarding this letter.

Sincerely,
Hani Karam
Hani Karam, Ph.D.
Air Quality Product Manager

PATHWAYS LABORATORIES

RUN LOG

MS#	COLUMN TYPE	COLUMN #	PLOT NAME	PKD	AMOUNT INJ	ACQUISITION	G/C
V6?--	0.5 MJ	2460843	Plot.PAH5	PAH4PB5	2 µl	PAH5	PAH4H4

DATE	TIME	PROJECT#	SAMPLE#	No	CLIENT SAMPLE ID	COMMENTS	332	OP INIT	P	Q	SYR #	FILE #
1991	1943	20608.qc	HHAH #1	1	XAD SOxD			JM	✓	/	HH6	h0162 #1
	2024	20608.qc	HK/HW #2	2	Lot # 648			J	✓	/		02
	2105	21187 A	—	9	TC1-Blank XAD			VC	✓	/	AutV	03
	2147		57-89-1 A,L,D	1	MM5-1	two main LB peaks resolved			✓			04
	2228		—	4	TC1-Blank H2O				✓	/		05
	2310		57-85,1B	5	MM5-1 imp.				✓	/		06
	2352	21187 B	57-89-2A 57.102-1-3	1	MM5-2	two PK LB resolved			✓			07
1992	0033		57-89-2B 57.102-3,4,5	2	MM5-2 XAD	BIK			✓	/		08
	0115		57-89-3 57.102-4,6	3	MM5-3	P.S.I.S.			/	/		09
	0157		57-89-4A 57.102-7,9	4	MM5-4	↓			/	/		10
	0238		57-89-2B 57.102-10,12	5	MM5-4 XAD	BUT			✓	/		11
	0320		57-102-2	7	MM5-2 Imp				/	/		12
	0402		57-102-14	8	MM5-2 & BIK				✓	/		13
	0444		57-102.5	9	MM5-3 imp				/	/		14
	0524	↓	57-102.8	10	MM5-4-Imp				/	/		15

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TRIANGLE LABOR[illegible]RIES INC
RUN L

MS#	COLUMN TYPE	COLUMN #	PLOT NAME	PKD	AMOUNT INJ	ACQUISISTION	G/C
7022	DB5 MS	2460843	PLOT PAH5	PAH4-DB5	2.0 µl	PAH5	PAH4/HA4

ATE	TIME	PROJECT#	SAMPLE#	No	CLIENT SAMPLE ID	COMMENTS	332	OP INIT	P	Q	SYR #	FILE #
1092	0650	21187B	57102.11	11	MM5-4-BIK			VC		/	AutD	110962_16
	07	21187A		1	MM5-1	DT out of order 2.10.92						17
		21187B		1	MM5-2							18
	570		HA1.3.3		Conca 100.0			DA			Auto	110963 x1
			HA1.3.3		Conca 100.0 Rerun	Septum Leak A.C.		DA			Auto	110964 x1
	1353		HA1.3.1		DCA 10.0							110965 x1
	1116		-2		DCA 10.0							x2
	1153		-4		DCA 2000							P3
	1235		-5		DCA 50.0							P4
	1317		-3		DCA 10.0							P5
	1442		HA1.3.1		DCA 10.0			DA			Auto	110966 x1
	1533		-6		DCA 5.0			DA				110967 x1
	1612		-4		DCA 100.0							P2
	1654		-5		DCA 200.0							P3
			-3		DCA 100.0							P4

AGE #	11	

AS#	COLUMN TYPE	COLUMN #	PLOT NAME	PKD	AMOUNT INJ	ACQUISISTION	G/C
16-Nov	DATMS	246-847	Plot.PAHS	PAHs05	2.0µl	PAHs	PAHHG

TE	TIME	PROJECT#	SAMPLE#	No	CLIENT SAMPLE ID	COMMENTS	332	OP INIT	P	Q	SYR #	FILE #
1-Nov	1835	211874	57.89 -A1C9	1	MMS.1			JM	✓		ALC	40%C821
	1919	211874	57.89 -2A	1	MMS.2				✓			02
	2042	211874	57.89 -3	3	MMS.3							03
	2120	211874	57.89.4A	4	MMS.4							04
	2201	211874	57.89 -A→D	1	MMS.1	Poor Recovery			✓			05
	2242	211874	57 89 -1A	1	MMS.2				✓			06
	2316	211874	57 89 -3	3	MMS.3				✓			07
	2354	211874	57 89 -4→D	4	MMS.4				✓			08
					JM 7.11.12							

PAGE #		

TRIANGLE LA[illegible] ATORIES INC
RUN LOG

MS#	COLUMN TYPE	COLUMN #	PLOT NAME	PKD	AMOUNT INJ	ACQUISISTION	G/C
HP5972	DB5	246843	Plot.pams	PAHMOT	2.0µl	PAHS	PAH4

DATE	TIME	PROJECT#	SAMPLE#	No	CLIENT SAMPLE ID	COMMENTS	CHK	OP INIT	P	Q	SYR #	FILE #
5-8-92			HA2-5-3		ICAL 10.0			JA			AW	41057 100
			-4		ICAL 20.0			"			"	" 10
			-5		ICAL 50.0			"			"	" 11
					Aqua Blank							12
		21187A	5765-LA 52 10 2.1	1	Matrix Spike			JA			Ana	41057 13
	1040	21187A	57[illegible]	1	MMS-1			JA	✓		AW	41057 01
5-6-92	0844		HA2-5-3		CCAL 10.0			JA			AW	41059 01
	0929				Blank			JA			JA	02
					PAH-Analyte			JA			JA	03
					PAH-Analyte			JA			AW	41060 01
					2			JA			AW	02

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MS#	COLUMN TYPE	COLUMN #	PLOT NAME				
704	DB5, MS	2460843	PLOT_PAH5	PAH_DB5	2.0 µl	PAH5	PAH 5

DATE	TIME	PROJECT#	SAMPLE#	NO	CLIENT SAMPLE ID	COMMENTS	CHK	OP INIT	P	Q	SYR #	FILE #
								VC	✓	✓	Auto	21056-07
8/5/96	0916	21499	58.1064A,B	4	RUN#4							08
	0957		58.1065A,B	5	RUN#5							09
	1039		58.1065 EB FB	6	RUN#5 (6)							10
	0721		58.1066	7	Trip Blank							11
	0642		58.1067	8	Trip Spike							12
	2044		LCS#1	9	prespiked Control							13
	0721		LCS#2	10	New Lab Control							14V3701
			HA2.13.1		ICAL 10.0			DA			Auto	972
			HA2.5.2		ICA 50.0							973
			-3		ICAL 100.0 CONTINUING V							974
	1017		-4		ICA 500.0							xc
			-5		ICA 500.0							975
					ICAL 100.0 CONTINUING							98
			HA2.13.1		ICAL 100.0 ICAL 10.0							99
			HA2.5.2		ICAL 100.0 ICA 50.0							

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TRIANGLE LABORATORIES, INC.

CALIBRATION DATA

TRIANGLE LABORATORIES OF RTP, INC. Date: 08/07/92
Initial Calibration Summary for UPJ8042

Analysis Date....: 08/04/92 Method.....: PAHJ
Instrument.....: U

Analytes	RF	SD	%RSD		RT	RT/LO	RT/HI	Ratio1	Ratio2	N
Naph	0.918	0.015	2%		4:45	2:43	6:43			5
2-Me-Naph	0.975	0.110	11%		5:51	3:47	7:47			5
Acenaph	1.030	0.144	14%		7:38					5
Acenaphthen	0.671	0.092	14%		8:00	5:36	9:36			5
2-Cl-Naph	1.283	0.159	12%		6:46	4:44	8:44	3.366		5
Fluorene	0.468	0.062	13%		9:11	9:27	13:27			5
Phenan	0.800	0.092	12%		11:30	1:27	21:27			5
Anth	0.659	0.103	16%		11:38					5
Fluoran	0.938	0.125	13%		14:31	4:28	24:28			5
Pyrene	0.927	0.122	13%		15:06					5
B-a-Anth	0.838	0.159	19%		18:11	8:07	28:07			5
Chrysene	0.556	0.055	10%		18:17					5
B-b-Fluoran	0.875	0.183	21%		21:35					5
B-k-Fluoran	0.879	0.157	18%		21:42					5
B-e-Pyrene	1.500	0.302	20%		22:41					5
B-a-Pyrene	0.919	0.245	27%	**	22:55					5
Perylene	1.010	0.235	23%		23:17	13:10	33:10			5
I-123-cd-Py	1.272	0.336	26%	**	29:01					5
B-ghi-Pery	0.665	0.142	21%		30:49	20:37	40:37			5
DiB-ah-Anth	0.808	0.172	21%		29:15	27:01	31:01			5

Other Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
d10-Fluorene	0.437	0.028	7%	9:06	7:06	16:06			5
d10-Anth	1.338	0.103	8%	11:35					5
d14-Terphenyl	0.815	0.066	8%	15:32	5:32	17:32			5

Internal Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
d8-Naph	2.225	0.080	4%	4:43		6:43			5
d10-2-Me-Naph	1.152	0.025	2%	5:47		15:47			5
d8-Acenaph	1.343	0.061	5%	7:36		9:36			5
d7-2-Cl-Naph	1.156	0.038	3%	6:44	4:44	8:44	3.396		5
d10-Phenan	1.694	0.139	8%	11:27	1:27	21:27			5
d10-Fluoran	1.231	0.018	1%	14:28	3:28	24:28			5
d12-B-a-Anth	0.519	0.110	21%	18:07	8:07	28:07			5
d12-Chrysene	0.850	0.146	17%	18:12					5
d12-B-b-Fluoran	1.107	0.069	6%	21:29					5
d12-B-k-Fluoran	1.000	0.095	9%	21:37					5
d12-B-a-Pyrene	0.714	0.041	6%	22:48					5
d12-Perylene	0.448	0.030	7%	23:10	13:10	33:10			5
d12-I-123-cd-Py	0.286	0.024	9%	28:51					5
d12-B-ghi-Pery	0.677	0.042	6%	30:37	20:37	40:37			5
d14-DiB-ah-Anth	0.357	0.021	6%	29:01	27:01	39:01			5

Recovery Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
d10-Acenaphthen	1.000	0.000	0%	7:56	5:56	9:56			5
d10-Pyrene	1.000	0.000	0%	15:03					5
d12-B-e-Pyrene	1.000	0.000	0%	22:34					5

*** End of Report ***

TRIANGLE LABORATORIES OF RTP, INC. Date: 08/05/92

Response Factor Report for UPJ8042

Analysis Date....: 08/04/92 Method.....: PAHJ
Instrument.....: U

Run 10 File.....: U105501 Run 50 File.....: U105502
Run 100 File.....: U105508 Run 200 File.....: U105506
Run 500 File.....: U105507

Analytes	Run 10	Run 50	Run 100	Run 200	Run 500	Mean RF	%RSD
Naph	0.903	0.932	0.905	0.934	0.914	0.918	2%
2-Me-Naph	0.796	0.952	1.006	1.071	1.051	0.975	11%
Acenaph	0.936	0.986	1.092	0.887	1.247	1.030	14%
Acenaphthen	0.553	0.626	0.655	0.787	0.737	0.671	14%
2-Cl-Naph	1.036	1.219	1.353	1.442	1.365	1.283	12%
Fluorene	0.414	0.436	0.442	0.478	0.571	0.468	13%
Phenan	0.709	0.726	0.771	0.879	0.915	0.800	12%
Anth	0.545	0.586	0.641	0.721	0.801	0.659	16%
Fluoran	0.788	0.863	0.913	1.024	1.100	0.938	13%
Pyrene	0.768	0.875	0.911	0.985	1.094	0.927	13%
B-a-Anth	0.612	0.767	0.833	0.985	0.991	0.838	19%
Chrysene	0.477	0.552	0.537	0.592	0.621	0.556	10%
B-b-Fluoran	0.600	0.822	0.873	1.020	1.060	0.875	21%
B-k-Fluoran	0.631	0.882	0.857	1.004	1.023	0.879	18%
B-e-Pyrene	1.140	1.358	1.410	1.922	1.668	1.500	20%
B-a-Pyrene	0.612	0.799	0.848	1.191	1.147	0.919	27%
Perylene	0.666	0.914	1.029	1.174	1.269	1.010	23%
I-123-cd-Py	0.952	1.034	1.118	1.544	1.712	1.272	26%
B-ghi-Pery	0.577	0.547	0.585	0.731	0.884	0.665	21%
DiB-ah-Anth	0.680	0.735	0.652	0.925	1.050	0.808	21%

Other Standards	Run 10	Run 50	Run 100	Run 200	Run 500	Mean RF	%RSD
d10-Fluorene	0.475	0.407	0.411	0.440	0.452	0.437	7%
d10-Anth	1.450	1.256	1.243	1.449	1.293	1.338	8%
d14-Terphenyl	0.796	0.891	0.879	0.753	0.757	0.815	8%

Internal Standards	Run 10	Run 50	Run 100	Run 200	Run 500	Mean RF	%RSD
d8-Naph	2.272	2.263	2.150	2.308	2.129	2.225	4%
d10-2-Me-Naph	1.148	1.184	1.146	1.166	1.118	1.152	2%
d8-Acenaph	1.256	1.351	1.422	1.319	1.366	1.343	5%
d7-2-Cl-Naph	1.142	1.178	1.208	1.142	1.110	1.156	3%
d10-Phenan	1.880	1.685	1.529	1.774	1.600	1.694	8%
d10-Fluoran	1.239	1.220	1.234	1.257	1.208	1.231	1%
d12-B-a-Anth	0.491	0.653	0.613	0.398	0.441	0.519	21%
d12-Chrysene	0.723	0.953	1.036	0.696	0.840	0.850	17%
d12-B-b-Fluoran	1.177	1.123	1.000	1.153	1.082	1.107	6%
d12-B-k-Fluoran	0.949	0.935	0.924	1.048	1.145	1.000	9%
d12-B-a-Pyrene	0.723	0.740	0.695	0.654	0.759	0.714	6%
d12-Perylene	0.469	0.463	0.396	0.450	0.461	0.448	7%
d12-I-123-cd-Py	0.308	0.303	0.295	0.250	0.273	0.286	9%
d12-B-ghi-Pery	0.714	0.730	0.650	0.650	0.639	0.677	6%
d14-DiB-ah-Anth	0.356	0.356	0.344	0.338	0.393	0.357	6%

TRIANGLE LABORATORIES OF RTP, INC. Date: 08/05/92

Response Factor Report for UPJ8042

Recovery Standards	Run 10	Run 50	Run 100	Run 200	Run 500	Mean RF	%RSD
d10-Acenaphthen	1.000	1.000	1.000	1.000	1.000	1.000	N/A
d10-Pyrene	1.000	1.000	1.000	1.000	1.000	1.000	N/A
d12-B-e-Pyrene	1.000	1.000	1.000	1.000	1.000	1.000	N/A

** End of Report

TRIANGLE LABORATORIES OF RTP, INC. Date: 08/08/92
Continuing Calibration for U105703

Final

Analysis Date....: 08/05/92
Operator.....: JA
Init Calibration.: UPJ8042
ICal Date.....: 08/04/92

Method.....: PAHJ
Instrument..: U
Std.Conc....: 100.00

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D	Flags
Naph	0.881		2:43 6:43	4:45	1.0071	0.918	-0.037	-4.0%	
2-Me-Naph	1.054		3:47 7:47	5:51	1.0115	0.975	0.079	8.1%	
Acenaph	1.023			7:37	1.0022	1.030	-0.007	-0.7%	
Acenaphthen	0.563		5:36 9:36	8:00	1.0526	0.671	-0.108	-16.0%	
2-Cl-Naph	1.232	3.40	4:43 8:43	6:46	1.0074	1.283	-0.051	-4.0%	
Fluorene	0.518		9:26 13:26	9:10	0.8017	0.468	0.050	10.6%	
Phenan	0.817		1:23 21:26	11:30	1.0058	0.800	0.017	2.1%	
Anth	0.710			11:38	1.0175	0.659	0.051	7.7%	
Fluoran	0.849		4:28 24:28	14:30	1.0023	0.938	-0.089	-9.5%	
Pyrene	0.890			15:05	1.0426	0.927	-0.037	-4.0%	
B-a-Anth	1.008		8:07 28:07	18:11	1.0037	0.838	0.170	20.3%	
Chrysene	0.572			18:16	1.0083	0.556	0.016	2.9%	
B-b-Fluoran	0.897			21:34	0.9323	0.875	0.022	2.5%	
B-k-Fluoran	0.787			21:41	0.9373	0.879	-0.092	-10.5%	
B-e-Pyrene	1.391			22:40	0.9798	1.500	-0.109	-7.3%	
B-a-Pyrene	0.859			22:54	0.9899	0.919	-0.060	-6.6%	
Perylene	0.912		13:08 33:08	23:15	1.0050	1.010	-0.098	-9.7%	
I-123-cd-Py	1.434			28:59	0.9477	1.272	0.162	12.7%	
B-ghi-Pery	0.669		20:35 40:35	30:46	1.0060	0.665	0.004	0.6%	
DiB-ah-Anth	0.696		26:59 30:59	29:12	1.0075	0.808	-0.112	-13.9%	

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D	Flags
d10-Fluorene	0.491		7:06 16:06	9:06	1.0000	0.437	0.054	12.4%	
d10-Anth	1.224			11:35	1.0000	1.338	-0.114	-8.5%	

d14-Terphenyl	0.839		5:32 17:32	15:32	1.0000	0.815	0.024	2.9%	

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D	Flags
d8-Naph	1.819		0:00 0:00	4:43	1.0000	2.225	-0.406	-18.2%	
d10-2-Me-Naph	0.991		0:00 0:00	5:47	1.0000	1.152	-0.161	-13.9%	
d8-Acenaph	1.491		0:00 0:00	7:36	1.0000	1.343	0.148	11.0%	
d7-2-Cl-Naph	0.966	3.16	4:43 8:43	6:43	1.0000	1.156	-0.190	-16.4%	
d10-Phenan	1.224		1:35 21:35	11:35	1.0000	1.694	-0.470	-27.7%	
d10-Fluoran	1.211		3:28 24:28	14:28	1.0000	1.231	-0.020	-1.7%	
d12-B-a-Anth	0.506		8:07 28:07	18:07	1.0000	0.519	-0.013	-2.5%	
d12-Chrysene	0.965			18:12	1.0046	0.850	0.115	13.5%	
d12-B-b-Fluoran	1.007			21:29	0.9287	1.107	-0.100	-9.0%	
d12-B-k-Fluoran	1.023			21:35	0.9330	1.000	0.023	2.3%	
d12-B-a-Pyrene	0.699			22:47	0.9849	0.714	-0.015	-2.2%	
d12-Perylene	0.441		13:08 33:08	23:08	1.0000	0.448	-0.007	-1.5%	
d12-I-123-cd-Py	0.244			28:49	0.9422	0.286	-0.042	-14.7%	
d12-B-ghi-Pery	0.619		20:35 40:35	30:35	1.0000	0.677	-0.058	-8.6%	
d14-DiB-ah-Anth	0.341		26:59 38:59	28:59	1.0000	0.357	-0.016	-4.5%	

Recovery Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D	Flags
d10-Acenaphthen	0.000		5:56 9:56	7:56	1.0000	1.000	-1.000	100.0%**	
d10-Pyrene	0.000			15:03	1.0000	1.000	-1.000	100.0%**	
d12-B-e-Pyrene	0.000			22:33	1.0000	1.000	-1.000	100.0%**	

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/04/92

FILE NAME....:	U096208	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	*
CONCAL.....:	U096001	SAMPLE ID....:	MM5-2 XAD BLK		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	2690			4:58	B
2-Me-Naph	898			5:55	B
Acenaphthen	98.0			7:59	B
2-Cl-Naph	EMPC		20.6		B
Acenaph	40.2			7:37	B
Fluorene	193			9:10	B
Phenan	368			11:33	B
Anth	33.2			11:41	B
Fluoran	33.3			14:34	B
Pyrene	308			15:09	B
B-a-Anth	6.8			18:15	B,PR
Chrysene	13.5			18:22	B,PR
Perylene	ND		3.0		
B-b-Fluoran	10.5			21:43	B
B-k-Fluoran	4.4			21:50	B,PR
-Pyrene	3.0			23:03	B
B-e-Pyrene	12.7			22:50	B
B-ghi-Pery	32.6			31:06	B
I-123-cd-Py	2.1			29:15	B
DiB-ah-Anth	ND		0.4		

SURROGATE RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	56800.00	56.8	15:36	SQ

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	94.8	94.8	11:37	

* TLI SAMPLE ID: 57-89-4B AND 57-102-13,15.

Reviewed By: JF for BR 8/6/92

PAHJ_RPT 1.00, LARS 4.20

FILE NAME....: U096208 CLIENT.....: W.W ENG. TLI SAMPLE ID.: *
CONCAL.....: U096001 SAMPLE ID....: MM5-2 XAD BLK
ANALYST.....: VC ANALYSIS DATE: 07/10/92 PROJECT NUMBER: 211878
SAMPLE SIZE..: 1.00 SAMPLE MATRIX: MM5 DATE RECEIVED.: 06/18/92
ICAL DATE....: 07/09/92 SAMPLE ORIGIN: WOODLAND DATE COLLECTED: / /
SPIKE FILE...: SPPAHJ1K CLIENT PROJECT: n/a

INTERNAL STANDARDS RECOVERY SUMMARY

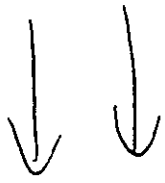
NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	13.0	13.0	4:56	V
d10-2-Me-Naph	34.8	34.8	5:52	V
d7-2-Cl-Naph	42.3	42.3	6:45	RO
d8-Acenaph	51.9	51.9	7:35	
d10-Phenan	115	115	11:29	Q-RS
d12-B-a-Anth	115	115	18:12	Q-RS
d10-Fluoran	74.3	74.3	14:31	Q-RS
d12-Chrysene	72.2	72.2	18:17	Q-RS
d12-Perylene	14.1	7.05	23:25	V
d12-B-b-Fluoran	191	95.7	21:36	
d12-B-k-Fluoran	91.0	45.5	21:43	
d12-B-a-Pyrene	85.9	43.0	22:57	
d12-B-ghi-Pery	159	79.3	30:52	
d12-I-123-cd-Py	240	120	29:05	I
d14-DiB-ah-Anth	209	104	29:15	

* TLI SAMPLE ID: 57-89-4B AND 57-102-13,15.

Reviewed By: BJ for BR 8/6/92 PAHJ_RPT 1.00, LARS 4.20

N=0.2
(278

	Initial	Date
B-File/Header Changes	AR	7.30.92
Manual Integrations		
Transcription		
Dbase Corrections		



Listing of U096208B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128	DC	0.00	0:00	4.88	T	F	0.000	NL
		0.00	4:38	132.69	T	F	0.939	
		0.00	4:43	285.03	T	F	0.956	
		0.00	4:47	60.82	T	F	0.970	
		0.00	4:58•	15635.92	T	~~F~~ T	~~1.007~~ 1.000	
		0.00	5:24	67.81	T	F	1.095	
		0.00	5:32	78.90	T	F	1.122	
		0.00	5:35	189.52	T	F	1.132	
		0.00	5:43	126.81	T	F	1.159	
		0.00	5:46	125.47	T	F	1.169	
		0.00	5:50	249.92	T	F	1.182	
		0.00	5:58	50.26	T	F	1.209	
		0.00	6:06	115.22	T	F	1.236	
	DC	0.00	6:13	37.51	T	F	1.260	SN
		0.00	6:18	103.76	T	F	1.277	
		0.00	6:21	59.58	T	F	1.287	
		0.00	6:44	61.50	T	F	1.365	
	DC	0.00	6:50	147.21	T	F	1.385	WH
	DC	0.00	6:55	166.09	T	F	1.402	WH
128		*** Total ***		17698.90	# of Peaks:		19	
136	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	4:50	1.74	T	F	0.980	
		0.00	4:56•	757.01	T	T	1.000	
		0.00	5:27	2.04	T	F	1.105	
		0.00	5:34	1.36	T	F	1.128	
		0.00	5:37	1.13	T	F	1.139	
		0.00	5:41	2.21	T	F	1.152	
		0.00	5:52	1.44	T	F	1.189	
		0.00	6:42	1.32	T	F	1.358	
136		*** Total ***		768.26	# of Peaks:		9	
142	DC	0.00	0:00	0.32	T	F	0.000	NL
		0.00	5:55•	9844.32	T	~~F~~ T	~~0.981~~ 1.000	
		0.00	6:06	5228.50	T	T	1.011	
		0.00	6:18	13.34	T	F	1.044	
		0.00	6:46	11.73	T	F	1.122	
		0.00	6:50	30.81	T	F	1.133	
		0.00	6:55	321.79	T	F	1.146	
142		*** Total ***		15450.81	# of Peaks:		7	
152	DC	0.00	0:00	[illegible]	T	F	0.000	NL

Listing of U0962088.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
152		0.00	4:48	2.21	T	F	0.606	
		0.00	4:54	1.17	T	F	0.619	
		0.00	5:52*	1034.79	T	~~FT~~	~~0.741~~ 1.000	
		0.00	6:02	5.54	T	~~TF~~	~~1.000~~ 1.010	
		0.00	6:43	6.60	T	F	0.848	
		0.00	7:04	133.29	T	F	0.893	
		0.00	7:12	375.44	T	F	0.909	
		0.00	7:15	253.79	T	F	0.916	
		0.00	7:19	22.69	T	F	0.924	
		0.00	7:26	152.85	T	F	0.939	
		0.00	7:37*	727.12	T	~~F~~ T	0.962	
		0.00	7:53	518.06	T	F	0.996	
		0.00	8:00	868.80	T	F	1.011	
		0.00	8:04	7.41	T	F	1.019	
		0.00	8:10	112.79	T	F	1.032	
		0.00	8:23	213.84	T	F	1.059	
		0.00	8:29	217.41	T	F	1.072	
		0.00	8:53	164.01	T	F	1.122	
152		*** Total ***		4822.62	# of Peaks:		20	
154	DC	0.00	0:00	0.33	T	F	0.000	NL
		0.00	7:04	48.83	T	F	0.893	
	DC	0.00	7:07	1.54	T	F	0.899	SN
		0.00	7:12	132.77	T	F	0.909	
		0.00	7:15	74.24	T	F	0.916	
		0.00	7:19	65.33	T	F	0.924	
		0.00	7:26	66.91	T	F	0.939	
		0.00	7:37	39.83	T	F	0.962	
		0.00	7:53	19.78	T	F	0.996	
		0.00	7:59*	1066.85	T	F	1.008	
		0.00	8:10	200.95	T	F	1.032	
		0.00	8:16	36.78	T	F	1.044	
		0.00	8:23	204.13	T	F	1.059	
		0.00	8:29	176.40	T	F	1.072	
		0.00	8:40	156.71	T	F	1.095	
		0.00	8:43	57.90	T	F	1.101	
		0.00	8:52	239.08	T	F	1.120	
154		*** Total ***		2588.36	# of Peaks:		17	
160	DC	0.00	0:00	1.24	T	F	0.000	NL
		0.00	7:23	103.01	T	F	0.933	
		0.00	7:26	58.66	T	F	0.939	
		0.00	7:35*	1698.83	T	~~F~~ T	0.958	
		0.00	7:40	21.10	T	F	0.968	
		0.00	7:45	28.01	T	F	0.979	
		0.00	7:49	18.52	T	F	0.987	
		0.00	7:55	2386.62	T	T	1.000	
		0.00	8:18	197.34	T	F	1.048	
		0.00	8:22	15.67	T	F	1.057	
		0.00	8:32	49.62	T	F	1.078	
	DC	0.00	8:35	5.23	T	F	1.084	SN
160		*** Total ***		4583.85	# of Peaks:		12	

Listing of U0962088.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
162	DC	8.00	0:00	0.09	F	F	0.000	NL
	CK	3.29	6:50 47	~~1263.33~~ 405.0	~~F~~	~~F~~ T	~~1.012~~ 1.000	RO
162		*** Total ***		1263.42	# of Peaks:		2	
164	DC	0.00	0:00	0.01	T	F	0.000	NL
	DC	0.00	0:00	0.03	T	F	0.000	NL
		0.00	6:50	294.23	T	F	0.844	
		0.00	7:55	5043.35	T	~~F~~ T	~~0.978~~ 1.000	
164		*** Total ***		5337.62	# of Peaks:		4	
166	DC	0.00	0:00	0.04	T	F	0.000	NL
	DC	0.00	8:01	115.12	T	F	0.698	WL
	DC	0.00	8:05	50.30	T	F	0.704	WL
	DC	0.00	8:20	82.21	T	F	0.726	WL
	DC	0.00	8:54	98.11	T	F	0.775	WL
	~~DC~~	0.00	9:10	3175.16	T	~~F~~ T	0.798	~~WL~~
	DC	0.00	9:21	319.81	T	F	0.814	WL
		0.00	9:35	866.82	T	F	0.835	
		0.00	9:55	31.71	T	F	0.864	
		0.00	10:06	79.73	T	F	0.880	
		0.00	10:15	41.27	T	F	0.893	
		0.00	10:29	3993.03	T	F	0.913	
		0.00	10:58	2068.91	T	F	0.955	
		0.00	11:36	70.89	T	F	1.010	
		0.00	11:48	128.15	T	F	1.028	
		0.00	11:53	37.39	T	F	1.035	
		0.00	11:58	65.53	T	F	1.042	
166		*** Total ***		11224.18	# of Peaks:		17	
169	DC	5.26	0:00	0.01	F	F	0.000	NL RO
	CK	3.66	6:45	1637.73	~~F~~ T	T	1.000	
169		*** Total ***		1637.74	# of Peaks:		2	
176	DC	0.00	0:00	0.04	T	F	0.000	NL
	DC	0.00	8:01	0.14	T	F	0.867	SN
		0.00	8:24	5.12	T	F	0.908	
		0.00	8:40	2.84	T	F	0.937	
		0.00	8:48	0.96	T	F	0.952	
		0.00	9:07	2.24	T	F	0.986	
		0.00	9:26	11.90	T	F	1.020	
		0.00	10:15	0.60	T	F	1.108	
		0.00	10:26	1.67	T	F	1.128	
		0.00	10:31	2.45	T	F	1.137	
		0.00	10:39	2.63	T	F	1.152	
	DC	0.00	10:46	0.32	T	F	1.164	SN
		0.00	10:54	1.27	T	F	1.179	
		0.00	11:03	3.49	T	F	1.195	
		0.00	11:10	4.05	T	F	1.208	
		0.00	11:14	4.71	T	F	1.215	
		0.00	11:28	0.94	T	F	1.240	
		0.00	11:33	1.56	T	F	1.249	
		0.00	11:37	1.58	T	F	1.256	
		0.00	11:46	2.72	T	F	1.272	

Listing of U096208B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area		Match Rat	Match RT	REL_RT	Who/ Why
176		0.00	11:55	4.00		T	F	1.289	
		0.00	12:08	3.11		T	F	1.312	
176		*** Total ***		58.34		# of Peaks:		22	
178	DC	0.00	0:00	0.06		T	F	0.000	NL
		0.00	8:20	104.03		T	F	0.726	
		0.00	9:04	268.55		T	F	0.790	
		0.00	9:15	162.39		T	F	0.806	
		0.00	9:22	242.57		T	F	0.816	
		0.00	9:35	262.67		T	F	0.835	
		0.00	10:05	545.57		T	F	0.878	
		0.00	10:14	260.32		T	F	0.891	
		0.00	10:29	3276.57		T	F	0.913	
		0.00	10:58	677.18		T	F	0.955	
	CK—	0.00	11:33 *	8988.3 ~~8988.30~~	~~4631.0~~ *	T	T	1.006	— AR
	CK—	0.00	11:41 *	715.56		T	T	1.017	
		0.00	11:48	4196.40		T	F	1.028	
178		*** Total ***		19700.17		# of Peaks:		13	
188	DC	0.00	0:00	0.32		T	F	0.000	NL
		0.00	8:24	29.90		T	F	0.718	
		0.00	8:37	28.22		T	F	0.736	
		0.00	8:45	36.55		T	F	0.748	
		0.00	8:51	37.38		T	F	0.756	
		0.00	8:57	27.08		T	F	0.765	
		0.00	9:48	104.76	3295.54	T	F	0.837	
	CK—	0.00	11:29 *	~~3295.54~~	~~1633.0~~ *	T	T	1.000	I
	CK—	0.00	11:37 *	~~2338.28~~	~~1189.0~~ * 2338.28	T	RT	0.993	I
188		*** Total ***		5898.03		# of Peaks:		9	
					** CK RT 8.3.92				
202	DC	0.00	0:00	10.29		T	F	0.000	NL
	CK—	0.00	14:34 *	371.74 ~~371.74~~	~~184.1~~ *	T	T	1.003	
	CK—	0.00	15:09 *	3496.25 ~~3496.25~~	~~2781.0~~ *	T	T	1.044	
	CK—	0.00	15:56	684.40		T	F	1.098	
202		*** Total ***		4562.68		# of Peaks:		4	
	ff RT 8.3.92								
212	DC	0.00	0:00	1.04		T	F	0.000	NL
	CK—	0.00	14:31 *	1307.92 ~~1307.92~~	~~902.1~~ *	T	T	1.000	I
	CK—	0.00	15:07 *	2917.4 ~~2917.10~~	~~1777.0~~ *	T	T	0.998	I
		0.00	15:37	33536.50		T	F	1.031	
212		*** Total ***		37762.56		# of Peaks:		4	
228	DC	0.00	0:00	0.21		T	F	0.000	NL
	DC	0.00	14:30	1.67		T	F	0.797	SN
		0.00	14:35	5.88		T	F	0.801	
		0.00	15:16	82.93		T	F	0.839	
		0.00	15:37 *	78.90		T	F	0.858	
		0.00	15:57	2.49		T	F	0.876	
	DC	0.00	16:02	1.65		T	F	0.881	SN
		0.00	16:08	16.13		T	F	0.886	
		0.00	16:14	28.66		T	F	0.892	
	DC	0.00	16:19	0.99		T	F	0.897	SN
		0.00	16:26	7.78		T	F	0.903	

Listing of U096208B.dbf

Matched GC Peaks / Ratio / Ret. Time

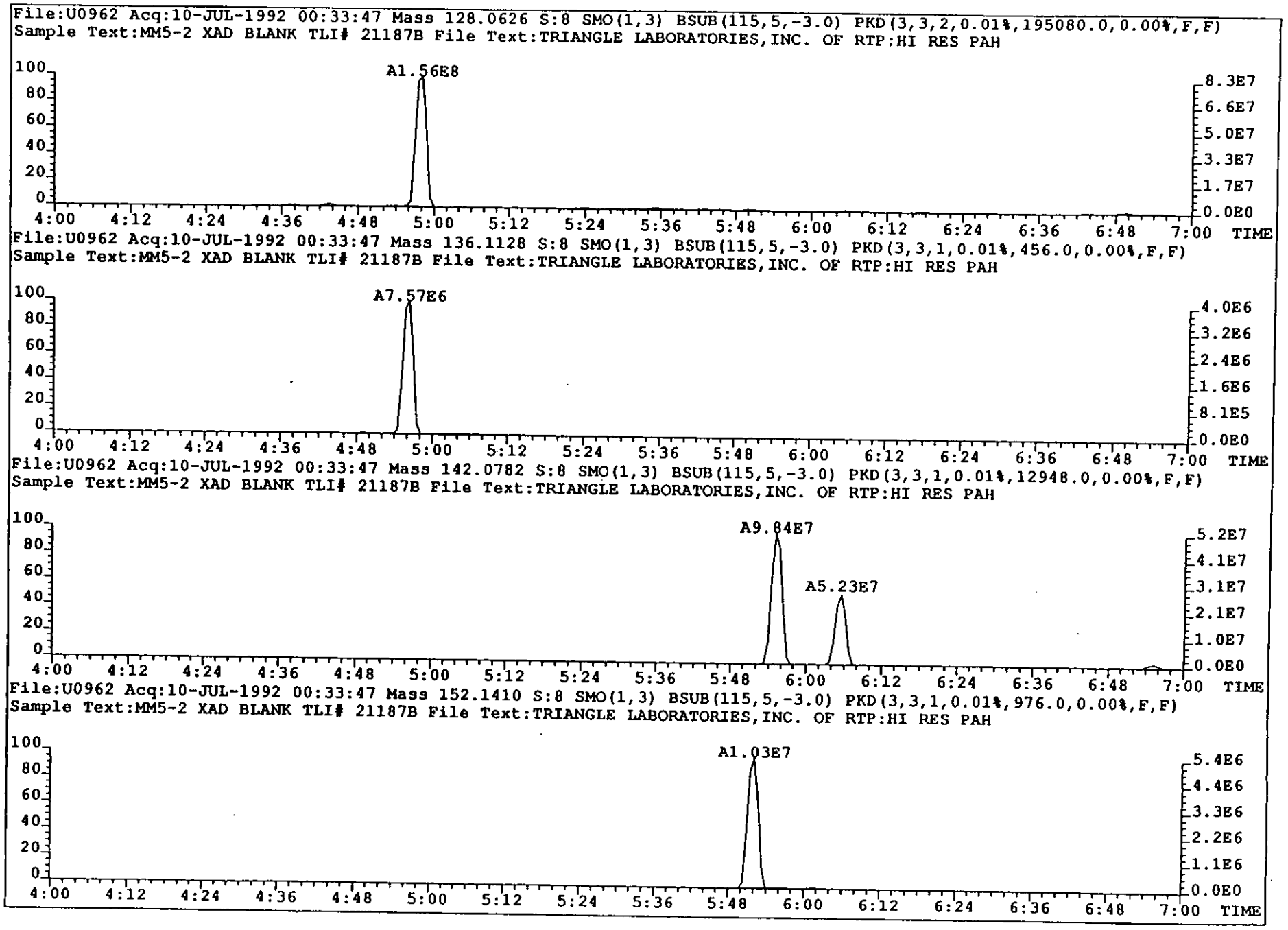
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
228		0.00	16:40	14.45	T	F	0.916	
		0.00	16:50	14.59	T	F	0.925	
		0.00	17:02	4.91	T	F	0.936	
		0.00	17:09	5.07	T	F	0.942	
		0.00	17:16	5.00	T	F	0.949	
		0.00	17:37	3.26	T	F	0.968	
		0.00	17:49	6.52	T	F	0.979	
		0.00	17:54	5.96	T	F	0.984	
	DC	0.00	17:58	1.19	T	F	0.987	SN
		0.00	18:~~20~~ 15	~~211.49~~ 57.95	T	T	1.007	PR
	clk	0.00	18:~~28~~ 22	~~11.43~~ 91.13	T	~~F~~ T	1.015	PR
		0.00	18:33	17.89	T	F	1.019	
228		*** Total ***		529.05	# of Peaks:		23	
240	DC	0.00	0:00	0.70	T	F	0.000	NL
		0.00	15:36	84783.42	T	F	0.857	
		0.00	18:12	921.56	T	T	1.000	
		0.00	18:17	1327.99	T	T	1.005	
240		*** Total ***		87033.67	# of Peaks:		4	
244	DC	0.00	0:00	0.07	T	F	0.000	NL
		0.00	15:36	863393.50	T	T	0.998	— S
244		*** Total ***		863393.57	# of Peaks:		2	
	252		21:50 (2)	12.36	T	T	1.000	PR
252	DC	0.00	0:00	0.14	T	F	0.000	NL
		0.00	21:43 (1)	49.26	T	~~F~~ T	0.946	
		0.00	22:50 (3)	37.18	T	~~F~~ T	0.995	
s)ND		0.00	23:03 (4)	5.45	T	T	1.004	
	DC	0.00	23:20	0.49	T	F	1.017	SN
	DC	0.00	23:24	0.58	T	F	1.020	SN
	DC	0.00	23:37	0.38	T	F	1.029	SN
		0.00	23:54	57.16	T	F	1.041	
252		*** Total ***		150.64	# of Peaks:		8	
264	DC	0.00	0:00	0.04	T	F	0.000	NL
		0.00	21:36	952.85	T	F	0.941	
		0.00	21:43	697.14	T	F	0.946	
ck s) diff		0.00	22:42	2361.42	T	T	1.002	
		0.00	22:57	391.02	T	T	1.000	
		0.00	23:54	7716.75	T	F	1.041	
264		*** Total ***		12119.22	# of Peaks:		6	
	264		23:25	28.39	T	T	1.000	
276	DC	0.00	0:00	0.05	T	F	0.000	NL
		0.00	29:15	4.28	T	T	0.948	
		0.00	30:35	2.18	T	F	0.991	
		0.00	31:06	77.89	T	T	1.008	
276		*** Total ***		84.40	# of Peaks:		4	
278	DC	0.00	0:00	0.03	T	F	0.000	NL
278		*** Total ***		0.03	# of Peaks:		1	
288	DC	0.00	0:00	0.03	T	F	0.000	NL
		0.00	27:25	553.57	T	F	0.888	

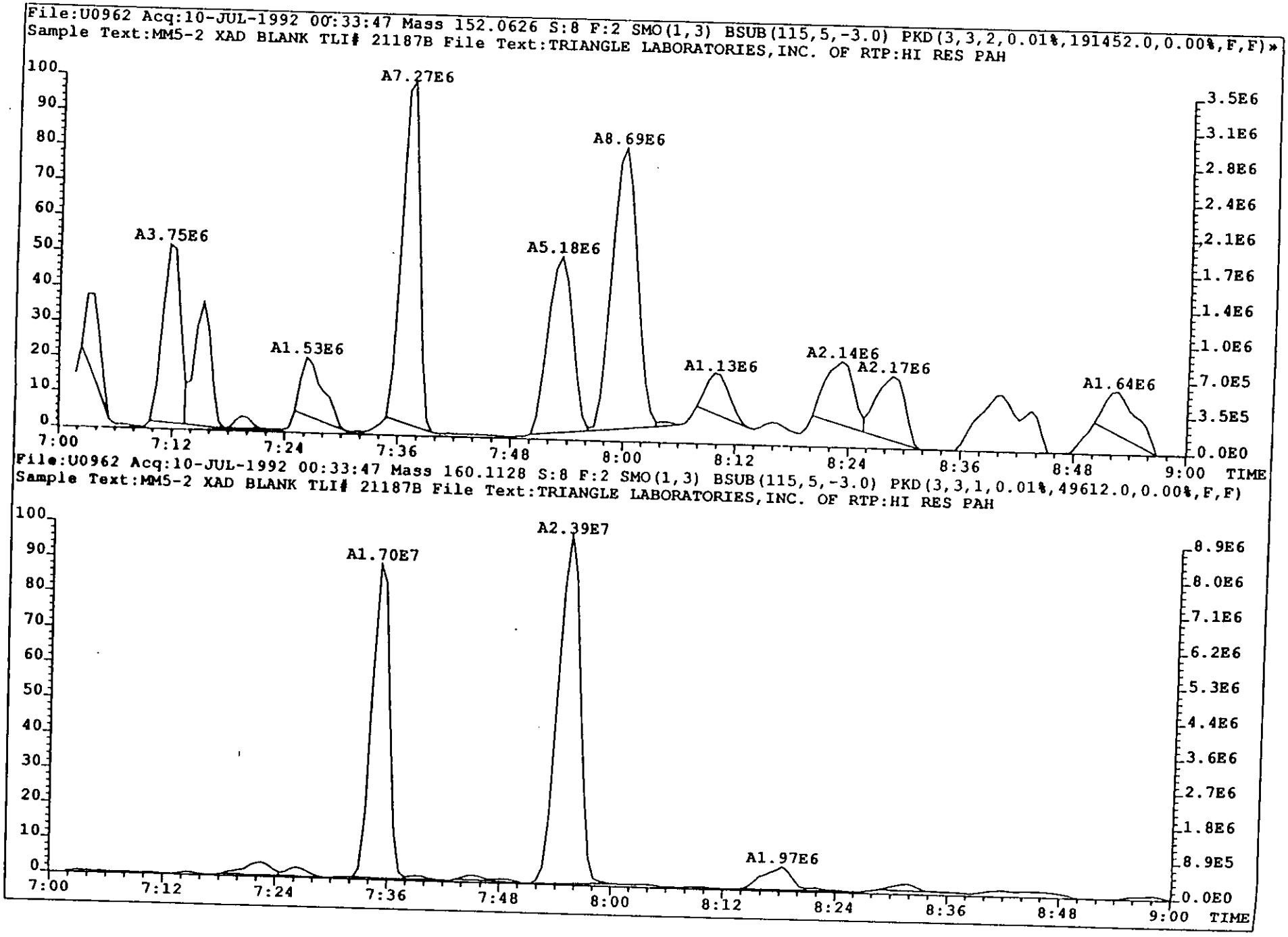
Listing of U096208B.dbf

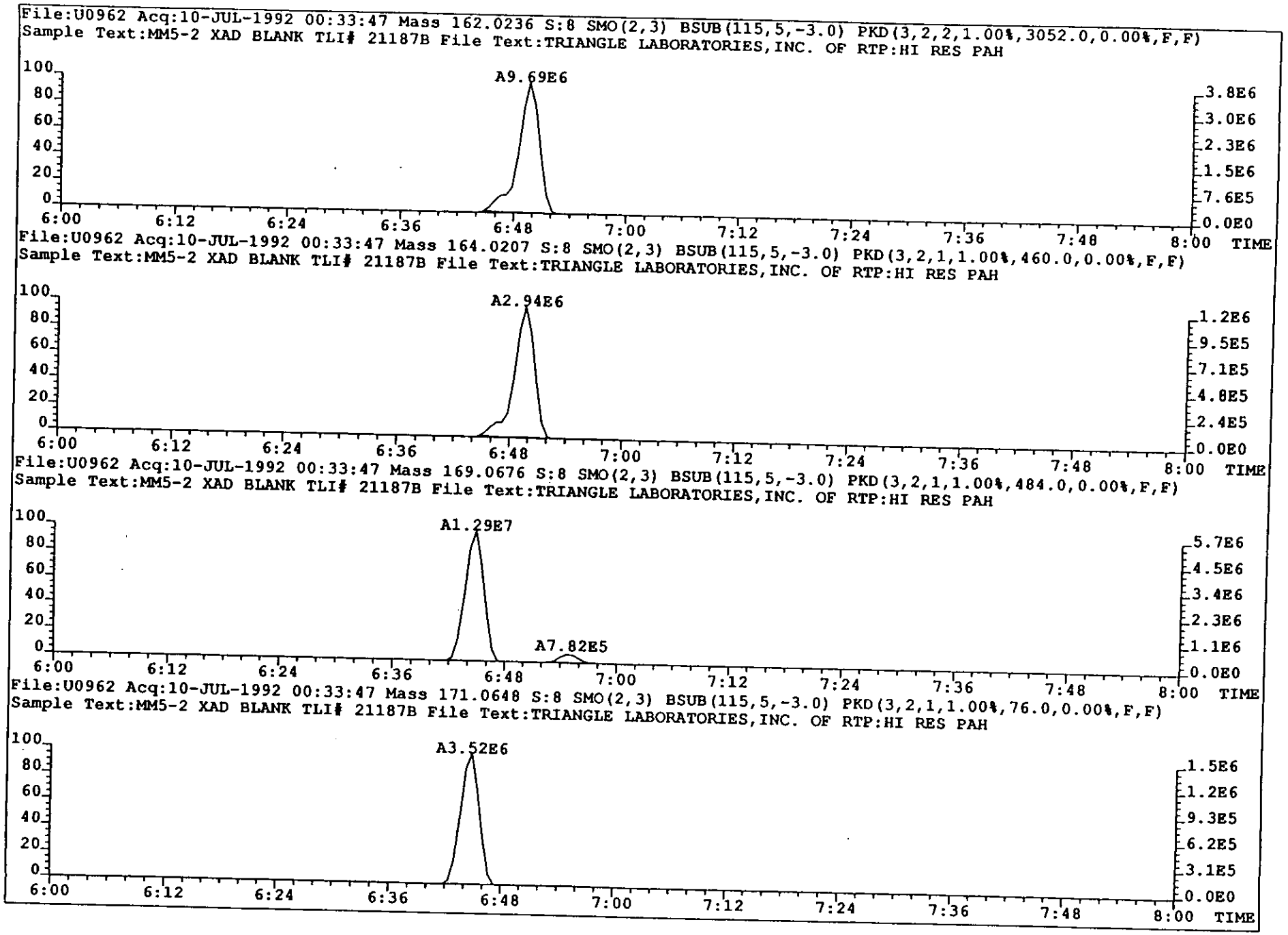
Matched GC Peaks / Ratio / Ret. Time

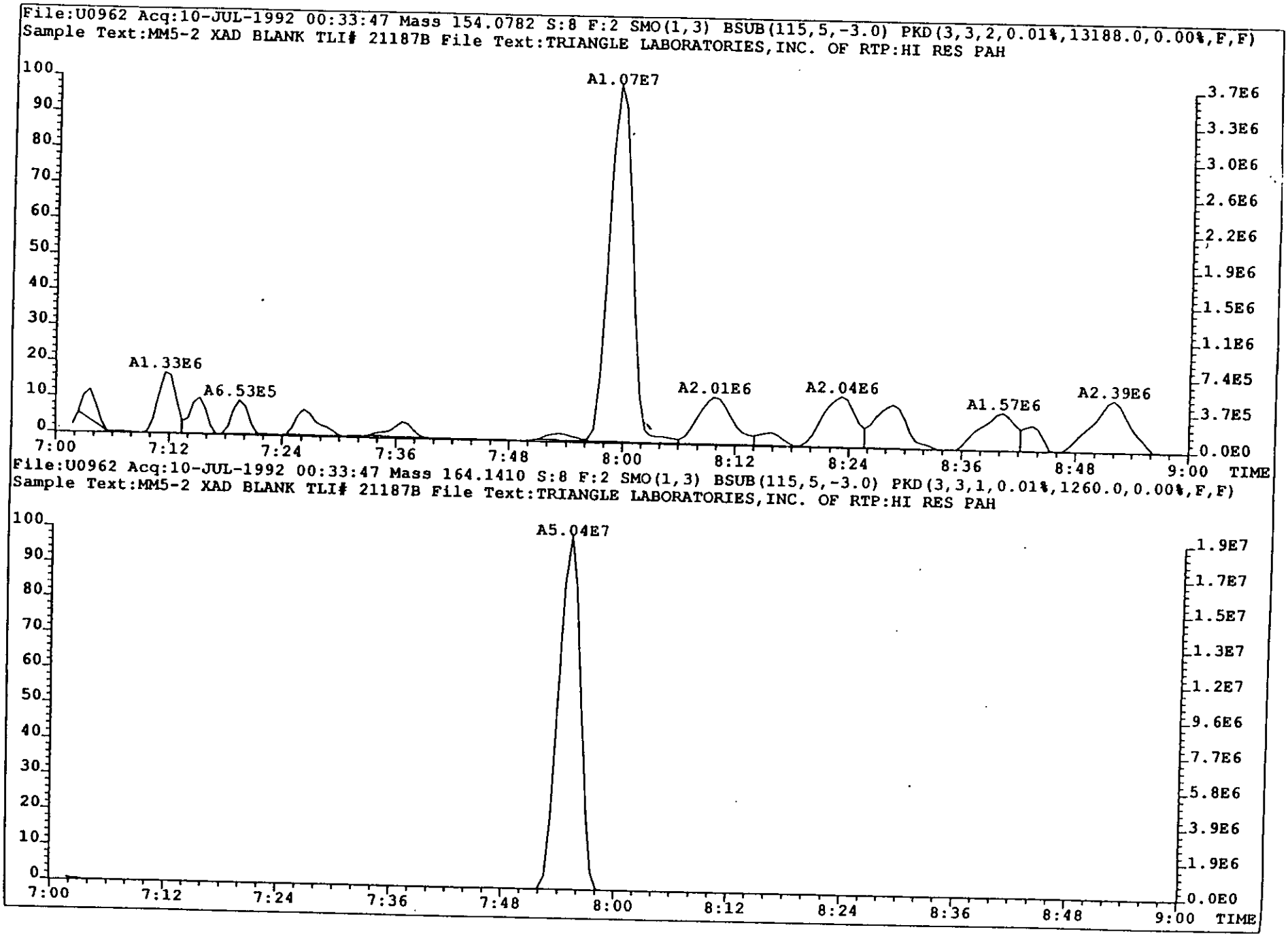
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
288		0.00	28:13	38.75	T	F	0.914	
		0.00	29:05	246.15	T	T	0.942	
		0.00	29:15	164.38	T	F	0.948	
		0.00	30:52	593.86	T	T	1.000	
288		*** Total ***		1596.74	# of Peaks:		6	
292	DC	0.00	0:00	0.03	T	F	0.000	NL
		0.00	28:12	249.05	T	F	0.964	
		0.00	29:15	398.82	T	T	1.000	
292		*** Total ***		647.90	# of Peaks:		3	

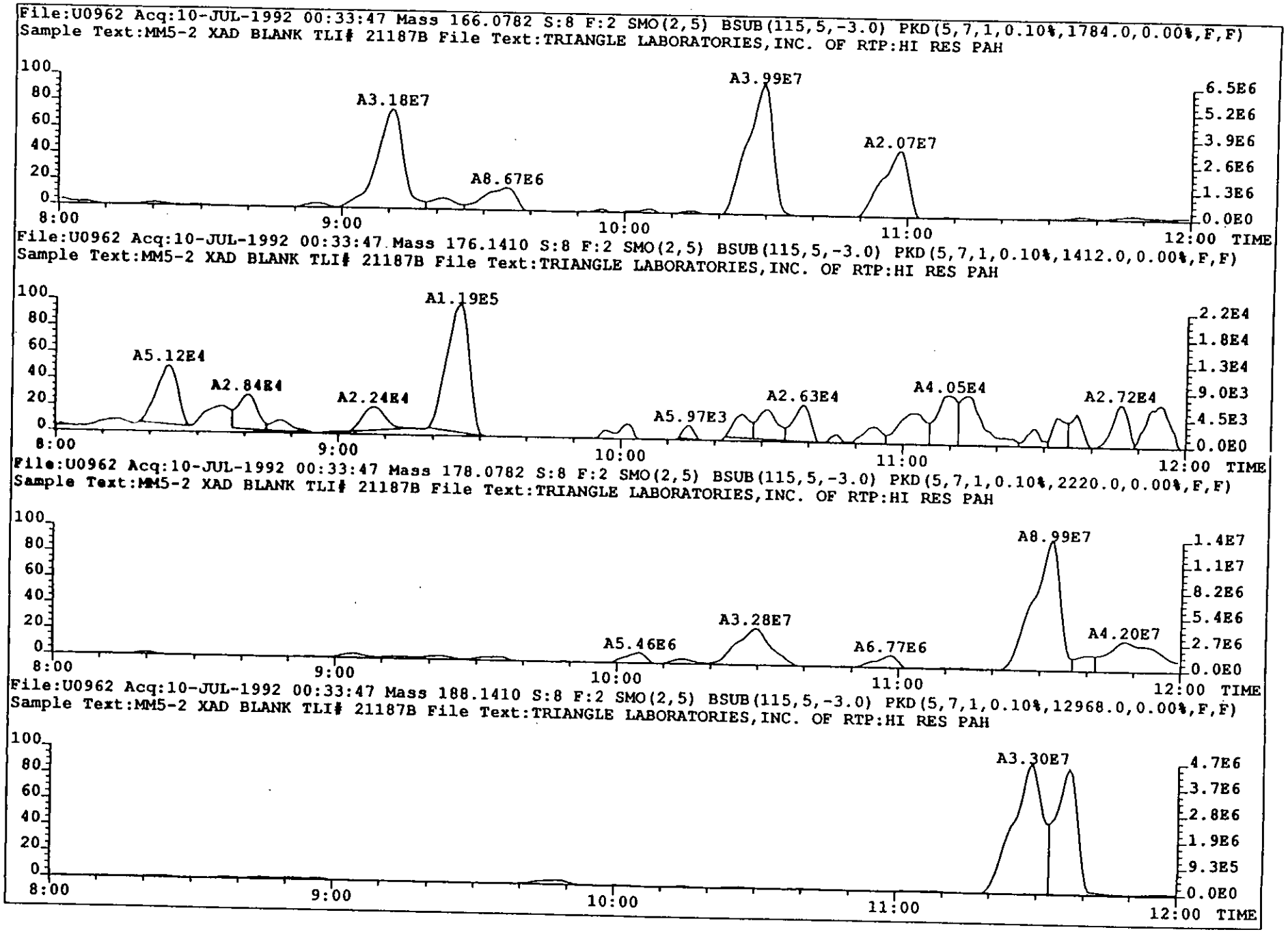
*** End of Report ***

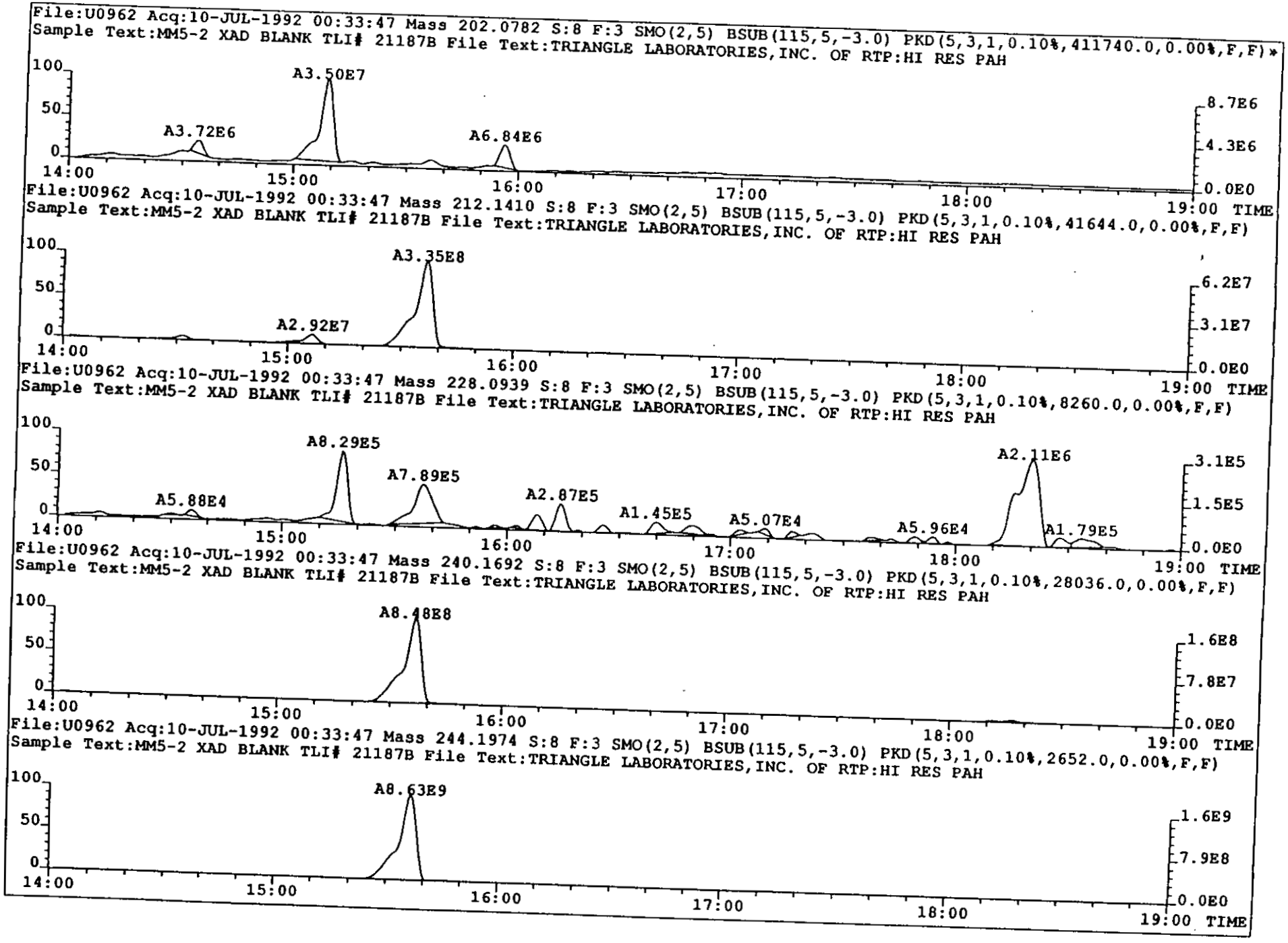

File:U0962 Acq:10-JUL-1992 00:33:47 Mass 128.0626 S:8 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,195080.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.56E8
8.3E7
6.6E7
5.0E7
3.3E7
1.7E7
0.0E0
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 136.1128 S:8 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,456.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.57E6
4.0E6
3.2E6
2.4E6
1.6E6
8.1E5
0.0E0
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 142.0782 S:8 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,12948.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.84E7
A5.23E7
5.2E7
4.1E7
3.1E7
2.1E7
1.0E7
0.0E0
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 152.1410 S:8 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,976.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.03E7
5.4E6
4.4E6
3.3E6
2.2E6
1.1E6
0.0E0
100
80
60
40
20
0
4:00
4:12
4:24
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
6:24
6:36
6:48
7:00
TIME

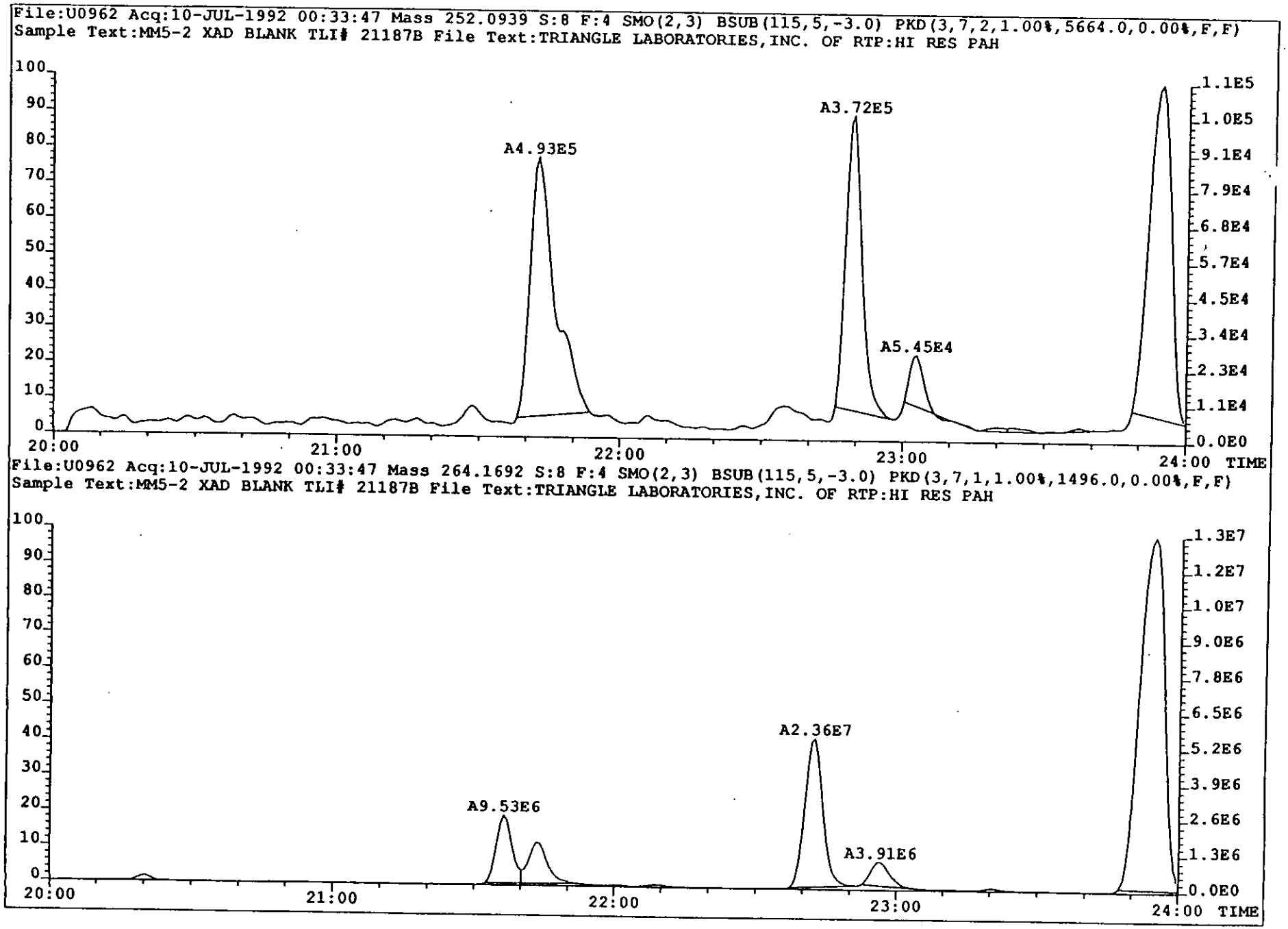

File:U0962 Acq:10-JUL-1992 00:33:47 Mass 152.0626 S:8 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,191452.0,0.00%,F,F)»
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.27E6
A8.69E6
A3.75E6
A5.18E6
A1.53E6
A1.13E6
A2.14E6
A2.17E6
A1.64E6
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 160.1128 S:8 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,49612.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.39E7
A1.70E7
A1.97E6
TIME

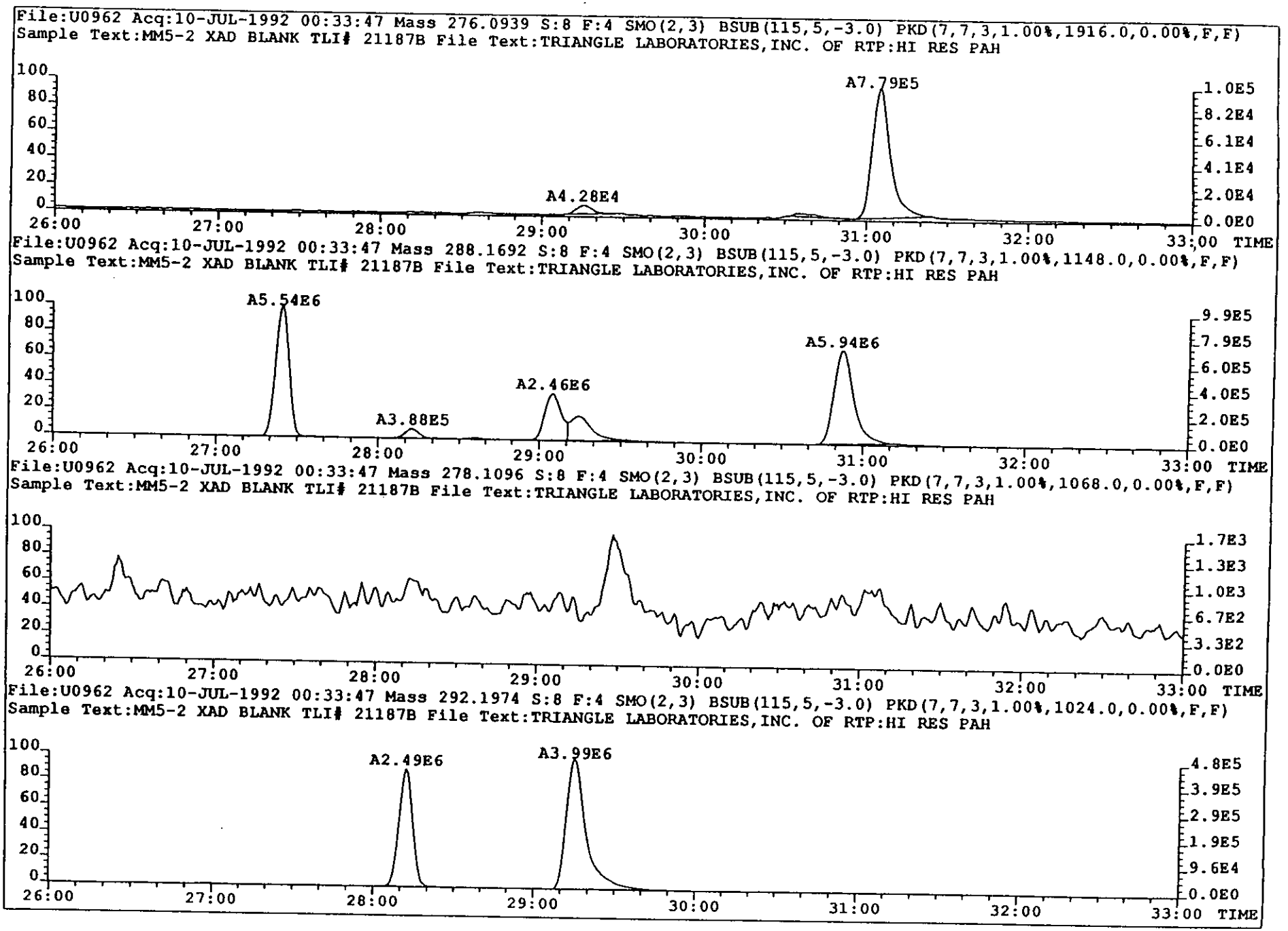

File:U0962 Acq:10-JUL-1992 00:33:47 Mass 162.0236 S:8 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,2,1.00%,3052.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.69E6
100
80
60
40
20
0
6:00
6:12
6:24
6:36
6:48
7:00
7:12
7:24
7:36
7:48
8:00
TIME
3.8E6
3.0E6
2.3E6
1.5E6
7.6E5
0.0E0
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 164.0207 S:8 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,460.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.94E6
1.2E6
9.5E5
7.1E5
4.8E5
2.4E5
0.0E0
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 169.0676 S:8 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,484.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.29E7
A7.82E5
5.7E6
4.5E6
3.4E6
2.3E6
1.1E6
0.0E0
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 171.0648 S:8 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,76.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.52E6
1.5E6
1.2E6
9.3E5
6.2E5
3.1E5
0.0E0

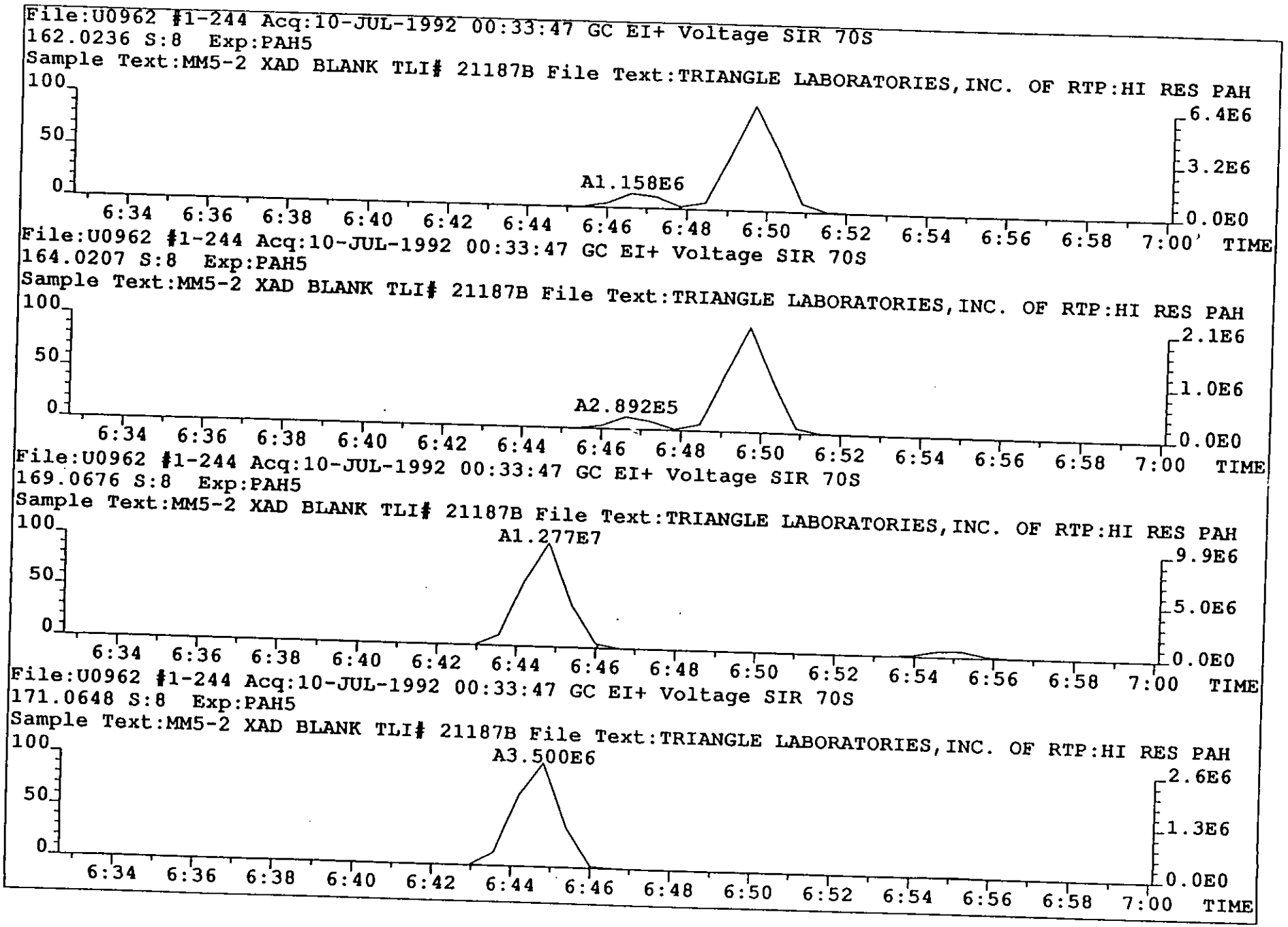

File:U0962 Acq:10-JUL-1992 00:33:47 Mass 154.0782 S:8 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,13188.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.07E7
A1.33E6
A6.53E5
A2.01E6
A2.04E6
A1.57E6
A2.39E6
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 164.1410 S:8 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,1260.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A5.04E7
TIME

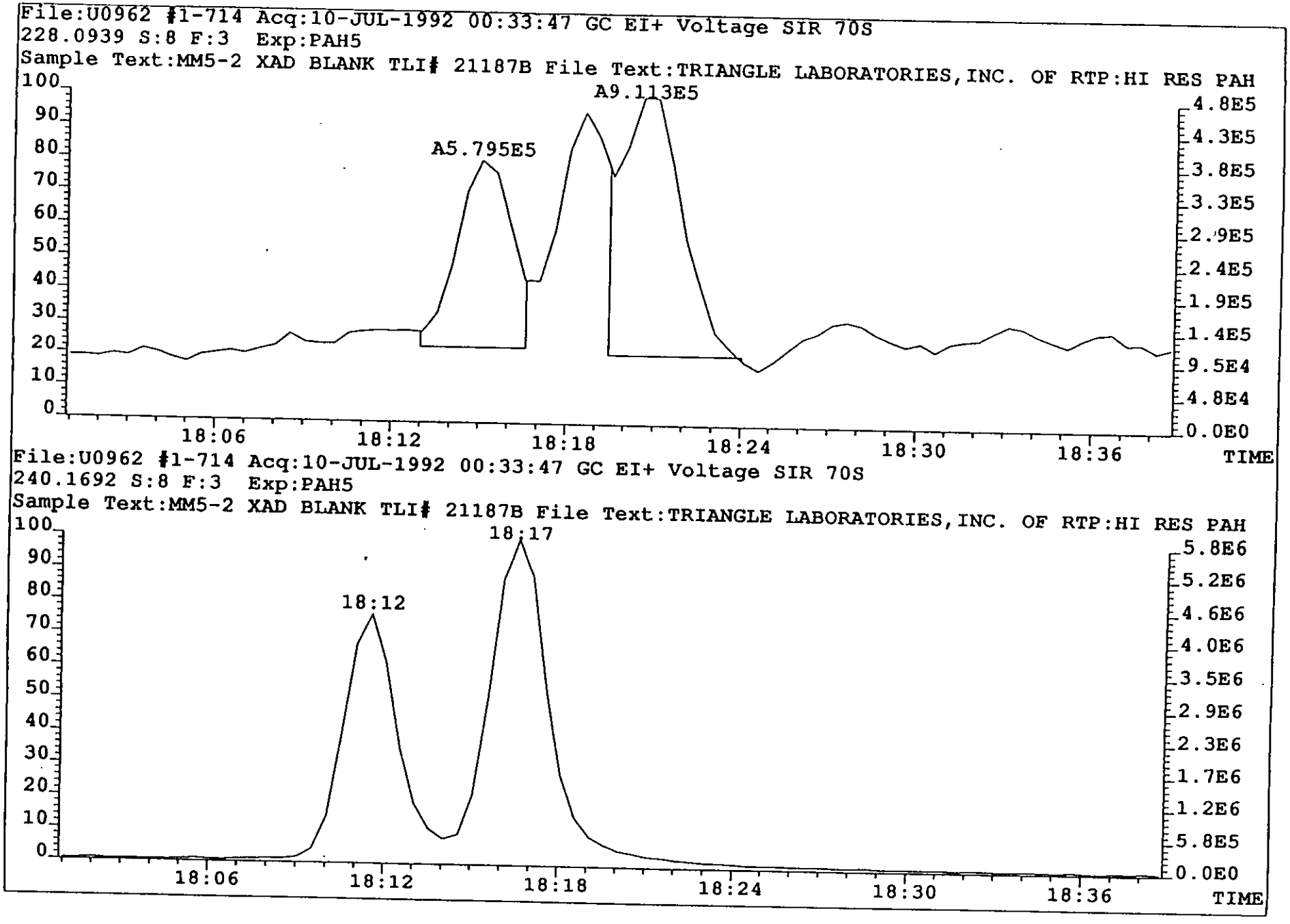

File:U0962 Acq:10-JUL-1992 00:33:47 Mass 166.0782 S:8 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,1784.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.18E7
A8.67E6
A3.99E7
A2.07E7
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 176.1410 S:8 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,1412.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A5.12E4
A2.84E4
A2.24E4
A1.19E5
A5.97E3
A2.63E4
A4.05E4
A2.72E4
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 178.0782 S:8 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,2220.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A5.46E6
A3.28E7
A6.77E6
A8.99E7
A4.20E7
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 188.1410 S:8 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,12968.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.30E7
8:00
9:00
10:00
11:00
12:00
TIME

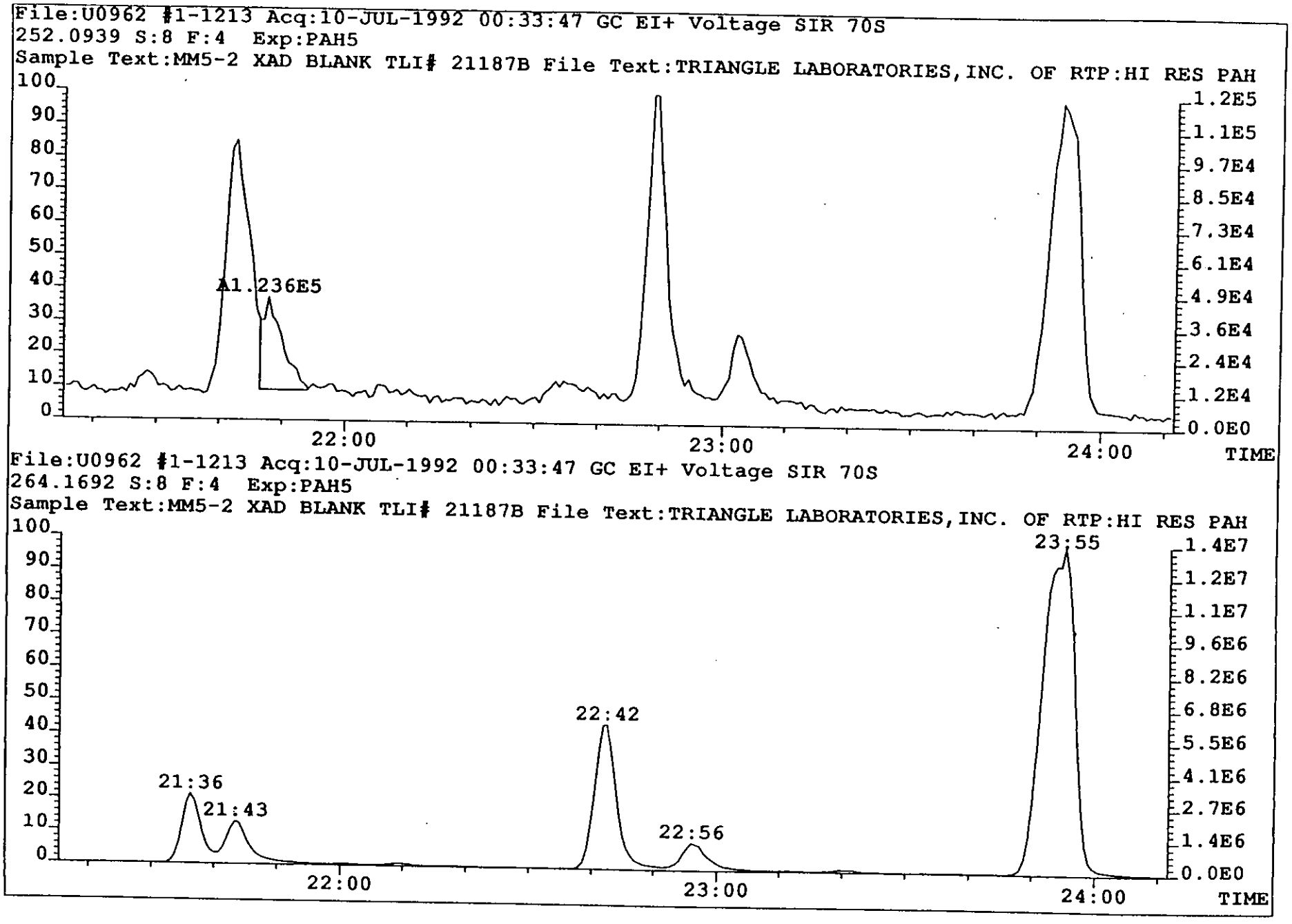

File:U0962 Acq:10-JUL-1992 00:33:47 Mass 202.0782 S:8 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,411740.0,0.00%,F,F)*
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.50E7
A3.72E6
A6.84E6
8.7E6
4.3E6
0.0E0
14:00
15:00
16:00
17:00
18:00
19:00 TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 212.1410 S:8 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,41644.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.35E8
A2.92E7
6.2E7
3.1E7
0.0E0
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 228.0939 S:8 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,8260.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A8.29E5
A7.89E5
A2.87E5
A1.45E5
A5.07E4
A5.96E4
A2.11E6
A1.79E5
A5.88E4
3.1E5
1.5E5
0.0E0
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 240.1692 S:8 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,28036.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A8.48E8
1.6E8
7.8E7
0.0E0
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 244.1974 S:8 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,2652.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A8.63E9
1.6E9
7.9E8
0.0E0
100
50
0

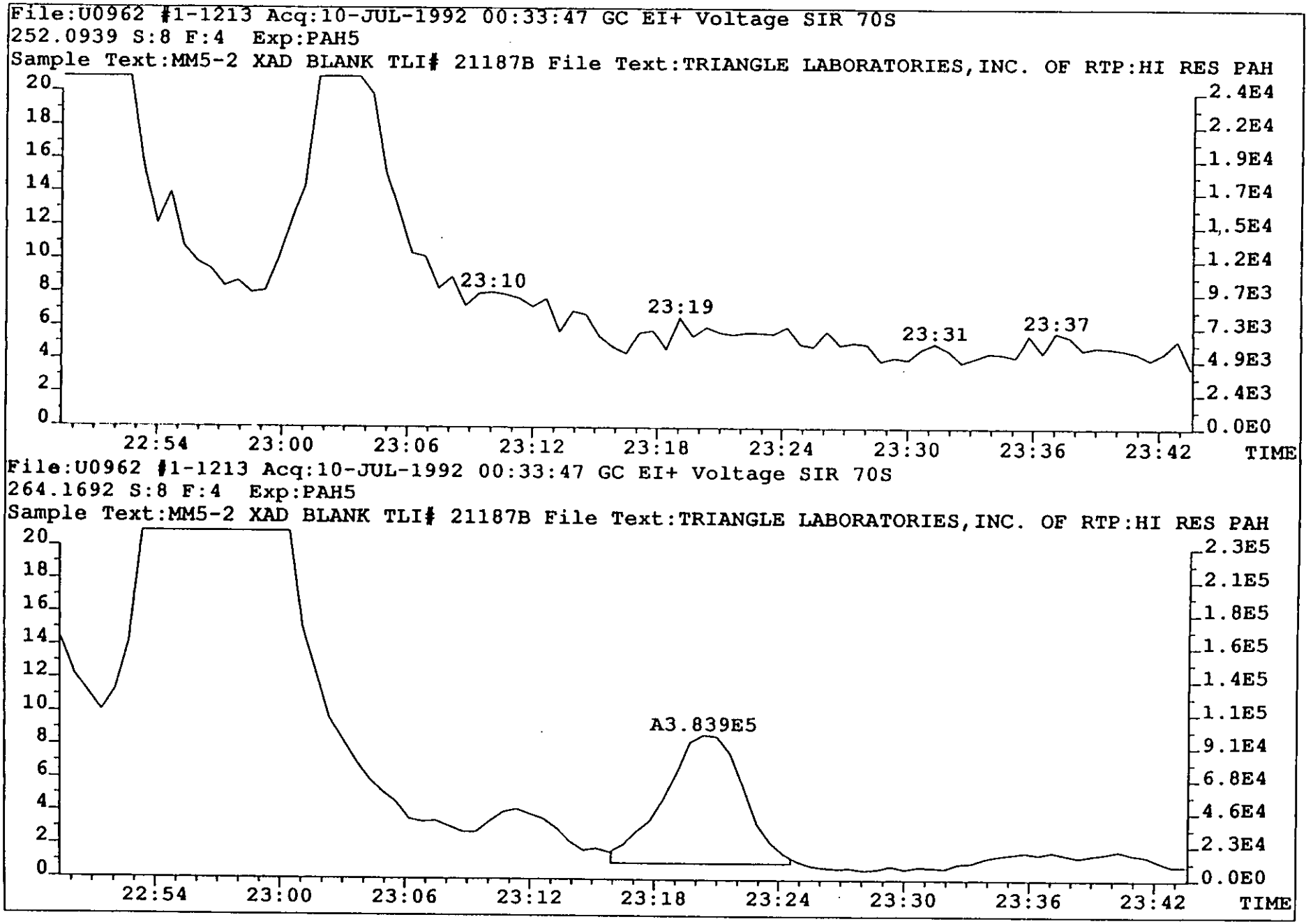

File:U0962 Acq:10-JUL-1992 00:33:47 Mass 252.0939 S:8 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,2,1.00%,5664.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A4.93E5
A3.72E5
A5.45E4
20:00
21:00
22:00
23:00
24:00 TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 264.1692 S:8 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,1,1.00%,1496.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.53E6
A2.36E7
A3.91E6
20:00
21:00
22:00
23:00
24:00 TIME

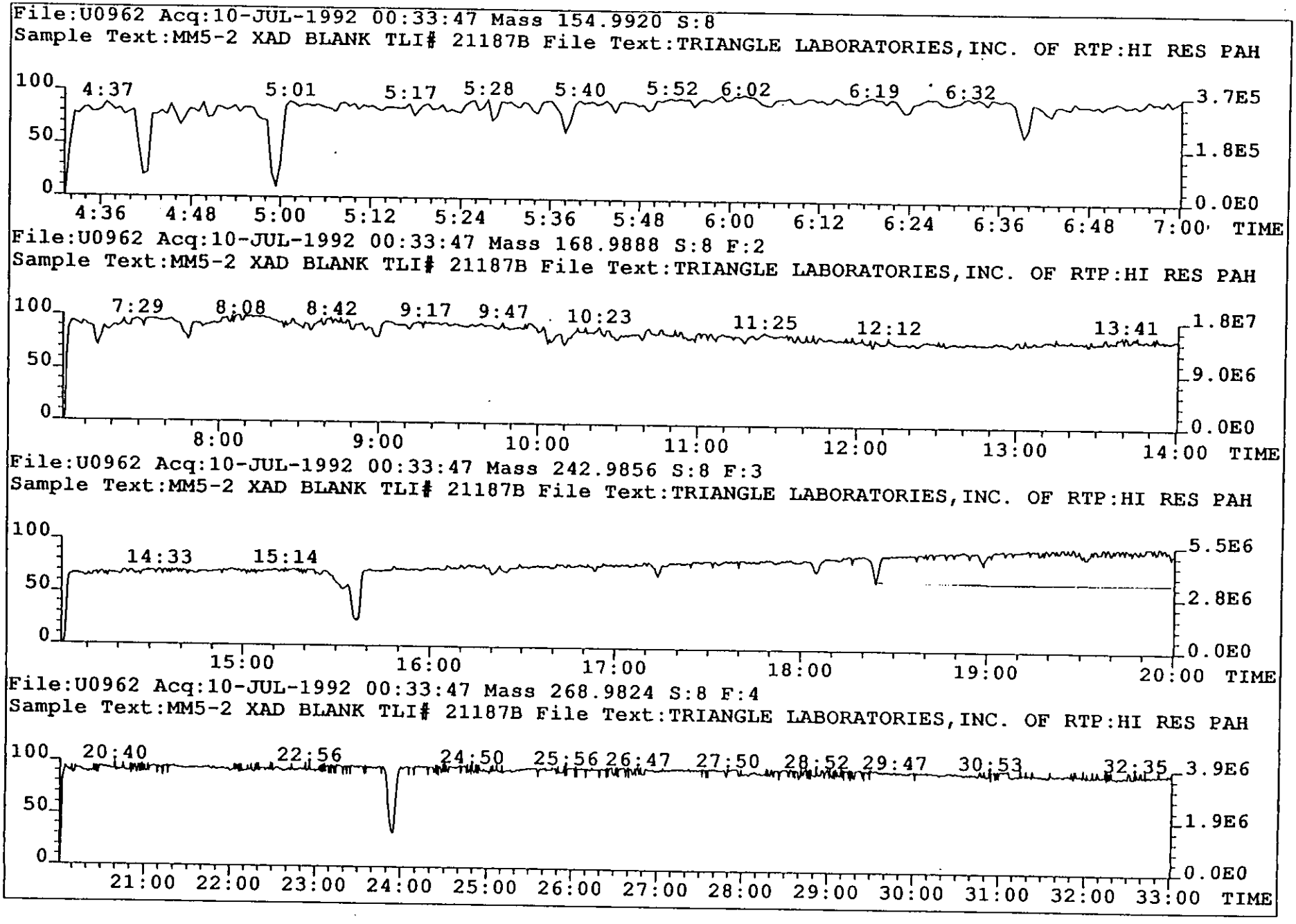

File:U0962 Acq:10-JUL-1992 00:33:47 Mass 276.0939 S:8 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,1916.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.79E5
A4.28E4
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 288.1692 S:8 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,1148.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A5.54E6
A3.88E5
A2.46E6
A5.94E6
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 278.1096 S:8 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,1068.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 292.1974 S:8 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,1024.0,0.00%,F,F)
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.49E6
A3.99E6
TIME

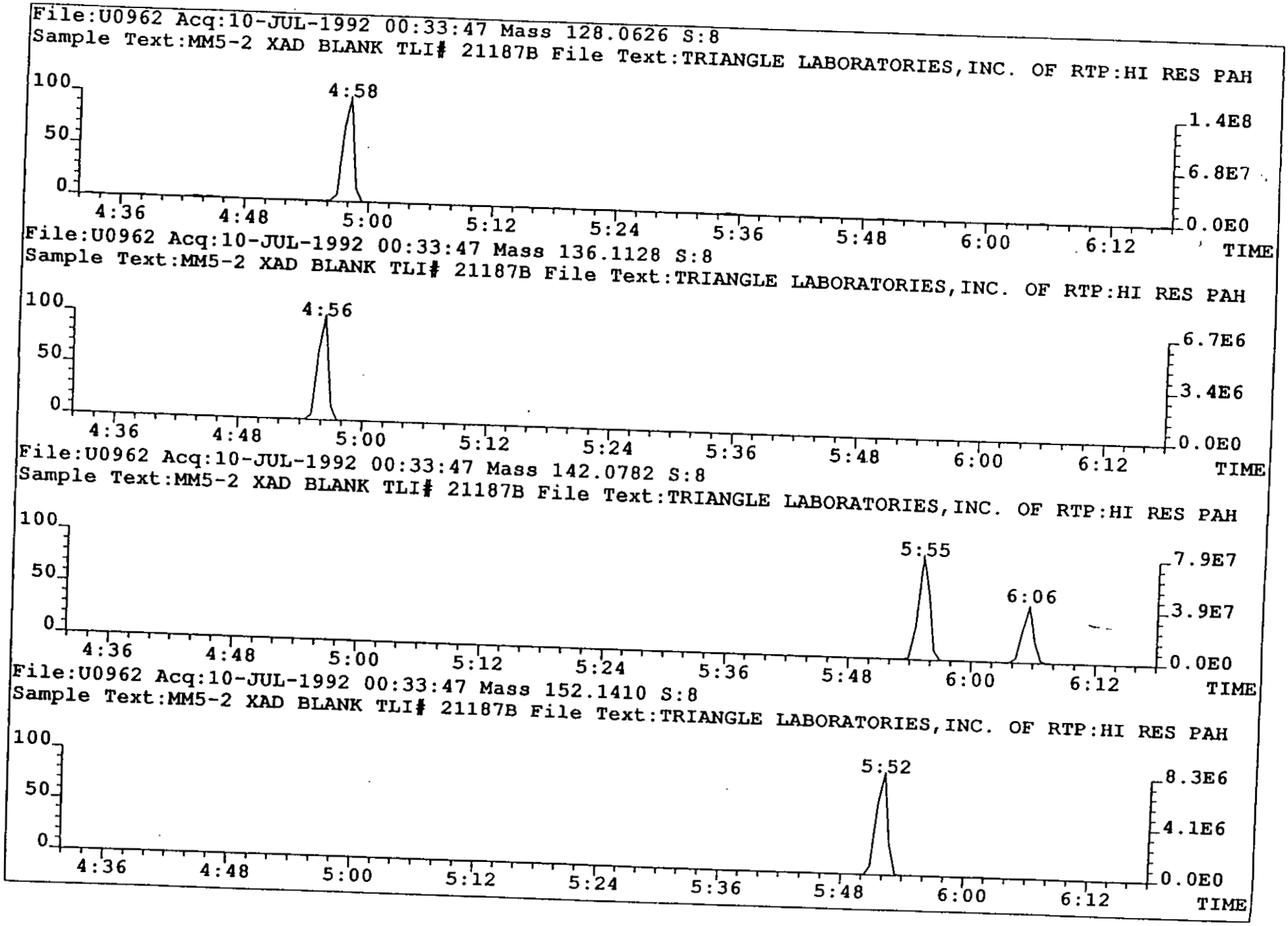

File:U0962 #1-244 Acq:10-JUL-1992 00:33:47 GC EI+ Voltage SIR 70S
162.0236 S:8 Exp:PAH5
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
A1.158E6
6.4E6
3.2E6
0.0E0
6:34 6:36 6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 #1-244 Acq:10-JUL-1992 00:33:47 GC EI+ Voltage SIR 70S
164.0207 S:8 Exp:PAH5
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
A2.892E5
2.1E6
1.0E6
0.0E0
6:34 6:36 6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 #1-244 Acq:10-JUL-1992 00:33:47 GC EI+ Voltage SIR 70S
169.0676 S:8 Exp:PAH5
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
A1.277E7
9.9E6
5.0E6
0.0E0
6:34 6:36 6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 #1-244 Acq:10-JUL-1992 00:33:47 GC EI+ Voltage SIR 70S
171.0648 S:8 Exp:PAH5
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
A3.500E6
2.6E6
1.3E6
0.0E0
6:34 6:36 6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME

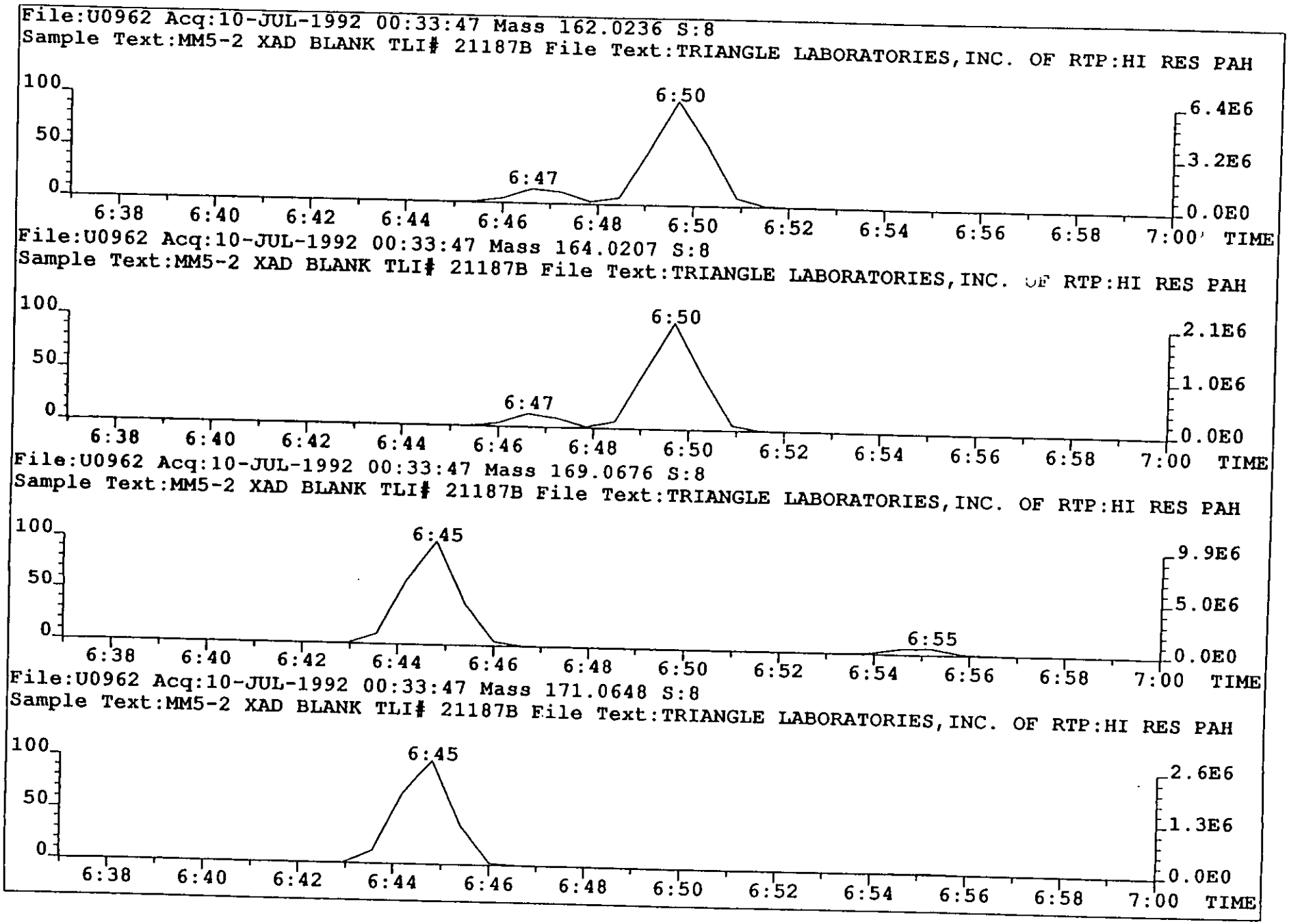

File:U0962 #1-714 Acq:10-JUL-1992 00:33:47 GC EI+ Voltage SIR 70S
228.0939 S:8 F:3 Exp:PAH5
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.113E5
A5.795E5
TIME
File:U0962 #1-714 Acq:10-JUL-1992 00:33:47 GC EI+ Voltage SIR 70S
240.1692 S:8 F:3 Exp:PAH5
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:17
18:12
TIME

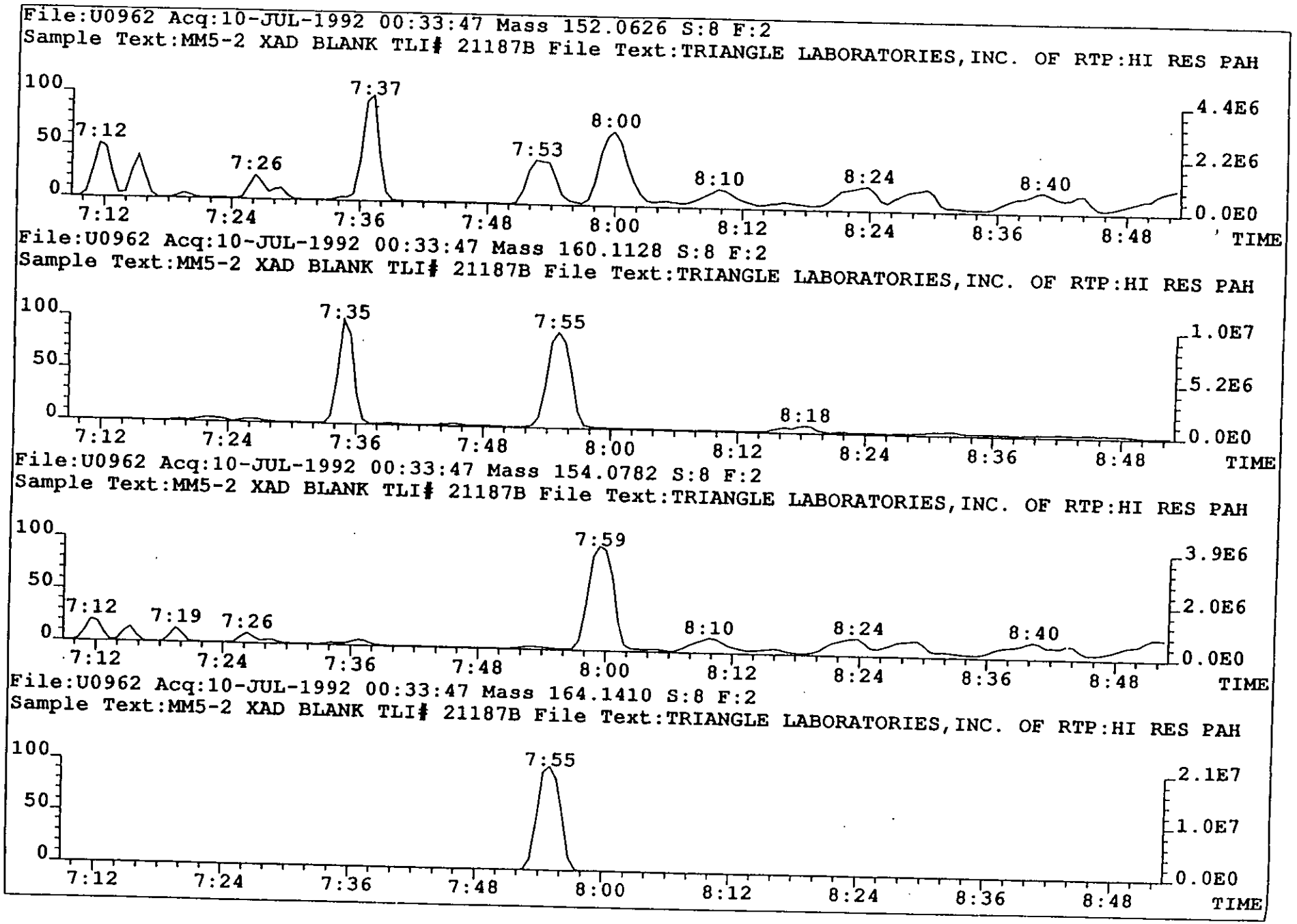

File:U0962 #1-1213 Acq:10-JUL-1992 00:33:47 GC EI+ Voltage SIR 70S
252.0939 S:8 F:4 Exp:PAH5
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.236E5
22:00
23:00
24:00
TIME
File:U0962 #1-1213 Acq:10-JUL-1992 00:33:47 GC EI+ Voltage SIR 70S
264.1692 S:8 F:4 Exp:PAH5
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:36
21:43
22:42
22:56
23:55
22:00
23:00
24:00
TIME

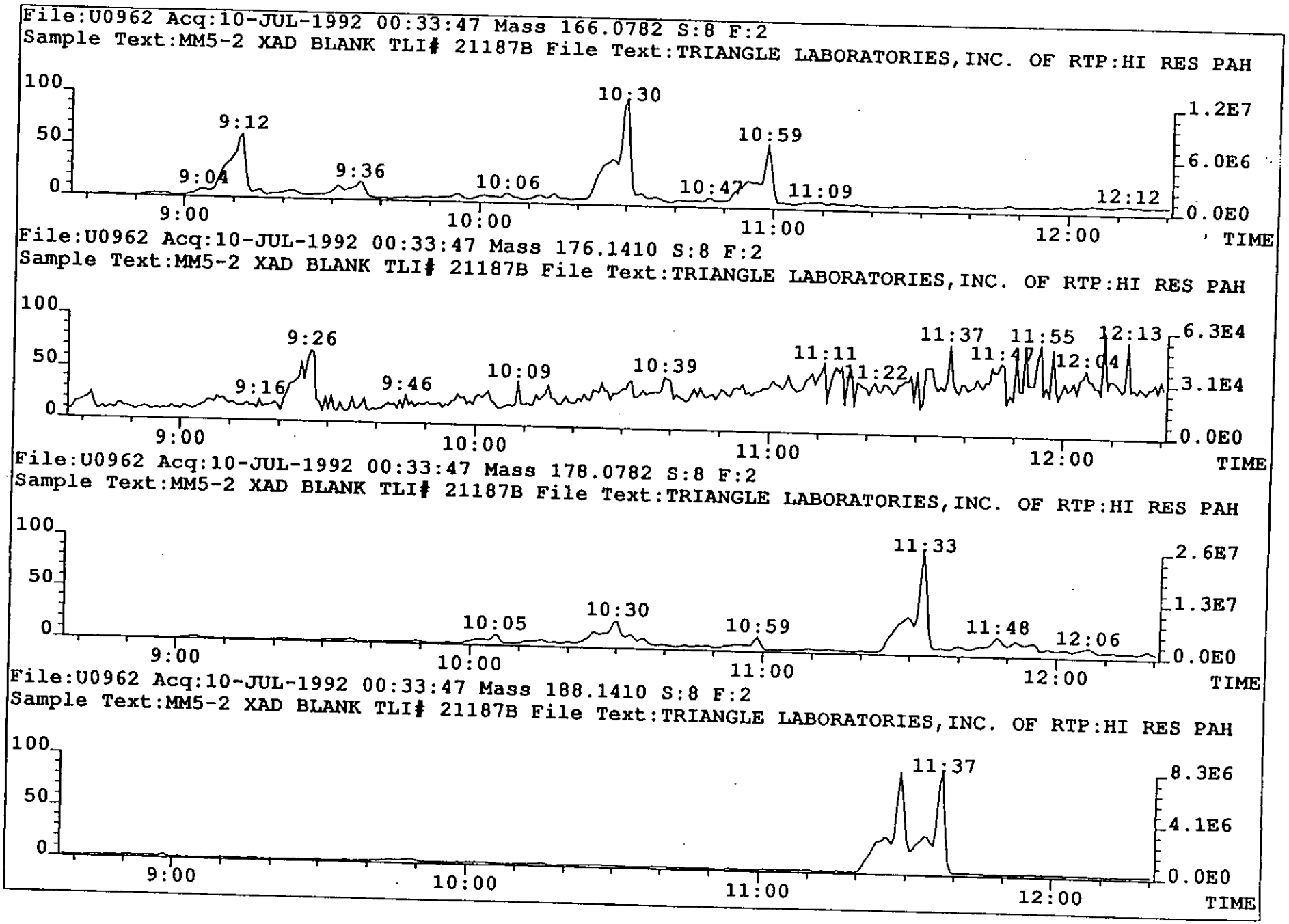

File:U0962 #1-1213 Acq:10-JUL-1992 00:33:47 GC EI+ Voltage SIR 70S
252.0939 S:8 F:4 Exp:PAH5
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
23:10
23:19
23:31
23:37
TIME
File:U0962 #1-1213 Acq:10-JUL-1992 00:33:47 GC EI+ Voltage SIR 70S
264.1692 S:8 F:4 Exp:PAH5
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.839E5
TIME

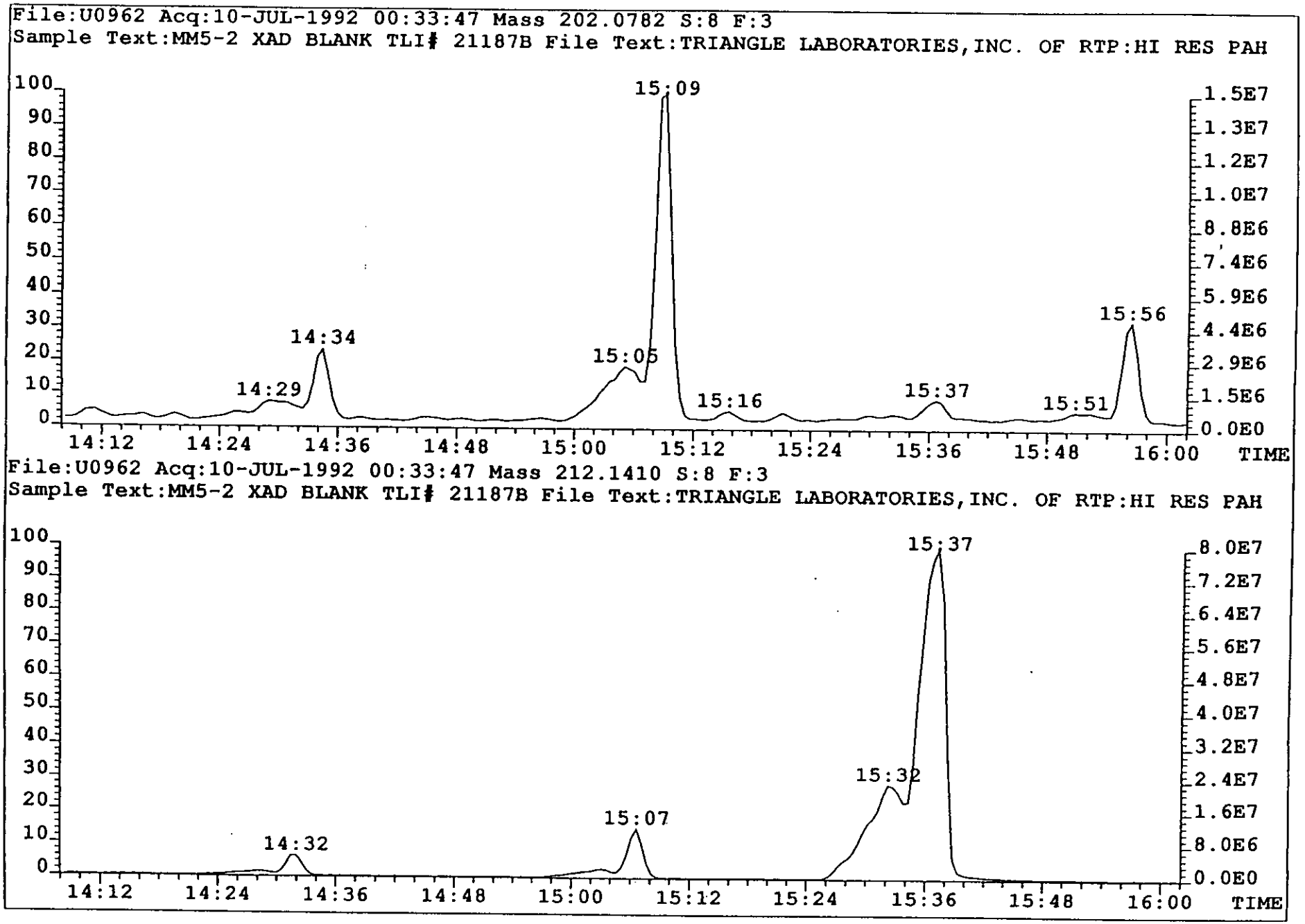

File:U0962 Acq:10-JUL-1992 00:33:47 Mass 154.9920 S:8
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:37
5:01
5:17
5:28
5:40
5:52
6:02
6:19
6:32
3.7E5
1.8E5
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
6:24
6:36
6:48
7:00
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 168.9888 S:8 F:2
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:29
8:08
8:42
9:17
9:47
10:23
11:25
12:12
13:41
1.8E7
9.0E6
0.0E0
8:00
9:00
10:00
11:00
12:00
13:00
14:00
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 242.9856 S:8 F:3
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
14:33
15:14
5.5E6
2.8E6
0.0E0
15:00
16:00
17:00
18:00
19:00
20:00
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 268.9824 S:8 F:4
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
20:40
22:56
24:50
25:56
26:47
27:50
28:52
29:47
30:53
32:35
3.9E6
1.9E6
0.0E0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
28:00
29:00
30:00
31:00
32:00
33:00
TIME

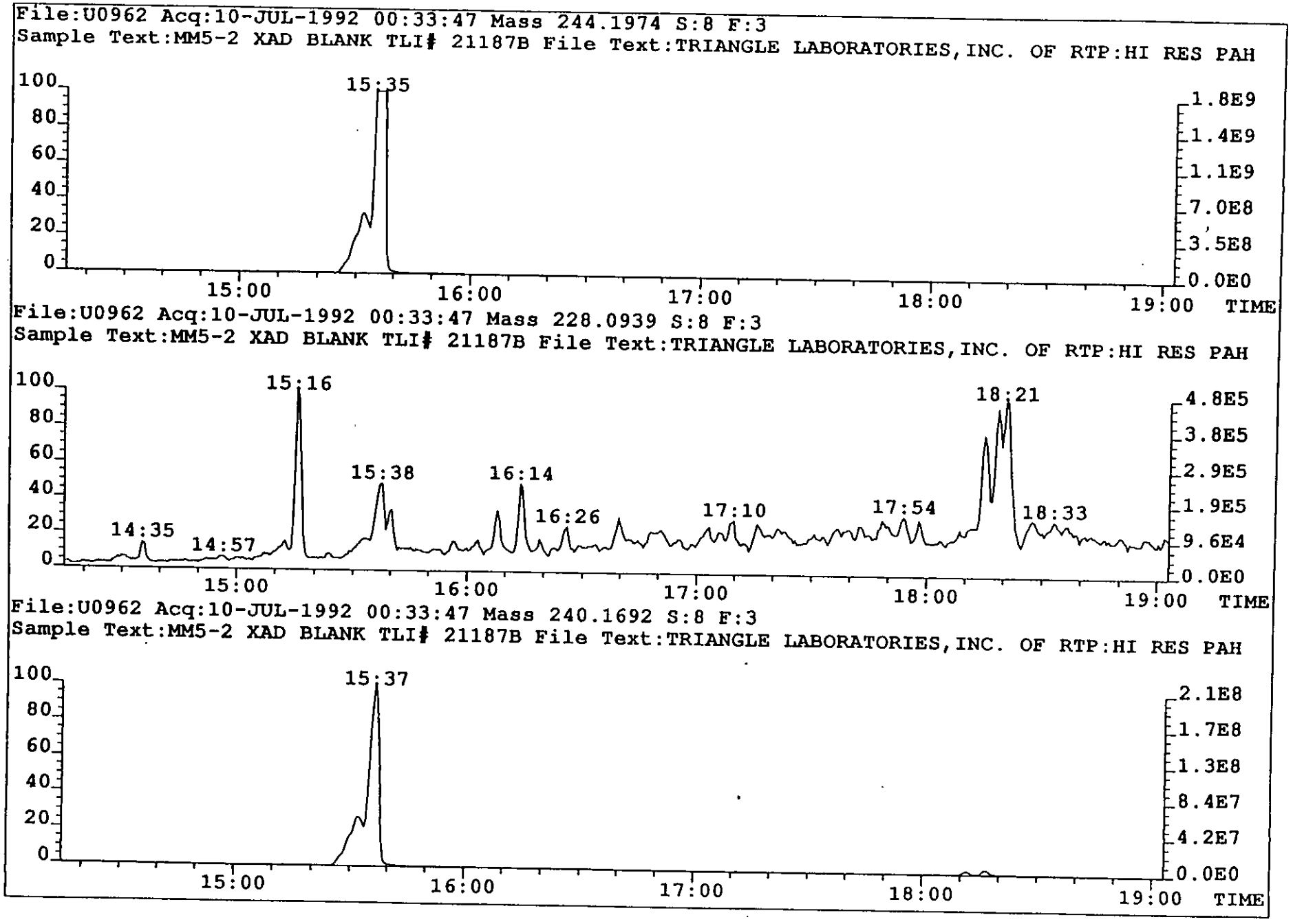

File:U0962 Acq:10-JUL-1992 00:33:47 Mass 128.0626 S:8
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:58
1.4E8
6.8E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 136.1128 S:8
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:56
6.7E6
3.4E6
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 142.0782 S:8
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
5:55
6:06
7.9E7
3.9E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 152.1410 S:8
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
5:52
8.3E6
4.1E6
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME

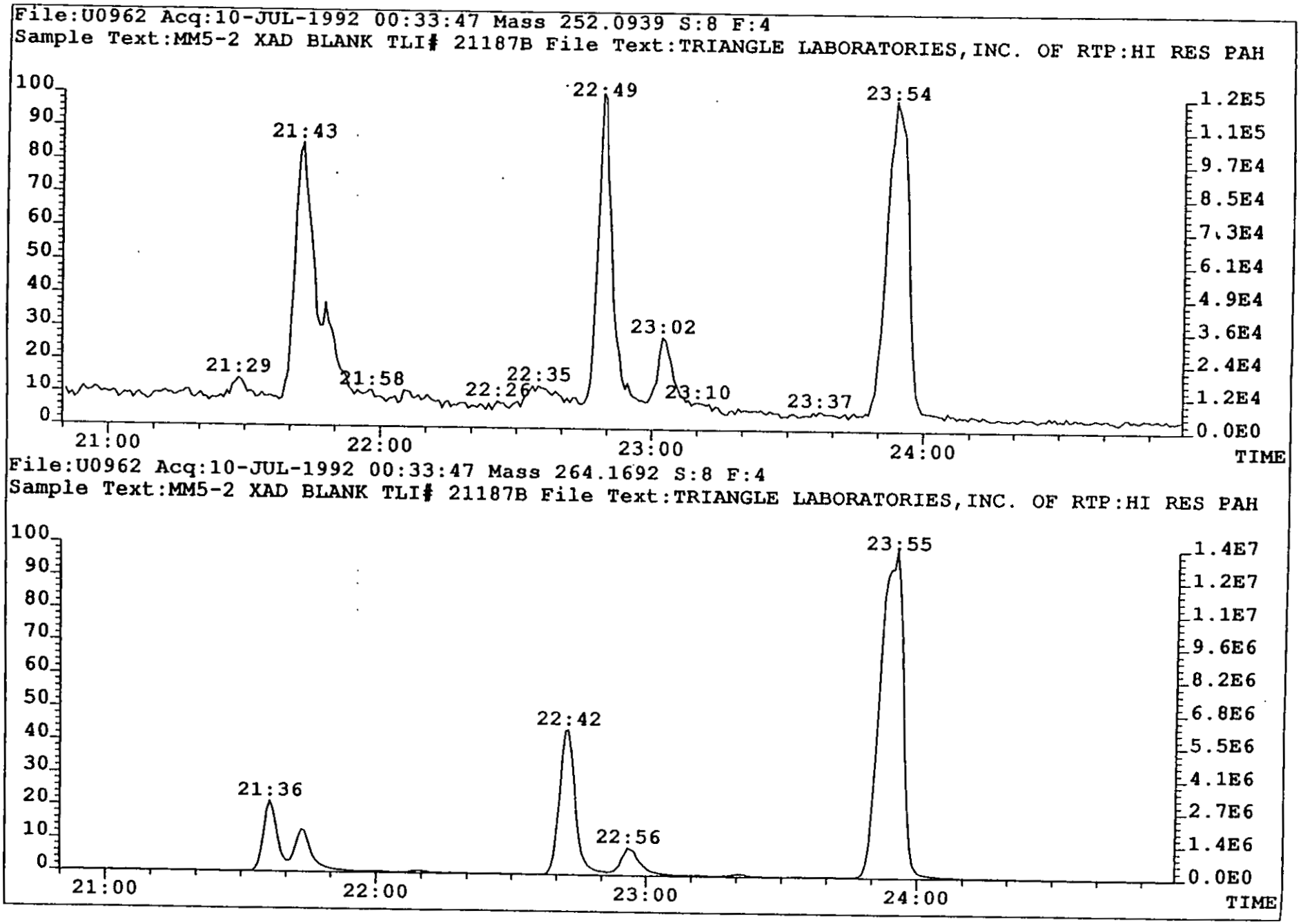

File:U0962 Acq:10-JUL-1992 00:33:47 Mass 162.0236 S:8
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:47
6:50
6.4E6
3.2E6
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 164.0207 S:8
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:47
6:50
2.1E6
1.0E6
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 169.0676 S:8
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:45
6:55
9.9E6
5.0E6
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 171.0648 S:8
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:45
2.6E6
1.3E6
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME

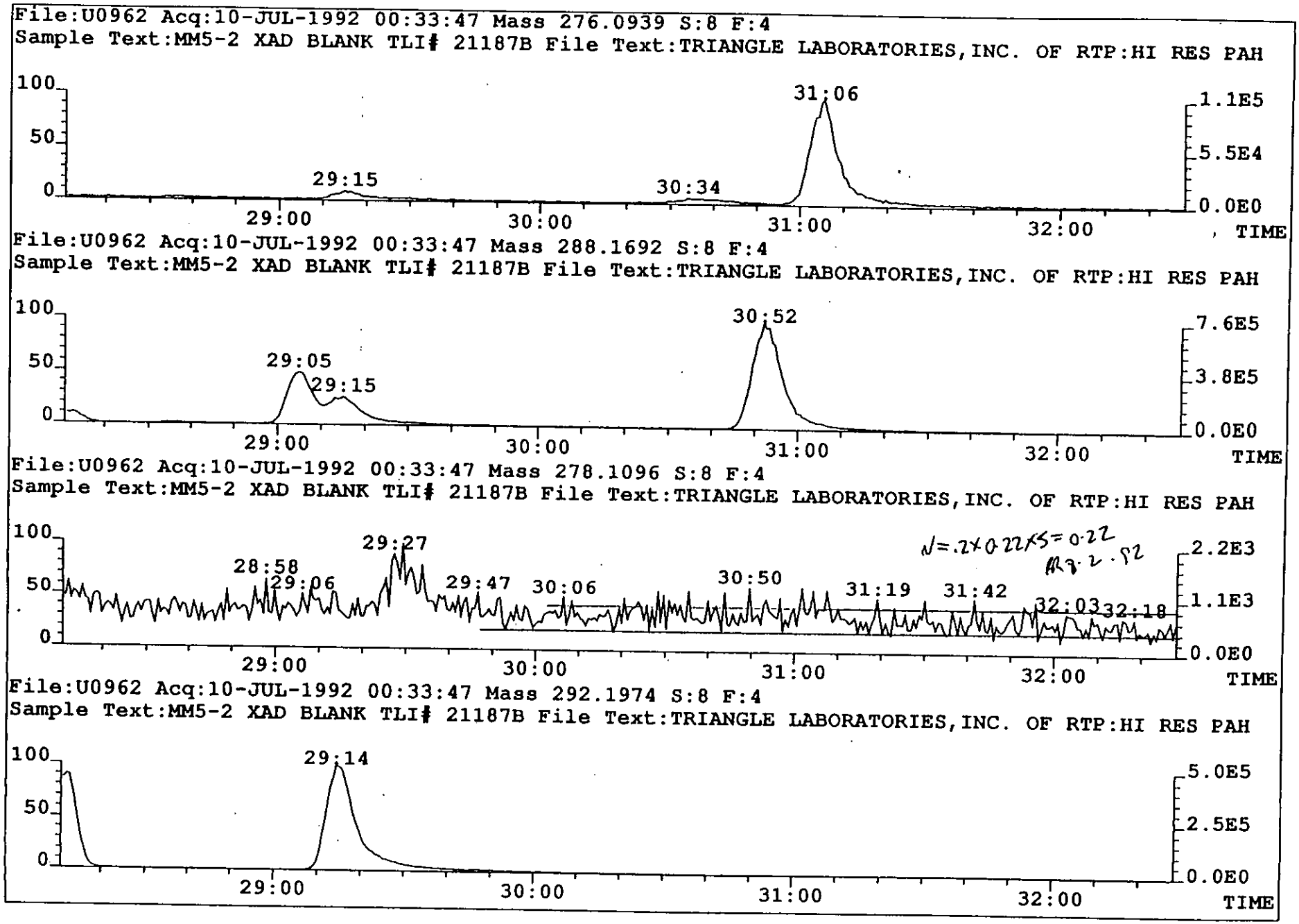

File:U0962 Acq:10-JUL-1992 00:33:47 Mass 152.0626 S:8 F:2
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:12
7:26
7:37
7:53
8:00
8:10
8:24
8:40
4.4E6
2.2E6
0.0E0
7:12 7:24 7:36 7:48 8:00 8:12 8:24 8:36 8:48
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 160.1128 S:8 F:2
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:35
7:55
8:18
1.0E7
5.2E6
0.0E0
7:12 7:24 7:36 7:48 8:00 8:12 8:24 8:36 8:48
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 154.0782 S:8 F:2
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:12
7:19
7:26
7:59
8:10
8:24
8:40
3.9E6
2.0E6
0.0E0
7:12 7:24 7:36 7:48 8:00 8:12 8:24 8:36 8:48
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 164.1410 S:8 F:2
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:55
2.1E7
1.0E7
0.0E0
7:12 7:24 7:36 7:48 8:00 8:12 8:24 8:36 8:48
TIME


File:U0962 Acq:10-JUL-1992 00:33:47 Mass 166.0782 S:8 F:2
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:04
9:12
9:36
10:06
10:30
10:47
10:59
11:09
12:12
9:00
10:00
11:00
12:00
TIME
1.2E7
6.0E6
0.0E0
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 176.1410 S:8 F:2
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
9:16
9:26
9:46
10:09
10:39
11:11
11:22
11:37
11:55
12:13
12:04
6.3E4
3.1E4
0.0E0
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 178.0782 S:8 F:2
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
10:05
10:30
10:59
11:33
11:48
12:06
2.6E7
1.3E7
0.0E0
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 188.1410 S:8 F:2
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
11:37
8.3E6
4.1E6
0.0E0


File:U0962 Acq:10-JUL-1992 00:33:47 Mass 202.0782 S:8 F:3
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:09
14:34
14:29
15:05
15:16
15:37
15:51
15:56
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 212.1410 S:8 F:3
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:37
15:32
15:07
14:32
TIME


File:U0962 Acq:10-JUL-1992 00:33:47 Mass 244.1974 S:8 F:3
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:35
1.8E9
1.4E9
1.1E9
7.0E8
3.5E8
0.0E0
15:00
16:00
17:00
18:00
19:00
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 228.0939 S:8 F:3
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:16
18:21
15:38
16:14
14:35
14:57
16:26
17:10
17:54
18:33
4.8E5
3.8E5
2.9E5
1.9E5
9.6E4
0.0E0
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 240.1692 S:8 F:3
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:37
2.1E8
1.7E8
1.3E8
8.4E7
4.2E7
0.0E0


File:U0962 Acq:10-JUL-1992 00:33:47 Mass 252.0939 S:8 F:4
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:43
22:49
23:54
21:29
21:58
22:35
22:26
23:02
23:10
23:37
21:00
22:00
23:00
24:00
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 264.1692 S:8 F:4
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
23:55
22:42
21:36
22:56
21:00
22:00
23:00
24:00
TIME


File:U0962 Acq:10-JUL-1992 00:33:47 Mass 276.0939 S:8 F:4
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:15
30:34
31:06
1.1E5
5.5E4
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 288.1692 S:8 F:4
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:05
29:15
30:52
7.6E5
3.8E5
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 278.1096 S:8 F:4
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
28:58
29:06
29:27
29:47
30:06
30:50
31:19
31:42
32:03
32:18
2.2E3
1.1E3
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 00:33:47 Mass 292.1974 S:8 F:4
Sample Text:MM5-2 XAD BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:14
5.0E5
2.5E5
0.0E0
29:00
30:00
31:00
32:00
TIME

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/04/92

FILE NAME....:	U096213	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	57-102-14
CONCAL.....:	U096001	SAMPLE ID....:	MM5-2 BLK		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	130			4:46	B
2-Me-Naph	68.6			5:53	B
Acenaphthen	6.5			8:03	B
	EMPC		0.80		B
Acenaph	2.0			7:41	B
Fluorene	8.6			9:14	B
Phenan	17.7			11:33	B
Anth	2.4			11:41	B
Fluoran	9.2			14:34	B
Pyrene	6.3			15:09	B
B-a-Anth	1.8			18:15	PR B
Chrysene	4.2			18:18	PR B
Perylene	ND		0.1		
B-b-Fluoran	4.7			21:42	B
B-k-Fluoran	1.8			21:48	PR B
B-a-Pyrene	1.2			23:03	B
B-e-Pyrene	0.75			22:48	B
B-ghi-Pery	4.9			31:04	B
I-123-cd-Py	0.75			29:14	B
DiB-ah-Anth	0.60			29:29	B

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	59.8	59.8	11:38	

Reviewed By: SR 8/14/92

PAHJ_RPT 1.00, LARS 4.20

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

FILE NAME....:	U096213	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	57-102-14
CONCAL.....:	U096001	SAMPLE ID....:	MM5-2 BLK		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	30.3	30.3	4:44	✓
d10-2-Me-Naph	36.2	36.2	5:49	✓
d7-2-Cl-Naph	37.5	37.5	6:46	✓
d8-Acenaph	43.2	43.2	7:39	
d10-Phenan	36.7	36.7	11:30	✓
d12-B-a-Anth	58.1	58.1	18:11	
d10-Fluoran	51.1	51.1	14:32	
d12-Chrysene	33.3	33.3	18:16	✓
d12-Perylene	94.1	47.1	23:17	
d12-B-b-Fluoran	150	75.1	21:36	
d12-B-k-Fluoran	91.0	45.5	21:44	
d12-B-a-Pyrene	114	56.8	22:56	
d12-B-ghi-Pery	97.6	48.8	30:52	
d12-I-123-cd-Py	150	74.8	29:04	I
d14-DiB-ah-Anth	104	51.8	29:15	

Reviewed By: AR 8/4/92

PAHJ_RPT 1.00, LARS 4.20

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	Initial	Date
B-File/Header Changes	AA	7·30·92
Manual Integrations		
Transcription		
Dbase Corrections		

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07/29/92

Listing of U096213B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_I	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128	DC	0.00	0:00	1.82	T	F	0.000	NL
		0.00	4:46•	7552.63	T	~~F~~ T	~~1.007~~ 1.000	
		0.00	5:19	22.30	T	F	1.123	
	DC	0.00	5:31	12.40	T	F	1.165	SN
		0.00	5:50	21.58	T	F	1.232	
	DC	0.00	6:46	23.42	T	F	1.430	WH
	DC	0.00	6:52	45.22	T	F	1.451	WH
128		*** Total ***		7679.37	# of Peaks:		7	
136	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	4:39	7.28	T	F	0.982	
		0.00	4:44•	7594.91	T	T	1.000	
136		*** Total ***		7602.21	# of Peaks:		3	
142	DC	0.00	0:00	0.12	T	F	0.000	NL
		0.00	5:53•	3353.64	T	T	1.011	
		0.00	6:04	1738.14	T	F	1.043	
		0.00	6:58	168.74	T	F	1.198	
142		*** Total ***		5260.64	# of Peaks:		4	
152	DC	0.00	0:00	0.01	T	F	0.000	NL
	DC	0.00	0:00	0.12	T	F	0.000	NL
		0.00	5:49•	4618.35	T	T	1.000	
		0.00	6:00	29.64	T	F	0.784	
		0.00	7:06	59.76	T	F	0.928	
		0.00	7:15	65.83	T	F	0.948	
		0.00	7:18	54.76	T	F	0.954	
		0.00	7:30	27.13	T	F	0.980	
		0.00	7:41•	126.72	T	T	1.004	
		0.00	7:57	89.88	T	F	1.039	
		0.00	8:04	199.67	T	F	1.054	
		0.00	8:08	6.42	T	F	1.063	
		0.00	8:14	31.58	T	F	1.076	
		0.00	8:20	8.13	T	F	1.089	
		0.00	8:26	32.84	T	F	1.102	
		0.00	8:32	25.64	T	F	1.115	
		0.00	8:37	0.71	T	F	1.126	
		0.00	8:42	20.58	T	F	1.137	
		0.00	8:47	13.72	T	F	1.148	
		0.00	8:50	1.00	T	F	1.155	
		0.00	8:55	19.38	T	F	1.166	
		0.00	8:58	27.85	T	F	1.172	

Listing of U096213B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
154	DC	0.00	0:00	0.04	T	F	0.000	NL
		0.00	7:06	16.01	T	F	0.928	
		0.00	7:15	17.07	T	F	0.948	
		0.00	7:18	11.01	T	F	0.954	
		0.00	7:23	1.43	T	F	0.965	
	DC	0.00	7:27	0.37	T	F	0.974	SN
		0.00	7:30	6.18	T	F	0.980	
		0.00	7:39	6.66	T	F	1.000	
		0.00	7:59	5.21	T	F	1.044	
		0.00	8:03	250.26	T	T	1.052	
		0.00	8:14	15.30	T	F	1.076	
		0.00	8:19	3.15	T	F	1.087	
		0.00	8:26	12.63	T	F	1.102	
		0.00	8:32	12.14	T	F	1.115	
		0.00	8:37	0.55	T	F	1.126	
		0.00	8:39	1.08	T	F	1.131	
		0.00	8:42	10.75	T	F	1.137	
		0.00	8:46	6.31	T	F	1.146	
		0.00	8:50	0.56	T	F	1.155	
		0.00	8:55	22.39	T	F	1.166	
154		*** Total ***		399.10	# of Peaks:		20	
160	DC	0.00	0:00	0.09	T	F	0.000	NL
		0.00	7:39	6050.67	T	T	1.000	
		0.00	7:59	9769.21	T	F	1.044	
		0.00	8:21	14.27	T	F	1.092	
160		*** Total ***		15834.24	# of Peaks:		4	
162	DC	4.00	0:00	0.10	F	F	0.000	NL
	CK	4.72	6:49	59.55	F	T	1.007	Ro
162		*** Total ***		59.65	# of Peaks:		2	
164	DC	0.00	0:00	0.02	T	F	0.000	NL
	DC	0.00	0:00	**********	T	F	0.000	NL
		0.00	6:48	10.41	T	F	0.851	
		0.00	7:59	21614.12	T	T	0.999	
164		*** Total ***		21624.55	# of Peaks:		4	
166	DC	0.00	0:00	0.02	T	F	0.000	NL
	DC	0.00	7:58	34.87	T	F	0.693	WL
	DC	0.00	8:04	10.11	T	F	0.701	WL
	DC	0.00	8:58	9.94	T	F	0.780	WL
	DC	0.00	9:14	382.28	T	T	0.803	WL
	DC	0.00	9:24	20.93	T	F	0.817	WL
		0.00	9:33	22.41	T	F	0.830	
		0.00	9:38	29.64	T	F	0.838	
		0.00	10:07	20.45	T	F	0.880	
		0.00	10:31	971.71	T	F	0.914	
		0.00	11:00	429.50	T	F	0.957	
166		*** Total ***		1931.86	# of Peaks:		11	
169	DC	14.29	0:00	[illegible]	F	F	0.000	NL

Listing of U096213B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
169		3.36	6:46*	6219.16	T	T	1.000	
169		*** Total ***		6219.19	# of Peaks:		2	
176	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	8:01	0.38	T	F	0.876	
		0.00	8:28	0.25	T	F	0.925	
		0.00	8:38	6.45	T	F	0.943	
		0.00	8:44	4.68	T	F	0.954	
		0.00	8:52	0.89	T	F	0.969	
		0.00	9:03	3.84	T	F	0.989	
		0.00	9:11*	9.71	T	T	1.003	
		0.00	9:18	0.99	T	F	1.016	
		0.00	9:28	0.43	T	F	1.034	
		0.00	10:32	0.28	T	F	1.151	
	DC	0.00	11:38	0.05	T	F	1.271	SN
176		*** Total ***		27.96	# of Peaks:		12	
178	DC	0.00	0:00	0.03	T	F	0.000	NL
		0.00	10:07	53.38	T	F	0.880	
		0.00	10:15	33.15	T	F	0.891	
		0.00	10:21	265.41	T	F	0.900	
		0.00	10:34	1326.63	T	F	0.919	
		0.00	11:00	200.73	T	F	0.957	
		0.00	11:15	33.25	T	F	0.978	
		0.00	11:33*	1160.68	T	T	1.004	
		0.00	11:41*	141.32	T	T	1.016	
		0.00	11:51	116.69	T	F	1.030	
178		*** Total ***		3331.27	# of Peaks:		10	
188	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	11:30*	8843.06	T	T	1.000	
		0.00	11:38*	12382.07	T	T	1.000	
188		*** Total ***		21225.14	# of Peaks:		3	
202	DC	0.00	0:00	0.36	T	F	0.000	NL
		0.00	14:11	11.00	T	F	0.976	
		0.00	14:34*	594.86	T	T	1.002	
		0.00	14:54	9.27	T	F	1.025	
		0.00	15:09*	412.00	T	T	1.042	
202		*** Total ***		1027.49	# of Peaks:		5	
212	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	14:32*	7557.78	T	T	1.000	
		0.00	15:06*	24504.58	T	T	0.999	
212		*** Total ***		32062.37	# of Peaks:		3	
228	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	14:54	2.41	T	F	0.819	
		0.00	15:06	5.25	T	F	0.830	
		0.00	17:23	3.05	T	F	0.956	
		0.00	17:43	3.98	T	F	0.974	
		0.00	18:15	~~332.97~~ 64.81	T	T	1.007	— PR
		0.00	18:24	~~0.05~~ 111.0	T	RT	1.033	— PR

CK

Listing of U0962138.dbf

Matched GC Peaks / Ratio / Ret. Time

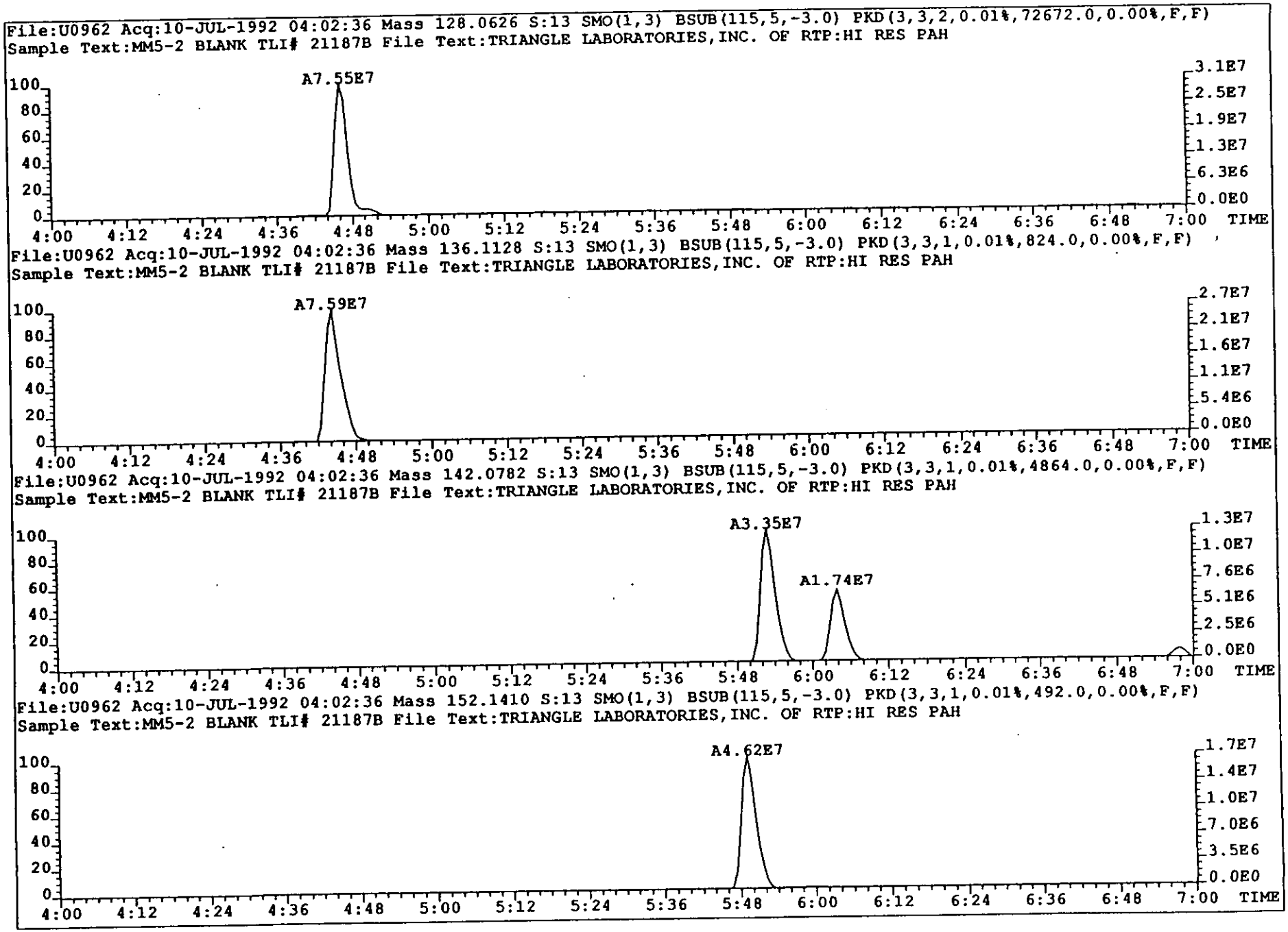
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
228		*** Total ***		355.92	# of Peaks:		7	
240	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	15:35	178.77	T	F	0.857	
		0.00	18:11	3918.27	T	T	1.000	
		0.00	18:16	5145.88	T	T	1.005	
240		*** Total ***		9242.93	# of Peaks:		4	
244	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	15:35	1496.61	T	T	0.999	
244		*** Total ***		1496.62	# of Peaks:		2	
252	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	21:42 (1)	67.11	T	T	0.932	PR
	CK(S) ND	0.00	21:48 (2)	19.69	T	T	0.936	
		0.00	22:42	1.64	T	F	0.975	
		0.00	22:48 (3)	11.33	T	T	0.979	
		0.00	23:03 (4)	10.76	T	T	0.990	
252		*** Total ***		110.54	# of Peaks:		6	
264	DC	0.00	0:00	**********	T	F	0.000	NL
		0.00	21:36	2931.75	T	T	0.928	
		0.00	21:44	2733.97	T	T	0.933	
		0.00	22:42	9259.97	T	T	1.000	
		0.00	22:56	2026.50	T	T	0.985	
		0.00	23:17	1004.30	T	T	1.000	
264		*** Total ***		17956.49	# of Peaks:		6	
276	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	29:14	3.74	T	T	0.947	
		0.00	29:25	0.91	T	F	0.953	
		0.00	31:04	27.94	T	T	1.006	
		0.00	31:50	0.15	T	F	1.031	
276		*** Total ***		32.75	# of Peaks:		5	
278	DC	0.00	0:00	**********	T	F	0.000	NL
	DC	0.00	26:06	0.05	T	F	0.892	WL
	DC	0.00	28:32	0.03	T	F	0.975	SN
	DC	0.00	28:39	0.03	T	F	0.979	SN
		0.00	28:46	0.04	T	F	0.983	
		0.00	29:04	0.09	T	~~F~~ T	~~0.994~~ 0.994	I EE AK 7.30.92
	DC	0.00	29:11	0.03	T	F OK 7.31.92	0.998	SN
		0.00	29:18	0.08	T	F	1.002	
		0.00	29:29	1.79	T	T	1.008	
		0.00	29:42	0.12	T	F	1.015	
	DC	0.00	29:49	0.03	T	F	1.019	SN
	DC	0.00	29:53	0.02	T	F	1.022	SN
	DC	0.00	30:00	0.03	T	F	1.026	SN
		0.00	30:15	0.04	T	F	1.034	
		0.00	30:36	0.04	T	F	1.046	
		0.00	30:46	0.10	T	F	1.052	
		0.00	30:53	0.17	T	F	1.056	
	DC	0.00	30:59	0.03	T	F	1.059	SN

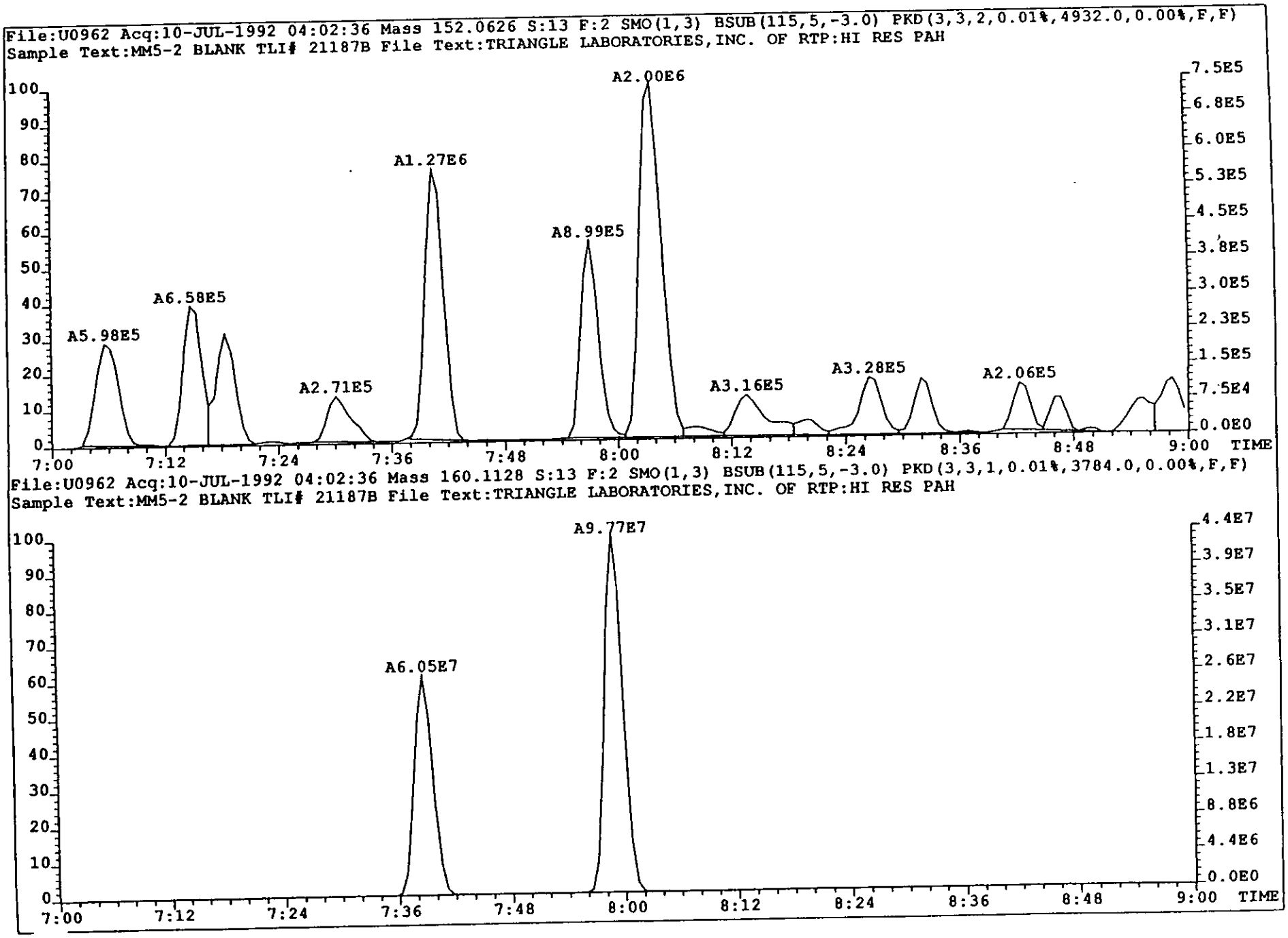
Listing of U096213B.dbf

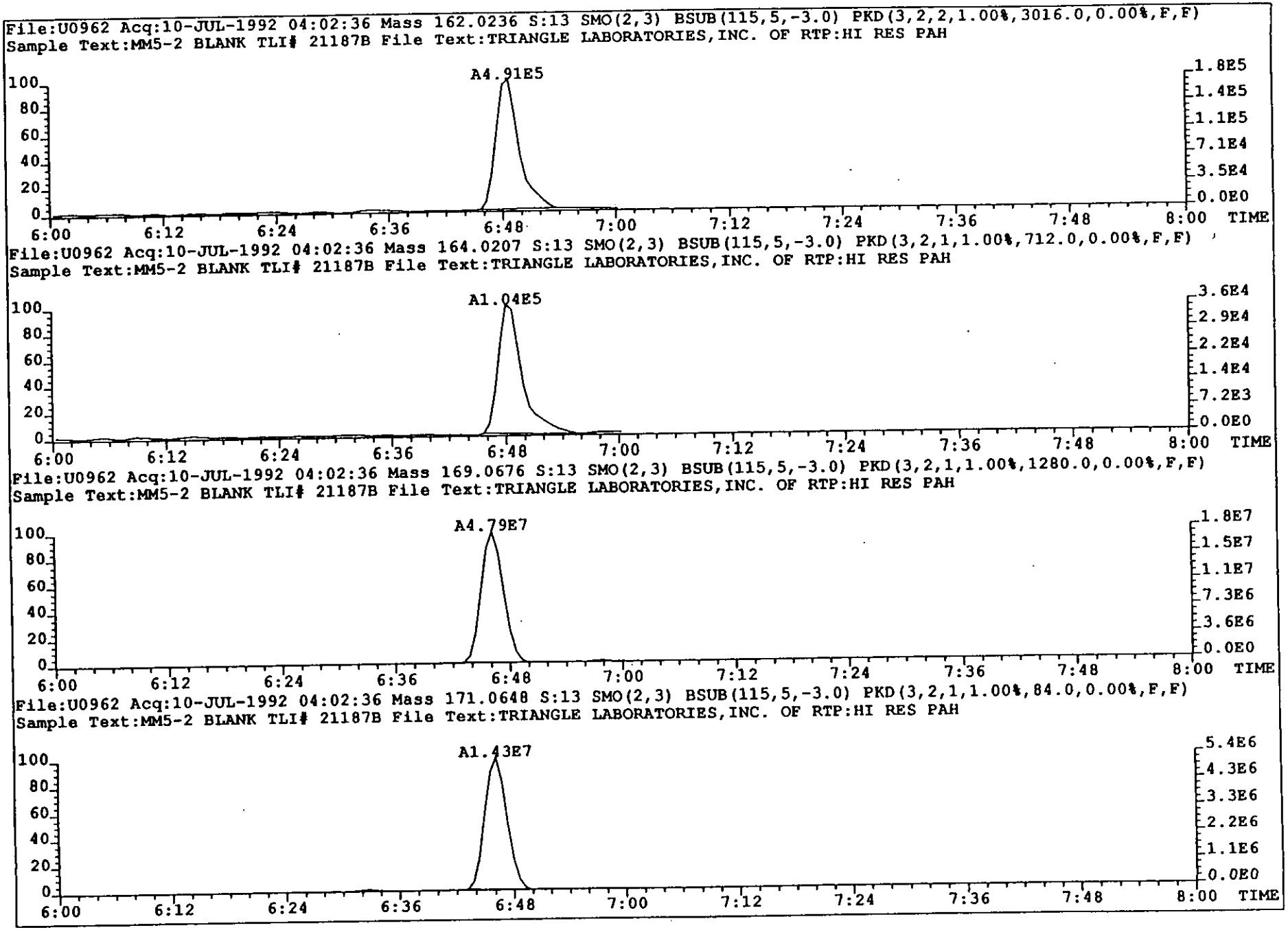
Matched GC Peaks / Ratio / Ret. Time

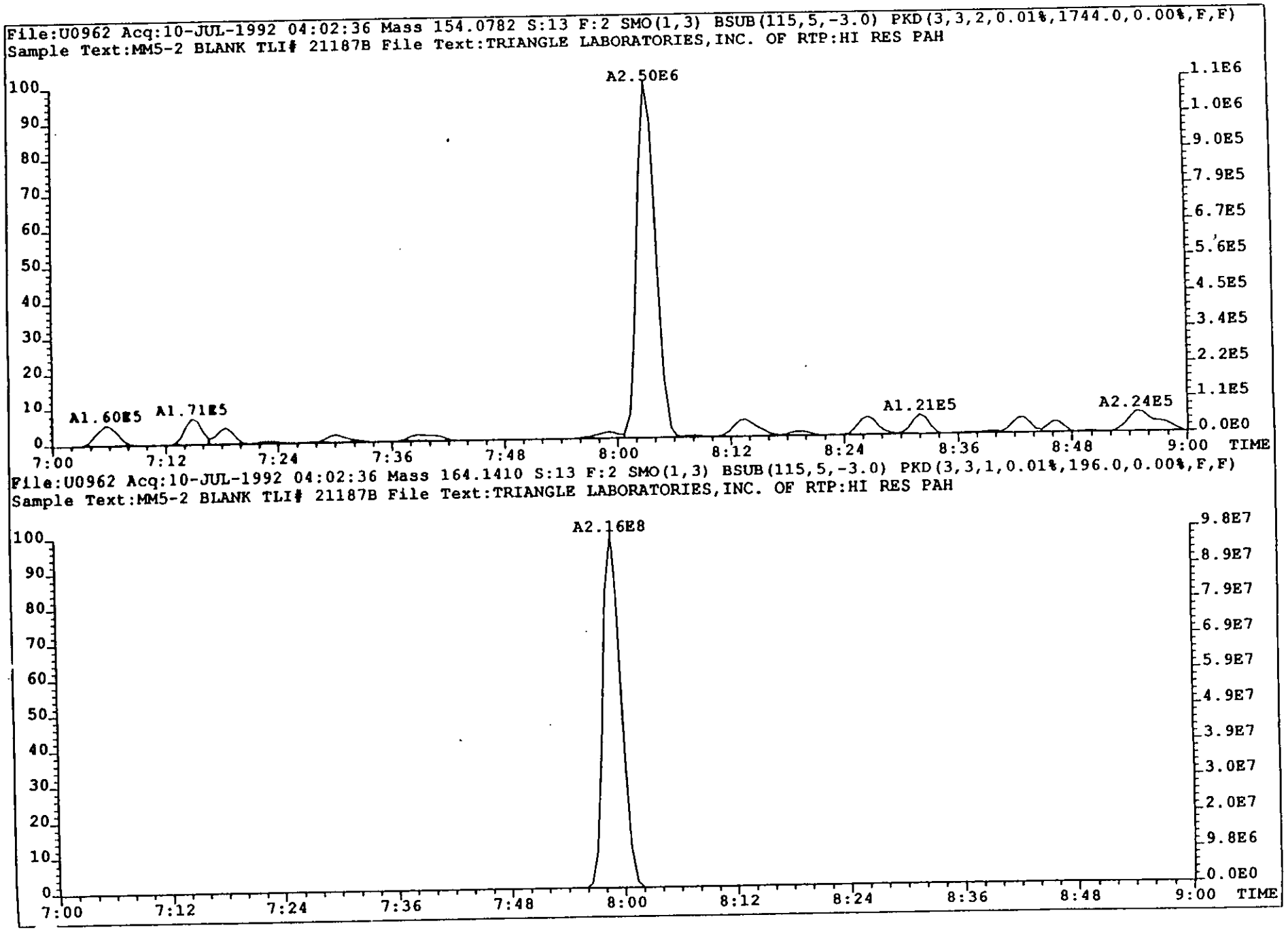
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
278		0.00	31:07	0.06	T	F	1.064	
	DC	0.00	32:07	0.07	T	F	1.098	WH
	DC	0.00	32:13	0.02	T	F	1.101	WH
278		*** Total ***		2.87	# of Peaks:		21	
288	DC	0.00	0:00	**********.**	T	F	0.000	NL
		0.00	29:04	602.52	T	T	0.942	— I
		0.00	29:14	324.57	T	F	0.947	
		0.00	30:52	1432.14	T	T	1.000	
288		*** Total ***		2359.23	# of Peaks:		4	
292	DC	0.00	0:00	**********.**	T	F	0.000	NL
		0.00	29:15	777.43	T	T	1.000	
292		*** Total ***		777.43	# of Peaks:		2	

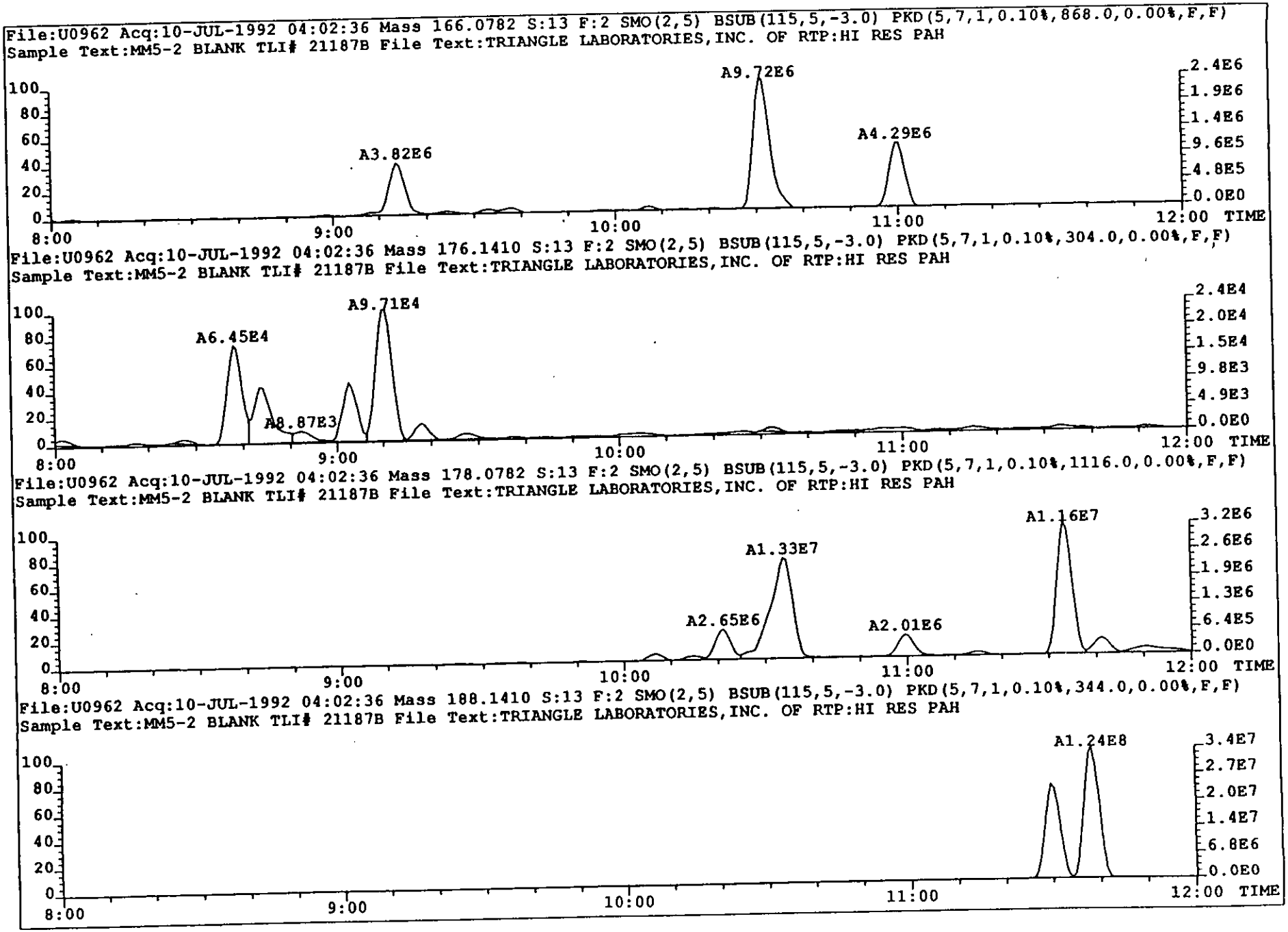
*** End of Report ***

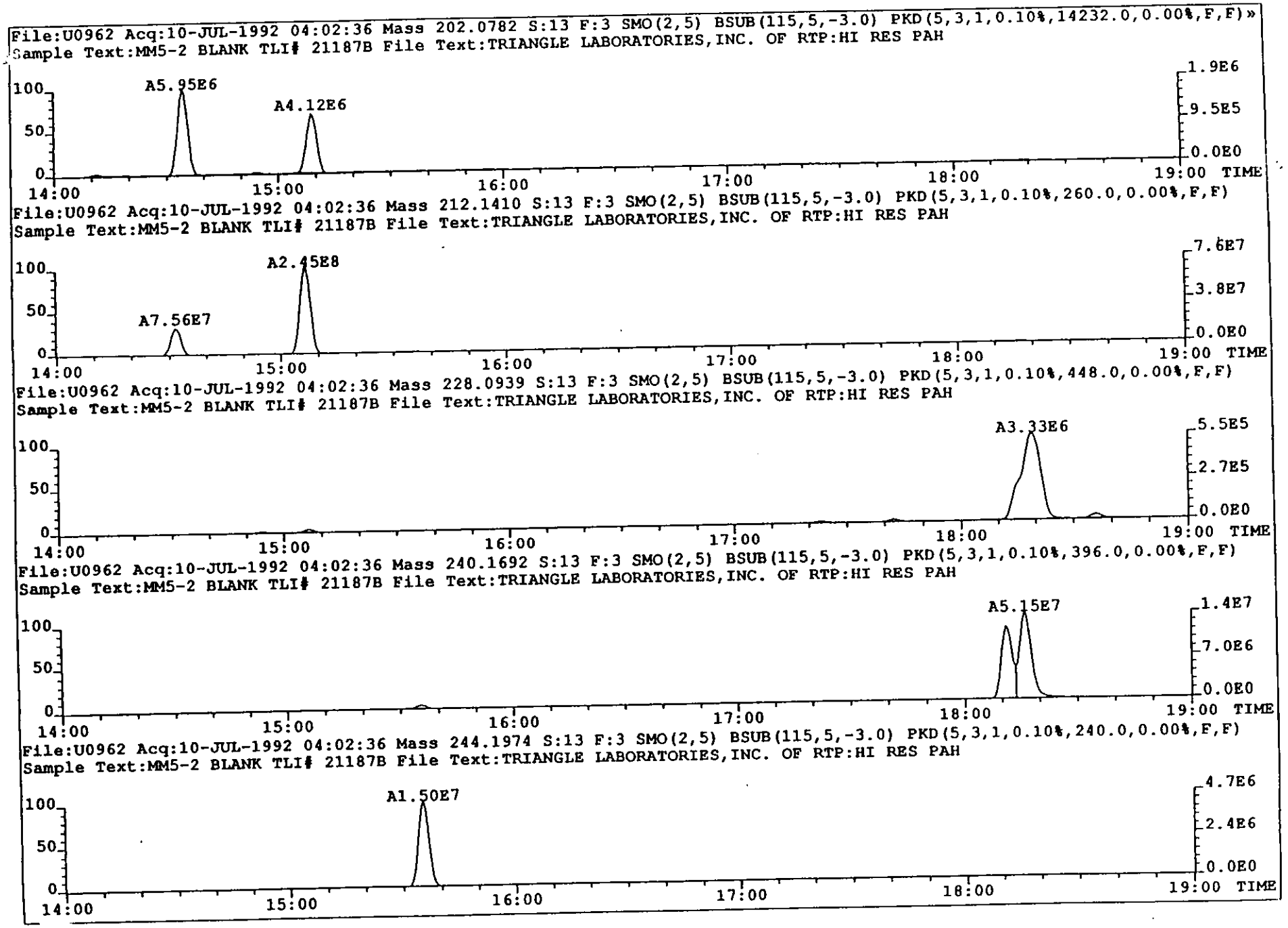

File:U0962 Acq:10-JUL-1992 04:02:36 Mass 128.0626 S:13 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,72672.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.55E7
3.1E7
2.5E7
1.9E7
1.3E7
6.3E6
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 136.1128 S:13 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,824.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.59E7
2.7E7
2.1E7
1.6E7
1.1E7
5.4E6
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 142.0782 S:13 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,4864.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.35E7
A1.74E7
1.3E7
1.0E7
7.6E6
5.1E6
2.5E6
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 152.1410 S:13 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,492.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A4.62E7
1.7E7
1.4E7
1.0E7
7.0E6
3.5E6
0.0E0
TIME

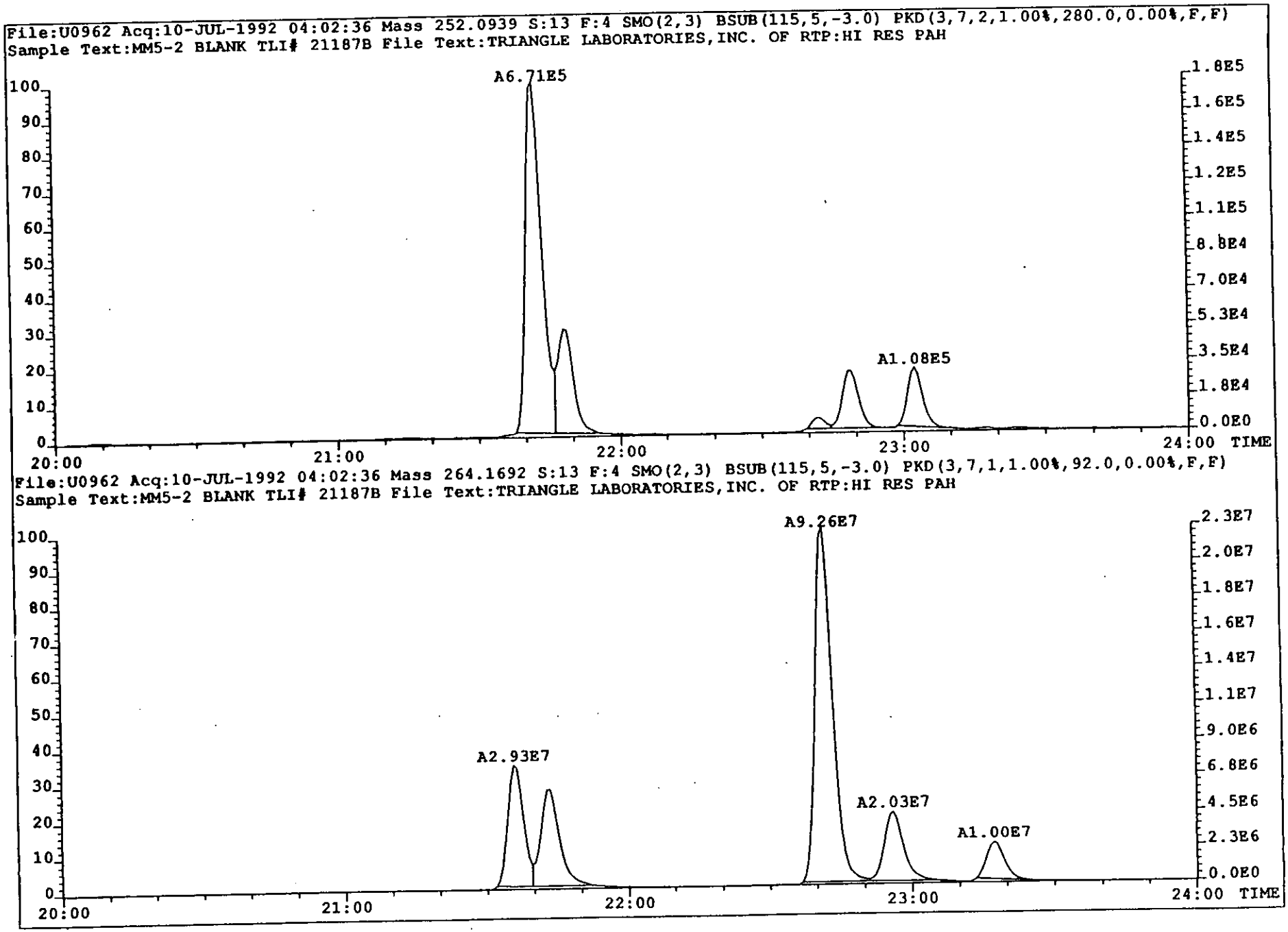

File:U0962 Acq:10-JUL-1992 04:02:36 Mass 152.0626 S:13 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,4932.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A5.98E5
A6.58E5
A2.71E5
A1.27E6
A8.99E5
A2.00E6
A3.16E5
A3.28E5
A2.06E5
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 160.1128 S:13 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,3784.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.05E7
A9.77E7
TIME

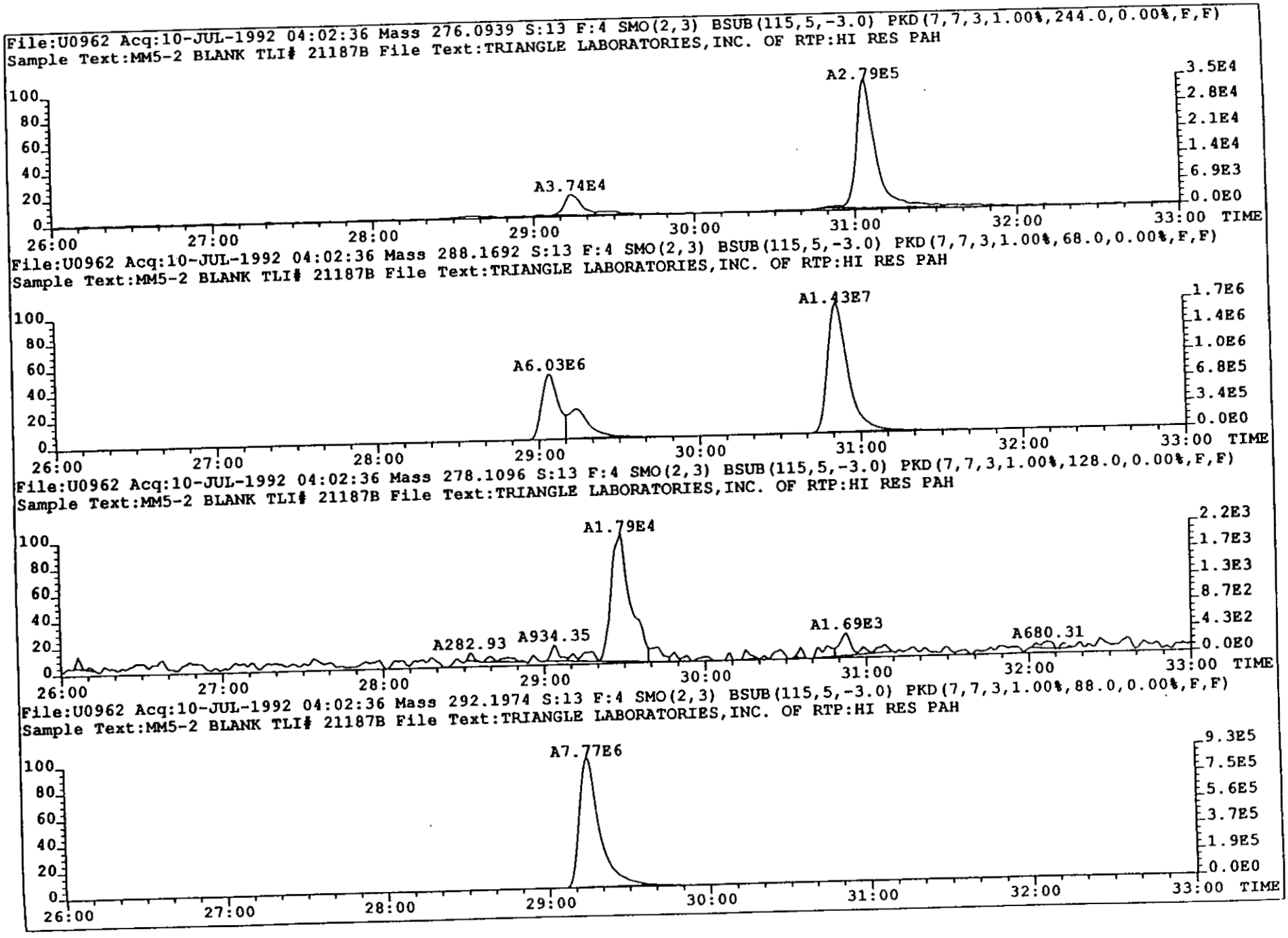

File:U0962 Acq:10-JUL-1992 04:02:36 Mass 162.0236 S:13 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,2,1.00%,3016.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A4.91E5
1.8E5
1.4E5
1.1E5
7.1E4
3.5E4
0.0E0
100
80
60
40
20
0
6:00
6:12
6:24
6:36
6:48
7:00
7:12
7:24
7:36
7:48
8:00
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 164.0207 S:13 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,712.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.04E5
3.6E4
2.9E4
2.2E4
1.4E4
7.2E3
0.0E0
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 169.0676 S:13 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,1280.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A4.79E7
1.8E7
1.5E7
1.1E7
7.3E6
3.6E6
0.0E0
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 171.0648 S:13 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,84.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.43E7
5.4E6
4.3E6
3.3E6
2.2E6
1.1E6
0.0E0

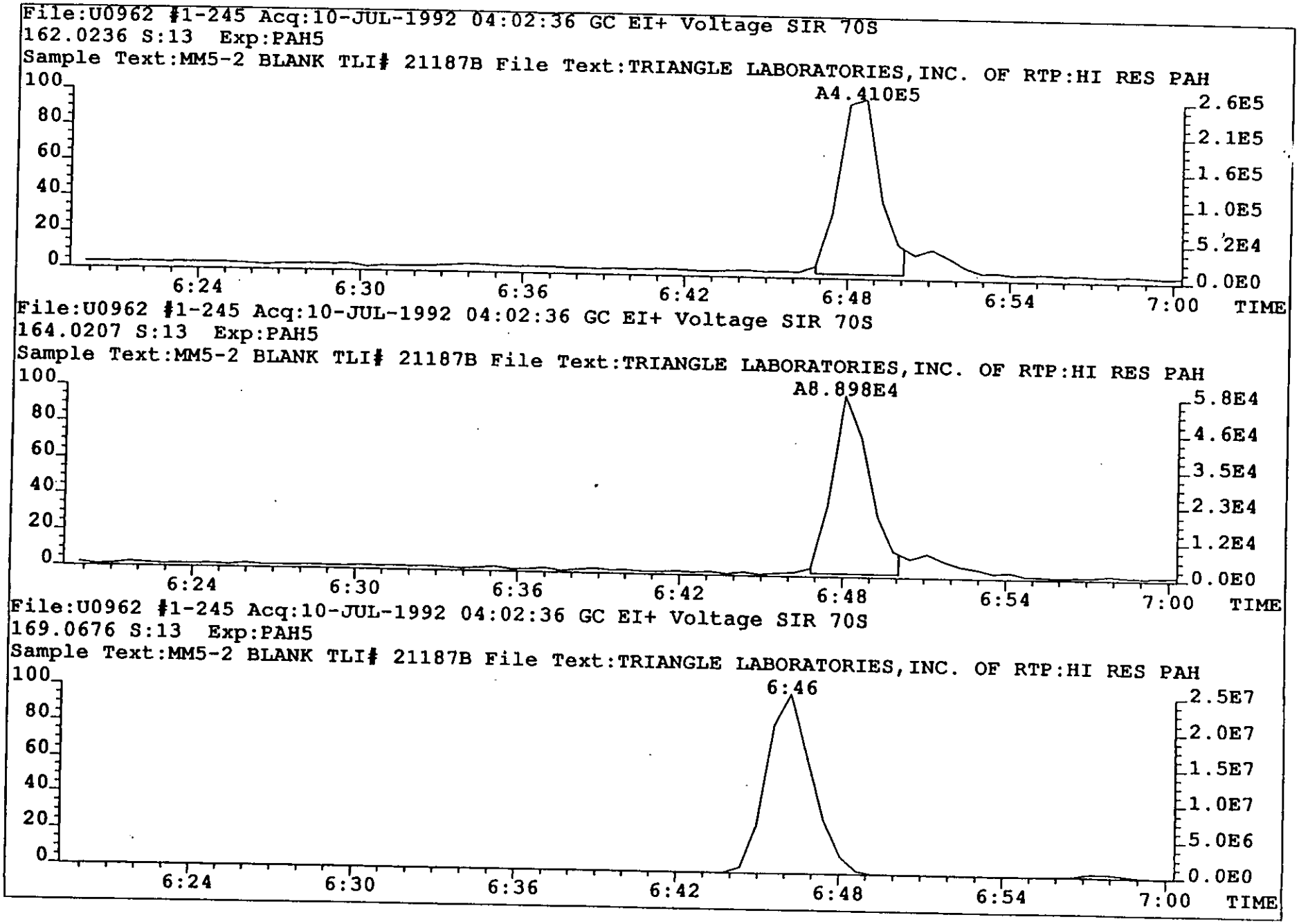

File:U0962 Acq:10-JUL-1992 04:02:36 Mass 154.0782 S:13 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,1744.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.50E6
A1.60E5
A1.71E5
A1.21E5
A2.24E5
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 164.1410 S:13 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,196.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.16E8
TIME

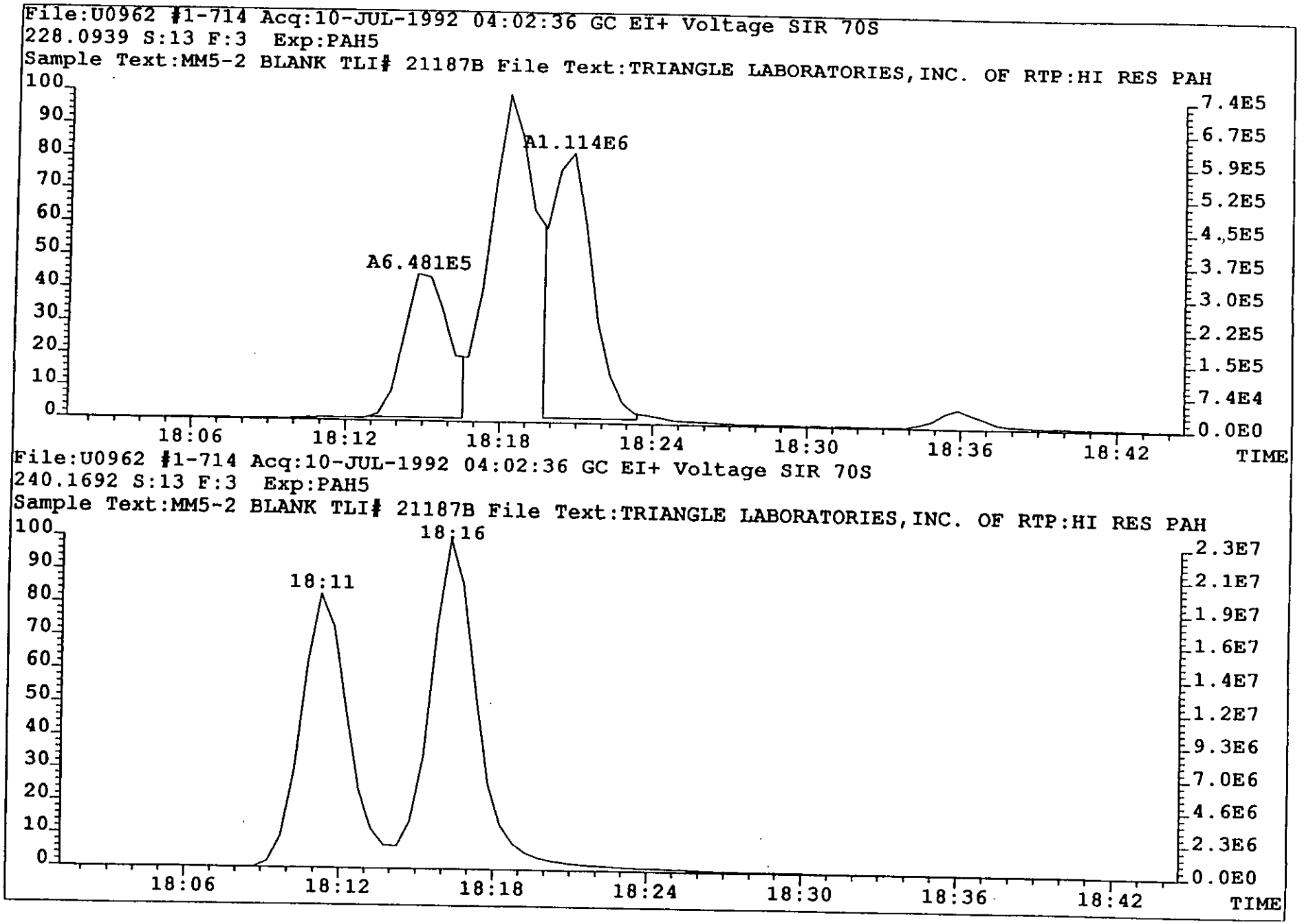

File:U0962 Acq:10-JUL-1992 04:02:36 Mass 166.0782 S:13 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,868.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.72E6
A4.29E6
A3.82E6
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 176.1410 S:13 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,304.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.71E4
A6.45E4
A8.87E3
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 178.0782 S:13 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,1116.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.16E7
A1.33E7
A2.65E6
A2.01E6
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 188.1410 S:13 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,344.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.24E8
8:00
9:00
10:00
11:00
12:00
TIME

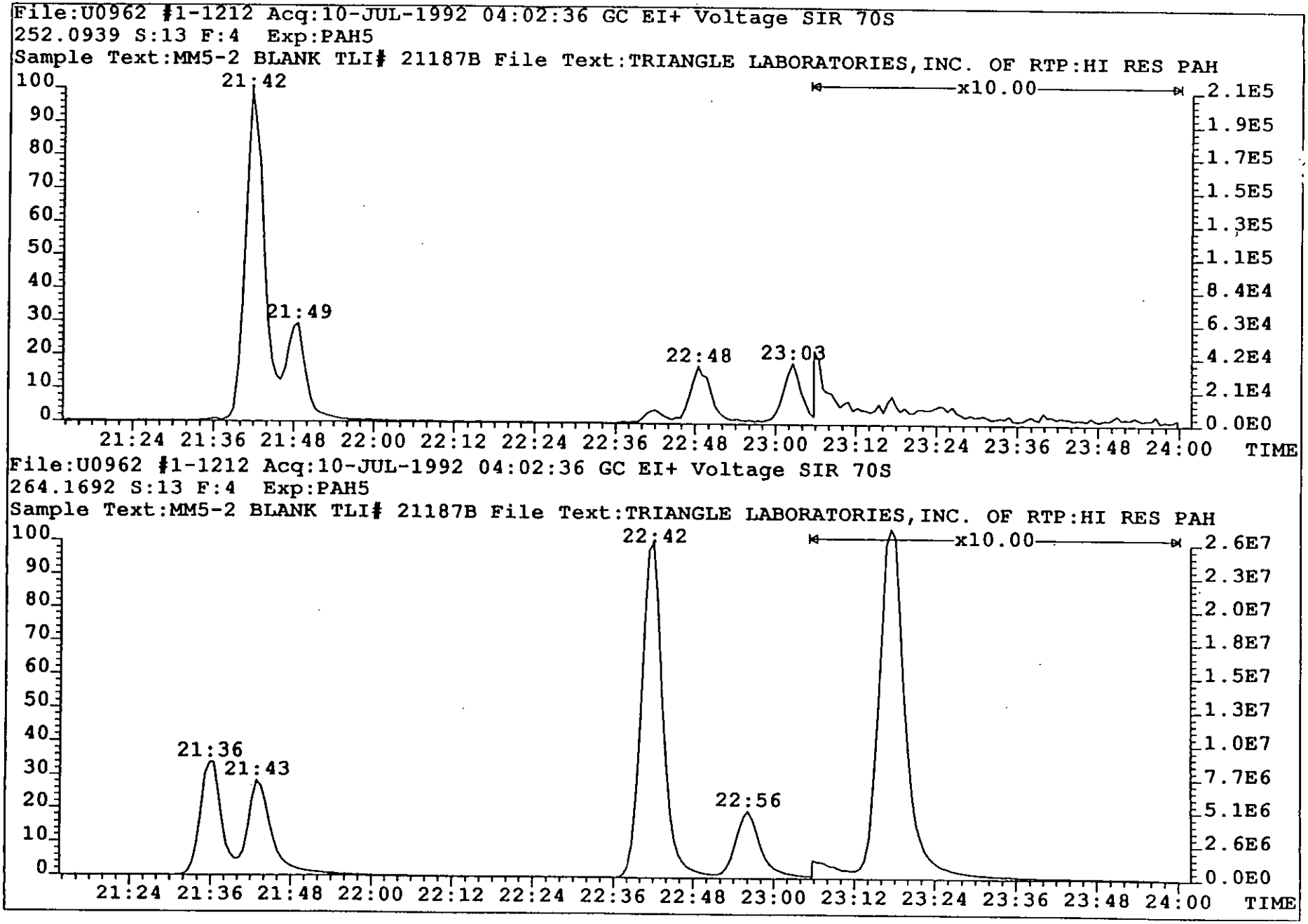

File:U0962 Acq:10-JUL-1992 04:02:36 Mass 202.0782 S:13 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,14232.0,0.00%,F,F)»
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A5.95E6
A4.12E6
1.9E6
9.5E5
0.0E0
100
50
0
14:00
15:00
16:00
17:00
18:00
19:00 TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 212.1410 S:13 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,260.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.45E8
A7.56E7
7.6E7
3.8E7
0.0E0
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 228.0939 S:13 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,448.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.33E6
5.5E5
2.7E5
0.0E0
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 240.1692 S:13 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,396.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A5.15E7
1.4E7
7.0E6
0.0E0
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 244.1974 S:13 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,240.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.50E7
4.7E6
2.4E6
0.0E0

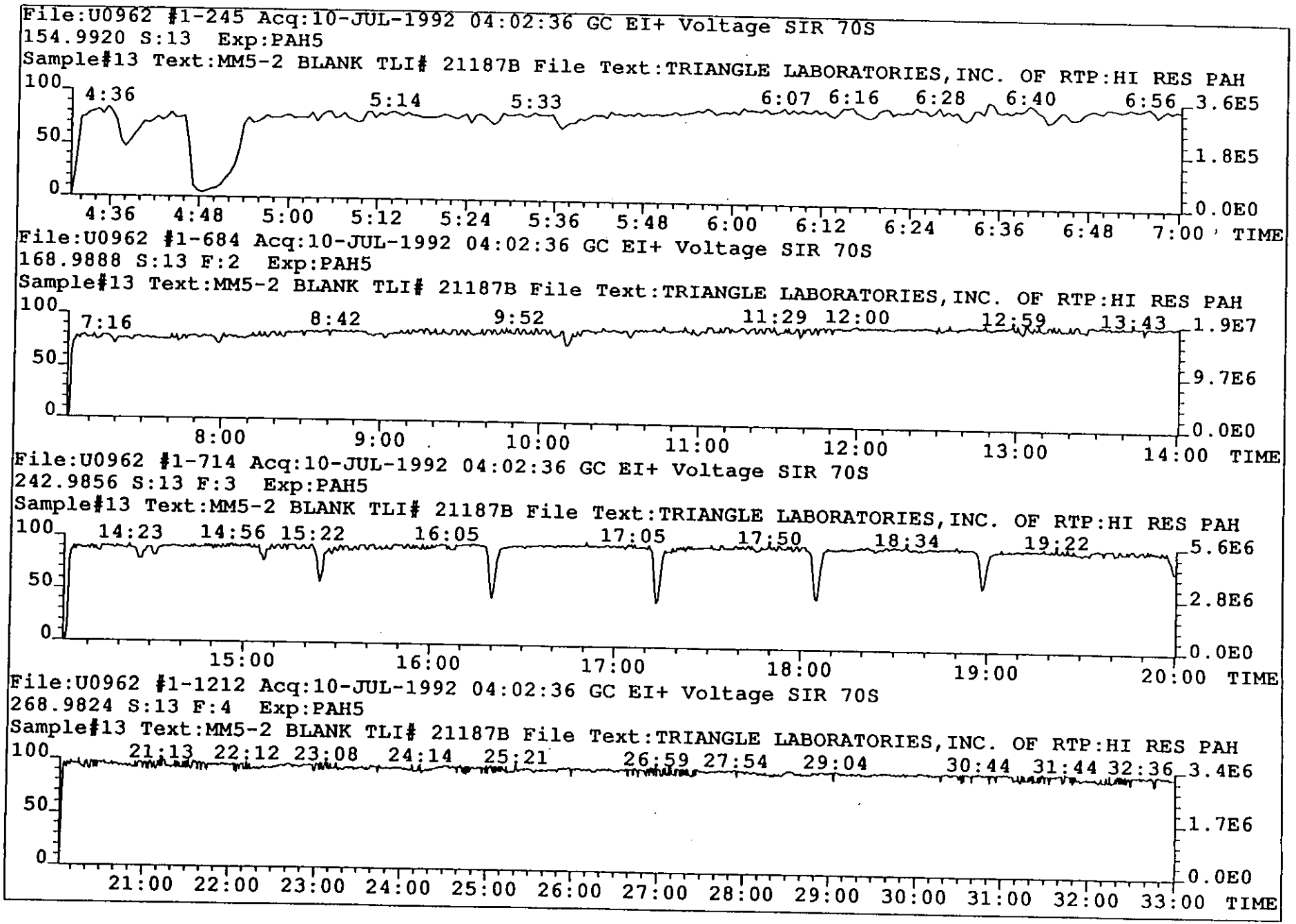

File:U0962 Acq:10-JUL-1992 04:02:36 Mass 252.0939 S:13 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,2,1.00%,280.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.71E5
A1.08E5
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 264.1692 S:13 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,1,1.00%,92.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.26E7
A2.93E7
A2.03E7
A1.00E7
TIME

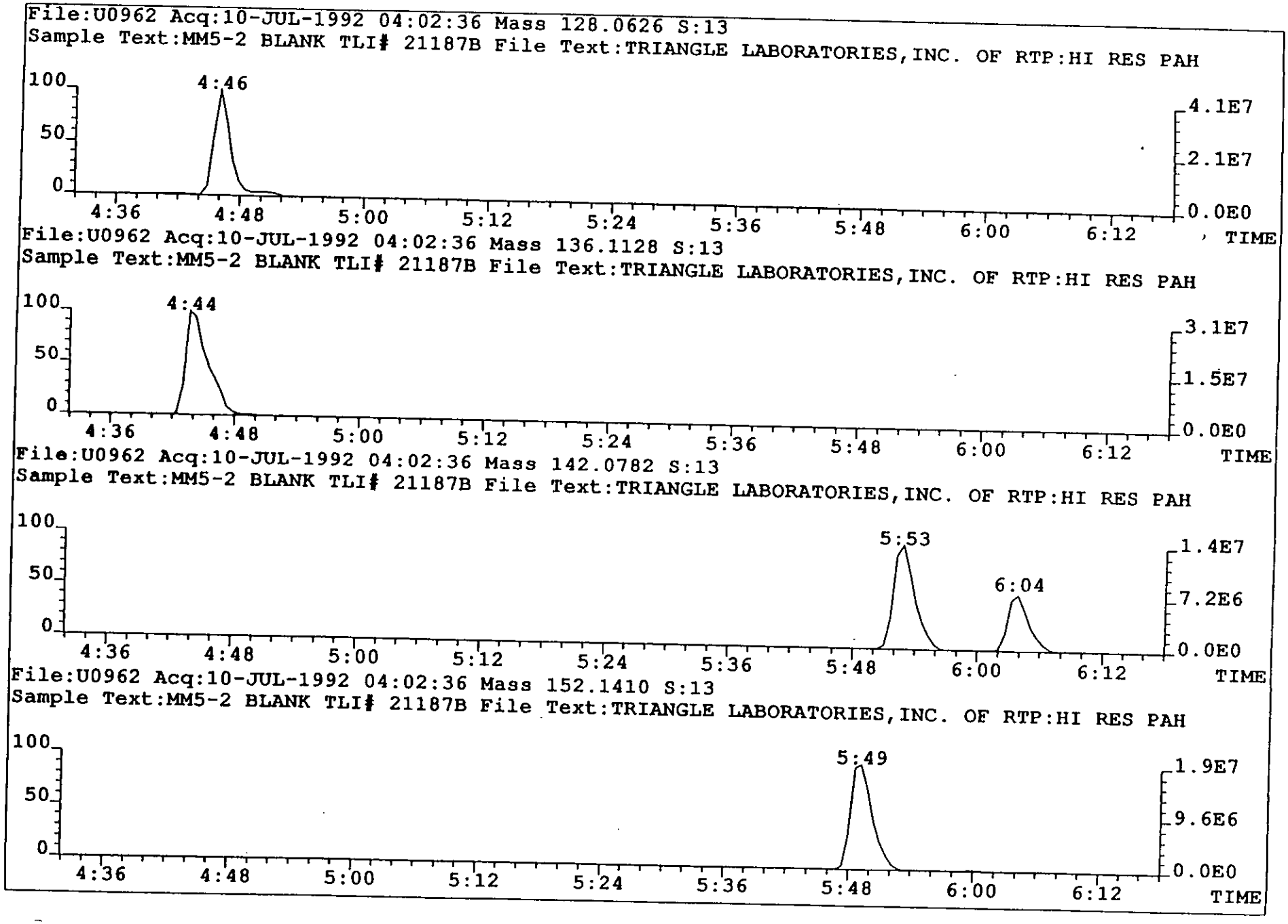

File:U0962 Acq:10-JUL-1992 04:02:36 Mass 276.0939 S:13 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,244.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.79E5
A3.74E4
3.5E4
2.8E4
2.1E4
1.4E4
6.9E3
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 288.1692 S:13 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,68.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.43E7
A6.03E6
1.7E6
1.4E6
1.0E6
6.8E5
3.4E5
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 278.1096 S:13 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,128.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.79E4
A282.93
A934.35
A1.69E3
A680.31
2.2E3
1.7E3
1.3E3
8.7E2
4.3E2
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 292.1974 S:13 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,88.0,0.00%,F,F)
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.77E6
9.3E5
7.5E5
5.6E5
3.7E5
1.9E5
0.0E0
TIME
26:00
27:00
28:00
29:00
30:00
31:00
32:00
33:00

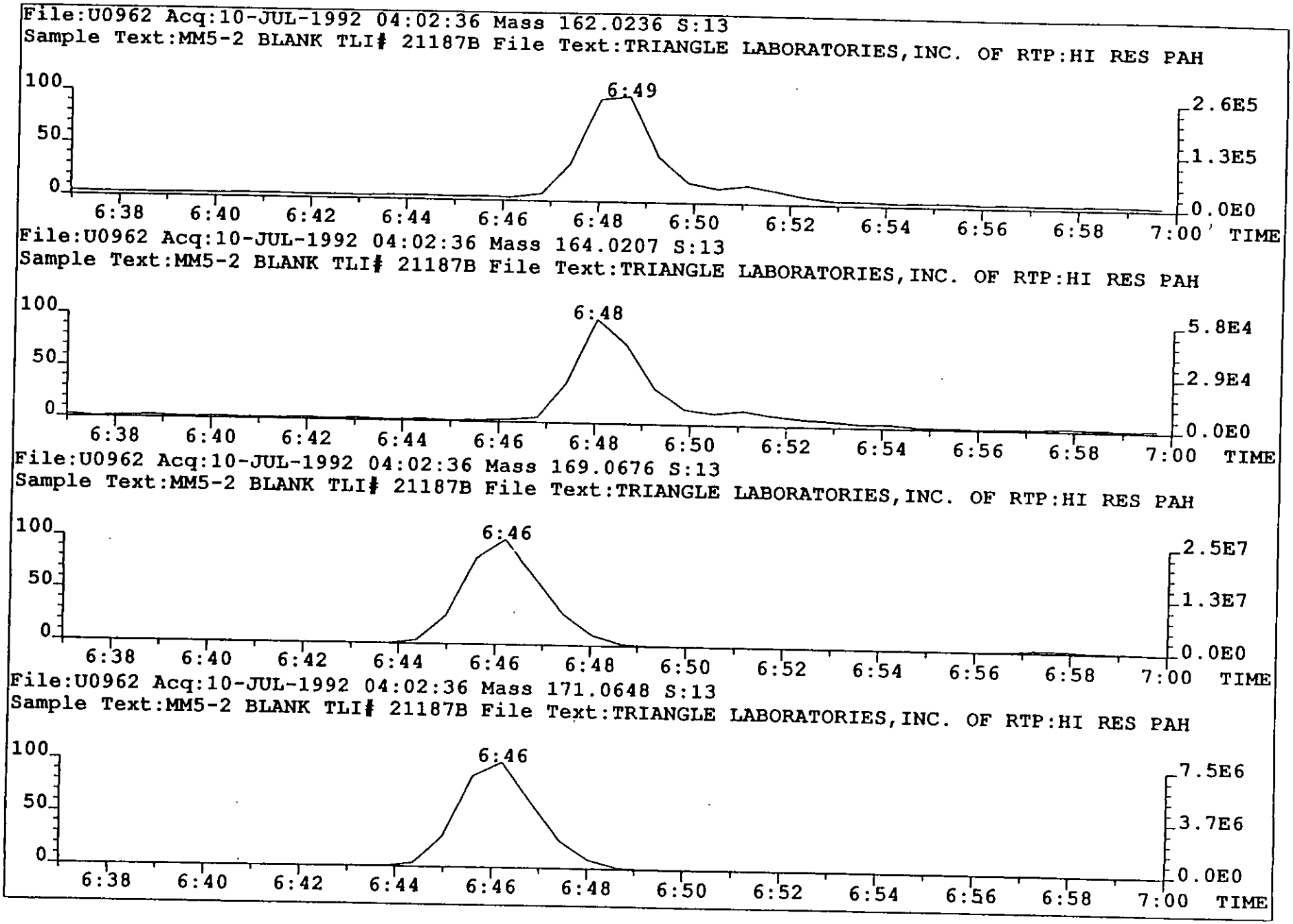

File:U0962 #1-245 Acq:10-JUL-1992 04:02:36 GC EI+ Voltage SIR 70S
162.0236 S:13 Exp:PAH5
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A4.410E5
100
80
60
40
20
0
2.6E5
2.1E5
1.6E5
1.0E5
5.2E4
0.0E0
6:24
6:30
6:36
6:42
6:48
6:54
7:00
TIME
File:U0962 #1-245 Acq:10-JUL-1992 04:02:36 GC EI+ Voltage SIR 70S
164.0207 S:13 Exp:PAH5
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A8.898E4
100
80
60
40
20
0
5.8E4
4.6E4
3.5E4
2.3E4
1.2E4
0.0E0
6:24
6:30
6:36
6:42
6:48
6:54
7:00
TIME
File:U0962 #1-245 Acq:10-JUL-1992 04:02:36 GC EI+ Voltage SIR 70S
169.0676 S:13 Exp:PAH5
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
6:46
100
80
60
40
20
0
2.5E7
2.0E7
1.5E7
1.0E7
5.0E6
0.0E0
6:24
6:30
6:36
6:42
6:48
6:54
7:00
TIME

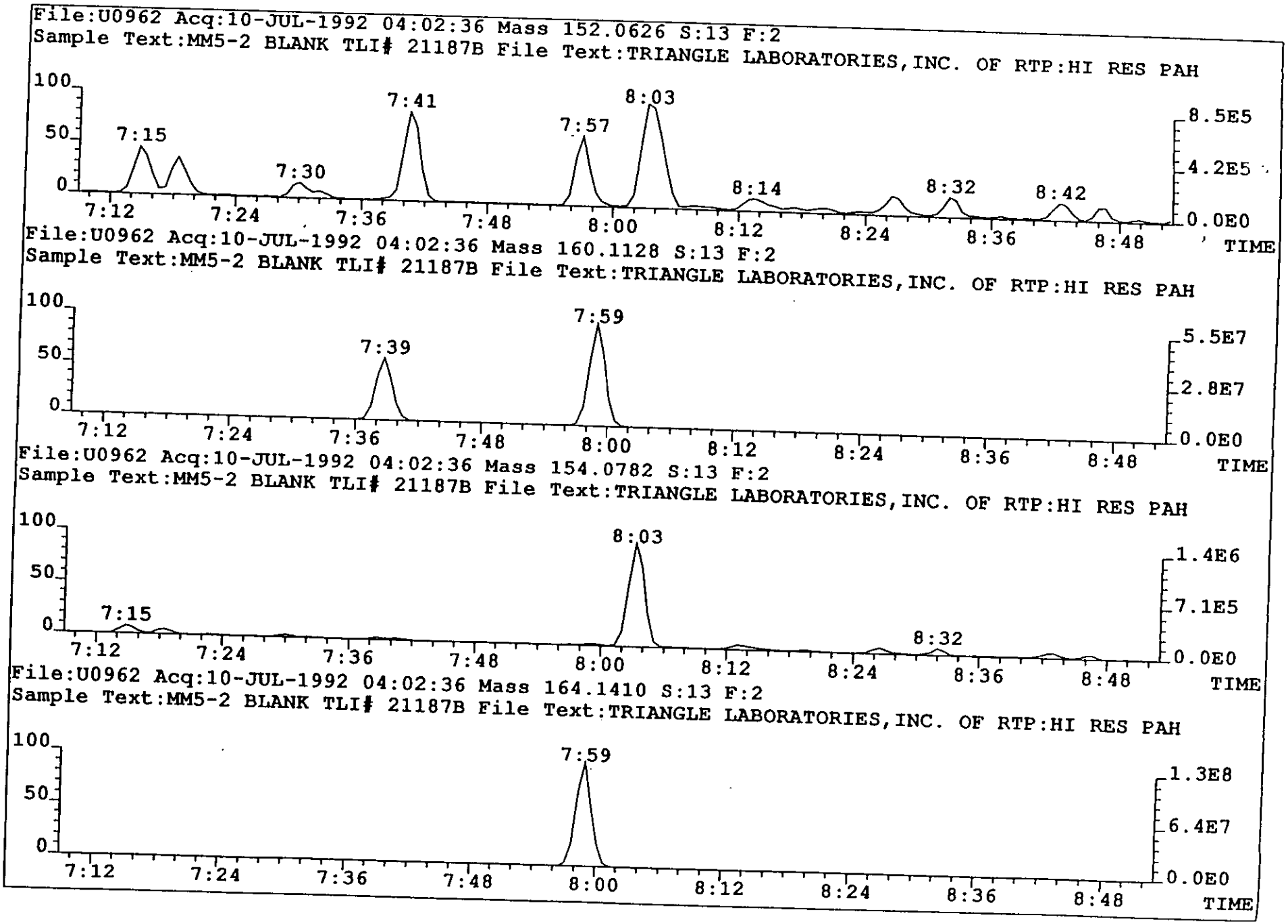

File:U0962 #1-714 Acq:10-JUL-1992 04:02:36 GC EI+ Voltage SIR 70S
228.0939 S:13 F:3 Exp:PAH5
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.481E5
A1.114E6
TIME
File:U0962 #1-714 Acq:10-JUL-1992 04:02:36 GC EI+ Voltage SIR 70S
240.1692 S:13 F:3 Exp:PAH5
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:11
18:16
TIME

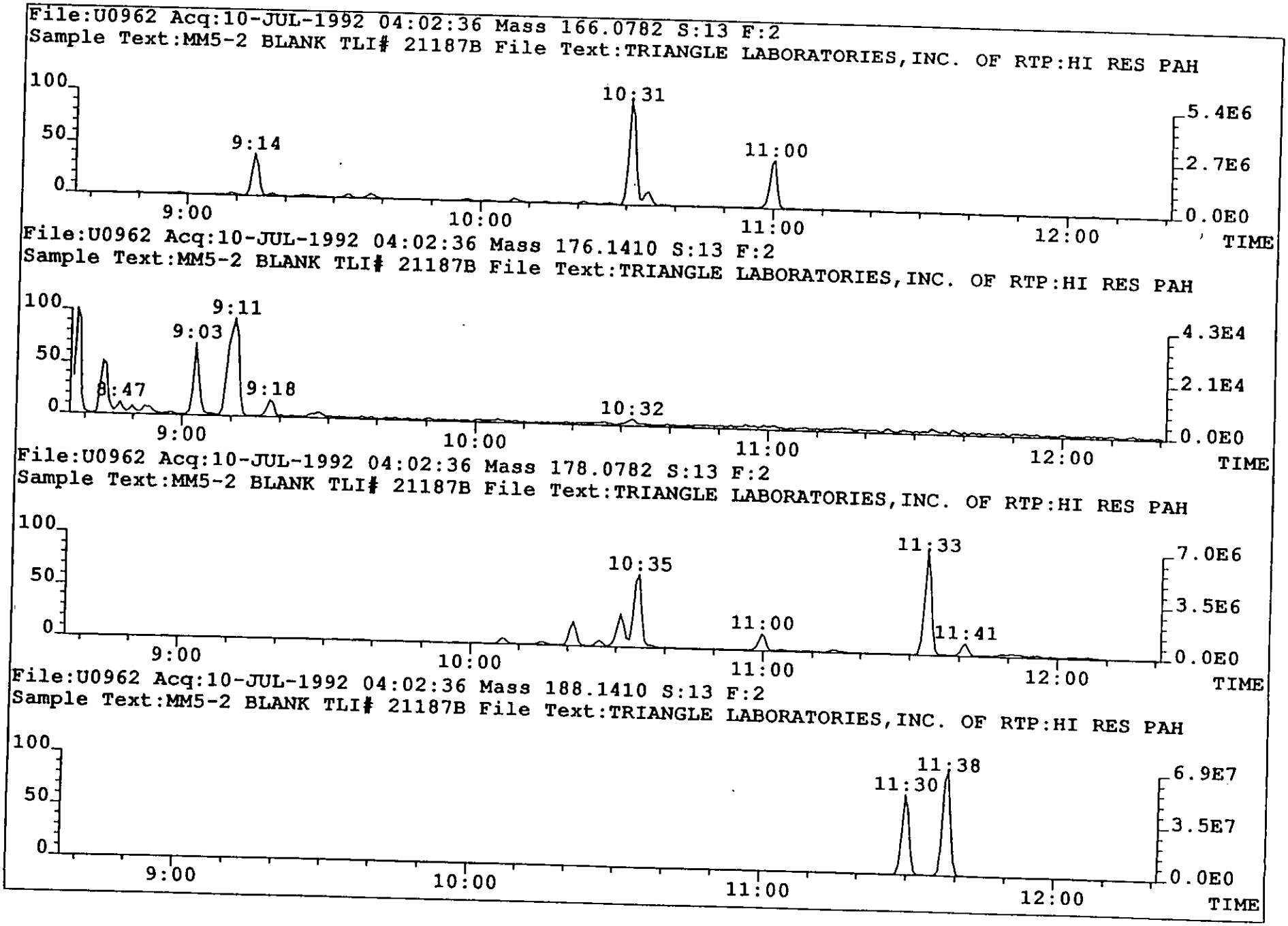

File:U0962 #1-1212 Acq:10-JUL-1992 04:02:36 GC EI+ Voltage SIR 70S
252.0939 S:13 F:4 Exp:PAH5
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:42
21:49
22:48
23:03
x10.00
TIME
File:U0962 #1-1212 Acq:10-JUL-1992 04:02:36 GC EI+ Voltage SIR 70S
264.1692 S:13 F:4 Exp:PAH5
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:36
21:43
22:42
22:56
x10.00
TIME

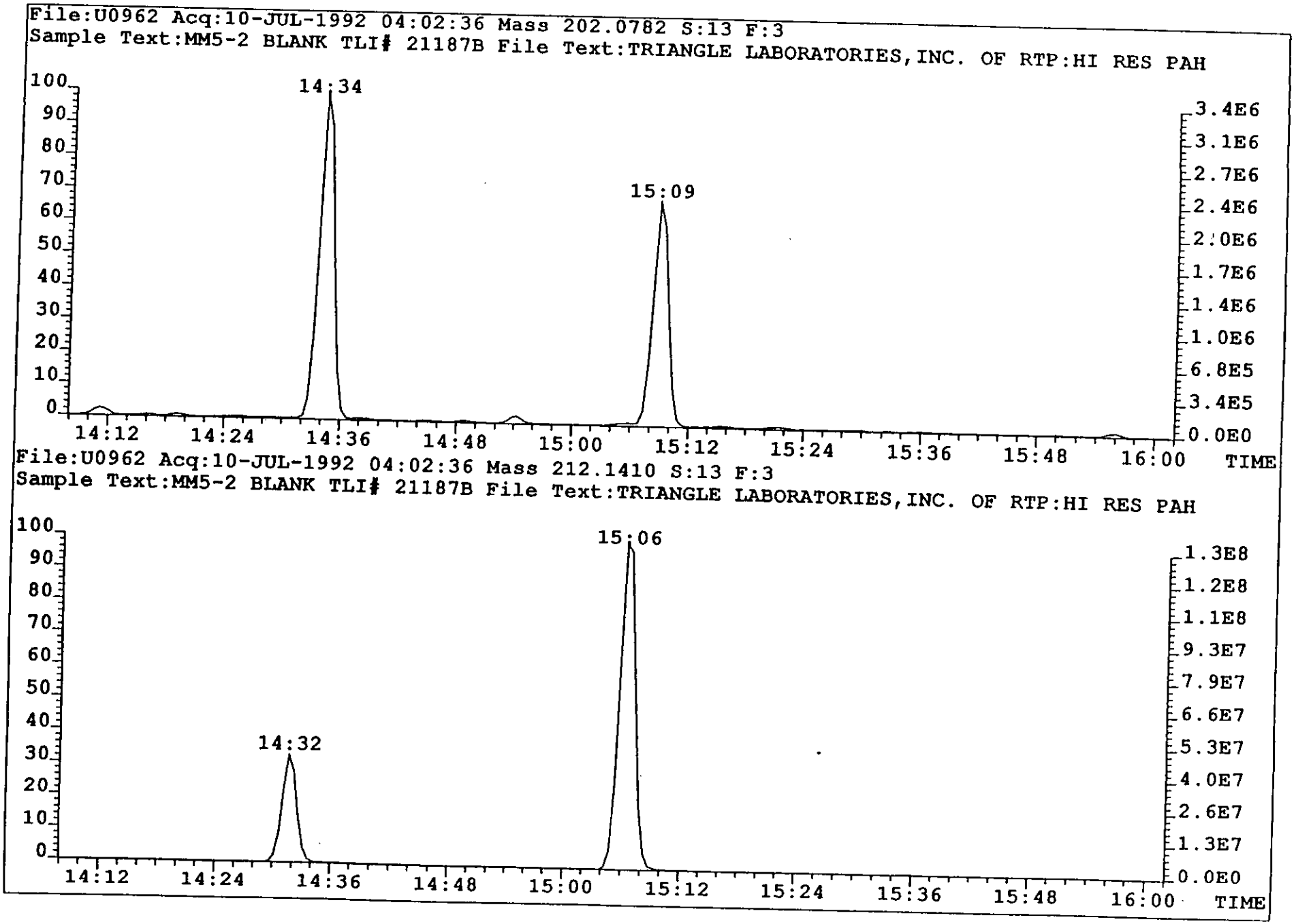

File:U0962 #1-245 Acq:10-JUL-1992 04:02:36 GC EI+ Voltage SIR 70S
154.9920 S:13 Exp:PAH5
Sample#13 Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:36
5:14
5:33
6:07 6:16 6:28 6:40 6:56
3.6E5
1.8E5
0.0E0
4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 6:24 6:36 6:48 7:00 TIME
File:U0962 #1-684 Acq:10-JUL-1992 04:02:36 GC EI+ Voltage SIR 70S
168.9888 S:13 F:2 Exp:PAH5
Sample#13 Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:16
8:42
9:52
11:29 12:00
12:59
13:43
1.9E7
9.7E6
0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 TIME
File:U0962 #1-714 Acq:10-JUL-1992 04:02:36 GC EI+ Voltage SIR 70S
242.9856 S:13 F:3 Exp:PAH5
Sample#13 Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
14:23
14:56 15:22
16:05
17:05
17:50
18:34
19:22
5.6E6
2.8E6
0.0E0
15:00 16:00 17:00 18:00 19:00 20:00 TIME
File:U0962 #1-1212 Acq:10-JUL-1992 04:02:36 GC EI+ Voltage SIR 70S
268.9824 S:13 F:4 Exp:PAH5
Sample#13 Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
21:13 22:12 23:08 24:14 25:21
26:59 27:54 29:04
30:44 31:44 32:36
3.4E6
1.7E6
0.0E0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 33:00 TIME

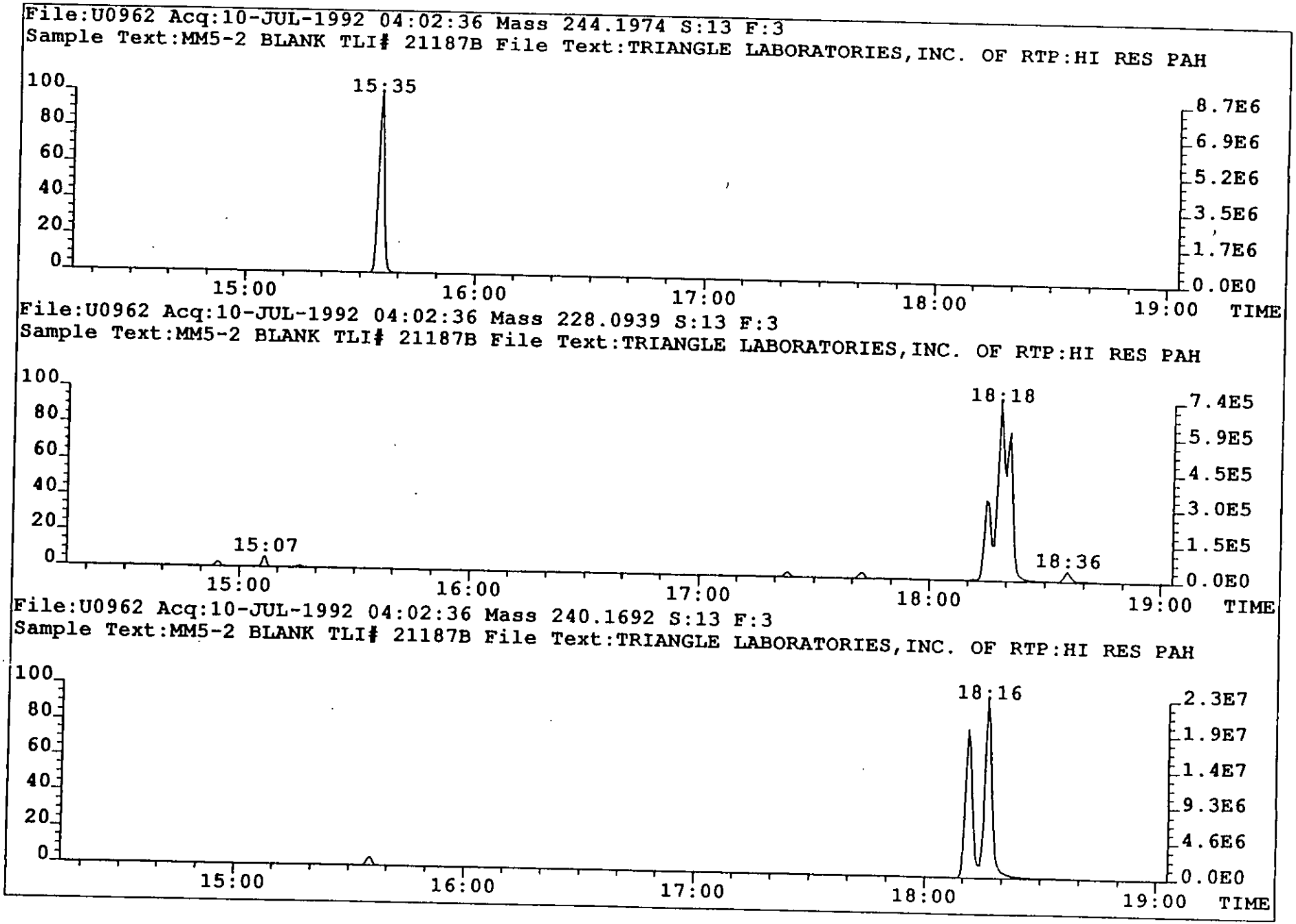

File:U0962 Acq:10-JUL-1992 04:02:36 Mass 128.0626 S:13
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
4:46
100
50
0
4.1E7
2.1E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 136.1128 S:13
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
4:44
3.1E7
1.5E7
0.0E0
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 142.0782 S:13
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
5:53
6:04
1.4E7
7.2E6
0.0E0
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 152.1410 S:13
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
5:49
1.9E7
9.6E6
0.0E0

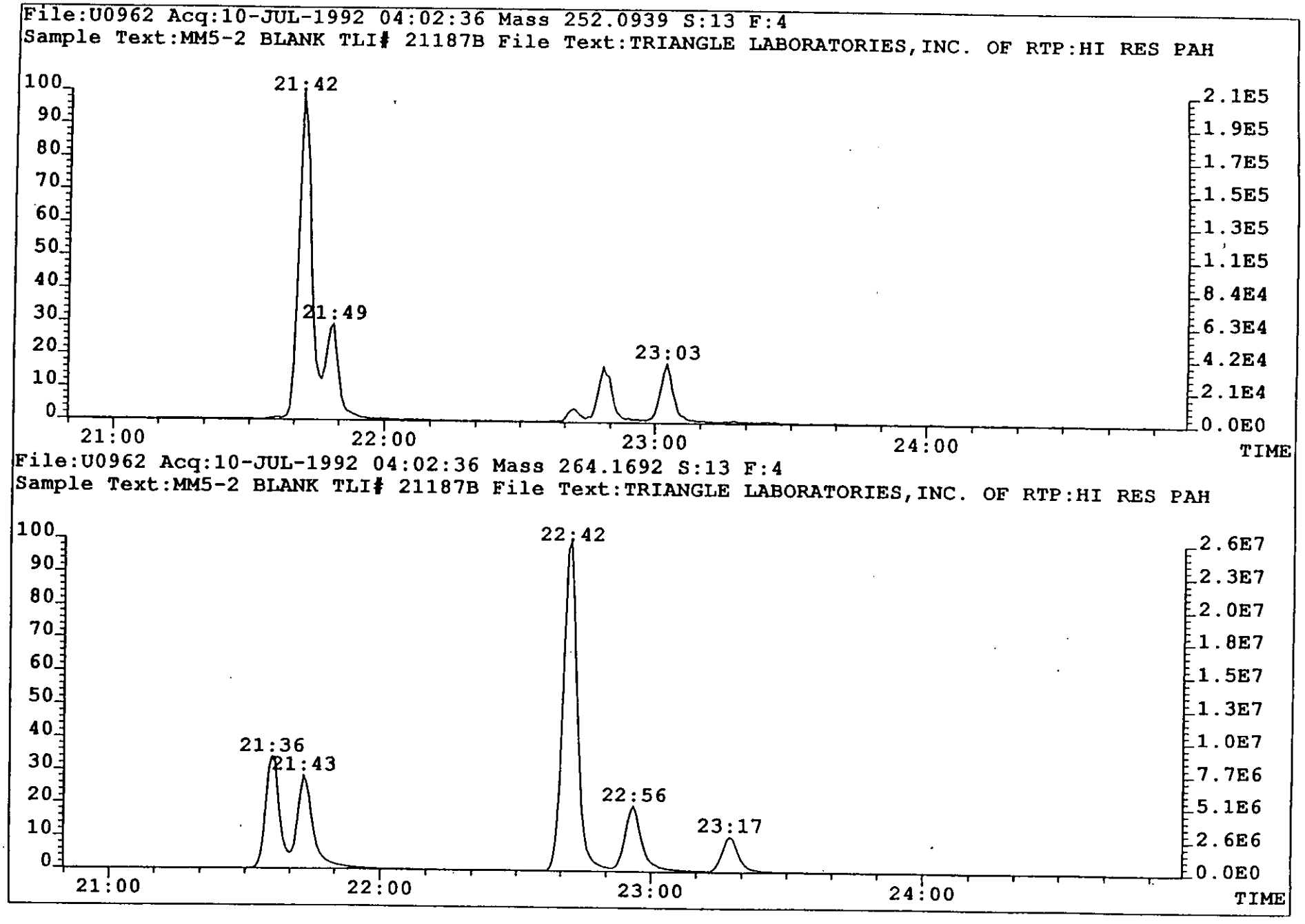

File:U0962 Acq:10-JUL-1992 04:02:36 Mass 162.0236 S:13
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
6:49
2.6E5
1.3E5
0.0E0
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 164.0207 S:13
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
6:48
5.8E4
2.9E4
0.0E0
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 169.0676 S:13
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
6:46
2.5E7
1.3E7
0.0E0
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 171.0648 S:13
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
6:46
7.5E6
3.7E6
0.0E0
100
50
0
6:38
6:40
6:42
6:44
6:46
6:48
6:50
6:52
6:54
6:56
6:58
7:00
TIME

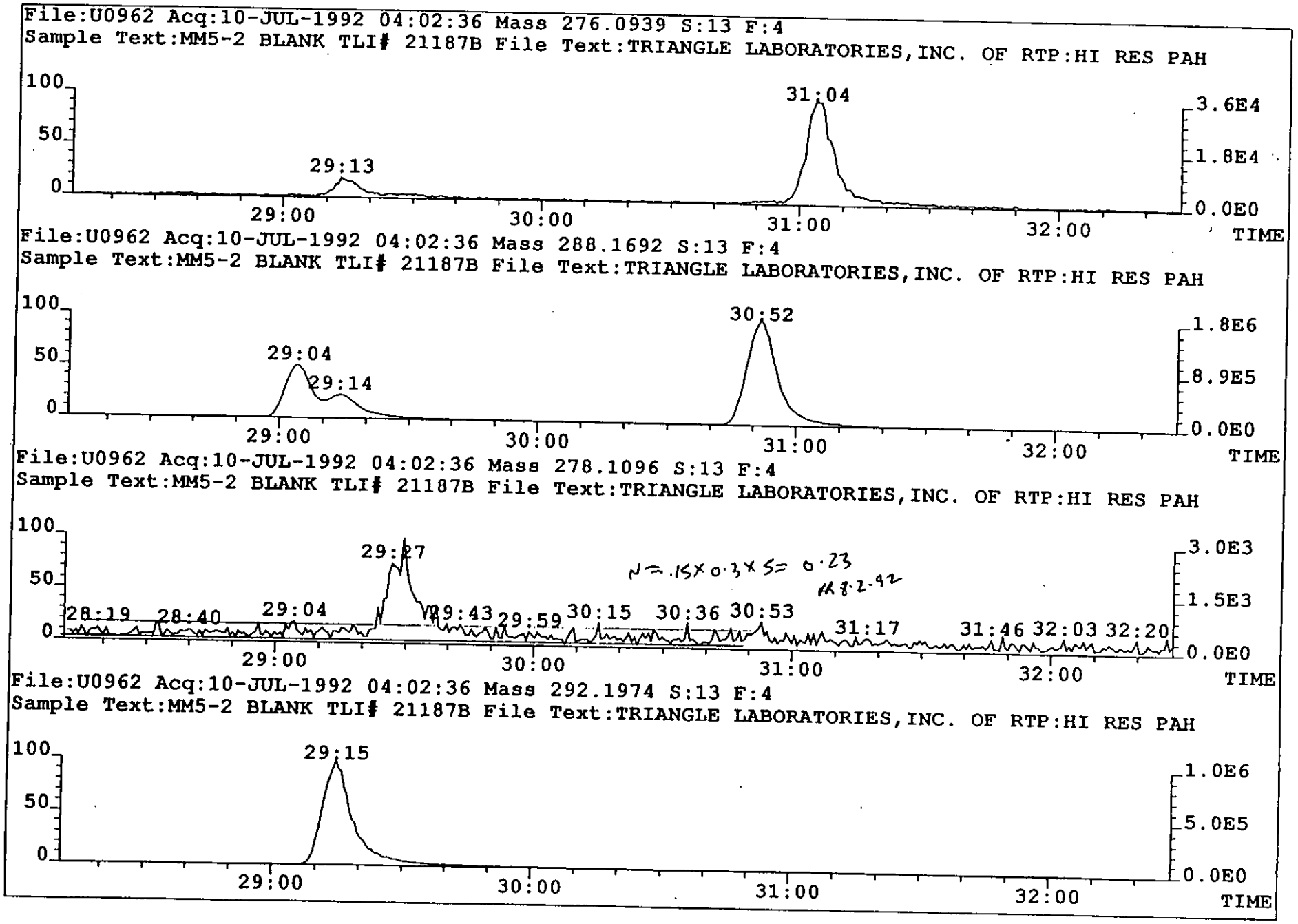

File:U0962 Acq:10-JUL-1992 04:02:36 Mass 152.0626 S:13 F:2
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:15
7:30
7:41
7:57
8:03
8:14
8:32
8:42
8.5E5
4.2E5
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 160.1128 S:13 F:2
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:39
7:59
5.5E7
2.8E7
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 154.0782 S:13 F:2
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:15
8:03
8:32
1.4E6
7.1E5
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 164.1410 S:13 F:2
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:59
1.3E8
6.4E7
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME


File:U0962 Acq:10-JUL-1992 04:02:36 Mass 166.0782 S:13 F:2
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:14
10:31
11:00
5.4E6
2.7E6
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 176.1410 S:13 F:2
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:11
9:03
9:47
9:18
10:32
4.3E4
2.1E4
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 178.0782 S:13 F:2
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
10:35
11:33
11:00
11:41
7.0E6
3.5E6
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 188.1410 S:13 F:2
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
11:38
11:30
6.9E7
3.5E7
0.0E0
9:00
10:00
11:00
12:00
TIME


File:U0962 Acq:10-JUL-1992 04:02:36 Mass 202.0782 S:13 F:3
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
14:34
15:09
100
90
80
70
60
50
40
30
20
10
0
3.4E6
3.1E6
2.7E6
2.4E6
2.0E6
1.7E6
1.4E6
1.0E6
6.8E5
3.4E5
0.0E0
14:12
14:24
14:36
14:48
15:00
15:12
15:24
15:36
15:48
16:00
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 212.1410 S:13 F:3
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:06
14:32
1.3E8
1.2E8
1.1E8
9.3E7
7.9E7
6.6E7
5.3E7
4.0E7
2.6E7
1.3E7
0.0E0
TIME


File:U0962 Acq:10-JUL-1992 04:02:36 Mass 244.1974 S:13 F:3
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:35
8.7E6
6.9E6
5.2E6
3.5E6
1.7E6
0.0E0
15:00
16:00
17:00
18:00
19:00
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 228.0939 S:13 F:3
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:18
15:07
18:36
7.4E5
5.9E5
4.5E5
3.0E5
1.5E5
0.0E0
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 240.1692 S:13 F:3
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:16
2.3E7
1.9E7
1.4E7
9.3E6
4.6E6
0.0E0


File:U0962 Acq:10-JUL-1992 04:02:36 Mass 252.0939 S:13 F:4
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:42
21:49
23:03
100
90
80
70
60
50
40
30
20
10
0
2.1E5
1.9E5
1.7E5
1.5E5
1.3E5
1.1E5
8.4E4
6.3E4
4.2E4
2.1E4
0.0E0
21:00
22:00
23:00
24:00
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 264.1692 S:13 F:4
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
22:42
21:36
21:43
22:56
23:17
100
90
80
70
60
50
40
30
20
10
0
2.6E7
2.3E7
2.0E7
1.8E7
1.5E7
1.3E7
1.0E7
7.7E6
5.1E6
2.6E6
0.0E0
21:00
22:00
23:00
24:00
TIME


File:U0962 Acq:10-JUL-1992 04:02:36 Mass 276.0939 S:13 F:4
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:13
31:04
3.6E4
1.8E4
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 288.1692 S:13 F:4
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:04
29:14
30:52
1.8E6
8.9E5
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 278.1096 S:13 F:4
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:27
N=.15x0.3x5= 0.23
28:19
28:40
29:04
29:43
29:59
30:15
30:36
30:53
31:17
31:46
32:03
32:20
3.0E3
1.5E3
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 04:02:36 Mass 292.1974 S:13 F:4
Sample Text:MM5-2 BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:15
1.0E6
5.0E5
0.0E0
29:00
30:00
31:00
32:00
TIME

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/04/92

FILE NAME....:	U096211	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	*
CONCAL.....:	U096001	SAMPLE ID....:	MM5-4 XAD BLK		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	2570			4:47	B
2-Me-Naph	393			5:53	B
Acenaphthen	77.7			8:04	B
2-Cl-Naph	EMPC		0.31		B,PR
Acenaph	14.0			7:41	B
Fluorene	115			9:14	B
Phenan	331			11:34	B
Anth	ND		0.06		
Fluoran	58.2			14:35	B
Pyrene	171			15:10	B
B-a-Anth	3.8			18:16	B
Chrysene	15.0			18:22	B,PR
Perylene	ND		1.4		
B-b-Fluoran	21.2			21:43	B
B-k-Fluoran	4.3			21:49	B,PR
B-a-Pyrene	1.2			23:04	B
B-e-Pyrene	11.5			22:49	B
B-ghi-Pery	104			31:05	B
I-123-cd-Py	6.6			29:14	B
DiB-ah-Anth	ND		9.2		

SURROGATE RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	51200.00	51.2	15:36	S

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	16.2	16.2	11:39	V

* TLI SAMPLE ID: 57-89-2B AND 57-102-10,12.

Reviewed By: [signature] BR 8/6/92

PAHJ_RPT 1.00, LARS 4.20

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/04/92

FILE NAME....:	U096211	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	*
CONCAL.....:	U096001	SAMPLE ID....:	MM5-4 XAD BLK		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	19.2	19.2	4:44	√
d10-2-Me-Naph	27.7	27.7	5:49	√
d7-2-Cl-Naph	36.4	36.4	6:46	√
d8-Acenaph	17.4	17.4	7:39	√
d10-Phenan	10.5	10.5	11:30	√
d12-B-a-Anth	8.2	8.23	18:12	√
d10-Fluoran	8.2	8.20	14:33	√
d12-Chrysene	4.4	4.39	18:17	√
d12-Perylene	9.3	4.65	23:18	√
d12-B-b-Fluoran	6.6	3.30	21:36	√
d12-B-k-Fluoran	7.2	3.59	21:43	√
d12-B-a-Pyrene	16.2	8.11	22:57	√
d12-B-ghi-Pery	8.6	4.29	30:52	√
-I-123-cd-Py	8.9	4.45	29:05	√
d14-DiB-ah-Anth	2.5	1.27	29:15	√

* TLI SAMPLE ID: 57-89-2B AND 57-102-10,11,12.

Reviewed By: SJ for BR 8/6/92

PAHJ_RPT 1.00, LARS 4.20

N = 0.2
(278)

	Initial	Date
B-File/Header Changes	RR	7-31-92
Manual Integrations		
Transcription		
Dbase Corrections		

Listing of U096211B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128	DC	0.00	0:00	3.24	T	F	0.000	NL
		0.00	4:32	1021.64	T	F	0.958	
		0.00	4:47•	63177.75	T	T	~~1.011~~ 1.000	
		0.00	5:31	56.92	T	F	1.165	
		0.00	6:05	144.54	T	F	1.285	
		0.00	6:21	63.37	T	F	1.342	
	DC	0.00	6:52	189.23	T	F	1.451	WH
	DC	0.00	6:57	109.16	T	F	1.468	WH
128		*** Total ***		64765.85	# of Peaks:		8	
136	DC	0.00	0:00	0.06	T	F	0.000	NL
		0.00	4:39	19.05	T	F	0.982	
		0.00	4:44•	3203.73	T	T	1.000	
		0.00	5:21	4.03	T	F	1.130	
		0.00	5:32	5.43	T	F	1.169	
136		*** Total ***		3232.30	# of Peaks:		5	
142	DC	0.00	0:00	0.36	T	F	0.000	NL
		0.00	5:32	19.07	T	F	0.951	
		0.00	5:53•	9812.38	T	T	1.011	
		0.00	6:04	4471.76	T	F	1.043	
		0.00	6:18	11.24	T	F	1.083	
		0.00	6:21	10.41	T	F	1.092	
		0.00	6:35	13.89	T	F	1.132	
		0.00	6:41	6.96	T	F	1.149	
		0.00	6:48	22.29	T	F	1.169	
		0.00	6:52	41.88	T	F	1.181	
		0.00	6:58	68.74	T	F	1.198	
142		*** Total ***		14478.98	# of Peaks:		11	
152	DC	0.00	0:00	0.83	T	F	0.000	NL
	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	4:36	15.62	T	F	0.601	
	DC	0.00	4:42	3.74	T	F	0.614	SN
	DC	0.00	4:46	2.50	T	F	0.623	SN
		0.00	5:49•	2355.55	T	T	1.000	
		0.00	6:00	14.93	T	F	0.784	
	DC	0.00	6:46	8.01	T	F	0.885	SN
		0.00	7:06	428.74	T	F	0.928	
		0.00	7:15	409.13	T	F	0.948	
		0.00	7:18	274.10	T	F	0.954	
	DC	0.00	7:23	4.65	T	F	0.965	SN

Listing of U096211B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
152		0.00	7:41	242.35	T	T	1.004	
		0.00	7:57	353.01	T	F	1.039	
		0.00	8:04	683.83	T	F	1.054	
		0.00	8:09	57.46	T	F	1.065	
		0.00	8:14	328.50	T	F	1.076	
		0.00	8:20	81.98	T	F	1.089	
		0.00	8:27	355.55	T	F	1.105	
		0.00	8:33	295.77	T	F	1.118	
		0.00	8:43	200.51	T	F	1.139	
		0.00	8:47	148.98	T	F	1.148	
		0.00	8:55	156.30	T	F	1.166	
		0.00	8:58	150.23	T	F	1.172	
152		*** Total ***		6767.86	# of Peaks:		25	
154	DC	0.00	0:00	0.54	T	F	0.000	NL
		0.00	7:05	155.06	T	F	0.926	
		0.00	7:15	146.00	T	F	0.948	
		0.00	7:18	84.54	T	F	0.954	
		0.00	7:23	18.97	T	F	0.965	
		0.00	7:30	68.35	T	F	0.980	
		0.00	7:40	41.71	T	F	1.002	
		0.00	8:04	811.28	T	T	1.054	
		0.00	8:08	27.47	T	F	1.063	
		0.00	8:14	238.99	T	F	1.076	
		0.00	8:20	56.05	T	F	1.089	
		0.00	8:27	220.89	T	F	1.105	
		0.00	8:33	206.36	T	F	1.118	
		0.00	8:43	134.06	T	F	1.139	
		0.00	8:47	95.73	T	F	1.148	
		0.00	8:50	20.71	T	F	1.155	
		0.00	8:55	287.35	T	F	1.166	
154		*** Total ***		2614.06	# of Peaks:		17	
160	DC	0.00	0:00	2.29	T	F	0.000	NL
		0.00	7:26	170.56	T	F	0.972	
		0.00	7:31	89.49	T	F	0.983	
		0.00	7:39	1628.52	T	T	1.000	
		0.00	7:43	31.03	T	F	1.009	
		0.00	7:49	37.40	T	F	1.022	
	DC	0.00	7:53	14.93	T	F	1.031	SN
		0.00	7:59	6467.53	T	F	1.044	
		0.00	8:07	46.06	T	F	1.061	
	DC	0.00	8:14	17.77	T	F	1.076	SN
		0.00	8:21	238.88	T	F	1.092	
		0.00	8:39	36.47	T	F	1.131	
		0.00	8:45	34.52	T	F	1.144	
160		*** Total ***		8815.45	# of Peaks:		13	
162	DC	3.50	0:00	0.09	T	F	0.000	NL — PR, RS
	CK —	4.73	6:48	14.91	F	T	1.005	
162		*** Total ***		15.00	# of Peaks:		2	
164	DC	0.00	0:00	0.02	T	F	0.000	NL

Listing of U096211B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
164	DC	0.00	0:00	0.15	T	F	0.000	NL
		0.00	6:48	2.60	T	F	0.848	
		0.00	7:59	14434.26	T	~~F~~ T	~~0.996~~ 1.000	
164		*** Total ***		14437.03	# of Peaks:		4	
166	DC	0.00	0:00	0.06	T	F	0.000	NL
	DC	0.00	7:58	131.96	T	F	0.693	WL
	DC	0.00	8:58	55.95	T	F	0.780	WL
	DC	0.00	9:09	207.07	T	F	0.796	WL
	~~DC~~	0.00	9:14	748.75	T	T	0.803	~~WL~~
	DC	0.00	9:24	157.43	T	F	0.817	WL
		0.00	9:33	206.32	T	F	0.830	
		0.00	9:38	186.69	T	F	0.838	
		0.00	9:57	92.73	T	F	0.865	
		0.00	10:02	94.47	T	F	0.872	
		0.00	10:08	121.11	T	F	0.881	
		0.00	10:17	75.04	T	F	0.894	
		0.00	10:31	7175.10	T	F	0.914	
		0.00	10:39	193.24	T	F	0.926	
		0.00	10:43	151.91	T	F	0.932	
		0.00	11:00	3820.70	T	F	0.957	
		0.00	11:38	152.46	T	F	1.012	
		0.00	11:49	122.64	T	F	1.028	
166		*** Total ***		13693.63	# of Peaks:		18	
169	DC	13.64	0:00	0.03	F	F	0.000	NL
		3.41	6:46	4040.20	T	T	1.000	
169		*** Total ***		4040.23	# of Peaks:		2	
176	DC	0.00	0:00	0.13	T	F	0.000	NL
		0.00	7:58	3.77	T	F	0.867	
		0.00	8:27	3.20	T	F	0.920	
		0.00	8:39	19.78	T	F	0.941	
		0.00	8:44	20.97	T	F	0.950	
		0.00	8:50	7.54	T	F	0.961	
		0.00	9:04	1.82	T	F	0.987	
	D	0.00	9:11	3.21	T	T	0.999	ND
		0.00	9:18	3.57	T	F	1.012	
		0.00	9:28	9.01	T	F	1.030	
	DC	0.00	9:33	1.02	T	F	1.039	SN
		0.00	9:45	1.34	T	F	1.061	
	DC	0.00	9:51	0.57	T	F	1.072	SN
		0.00	10:04	7.55	T	F	1.096	
		0.00	10:16	2.40	T	F	1.117	
		0.00	10:26	4.22	T	F	1.135	
		0.00	10:33	29.65	T	F	1.148	
		0.00	10:40	1.34	T	F	1.161	
	DC	0.00	10:48	1.14	T	F	1.175	SN
		0.00	10:52	1.60	T	F	1.183	
		0.00	10:57	3.87	T	F	1.192	
		0.00	11:02	5.65	T	F	1.201	
		0.00	11:08	5.03	T	F	1.212	
		0.00	11:14	3.96	T	F	1.222	

Listing of U096211B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
176	DC	0.00	11:22	1.15	T	F	1.237	SN
		0.00	11:38	10.24	T	F	1.266	
		0.00	11:52	8.97	T	F	1.291	
176		*** Total ***		162.60	# of Peaks:		27	
178	DC	0.00	0:00	0.07	T	F	0.000	NL
		0.00	8:23	117.23	T	F	0.729	
		0.00	8:58	38.40	T	F	0.780	
		0.00	9:07	160.43	T	F	0.793	
		0.00	9:17	118.80	T	F	0.807	
		0.00	9:26	141.21	T	F	0.820	
		0.00	9:33	66.80	T	F	0.830	
		0.00	9:37	84.26	T	F	0.836	
		0.00	10:07	39.22	T	F	0.880	
		0.00	10:17	468.30	T	F	0.894	
		0.00	10:31	3739.73	T	F	0.914	
		0.00	10:49	24.62	T	F	0.941	
		0.00	11:00	1635.56	T	F	0.957	
		0.00	11:14	113.84	T	F	0.977	
		0.00	11:22	20.14	T	F	0.988	
	ck (2) ND	0.00	11:34 • (1)	3202.61	T	T	1.006	
		0.00	11:49	1248.72	T	F	1.028	
178		*** Total ***		11219.94	# of Peaks:		17	
188	DC	0.00	0:00	0.74	T	F	0.000	NL
		0.00	8:02	25.89	T	F	0.688	
		0.00	8:26	57.01	T	F	0.722	
		0.00	8:41	31.08	T	F	0.743	
		0.00	8:49	62.29	T	F	0.755	
		0.00	8:59	105.10	T	F	0.769	
		0.00	9:14	34.49	T	F	0.790	
		0.00	9:51	77.94	T	F	0.843	
		0.00	10:06	27.90	T	F	0.864	
		0.00	10:17	39.22	T	F	0.880	
		0.00	10:29	37.01	T	F	0.897	
		0.00	11:30 •	1304.80	T	T	1.000	
		0.00	11:39 •	1727.34	T	FT	0.997	
		0.00	11:57	31.09	T	F	1.023	
188		*** Total ***		3561.90	# of Peaks:		14	
202	DC	0.00	0:00	3.88	T	F	0.000	NL
		0.00	14:35 •	310.61	T	T	1.002	
		0.00	15:10 •	926.26	T	T	1.042	
		0.00	15:16	42.33	T	F	1.049	
		0.00	15:36 ✓	102.07	T	FF ok ok	1.072	
		0.00	15:56	395.15	T	F too lt	1.095	
202		*** Total ***		1780.30	# of Peaks:		6	
212	DC	0.00	0:00	0.82	T	F	0.000	NL
		0.00	14:33 •	625.28	T	FT	1.000	
		0.00	15:07 •	9535.85	T	FT	0.996	
		0.00	15:36 ✓	12643.60	T	FF ok ok	1.027	
212		*** Total ***		22805.55	# of Peaks: too lt		4	

Listing of U096211B.dbf

Matched GC Peaks / Ratio / Ret. Time

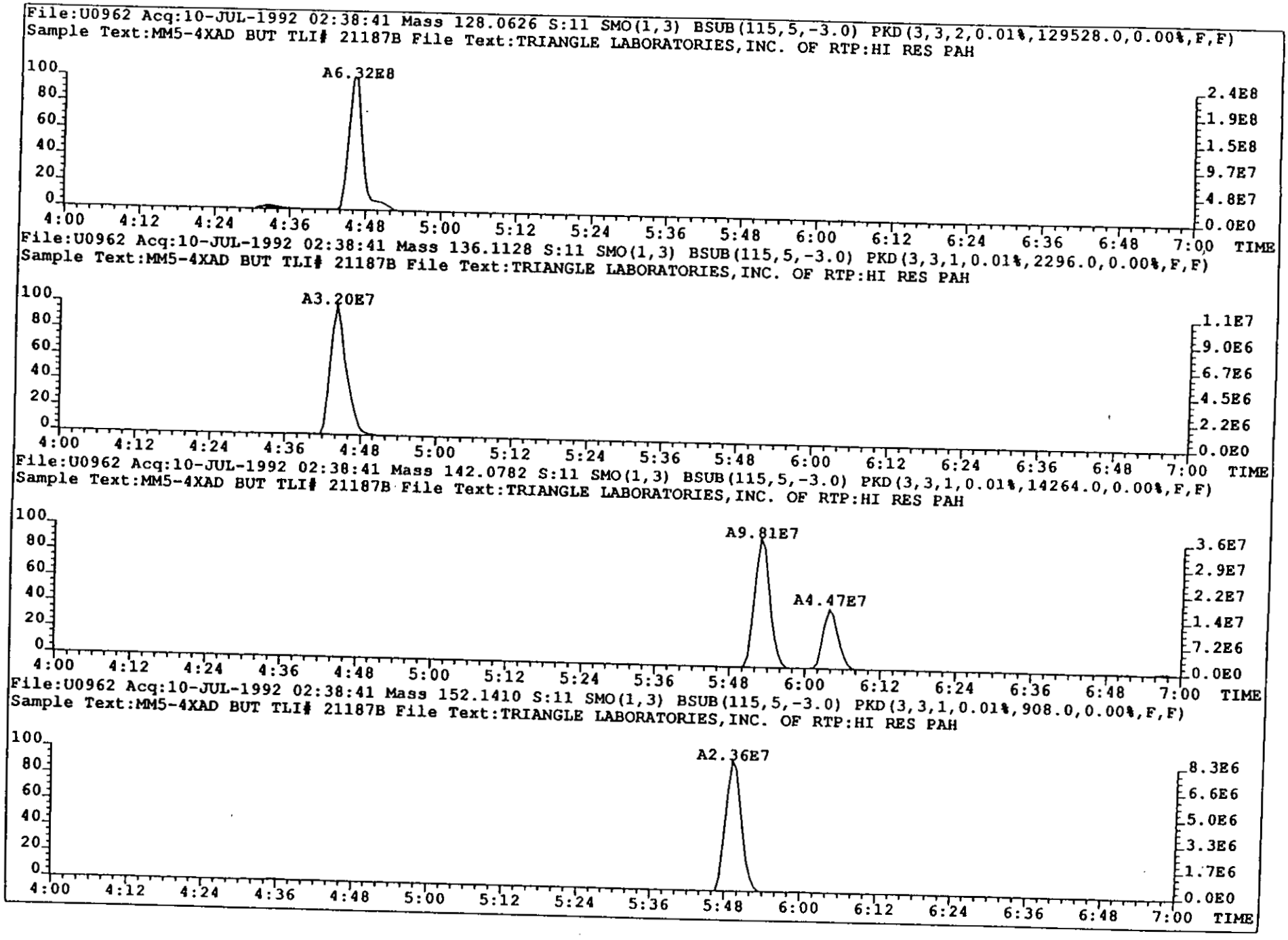
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
228	DC	0.00	0:00	0.10	T	F	0.000	NL
	DC	0.00	14:31	0.82	T	F	0.794	SN
		0.00	14:36	13.41	T	F	0.799	
		0.00	15:07	1.55	T	F	0.827	
		0.00	15:16	52.16	T	F	0.835	
		0.00	15:37	25.95	T	F	0.854	
	DC	0.00	15:57	0.41	T	F	0.872	SN
		0.00	16:03	1.58	T	F	0.878	
		0.00	16:09	1.44	T	F	0.883	
		0.00	16:15	3.21	T	F	0.889	
		0.00	16:50	4.74	T	F	0.921	
		0.00	17:02	1.74	T	F	0.932	
		0.00	17:17	1.53	T	F	0.945	
		0.00	17:23	14.80	T	F	0.951	
		0.00	17:49	1.55	T	F	0.974	
	DC	0.00	17:54	0.78	T	F	0.979	SN
		0.00	17:58	1.53	T	F	0.983	
	CK	0.00	18:~~21~~16	~~51.21~~ 10.19	T	T	1.004	
		0.00	18:~~36~~22	~~13.73~~ 26.12	T	~~F~~T	1.017	— PR
		0.00	18:41	9.21	T	F	1.022	
228		*** Total ***		201.45	# of Peaks:		20	
	240		18.12 c)	286-0	T	T	~~0.000~~ 1.000	
240	DC	0.00	0:00	1.19	T	F	0.000	NL
		0.00	15:36 a)	29910.61	T	~~F~~F	0.853	
	CK	0.00	18:17 b)	349.75	T	T	1.000	
240		*** Total ***		30261.55	# of Peaks:		3	
244	DC	0.00	0:00	0.09	T	F	0.000	NL
		0.00	15:36	371999.70	T	~~F~~T	~~0.996~~ 1.000	
244		*** Total ***		371999.79	# of Peaks:		2	
	252		21.49 G)	2.77	T	T	1.000	— PR
252	DC	0.00	0:00	0.04	T	F	0.000	NL
	CK	0.00	21:43 c)	~~8.68~~ 9.92	T	~~F~~T	0.910	
	~~X~~ S ND	0.00	22:42	0.55	T	F	0.951	
	CK	0.00	22:49 d)	~~18.70~~ 18.46	T	~~F~~T	0.956	
		0.00	23:52	2.49	T	F	1.000	
252		*** Total ***		30.46	# of Peaks:		5	
	252		23:04 e)	1.18	T	T	1.000	
264	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	21:36 a)	95.45	T	~~F~~T	0.905	
	CK ~~X~~ S ND	0.00	21:43 c)	160.07	T	~~F~~T	0.910	
		0.00	22:42 b)	6862.36	T	~~F~~T	0.951	
		0.00	23:52	333.30	T	~~F~~F	1.000	
264		*** Total ***		7451.20	# of Peaks:		5	
	264 —		22.57 d)	214.6	T	T	1.000	
			23:18 f)	7355	T	T	1.000	
276	DC	0.00	0:00	0.03	T	F	0.000	NL
		0.00	29:14 -	1.45	T	T	0.947	
		0.00	31:05 -	38.79	T	T	1.007	
276		*** Total ***		40.27	# of Peaks:		3	
278	DC	0.00	0:00	0.03	T	F	0.000	NL
278		*** Total ***		0.03	# of Peaks:		1	

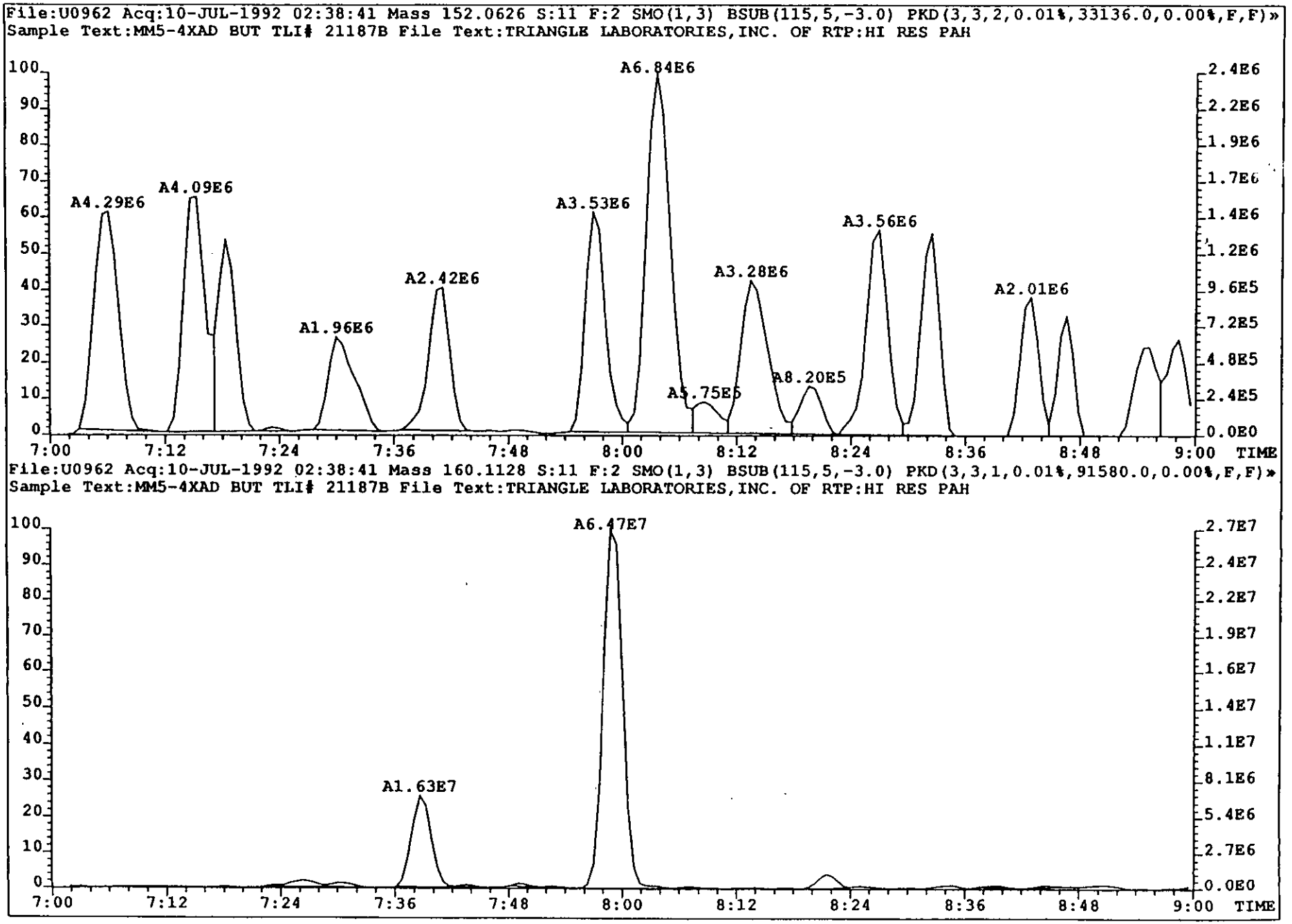
Listing of U096211B.dbf

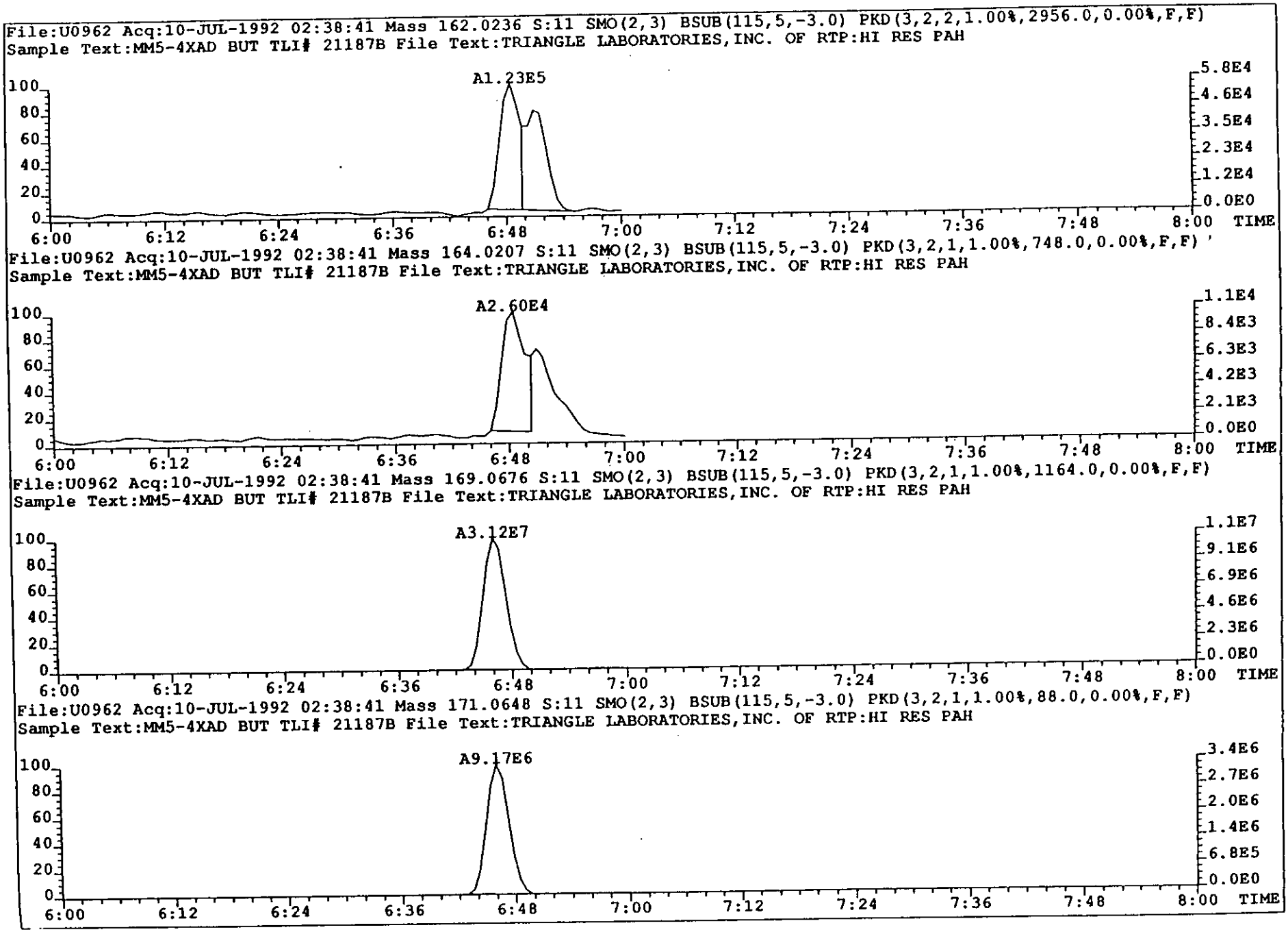
Matched GC Peaks / Ratio / Ret. Time

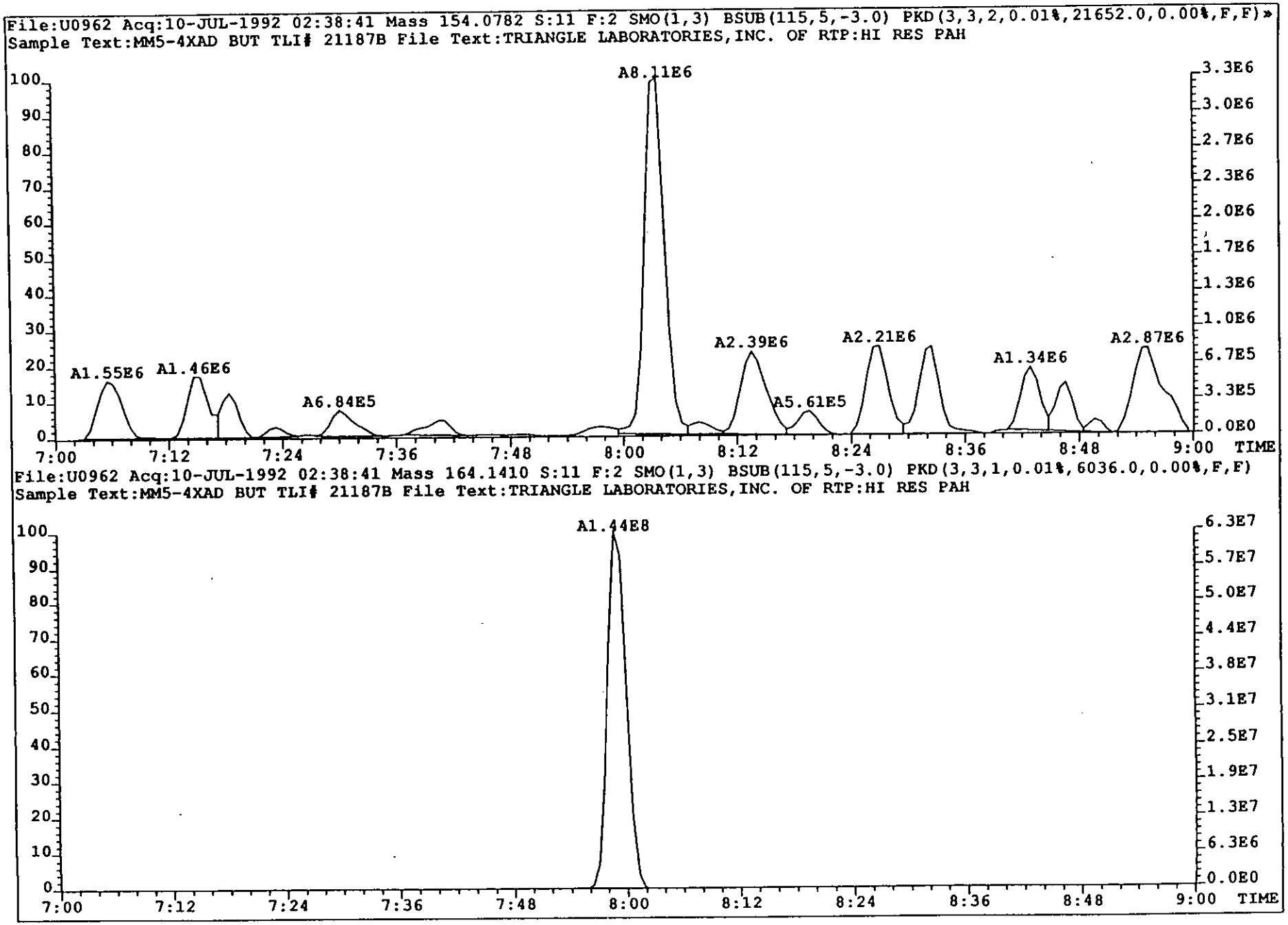
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
288	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	27:32	3.02	T	F	0.892	
		0.00	28:13	24.18	T	F	0.914	
		0.00	28:36	1.30	T	F	0.927	
		0.00	29:05	26.59	T	T	0.942	
		0.00	29:18	49.52	T	F	0.949	
		0.00	30:52	93.22	T	T	1.000	
288		*** Total ***		197.84	# of Peaks:		7	
292	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	28:12	179.64	T	F	0.964	
		0.00	29:15	14.07	T	T	1.000	
292		*** Total ***		193.72	# of Peaks:		3	

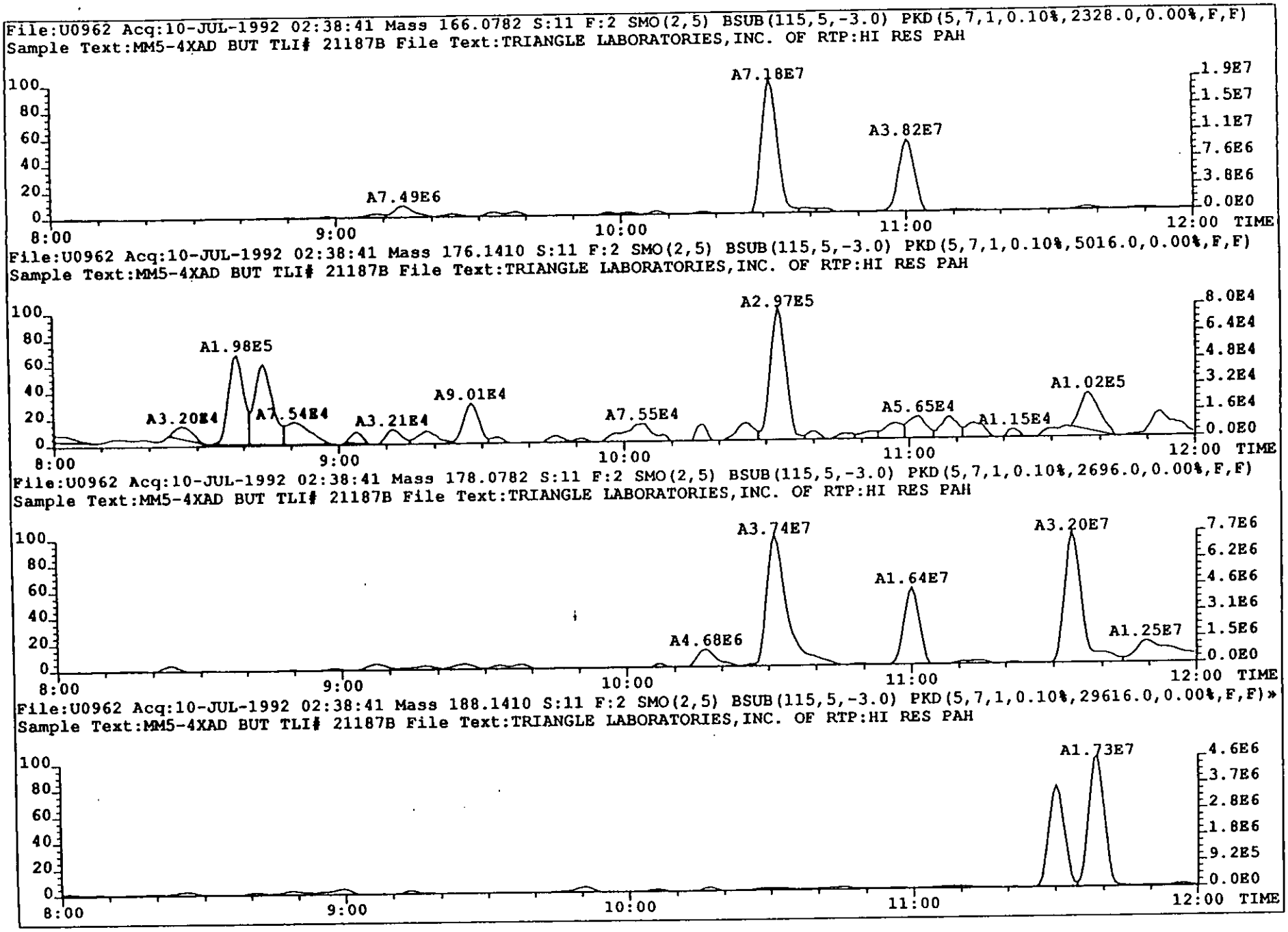
*** End of Report ***

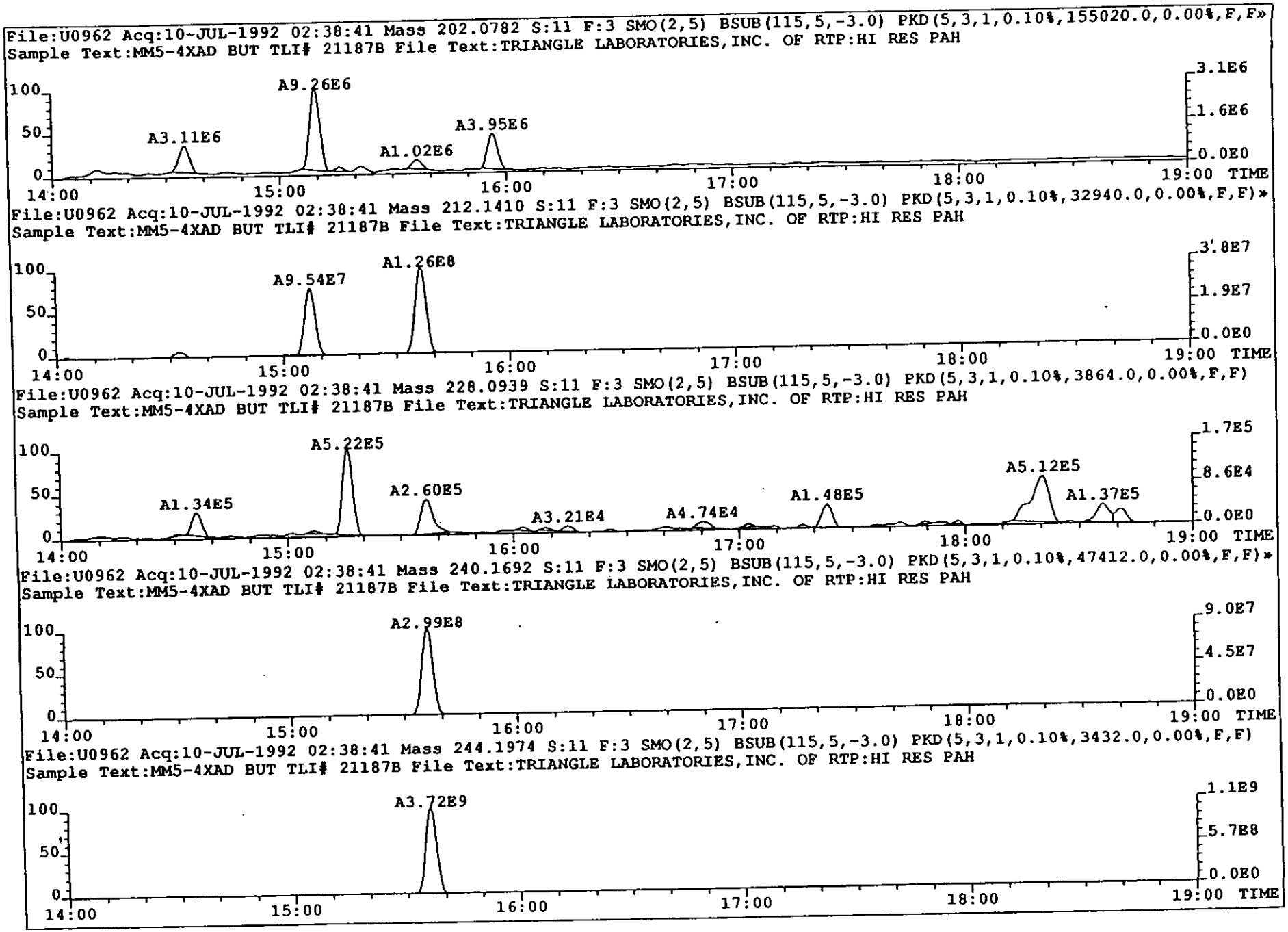

File:U0962 Acq:10-JUL-1992 02:38:41 Mass 128.0626 S:11 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,129528.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.32E8
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 136.1128 S:11 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,2296.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.20E7
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 142.0782 S:11 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,14264.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.81E7
A4.47E7
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 152.1410 S:11 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,908.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.36E7
TIME

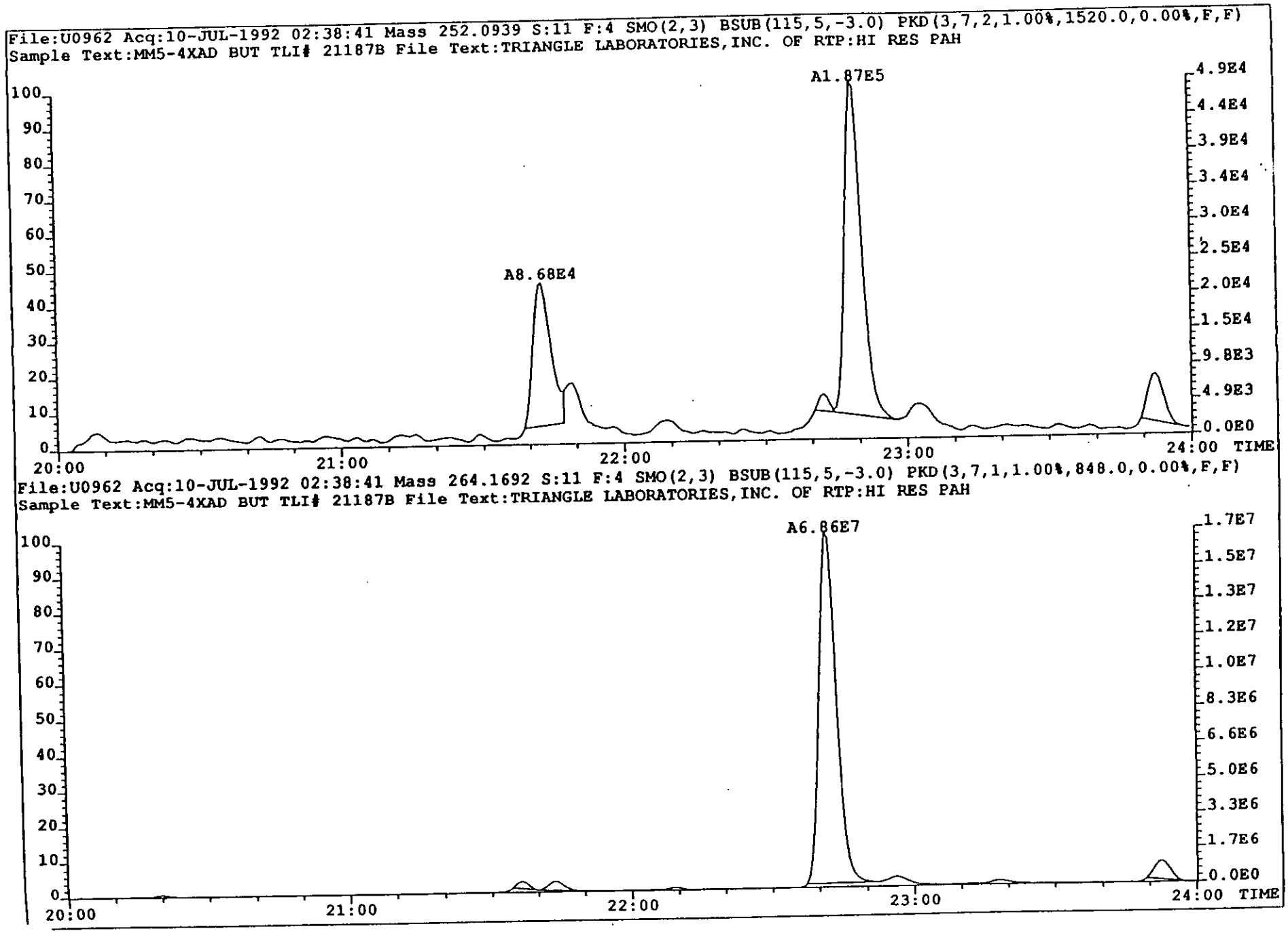

File:U0962 Acq:10-JUL-1992 02:38:41 Mass 152.0626 S:11 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,33136.0,0.00%,F,F)»
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A4.29E6
A4.09E6
A1.96E6
A2.42E6
A3.53E6
A6.84E6
A5.75E5
A3.28E6
A8.20E5
A3.56E6
A2.01E6
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 160.1128 S:11 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,91580.0,0.00%,F,F)»
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.63E7
A6.47E7
TIME

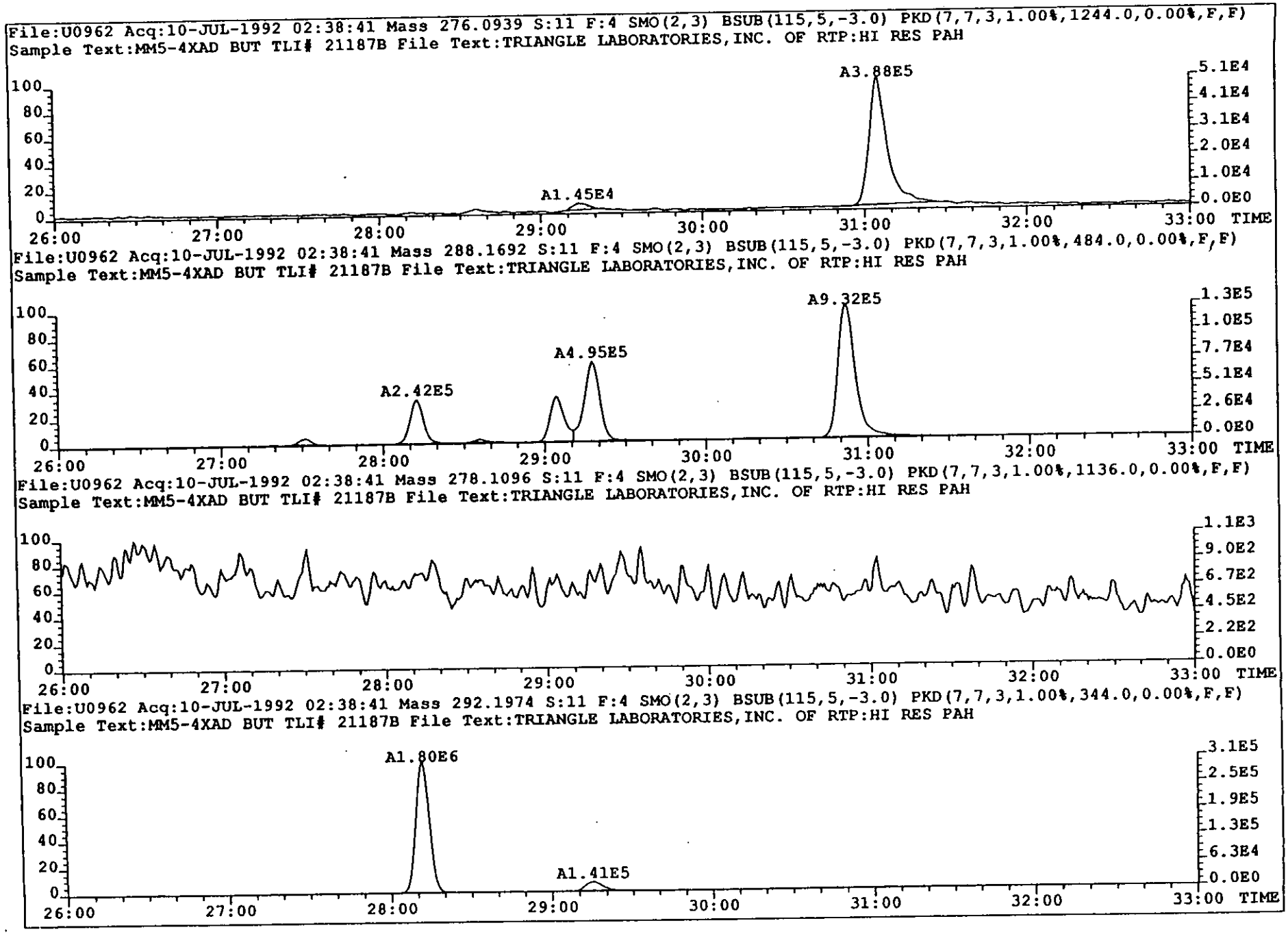

File:U0962 Acq:10-JUL-1992 02:38:41 Mass 162.0236 S:11 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,2,1.00%,2956.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.23E5
5.8E4
4.6E4
3.5E4
2.3E4
1.2E4
0.0E0
100
80
60
40
20
0
6:00
6:12
6:24
6:36
6:48
7:00
7:12
7:24
7:36
7:48
8:00
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 164.0207 S:11 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,748.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.60E4
1.1E4
8.4E3
6.3E3
4.2E3
2.1E3
0.0E0
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 169.0676 S:11 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,1164.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.12E7
1.1E7
9.1E6
6.9E6
4.6E6
2.3E6
0.0E0
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 171.0648 S:11 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,88.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.17E6
3.4E6
2.7E6
2.0E6
1.4E6
6.8E5
0.0E0

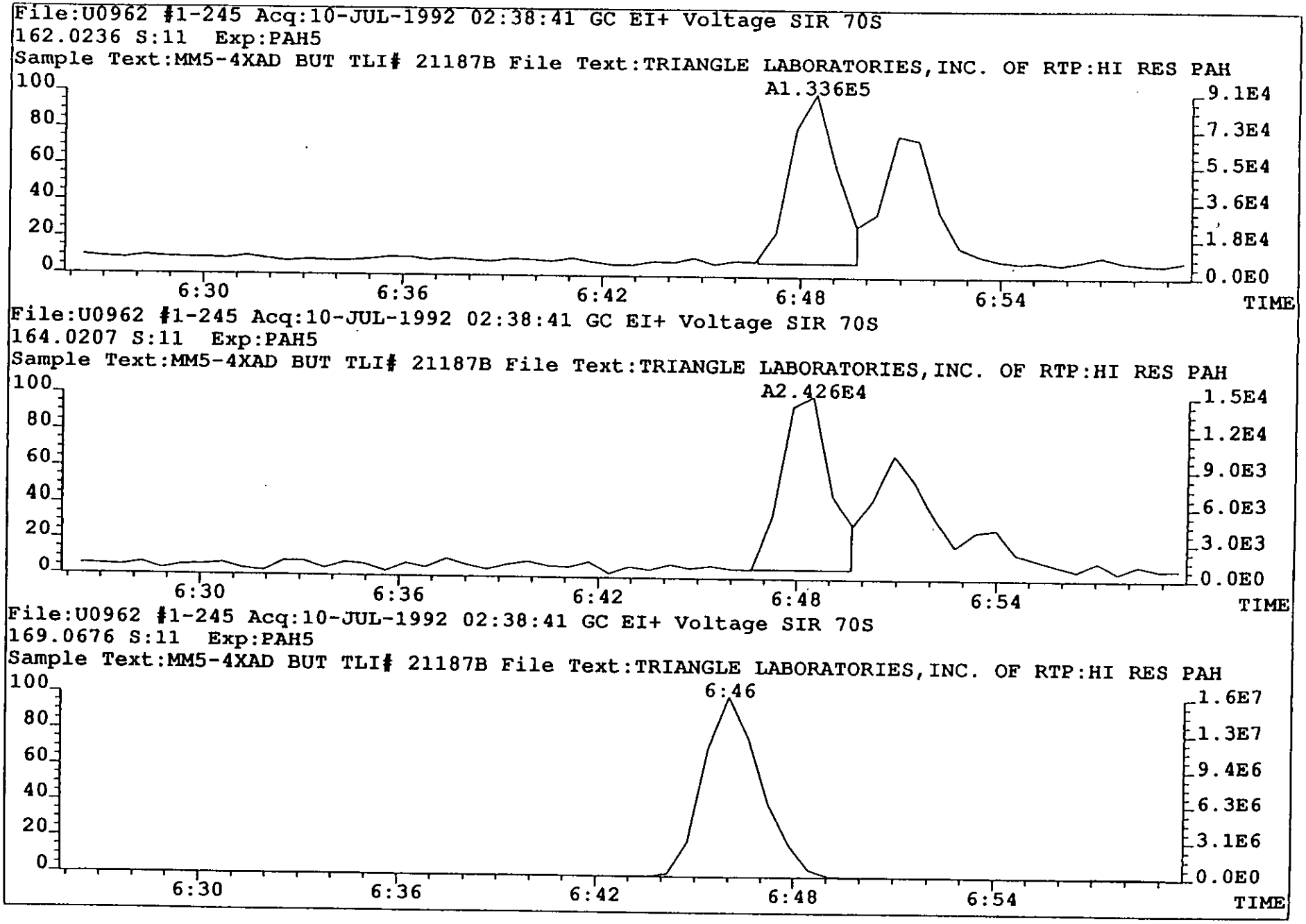

File:U0962 Acq:10-JUL-1992 02:38:41 Mass 154.0782 S:11 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,21652.0,0.00%,F,F)»
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A8.11E6
A1.55E6
A1.46E6
A6.84E5
A2.39E6
A5.61E5
A2.21E6
A1.34E6
A2.87E6
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 164.1410 S:11 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,6036.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.44E8
TIME

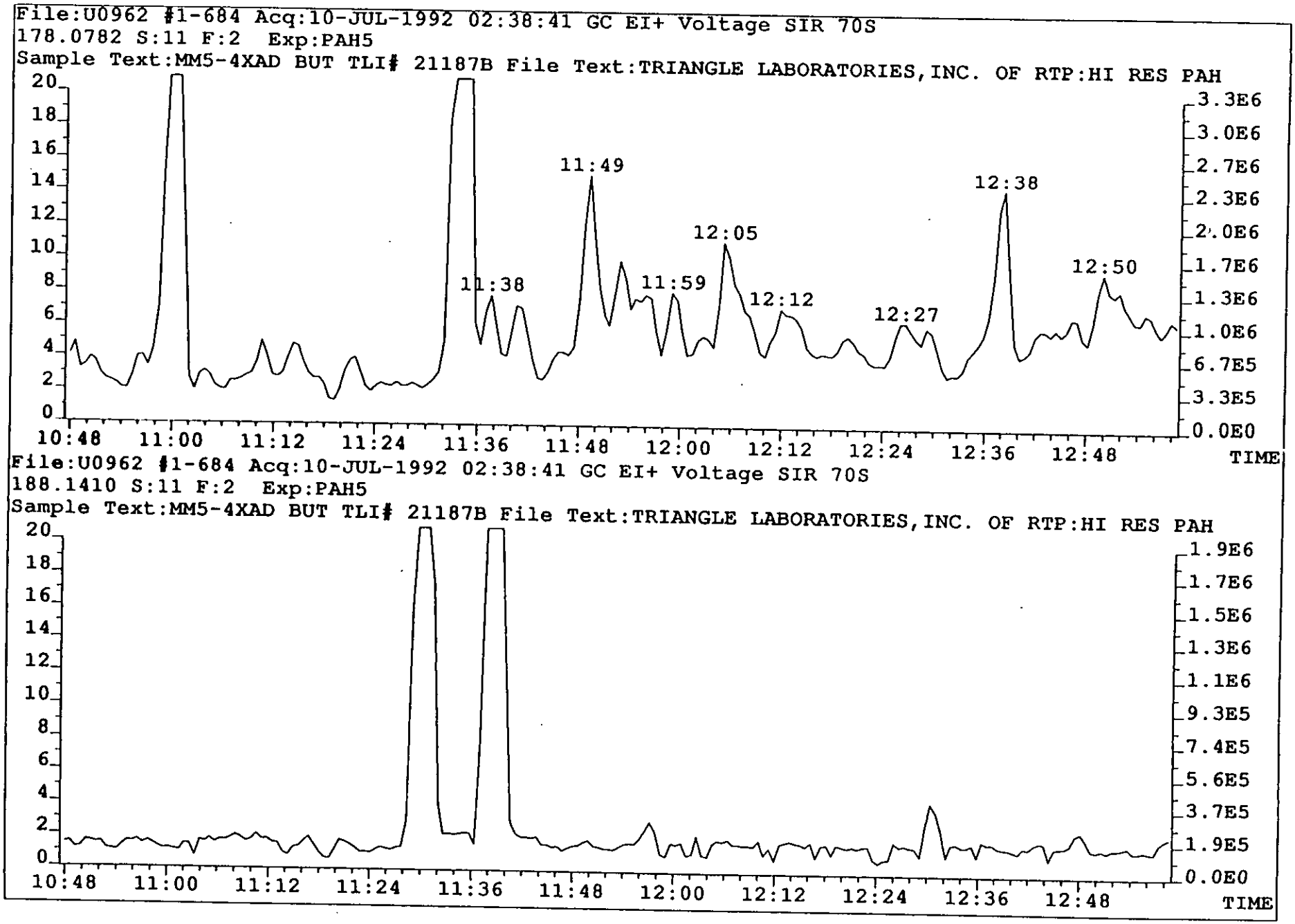

File:U0962 Acq:10-JUL-1992 02:38:41 Mass 166.0782 S:11 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,2328.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.18E7
A3.82E7
A7.49E6
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 176.1410 S:11 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,5016.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.97E5
A1.98E5
A9.01E4
A1.02E5
A5.65E4
A3.20E4
A7.54E4
A3.21E4
A7.55E4
A1.15E4
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 178.0782 S:11 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,2696.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.74E7
A3.20E7
A1.64E7
A4.68E6
A1.25E7
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 188.1410 S:11 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,29616.0,0.00%,F,F)»
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.73E7
8:00
9:00
10:00
11:00
12:00 TIME

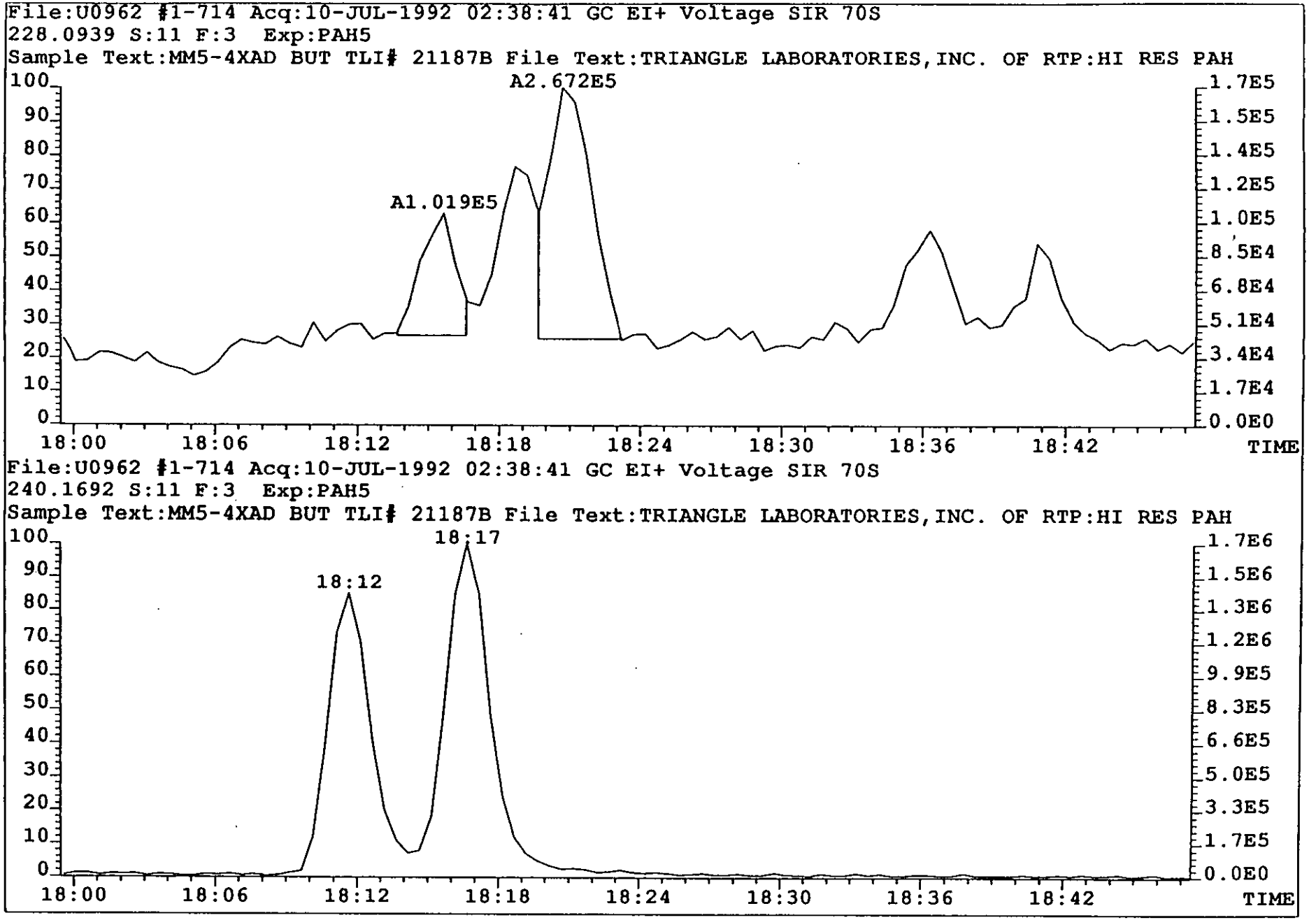

File:U0962 Acq:10-JUL-1992 02:38:41 Mass 202.0782 S:11 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,155020.0,0.00%,F,F»
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.26E6
A3.11E6
A3.95E6
A1.02E6
3.1E6
1.6E6
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 212.1410 S:11 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,32940.0,0.00%,F,F)»
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.26E8
A9.54E7
3.8E7
1.9E7
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 228.0939 S:11 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,3864.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A5.22E5
A1.34E5
A2.60E5
A3.21E4
A4.74E4
A1.48E5
A5.12E5
A1.37E5
1.7E5
8.6E4
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 240.1692 S:11 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,47412.0,0.00%,F,F)»
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.99E8
9.0E7
4.5E7
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 244.1974 S:11 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,3432.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.72E9
1.1E9
5.7E8
0.0E0
TIME
100
50
0
14:00
15:00
16:00
17:00
18:00
19:00

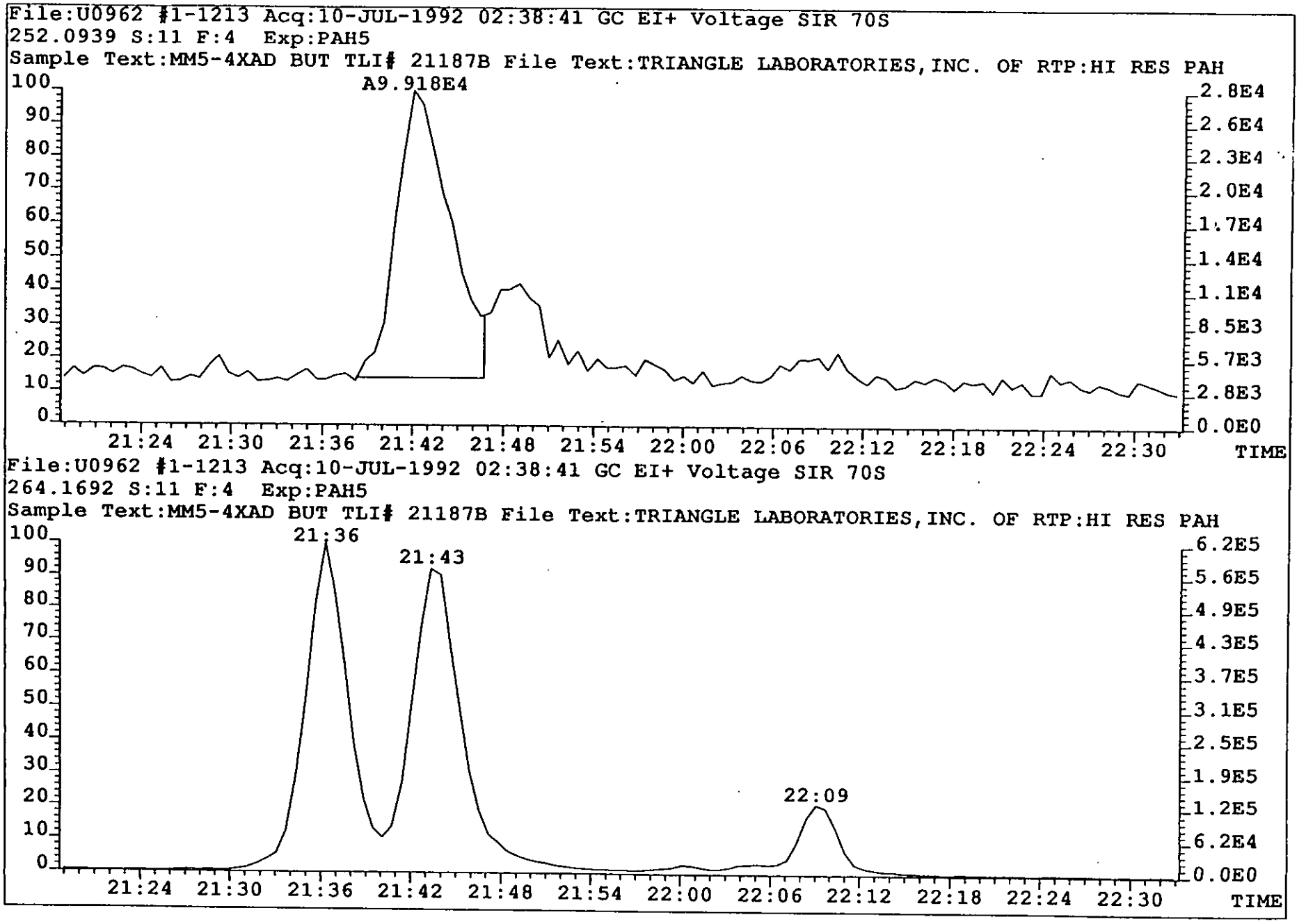

File:U0962 Acq:10-JUL-1992 02:38:41 Mass 252.0939 S:11 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,2,1.00%,1520.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.87E5
A8.68E4
4.9E4
4.4E4
3.9E4
3.4E4
3.0E4
2.5E4
2.0E4
1.5E4
9.8E3
4.9E3
0.0E0
100
90
80
70
60
50
40
30
20
10
0
20:00
21:00
22:00
23:00
24:00 TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 264.1692 S:11 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,1,1.00%,848.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.86E7
1.7E7
1.5E7
1.3E7
1.2E7
1.0E7
8.3E6
6.6E6
5.0E6
3.3E6
1.7E6
0.0E0
100
90
80
70
60
50
40
30
20
10
0
20:00
21:00
22:00
23:00
24:00 TIME

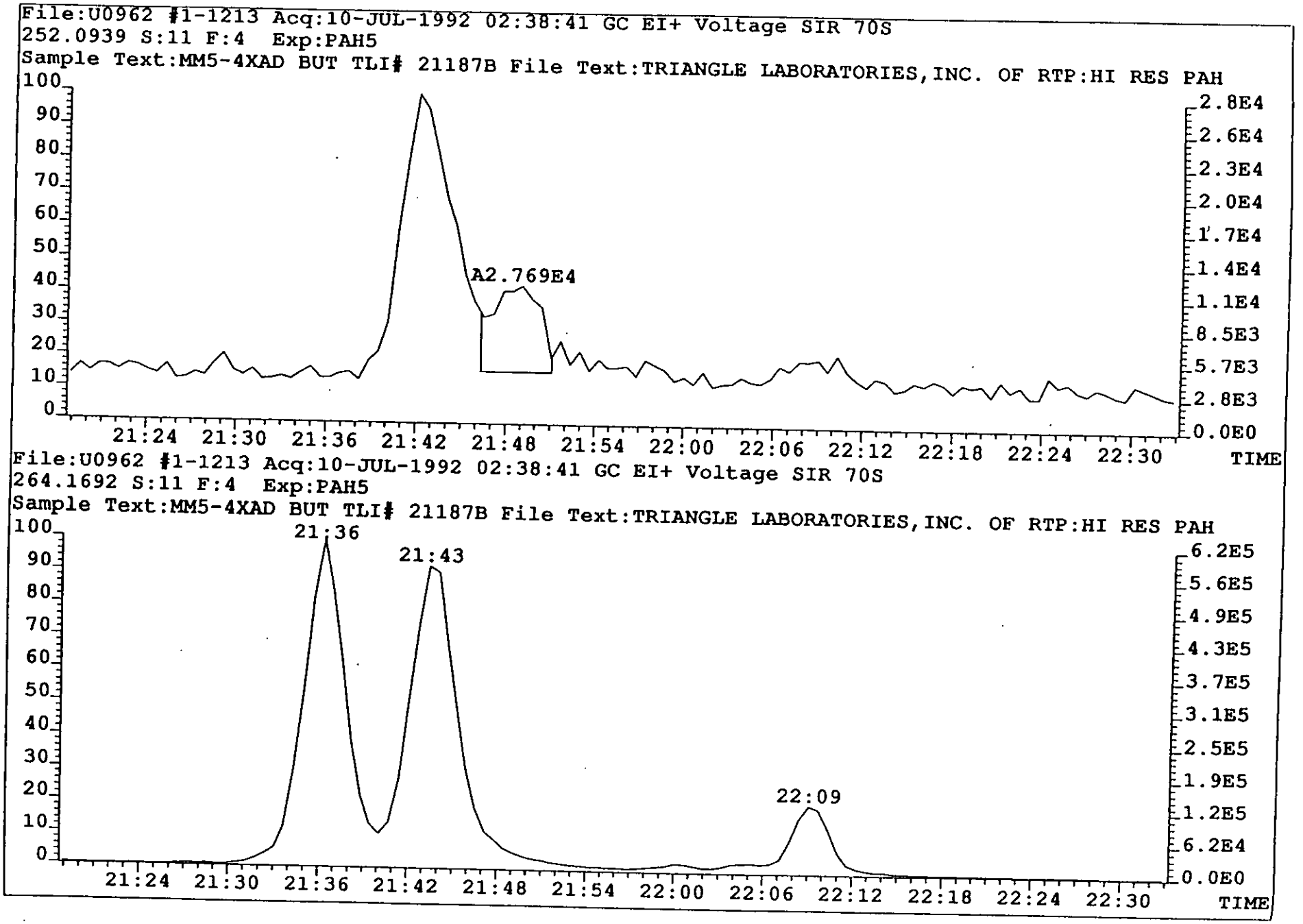

File:U0962 Acq:10-JUL-1992 02:38:41 Mass 276.0939 S:11 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,1244.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.88E5
A1.45E4
5.1E4
4.1E4
3.1E4
2.0E4
1.0E4
0.0E0
100
80
60
40
20
0
26:00
27:00
28:00
29:00
30:00
31:00
32:00
33:00 TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 288.1692 S:11 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,484.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.32E5
A4.95E5
A2.42E5
1.3E5
1.0E5
7.7E4
5.1E4
2.6E4
0.0E0
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 278.1096 S:11 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,1136.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
1.1E3
9.0E2
6.7E2
4.5E2
2.2E2
0.0E0
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 292.1974 S:11 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,344.0,0.00%,F,F)
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.80E6
A1.41E5
3.1E5
2.5E5
1.9E5
1.3E5
6.3E4
0.0E0

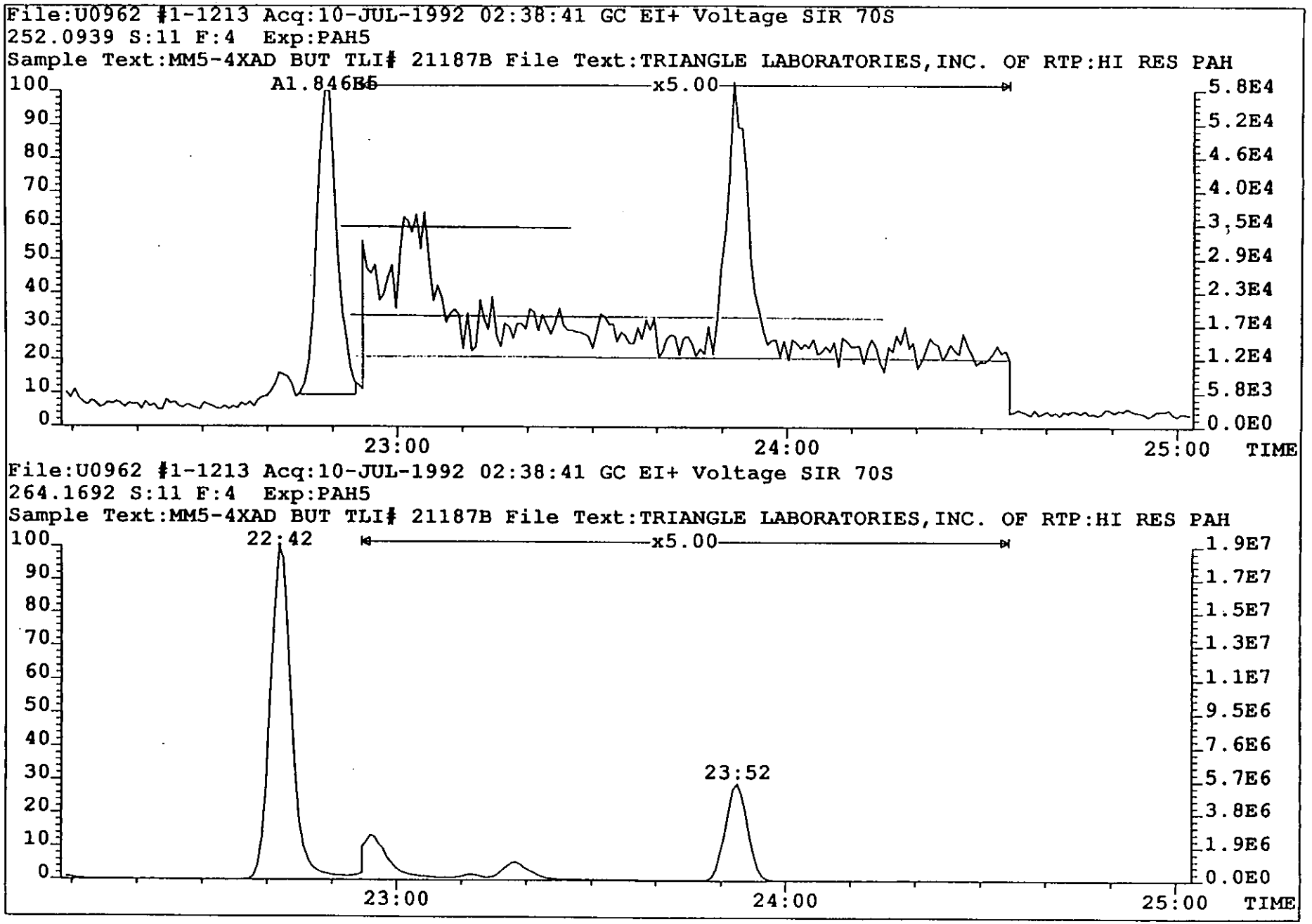

File:U0962 #1-245 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
162.0236 S:11 Exp:PAH5
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.336E5
100
80
60
40
20
0
9.1E4
7.3E4
5.5E4
3.6E4
1.8E4
0.0E0
6:30
6:36
6:42
6:48
6:54
TIME
File:U0962 #1-245 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
164.0207 S:11 Exp:PAH5
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.426E4
100
80
60
40
20
0
1.5E4
1.2E4
9.0E3
6.0E3
3.0E3
0.0E0
6:30
6:36
6:42
6:48
6:54
TIME
File:U0962 #1-245 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
169.0676 S:11 Exp:PAH5
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
6:46
100
80
60
40
20
0
1.6E7
1.3E7
9.4E6
6.3E6
3.1E6
0.0E0
6:30
6:36
6:42
6:48
6:54
TIME

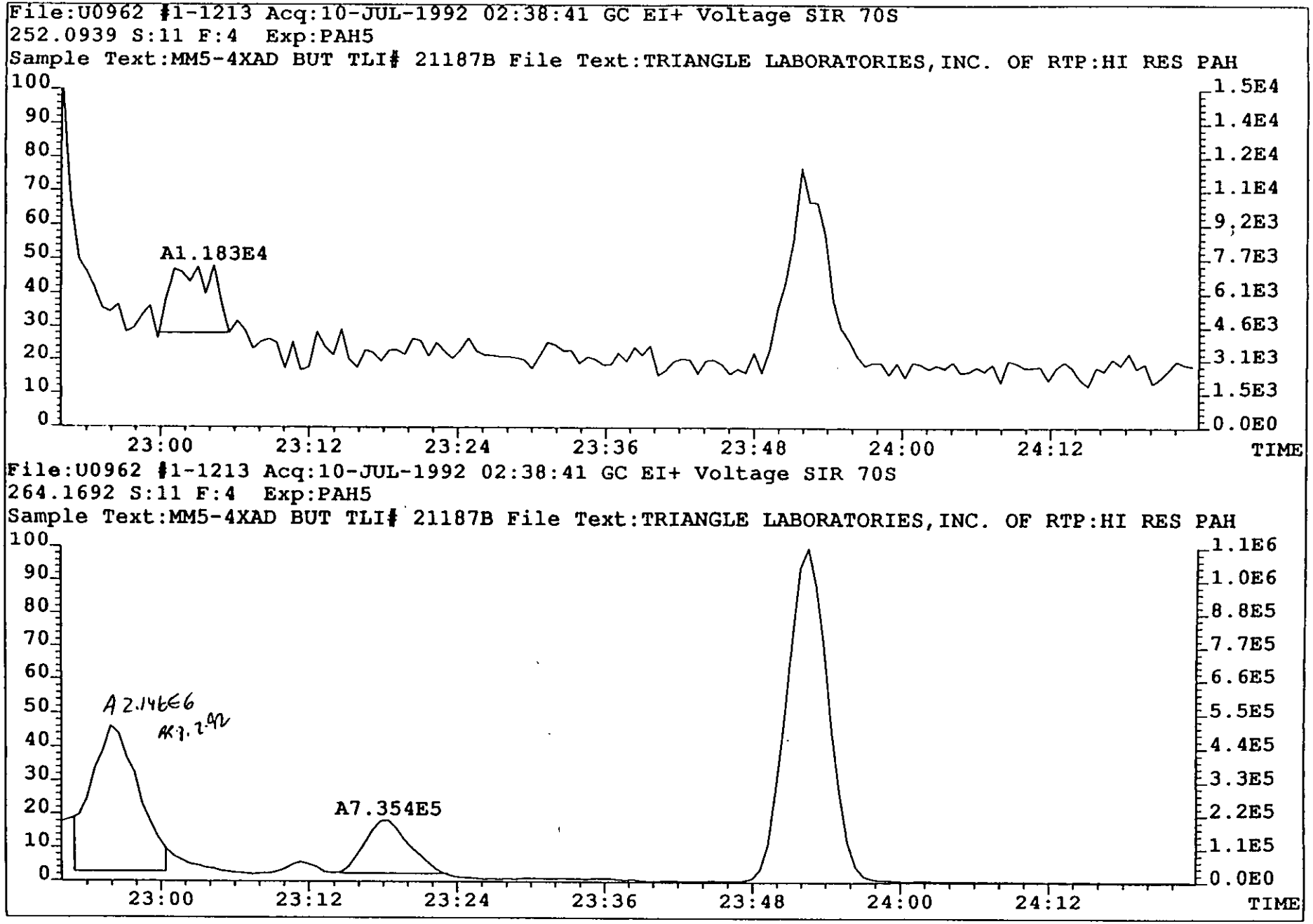

File:U0962 #1-684 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
178.0782 S:11 F:2 Exp:PAH5
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
11:38
11:49
11:59
12:05
12:12
12:27
12:38
12:50
TIME
File:U0962 #1-684 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
188.1410 S:11 F:2 Exp:PAH5
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
TIME

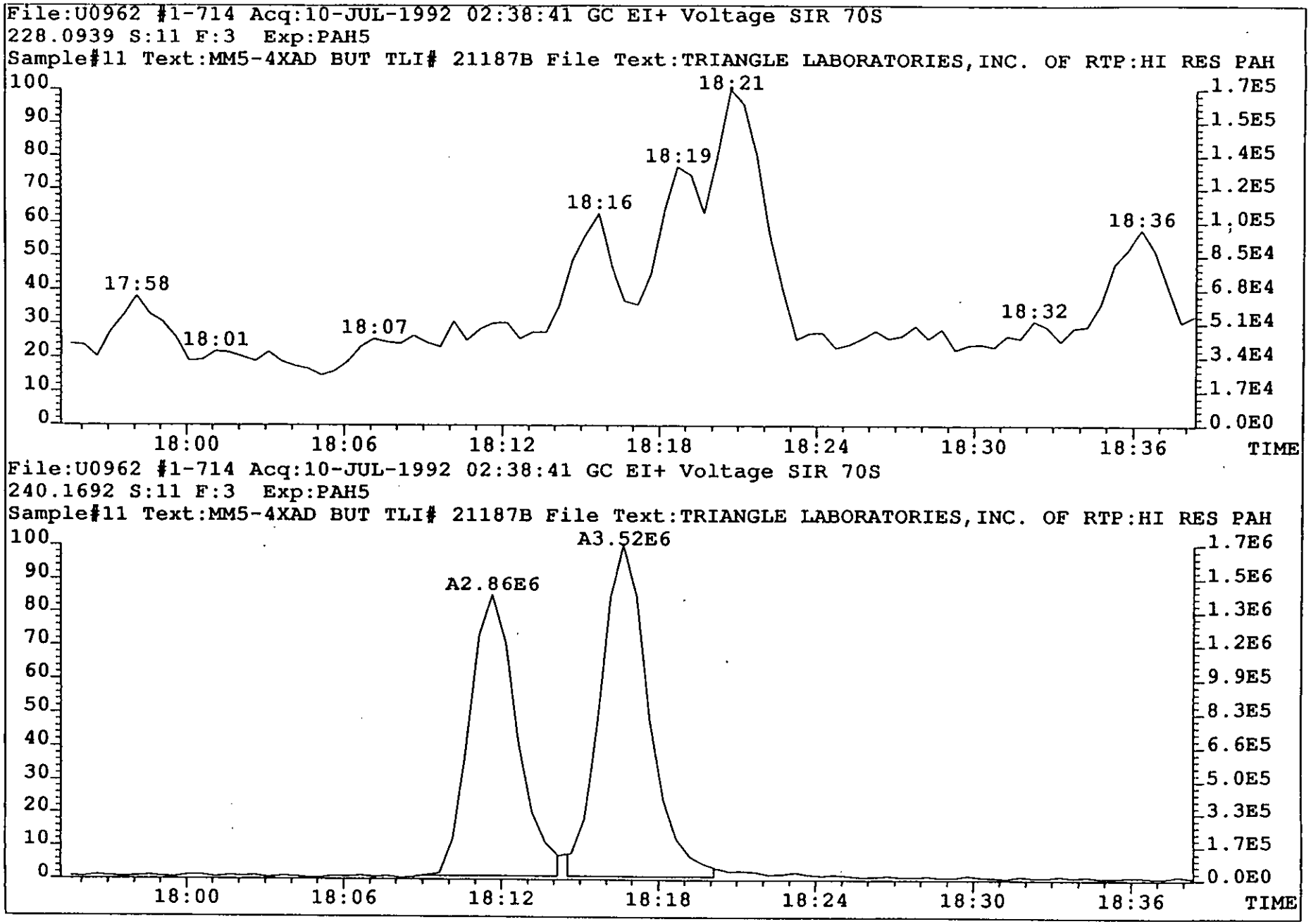

File:U0962 #1-714 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
228.0939 S:11 F:3 Exp:PAH5
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.672E5
A1.019E5
100
90
80
70
60
50
40
30
20
10
0
1.7E5
1.5E5
1.4E5
1.2E5
1.0E5
8.5E4
6.8E4
5.1E4
3.4E4
1.7E4
0.0E0
18:00
18:06
18:12
18:18
18:24
18:30
18:36
18:42
TIME
File:U0962 #1-714 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
240.1692 S:11 F:3 Exp:PAH5
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:17
18:12
100
90
80
70
60
50
40
30
20
10
0
1.7E6
1.5E6
1.3E6
1.2E6
9.9E5
8.3E5
6.6E5
5.0E5
3.3E5
1.7E5
0.0E0
18:00
18:06
18:12
18:18
18:24
18:30
18:36
18:42
TIME

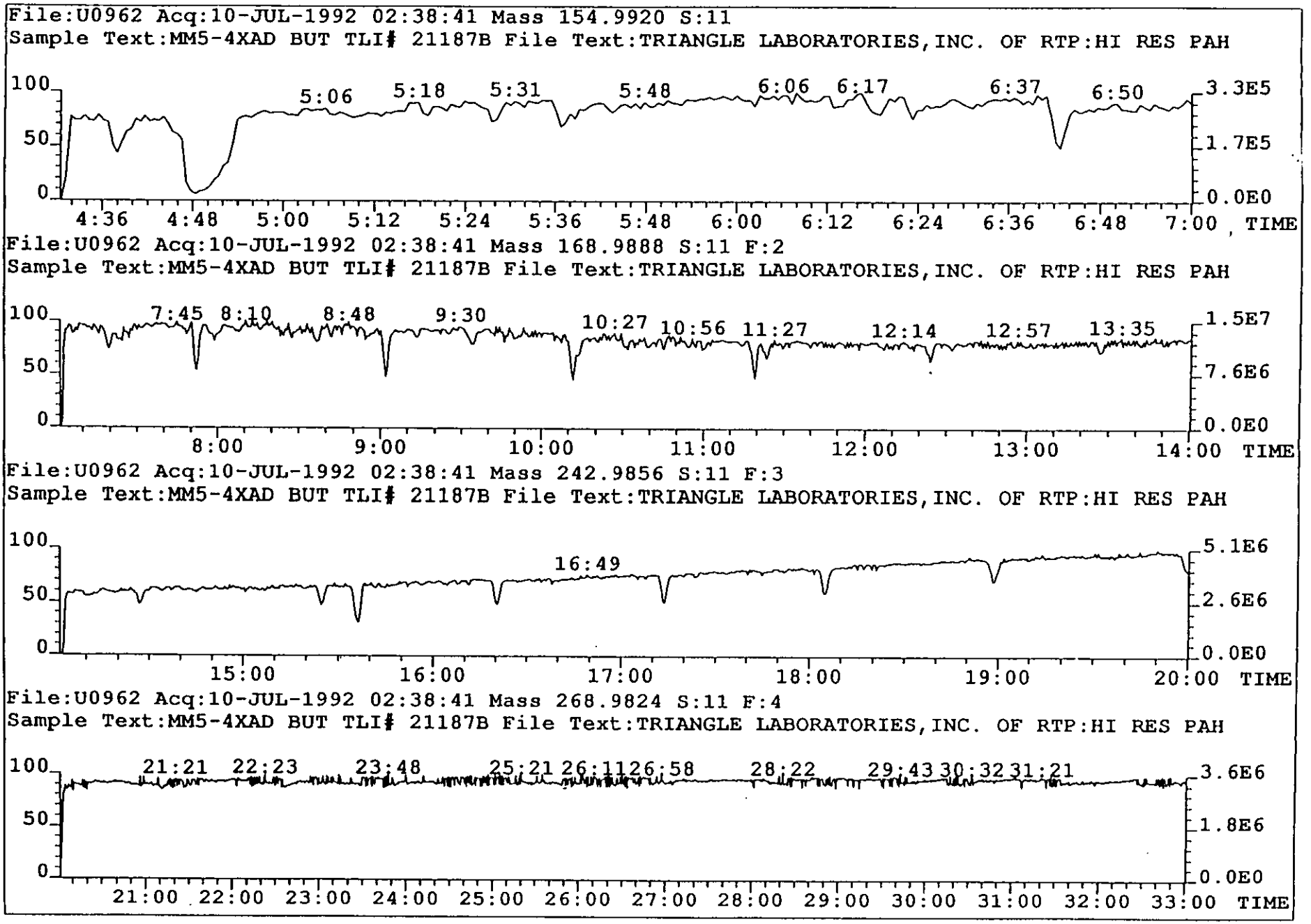

File:U0962 #1-1213 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
252.0939 S:11 F:4 Exp:PAH5
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.918E4
100
90
80
70
60
50
40
30
20
10
0
2.8E4
2.6E4
2.3E4
2.0E4
1.7E4
1.4E4
1.1E4
8.5E3
5.7E3
2.8E3
0.0E0
21:24 21:30 21:36 21:42 21:48 21:54 22:00 22:06 22:12 22:18 22:24 22:30
TIME
File:U0962 #1-1213 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
264.1692 S:11 F:4 Exp:PAH5
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:36
21:43
22:09
100
90
80
70
60
50
40
30
20
10
0
6.2E5
5.6E5
4.9E5
4.3E5
3.7E5
3.1E5
2.5E5
1.9E5
1.2E5
6.2E4
0.0E0
21:24 21:30 21:36 21:42 21:48 21:54 22:00 22:06 22:12 22:18 22:24 22:30
TIME

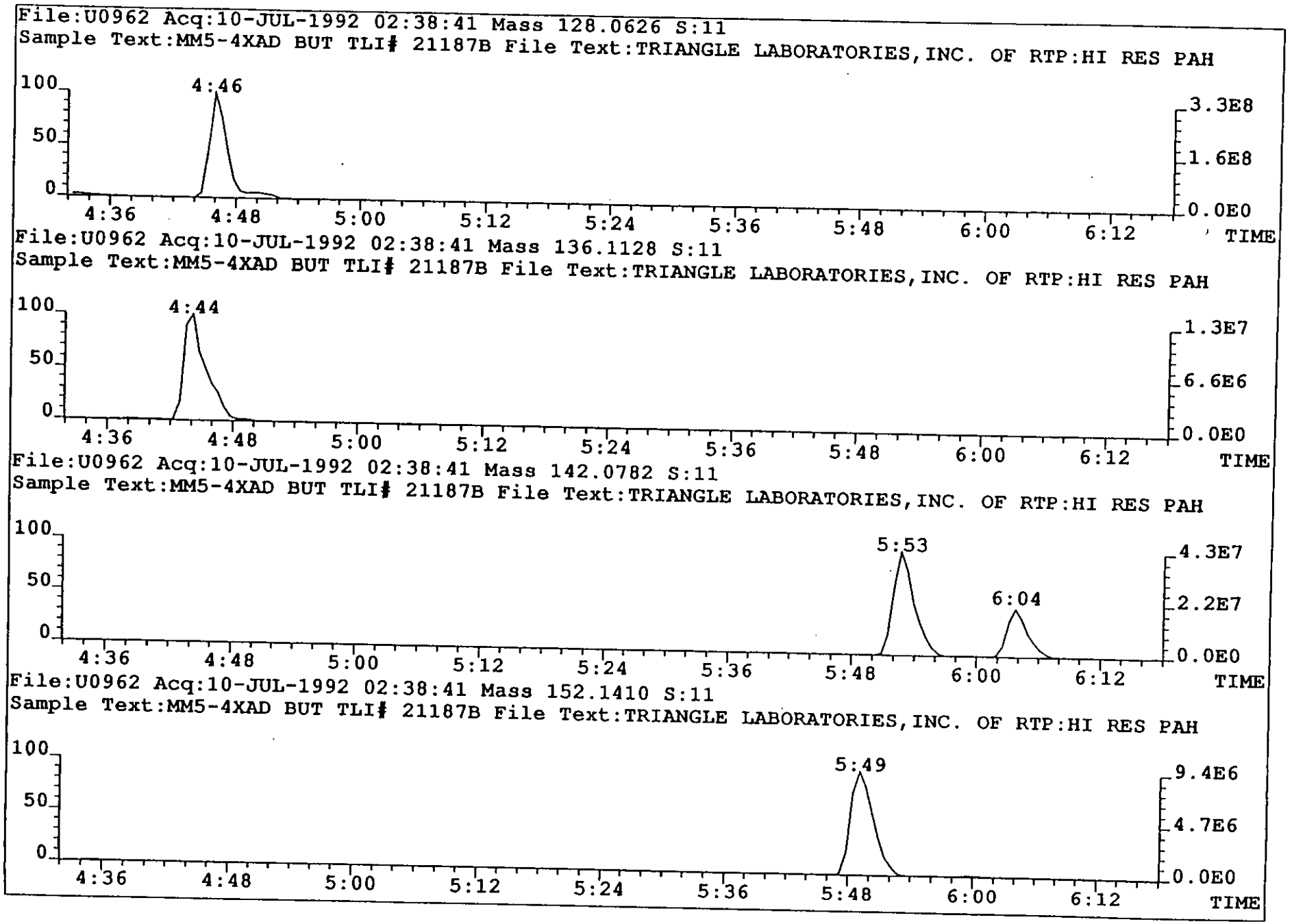

File:U0962 #1-1213 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
252.0939 S:11 F:4 Exp:PAH5
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.769E4
TIME
File:U0962 #1-1213 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
264.1692 S:11 F:4 Exp:PAH5
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:36
21:43
22:09
TIME

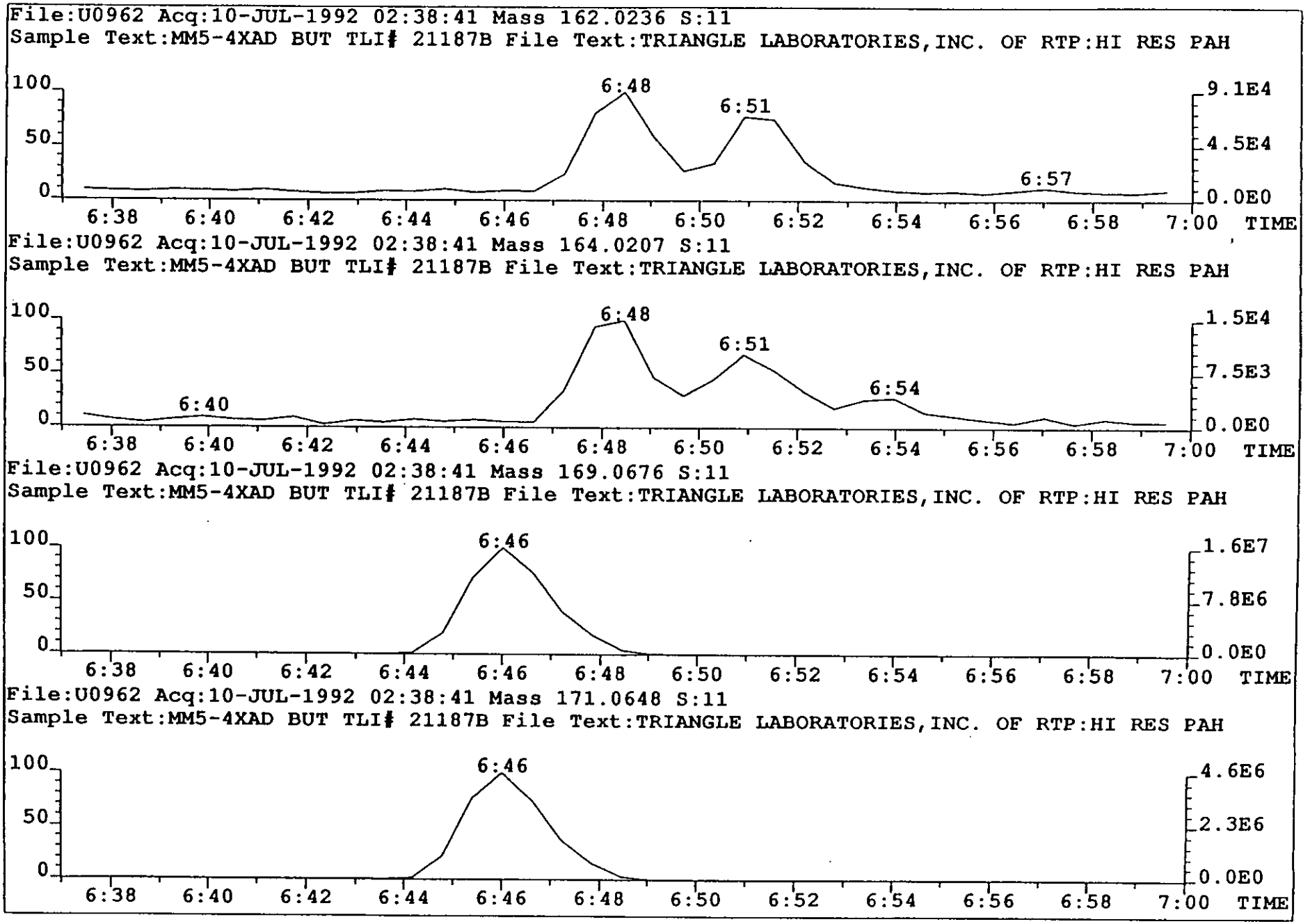

File:U0962 #1-1213 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
252.0939 S:11 F:4 Exp:PAH5
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.846E5
x5.00
100
90
80
70
60
50
40
30
20
10
0
5.8E4
5.2E4
4.6E4
4.0E4
3.5E4
2.9E4
2.3E4
1.7E4
1.2E4
5.8E3
0.0E0
23:00
24:00
25:00
TIME
File:U0962 #1-1213 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
264.1692 S:11 F:4 Exp:PAH5
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
22:42
x5.00
23:52
1.9E7
1.7E7
1.5E7
1.3E7
1.1E7
9.5E6
7.6E6
5.7E6
3.8E6
1.9E6
0.0E0
23:00
24:00
25:00
TIME

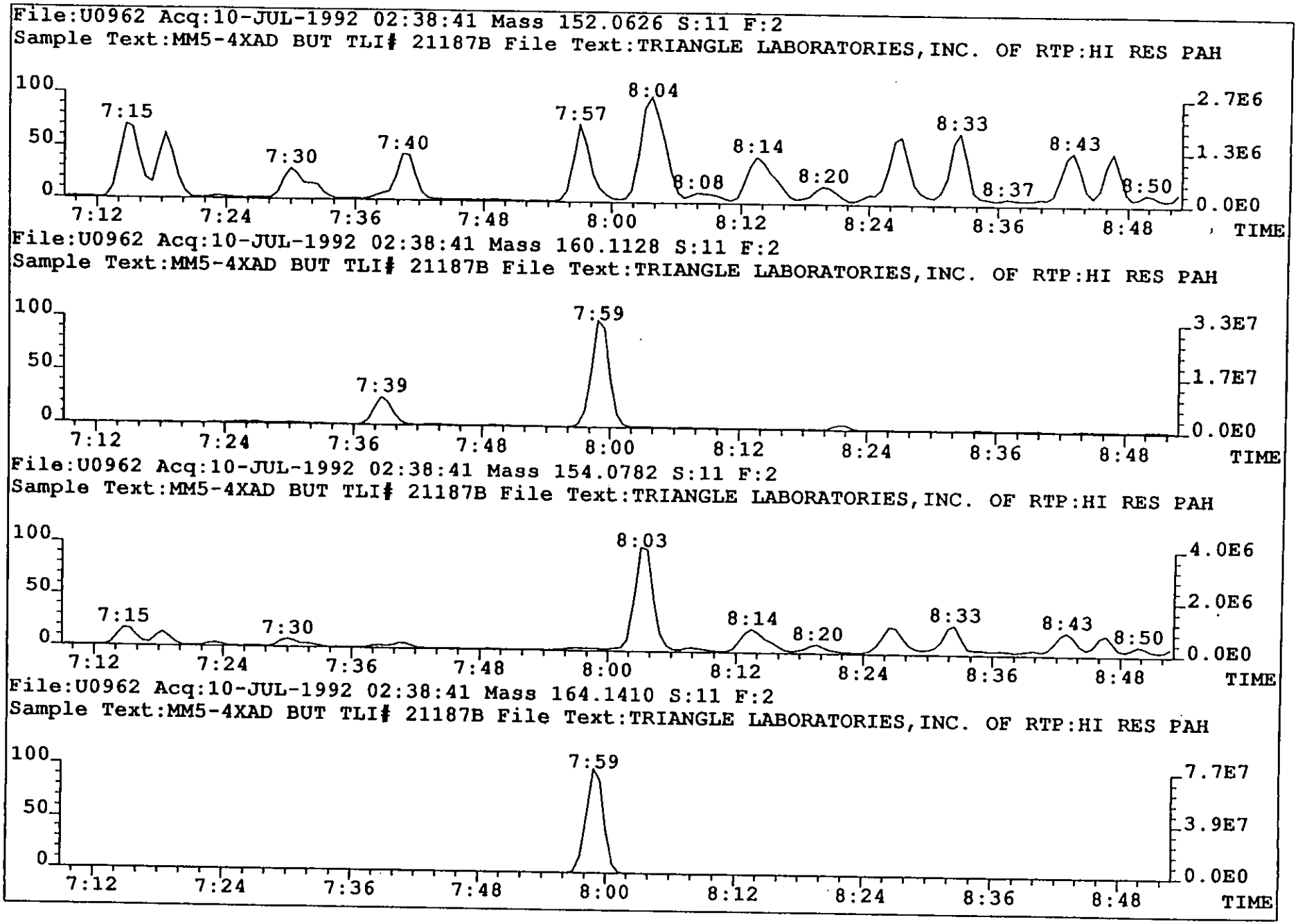

File:U0962 #1-1213 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
252.0939 S:11 F:4 Exp:PAH5
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.183E4
TIME
File:U0962 #1-1213 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
264.1692 S:11 F:4 Exp:PAH5
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A 2.146E6
A7.354E5
TIME

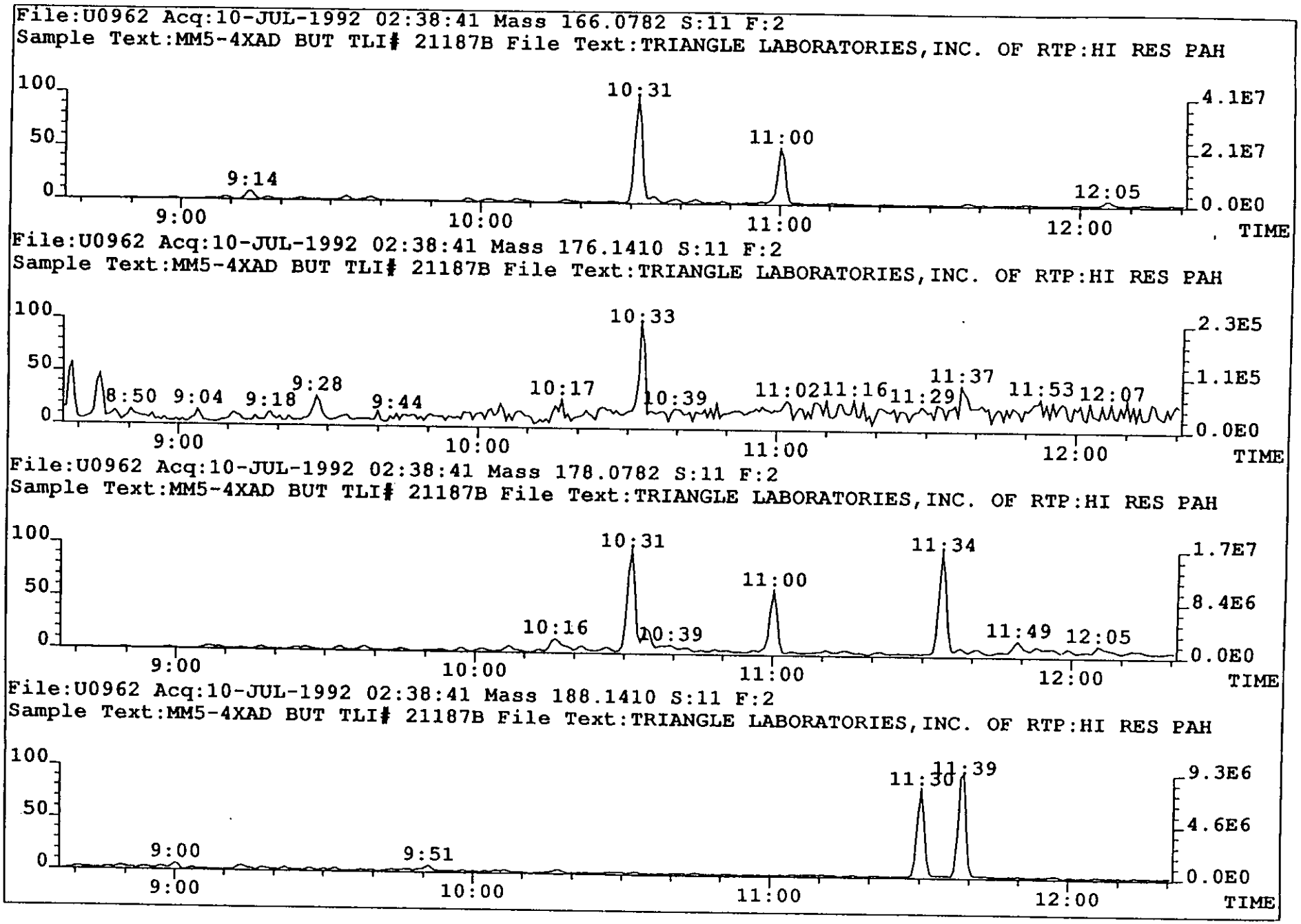

File:U0962 #1-714 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
228.0939 S:11 F:3 Exp:PAH5
Sample#11 Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
17:58
18:01
18:07
18:16
18:19
18:21
18:32
18:36
18:00
18:06
18:12
18:18
18:24
18:30
18:36
TIME
File:U0962 #1-714 Acq:10-JUL-1992 02:38:41 GC EI+ Voltage SIR 70S
240.1692 S:11 F:3 Exp:PAH5
Sample#11 Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.86E6
A3.52E6
18:00
18:06
18:12
18:18
18:24
18:30
18:36
TIME

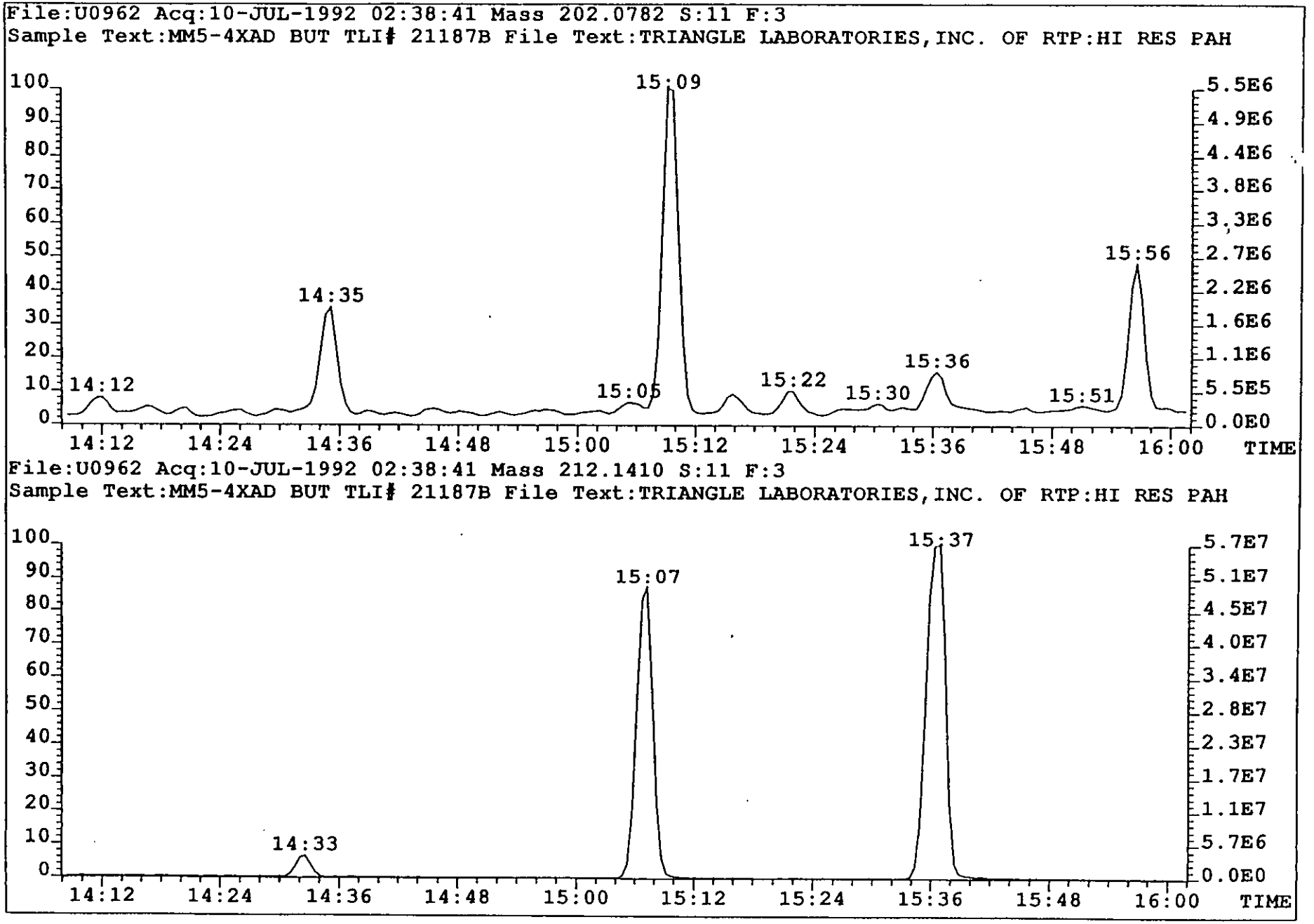

File:U0962 Acq:10-JUL-1992 02:38:41 Mass 154.9920 S:11
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
5:06
5:18
5:31
5:48
6:06
6:17
6:37
6:50
3.3E5
1.7E5
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
6:24
6:36
6:48
7:00
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 168.9888 S:11 F:2
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:45
8:10
8:48
9:30
10:27
10:56
11:27
12:14
12:57
13:35
1.5E7
7.6E6
0.0E0
8:00
9:00
10:00
11:00
12:00
13:00
14:00
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 242.9856 S:11 F:3
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
16:49
5.1E6
2.6E6
0.0E0
15:00
16:00
17:00
18:00
19:00
20:00
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 268.9824 S:11 F:4
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
21:21
22:23
23:48
25:21
26:11
26:58
28:22
29:43
30:32
31:21
3.6E6
1.8E6
0.0E0
21:00
22:00
23:00
24:00
25:00
26:00
27:00
28:00
29:00
30:00
31:00
32:00
33:00
TIME

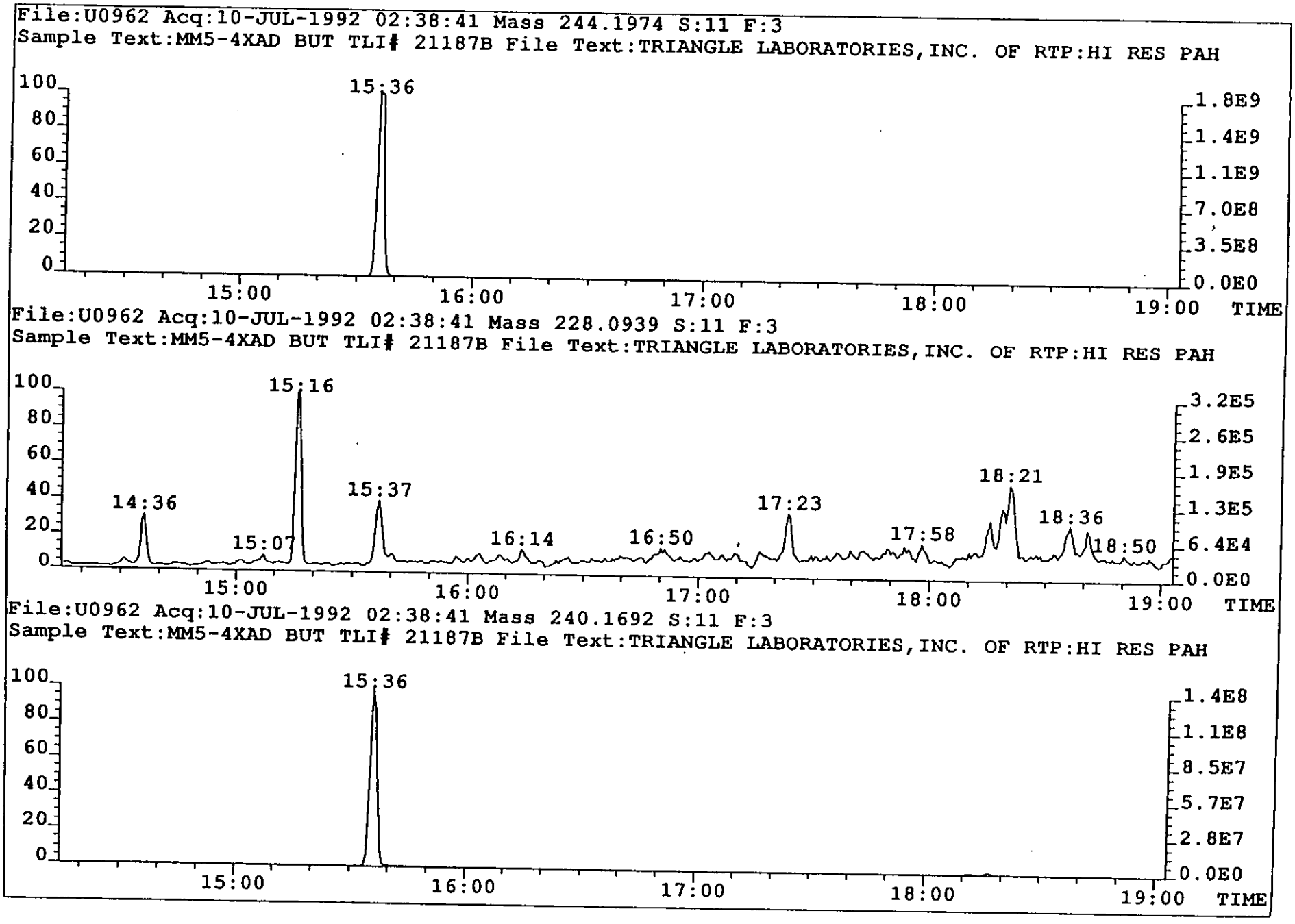

File:U0962 Acq:10-JUL-1992 02:38:41 Mass 128.0626 S:11
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:46
3.3E8
1.6E8
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 136.1128 S:11
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:44
1.3E7
6.6E6
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 142.0782 S:11
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
5:53
6:04
4.3E7
2.2E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 152.1410 S:11
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
5:49
9.4E6
4.7E6
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME

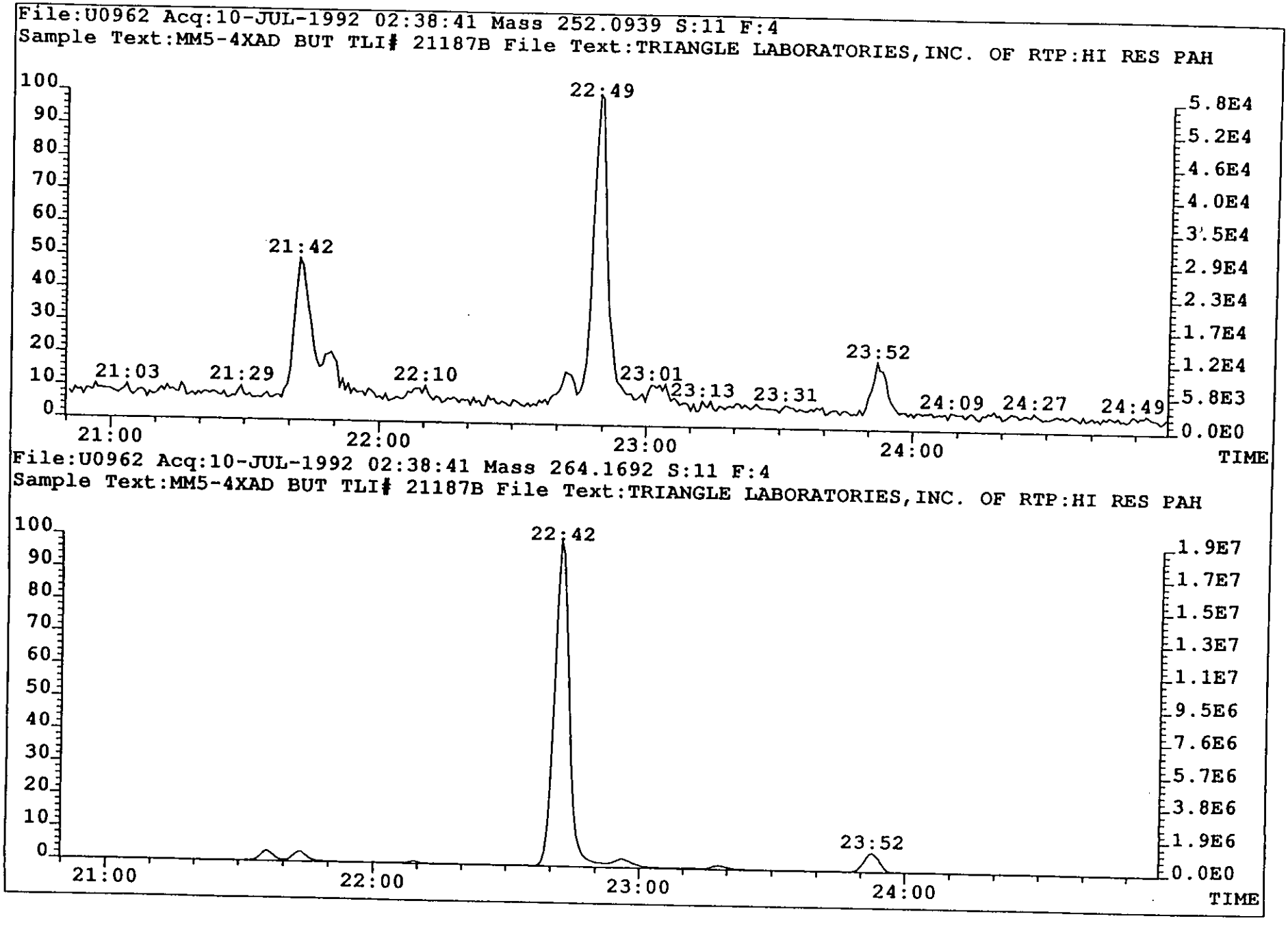

File:U0962 Acq:10-JUL-1992 02:38:41 Mass 162.0236 S:11
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:48
6:51
6:57
9.1E4
4.5E4
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 164.0207 S:11
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:40
6:48
6:51
6:54
1.5E4
7.5E3
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 169.0676 S:11
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:46
1.6E7
7.8E6
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 171.0648 S:11
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:46
4.6E6
2.3E6
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME

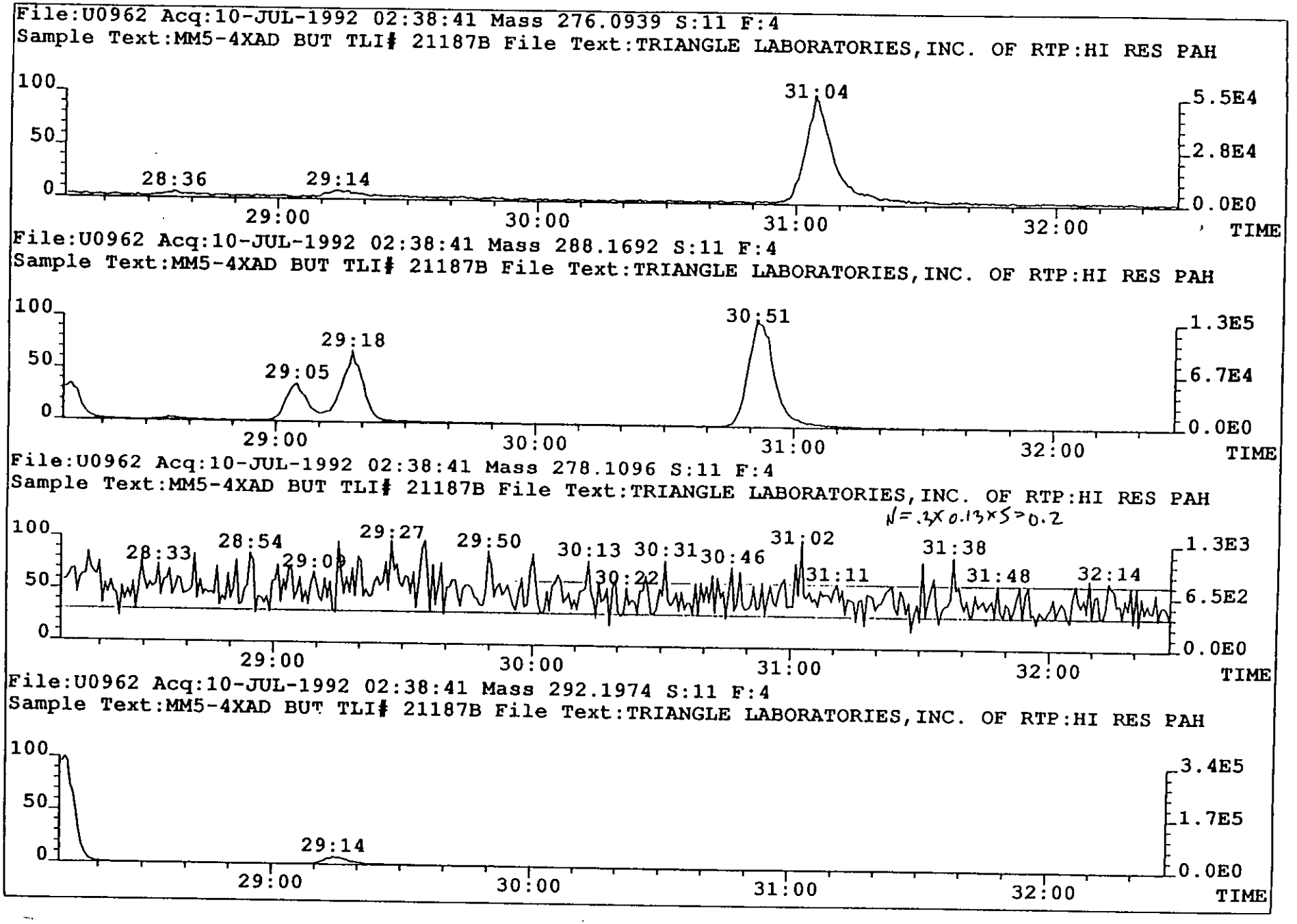

File:U0962 Acq:10-JUL-1992 02:38:41 Mass 152.0626 S:11 F:2
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:15
7:30
7:40
7:57
8:04
8:08
8:14
8:20
8:33
8:37
8:43
8:50
2.7E6
1.3E6
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 160.1128 S:11 F:2
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:39
7:59
3.3E7
1.7E7
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 154.0782 S:11 F:2
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:15
7:30
8:03
8:14
8:20
8:33
8:43
8:50
4.0E6
2.0E6
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 164.1410 S:11 F:2
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:59
7.7E7
3.9E7
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME


File:U0962 Acq:10-JUL-1992 02:38:41 Mass 166.0782 S:11 F:2
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
10:31
11:00
9:14
12:05
4.1E7
2.1E7
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 176.1410 S:11 F:2
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
10:33
8:50
9:04
9:18
9:28
9:44
10:17
10:39
11:02
11:16
11:29
11:37
11:53
12:07
2.3E5
1.1E5
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 178.0782 S:11 F:2
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
10:31
11:34
11:00
10:16
10:39
11:49
12:05
1.7E7
8.4E6
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 188.1410 S:11 F:2
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
11:30
11:39
9:00
9:51
9.3E6
4.6E6
0.0E0
9:00
10:00
11:00
12:00
TIME


File:U0962 Acq:10-JUL-1992 02:38:41 Mass 202.0782 S:11 F:3
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
90
80
70
60
50
40
30
20
10
0
5.5E6
4.9E6
4.4E6
3.8E6
3.3E6
2.7E6
2.2E6
1.6E6
1.1E6
5.5E5
0.0E0
14:12
14:35
15:09
15:05
15:22
15:30
15:36
15:51
15:56
14:12
14:24
14:36
14:48
15:00
15:12
15:24
15:36
15:48
16:00
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 212.1410 S:11 F:3
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
90
80
70
60
50
40
30
20
10
0
5.7E7
5.1E7
4.5E7
4.0E7
3.4E7
2.8E7
2.3E7
1.7E7
1.1E7
5.7E6
0.0E0
14:33
15:07
15:37
14:12
14:24
14:36
14:48
15:00
15:12
15:24
15:36
15:48
16:00
TIME


File:U0962 Acq:10-JUL-1992 02:38:41 Mass 244.1974 S:11 F:3
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:36
100
80
60
40
20
0
1.8E9
1.4E9
1.1E9
7.0E8
3.5E8
0.0E0
15:00
16:00
17:00
18:00
19:00
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 228.0939 S:11 F:3
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:16
14:36
15:07
15:37
16:14
16:50
17:23
17:58
18:21
18:36
18:50
3.2E5
2.6E5
1.9E5
1.3E5
6.4E4
0.0E0
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 240.1692 S:11 F:3
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:36
1.4E8
1.1E8
8.5E7
5.7E7
2.8E7
0.0E0


File:U0962 Acq:10-JUL-1992 02:38:41 Mass 252.0939 S:11 F:4
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
90
80
70
60
50
40
30
20
10
0
21:03
21:29
21:42
22:10
22:49
23:01
23:13
23:31
23:52
24:09
24:27
24:49
21:00
22:00
23:00
24:00
TIME
5.8E4
5.2E4
4.6E4
4.0E4
3.5E4
2.9E4
2.3E4
1.7E4
1.2E4
5.8E3
0.0E0
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 264.1692 S:11 F:4
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
90
80
70
60
50
40
30
20
10
0
22:42
23:52
21:00
22:00
23:00
24:00
TIME
1.9E7
1.7E7
1.5E7
1.3E7
1.1E7
9.5E6
7.6E6
5.7E6
3.8E6
1.9E6
0.0E0


File:U0962 Acq:10-JUL-1992 02:38:41 Mass 276.0939 S:11 F:4
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
28:36
29:14
31:04
5.5E4
2.8E4
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 288.1692 S:11 F:4
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
29:05
29:18
30:51
1.3E5
6.7E4
0.0E0
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 278.1096 S:11 F:4
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
N=.2x0.13x5>0.2
28:33
28:54
29:27
29:50
30:13
30:31
30:46
31:02
31:38
30:22
31:11
31:48
32:14
1.3E3
6.5E2
0.0E0
File:U0962 Acq:10-JUL-1992 02:38:41 Mass 292.1974 S:11 F:4
Sample Text:MM5-4XAD BUT TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
29:14
3.4E5
1.7E5
0.0E0

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/04/92

FILE NAME....:	U096216	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	57-102-11
CONCAL.....:	U096001	SAMPLE ID....:	MM5-4 BLK		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	133			4:46	B
2-Me-Naph	86.3			5:52	B
Acenaphthen	6.7			8:03	B
2-Cl-Naph	EMPC		1.1		B
Acenaph	1.5			7:40	B
Fluorene	10.2			9:13	B
Phenan	20.9			11:34	B
Anth	2.6			11:41	B
Fluoran	6.6			14:34	B
Pyrene	11.9			15:09	B
B-a-Anth	1.7			18:15	B
Chrysene	3.8			18:20	B
Perylene	0.19			23:24	
B-b-Fluoran	2.4			21:42	B
B-k-Fluoran	1.6			21:48	PR,B
-Pyrene	1.7			23:03	B
b-e-Pyrene	1.3			22:49	B
B-ghi-Pery	3.7			31:04	B
I-123-cd-Py	1.3			29:14	B
DiB-ah-Anth	0.29			29:28	B

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	76.0	76.0	11:38	

Reviewed By: JF for BR 8/4/92

PAHJ_RPT 1.00, LARS 4.20

FILE NAME....:	U096216	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	57-102-11
CONCAL.....:	U096001	SAMPLE ID....:	MM5-4 BLK		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	36.8	36.8	4:44	✓
d10-2-Me-Naph	44.5	44.5	5:49	—
d7-2-Cl-Naph	43.9	43.9	6:46	—
d8-Acenaph	55.2	55.2	7:38	—
d10-Phenan	54.2	54.2	11:30	—
d12-B-a-Anth	71.1	71.1	18:11	—
d10-Fluoran	61.6	61.6	14:32	—
d12-Chrysene	43.5	43.5	18:16	—
d12-Perylene	115	57.5	23:17	—
d12-B-b-Fluoran	166	83.1	21:36	—
d12-B-k-Fluoran	110	55.0	21:44	—
d12-B-a-Pyrene	130	64.9	22:56	—
d12-B-ghi-Pery	136	68.2	30:52	—
d12-I-123-cd-Py	205	103	29:04	I
d14-DiB-ah-Anth	153	76.4	29:14	—

Reviewed By: BJ for BR 8/4/92

PAHJ_RPT 1.00, LARS 4.20

N=1
(2

	Initial	Date
B-File/Header Changes	AR	7-30-92
Manual Integrations		
Transcription		
Dbase Corrections		

Page No. 1
07/29/92

Listing of U096216B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128	DC	0.00	0:00	4.71	T	F	0.000	NL
		0.00	4:46*	17548.60	T	~~F~~ T	~~1.007~~ 1.000	
		0.00	5:18	66.43	T	F	1.120	
	DC	0.00	5:27	33.15	T	F	1.151	SN
		0.00	5:30	54.25	T	F	1.162	
	DC	0.00	6:45	51.42	T	F	1.426	WH
	DC	0.00	6:51	90.58	T	F	1.447	WH
128		*** Total ***		17849.14	# of Peaks:		7	
136	DC	0.00	0:00	0.07	T	F	0.000	NL
		0.00	4:39	24.89	T	F	0.982	
		0.00	4:44*	17217.29	T	T	1.000	
136		*** Total ***		17242.25	# of Peaks:		3	
142	DC	0.00	0:00	0.24	T	F	0.000	NL
		0.00	5:52*	9691.24	T	T	1.009	
		0.00	6:03	4778.42	T	F	1.040	
		0.00	6:57	397.97	T	F	1.195	
142		*** Total ***		14867.87	# of Peaks:		4	
152	DC	0.00	0:00	0.02	T	F	0.000	NL
	DC	0.00	0:00	0.20	T	F	0.000	NL
		0.00	5:49*	10601.61	T	T	1.000	
		0.00	5:59	83.86	T	F	0.784	
		0.00	7:05	163.93	T	F	0.928	
		0.00	7:14	169.19	T	F	0.948	
		0.00	7:18	154.16	T	F	0.956	
		0.00	7:23	1.52	T	F	0.967	
		0.00	7:30	78.66	T	F	0.983	
		0.00	7:40*	237.80	T	T	1.004	
		0.00	7:57	230.43	T	F	1.041	
		0.00	8:03	502.60	T	F	1.055	
		0.00	8:08	17.58	T	F	1.066	
		0.00	8:13	81.09	T	F	1.076	
		0.00	8:20	27.97	T	F	1.092	
		0.00	8:26	86.65	T	F	1.105	
		0.00	8:32	60.81	T	F	1.118	
		0.00	8:42	50.43	T	F	1.140	
		0.00	8:46	30.10	T	F	1.148	
		0.00	8:55	32.81	T	F	1.168	
		0.00	8:58	59.61	T	F	1.175	
152		*** Total ***		12671.03	# of Peaks:		21	

Listing of U096216B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
154	DC	0.00	0:00	0.09	T	F	0.000	NL
		0.00	7:05	50.56	T	F	0.928	
		0.00	7:14	53.44	T	F	0.948	
		0.00	7:18	38.00	T	F	0.956	
		0.00	7:23	5.02	T	F	0.967	
		0.00	7:30	22.99	T	F	0.983	
		0.00	7:38	21.60	T	F	1.000	
		0.00	7:58	10.26	T	F	1.044	
		0.00	8:03	620.87	T	T	1.055	
		0.00	8:08	3.29	T	F	1.066	
		0.00	8:13	49.55	T	F	1.076	
		0.00	8:19	9.96	T	F	1.090	
		0.00	8:26	42.68	T	F	1.105	
		0.00	8:32	36.54	T	F	1.118	
		0.00	8:36	1.39	T	F	1.127	
		0.00	8:43	35.34	T	F	1.142	
		0.00	8:46	17.80	T	F	1.148	
		0.00	8:49	1.59	T	F	1.155	
		0.00	8:55	60.13	T	F	1.168	
154		*** Total ***		1081.10	# of Peaks:		19	
160	DC	0.00	0:00	0.20	T	F	0.000	NL
		0.00	7:38	14442.78	T	T	1.000	
		0.00	7:58	17495.32	T	F	1.044	
		0.00	8:21	33.69	T	F	1.094	
160		*** Total ***		31971.99	# of Peaks:		4	
162	DC	4.50	0:00	0.11	F	F	0.000	NL
	CK	4.13	6:48	174.96	F	T	1.005	RO
162		*** Total ***		175.07	# of Peaks:		2	
164	DC	0.00	0:00	0.02	T	F	0.000	NL
	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	6:48	34.10	T	F	0.851	
		0.00	7:58	40373.72	T	T	0.998	
164		*** Total ***		40407.85	# of Peaks:		4	
166	DC	0.00	0:00	0.03	T	F	0.000	NL
	DC	0.00	7:57	104.36	T	F	0.691	WL
	DC	0.00	8:04	37.19	T	F	0.701	WL
	DC	0.00	8:58	29.39	T	F	0.780	WL
	~~DC~~	0.00	9:13	929.78	T	T	0.801	~~WL~~
	DC	0.00	9:24	66.18	T	F	0.817	WL
		0.00	9:33	59.38	T	F	0.830	
		0.00	9:38	90.44	T	F	0.838	
		0.00	9:57	14.73	T	F	0.865	
		0.00	10:07	40.41	T	F	0.880	
		0.00	10:21	23.97	T	F	0.900	
		0.00	10:31	2239.17	T	F	0.914	
		0.00	11:00	1021.49	T	F	0.957	
		0.00	11:50	33.56	T	F	1.029	
166		*** Total ***		4690.08	# of Peaks:		14	

Listing of U096216B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
169	DC	9.52	0:00	0.02	F	F	0.000	NL
		3.43	6:46	13605.39	T	T	1.000	
169		*** Total ***		13605.41	# of Peaks:		2	
176	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	8:01	1.88	T	F	0.876	
		0.00	8:17	0.31	T	F	0.905	
		0.00	8:27	1.27	T	F	0.923	
		0.00	8:38	22.42	T	F	0.943	
		0.00	8:44	19.38	T	F	0.954	
		0.00	9:03	11.36	T	F	0.989	
		0.00	9:10	29.96	T	T	1.002	
		0.00	9:18	3.06	T	F	1.016	
		0.00	9:27	3.38	T	F	1.033	
		0.00	10:04	0.35	T	F	1.100	
		0.00	10:32	3.34	T	F	1.151	
		0.00	11:01	0.62	T	F	1.204	
		0.00	11:15	0.69	T	F	1.229	
		0.00	11:38	1.23	T	F	1.271	
176		*** Total ***		99.26	# of Peaks:		15	
178	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	9:37	29.57	T	F	0.836	
		0.00	10:07	132.72	T	F	0.880	
		0.00	10:15	110.58	T	F	0.891	
		0.00	10:21	768.41	T	F	0.900	
		0.00	10:34	3272.93	T	F	0.919	
		0.00	11:00	476.67	T	F	0.957	
		0.00	11:15	68.62	T	F	0.978	
		0.00	11:34	2837.37	T	T	1.006	
		0.00	11:41	307.04	T	T	1.016	
		0.00	11:50	590.40	T	F	1.029	
178		*** Total ***		8594.33	# of Peaks:		11	
188	DC	0.00	0:00	0.06	T	F	0.000	NL
		0.00	11:30	18291.12	T	T	1.000	
		0.00	11:38	22070.99	T	T	1.000	
188		*** Total ***		40362.17	# of Peaks:		3	
202	DC	0.00	0:00	6.32	T	F	0.000	NL
		0.00	14:11	104.48	T	F	0.976	
		0.00	14:34	717.12	T	T	1.002	
		0.00	15:09	1312.72	T	T	1.042	
202		*** Total ***		2140.64	# of Peaks:		4	
212	DC	0.00	0:00	0.22	T	F	0.000	NL
		0.00	14:32	12758.28	T	T	1.000	
		0.00	15:06	34327.52	T	T	0.999	
212		*** Total ***		47086.02	# of Peaks:		3	
228	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	14:11	2.94	T	F	0.780	
		0.00	14:31	4.24	T	F	0.798	

Listing of U096216B.dbf

Matched GC Peaks / Ratio / Ret. Time

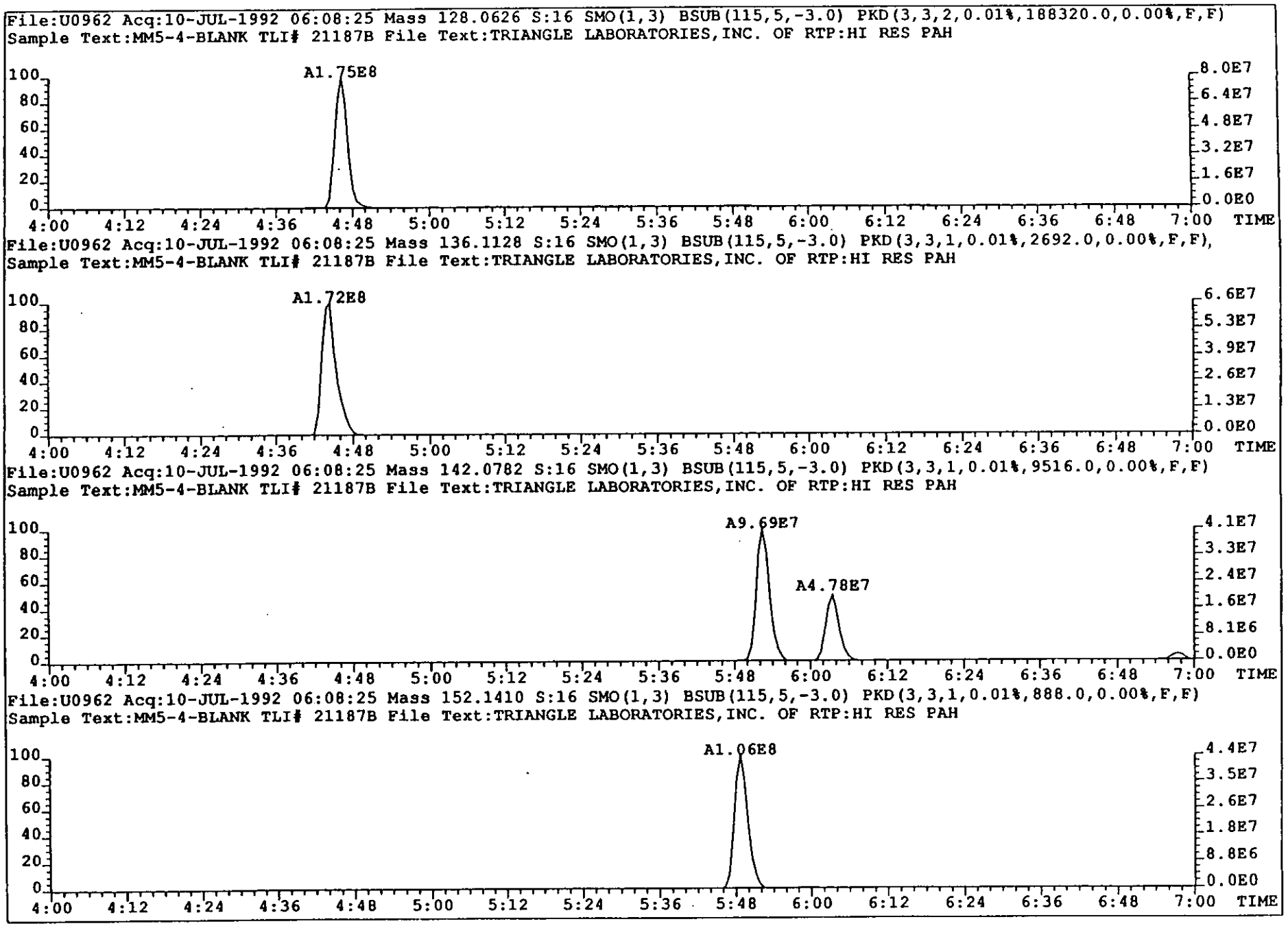
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
228		0.00	14:54	27.19	T	F	0.819	
		0.00	15:01	3.34	T	F	0.826	
		0.00	15:06	18.44	T	F	0.830	
		0.00	15:16	13.89	T	F	0.840	
		0.00	15:39	3.09	T	F	0.861	
		0.00	16:08	1.74	T	F	0.887	
		0.00	16:14	6.37	T	F	0.893	
		0.00	16:39	1.26	T	F	0.916	
		0.00	16:50	6.34	T	F	0.926	
		0.00	17:02	2.02	T	F	0.937	
		0.00	17:09	4.83	T	F	0.943	
		0.00	17:23	9.24	T	F	0.956	
		0.00	17:49	3.87	T	F	0.980	
		0.00	17:53	2.87	T	F	0.984	
		0.00	17:58	1.84	T	F	0.988	
		0.00	18:15	105.84	T	T	1.004	
		0.00	18:20	180.42	T	T	1.008	
		0.00	18:35	17.34	T	F	1.022	
228		*** Total ***		419.15	# of Peaks:		21	
240	DC	0.00	0:00	0.12	T	F	0.000	NL
		0.00	15:35	84.57	T	F	0.857	
		0.00	18:11	6710.01	T	T	1.000	
		0.00	18:16	9410.11	T	T	1.005	
240		*** Total ***		16204.81	# of Peaks:		4	
244	DC	0.00	0:00	**********	T	F	0.000	NL
		0.00	15:35	768.66	T	T	0.999	
244		*** Total ***		768.66	# of Peaks:		2	
252	DC	0.00	0:00	0.06	T	F	0.000	NL
		0.00	21:42	68.52	T	T	0.932	
		0.00	21:48	39.03	T	T	0.936	PR
		0.00	22:49	40.41	T	T	0.980	
		0.00	23:03	32.60	T	T	0.990	
		0.00	23:24	2.02	T	T	1.005	
		0.00	23:52	3.18	T	F	1.025	
252		*** Total ***		185.82	# of Peaks:		7	
264	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	21:36	5863.11	T	T	0.928	
		0.00	21:44	5970.15	T	T	0.933	
		0.00	22:41	16732.24	T	T	1.000	
		0.00	22:56	4183.06	T	T	0.985	
		0.00	23:17	2219.41	T	T	1.000	
264		*** Total ***		34967.98	# of Peaks:		6	
276	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	29:14	15.72	T	T	0.947	
		0.00	31:04	54.17	T	T	1.006	
276		*** Total ***		69.91	# of Peaks:		3	
278	DC	0.00	0:00	0.02	T	F	0.000	NL

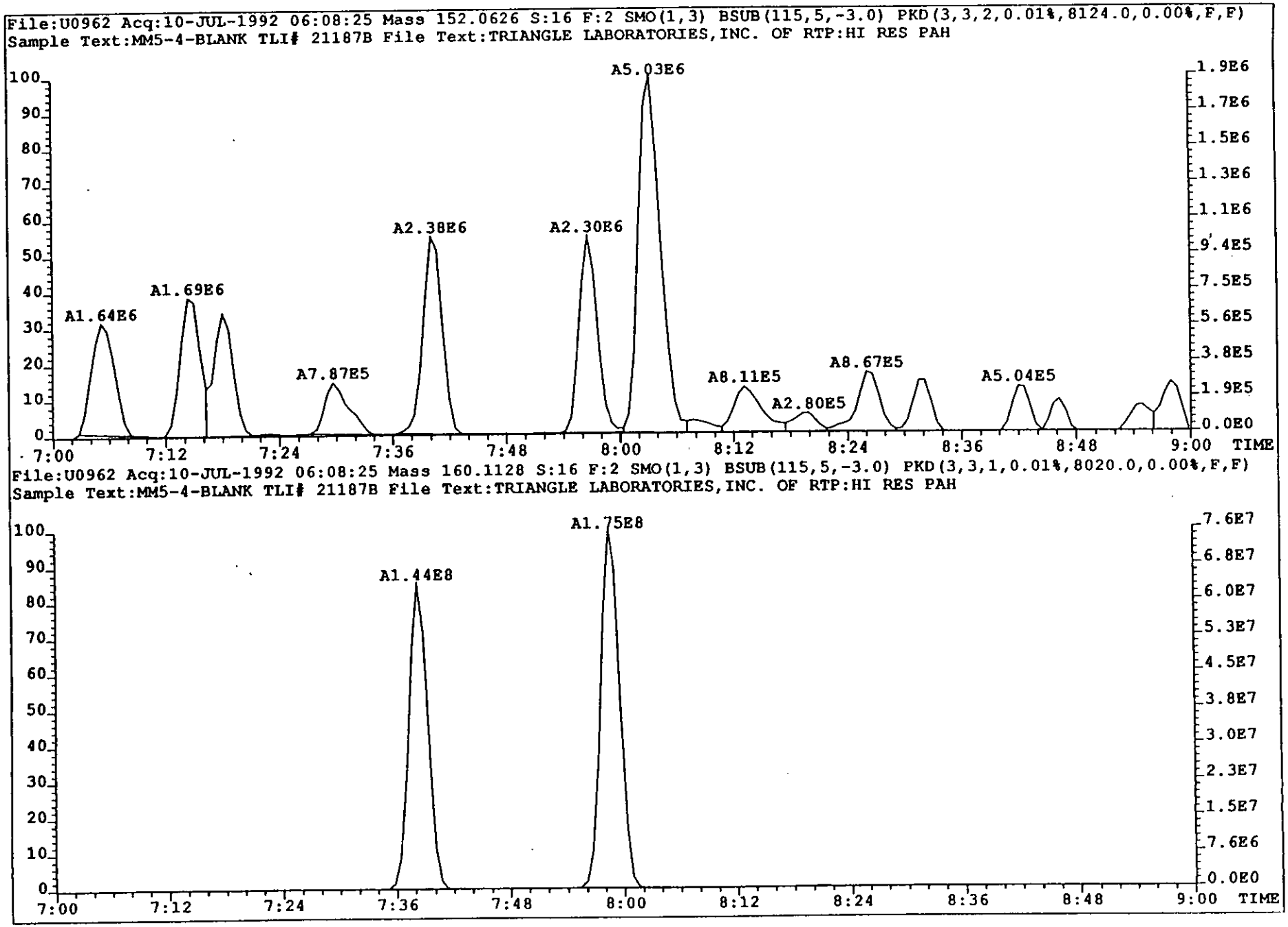
Listing of U096216B.dbf

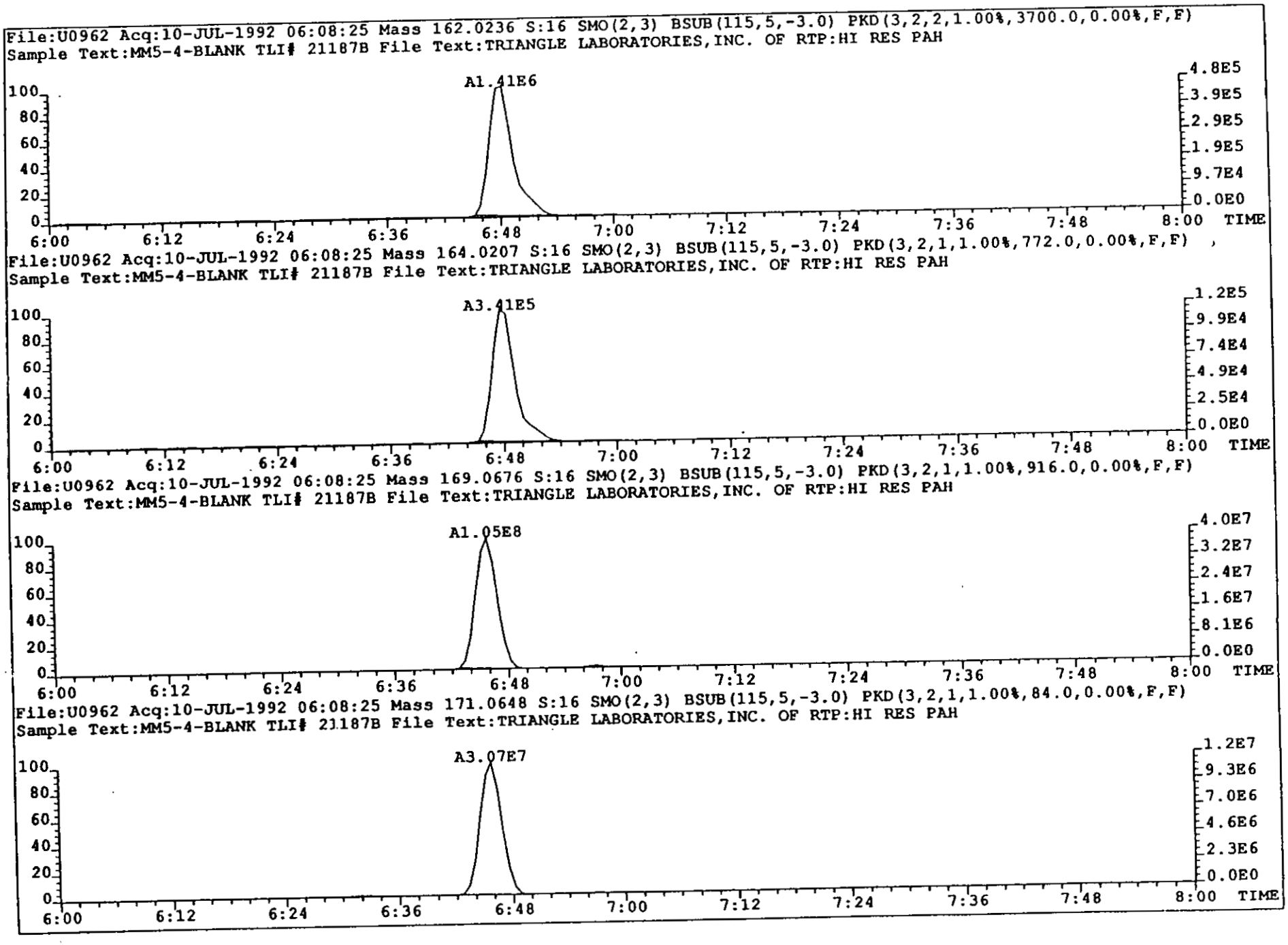
Matched GC Peaks / Ratio / Ret. Time

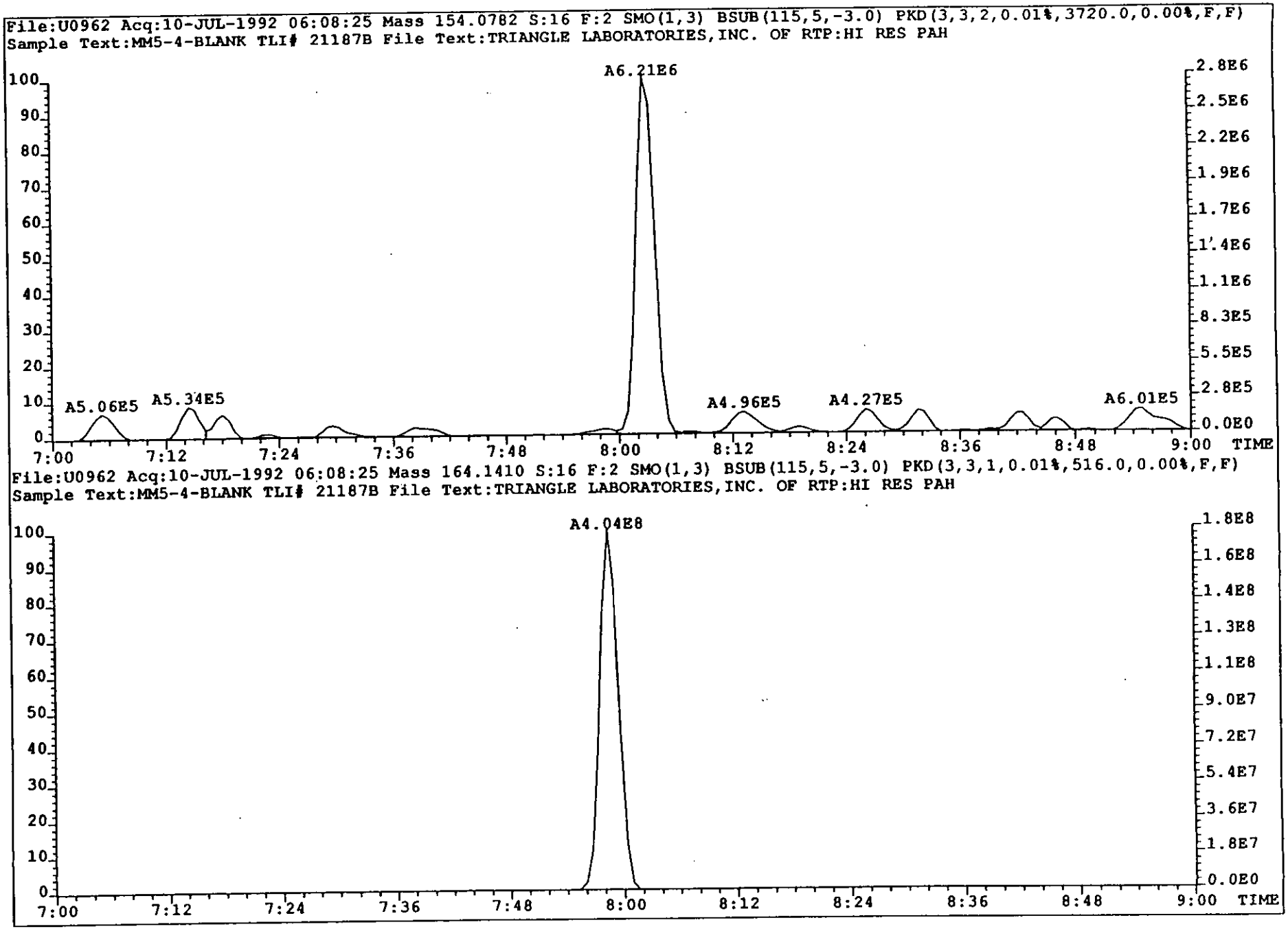
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
278		0.00	29:28	2.30	T	T	1.008	
		0.00	30:52	0.43	T	F	1.056	
278		*** Total ***		2.75	# of Peaks:		3	
288	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	29:04	1494.63	T	T	0.942	I
		0.00	29:14	936.21	T	F	0.947	
		0.00	30:52	3618.81	T	T	1.000	
288		*** Total ***		6049.66	# of Peaks:		4	
292	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	29:14	2070.97	T	T	1.000	
292		*** Total ***		2070.98	# of Peaks:		2	

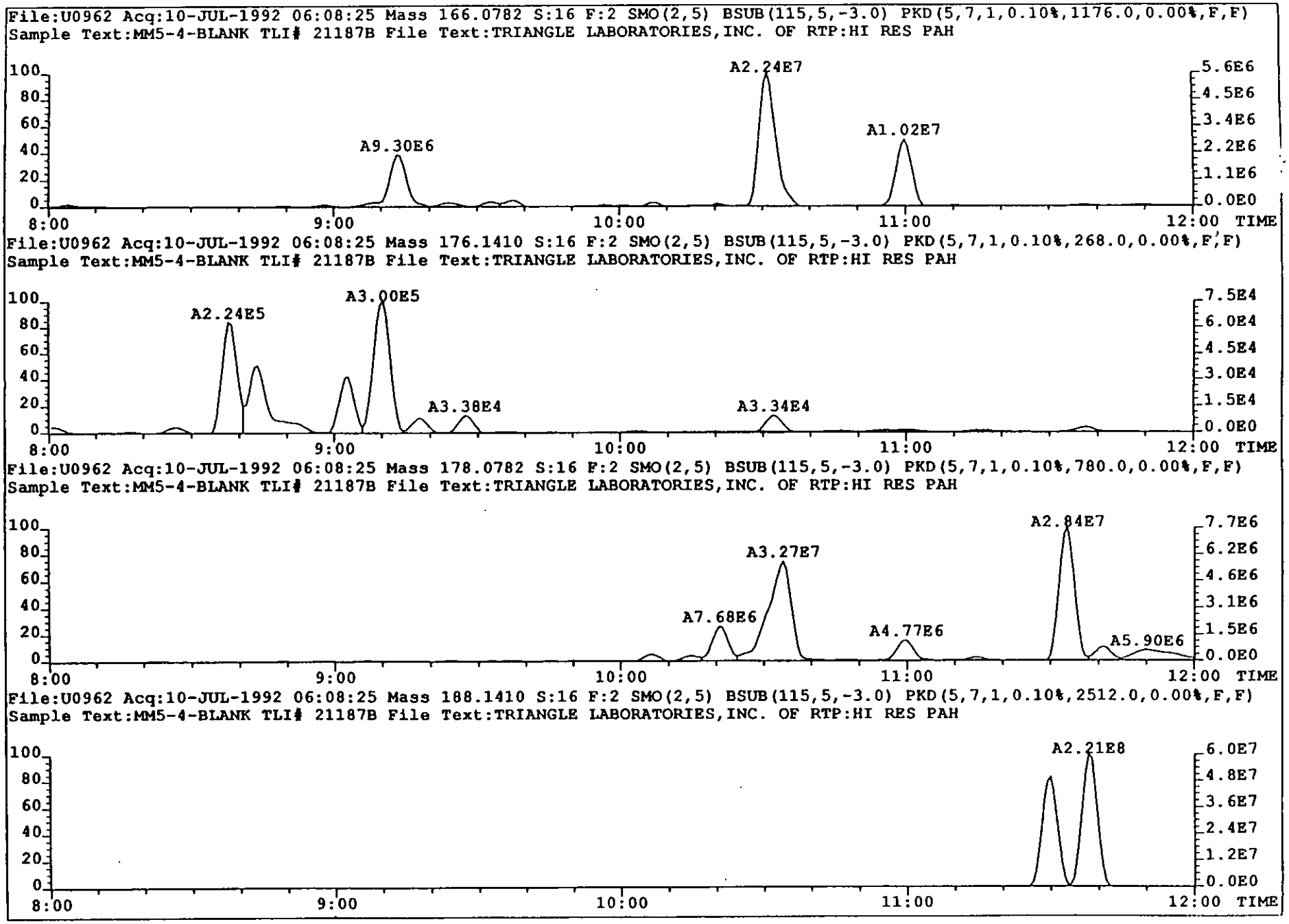
*** End of Report ***

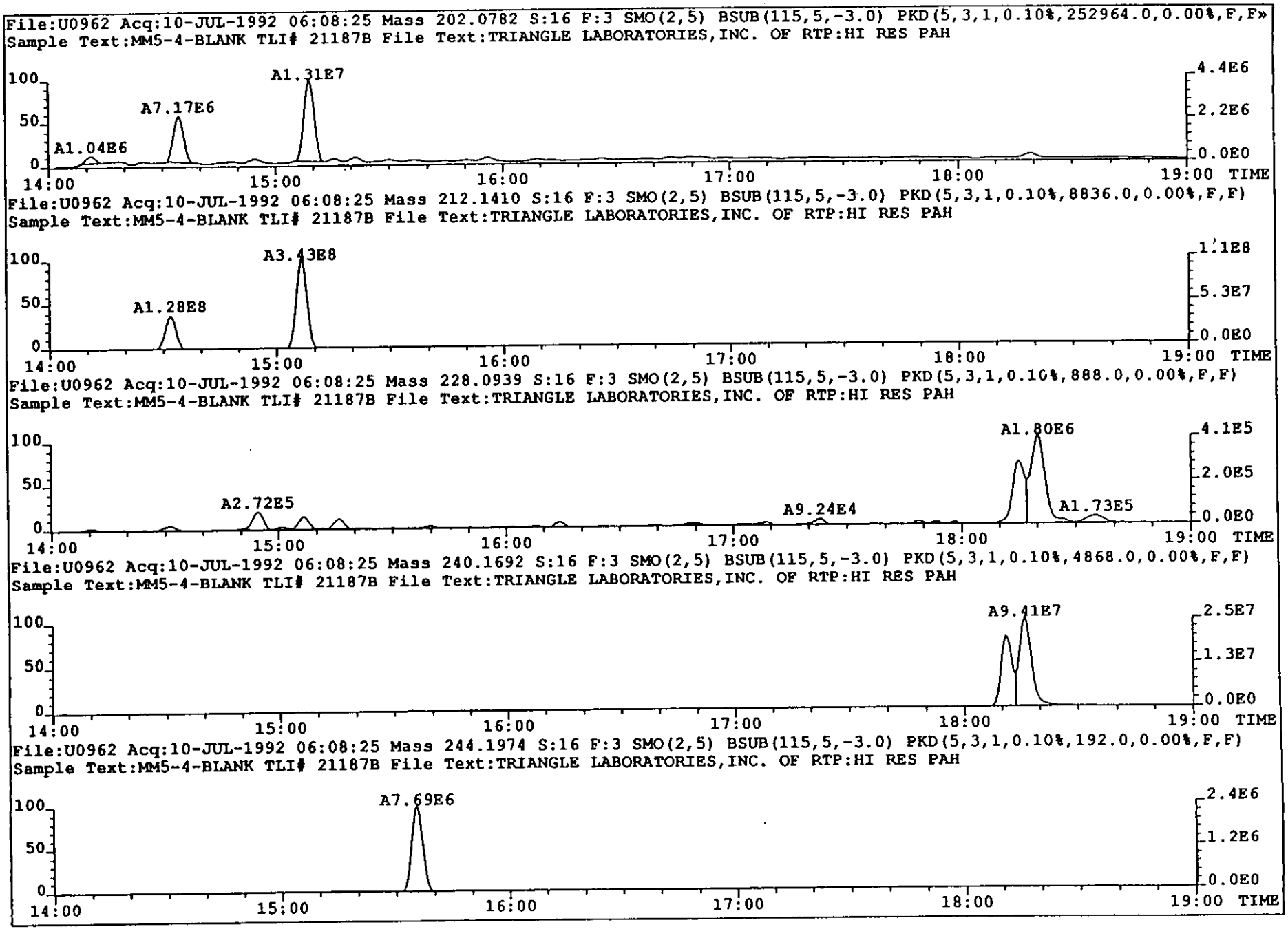

File:U0962 Acq:10-JUL-1992 06:08:25 Mass 128.0626 S:16 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,188320.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.75E8
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 136.1128 S:16 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,2692.0,0.00%,F,F),
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.72E8
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 142.0782 S:16 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,9516.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.69E7
A4.78E7
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 152.1410 S:16 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,888.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.06E8
TIME

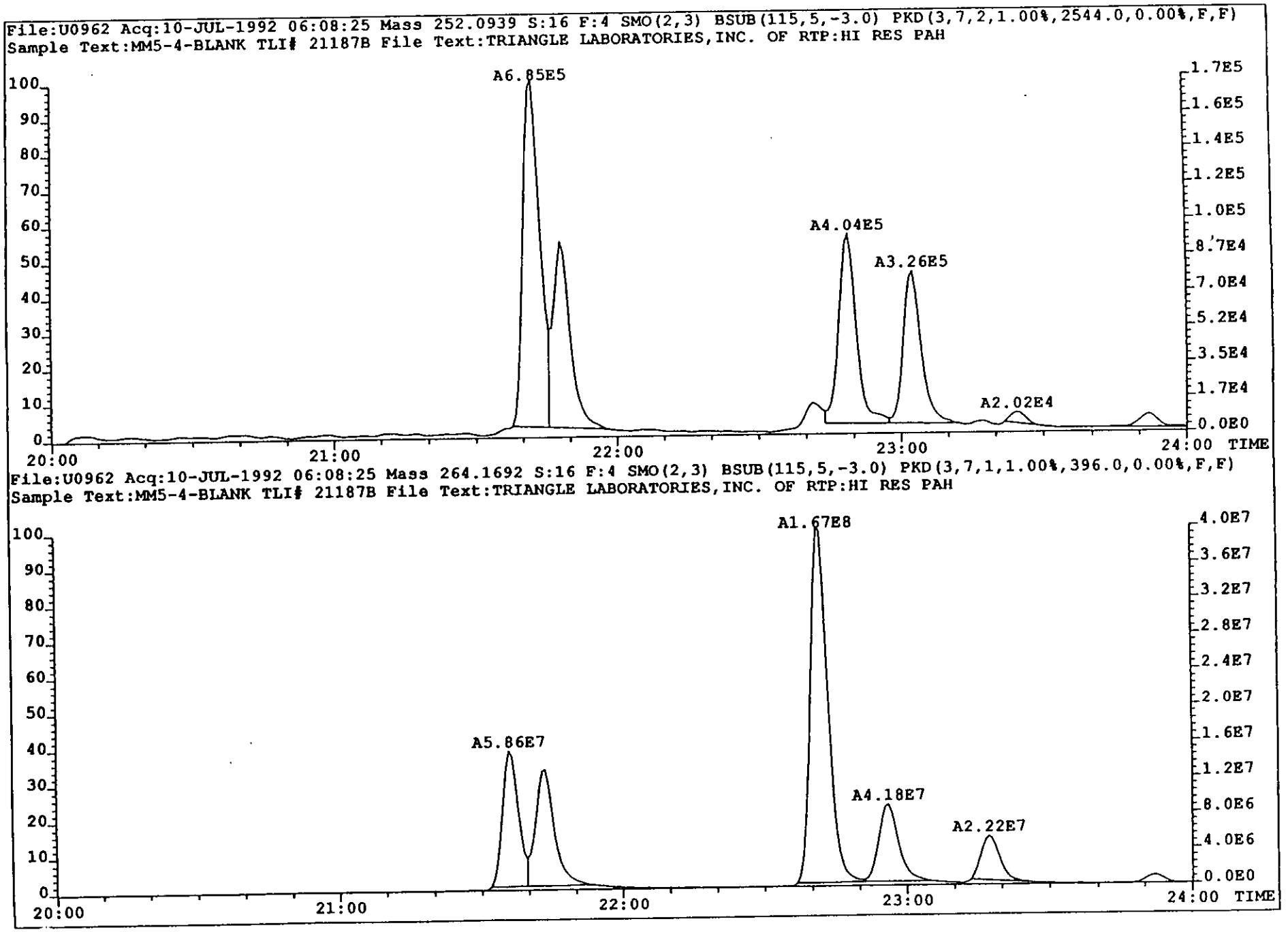

File:U0962 Acq:10-JUL-1992 06:08:25 Mass 152.0626 S:16 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,8124.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.64E6
A1.69E6
A7.87E5
A2.38E6
A2.30E6
A5.03E6
A8.11E5
A2.80E5
A8.67E5
A5.04E5
TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 160.1128 S:16 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,8020.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.44E8
A1.75E8
TIME

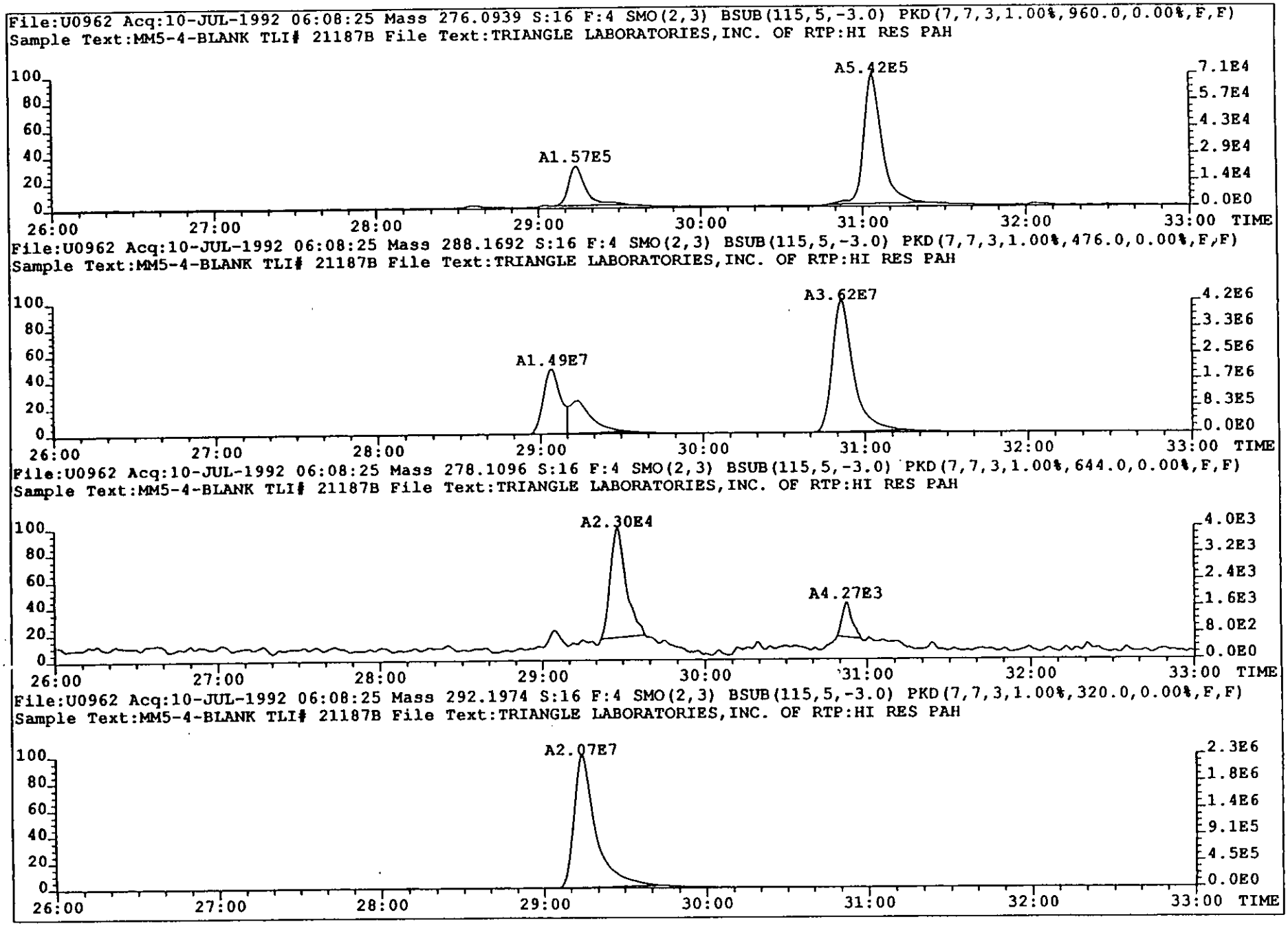

File:U0962 Acq:10-JUL-1992 06:08:25 Mass 162.0236 S:16 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,2,1.00%,3700.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.41E6
4.8E5
3.9E5
2.9E5
1.9E5
9.7E4
0.0E0
100
80
60
40
20
0
6:00
6:12
6:24
6:36
6:48
7:00
7:12
7:24
7:36
7:48
8:00
TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 164.0207 S:16 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,772.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.41E5
1.2E5
9.9E4
7.4E4
4.9E4
2.5E4
0.0E0
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 169.0676 S:16 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,916.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.05E8
4.0E7
3.2E7
2.4E7
1.6E7
8.1E6
0.0E0
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 171.0648 S:16 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,84.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.07E7
1.2E7
9.3E6
7.0E6
4.6E6
2.3E6
0.0E0

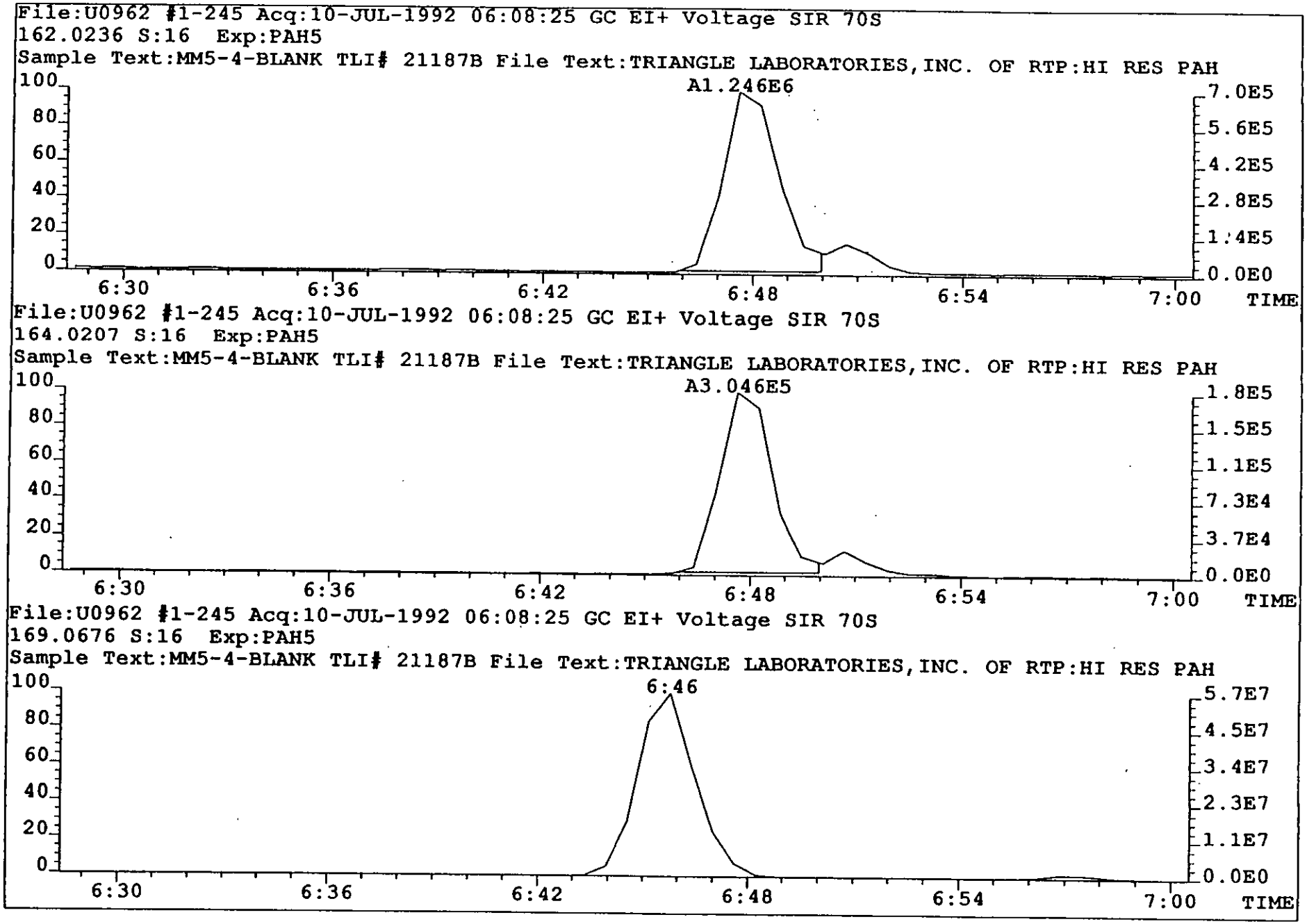

File:U0962 Acq:10-JUL-1992 06:08:25 Mass 154.0782 S:16 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,3720.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.21E6
A5.06E5
A5.34E5
A4.96E5
A4.27E5
A6.01E5
2.8E6
2.5E6
2.2E6
1.9E6
1.7E6
1.4E6
1.1E6
8.3E5
5.5E5
2.8E5
0.0E0
7:00
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
9:00
TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 164.1410 S:16 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,516.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A4.04E8
1.8E8
1.6E8
1.4E8
1.3E8
1.1E8
9.0E7
7.2E7
5.4E7
3.6E7
1.8E7
0.0E0
7:00
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
9:00
TIME

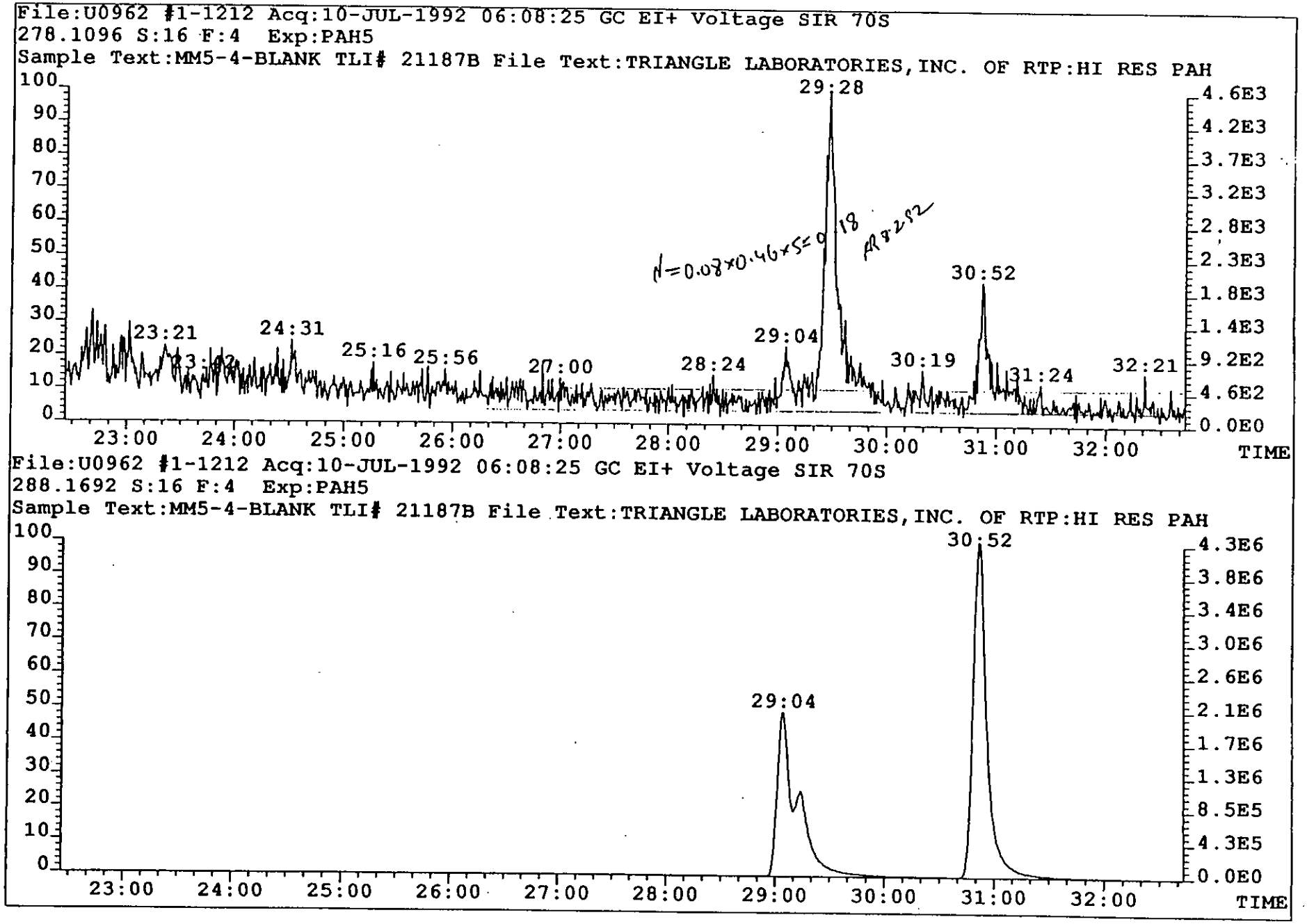

File:U0962 Acq:10-JUL-1992 06:08:25 Mass 166.0782 S:16 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,1176.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.24E7
A1.02E7
A9.30E6
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 176.1410 S:16 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,268.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.00E5
A2.24E5
A3.38E4
A3.34E4
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 178.0782 S:16 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,780.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.84E7
A3.27E7
A7.68E6
A4.77E6
A5.90E6
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 188.1410 S:16 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,2512.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.21E8
8:00
9:00
10:00
11:00
12:00
TIME

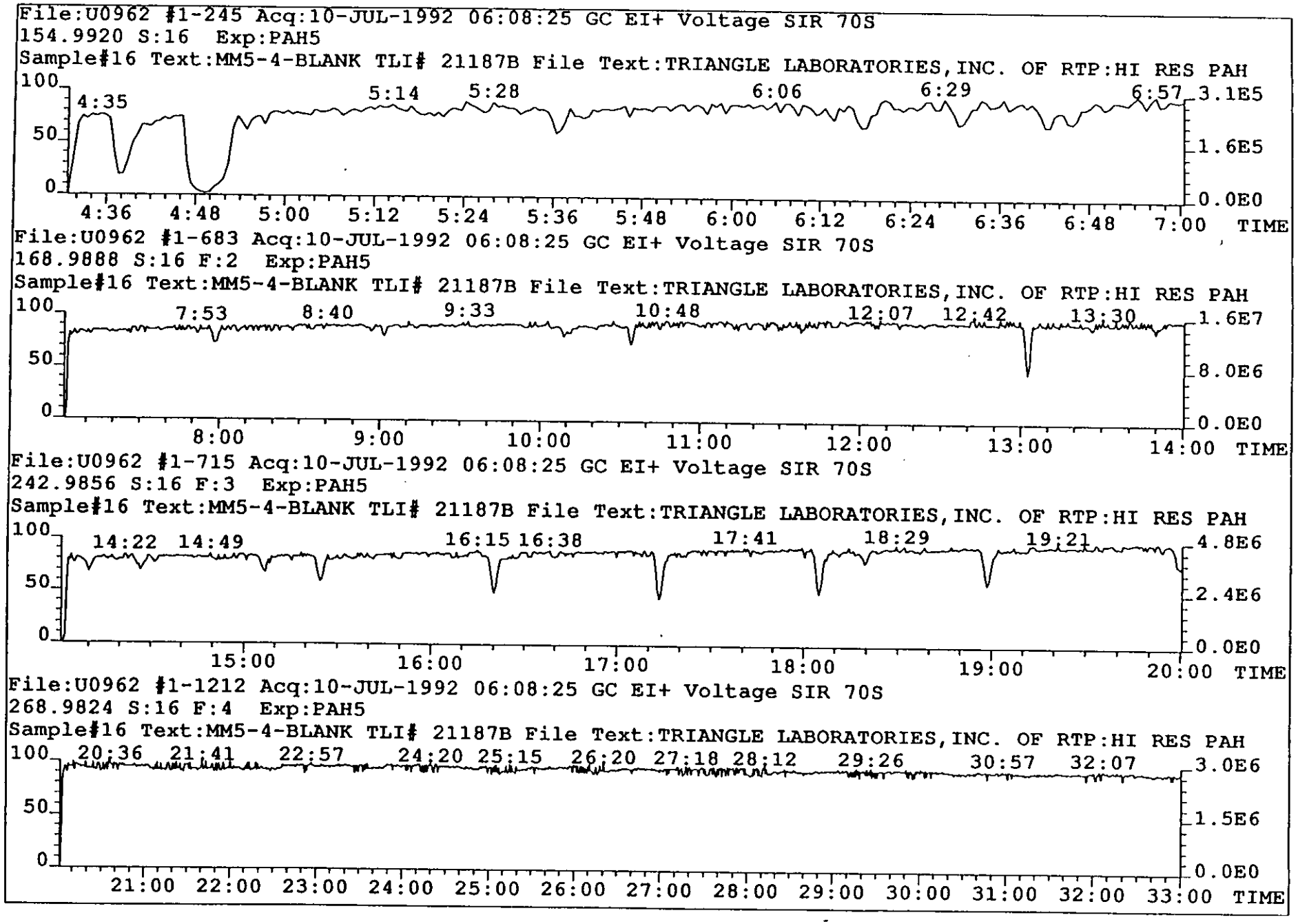

File:U0962 Acq:10-JUL-1992 06:08:25 Mass 202.0782 S:16 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,252964.0,0.00%,F,F»
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.31E7
A7.17E6
A1.04E6
4.4E6
2.2E6
0.0E0
100
50
0
14:00
15:00
16:00
17:00
18:00
19:00 TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 212.1410 S:16 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,8836.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.43E8
A1.28E8
1.1E8
5.3E7
0.0E0
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 228.0939 S:16 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,888.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.80E6
A2.72E5
A9.24E4
A1.73E5
4.1E5
2.0E5
0.0E0
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 240.1692 S:16 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,4868.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.41E7
2.5E7
1.3E7
0.0E0
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 244.1974 S:16 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,192.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.69E6
2.4E6
1.2E6
0.0E0

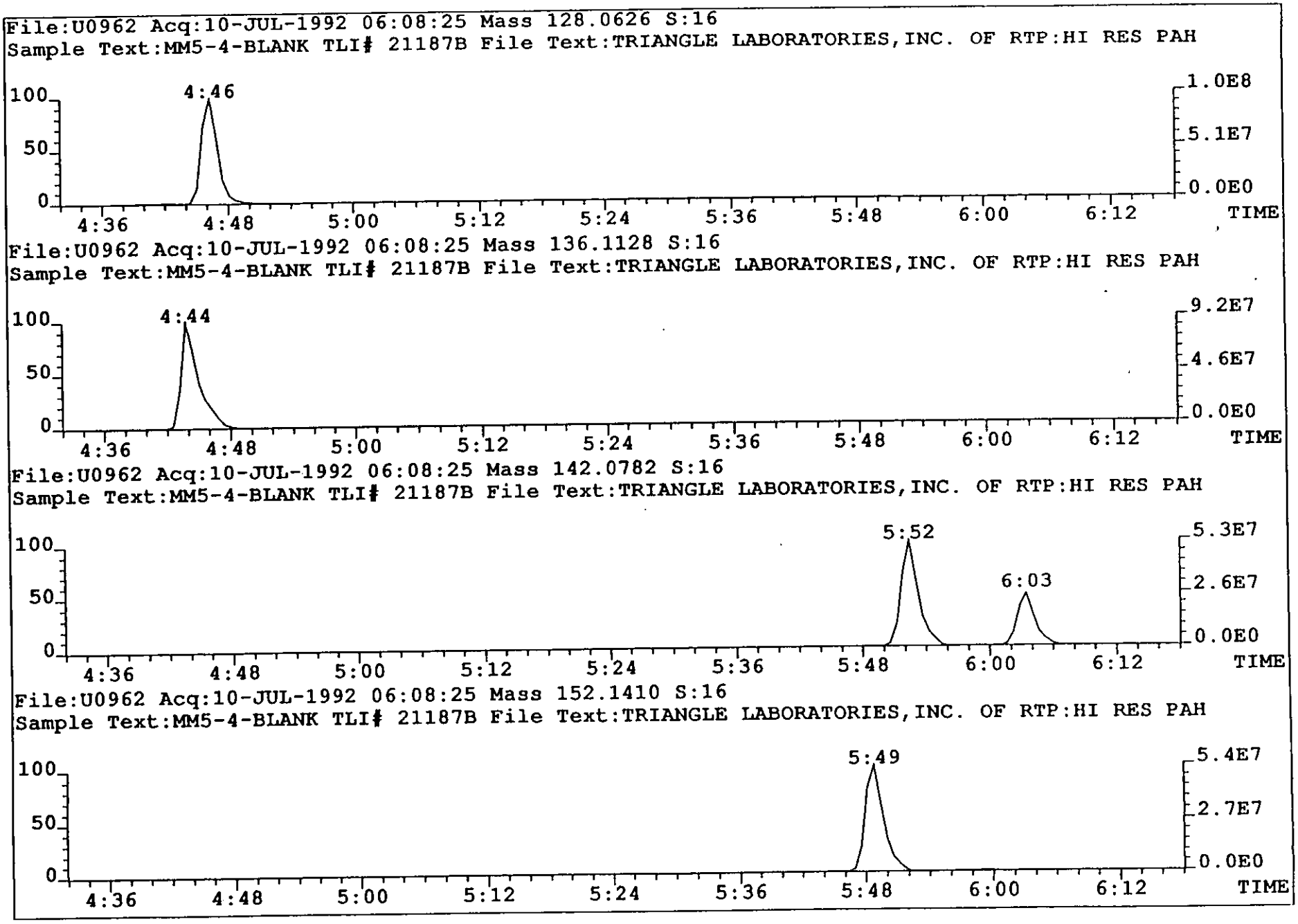

File:U0962 Acq:10-JUL-1992 06:08:25 Mass 252.0939 S:16 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,2,1.00%,2544.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.85E5
A4.04E5
A3.26E5
A2.02E4
TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 264.1692 S:16 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,1,1.00%,396.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.67E8
A5.86E7
A4.18E7
A2.22E7
TIME


File:U0962 Acq:10-JUL-1992 06:08:25 Mass 276.0939 S:16 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,960.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A5.42E5
A1.57E5
7.1E4
5.7E4
4.3E4
2.9E4
1.4E4
0.0E0
100
80
60
40
20
0
26:00
27:00
28:00
29:00
30:00
31:00
32:00
33:00 TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 288.1692 S:16 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,476.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.62E7
A1.49E7
4.2E6
3.3E6
2.5E6
1.7E6
8.3E5
0.0E0
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 278.1096 S:16 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,644.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.30E4
A4.27E3
4.0E3
3.2E3
2.4E3
1.6E3
8.0E2
0.0E0
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 292.1974 S:16 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,320.0,0.00%,F,F)
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.07E7
2.3E6
1.8E6
1.4E6
9.1E5
4.5E5
0.0E0

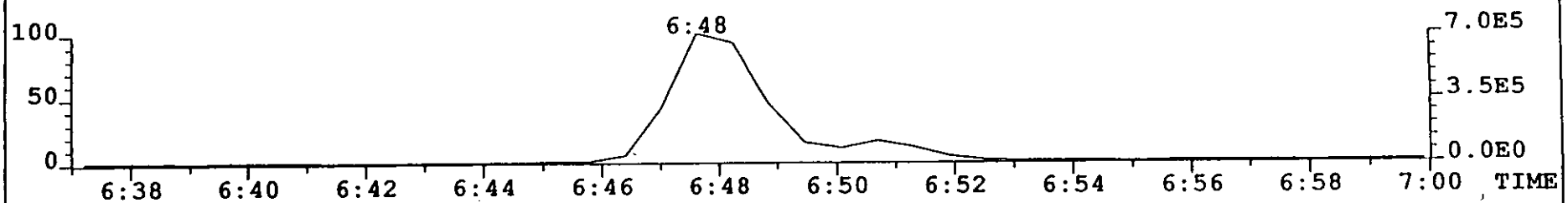

File:U0962 #1-245 Acq:10-JUL-1992 06:08:25 GC EI+ Voltage SIR 70S
162.0236 S:16 Exp:PAH5
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.246E6
100
80
60
40
20
0
7.0E5
5.6E5
4.2E5
2.8E5
1.4E5
0.0E0
6:30
6:36
6:42
6:48
6:54
7:00
TIME
File:U0962 #1-245 Acq:10-JUL-1992 06:08:25 GC EI+ Voltage SIR 70S
164.0207 S:16 Exp:PAH5
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.046E5
100
80
60
40
20
0
1.8E5
1.5E5
1.1E5
7.3E4
3.7E4
0.0E0
6:30
6:36
6:42
6:48
6:54
7:00
TIME
File:U0962 #1-245 Acq:10-JUL-1992 06:08:25 GC EI+ Voltage SIR 70S
169.0676 S:16 Exp:PAH5
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
6:46
100
80
60
40
20
0
5.7E7
4.5E7
3.4E7
2.3E7
1.1E7
0.0E0
6:30
6:36
6:42
6:48
6:54
7:00
TIME


File:U0962 #1-1212 Acq:10-JUL-1992 06:08:25 GC EI+ Voltage SIR 70S
278.1096 S:16 F:4 Exp:PAH5
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
29:28
30:52
23:21
24:31
25:16
25:56
27:00
28:24
29:04
30:19
31:24
32:21
N=0.08×0.46×5=0.18
AR=2.92
4.6E3
4.2E3
3.7E3
3.2E3
2.8E3
2.3E3
1.8E3
1.4E3
9.2E2
4.6E2
0.0E0
23:00
24:00
25:00
26:00
27:00
28:00
29:00
30:00
31:00
32:00
TIME
File:U0962 #1-1212 Acq:10-JUL-1992 06:08:25 GC EI+ Voltage SIR 70S
288.1692 S:16 F:4 Exp:PAH5
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
30:52
29:04
4.3E6
3.8E6
3.4E6
3.0E6
2.6E6
2.1E6
1.7E6
1.3E6
8.5E5
4.3E5
0.0E0
23:00
24:00
25:00
26:00
27:00
28:00
29:00
30:00
31:00
32:00
TIME

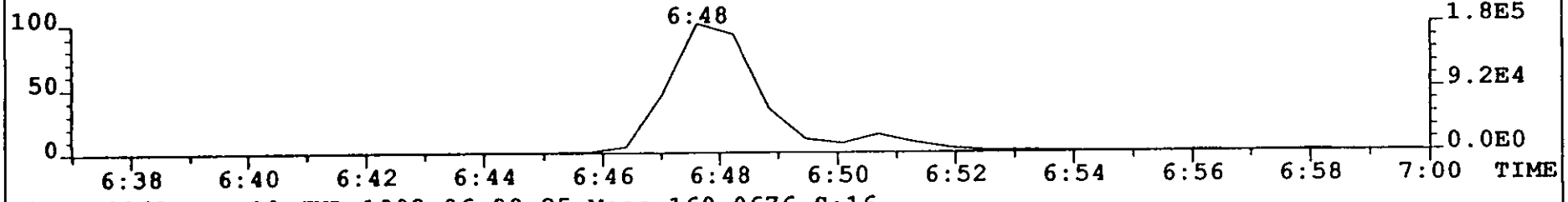

File:U0962 #1-245 Acq:10-JUL-1992 06:08:25 GC EI+ Voltage SIR 70S
154.9920 S:16 Exp:PAH5
Sample#16 Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
4:35 5:14 5:28 6:06 6:29 6:57
3.1E5 1.6E5 0.0E0
4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 6:24 6:36 6:48 7:00 TIME
File:U0962 #1-683 Acq:10-JUL-1992 06:08:25 GC EI+ Voltage SIR 70S
168.9888 S:16 F:2 Exp:PAH5
Sample#16 Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
7:53 8:40 9:33 10:48 12:07 12:42 13:30
1.6E7 8.0E6 0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 TIME
File:U0962 #1-715 Acq:10-JUL-1992 06:08:25 GC EI+ Voltage SIR 70S
242.9856 S:16 F:3 Exp:PAH5
Sample#16 Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
14:22 14:49 16:15 16:38 17:41 18:29 19:21
4.8E6 2.4E6 0.0E0
15:00 16:00 17:00 18:00 19:00 20:00 TIME
File:U0962 #1-1212 Acq:10-JUL-1992 06:08:25 GC EI+ Voltage SIR 70S
268.9824 S:16 F:4 Exp:PAH5
Sample#16 Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
20:36 21:41 22:57 24:20 25:15 26:20 27:18 28:12 29:26 30:57 32:07
3.0E6 1.5E6 0.0E0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 33:00 TIME


File:U0962 Acq:10-JUL-1992 06:08:25 Mass 128.0626 S:16
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
4:46
100
50
0
1.0E8
5.1E7
0.0E0
4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 136.1128 S:16
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
4:44
9.2E7
4.6E7
0.0E0
4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 142.0782 S:16
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
5:52
6:03
5.3E7
2.6E7
0.0E0
4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 152.1410 S:16
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
5:49
5.4E7
2.7E7
0.0E0
4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 TIME

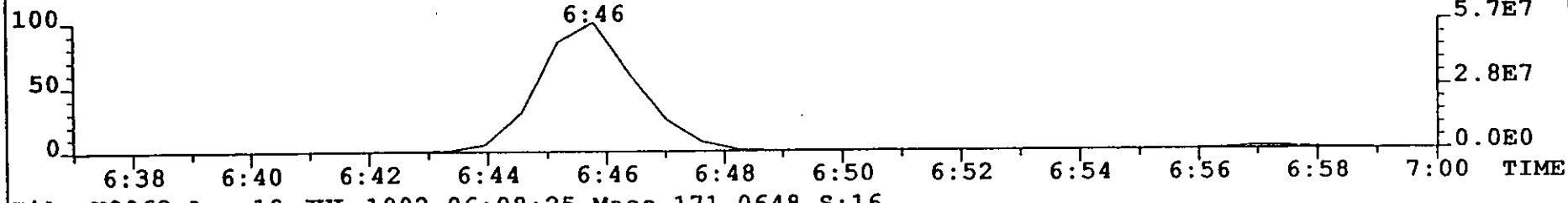
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 162.0236 S:16
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH



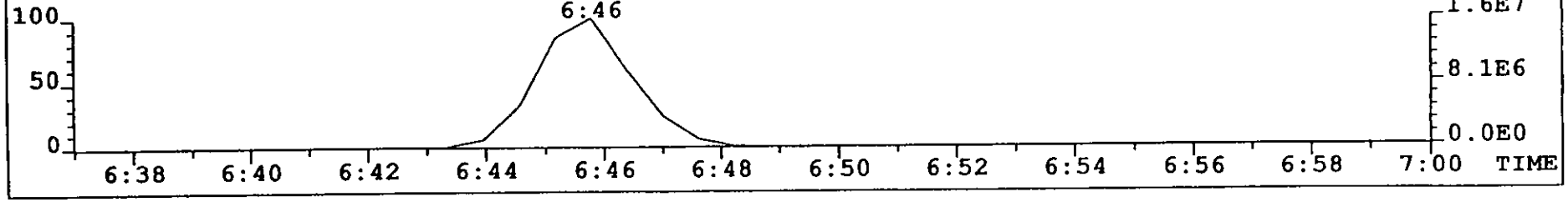
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 164.0207 S:16
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH

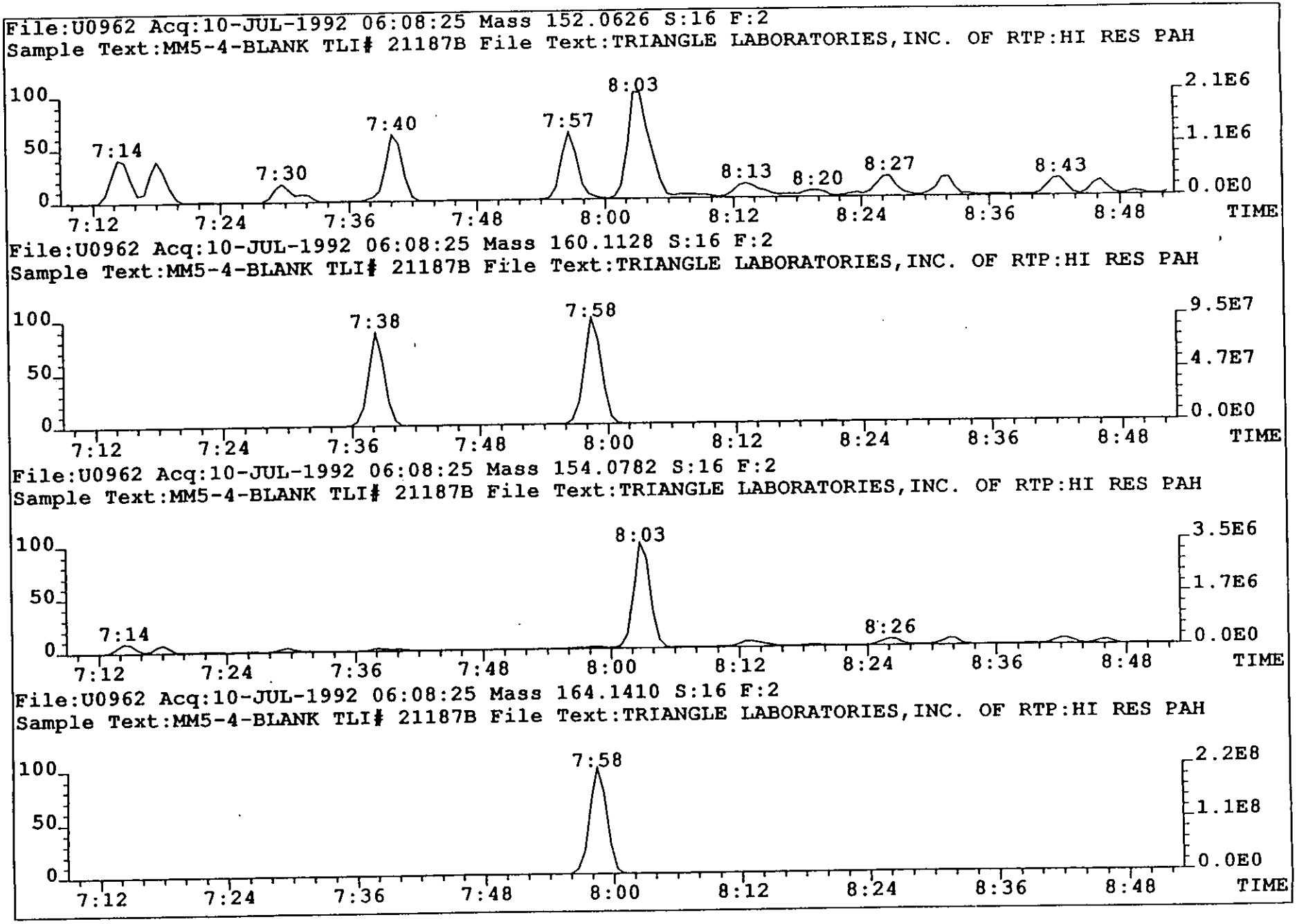


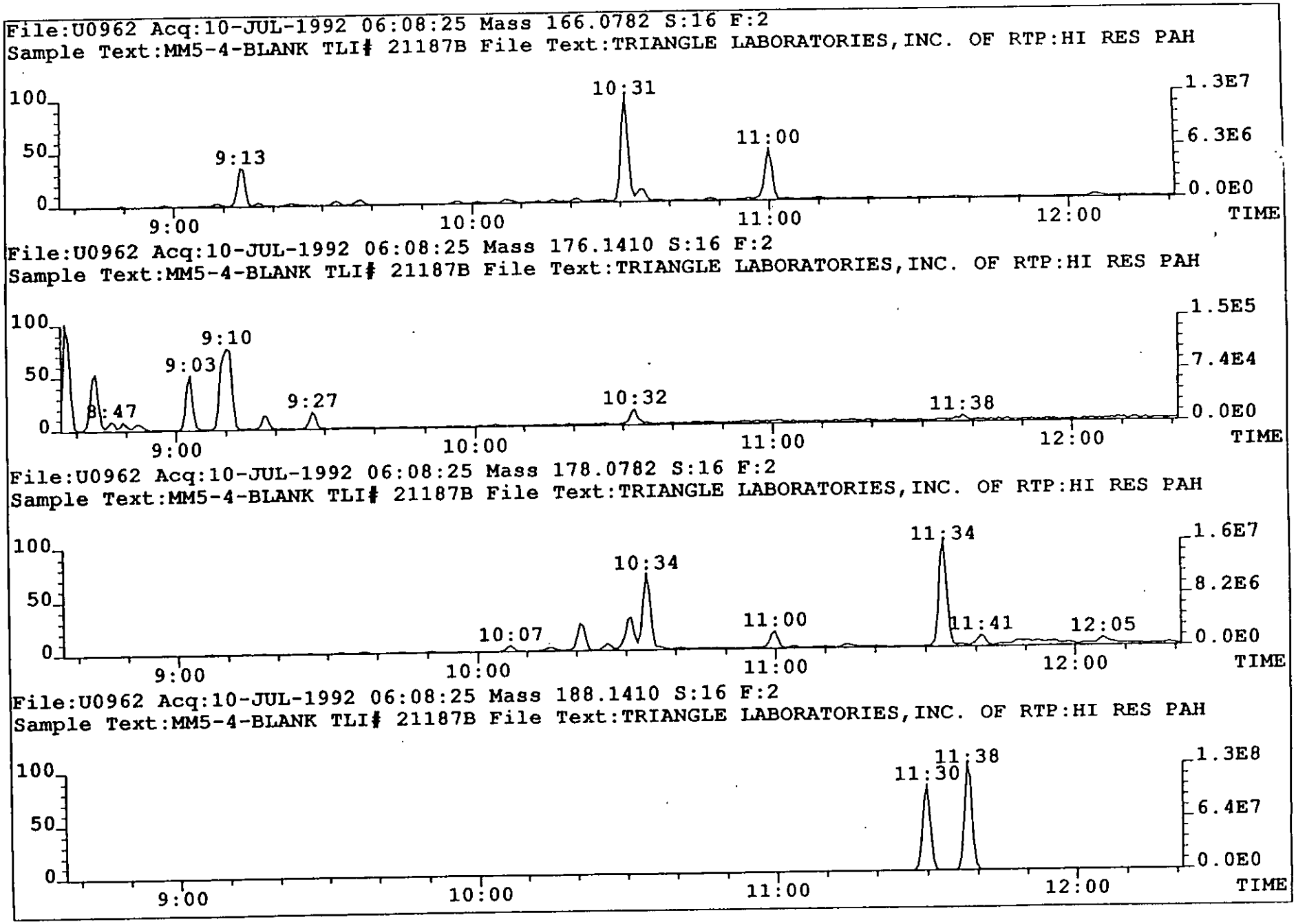
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 169.0676 S:16
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH

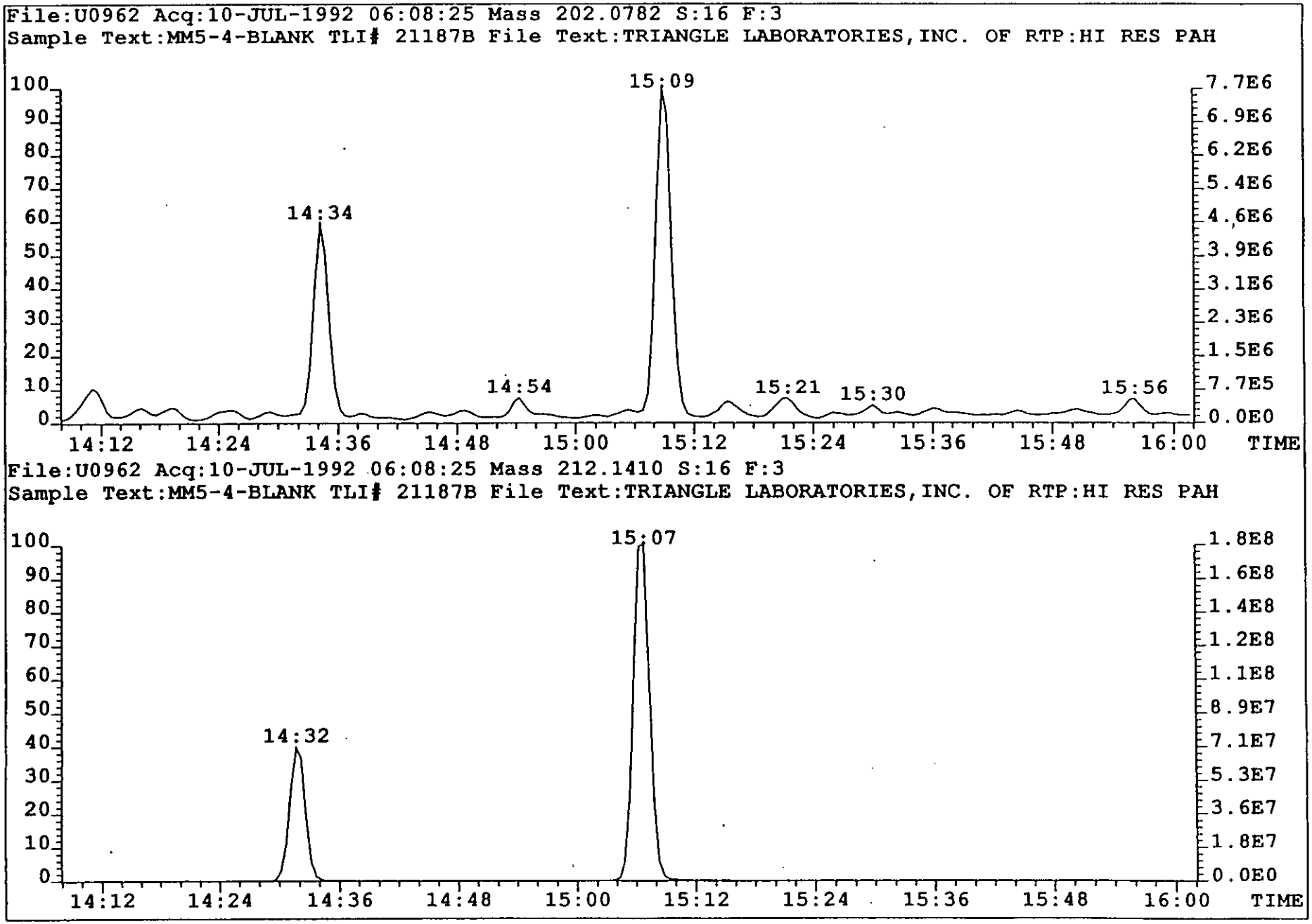


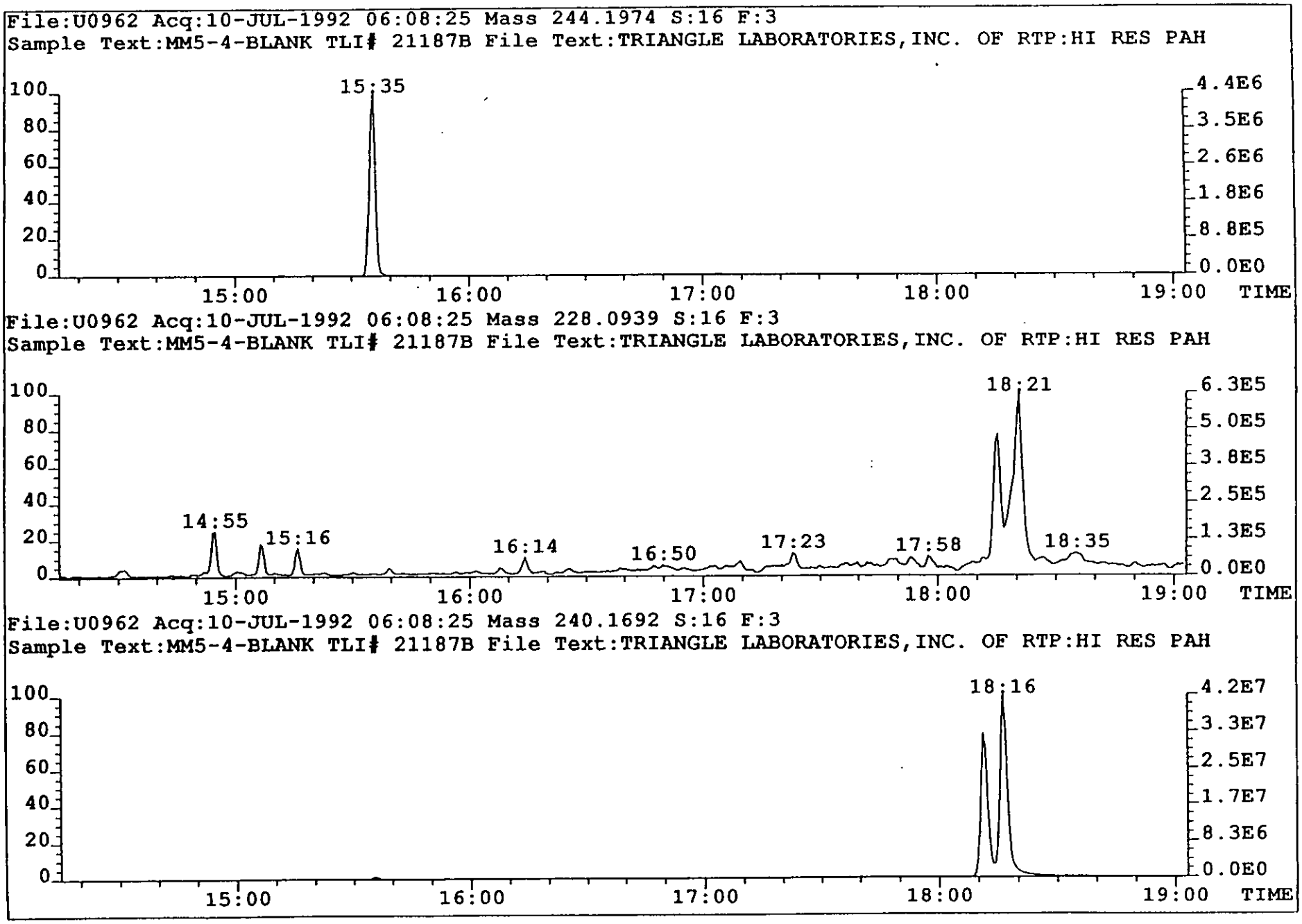
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 171.0648 S:16
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH

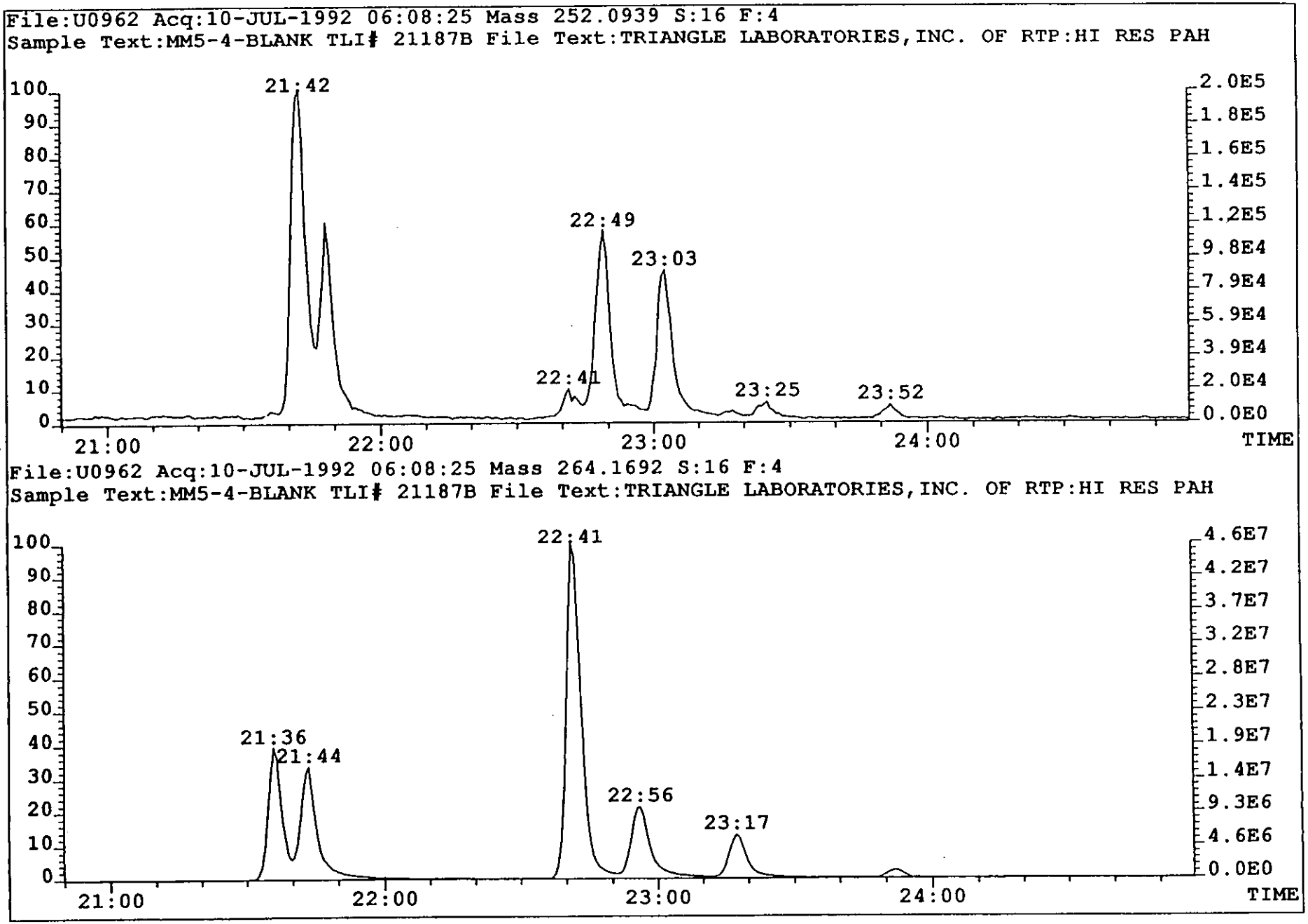


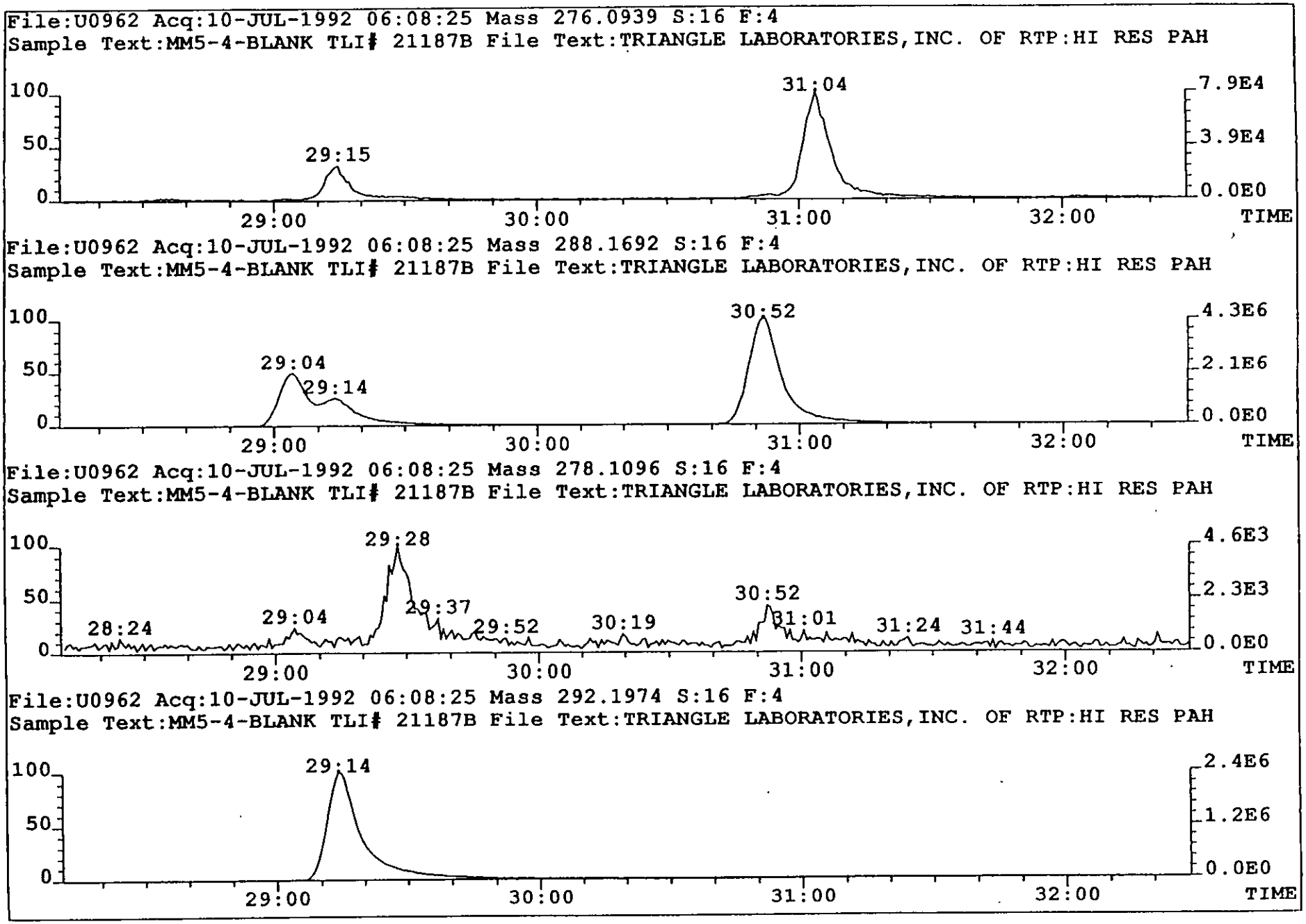

File:U0962 Acq:10-JUL-1992 06:08:25 Mass 152.0626 S:16 F:2
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:14
7:30
7:40
7:57
8:03
8:13
8:20
8:27
8:43
2.1E6
1.1E6
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 160.1128 S:16 F:2
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:38
7:58
9.5E7
4.7E7
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 154.0782 S:16 F:2
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:14
8:03
8:26
3.5E6
1.7E6
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 164.1410 S:16 F:2
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:58
2.2E8
1.1E8
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME


File:U0962 Acq:10-JUL-1992 06:08:25 Mass 166.0782 S:16 F:2
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:13
10:31
11:00
1.3E7
6.3E6
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 176.1410 S:16 F:2
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
8:47
9:03
9:10
9:27
10:32
11:38
1.5E5
7.4E4
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 178.0782 S:16 F:2
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
10:07
10:34
11:00
11:34
11:41
12:05
1.6E7
8.2E6
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 188.1410 S:16 F:2
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
11:30
11:38
1.3E8
6.4E7
0.0E0
9:00
10:00
11:00
12:00
TIME


File:U0962 Acq:10-JUL-1992 06:08:25 Mass 202.0782 S:16 F:3
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:09
14:34
14:54
15:21
15:30
15:56
7.7E6
6.9E6
6.2E6
5.4E6
4.6E6
3.9E6
3.1E6
2.3E6
1.5E6
7.7E5
0.0E0
14:12
14:24
14:36
14:48
15:00
15:12
15:24
15:36
15:48
16:00
TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 212.1410 S:16 F:3
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:07
14:32
1.8E8
1.6E8
1.4E8
1.2E8
1.1E8
8.9E7
7.1E7
5.3E7
3.6E7
1.8E7
0.0E0
14:12
14:24
14:36
14:48
15:00
15:12
15:24
15:36
15:48
16:00
TIME


File:U0962 Acq:10-JUL-1992 06:08:25 Mass 244.1974 S:16 F:3
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:35
100
80
60
40
20
0
4.4E6
3.5E6
2.6E6
1.8E6
8.8E5
0.0E0
15:00
16:00
17:00
18:00
19:00
TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 228.0939 S:16 F:3
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:21
14:55
15:16
16:14
16:50
17:23
17:58
18:35
6.3E5
5.0E5
3.8E5
2.5E5
1.3E5
0.0E0
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 240.1692 S:16 F:3
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:16
4.2E7
3.3E7
2.5E7
1.7E7
8.3E6
0.0E0


File:U0962 Acq:10-JUL-1992 06:08:25 Mass 252.0939 S:16 F:4
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:42
22:49
23:03
22:41
23:25
23:52
21:00
22:00
23:00
24:00
TIME
2.0E5
1.8E5
1.6E5
1.4E5
1.2E5
9.8E4
7.9E4
5.9E4
3.9E4
2.0E4
0.0E0
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 264.1692 S:16 F:4
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
22:41
21:36
21:44
22:56
23:17
21:00
22:00
23:00
24:00
TIME
4.6E7
4.2E7
3.7E7
3.2E7
2.8E7
2.3E7
1.9E7
1.4E7
9.3E6
4.6E6
0.0E0


File:U0962 Acq:10-JUL-1992 06:08:25 Mass 276.0939 S:16 F:4
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:15
31:04
7.9E4
3.9E4
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 288.1692 S:16 F:4
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:04
29:14
30:52
4.3E6
2.1E6
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 278.1096 S:16 F:4
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
28:24
29:04
29:28
29:37
29:52
30:19
30:52
31:01
31:24
31:44
4.6E3
2.3E3
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 06:08:25 Mass 292.1974 S:16 F:4
Sample Text:MM5-4-BLANK TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:14
2.4E6
1.2E6
0.0E0
29:00
30:00
31:00
32:00
TIME

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/04/92

FILE NAME....:	U096212	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	57-102-2
CONCAL.....:	U096001	SAMPLE ID....:	MM5-2 IMP		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	136			4:46	B
2-Me-Naph	71.5			5:52	B
Acenaphthen	5.9			8:03	B
2-Cl-Naph	EMPC		2.2		B
Acenaph	1.9			7:40	B
Fluorene	6.8			9:13	B
Phenan	17.8			11:34	B
Anth	1.1			11:41	B
Fluoran	8.3			14:34	B
Pyrene	6.1			15:09	B
B-a-Anth	1.4			18:15	PR,B
Chrysene	3.5			18:21	PR,B
Perylene	ND		0.04		
B-b-Fluoran	1.4			21:42	B
B-k-Fluoran	0.76			21:48	PR,B
B-a-Pyrene	0.40			23:03	B
B-e-Pyrene	0.87			22:49	B
B-ghi-Pery	3.7			31:05	B
I-123-cd-Py	0.40			29:14	B
DiB-ah-Anth	0.14			29:28	B

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	82.6	82.6	11:38	

Reviewed By: BP 8/4/92

PAHJ_RPT 1.00, LARS 4.20

FILE NAME....:	U096212	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	57-102-2
CONCAL.....:	U096001	SAMPLE ID....:	MM5-2 IMP		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	211878
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	38.0	38.0	4:44	V
d10-2-Me-Naph	44.3	44.3	5:49	
d7-2-Cl-Naph	43.0	43.0	6:46	
d8-Acenaph	53.8	53.8	7:38	
d10-Phenan	60.5	60.5	11:30	
d12-B-a-Anth	94.5	94.5	18:11	
d10-Fluoran	75.3	75.3	14:32	
d12-Chrysene	54.9	54.9	18:16	
d12-Perylene	141	70.5	23:18	
d12-B-b-Fluoran	216	108	21:36	
d12-B-k-Fluoran	130	65.1	21:43	
d12-B-a-Pyrene	150	74.9	22:56	
d12-B-ghi-Pery	140	69.8	30:52	
d12-I-123-cd-Py	212	106	29:05	I
d14-DiB-ah-Anth	155	77.7	29:15	

Reviewed By: BR 8/4/92

PAHJ_RPT 1.00, LARS 4.20

N=0.1
(278)

	Initial	Date
B-File/Header Changes	BR	7-31-92
Manual Integrations		
Transcription		
Obase Corrections		

Page No. 1
07/29/92

Listing of U096212B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128	DC	0.00	0:00	2.17	T	F	0.000	NL
		0.00	4:42	71.88	T	F	0.993	
		0.00	4:46*	10176.78	T	~~F~~T	1.007	
	DC	0.00	5:08	20.69	T	F	1.085	SN
		0.00	5:18	45.40	T	F	1.120	
	DC	0.00	5:30	16.03	T	F	1.162	SN
	DC	0.00	5:34	10.54	T	F	1.176	SN
		0.00	5:40	24.78	T	F	1.197	
	DC	0.00	6:45	23.52	T	F	1.426	WH
	DC	0.00	6:51	48.07	T	F	1.447	WH
128		*** Total ***		10439.86	# of Peaks:		10	
136	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	4:44*	9760.25	T	T	1.000	
136		*** Total ***		9760.27	# of Peaks:		2	
142	DC	0.00	0:00	0.15	T	F	0.000	NL
		0.00	5:52*	4386.11	T	T	1.009	
		0.00	6:04	2255.89	T	F	1.043	
		0.00	6:57	227.46	T	F	1.195	
142		*** Total ***		6869.61	# of Peaks:		4	
152	DC	0.00	0:00	0.02	T	F	0.000	NL
	DC	0.00	0:00	0.10	T	F	0.000	NL
		0.00	5:49*	5791.36	T	T	1.000	
		0.00	5:59	40.00	T	F	0.784	
		0.00	7:05	75.25	T	F	0.928	
		0.00	7:14	92.42	T	F	0.948	
		0.00	7:18	73.60	T	F	0.956	
		0.00	7:30	38.75	T	F	0.983	
		0.00	7:40*	155.69	T	T	1.004	
		0.00	7:57	97.59	T	F	1.041	
		0.00	8:03	232.75	T	F	1.055	
		0.00	8:08	8.32	T	F	1.066	
		0.00	8:13	37.03	T	F	1.076	
		0.00	8:17	26.33	T	F	1.085	
		0.00	8:26	44.84	T	F	1.105	
		0.00	8:32	35.90	T	F	1.118	
		0.00	8:37	0.57	T	F	1.129	
		0.00	8:42	31.27	T	F	1.140	
		0.00	8:46	19.64	T	F	1.148	
		0.00	8:49	0.43	T	F	1.155	

Listing of U096212B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
152		0.00	8:58	33.08	T	F	1.175	
152		*** Total ***		6858.36	# of Peaks:		22	
154	DC	0.00	0:00	0.05	T	F	0.000	NL
		0.00	7:05	19.39	T	F	0.928	
		0.00	7:14	25.26	T	F	0.948	
		0.00	7:18	15.79	T	F	0.956	
		0.00	7:22	1.38	T	F	0.965	
		0.00	7:30	10.19	T	F	0.983	
		0.00	7:40	9.92	T	F	1.004	
		0.00	7:59	3.41	T	F	1.046	
		0.00	8:03	294.05	T	T	1.055	
		0.00	8:13	23.88	T	F	1.076	
		0.00	8:19	4.76	T	F	1.090	
		0.00	8:26	21.41	T	F	1.105	
		0.00	8:32	18.02	T	F	1.118	
		0.00	8:39	4.29	T	F	1.133	
		0.00	8:42	17.20	T	F	1.140	
		0.00	8:46	8.89	T	F	1.148	
		0.00	8:49	1.13	T	F	1.155	
		0.00	8:54	30.71	T	F	1.166	
154		*** Total ***		509.73	# of Peaks:		18	
160	DC	0.00	0:00	0.10	T	F	0.000	NL
		0.00	7:38	7722.45	T	T	1.000	
		0.00	7:59	9756.73	T	F	1.046	
		0.00	8:21	18.37	T	F	1.094	
160		*** Total ***		17497.65	# of Peaks:		4	
162	DC	4.50	0:00	0.11	F	F	0.000	NL
	DC	3.96	6:48	188.93	F	T	1.005	RD
162		*** Total ***		189.04	# of Peaks:		2	
164	DC	0.00	0:00	0.02	T	F	0.000	NL
	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	6:48	38.12	T	F	0.851	
		0.00	7:59	22137.11	T	T	1.000	
164		*** Total ***		22175.26	# of Peaks:		4	
166	DC	0.00	0:00	0.03	T	F	0.000	NL
	DC	0.00	7:57	40.60	T	F	0.691	WL
	DC	0.00	8:04	12.59	T	F	0.701	WL
	DC	0.00	8:58	13.25	T	F	0.780	WL
	~~DC~~	0.00	9:13	429.49	T	T	0.801	~~WL~~
	DC	0.00	9:24	29.85	T	F	0.817	WL
		0.00	9:33	28.62	T	F	0.830	
		0.00	9:38	42.56	T	F	0.838	
		0.00	10:07	24.58	T	F	0.880	
		0.00	10:31	1203.46	T	F	0.914	
		0.00	11:00	546.42	T	F	0.957	
166		*** Total ***		2371.45	# of Peaks:		11	
169	DC	13.64	0:00	0.03	F	F	0.000	NL

Listing of U096212B.dbf

Matched GC Peaks / Ratio / Ret. Time

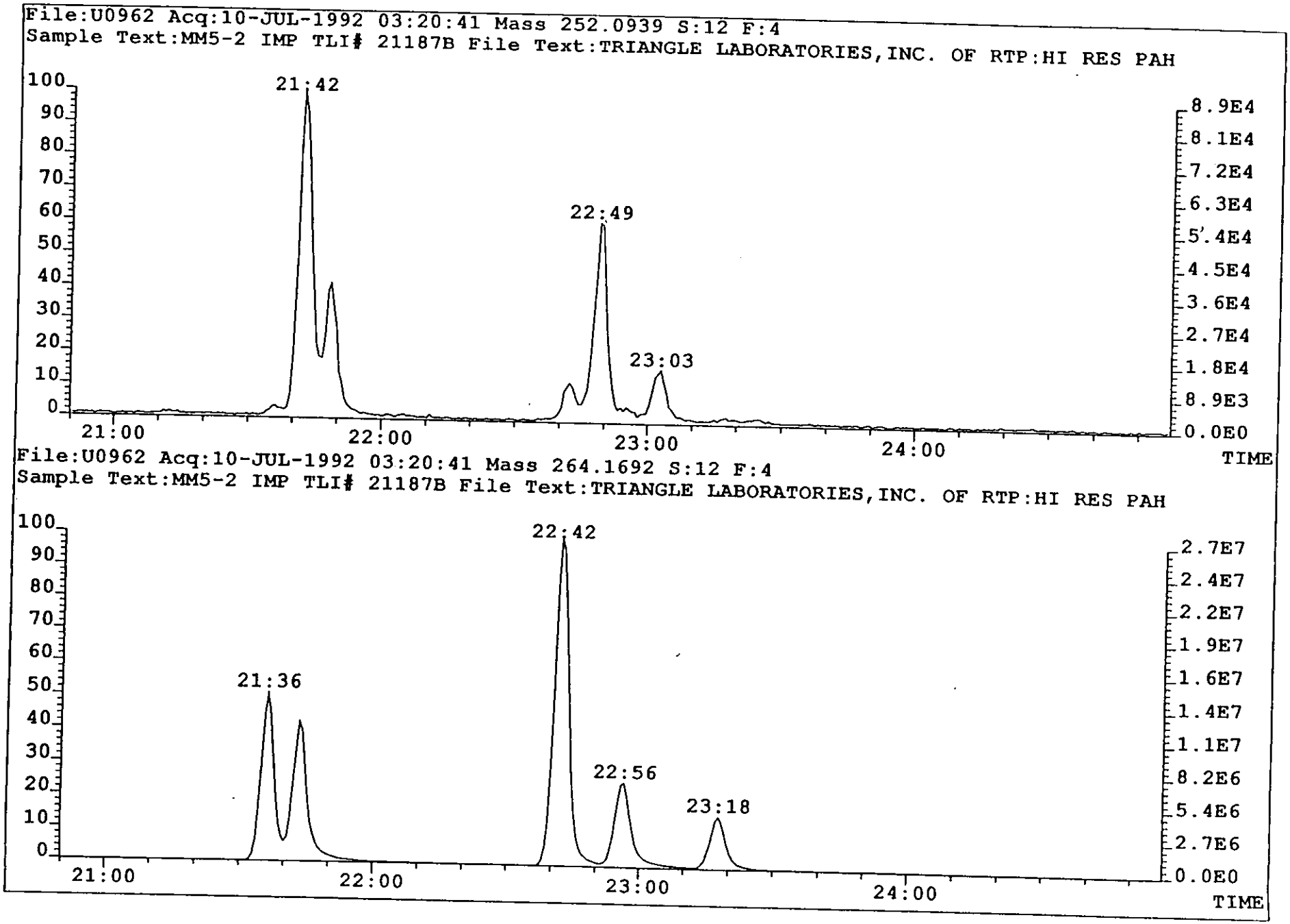
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
169		3.35	6:46	7304.12	T	T	1.000	
169		*** Total ***		7304.15	# of Peaks:		2	
176	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	8:27	0.44	T	F	0.923	
		0.00	8:38	2.36	T	F	0.943	
		0.00	8:43	1.60	T	F	0.952	
		0.00	8:49	0.62	T	F	0.963	
		0.00	9:02	4.51	T	F	0.987	
		0.00	9:10	14.36	T	T	1.002	
		0.00	9:18	1.37	T	F	1.016	
		0.00	9:27	0.63	T	F	1.033	
		0.00	10:32	0.60	T	F	1.151	
176		*** Total ***		26.50	# of Peaks:		10	
178	DC	0.00	0:00	0.03	T	F	0.000	NL
		0.00	10:07	79.19	T	F	0.880	
		0.00	10:15	48.25	T	F	0.891	
		0.00	10:21	337.58	T	F	0.900	
		0.00	10:34	1668.47	T	F	0.919	
		0.00	11:00	268.54	T	F	0.957	
		0.00	11:15	42.34	T	F	0.978	
		0.00	11:34	1679.67	T	T	1.006	
		0.00	11:41	93.44	T	T	1.016	
		0.00	11:50	152.01	T	F	1.029	
178		*** Total ***		4369.52	# of Peaks:		10	
188	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	11:30	12724.87	T	T	1.000	
		0.00	11:38	14922.64	T	T	1.000	
188		*** Total ***		27647.53	# of Peaks:		3	
202	DC	0.00	0:00	0.81	T	F	0.000	NL
		0.00	14:11	18.50	T	F	0.976	
		0.00	14:34	687.72	T	T	1.002	
		0.00	15:09	511.00	T	T	1.042	
		0.00	15:56	67.63	T	F	1.096	
202		*** Total ***		1285.66	# of Peaks:		5	
212	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	14:32	9717.59	T	T	1.000	
		0.00	15:07	21370.63	T	T	1.000	
		0.00	18:16	241.99	T	F	1.209	
212		*** Total ***		31330.22	# of Peaks:		4	
228	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	15:07	4.09	T	F	0.831	
		0.00	15:16	1.61	T	F	0.840	
		0.00	17:42	6.32	T	F	0.973	
		0.00	18:15	~~80.32~~ 70.71	T	T	1.004	PR
	cl←	0.00	18:21	~~159.93~~ 131.6	T	T	1.009	PR
		0.00	18:36	9.49	T	F	1.023	
228		*** Total ***		261.77	# of Peaks:		7	

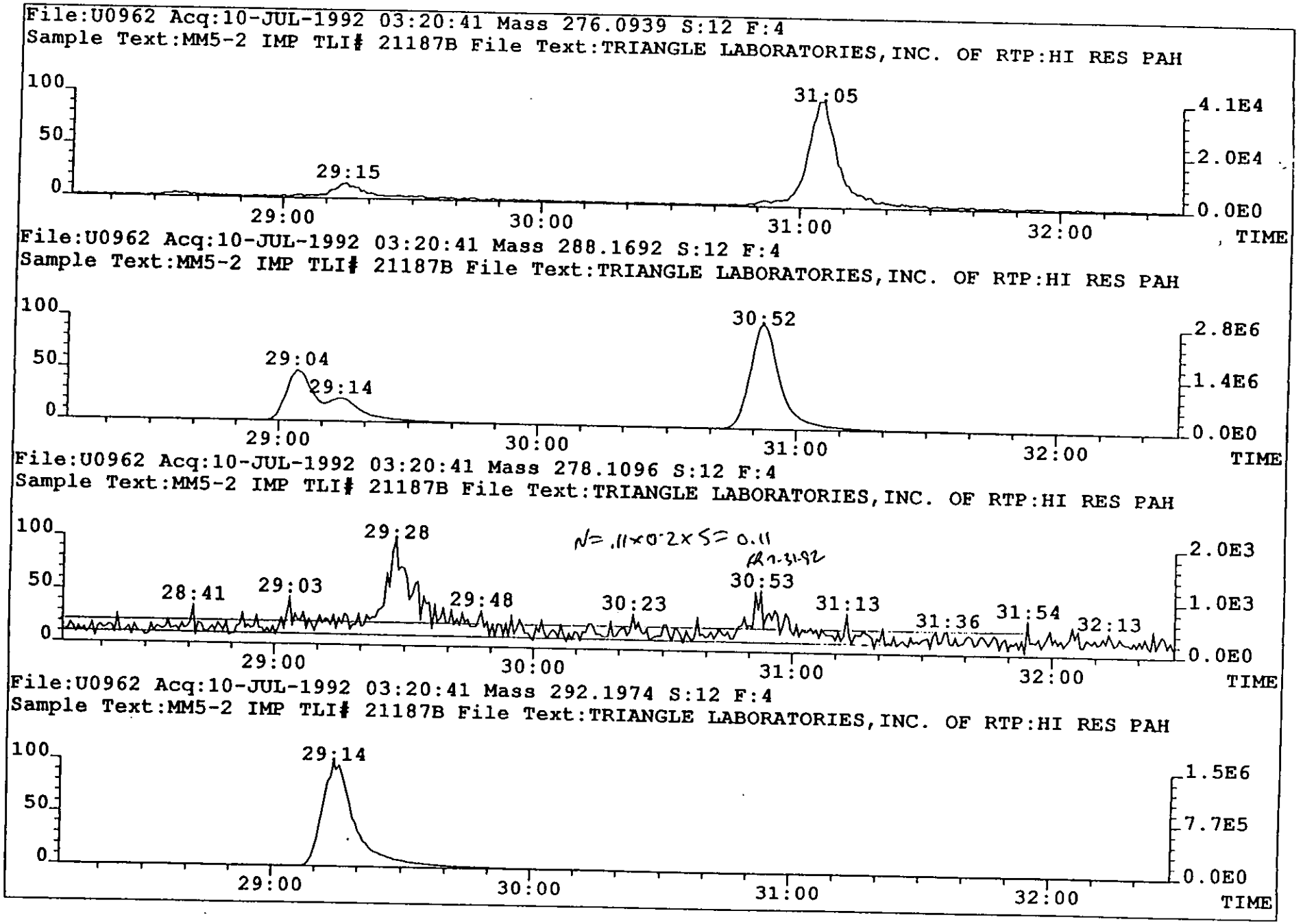
Listing of U096212B.dbf

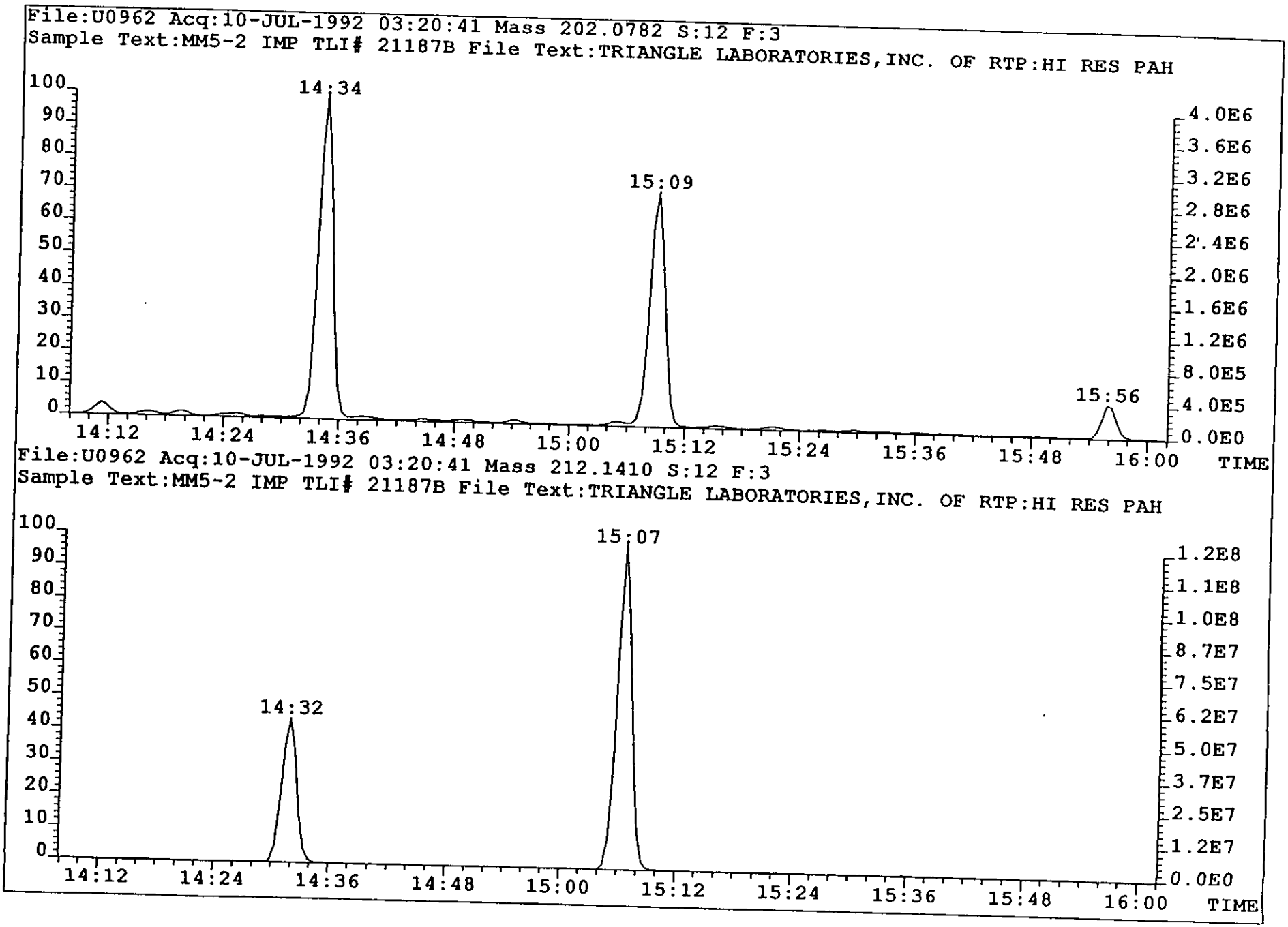
Matched GC Peaks / Ratio / Ret. Time

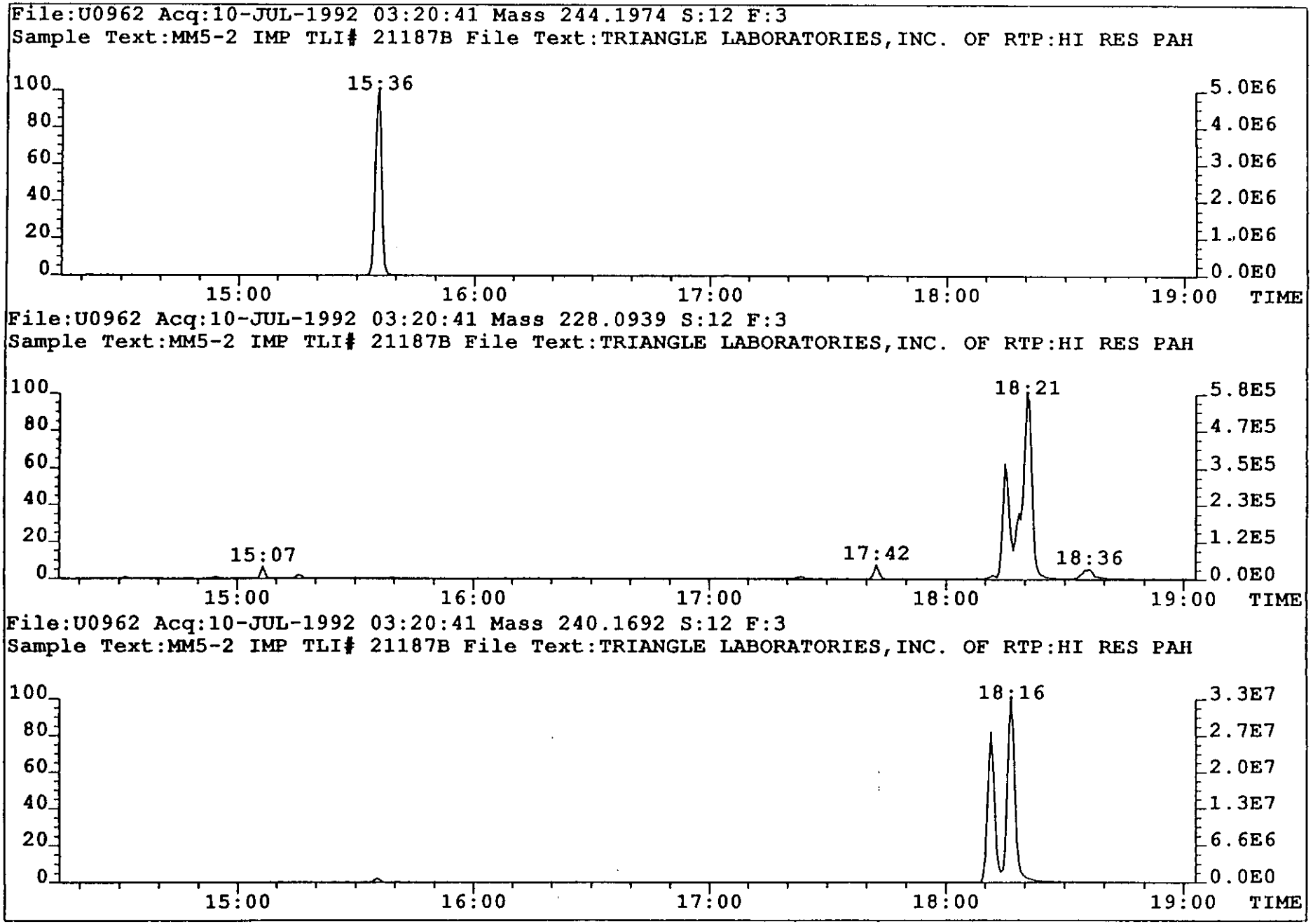
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
240	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	15:36	106.17	T	F	0.858	
		0.00	18:11	5554.41	T	T	1.000	
		0.00	18:16	7394.14	T	T	1.005	
240		*** Total ***		13054.73	# of Peaks:		4	
244	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	15:36	917.06	T	T	1.000	
244		*** Total ***		917.07	# of Peaks:		2	
		252 (S) ND						
252	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	21:42	30.52	T	T	0.931	
		0.00	21:48	12.97	T	T	0.936	— PR
		0.00	22:42	3.13	T	F	0.974	
	CK—	0.00	22:49	~~19.92~~ 19-01	T	T	0.979	
		0.00	23:03	5.31	T	T	0.989	
252		*** Total ***		71.86	# of Peaks:		6	
264	DC	0.00	0:00	**********.**	T	F	0.000	NL
		0.00	21:36	4591.31	T	T	0.927	
		0.00	21:43	4254.30	T	T	0.932	
		0.00	22:42	10075.31	T	T	1.000	
		0.00	22:56	2909.98	T	T	0.984	
		0.00	23:18	1636.21	T	T	1.000	
264		*** Total ***		23467.11	# of Peaks:		6	
276	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	28:36	0.54	T	F	0.927	
		0.00	29:14	3.02	T	T	0.947	
		0.00	31:05	33.10	T	T	1.007	
276		*** Total ***		36.67	# of Peaks:		4	
278	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	29:28	0.68	T	T	1.007	
		0.00	30:53	0.14	T	F	1.056	
278		*** Total ***		0.83	# of Peaks:		3	
288	DC	0.00	0:00	**********.**	T	F	0.000	NL
		0.00	29:05	927.65	T	T	0.942	— I
		0.00	29:14	525.25	T	F	0.947	
		0.00	30:52	2229.80	T	T	1.000	
288		*** Total ***		3682.70	# of Peaks:		4	
292	DC	0.00	0:00	**********.**	T	F	0.000	NL
		0.00	29:15	1268.84	T	T	1.000	
292		*** Total ***		1268.84	# of Peaks:		2	

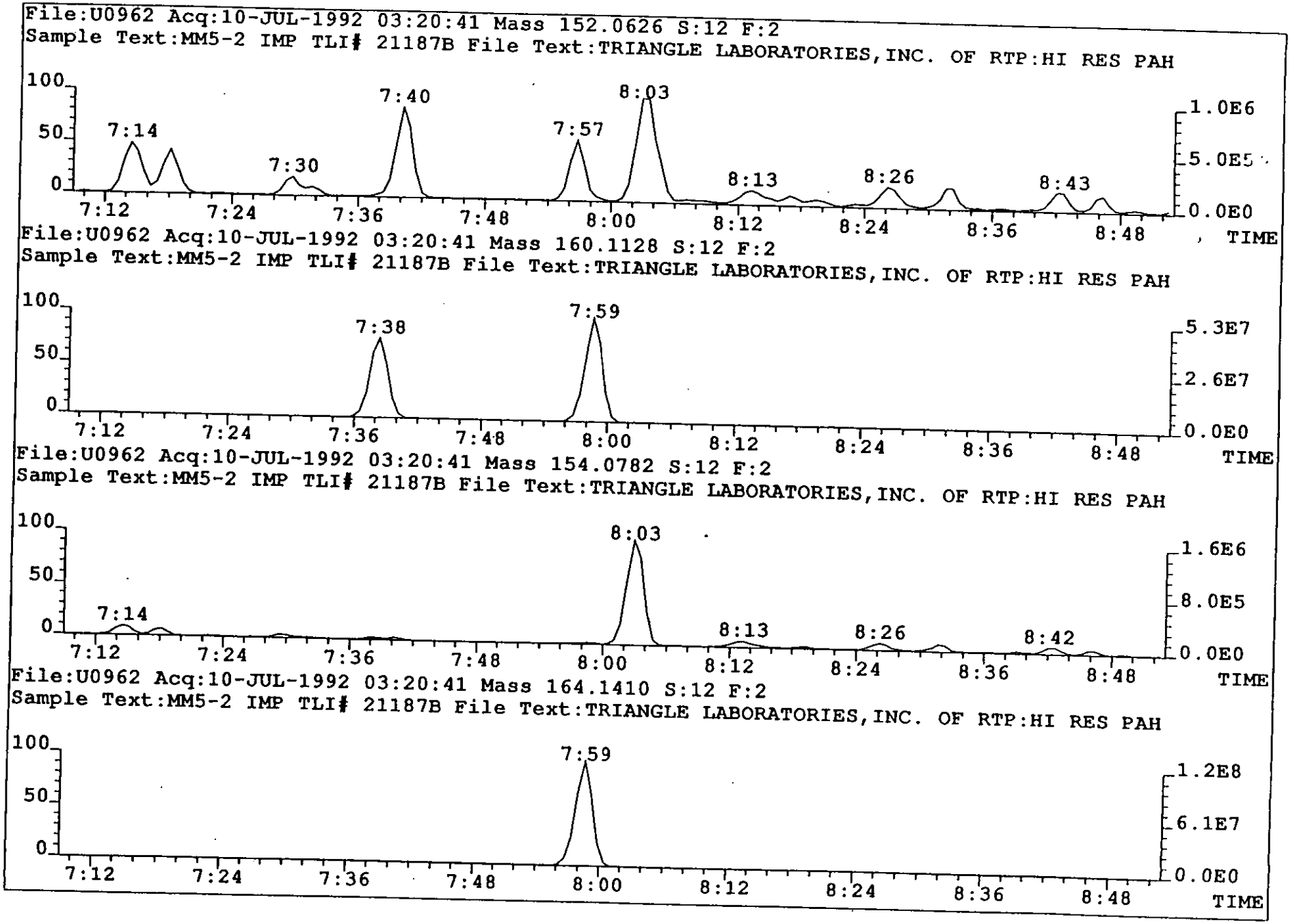
*** End of Report ***

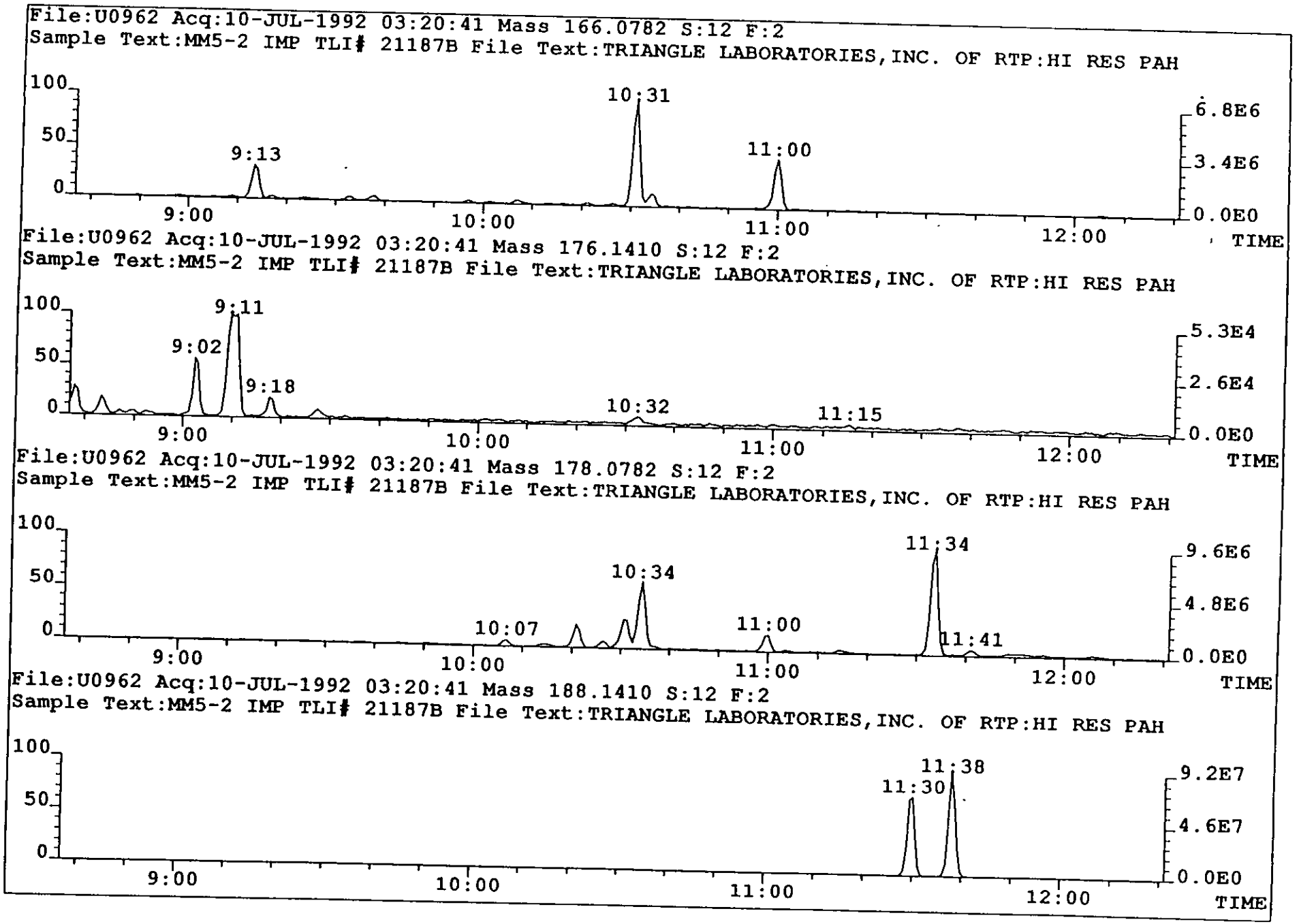

File:U0962 Acq:10-JUL-1992 03:20:41 Mass 252.0939 S:12 F:4
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:42
22:49
23:03
8.9E4
8.1E4
7.2E4
6.3E4
5.4E4
4.5E4
3.6E4
2.7E4
1.8E4
8.9E3
0.0E0
21:00
22:00
23:00
24:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 264.1692 S:12 F:4
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:36
22:42
22:56
23:18
2.7E7
2.4E7
2.2E7
1.9E7
1.6E7
1.4E7
1.1E7
8.2E6
5.4E6
2.7E6
0.0E0
21:00
22:00
23:00
24:00
TIME

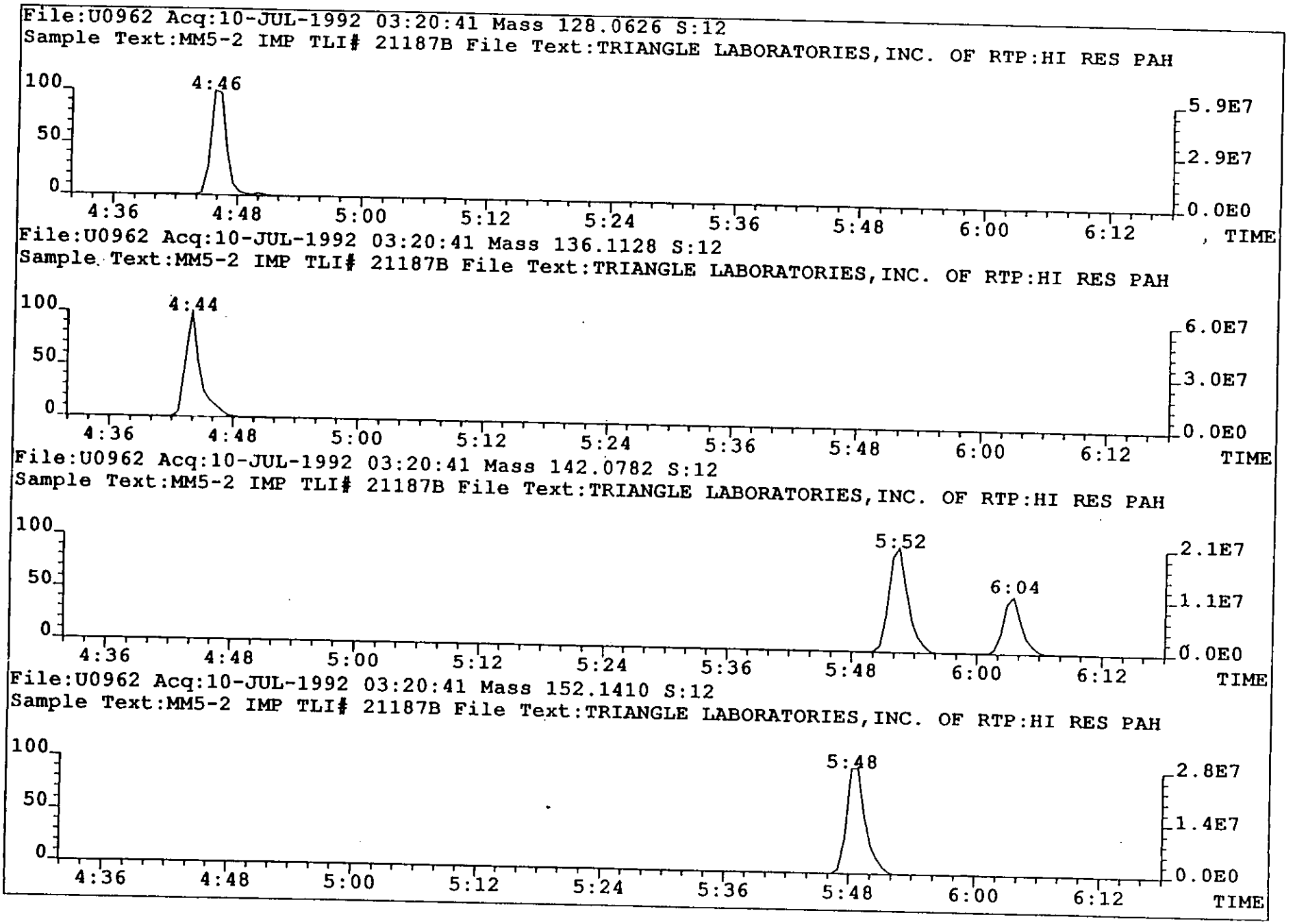

File:U0962 Acq:10-JUL-1992 03:20:41 Mass 276.0939 S:12 F:4
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:15
31:05
4.1E4
2.0E4
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 288.1692 S:12 F:4
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:04
29:14
30:52
2.8E6
1.4E6
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 278.1096 S:12 F:4
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
28:41
29:03
29:28
29:48
30:23
30:53
31:13
31:36
31:54
32:13
N= .11×0.2×5= 0.11
2.0E3
1.0E3
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 292.1974 S:12 F:4
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:14
1.5E6
7.7E5
0.0E0
29:00
30:00
31:00
32:00
TIME

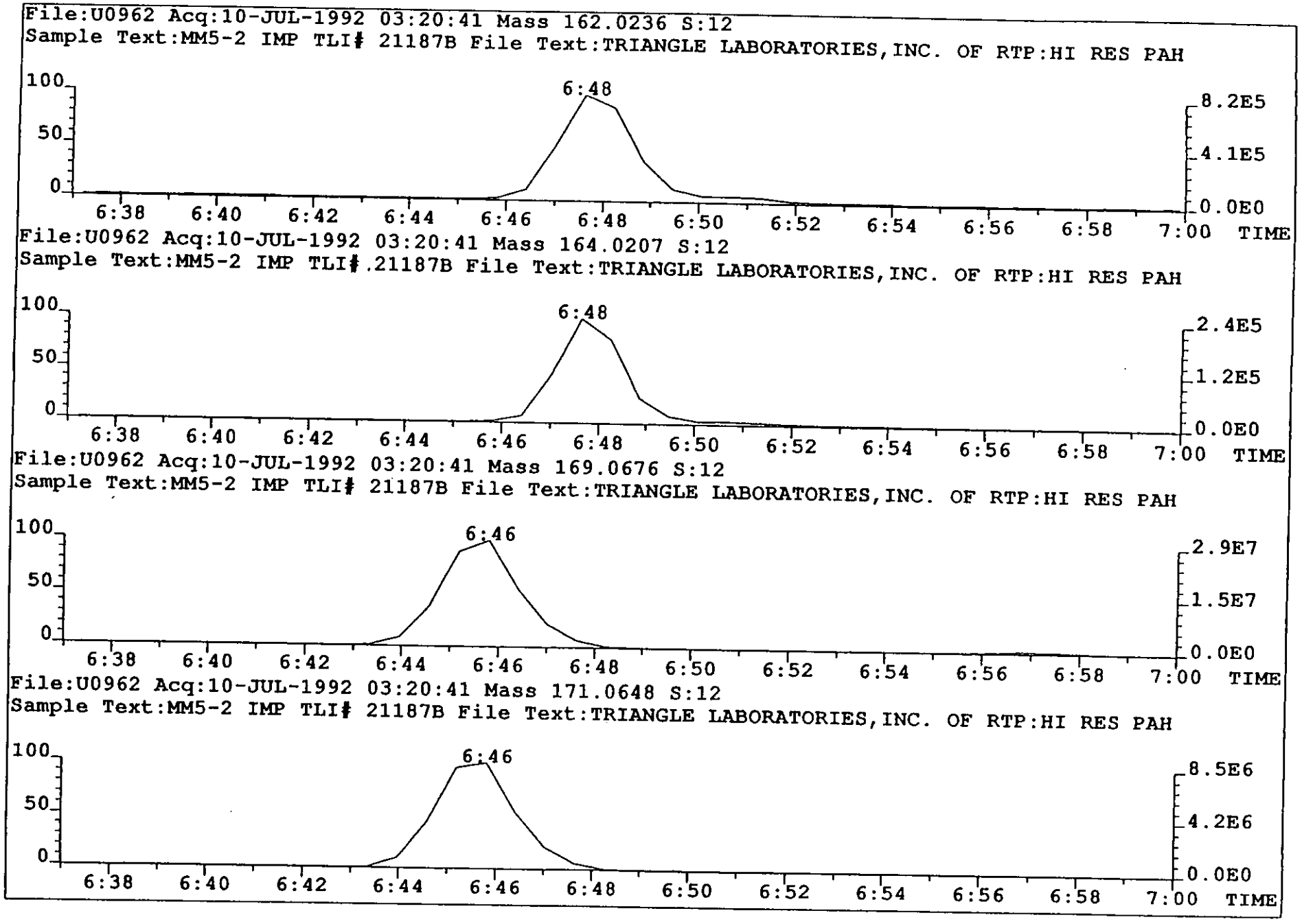

File:U0962 Acq:10-JUL-1992 03:20:41 Mass 202.0782 S:12 F:3
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
14:34
15:09
15:56
100
90
80
70
60
50
40
30
20
10
0
4.0E6
3.6E6
3.2E6
2.8E6
2.4E6
2.0E6
1.6E6
1.2E6
8.0E5
4.0E5
0.0E0
14:12
14:24
14:36
14:48
15:00
15:12
15:24
15:36
15:48
16:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 212.1410 S:12 F:3
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:07
14:32
100
90
80
70
60
50
40
30
20
10
0
1.2E8
1.1E8
1.0E8
8.7E7
7.5E7
6.2E7
5.0E7
3.7E7
2.5E7
1.2E7
0.0E0
14:12
14:24
14:36
14:48
15:00
15:12
15:24
15:36
15:48
16:00
TIME

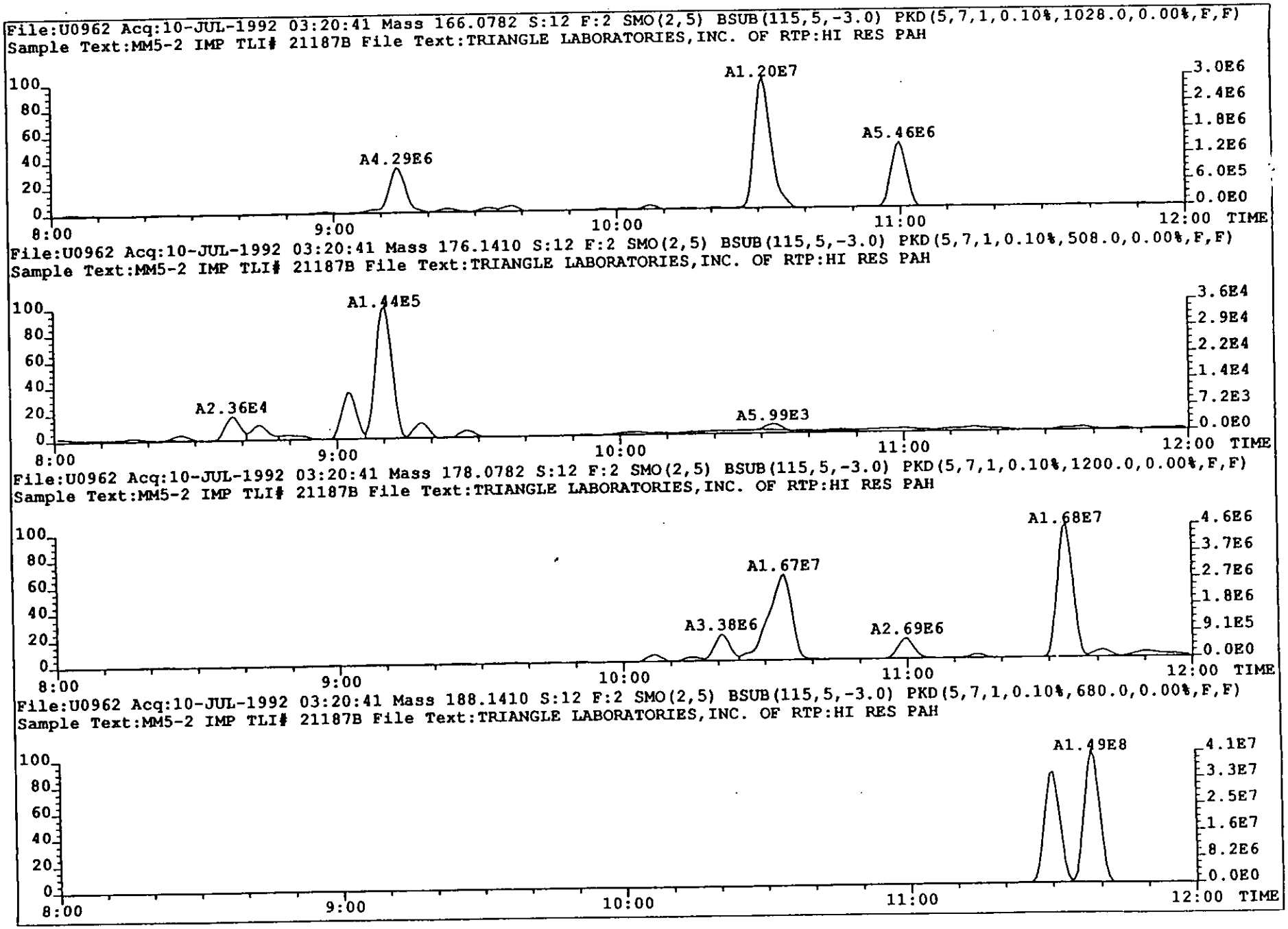

File:U0962 Acq:10-JUL-1992 03:20:41 Mass 244.1974 S:12 F:3
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:36
100
80
60
40
20
0
5.0E6
4.0E6
3.0E6
2.0E6
1.0E6
0.0E0
15:00
16:00
17:00
18:00
19:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 228.0939 S:12 F:3
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:21
15:07
17:42
18:36
5.8E5
4.7E5
3.5E5
2.3E5
1.2E5
0.0E0
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 240.1692 S:12 F:3
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:16
3.3E7
2.7E7
2.0E7
1.3E7
6.6E6
0.0E0

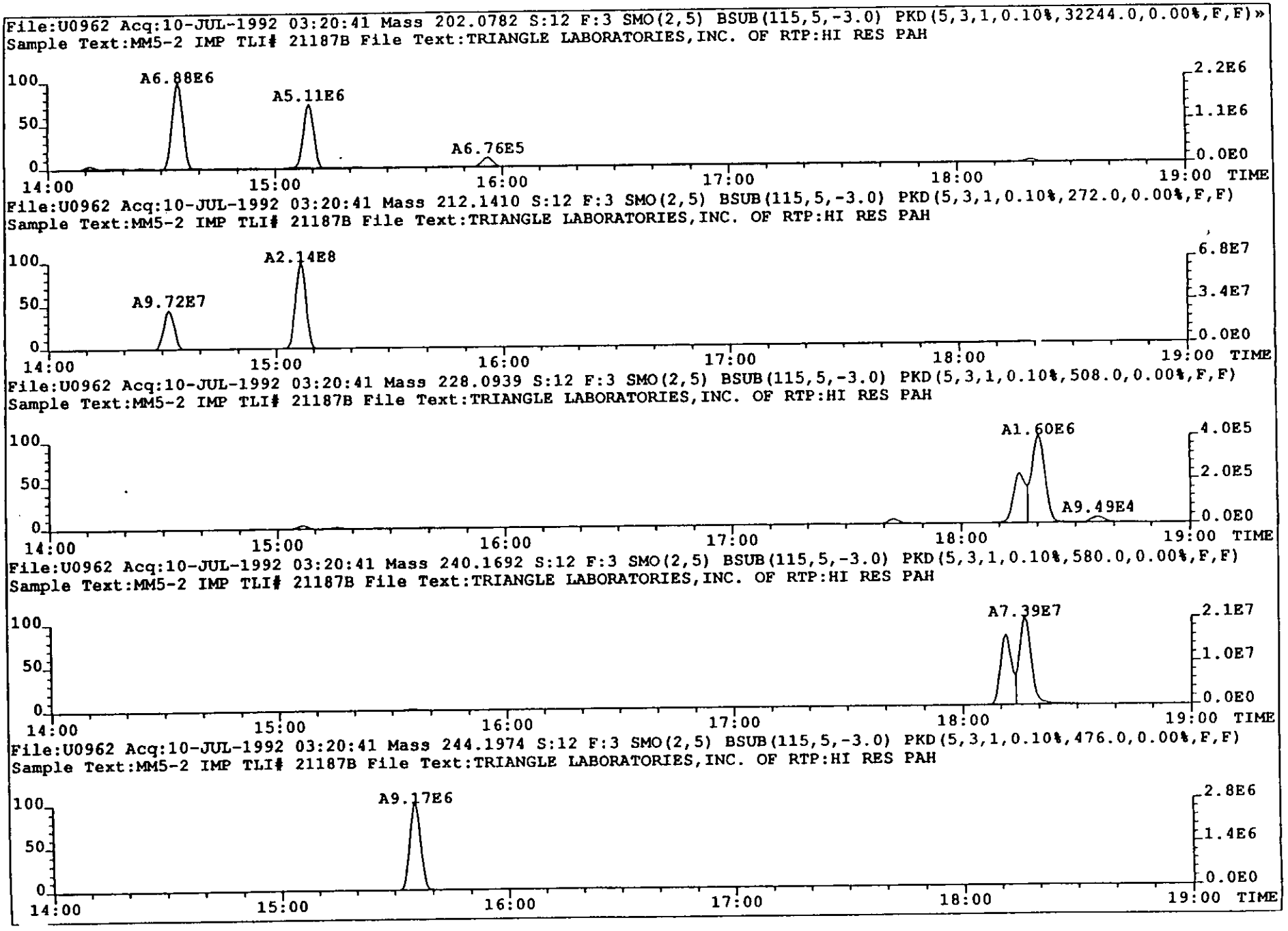

File:U0962 Acq:10-JUL-1992 03:20:41 Mass 152.0626 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:14
7:30
7:40
7:57
8:03
8:13
8:26
8:43
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
1.0E6
5.0E5
0.0E0
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 160.1128 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:38
7:59
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
5.3E7
2.6E7
0.0E0
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 154.0782 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:14
8:03
8:13
8:26
8:42
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
1.6E6
8.0E5
0.0E0
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 164.1410 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:59
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
1.2E8
6.1E7
0.0E0

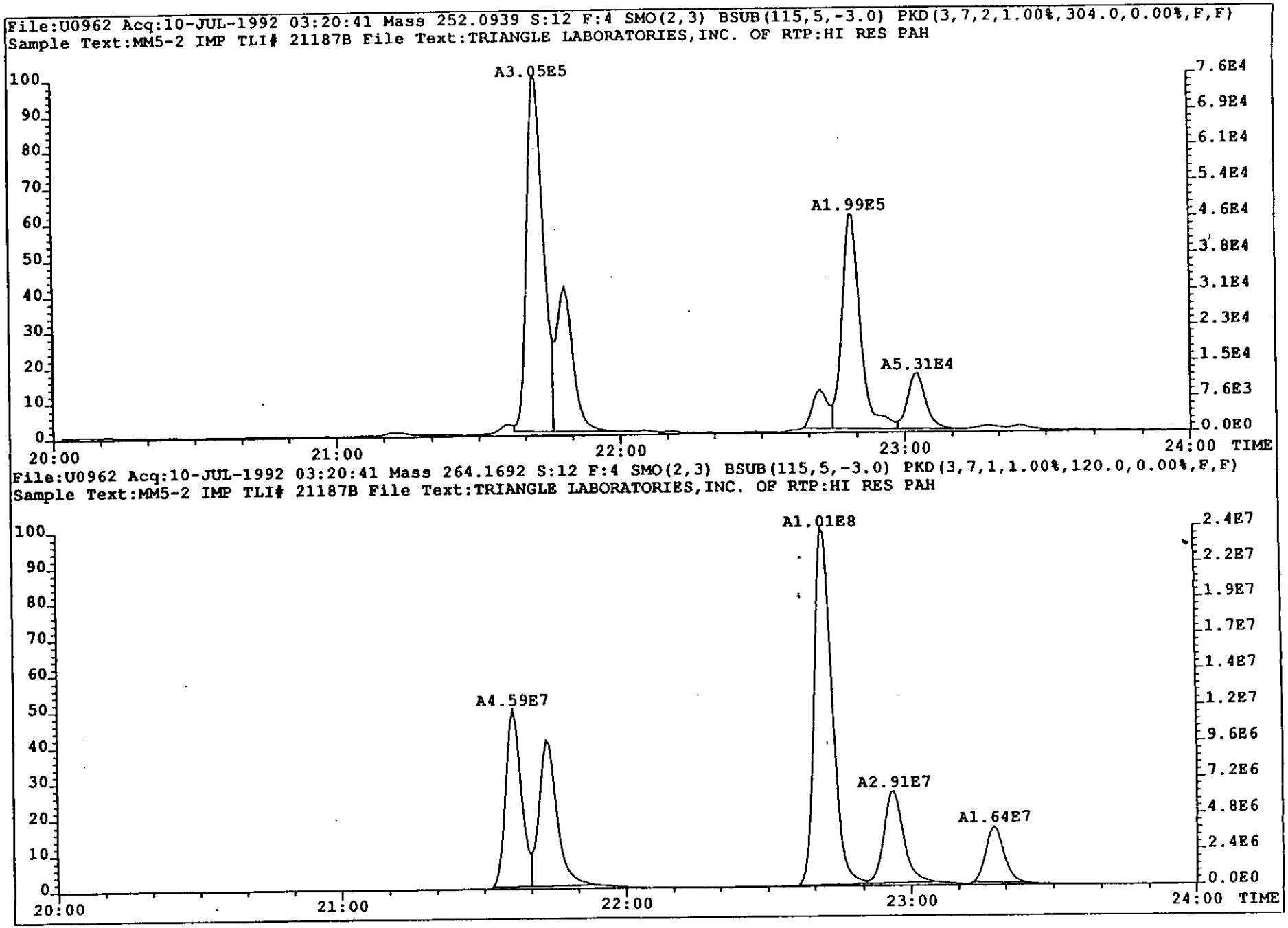

File:U0962 Acq:10-JUL-1992 03:20:41 Mass 166.0782 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:13
10:31
11:00
6.8E6
3.4E6
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 176.1410 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:11
9:02
9:18
10:32
11:15
5.3E4
2.6E4
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 178.0782 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
11:34
10:34
10:07
11:00
11:41
9.6E6
4.8E6
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 188.1410 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
11:38
11:30
9.2E7
4.6E7
0.0E0
9:00
10:00
11:00
12:00
TIME

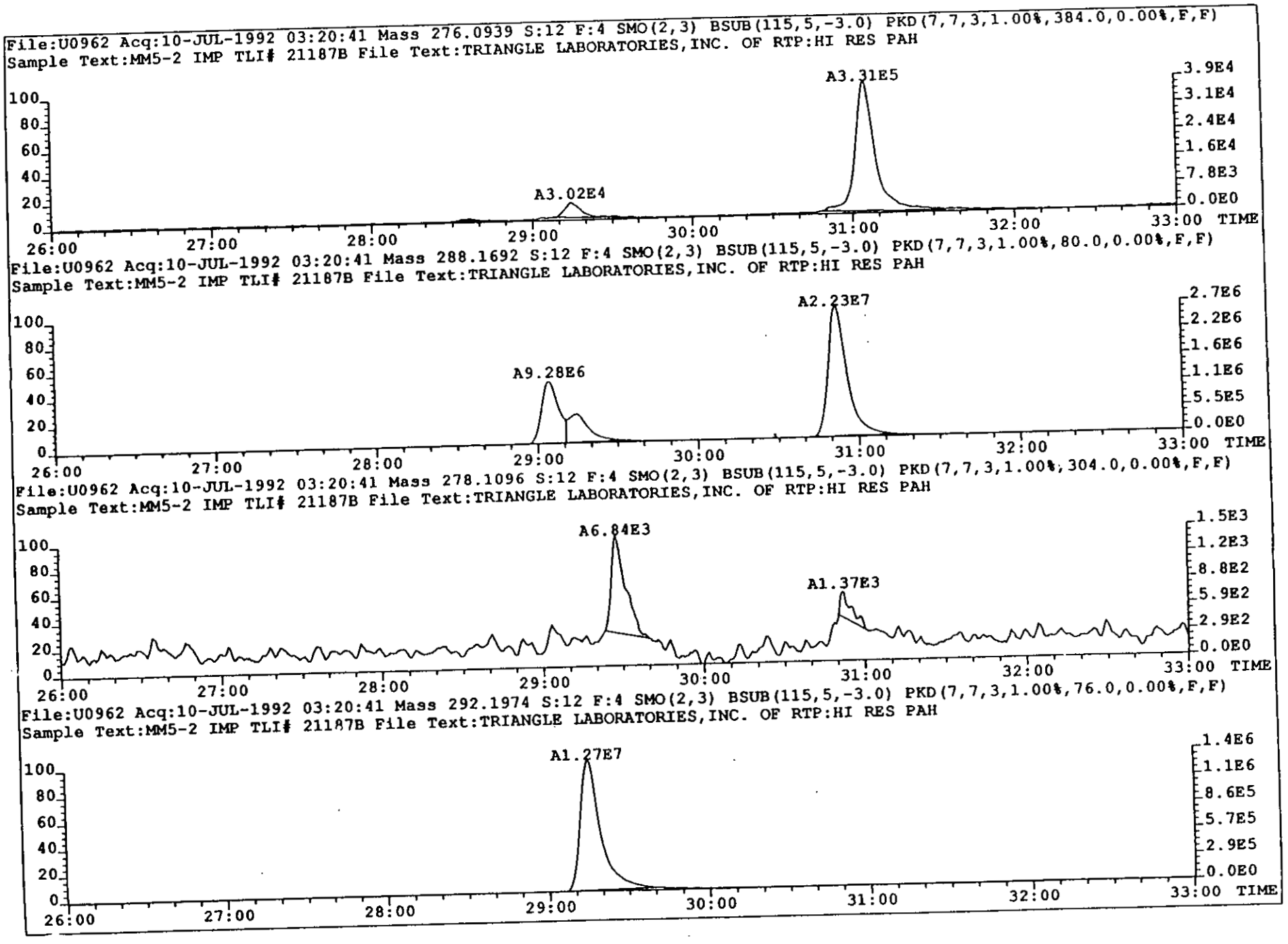

File:U0962 Acq:10-JUL-1992 03:20:41 Mass 128.0626 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:46
5.9E7
2.9E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 136.1128 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:44
6.0E7
3.0E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 142.0782 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
5:52
6:04
2.1E7
1.1E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 152.1410 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
5:48
2.8E7
1.4E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME

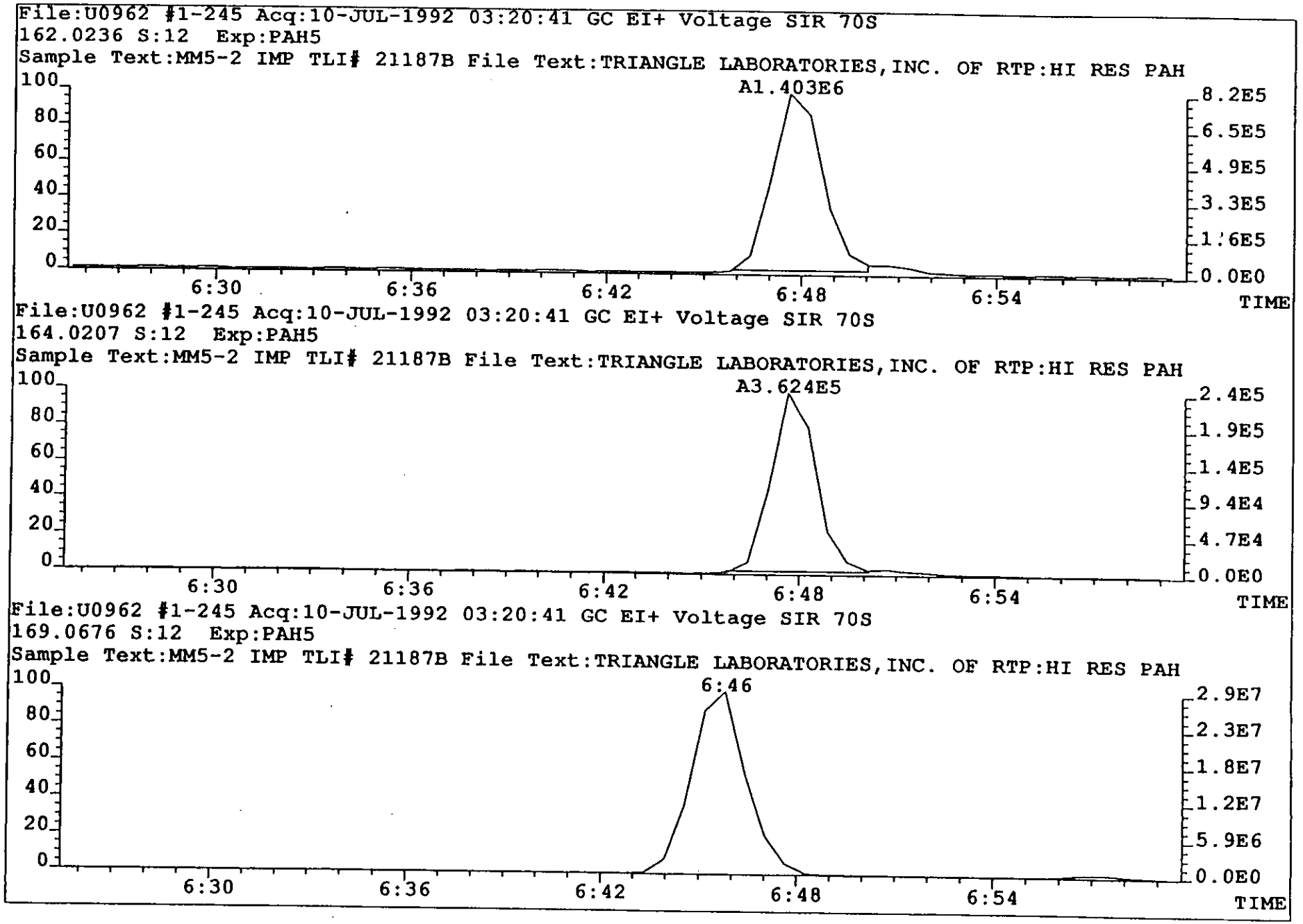

File:U0962 Acq:10-JUL-1992 03:20:41 Mass 162.0236 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:48
8.2E5
4.1E5
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 164.0207 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:48
2.4E5
1.2E5
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 169.0676 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:46
2.9E7
1.5E7
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 171.0648 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:46
8.5E6
4.2E6
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME

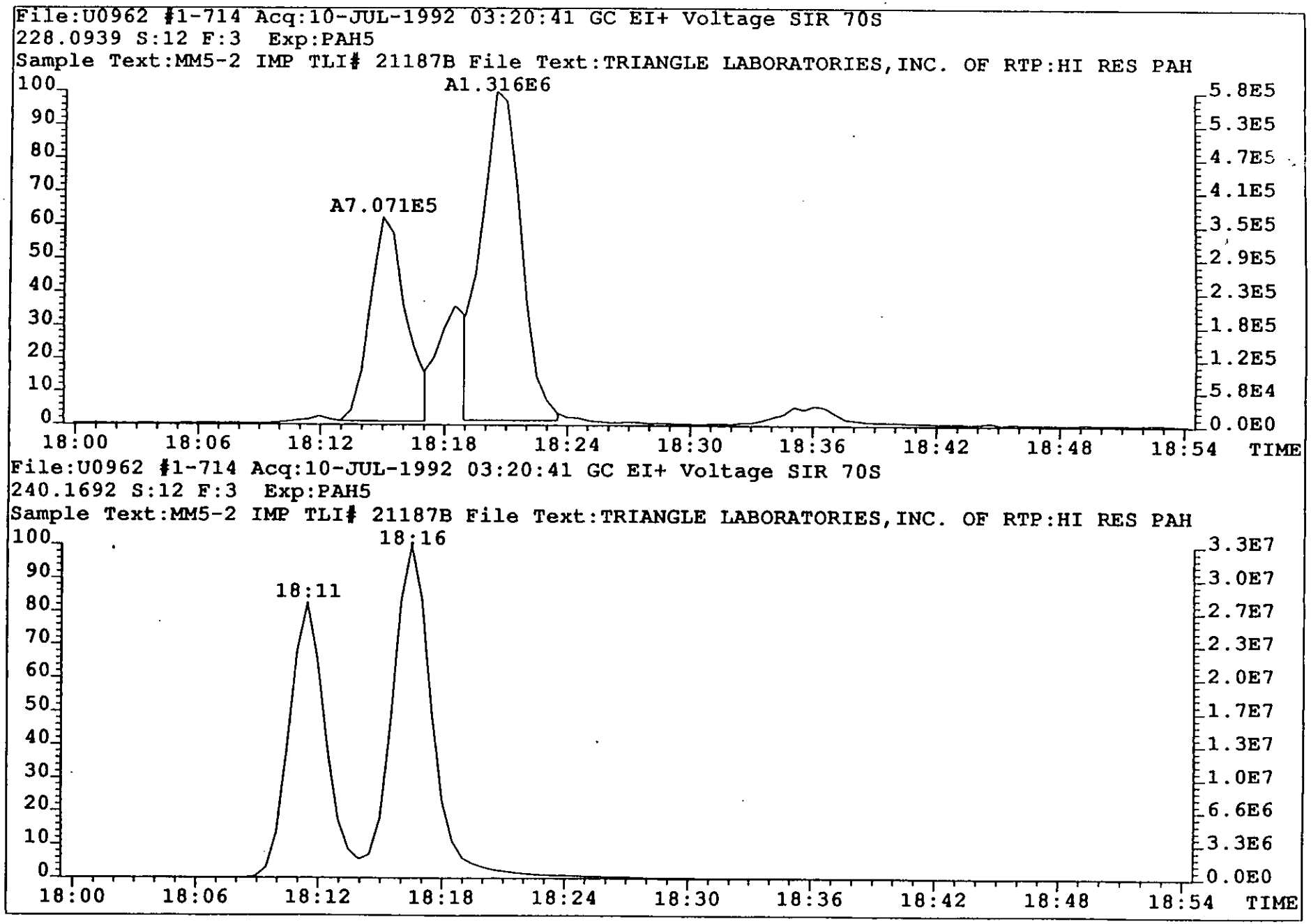

File:U0962 Acq:10-JUL-1992 03:20:41 Mass 166.0782 S:12 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,1028.0,0.00%,F,F)
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.20E7
A5.46E6
A4.29E6
3.0E6
2.4E6
1.8E6
1.2E6
6.0E5
0.0E0
100
80
60
40
20
0
8:00
9:00
10:00
11:00
12:00 TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 176.1410 S:12 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,508.0,0.00%,F,F)
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.44E5
A2.36E4
A5.99E3
3.6E4
2.9E4
2.2E4
1.4E4
7.2E3
0.0E0
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 178.0782 S:12 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,1200.0,0.00%,F,F)
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.68E7
A1.67E7
A3.38E6
A2.69E6
4.6E6
3.7E6
2.7E6
1.8E6
9.1E5
0.0E0
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 188.1410 S:12 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,680.0,0.00%,F,F)
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.49E8
4.1E7
3.3E7
2.5E7
1.6E7
8.2E6
0.0E0

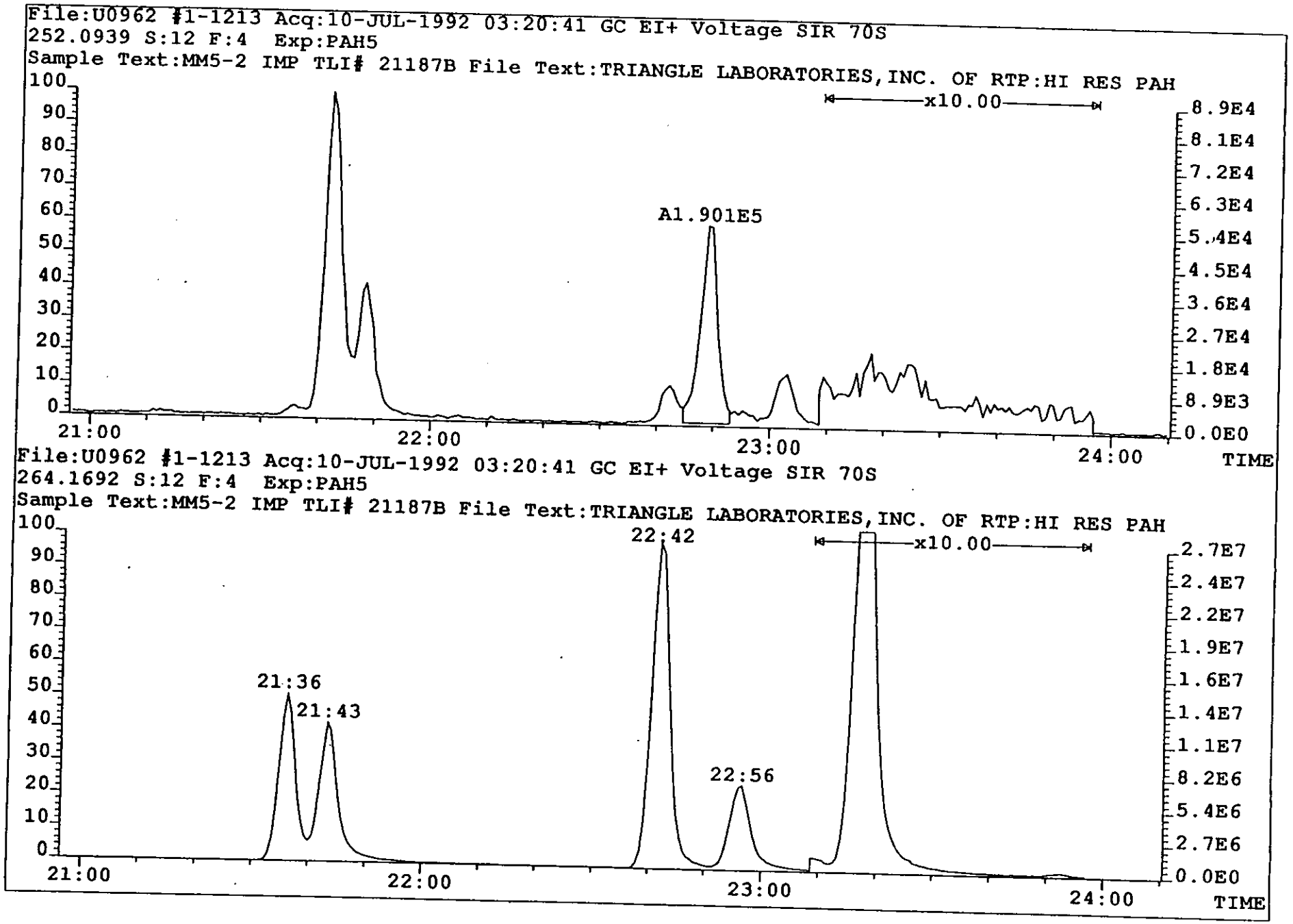

File:U0962 Acq:10-JUL-1992 03:20:41 Mass 202.0782 S:12 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,32244.0,0.00%,F,F)»
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.88E6
A5.11E6
A6.76E5
2.2E6
1.1E6
0.0E0
100
50
0
14:00
15:00
16:00
17:00
18:00
19:00 TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 212.1410 S:12 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,272.0,0.00%,F,F)
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.14E8
A9.72E7
6.8E7
3.4E7
0.0E0
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 228.0939 S:12 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,508.0,0.00%,F,F)
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.60E6
A9.49E4
4.0E5
2.0E5
0.0E0
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 240.1692 S:12 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,580.0,0.00%,F,F)
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.39E7
2.1E7
1.0E7
0.0E0
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 244.1974 S:12 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,476.0,0.00%,F,F)
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.17E6
2.8E6
1.4E6
0.0E0

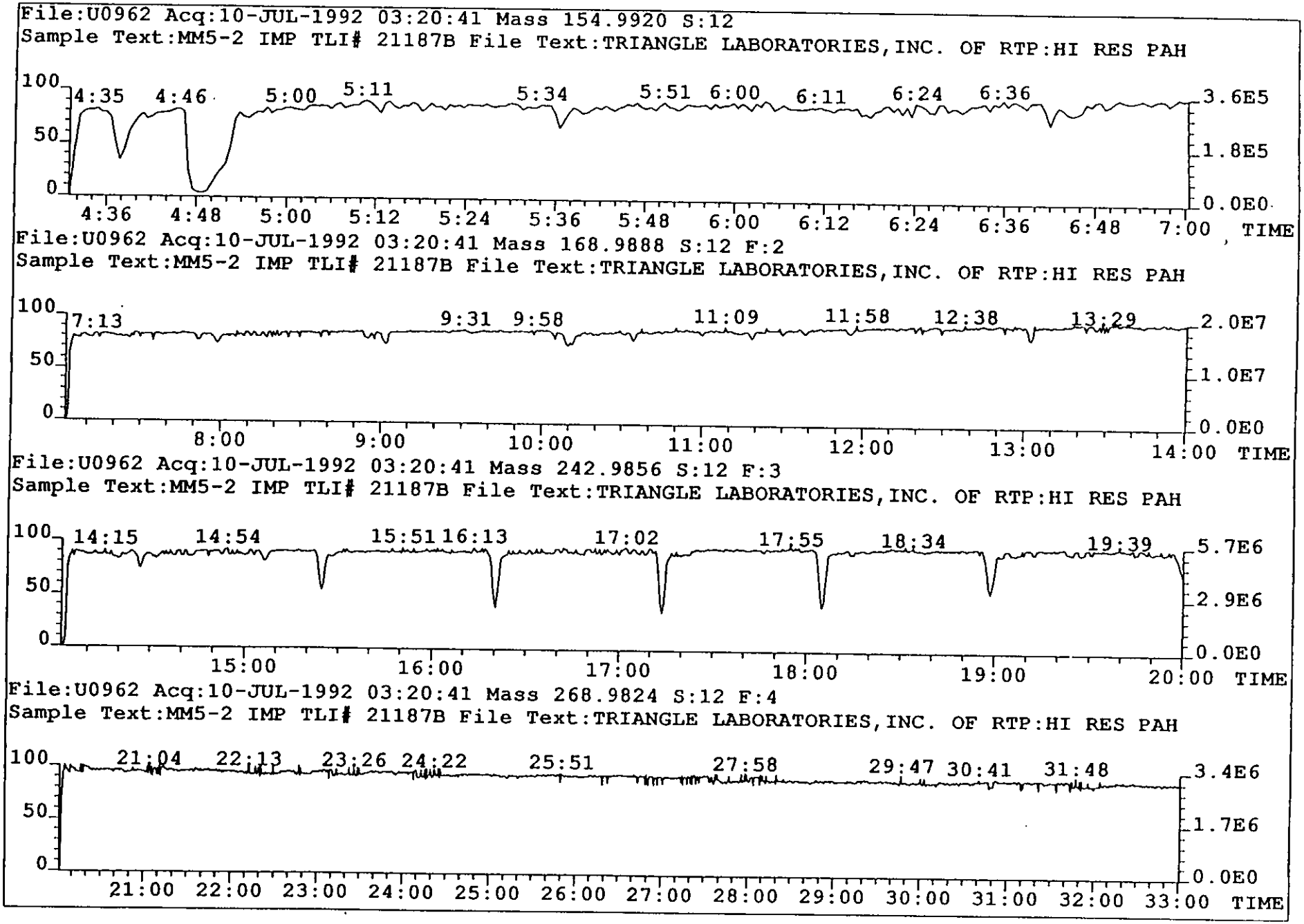

File:U0962 Acq:10-JUL-1992 03:20:41 Mass 252.0939 S:12 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,2,1.00%,304.0,0.00%,F,F)
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.05E5
A1.99E5
A5.31E4
100
90
80
70
60
50
40
30
20
10
0
7.6E4
6.9E4
6.1E4
5.4E4
4.6E4
3.8E4
3.1E4
2.3E4
1.5E4
7.6E3
0.0E0
20:00
21:00
22:00
23:00
24:00 TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 264.1692 S:12 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,1,1.00%,120.0,0.00%,F,F)
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.01E8
A4.59E7
A2.91E7
A1.64E7
100
90
80
70
60
50
40
30
20
10
0
2.4E7
2.2E7
1.9E7
1.7E7
1.4E7
1.2E7
9.6E6
7.2E6
4.8E6
2.4E6
0.0E0
20:00
21:00
22:00
23:00
24:00 TIME

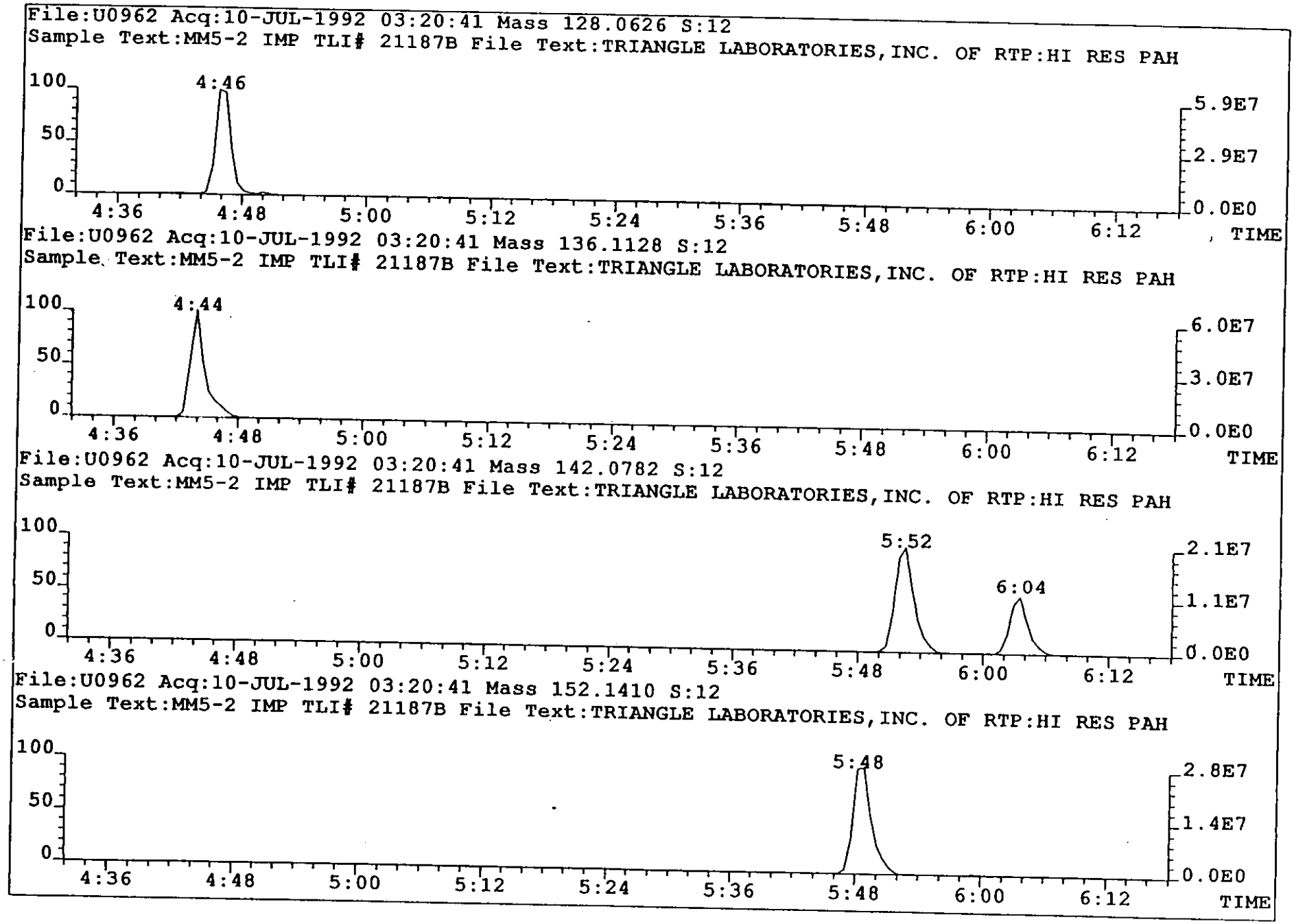

File:U0962 Acq:10-JUL-1992 03:20:41 Mass 276.0939 S:12 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,384.0,0.00%,F,F)
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.31E5
A3.02E4
3.9E4
3.1E4
2.4E4
1.6E4
7.8E3
0.0E0
100
80
60
40
20
0
26:00
27:00
28:00
29:00
30:00
31:00
32:00
33:00 TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 288.1692 S:12 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,80.0,0.00%,F,F)
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.23E7
A9.28E6
2.7E6
2.2E6
1.6E6
1.1E6
5.5E5
0.0E0
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 278.1096 S:12 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,304.0,0.00%,F,F)
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.84E3
A1.37E3
1.5E3
1.2E3
8.8E2
5.9E2
2.9E2
0.0E0
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 292.1974 S:12 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,76.0,0.00%,F,F)
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.27E7
1.4E6
1.1E6
8.6E5
5.7E5
2.9E5
0.0E0

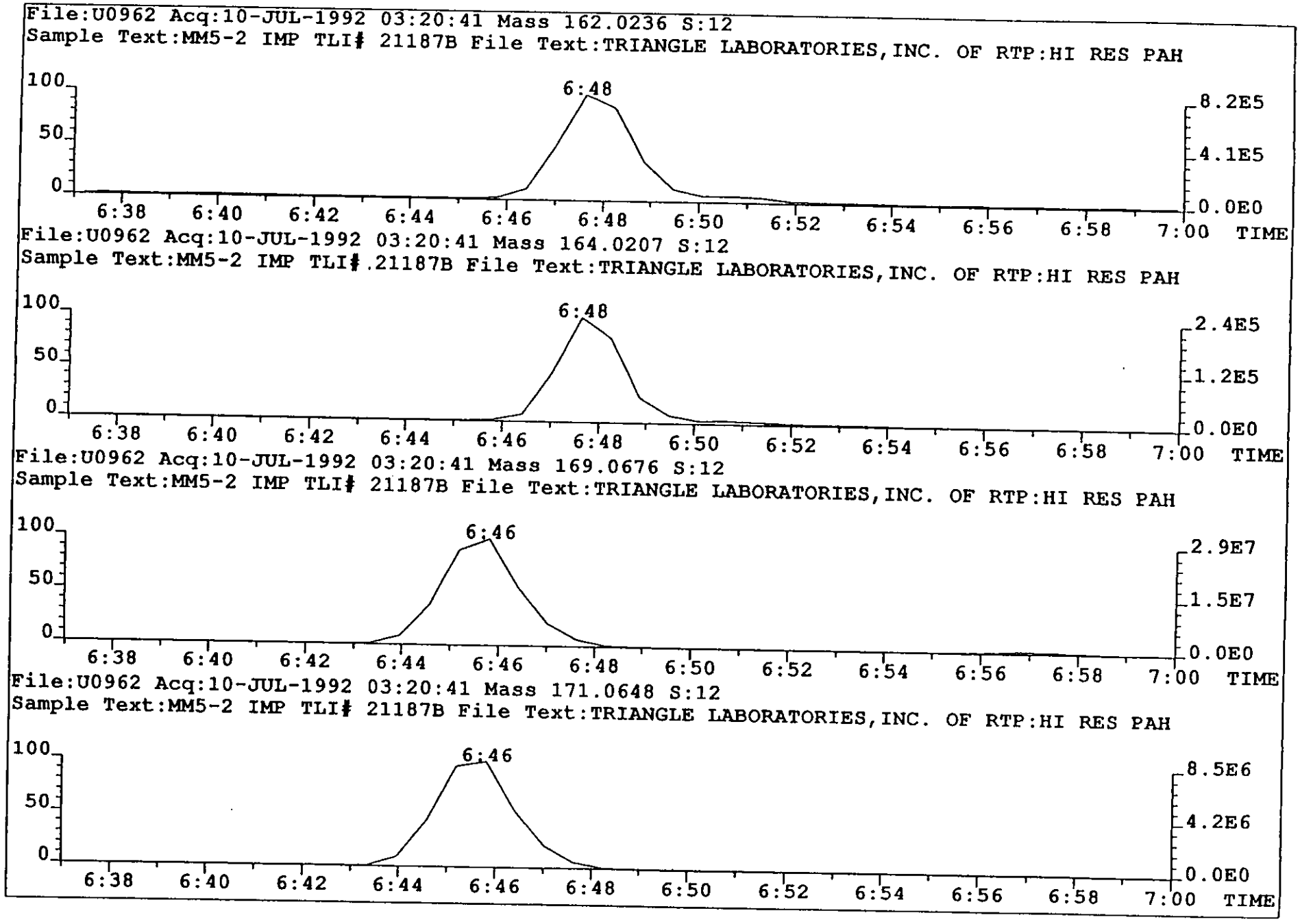

File:U0962 #1-245 Acq:10-JUL-1992 03:20:41 GC EI+ Voltage SIR 70S
162.0236 S:12 Exp:PAH5
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.403E6
100
80
60
40
20
0
8.2E5
6.5E5
4.9E5
3.3E5
1.6E5
0.0E0
6:30
6:36
6:42
6:48
6:54
TIME
File:U0962 #1-245 Acq:10-JUL-1992 03:20:41 GC EI+ Voltage SIR 70S
164.0207 S:12 Exp:PAH5
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.624E5
100
80
60
40
20
0
2.4E5
1.9E5
1.4E5
9.4E4
4.7E4
0.0E0
6:30
6:36
6:42
6:48
6:54
TIME
File:U0962 #1-245 Acq:10-JUL-1992 03:20:41 GC EI+ Voltage SIR 70S
169.0676 S:12 Exp:PAH5
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
6:46
100
80
60
40
20
0
2.9E7
2.3E7
1.8E7
1.2E7
5.9E6
0.0E0
6:30
6:36
6:42
6:48
6:54
TIME

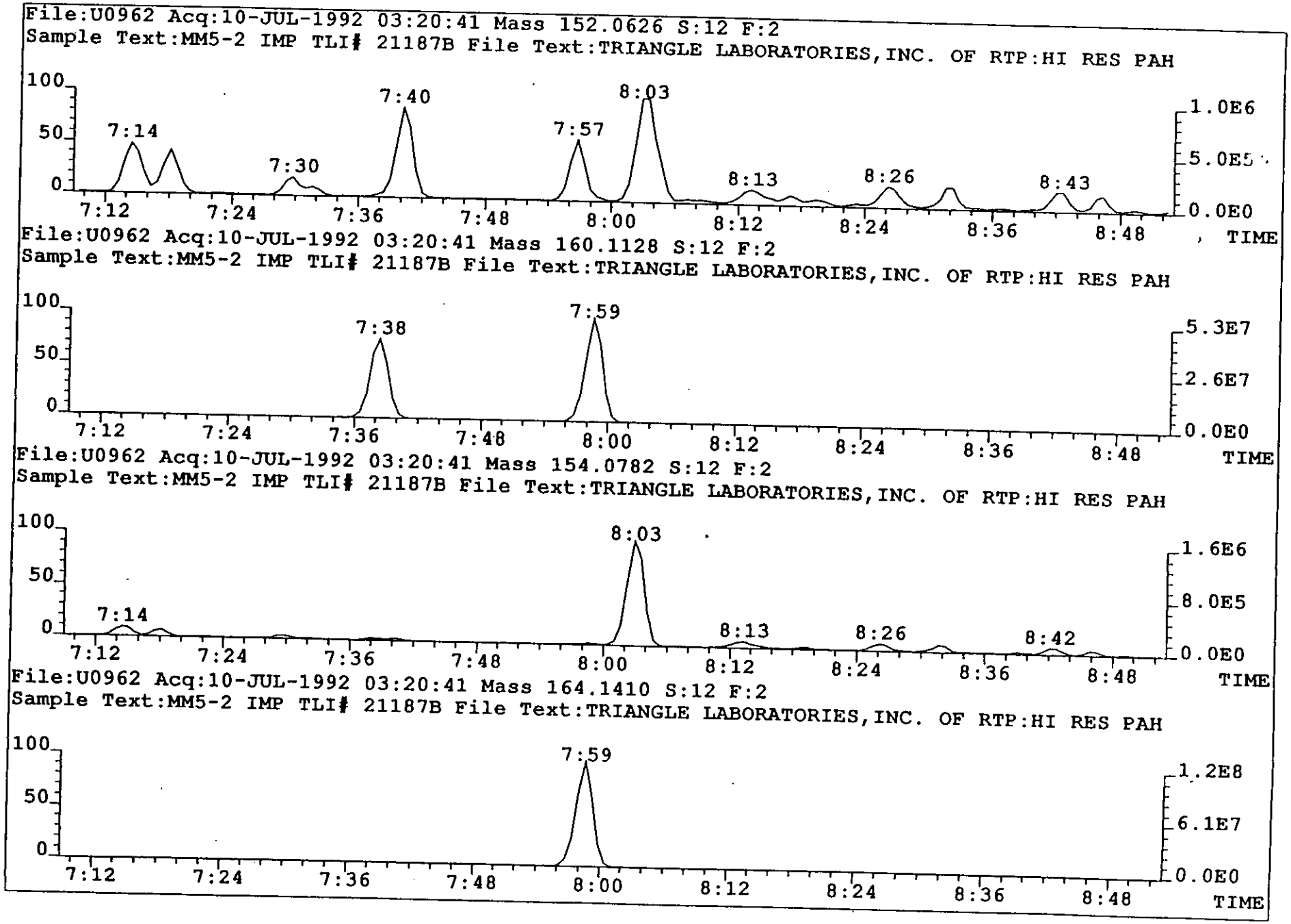

File:U0962 #1-714 Acq:10-JUL-1992 03:20:41 GC EI+ Voltage SIR 70S
228.0939 S:12 F:3 Exp:PAH5
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.316E6
A7.071E5
100
90
80
70
60
50
40
30
20
10
0
5.8E5
5.3E5
4.7E5
4.1E5
3.5E5
2.9E5
2.3E5
1.8E5
1.2E5
5.8E4
0.0E0
18:00
18:06
18:12
18:18
18:24
18:30
18:36
18:42
18:48
18:54
TIME
File:U0962 #1-714 Acq:10-JUL-1992 03:20:41 GC EI+ Voltage SIR 70S
240.1692 S:12 F:3 Exp:PAH5
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:16
18:11
100
90
80
70
60
50
40
30
20
10
0
3.3E7
3.0E7
2.7E7
2.3E7
2.0E7
1.7E7
1.3E7
1.0E7
6.6E6
3.3E6
0.0E0
18:00
18:06
18:12
18:18
18:24
18:30
18:36
18:42
18:48
18:54
TIME

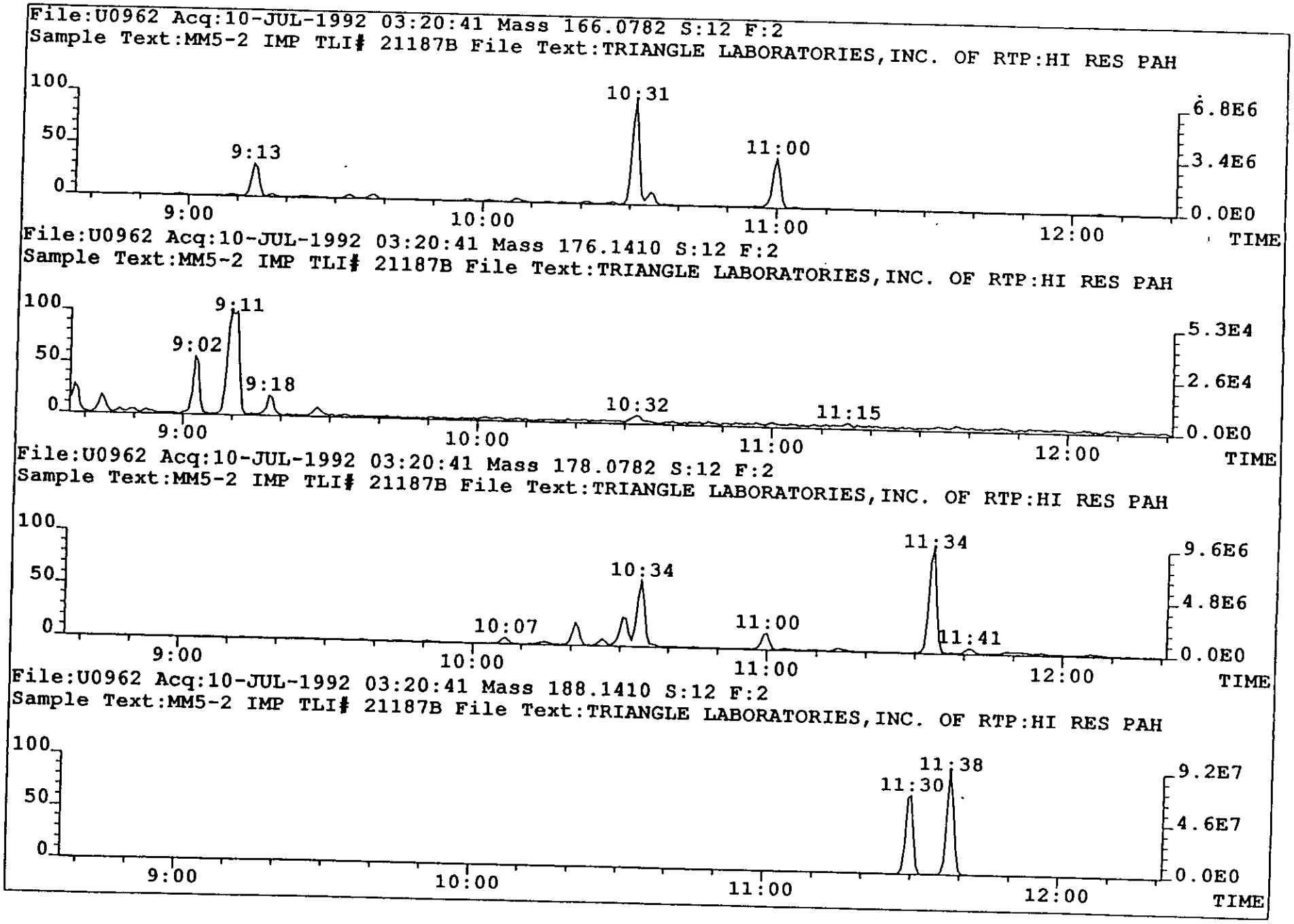

File:U0962 #1-1213 Acq:10-JUL-1992 03:20:41 GC EI+ Voltage SIR 70S
252.0939 S:12 F:4 Exp:PAH5
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
x10.00
A1.901E5
TIME
File:U0962 #1-1213 Acq:10-JUL-1992 03:20:41 GC EI+ Voltage SIR 70S
264.1692 S:12 F:4 Exp:PAH5
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
x10.00
21:36
21:43
22:42
22:56
TIME

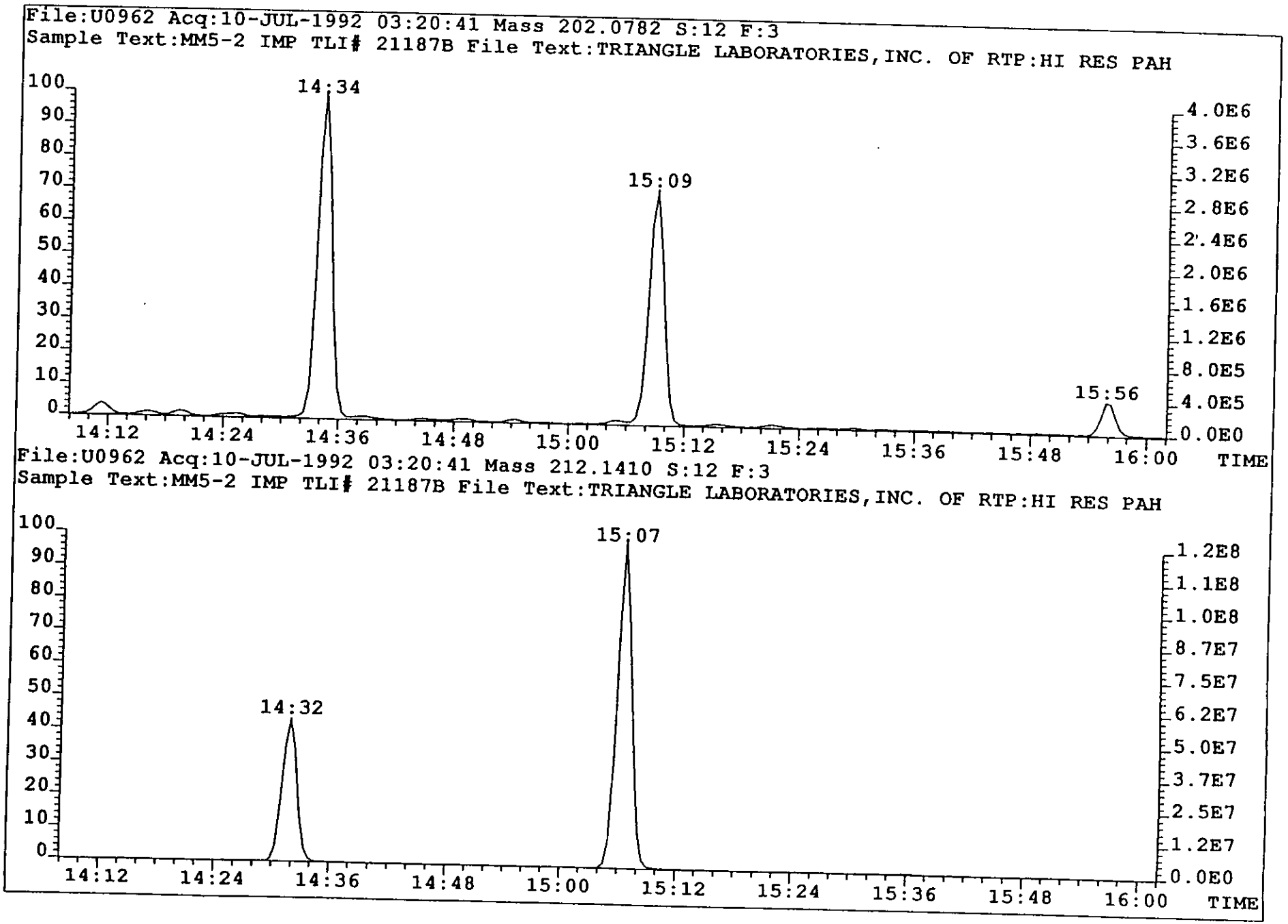

File:U0962 Acq:10-JUL-1992 03:20:41 Mass 154.9920 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:35 4:46 5:00 5:11 5:34 5:51 6:00 6:11 6:24 6:36
3.6E5
1.8E5
0.0E0
4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 6:24 6:36 6:48 7:00 TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 168.9888 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:13 9:31 9:58 11:09 11:58 12:38 13:29
2.0E7
1.0E7
0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 242.9856 S:12 F:3
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
14:15 14:54 15:51 16:13 17:02 17:55 18:34 19:39
5.7E6
2.9E6
0.0E0
15:00 16:00 17:00 18:00 19:00 20:00 TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 268.9824 S:12 F:4
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
21:04 22:13 23:26 24:22 25:51 27:58 29:47 30:41 31:48
3.4E6
1.7E6
0.0E0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 33:00 TIME

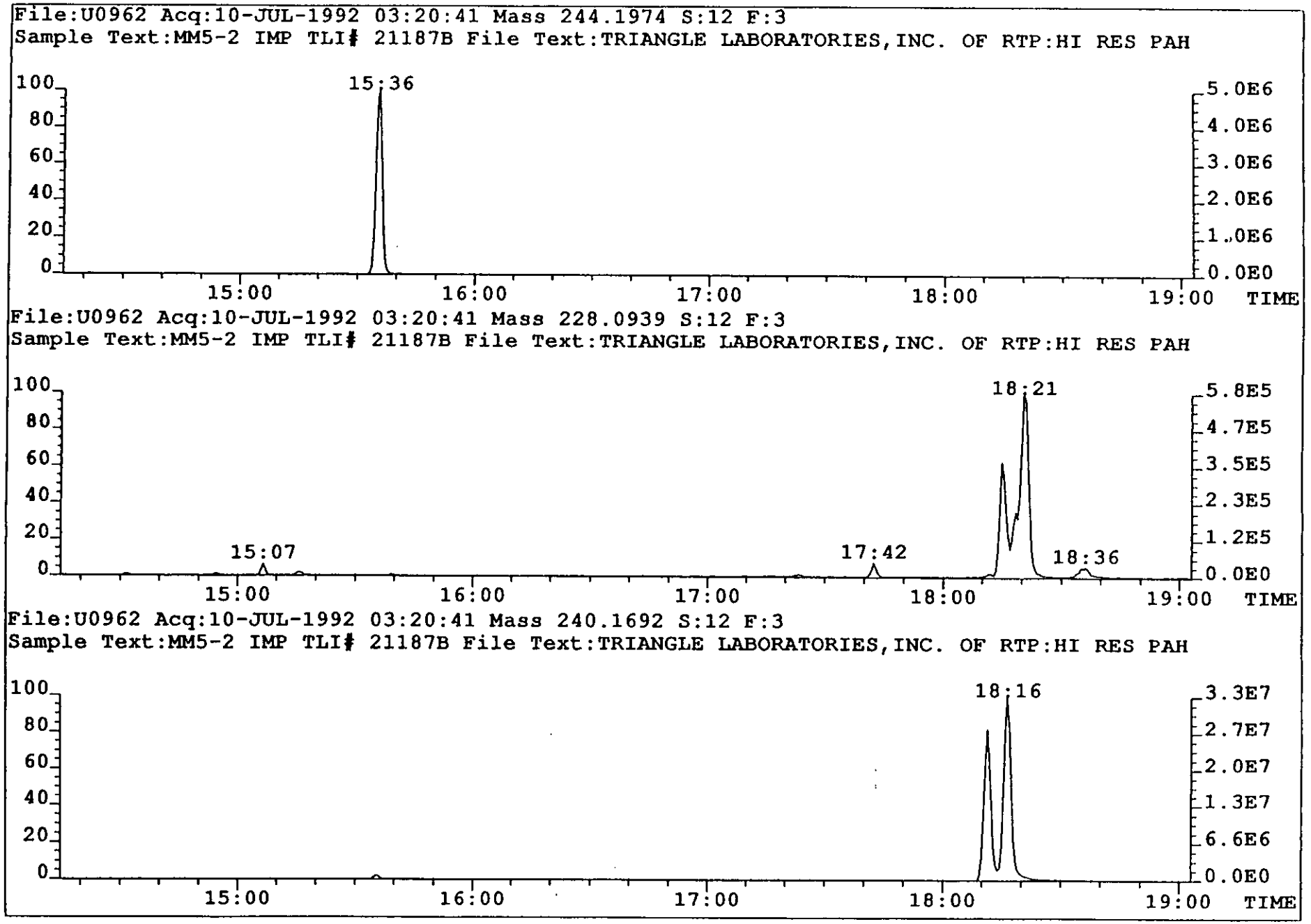

File:U0962 Acq:10-JUL-1992 03:20:41 Mass 128.0626 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:46
5.9E7
2.9E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 136.1128 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:44
6.0E7
3.0E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 142.0782 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
5:52
6:04
2.1E7
1.1E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 152.1410 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
5:48
2.8E7
1.4E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME

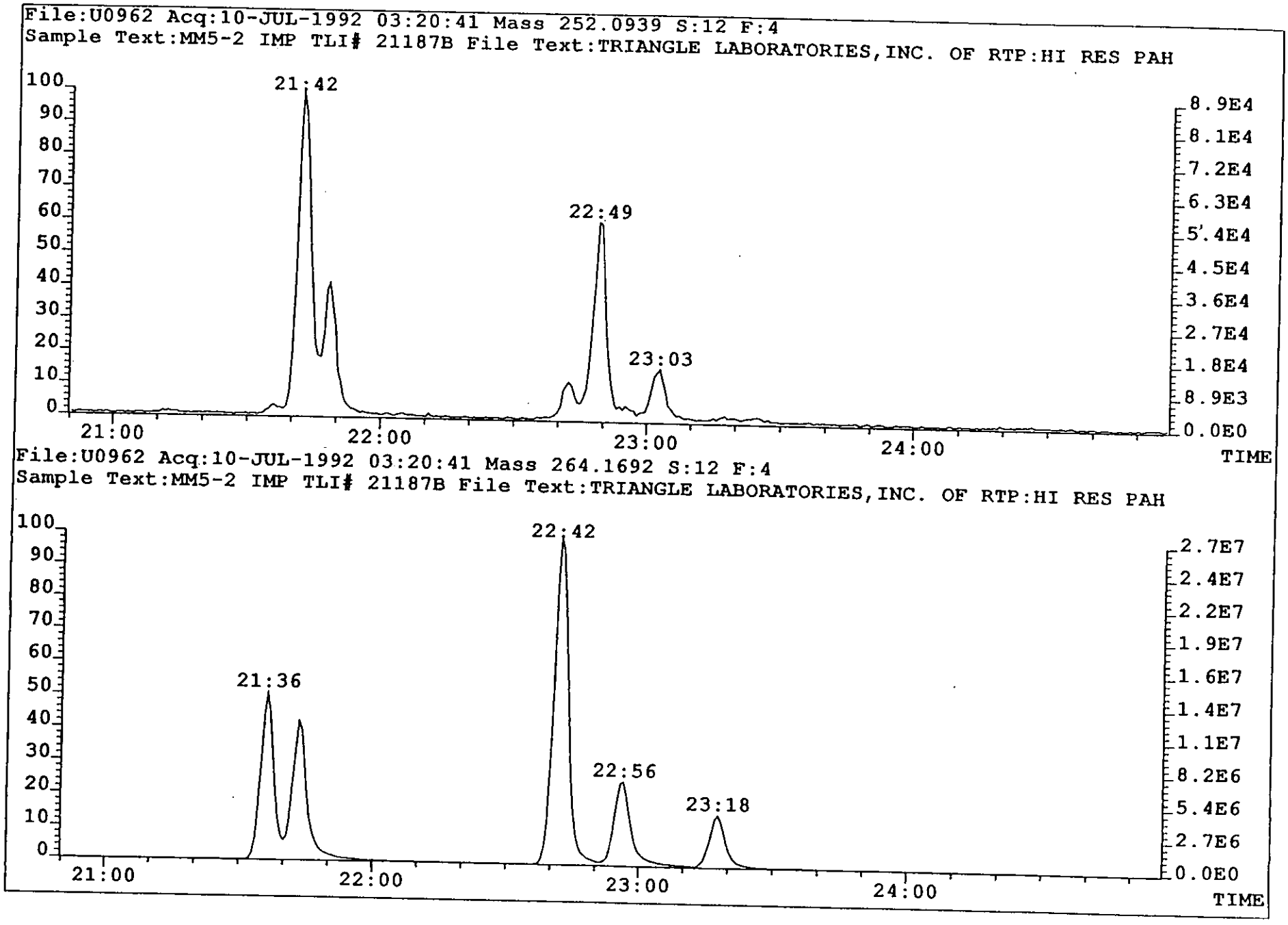

File:U0962 Acq:10-JUL-1992 03:20:41 Mass 162.0236 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:48
8.2E5
4.1E5
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 164.0207 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:48
2.4E5
1.2E5
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 169.0676 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:46
2.9E7
1.5E7
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 171.0648 S:12
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:46
8.5E6
4.2E6
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME

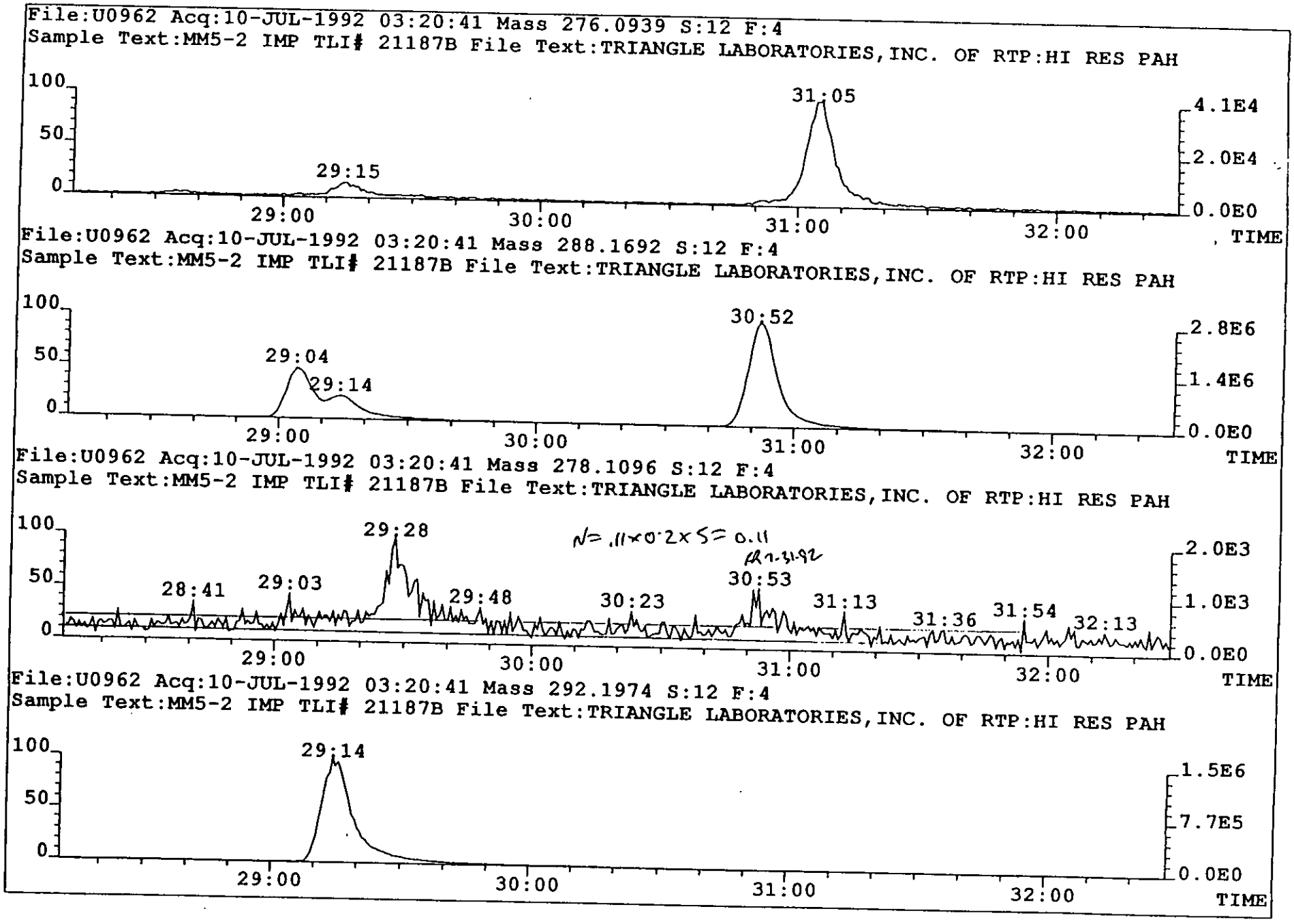

File:U0962 Acq:10-JUL-1992 03:20:41 Mass 152.0626 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:14
7:30
7:40
7:57
8:03
8:13
8:26
8:43
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
1.0E6
5.0E5
0.0E0
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 160.1128 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:38
7:59
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
5.3E7
2.6E7
0.0E0
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 154.0782 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:14
8:03
8:13
8:26
8:42
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
1.6E6
8.0E5
0.0E0
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 164.1410 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:59
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
1.2E8
6.1E7
0.0E0


File:U0962 Acq:10-JUL-1992 03:20:41 Mass 166.0782 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:13
10:31
11:00
6.8E6
3.4E6
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 176.1410 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:11
9:02
9:18
10:32
11:15
5.3E4
2.6E4
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 178.0782 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
11:34
10:34
10:07
11:00
11:41
9.6E6
4.8E6
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 188.1410 S:12 F:2
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
11:38
11:30
9.2E7
4.6E7
0.0E0
9:00
10:00
11:00
12:00
TIME


File:U0962 Acq:10-JUL-1992 03:20:41 Mass 202.0782 S:12 F:3
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
14:34
15:09
15:56
14:12
14:24
14:36
14:48
15:00
15:12
15:24
15:36
15:48
16:00
TIME
4.0E6
3.6E6
3.2E6
2.8E6
2.4E6
2.0E6
1.6E6
1.2E6
8.0E5
4.0E5
0.0E0
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 212.1410 S:12 F:3
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:07
14:32
1.2E8
1.1E8
1.0E8
8.7E7
7.5E7
6.2E7
5.0E7
3.7E7
2.5E7
1.2E7
0.0E0
TIME


File:U0962 Acq:10-JUL-1992 03:20:41 Mass 244.1974 S:12 F:3
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:36
100
80
60
40
20
0
5.0E6
4.0E6
3.0E6
2.0E6
1.0E6
0.0E0
15:00
16:00
17:00
18:00
19:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 228.0939 S:12 F:3
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:21
15:07
17:42
18:36
5.8E5
4.7E5
3.5E5
2.3E5
1.2E5
0.0E0
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 240.1692 S:12 F:3
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:16
3.3E7
2.7E7
2.0E7
1.3E7
6.6E6
0.0E0


File:U0962 Acq:10-JUL-1992 03:20:41 Mass 252.0939 S:12 F:4
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:42
22:49
23:03
8.9E4
8.1E4
7.2E4
6.3E4
5.4E4
4.5E4
3.6E4
2.7E4
1.8E4
8.9E3
0.0E0
21:00
22:00
23:00
24:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 264.1692 S:12 F:4
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:36
22:42
22:56
23:18
2.7E7
2.4E7
2.2E7
1.9E7
1.6E7
1.4E7
1.1E7
8.2E6
5.4E6
2.7E6
0.0E0
21:00
22:00
23:00
24:00
TIME


File:U0962 Acq:10-JUL-1992 03:20:41 Mass 276.0939 S:12 F:4
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:15
31:05
4.1E4
2.0E4
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 288.1692 S:12 F:4
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:04
29:14
30:52
2.8E6
1.4E6
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 278.1096 S:12 F:4
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
28:41
29:03
29:28
29:48
30:23
30:53
31:13
31:36
31:54
32:13
N= .11×0.2×5= 0.11
RH 1-31-92
2.0E3
1.0E3
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq:10-JUL-1992 03:20:41 Mass 292.1974 S:12 F:4
Sample Text:MM5-2 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:14
1.5E6
7.7E5
0.0E0
29:00
30:00
31:00
32:00
TIME

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/04/92

FILE NAME....:	U096214	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	57-102-5
CONCAL.....:	U096001	SAMPLE ID....:	MM5-3 IMP		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	98.7			4:47	B
2-Me-Naph	72.1			5:54	B
Acenaphthen	7.0			8:03	B
2-Cl-Naph	EMPC		0.85		B
Acenaph	2.3			7:41	B
Fluorene	11.3			9:14	B
Phenan	40.3			11:34	B
Anth	2.1			11:41	B
Fluoran	14.2			14:34	B
Pyrene	9.1			15:09	B
B-a-Anth	2.1			18:15	B
Chrysene	5.4			18:20	B
Perylene	ND		0.06		
B-b-Fluoran	1.3			21:42	PR,B
B-k-Fluoran	0.95			21:48	B
B-a-Pyrene	0.58			23:02	B
B-e-Pyrene	0.74			22:48	B
B-ghi-Pery	4.3			31:04	B
I-123-cd-Py	0.67			29:15	B
DiB-ah-Anth	0.30			29:27	B

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	85.9	85.9	11:38	

Reviewed By: AR 8/4/92

PAHJ_RPT 1.00, LARS 4.20

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/04/92

FILE NAME....:	U096214	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	57-102-5
CONCAL.....:	U096001	SAMPLE ID....:	MM5-3 IMP		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	35.4	35.4	4:45	✓
d10-2-Me-Naph	48.4	48.4	5:50	—
d7-2-Cl-Naph	45.8	45.8	6:46	—
d8-Acenaph	58.2	58.2	7:39	—
d10-Phenan	63.9	63.9	11:30	—
d12-B-a-Anth	83.3	83.3	18:11	—
d10-Fluoran	73.9	73.9	14:32	—
d12-Chrysene	48.7	48.7	18:16	—
d12-Perylene	118	59.2	23:17	—
d12-B-b-Fluoran	215	107	21:36	—
d12-B-k-Fluoran	133	66.5	21:43	—
d12-B-a-Pyrene	142	71.0	22:56	—
d12-B-ghi-Pery	98.1	49.0	30:52	—
d12-I-123-cd-Py	150	74.8	29:04	I
d14-DiB-ah-Anth	98.5	49.2	29:14	—

Reviewed By: AR 8/4/92

PAHJ_RPT 1.00, LARS 4.20

n = 0.12
(278)

	Initial	Date
B-File/Header Changes	AR	7-30-92
Manual Integrations		
Transcription		
Obase Corrections		

Listing of U096214B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128	DC	0.00	0:00	4.79	T	F	0.000	NL
		0.00	4:47*	8408.08	T	~~F~~ T	~~1.007~~ 1.000	
	DC	0.00	4:57	9.95	T	F	1.042	SN
	DC	0.00	6:52	46.24	T	F	1.446	WH
128		*** Total ***		8469.06	# of Peaks:		4	
136	DC	0.00	0:00	0.03	T	F	0.000	NL
		0.00	4:45*	11102.31	T	T	1.000	
		0.00	5:33	12.91	T	F	1.168	
136		*** Total ***		11115.25	# of Peaks:		3	
142	DC	0.00	0:00	0.15	T	F	0.000	NL
		0.00	5:54*	5899.27	T	T	1.011	
		0.00	6:05	3148.07	T	F	1.043	
		0.00	6:58	281.66	T	F	1.194	
142		*** Total ***		9329.15	# of Peaks:		4	
152	DC	0.00	0:00	0.02	T	F	0.000	NL
	DC	0.00	0:00	0.19	T	F	0.000	NL
		0.00	5:50*	7724.68	T	T	1.000	
		0.00	6:00	53.19	T	F	0.784	
		0.00	7:06	126.65	T	F	0.928	
		0.00	7:15	177.36	T	F	0.948	
		0.00	7:19	117.16	T	F	0.956	
		0.00	7:30	90.53	T	F	0.980	
		0.00	7:41*	254.70	T	T	1.004	
		0.00	7:57	173.85	T	F	1.039	
		0.00	8:04	374.44	T	F	1.054	
		0.00	8:08	17.41	T	F	1.063	
		0.00	8:14	68.63	T	F	1.076	
		0.00	8:17	59.11	T	F	1.083	
		0.00	8:27	94.31	T	F	1.105	
		0.00	8:32	72.93	T	F	1.115	
		0.00	8:37	1.32	T	F	1.126	
		0.00	8:43	71.82	T	F	1.139	
		0.00	8:46	42.17	T	F	1.146	
		0.00	8:55	59.15	T	F	1.166	
		0.00	8:58	59.77	T	F	1.172	
152		*** Total ***		9639.39	# of Peaks:		21	
154	DC	0.00	0:00	0.09	T	F	0.000	NL
		0.00	7:06	35.93	T	F	0.928	

Listing of U096214B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
154		0.00	7:19	27.29	T	F	0.956	
		0.00	7:23	3.36	T	F	0.965	
		0.00	7:30	25.00	T	F	0.980	
		0.00	7:41	19.65	T	F	1.004	
		0.00	8:00	8.44	T	F	1.046	
		0.00	8:03 •	456.29	T	T	1.052	
		0.00	8:08	3.01	T	F	1.063	
		0.00	8:14	46.49	T	F	1.076	
		0.00	8:19	11.28	T	F	1.087	
		0.00	8:27	42.93	T	F	1.105	
		0.00	8:32	38.76	T	F	1.115	
		0.00	8:43	42.93	T	F	1.139	
		0.00	8:46	22.41	T	F	1.146	
		0.00	8:50	1.18	T	F	1.155	
		0.00	8:55	69.60	T	F	1.166	
154		*** Total ***		908.79	# of Peaks:		18	
160	DC	0.00	0:00	0.16	T	F	0.000	NL
		0.00	7:39 •	10215.87	T	T	1.000	
		0.00	7:59	12114.92	T	F	1.044	
		0.00	8:21	23.64	T	F	1.092	
160		*** Total ***		22354.59	# of Peaks:		4	
162	DC	3.50	0:00	0.09	T	F	0.000	NL — RD
	CK —	4.61	6:49 •	96.63	F	T	1.007	
162		*** Total ***		96.72	# of Peaks:		2	
164	DC	0.00	0:00	0.02	T	F	0.000	NL
	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	6:49	17.21	T	F	0.853	
		0.00	7:59 •	27051.53	T	T	0.999	
164		*** Total ***		27068.77	# of Peaks:		4	
166	DC	0.00	0:00	0.01	T	F	0.000	NL
	DC	0.00	7:58	76.03	T	F	0.693	WL
	DC	0.00	8:05	22.67	T	F	0.703	WL
	DC	0.00	8:58	26.26	T	F	0.780	WL
	~~DC~~	0.00	9:14 •	771.36	T	T	0.803	WL
	DC	0.00	9:24	68.77	T	F	0.817	WL
		0.00	9:33	56.00	T	F	0.830	
		0.00	9:38	70.35	T	F	0.838	
		0.00	9:57	16.90	T	F	0.865	
		0.00	10:07	28.72	T	F	0.880	
		0.00	10:31	1510.11	T	F	0.914	
		0.00	11:00	752.06	T	F	0.957	
		0.00	11:50	19.30	T	F	1.029	
166		*** Total ***		3418.54	# of Peaks:		13	
169	DC	14.29	0:00	0.02	F	F	0.000	NL
		3.42	6:46 •	9524.31	T	T	1.000	
169		*** Total ***		9524.33	# of Peaks:		2	
176	DC	0.00	0:00	0.01	T	F	0.000	NL

Listing of U096214B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
176		0.00	8:01	0.83	T	F	0.875	
		0.00	8:17	0.18	T	F	0.904	
		0.00	8:28	0.47	T	F	0.924	
		0.00	8:38	8.04	T	F	0.942	
		0.00	8:44	7.06	T	F	0.953	
		0.00	9:03	7.08	T	F	0.988	
		0.00	9:10	18.65	T	T	1.001	
		0.00	9:18	1.92	T	F	1.015	
		0.00	9:28	0.52	T	F	1.033	
		0.00	10:05	0.49	T	F	1.101	
		0.00	10:26	0.69	T	F	1.139	
		0.00	10:33	0.86	T	F	1.152	
		0.00	10:46	0.22	T	F	1.175	
		0.00	10:56	0.52	T	F	1.194	
		0.00	11:15	0.83	T	F	1.228	
		0.00	11:34	0.61	T	F	1.263	
176		*** Total ***		48.98	# of Peaks:		17	
178	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	10:06	74.78	T	F	0.878	
		0.00	10:15	60.97	T	F	0.891	
		0.00	10:21	318.02	T	F	0.900	
		0.00	10:34	1950.56	T	F	0.919	
		0.00	11:00	350.74	T	F	0.957	
		0.00	11:15	63.60	T	F	0.978	
		0.00	11:34	4087.15	T	T	1.006	
		0.00	11:41	188.90	T	T	1.016	
		0.00	11:51	301.67	T	F	1.030	
178		*** Total ***		7396.41	# of Peaks:		10	
188	DC	0.00	0:00	0.03	T	F	0.000	NL
		0.00	11:30	13690.74	T	T	1.000	
		0.00	11:38	15824.67	T	T	0.999	
188		*** Total ***		29515.44	# of Peaks:		3	
202	DC	0.00	0:00	2.20	T	F	0.000	NL
		0.00	14:11	116.04	T	F	0.976	
		0.00	14:34	1178.72	T	T	1.002	
		0.00	14:54	101.54	T	F	1.025	
		0.00	15:09	764.39	T	T	1.042	
202		*** Total ***		2162.89	# of Peaks:		5	
212	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	14:32	9709.76	T	T	1.000	
		0.00	15:06	21779.43	T	T	0.999	
212		*** Total ***		31489.21	# of Peaks:		3	
228	DC	0.00	0:00	0.03	T	F	0.000	NL
		0.00	14:10	1.43	T	F	0.779	
		0.00	14:54	44.11	T	F	0.819	
		0.00	15:06	12.16	T	F	0.830	
		0.00	15:16	2.38	T	F	0.840	
		0.00	15:22	1.89	T	F	0.845	

Listing of U096214B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
228		0.00	17:23	1.85	T	F	0.956	
		0.00	17:42	6.36	T	F	0.973	
		0.00	18:15	97.39	T	T	1.004	
		0.00	18:20	183.67	T	T	1.008	
		0.00	18:36	8.46	T	F	1.023	
228		*** Total ***		359.73	# of Peaks:		11	
240	DC	0.00	0:00	0.03	T	F	0.000	NL
		0.00	15:35	94.55	T	F	0.857	
		0.00	18:11	4990.60	T	T	1.000	
		0.00	18:16	6691.42	T	T	1.005	
240		*** Total ***		11776.60	# of Peaks:		4	
244	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	15:35	828.18	T	T	0.999	
244		*** Total ***		828.19	# of Peaks:		2	
252	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	21:42	22.13	T	T	0.932	
		0.00	21:48	12.28	T	T	0.936	— PR
		0.00	22:42	1.80	T	F	0.975	
		0.00	22:48	11.17	T	T	0.979	
		0.00	23:02	5.41	T	T	0.989	
252		*** Total ***		52.80	# of Peaks:		6	
264	DC	0.00	0:00	**********	T	F	0.000	NL
		0.00	21:36	3347.98	T	T	0.928	
		0.00	21:43	3190.39	T	T	0.933	
		0.00	22:41	7390.63	T	T	1.000	
		0.00	22:56	2022.32	T	T	0.985	
		0.00	23:17	1008.44	T	T	1.000	
264		*** Total ***		16959.76	# of Peaks:		6	
276	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	29:15	2.64	T	T	0.948	
		0.00	29:29	0.24	T	F	0.955	
		0.00	31:04	20.04	T	T	1.006	
276		*** Total ***		22.93	# of Peaks:		4	
278	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	29:27	0.69	T	T	1.007	
	DC	0.00	29:43	0.06	T	F	1.017	SN
	DC	0.00	29:56	0.04	T	F	1.024	SN
278		*** Total ***		0.80	# of Peaks:		4	
288	DC	0.00	0:00	**********	T	F	0.000	NL
		0.00	29:04	481.06	T	T	0.942	— I
		0.00	29:14	247.71	T	F	0.947	
		0.00	30:52	1148.90	T	T	1.000	
288		*** Total ***		1877.67	# of Peaks:		4	
292	DC	0.00	0:00	**********	T	F	0.000	NL
		0.00	29:14	589.48	T	T	1.000	

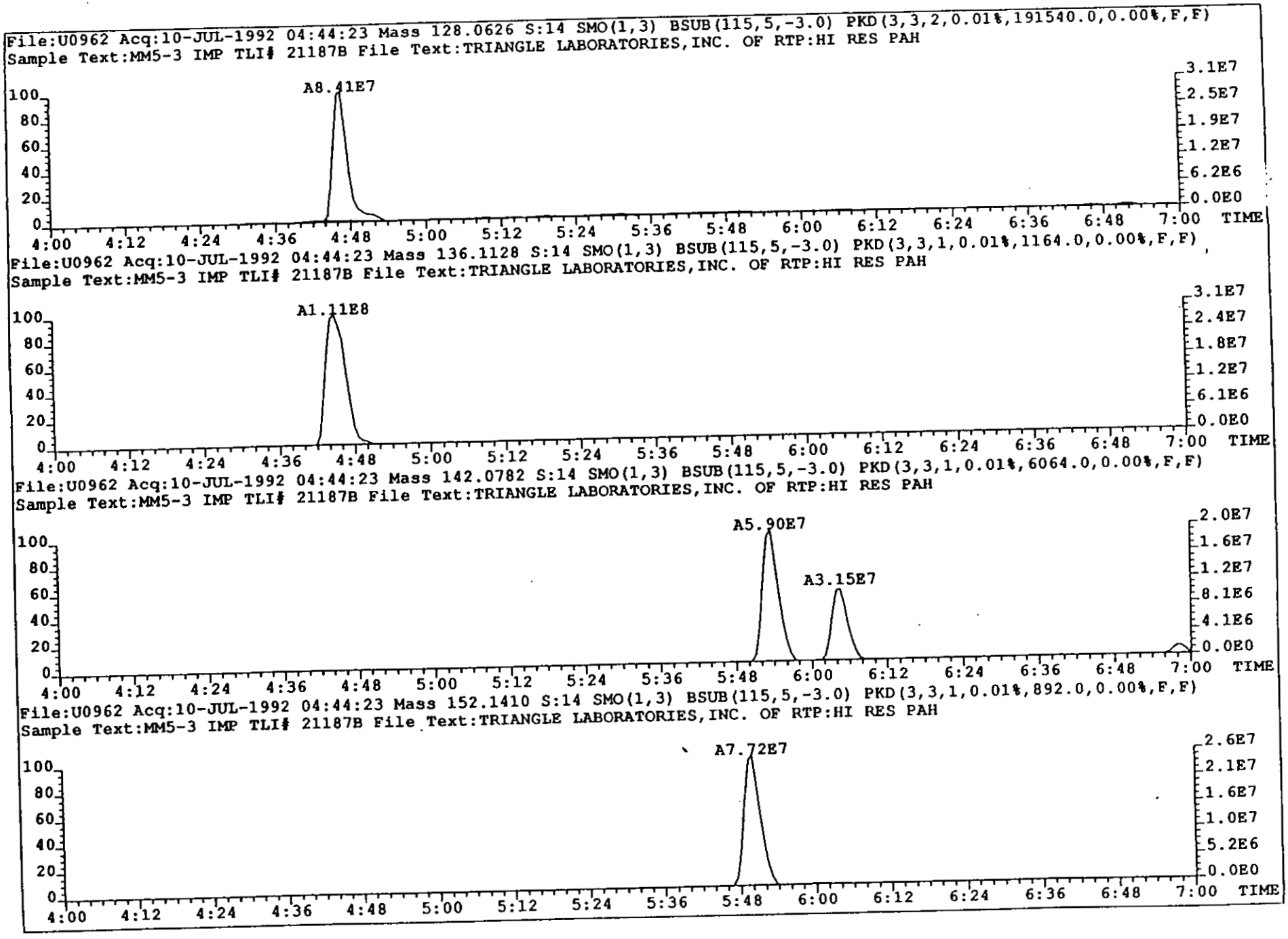
ND ← 4S

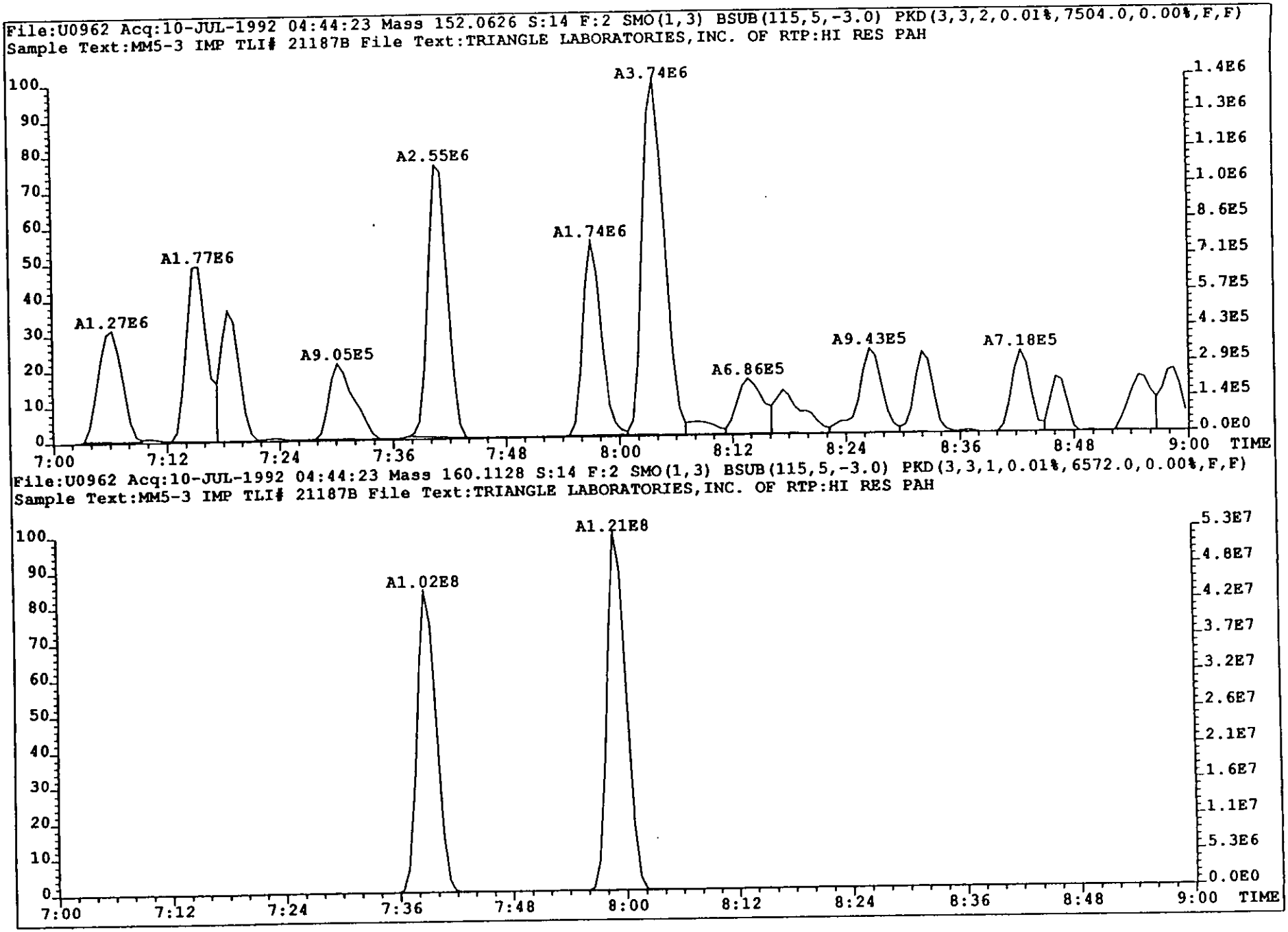
Listing of U096214B.dbf

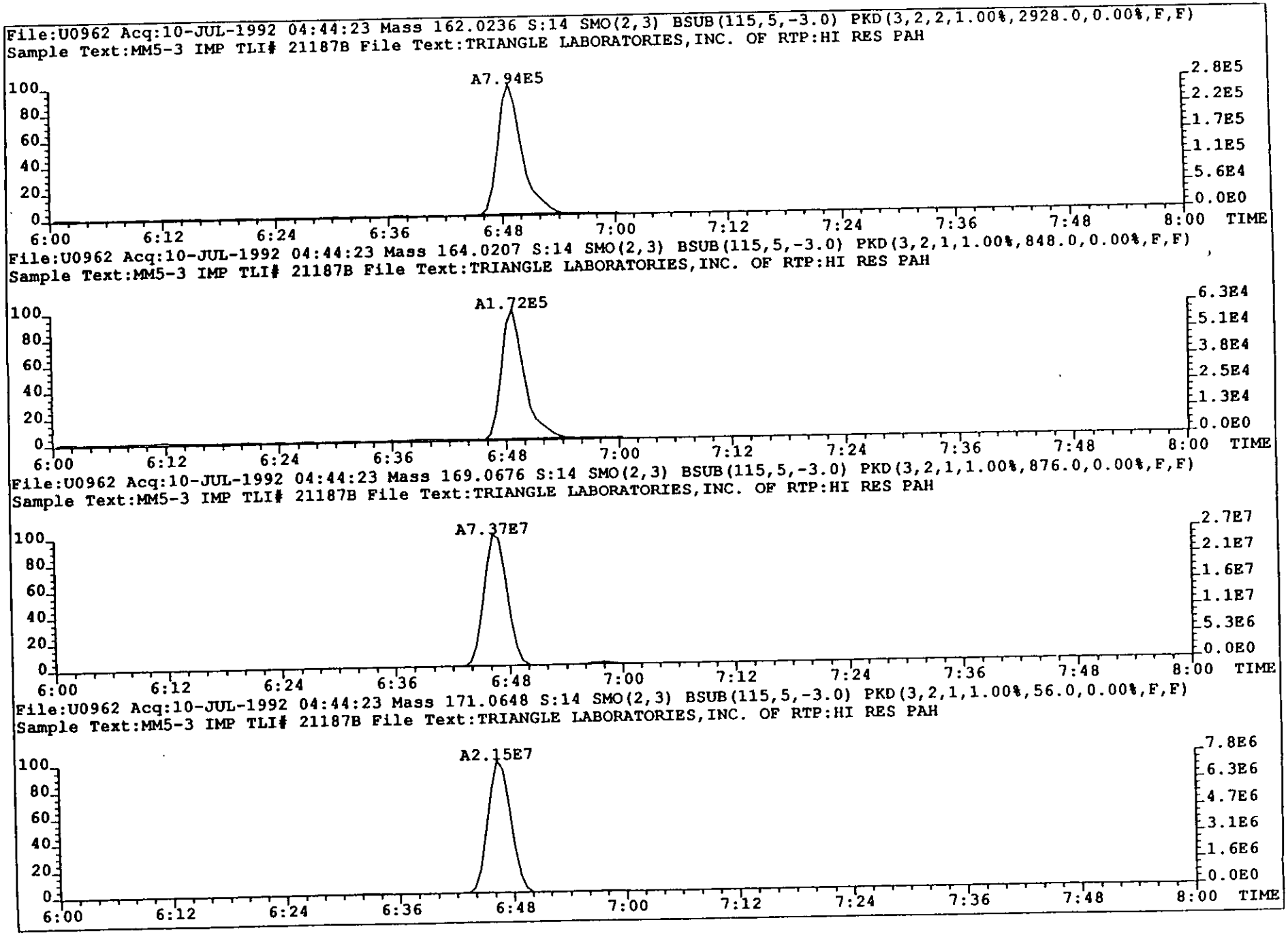
Matched GC Peaks / Ratio / Ret. Time

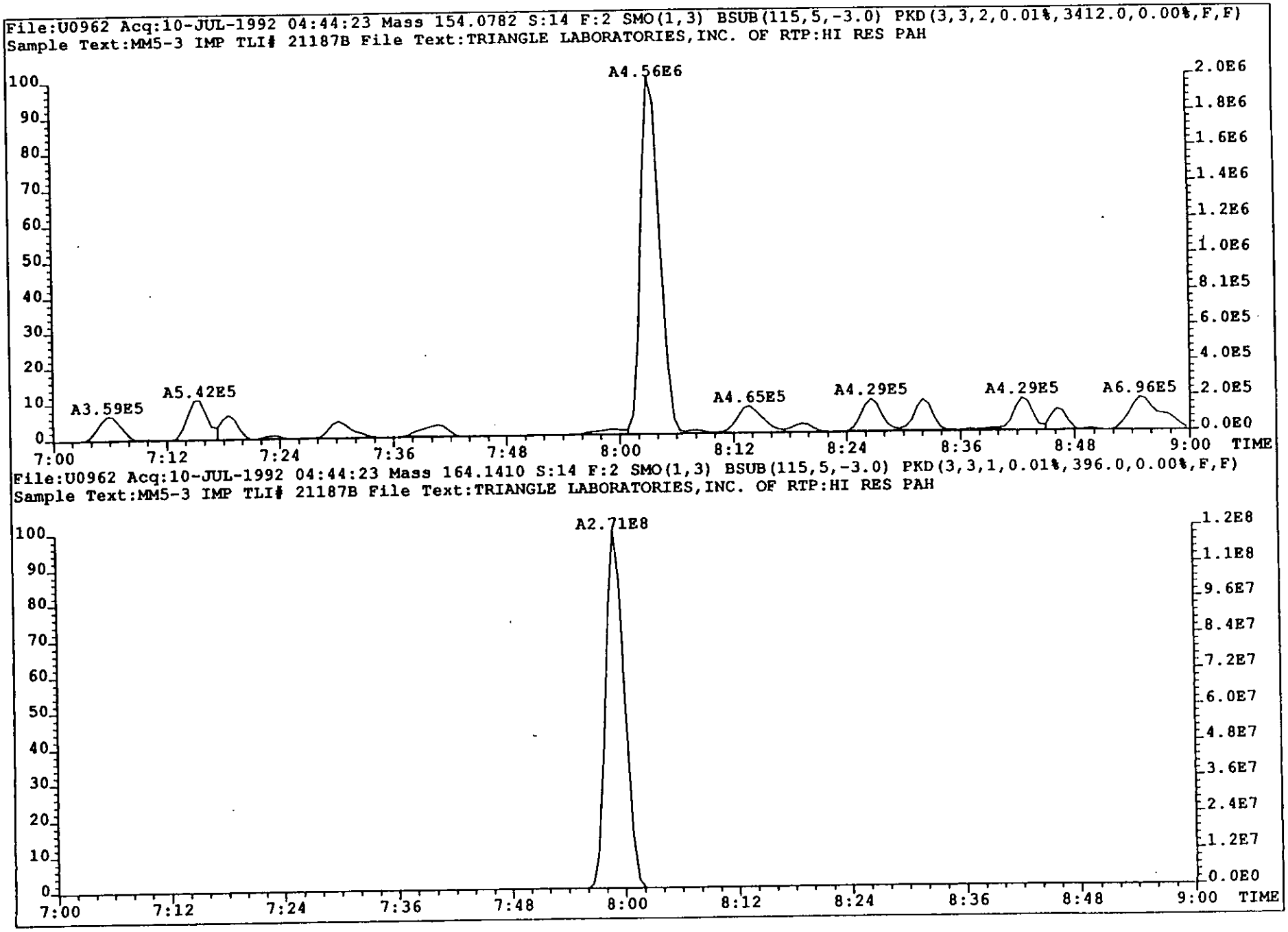
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
292		*** Total ***		589.48	# of Peaks:		2	

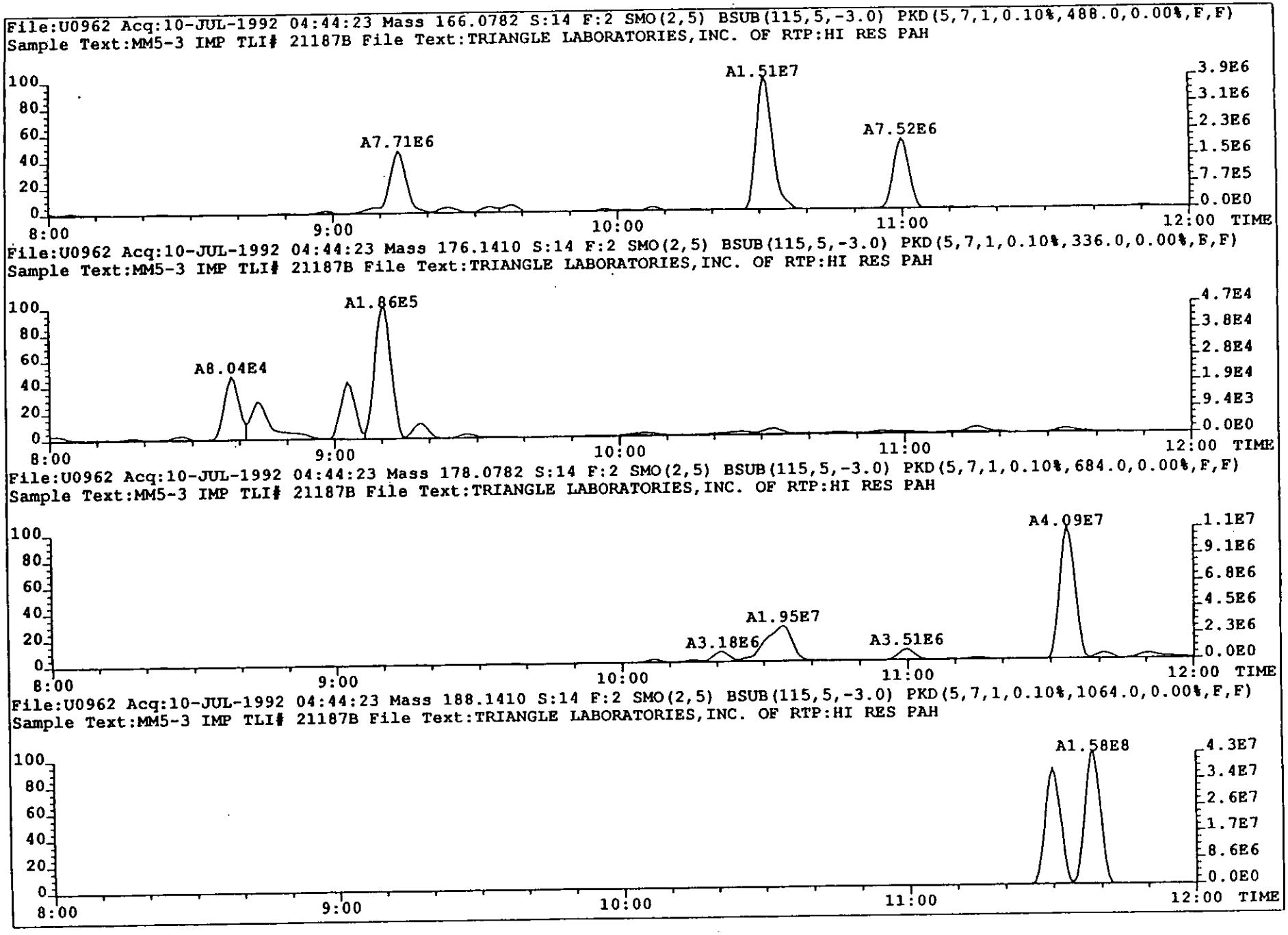
*** End of Report ***

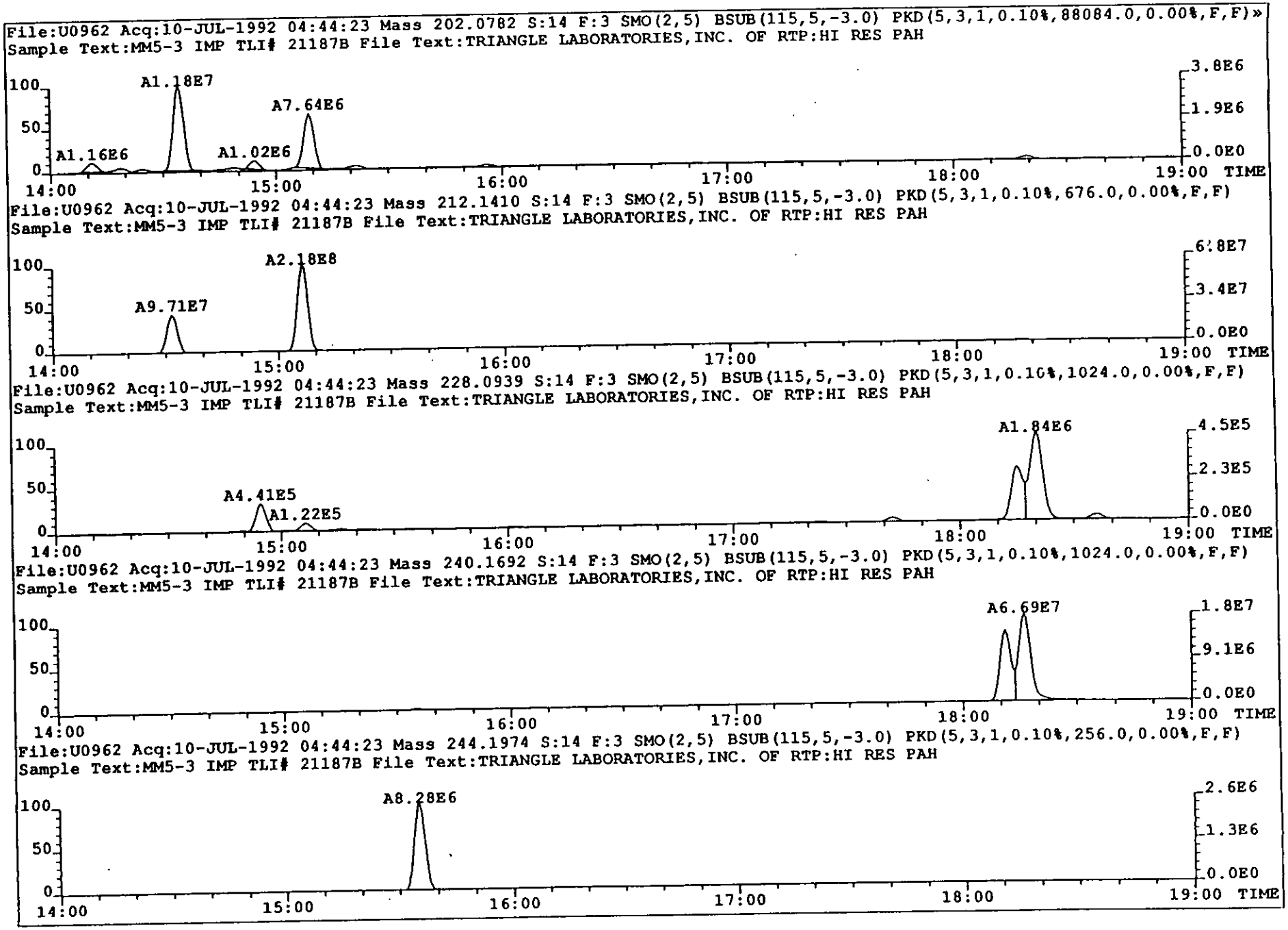

File:U0962 Acq:10-JUL-1992 04:44:23 Mass 128.0626 S:14 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,191540.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A8.41E7
3.1E7
2.5E7
1.9E7
1.2E7
6.2E6
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 136.1128 S:14 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,1164.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.11E8
3.1E7
2.4E7
1.8E7
1.2E7
6.1E6
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 142.0782 S:14 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,6064.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A5.90E7
A3.15E7
2.0E7
1.6E7
1.2E7
8.1E6
4.1E6
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 152.1410 S:14 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,892.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.72E7
2.6E7
2.1E7
1.6E7
1.0E7
5.2E6
0.0E0
TIME

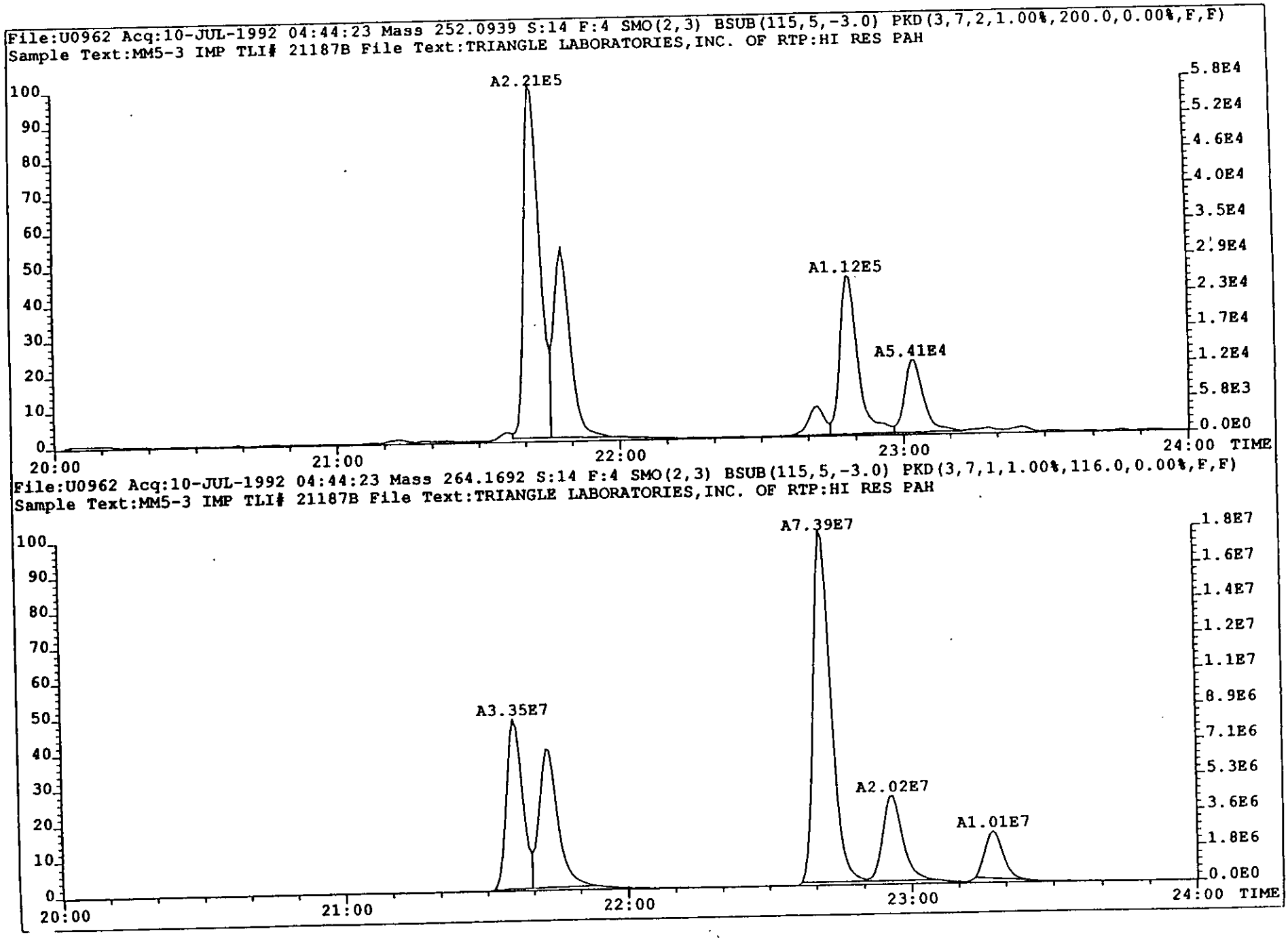

File:U0962 Acq:10-JUL-1992 04:44:23 Mass 152.0626 S:14 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,7504.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.27E6
A1.77E6
A9.05E5
A2.55E6
A1.74E6
A3.74E6
A6.86E5
A9.43E5
A7.18E5
TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 160.1128 S:14 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,6572.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.02E8
A1.21E8
TIME

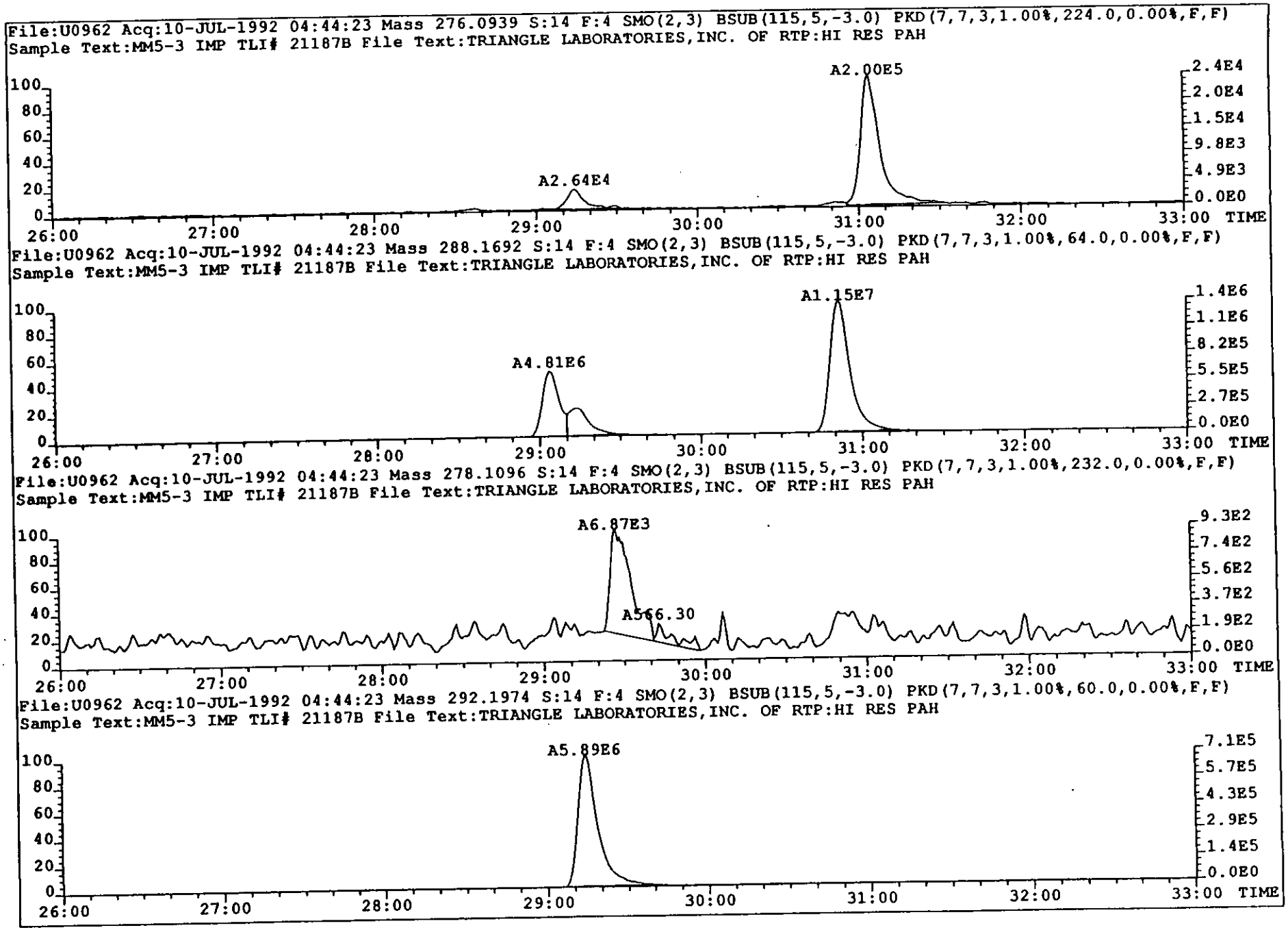

File:U0962 Acq:10-JUL-1992 04:44:23 Mass 162.0236 S:14 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,2,1.00%,2928.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.94E5
2.8E5
2.2E5
1.7E5
1.1E5
5.6E4
0.0E0
100
80
60
40
20
0
6:00
6:12
6:24
6:36
6:48
7:00
7:12
7:24
7:36
7:48
8:00
TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 164.0207 S:14 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,848.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.72E5
6.3E4
5.1E4
3.8E4
2.5E4
1.3E4
0.0E0
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 169.0676 S:14 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,876.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.37E7
2.7E7
2.1E7
1.6E7
1.1E7
5.3E6
0.0E0
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 171.0648 S:14 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,56.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.15E7
7.8E6
6.3E6
4.7E6
3.1E6
1.6E6
0.0E0

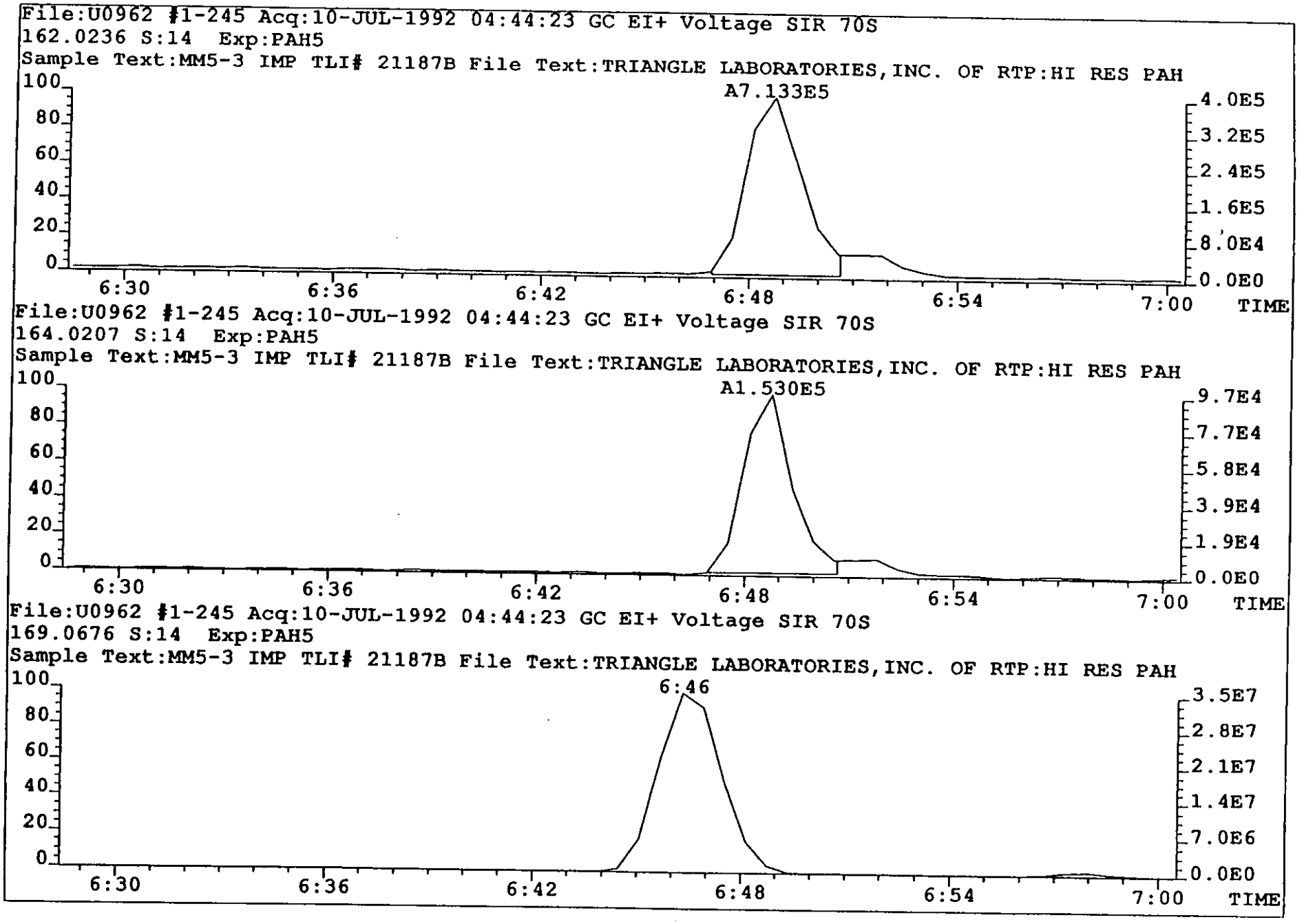

File:U0962 Acq:10-JUL-1992 04:44:23 Mass 154.0782 S:14 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,3412.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A4.56E6
A3.59E5
A5.42E5
A4.65E5
A4.29E5
A4.29E5
A6.96E5
TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 164.1410 S:14 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,396.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.71E8
TIME

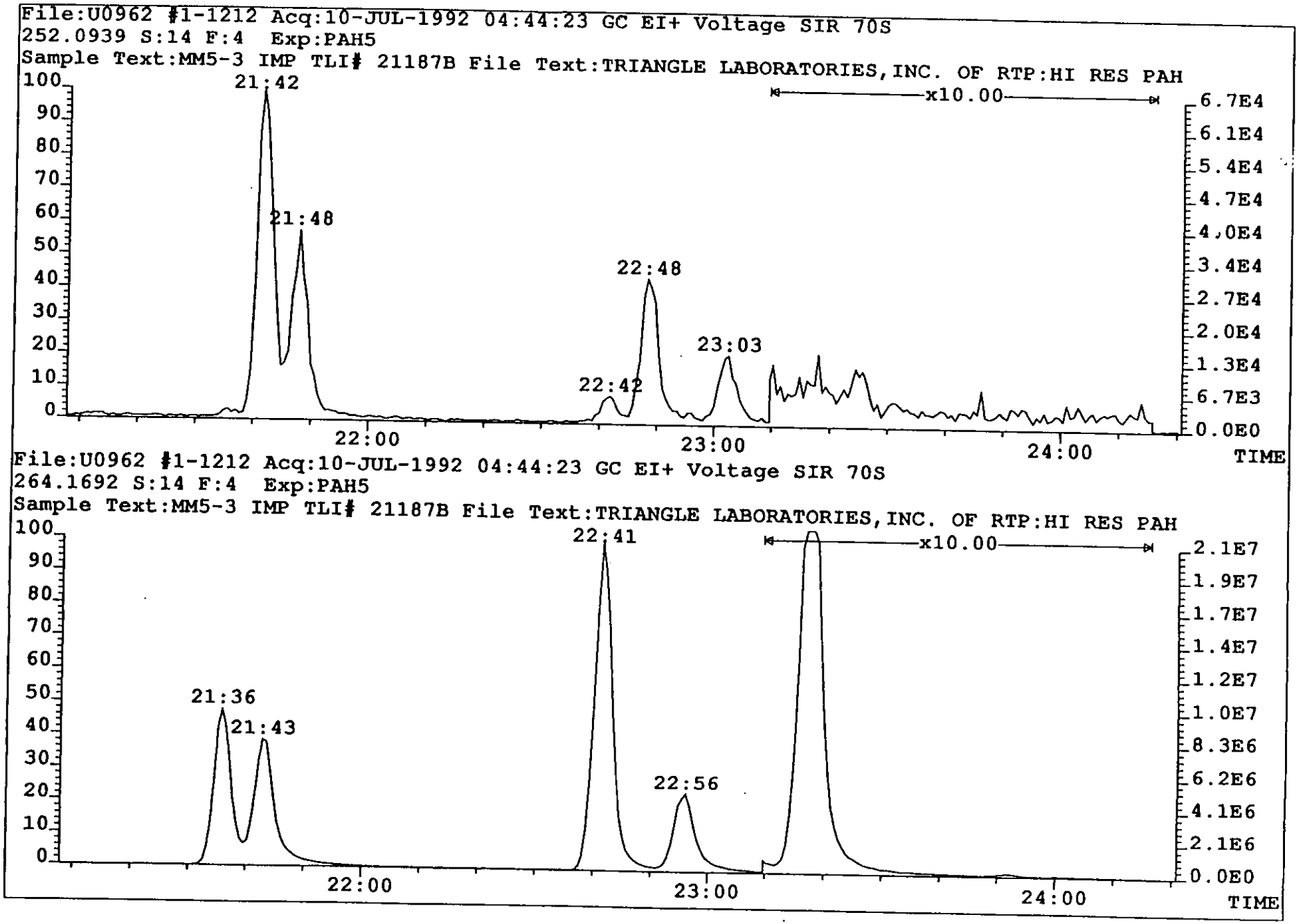

File:U0962 Acq:10-JUL-1992 04:44:23 Mass 166.0782 S:14 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,488.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.71E6
A1.51E7
A7.52E6
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 176.1410 S:14 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,336.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A8.04E4
A1.86E5
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 178.0782 S:14 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,684.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.18E6
A1.95E7
A3.51E6
A4.09E7
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 188.1410 S:14 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,1064.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.58E8
TIME

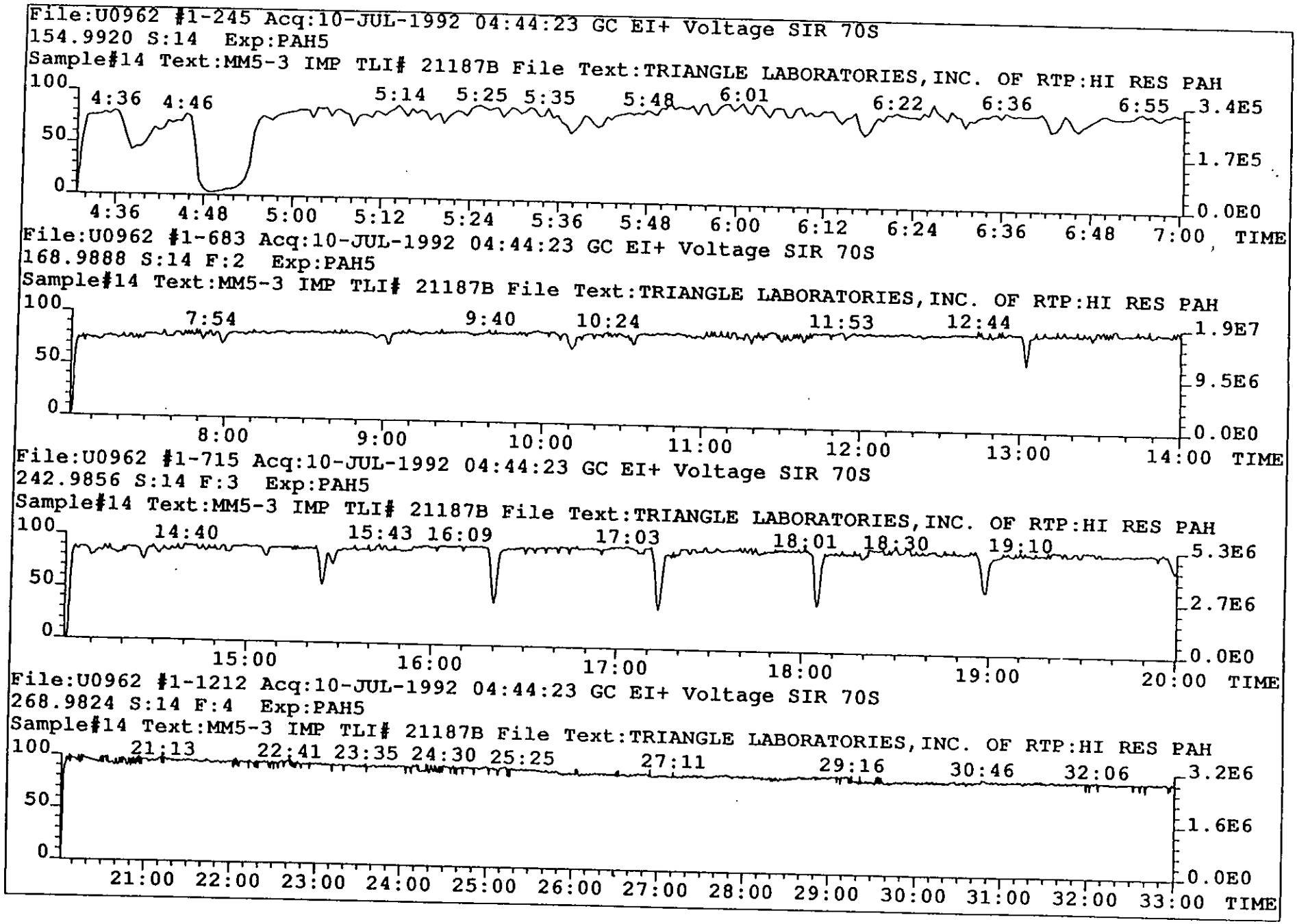

File:U0962 Acq:10-JUL-1992 04:44:23 Mass 202.0782 S:14 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,88084.0,0.00%,F,F)»
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.18E7
A7.64E6
A1.16E6
A1.02E6
3.8E6
1.9E6
0.0E0
14:00
15:00
16:00
17:00
18:00
19:00 TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 212.1410 S:14 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,676.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.18E8
A9.71E7
6.8E7
3.4E7
0.0E0
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 228.0939 S:14 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,1024.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.84E6
A4.41E5
A1.22E5
4.5E5
2.3E5
0.0E0
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 240.1692 S:14 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,1024.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.69E7
1.8E7
9.1E6
0.0E0
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 244.1974 S:14 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,256.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A8.28E6
2.6E6
1.3E6
0.0E0
100
50
0

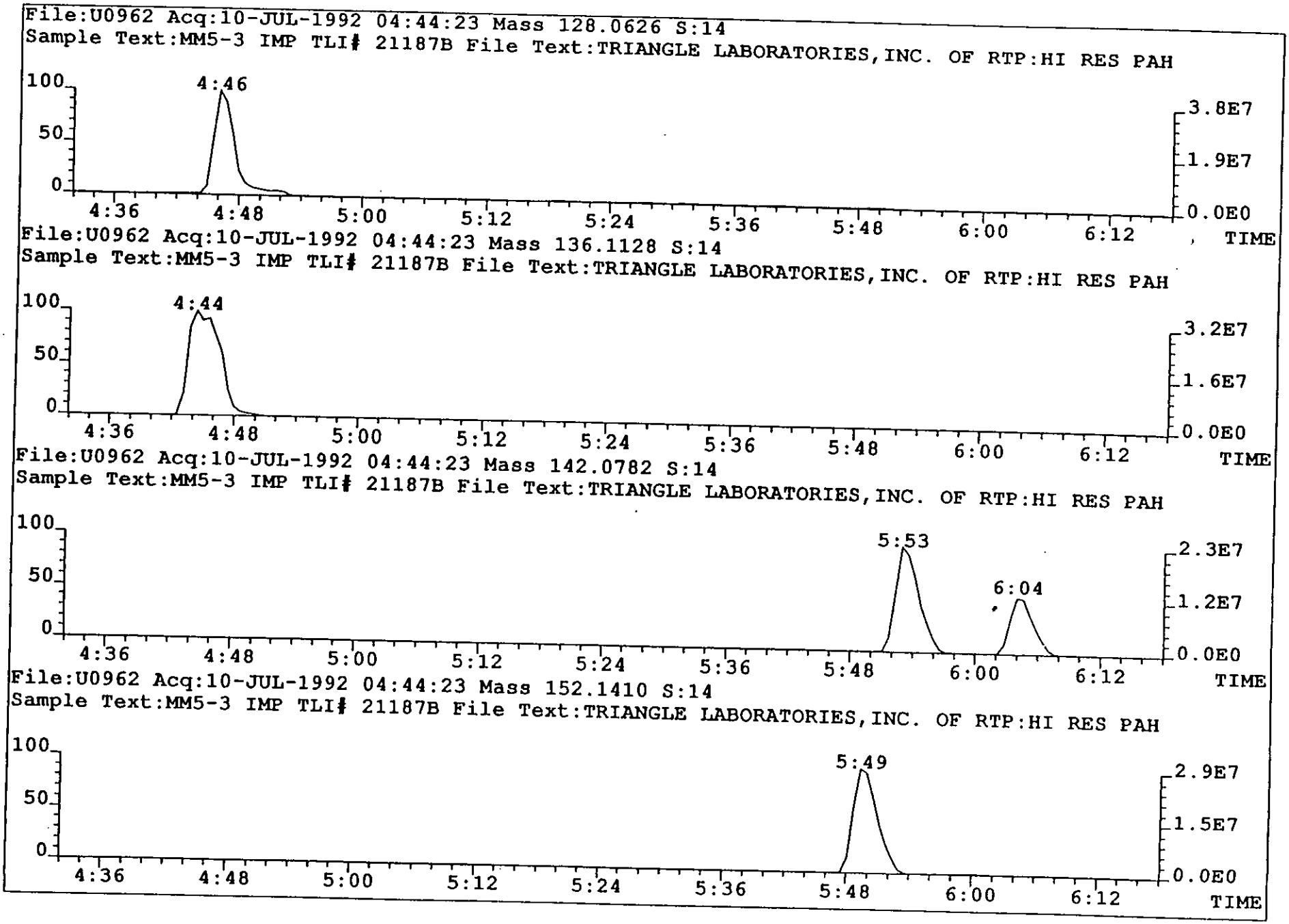

File:U0962 Acq:10-JUL-1992 04:44:23 Mass 252.0939 S:14 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,2,1.00%,200.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.21E5
A1.12E5
A5.41E4
5.8E4
5.2E4
4.6E4
4.0E4
3.5E4
2.9E4
2.3E4
1.7E4
1.2E4
5.8E3
0.0E0
100
90
80
70
60
50
40
30
20
10
0
20:00
21:00
22:00
23:00
24:00 TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 264.1692 S:14 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,1,1.00%,116.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.39E7
A3.35E7
A2.02E7
A1.01E7
1.8E7
1.6E7
1.4E7
1.2E7
1.1E7
8.9E6
7.1E6
5.3E6
3.6E6
1.8E6
0.0E0
100
90
80
70
60
50
40
30
20
10
0
20:00
21:00
22:00
23:00
24:00 TIME

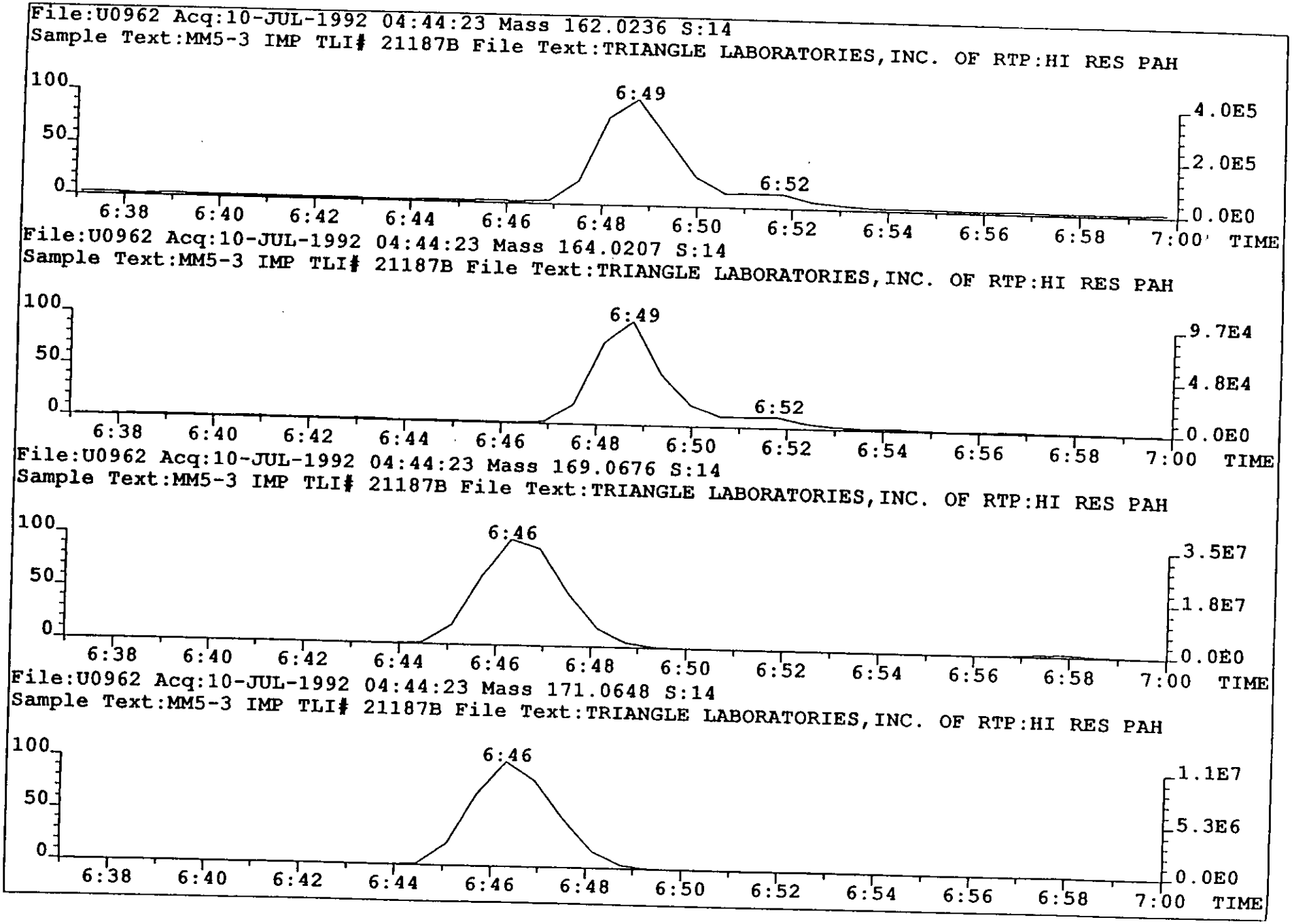

File:U0962 Acq:10-JUL-1992 04:44:23 Mass 276.0939 S:14 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,224.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.00E5
A2.64E4
2.4E4
2.0E4
1.5E4
9.8E3
4.9E3
0.0E0
100
80
60
40
20
0
26:00
27:00
28:00
29:00
30:00
31:00
32:00
33:00 TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 288.1692 S:14 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,64.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.15E7
A4.81E6
1.4E6
1.1E6
8.2E5
5.5E5
2.7E5
0.0E0
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 278.1096 S:14 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,232.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.87E3
A566.30
9.3E2
7.4E2
5.6E2
3.7E2
1.9E2
0.0E0
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 292.1974 S:14 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,60.0,0.00%,F,F)
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A5.89E6
7.1E5
5.7E5
4.3E5
2.9E5
1.4E5
0.0E0

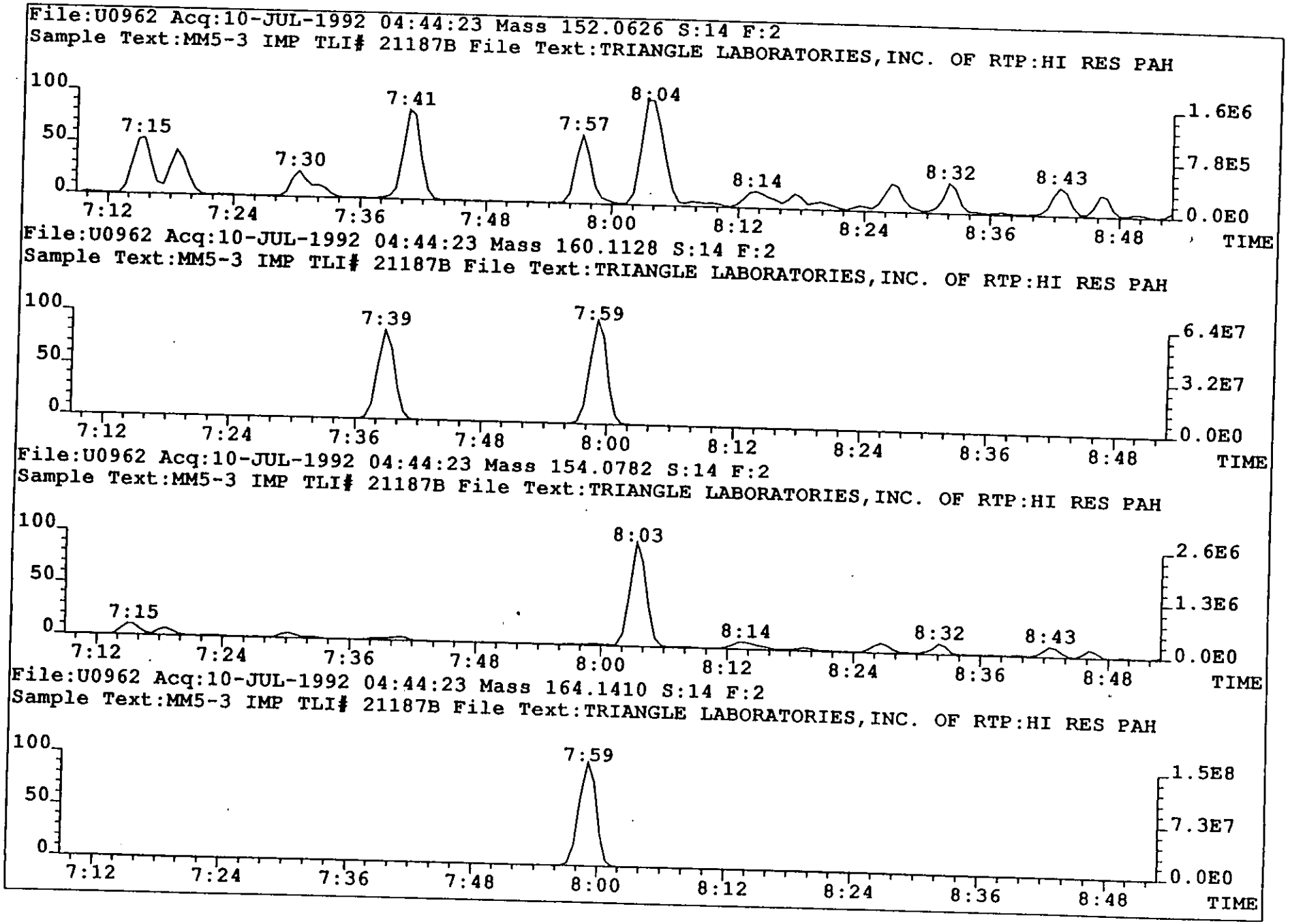

File:U0962 #1-245 Acq:10-JUL-1992 04:44:23 GC EI+ Voltage SIR 70S
162.0236 S:14 Exp:PAH5
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.133E5
100
80
60
40
20
0
4.0E5
3.2E5
2.4E5
1.6E5
8.0E4
0.0E0
6:30
6:36
6:42
6:48
6:54
7:00
TIME
File:U0962 #1-245 Acq:10-JUL-1992 04:44:23 GC EI+ Voltage SIR 70S
164.0207 S:14 Exp:PAH5
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.530E5
100
80
60
40
20
0
9.7E4
7.7E4
5.8E4
3.9E4
1.9E4
0.0E0
6:30
6:36
6:42
6:48
6:54
7:00
TIME
File:U0962 #1-245 Acq:10-JUL-1992 04:44:23 GC EI+ Voltage SIR 70S
169.0676 S:14 Exp:PAH5
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
6:46
100
80
60
40
20
0
3.5E7
2.8E7
2.1E7
1.4E7
7.0E6
0.0E0
6:30
6:36
6:42
6:48
6:54
7:00
TIME

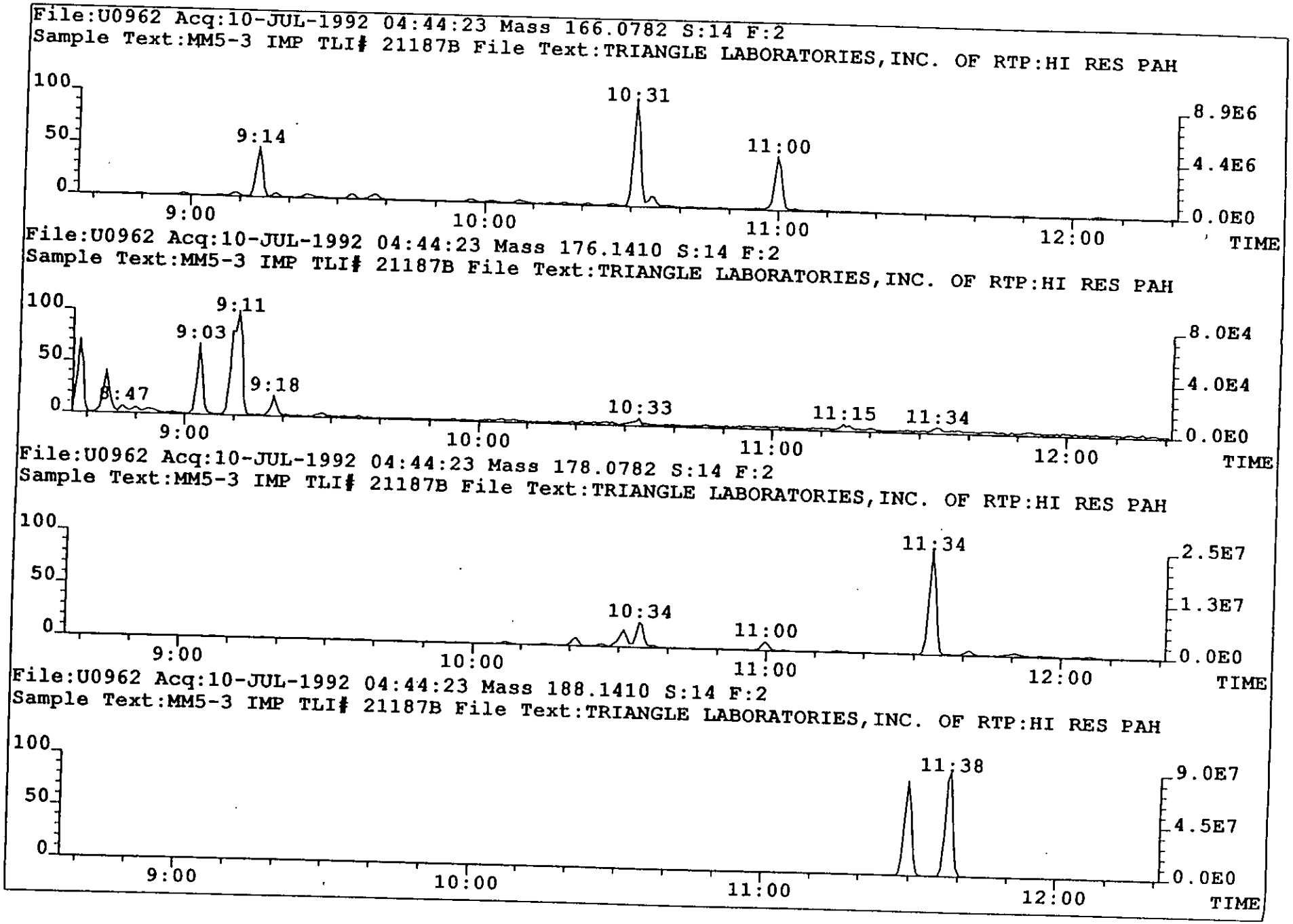

File:U0962 #1-1212 Acq:10-JUL-1992 04:44:23 GC EI+ Voltage SIR 70S
252.0939 S:14 F:4 Exp:PAH5
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
x10.00
21:42
21:48
22:48
22:42
23:03
22:00
23:00
24:00
TIME
File:U0962 #1-1212 Acq:10-JUL-1992 04:44:23 GC EI+ Voltage SIR 70S
264.1692 S:14 F:4 Exp:PAH5
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
x10.00
22:41
21:36
21:43
22:56
22:00
23:00
24:00
TIME

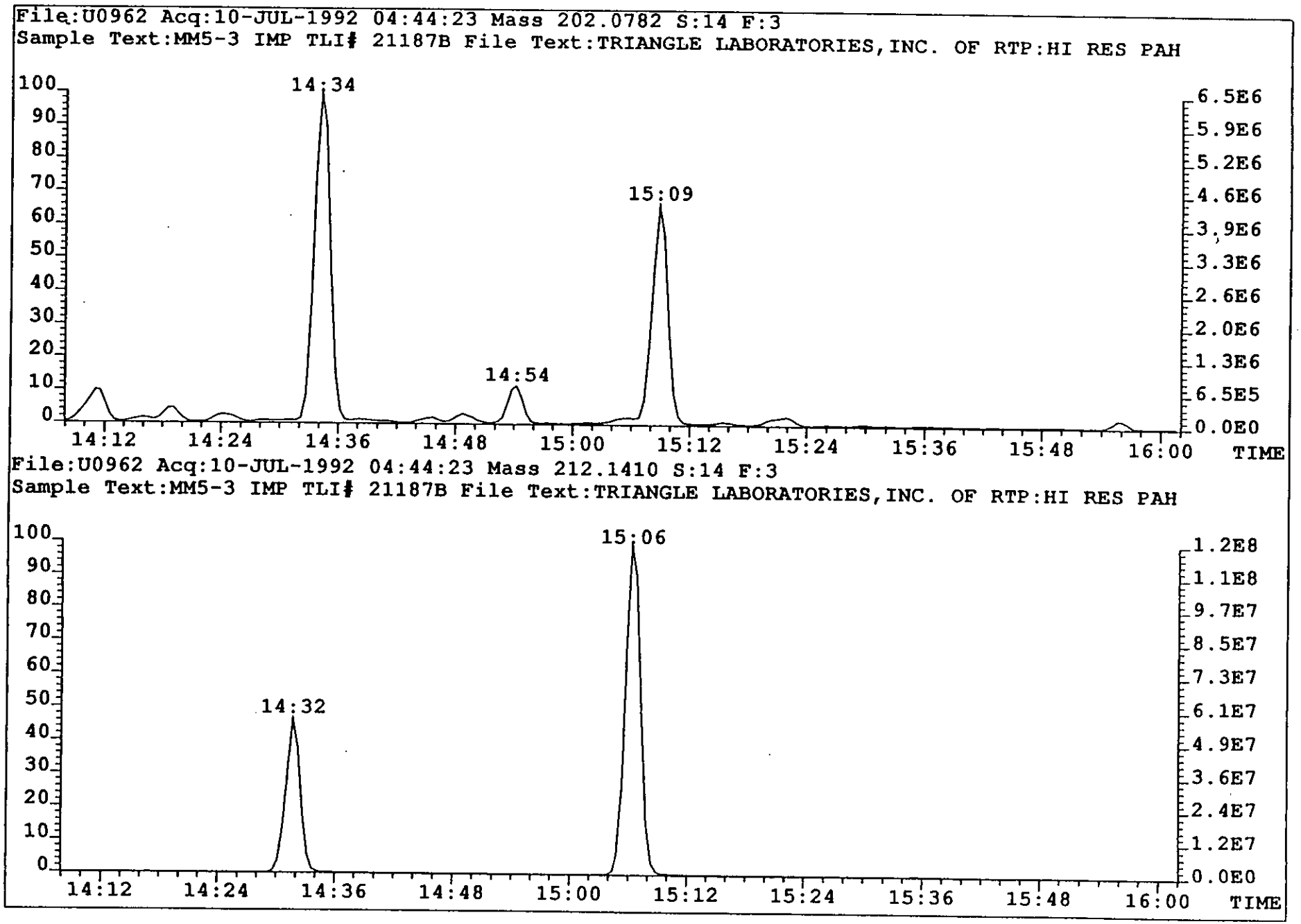

File:U0962 #1-245 Acq:10-JUL-1992 04:44:23 GC EI+ Voltage SIR 70S
154.9920 S:14 Exp:PAH5
Sample#14 Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:36 4:46 5:14 5:25 5:35 5:48 6:01 6:22 6:36 6:55
3.4E5
1.7E5
0.0E0
4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 6:24 6:36 6:48 7:00 TIME
File:U0962 #1-683 Acq:10-JUL-1992 04:44:23 GC EI+ Voltage SIR 70S
168.9888 S:14 F:2 Exp:PAH5
Sample#14 Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:54 9:40 10:24 11:53 12:44
1.9E7
9.5E6
0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 TIME
File:U0962 #1-715 Acq:10-JUL-1992 04:44:23 GC EI+ Voltage SIR 70S
242.9856 S:14 F:3 Exp:PAH5
Sample#14 Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
14:40 15:43 16:09 17:03 18:01 18:30 19:10
5.3E6
2.7E6
0.0E0
15:00 16:00 17:00 18:00 19:00 20:00 TIME
File:U0962 #1-1212 Acq:10-JUL-1992 04:44:23 GC EI+ Voltage SIR 70S
268.9824 S:14 F:4 Exp:PAH5
Sample#14 Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
21:13 22:41 23:35 24:30 25:25 27:11 29:16 30:46 32:06
3.2E6
1.6E6
0.0E0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 33:00 TIME

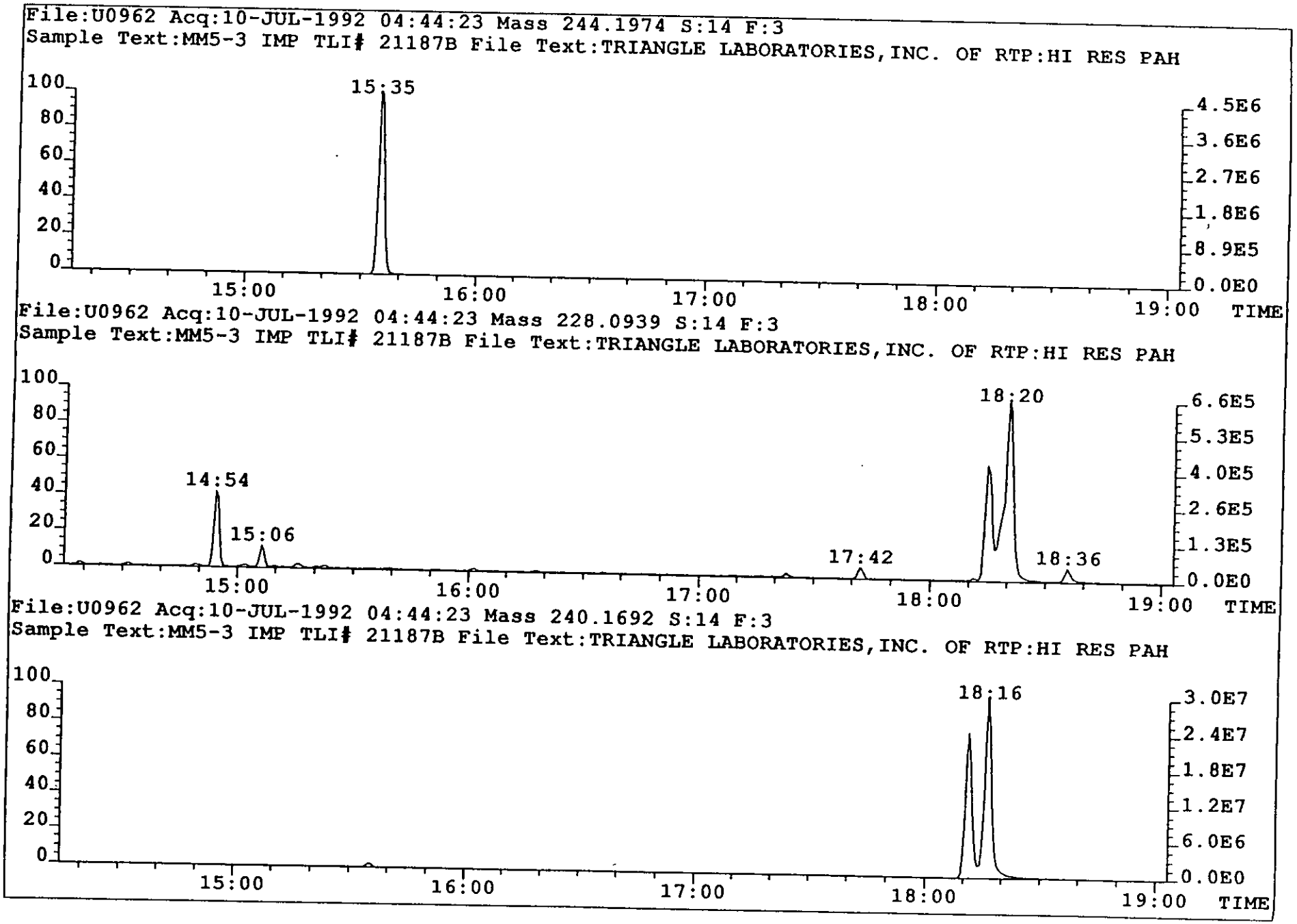

File:U0962 Acq:10-JUL-1992 04:44:23 Mass 128.0626 S:14
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
4:46
100
50
0
3.8E7
1.9E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 136.1128 S:14
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
4:44
3.2E7
1.6E7
0.0E0
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 142.0782 S:14
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
5:53
6:04
2.3E7
1.2E7
0.0E0
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 152.1410 S:14
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
5:49
2.9E7
1.5E7
0.0E0

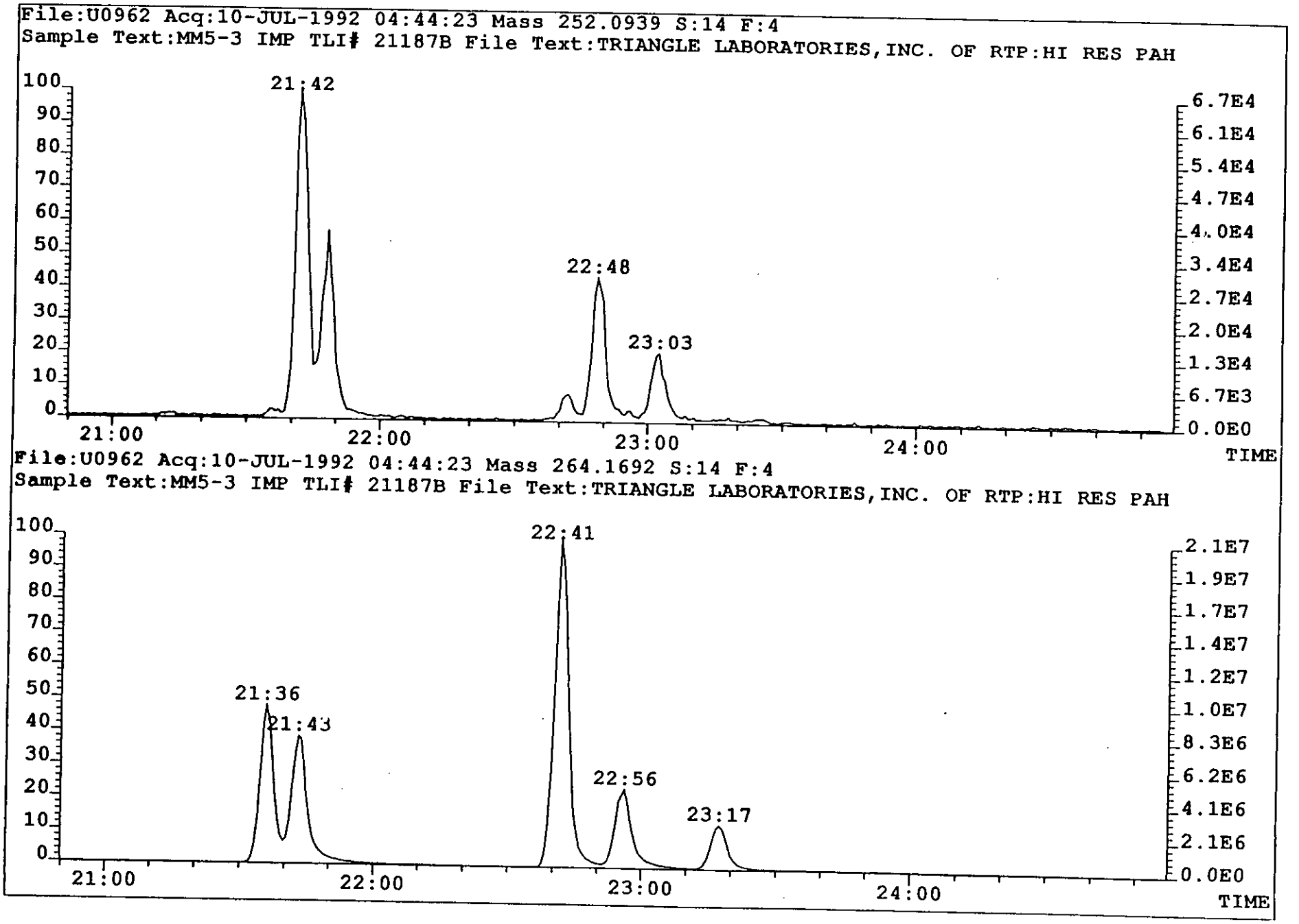

File:U0962 Acq:10-JUL-1992 04:44:23 Mass 162.0236 S:14
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:49
6:52
4.0E5
2.0E5
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 164.0207 S:14
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:49
6:52
9.7E4
4.8E4
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 169.0676 S:14
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:46
3.5E7
1.8E7
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 171.0648 S:14
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:46
1.1E7
5.3E6
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME

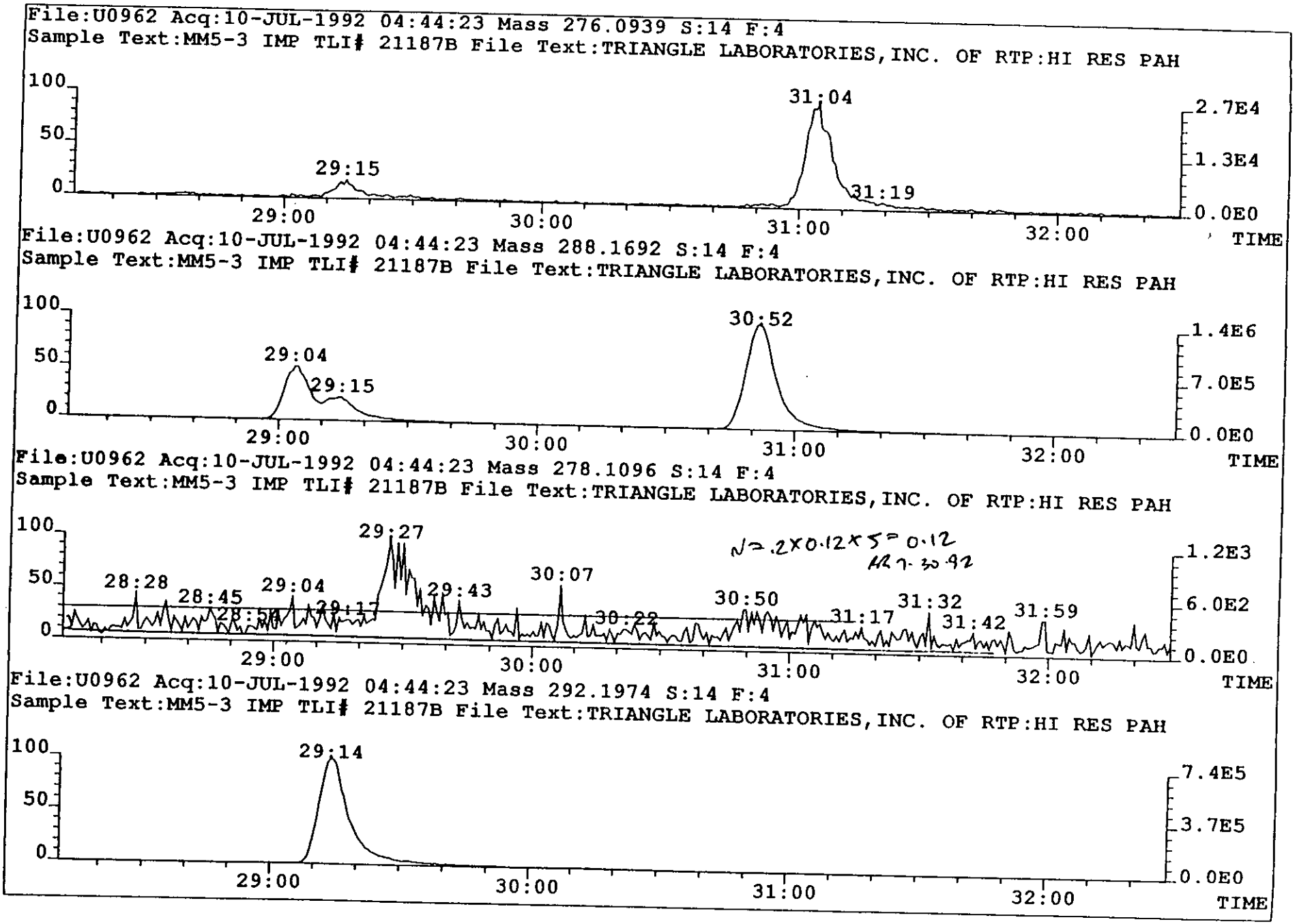

File:U0962 Acq:10-JUL-1992 04:44:23 Mass 152.0626 S:14 F:2
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:15
7:30
7:41
7:57
8:04
8:14
8:32
8:43
1.6E6
7.8E5
0.0E0
TIME
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 160.1128 S:14 F:2
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
7:39
7:59
6.4E7
3.2E7
0.0E0
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 154.0782 S:14 F:2
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
8:03
7:15
8:14
8:32
8:43
2.6E6
1.3E6
0.0E0
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 164.1410 S:14 F:2
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
7:59
1.5E8
7.3E7
0.0E0


File:U0962 Acq:10-JUL-1992 04:44:23 Mass 166.0782 S:14 F:2
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:14
10:31
11:00
8.9E6
4.4E6
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 176.1410 S:14 F:2
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:11
9:03
9:18
10:33
11:15
11:34
8.0E4
4.0E4
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 178.0782 S:14 F:2
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
11:34
10:34
11:00
2.5E7
1.3E7
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 188.1410 S:14 F:2
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
11:38
9.0E7
4.5E7
0.0E0
9:00
10:00
11:00
12:00
TIME


File:U0962 Acq:10-JUL-1992 04:44:23 Mass 202.0782 S:14 F:3
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
14:34
15:09
14:54
100
90
80
70
60
50
40
30
20
10
0
6.5E6
5.9E6
5.2E6
4.6E6
3.9E6
3.3E6
2.6E6
2.0E6
1.3E6
6.5E5
0.0E0
14:12
14:24
14:36
14:48
15:00
15:12
15:24
15:36
15:48
16:00
TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 212.1410 S:14 F:3
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:06
14:32
100
90
80
70
60
50
40
30
20
10
0
1.2E8
1.1E8
9.7E7
8.5E7
7.3E7
6.1E7
4.9E7
3.6E7
2.4E7
1.2E7
0.0E0
14:12
14:24
14:36
14:48
15:00
15:12
15:24
15:36
15:48
16:00
TIME


File:U0962 Acq:10-JUL-1992 04:44:23 Mass 244.1974 S:14 F:3
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:35
100
80
60
40
20
0
4.5E6
3.6E6
2.7E6
1.8E6
8.9E5
0.0E0
15:00
16:00
17:00
18:00
19:00
TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 228.0939 S:14 F:3
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:20
14:54
15:06
17:42
18:36
6.6E5
5.3E5
4.0E5
2.6E5
1.3E5
0.0E0
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 240.1692 S:14 F:3
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:16
3.0E7
2.4E7
1.8E7
1.2E7
6.0E6
0.0E0


File:U0962 Acq:10-JUL-1992 04:44:23 Mass 252.0939 S:14 F:4
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:42
22:48
23:03
TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 264.1692 S:14 F:4
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:36
21:43
22:41
22:56
23:17
TIME


File:U0962 Acq:10-JUL-1992 04:44:23 Mass 276.0939 S:14 F:4
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:15
31:04
31:19
29:00
30:00
31:00
32:00
2.7E4
1.3E4
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 288.1692 S:14 F:4
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:04
29:15
30:52
29:00
30:00
31:00
32:00
1.4E6
7.0E5
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 278.1096 S:14 F:4
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
28:28
28:45
28:58
29:04
29:17
29:27
29:43
30:07
30:22
30:50
31:17
31:32
31:42
31:59
29:00
30:00
31:00
32:00
1.2E3
6.0E2
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 04:44:23 Mass 292.1974 S:14 F:4
Sample Text:MM5-3 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:14
29:00
30:00
31:00
32:00
7.4E5
3.7E5
0.0E0
TIME

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/04/92

FILE NAME....:	U096215	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	57-102-8
CONCAL.....:	U096001	SAMPLE ID....:	MM5-4 IMP		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	179			4:55	B
2-Me-Naph	183			5:54	B
Acenaphthen	15.4			8:00	B
2-Cl-Naph	2.3			6:49	B
Acenaph	11.6			7:37	B
Fluorene	35.1			9:11	B
Phenan	225			11:32	B
Anth	2.3			11:40	B
Fluoran	23.2			14:34	B
Pyrene	12.5			15:08	B
B-a-Anth	1.7			18:15	PK,B
Chrysene	5.3			18:20	PK,B
Perylene	ND		0.04		
B-b-Fluoran	1.5			21:42	B
B-k-Fluoran	0.91			21:48	B
B-a-Pyrene	0.43			23:02	B
B-e-Pyrene	0.60			22:48	B
B-ghi-Pery	1.8			31:04	B
I-123-cd-Py	0.42			29:14	B
DiB-ah-Anth	0.17			29:27	B

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	65.7	65.7	11:37	

Reviewed By: AR 8/4/92

PAHJ_RPT 1.00, LARS 4.20

- TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

FILE NAME....:	U096215	CLIENT.....:	W.W ENG.	TLI SAMPLE ID.:	57-102-8
CONCAL.....:	U096001	SAMPLE ID....:	MM5-4 IMP		
ANALYST.....:	VC	ANALYSIS DATE:	07/10/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5	DATE RECEIVED.:	06/18/92
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	31.7	31.7	4:53	V
d10-2-Me-Naph	36.3	36.3	5:51	V
d7-2-Cl-Naph	36.3	36.3	6:44	V
d8-Acenaph	42.7	42.7	7:35	
d10-Phenan	54.7	54.7	11:29	
d12-B-a-Anth	99.2	99.2	18:11	
d10-Fluoran	70.4	70.4	14:31	
d12-Chrysene	56.1	56.1	18:16	
d12-Perylene	131	65.7	23:17	
d12-B-b-Fluoran	180	90.1	21:36	
d12-B-k-Fluoran	114	57.0	21:43	
d12-B-a-Pyrene	138	68.9	22:55	
d12-B-ghi-Pery	152	75.8	30:52	
d12-I-123-cd-Py	222	111	29:04	I
d14-DiB-ah-Anth	170	84.8	29:14	

Reviewed By: AR 8/4/92

PAHJ_RPT 1.00, LARS 4.20

N=0.11
(278)

	Initial	Date
B-File/Header Changes	AK	7-30-92
Manual Integrations		
Transcription		
Obase Corrections		

07/29/92

Listing of U0962158.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128	DC	0.00	0:00	2.48	T	F	0.000	NL
		0.00	4:34	109.25	T	F	0.935	
		0.00	4:41	27.38	T	F	0.959	
		0.00	4:50	100.12	T	F	0.990	
		0.00	4:55*	7661.51	T	~~F~~ T	~~1.007~~ 1.000	
		0.00	5:22	52.09	T	F	1.099	
		0.00	5:30	76.84	T	F	1.126	
		0.00	5:34	129.79	T	F	1.140	
		0.00	5:42	73.62	T	F	1.167	
		0.00	5:46	94.80	T	F	1.181	
		0.00	5:49	185.92	T	F	1.191	
		0.00	5:57	29.83	T	F	1.218	
		0.00	6:05	91.61	T	F	1.246	
	DC	0.00	6:13	19.83	T	F	1.273	SN
		0.00	6:17	27.93	T	F	1.287	
	DC	0.00	6:21	9.75	T	F	1.300	SN
		0.00	6:43	38.04	T	F	1.375	
	DC	0.00	6:49	90.36	T	F	1.396	WH
	DC	0.00	6:52	20.39	T	F	1.406	WH
	DC	0.00	6:55	102.04	T	F	1.416	WH
128		*** Total ***		8943.58	# of Peaks:		20	
136	DC	0.00	0:00	0.03	T	F	0.000	NL
		0.00	4:47	12.78	T	F	0.980	
		0.00	4:53*	5565.24	T	T	1.000	
136		*** Total ***		5578.05	# of Peaks:		3	
142	DC	0.00	0:00	0.16	T	F	0.000	NL
		0.00	5:49	12.12	T	F	0.967	
		0.00	5:54*	6280.99	T	~~F~~ T	~~0.981~~ 1.000	
		0.00	6:05	4563.32	T	~~T~~ F	1.011	
		0.00	6:55	216.60	T	F	1.150	
142		*** Total ***		11073.19	# of Peaks:		5	
152	DC	0.00	0:00	0.01	T	F	0.000	NL
	DC	0.00	0:00	0.12	T	F	0.000	NL
		0.00	5:51*	3242.71	T	~~F~~ T	~~0.759~~ 1.000	
		0.00	6:01	22.99	T	~~T~~ F	~~1.000~~ 1.010	
		0.00	6:43	4.52	T	F	0.848	
		0.00	7:03	44.16	T	F	0.891	
		0.00	7:07	0.47	T	F	0.899	
		0.00	7:12	445.44	T	F	0.909	

Listing of U096215B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
152		0.00	7:20	1.29	T	F	0.926	
		0.00	7:27	254.29	T	F	0.941	
		0.00	7:37 •	518.30	T	~~F~~T	~~0.962~~ 1.000	
		0.00	7:53	217.99	T	F	0.996	
		0.00	8:00	430.77	T	F	1.011	
		0.00	8:11	238.34	T	F	1.034	
		0.00	8:16	49.41	T	F	1.044	
		0.00	8:24	260.12	T	F	1.061	
		0.00	8:29	203.24	T	F	1.072	
		0.00	8:40	245.02	T	F	1.095	
		0.00	8:44	70.12	T	F	1.103	
		0.00	8:52	246.44	T	F	1.120	
152		*** Total ***		6698.96	# of Peaks:		21	
154	DC	0.00	0:00	0.08	T	F	0.000	NL
		0.00	7:04	12.72	T	F	0.893	
	DC	0.00	7:07	0.31	T	F	0.899	SN
		0.00	7:12	154.28	T	F	0.909	
		0.00	7:15	60.02	T	F	0.916	
		0.00	7:19	3.15	T	F	0.924	
		0.00	7:27	82.21	T	F	0.941	
		0.00	7:37	50.46	T	F	0.962	
		0.00	7:55	6.42	T	F	~~1.000~~ 0.950	
		0.00	8:00 •	413.02	T	~~F~~T	~~1.011~~ 1.000	
		0.00	8:11	139.59	T	F	1.034	
		0.00	8:16	29.78	T	F	1.044	
		0.00	8:24	144.40	T	F	1.061	
		0.00	8:29	117.59	T	F	1.072	
		0.00	8:40	139.74	T	F	1.095	
		0.00	8:44	40.21	T	F	1.103	
		0.00	8:52	163.43	T	F	1.120	
154		*** Total ***		1557.41	# of Peaks:		17	
160	DC	0.00	0:00	0.11	T	F	0.000	NL
		0.00	7:35 •	4197.42	T	~~F~~T	~~0.958~~ 1.000	
		0.00	7:55	7081.15	T	~~T~~F	~~1.000~~ 1.010	
		0.00	8:19	9.57	T	F	1.051	
160		*** Total ***		11288.25	# of Peaks:		4	
162	DC	4.00	0:00	0.10	F	F	0.000	NL
	ok	~~3.33~~ 3.46	6:49 •	~~935.49~~ 116.02	T	~~F~~T	~~1.012~~ 1.000	
162		*** Total ***		935.59	# of Peaks:		2	
164	DC	0.00	0:00	0.02	T	F	0.000	NL
	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	6:49	215.98	T	F	0.840	
		0.00	7:55 •	15159.36	T	~~F~~T	~~0.976~~ 1.000	
164		*** Total ***		15375.37	# of Peaks:		4	
166	DC	0.00	0:00	0.02	T	F	0.000	NL
	DC	0.00	8:01	28.00	T	F	0.690	WL
	DC	0.00	8:06	19.08	T	F	0.697	WL
	DC	0.00	8:21	24.92	T	F	0.719	WL

Listing of U096215B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
166	DC	0.00	8:56	63.06	T	F	0.769	WL
	~~DC~~	0.00	9:11	1172.02	T	~~F~~ T	0.791	~~WL~~
	DC	0.00	9:21	165.71	T	F	0.805	WL
		0.00	9:35	113.40	T	F	0.825	
		0.00	9:49	16.19	T	F	0.845	
		0.00	10:05	228.44	T	F	0.868	
		0.00	10:12	61.90	T	F	0.878	
		0.00	10:30	824.60	T	F	0.904	
		0.00	10:59	301.14	T	F	0.945	
		0.00	11:09	8.51	T	F	0.960	
		0.00	11:29	45.09	T	F	0.989	
		0.00	11:47	9.90	T	F	1.014	
166		*** Total ***		3083.98	# of Peaks:		16	
169	DC	14.29	0:00	0.02	F	F	0.000	NL
		3.38	6:44	4231.32	T	T	1.000	
169		*** Total ***		4231.34	# of Peaks:		2	
176	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	7:57	0.58	T	F	0.858	
		0.00	8:12	0.14	T	F	0.885	
		0.00	8:24	0.25	T	F	0.906	
		0.00	8:35	4.29	T	F	0.926	
		0.00	8:41	3.30	T	F	0.937	
		0.00	9:00	1.56	T	F	0.971	
	CK	0.00	9:07	~~4.13~~ 3.49	T	~~F~~ T	~~0.984~~ 1.000	
		0.00	9:16	0.24	T	~~F~~ F	~~1.000~~ 1.010	
		0.00	9:25	0.14	T	F	1.016	
		0.00	10:02	0.21	T	F	1.082	
		0.00	10:32	0.32	T	F	1.136	
		0.00	11:03	0.12	T	F	1.192	
		0.00	11:14	0.48	T	F	1.212	
		0.00	11:32	1.29	T	F	1.244	
		0.00	11:54	0.57	T	F	1.284	
	DC	0.00	12:00	0.08	T	F	1.295	SN
176		*** Total ***		17.71	# of Peaks:		17	
178	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	9:49	170.37	T	F	0.845	
		0.00	10:05	953.44	T	F	0.868	
		0.00	10:20	616.13	T	F	0.890	
		0.00	10:32	2371.85	T	F	0.907	
		0.00	10:58	136.35 11126.62	T	F	0.944	
	CK	0.00	11:32	~~11126.62~~ ~~6046.9~~ *	T	~~F~~ T	~~0.993~~ 1.000	PR
	CK	0.00	11:40	~~100.51~~ 100.51	T	T	1.004	PR
		0.00	11:51	295.13	T	F	1.020	
178		*** Total ***		15770.42 ~~8392~~	# of Peaks:		9	
188	DC	0.00	0:00	0.02 6669.19	T	F	0.000	NL
	CK	0.00	11:29	~~6669.19~~ ~~3983.0~~ *	T	~~F~~ T	~~0.979~~ 1.000	PR-I
	CK	0.00	11:37	~~6887.64~~ ~~4216.9~~ *	T	T	1.000	PR-E
188		*** Total ***		13556.85 6887.64	# of Peaks:		3	

EC MB 8.2.92

Listing of U096215B.dbf

Matched GC Peaks / Ratio / Ret. Time

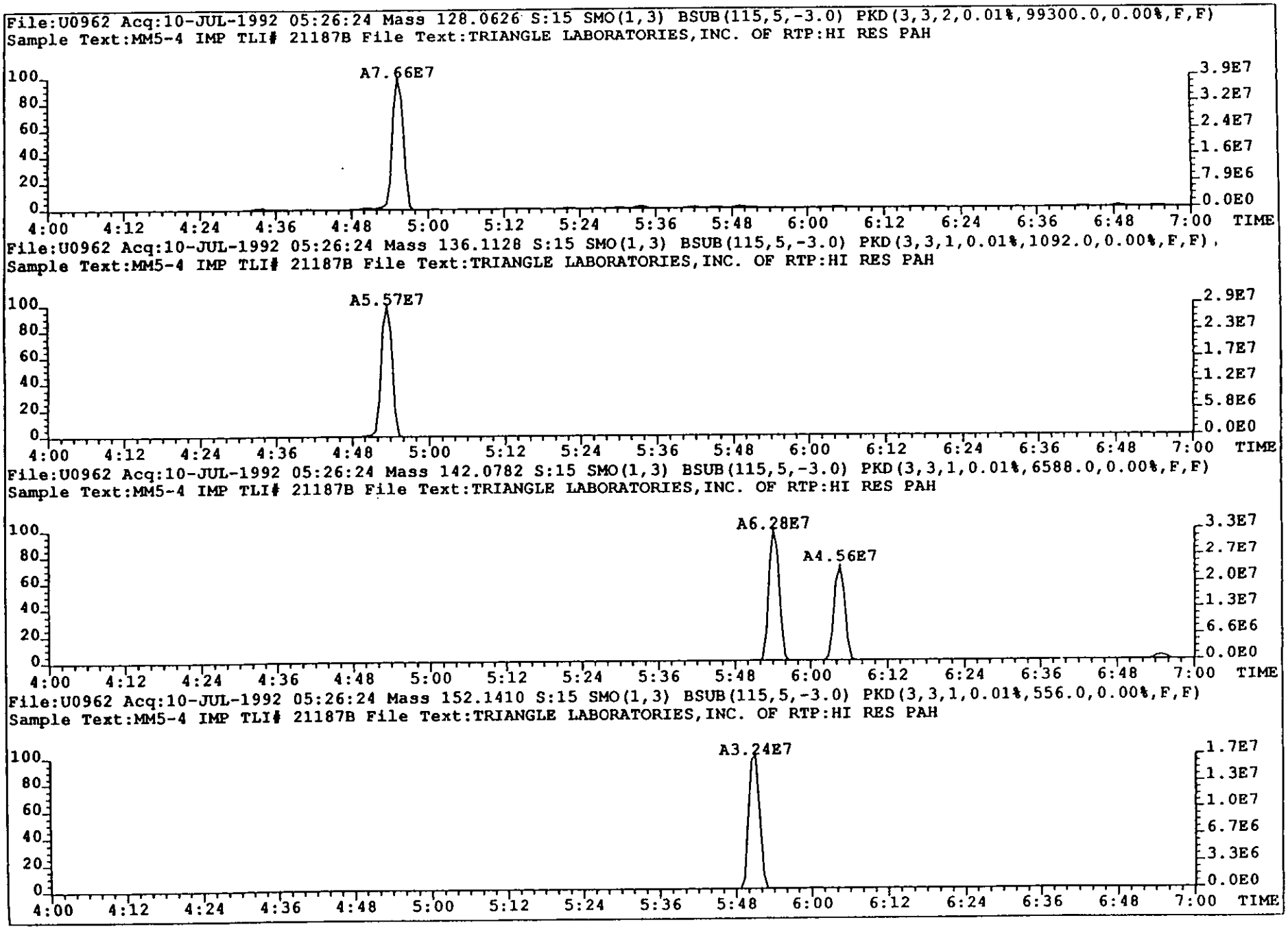
M_Z	Omit		Ratio	RT.	Area		Match Rat	Match RT	REL_RT	Who/ Why
202	DC		0.00	0:00	4.65		T	F	0.000	NL
			0.00	14:11	46.94	1040.56	T	F	0.977	
		CK	0.00	14:34	~~1040.56~~	~~2147~~	T	T	1.003	PR
		CK	0.00	15:08	~~569.52~~	~~1165.7~~ 569.52	T	T	1.042	PR
202			*** Total ***		1661.67		# of Peaks:		4	
212	DC		0.00	0:00	0.05	5267.40	T	F	0.000	NL
		CK	0.00	14:31	~~5267.40~~	~~5363.0~~	T	T	1.000	I
		CK	0.00	15:06	~~12391.12~~	~~9811.0~~	T	FT	0.994	I
			0.00	18:16	139.64	12391.12	T	F	1.202	
212			*** Total ***		17798.21		# of Peaks:		4	
228	DC		0.00	0:00	0.03	# CC 8.392	T	F	0.000	NL
			0.00	15:15	1.10		T	F	0.835	
			0.00	17:42	4.60		T	F	0.969	PR
			0.00	18:15	~~56.27~~	53.7	T	FT	0.999	PR
		CK	0.00	18:20	~~156.45~~	118.9	T	T	1.004	PR
			0.00	18:30	3.40		T	F	1.013	
			0.00	18:36	3.12		T	F	1.018	
228			*** Total ***		224.97		# of Peaks:		7	
240	DC		0.00	0:00	0.01		T	F	0.000	NL
			0.00	18:11	3380.74		T	FT	0.995	
			0.00	18:16	4385.27		T	T	1.000	
240			*** Total ***		7766.02		# of Peaks:		3	
244	DC		0.00	0:00	0.01		T	F	0.000	NL
			0.00	15:35	366.96		T	FT	~~0.994~~ 1.000	
244			*** Total ***		366.97		# of Peaks:		2	
252	DC		0.00	0:00	0.01		T	F	0.000	NL
			0.00	21:42	25.63		T	T	0.932	
			0.00	21:48	12.74		T	T	0.936	
	CK 5)		0.00	22:41	3.43		T	F	0.974	
			0.00	22:48	11.19		T	T	0.979	
			0.00	23:02	4.86		T	T	0.989	
252			*** Total ***		57.86		# of Peaks:		6	SN
	J)	252 —		23:25 6)	0.29		T	T	1.000	
264	DC		0.00	0:00	**********		T	F	0.000	NL
			0.00	21:36	3555.45		T	T	0.928	
			0.00	21:43	3464.07		T	T	0.933	
			0.00	22:41	9363.48		T	T	0.999	
			0.00	22:55	2488.23		T	T	0.984	
			0.00	23:17	1417.90		T	T	1.000	
264			*** Total ***		20289.13		# of Peaks:		6	
276	DC		0.00	0:00	0.01		T	F	0.000	NL
	DC		0.00	26:31	0.07		T	F	0.859	SN
			0.00	29:14	3.13		T	T	0.947	
			0.00	30:41	0.49		T	F	0.994	
			0.00	30:53	0.27		T	F	1.001	
			0.00	31:04	15.91		T	T	1.006	
	DC		0.00	31:38	0.10		T	F	1.025	SN

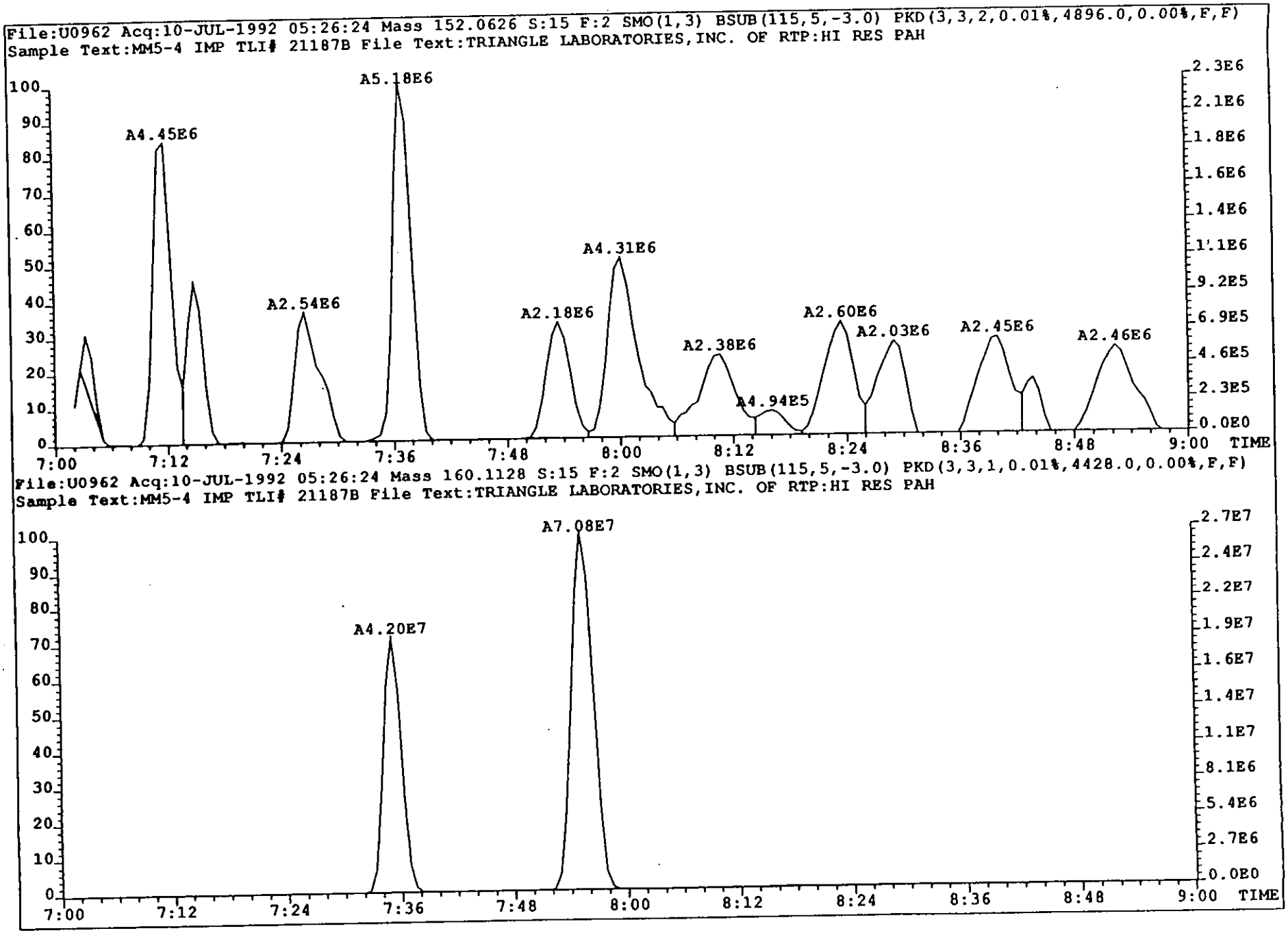
Listing of U096215B.dbf

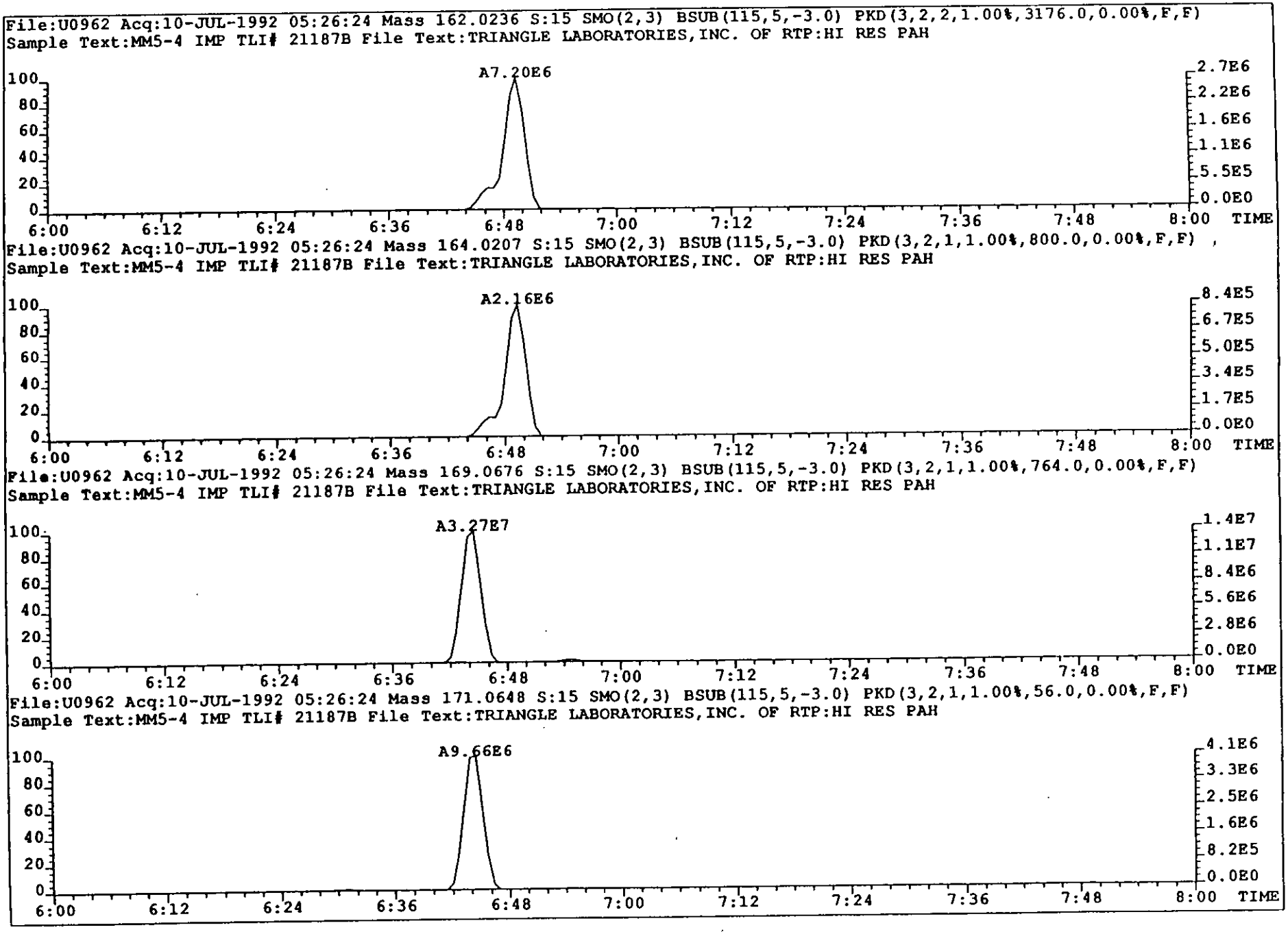
Matched GC Peaks / Ratio / Ret. Time

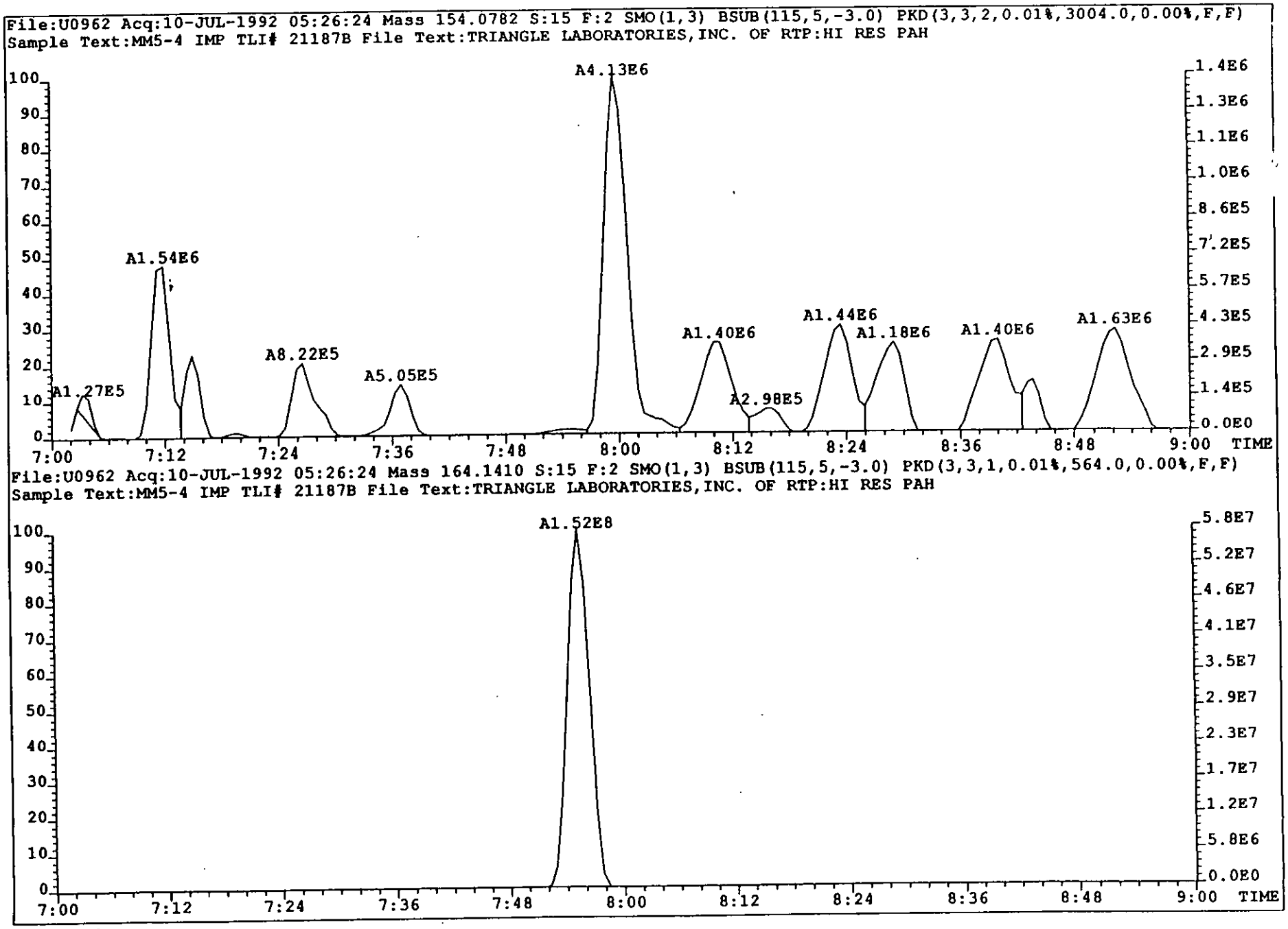
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
276		*** Total ***		19.98	# of Peaks:		7	
278	DC	0.00	0:00	**********.**	T	F	0.000	NL
		0.00	28:45	0.04	T	F	0.983	
		0.00	29:06	0.05	T	F	0.995	
		0.00	29:27•	0.82	T	T	1.007	
		0.00	30:51	0.41	T	F	1.055	
		0.00	31:03	0.09	T	F	1.062	
	DC	0.00	32:34	0.05	T	F	1.114	WH
	DC	0.00	32:44	0.07	T	F	1.120	WH
	DC	0.00	32:49	0.07	T	F	1.123	WH
278		*** Total ***		1.60	# of Peaks:		9	
288	DC	0.00	0:00	**********.**	T	F	0.000	NL
		0.00	29:04•	905.62	T	T	0.942	I
		0.00	29:14	554.20	T	F	0.947	
		0.00	30:52•	2250.56	T	T	1.000	
288		*** Total ***		3710.38	# of Peaks:		4	
292	DC	0.00	0:00	**********.**	T	F	0.000	NL
		0.00	29:14 •	1286.44	T	T	1.000	
292		*** Total ***		1286.44	# of Peaks:		2	

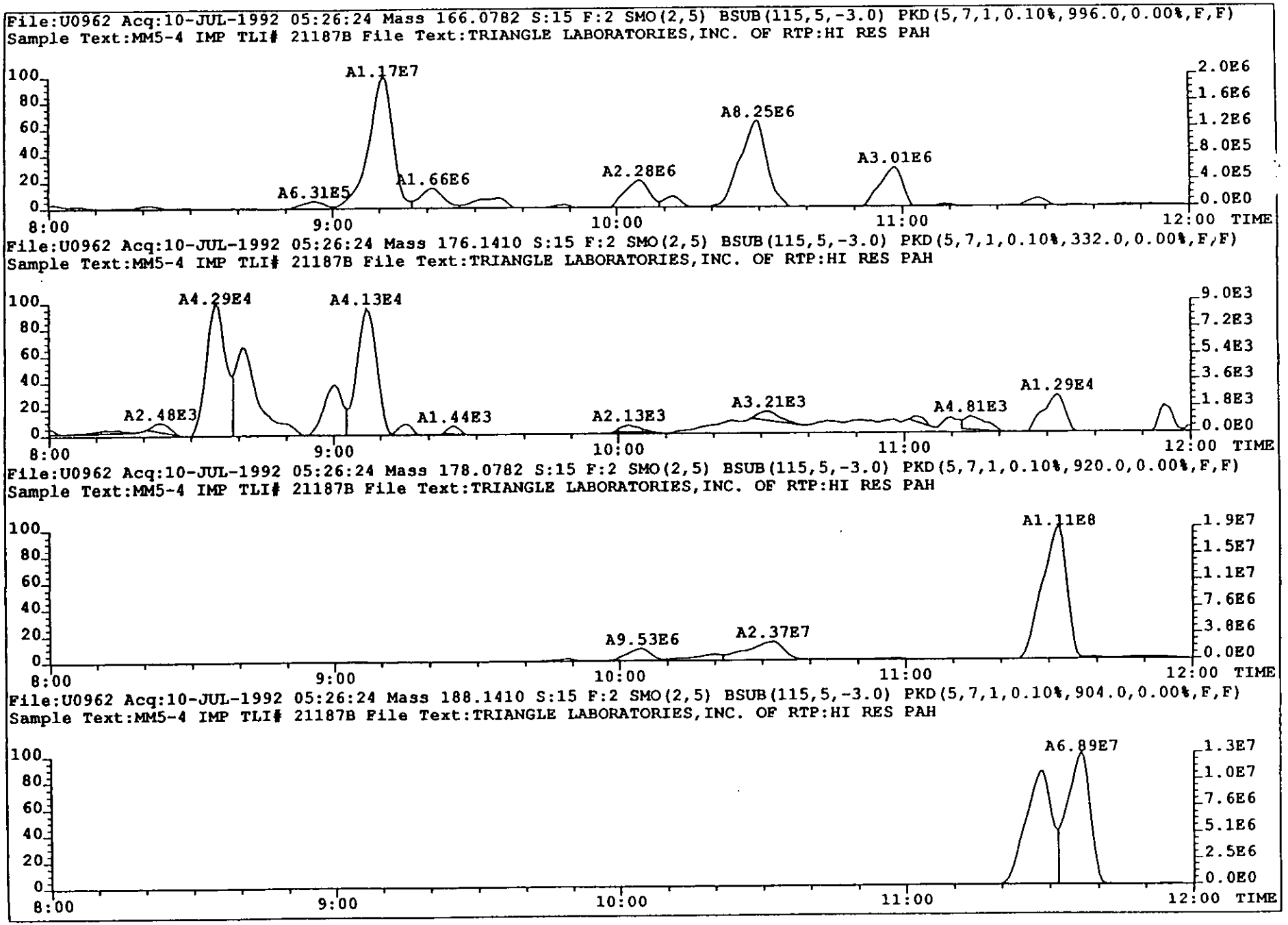
*** End of Report ***

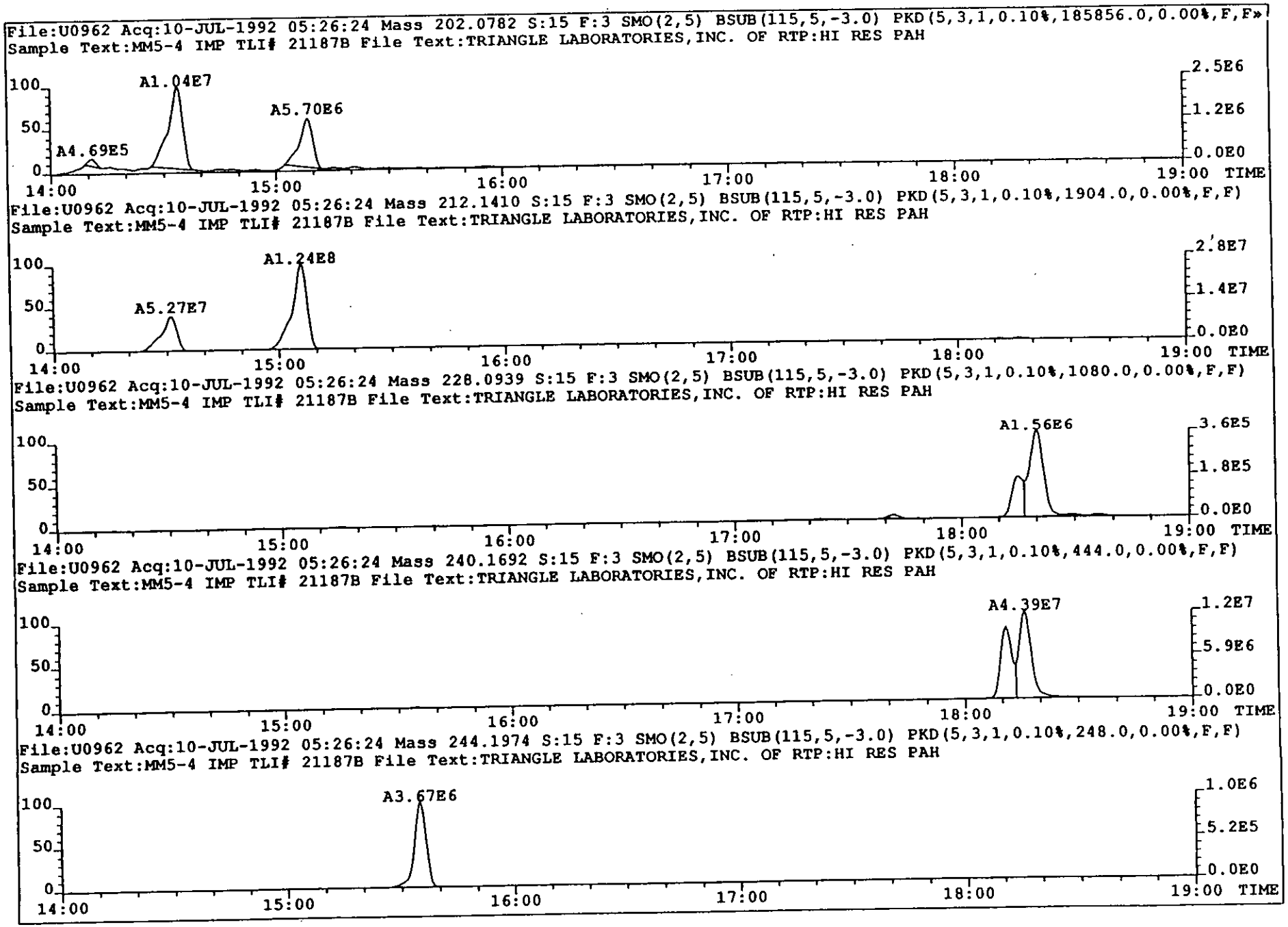

File:U0962 Acq:10-JUL-1992 05:26:24 Mass 128.0626 S:15 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,99300.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.66E7
100
80
60
40
20
0
3.9E7
3.2E7
2.4E7
1.6E7
7.9E6
0.0E0
4:00 4:12 4:24 4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 6:24 6:36 6:48 7:00 TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 136.1128 S:15 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,1092.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A5.57E7
2.9E7
2.3E7
1.7E7
1.2E7
5.8E6
0.0E0
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 142.0782 S:15 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,6588.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.28E7
A4.56E7
3.3E7
2.7E7
2.0E7
1.3E7
6.6E6
0.0E0
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 152.1410 S:15 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,556.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.24E7
1.7E7
1.3E7
1.0E7
6.7E6
3.3E6
0.0E0

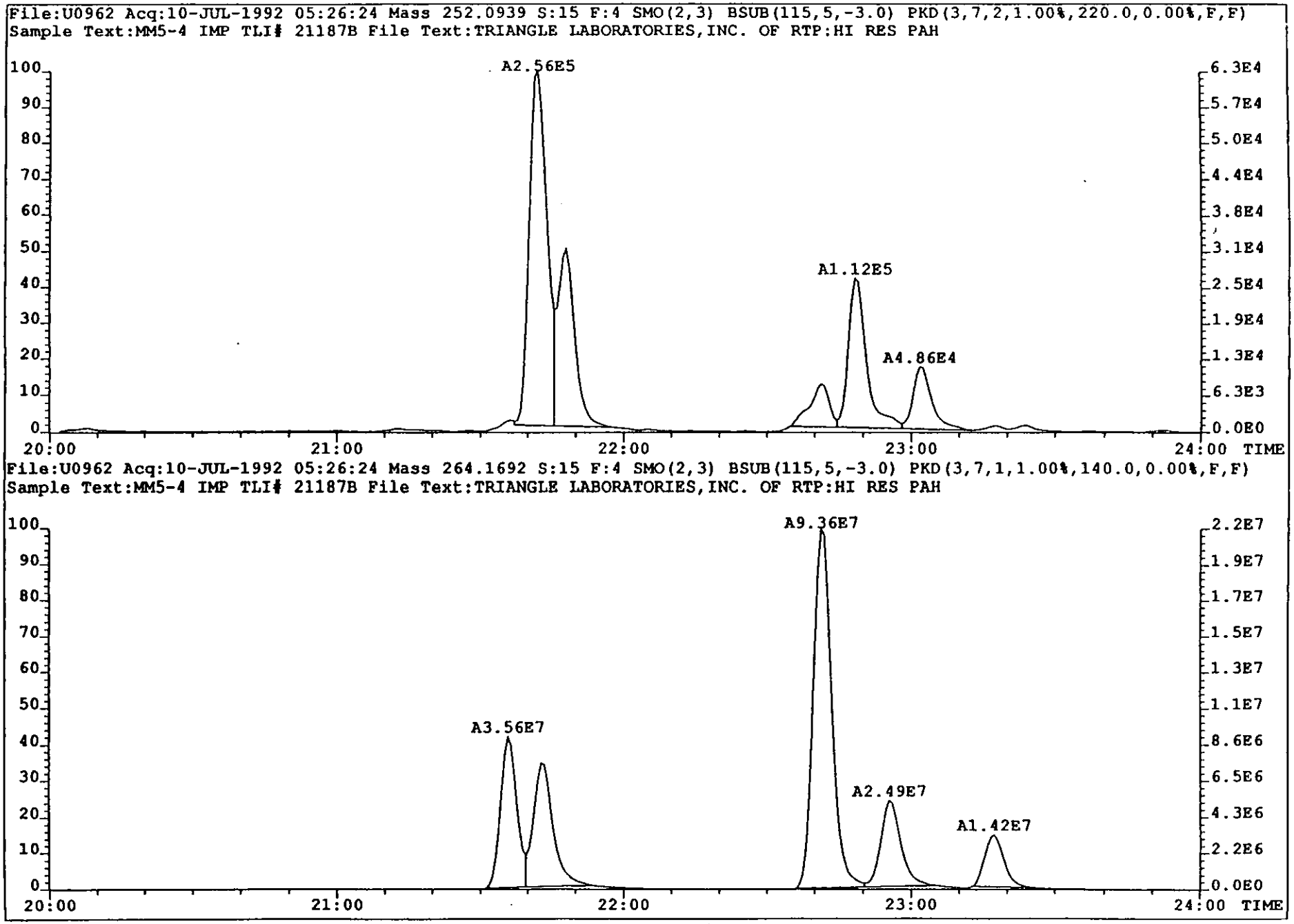

File:U0962 Acq:10-JUL-1992 05:26:24 Mass 152.0626 S:15 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,4896.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A4.45E6
A5.18E6
A2.54E6
A2.18E6
A4.31E6
A2.38E6
A4.94E5
A2.60E6
A2.03E6
A2.45E6
A2.46E6
TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 160.1128 S:15 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,4428.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.08E7
A4.20E7
TIME

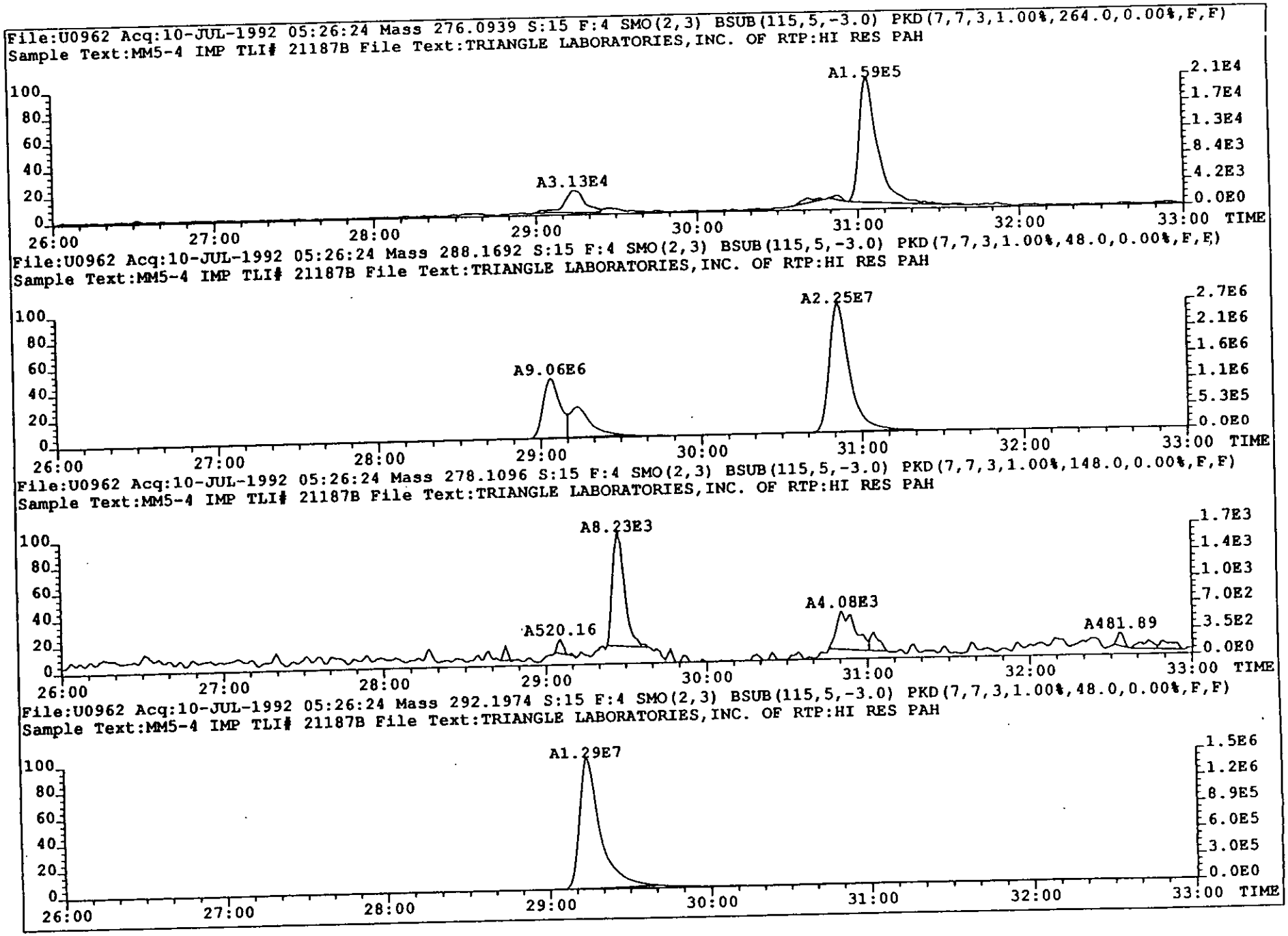

File:U0962 Acq:10-JUL-1992 05:26:24 Mass 162.0236 S:15 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,2,1.00%,3176.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A7.20E6
2.7E6
2.2E6
1.6E6
1.1E6
5.5E5
0.0E0
100
80
60
40
20
0
6:00
6:12
6:24
6:36
6:48
7:00
7:12
7:24
7:36
7:48
8:00
TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 164.0207 S:15 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,800.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.16E6
8.4E5
6.7E5
5.0E5
3.4E5
1.7E5
0.0E0
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 169.0676 S:15 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,764.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.27E7
1.4E7
1.1E7
8.4E6
5.6E6
2.8E6
0.0E0
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 171.0648 S:15 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,56.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.66E6
4.1E6
3.3E6
2.5E6
1.6E6
8.2E5
0.0E0

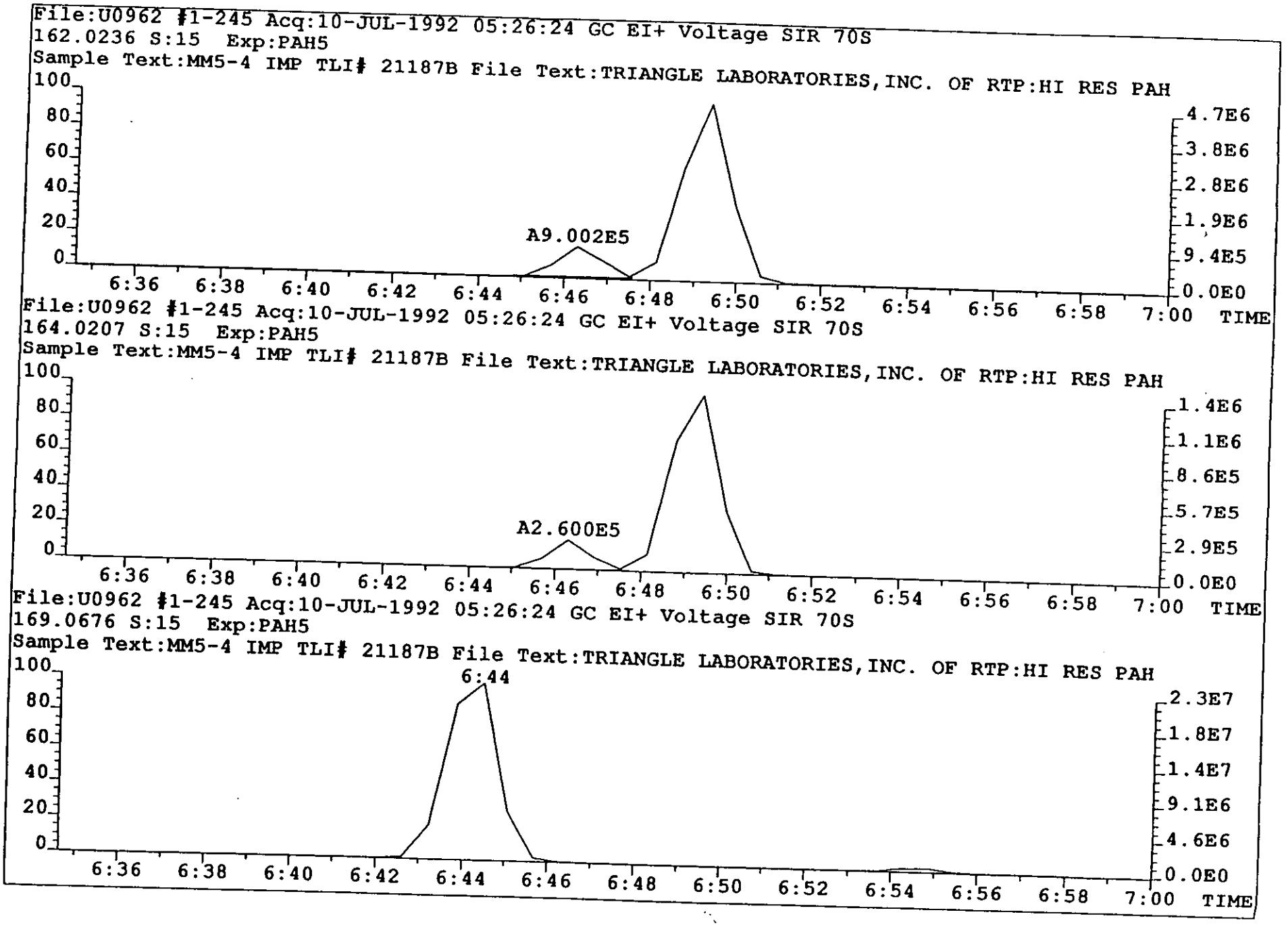

File:U0962 Acq:10-JUL-1992 05:26:24 Mass 154.0782 S:15 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,3004.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.27E5
A1.54E6
A8.22E5
A5.05E5
A4.13E6
A1.40E6
A2.98E5
A1.44E6
A1.18E6
A1.40E6
A1.63E6
TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 164.1410 S:15 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,564.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.52E8
TIME

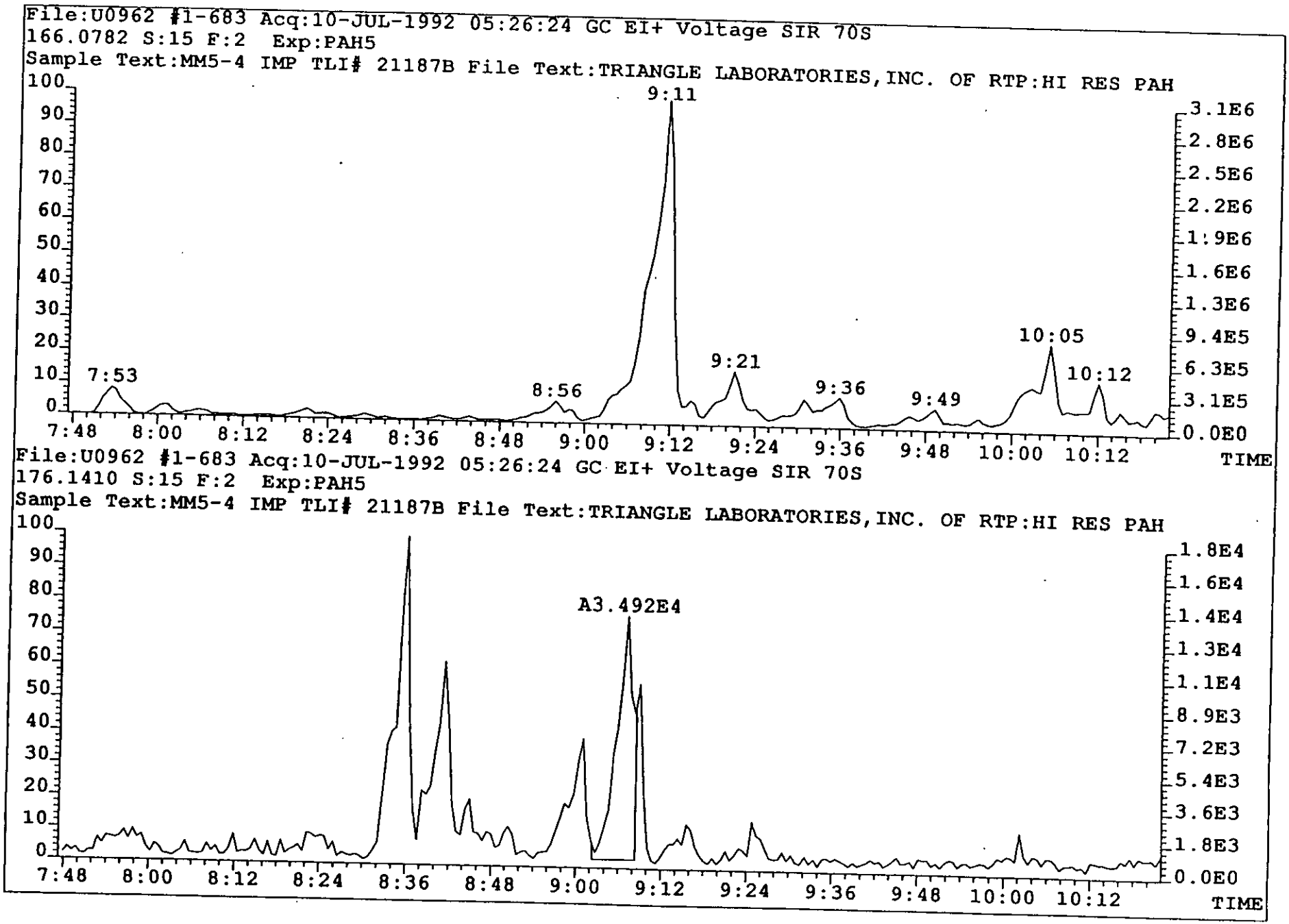

File:U0962 Acq:10-JUL-1992 05:26:24 Mass 166.0782 S:15 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,996.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.17E7
A8.25E6
A3.01E6
A2.28E6
A1.66E6
A6.31E5
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 176.1410 S:15 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,332.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A4.29E4
A4.13E4
A1.29E4
A3.21E3
A4.81E3
A2.48E3
A1.44E3
A2.13E3
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 178.0782 S:15 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,920.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.11E8
A2.37E7
A9.53E6
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 188.1410 S:15 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,904.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.89E7
8:00
9:00
10:00
11:00
12:00
TIME

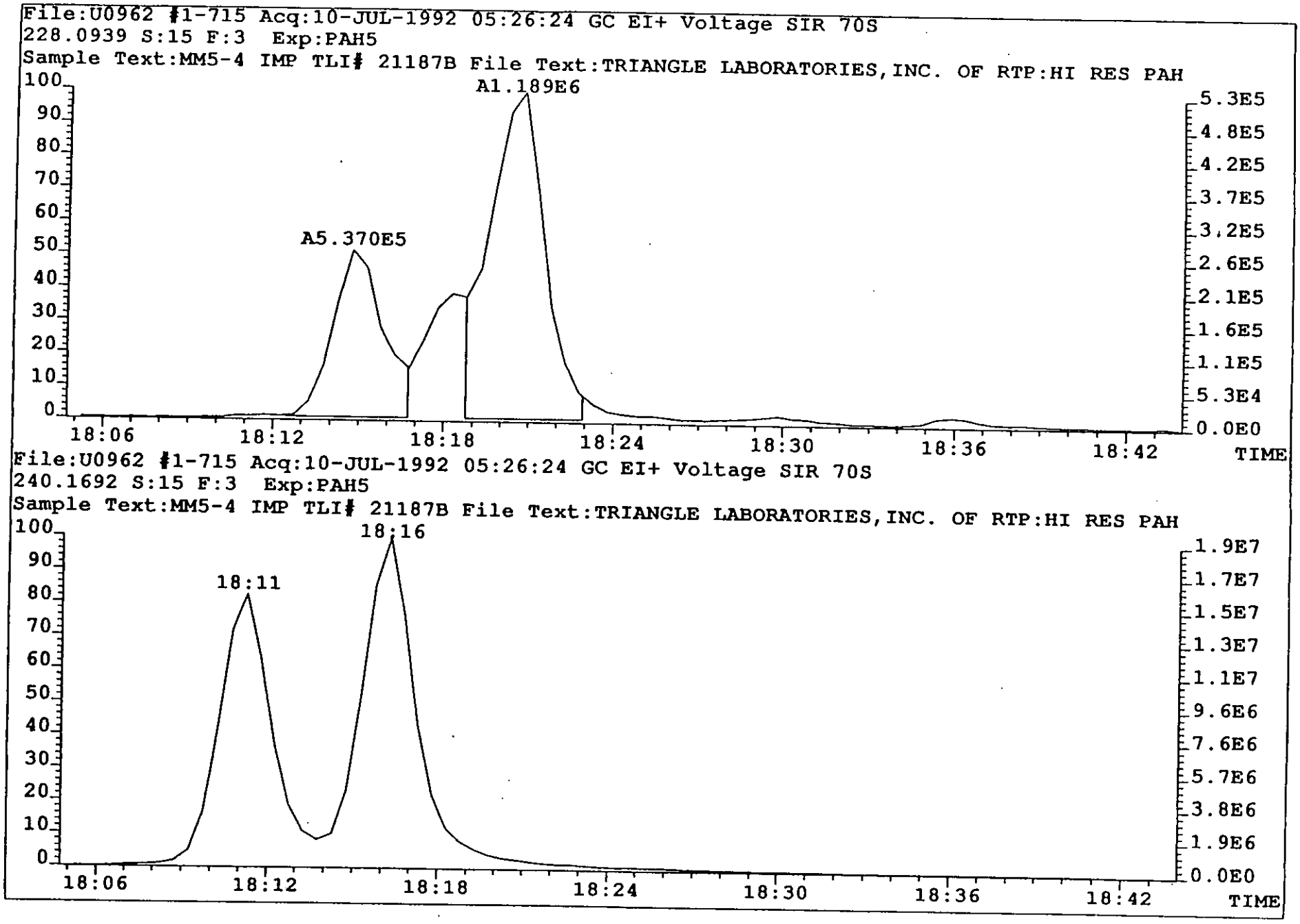

File:U0962 Acq:10-JUL-1992 05:26:24 Mass 202.0782 S:15 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,185856.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.04E7
A5.70E6
A4.69E5
2.5E6
1.2E6
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 212.1410 S:15 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,1904.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.24E8
A5.27E7
2.8E7
1.4E7
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 228.0939 S:15 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,1080.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.56E6
3.6E5
1.8E5
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 240.1692 S:15 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,444.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A4.39E7
1.2E7
5.9E6
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 244.1974 S:15 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,248.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.67E6
1.0E6
5.2E5
0.0E0
TIME
100
50
0
14:00
15:00
16:00
17:00
18:00
19:00

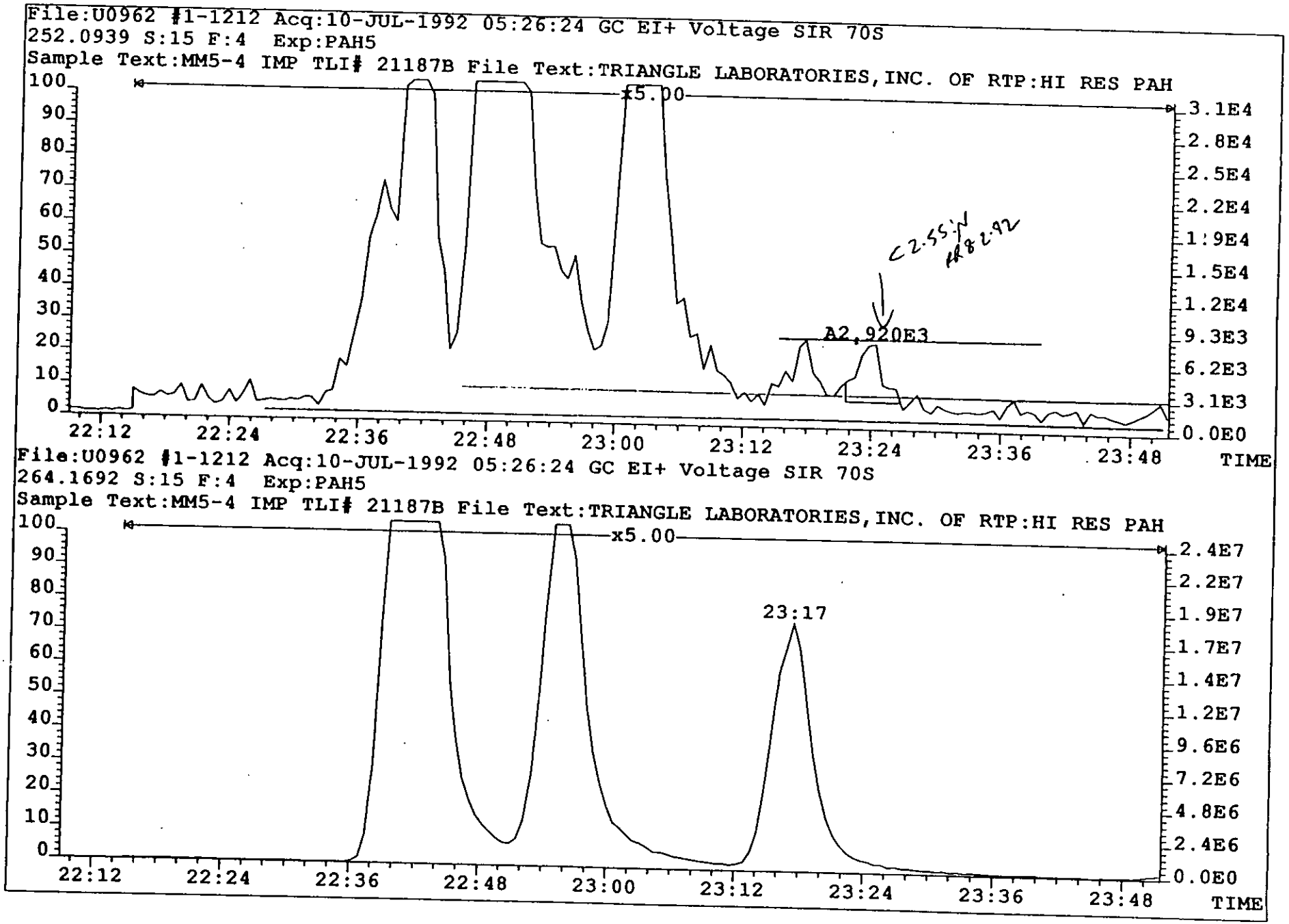

File:U0962 Acq:10-JUL-1992 05:26:24 Mass 252.0939 S:15 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,2,1.00%,220.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.56E5
A1.12E5
A4.86E4
100
90
80
70
60
50
40
30
20
10
0
6.3E4
5.7E4
5.0E4
4.4E4
3.8E4
3.1E4
2.5E4
1.9E4
1.3E4
6.3E3
0.0E0
20:00
21:00
22:00
23:00
24:00 TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 264.1692 S:15 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,1,1.00%,140.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.36E7
A3.56E7
A2.49E7
A1.42E7
100
90
80
70
60
50
40
30
20
10
0
2.2E7
1.9E7
1.7E7
1.5E7
1.3E7
1.1E7
8.6E6
6.5E6
4.3E6
2.2E6
0.0E0
20:00
21:00
22:00
23:00
24:00 TIME

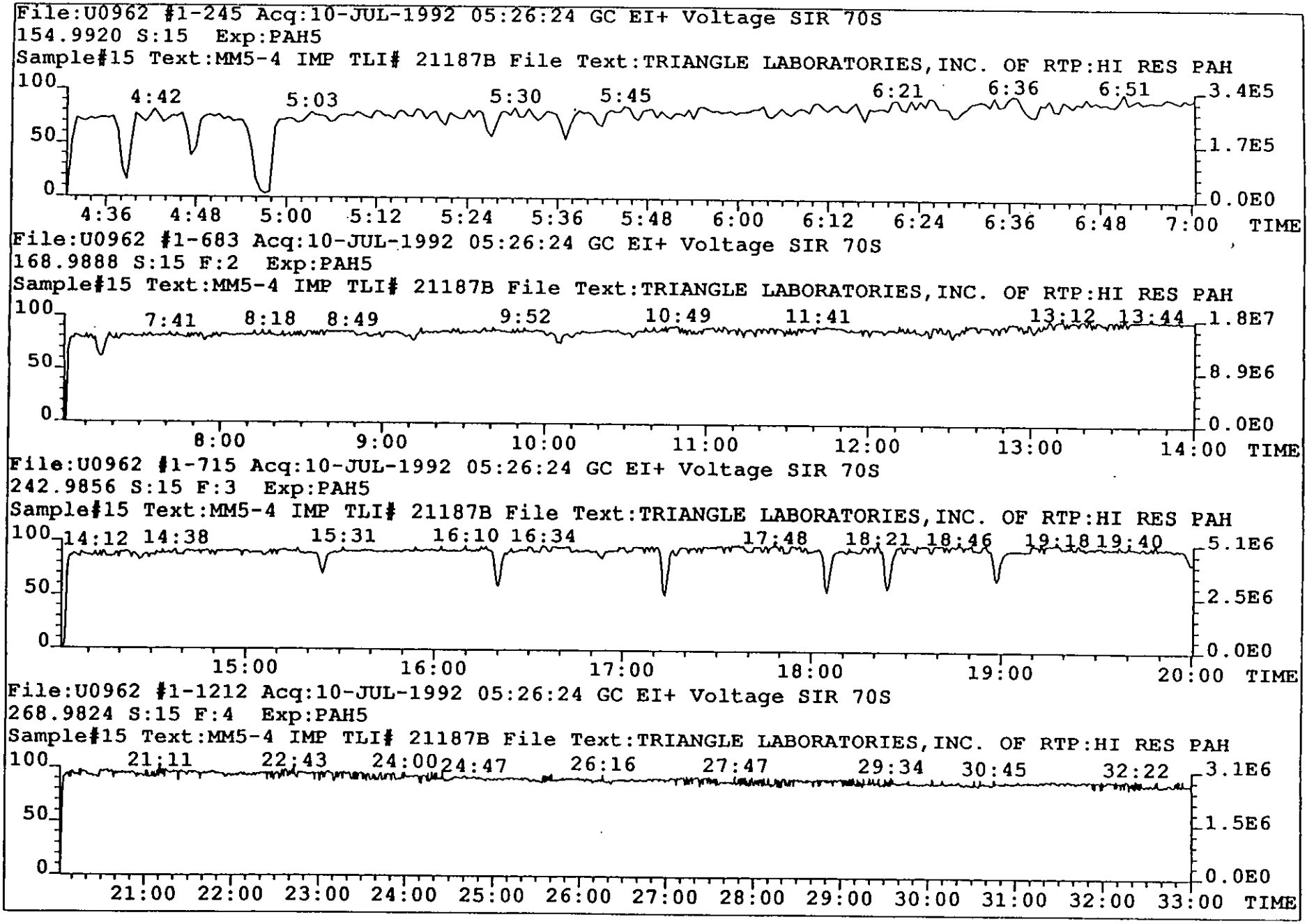

File:U0962 Acq:10-JUL-1992 05:26:24 Mass 276.0939 S:15 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,264.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.59E5
A3.13E4
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 288.1692 S:15 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,48.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.25E7
A9.06E6
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 278.1096 S:15 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,148.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A8.23E3
A4.08E3
A520.16
A481.89
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 292.1974 S:15 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,48.0,0.00%,F,F)
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.29E7
TIME

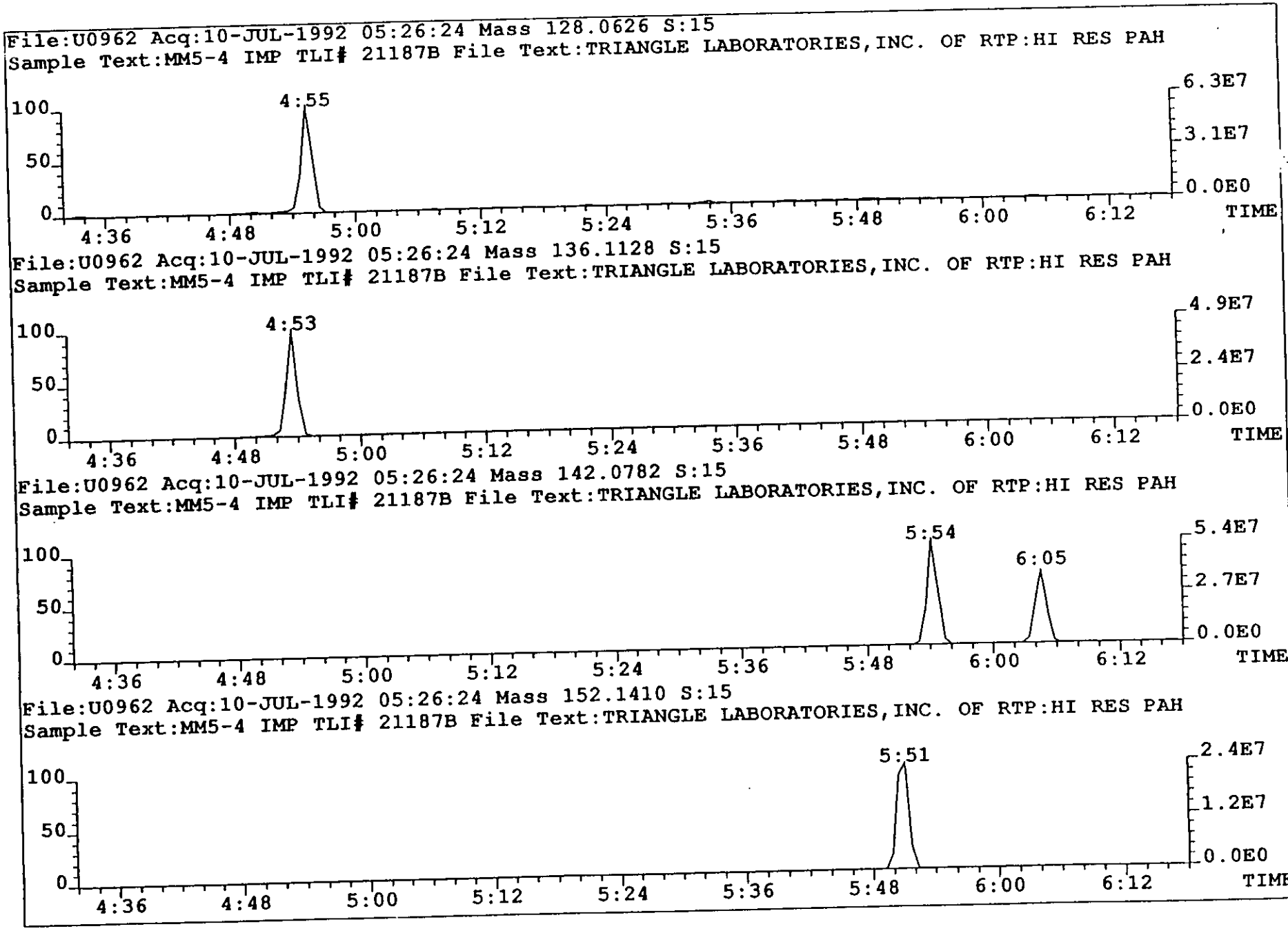

File:U0962 #1-245 Acq:10-JUL-1992 05:26:24 GC EI+ Voltage SIR 70S
162.0236 S:15 Exp:PAH5
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.002E5
4.7E6
3.8E6
2.8E6
1.9E6
9.4E5
0.0E0
6:36 6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 #1-245 Acq:10-JUL-1992 05:26:24 GC EI+ Voltage SIR 70S
164.0207 S:15 Exp:PAH5
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.600E5
1.4E6
1.1E6
8.6E5
5.7E5
2.9E5
0.0E0
6:36 6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 #1-245 Acq:10-JUL-1992 05:26:24 GC EI+ Voltage SIR 70S
169.0676 S:15 Exp:PAH5
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
6:44
2.3E7
1.8E7
1.4E7
9.1E6
4.6E6
0.0E0
6:36 6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME


File:U0962 #1-683 Acq:10-JUL-1992 05:26:24 GC EI+ Voltage SIR 70S
166.0782 S:15 F:2 Exp:PAH5
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
9:11
7:53
8:56
9:21
9:36
9:49
10:05
10:12
TIME
File:U0962 #1-683 Acq:10-JUL-1992 05:26:24 GC EI+ Voltage SIR 70S
176.1410 S:15 F:2 Exp:PAH5
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.492E4
TIME

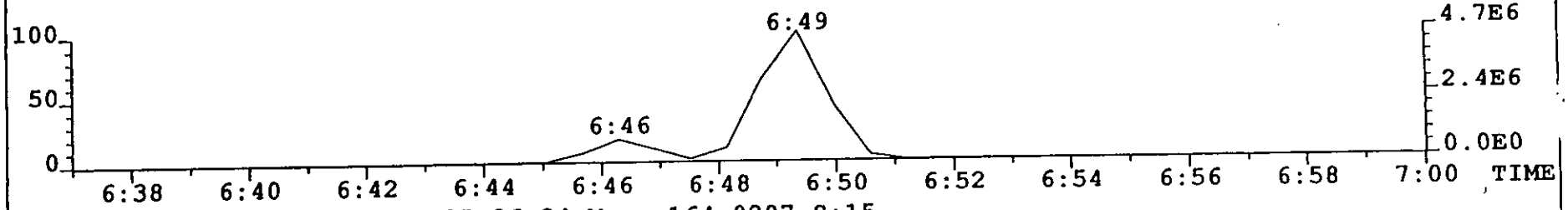

File:U0962 #1-715 Acq:10-JUL-1992 05:26:24 GC EI+ Voltage SIR 70S
228.0939 S:15 F:3 Exp:PAH5
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.189E6
A5.370E5
100
90
80
70
60
50
40
30
20
10
0
5.3E5
4.8E5
4.2E5
3.7E5
3.2E5
2.6E5
2.1E5
1.6E5
1.1E5
5.3E4
0.0E0
18:06
18:12
18:18
18:24
18:30
18:36
18:42
TIME
File:U0962 #1-715 Acq:10-JUL-1992 05:26:24 GC EI+ Voltage SIR 70S
240.1692 S:15 F:3 Exp:PAH5
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:16
18:11
100
90
80
70
60
50
40
30
20
10
0
1.9E7
1.7E7
1.5E7
1.3E7
1.1E7
9.6E6
7.6E6
5.7E6
3.8E6
1.9E6
0.0E0
18:06
18:12
18:18
18:24
18:30
18:36
18:42
TIME


File:U0962 #1-1212 Acq:10-JUL-1992 05:26:24 GC EI+ Voltage SIR 70S
252.0939 S:15 F:4 Exp:PAH5
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
x5.00
A2.920E3
22:12
22:24
22:36
22:48
23:00
23:12
23:24
23:36
23:48
TIME
File:U0962 #1-1212 Acq:10-JUL-1992 05:26:24 GC EI+ Voltage SIR 70S
264.1692 S:15 F:4 Exp:PAH5
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
x5.00
23:17
TIME

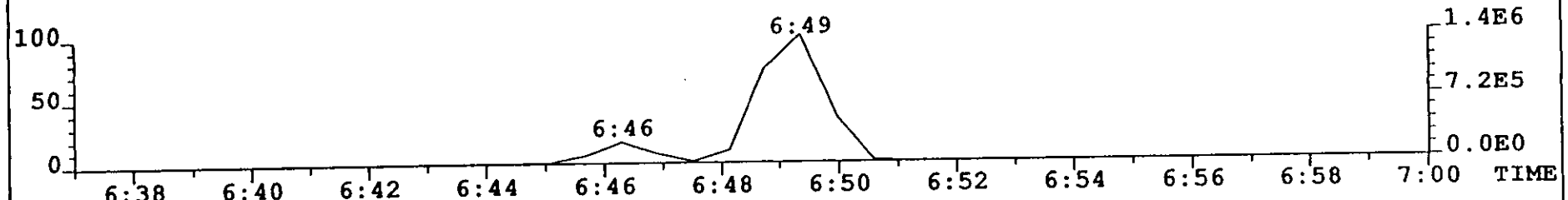

File:U0962 #1-245 Acq:10-JUL-1992 05:26:24 GC EI+ Voltage SIR 70S
154.9920 S:15 Exp:PAH5
Sample#15 Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
4:42 5:03 5:30 5:45 6:21 6:36 6:51
3.4E5 1.7E5 0.0E0
4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 6:24 6:36 6:48 7:00 TIME
File:U0962 #1-683 Acq:10-JUL-1992 05:26:24 GC EI+ Voltage SIR 70S
168.9888 S:15 F:2 Exp:PAH5
Sample#15 Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
7:41 8:18 8:49 9:52 10:49 11:41 13:12 13:44
1.8E7 8.9E6 0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 TIME
File:U0962 #1-715 Acq:10-JUL-1992 05:26:24 GC EI+ Voltage SIR 70S
242.9856 S:15 F:3 Exp:PAH5
Sample#15 Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
14:12 14:38 15:31 16:10 16:34 17:48 18:21 18:46 19:18 19:40
5.1E6 2.5E6 0.0E0
15:00 16:00 17:00 18:00 19:00 20:00 TIME
File:U0962 #1-1212 Acq:10-JUL-1992 05:26:24 GC EI+ Voltage SIR 70S
268.9824 S:15 F:4 Exp:PAH5
Sample#15 Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:11 22:43 24:00 24:47 26:16 27:47 29:34 30:45 32:22
3.1E6 1.5E6 0.0E0
21:00 22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 33:00 TIME


File:U0962 Acq:10-JUL-1992 05:26:24 Mass 128.0626 S:15
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
4:55
6.3E7
3.1E7
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 136.1128 S:15
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
4:53
4.9E7
2.4E7
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 142.0782 S:15
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
5:54
6:05
5.4E7
2.7E7
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 152.1410 S:15
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
5:51
2.4E7
1.2E7
0.0E0
TIME
100
50
0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12

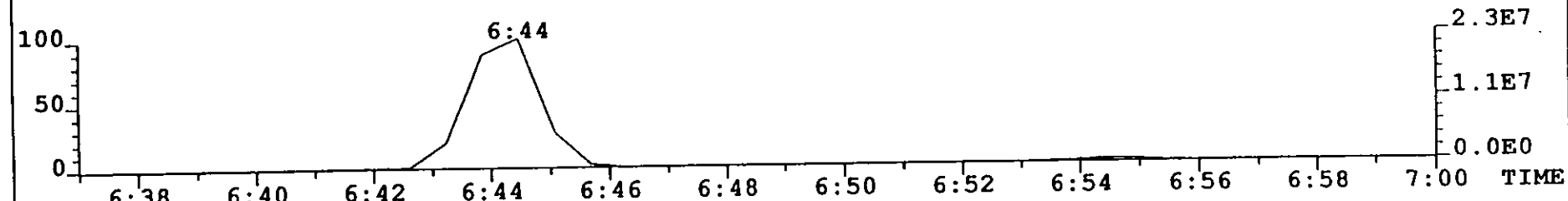
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 162.0236 S:15
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH



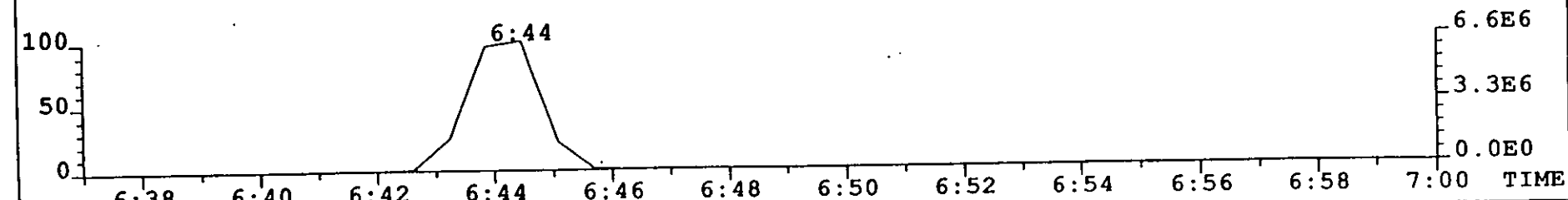
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 164.0207 S:15
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH

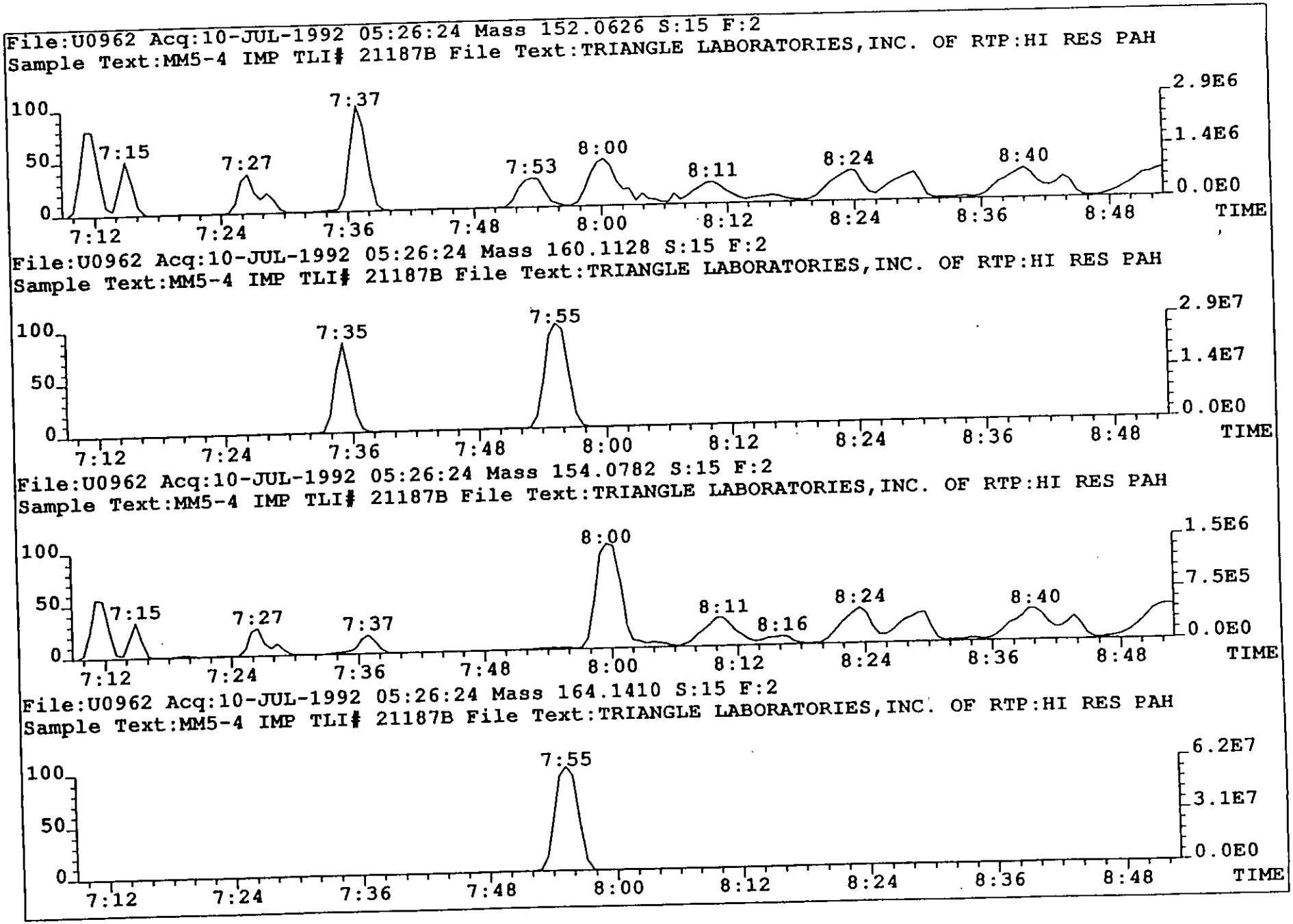


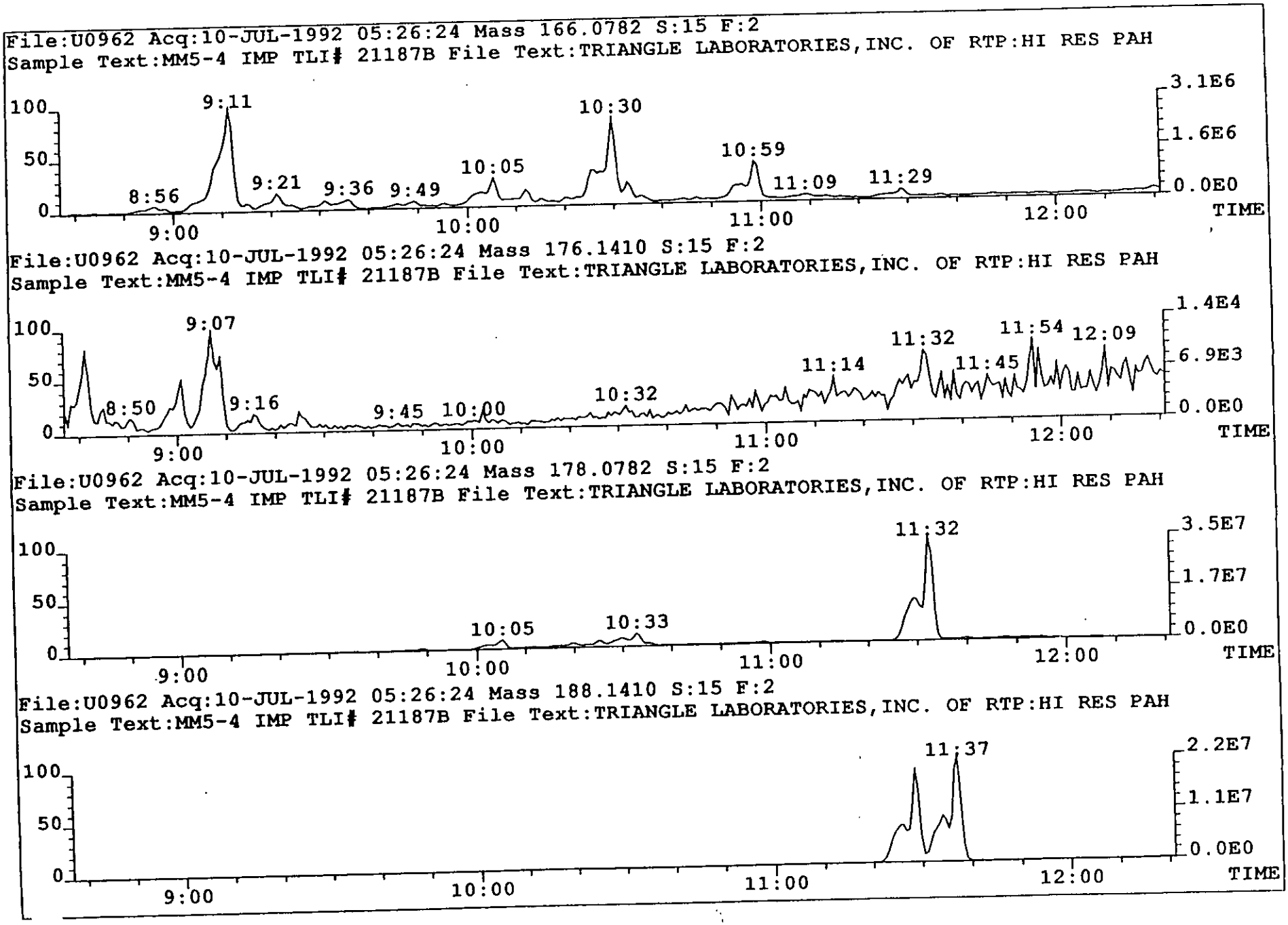
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 169.0676 S:15
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH

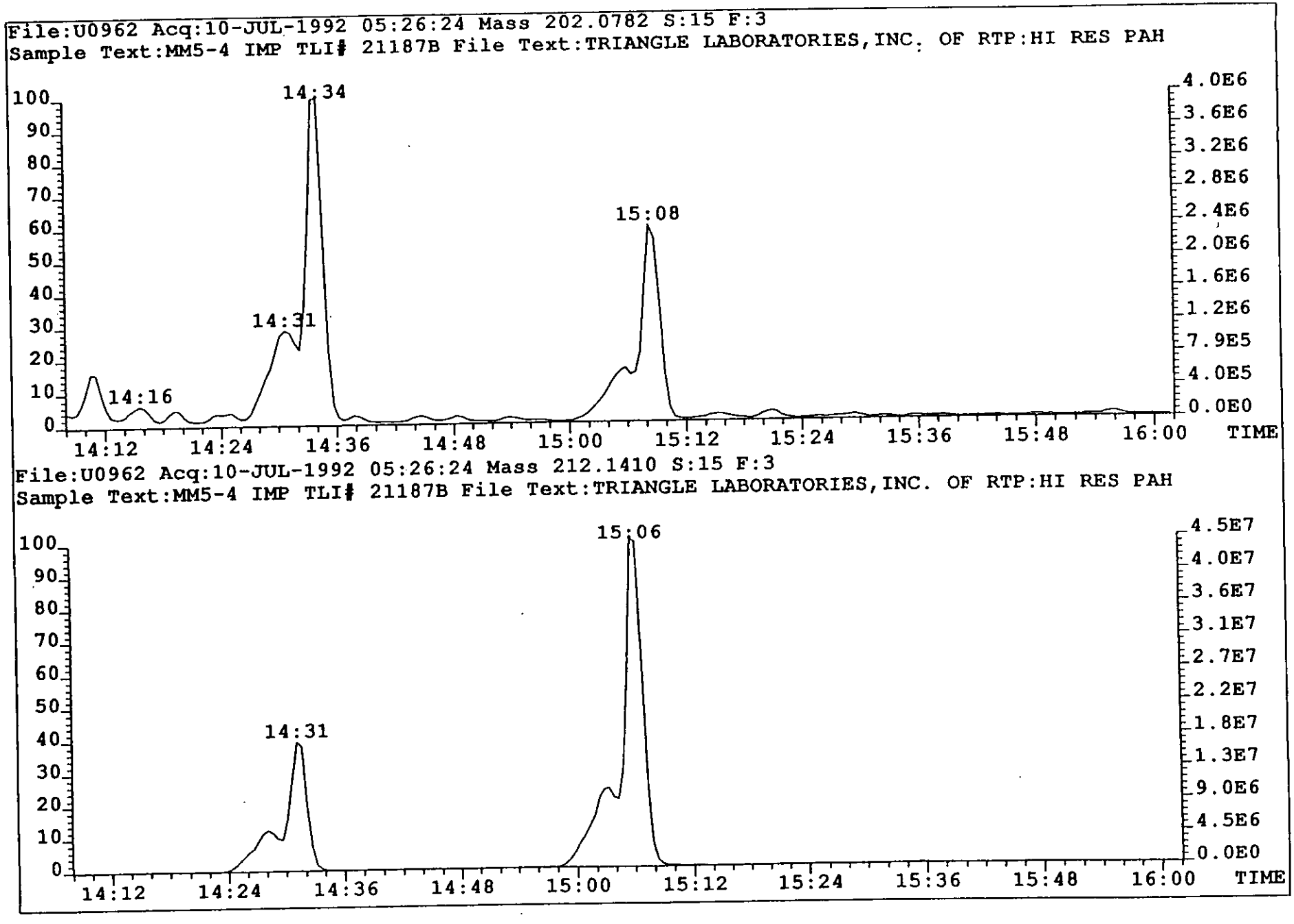


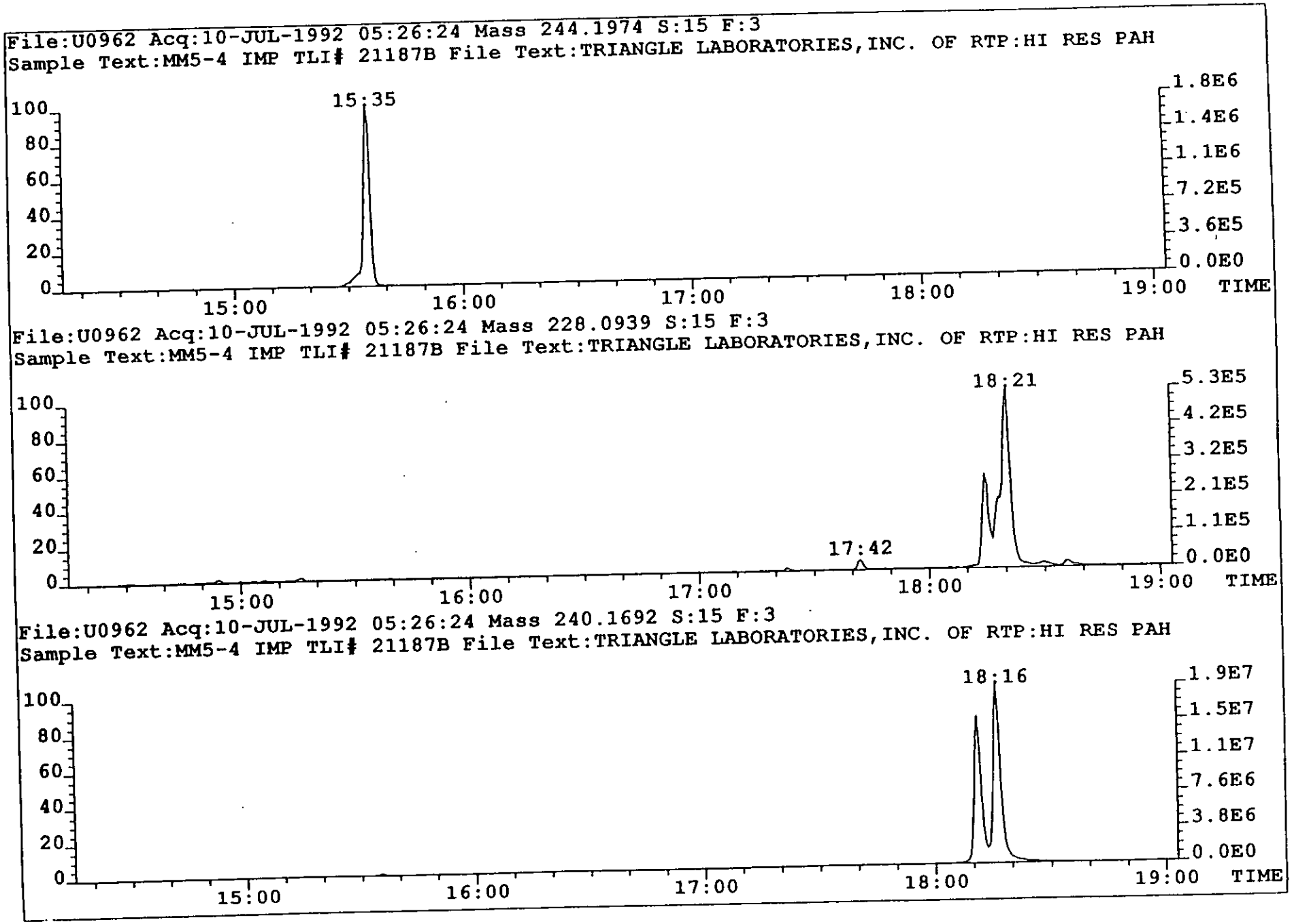
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 171.0648 S:15
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH

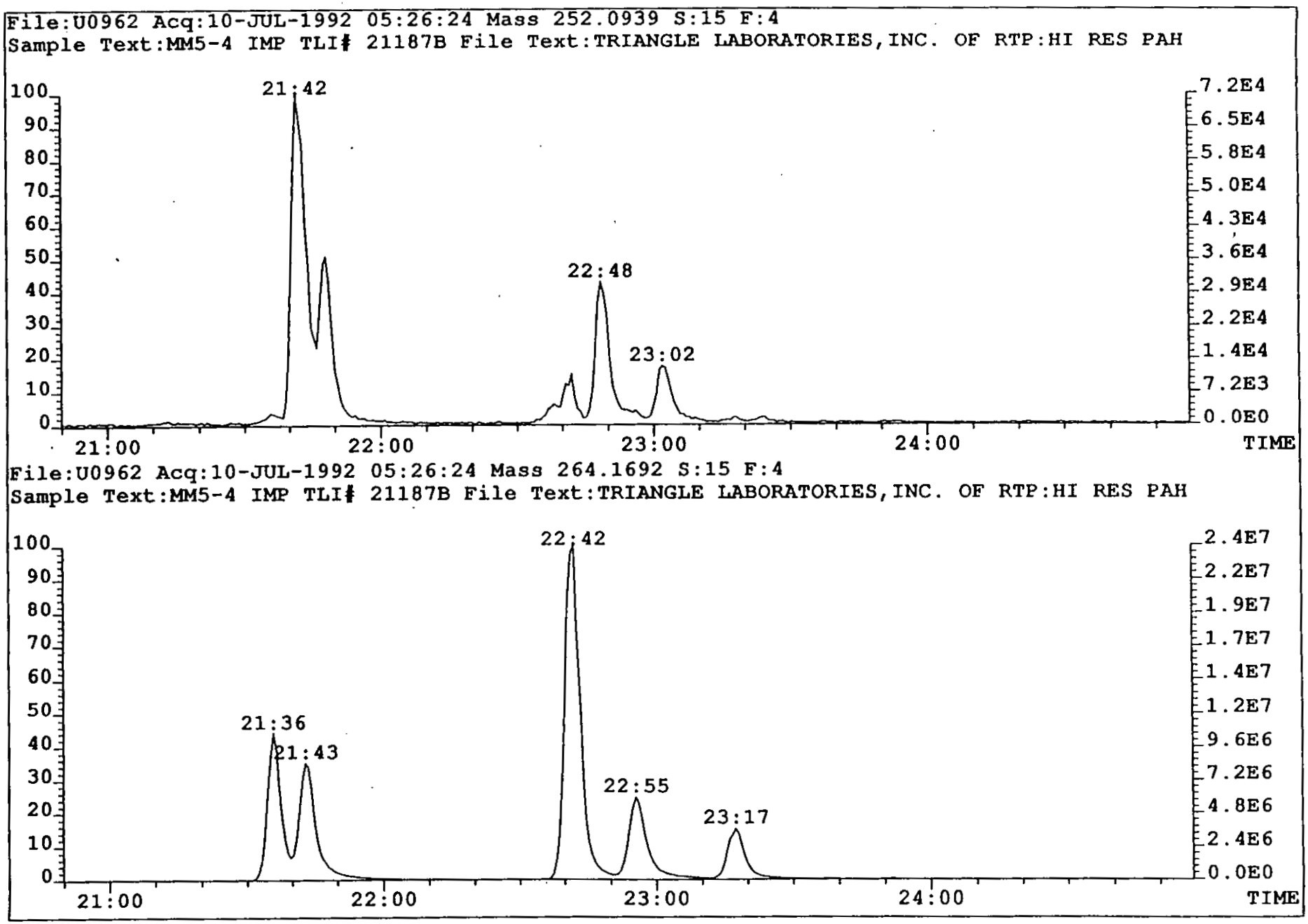


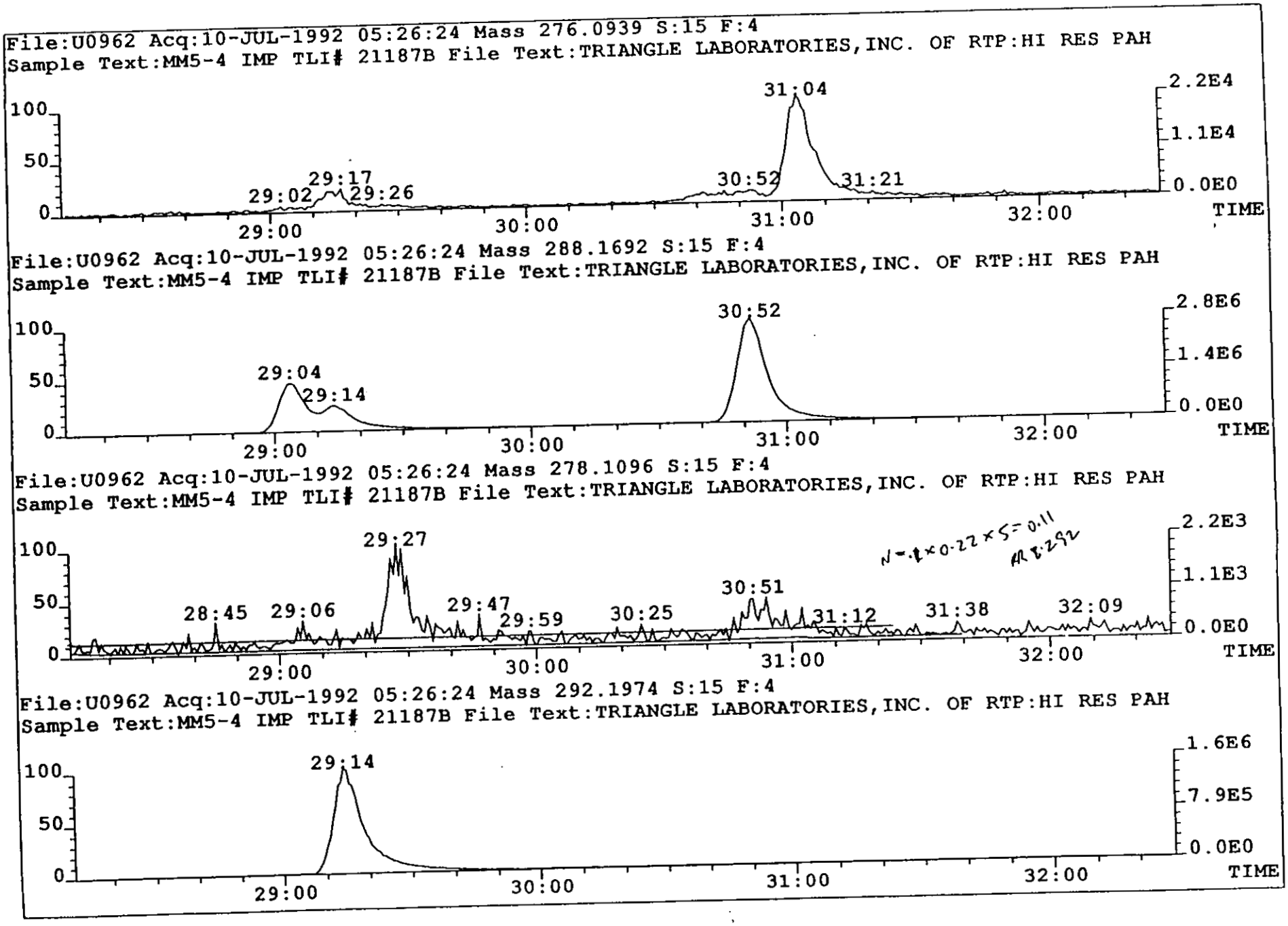

File:U0962 Acq:10-JUL-1992 05:26:24 Mass 152.0626 S:15 F:2
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:15
7:27
7:37
7:53
8:00
8:11
8:24
8:40
2.9E6
1.4E6
0.0E0
TIME
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 160.1128 S:15 F:2
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
7:35
7:55
2.9E7
1.4E7
0.0E0
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 154.0782 S:15 F:2
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
7:15
7:27
7:37
8:00
8:11
8:16
8:24
8:40
1.5E6
7.5E5
0.0E0
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 164.1410 S:15 F:2
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
7:55
6.2E7
3.1E7
0.0E0


File:U0962 Acq:10-JUL-1992 05:26:24 Mass 166.0782 S:15 F:2
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:11
10:30
10:59
8:56
9:21
9:36
9:49
10:05
11:09
11:29
3.1E6
1.6E6
0.0E0
TIME
9:00
10:00
11:00
12:00
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 176.1410 S:15 F:2
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:07
8:50
9:16
9:45
10:00
10:32
11:14
11:32
11:45
11:54
12:09
1.4E4
6.9E3
0.0E0
TIME
9:00
10:00
11:00
12:00
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 178.0782 S:15 F:2
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
11:32
10:05
10:33
3.5E7
1.7E7
0.0E0
TIME
9:00
10:00
11:00
12:00
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 188.1410 S:15 F:2
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
11:37
2.2E7
1.1E7
0.0E0
TIME
9:00
10:00
11:00
12:00


File:U0962 Acq:10-JUL-1992 05:26:24 Mass 202.0782 S:15 F:3
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
14:34
15:08
14:31
14:16
TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 212.1410 S:15 F:3
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:06
14:31
TIME


File:U0962 Acq:10-JUL-1992 05:26:24 Mass 244.1974 S:15 F:3
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:35
100
80
60
40
20
0
1.8E6
1.4E6
1.1E6
7.2E5
3.6E5
0.0E0
15:00
16:00
17:00
18:00
19:00
TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 228.0939 S:15 F:3
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:21
17:42
5.3E5
4.2E5
3.2E5
2.1E5
1.1E5
0.0E0
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 240.1692 S:15 F:3
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:16
1.9E7
1.5E7
1.1E7
7.6E6
3.8E6
0.0E0


File:U0962 Acq:10-JUL-1992 05:26:24 Mass 252.0939 S:15 F:4
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:42
22:48
23:02
100
90
80
70
60
50
40
30
20
10
0
7.2E4
6.5E4
5.8E4
5.0E4
4.3E4
3.6E4
2.9E4
2.2E4
1.4E4
7.2E3
0.0E0
21:00
22:00
23:00
24:00
TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 264.1692 S:15 F:4
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
22:42
21:36
21:43
22:55
23:17
100
90
80
70
60
50
40
30
20
10
0
2.4E7
2.2E7
1.9E7
1.7E7
1.4E7
1.2E7
9.6E6
7.2E6
4.8E6
2.4E6
0.0E0
21:00
22:00
23:00
24:00
TIME


File:U0962 Acq:10-JUL-1992 05:26:24 Mass 276.0939 S:15 F:4
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
31:04
29:17
29:02
29:26
30:52
31:21
2.2E4
1.1E4
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 288.1692 S:15 F:4
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
30:52
29:04
29:14
2.8E6
1.4E6
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 278.1096 S:15 F:4
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
29:27
28:45
29:06
29:47
29:59
30:25
30:51
31:12
31:38
32:09
2.2E3
1.1E3
0.0E0
TIME
File:U0962 Acq:10-JUL-1992 05:26:24 Mass 292.1974 S:15 F:4
Sample Text:MM5-4 IMP TLI# 21187B File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
29:14
1.6E6
7.9E5
0.0E0
TIME

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/03/92

FILE NAME....:	U096205	CLIENT.....:	W.W. ENG.	TLI SAMPLE ID.:	N/A
CONCAL.....:	U096001	SAMPLE ID....:	TLI H20 BLANK		
ANALYST.....:	VC	ANALYSIS DATE:	07/09/92	PROJECT NUMBER:	21187B
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	WATER	DATE RECEIVED.:	/ /
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Acenaphthen	7.0			8:03	
Acenaph	1.9			7:40	
Fluorene	9.0			9:13	
Phenan	16.0			11:33	
Anth	1.8			11:41	
Fluoran	4.0			14:34	
Pyrene	4.4			15:09	
B-a-Anth	1.7			18:15	
Chrysene	2.6			18:21	
Perylene	ND		0.09		
B-b-Fluoran	1.5			21:42	
B-k-Fluoran	1.6			21:48	
B-a-Pyrene	1.1			23:02	
B-e-Pyrene	0.87			22:49	
B-ghi-Pery	5.1			31:04	
I-123-cd-Py	0.75			29:14	
DiB-ah-Anth	0.53			29:28	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	70.9	70.9	11:38	

Reviewed By: AR 8/3/92

PAHJ_RPT 1.00, LARS 4.20

FILE NAME....:	U096205	CLIENT.....:	W.W. ENG.	TLI SAMPLE ID.:	N/A
CONCAL.....:	U096001	SAMPLE ID....:	TLI H20 BLANK		
ANALYST.....:	VC	ANALYSIS DATE:	07/09/92	PROJECT NUMBER:	21187A
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	WATER	DATE RECEIVED.:	/ /
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	40.4	40.4	4:44	
d10-2-Me-Naph	46.9	46.9	5:48	
d7-2-Cl-Naph	46.2	46.2	6:45	
d8-Acenaph	55.8	55.8	7:38	
d10-Phenan	53.2	53.2	11:29	
d12-B-a-Anth	77.5	77.5	18:11	
d10-Fluoran	63.7	63.7	14:32	
d12-Chrysene	46.4	46.4	18:16	
d12-Perylene	106	52.8	23:18	
d12-B-b-Fluoran	169	84.7	21:36	
d12-B-k-Fluoran	105	52.3	21:43	
d12-B-a-Pyrene	121	60.3	22:56	
d12-B-ghi-Pery	106	53.0	30:52	
d12-I-123-cd-Py	143	71.3	29:04	I
d14-DiB-ah-Anth	107	53.3	29:14	

Reviewed By: RK 8/3/92

PAHJ_RPT 1.00, LARS 4.20

	Initial	Date
B-File/Header Changes		
Manual Integrations		
Transcription		
Dbase Corrections		

Page No. 1
07/29/92

Noise .25 @ 278

Listing of U096205B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128	DC	0.00	0:00	3.33	T	F	0.000	NL
		0.00	4:42	102.55	T	F	0.993	
		0.00	4:46	12044.36	T	~~F~~ T	1.007	
	DC	0.00	5:08	26.39	T	F	1.085	SN
		0.00	5:18	66.09	T	F	1.120	
		0.00	5:26	36.29	T	F	1.148	
		0.00	5:30	45.59	T	F	1.162	
		0.00	5:39	33.56	T	F	1.194	
	DC	0.00	6:45	44.07	T	F	1.426	WH
	DC	0.00	6:51	47.91	T	F	1.447	WH
	DC	0.00	6:57	44.54	T	F	1.468	WH
128		*** Total ***		12494.68	# of Peaks:		11	
136	DC	0.00	0:00	0.03	T	F	0.000	NL
		0.00	4:44	11208.40	T	T	1.000	
136		*** Total ***		11208.43	# of Peaks:		2	
142	DC	0.00	0:00	0.42	T	F	0.000	NL
		0.00	5:52	9243.88	T	T	1.011	
		0.00	6:03	4283.46	T	F	1.043	
		0.00	6:57	143.56	T	F	1.198	
142		*** Total ***		13671.32	# of Peaks:		4	
152	DC	0.00	0:00	0.02	T	F	0.000	NL
	DC	0.00	0:00	0.28	T	F	0.000	NL
		0.00	5:48	6625.59	T	T	1.000	
		0.00	5:59	45.42	T	F	0.784	
		0.00	7:05	316.06	T	F	0.928	
		0.00	7:14	266.53	T	F	0.948	
		0.00	7:18	194.66	T	F	0.956	
		0.00	7:30	122.14	T	F	0.983	
		0.00	7:40	174.50	T	T	1.004	
		0.00	7:57	159.85	T	F	1.041	
		0.00	8:03	356.83	T	F	1.055	
		0.00	8:13	110.13	T	F	1.076	
		0.00	8:19	29.64	T	F	1.090	
		0.00	8:26	104.20	T	F	1.105	
		0.00	8:32	80.71	T	F	1.118	
		0.00	8:42	53.56	T	F	1.140	
		0.00	8:46	49.17	T	F	1.148	
		0.00	8:54	48.61	T	F	1.166	
		0.00	8:57	49.58	T	F	1.172	

Listing of U096205B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
154	DC	0.00	0:00	0.10	T	F	0.000	NL
		0.00	7:05	111.13	T	F	0.928	
		0.00	7:14	87.55	T	F	0.948	
		0.00	7:18	54.48	T	F	0.956	
		0.00	7:22	3.07	T	F	0.965	
		0.00	7:30	35.42	T	F	0.983	
		0.00	7:40	23.92	T	F	1.004	
		0.00	7:59	6.36	T	F	1.046	
		0.00	8:03 -	387.32	T	T	1.055	
		0.00	8:07	4.65	T	F	1.063	
		0.00	8:13	72.28	T	F	1.076	
		0.00	8:19	12.46	T	F	1.090	
		0.00	8:26	52.96	T	F	1.10[illegible]	
		0.00	8:32	46.53	T	F	1.118	
		0.00	8:37	1.72	T	F	1.129	
		0.00	8:42	37.13	T	F	1.140	
		0.00	8:46	28.48	T	F	1.148	
		0.00	8:49	1.80	T	F	1.155	
		0.00	8:54	61.98	T	F	1.166	
154		*** Total ***		1029.34	# of Peaks:		19	
160	DC	0.00	0:00	0.16	T	F	0.000	NL
		0.00	7:38 —	8665.86	T	T	1.000	
		0.00	7:59	10623.85	T	F	1.046	
		0.00	8:21	18.55	T	F	1.094	
160		*** Total ***		19308.42	# of Peaks:		4	
162	DC	3.33	0:00	0.13	T	F	0.000	NL
	check	4.78	6:48 —	77.82	F	T	1.007	-RO
162		*** Total ***		77.95	# of Peaks:		2	
164	DC	0.00	0:00	0.03	T	F	0.000	NL
	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	6:48	13.46	T	F	0.852	
		0.00	7:59 —	23964.18	T	T	1.001	
164		*** Total ***		23977.68	# of Peaks:		4	
166	DC	0.00	0:00	0.06	T	F	0.000	NL
	DC	0.00	7:57	65.69	T	F	0.692	WL
	DC	0.00	8:04	23.45	T	F	0.702	WL
	DC	0.00	8:58	18.94	T	F	0.781	WL
nap	~~DC~~	0.00	9:13 -	564.32	T	T	0.803	WL
	DC	0.00	9:24	36.71	T	F	0.819	WL
		0.00	9:33	35.23	T	F	0.832	
		0.00	9:37	47.78	T	F	0.837	
		0.00	9:57	8.88	T	F	0.866	
		0.00	10:07	29.10	T	F	0.881	
		0.00	10:21	42.30	T	F	0.901	
		0.00	10:31	1487.69	T	F	0.916	
		0.00	11:00	629.78	T	F	0.958	
166		*** Total ***		2989.93	# of Peaks:		13	

Listing of U096205B.dbf

Matched GC Peaks / Ratio / Ret. Time

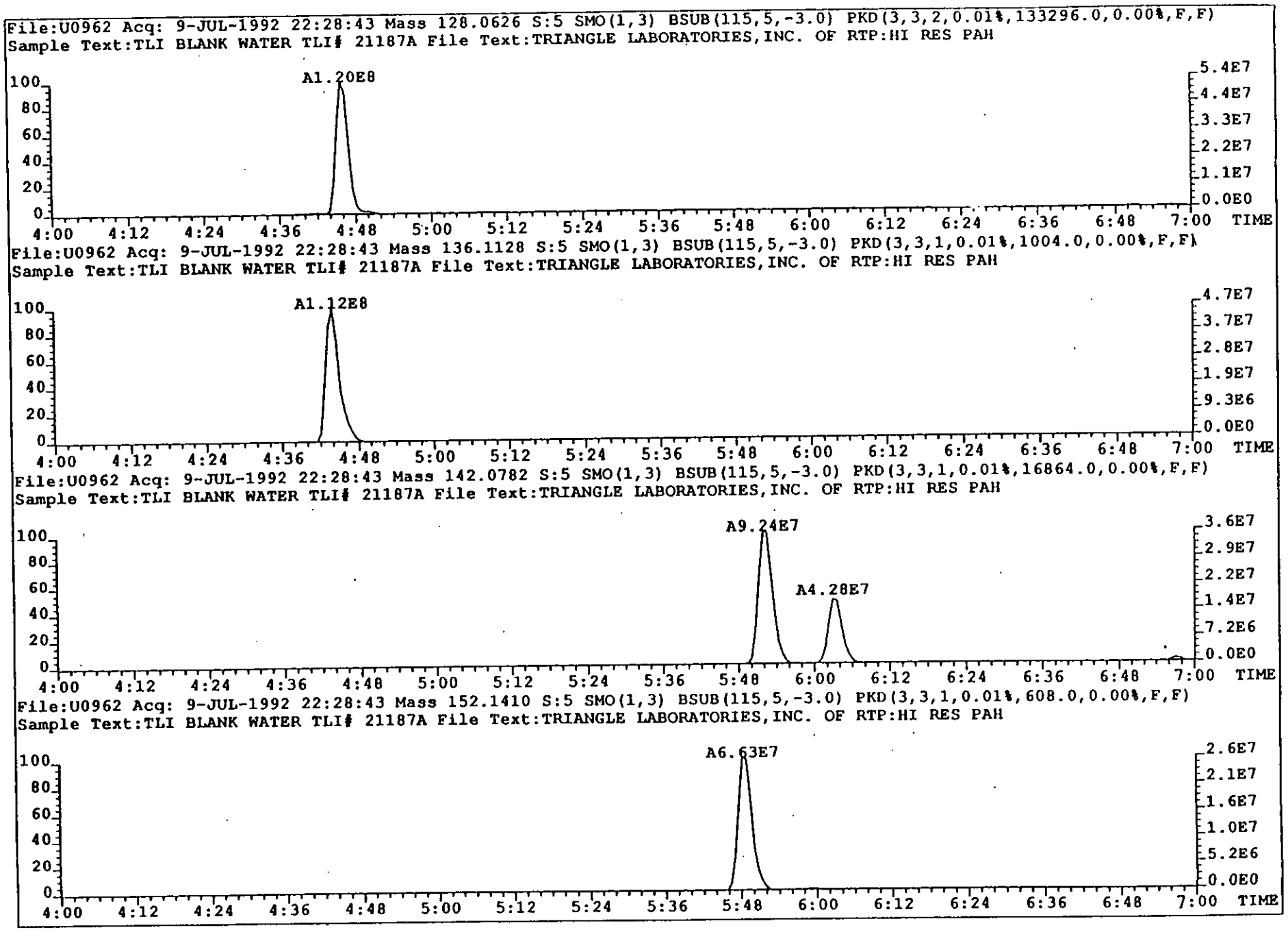
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
169	DC	10.00	0:00	0.03	F	F	0.000	NL
		3.44	6:45 —	8494.42	T	T	1.000	
169		*** Total ***		8494.45	# of Peaks:		2	
176	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	8:38	3.04	T	F	0.944	
		0.00	8:43	2.14	T	F	0.953	
		0.00	9:02	6.27	T	F	0.988	
		0.00	9:10 —	16.72	T	T	1.002	
		0.00	9:18	1.51	T	F	1.017	
		0.00	9:28	0.62	T	F	1.035	
		0.00	10:32	0.84	T	F	1.152	
176		*** Total ***		31.16	# of Peaks:		8	
178	DC	0.00	0:00	0.04	T	F	0.000	NL
		0.00	10:07	97.44	T	F	0.881	
		0.00	10:15	88.62	T	F	0.893	
		0.00	10:21	808.50	T	F	0.901	
		0.00	10:34	3096.47	T	F	0.920	
		0.00	10:59	310.12	T	F	0.956	
		0.00	11:15	53.21	T	F	0.980	
		0.00	11:33 —	1484.81	T	T	1.006	
		0.00	11:41 —	150.89	T	T	1.017	
		0.00	11:50	148.83	T	F	1.030	
178		*** Total ***		6238.93	# of Peaks:		10	
188	DC	0.00	0:00	0.03	T	F	0.000	NL
		0.00	11:29 —	12486.21	T	T	1.000	
		0.00	11:38 —	14295.94	T	T	1.001	
188		*** Total ***		26782.18	# of Peaks:		3	
202	DC	0.00	0:00	0.33	T	F	0.000	NL
		0.00	14:11	9.79	T	F	0.976	
		0.00	14:34 —	312.99	T	T	1.002	
		0.00	14:54	7.39	T	F	1.025	
		0.00	15:09 —	350.64	T	T	1.042	
		0.00	15:56	4.84	T	F	1.096	
		0.00	18:19	10.27	T	F	1.260	
202		*** Total ***		696.25	# of Peaks:		7	
212	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	14:32 —	9167.06	T	T	1.000	
		0.00	15:07 —	23852.19	T	T	1.001	
212		*** Total ***		33019.27	# of Peaks:		3	
228	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	14:54	2.28	T	F	0.819	
		0.00	15:07	5.22	T	F	0.831	
		0.00	15:16	0.90	T	F	0.840	
		0.00	18:15 —	79.33	T	T	1.004	
		0.00	18:21 —	93.74	T	T	1.009	
		0.00	18:36	14.14	T	F	1.023	
228		*** Total ***		195.63	# of Peaks:		7	

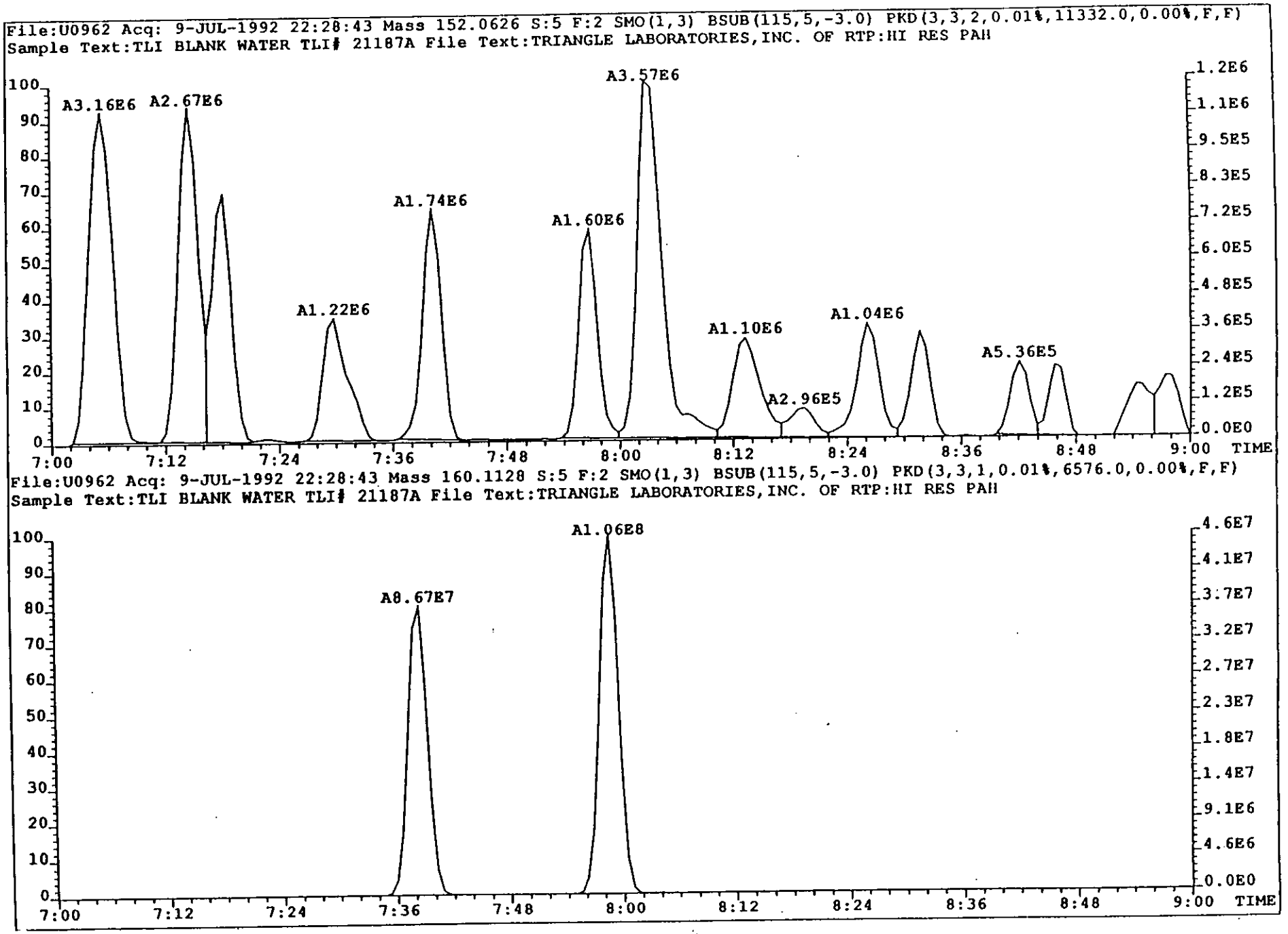
Listing of U096205B.dbf

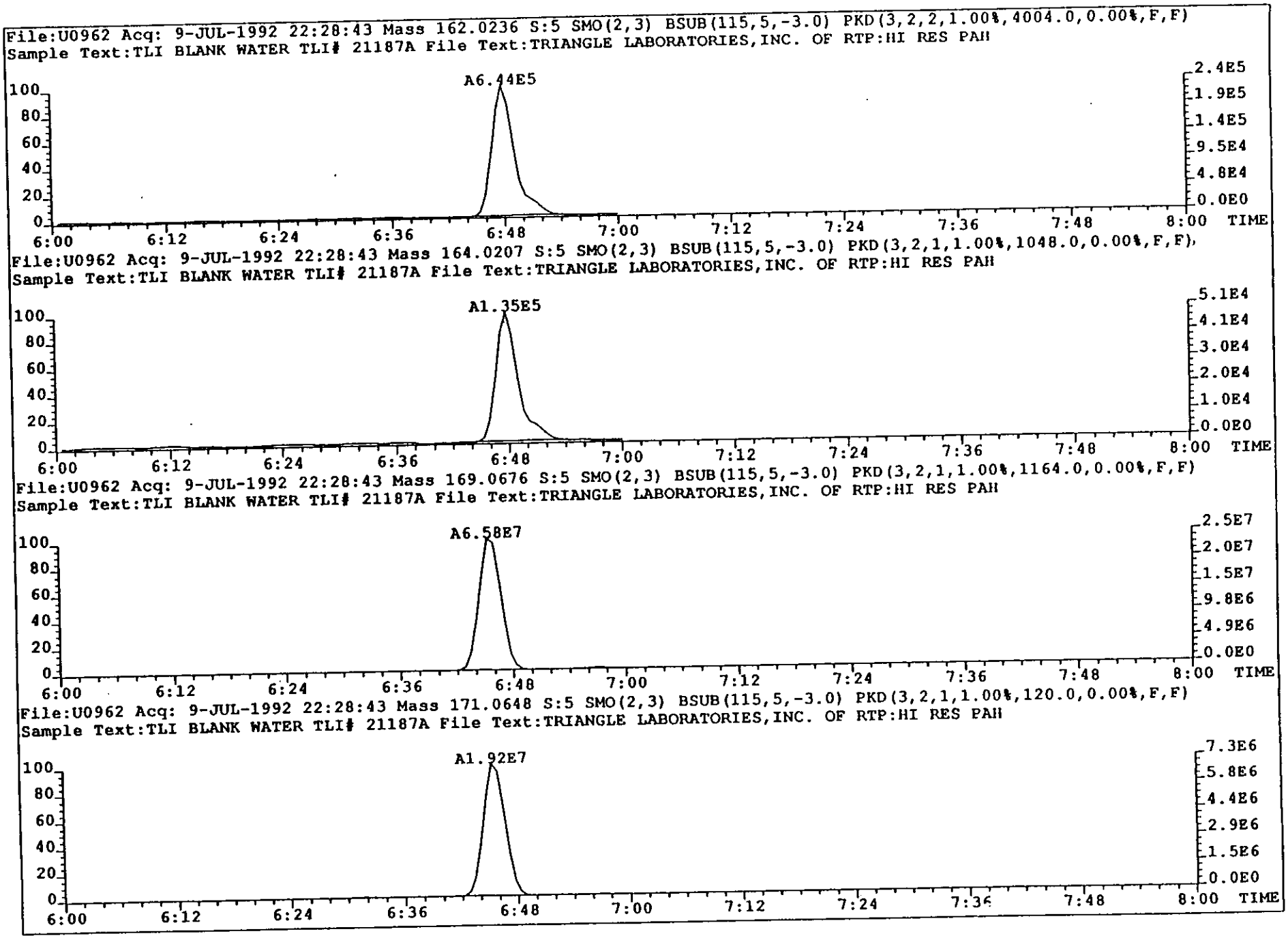
Matched GC Peaks / Ratio / Ret. Time

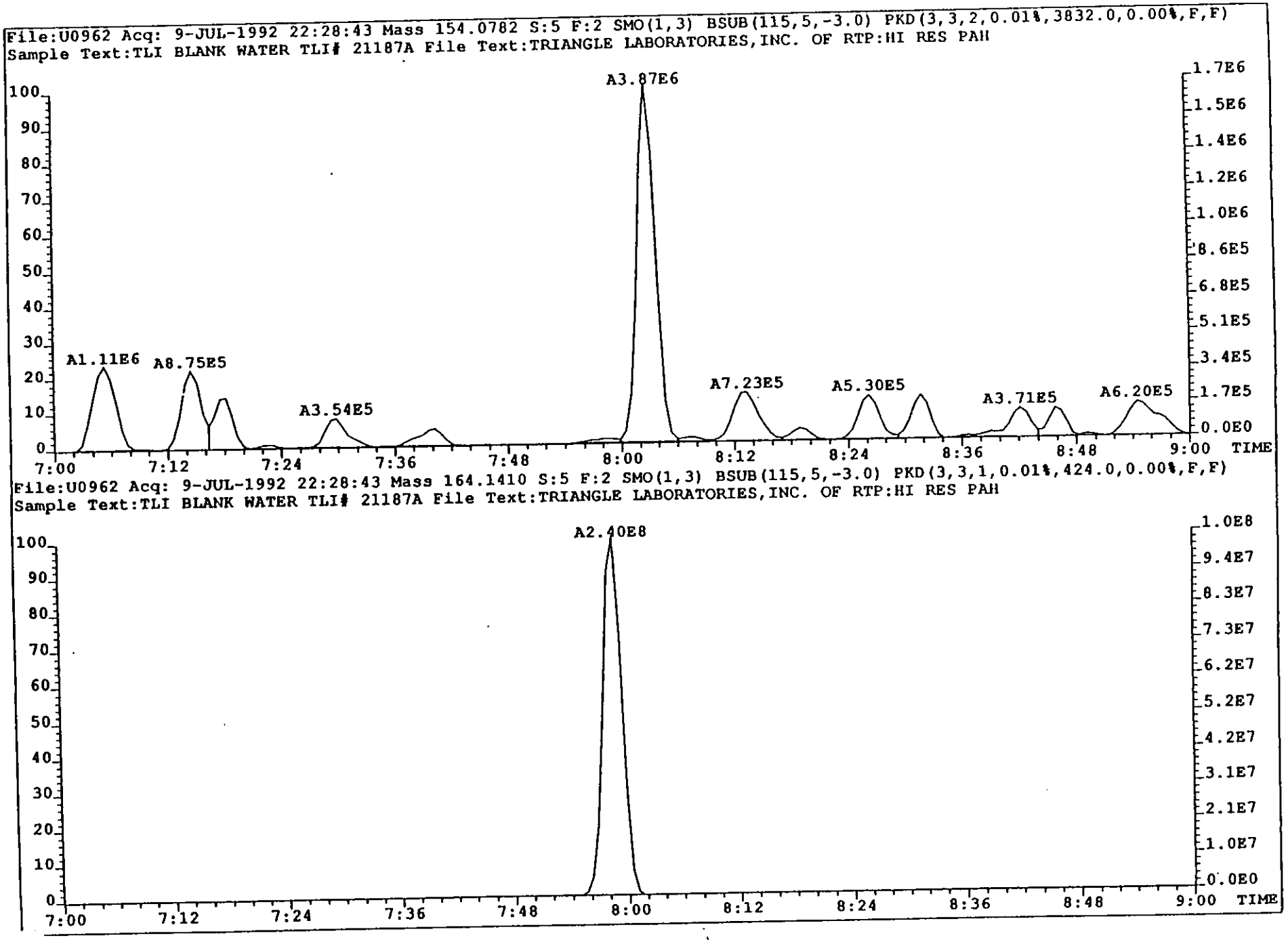
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
240	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	15:36	162.21	T	F	0.858	
		0.00	18:11	5080.51	T	T	1.000	
		0.00	18:16	6974.06	T	T	1.005	
240		*** Total ***		12216.79	# of Peaks:		4	
244	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	15:35	1356.51	T	T	0.999	
244		*** Total ***		1356.52	# of Peaks:		2	
252	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	21:42	30.69	T	T	0.931	
		0.00	21:48	25.00	T	T	0.936	
		0.00	22:49	17.42	T	T	0.979	
		0.00	23:02	12.90	T	T	0.989	
252		*** Total ***		86.02	# of Peaks:		5	
264	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	21:36	4110.82	T	T	0.927	
		0.00	21:43	3911.78	T	T	0.932	
		0.00	22:42	11520.25	T	T	1.001	
		0.00	22:56	2678.26	T	T	0.984	
		0.00	23:18	1400.98	T	T	1.000	
264		*** Total ***		23622.10	# of Peaks:		6	
276	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	29:14	4.39	T	T	0.947	
		0.00	29:27	0.52	T	F	0.954	
		0.00	31:04	39.97	T	T	1.006	
276		*** Total ***		44.89	# of Peaks:		4	
278	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	29:28	2.05	T	T	1.008	
	DC	0.00	31:05	0.03	T	F	1.063	SN
278		*** Total ***		2.09	# of Peaks:		3	
288	DC	0.00	0:00	**********.**	T	F	0.000	NL
		0.00	29:04	714.25	T	T	0.942	
		0.00	29:14	441.79	T	F	0.947	
		0.00	30:52	1934.77	T	T	1.000	
288		*** Total ***		3090.81	# of Peaks:		4	
292	DC	0.00	0:00	**********.**	T	F	0.000	NL
		0.00	29:14	993.98	T	T	1.000	
292		*** Total ***		993.98	# of Peaks:		2	

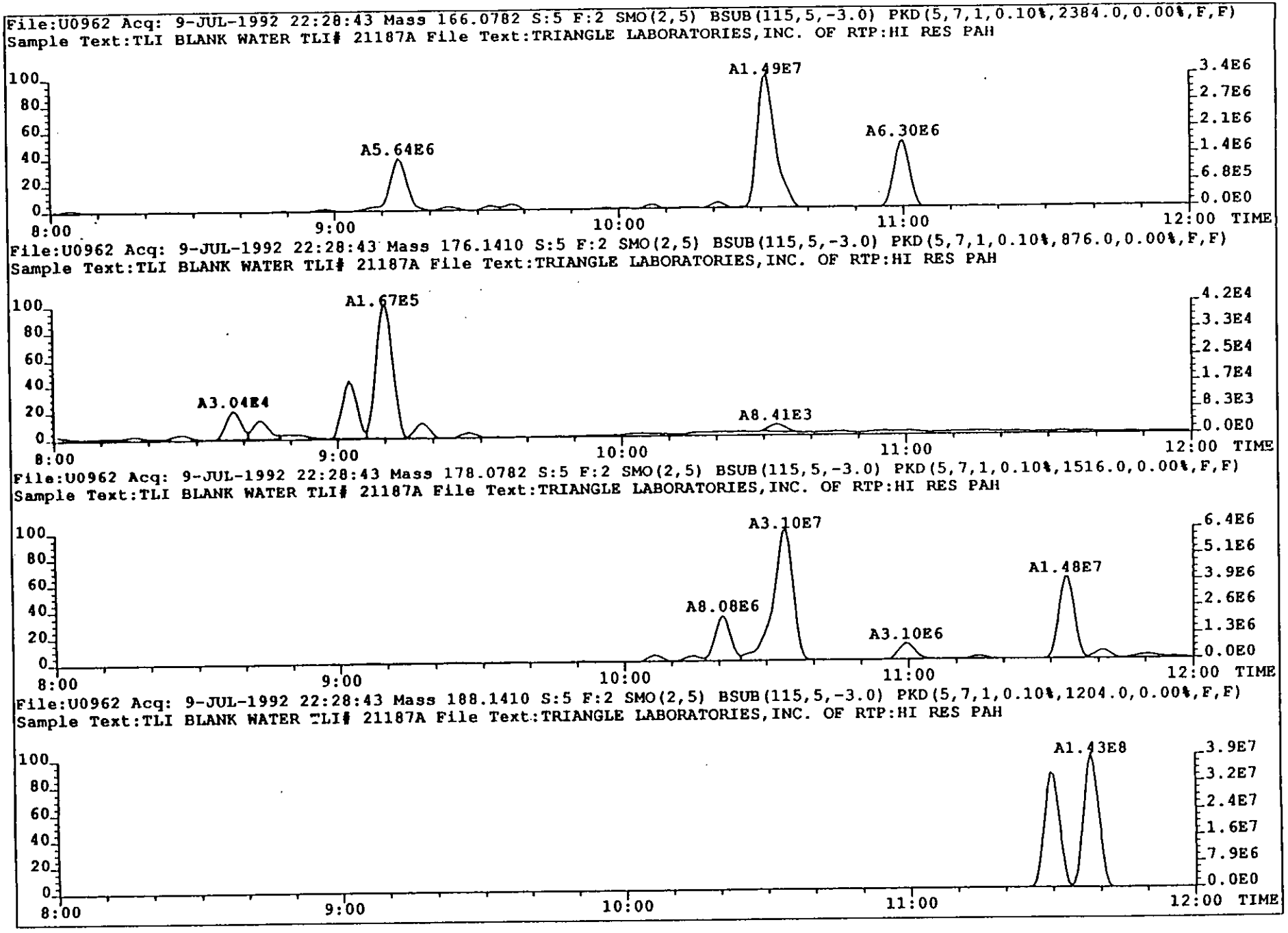
*** End of Report ***

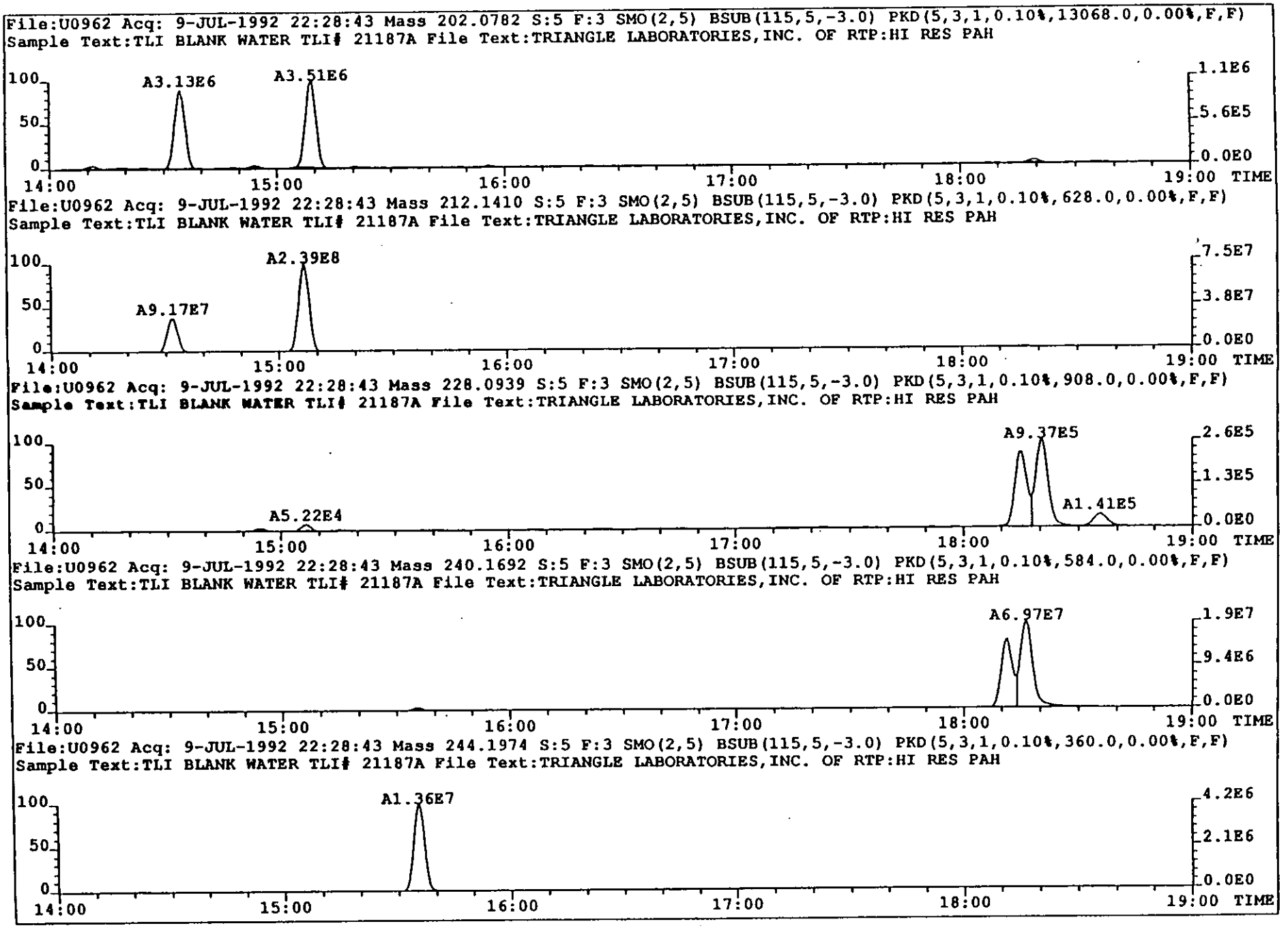

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 128.0626 S:5 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,133296.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.20E8
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 136.1128 S:5 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,1004.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.12E8
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 142.0782 S:5 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,16864.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.24E7
A4.28E7
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 152.1410 S:5 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,608.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.63E7
TIME

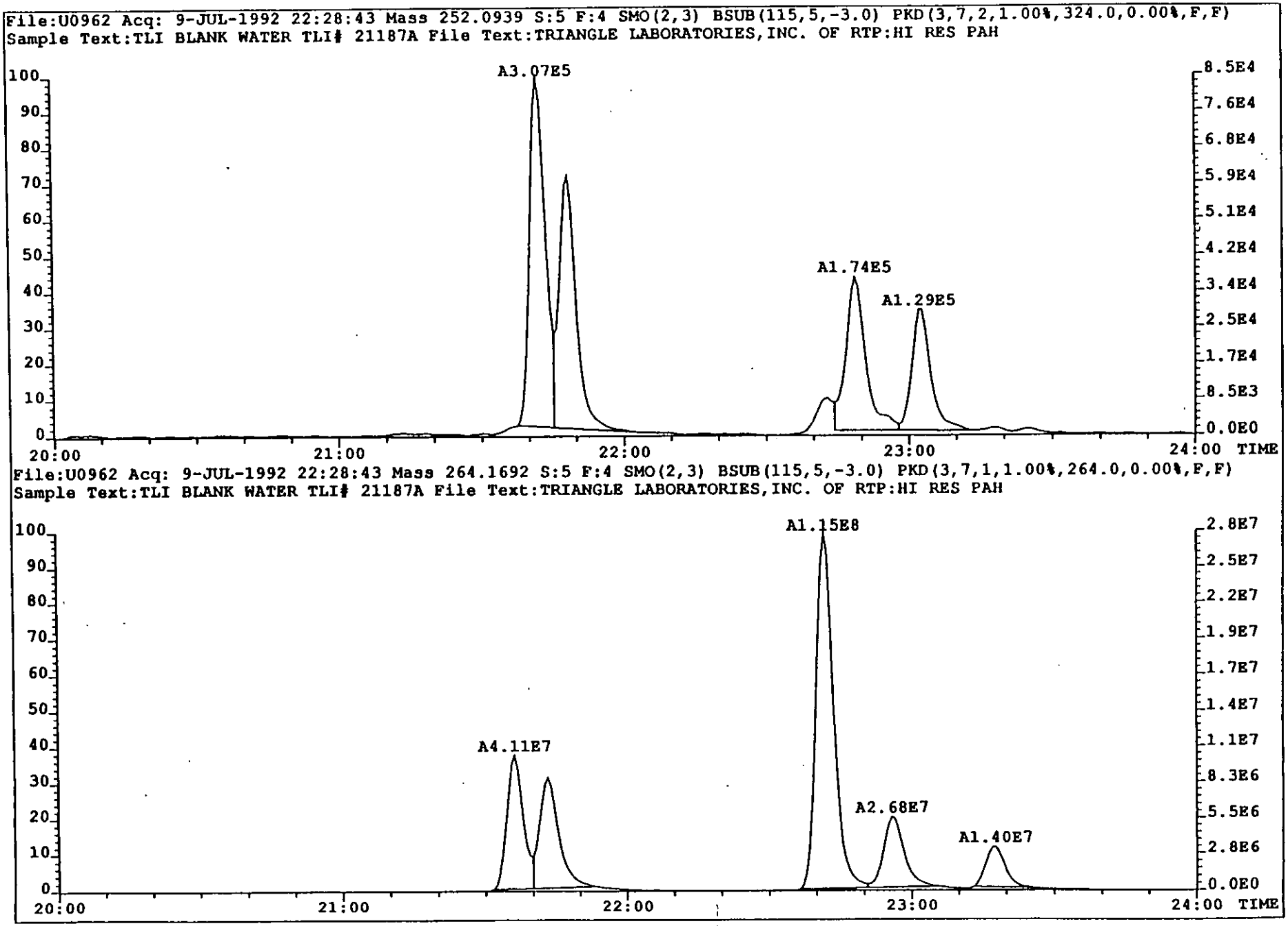

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 152.0626 S:5 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,11332.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.16E6
A2.67E6
A1.22E6
A1.74E6
A1.60E6
A3.57E6
A1.10E6
A2.96E5
A1.04E6
A5.36E5
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 160.1128 S:5 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,6576.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A8.67E7
A1.06E8
TIME

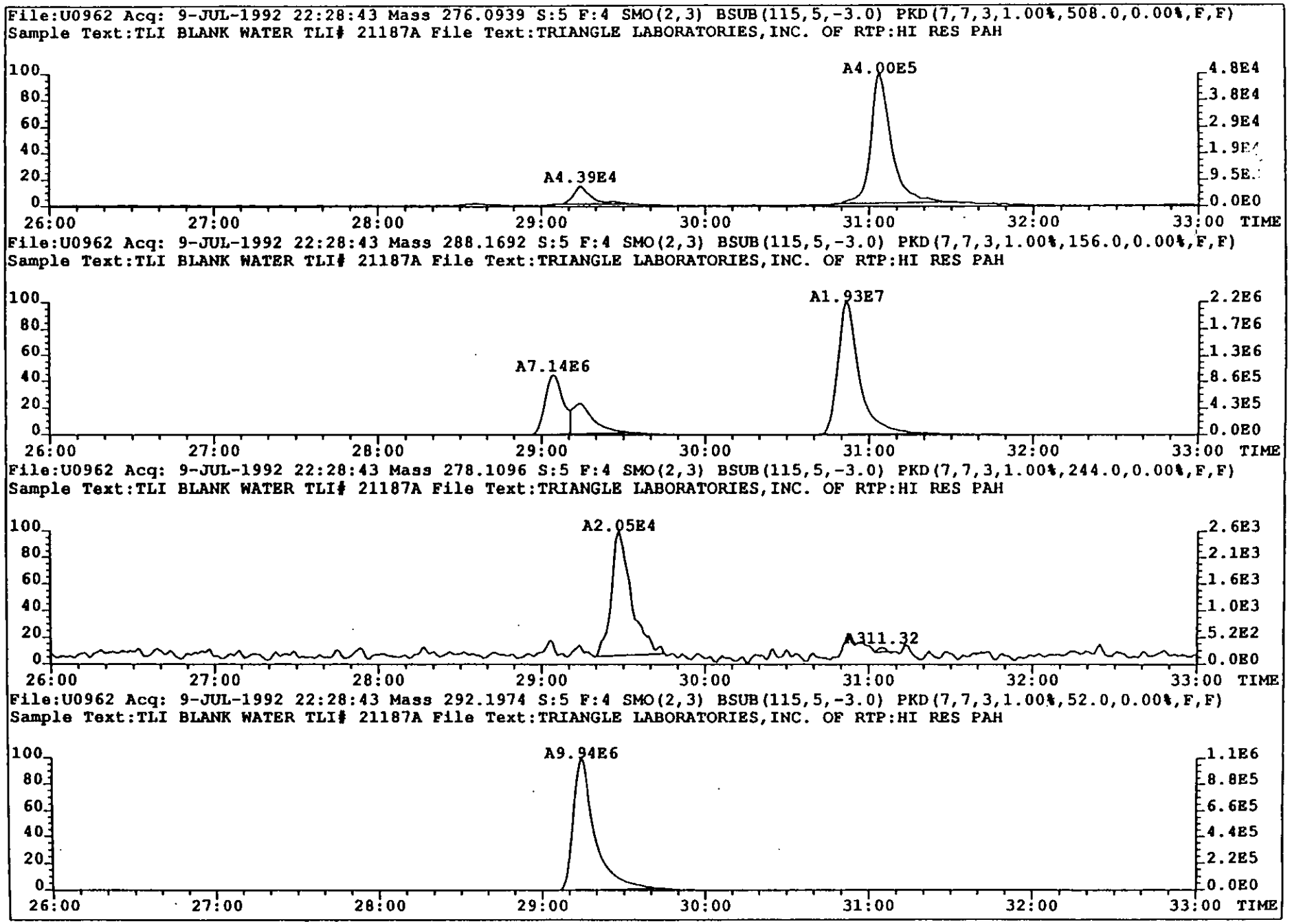

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 162.0236 S:5 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,2,1.00%,4004.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.44E5
2.4E5
1.9E5
1.4E5
9.5E4
4.8E4
0.0E0
100
80
60
40
20
0
6:00
6:12
6:24
6:36
6:48
7:00
7:12
7:24
7:36
7:48
8:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 164.0207 S:5 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,1048.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.35E5
5.1E4
4.1E4
3.0E4
2.0E4
1.0E4
0.0E0
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 169.0676 S:5 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,1164.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.58E7
2.5E7
2.0E7
1.5E7
9.8E6
4.9E6
0.0E0
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 171.0648 S:5 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,120.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.92E7
7.3E6
5.8E6
4.4E6
2.9E6
1.5E6
0.0E0

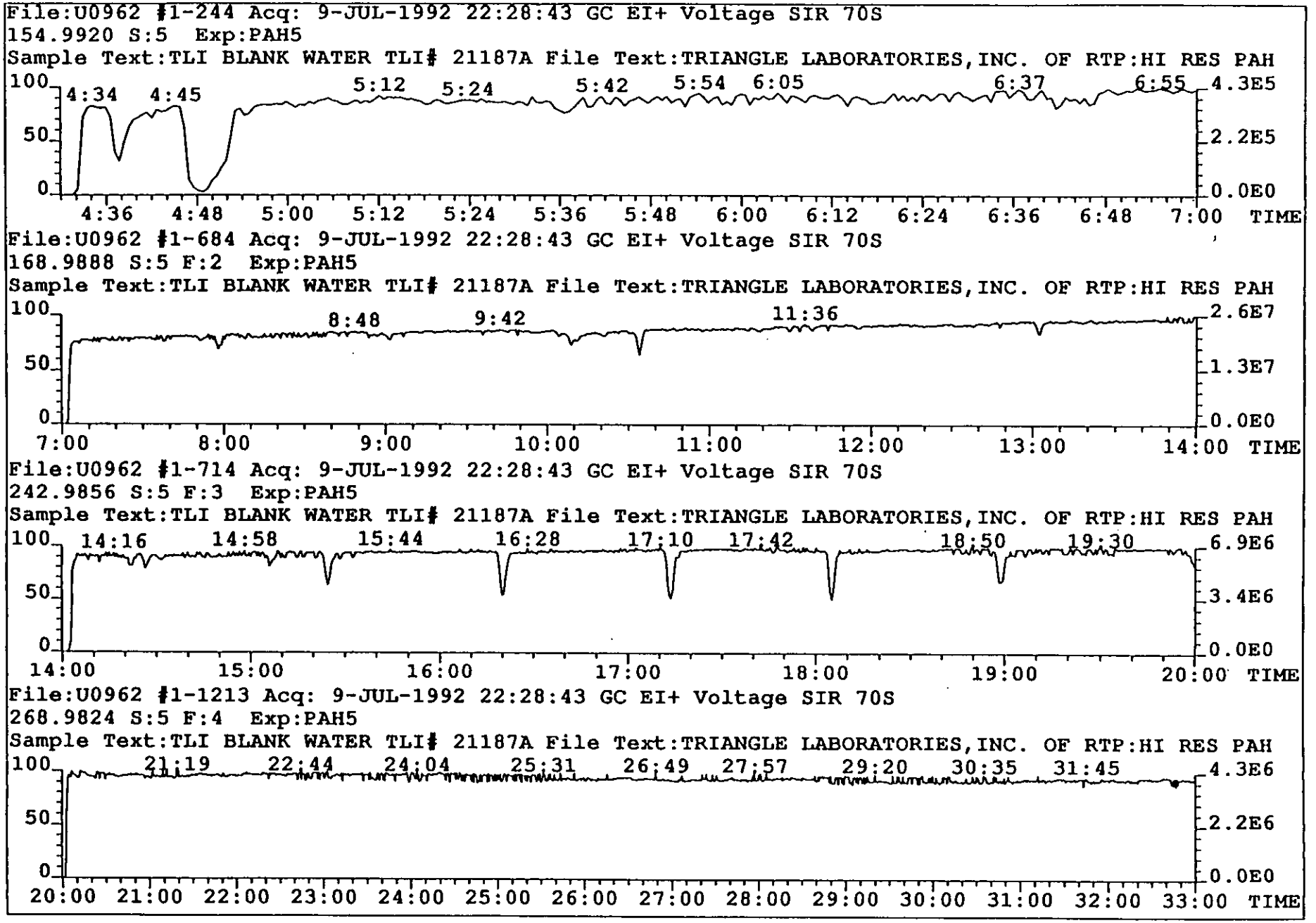

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 154.0782 S:5 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,3832.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.87E6
A1.11E6
A8.75E5
A3.54E5
A7.23E5
A5.30E5
A3.71E5
A6.20E5
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 164.1410 S:5 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,424.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.40E8
TIME

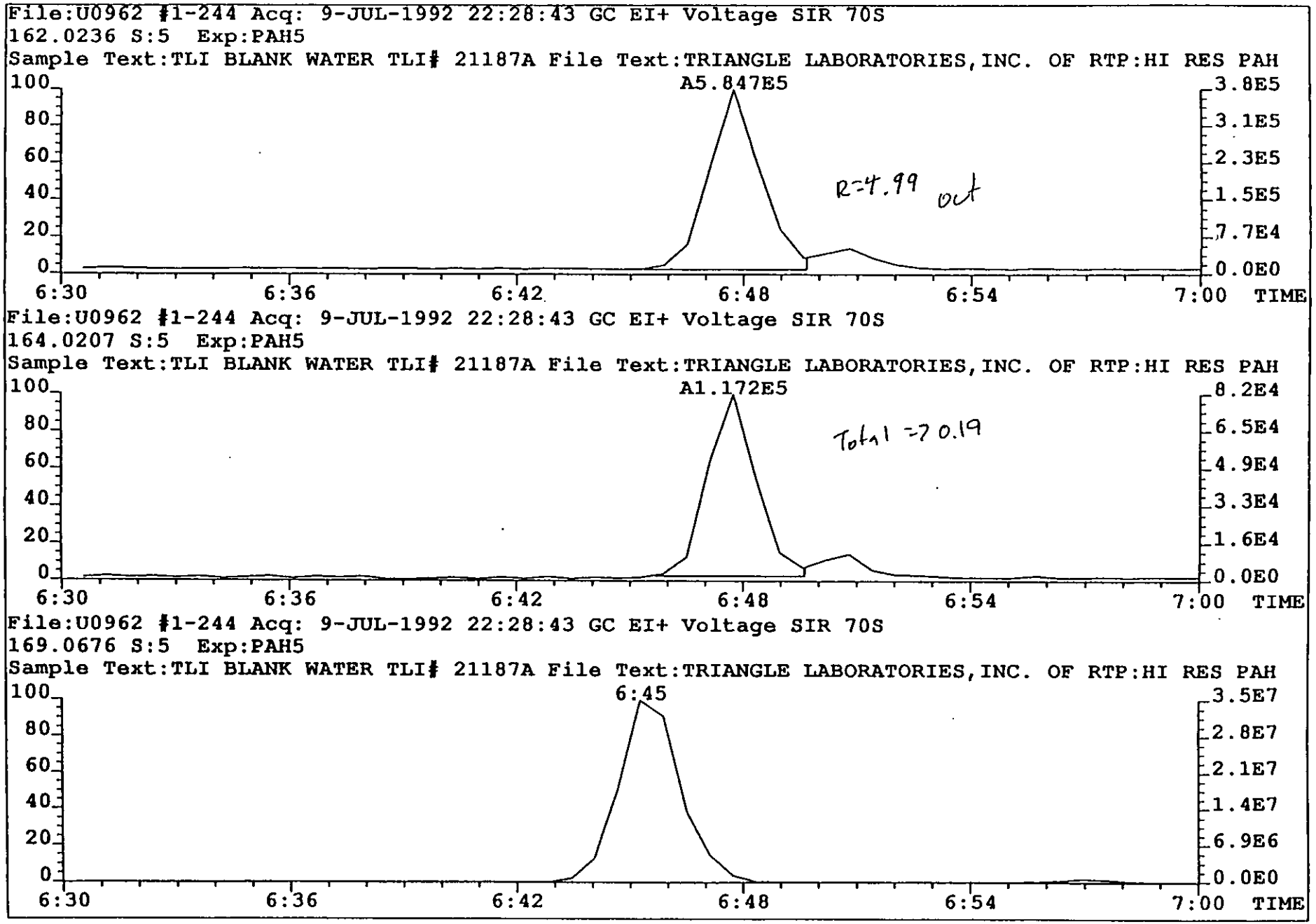

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 166.0782 S:5 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,2384.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.49E7
A6.30E6
A5.64E6
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 176.1410 S:5 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,876.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.67E5
A3.04E4
A8.41E3
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 178.0782 S:5 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,1516.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.10E7
A1.48E7
A8.08E6
A3.10E6
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 188.1410 S:5 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,1204.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.43E8
TIME

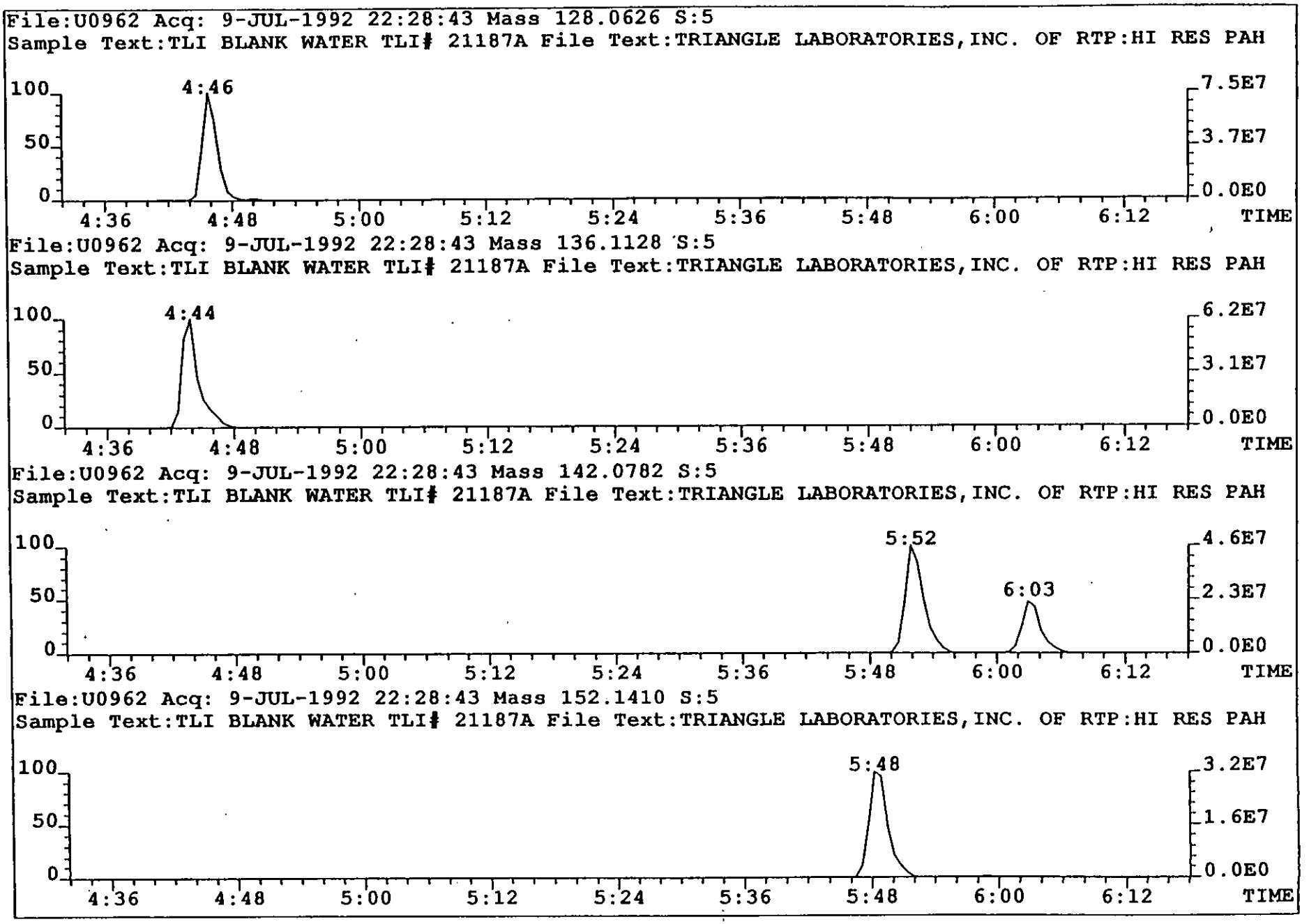

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 202.0782 S:5 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,13068.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.13E6
A3.51E6
1.1E6
5.6E5
0.0E0
14:00
15:00
16:00
17:00
18:00
19:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 212.1410 S:5 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,628.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.39E8
A9.17E7
7.5E7
3.8E7
0.0E0
14:00
15:00
16:00
17:00
18:00
19:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 228.0939 S:5 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,908.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.37E5
A5.22E4
A1.41E5
2.6E5
1.3E5
0.0E0
14:00
15:00
16:00
17:00
18:00
19:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 240.1692 S:5 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,584.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.97E7
1.9E7
9.4E6
0.0E0
14:00
15:00
16:00
17:00
18:00
19:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 244.1974 S:5 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,360.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.36E7
4.2E6
2.1E6
0.0E0
14:00
15:00
16:00
17:00
18:00
19:00 TIME

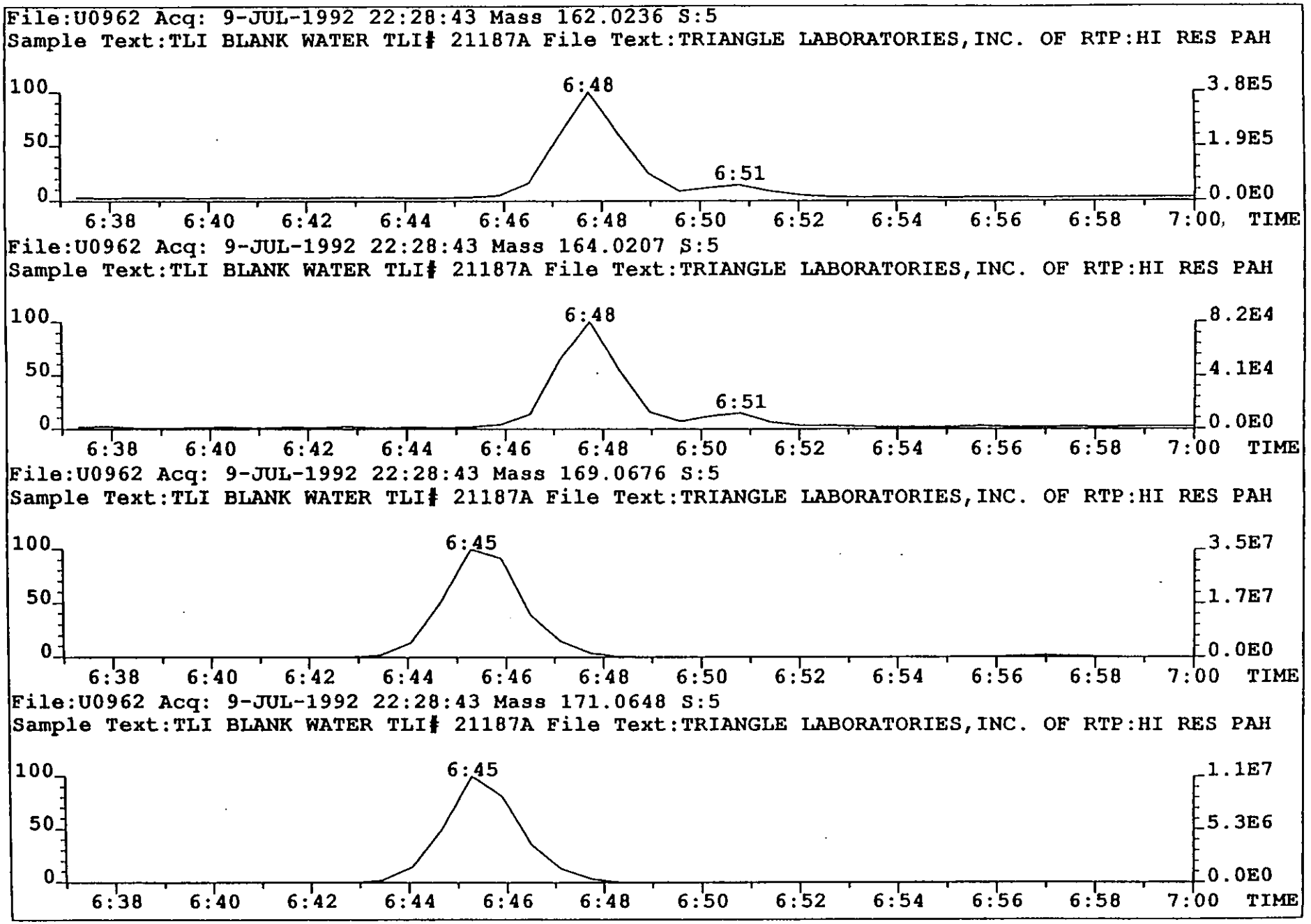

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 252.0939 S:5 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,2,1.00%,324.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.07E5
A1.74E5
A1.29E5
100
90
80
70
60
50
40
30
20
10
0
8.5E4
7.6E4
6.8E4
5.9E4
5.1E4
4.2E4
3.4E4
2.5E4
1.7E4
8.5E3
0.0E0
20:00
21:00
22:00
23:00
24:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 264.1692 S:5 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,1,1.00%,264.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.15E8
A4.11E7
A2.68E7
A1.40E7
100
90
80
70
60
50
40
30
20
10
0
2.8E7
2.5E7
2.2E7
1.9E7
1.7E7
1.4E7
1.1E7
8.3E6
5.5E6
2.8E6
0.0E0
20:00
21:00
22:00
23:00
24:00 TIME

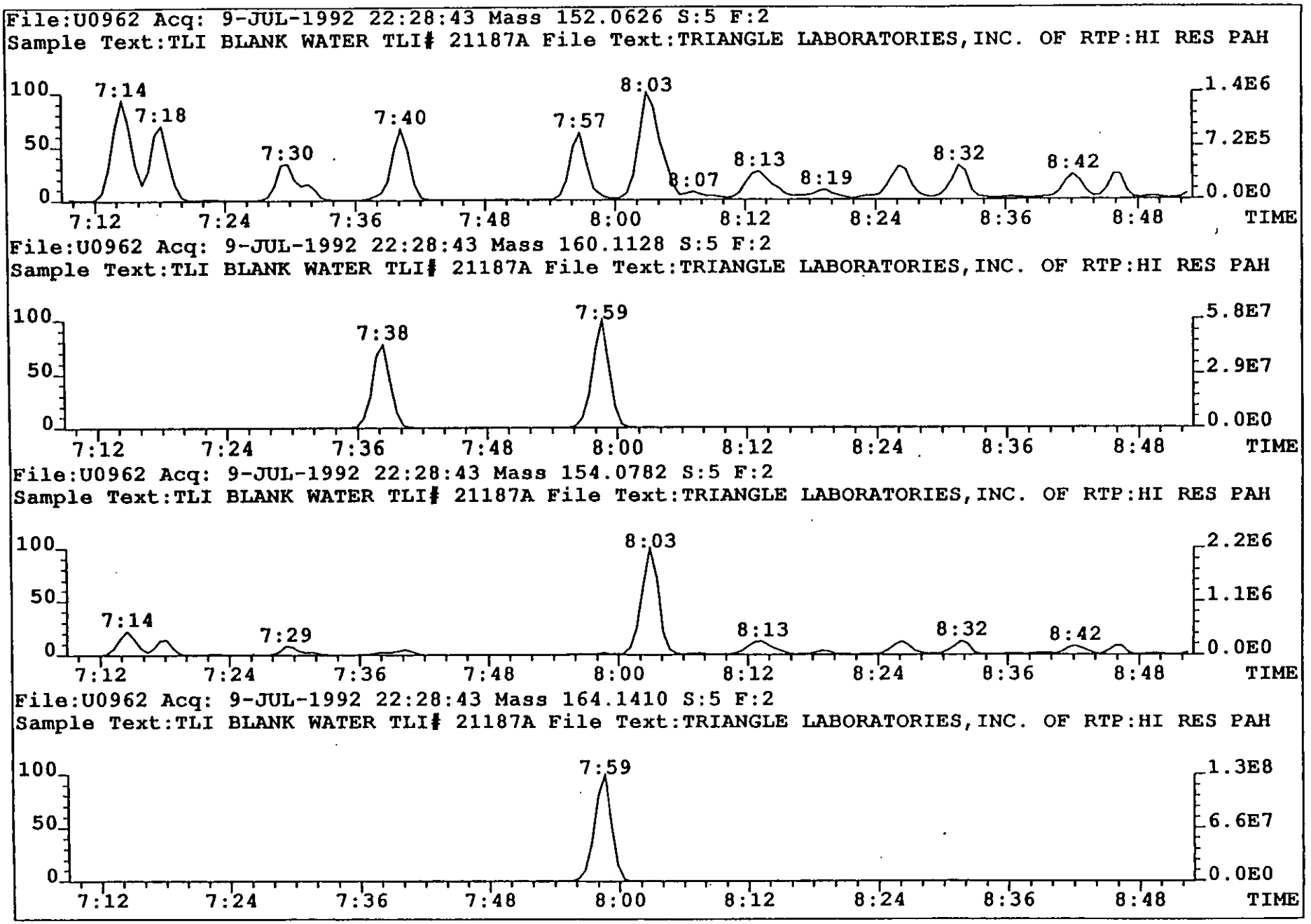

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 276.0939 S:5 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,508.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A4.00E5
A4.39E4
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 288.1692 S:5 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,156.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.93E7
A7.14E6
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 278.1096 S:5 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,244.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.05E4
A311.32
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 292.1974 S:5 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,52.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.94E6
TIME

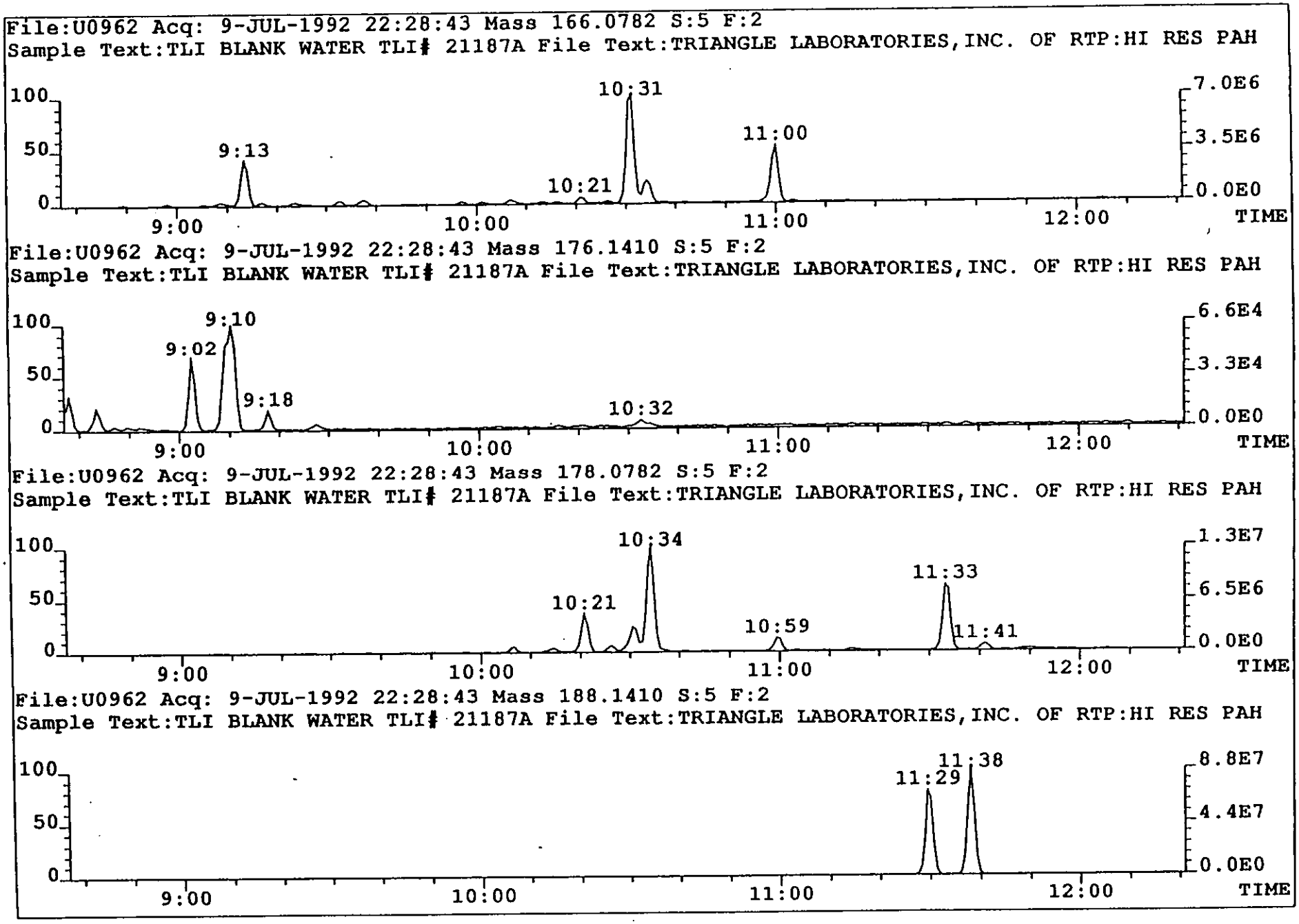

File:U0962 #1-244 Acq: 9-JUL-1992 22:28:43 GC EI+ Voltage SIR 70S
154.9920 S:5 Exp:PAH5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
4:34 4:45 5:12 5:24 5:42 5:54 6:05 6:37 6:55
4.3E5
2.2E5
0.0E0
4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 6:24 6:36 6:48 7:00 TIME
File:U0962 #1-684 Acq: 9-JUL-1992 22:28:43 GC EI+ Voltage SIR 70S
168.9888 S:5 F:2 Exp:PAH5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
8:48 9:42 11:36
2.6E7
1.3E7
0.0E0
7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 TIME
File:U0962 #1-714 Acq: 9-JUL-1992 22:28:43 GC EI+ Voltage SIR 70S
242.9856 S:5 F:3 Exp:PAH5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
14:16 14:58 15:44 16:28 17:10 17:42 18:50 19:30
6.9E6
3.4E6
0.0E0
14:00 15:00 16:00 17:00 18:00 19:00 20:00 TIME
File:U0962 #1-1213 Acq: 9-JUL-1992 22:28:43 GC EI+ Voltage SIR 70S
268.9824 S:5 F:4 Exp:PAH5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:19 22:44 24:04 25:31 26:49 27:57 29:20 30:35 31:45
4.3E6
2.2E6
0.0E0
20:00 21:00 22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 33:00 TIME

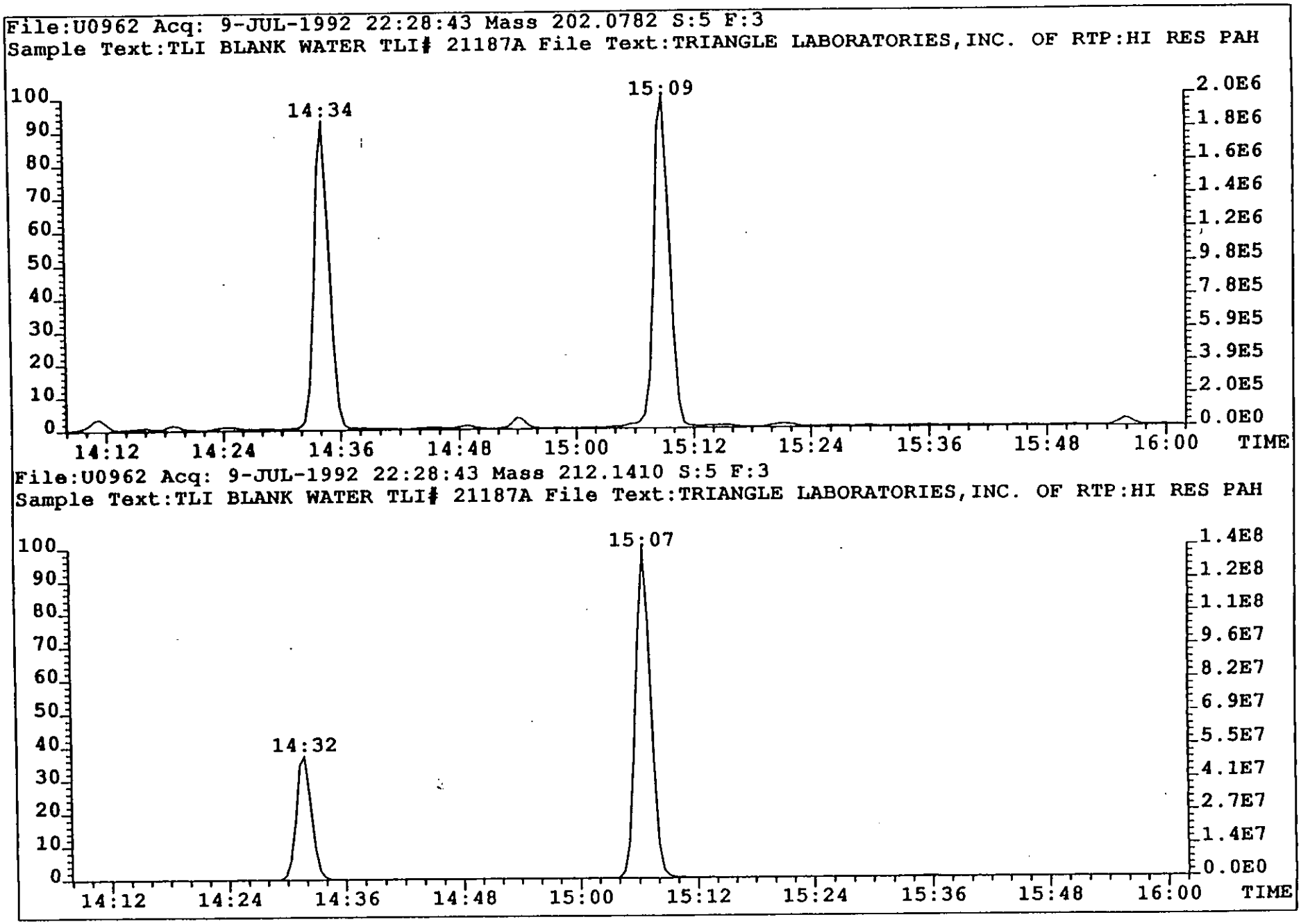

File:U0962 #1-244 Acq: 9-JUL-1992 22:28:43 GC EI+ Voltage SIR 70S
162.0236 S:5 Exp:PAH5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A5.847E5
R=4.99 ont
100
80
60
40
20
0
3.8E5
3.1E5
2.3E5
1.5E5
7.7E4
0.0E0
6:30
6:36
6:42
6:48
6:54
7:00
TIME
File:U0962 #1-244 Acq: 9-JUL-1992 22:28:43 GC EI+ Voltage SIR 70S
164.0207 S:5 Exp:PAH5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.172E5
Total =70.19
100
80
60
40
20
0
8.2E4
6.5E4
4.9E4
3.3E4
1.6E4
0.0E0
6:30
6:36
6:42
6:48
6:54
7:00
TIME
File:U0962 #1-244 Acq: 9-JUL-1992 22:28:43 GC EI+ Voltage SIR 70S
169.0676 S:5 Exp:PAH5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
6:45
100
80
60
40
20
0
3.5E7
2.8E7
2.1E7
1.4E7
6.9E6
0.0E0
6:30
6:36
6:42
6:48
6:54
7:00
TIME

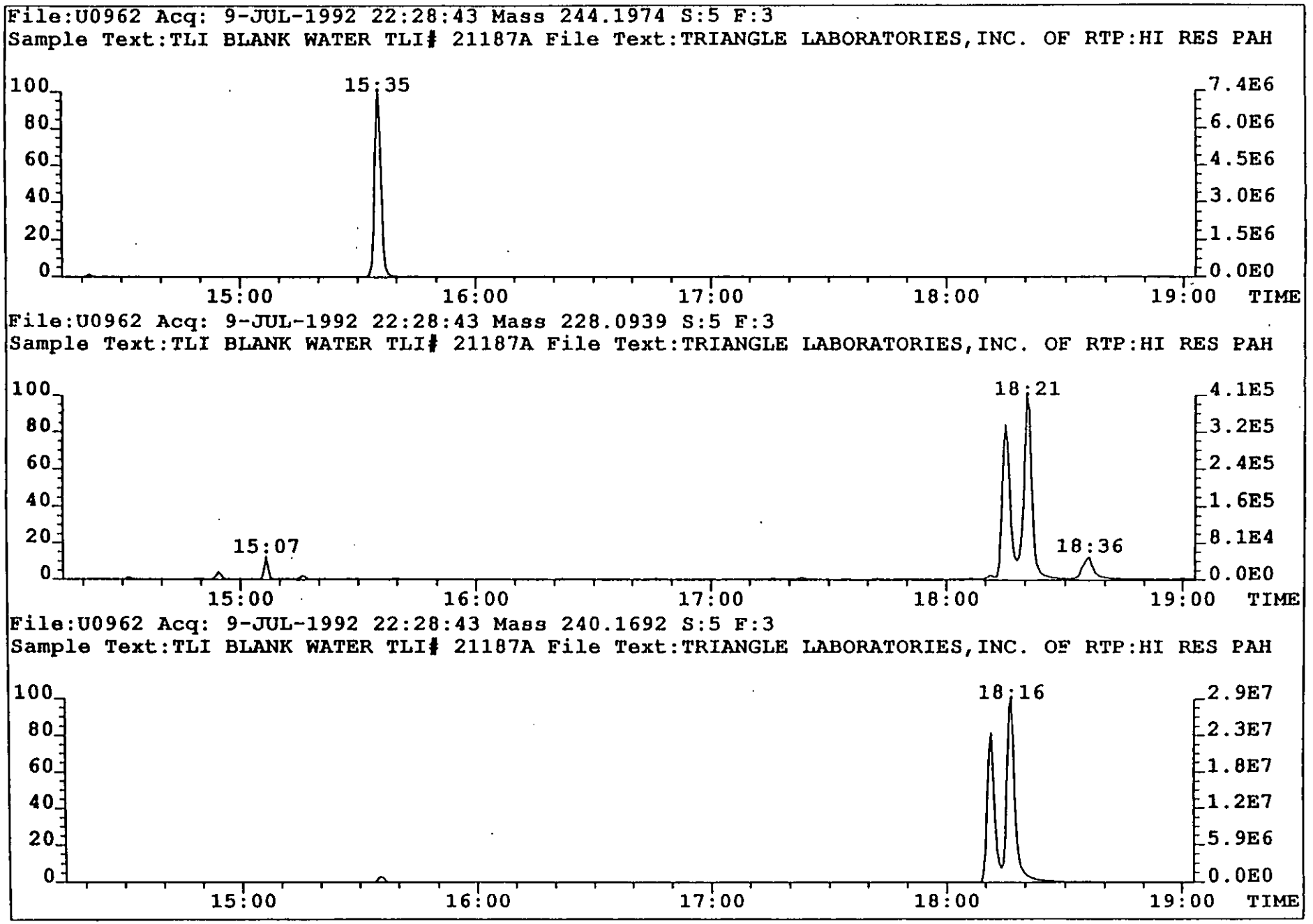

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 128.0626 S:5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:46
7.5E7
3.7E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 136.1128 S:5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:44
6.2E7
3.1E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 142.0782 S:5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
5:52
6:03
4.6E7
2.3E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 152.1410 S:5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
5:48
3.2E7
1.6E7
0.0E0
4:36
4:48
5:00
5:12
5:24
5:36
5:48
6:00
6:12
TIME

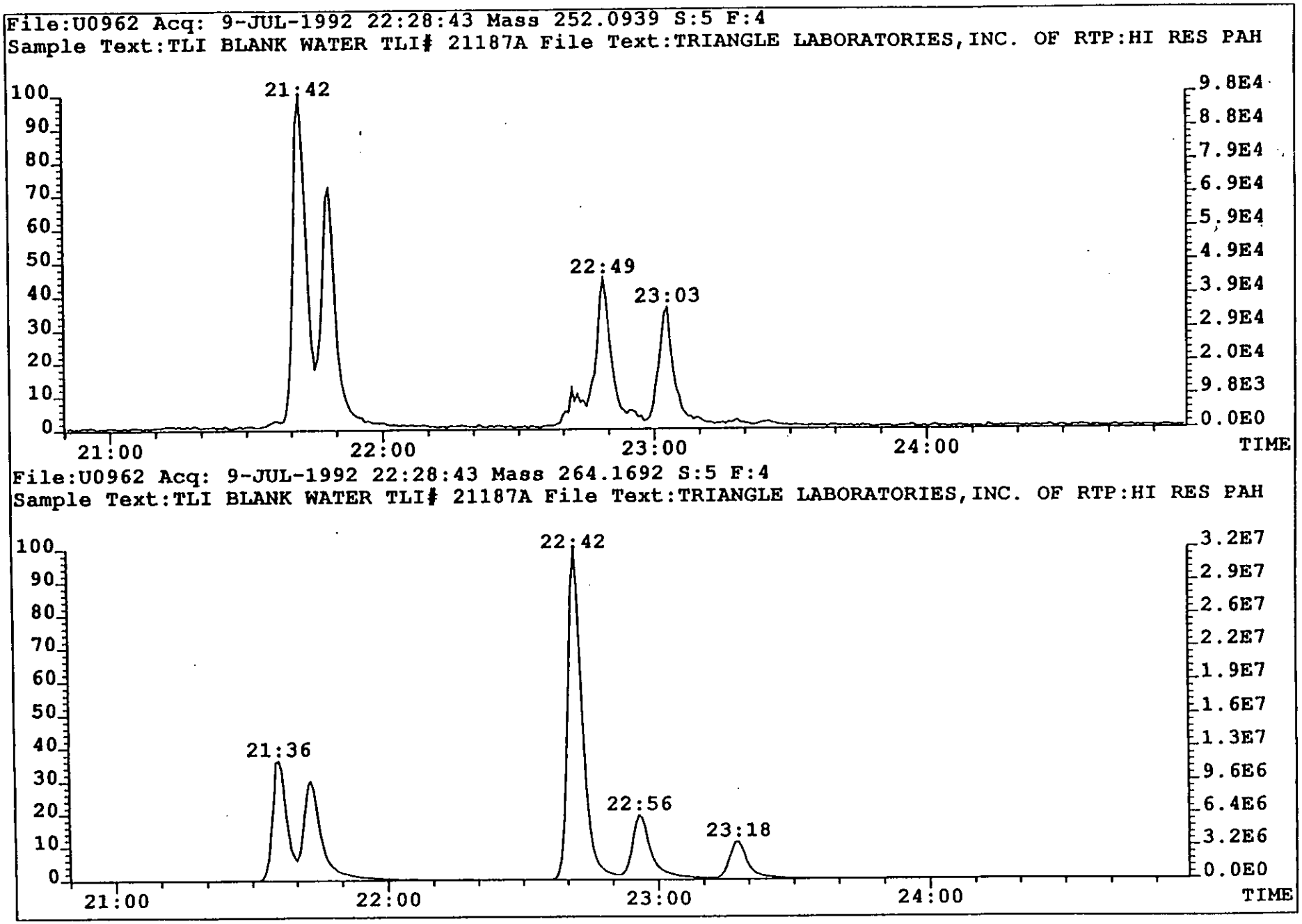

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 162.0236 S:5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:48
6:51
3.8E5
1.9E5
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 164.0207 S:5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:48
6:51
8.2E4
4.1E4
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 169.0676 S:5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:45
3.5E7
1.7E7
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 171.0648 S:5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:45
1.1E7
5.3E6
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME

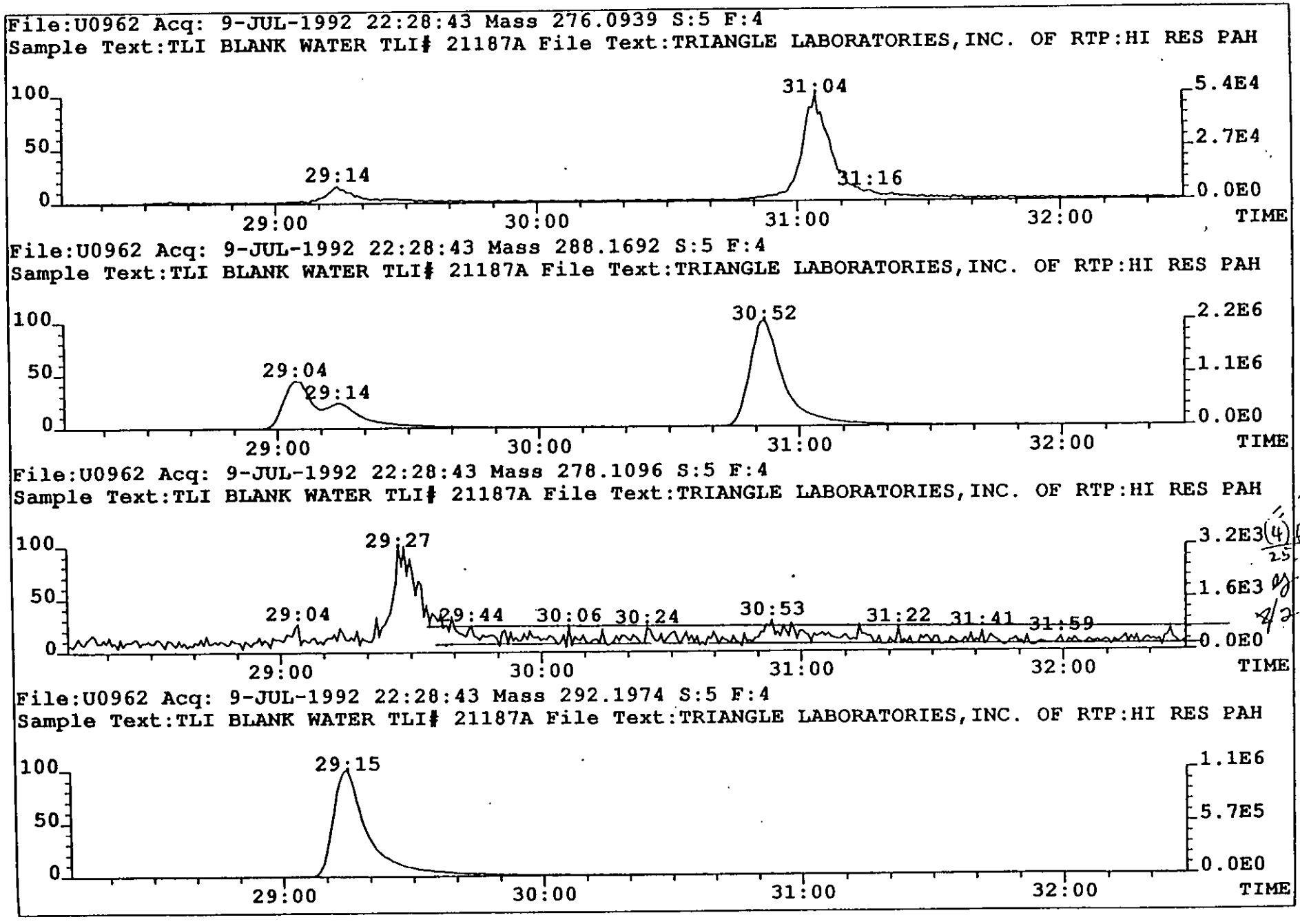

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 152.0626 S:5 F:2
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:14
7:18
7:30
7:40
7:57
8:03
8:07
8:13
8:19
8:32
8:42
1.4E6
7.2E5
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 160.1128 S:5 F:2
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:38
7:59
5.8E7
2.9E7
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 154.0782 S:5 F:2
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:14
7:29
8:03
8:13
8:32
8:42
2.2E6
1.1E6
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 164.1410 S:5 F:2
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:59
1.3E8
6.6E7
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME


File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 166.0782 S:5 F:2
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:13
10:21
10:31
11:00
7.0E6
3.5E6
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 176.1410 S:5 F:2
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:02
9:10
9:18
10:32
6.6E4
3.3E4
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 178.0782 S:5 F:2
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
10:21
10:34
10:59
11:33
11:41
1.3E7
6.5E6
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 188.1410 S:5 F:2
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
11:29
11:38
8.8E7
4.4E7
0.0E0
9:00
10:00
11:00
12:00
TIME


File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 202.0782 S:5 F:3
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
14:34
15:09
100
90
80
70
60
50
40
30
20
10
0
2.0E6
1.8E6
1.6E6
1.4E6
1.2E6
9.8E5
7.8E5
5.9E5
3.9E5
2.0E5
0.0E0
14:12
14:24
14:36
14:48
15:00
15:12
15:24
15:36
15:48
16:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 212.1410 S:5 F:3
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:07
14:32
100
90
80
70
60
50
40
30
20
10
0
1.4E8
1.2E8
1.1E8
9.6E7
8.2E7
6.9E7
5.5E7
4.1E7
2.7E7
1.4E7
0.0E0
14:12
14:24
14:36
14:48
15:00
15:12
15:24
15:36
15:48
16:00
TIME


File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 244.1974 S:5 F:3
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:35
100
80
60
40
20
0
7.4E6
6.0E6
4.5E6
3.0E6
1.5E6
0.0E0
15:00
16:00
17:00
18:00
19:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 228.0939 S:5 F:3
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:21
15:07
18:36
4.1E5
3.2E5
2.4E5
1.6E5
8.1E4
0.0E0
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 240.1692 S:5 F:3
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:16
2.9E7
2.3E7
1.8E7
1.2E7
5.9E6
0.0E0


File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 252.0939 S:5 F:4
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:42
22:49
23:03
100
90
80
70
60
50
40
30
20
10
0
9.8E4
8.8E4
7.9E4
6.9E4
5.9E4
4.9E4
3.9E4
2.9E4
2.0E4
9.8E3
0.0E0
21:00
22:00
23:00
24:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 264.1692 S:5 F:4
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
22:42
21:36
22:56
23:18
100
90
80
70
60
50
40
30
20
10
0
3.2E7
2.9E7
2.6E7
2.2E7
1.9E7
1.6E7
1.3E7
9.6E6
6.4E6
3.2E6
0.0E0
21:00
22:00
23:00
24:00
TIME


File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 276.0939 S:5 F:4
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
31:04
29:14
31:16
5.4E4
2.7E4
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 288.1692 S:5 F:4
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
30:52
29:04
29:14
2.2E6
1.1E6
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 278.1096 S:5 F:4
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:27
29:04
29:44
30:06
30:24
30:53
31:22
31:41
31:59
3.2E3
1.6E3
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 292.1974 S:5 F:4
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:15
1.1E6
5.7E5
0.0E0
29:00
30:00
31:00
32:00
TIME

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/03/92

FILE NAME....: U096205 CLIENT.....: W.W. ENG. TLI SAMPLE ID.: N/A
CONCAL.....: U096001 SAMPLE ID....: TLI H20 BLANK
ANALYST.....: VC ANALYSIS DATE: 07/09/92 PROJECT NUMBER: 211878
SAMPLE SIZE..: 1.00 SAMPLE MATRIX: WATER DATE RECEIVED.: / /
ICAL DATE....: 07/09/92 SAMPLE ORIGIN: WOODLAND DATE COLLECTED: / /
SPIKE FILE...: SPPAHJ1K CLIENT PROJECT: n/a

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	140			4:46	Q
2-Me-Naph	132			5:52	
Acenaphthen	7.0			8:03	
2-Cl-Naph	EMPC		0.76		PR
Acenaph	1.9			7:40	
Fluorene	9.0			9:13	
Phenan	16.0			11:33	
Anth	1.8			11:41	
Fluoran	4.0			14:34	
Pyrene	4.4			15:09	
B-a-Anth	1.7			18:15	
Chrysene	2.6			18:21	
Perylene	ND		0.09		
B-b-Fluoran	1.5			21:42	
-Fluoran	1.6			21:48	
-Pyrene	1.1			23:02	
B-e-Pyrene	0.87			22:49	
B-ghi-Pery	5.1			31:04	
I-123-cd-Py	0.75			29:14	
DiB-ah-Anth	0.53			29:28	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	70.9	70.9	11:38	

Reviewed By: [signature] 8/4/92

PAHJ_RPT 1.00, LARS 4.20

TRIANGLE LABORATORIES OF RTP, INC.
PAHJ ANALYSIS (a)

08/03/92

FILE NAME....:	U096205	CLIENT.....:	W.W. ENG.	TLI SAMPLE ID.:	N/A
CONCAL.....:	U096001	SAMPLE ID....:	TLI H20 BLANK		
ANALYST.....:	VC	ANALYSIS DATE:	07/09/92	PROJECT NUMBER:	21187A
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	WATER	DATE RECEIVED.:	/ /
ICAL DATE....:	07/09/92	SAMPLE ORIGIN:	WOODLAND	DATE COLLECTED:	/ /
SPIKE FILE...:	SPPAHJ1K			CLIENT PROJECT:	n/a

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	40.4	40.4	4:44	
d10-2-Me-Naph	46.9	46.9	5:48	
d7-2-Cl-Naph	46.2	46.2	6:45	
d8-Acenaph	55.8	55.8	7:38	
d10-Phenan	53.2	53.2	11:29	
d12-B-a-Anth	77.5	77.5	18:11	
d10-Fluoran	63.7	63.7	14:32	
d12-Chrysene	46.4	46.4	18:16	
d12-Perylene	106	52.8	23:18	
d12-B-b-Fluoran	169	84.7	21:36	
d12-B-k-Fluoran	105	52.3	21:43	
d12-B-a-Pyrene	121	60.3	22:56	
d12-B-ghi-Pery	106	53.0	30:52	
d12-I-123-cd-Py	143	71.3	29:04	I
d14-DiB-ah-Anth	107	53.3	29:14	

Reviewed By: [signature] 8/4/92

PAHJ_RPT_1.00, LARS 4.20

	Initial	Date
B-File/Header Changes		
Manual Integrations		
Transcription		
Dbase Corrections		

Noise .25 @ 278

Listing of U096205B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128	DC	0.00	0:00	3.33	T	F	0.000	NL
		0.00	4:42	102.55	T	F	0.993	
		0.00	4:46	12044.36	T	~~F~~ T	1.007	
	DC	0.00	5:08	26.39	T	F	1.085	SN
		0.00	5:18	66.09	T	F	1.120	
		0.00	5:26	36.29	T	F	1.148	
		0.00	5:30	45.59	T	F	1.162	
		0.00	5:39	33.56	T	F	1.194	
	DC	0.00	6:45	44.07	T	F	1.426	WH
	DC	0.00	6:51	47.91	T	F	1.447	WH
	DC	0.00	6:57	44.54	T	F	1.468	WH
128		*** Total ***		12494.68	# of Peaks:		11	
136	DC	0.00	0:00	0.03	T	F	0.000	NL
		0.00	4:44	11208.40	T	T	1.000	
136		*** Total ***		11208.43	# of Peaks:		2	
142	DC	0.00	0:00	0.42	T	F	0.000	NL
		0.00	5:52	9243.88	T	T	1.011	
		0.00	6:03	4283.46	T	F	1.043	
		0.00	6:57	143.56	T	F	1.198	
142		*** Total ***		13671.32	# of Peaks:		4	
152	DC	0.00	0:00	0.02	T	F	0.000	NL
	DC	0.00	0:00	0.28	T	F	0.000	NL
		0.00	5:48	6625.59	T	T	1.000	
		0.00	5:59	45.42	T	F	0.784	
		0.00	7:05	316.06	T	F	0.928	
		0.00	7:14	266.53	T	F	0.948	
		0.00	7:18	194.66	T	F	0.956	
		0.00	7:30	122.14	T	F	0.983	
		0.00	7:40	174.50	T	T	1.004	
		0.00	7:57	159.85	T	F	1.041	
		0.00	8:03	356.83	T	F	1.055	
		0.00	8:13	110.13	T	F	1.076	
		0.00	8:19	29.64	T	F	1.090	
		0.00	8:26	104.20	T	F	1.105	
		0.00	8:32	80.71	T	F	1.118	
		0.00	8:42	53.56	T	F	1.140	
		0.00	8:46	49.17	T	F	1.148	
		0.00	8:54	48.61	T	F	1.166	

Listing of U096205B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
154	DC	0.00	0:00	0.10	T	F	0.000	NL
		0.00	7:05	111.13	T	F	0.928	
		0.00	7:14	87.55	T	F	0.948	
		0.00	7:18	54.48	T	F	0.956	
		0.00	7:22	3.07	T	F	0.965	
		0.00	7:30	35.42	T	F	0.983	
		0.00	7:40	23.92	T	F	1.004	
		0.00	7:59	6.36	T	F	1.046	
		0.00	8:03 -	387.32	T	T	1.055	
		0.00	8:07	4.65	T	F	1.063	
		0.00	8:13	72.28	T	F	1.076	
		0.00	8:19	12.46	T	F	1.090	
		0.00	8:26	52.96	T	F	1.105	
		0.00	8:32	46.53	T	F	1.118	
		0.00	8:37	1.72	T	F	1.129	
		0.00	8:42	37.13	T	F	1.140	
		0.00	8:46	28.48	T	F	1.148	
		0.00	8:49	1.80	T	F	1.155	
		0.00	8:54	61.98	T	F	1.166	
154		*** Total ***		1029.34	# of Peaks:		19	
160	DC	0.00	0:00	0.16	T	F	0.000	NL
		0.00	7:38 —	8665.86	T	T	1.000	
		0.00	7:59	10623.85	T	F	1.046	
		0.00	8:21	18.55	T	F	1.094	
160		*** Total ***		19308.42	# of Peaks:		4	
162	DC	3.33	0:00	0.13	T	F	0.000	NL
	check	4.78	6:48 —	77.82	F	T	1.007	-RO
162		*** Total ***		77.95	# of Peaks:		2	
164	DC	0.00	0:00	0.03	T	F	0.000	NL
	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	6:48	13.46	T	F	0.852	
		0.00	7:59 —	23964.18	T	T	1.001	
164		*** Total ***		23977.68	# of Peaks:		4	
166	DC	0.00	0:00	0.06	T	F	0.000	NL
	DC	0.00	7:57	65.69	T	F	0.692	WL
	DC	0.00	8:04	23.45	T	F	0.702	WL
	DC	0.00	8:58	18.94	T	F	0.781	WL
nap	~~DC~~	0.00	9:13 -	564.32	T	T	0.803	WL
	DC	0.00	9:24	36.71	T	F	0.819	WL
		0.00	9:33	35.23	T	F	0.832	
		0.00	9:37	47.78	T	F	0.837	
		0.00	9:57	8.88	T	F	0.866	
		0.00	10:07	29.10	T	F	0.881	
		0.00	10:21	42.30	T	F	0.901	
		0.00	10:31	1487.69	T	F	0.916	
		0.00	11:00	629.78	T	F	0.958	
166		*** Total ***		2989.93	# of Peaks:		13	

Listing of U096205B.dbf

Matched GC Peaks / Ratio / Ret. Time

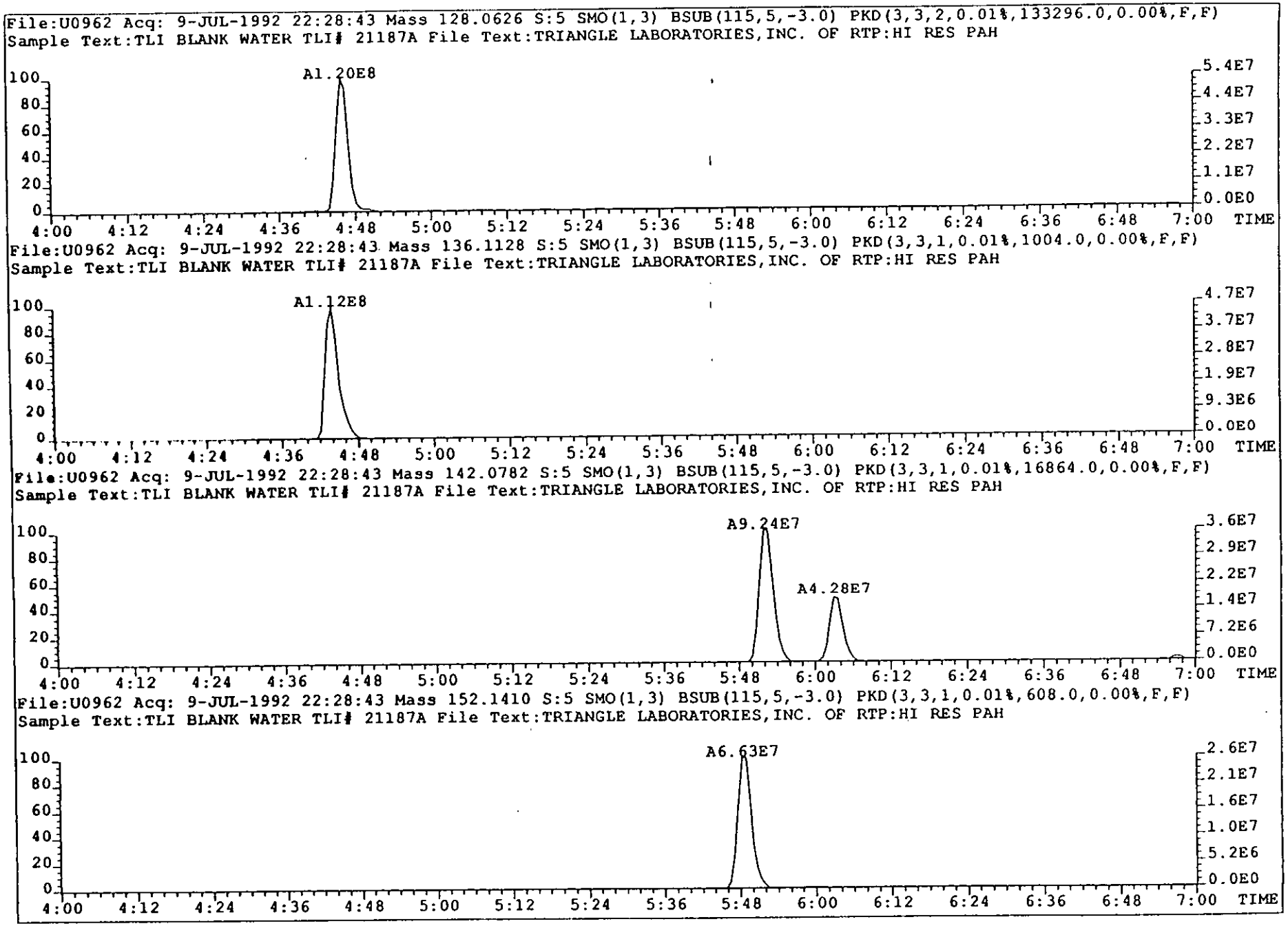
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
169	DC	10.00	0:00	0.03	F	F	0.000	NL
		3.44	6:45 —	8494.42	T	T	1.000	
169		*** Total ***		8494.45	# of Peaks:		2	
176	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	8:38	3.04	T	F	0.944	
		0.00	8:43	2.14	T	F	0.953	
		0.00	9:02	6.27	T	F	0.988	
		0.00	9:10 —	16.72	T	T	1.002	
		0.00	9:18	1.51	T	F	1.017	
		0.00	9:28	0.62	T	F	1.035	
		0.00	10:32	0.84	T	F	1.152	
176		*** Total ***		31.16	# of Peaks:		8	
178	DC	0.00	0:00	0.04	T	F	0.000	NL
		0.00	10:07	97.44	T	F	0.881	
		0.00	10:15	88.62	T	F	0.893	
		0.00	10:21	808.50	T	F	0.901	
		0.00	10:34	3096.47	T	F	0.920	
		0.00	10:59	310.12	T	F	0.956	
		0.00	11:15	53.21	T	F	0.980	
		0.00	11:33 —	1484.81	T	T	1.006	
		0.00	11:41 —	150.89	T	T	1.017	
		0.00	11:50	148.83	T	F	1.030	
178		*** Total ***		6238.93	# of Peaks:		10	
188	DC	0.00	0:00	0.03	T	F	0.000	NL
		0.00	11:29 —	12486.21	T	T	1.000	
		0.00	11:38 —	14295.94	T	T	1.001	
188		*** Total ***		26782.18	# of Peaks:		3	
202	DC	0.00	0:00	0.33	T	F	0.000	NL
		0.00	14:11	9.79	T	F	0.976	
		0.00	14:34 —	312.99	T	T	1.002	
		0.00	14:54	7.39	T	F	1.025	
		0.00	15:09 —	350.64	T	T	1.042	
		0.00	15:56	4.84	T	F	1.096	
		0.00	18:19	10.27	T	F	1.260	
202		*** Total ***		696.25	# of Peaks:		7	
212	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	14:32 —	9167.06	T	T	1.000	
		0.00	15:07 —	23852.19	T	T	1.001	
212		*** Total ***		33019.27	# of Peaks:		3	
228	DC	0.00	0:00	0.02	T	F	0.000	NL
		0.00	14:54	2.28	T	F	0.819	
		0.00	15:07	5.22	T	F	0.831	
		0.00	15:16	0.90	T	F	0.840	
		0.00	18:15 —	79.33	T	T	1.004	
		0.00	18:21 —	93.74	T	T	1.009	
		0.00	18:36	14.14	T	F	1.023	

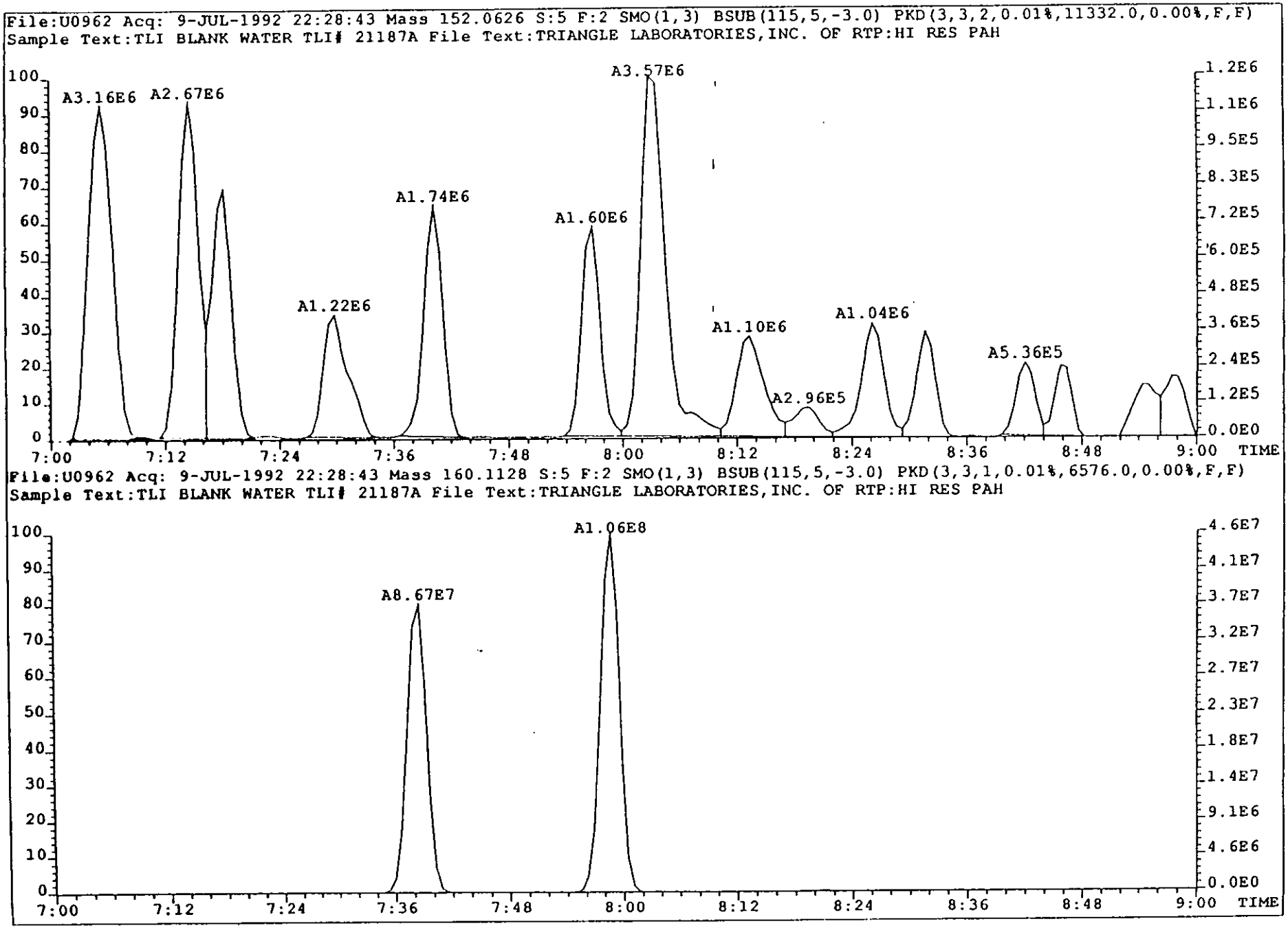
Listing of U096205B.dbf

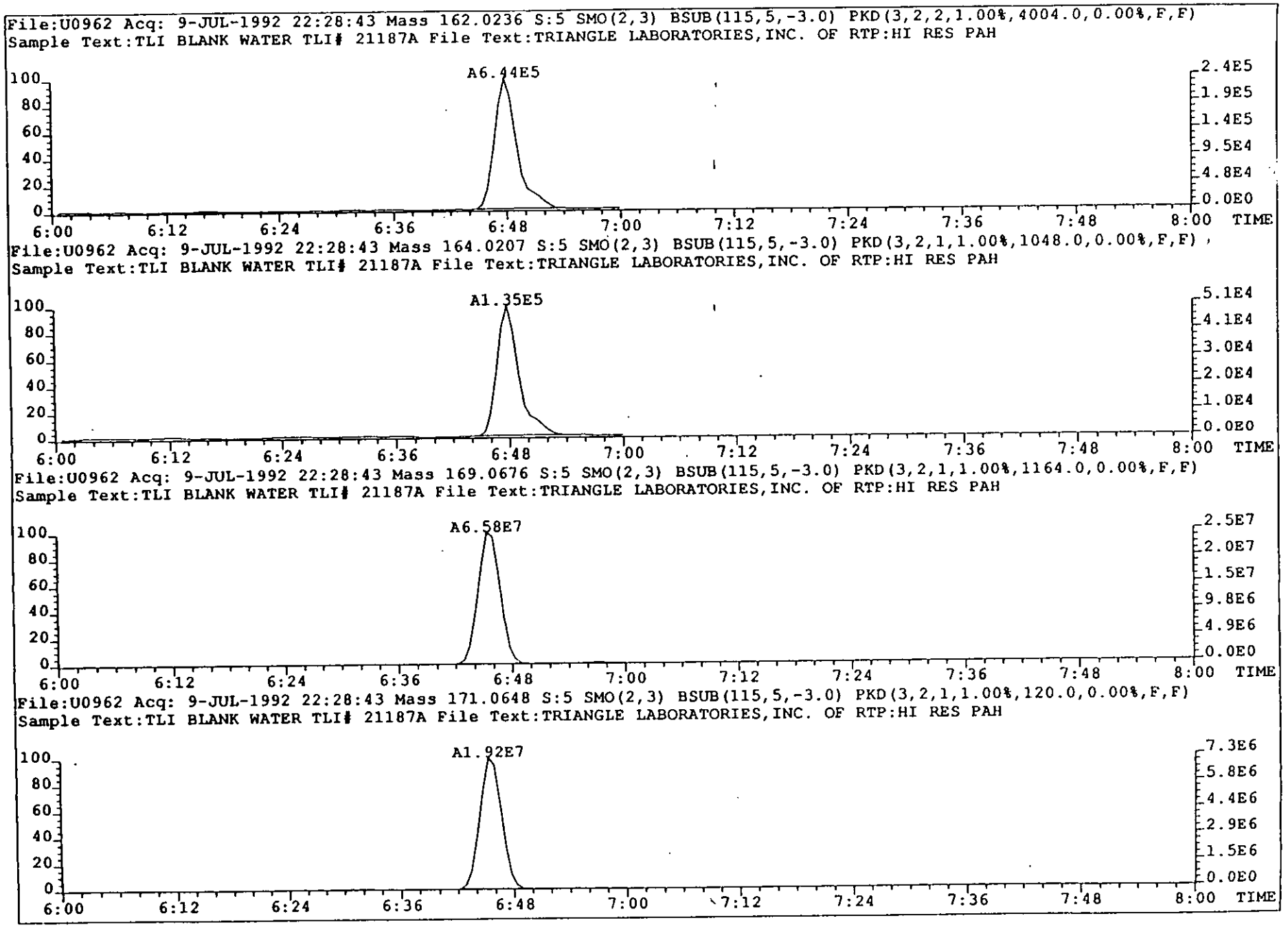
Matched GC Peaks / Ratio / Ret. Time

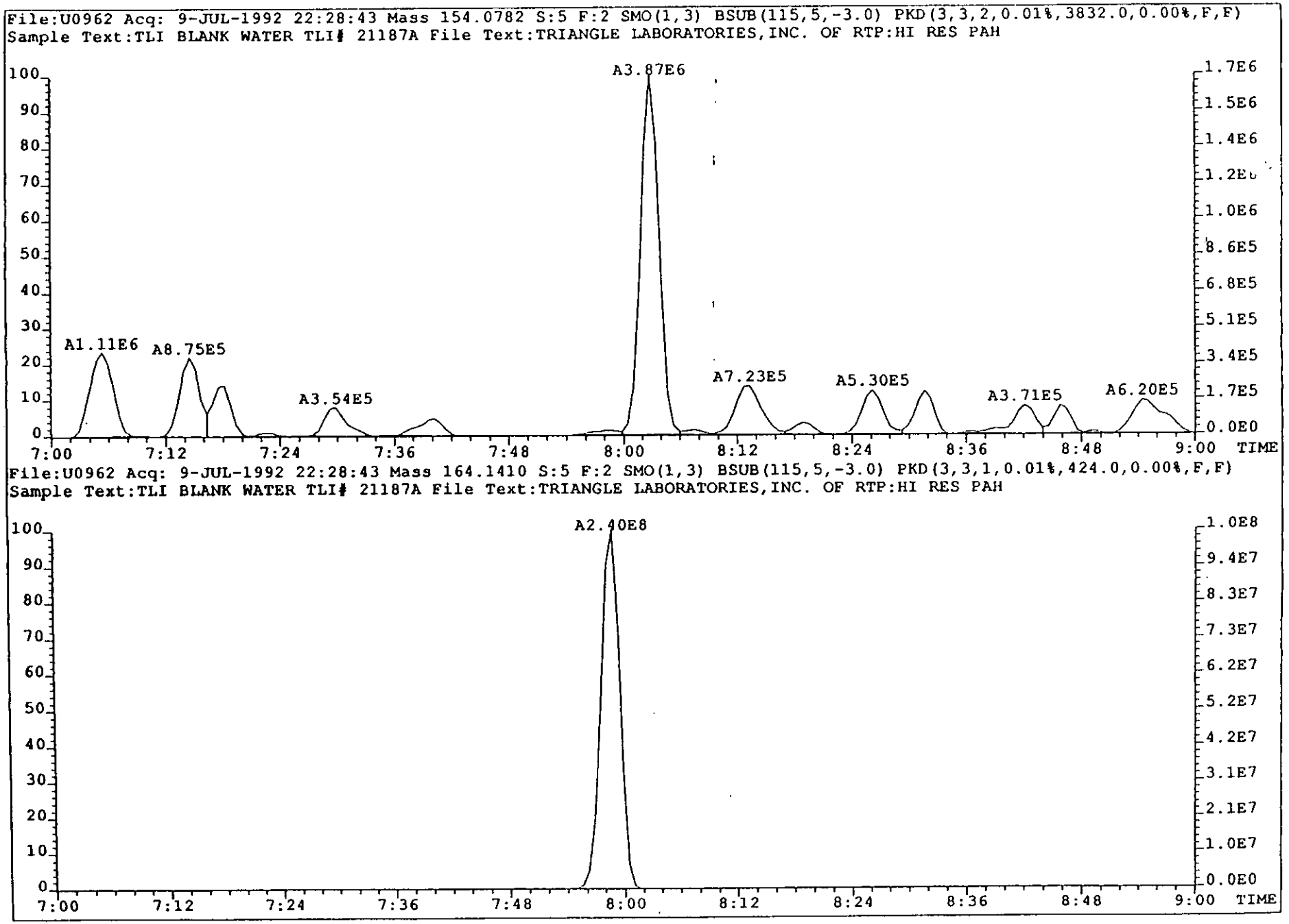
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
240	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	15:36	162.21	T	F	0.858	
		0.00	18:11	5080.51	T	T	1.000	
		0.00	18:16	6974.06	T	T	1.005	
240		*** Total ***		12216.79	# of Peaks:		4	
244	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	15:35	1356.51	T	T	0.999	
244		*** Total ***		1356.52	# of Peaks:		2	
252	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	21:42	30.69	T	T	0.931	
		0.00	21:48	25.00	T	T	0.936	
		0.00	22:49	17.42	T	T	0.979	
		0.00	23:02	12.90	T	T	0.989	
252		*** Total ***		86.02	# of Peaks:		5	
264	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	21:36	4110.82	T	T	0.927	
		0.00	21:43	3911.78	T	T	0.932	
		0.00	22:42	11520.25	T	T	1.001	
		0.00	22:56	2678.26	T	T	0.984	
		0.00	23:18	1400.98	T	T	1.000	
264		*** Total ***		23622.10	# of Peaks:		6	
276	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	29:14	4.39	T	T	0.947	
		0.00	29:27	0.52	T	F	0.954	
		0.00	31:04	39.97	T	T	1.006	
276		*** Total ***		44.89	# of Peaks:		4	
278	DC	0.00	0:00	0.01	T	F	0.000	NL
		0.00	29:28	2.05	T	T	1.008	
	DC	0.00	31:05	0.03	T	F	1.063	SN
278		*** Total ***		2.09	# of Peaks:		3	
288	DC	0.00	0:00	**********.**	T	F	0.000	NL
		0.00	29:04	714.25	T	T	0.942	
		0.00	29:14	441.79	T	F	0.947	
		0.00	30:52	1934.77	T	T	1.000	
288		*** Total ***		3090.81	# of Peaks:		4	
292	DC	0.00	0:00	**********.**	T	F	0.000	NL
		0.00	29:14	993.98	T	T	1.000	
292		*** Total ***		993.98	# of Peaks:		2	

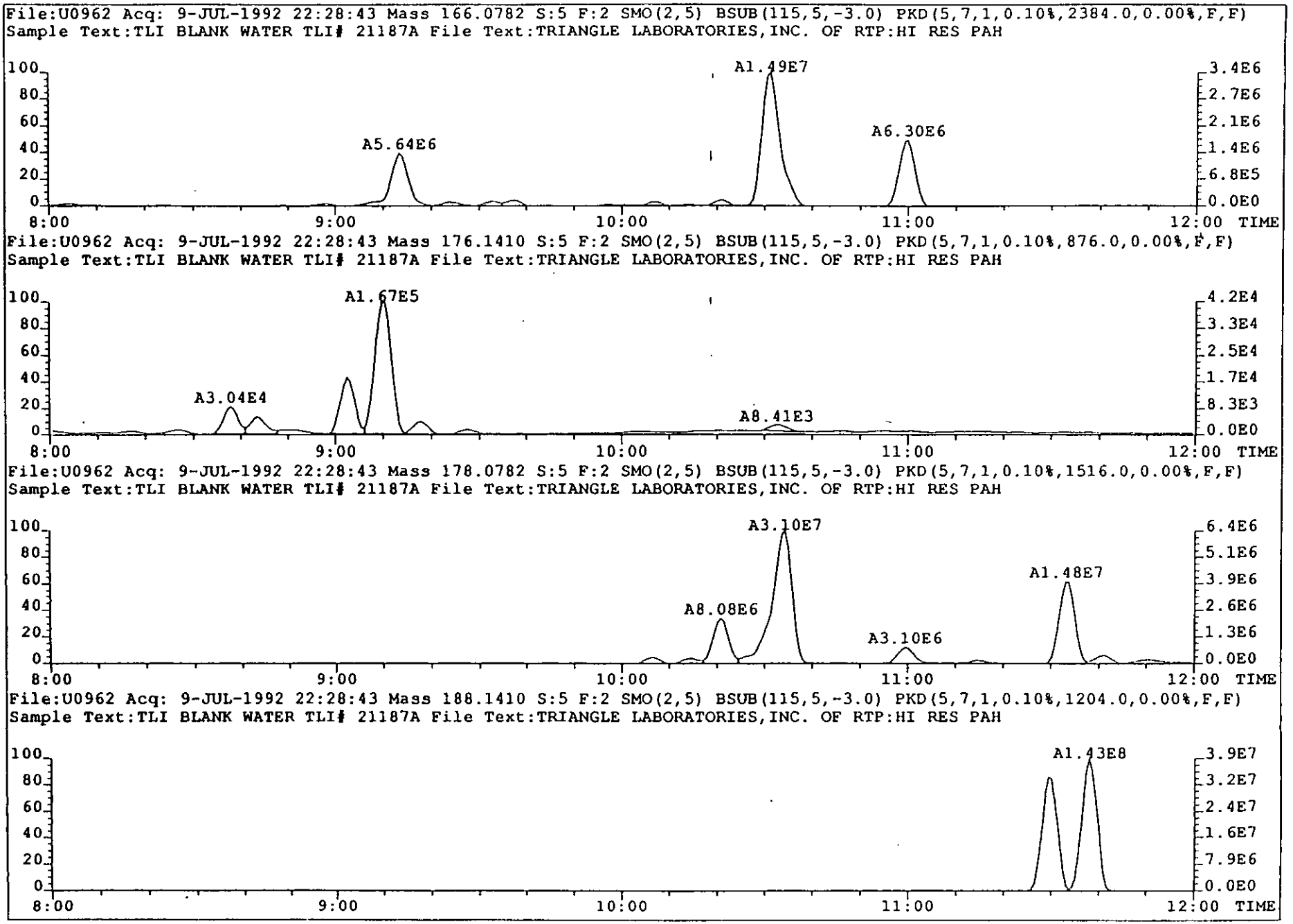
*** End of Report ***

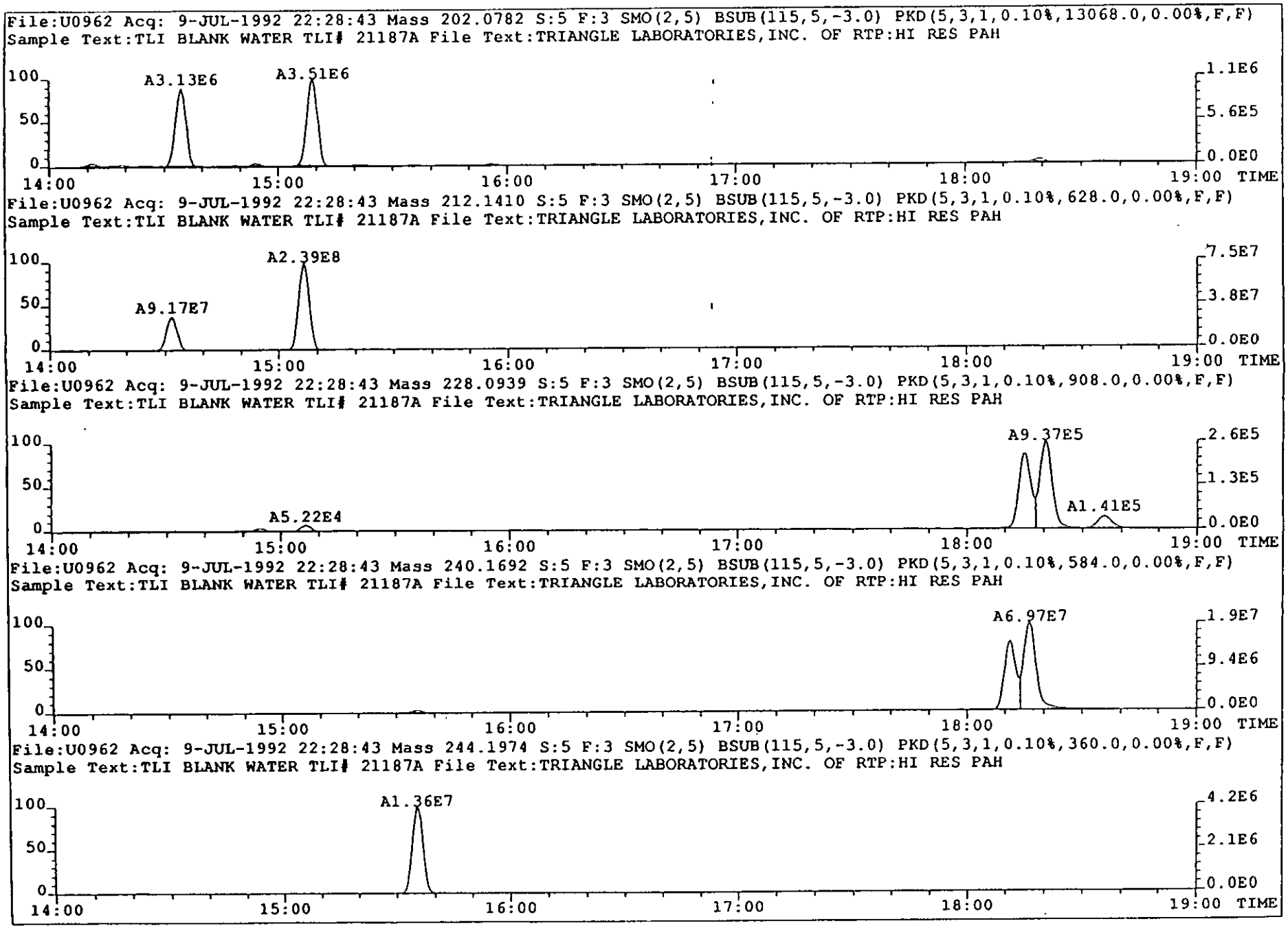

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 128.0626 S:5 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,133296.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.20E8
100
80
60
40
20
0
5.4E7
4.4E7
3.3E7
2.2E7
1.1E7
0.0E0
4:00 4:12 4:24 4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 6:24 6:36 6:48 7:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 136.1128 S:5 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,1004.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.12E8
4.7E7
3.7E7
2.8E7
1.9E7
9.3E6
0.0E0
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 142.0782 S:5 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,16864.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.24E7
A4.28E7
3.6E7
2.9E7
2.2E7
1.4E7
7.2E6
0.0E0
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 152.1410 S:5 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,608.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.63E7
2.6E7
2.1E7
1.6E7
1.0E7
5.2E6
0.0E0

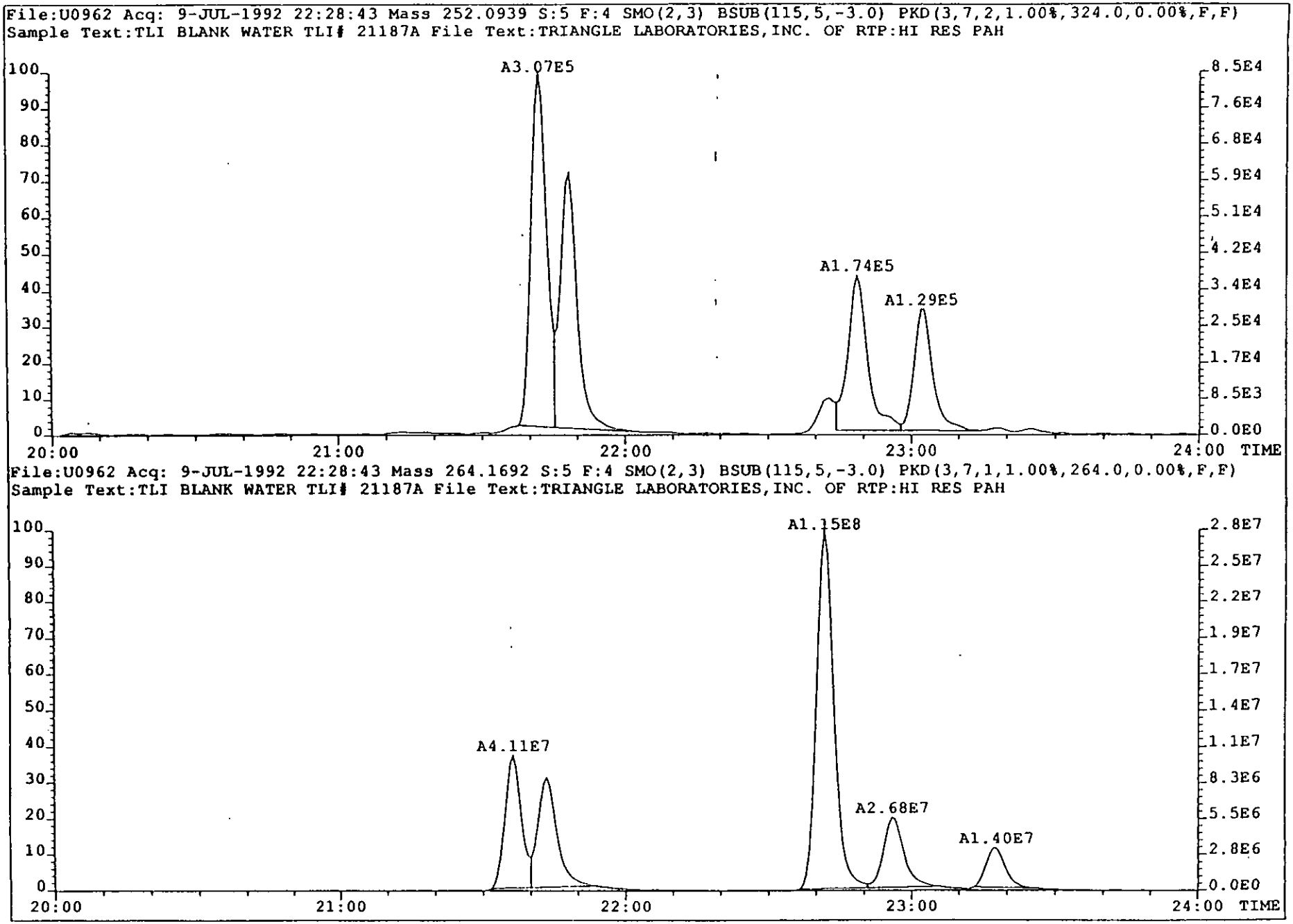

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 152.0626 S:5 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,11332.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.16E6
A2.67E6
A1.22E6
A1.74E6
A1.60E6
A3.57E6
A1.10E6
A2.96E5
A1.04E6
A5.36E5
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 160.1128 S:5 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,6576.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A8.67E7
A1.06E8
TIME

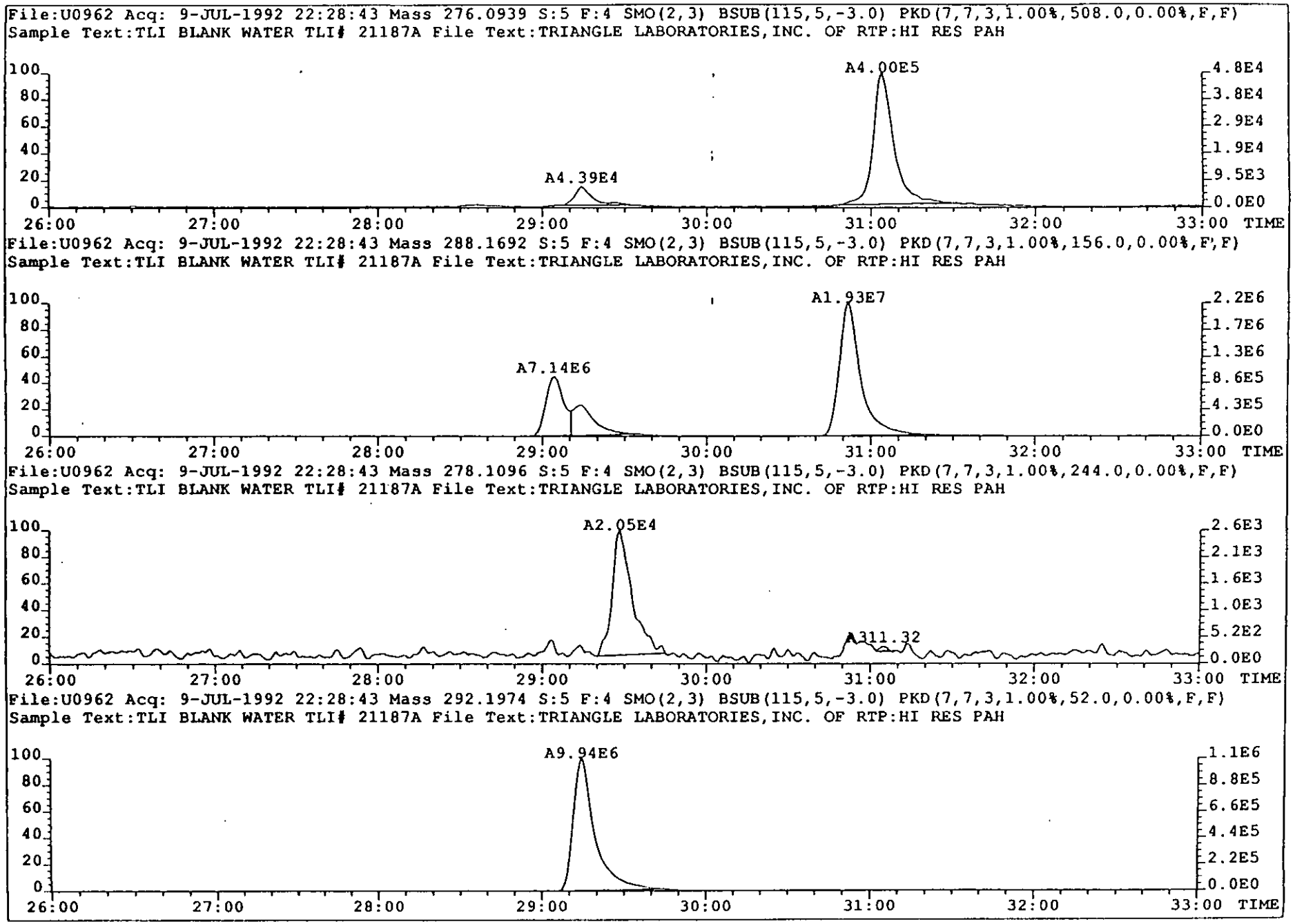

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 162.0236 S:5 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,2,1.00%,4004.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.44E5
100
80
60
40
20
0
2.4E5
1.9E5
1.4E5
9.5E4
4.8E4
0.0E0
6:00
6:12
6:24
6:36
6:48
7:00
7:12
7:24
7:36
7:48
8:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 164.0207 S:5 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,1048.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.35E5
5.1E4
4.1E4
3.0E4
2.0E4
1.0E4
0.0E0
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 169.0676 S:5 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,1164.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.58E7
2.5E7
2.0E7
1.5E7
9.8E6
4.9E6
0.0E0
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 171.0648 S:5 SMO(2,3) BSUB(115,5,-3.0) PKD(3,2,1,1.00%,120.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.92E7
7.3E6
5.8E6
4.4E6
2.9E6
1.5E6
0.0E0

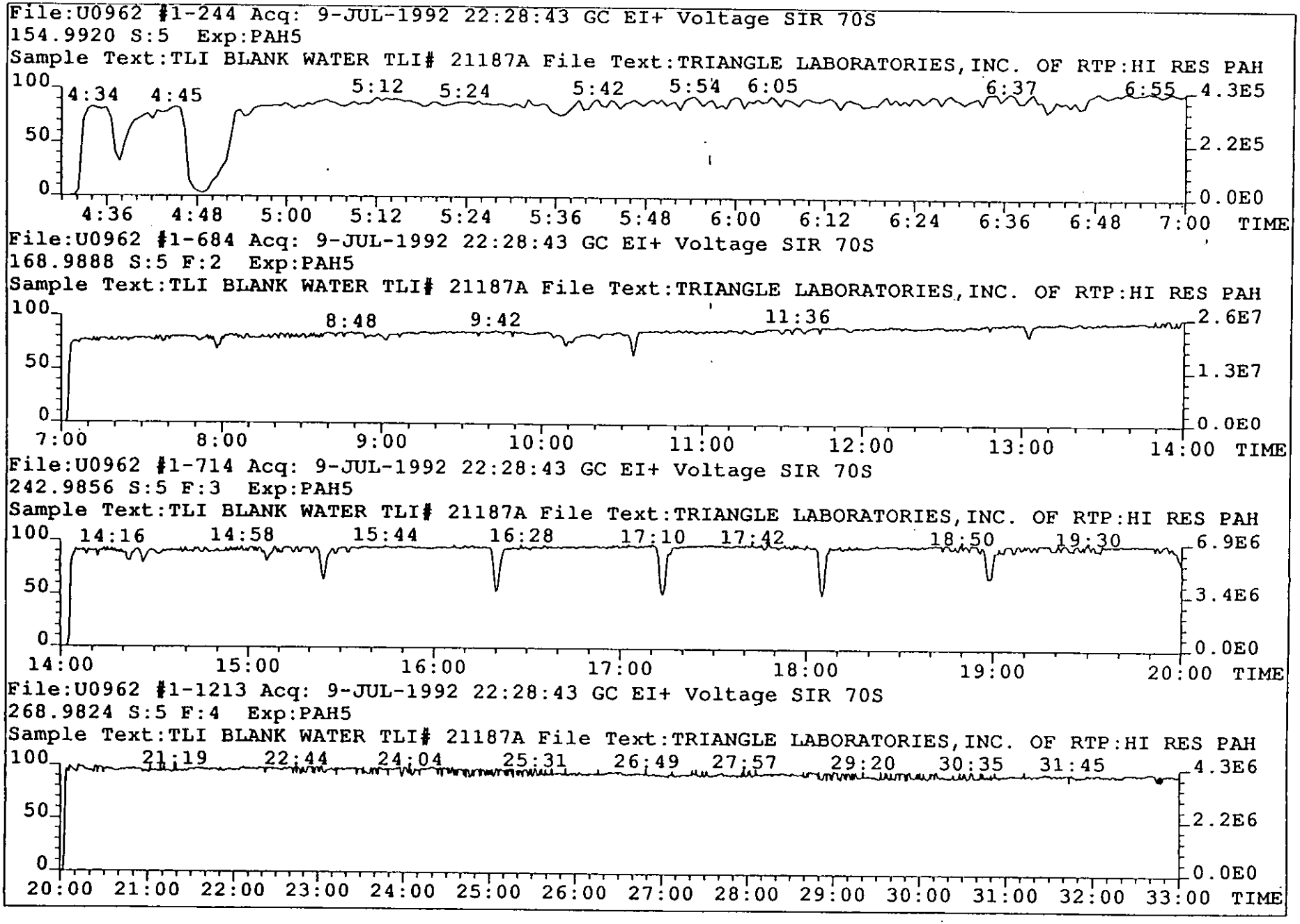

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 154.0782 S:5 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,2,0.01%,3832.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.87E6
A1.11E6
A8.75E5
A3.54E5
A7.23E5
A5.30E5
A3.71E5
A6.20E5
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 164.1410 S:5 F:2 SMO(1,3) BSUB(115,5,-3.0) PKD(3,3,1,0.01%,424.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.40E8
TIME

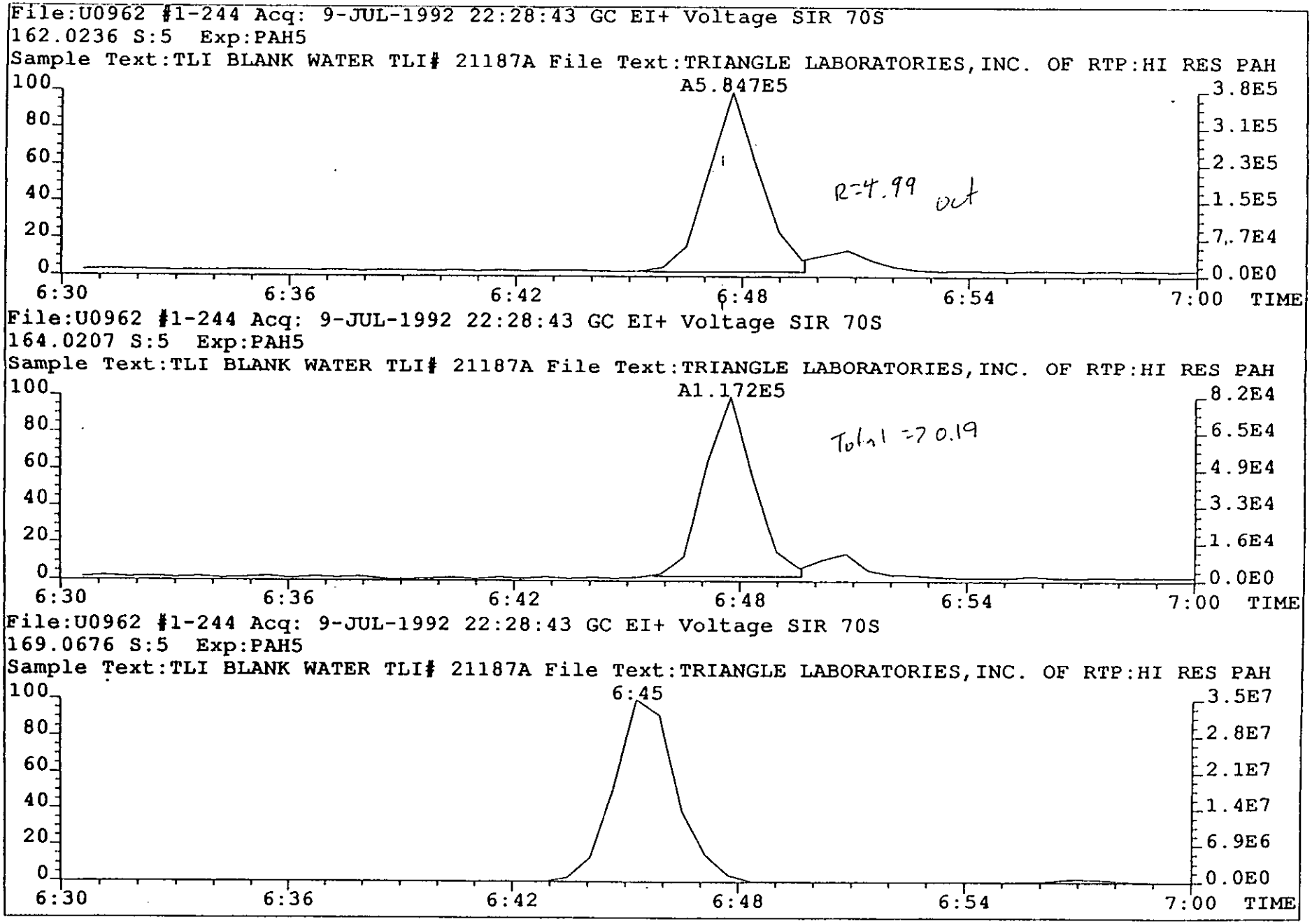

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 166.0782 S:5 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,2384.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.49E7
A5.64E6
A6.30E6
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 176.1410 S:5 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,876.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.67E5
A3.04E4
A8.41E3
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 178.0782 S:5 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,1516.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.10E7
A8.08E6
A3.10E6
A1.48E7
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 188.1410 S:5 F:2 SMO(2,5) BSUB(115,5,-3.0) PKD(5,7,1,0.10%,1204.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.43E8
8:00
9:00
10:00
11:00
12:00
TIME

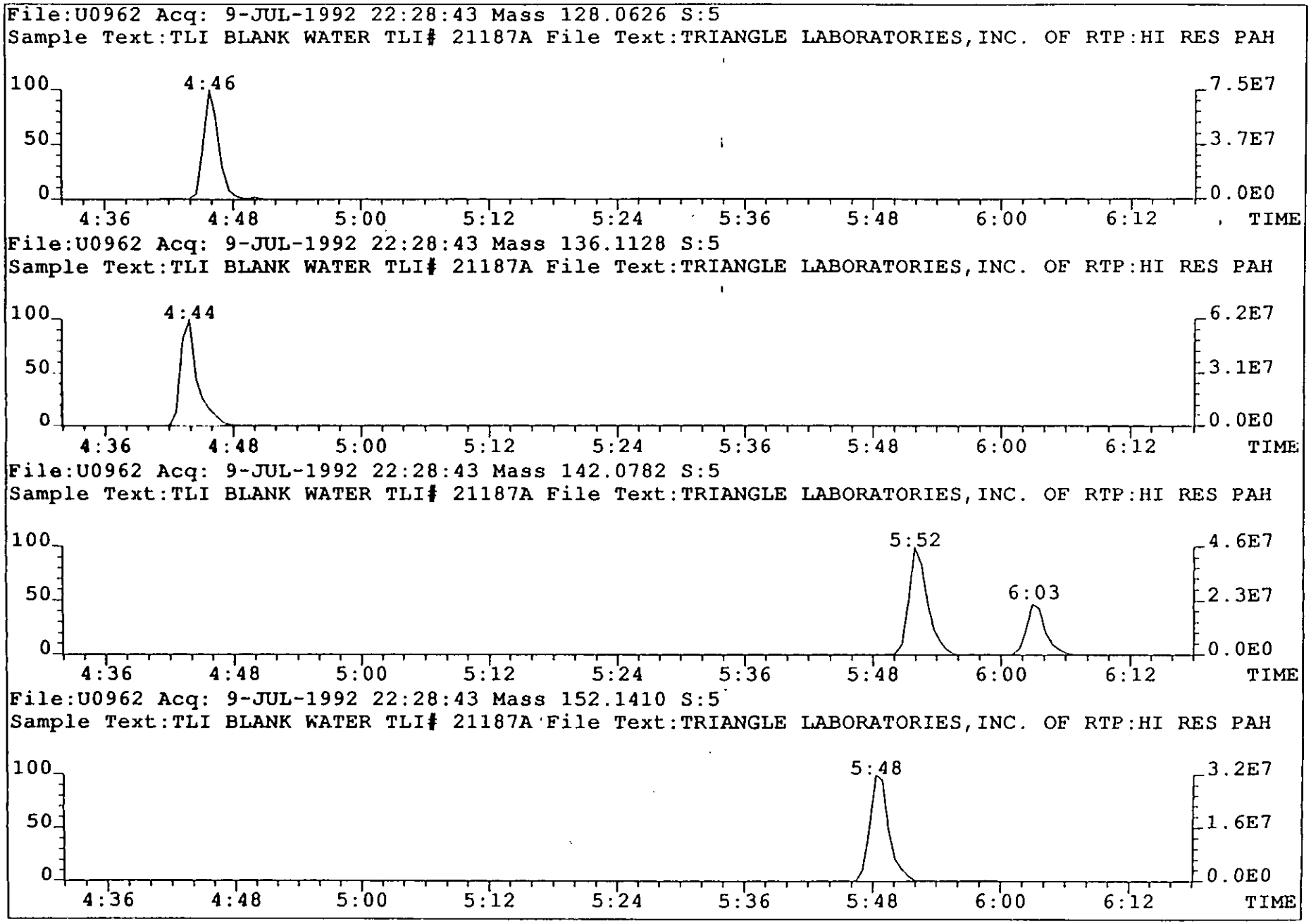

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 202.0782 S:5 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,13068.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.13E6
A3.51E6
1.1E6
5.6E5
0.0E0
14:00
15:00
16:00
17:00
18:00
19:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 212.1410 S:5 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,628.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.39E8
A9.17E7
7.5E7
3.8E7
0.0E0
14:00
15:00
16:00
17:00
18:00
19:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 228.0939 S:5 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,908.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.37E5
A5.22E4
A1.41E5
2.6E5
1.3E5
0.0E0
14:00
15:00
16:00
17:00
18:00
19:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 240.1692 S:5 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,584.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A6.97E7
1.9E7
9.4E6
0.0E0
14:00
15:00
16:00
17:00
18:00
19:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 244.1974 S:5 F:3 SMO(2,5) BSUB(115,5,-3.0) PKD(5,3,1,0.10%,360.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.36E7
4.2E6
2.1E6
0.0E0
14:00
15:00
16:00
17:00
18:00
19:00 TIME

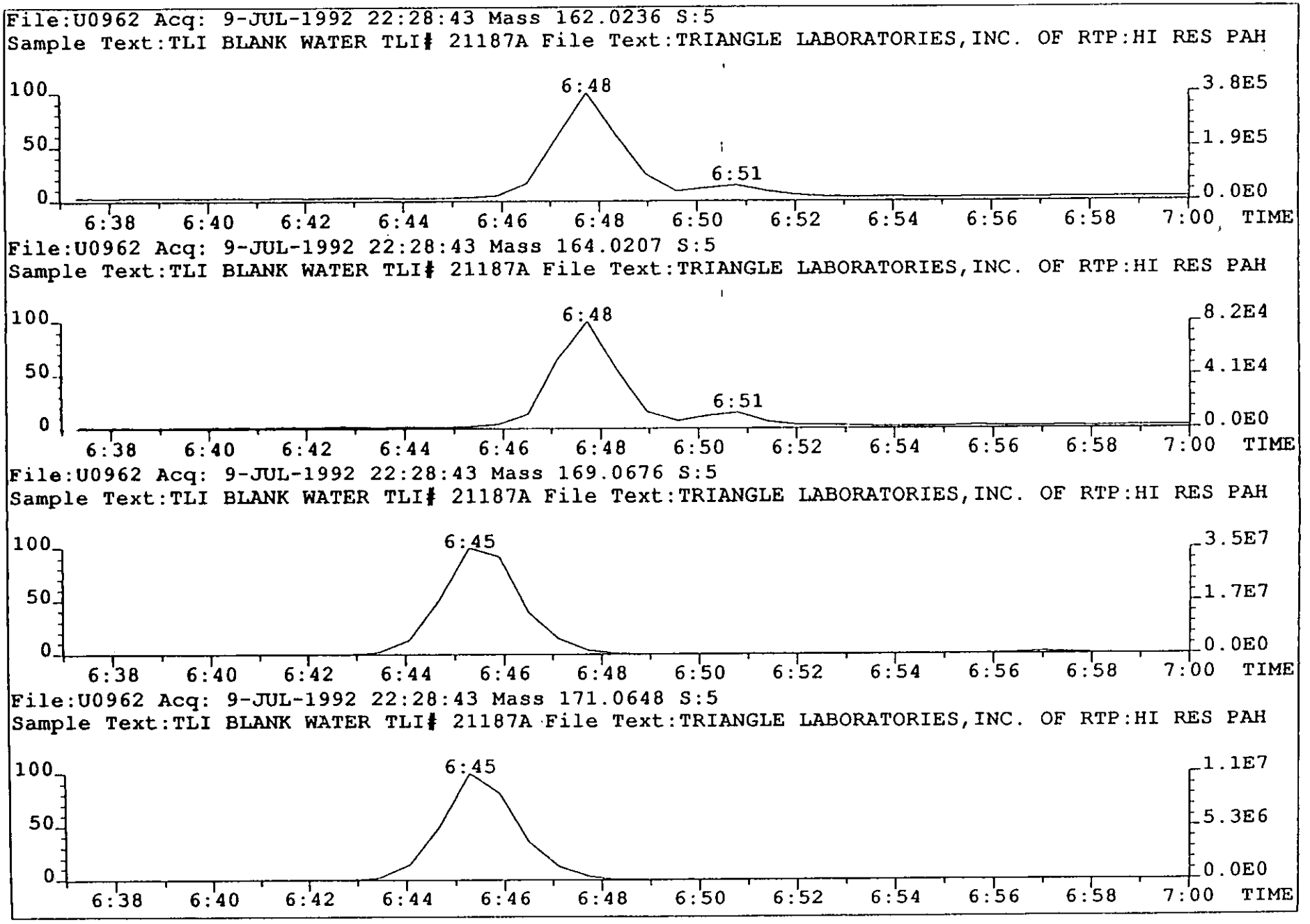

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 252.0939 S:5 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,2,1.00%,324.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A3.07E5
A1.74E5
A1.29E5
100
90
80
70
60
50
40
30
20
10
0
8.5E4
7.6E4
6.8E4
5.9E4
5.1E4
4.2E4
3.4E4
2.5E4
1.7E4
8.5E3
0.0E0
20:00
21:00
22:00
23:00
24:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 264.1692 S:5 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(3,7,1,1.00%,264.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.15E8
A4.11E7
A2.68E7
A1.40E7
100
90
80
70
60
50
40
30
20
10
0
2.8E7
2.5E7
2.2E7
1.9E7
1.7E7
1.4E7
1.1E7
8.3E6
5.5E6
2.8E6
0.0E0
20:00
21:00
22:00
23:00
24:00 TIME

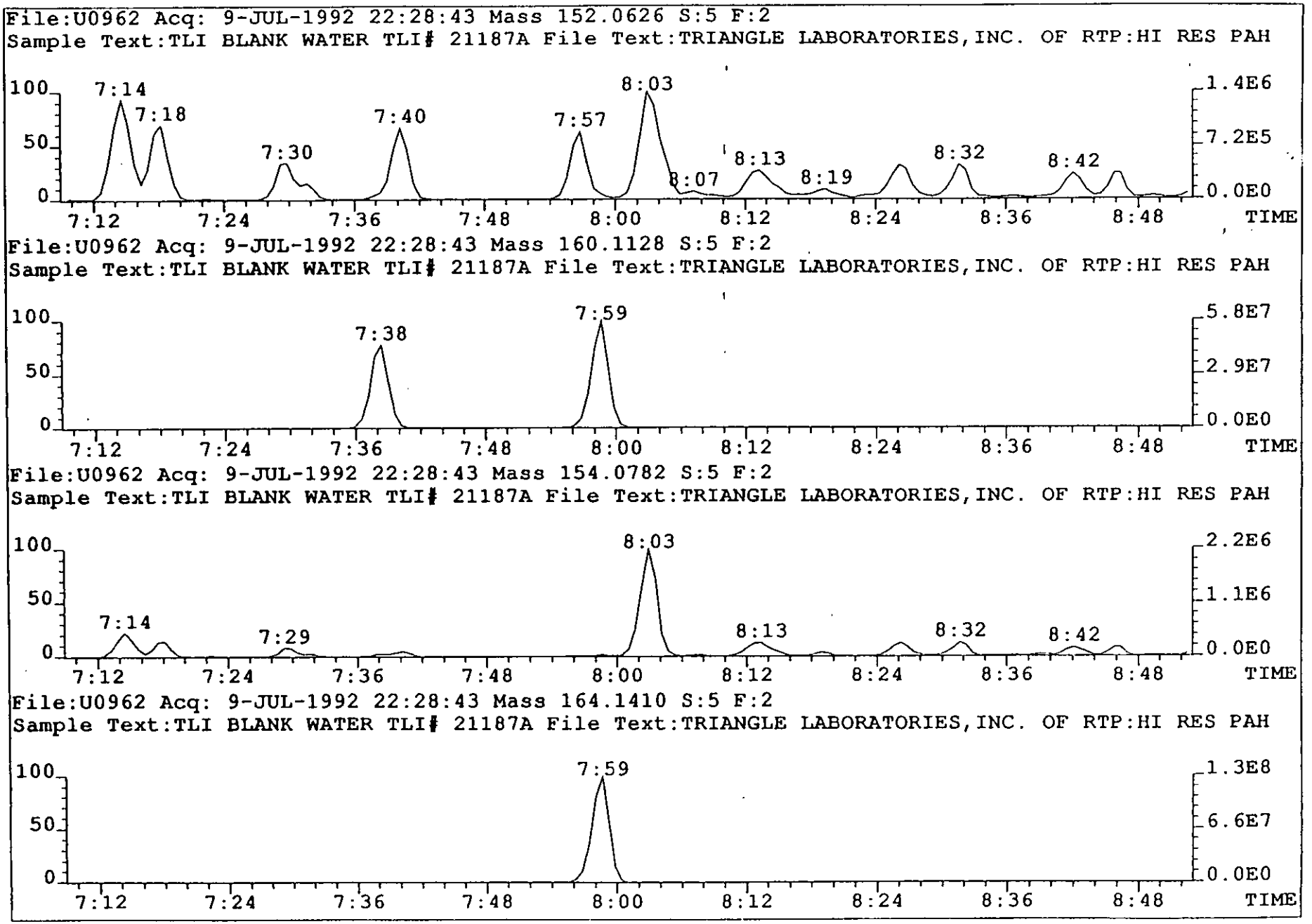

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 276.0939 S:5 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,508.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A4.00E5
A4.39E4
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 288.1692 S:5 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,156.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.93E7
A7.14E6
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 278.1096 S:5 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,244.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A2.05E4
A311.32
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 292.1974 S:5 F:4 SMO(2,3) BSUB(115,5,-3.0) PKD(7,7,3,1.00%,52.0,0.00%,F,F)
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A9.94E6
TIME

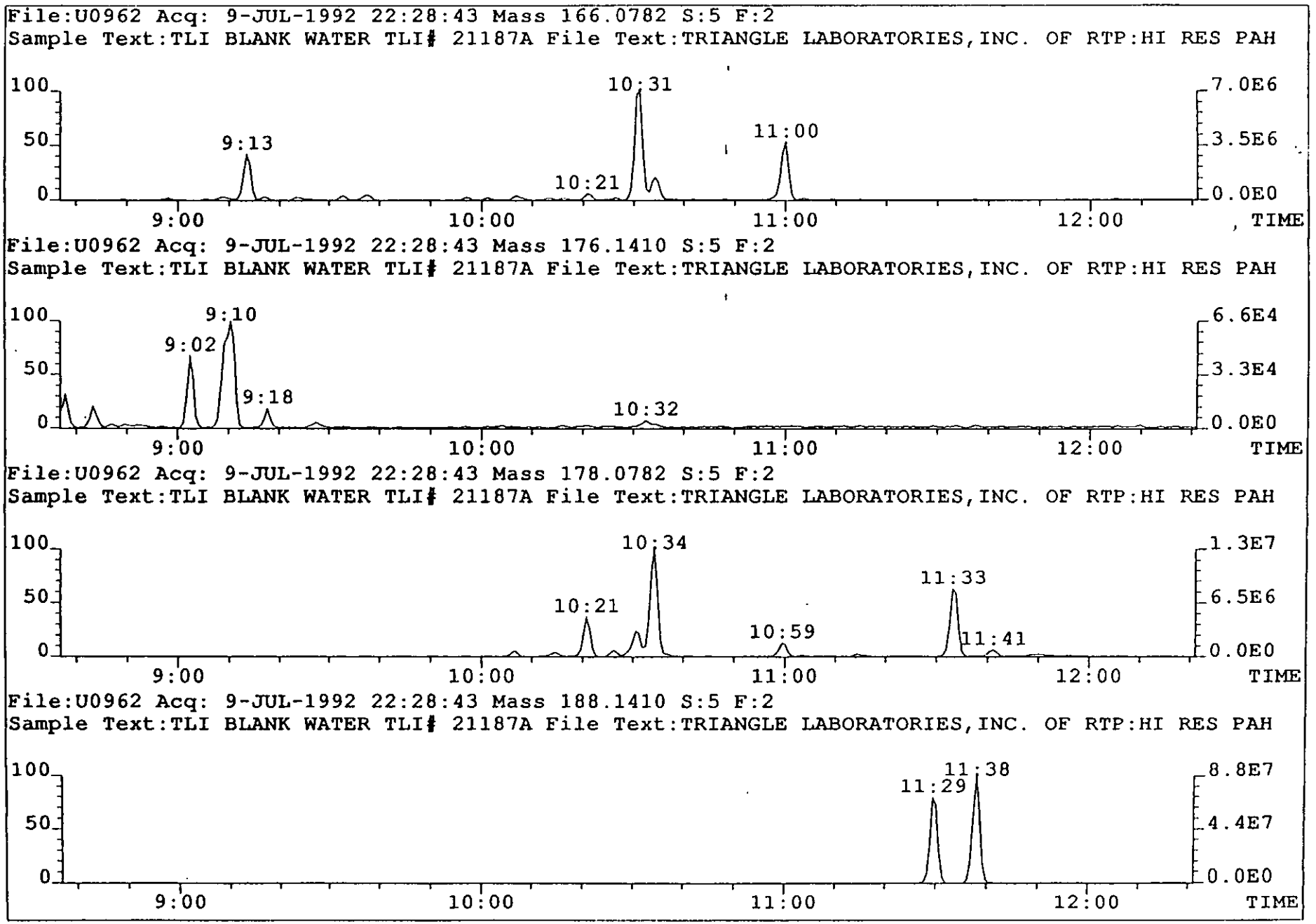

File:U0962 #1-244 Acq: 9-JUL-1992 22:28:43 GC EI+ Voltage SIR 70S
154.9920 S:5 Exp:PAH5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
4:34 4:45 5:12 5:24 5:42 5:54 6:05 6:37 6:55
4.3E5
2.2E5
0.0E0
4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 6:24 6:36 6:48 7:00 TIME
File:U0962 #1-684 Acq: 9-JUL-1992 22:28:43 GC EI+ Voltage SIR 70S
168.9888 S:5 F:2 Exp:PAH5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
8:48 9:42 11:36
2.6E7
1.3E7
0.0E0
7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 TIME
File:U0962 #1-714 Acq: 9-JUL-1992 22:28:43 GC EI+ Voltage SIR 70S
242.9856 S:5 F:3 Exp:PAH5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
14:16 14:58 15:44 16:28 17:10 17:42 18:50 19:30
6.9E6
3.4E6
0.0E0
14:00 15:00 16:00 17:00 18:00 19:00 20:00 TIME
File:U0962 #1-1213 Acq: 9-JUL-1992 22:28:43 GC EI+ Voltage SIR 70S
268.9824 S:5 F:4 Exp:PAH5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:19 22:44 24:04 25:31 26:49 27:57 29:20 30:35 31:45
4.3E6
2.2E6
0.0E0
20:00 21:00 22:00 23:00 24:00 25:00 26:00 27:00 28:00 29:00 30:00 31:00 32:00 33:00 TIME

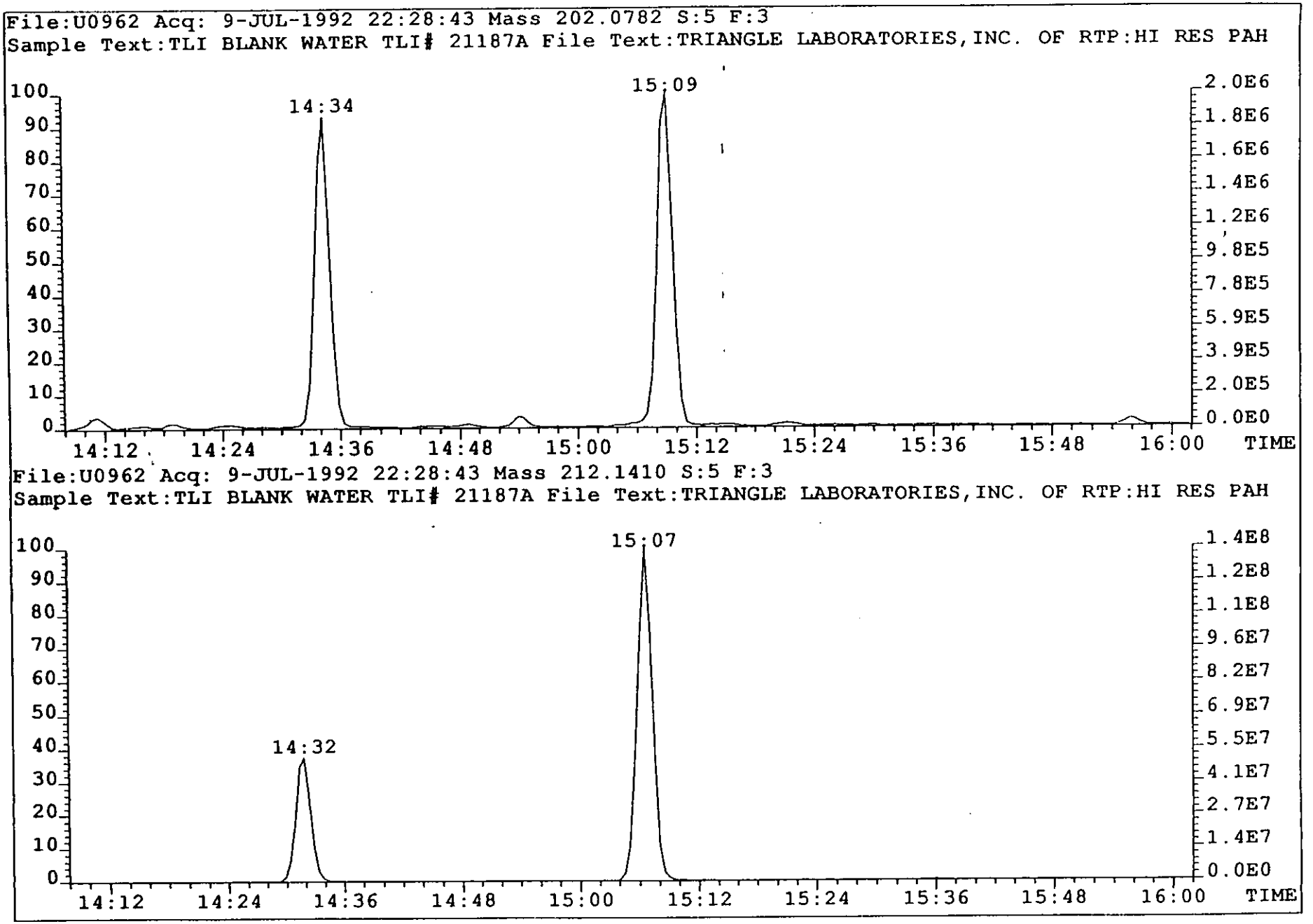

File:U0962 #1-244 Acq: 9-JUL-1992 22:28:43 GC EI+ Voltage SIR 70S
162.0236 S:5 Exp:PAH5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A5.847E5
R=4.99 ave
File:U0962 #1-244 Acq: 9-JUL-1992 22:28:43 GC EI+ Voltage SIR 70S
164.0207 S:5 Exp:PAH5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
A1.172E5
Total =70.19
File:U0962 #1-244 Acq: 9-JUL-1992 22:28:43 GC EI+ Voltage SIR 70S
169.0676 S:5 Exp:PAH5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
6:45
6:30
6:36
6:42
6:48
6:54
7:00
TIME

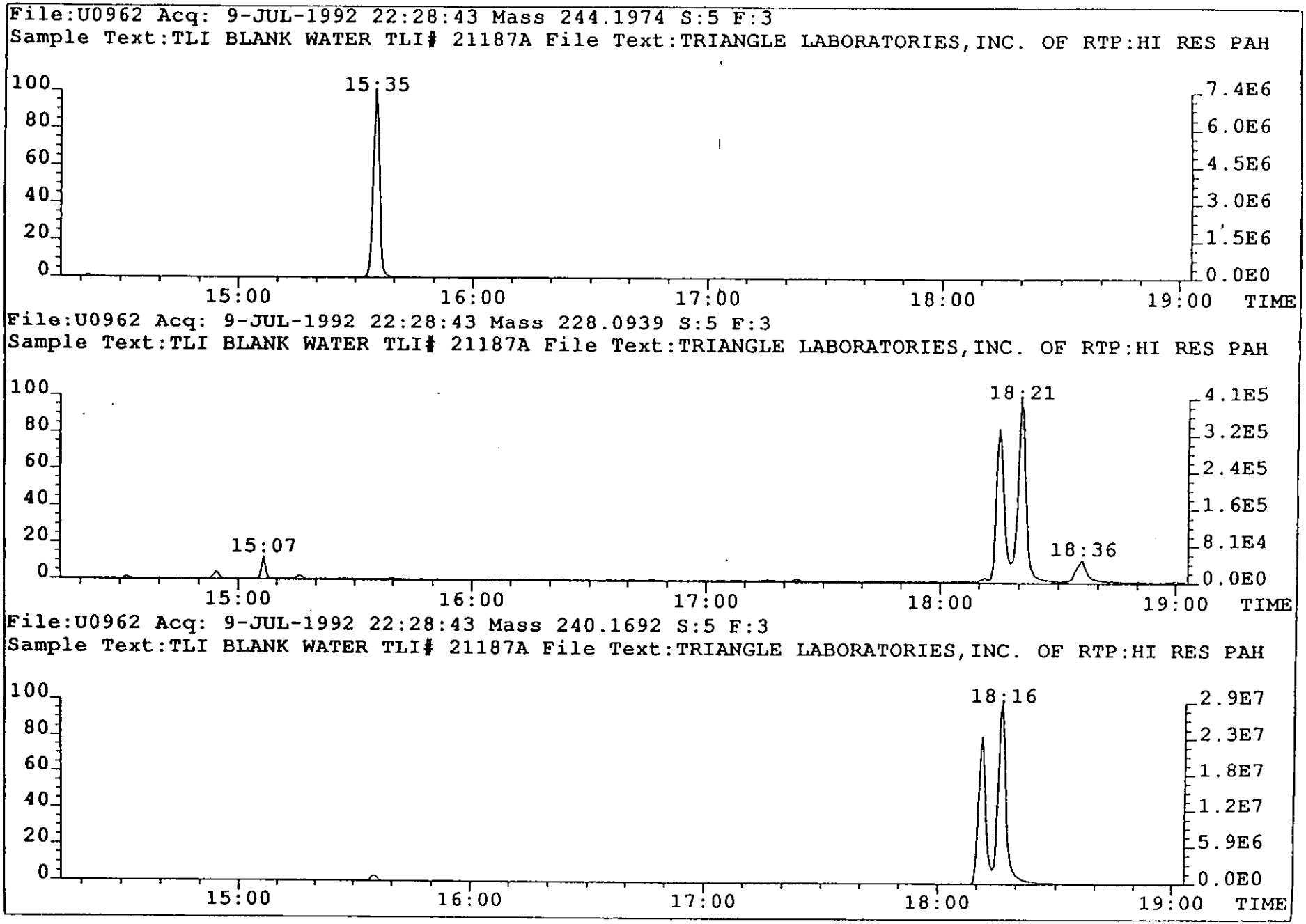

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 128.0626 S:5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:46
7.5E7
3.7E7
0.0E0
4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 136.1128 S:5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
4:44
6.2E7
3.1E7
0.0E0
4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 142.0782 S:5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
5:52
6:03
4.6E7
2.3E7
0.0E0
4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 152.1410 S:5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
5:48
3.2E7
1.6E7
0.0E0
4:36 4:48 5:00 5:12 5:24 5:36 5:48 6:00 6:12 TIME

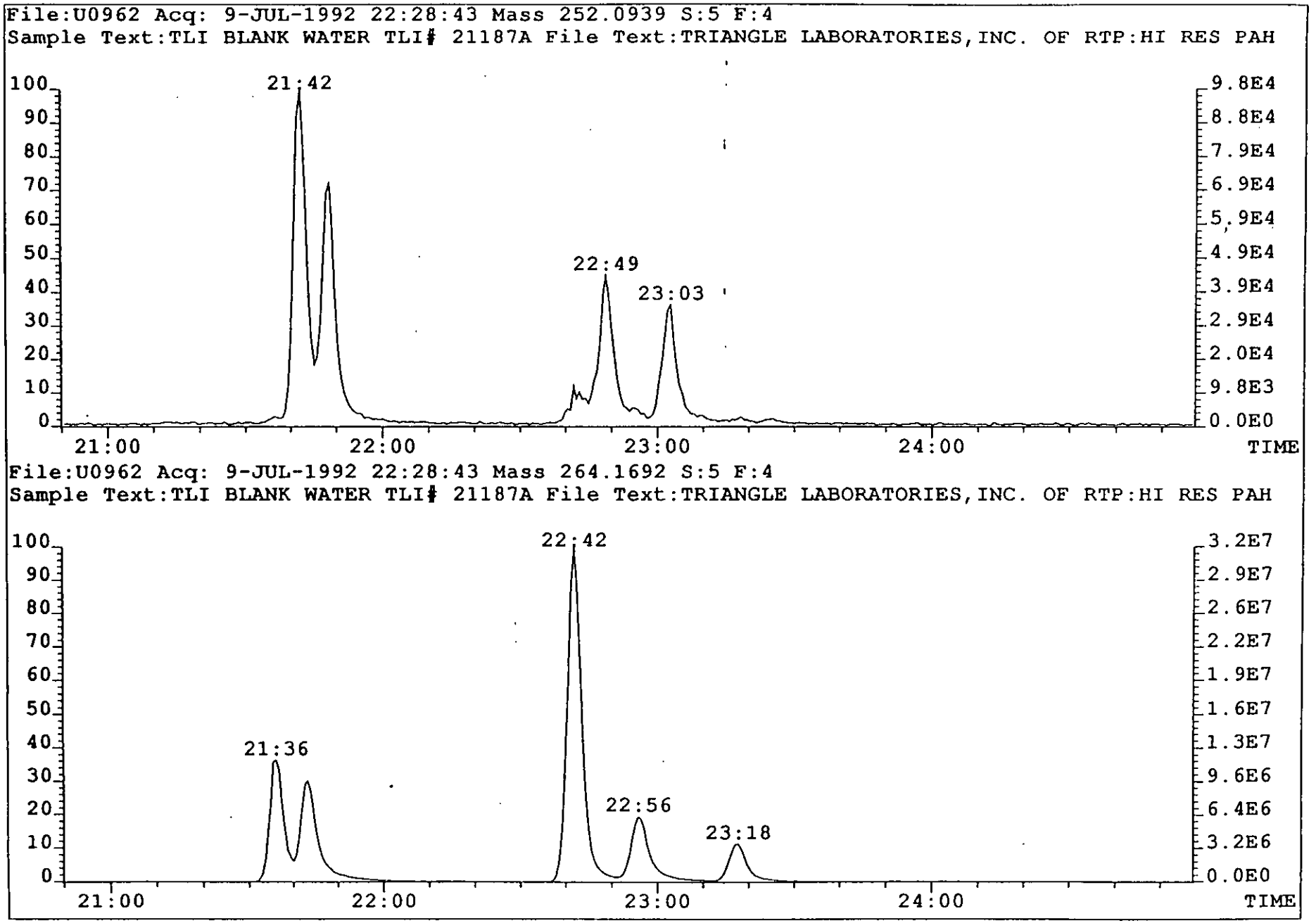

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 162.0236 S:5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:48
6:51
3.8E5
1.9E5
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 164.0207 S:5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:48
6:51
8.2E4
4.1E4
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 169.0676 S:5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:45
3.5E7
1.7E7
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 171.0648 S:5
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
6:45
1.1E7
5.3E6
0.0E0
6:38 6:40 6:42 6:44 6:46 6:48 6:50 6:52 6:54 6:56 6:58 7:00 TIME

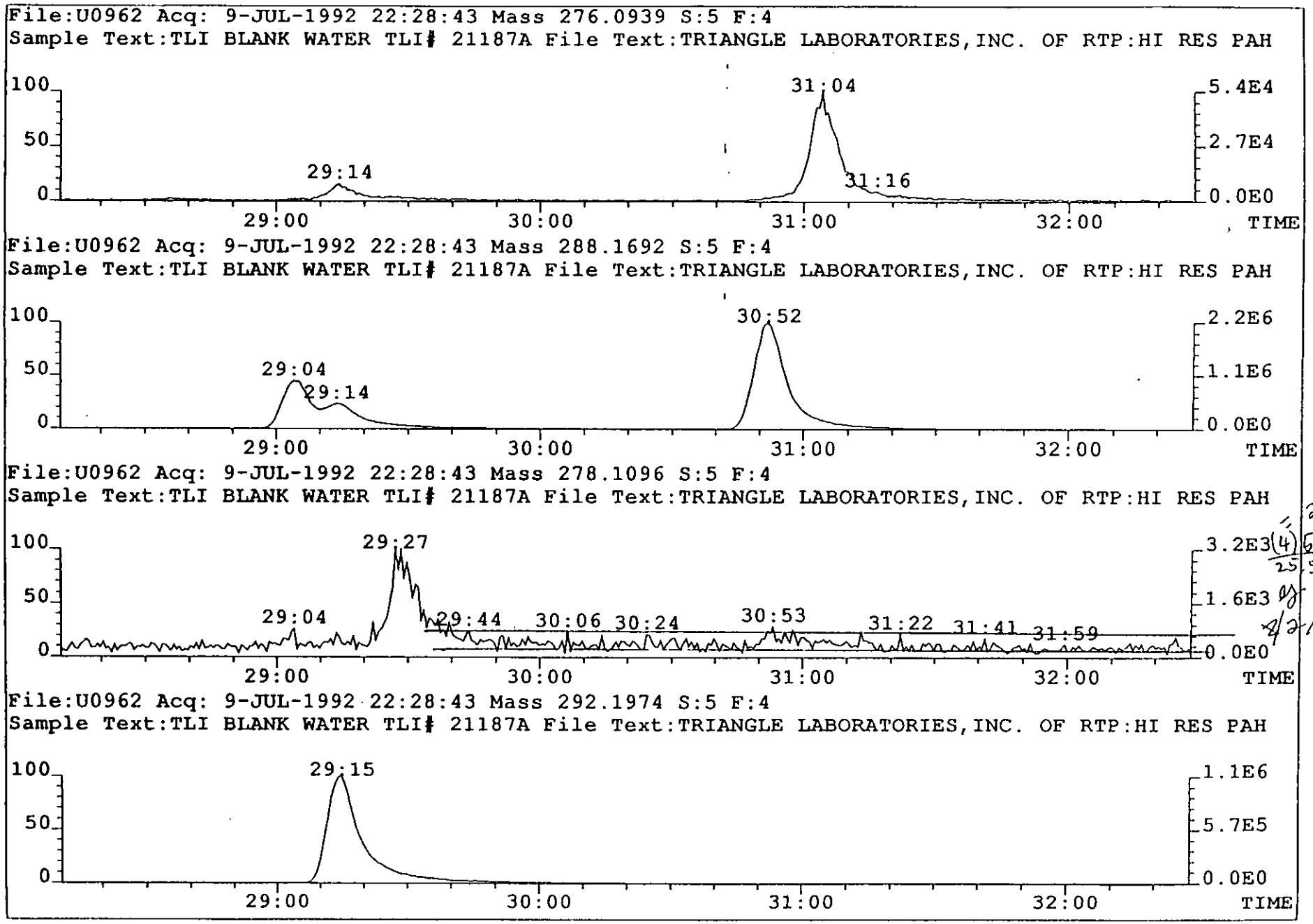

File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 152.0626 S:5 F:2
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:14
7:18
7:30
7:40
7:57
8:03
8:07
8:13
8:19
8:32
8:42
1.4E6
7.2E5
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 160.1128 S:5 F:2
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:38
7:59
5.8E7
2.9E7
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 154.0782 S:5 F:2
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:14
7:29
8:03
8:13
8:32
8:42
2.2E6
1.1E6
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 164.1410 S:5 F:2
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
7:59
1.3E8
6.6E7
0.0E0
7:12
7:24
7:36
7:48
8:00
8:12
8:24
8:36
8:48
TIME


File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 166.0782 S:5 F:2
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:13
10:21
10:31
11:00
7.0E6
3.5E6
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 176.1410 S:5 F:2
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
9:02
9:10
9:18
10:32
6.6E4
3.3E4
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 178.0782 S:5 F:2
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
10:21
10:34
10:59
11:33
11:41
1.3E7
6.5E6
0.0E0
9:00
10:00
11:00
12:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 188.1410 S:5 F:2
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
11:29
11:38
8.8E7
4.4E7
0.0E0
9:00
10:00
11:00
12:00
TIME


File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 202.0782 S:5 F:3
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
14:34
15:09
100
90
80
70
60
50
40
30
20
10
0
2.0E6
1.8E6
1.6E6
1.4E6
1.2E6
9.8E5
7.8E5
5.9E5
3.9E5
2.0E5
0.0E0
14:12
14:24
14:36
14:48
15:00
15:12
15:24
15:36
15:48
16:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 212.1410 S:5 F:3
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:07
14:32
100
90
80
70
60
50
40
30
20
10
0
1.4E8
1.2E8
1.1E8
9.6E7
8.2E7
6.9E7
5.5E7
4.1E7
2.7E7
1.4E7
0.0E0
14:12
14:24
14:36
14:48
15:00
15:12
15:24
15:36
15:48
16:00
TIME


File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 244.1974 S:5 F:3
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
15:35
100
80
60
40
20
0
7.4E6
6.0E6
4.5E6
3.0E6
1.5E6
0.0E0
15:00
16:00
17:00
18:00
19:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 228.0939 S:5 F:3
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:21
15:07
18:36
4.1E5
3.2E5
2.4E5
1.6E5
8.1E4
0.0E0
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 240.1692 S:5 F:3
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
18:16
2.9E7
2.3E7
1.8E7
1.2E7
5.9E6
0.0E0


File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 252.0939 S:5 F:4
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
21:42
22:49
23:03
100
90
80
70
60
50
40
30
20
10
0
9.8E4
8.8E4
7.9E4
6.9E4
5.9E4
4.9E4
3.9E4
2.9E4
2.0E4
9.8E3
0.0E0
21:00
22:00
23:00
24:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 264.1692 S:5 F:4
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
22:42
21:36
22:56
23:18
100
90
80
70
60
50
40
30
20
10
0
3.2E7
2.9E7
2.6E7
2.2E7
1.9E7
1.6E7
1.3E7
9.6E6
6.4E6
3.2E6
0.0E0
21:00
22:00
23:00
24:00
TIME


File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 276.0939 S:5 F:4
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
31:04
29:14
31:16
5.4E4
2.7E4
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 288.1692 S:5 F:4
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
30:52
29:04
29:14
2.2E6
1.1E6
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 278.1096 S:5 F:4
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:27
29:04
29:44
30:06
30:24
30:53
31:22
31:41
31:59
3.2E3
1.6E3
0.0E0
29:00
30:00
31:00
32:00
TIME
File:U0962 Acq: 9-JUL-1992 22:28:43 Mass 292.1974 S:5 F:4
Sample Text:TLI BLANK WATER TLI# 21187A File Text:TRIANGLE LABORATORIES,INC. OF RTP:HI RES PAH
100
50
0
29:15
1.1E6
5.7E5
0.0E0
29:00
30:00
31:00
32:00
TIME

TRIANGLE LABORATORIES OF RTP, INC.
801 Capitola Drive
Durham, NC 27713
Telephone: (919) 544-5729

DATA FILE: JA33914
RF FILE: JA33907
DATE: 08/31/92
TLI PROJ #: 21187

SAMPLE ID: MM5-2 IMPINGER
TLI ID: 57-102-2
DILN FACTOR: 2
ANALYSIS DATE: 8/15/92

METHOD 8270 QUANTITATION REPORT

	NAME	AREA	RF	RT	ISID	AMOUNT, ug	CODE	QUAN LIMIT
1	1,4-Dichlorobenzene-d4	260241		12.18	1		IS	
28	Acenaphthene-d10	676032		20.03	28		IS	
32	2-Chloronaphthalene	0	1.0003	.00	28	4.73	ND	20
35	Acenaphthylene	0	1.5315	.00	28	3.09	ND	20
37	Acenaphthene	0	.9977	.00	28	4.74	ND	20
45	Fluorene	0	1.0736	.00	28	4.41	ND	20
47	Phenanthrene-d10	930185		24.02	47		IS	
53	Phenanthrene	0	1.0214	.00	47	3.37	ND	20
54	Anthracene	0	1.0874	.00	47	3.16	ND	20
56	Fluoranthene	0	.8365	.00	47	4.11	ND	20
57	Chrysene-d12	399940		32.85	57		IS	
58	Pyrene	0	2.3977	.00	57	3.34	ND	20
61	Benzo(a)anthracene	0	1.3864	.00	57	5.77	ND	20
62	Chrysene	0	1.1966	.00	57	6.69	ND	20
64	Perylene-d12	418969		40.19	64		IS	
66	Benzo(b)fluoranthene	0	1.2371	.00	64	6.17	ND	20
67	Benzo(k)fluoranthene	0	1.2711	.00	64	6.01	ND	20
98	Perylene	0	.8946	.00	64	8.54	ND	20
68	Benzo(a)pyrene	0	1.1198	.00	64	6.82	ND	20
92	Benzo(e)pyrene	0	1.1078	.00	64	6.89	ND	20
69	Indeno(1,2,3-cd)pyrene	0	.6805	.00	64	11.22	ND	20
96	Dibenzo(a,h)anthracene	0	.7505	.00	64	10.18	ND	20
71	Benzo(g,h,i)perylene	0	.7643	.00	64	9.99	ND	20
	Cumene	0	1.7060	.00	1	7.21	ND	50
	1,2-Benzofluorene	0	1.3420	.00	47	2.56	ND	50
	2,3-Benzofluorene	0	1.2310	.00	47	2.79	ND	50

SURROGATE SUMMARY	AREA	RF	RT	ISID	AMOUNT	CODE	% RECOVERY
75 Phenol-d5	206028	1.4290	11.22	1	44.75	D	44.8
77 2,4,6-Tribromophenol	73303	.2376	22.16	28	36.51	D	36.5
81 1,4-Dibromobenzene-d4	213994	1.2155	15.52	1	54.01	D	54.0

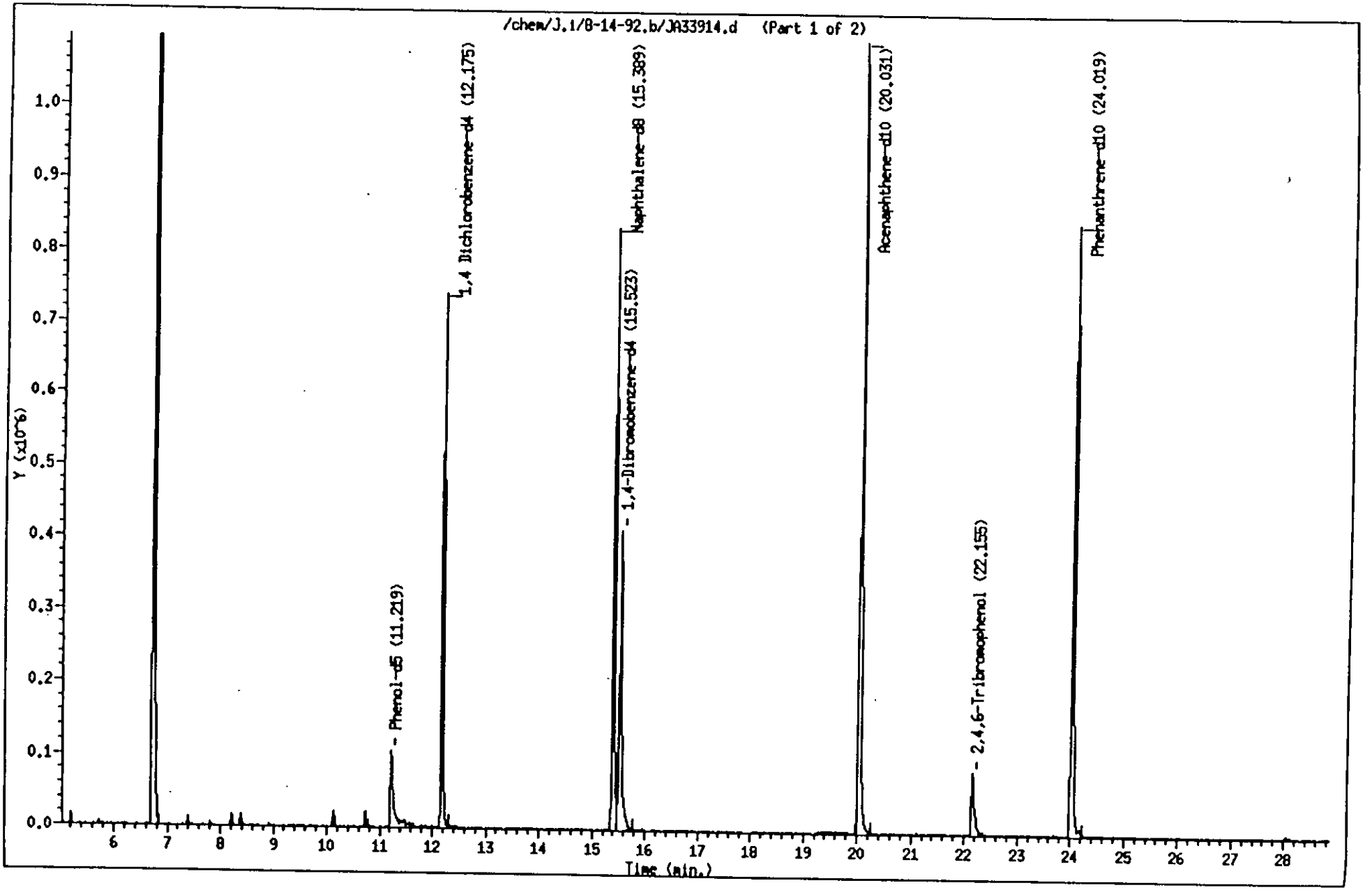
CODES: ND = Not Detected; D = Detected; E = Estimated; IS = Internal Standard

Triangle Laboratories of RTI, Inc.

Data File: /chem/J.1/8-14-92.b/JA33914.d
Date : 15-AUG-1992 14:58
Instrument : J.1
Sample ID : MM5-2 IMP
Column phase : DB-5
Volume Injected (uL) : 1.0

SA 8-25-9a

Column diameter : 0.32

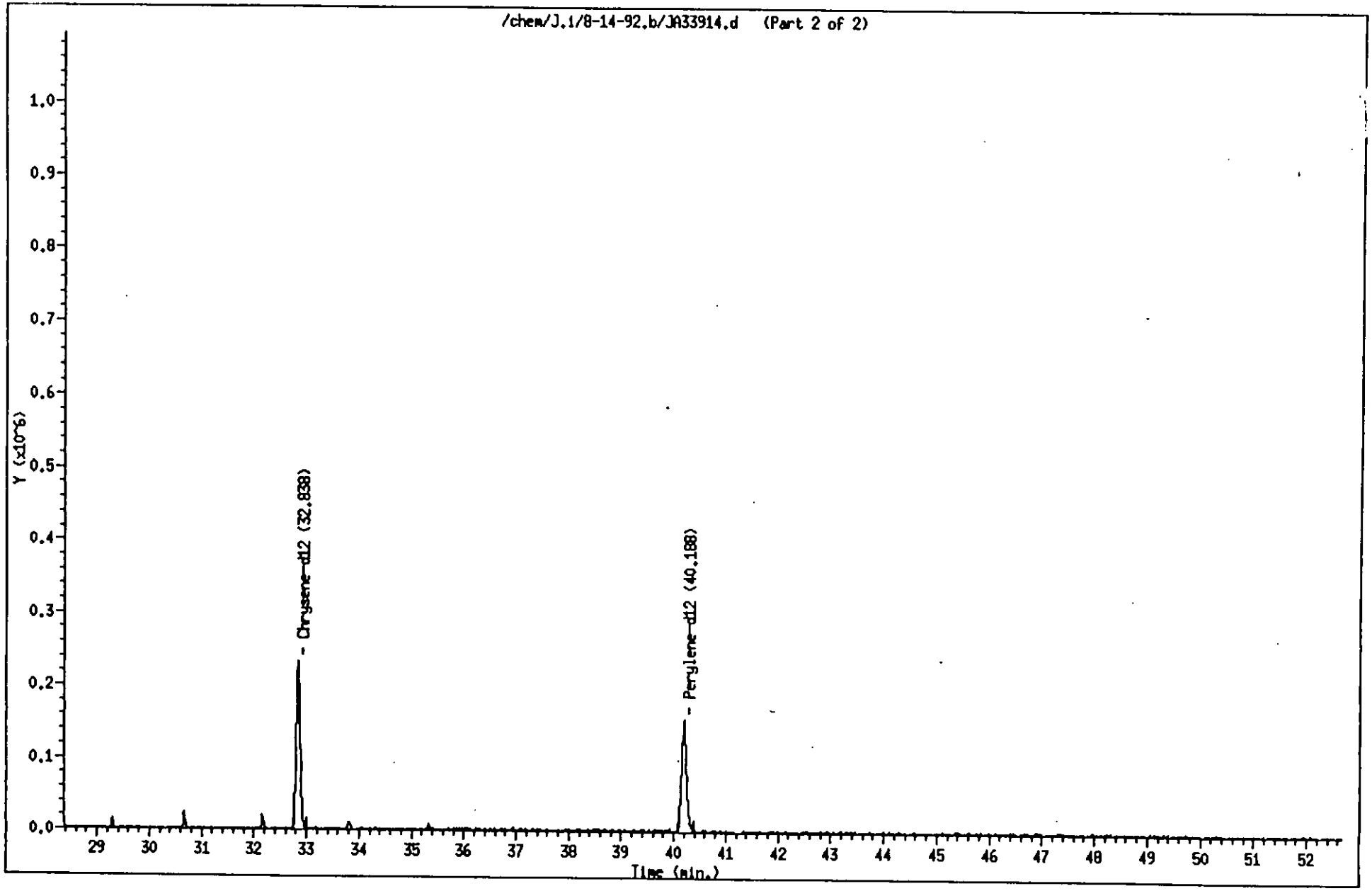


Triangle Laboratories of RTP, Inc.

Dat. .e: /chem/J.1/8-14-92.b/JA33914.d
Date : 15-AUG-1992 14:58
Instrument : J.1
Sample ID : MM5-2 IMP
Column phase : DB-5
Volume Injected (uL) : 1.0

SA. 5-92

Column diameter : 0.32



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

SEMI-VOLATILE ~~QUANTITATION~~ QUANTITATION Both REPORT

Data file : /chem/J.i/8-14-92.b/JA33914.d
Lab. Id. : TLI#21187B
Inj Date : 15-AUG-92 14:58 Autotune Date: 22-Jul-92 12:21:3
Operator : BDMC Both Inst ID: J.i
Smp Info : MM5-2 IMP
Misc Info : COC 57-102-2
Comment :
Method : /chem/J.i/8-14-92.b/tlinbna.m
Meth Date : 15-Aug-1992 22:38 target
Cal Date : 15-AUG-1992 07:29 Cal File: JA33907.d
Als bottle: 14
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: 8270.sub
Rpt Date : 15-Aug-1992 22:49 Sample Type: mm5

	Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
•	1 Naphthalene-d8	15.389(1.000)	1087896	40.00	40.00
*	2 1,4 Dichlorobenzene	12.175(1.000)	260241	40.00	40.00
*	3 Acenaphthene-d10	20.031(1.000)	676032	40.00	40.00
*	4 Phenanthrene-d10	24.019(1.000)	930185	40.00	40.00
*	5 Chrysene-d12	32.846(1.000)	399940	40.00	40.00
*	6 Perylene-d12	40.188(1.000)	418969	40.00	40.00
$	7 2-Fluorophenol		Compound Not Detected.		
$	8 Phenol-d5	11.219(0.921)	208028	22.37	89.51
$	9 2-Chlorophenol-d4		Compound Not Detected.		
$	10 1,2-Dichlorobenzene		Compound Not Detected.		
$	11 Nitrobenzene-d5		Compound Not Detected.		
$	12 1,3,5-Trichlorobenz		Compound Not Detected.		
$	13 1,4-Dibromobenzene-	15.523(1.275)	213554	27.00	108.01
$	14 2-Fluorobiphenyl		Compound Not Detected.		
$	15 2,4,6-Tribromopheno	22.155(1.106)	73303	18.25	73.02
$	16 Anthracene-d10		Compound Not Detected.		
$	17 Pyrene-d10		Compound Not Detected.		
$	18 Terphenyl-d14		Compound Not Detected.		
	19 N-Nitrosodimethylam		Compound Not Detected.		
	20 ~~Phenol~~	~~11.251(0.924)~~	7121	~~0.83~~	~~3.34(aQ)~~ N.T.
	21 ~~Aniline~~		Compound Not Detected.		
	22 bis(2-Chloroethyl)e		Compound Not Detected.		
	23 2-Chlorophenol		Compound Not Detected.		
	24 1,3-Dichlorobenzene		Compound Not Detected.		
	25 1,4-Dichlorobenzene		Compound Not Detected.		
	26 1,2-Dichlorobenzene		Compound Not Detected.		
	27 2-Methylphenol		Compound Not Detected.		
	28 2,2'-oxybis(1-Chlor		Compound Not Detected.		
	29 Benzyl alcohol		Compound Not Detected.		
	30 4-Methylphenol		Compound Not Detected.		
	31 N-Nitroso-di-n-prop		Compound Not Detected.		

Data Review: RK
Date: 8/25/92

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
32 Hexachloroethane		Compound Not Detected.		
33 Nitrobenzene		Compound Not Detected.		
34 Isophorone		Compound Not Detected.		
35 2-Nitrophenol		Compound Not Detected.		
36 2,4-Dimethylphenol		Compound Not Detected.		
37 bis(2-Chloroethoxy)		Compound Not Detected.		
38 Benzoic acid		Compound Not Detected.		
39 2,4-Dichlorophenol		Compound Not Detected.		
40 1,2,4-Trichlorobenz		Compound Not Detected.		
41 Naphthalene		Compound Not Detected.		
42 4-Chloroaniline		Compound Not Detected.		
43 Hexachlorobutadiene		Compound Not Detected.		
44 4-Chloro-3-methylph		Compound Not Detected.		
45 2-Methylnaphthalene		Compound Not Detected.		
46 Hexachlorocyclopent		Compound Not Detected.		
47 2,4,6-Trichlorophen		Compound Not Detected.		
48 2,4,5-Trichlorophen		Compound Not Detected.		
49 2-Chloronaphthalene		Compound Not Detected.		
50 2-Nitroaniline		Compound Not Detected.		
51 Dimethylphthalate		Compound Not Detected.		
52 2,6-Dinitrotoluene		Compound Not Detected.		
53 2,4-Dinitrotoluene		Compound Not Detected.		
54 Acenaphthylene		Compound Not Detected.		
55 3-Nitroaniline		Compound Not Detected.		
56 Acenaphthene		Compound Not Detected.		
57 2,4-Dinitrophenol		Compound Not Detected.		
58 4-Nitrophenol		Compound Not Detected.		
59 Dibenzofuran		Compound Not Detected.		
60 Diethylphthalate		Compound Not Detected.		
61 4-Chlorophenyl-phen		Compound Not Detected.		
62 Fluorene		Compound Not Detected.		
63 4-Nitroaniline		Compound Not Detected.		
64 4,6-Dinitro-2-methy		Compound Not Detected.		
65 N-Nitrosodiphenylam		Compound Not Detected.		
66 4-Bromophenyl-pheny		Compound Not Detected.		
67 Hexachlorobenzene		Compound Not Detected.		
68 Pentachlorophenol		Compound Not Detected.		
69 Phenanthrene		Compound Not Detected.		
70 Anthracene		Compound Not Detected.		
71 Carbazole		Compound Not Detected.		
72 Di-n-butylphthalate		Compound Not Detected.		
73 Fluoranthene		Compound Not Detected.		
74 Pyrene		Compound Not Detected.		
75 Benzidine		Compound Not Detected.		
76 Butylbenzylphthalat		Compound Not Detected.		
77 3,3'-Dichlorobenzid		Compound Not Detected.		
78 ~~bis(2-Ethylhexyl)ph~~	~~32.806(0.999)~~	~~94684~~	~~5.50~~	~~22.03~~ N.T.
79 Di-n-octylphthalate		Compound Not Detected.		
80 Benzo(a)anthracene		Compound Not Detected.		
81 Chrysene		Compound Not Detected.		
82 Benzo(b)fluoranthen		Compound Not Detected.		

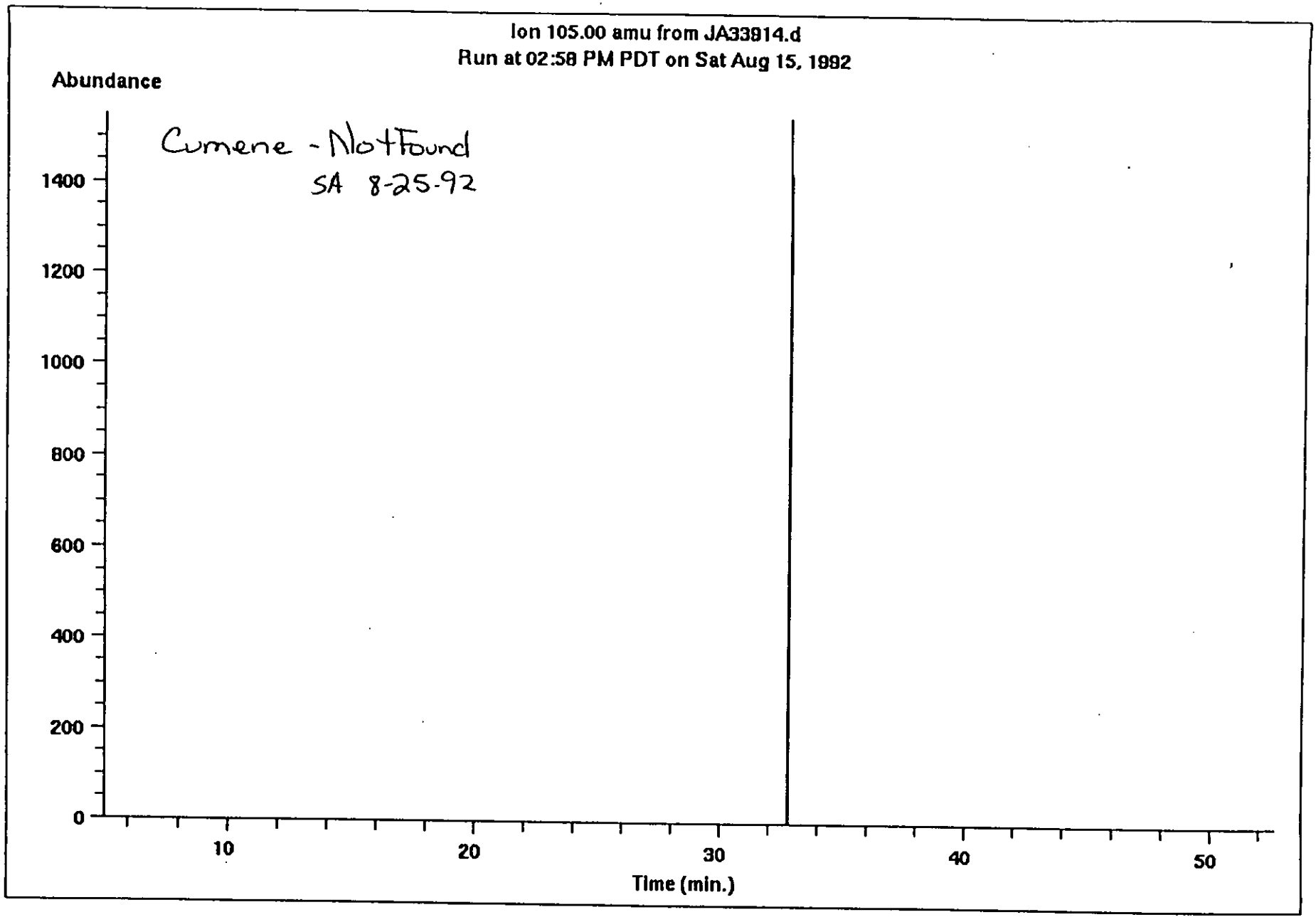
Data Review: KK 8/25/92
Data:

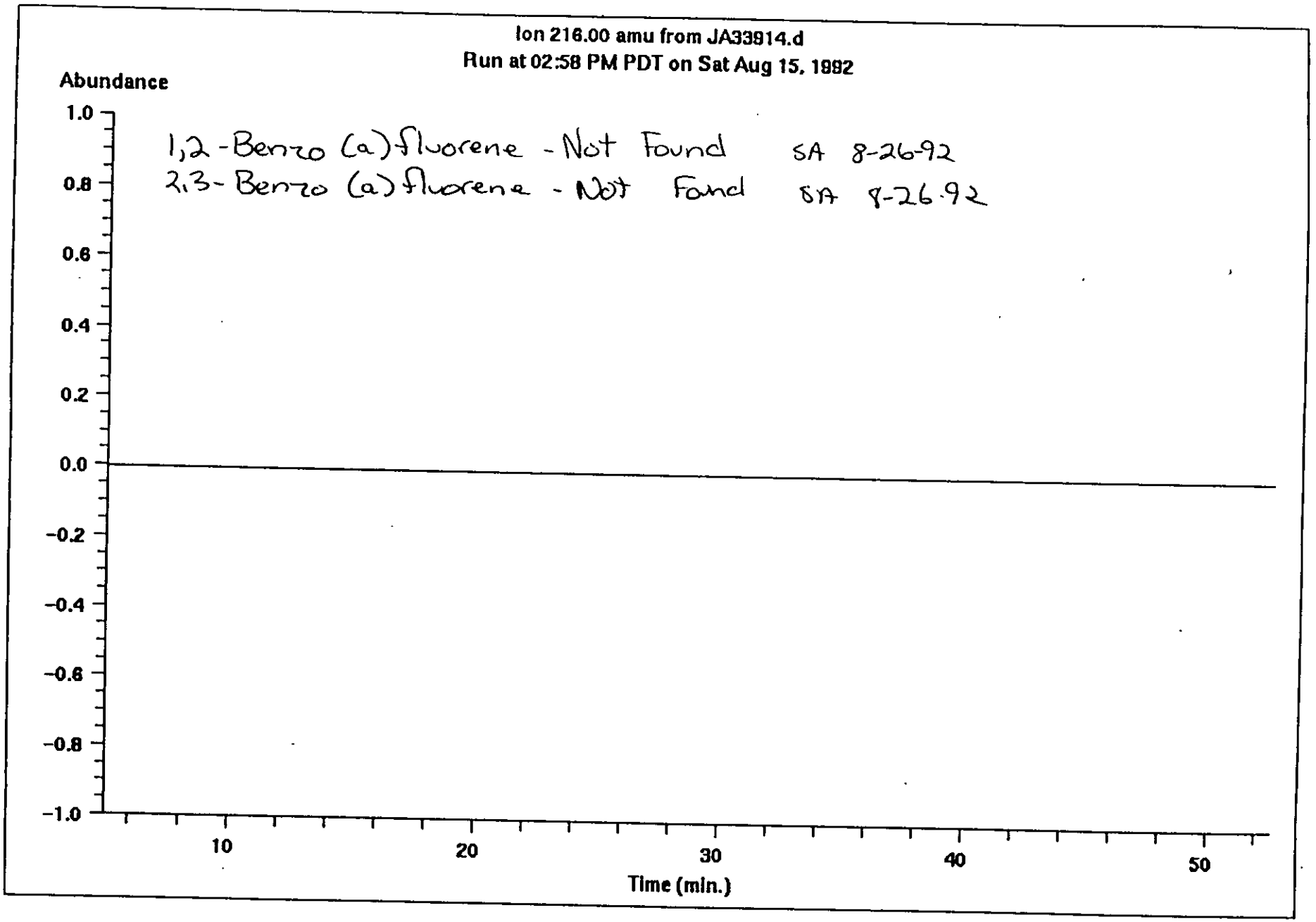
Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
83 Benzo(k)fluoranthen		Compound Not Detected.		
84 Benzo(e)pyrene		Compound Not Detected.		
85 Benzo(a)pyrene		Compound Not Detected.		
87 Indeno(1,2,3-cd)pyr		Compound Not Detected.		
86 Perylene		Compound Not Detected.		
88 Dibenzo(a,h)anthrac		Compound Not Detected.		
89 Benzo(g,h,i)perylen		Compound Not Detected.		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

Data Review: RK
Date: 8/25/92


Ion 105.00 amu from JA33914.d
Run at 02:58 PM PDT on Sat Aug 15, 1992
Abundance
Cumene - NotFound
SA 8-25-92
1400
1200
1000
800
600
400
200
0
10
20
30
40
50
Time (min.)


Ion 216.00 amu from JA33914.d
Run at 02:58 PM PDT on Sat Aug 15, 1992
Abundance
1,2-Benzo(a)fluorene - Not Found SA 8-26-92
2,3-Benzo(a)fluorene - Not Fand SA 8-26-92
1.0
0.8
0.6
0.4
0.2
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
10
20
30
40
50
Time (min.)

TRIANGLE LABORATORIES OF RTP, INC.
801 Capitola Drive
Durham, NC 27713
Telephone: (919) 544-5729

DATA FILE: JA33915
RF FILE: JA33907
DATE: 08/31/92
TLI PROJ #: 21187

SAMPLE ID: MM5-3 IMPINGER
TLI ID: 57-102-5
DILN FACTOR: 2
ANALYSIS DATE: 8/15/92

METHOD 8270 QUANTITATION REPORT

	NAME	AREA	RF	RT	ISID	AMOUNT, ug	CODE	QUAN LIMIT
1	1,4-Dichlorobenzene-d4	213225		12.18	1		IS	
9	2-Methylphenol	0	1.2364	.00	14	12.14	ND	20
11	3-/4-Methylphenol	0	1.1764	.00	14	12.76	ND	20
14	Naphthalene-d8	940577		15.39	14		IS	
23	Naphthalene	0	.8630	.00	14	3.94	ND	20
27	2-Methylnaphthalene	0	.7346	.00	14	4.63	ND	20
28	Acenaphthene-d10	664652		20.03	28		IS	
32	2-Chloronaphthalene	0	1.0003	.00	28	4.81	ND	20
35	Acenaphthylene	0	1.5315	.00	28	3.14	ND	20
37	Acenaphthene	0	.9977	.00	28	4.83	ND	20
45	Fluorene	0	1.0736	.00	28	4.48	ND	20
47	Phenanthrene-d10	975429		24.02	47		IS	
53	Phenanthrene	0	1.0214	.00	47	3.21	ND	20
54	Anthracene	0	1.0874	.00	47	3.02	ND	20
56	Fluoranthene	0	.8365	.00	47	3.92	ND	20
57	Chrysene-d12	542894		32.86	57		IS	
58	Pyrene	0	2.3977	.00	57	2.46	ND	20
61	Benzo(a)anthracene	0	1.3864	.00	57	4.25	ND	20
62	Chrysene	0	1.1966	.00	57	4.93	ND	20
64	Perylene-d12	514649		40.20	64		IS	
66	Benzo(b)fluoranthene	0	1.2371	.00	64	5.03	ND	20
67	Benzo(k)fluoranthene	0	1.2711	.00	64	4.89	ND	20
98	Perylene	0	.8946	.00	64	6.95	ND	20
68	Benzo(a)pyrene	0	1.1198	.00	64	5.55	ND	20
92	Benzo(e)pyrene	0	1.1078	.00	64	5.61	ND	20
69	Indeno(1,2,3-cd)pyrene	0	.6805	.00	64	9.14	ND	20
96	Dibenzo(a,h)anthracene	0	.7505	.00	64	8.28	ND	20
71	Benzo(g,h,i)perylene	0	.7643	.00	64	8.14	ND	20
	Cumene	0	1.7060	.00	1	8.80	ND	50
	1,2-Benzofluorene	0	1.3420	.00	47	2.44	ND	50
	2,3-Benzofluorene	0	1.2310	.00	47	2.66	ND	50

SURROGATE SUMMARY	AREA	RF	RT	ISID	AMOUNT	CODE	% RECOVERY
75 Phenol-d5	151597	1.4290	11.23	1	39.80	D	39.8
77 2,4,6-Tribromophenol	65830	.2376	22.16	28	33.35	D	33.3
81 1,4-Dibromobenzene-d4	161532	1.2155	15.52	1	49.86	D	49.9

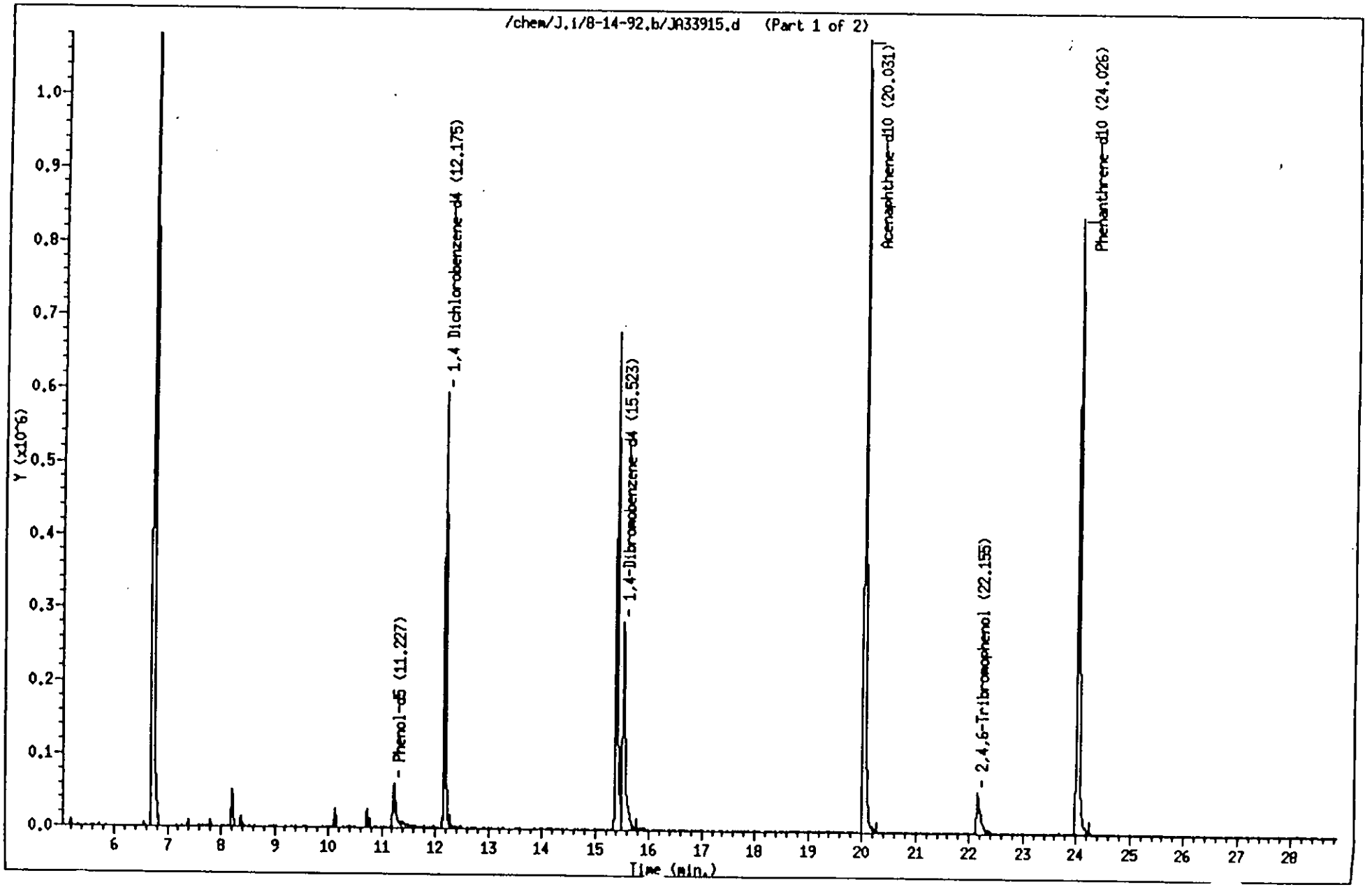
CODES: ND = Not Detected; D = Detected; E = Estimated; IS = Internal Standard

Triangle Laboratories of RTP, Inc.

Data File: /chem/J.i/8-14-92.b/JA33915.d
Date : 15-AUG-1992 16:02
Instrument : J.i
Sample ID : MM5-3 IMP
Column phase : DB-5
Volume Injected (uL) : 1.0

SA 8-25-92

Column diameter : 0.32



- ngle Laboratories of RTP, Inc.

Data File: /chem/J.1/8-14-92.b/JA33915.d SM 8-25-92

Date : 15-AUG-1992 16:02

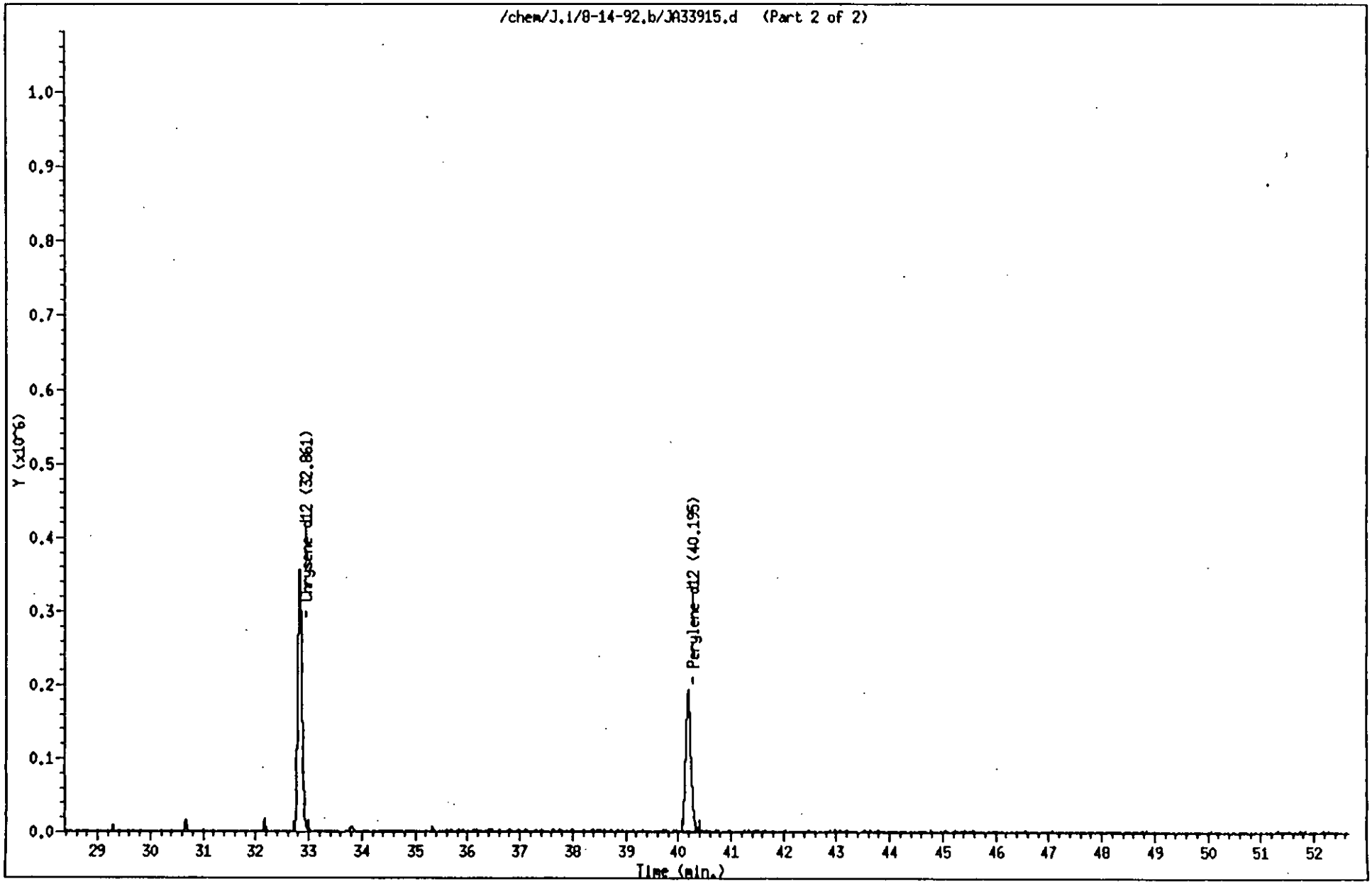
Instrument : J.1

Sample ID : MM5-3 IMP

Column phase : DB-5

Column diameter : 0.32

Volume Injected (uL) : 1.0



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

SEMI-VOLATILE ~~QUANTATATION~~ QUANTITATION REPORT

Data file : /chem/J.i/8-14-92.b/JA33915.d
Lab. Id. : TLI#21187B
Inj Date : 15-AUG-92 16:02 Autotune Date: 22-Jul-92 12:21:3
Operator : Inst ID: J.i
Smp Info : MM5-3 IMP
Misc Info : COC 57-102-5
Comment :
Method : /chem/J.i/8-14-92.b/tlinbna.m
Meth Date : 15-Aug-1992 22:38 target
Cal Date : 15-AUG-1992 07:29 Cal File: JA33907.d
Als bottle: 15
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: 8270.sub
Rpt Date : 15-Aug-1992 22:49 Sample Type: mm5

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
*	1	Naphthalene-d8	15.388(1.000)	940577	40.00	40.00
•	2	1,4 Dichlorobenzene	12.175(1.000)	213225	40.00	40.00
•	3	Acenaphthene-d10	20.031(1.000)	664652	40.00	40.00
*	4	Phenanthrene-d10	24.018(1.000)	975429	40.00	40.00
*	5	Chrysene-d12	32.861(1.000)	542894	40.00	40.00
*	6	Perylene-d12	40.195(1.000)	514649	40.00	40.00
$	7	2-Fluorophenol		Compound Not Detected.		
$	8	Phenol-d5	11.227(0.922)	151597	19.90	79.61(Q)
$	9	2-Chlorophenol-d4		Compound Not Detected.		
$	10	1,2-Dichlorobenzene		Compound Not Detected.		
$	11	Nitrobenzene-d5		Compound Not Detected.		
$	12	1,3,5-Trichlorobenz		Compound Not Detected.		
$	13	1,4-Dibromobenzene-	15.523(1.275)	161532	24.93	99.72
$	14	2-Fluorobiphenyl		Compound Not Detected.		
$	15	2,4,6-Tribromopheno	22.155(1.106)	65830	16.67	66.69
$	16	Anthracene-d10		Compound Not Detected.		
$	17	Pyrene-d10		Compound Not Detected.		
$	18	Terphenyl-d14		Compound Not Detected.		
	19	N-Nitrosodimethylam		Compound Not Detected.		
	20	Phenol		Compound Not Detected.		
	21	Aniline		Compound Not Detected.		
	22	bis(2-Chloroethyl)e		Compound Not Detected.		
	23	2-Chlorophenol		Compound Not Detected.		
	24	1,3-Dichlorobenzene		Compound Not Detected.		
	25	1,4-Dichlorobenzene		Compound Not Detected.		
	26	1,2-Dichlorobenzene		Compound Not Detected.		
	27	2-Methylphenol		Compound Not Detected.		
	28	2,2'-oxybis(1-Chlor		Compound Not Detected.		
	29	Benzyl alcohol		Compound Not Detected.		
	30	4-Methylphenol		Compound Not Detected.		
	31	N-Nitroso-di-n-prop		Compound Not Detected.		

Data Review: RK
Date: 8/25/92

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug)
32 Hexachloroethane		Compound Not Detected.		
33 Nitrobenzene		Compound Not Detected.		
34 Isophorone		Compound Not Detected.		
35 2-Nitrophenol		Compound Not Detected.		
36 2,4-Dimethylphenol		Compound Not Detected.		
37 bis(2-Chloroethoxy)		Compound Not Detected.		
38 Benzoic acid		Compound Not Detected.		
39 2,4-Dichlorophenol		Compound Not Detected.		
40 1,2,4-Trichlorobenz		Compound Not Detected.		
41 Naphthalene		Compound Not Detected.		
42 4-Chloroaniline		Compound Not Detected.		
43 Hexachlorobutadiene		Compound Not Detected.		
44 4-Chloro-3-methylph		Compound Not Detected.		
45 2-Methylnaphthalene		Compound Not Detected.		
46 Hexachlorocyclopent		Compound Not Detected.		
47 2,4,6-Trichlorophen		Compound Not Detected.		
48 2,4,5-Trichlorophen		Compound Not Detected.		
49 2-Chloronaphthalene		Compound Not Detected.		
50 2-Nitroaniline		Compound Not Detected.		
51 Dimethylphthalate		Compound Not Detected.		
52 2,6-Dinitrotoluene		Compound Not Detected.		
53 2,4-Dinitrotoluene		Compound Not Detected.		
54 Acenaphthylene		Compound Not Detected.		
55 3-Nitroaniline		Compound Not Detected.		
56 Acenaphthene		Compound Not Detected.		
57 2,4-Dinitrophenol		Compound Not Detected.		
58 4-Nitrophenol		Compound Not Detected.		
59 Dibenzofuran		Compound Not Detected.		
60 Diethylphthalate		Compound Not Detected.		
61 4-Chlorophenyl-phen		Compound Not Detected.		
62 Fluorene		Compound Not Detected.		
63 4-Nitroaniline		Compound Not Detected.		
64 4,6-Dinitro-2-methy		Compound Not Detected.		
65 N-Nitrosodiphenylam		Compound Not Detected.		
66 4-Bromophenyl-pheny		Compound Not Detected.		
67 Hexachlorobenzene		Compound Not Detected.		
68 Pentachlorophenol		Compound Not Detected.		
69 Phenanthrene		Compound Not Detected.		
70 Anthracene		Compound Not Detected.		
71 Carbazole		Compound Not Detected.		
72 Di-n-butylphthalate		Compound Not Detected.		
73 Fluoranthene		Compound Not Detected.		
74 Pyrene		Compound Not Detected.		
75 Benzidine		Compound Not Detected.		
76 Butylbenzylphthalat		Compound Not Detected.		
77 3,3'-Dichlorobenzid		Compound Not Detected.		
78 ~~bis~~(2-Ethylhexyl)ph	32.797(0.998)	201527	8.63	34.54 NT
79 Di-n-octylphthalate		Compound Not Detected.		
80 Benzo(a)anthracene		Compound Not Detected.		
81 Chrysene		Compound Not Detected.		
82 Benzo(b)fluoranthen		Compound Not Detected.		

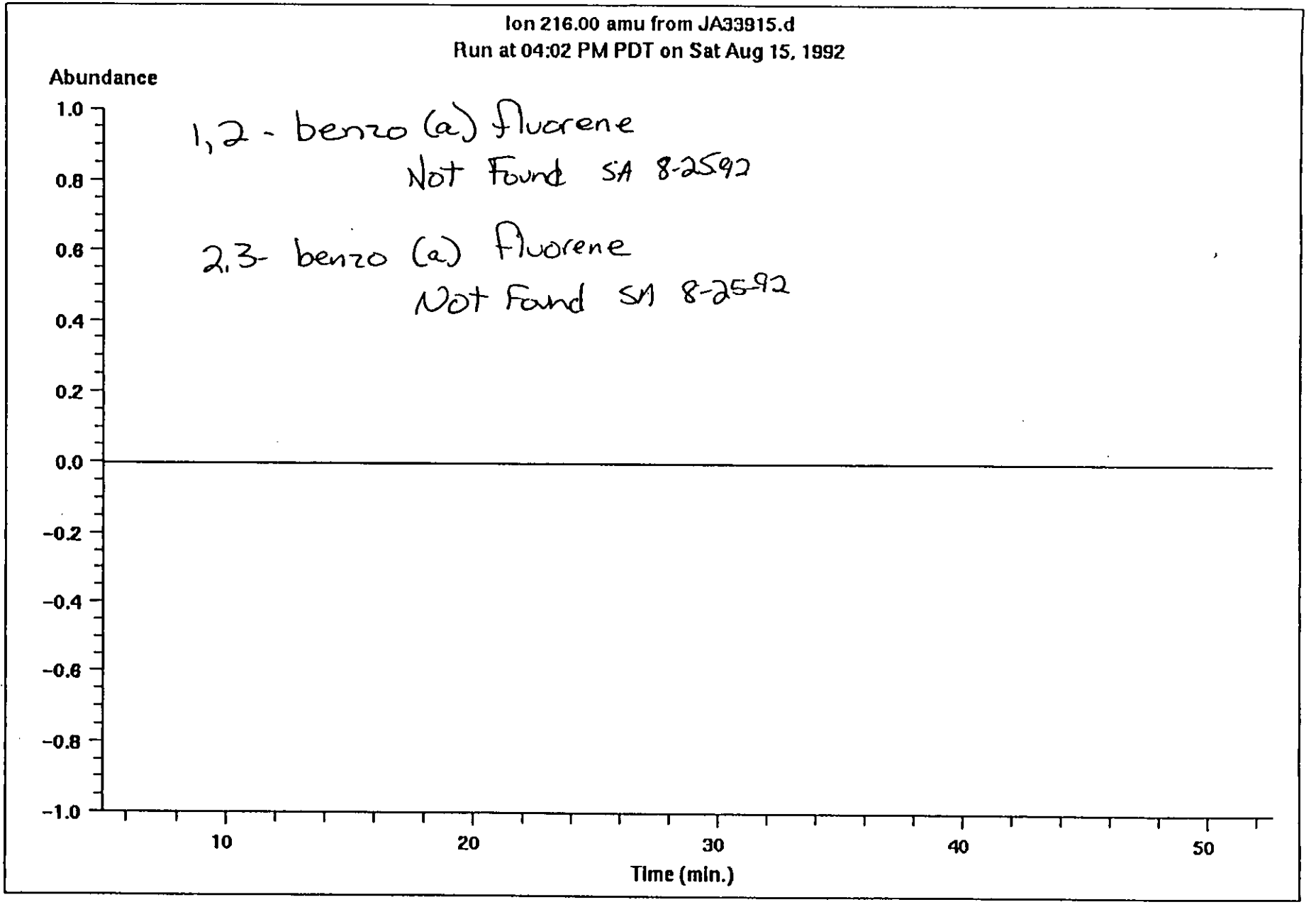
Data Review: RK 8/25/92
Date:

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug)
83 Benzo(k)fluoranthen		Compound Not Detected.		
84 Benzo(e)pyrene		Compound Not Detected.		
85 Benzo(a)pyrene		Compound Not Detected.		
87 Indeno(1,2,3-cd)pyr		Compound Not Detected.		
86 Perylene		Compound Not Detected.		
88 Dibenzo(a,h)anthrac		Compound Not Detected.		
89 Benzo(g,h,i)perylen		Compound Not Detected.		

QC Flag Legend

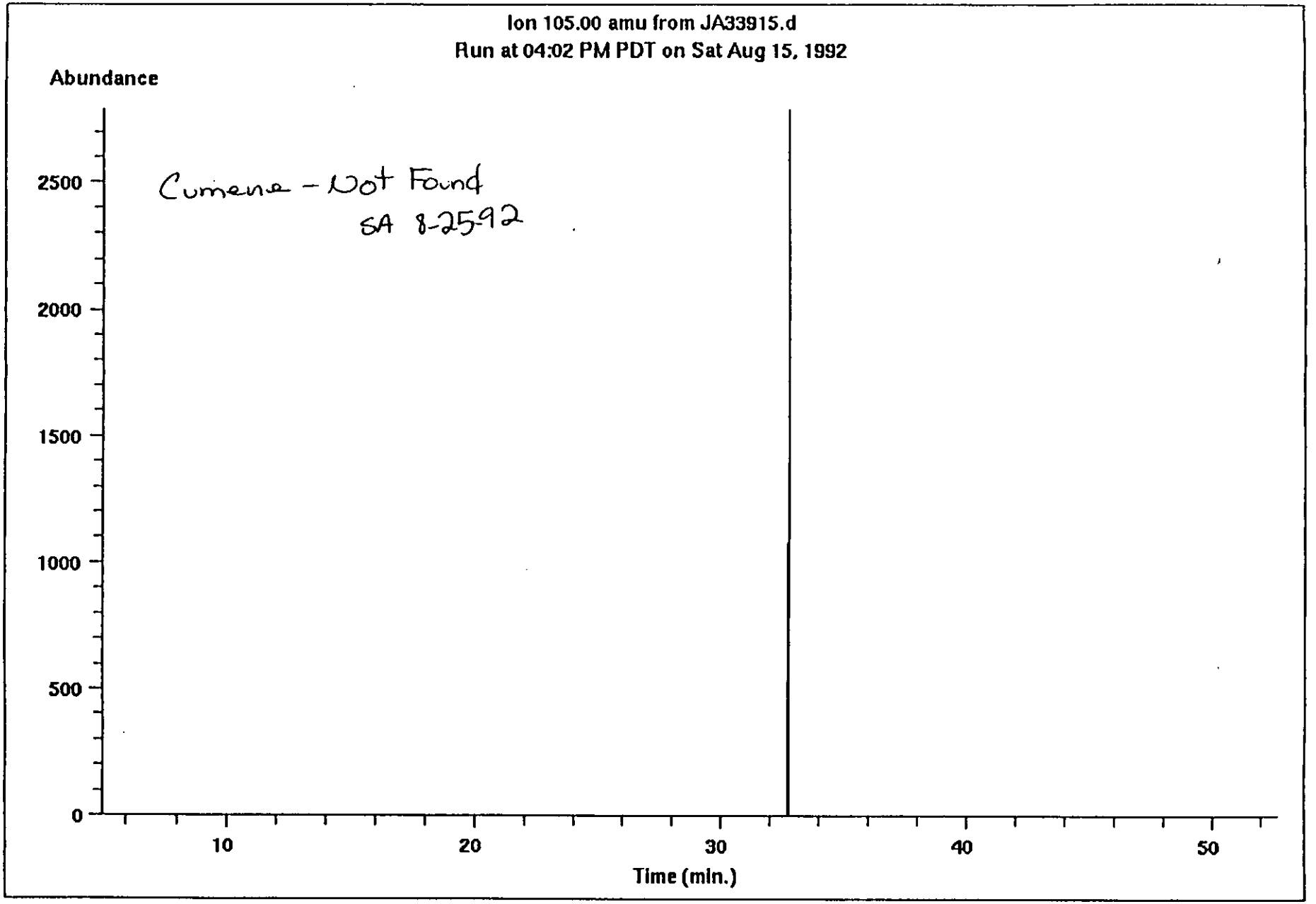
Q - Qualifier signal failed the ratio test.

Data Review: RK 8/25/92
Date:



1,2 - benzo (a) fluorene
Not Found SA 8-25-92

2,3- benzo (a) fluorene
Not Found SA 8-25-92


Ion 105.00 amu from JA33915.d
Run at 04:02 PM PDT on Sat Aug 15, 1992
Abundance
Cumene - Not Found
SA 8-2592
2500
2000
1500
1000
500
0
10
20
30
40
50
Time (min.)

TRIANGLE LABORATORIES OF RTP, INC.
801 Capitola Drive
Durham, NC 27713
Telephone: (919) 544-5729

DATA FILE: JA33912
RF FILE: JA33907
DATE: 08/31/92
TLI PROJ #: 21187

SAMPLE ID: MM5-4 IMPINGER
TLI ID: 57-102-8
DILN FACTOR: 2
ANALYSIS DATE: 8/15/92

METHOD 8270 QUANTITATION REPORT

	NAME	AREA	RF	RT	ISID	AMOUNT, ug	CODE	QUAN LIMIT
1	1,4-Dichlorobenzene-d4	361403		12.18	1		IS	
28	Acenaphthene-d10	1068059		20.04	28		IS	
32	2-Chloronaphthalene	0	1.0003	.00	28	3.00	ND	20
35	Acenaphthylene	0	1.5315	.00	28	1.96	ND	20
37	Acenaphthene	0	.9977	.00	28	3.00	ND	20
45	Fluorene	0	1.0736	.00	28	2.79	ND	20
47	Phenanthrene-d10	1200978		24.02	47		IS	
53	Phenanthrene	0	1.0214	.00	47	2.61	ND	20
54	Anthracene	0	1.0874	.00	47	2.45	ND	20
56	Fluoranthene	0	.8365	.00	47	3.19	ND	20
57	Chrysene-d12	182387		32.86	57		IS	
58	Pyrene	0	2.3977	.00	57	7.32	ND	20
61	Benzo(a)anthracene	0	1.3864	.00	57	12.66	ND	20
62	Chrysene	0	1.1966	.00	57	14.66	ND	20
64	Perylene-d12	65546		40.22	64		IS	
66	Benzo(b)fluoranthene	0	1.2371	.00	64	39.46	ND	20
67	Benzo(k)fluoranthene	0	1.2711	.00	64	38.41	ND	20
98	Perylene	0	.8946	.00	64	54.57	ND	20
68	Benzo(a)pyrene	0	1.1198	.00	64	43.60	ND	20
92	Benzo(e)pyrene	0	1.1078	.00	64	44.07	ND	20
69	Indeno(1,2,3-cd)pyrene	0	.6805	.00	64	71.74	ND	20
96	Dibenzo(a,h)anthracene	0	.7505	.00	64	65.05	ND	20
71	Benzo(g,h,i)perylene	0	.7643	.00	64	63.88	ND	20
	Cumene	0	1.7060	.00	1	5.19	ND	50
	1,2-Benzofluorene	0	1.3420	.00	47	1.99	ND	50
	2,3-Benzofluorene	0	1.2310	.00	47	2.16	ND	50

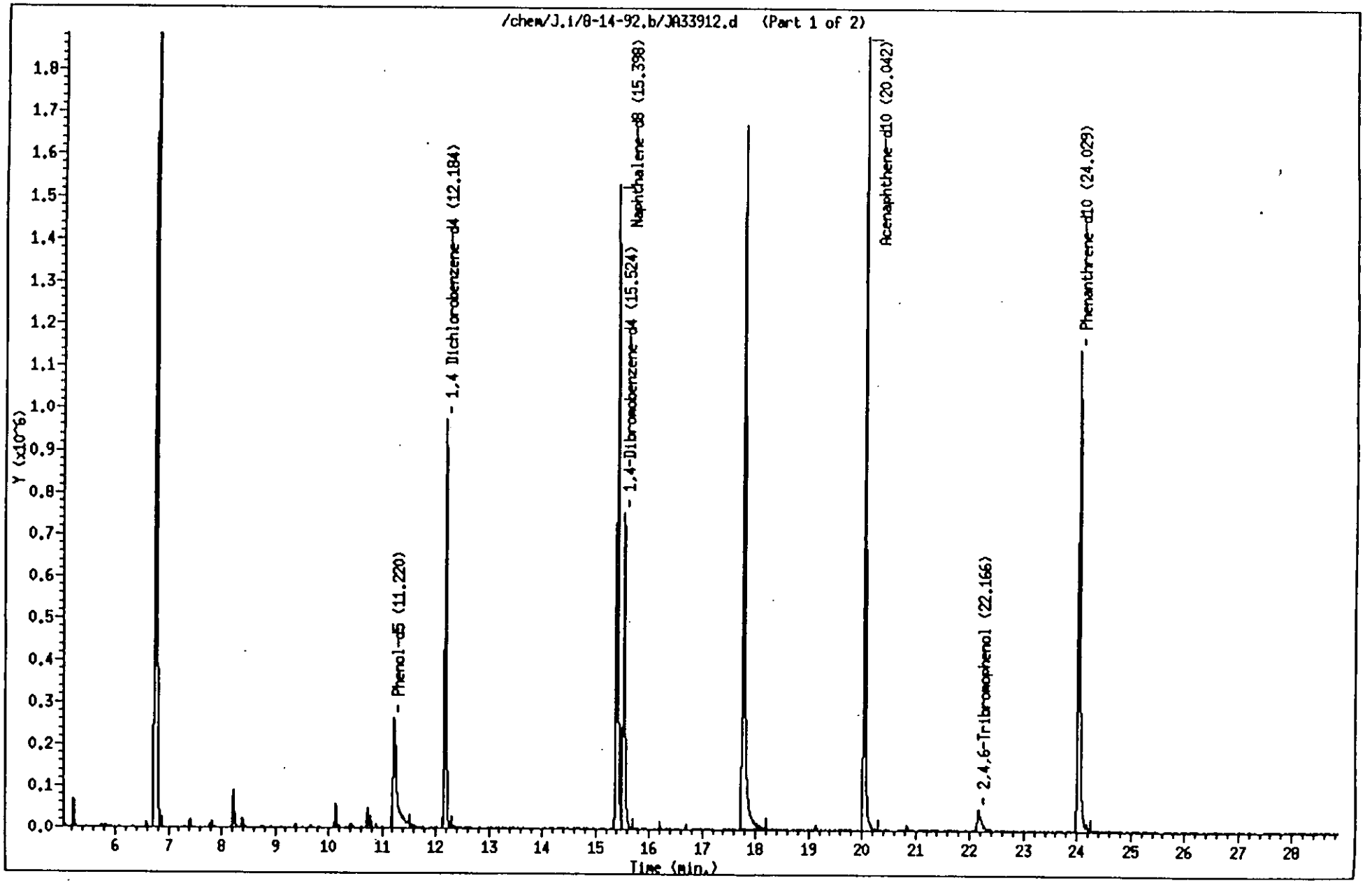
SURROGATE SUMMARY		AREA	RF	RT	ISID	AMOUNT	CODE	% RECOVERY
75	Phenol-d5	357905	1.4290	11.22	1	55.44	D	55.4
77	2,4,6-Tribromophenol	59182	.2376	22.17	28	18.66	D	18.7
81	1,4-Dibromobenzene-d4	311244	1.2155	15.52	1	56.68	D	56.7

CODES: ND = Not Detected; D = Detected; E = Estimated; IS = Internal Standard

Triangle Laboratories at RTP, Inc. SA 8-25-92

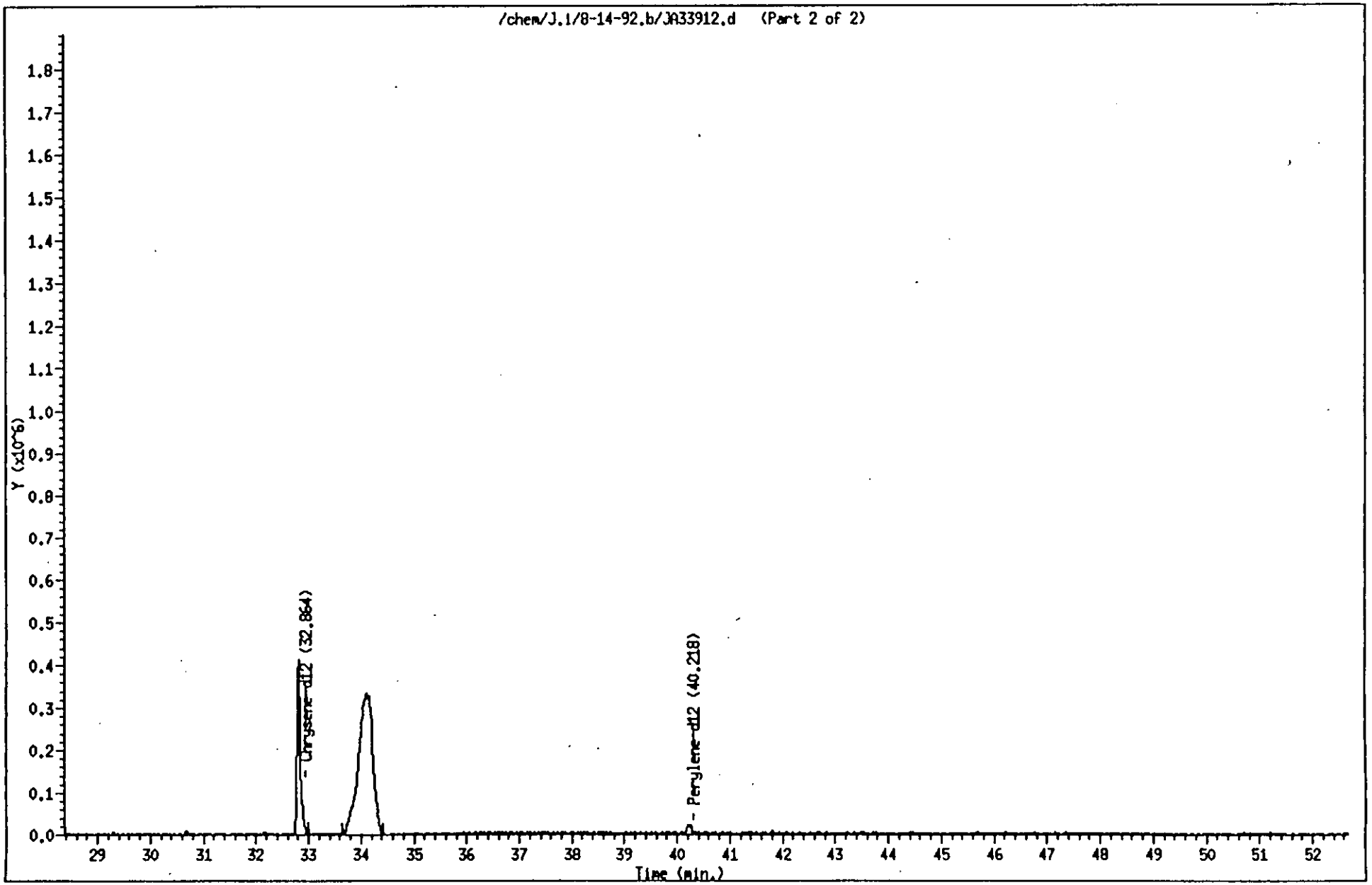
Data File: /chem/J.i/8-14-92.b/JA33912.d
Date : 15-AUG-1992 12:49
Instrument : J.i
Sample ID : MM5-4 IMP
Column phase : DB-5
Volume Injected (uL) : 1.0

Column diameter : 0.32



Triangle Laboratories of RTP, Inc S18-25-92

Data File: /chem/J.1/8-14-92.b/JA33912.d
Date : 15-AUG-1992 12:49
Instrument : J.1
Sample ID : MM5-4 IMP
Column phase : DB-5
Column diameter : 0.32
Volume Injected (uL) : 1.0



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

SEMI-VOLATILE ~~QUANTATATION~~ QUANTITATION 8/25/92 REPORT

Data file : /chem/J.i/8-14-92.b/JA33912.d
Lab. Id. : TLI#21187B
Inj Date : 15-AUG-92 12:49 Autotune Date: 22-Jul-92 12:21:3
Operator : DD MC 8/25/92 Inst ID: J.i
Smp Info : MM5-4 IMP
Misc Info : COC 57-102-8
Comment :
Method : /chem/J.i/8-14-92.b/tlinbna.m
Meth Date : 15-Aug-1992 22:38 target
Cal Date : 15-AUG-1992 07:29 Cal File: JA33907.d
Als bottle: 12
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: 8270.sub
Rpt Date : 15-Aug-1992 22:48 Sample Type: mm5

	Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
*	1 Naphthalene-d8	15.398(1.000)	1731098	40.00	40.00
•	2 1,4 Dichlorobenzene	12.184(1.000)	361403	40.00	40.00
•	3 Acenaphthene-d10	20.042(1.000)	1068059	40.00	40.00
*	4 Phenanthrene-d10	24.021(1.000)	1200978	40.00	40.00
*	5 Chrysene-d12	32.864(1.000)	182387	40.00	40.00
*	6 Perylene-d12	40.218(1.000)	65546	40.00	40.00
$	7 2-Fluorophenol		Compound Not Detected.		
$	8 Phenol-d5	11.220(0.921)	357905	27.72	110.89
$	9 2-Chlorophenol-d4		Compound Not Detected.		
$	10 1,2-Dichlorobenzene		Compound Not Detected.		
$	11 Nitrobenzene-d5		Compound Not Detected.		
$	12 1,3,5-Trichlorobenz		Compound Not Detected.		
$	13 1,4-Dibromobenzene-	15.524(1.274)	311244	28.34	113.36
$	14 2-Fluorobiphenyl		Compound Not Detected.		
$	15 2,4,6-Tribromopheno	22.166(1.106)	59182	9.32	37.31(R)
$	16 Anthracene-d10		Compound Not Detected.		
$	17 Pyrene-d10		Compound Not Detected.		
$	18 Terphenyl-d14		Compound Not Detected.		
	19 N-Nitrosodimethylam		Compound Not Detected.		
	20 ~~Phenol~~	~~11.252(0.923)~~	111239	9.39	~~37.57~~ NT.
	21 Aniline		Compound Not Detected.		
	22 bis(2-Chloroethyl)e		Compound Not Detected.		
	23 2-Chlorophenol		Compound Not Detected.		
	24 1,3-Dichlorobenzene		Compound Not Detected.		
	25 1,4-Dichlorobenzene		Compound Not Detected.		
	26 1,2-Dichlorobenzene		Compound Not Detected.		
	27 2-Methylphenol		Compound Not Detected.		
	28 2,2'-oxybis(1-Chlor		Compound Not Detected.		
	29 Benzyl alcohol		Compound Not Detected.		
	30 4-Methylphenol		Compound Not Detected.		
	31 N-Nitroso-di-n-prop		Compound Not Detected.		

Data Review: KP 8/25/92
Date:

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug)
32 Hexachloroethane		Compound Not Detected.		
33 Nitrobenzene		Compound Not Detected.		
34 Isophorone		Compound Not Detected.		
35 2-Nitrophenol		Compound Not Detected.		
36 2,4-Dimethylphenol		Compound Not Detected.		
37 bis(2-Chloroethoxy)		Compound Not Detected.		
38 Benzoic acid		Compound Not Detected.		
39 2,4-Dichlorophenol		Compound Not Detected.		
40 1,2,4-Trichlorobenz		Compound Not Detected.		
41 Naphthalene		Compound Not Detected.		
42 4-Chloroaniline		Compound Not Detected.		
43 Hexachlorobutadiene		Compound Not Detected.		
44 4-Chloro-3-methylph		Compound Not Detected.		
45 2-Methylnaphthalene		Compound Not Detected.		
46 Hexachlorocyclopent		Compound Not Detected.		
47 2,4,6-Trichlorophen		Compound Not Detected.		
48 2,4,5-Trichlorophen		Compound Not Detected.		
49 2-Chloronaphthalene		Compound Not Detected.		
50 2-Nitroaniline		Compound Not Detected.		
51 Dimethylphthalate		Compound Not Detected.		
52 2,6-Dinitrotoluene		Compound Not Detected.		
53 2,4-Dinitrotoluene		Compound Not Detected.		
54 Acenaphthylene		Compound Not Detected.		
55 3-Nitroaniline		Compound Not Detected.		
56 Acenaphthene		Compound Not Detected.		
57 2,4-Dinitrophenol		Compound Not Detected.		
58 4-Nitrophenol		Compound Not Detected.		
59 Dibenzofuran		Compound Not Detected.		
60 Diethylphthalate		Compound Not Detected.		
61 4-Chlorophenyl-phen		Compound Not Detected.		
62 Fluorene		Compound Not Detected.		
63 4-Nitroaniline		Compound Not Detected.		
64 4,6-Dinitro-2-methy		Compound Not Detected.		
65 N-Nitrosodiphenylam		Compound Not Detected.		
66 4-Bromophenyl-pheny		Compound Not Detected.		
67 Hexachlorobenzene		Compound Not Detected.		
68 Pentachlorophenol		Compound Not Detected.		
69 Phenanthrene		Compound Not Detected.		
70 Anthracene		Compound Not Detected.		
71 Carbazole		Compound Not Detected.		
72 Di-n-butylphthalate		Compound Not Detected.		
73 Fluoranthene		Compound Not Detected.		
74 Pyrene		Compound Not Detected.		
75 Benzidine		Compound Not Detected.		
76 Butylbenzylphthalat		Compound Not Detected.		
77 3,3'-Dichlorobenzid		Compound Not Detected.		
~~78 bis(2-Ethylhexyl)ph~~	~~32.816(0.999)~~	~~441007~~	~~56.25~~	~~225.00~~ NT,
79 Di-n-octylphthalate		Compound Not Detected.		
80 Benzo(a)anthracene		Compound Not Detected.		
81 Chrysene		Compound Not Detected.		
82 Benzo(b)fluoranthen		Compound Not Detected.		

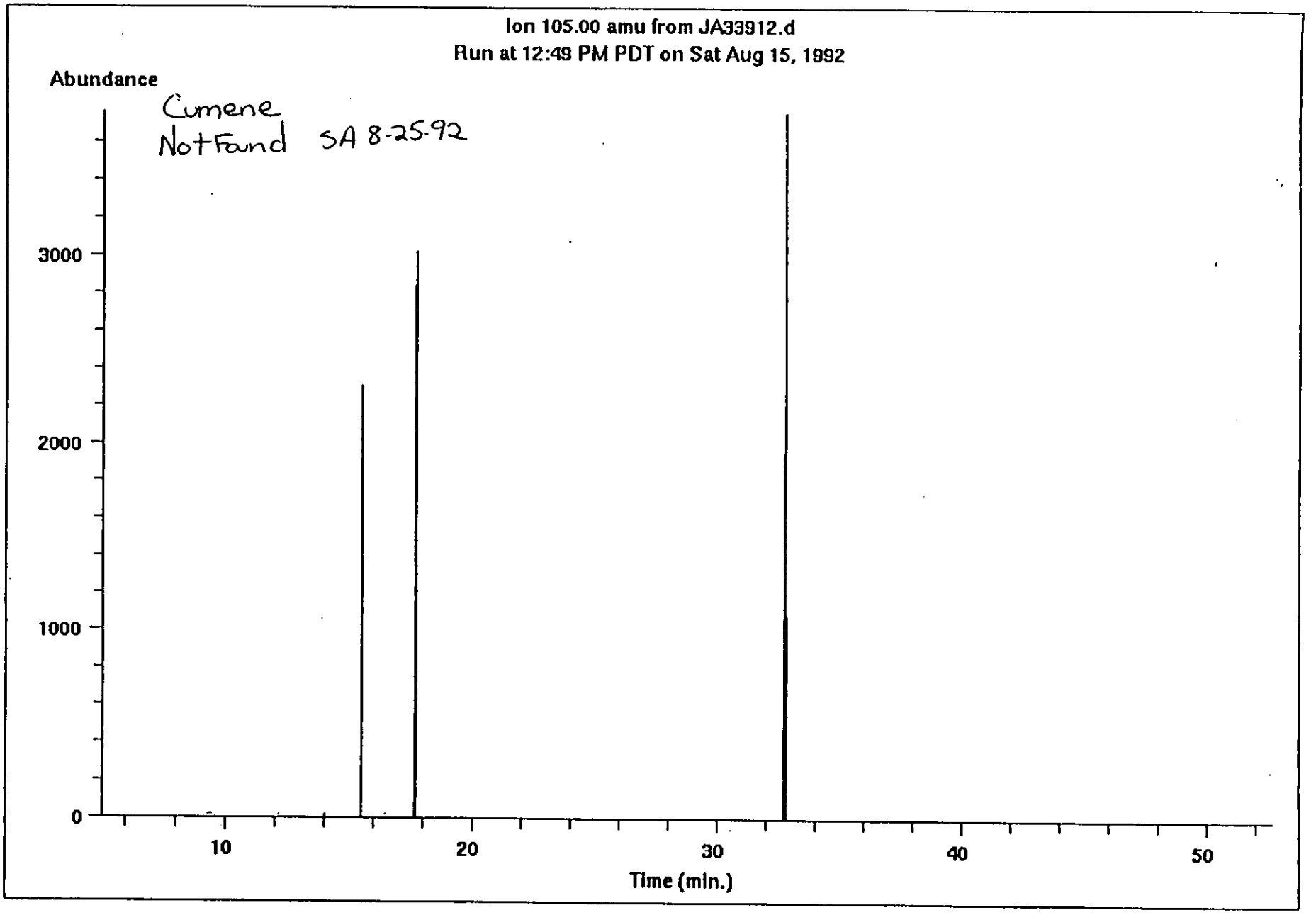
Data Review: KLO 8/25/92
Date:

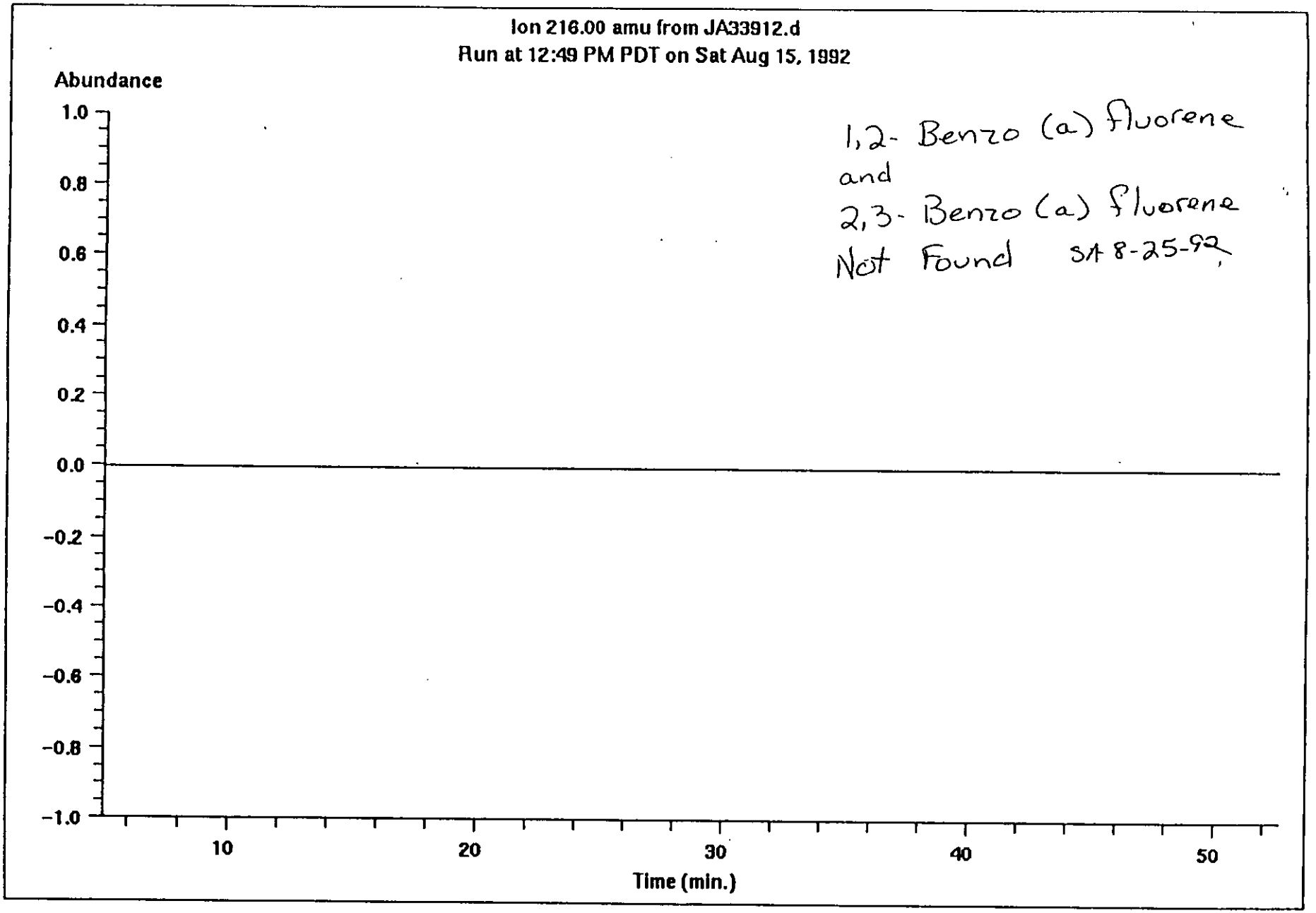
Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug)
83 Benzo(k)fluoranthen		Compound Not Detected.		
84 Benzo(e)pyrene		Compound Not Detected.		
85 Benzo(a)pyrene		Compound Not Detected.		
87 Indeno(1,2,3-cd)pyr		Compound Not Detected.		
86 Perylene		Compound Not Detected.		
88 Dibenzo(a,h)anthrac		Compound Not Detected.		
89 Benzo(g,h,i)perylen		Compound Not Detected.		

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data Review: RKO
Date: 8/25/92


Ion 105.00 amu from JA33912.d
Run at 12:49 PM PDT on Sat Aug 15, 1992
Abundance
Cumene
Not Found SA 8-25-92
3000
2000
1000
0
10
20
30
40
50
Time (min.)



1,2- Benzo (a) fluorene
and
2,3- Benzo (a) fluorene
Not Found SA 8-25-92

TRIANGLE LABORATORIES OF RTP, INC.
801 Capitola Drive
Durham, NC 27713
Telephone: (919) 544-5729

DATA FILE: JA32208
RF FILE: JA321
DATE: 08/31/92
TLI PROJ #: 21187

SAMPLE ID: MM5-2&3 FILTER, XAD RINSE BLANK
TLI ID: 57-89-28 57-102-13, 15
DILN FACTOR: 2
ANALYSIS DATE: 8/03/92

METHOD 8270 QUANTITATION REPORT

	NAME	AREA	RF	RT	ISID	AMOUNT, ug	CODE	QUAN LIMIT
1	1,4-Dichlorobenzene-d4	236948		12.34	1		IS	
9	2-Methylphenol	0	1.1066	.00	1	12.20	ND	20
11	3-/4-Methylphenol	0	1.1270	.00	1	11.98	ND	20
14	Naphthalene-d8	913559		15.57	14		IS	
23	Naphthalene	0	.9054	.00	14	3.87	ND	20
27	2-Methylnaphthalene	0	.6944	.00	14	5.04	ND	20
28	Acenaphthene-d10	526791		20.22	28		IS	
32	2-Chloronaphthalene	0	1.0936	.00	28	5.55	ND	20
35	Acenaphthylene	0	1.7394	.00	28	3.49	ND	20
37	Acenaphthene	0	1.0107	.00	28	6.01	ND	20
45	Fluorene	0	1.0993	.00	28	5.53	ND	20
47	Phenanthrene-d10	766281		24.21	47		IS	
53	Phenanthrene	0	.9928	.00	47	4.21	ND	20
54	Anthracene	0	1.0770	.00	47	3.88	ND	20
56	Fluoranthene	0	1.3220	.00	47	3.16	ND	20
57	Chrysene-d12	495919		33.15	57		IS	
58	Pyrene	0	1.7206	.00	57	3.75	ND	20
61	Benzo(a)anthracene	0	1.4688	.00	57	4.39	ND	20
62	Chrysene	0	1.3077	.00	57	4.93	ND	20
64	Perylene-d12	840088		40.65	64		IS	
66	Benzo(b)fluoranthene	0	1.3932	.00	64	2.73	ND	20
67	Benzo(k)fluoranthene	0	1.3054	.00	64	2.92	ND	20
93	Perylene	0	.9243	.00	64	4.12	ND	20
68	Benzo(a)pyrene	0	1.1350	.00	64	3.36	ND	20
89	Benzo(e)pyrene	0	1.1478	.00	64	3.32	ND	20
69	Indeno(1,2,3-cd)pyrene	0	.8928	.00	64	4.27	ND	20
91	Dibenzo(a,h)anthracene	0	.7274	.00	64	5.24	ND	20
71	Benzo(g,h,i)perylene	0	.7834	.00	64	4.86	ND	20
	Cumene	0	1.7060	0.00	1	7.92	ND	50
	1,2-Benzofluorene	0	1.3420	0.00	47	3.11	ND	50
	2,3-Benzofluorene	0	1.2310	0.00	47	3.39	ND	50

SURROGATE SUMMARY		AREA	RF	RT	ISID	AMOUNT	CODE	% RECOVERY
74	Terphenyl-d14	1003953	1.6043	28.78	57	100.95	D	101.0
75	Phenol-d5	326633	1.3523	11.36	1	81.55	D	81.6
77	2,4,6-Tribromophenol	152512	.2419	22.32	28	95.77	D	95.8
81	1,4-Dibromobenzene-d4	214123	.8977	15.69	1	80.53	D	80.5

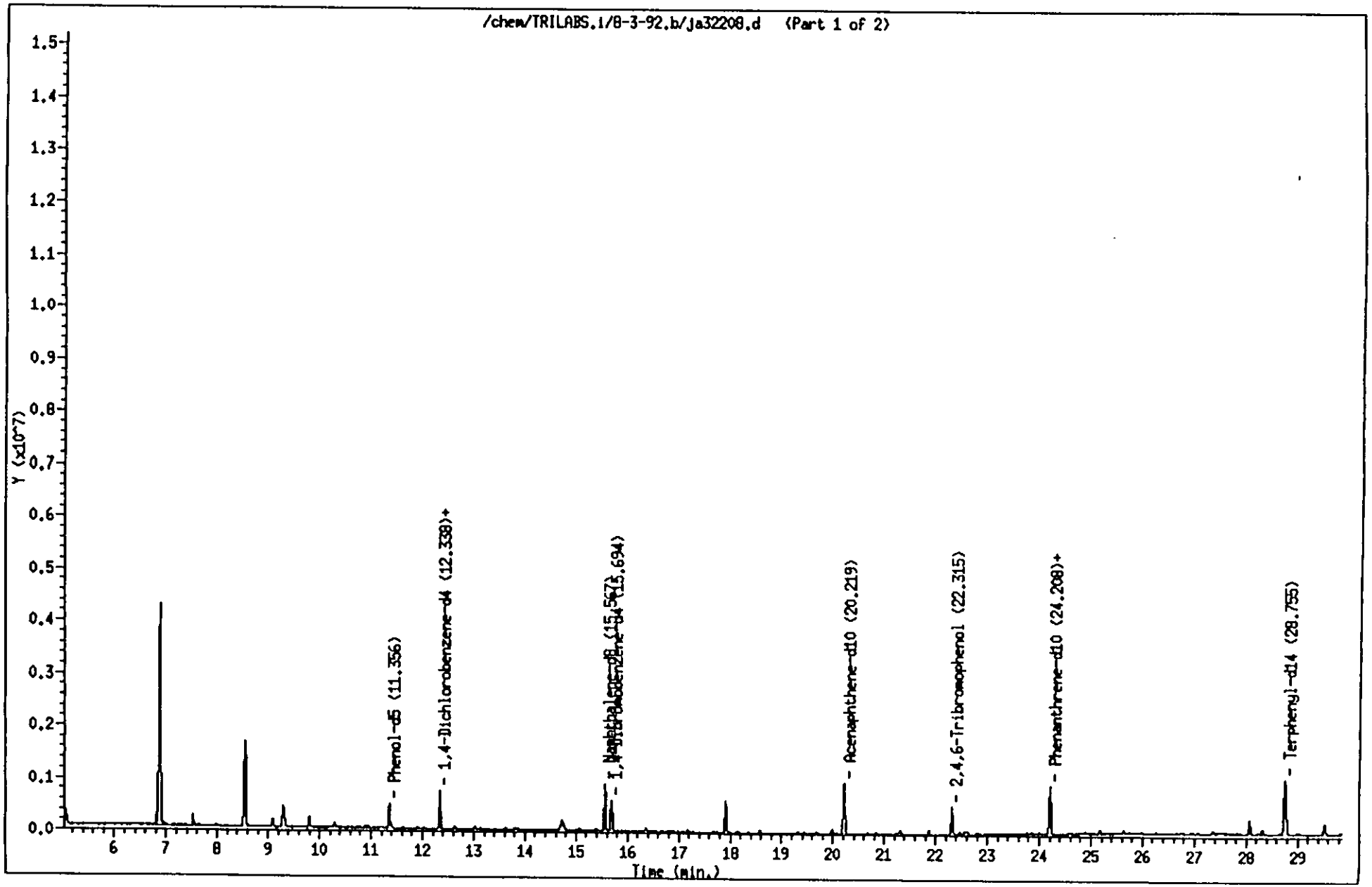
CODES: ND = Not Detected; D = Detected; E = Estimated; IS = Internal Standard

Triangle Laboratories of RTP, LLC

Data File: /chem/TRILABS.1/8-3-92.b/ja32208.d
Date : 03-AUG-1992 19:52
Instrument : ~~TRILABS.1~~ J SM8-26-92
Sample ID : mm5-2 xad blk
Column phase : DB-5
Volume Injected (uL) : 1.0

KK 8/25/92

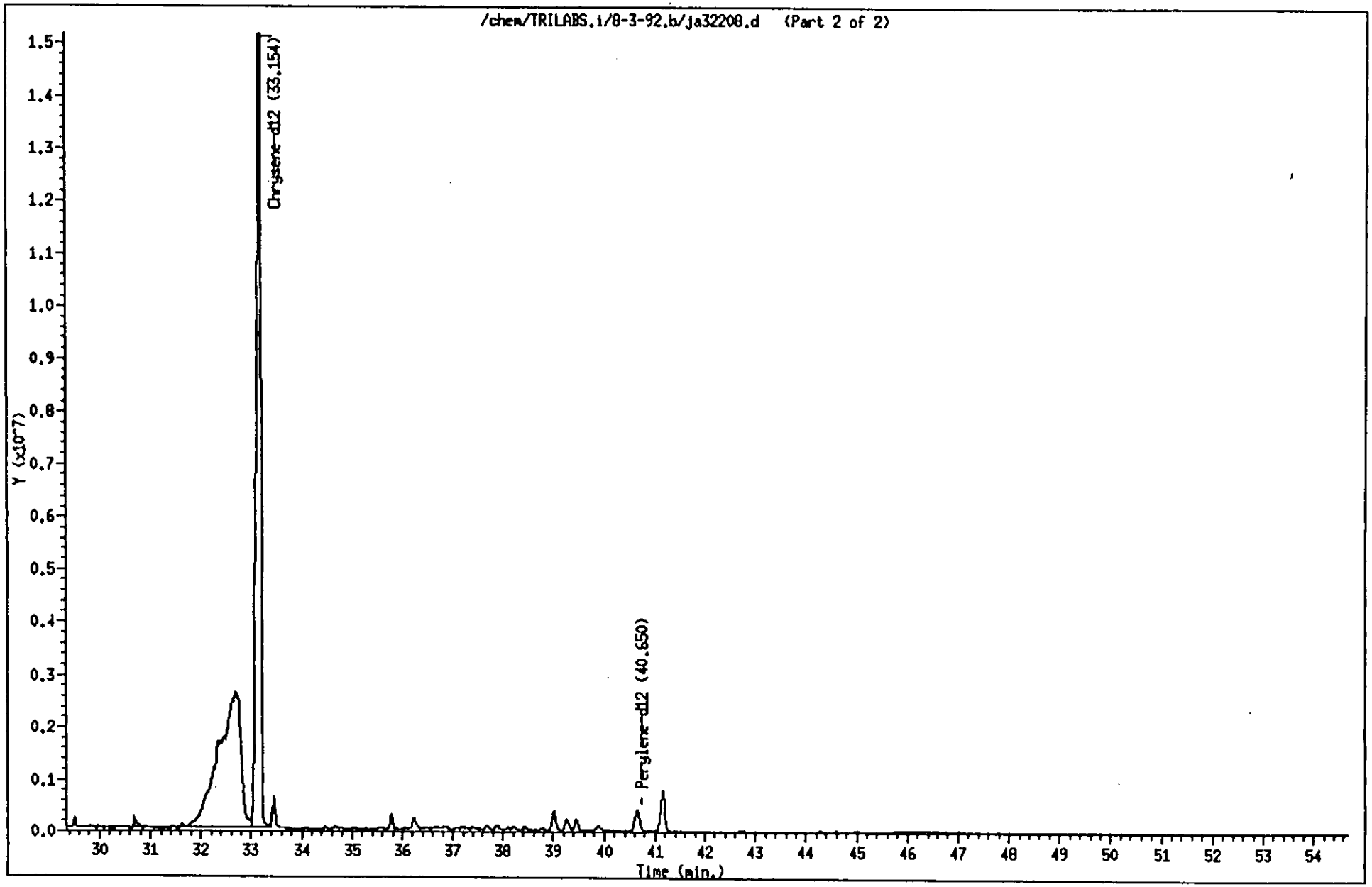
Column diameter : 0.32



Triangle Laboratories RTP, NC

Da. ile: /chem/TRILABS.1/8-3-92.b/ja32208.d
Date : 03-AUG-1992 19:52
Instrument : TRILABS.1
Sample ID : mm5-2 xad blk
Column phase : DB-5
Volume Injected (uL) : 1.0

Column diameter : 0.32



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

QUANTITATION 8-3-92

SEMI-VOLATILE ~~QUANTATATION~~ REPORT

Data file : /chem/TRILABS.i/8-3-92.b/ja32208.d
Lab. Id. :
Inj Date : 03-AUG-1992 19:52 Autotune Date: 22-Jul-92 12:21:3
Operator : mick Inst ID: TRILABS.i
Smp Info : ~~mm5-2 xad blk~~ MM5-203 XAD BLK
Misc Info : tli#21187b 57-89-4b 57-102 13,15
Comment :
Method : /chem/TRILABS.i/8-3-92.b/tlibna.m
Meth Date : 20-Aug-1992 09:06 target
Cal Date : 03-AUG-1992 09:52 Cal File: ja321.d
Als bottle: 8
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: all.sub
Rpt Date : 20-Aug-1992 09:10 Sample Type: mm5

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)	
•	1	1,4-Dichlorobenzene	12.338(1.000)	236948	40.00	40.00	
•	2	Naphthalene-d8	15.567(1.000)	913559	40.00	40.00	
•	3	Acenaphthene-d10	20.219(1.000)	526791	40.00	40.00	
•	4	Phenanthrene-d10	24.208(1.000)	766281	40.00	40.00	
*	5	Chrysene-d12	33.154(1.000)	495919	40.00	40.00	
*	6	Perylene-d12	40.650(1.000)	840088	40.00	40.00	
$	7	2-Fluorophenol		Compound Not Detected.			
$	8	Phenol-d5	11.356(0.920)	326633	40.77	85.62	
$	9	2-Chlorophenol-d4		Compound Not Detected.			
$	10	1,2-Dichlorobenzene	~~12.333(1.000)~~	~~236948~~	~~50.53~~	~~106.11~~	8/20/92
$	11	Nitrobenzene-d5		Compound Not Detected.			
$	12	1,3,5-Trichlorobenz		Compound Not Detected.			
$	13	1,4-Dibromobenzene-	15.694(1.272)	214123	40.26	84.55	
$	14	2-Fluorobiphenyl		Compound Not Detected.			
$	15	2,4,6-Tribromopheno	22.315(1.104)	152512	47.88	100.55	
$	16	Anthracene-d10	~~24.200(1.000)~~	~~766281~~	~~37.96~~	~~79.73~~	8/20/92
$	17	Pyrene-d10		Compound Not Detected.			
$	18	Terphenyl-d14	28.755(0.867)	1003953	50.47	106.00	
	19	N-Nitrosodimethylam		Compound Not Detected.			
	20	~~Phenol~~	~~11.396(0.924)~~	~~3704~~	~~0.46~~	~~0.98(aQ)~~	NT,
	21	Aniline		Compound Not Detected.			
	22	bis(2-Chloroethyl)e		Compound Not Detected.			
	23	2-Chlorophenol		Compound Not Detected.			
	24	1,3-Dichlorobenzene		Compound Not Detected.			
	25	1,4-Dichlorobenzene		Compound Not Detected.			
	26	1,2-Dichlorobenzene		Compound Not Detected.			
	27	2-Methylphenol		Compound Not Detected.			
	28	2,2'-oxybis(1-Chlor		Compound Not Detected.			
	29	Benzyl alcohol		Compound Not Detected.			
	30	4-Methylphenol		Compound Not Detected.			
	31	N-Nitroso-di-n-prop		Compound Not Detected.			

Data Review : RK
Date : 8/25/92

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug)
32 Hexachloroethane		Compound Not Detected.		
33 Nitrobenzene		Compound Not Detected.		
34 Isophorone		Compound Not Detected.		
35 2-Nitrophenol		Compound Not Detected.		
36 2,4-Dimethylphenol		Compound Not Detected.		
37 bis(2-Chloroethoxy)		Compound Not Detected.		
38 ~~Benzoic acid~~	~~14.728(0.946)~~	~~124336~~	~~35.90~~	~~75.39(Q)~~ NT.
39 2,4-Dichlorophenol		Compound Not Detected.		
40 1,2,4-Trichlorobenz		Compound Not Detected.		
41 Naphthalene		Compound Not Detected.		
42 4-Chloroaniline		Compound Not Detected.		
43 Hexachlorobutadiene		Compound Not Detected.		
44 4-Chloro-3-methylph		Compound Not Detected.		
45 ~~2-Methylnaphthalene~~	~~17.426(1.119)~~	~~2505~~	~~0.15~~	~~0.33(aQ)~~ RK
46 Hexachlorocyclopent		Compound Not Detected.		
47 2,4,6-Trichlorophen		Compound Not Detected.		
48 2,4,5-Trichlorophen		Compound Not Detected.		
49 2-Chloronaphthalene		Compound Not Detected.		
50 2-Nitroaniline		Compound Not Detected.		
51 Dimethylphthalate		Compound Not Detected.		
52 2,6-Dinitrotoluene		Compound Not Detected.		
53 2,4-Dinitrotoluene		Compound Not Detected.		
54 Acenaphthylene		Compound Not Detected.		
55 3-Nitroaniline		Compound Not Detected.		
56 Acenaphthene		Compound Not Detected.		
57 2,4-Dinitrophenol		Compound Not Detected.		
58 4-Nitrophenol		Compound Not Detected.		
59 Dibenzofuran		Compound Not Detected.		
60 Diethylphthalate		Compound Not Detected.		
61 4-Chlorophenyl-phen		Compound Not Detected.		
62 Fluorene		Compound Not Detected.		
63 4-Nitroaniline		Compound Not Detected.		
64 4,6-Dinitro-2-methy		Compound Not Detected.		
65 N-Nitrosodiphenylam		Compound Not Detected.		
66 4-Bromophenyl-pheny		Compound Not Detected.		
67 Hexachlorobenzene		Compound Not Detected.		
68 Pentachlorophenol		Compound Not Detected.		
69 Phenanthrene		Compound Not Detected.		
70 Anthracene		Compound Not Detected.		
71 Carbazole		Compound Not Detected.		
72 ~~Di-n-butylphthalate~~	~~25.636(1.059)~~	~~68210~~	~~1.90~~	~~4.00(a)~~ NT.
73 Fluoranthene		Compound Not Detected.		
74 Pyrene		Compound Not Detected.		
75 Benzidine		Compound Not Detected.		
76 Butylbenzylphthalat		Compound Not Detected.		
77 3,3'-Dichlorobenzid		Compound Not Detected.		
78 ~~bis(2-Ethylhexyl)ph~~	~~33.186(1.001)~~	~~31030327~~	~~1412.43~~	~~2966.12(A)~~ NT.
79 Di-n-octylphthalate		Compound Not Detected.		
80 Benzo(a)anthracene		Compound Not Detected.		
81 Chrysene		Compound Not Detected.		
82 Benzo(b)fluoranthen		Compound Not Detected.		

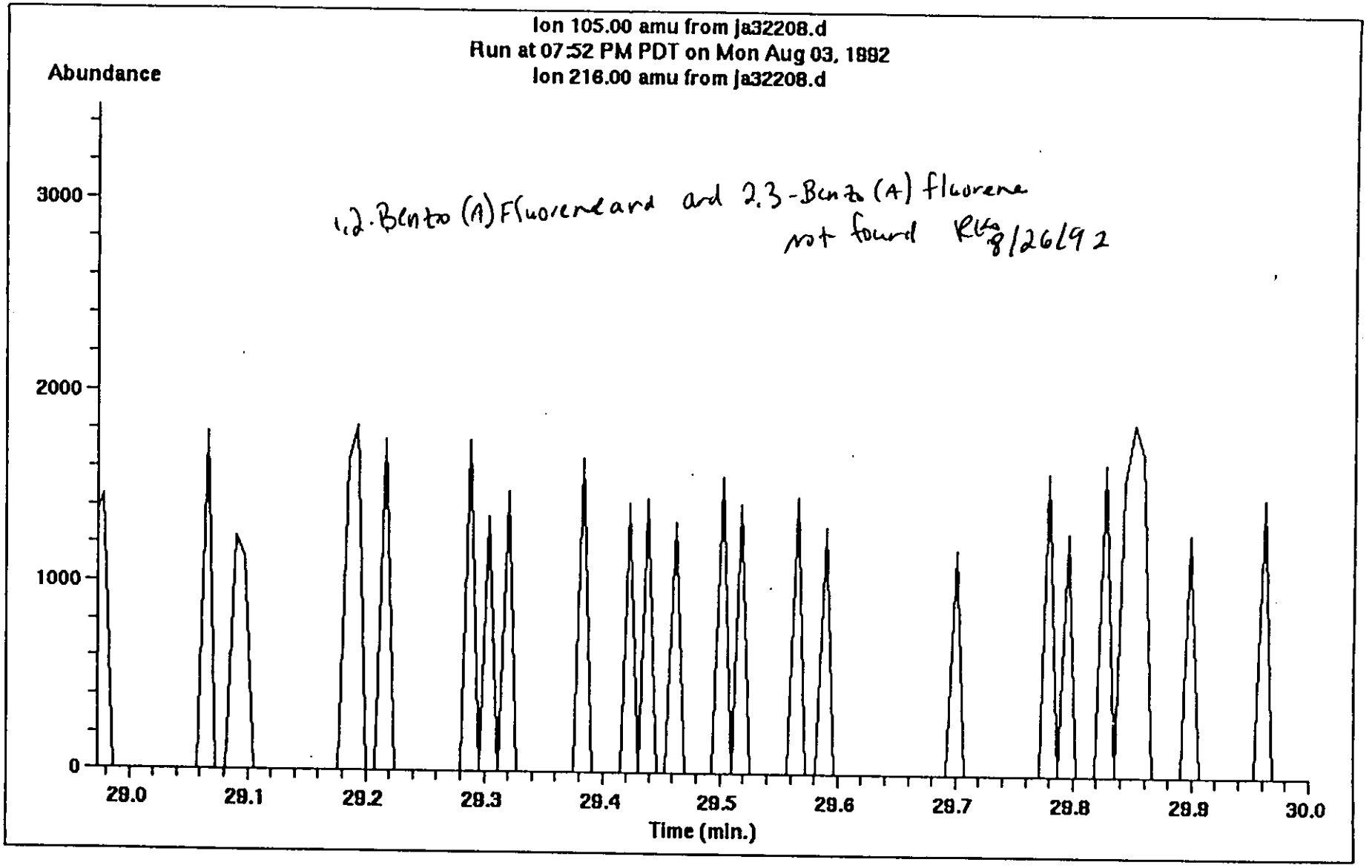
Data Review: RK
Date: 8/25/92

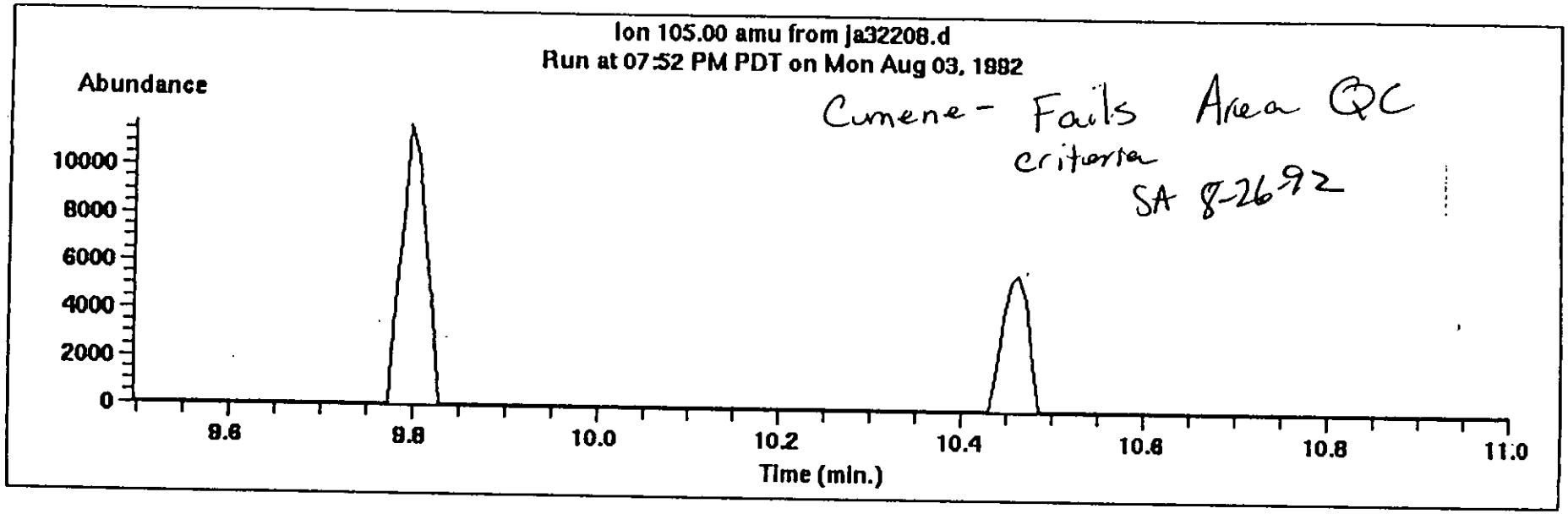
Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
83 Benzo(k)fluoranthen		Compound Not Detected.		
84 Benzo(e)pyrene		Compound Not Detected.		
85 Benzo(a)pyrene		Compound Not Detected.		
86 Perylene		Compound Not Detected.		
87 Indeno(1,2,3-cd)pyr		Compound Not Detected.		
88 Dibenzo(a,h)anthrac		Compound Not Detected.		
89 Benzo(g,h,i)perylen		Compound Not Detected.		

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.

Data Reviewer: RKA
Date: 8/25/92


Ion 105.00 amu from ja32208.d
Run at 07:52 PM PDT on Mon Aug 03, 1992
Ion 216.00 amu from ja32208.d
Abundance
3000
2000
1000
0
29.0
29.1
29.2
29.3
29.4
29.5
29.6
29.7
29.8
29.9
30.0
Time (min.)
1,2-Benzo(A)Fluorene and 2,3-Benzo(A)fluorene
not found RLG 8/26/92


Ion 105.00 amu from ja32208.d
Run at 07:52 PM PDT on Mon Aug 03, 1992
Abundance
10000
8000
6000
4000
2000
0
9.6
9.8
10.0
10.2
10.4
10.6
10.8
11.0
Time (min.)
Cumene - Fails Area QC criteria
SA 8-2692

TRIANGLE LABORATORIES OF RTP, INC.
801 Capitola Drive
Durham, NC 27713
Telephone: (919) 544-5729

DATA FILE: JA32203
RF FILE: JA321
DATE: 08/31/92
TLI PROJ #: 21187

SAMPLE ID: MM5-4 FILTER,XAD RINSE BLANK
TLI ID: 57-89-48 57-102-10,12
DILN FACTOR: 2
ANALYSIS DATE: 8/03/92

METHOD 8270 QUANTITATION REPORT

	NAME	AREA	RF	RT	ISID	AMOUNT, ug	CODE	QUAN LIMIT
1	1,4-Dichlorobenzene-d4	259328		12.34	1		IS	
28	Acenaphthene-d10	621037		20.21	28		IS	
32	2-Chloronaphthalene	0	1.0936	.00	28	4.71	ND	20
35	Acenaphthylene	0	1.7394	.00	28	2.96	ND	20
37	Acenaphthene	0	1.0107	.00	28	5.10	ND	20
45	Fluorene	0	1.0993	.00	28	4.69	ND	20
47	Phenanthrene-d10	894151		24.20	47		IS	
53	Phenanthrene	0	.9928	.00	47	3.60	ND	20
54	Anthracene	0	1.0770	.00	47	3.32	ND	20
56	Fluoranthene	0	1.3220	.00	47	2.71	ND	20
57	Chrysene-d12	448592		33.15	57		IS	
58	Pyrene	0	1.7206	.00	57	4.15	ND	20
61	Benzo(a)anthracene	0	1.4688	.00	57	4.86	ND	20
62	Chrysene	0	1.3077	.00	57	5.45	ND	20
64	Perylene-d12	832583		40.65	64		IS	
66	Benzo(b)fluoranthene	0	1.3932	.00	64	2.76	ND	20
67	Benzo(k)fluoranthene	0	1.3054	.00	64	2.94	ND	20
93	Perylene	0	.9243	.00	64	4.16	ND	20
68	Benzo(a)pyrene	0	1.1350	.00	64	3.39	ND	20
89	Benzo(e)pyrene	0	1.1478	.00	64	3.35	ND	20
69	Indeno(1,2,3-cd)pyrene	0	.8928	.00	64	4.31	ND	20
91	Dibenzo(a,h)anthracene	0	.7274	.00	64	5.28	ND	20
71	Benzo(g,h,i)perylene	0	.7834	.00	64	4.91	ND	20
	Cumene	0	1.7060	0.00	1	7.23	ND	50
	1,2-Benzofluorene	0	1.3420	0.00	47	2.67	ND	50
	2,3-Benzofluorene	0	1.2310	0.00	47	2.91	ND	50

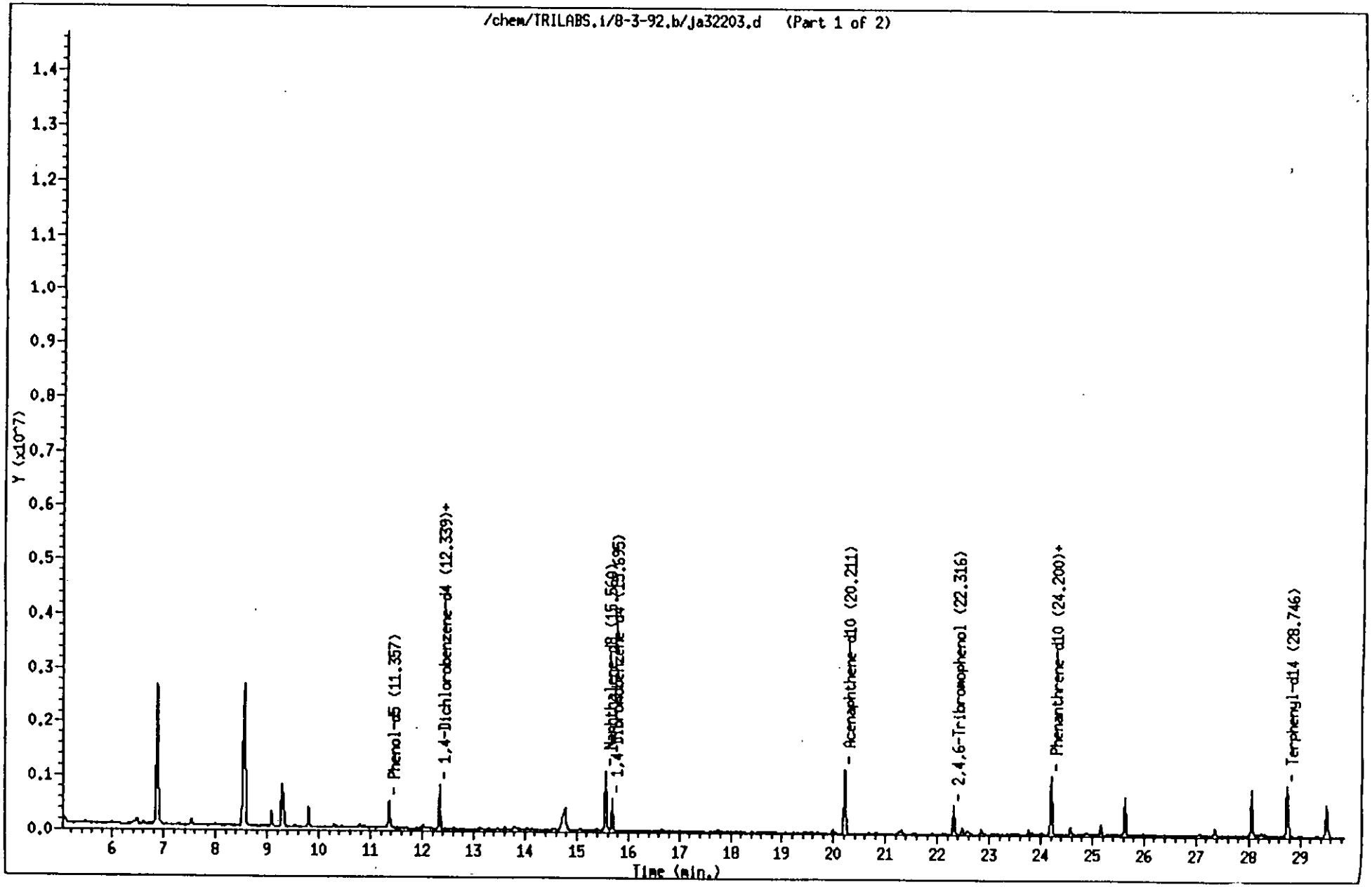
SURROGATE SUMMARY		AREA	RF	RT	ISID	AMOUNT	CODE	% RECOVERY
74	Terphenyl-d14	929176	1.6043	28.75	57	103.29	D	103.3
75	Phenol-d5	377547	1.3523	11.36	1	86.13	D	86.1
77	2,4,6-Tribromophenol	165375	.2419	22.32	28	88.08	D	88.1
81	1,4-Dibromobenzene-d4	231026	.8977	15.70	1	79.39	D	79.4

CODES: ND = Not Detected; D = Detected; E = Estimated; IS = Internal Standard

Triangle Laboratories of Atlanta KTO 8/25/92

Data File: /chem/TRILABS.i/8-3-92.b/Ja32203.d
Date : 03-AUG-1992 14:24
Instrument : TRILABS.i
Sample ID : mm5-4 xad blk
Column phase : DB-5
Volume Injected (uL) : 1.0

Column diameter : 0.32

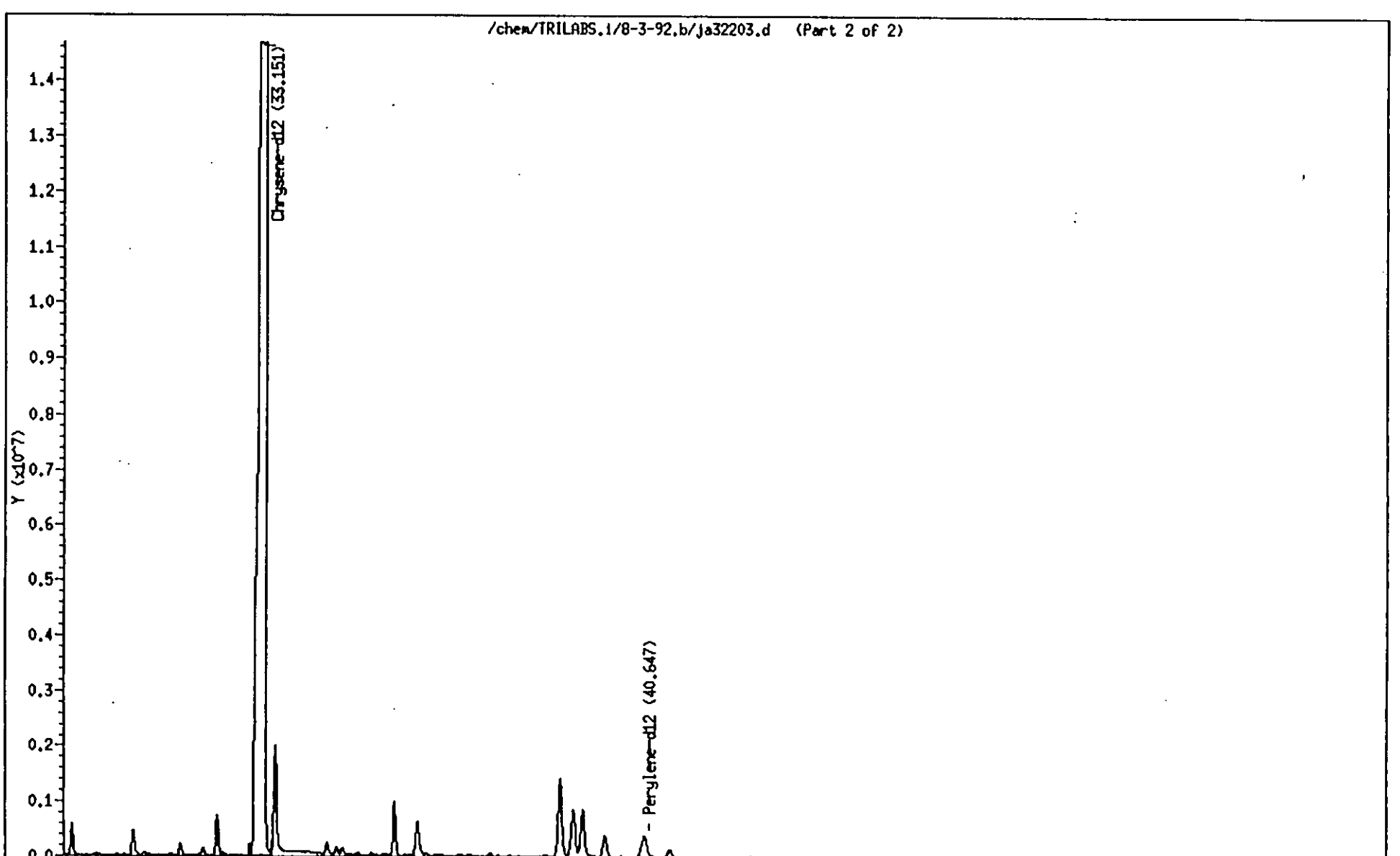


Triangle Laboratories of RTI, INC

Data File: /chem/TRILABS.1/8-3-92.b/ja32203.d
Date : 03-AUG-1992 14:24
Instrument : TRILABS.1
Sample ID : mm5-4 xad blk
Column phase : DB-5
Volume Injected (uL) : 1.0

KK 8/25/92

Column diameter : 0.32



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

QUANTITATION SA 8-31-92

SEMI-VOLATILE ~~QUANTATATION~~ REPORT

Data file : /chem/TRILABS.i/8-3-92.b/ja32203.d
Lab. Id. : 57-84-2b 57-102-10,
Inj Date : 03-AUG-1992 14:24 Autotune Date: 22-Jul-92 12:21:3
Operator : mick Inst ID: ~~TRILABS.i~~ J
Smp Info : mm5-4 xad blk (FILTER,XAD, RWSE) SA 8-26-92 SA 8-26-92
Misc Info : tli#21187b
Comment :
Method : /chem/TRILABS.i/8-3-92.b/tlibna.m
Meth Date : 20-Aug-1992 09:06 target
Cal Date : 03-AUG-1992 09:52 Cal File: ja321.d
Als bottle: 3
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: all.sub
Rpt Date : 20-Aug-1992 09:09 Sample Type: mm5

	Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)	
*	1 1,4-Dichlorobenzene	12.339(1.000)	259328	40.00	40.00	
*	2 Naphthalene-d8	15.560(1.000)	1077662	40.00	40.00	
*	3 Acenaphthene-d10	20.211(1.000)	621037	40.00	40.00	
*	4 Phenanthrene-d10	24.200(1.000)	894151	40.00	40.00	
*	5 Chrysene-d12	33.151(1.000)	448592	40.00	40.00	
*	6 Perylene-d12	40.647(1.000)	832583	40.00	40.00	
$	7 2-Fluorophenol		Compound Not Detected.			
$	8 Phenol-d5	11.357(0.920)	377547	43.06	90.43	
$	9 2-Chlorophenol-d4		Compound Not Detected.			
$	10 1,2-Dichlorobenzene	~~12.339(1.000)~~	~~259328~~	~~50.53~~	~~106.11~~	8/20/92
$	11 Nitrobenzene-d5		Compound Not Detected.			
$	12 1,3,5-Trichlorobenz		Compound Not Detected.			
$	13 1,4-Dibromobenzene-	15.695(1.272)	231026	39.69	83.35	
$	14 2-Fluorobiphenyl		Compound Not Detected.			
$	15 2,4,6-Tribromopheno	22.316(1.104)	165375	44.04	92.48	
$	16 Anthracene-d10	~~24.200(1.000)~~	~~894151~~	~~37.96~~	~~79.73~~	8/20/92
$	17 Pyrene-d10		Compound Not Detected.			
$	18 Terphenyl-d14	28.746(0.867)	929176	51.64	108.45	
	19 N-Nitrosodimethylam		Compound Not Detected.			
	20 Phenol		Compound Not Detected.			
	21 Aniline		Compound Not Detected.			
	22 bis(2-Chloroethyl)e		Compound Not Detected.			
	23 2-Chlorophenol		Compound Not Detected.			
	24 1,3-Dichlorobenzene		Compound Not Detected.			
	25 1,4-Dichlorobenzene		Compound Not Detected.			
	26 1,2-Dichlorobenzene		Compound Not Detected.			
	27 2-Methylphenol		Compound Not Detected.			
	28 2,2'-oxybis(1-Chlor		Compound Not Detected.			
	29 Benzyl alcohol		Compound Not Detected.			
	30 4-Methylphenol		Compound Not Detected.			
	31 N-Nitroso-di-n-prop		Compound Not Detected.			

Data Review: RKO
Date: 8/25/92

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug)
32 Hexachloroethane		Compound Not Detected.		
33 Nitrobenzene		Compound Not Detected.		
34 Isophorone		Compound Not Detected.		
35 2-Nitrophenol		Compound Not Detected.		
36 2,4-Dimethylphenol		Compound Not Detected.		
37 bis(2-Chloroethoxy)		Compound Not Detected.		
38 ~~Benzoic acid~~	~~14.784(0.950)~~	~~381544~~	~~93.39~~	~~196.12(Q)~~ NT.
39 2,4-Dichlorophenol		Compound Not Detected.		
40 1,2,4-Trichlorobenz		Compound Not Detected.		
41 Naphthalene		Compound Not Detected.		
42 4-Chloroaniline		Compound Not Detected.		
43 Hexachlorobutadiene		Compound Not Detected.		
44 4-Chloro-3-methylph		Compound Not Detected.		
45 2-Methylnaphthalene		Compound Not Detected.		
46 Hexachlorocyclopent		Compound Not Detected.		
47 2,4,6-Trichlorophen		Compound Not Detected.		
48 2,4,5-Trichlorophen		Compound Not Detected.		
49 2-Chloronaphthalene		Compound Not Detected.		
50 2-Nitroaniline		Compound Not Detected.		
51 Dimethylphthalate		Compound Not Detected.		
52 2,6-Dinitrotoluene		Compound Not Detected.		
53 2,4-Dinitrotoluene		Compound Not Detected.		
54 Acenaphthylene		Compound Not Detected.		
55 3-Nitroaniline		Compound Not Detected.		
56 Acenaphthene		Compound Not Detected.		
57 2,4-Dinitrophenol		Compound Not Detected.		
58 4-Nitrophenol		Compound Not Detected.		
59 Dibenzofuran		Compound Not Detected.		
60 Diethylphthalate		Compound Not Detected.		
61 4-Chlorophenyl-phen		Compound Not Detected.		
62 Fluorene		Compound Not Detected.		
63 4-Nitroaniline		Compound Not Detected.		
64 4,6-Dinitro-2-methy		Compound Not Detected.		
65 N-Nitrosodiphenylam		Compound Not Detected.		
66 4-Bromophenyl-pheny		Compound Not Detected.		
67 Hexachlorobenzene		Compound Not Detected.		
68 Pentachlorophenol		Compound Not Detected.		
69 Phenanthrene		Compound Not Detected.		
70 Anthracene		Compound Not Detected.		
71 Carbazole		Compound Not Detected.		
72 ~~Di-n-butylphthalate~~	~~25.633(1.059)~~	~~820327~~	~~19.65~~	~~41.26~~ NT.
73 Fluoranthene		Compound Not Detected.		
74 Pyrene		Compound Not Detected.		
75 Benzidine		Compound Not Detected.		
76 Butylbenzylphthalat		Compound Not Detected.		
77 3,3'-Dichlorobenzid		Compound Not Detected.		
78 ~~bis(2-Ethylhexyl)ph~~	~~33.264(1.003)~~	~~53045392~~	~~2669.25~~	~~5605.43(A)~~ NT.
79 ~~Di-n-octylphthalate~~	~~36.215(0.891)~~	~~39660~~	~~0.51~~	~~1.08(aQ)~~ NT.
80 Benzo(a)anthracene		Compound Not Detected.		
81 Chrysene		Compound Not Detected.		
82 Benzo(b)fluoranthen		Compound Not Detected.		

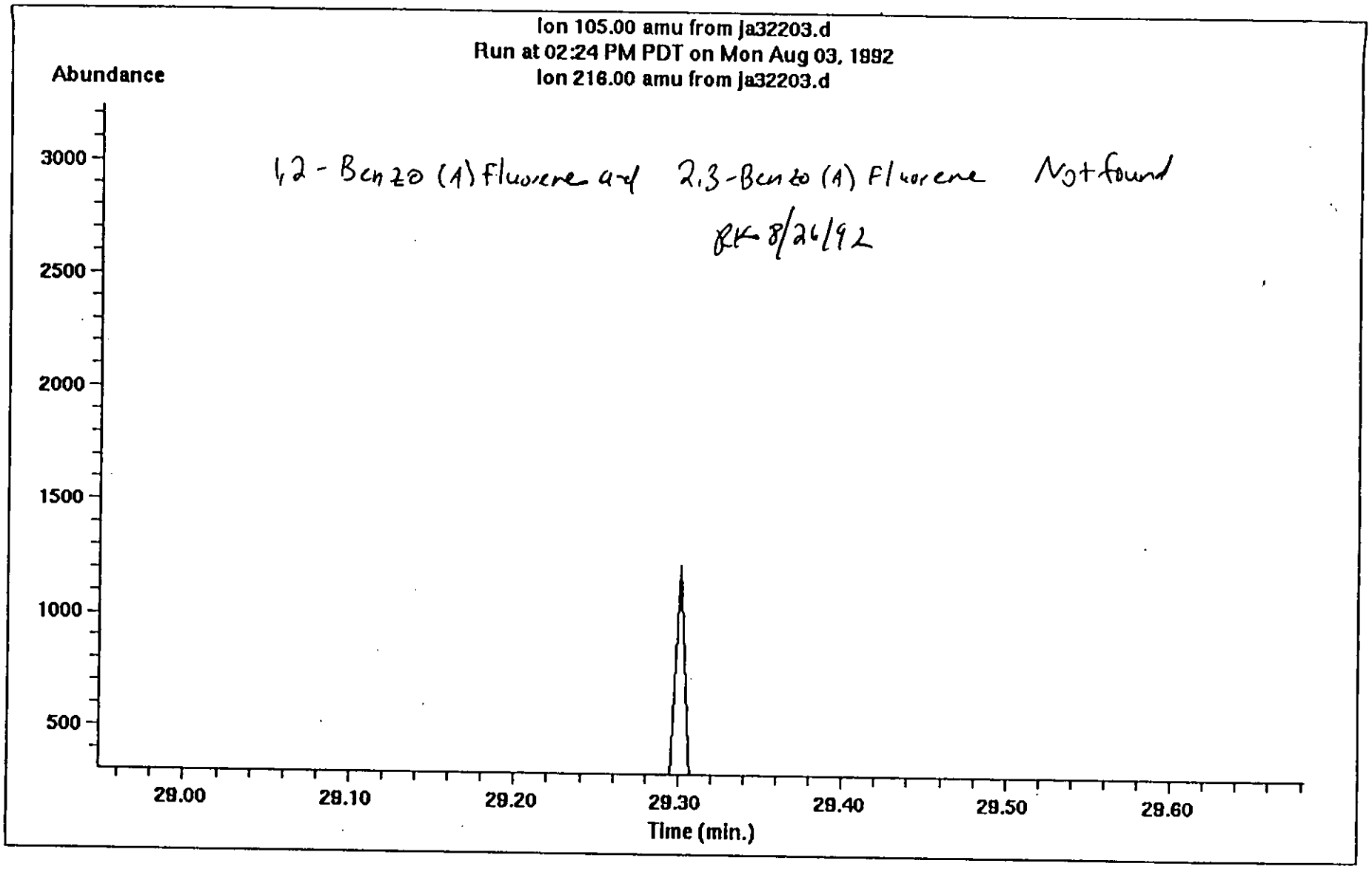
Data Review: RLO
Date: 8/25/92

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
83 Benzo(k)fluoranthen		Compound Not Detected.		
84 Benzo(e)pyrene		Compound Not Detected.		
85 Benzo(a)pyrene		Compound Not Detected.		
86 Perylene		Compound Not Detected.		
87 Indeno(1,2,3-cd)pyr		Compound Not Detected.		
88 Dibenzo(a,h)anthrac		Compound Not Detected.		
89 Benzo(g,h,i)perylen		Compound Not Detected.		

QC Flag Legend

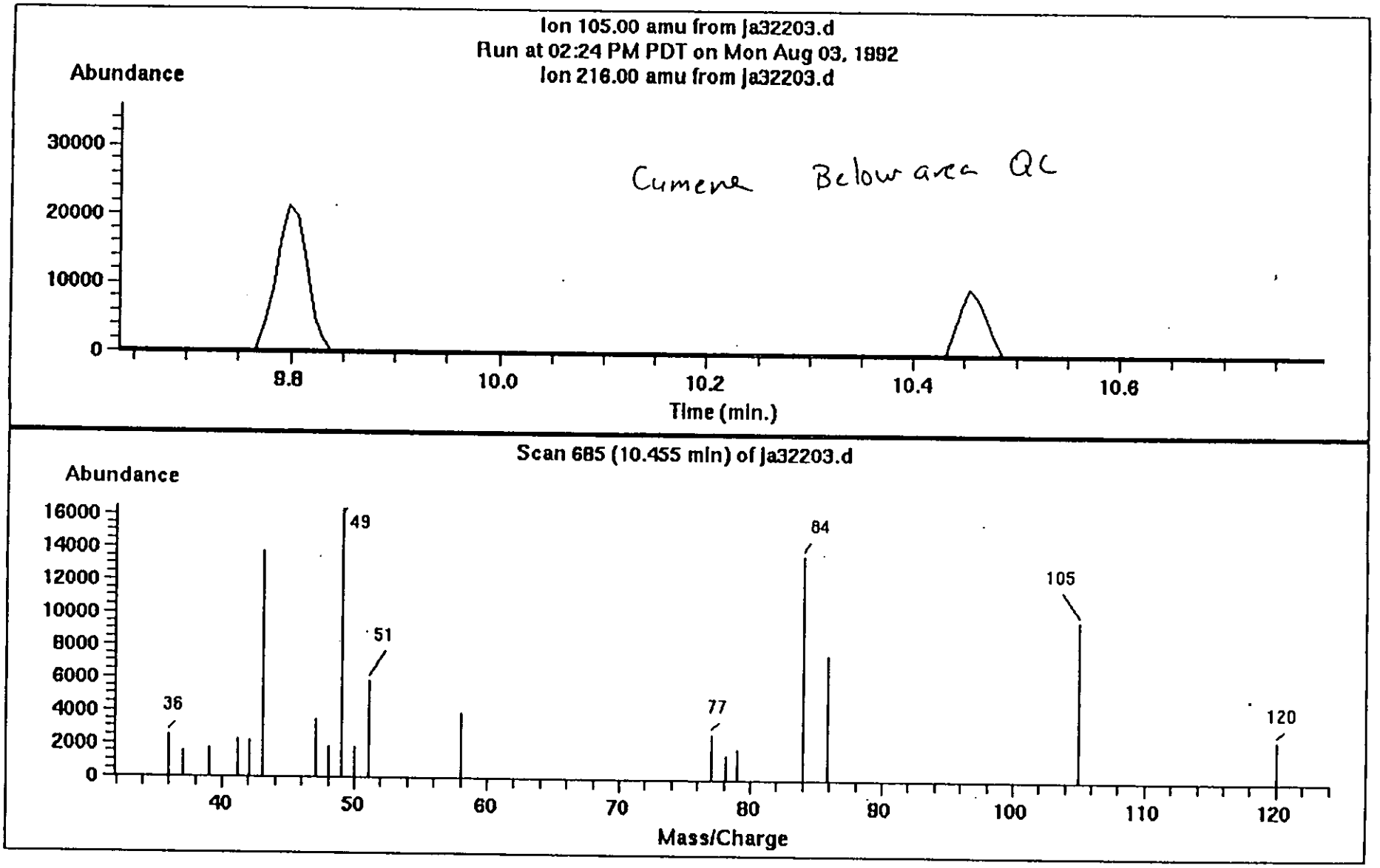
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.

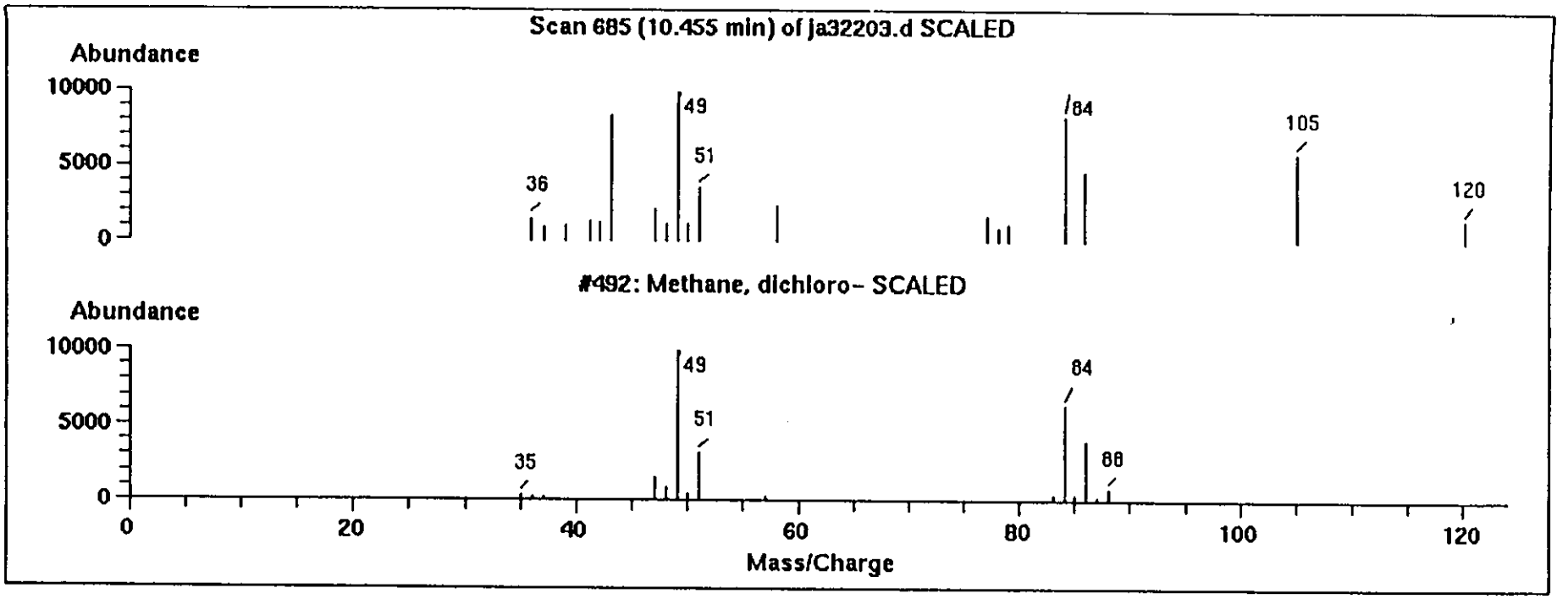
Data Review: RK 8/25/92
Date:



1,2 - Benzo (A) Fluorene and 2,3-Benzo (A) Fluorene Not found

BK 8/26/92


Ion 105.00 amu from ja32203.d
Run at 02:24 PM PDT on Mon Aug 03, 1992
Ion 216.00 amu from ja32203.d
Abundance
30000
20000
10000
0
Cumene Below area QC
9.8
10.0
10.2
10.4
10.6
Time (min.)
Scan 685 (10.455 min) of ja32203.d
Abundance
16000
14000
12000
10000
8000
6000
4000
2000
0
49
84
105
51
36
77
120
40
50
60
70
80
90
100
110
120
Mass/Charge


Scan 685 (10.455 min) of ja32203.d SCALED
Abundance
10000
5000
0
49
51
36
84
105
120
#492: Methane, dichloro- SCALED
Abundance
10000
5000
0
49
51
35
84
86
0
20
40
60
80
100
120
Mass/Charge

TRIANGLE LABORATORIES OF RTP, INC.
801 Capitola Drive
Durham, NC 27713
Telephone: (919) 544-5729

DATA FILE: JA33913
RF FILE: JA33907
DATE: 08/31/92
TLI PROJ #: 21187

SAMPLE ID: MM5-2&3 DI BLANK
TLI ID: 57-102-14
DILN FACTOR: 2
ANALYSIS DATE: 8/15/92

METHOD 8270 QUANTITATION REPORT

	NAME	AREA	RF	RT	ISID	AMOUNT, ug	CODE	QUAN LIMIT
1	1,4-Dichlorobenzene-d4	279065		12.18	1		IS	
9	2-Methylphenol	0	1.2364	.00	14	9.27	ND	20
11	3-/4-Methylphenol	0	1.1764	.00	14	9.75	ND	20
14	Naphthalene-d8	1193069		15.40	14		IS	
23	Naphthalene	0	.8630	.00	14	3.11	ND	20
27	2-Methylnaphthalene	0	.7346	.00	14	3.65	ND	20
28	Acenaphthene-d10	797957		20.04	28		IS	
32	2-Chloronaphthalene	0	1.0003	.00	28	4.01	ND	20
35	Acenaphthylene	0	1.5315	.00	28	2.62	ND	20
37	Acenaphthene	0	.9977	.00	28	4.02	ND	20
45	Fluorene	0	1.0736	.00	28	3.74	ND	20
47	Phenanthrene-d10	1015044		24.03	47		IS	
53	Phenanthrene	0	1.0214	.00	47	3.09	ND	20
54	Anthracene	0	1.0874	.00	47	2.90	ND	20
56	Fluoranthene	0	.8365	.00	47	3.77	ND	20
57	Chrysene-d12	386624		32.85	57		IS	
58	Pyrene	0	2.3977	.00	57	3.45	ND	20
61	Benzo(a)anthracene	0	1.3864	.00	57	5.97	ND	20
62	Chrysene	0	1.1966	.00	57	6.92	ND	20
64	Perylene-d12	302138		40.20	64		IS	
66	Benzo(b)fluoranthene	0	1.2371	.00	64	8.56	ND	20
67	Benzo(k)fluoranthene	0	1.2711	.00	64	8.33	ND	20
98	Perylene	0	.8946	.00	64	11.84	ND	20
68	Benzo(a)pyrene	0	1.1198	.00	64	9.46	ND	20
92	Benzo(e)pyrene	0	1.1078	.00	64	9.56	ND	20
69	Indeno(1,2,3-cd)pyrene	0	.6805	.00	64	15.56	ND	20
96	Dibenzo(a,h)anthracene	0	.7505	.00	64	14.11	ND	20
71	Benzo(g,h,i)perylene	0	.7643	.00	64	13.86	ND	20
	Cumene	0	1.7060	.00	1	6.72	ND	50
	1,2-Benzofluorene	0	1.3420	.00	47	2.35	ND	50
	2,3-Benzofluorene	0	1.2310	.00	47	2.56	ND	50

SURROGATE SUMMARY		AREA	RF	RT	ISID	AMOUNT	CODE	% RECOVERY
75	Phenol-d5	235770	1.4290	11.22	1	47.30	D	47.3
77	2,4,6-Tribromophenol	63888	.2376	22.17	28	26.96	D	27.0
81	1,4-Dibromobenzene-d4	243128	1.2155	15.53	1	57.34	D	57.3

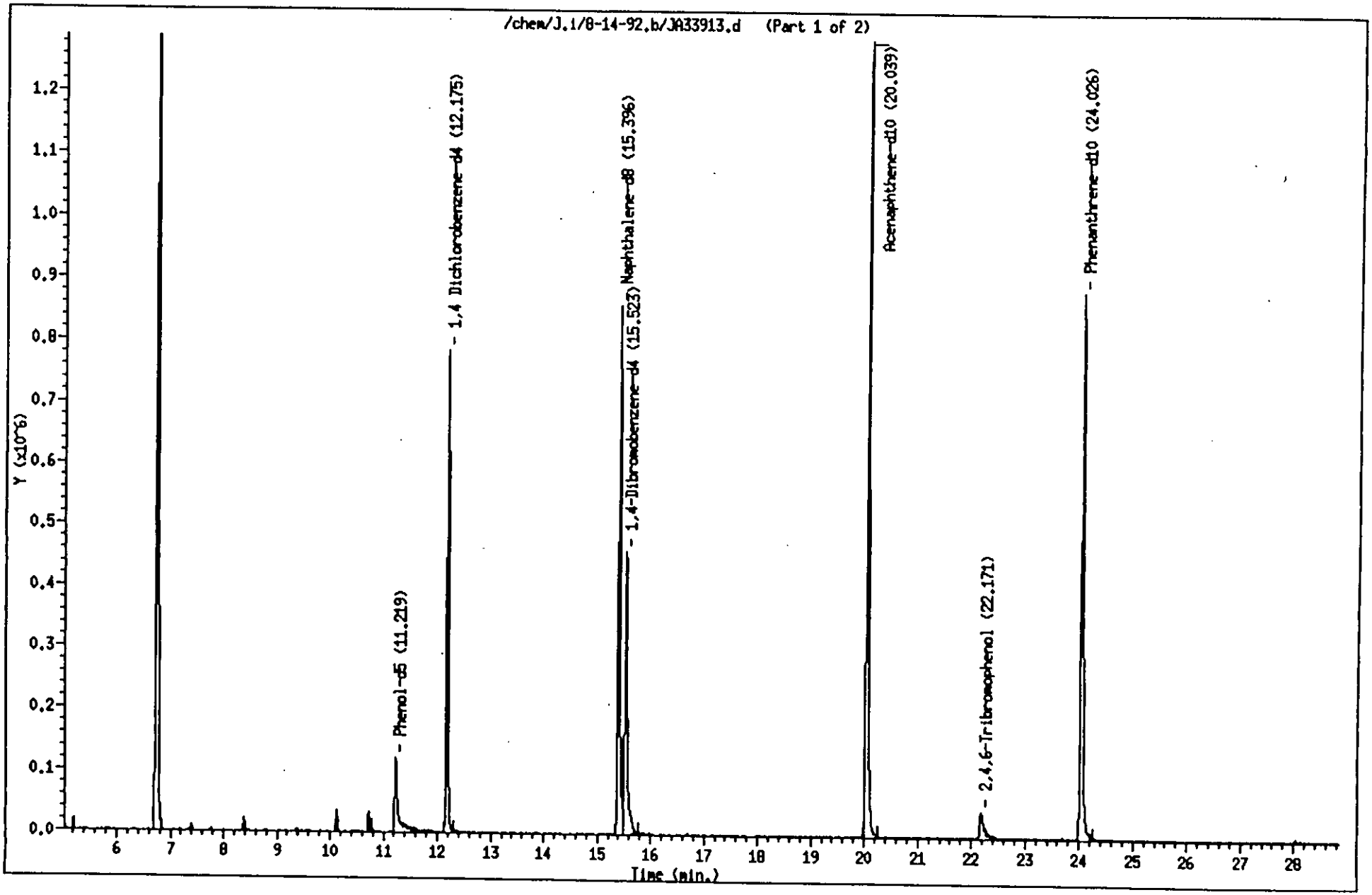
CODES: ND = Not Detected; D = Detected; E = Estimated; IS = Internal Standard

Triangle Laboratories of RTP, Inc.

D: File: /chem/J.1/8-14-92.b/JA33913.d
Date : 15-AUG-1992 13:54
Instrument : J.1
Sample ID : ~~MM5-2 IMP~~ MM5-2 BLK SA 8-25-92
Column phase : DB-5
Volume Injected (uL) : 1.0

SA 8-25-92

Column diameter : 0.32

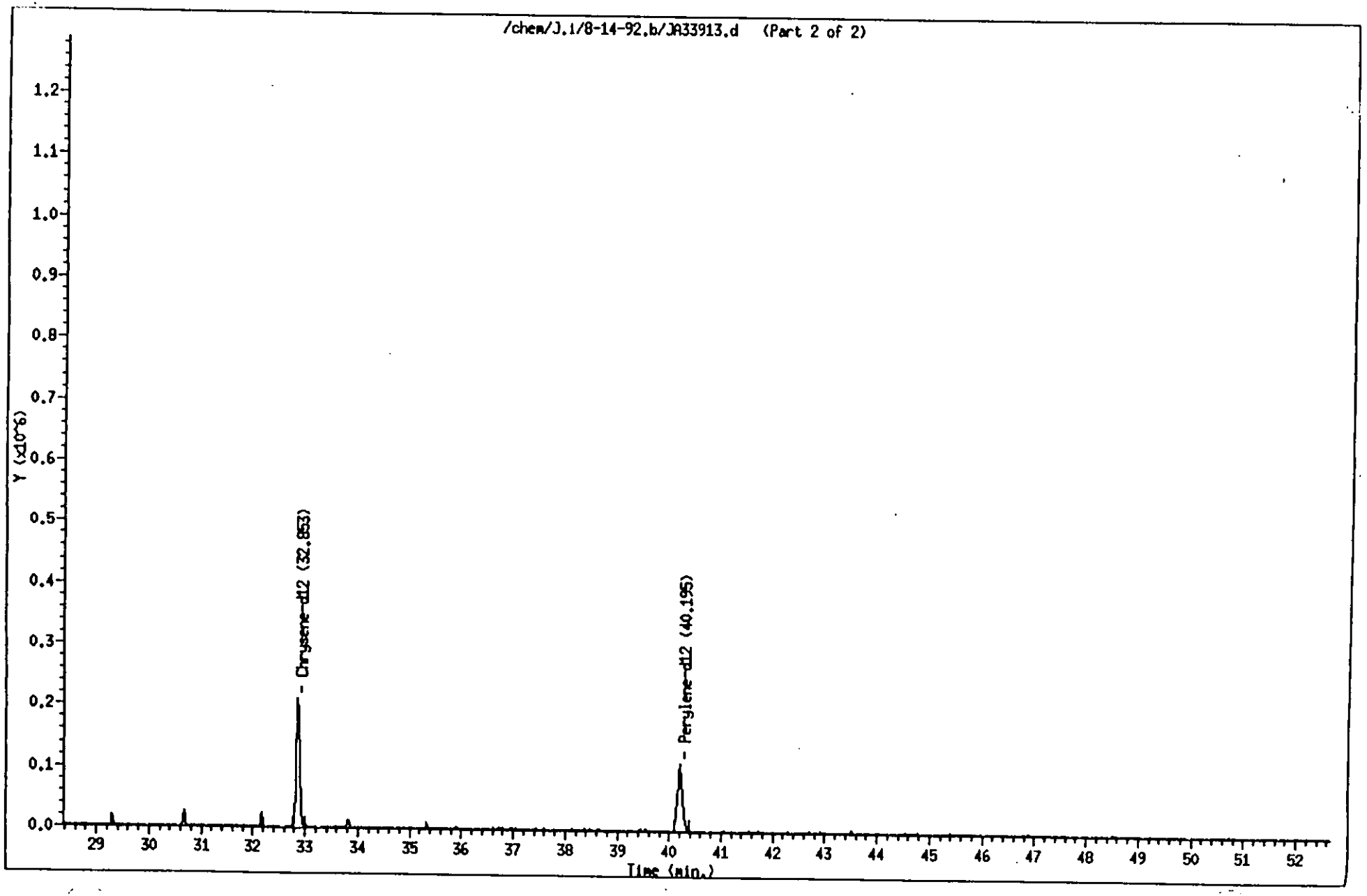


Triangle Laboratories of RTP, Inc.

Data File: /chem/J.1/8-14-92.b/JA33913.d
Date : 15-AUG-1992 13:54
Instrument : J.1
Sample ID : ~~MM5-2 IHP~~ MM5-2 BLK SA 8-25-92
Column phase : DB-5
Volume Injected (uL) : 1.0

SA 8-25-92

Column diameter : 0.32



TRIANGLE LABORATORIES OF RTP, INC 8/25/92 INSTRUMENT J

SEMI-VOLATILE ~~QUANTATATION~~ QUANTITATION REPORT

Data file : /chem/J.i/8-14-92.b/JA33913.d
Lab. Id. : TLI#21187B
Inj Date : 15-AUG-92 13:54 Autotune Date: 22-Jul-92 12:21:3
Operator : DB MC 8/25/92 Inst ID: J.i
Smp Info : MM5-2 ~~EMF~~ BLANK 8/25/92
Misc Info : COC ~~57-102-2~~ 57-102-11 8/7-26-92
Comment :
Method : /chem/J.i/8-14-92.b/tlinbna.m
Meth Date : 15-Aug-1992 22:38 target
Cal Date : 15-AUG-1992 07:29 Cal File: JA33907.d
Als bottle: 13
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: 8270.sub
Rpt Date : 15-Aug-1992 22:48 Sample Type: mm5

	Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
*	1 Naphthalene-d8	15.396(1.000)	1193069	40.00	40.00
*	2 1,4 Dichlorobenzene	12.175(1.000)	279065	40.00	40.00
*	3 Acenaphthene-d10	20.039(1.000)	797957	40.00	40.00
*	4 Phenanthrene-d10	24.026(1.000)	1015044	40.00	40.00
•	5 Chrysene-d12	32.845(1.000)	386624	40.00	40.00
*	6 Perylene-d12	40.203(1.000)	302138	40.00	40.00
$	7 2-Fluorophenol		Compound Not Detected.		
$	8 Phenol-d5	11.219(0.921)	235770	23.65	94.60
$	9 2-Chlorophenol-d4		Compound Not Detected.		
$	10 1,2-Dichlorobenzene		Compound Not Detected.		
$	11 Nitrobenzene-d5		Compound Not Detected.		
$	12 1,3,5-Trichlorobenz		Compound Not Detected.		
$	13 1,4-Dibromobenzene-	15.531(1.276)	243128	28.67	114.68
$	14 2-Fluorobiphenyl		Compound Not Detected.		
$	15 2,4,6-Tribromopheno	22.171(1.106)	63888	13.47	53.91
$	16 Anthracene-d10		Compound Not Detected.		
$	17 Pyrene-d10		Compound Not Detected.		
$	18 Terphenyl-d14		Compound Not Detected.		
	19 N-Nitrosodimethylam		Compound Not Detected.		
	20 Phenol		Compound Not Detected.		
	21 Aniline		Compound Not Detected.		
	22 bis(2-Chloroethyl)e		Compound Not Detected.		
	23 2-Chlorophenol		Compound Not Detected.		
	24 1,3-Dichlorobenzene		Compound Not Detected.		
	25 1,4-Dichlorobenzene		Compound Not Detected.		
	26 1,2-Dichlorobenzene		Compound Not Detected.		
	27 2-Methylphenol		Compound Not Detected.		
	28 2,2'-oxybis(1-Chlor		Compound Not Detected.		
	29 Benzyl alcohol		Compound Not Detected.		
	30 4-Methylphenol		Compound Not Detected.		
	31 N-Nitroso-di-n-prop		Compound Not Detected.		

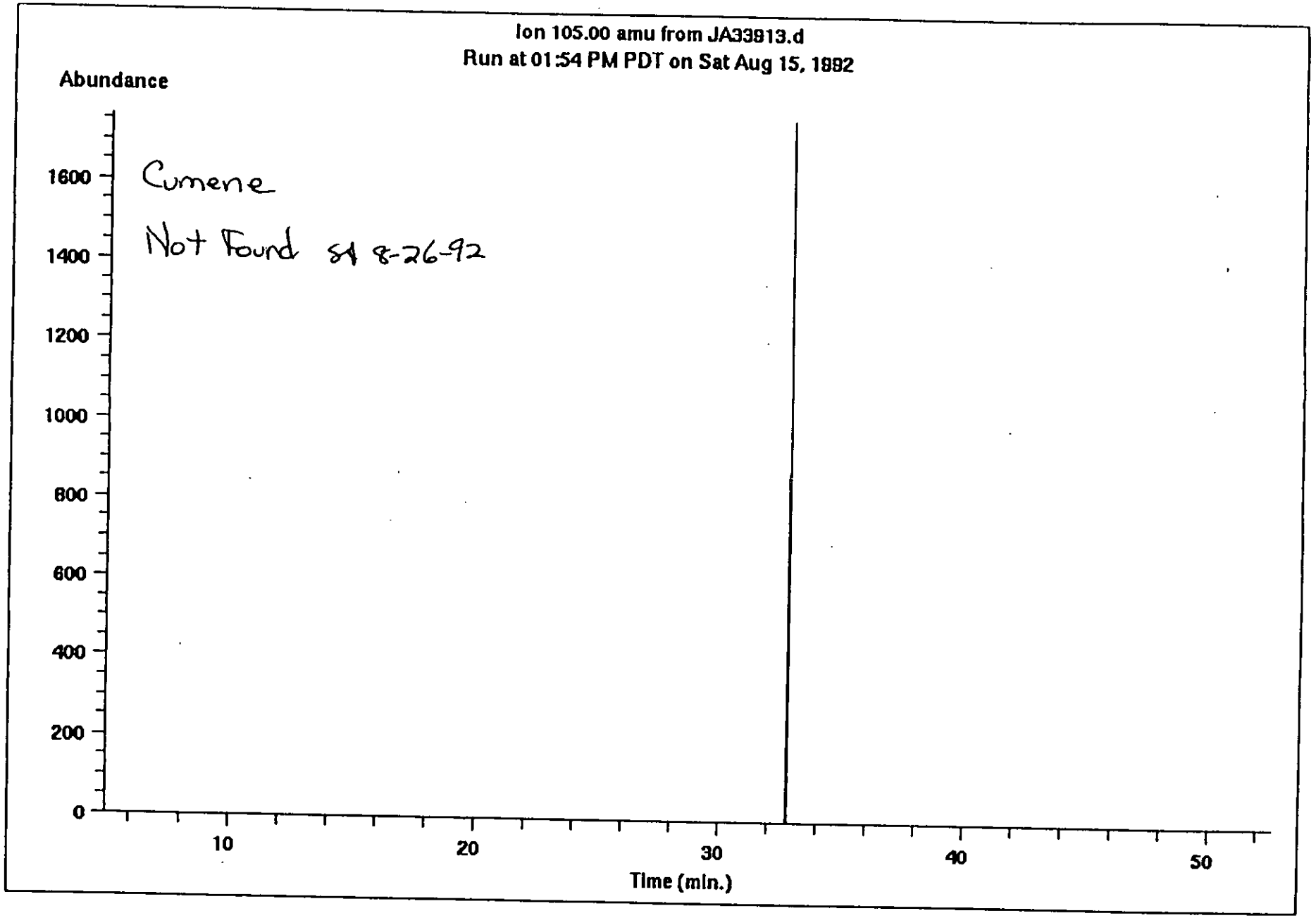
Data Review : RK
Date : 8/26/92

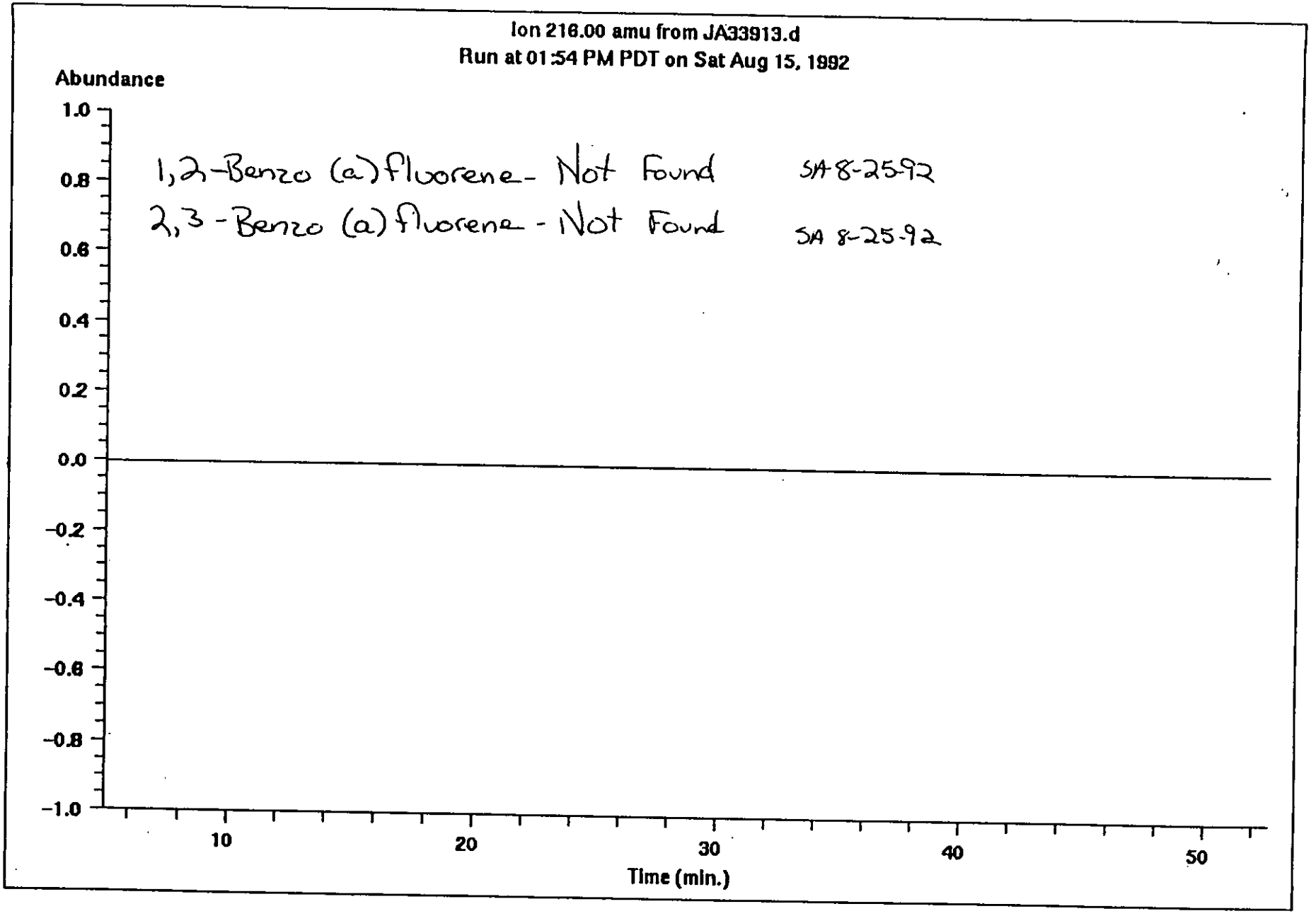
Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
32 Hexachloroethane		Compound Not Detected.		
33 Nitrobenzene		Compound Not Detected.		
34 Isophorone		Compound Not Detected.		
35 2-Nitrophenol		Compound Not Detected.		
36 2,4-Dimethylphenol		Compound Not Detected.		
37 bis(2-Chloroethoxy)		Compound Not Detected.		
38 Benzoic acid		Compound Not Detected.		
39 2,4-Dichlorophenol		Compound Not Detected.		
40 1,2,4-Trichlorobenz		Compound Not Detected.		
41 Naphthalene		Compound Not Detected.		
42 4-Chloroaniline		Compound Not Detected.		
43 Hexachlorobutadiene		Compound Not Detected.		
44 4-Chloro-3-methylph		Compound Not Detected.		
45 2-Methylnaphthalene		Compound Not Detected.		
46 Hexachlorocyclopent		Compound Not Detected.		
47 2,4,6-Trichlorophen		Compound Not Detected.		
48 2,4,5-Trichlorophen		Compound Not Detected.		
49 2-Chloronaphthalene		Compound Not Detected.		
50 2-Nitroaniline		Compound Not Detected.		
51 Dimethylphthalate		Compound Not Detected.		
52 2,6-Dinitrotoluene		Compound Not Detected.		
53 2,4-Dinitrotoluene		Compound Not Detected.		
54 Acenaphthylene		Compound Not Detected.		
55 3-Nitroaniline		Compound Not Detected.		
56 Acenaphthene		Compound Not Detected.		
57 2,4-Dinitrophenol		Compound Not Detected.		
58 4-Nitrophenol		Compound Not Detected.		
59 Dibenzofuran		Compound Not Detected.		
60 Diethylphthalate		Compound Not Detected.		
61 4-Chlorophenyl-phen		Compound Not Detected.		
62 Fluorene		Compound Not Detected.		
63 4-Nitroaniline		Compound Not Detected.		
64 4,6-Dinitro-2-methy		Compound Not Detected.		
65 N-Nitrosodiphenylam		Compound Not Detected.		
66 4-Bromophenyl-pheny		Compound Not Detected.		
67 Hexachlorobenzene		Compound Not Detected.		
68 Pentachlorophenol		Compound Not Detected.		
69 Phenanthrene		Compound Not Detected.		
70 Anthracene		Compound Not Detected.		
71 Carbazole		Compound Not Detected.		
72 Di-n-butylphthalate		Compound Not Detected.		
73 Fluoranthene		Compound Not Detected.		
74 Pyrene		Compound Not Detected.		
75 Benzidine		Compound Not Detected.		
76 Butylbenzylphthalat		Compound Not Detected.		
77 3,3'-Dichlorobenzid		Compound Not Detected.		
78 bis(2-Ethylhexyl)ph		Compound Not Detected.		
79 Di-n-octylphthalate		Compound Not Detected.		
80 Benzo(a)anthracene		Compound Not Detected.		
81 Chrysene		Compound Not Detected.		
82 Benzo(b)fluoranthen		Compound Not Detected.		

Data Review Date: 8/25/92

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug)
83 Benzo(k)fluoranthen		Compound Not Detected.		
84 Benzo(e)pyrene		Compound Not Detected.		
85 Benzo(a)pyrene		Compound Not Detected.		
87 Indeno(1,2,3-cd)pyr		Compound Not Detected.		
86 Perylene		Compound Not Detected.		
88 Dibenzo(a,h)anthrac		Compound Not Detected.		
89 Benzo(g,h,i)perylen		Compound Not Detected.		

Data Review: RKS
Date: 8/25/92


Ion 105.00 amu from JA33913.d
Run at 01:54 PM PDT on Sat Aug 15, 1992
Abundance
Cumene
Not Found SA 8-26-92
1600
1400
1200
1000
800
600
400
200
0
10
20
30
40
50
Time (min.)



1,2-Benzo (a) fluorene - Not Found SA 8-25-92

2,3-Benzo (a) fluorene - Not Found SA 8-25-92

TRIANGLE LABORATORIES OF RTP, INC.
801 Capitola Drive
Durham, NC 27713
Telephone: (919) 544-5729

DATA FILE: JA32204 | SAMPLE ID: MM5-4 DI BLANK
RF FILE: JA321 | TLI ID: 57-102-11
DATE: 08/31/92 | DILN FACTOR: 2
TLI PROJ #: 21187 | ANALYSIS DATE: 8/03/92

METHOD 8270 QUANTITATION REPORT

	NAME	AREA	RF	RT	ISID	AMOUNT, ug	CODE	QUAN LIMIT
1	1,4-Dichlorobenzene-d4	202502		12.34	1		IS	
28	Acenaphthene-d10	488574		20.22	28		IS	
32	2-Chloronaphthalene	0	1.0936	.00	28	5.99	ND	20
35	Acenaphthylene	0	1.7394	.00	28	3.77	ND	20
37	Acenaphthene	0	1.0107	.00	28	6.48	ND	20
45	Fluorene	0	1.0993	.00	28	5.96	ND	20
47	Phenanthrene-d10	744936		24.20	47		IS	
53	Phenanthrene	0	.9928	.00	47	4.33	ND	20
54	Anthracene	0	1.0770	.00	47	3.99	ND	20
56	Fluoranthene	0	1.3220	.00	47	3.25	ND	20
57	Chrysene-d12	481029		33.15	57		IS	
58	Pyrene	0	1.7206	.00	57	3.87	ND	20
61	Benzo(a)anthracene	0	1.4688	.00	57	4.53	ND	20
62	Chrysene	0	1.3077	.00	57	5.09	ND	20
64	Perylene-d12	532988		40.64	64		IS	
66	Benzo(b)fluoranthene	0	1.3932	.00	64	4.31	ND	20
67	Benzo(k)fluoranthene	0	1.3054	.00	64	4.60	ND	20
93	Perylene	0	.9243	.00	64	6.50	ND	20
68	Benzo(a)pyrene	0	1.1350	.00	64	5.29	ND	20
89	Benzo(e)pyrene	0	1.1478	.00	64	5.23	ND	20
69	Indeno(1,2,3-cd)pyrene	0	.8928	.00	64	6.72	ND	20
91	Dibenzo(a,h)anthracene	0	.7274	.00	64	8.25	ND	20
71	Benzo(g,h,i)perylene	0	.7834	.00	64	7.66	ND	20
	Cumene	0	1.7060	0.00	1	9.26	ND	50
	1,2-Benzofluorene	0	1.3420	0.00	47	3.20	ND	50
	2,3-Benzofluorene	0	1.2310	0.00	47	3.49	ND	50

	SURROGATE SUMMARY	AREA	RF	RT	ISID	AMOUNT	CODE	% RECOVERY
75	Phenol-d5	263305	1.3523	11.35	1	76.92	D	76.9
77	2,4,6-Tribromophenol	107141	.2419	22.31	28	72.54	D	72.5
81	1,4-Dibromobenzene-d4	189825	.8977	15.69	1	83.53	D	83.5

CODES: ND = Not Detected; D = Detected; E = Estimated; IS = Internal Standard

Triangle Laboratories of RTP, Inc 10/08/25/92

Data File: /chem/TRILABS.1/8-3-92.b/ja32204.d

Date : 03-AUG-1992 15:29

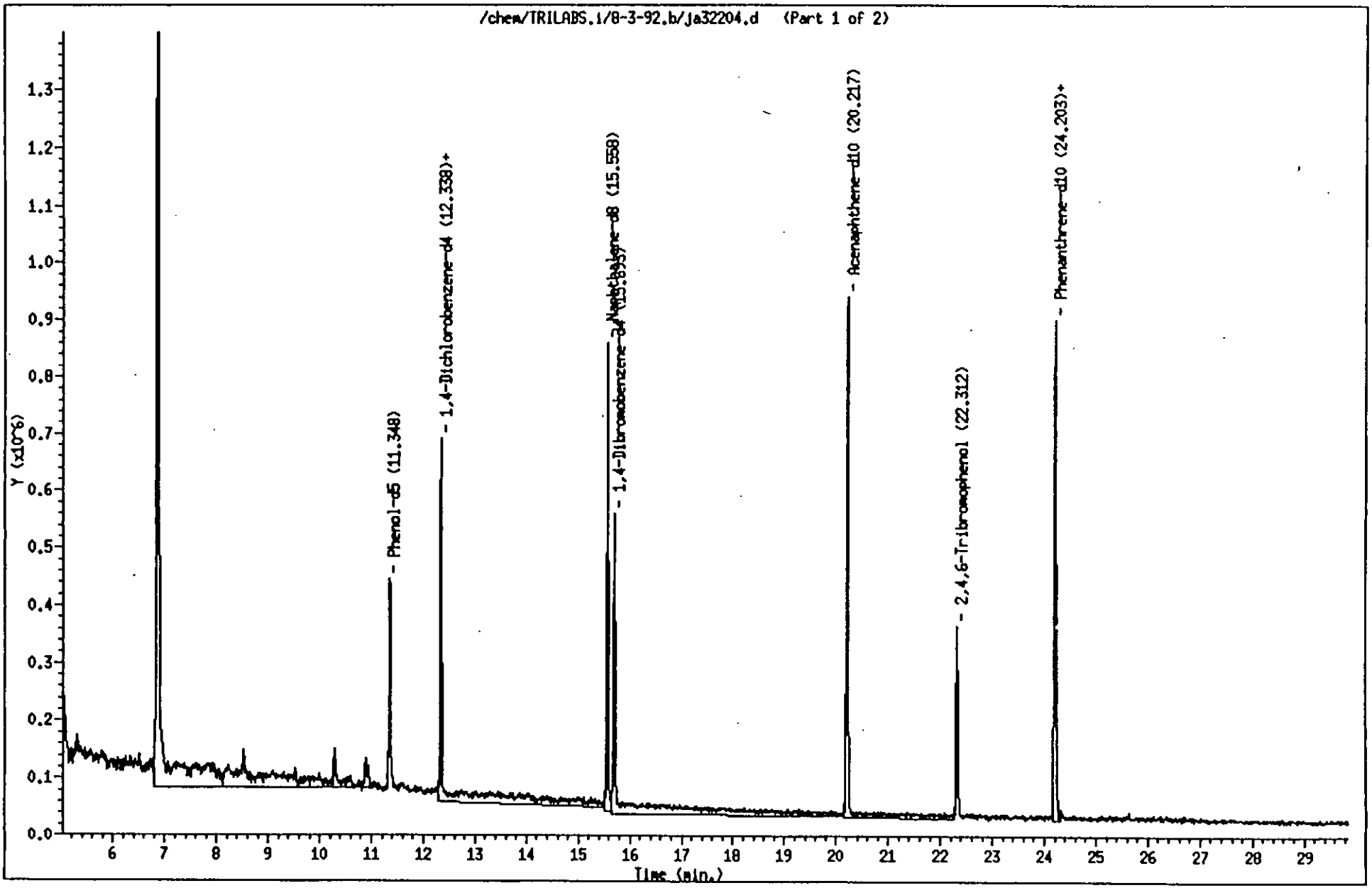
Instrument : J.i

Sample ID : mm5-4 blank

Column phase : DB-5

Column diameter : 0.32

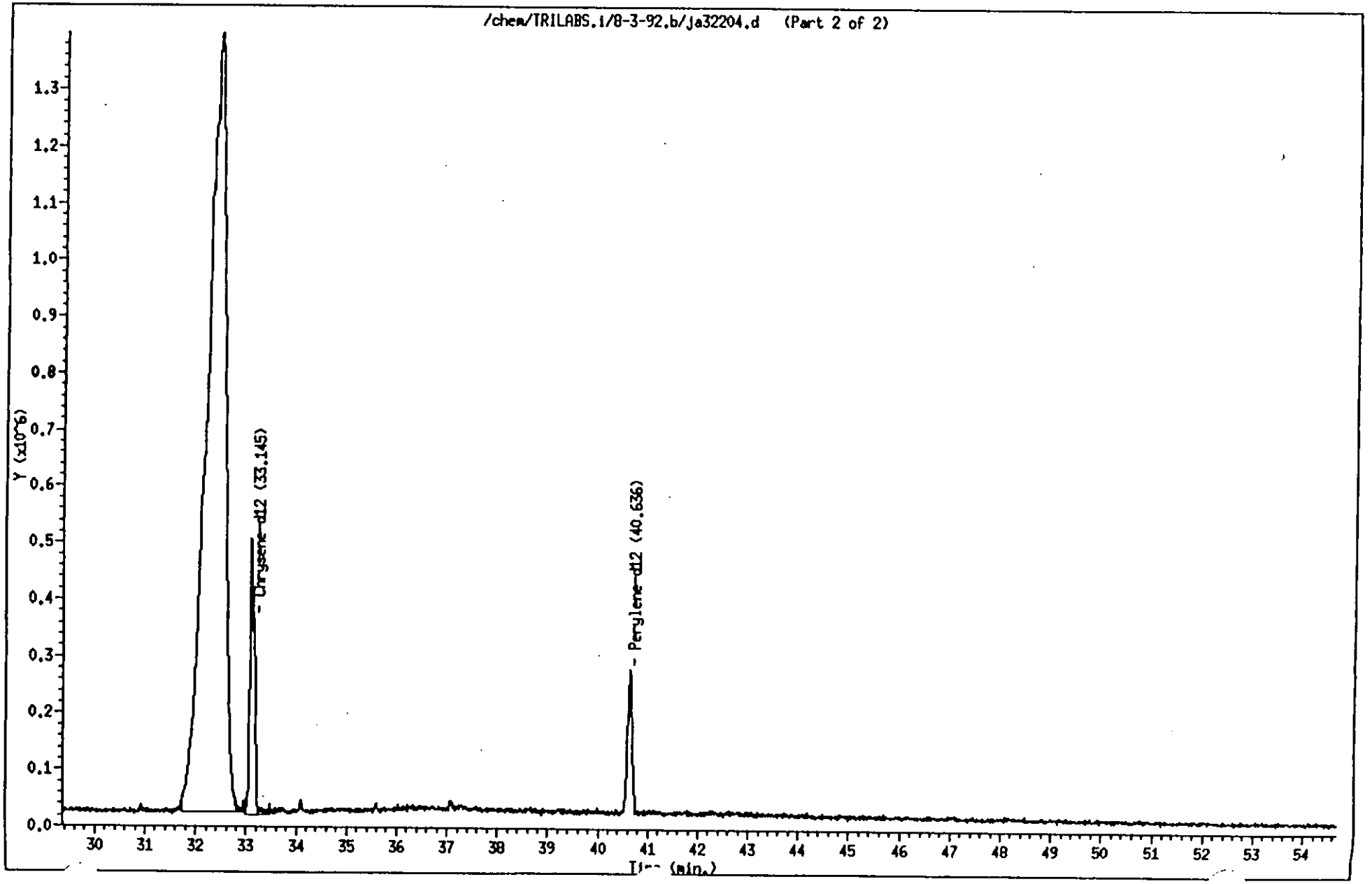
Volume Injected (uL) : 1.0



Triangle Laboratories of RTP, INC KH 8/25/92

Data File: /chem/TRILABS.1/8-3-92.b/ja32204.d
Date : 03-AUG-1992 15:29
Instrument : J.1
Sample ID : mm5-4 blank
Column phase : DB-5
Volume Injected (uL) : 1.0

Column diameter : 0.32



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

QUANTITATION SAS-31.92

SEMI-VOLATILE ~~QUANTATATION~~ REPORT

Data file : /chem/TRILABS.i/8-3-92.b/ja32204.d
Lab. Id. : 57-102-11
Inj Date : 03-AUG-1992 15:29 Autotune Date: 22-Jul-92 12:21:3
Operator : mick DI Inst ID: J.i
Smp Info : mm5-4 blank ~~(XAD, FILTER, AND RINSES)~~ EE
Misc Info : tli#21187b SA 8-25-92
Comment :
Method : /chem/TRILABS.i/8-3-92.b/tlibna.m
Meth Date : 25-Aug-1992 14:00
Cal Date : 03-AUG-1992 09:52 Cal File: ja321.d
Als bottle: 4
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: all.sub
Rpt Date : 25-Aug-1992 14:16 Sample Type: mm5

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)	
•	1	1,4-Dichlorobenzene	12.338(1.000)	202502	40.00	40.00	
•	2	Naphthalene-d8	15.558(1.000)	852032	40.00	40.00	
•	3	Acenaphthene-d10	20.217(1.000)	488574	40.00	40.00	
•	4	Phenanthrene-d10	24.203(1.000)	744936	40.00	40.00	
*	5	Chrysene-d12	33.145(1.000)	481029	40.00	40.00	
•	6	Perylene-d12	40.636(1.000)	532988	40.00	40.00	
$	7	2-Fluorophenol		Compound Not Detected.			
$	8	Phenol-d5	11.348(0.920)	263305	38.46	80.76(Q)	
$	9	2-Chlorophenol-d4		Compound Not Detected.			
$	10	1,2-Dichlorobenzene	~~12.338(1.000)~~	~~202502~~	~~50.53~~	~~106.11~~	RK
$	11	Nitrobenzene-d5		Compound Not Detected.			
$	12	1,3,5-Trichlorobenz		Compound Not Detected.			
$	13	1,4-Dibromobenzene-	15.693(1.272)	189825	41.76	87.71	
$	14	2-Fluorobiphenyl		Compound Not Detected.			
$	15	2,4,6-Tribromopheno	22.312(1.104)	107141	36.26	76.16	
$	~~16~~	~~Anthracene-d10~~	~~24.203(1.000)~~	~~744936~~	~~37.96~~	~~79.73~~	RK
$	17	Pyrene-d10		Compound Not Detected.			
$	18	Terphenyl-d14		Compound Not Detected.			
	19	N-Nitrosodimethylam		Compound Not Detected.			
	20	Phenol		Compound Not Detected.			
	21	Aniline		Compound Not Detected.			
	22	bis(2-Chloroethyl)e		Compound Not Detected			
	23	2-Chlorophenol		Compound Not Detected.			
	24	1,3-Dichlorobenzene		Compound Not Detected.			
	25	1,4-Dichlorobenzene		Compound Not Detected.			
	26	1,2-Dichlorobenzene		Compound Not Detected.			
	27	2-Methylphenol		Compound Not Detected.			
	28	2,2'-oxybis(1-Chlor		Compound Not Detected.			
	29	Benzyl alcohol		Compound Not Detected.			
	30	4-Methylphenol		Compound Not Detected.			
	31	N-Nitroso-di-n-prop		Compound Not Detected.			

Data Reviewer: RK
Date: 8/25/92

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug)
32 Hexachloroethane		Compound Not Detected.		
33 Nitrobenzene		Compound Not Detected.		
34 Isophorone		Compound Not Detected.		
35 2-Nitrophenol		Compound Not Detected.		
36 2,4-Dimethylphenol		Compound Not Detected.		
37 bis(2-Chloroethoxy)		Compound Not Detected.		
38 Benzoic acid		Compound Not Detected.		
39 2,4-Dichlorophenol		Compound Not Detected.		
40 1,2,4-Trichlorobenz		Compound Not Detected.		
41 Naphthalene		Compound Not Detected.		
42 4-Chloroaniline		Compound Not Detected.		
43 Hexachlorobutadiene		Compound Not Detected.		
44 4-Chloro-3-methylph		Compound Not Detected.		
45 2-Methylnaphthalene		Compound Not Detected.		
46 Hexachlorocyclopent		Compound Not Detected.		
47 2,4,6-Trichlorophen		Compound Not Detected.		
48 2,4,5-Trichlorophen		Compound Not Detected.		
49 2-Chloronaphthalene		Compound Not Detected.		
50 2-Nitroaniline		Compound Not Detected.		
51 Dimethylphthalate		Compound Not Detected.		
52 2,6-Dinitrotoluene		Compound Not Detected.		
53 2,4-Dinitrotoluene		Compound Not Detected.		
54 Acenaphthylene		Compound Not Detected.		
55 3-Nitroaniline		Compound Not Detected.		
56 Acenaphthene		Compound Not Detected.		
57 2,4-Dinitrophenol		Compound Not Detected.		
58 4-Nitrophenol		Compound Not Detected.		
59 Dibenzofuran		Compound Not Detected.		
60 Diethylphthalate		Compound Not Detected.		
61 4-Chlorophenyl-phen		Compound Not Detected.		
62 Fluorene		Compound Not Detected.		
63 4-Nitroaniline		Compound Not Detected.		
64 4,6-Dinitro-2-methy		Compound Not Detected.		
65 N-Nitrosodiphenylam		Compound Not Detected.		
66 4-Bromophenyl-pheny		Compound Not Detected.		
67 Hexachlorobenzene		Compound Not Detected.		
68 Pentachlorophenol		Compound Not Detected.		
69 Phenanthrene		Compound Not Detected.		
70 Anthracene		Compound Not Detected.		
71 Carbazole		Compound Not Detected.		
72 Di-n-butylphthalate		Compound Not Detected.		
73 Fluoranthene		Compound Not Detected.		
74 Pyrene		Compound Not Detected.		
75 Benzidine		Compound Not Detected.		
76 Butylbenzylphthalat		Compound Not Detected.		
77 3,3'-Dichlorobenzid		Compound Not Detected.		
~~78 bis(2-Ethylhexyl)ph~~	~~33.082(0.998)~~	~~480793~~	~~22.56~~	~~47.38~~ NT,
79 Di-n-octylphthalate		Compound Not Detected.		
80 Benzo(a)anthracene		Compound Not Detected.		
81 Chrysene		Compound Not Detected.		
82 Benzo(b)fluoranthen		Compound Not Detected.		

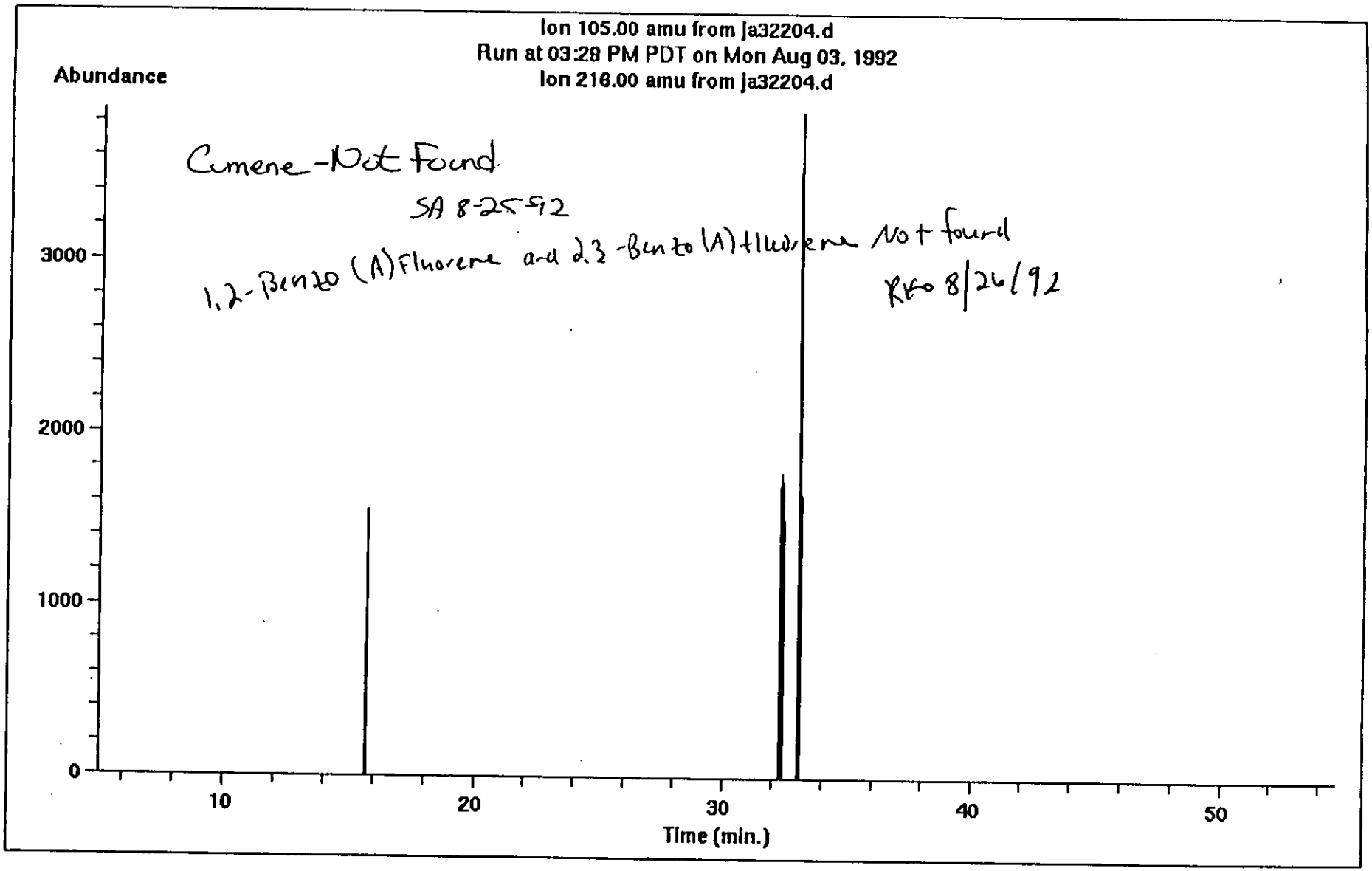
Data Review: RK 9/25/92
Date:

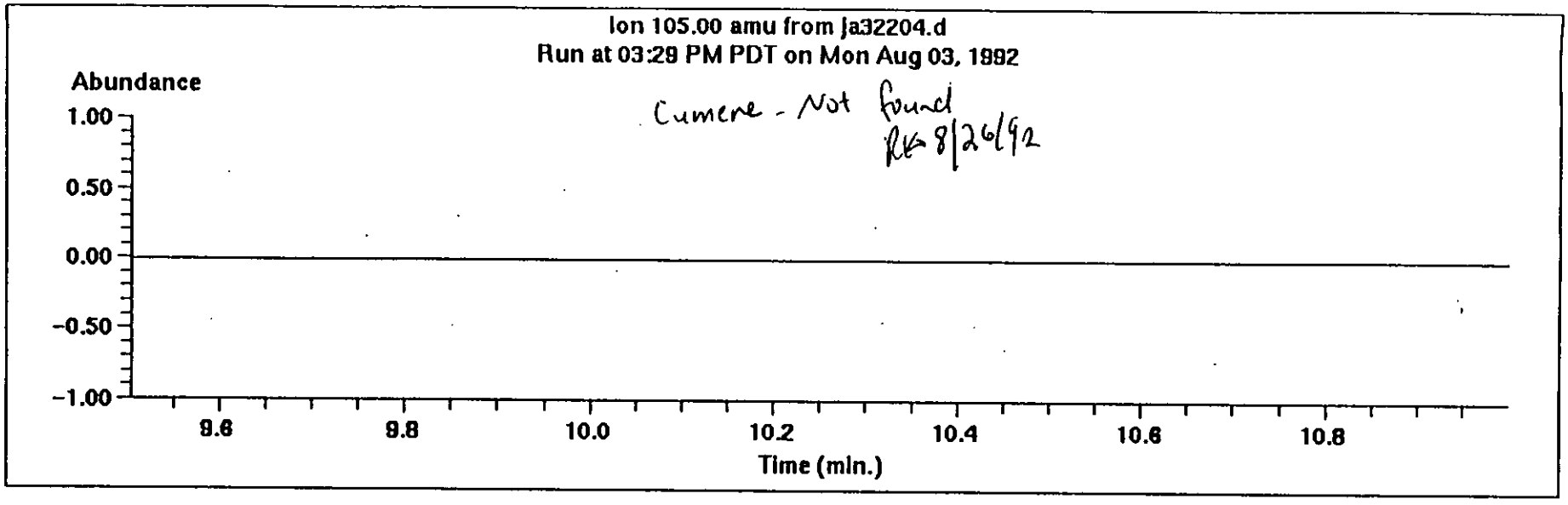
Compounds	RT	(REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
83 Benzo(k)fluoranthen			Compound Not Detected.		
84 Benzo(e)pyrene			Compound Not Detected.		
85 Benzo(a)pyrene			Compound Not Detected.		
86 Perylene			Compound Not Detected.		
87 Indeno(1,2,3-cd)pyr			Compound Not Detected.		
88 Dibenzo(a,h)anthrac			Compound Not Detected.		
89 Benzo(g,h,i)perylen			Compound Not Detected.		

QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data Review: RK
Date: 8/25/92


Ion 105.00 amu from ja32204.d
Run at 03:28 PM PDT on Mon Aug 03, 1992
Ion 216.00 amu from ja32204.d
Abundance
Cumene - Not Found
SA 8-25-92
1,2-Benzo (A) Fluorene and 2,3-Benzo (A) fluorene Not found
RFO 8/26/92
3000
2000
1000
0
10
20
30
40
50
Time (min.)



Cumene - Not found
RK 8/26/92

TRIANGLE LABORATORIES OF RTP, INC.
801 Capitola Drive
Durham, NC 27713
Telephone: (919) 544-5729

DATA FILE: JA32201
RF FILE: JA321
DATE: 08/31/92
TLI PROJ #: 21187

SAMPLE ID: XAD SBLK 062392
TLI ID: N/A
DILN FACTOR: 2
ANALYSIS DATE: 8/03/92

METHOD 8270 QUANTITATION REPORT

	NAME	AREA	RF	RT	ISID	AMOUNT, ug	CODE	QUAN LIMIT
1	1,4-Dichlorobenzene-d4	237206		12.34	1	7.00	IS	
9	2-Methylphenol	0	1.1066	.00	1	12.19	ND	20
11	3-/4-Methylphenol	0	1.1270	.00	1	11.97	ND	20
14	Naphthalene-d8	995552		15.56	14		IS	
23	Naphthalene	0	.9054	.00	14	3.55	ND	20
27	2-Methylnaphthalene	0	.6944	.00	14	4.63	ND	20
28	Acenaphthene-d10	549834		20.21	28		IS	
32	2-Chloronaphthalene	0	1.0936	.00	28	5.32	ND	20
35	Acenaphthylene	0	1.7394	.00	28	3.35	ND	20
37	Acenaphthene	0	1.0107	.00	28	5.76	ND	20
45	Fluorene	0	1.0993	.00	28	5.29	ND	20
47	Phenanthrene-d10	862883		24.21	47		IS	
53	Phenanthrene	0	.9928	.00	47	3.74	ND	20
54	Anthracene	0	1.0770	.00	47	3.44	ND	20
56	Fluoranthene	0	1.3220	.00	47	2.81	ND	20
57	Chrysene-d12	600021		33.15	57		IS	
58	Pyrene	0	1.7206	.00	57	3.10	ND	20
61	Benzo(a)anthracene	0	1.4688	.00	57	3.63	ND	20
62	Chrysene	0	1.3077	.00	57	4.08	ND	20
64	Perylene-d12	539219		40.62	64		IS	
66	Benzo(b)fluoranthene	0	1.3932	.00	64	4.26	ND	20
67	Benzo(k)fluoranthene	0	1.3054	.00	64	4.55	ND	20
93	Perylene	0	.9243	.00	64	6.42	ND	20
68	Benzo(a)pyrene	0	1.1350	.00	64	5.23	ND	20
69	Benzo(e)pyrene	0	1.1478	.00	64	5.17	ND	20
69	Indeno(1,2,3-cd)pyrene	0	.8928	.00	64	6.65	ND	20
91	Dibenzo(a,h)anthracene	0	.7274	.00	64	8.16	ND	20
71	Benzo(g,h,i)perylene	0	.7834	.00	64	7.58	ND	20
	Cumene	0	1.7060	0.00	1	7.91	ND	50
	1,2-Benzofluorene	0	1.3420	0.00	47	2.76	ND	50
	2,3-Benzofluorene	0	1.2310	0.00	47	3.01	ND	50

	SURROGATE SUMMARY	AREA	RF	RT	ISID	AMOUNT	CODE	% RECOVERY
74	Terphenyl-d14	908177	1.6043	28.75	57	75.48	D	75.5
75	Phenol-d5	260047	1.3523	11.35	1	64.86	D	64.9
77	2,4,6-Tribromophenol	132948	.2419	22.31	28	79.98	D	80.0
81	1,4-Dibromobenzene-d4	187292	.8977	15.70	1	70.36	D	70.4

CODES: ND = Not Detected; D = Detected; E = Estimated; IS = Internal Standard

Triangle Laboratories of RTP, Inc RT-8/26/92

B File: /chem/TRILABS.1/8-3-92.b/ja32201.d

Date : 03-AUG-1992 12:20

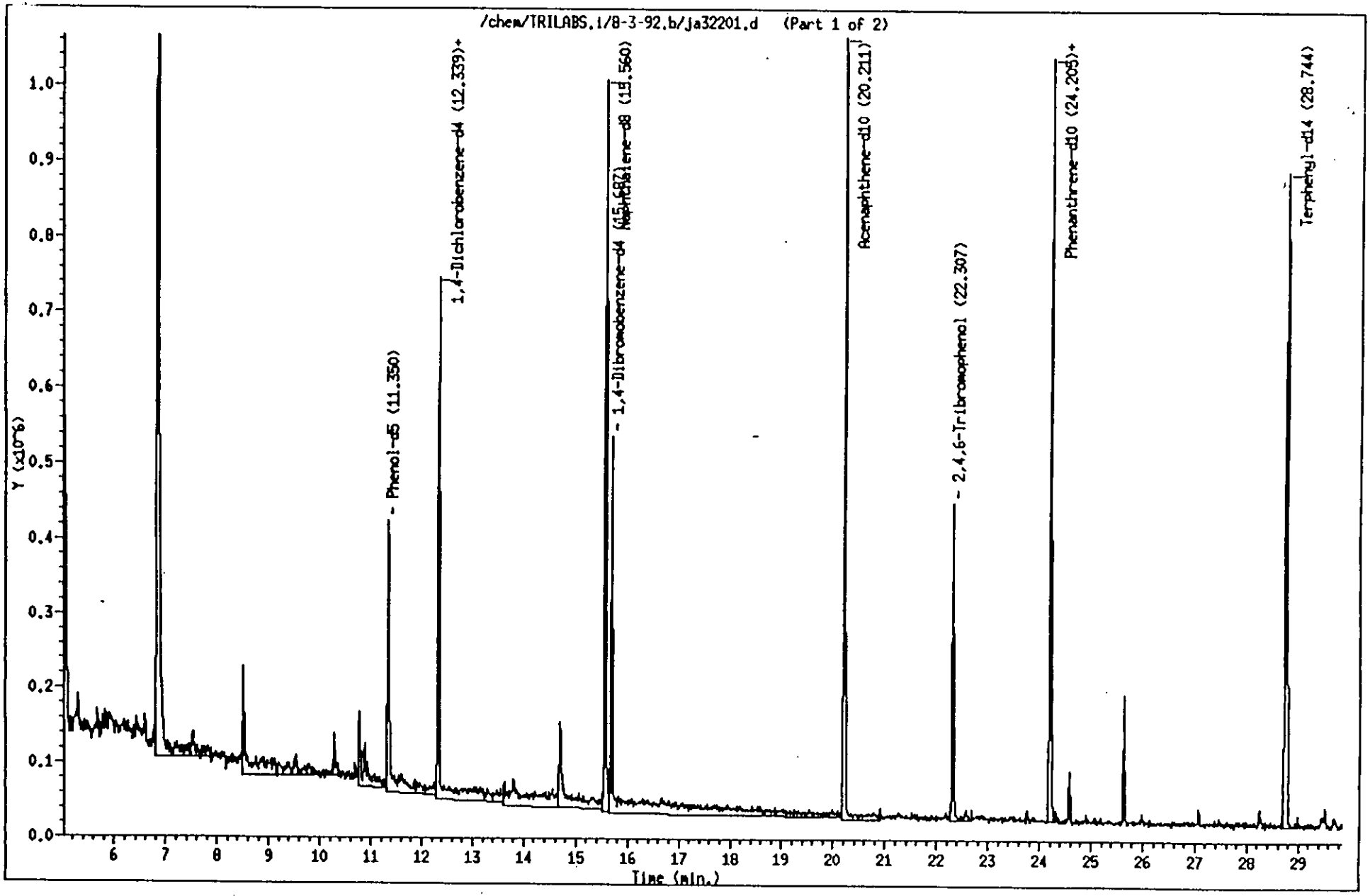
Instrument : rgen.i

Sample ID : t11 xad-blk

Column phase : DB-5

Column diameter : 0.32

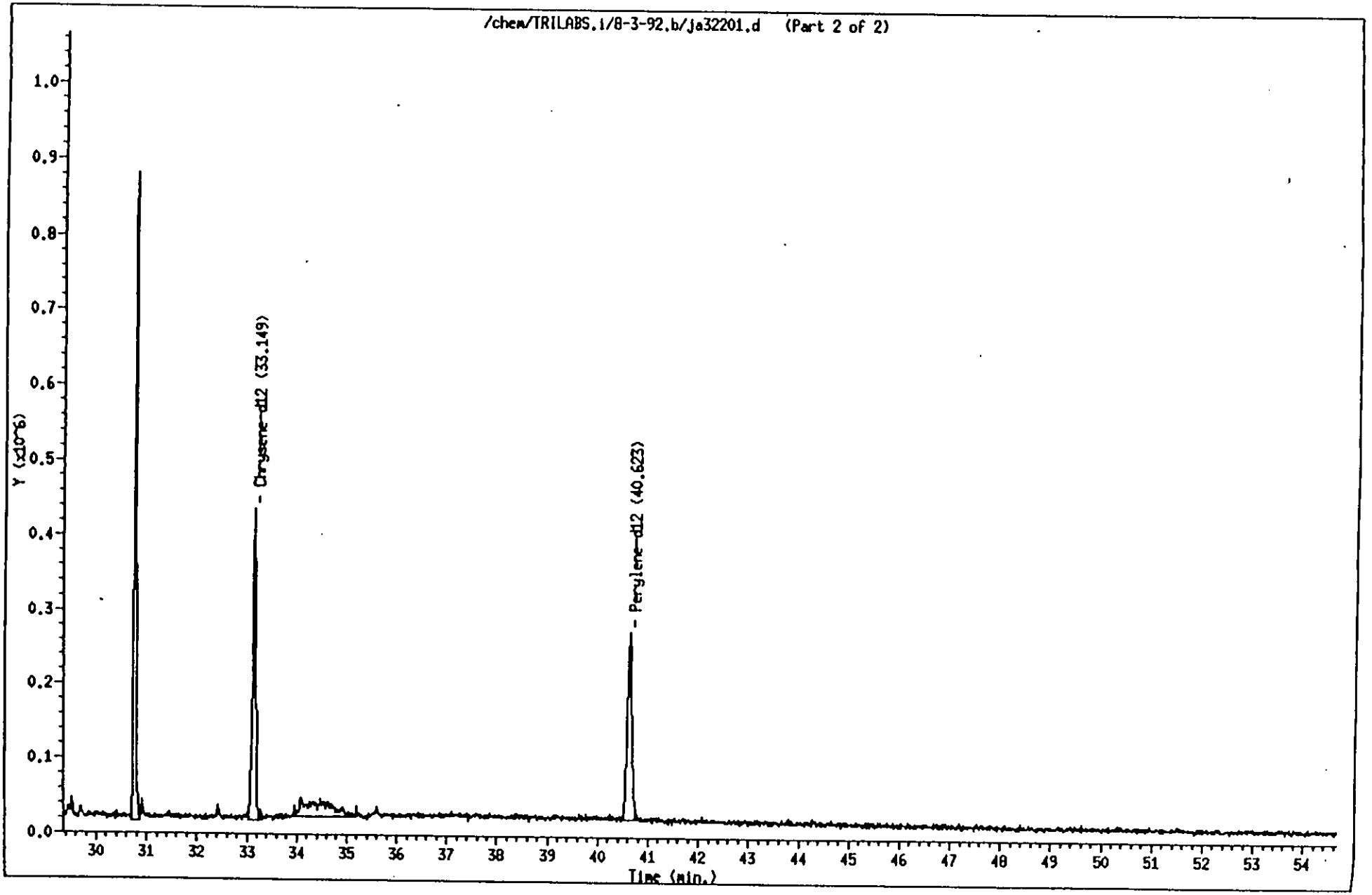
Volume Injected (uL) : 1.0



Triangle Laboratories of RTP, LLC RP 01/25/11

Data File: /chem/TRILABS.1/8-3-92.b/ja32201.d
Date : 03-AUG-1992 12:20
Instrument : rgen.i
Sample ID : t11 xad-blk
Column phase : DB-5
Volume Injected (uL) : 1.0

Column diameter : 0.32



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J
QUANTITATION SA 8-25-92
SEMI-VOLATILE ~~QUANTAITATION~~ REPORT

Data file : /chem/TRILABS.i/8-3-92.b/ja32201.d
Lab. Id. :
Inj Date : 03-AUG-1992 12:20 Autotune Date: 22-Jul-92 12:21:3
Operator : mick Inst ID: ~~rgen.i~~ J SA 8-25 92
Smp Info : tli blk xad ~~blk~~ SBLK 062392 SA 8-26-92
Misc Info : tli#21187a
Comment :
Method : /chem/TRILABS.i/8-3-92.b/tlibna.m
Meth Date : 25-Aug-1992 14:00
Cal Date : 03-AUG-1992 09:52 Cal File: ja321.d
Als bottle: 1
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: all.sub
Rpt Date : 25-Aug-1992 15:57 Sample Type: mm5

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
•	1	1,4-Dichlorobenzene	12.339(1.000)	237206	40.00	40.00
*	2	Naphthalene-d8	15.560(1.000)	995552	40.00	40.00
•	3	Acenaphthene-d10	20.211(1.000)	549834	40.00	40.00
*	4	Phenanthrene-d10	24.205(1.000)	862883	40.00	40.00
•	5	Chrysene-d12	33.149(1.000)	600021	40.00	40.00
•	6	Perylene-d12	40.623(1.000)	539219	40.00	40.00
$	7	2-Fluorophenol		Compound Not Detected.		
$	8	Phenol-d5	11.350(0.920)	260047	32.42	68.09
$	9	2-Chlorophenol-d4		Compound Not Detected.		
$	10	1,2-Dichlorobenzene	~~12.339(1.000)~~	~~237206~~	50.53	~~106.11~~ RM
$	11	Nitrobenzene-d5		Compound Not Detected.		
$	12	1,3,5-Trichlorobenz		Compound Not Detected.		
$	13	1,4-Dibromobenzene-	15.695(1.272)	187292	35.18	73.88
$	14	2-Fluorobiphenyl		Compound Not Detected.		
$	15	2,4,6-Tribromopheno	22.307(1.104)	132948	39.99	83.98
$	16	Anthracene-d10	~~24.205(1.000)~~	~~862883~~	~~37.96~~	~~79.73~~ RM
$	17	Pyrene-d10		Compound Not Detected.		
$	18	Terphenyl-d14	28.752(0.867)	908177	37.73	79.25
	19	N-Nitrosodimethylam		Compound Not Detected.		
	20	Phenol		Compound Not Detected.		
	21	Aniline		Compound Not Detected.		
	22	bis(2-Chloroethyl)e		Compound Not Detected.		
	23	2-Chlorophenol		Compound Not Detected.		
	24	1,3-Dichlorobenzene		Compound Not Detected.		
	25	1,4-Dichlorobenzene		Compound Not Detected.		
	26	1,2-Dichlorobenzene		Compound Not Detected.		
	27	2-Methylphenol		Compound Not Detected.		
	28	2,2'-oxybis(1-Chlor		Compound Not Detected.		
	29	Benzyl alcohol		Compound Not Detected.		
	30	4-Methylphenol		Compound Not Detected.		
	31	N-Nitroso-di-n-prop		Compound Not Detected.		

Data Review: RK 8/25/92
Data:

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug)
32 Hexachloroethane		Compound Not Detected.		
33 Nitrobenzene		Compound Not Detected.		
34 Isophorone		Compound Not Detected.		
35 2-Nitrophenol		Compound Not Detected.		
36 2,4-Dimethylphenol		Compound Not Detected.		
37 bis(2-Chloroethoxy)		Compound Not Detected.		
~~38 Benzoic acid~~	~~14.697(0.945)~~	~~51470~~	~~13.63~~	~~28.64(Q)~~ N.T.
39 2,4-Dichlorophenol		Compound Not Detected.		
40 1,2,4-Trichlorobenz		Compound Not Detected.		
41 Naphthalene		Compound Not Detected.		
42 4-Chloroaniline		Compound Not Detected.		
43 Hexachlorobutadiene		Compound Not Detected.		
44 4-Chloro-3-methylph		Compound Not Detected.		
45 2-Methylnaphthalene		Compound Not Detected.		
46 Hexachlorocyclopent		Compound Not Detected.		
47 2,4,6-Trichlorophen		Compound Not Detected.		
48 2,4,5-Trichlorophen		Compound Not Detected.		
49 2-Chloronaphthalene		Compound Not Detected.		
50 2-Nitroaniline		Compound Not Detected.		
51 Dimethylphthalate		Compound Not Detected.		
52 2,6-Dinitrotoluene		Compound Not Detected.		
53 2,4-Dinitrotoluene		Compound Not Detected.		
54 Acenaphthylene		Compound Not Detected.		
55 3-Nitroaniline		Compound Not Detected.		
56 Acenaphthene		Compound Not Detected.		
57 2,4-Dinitrophenol		Compound Not Detected.		
58 4-Nitrophenol		Compound Not Detected.		
59 Dibenzofuran		Compound Not Detected.		
60 Diethylphthalate		Compound Not Detected.		
61 4-Chlorophenyl-phen		Compound Not Detected.		
62 Fluorene		Compound Not Detected.		
63 4-Nitroaniline		Compound Not Detected.		
64 4,6-Dinitro-2-methy		Compound Not Detected.		
65 N-Nitrosodiphenylam		Compound Not Detected.		
66 4-Bromophenyl-pheny		Compound Not Detected.		
67 Hexachlorobenzene		Compound Not Detected.		
68 Pentachlorophenol		Compound Not Detected.		
69 Phenanthrene		Compound Not Detected.		
70 Anthracene		Compound Not Detected.		
71 Carbazole		Compound Not Detected.		
~~72 Di-n-butylphthalate~~	~~25.628(1.059)~~	~~208695~~	~~5.18~~	~~10.87~~ N.T.
73 Fluoranthene		Compound Not Detected.		
74 Pyrene		Compound Not Detected.		
75 Benzidine		Compound Not Detected.		
76 Butylbenzylphthalat		Compound Not Detected.		
77 3,3'-Dichlorobenzid		Compound Not Detected.		
~~78 bis(2-Ethylhexyl)ph~~	~~33.085(0.998)~~	~~35087~~	~~1.32~~	~~2.77(a)~~ N.T.
79 Di-n-octylphthalate		Compound Not Detected.		
80 Benzo(a)anthracene		Compound Not Detected.		
81 Chrysene		Compound Not Detected.		
82 Benzo(b)fluoranthen		Compound Not Detected.		

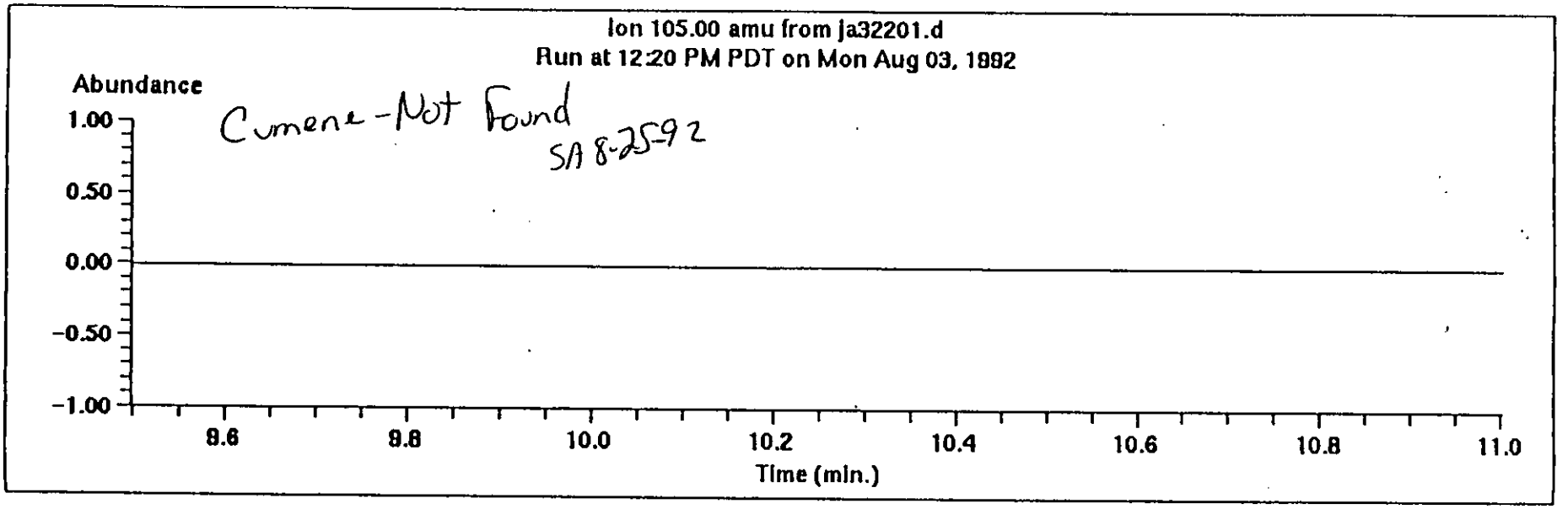
Data Review: KLG
Date: 8/25/92

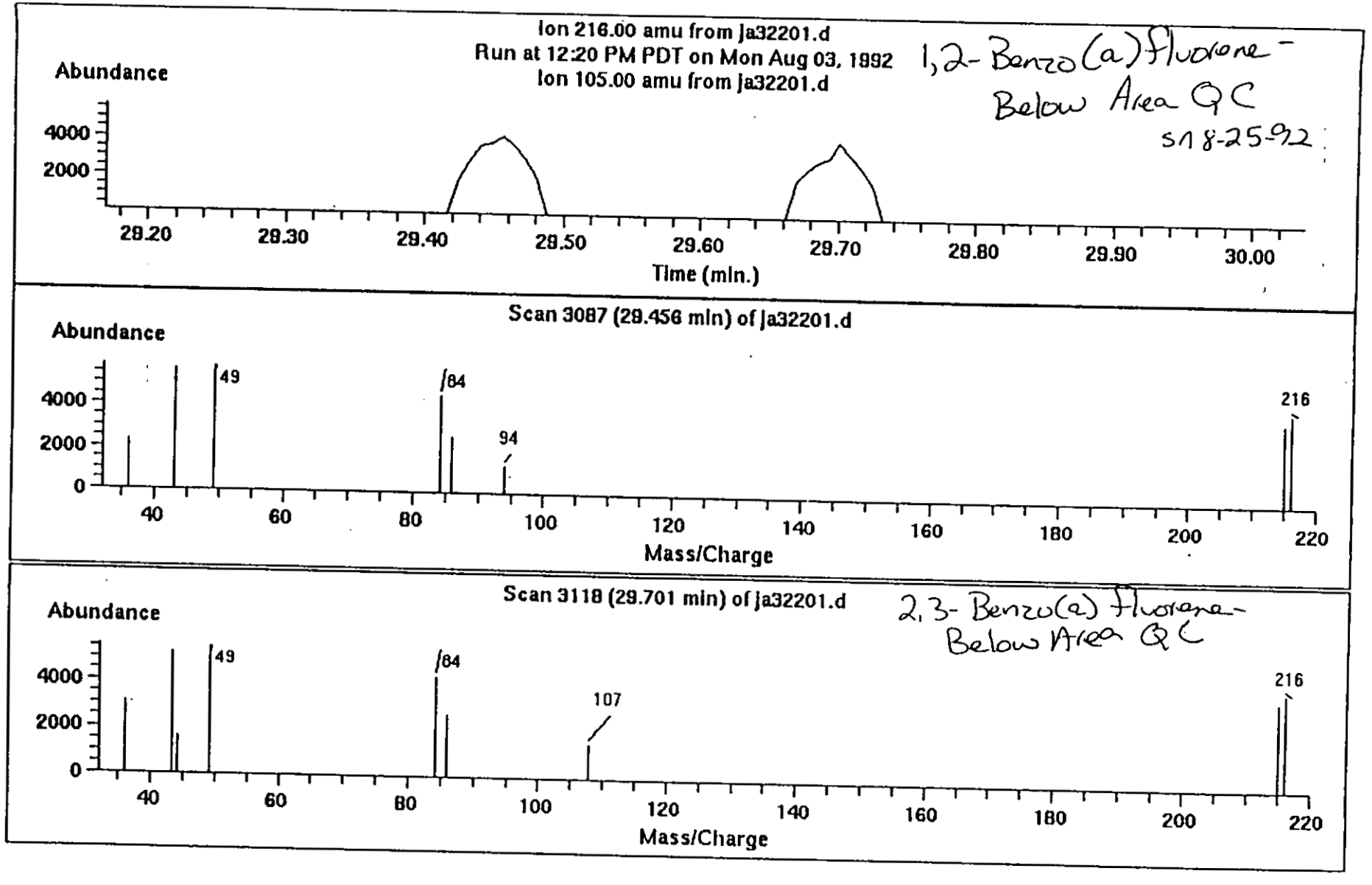
Compounds	RT	(REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
83 Benzo(k)fluoranthen			Compound Not Detected.		
84 Benzo(e)pyrene			Compound Not Detected.		
85 Benzo(a)pyrene			Compound Not Detected.		
86 Perylene			Compound Not Detected.		
87 Indeno(1,2,3-cd)pyr			Compound Not Detected.		
88 Dibenzo(a,h)anthrac			Compound Not Detected.		
89 Benzo(g,h,i)perylen			Compound Not Detected.		

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.

Data Reviewer: [signature] 8/25/92
Date:


Ion 105.00 amu from ja32201.d
Run at 12:20 PM PDT on Mon Aug 03, 1992
Abundance
Cumene - Not Found
SA 8-25-92
1.00
0.50
0.00
-0.50
-1.00
9.6
9.8
10.0
10.2
10.4
10.6
10.8
11.0
Time (min.)


Ion 216.00 amu from Ja32201.d
Run at 12:20 PM PDT on Mon Aug 03, 1992
Ion 105.00 amu from Ja32201.d
Abundance
4000
2000
29.20
29.30
29.40
29.50
29.60
29.70
29.80
29.90
30.00
Time (min.)
1,2-Benzo(a)fluorene-
Below Area QC
S18-25-92
Scan 3087 (29.456 min) of Ja32201.d
Abundance
4000
2000
0
49
84
94
216
40
60
80
100
120
140
160
180
200
220
Mass/Charge
Scan 3118 (29.701 min) of Ja32201.d
Abundance
4000
2000
0
49
84
107
216
40
60
80
100
120
140
160
180
200
220
Mass/Charge
2,3-Benzo(a)fluorene-
Below Area QC

TRIANGLE LABORATORIES OF RTP, INC.
801 Capitola Drive
Durham, NC 27713
Telephone: (919) 544-5729

DATA FILE: JA32202 SAMPLE ID: H2O SBLK 062392
RF FILE: JA321 TLI ID: N/A
DATE: 08/31/92 DILN FACTOR: 2
TLI PROJ #: 21187 ANALYSIS DATE: 8/03/92

METHOD 8270 QUANTITATION REPORT

	NAME	AREA	RF	RT	ISID	AMOUNT, ug	CODE	QUAN LIMIT
1	1,4-Dichlorobenzene-d4	224211		12.34	1		IS	
28	Acenaphthene-d10	534830		20.21	28		IS	
32	2-Chloronaphthalene	0	1.0936	.00	28	5.47	ND	20
35	Acenaphthylene	0	1.7394	.00	28	3.44	ND	20
37	Acenaphthene	0	1.0107	.00	28	5.92	ND	20
45	Fluorene	0	1.0993	.00	28	5.44	ND	20
47	Phenanthrene-d10	803157		24.20	47		IS	
53	Phenanthrene	0	.9928	.00	47	4.01	ND	20
54	Anthracene	0	1.0770	.00	47	3.70	ND	20
56	Fluoranthene	0	1.3220	.00	47	3.01	ND	20
57	Chrysene-d12	522292		33.15	57		IS	
58	Pyrene	0	1.7206	.00	57	3.56	ND	20
61	Benzo(a)anthracene	0	1.4688	.00	57	4.17	ND	20
62	Chrysene	0	1.3077	.00	57	4.69	ND	20
64	Perylene-d12	540648		40.62	64		IS	
66	Benzo(b)fluoranthene	0	1.3932	.00	64	4.25	ND	20
67	Benzo(k)fluoranthene	0	1.3054	.00	64	4.53	ND	20
93	Perylene	0	.9243	.00	64	6.40	ND	20
68	Benzo(a)pyrene	0	1.1350	.00	64	5.21	ND	20
89	Benzo(e)pyrene	0	1.1478	.00	64	5.16	ND	20
69	Indeno(1,2,3-cd)pyrene	0	.8928	.00	64	6.63	ND	20
91	Dibenzo(a,h)anthracene	0	.7274	.00	64	8.14	ND	20
71	Benzo(g,h,i)perylene	0	.7834	.00	64	7.56	ND	20
	Cumene	0	1.7060	0.00	1	8.37	ND	50
	1,2-Benzofluorene	0	1.3420	0.00	47	2.97	ND	50
	2,3-Benzofluorene	0	1.2310	0.00	47	3.24	ND	50

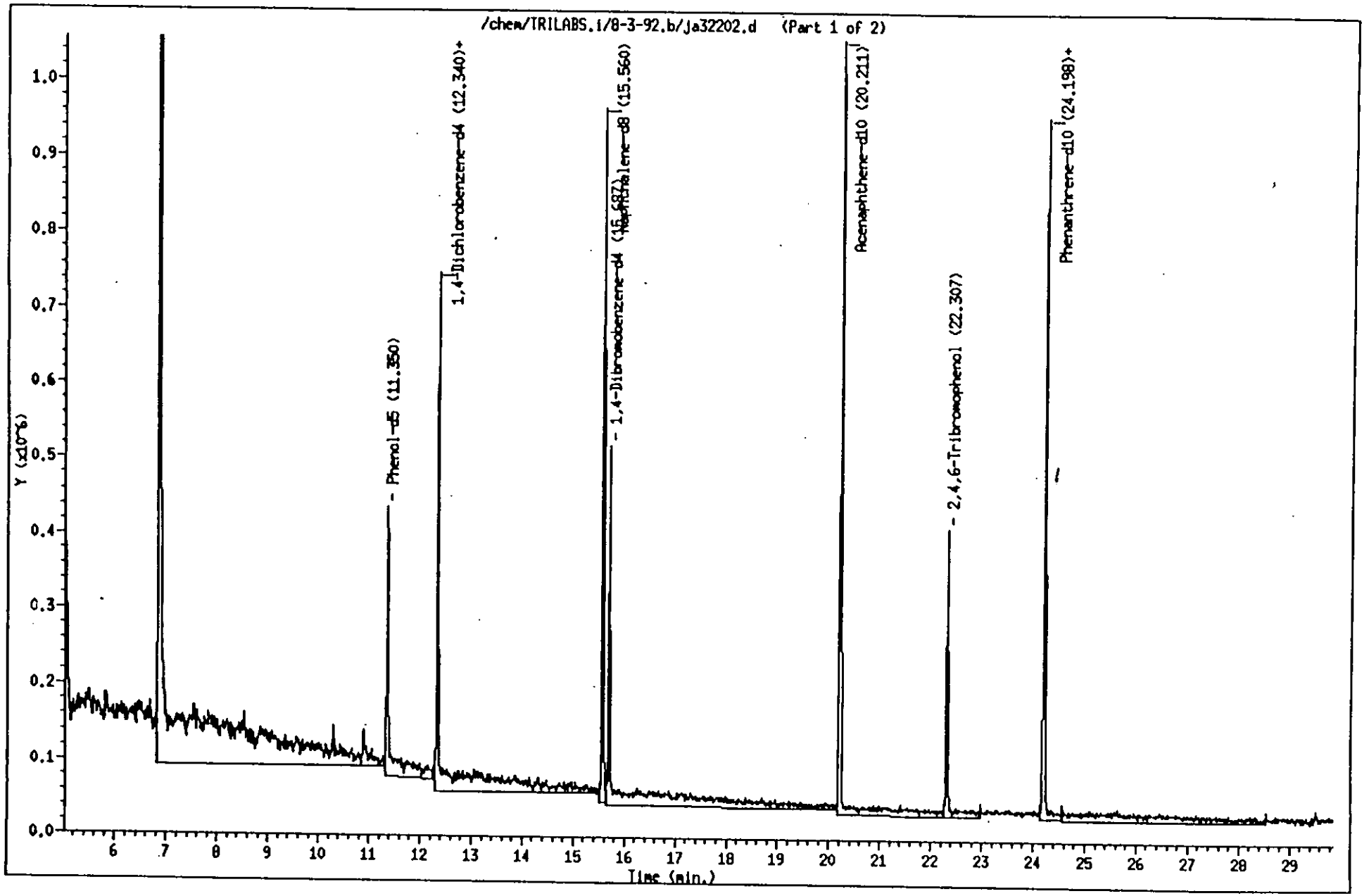
SURROGATE SUMMARY		AREA	RF	RT	ISID	AMOUNT	CODE	% RECOVERY
75	Phenol-d5	235825	1.3523	11.35	1	62.22	D	62.2
77	2,4,6-Tribromophenol	120506	.2419	22.32	28	74.53	D	74.5
81	1,4-Dibromobenzene-d4	180554	.8977	15.69	1	71.76	D	71.8

CODES: ND = Not Detected; D = Detected; E = Estimated; IS = Internal Standard

File: /chem/TRILABS.1/8-3-92.b/ja32202.d
Date : 03-AUG-1992 13:19
Instrument : 3.1
Sample ID : method blk water
Column phase : DB-5
Volume Injected (uL) : 1.0

RKo 8/26/92

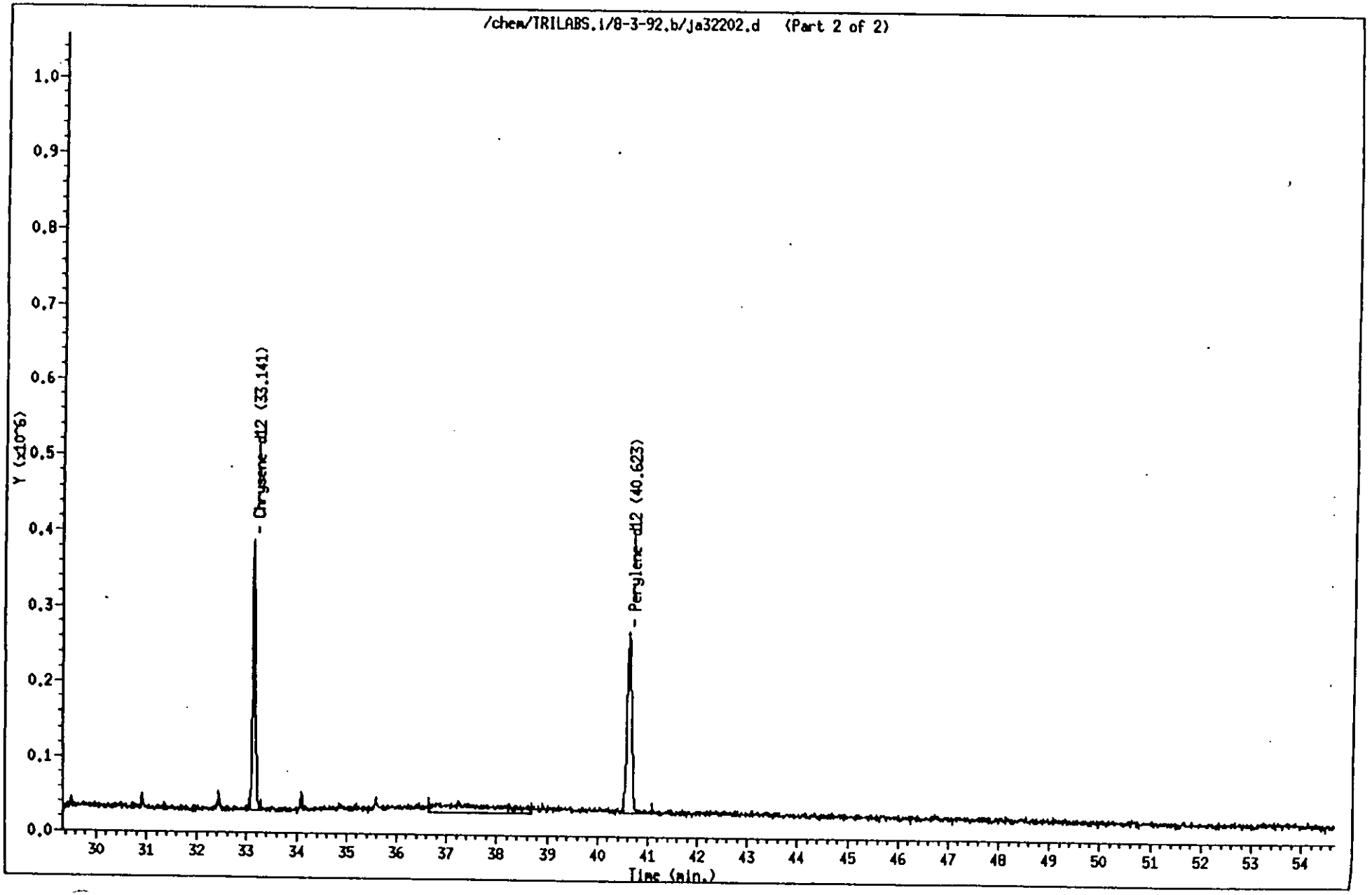
Column diameter : 0.32



Triangle Laboratories of RTP, INC, RKW 8/25/92

Data File: /chem/TRILABS.1/8-3-92.b/Ja32202.d
Date : 03-AUG-1992 13:19
Instrument : J.1
Sample ID : method blk water
Column phase : DB-5
Volume Injected (uL) : 1.0

Column diameter : 0.32



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

SEMI-VOLATILE ~~QUANTAPATION~~ QUANTITATION SAS-29-92 REPORT

Data file : /chem/TRILABS.i/8-3-92.b/ja32202.d
Lab. Id. :
Inj Date : 03-AUG-1992 13:19 Autotune Date: 22-Jul-92 12:21:3
Operator : mick SAS-26-92 Inst ID: J.i
Smp Info : ~~method blank water~~ 1120 SBLK062392
Misc Info : 21187a
Comment :
Method : /chem/rgen/8-3-92.b/tlibna.m
Meth Date : 25-Aug-1992 14:15 target
Cal Date : 03-AUG-1992 09:52 Cal File: ja321.d
Als bottle: 2
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: all.sub
Rpt Date : 25-Aug-1992 14:15 Sample Type: mm5

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
•	1	1,4-Dichlorobenzene	12.340(1.000)	224211	40.00	40.00
•	2	Naphthalene-d8	15.560(1.000)	928126	40.00	40.00
•	3	Acenaphthene-d10	20.211(1.000)	534830	40.00	40.00
*	4	Phenanthrene-d10	24.198(1.000)	803157	40.00	40.00
•	5	Chrysene-d12	33.149(1.000)	522292	40.00	40.00
*	6	Perylene-d12	40.623(1.000)	540646	40.00	40.00
$	7	2-Fluorophenol		Compound Not Detected.		
$	8	Phenol-d5	11.350(0.920)	235825	31.11	65.33
$	9	2-Chlorophenol-d4		Compound Not Detected.		
$	10	1,2-Dichlorobenzene	~~12.340(1.000)~~	224211	50.53	~~106.11(Q)~~ RM
$	11	Nitrobenzene-d5		Compound Not Detected.		
$	12	1,3,5-Trichlorobenz		Compound Not Detected.		
$	13	1,4-Dibromobenzene-	15.687(1.271)	180554	35.88	75.35
$	14	2-Fluorobiphenyl		Compound Not Detected.		
$	15	2,4,6-Tribromopheno	22.315(1.104)	120506	37.26	78.25
$	16	Anthracene-d10	~~24.198(1.000)~~	~~803157~~	37.96	~~79.73~~ XM
$	17	Pyrene-d10		Compound Not Detected.		
$	18	Terphenyl-d14		Compound Not Detected.		
	19	N-Nitrosodimethylam		Compound Not Detected.		
	20	Phenol		Compound Not Detected.		
	21	Aniline		Compound Not Detected.		
	22	bis(2-Chloroethyl)e		Compound Not Detected.		
	23	2-Chlorophenol		Compound Not Detected.		
	24	1,3-Dichlorobenzene		Compound Not Detected.		
	25	1,4-Dichlorobenzene		Compound Not Detected.		
	26	1,2-Dichlorobenzene		Compound Not Detected.		
	27	2-Methylphenol		Compound Not Detected.		
	28	2,2'-oxybis(1-Chlor		Compound Not Detected.		
	29	Benzyl alcohol		Compound Not Detected.		
	30	4-Methylphenol		Compound Not Detected.		
	31	N-Nitroso-di-n-prop		Compound Not Detected.		

Data Review: RM 8/25/92
Date:

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug)
32 Hexachloroethane		Compound Not Detected.		
33 Nitrobenzene		Compound Not Detected.		
34 Isophorone		Compound Not Detected.		
35 2-Nitrophenol		Compound Not Detected.		
36 2,4-Dimethylphenol		Compound Not Detected.		
37 bis(2-Chloroethoxy)		Compound Not Detected.		
38 Benzoic acid		Compound Not Detected.		
39 2,4-Dichlorophenol		Compound Not Detected.		
40 1,2,4-Trichlorobenz		Compound Not Detected.		
41 Naphthalene		Compound Not Detected.		
42 4-Chloroaniline		Compound Not Detected.		
43 Hexachlorobutadiene		Compound Not Detected.		
44 4-Chloro-3-methylph		Compound Not Detected.		
45 2-Methylnaphthalene		Compound Not Detected.		
46 Hexachlorocyclopent		Compound Not Detected.		
47 2,4,6-Trichlorophen		Compound Not Detected.		
48 2,4,5-Trichlorophen		Compound Not Detected.		
49 2-Chloronaphthalene		Compound Not Detected.		
50 2-Nitroaniline		Compound Not Detected.		
51 Dimethylphthalate		Compound Not Detected.		
52 2,6-Dinitrotoluene		Compound Not Detected.		
53 2,4-Dinitrotoluene		Compound Not Detected.		
54 Acenaphthylene		Compound Not Detected.		
55 3-Nitroaniline		Compound Not Detected.		
56 Acenaphthene		Compound Not Detected.		
57 2,4-Dinitrophenol		Compound Not Detected.		
58 4-Nitrophenol		Compound Not Detected.		
59 Dibenzofuran		Compound Not Detected.		
60 Diethylphthalate		Compound Not Detected.		
61 4-Chlorophenyl-phen		Compound Not Detected.		
62 Fluorene		Compound Not Detected.		
63 4-Nitroaniline		Compound Not Detected.		
64 4,6-Dinitro-2-methy		Compound Not Detected.		
65 N-Nitrosodiphenylam		Compound Not Detected.		
66 4-Bromophenyl-pheny		Compound Not Detected.		
67 Hexachlorobenzene		Compound Not Detected.		
68 Pentachlorophenol		Compound Not Detected.		
69 Phenanthrene		Compound Not Detected.		
70 Anthracene		Compound Not Detected.		
71 Carbazole		Compound Not Detected.		
72 Di-n-butylphthalate		Compound Not Detected.		
73 Fluoranthene		Compound Not Detected.		
74 Pyrene		Compound Not Detected.		
75 Benzidine		Compound Not Detected.		
76 Butylbenzylphthalat		Compound Not Detected.		
77 3,3'-Dichlorobenzid		Compound Not Detected.		
78 bis(2-Ethylhexyl)ph		Compound Not Detected.		
79 Di-n-octylphthalate		Compound Not Detected.		
80 Benzo(a)anthracene		Compound Not Detected.		
81 Chrysene		Compound Not Detected.		
82 Benzo(b)fluoranthen		Compound Not Detected.		

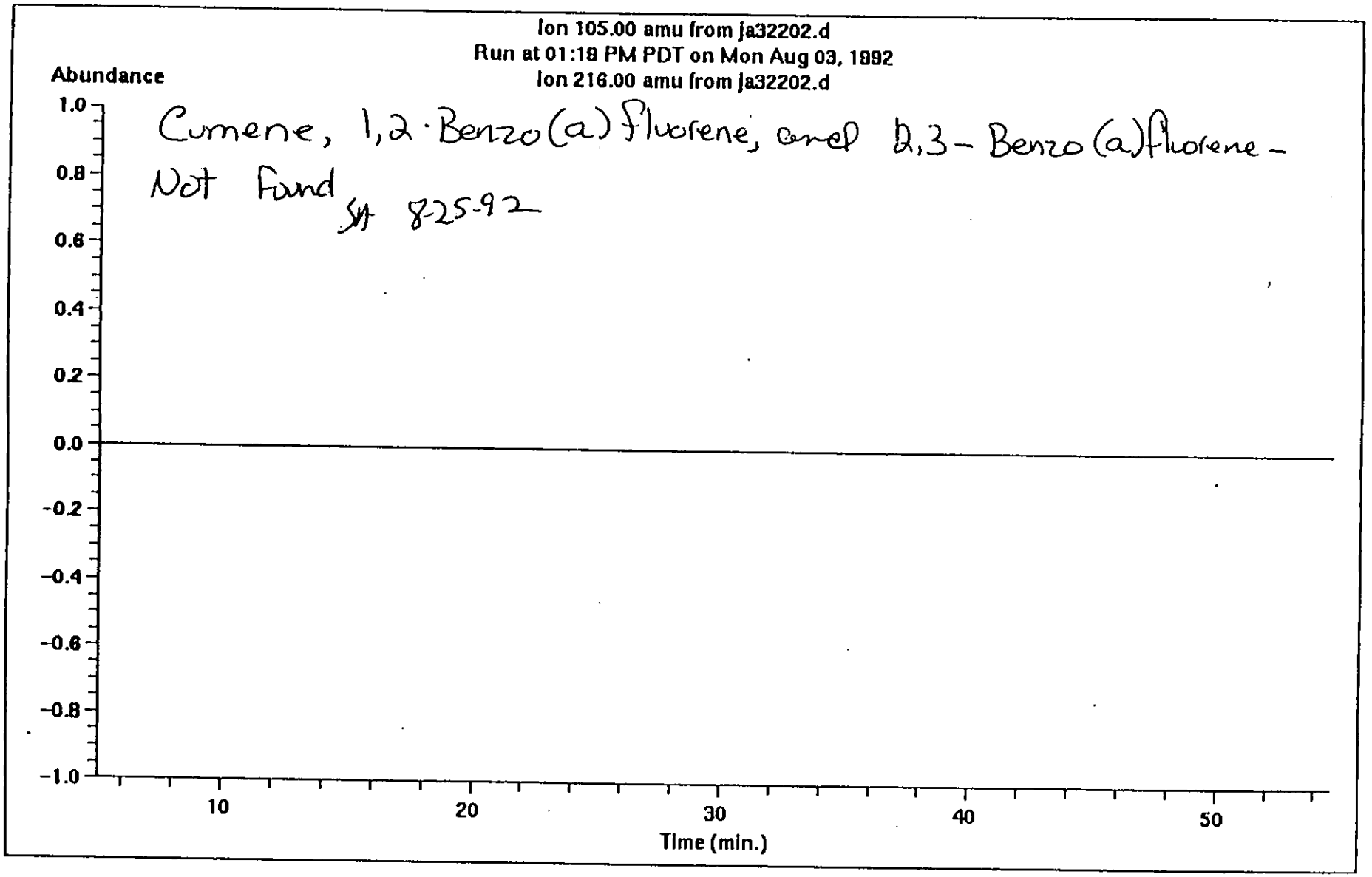
Data Review: RK
Date: 8/25/92

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
83 Benzo(k)fluoranthen		Compound Not Detected.		
84 Benzo(e)pyrene		Compound Not Detected.		
85 Benzo(a)pyrene		Compound Not Detected.		
86 Perylene		Compound Not Detected.		
87 Indeno(1,2,3-cd)pyr		Compound Not Detected.		
88 Dibenzo(a,h)anthrac		Compound Not Detected.		
89 Benzo(g,h,i)perylen		Compound Not Detected.		

QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data Reviewer: RK
Date: 3/25/92



Cumene, 1,2-Benzo(a)fluorene, and 2,3-Benzo(a)fluorene - Not Found SJ 8-25-92

TRIANGLE LABORATORIES OF RTP, INC.
801 Capitola Drive
Durham, N.C. 27713
(919) 544-5729

Single Point Calibration Summary

Analyte: Cumene

Date of Analysis: 08/03/92
Calibration File Name: JA322
Analyte Concentration: 100 micrograms per milliliter (ug/mL)
Internal Standard Designation: 1,4-Dichlorobenzene-d_4
Internal Standard Concentration: 40 ug/mL

Calculated Response Factor: 1.706

Reviewed by: Selena Cumalio Date: 8-26-92

TRIANGLE LABORATORIES OF RTP, INC.
801 Capitola Drive
Durham, N.C. 27713
(919) 544-5729

Single Point Calibration Summary

Analyte: 1,2-BENZOFLUORENE

Date of Analysis: 08/15/92
Calibration File Name: JA33916
Analyte Concentration: 100 micrograms per milliliter (ug/mL)
Internal Standard Designation: Phenanthrene-d_{10}
Internal Standard Concentration: 40 ug/mL

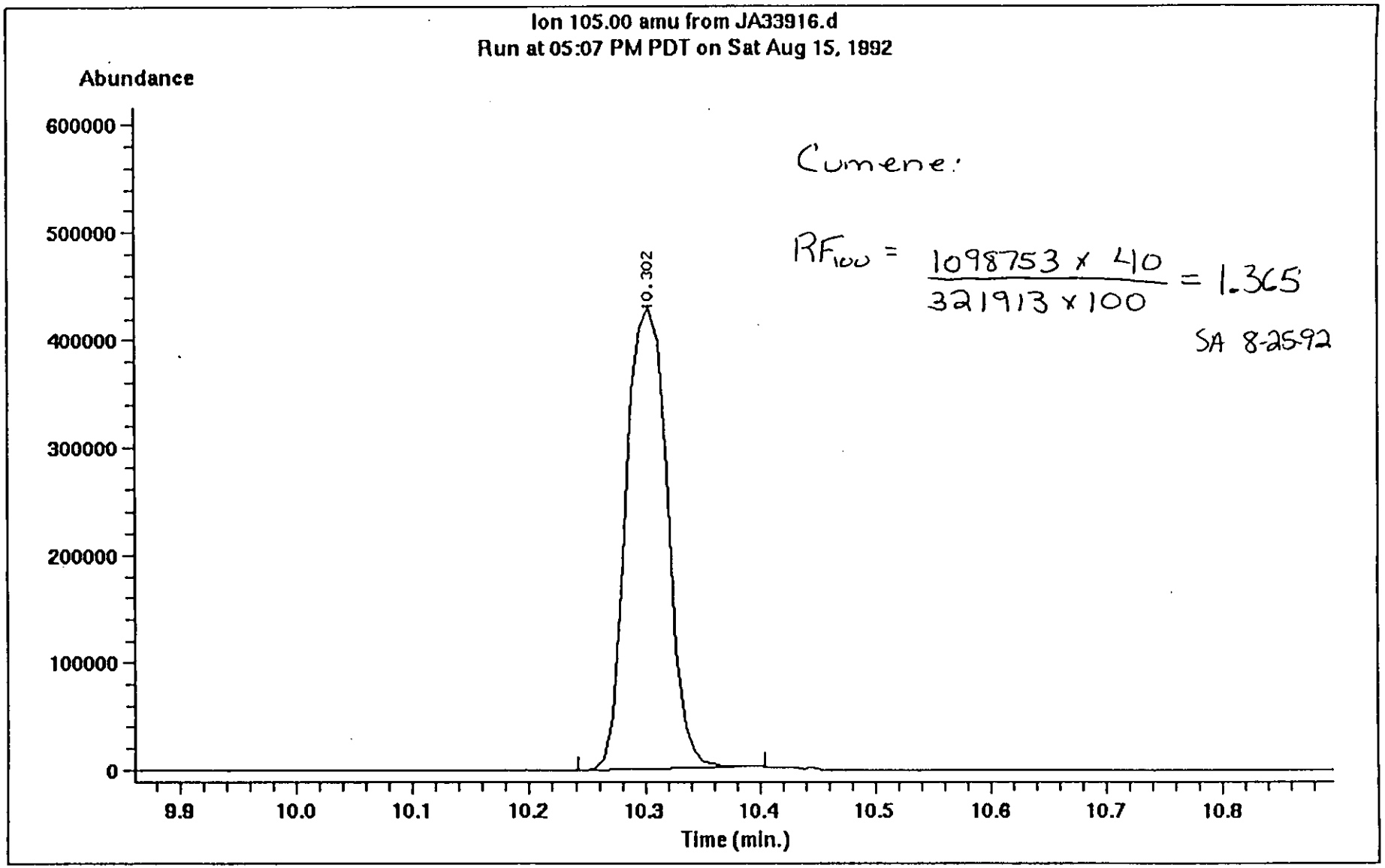
Calculated Response Factor: 1.092

Analyte: 2,3-BENZOFLUORENE

Date of Analysis: 08/15/92
Calibration File Name: JA33916
Analyte Concentration: 100 micrograms per milliliter (ug/mL)
Internal Standard Designation: Phenanthrene-d_{10}
Internal Standard Concentration: 40 ug/mL

Calculated Response Factor: .981

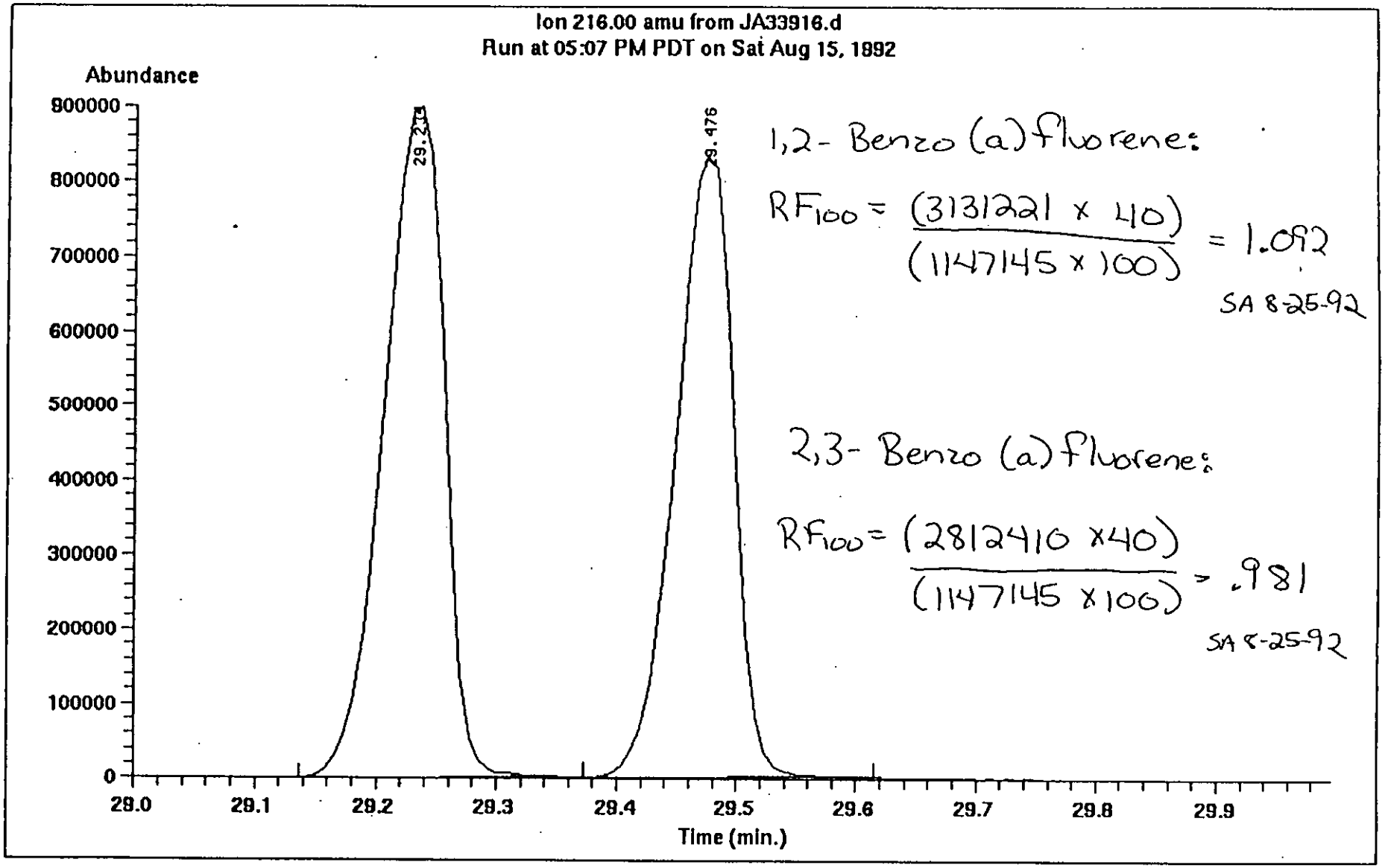
Reviewed by: Selena Armstead Date: 8-31-92



Cumene:

$$RF_{100} = \frac{1098753 \times 40}{321913 \times 100} = 1.365$$

SA 8-25-92



1,2- Benzo (a) fluorene:

$$RF_{100} = \frac{(3131221 \times 40)}{(1147145 \times 100)} = 1.092$$

SA 8-25-92

2,3- Benzo (a) fluorene:

$$RF_{100} = \frac{(2812410 \times 40)}{(1147145 \times 100)} = .981$$

SA 8-25-92

TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

SEMI-VOLATILE ~~QUANTITATION~~ QUANTITATION REPORT SA 8-31-92

Data file : /chem/J.i/8-14-92.b/JA33916.d
Lab. Id. :
Inj Date : 15-AUG-92 17:07 Autotune Date: 22-Jul-92 12:21:3
Operator : DD Inst ID: J.i
Smp Info : 1 PT calibration
Misc Info :
Comment :
Method : /chem/J.i/8-14-92.b/tlinbna.m
Meth Date : 15-Aug-1992 22:38 target
Cal Date : 15-AUG-1992 07:29 Cal File: JA33907.d
Als bottle: 16
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: 8270.sub
Rpt Date : 15-Aug-1992 22:50 Sample Type: Not Specified

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
•	1	Naphthalene-d8	15.396(1.000)	1347367	40.00	40.00
•	2	1,4 Dichlorobenzene	12.182(1.000)	321913	40.00	40.00
*	3	Acenaphthene-d10	20.038(1.000)	824849	40.00	40.00
*	4	Phenanthrene-d10	24.025(1.000)	1147145	40.00	40.00
*	5	Chrysene-d12	32.854(1.000)	544726	40.00	40.00
*	6	Perylene-d12	40.205(1.000)	617377	40.00	40.00
$	7	2-Fluorophenol		Compound Not Detected.		
$	8	Phenol-d5		Compound Not Detected.		
$	9	2-Chlorophenol-d4		Compound Not Detected.		
$	10	1,2-Dichlorobenzene		Compound Not Detected.		
$	11	Nitrobenzene-d5		Compound Not Detected.		
$	12	1,3,5-Trichlorobenz		Compound Not Detected.		
$	13	1,4-Dibromobenzene-		Compound Not Detected.		
$	14	2-Fluorobiphenyl		Compound Not Detected.		
$	15	2,4,6-Tribromopheno		Compound Not Detected.		
$	16	Anthracene-d10		Compound Not Detected.		
$	17	Pyrene-d10		Compound Not Detected.		
$	18	Terphenyl-d14		Compound Not Detected.		
	19	N-Nitrosodimethylam		Compound Not Detected.		
	20	Phenol		Compound Not Detected.		
	21	Aniline		Compound Not Detected.		
	22	bis(2-Chloroethyl)e		Compound Not Detected.		
	23	2-Chlorophenol		Compound Not Detected.		
	24	1,3-Dichlorobenzene		Compound Not Detected.		
	25	1,4-Dichlorobenzene		Compound Not Detected.		
	26	1,2-Dichlorobenzene		Compound Not Detected.		
	27	2-Methylphenol		Compound Not Detected.		
	28	2,2'-oxybis(1-Chlor		Compound Not Detected.		
	29	Benzyl alcohol		Compound Not Detected.		
	30	4-Methylphenol		Compound Not Detected.		
	31	N-Nitroso-di-n-prop		Compound Not Detected.		

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
32 Hexachloroethane		Compound Not Detected.		
33 Nitrobenzene		Compound Not Detected.		
34 Isophorone		Compound Not Detected.		
35 2-Nitrophenol		Compound Not Detected.		
36 2,4-Dimethylphenol		Compound Not Detected.		
37 bis(2-Chloroethoxy)		Compound Not Detected.		
38 Benzoic acid		Compound Not Detected.		
39 2,4-Dichlorophenol		Compound Not Detected.		
40 1,2,4-Trichlorobenz		Compound Not Detected.		
41 Naphthalene		Compound Not Detected.		
42 4-Chloroaniline		Compound Not Detected.		
43 Hexachlorobutadiene		Compound Not Detected.		
44 4-Chloro-3-methylph		Compound Not Detected.		
45 2-Methylnaphthalene		Compound Not Detected.		
46 Hexachlorocyclopent		Compound Not Detected.		
47 2,4,6-Trichlorophen		Compound Not Detected.		
48 2,4,5-Trichlorophen		Compound Not Detected.		
49 2-Chloronaphthalene		Compound Not Detected.		
50 2-Nitroaniline		Compound Not Detected.		
51 Dimethylphthalate		Compound Not Detected.		
52 2,6-Dinitrotoluene		Compound Not Detected.		
53 2,4-Dinitrotoluene		Compound Not Detected.		
54 Acenaphthylene		Compound Not Detected.		
55 3-Nitroaniline		Compound Not Detected.		
56 Acenaphthene		Compound Not Detected.		
57 2,4-Dinitrophenol		Compound Not Detected.		
58 4-Nitrophenol		Compound Not Detected.		
59 Dibenzofuran		Compound Not Detected.		
60 Diethylphthalate		Compound Not Detected.		
61 4-Chlorophenyl-phen		Compound Not Detected.		
62 Fluorene		Compound Not Detected.		
63 4-Nitroaniline		Compound Not Detected.		
64 4,6-Dinitro-2-methy		Compound Not Detected.		
65 N-Nitrosodiphenylam		Compound Not Detected.		
66 4-Bromophenyl-pheny		Compound Not Detected.		
67 Hexachlorobenzene		Compound Not Detected.		
68 Pentachlorophenol		Compound Not Detected.		
69 Phenanthrene		Compound Not Detected.		
70 Anthracene		Compound Not Detected.		
71 Carbazole		Compound Not Detected.		
72 Di-n-butylphthalate		Compound Not Detected.		
73 Fluoranthene		Compound Not Detected.		
74 Pyrene		Compound Not Detected.		
75 Benzidine		Compound Not Detected.		
76 Butylbenzylphthalat		Compound Not Detected.		
77 3,3'-Dichlorobenzid		Compound Not Detected.		
78 bis(2-Ethylhexyl)ph		Compound Not Detected.		
79 Di-n-octylphthalate		Compound Not Detected.		
80 Benzo(a)anthracene	32.973(1.004)	72896	3.86	3.86
81 Chrysene	32.973(1.004)	72896	4.47	4.47
82 Benzo(b)fluoranthen		Compound Not Detected.		

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
83 Benzo(k)fluoranthen		Compound Not Detected.		
84 Benzo(e)pyrene		Compound Not Detected.		
85 Benzo(a)pyrene		Compound Not Detected.		
87 Indeno(1,2,3-cd)pyr		Compound Not Detected.		
86 Perylene		Compound Not Detected.		
88 Dibenzo(a,h)anthrac		Compound Not Detected.		
89 Benzo(g,h,i)perylen		Compound Not Detected.		

Ion 105.00 amu from JA33916.d

105

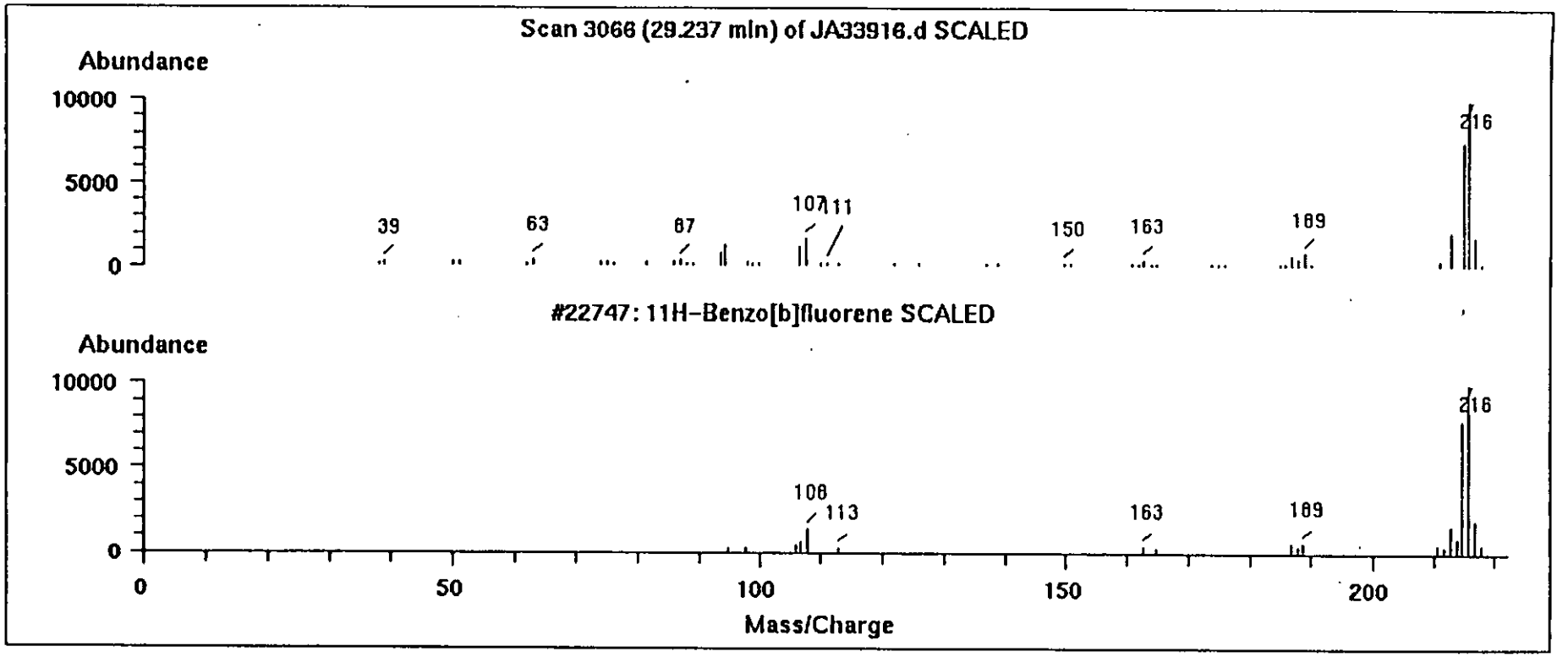
Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	10.303	RTE	0.190	1098753	10.248	10.438

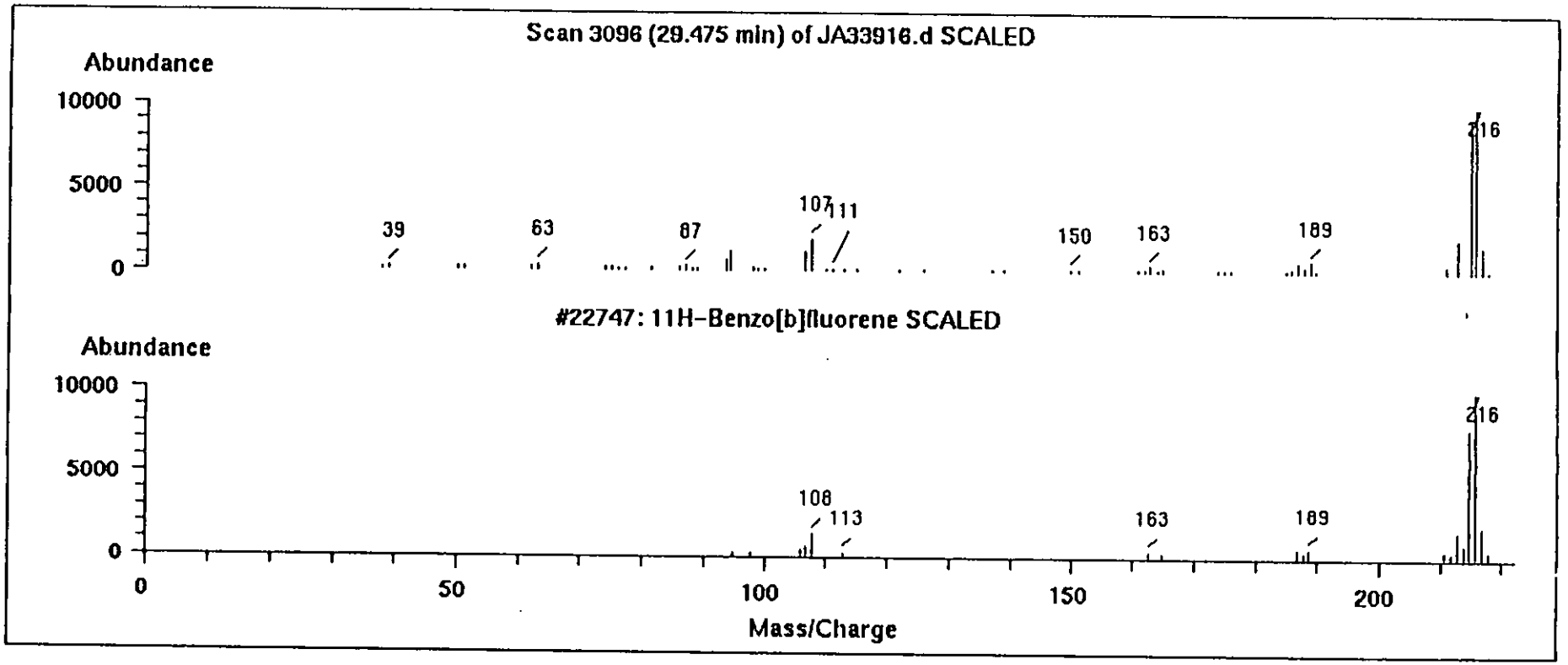
Ion 216.00 amu from JA33916.d

216

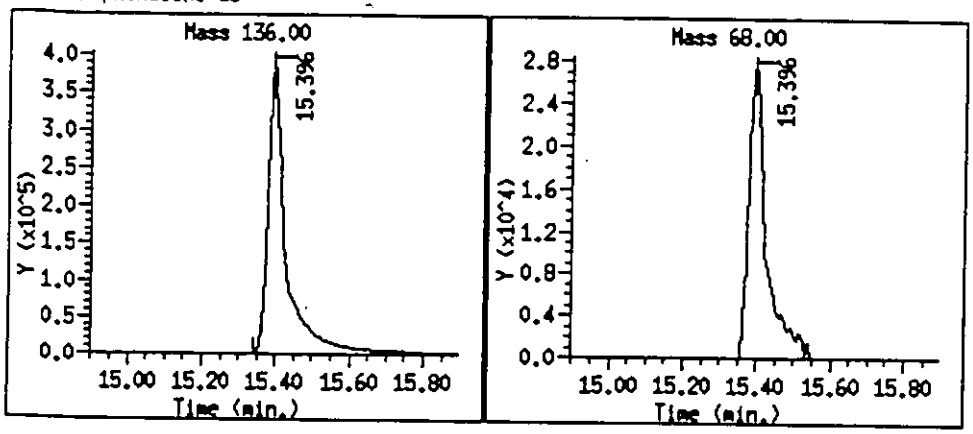
216

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	29.237	RTE	0.230	3131221	29.141	29.371
2	29.475	RTE	0.230	2812410	29.371	29.602

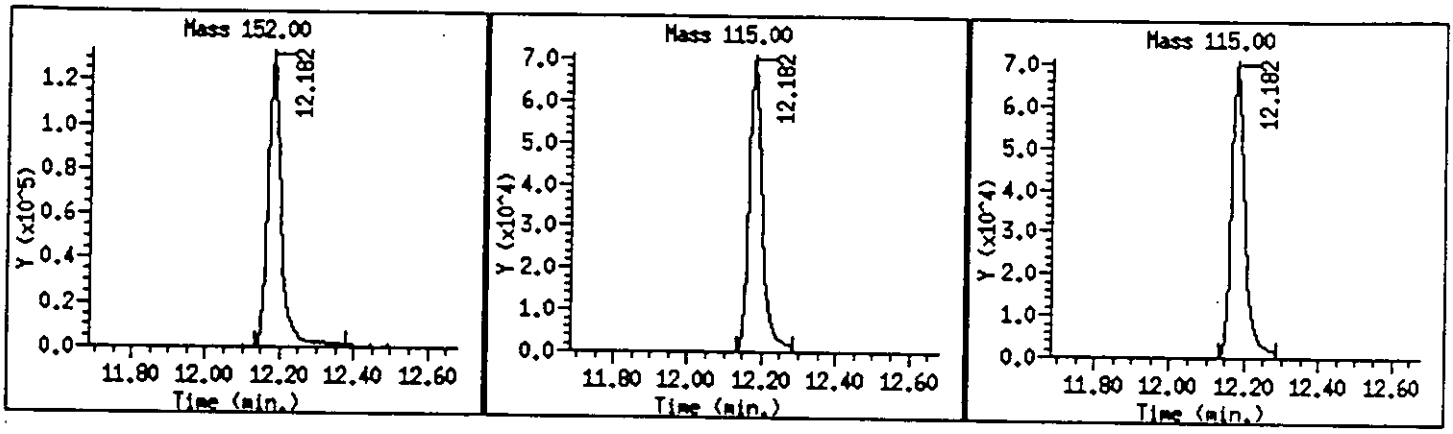

Scan 3066 (29.237 min) of JA33916.d SCALED
Abundance
10000
5000
0
39
63
87
107
111
150
163
189
216
#22747: 11H-Benzo[b]fluorene SCALED
Abundance
10000
5000
0
108
113
163
189
216
0
50
100
150
200
Mass/Charge


Scan 3096 (29.475 min) of JA33916.d SCALED
Abundance
10000
5000
0
39
63
87
107
111
150
163
189
216
#22747: 11H-Benzo[b]fluorene SCALED
Abundance
10000
5000
0
108
113
163
189
216
0
50
100
150
200
Mass/Charge

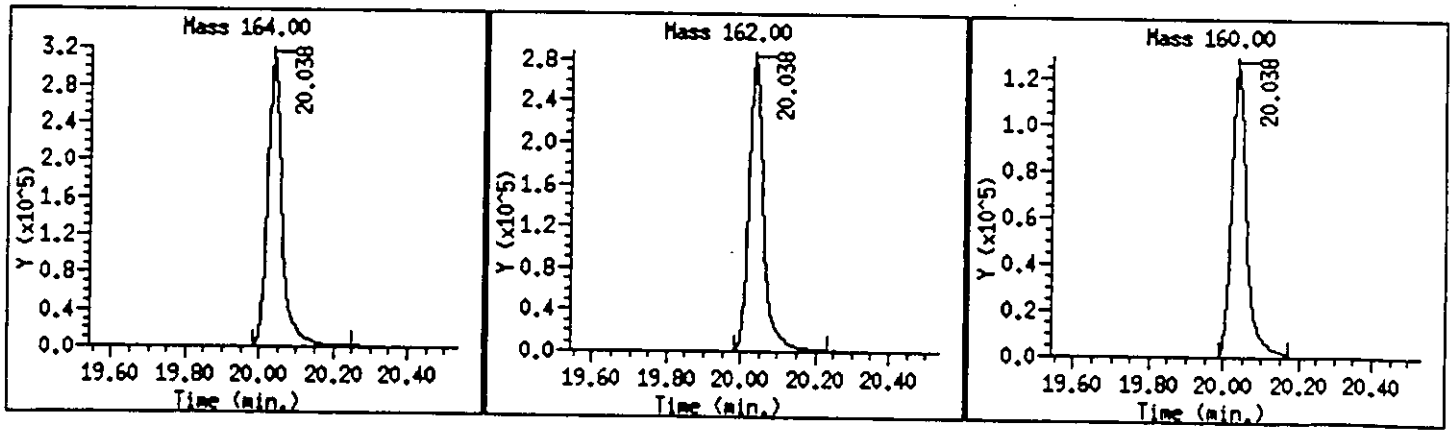
× 1 Naphthalene-d8



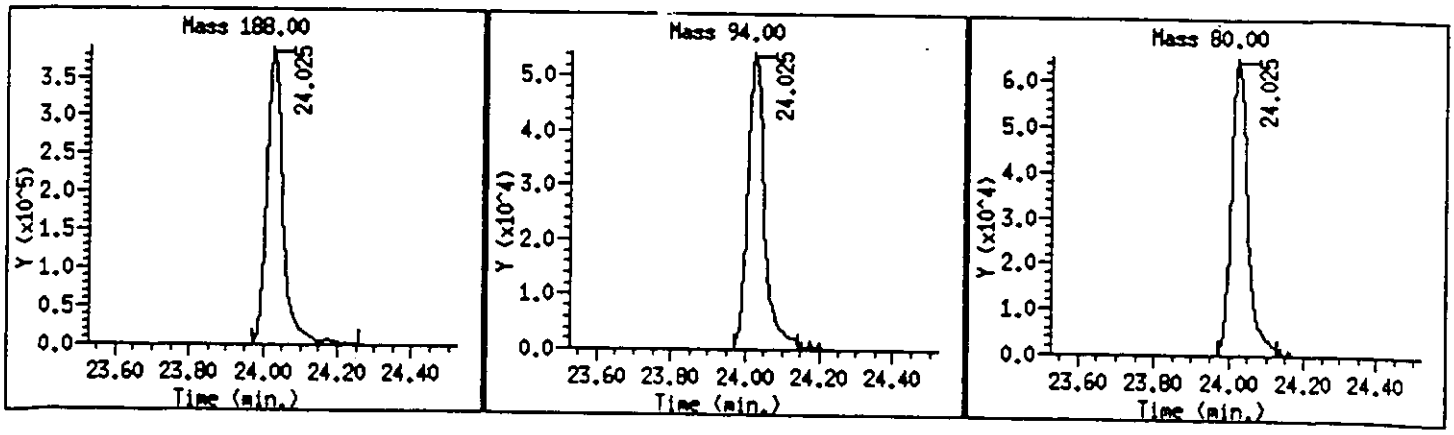
× 2 1,4 Dichlorobenzene-d4



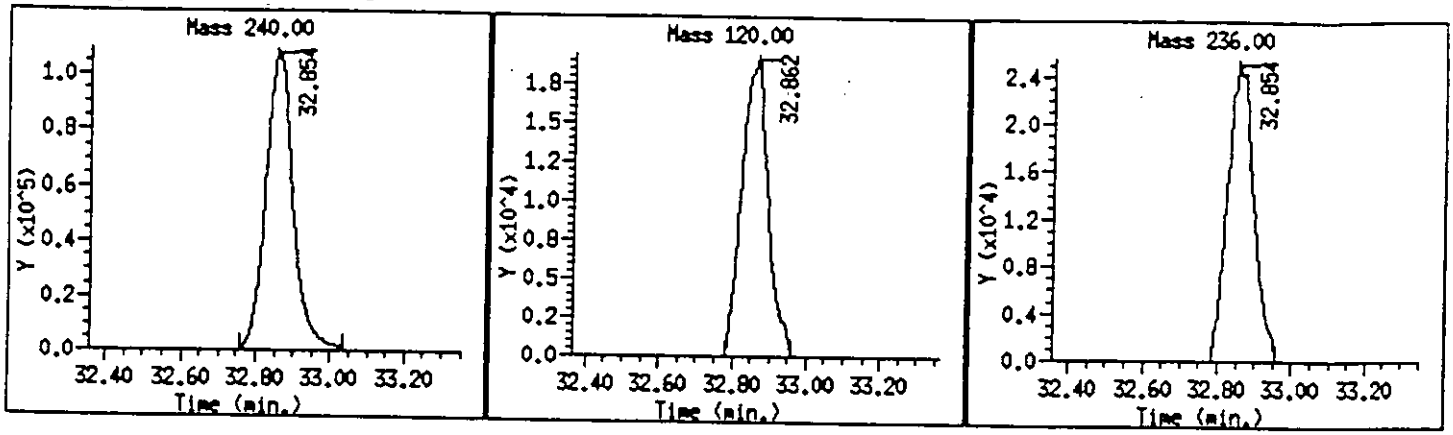
× 3 Acenaphthene-d10



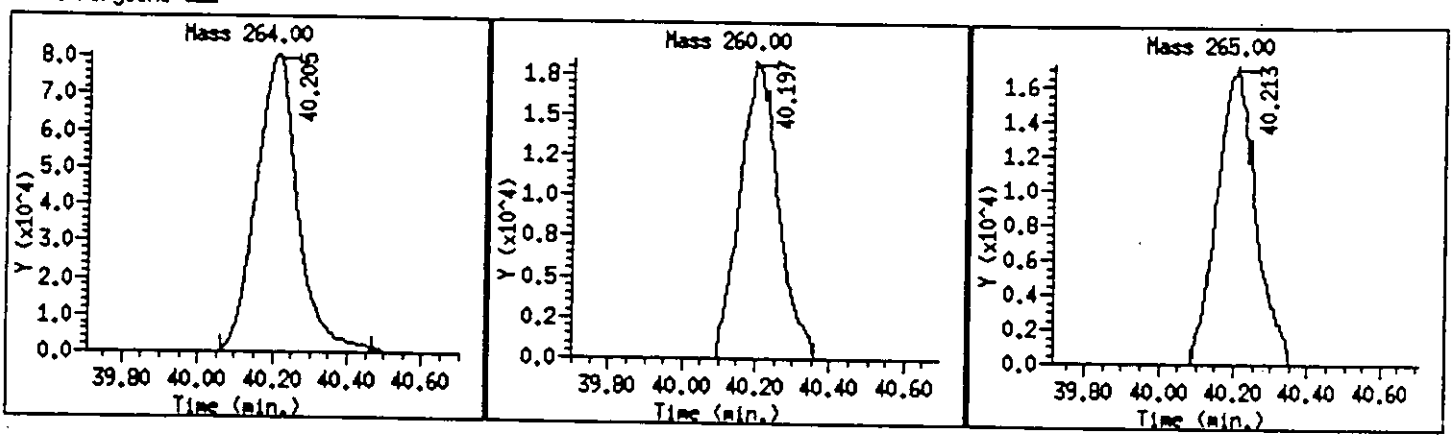
× 4 Phenanthrene-d10



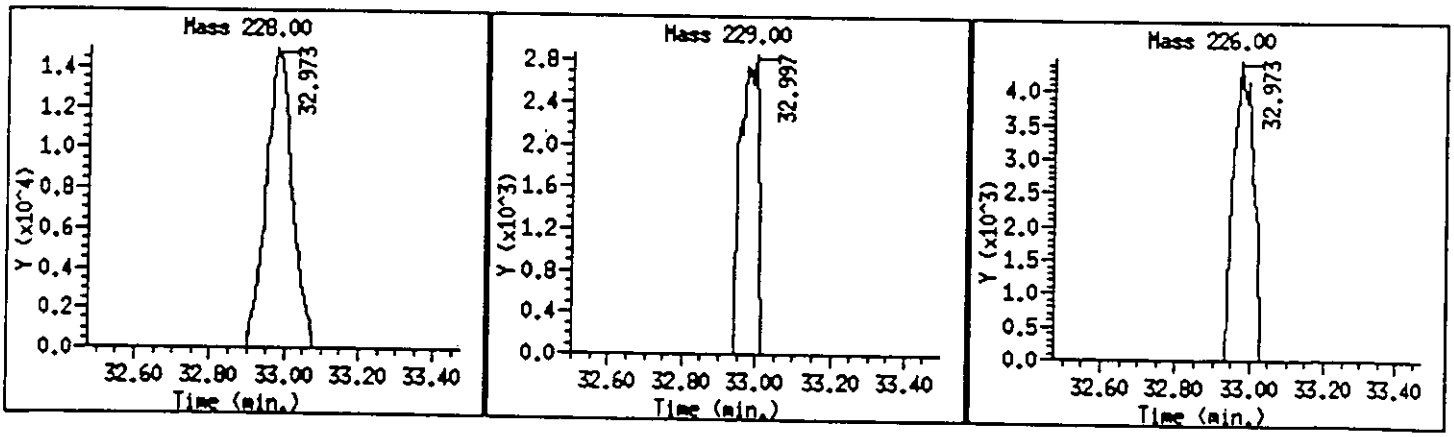
* 5 Chrysene-d12



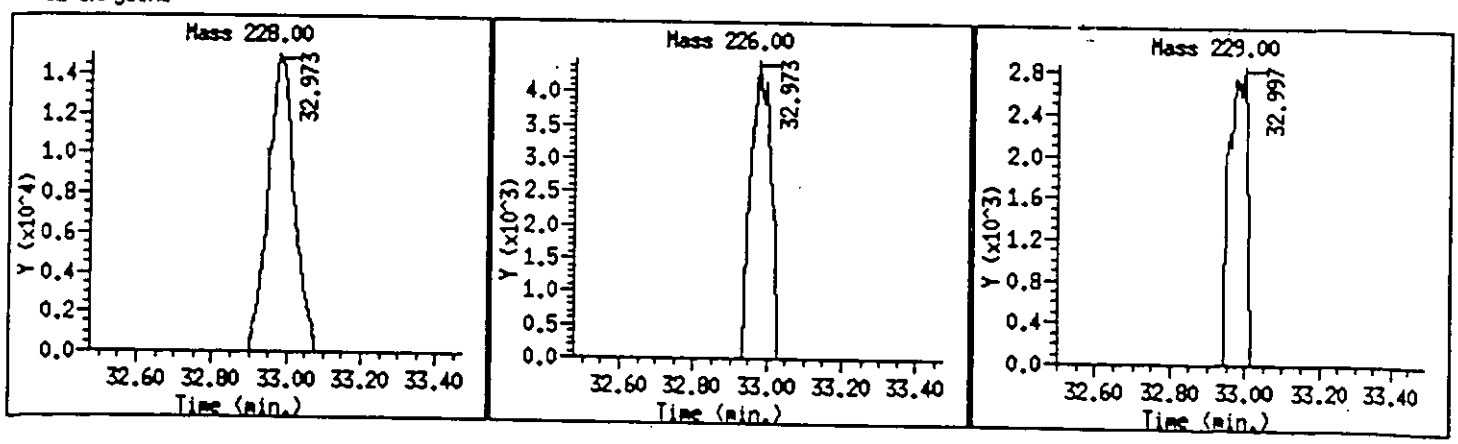
* 6 Perylene-d12



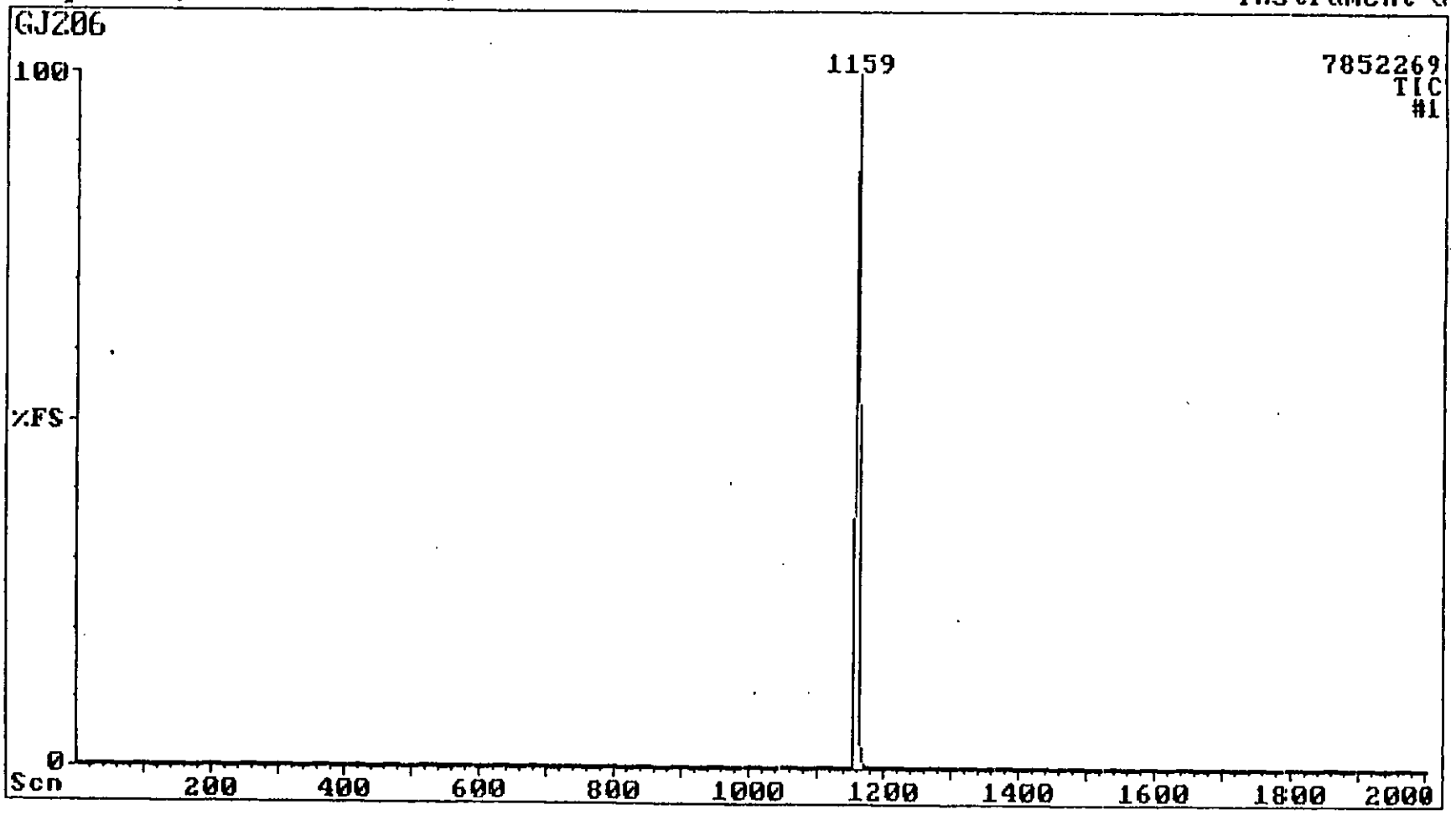
80 Benzo(a)anthracene



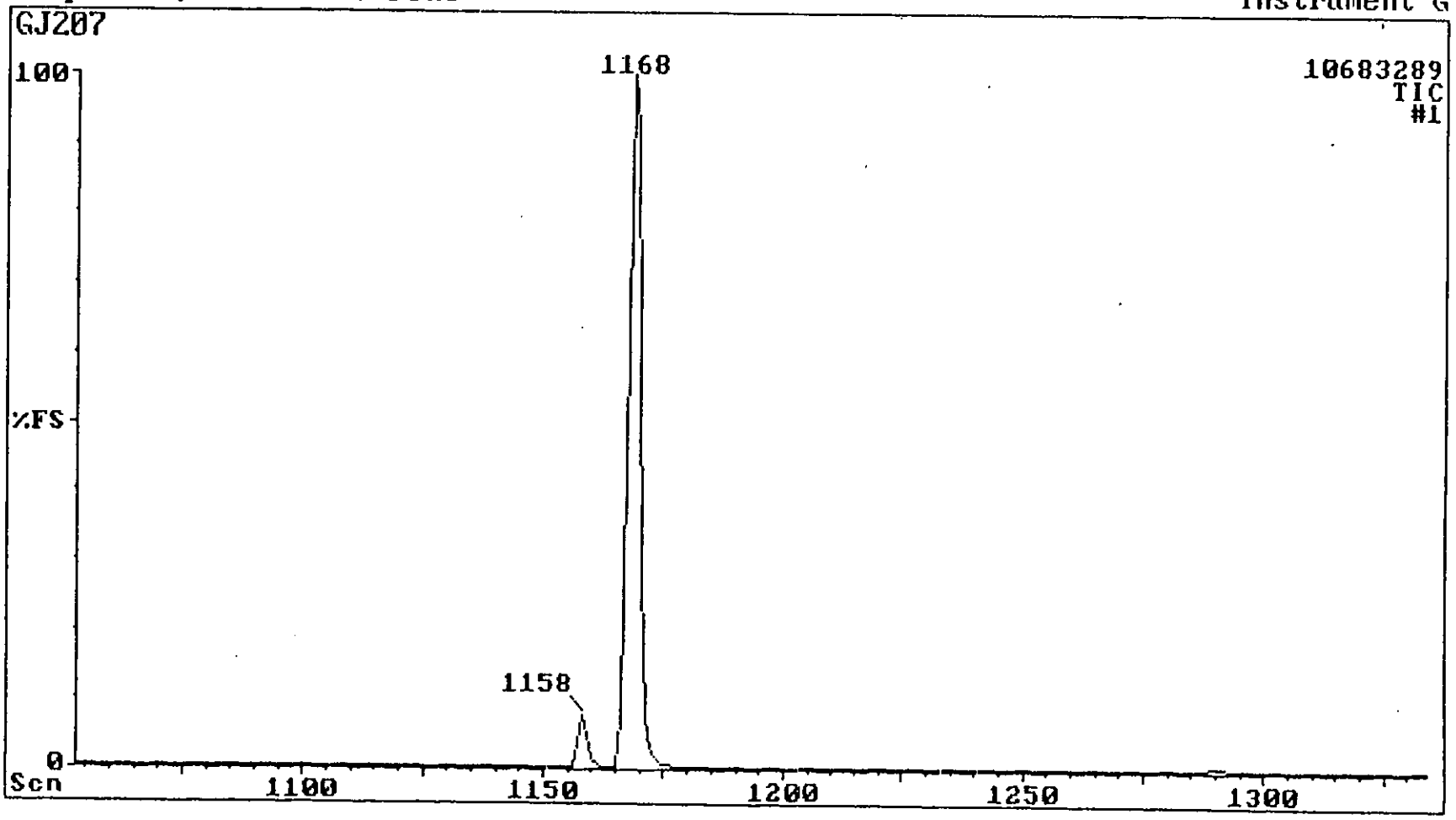
81 Chrysene



12-Aug-92 07:54 Triangle Laboratories of RTP, Inc. (919) 544-5729
Sample: 1,2-Benzofluorene Instrument G



12-Aug-92 08:39 Triangle Laboratories of RTP, Inc. (919) 544-5729
Sample: 2,3-Benzofluorene Instrument G



TRIANGLE LABORATORIES OF RTP, INC.
801 Capitola Drive
Durham, N.C. 27713
(919) 544-5729

Single Point Calibration Summary

Analyte: Cumene

Date of Analysis: 08/15/92
Calibration File Name: JA33916
Analyte Concentration: 100 micrograms per milliliter (ug/mL)
Internal Standard Designation: 1,4-Dichlorobenzene-d_4
Internal Standard Concentration: 40 ug/mL

Calculated Response Factor: 1.365

Reviewed by: Selena Armstead Date: 8-26-92

TRIANGLE LABORATORIES OF RTP, INC.
801 Capitola Drive
Durham, N.C. 27713
(919) 544-5729

Single Point Calibration Summary

Analyte: 1,2-BENZOFLUORENE

Date of Analysis: 08/03/92
Calibration File Name: JA322
Analyte Concentration: 100 micrograms per milliliter (ug/mL)
Internal Standard Designation: Phenanthrene-d_{10}
Internal Standard Concentration: 40 ug/mL

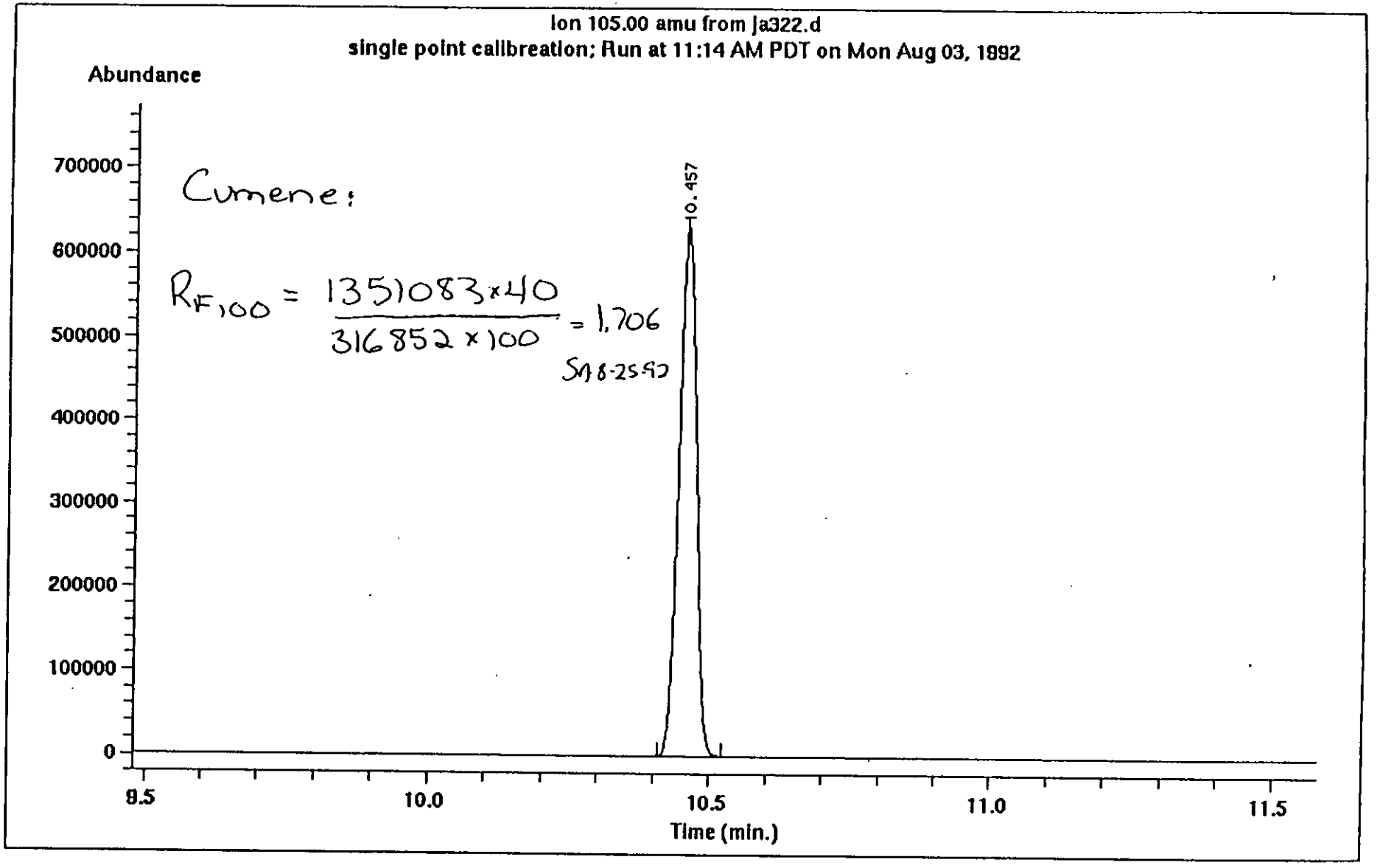
Calculated Response Factor: 1.342

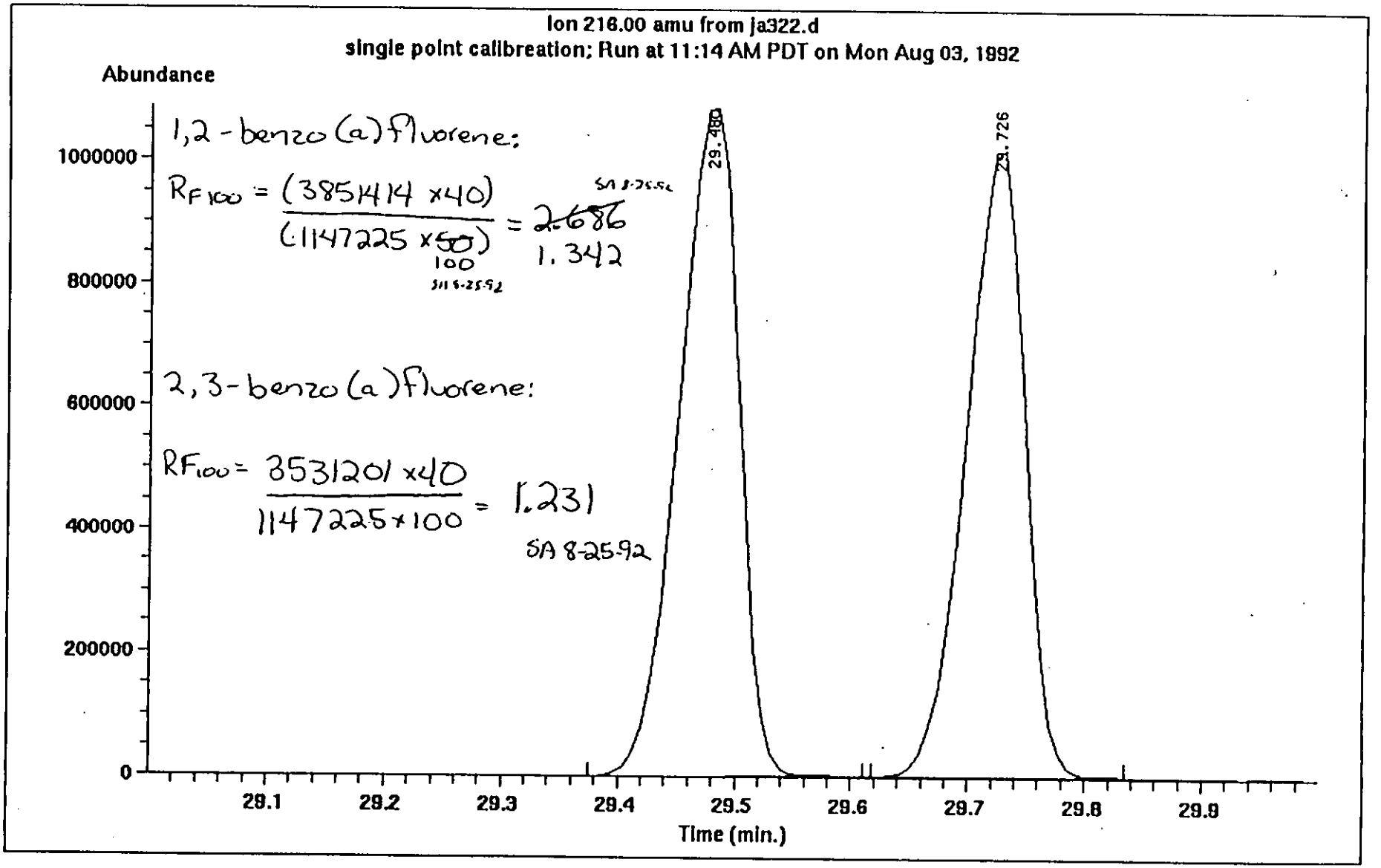
Analyte: 2,3-BENZOFLUORENE

Date of Analysis: 08/03/92
Calibration File Name: JA322
Analyte Concentration: 100 micrograms per milliliter (ug/mL)
Internal Standard Designation: Phenanthrene-d_{10}
Internal Standard Concentration: 40 ug/mL

Calculated Response Factor: 1.231

Reviewed by: Selena Arnold Date: 8-26-92


Ion 105.00 amu from ja322.d
single point calibreation; Run at 11:14 AM PDT on Mon Aug 03, 1992
Abundance
700000
600000
500000
400000
300000
200000
100000
0
10.457
Cumene:
$R_{F,100} = \frac{1351083 \times 40}{316852 \times 100} = 1.706$
SM 8-25-92
9.5
10.0
10.5
11.0
11.5
Time (min.)


Ion 216.00 amu from ja322.d
single point calibreation; Run at 11:14 AM PDT on Mon Aug 03, 1992
Abundance
1,2-benzo(a)fluorene:
$RF_{100} = \frac{(385414 \times 40)}{(1147225 \times \frac{50}{100})} = \frac{2.686}{1.342}$
SA 8-2592
2,3-benzo(a)fluorene:
$RF_{100} = \frac{353201 \times 40}{1147225 \times 100} = 1.231$
SA 8-2592
29.480
29.726
1000000
800000
600000
400000
200000
0
29.1
29.2
29.3
29.4
29.5
29.6
29.7
29.8
29.9
Time (min.)

TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

SEMI-VOLATILE QUANTATATION REPORT

Data file : /chem/TRILABS.i/8-3-92.b/ja322.d
Lab. Id. :
Inj Date : 03-AUG-1992 11:14 Autotune Date: 22-Jul-92 12:21:3
Operator : mick Inst ID: TRILABS.i
Smp Info : single point ~~calibreation~~
Misc Info : bs8-10-4 Calibration SA 8-31-92
Comment :
Method : /chem/TRILABS.i/8-3-92.b/tlibna.m
Meth Date : 20-Aug-1992 09:06 target
Cal Date : 03-AUG-1992 09:52 Cal File: ja321.d
Als bottle: 2
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: all.sub
Rpt Date : 21-Aug-1992 11:15 Sample Type: mm5

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
*	1	1,4-Dichlorobenzene	12.339(1.000)	316852	40.00	40.00
*	2	Naphthalene-d8	15.565(1.000)	1221470	40.00	40.00
*	3	Acenaphthene-d10	20.213(1.000)	746205	40.00	40.00
*	4	Phenanthrene-d10	24.204(1.000)	1147225	40.00	40.00
*	5	Chrysene-d12	33.153(1.000)	1077374	40.00	40.00
*	6	Perylene-d12	40.623(1.000)	808326	40.00	40.00
$	7	2-Fluorophenol		Compound Not Detected.		
$	8	Phenol-d5		Compound Not Detected.		
$	9	2-Chlorophenol-d4		Compound Not Detected.		
$	10	1,2-Dichlorobenzene	12.339(1.000)	316852	50.53	212.22(R)
$	11	Nitrobenzene-d5		Compound Not Detected.		
$	12	1,3,5-Trichlorobenz		Compound Not Detected.		
$	13	1,4-Dibromobenzene-		Compound Not Detected.		
$	14	2-Fluorobiphenyl		Compound Not Detected.		
$	15	2,4,6-Tribromopheno		Compound Not Detected.		
$	16	Anthracene-d10	24.204(1.000)	1147225	37.96	159.46(R)
$	17	Pyrene-d10		Compound Not Detected.		
$	18	Terphenyl-d14		Compound Not Detected.		
	19	N-Nitrosodimethylam		Compound Not Detected.		
	20	Phenol		Compound Not Detected.		
	21	Aniline		Compound Not Detected.		
	22	bis(2-Chloroethyl)e		Compound Not Detected.		
	23	2-Chlorophenol		Compound Not Detected.		
	24	1,3-Dichlorobenzene		Compound Not Detected.		
	25	1,4-Dichlorobenzene		Compound Not Detected.		
	26	1,2-Dichlorobenzene		Compound Not Detected.		
	27	2-Methylphenol		Compound Not Detected.		
	28	2,2'-oxybis(1-Chlor		Compound Not Detected.		
	29	Benzyl alcohol		Compound Not Detected.		
	30	4-Methylphenol		Compound Not Detected.		
	31	N-Nitroso-di-n-prop		Compound Not Detected.		

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
32 Hexachloroethane		Compound Not Detected.		
33 Nitrobenzene		Compound Not Detected.		
34 Isophorone		Compound Not Detected.		
35 2-Nitrophenol		Compound Not Detected.		
36 2,4-Dimethylphenol		Compound Not Detected.		
37 bis(2-Chloroethoxy)		Compound Not Detected.		
38 Benzoic acid		Compound Not Detected.		
39 2,4-Dichlorophenol		Compound Not Detected.		
40 1,2,4-Trichlorobenz		Compound Not Detected.		
41 Naphthalene		Compound Not Detected.		
42 4-Chloroaniline		Compound Not Detected.		
43 Hexachlorobutadiene		Compound Not Detected.		
44 4-Chloro-3-methylph		Compound Not Detected.		
45 2-Methylnaphthalene		Compound Not Detected.		
46 Hexachlorocyclopent		Compound Not Detected.		
47 2,4,6-Trichlorophen		Compound Not Detected.		
48 2,4,5-Trichlorophen		Compound Not Detected.		
49 2-Chloronaphthalene		Compound Not Detected.		
50 2-Nitroaniline		Compound Not Detected.		
51 Dimethylphthalate		Compound Not Detected.		
52 2,6-Dinitrotoluene		Compound Not Detected.		
53 2,4-Dinitrotoluene		Compound Not Detected.		
54 Acenaphthylene		Compound Not Detected.		
55 3-Nitroaniline		Compound Not Detected.		
56 Acenaphthene		Compound Not Detected.		
57 2,4-Dinitrophenol		Compound Not Detected.		
58 4-Nitrophenol		Compound Not Detected.		
59 Dibenzofuran		Compound Not Detected.		
60 Diethylphthalate		Compound Not Detected.		
61 4-Chlorophenyl-phen		Compound Not Detected.		
62 Fluorene		Compound Not Detected.		
63 4-Nitroaniline		Compound Not Detected.		
64 4,6-Dinitro-2-methy		Compound Not Detected.		
65 N-Nitrosodiphenylam		Compound Not Detected.		
66 4-Bromophenyl-pheny		Compound Not Detected.		
67 Hexachlorobenzene		Compound Not Detected.		
68 Pentachlorophenol		Compound Not Detected.		
69 Phenanthrene		Compound Not Detected.		
70 Anthracene		Compound Not Detected.		
71 Carbazole		Compound Not Detected.		
72 Di-n-butylphthalate		Compound Not Detected.		
73 Fluoranthene		Compound Not Detected.		
74 Pyrene		Compound Not Detected.		
75 Benzidine		Compound Not Detected.		
76 Butylbenzylphthalat		Compound Not Detected.		
77 3,3'-Dichlorobenzid		Compound Not Detected.		
78 bis(2-Ethylhexyl)ph		Compound Not Detected.		
79 Di-n-octylphthalate		Compound Not Detected.		
80 Benzo(a)anthracene	33.287(1.004)	114264	2.88	12.13
81 Chrysene	33.287(1.004)	114264	3.24	13.62
82 Benzo(b)fluoranthen		Compound Not Detected.		

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
83 Benzo(k)fluoranthen		Compound Not Detected.		
84 Benzo(e)pyrene		Compound Not Detected.		
85 Benzo(a)pyrene		Compound Not Detected.		
86 Perylene		Compound Not Detected.		
87 Indeno(1,2,3-cd)pyr		Compound Not Detected.		
88 Dibenzo(a,h)anthrac		Compound Not Detected.		
89 Benzo(g,h,i)perylen		Compound Not Detected.		

QC Flag Legend

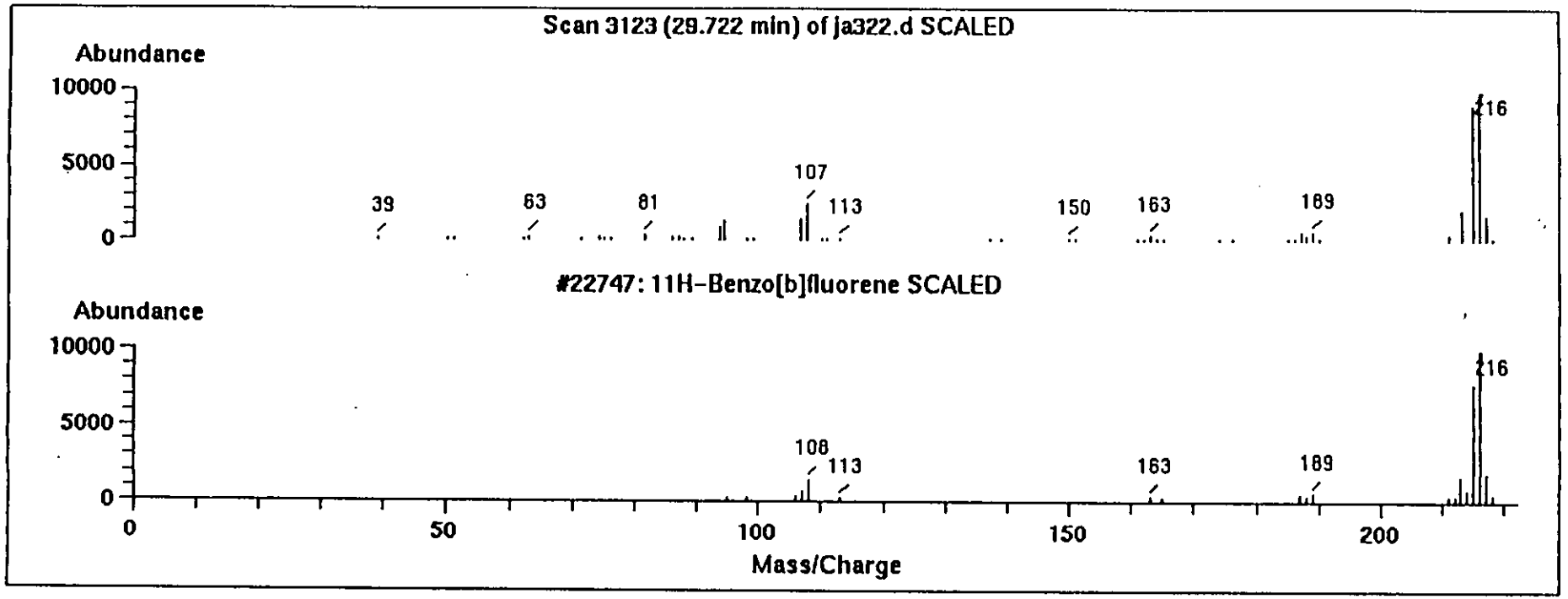
R - Spike/Surrogate failed recovery limits.

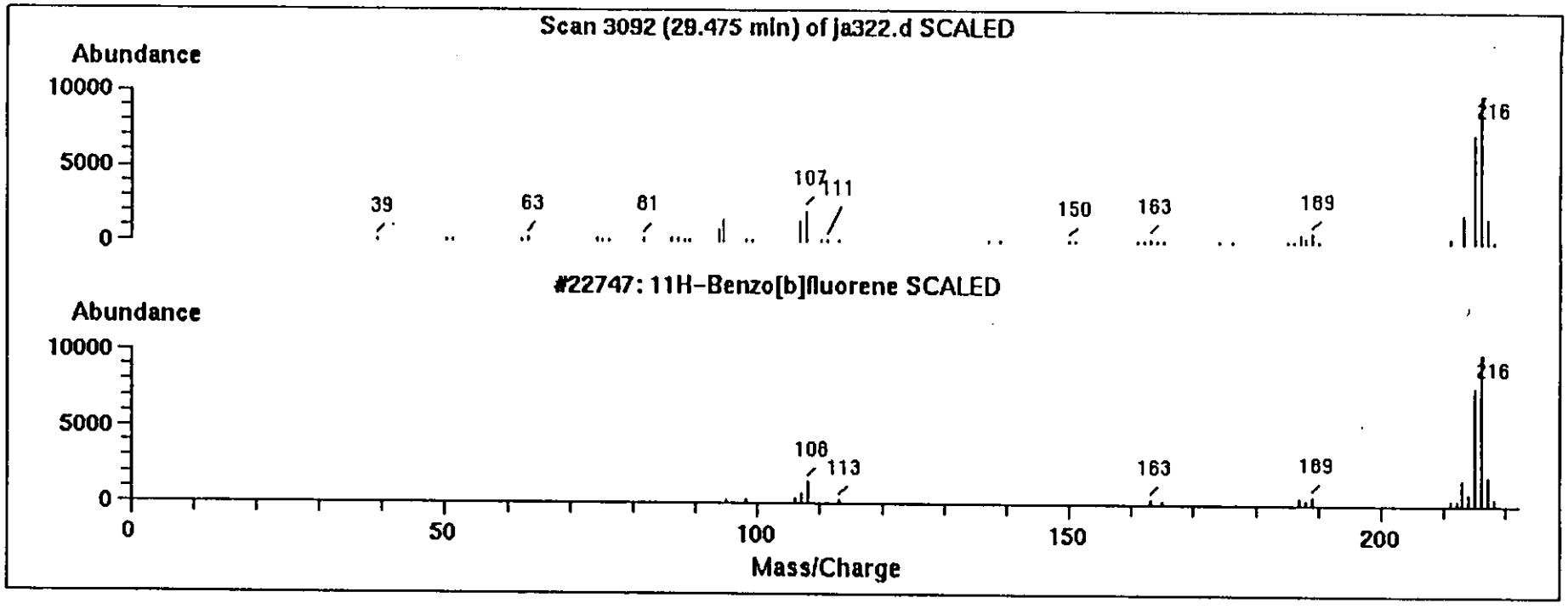
Ion 216.00 amu from ja322.d
single point calibreation

Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	29.483	RTE	0.238	3851414	29.380	29.618
2	29.730	RTE	0.215	3531201	29.618	29.833

Ion 105.00 amu from ja322.d
single point calibreation

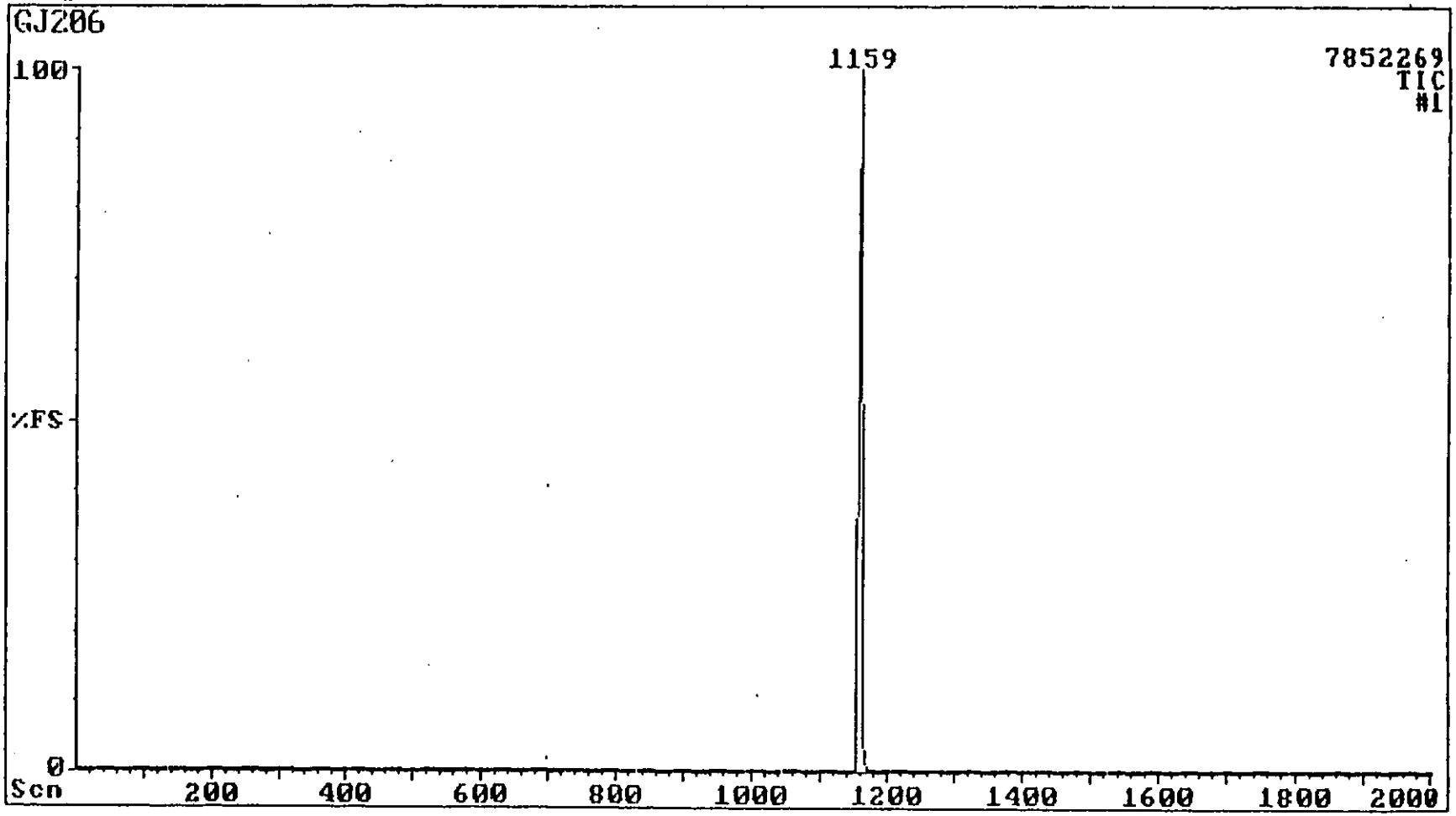
Peak#	Ret Time	Type	Width	Area	Start Time	End Time
1	10.457	RTE	0.111	1351083	10.409	10.520


Scan 3123 (29.722 min) of ja322.d SCALED
Abundance
10000
5000
0
39
63
81
107
113
150
163
189
216
#22747: 11H-Benzo[b]fluorene SCALED
Abundance
10000
5000
0
108
113
163
189
216
0
50
100
150
200
Mass/Charge


Scan 3092 (29.475 min) of ja322.d SCALED
Abundance
10000
5000
0
39
63
81
107
111
150
163
189
216
#22747: 11H-Benzo[b]fluorene SCALED
Abundance
10000
5000
0
106
113
163
189
216
0
50
100
150
200
Mass/Charge

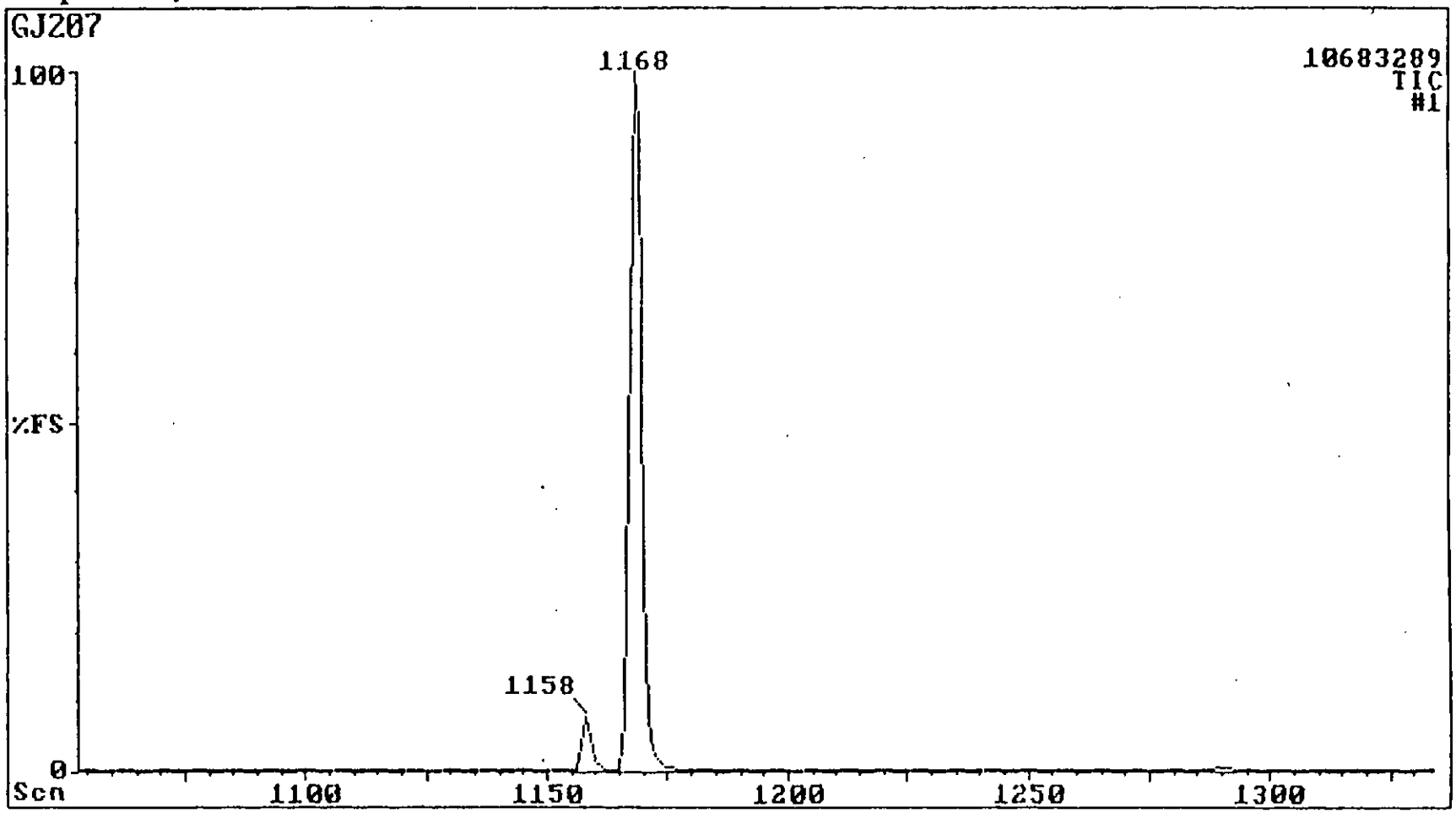
12-Aug-92 07:54 Triangle Laboratories of RTP, Inc. (919) 544-5729

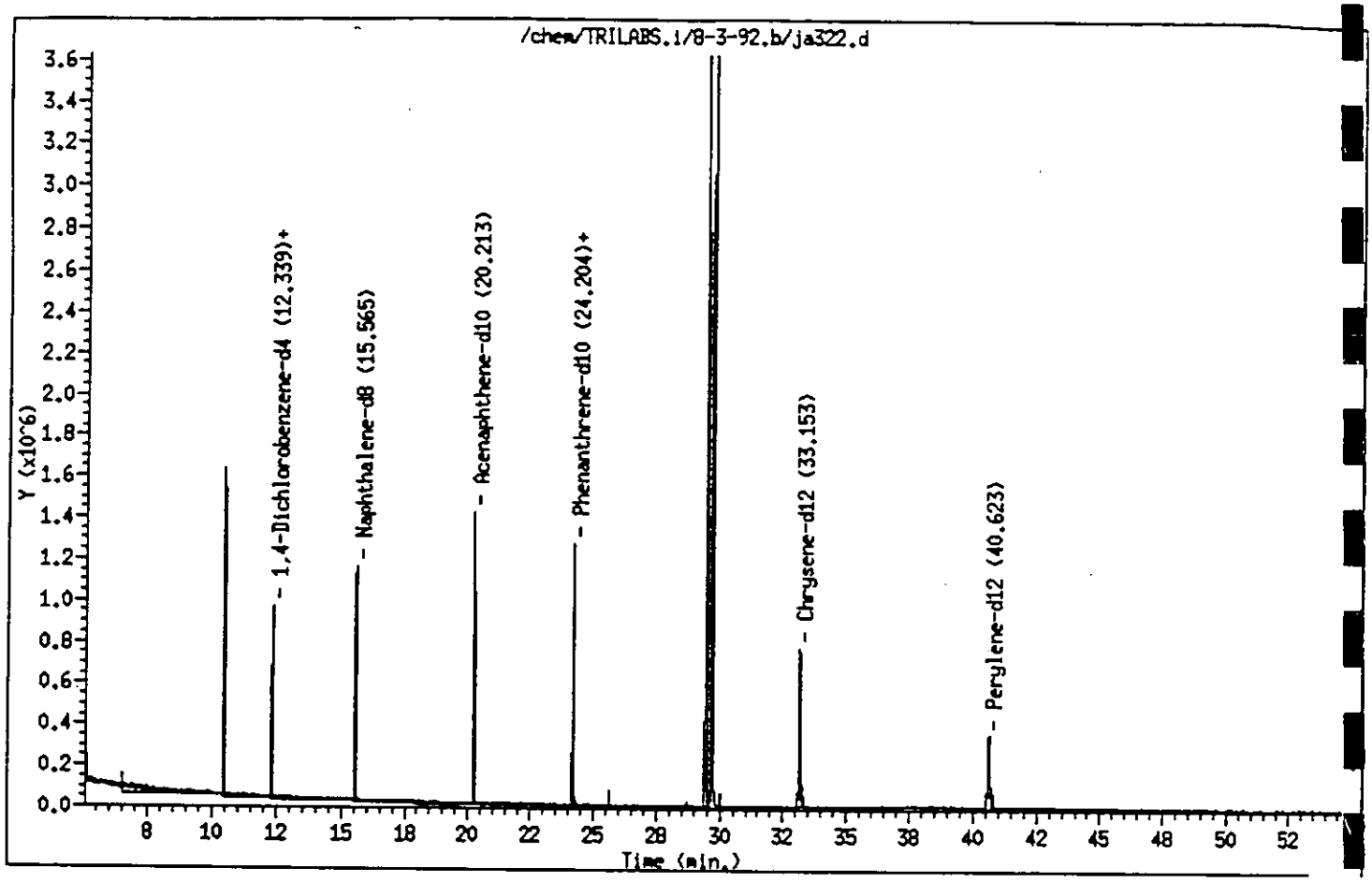
Sample: 1,2-Benzofluorene Instrument G



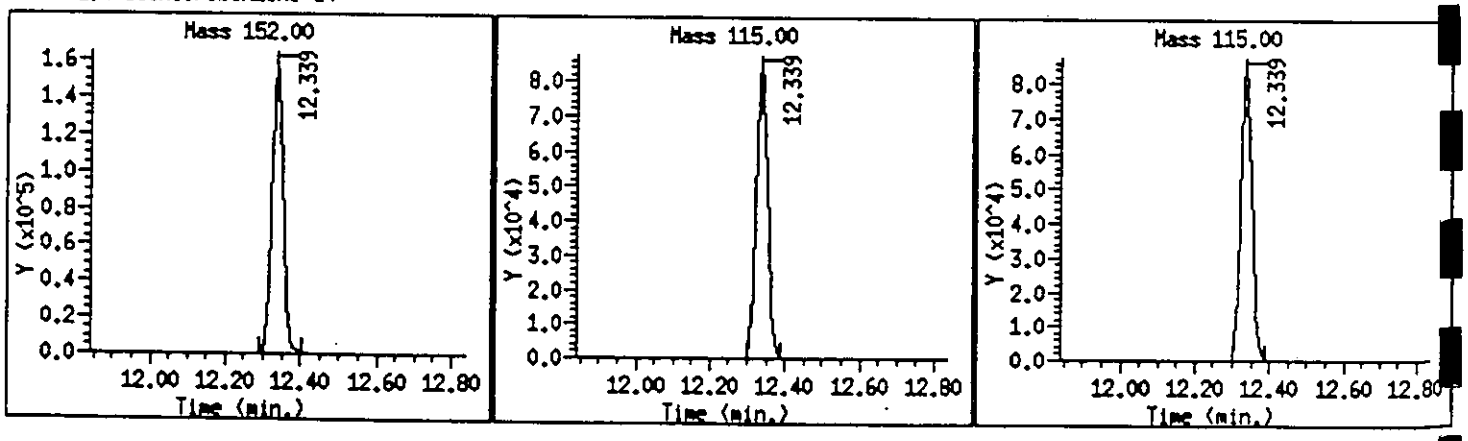
12-Aug-92 08:39 Triangle Laboratories of RTP, Inc. (919) 544-5729

Sample: 2,3-Benzofluorene Instrument G

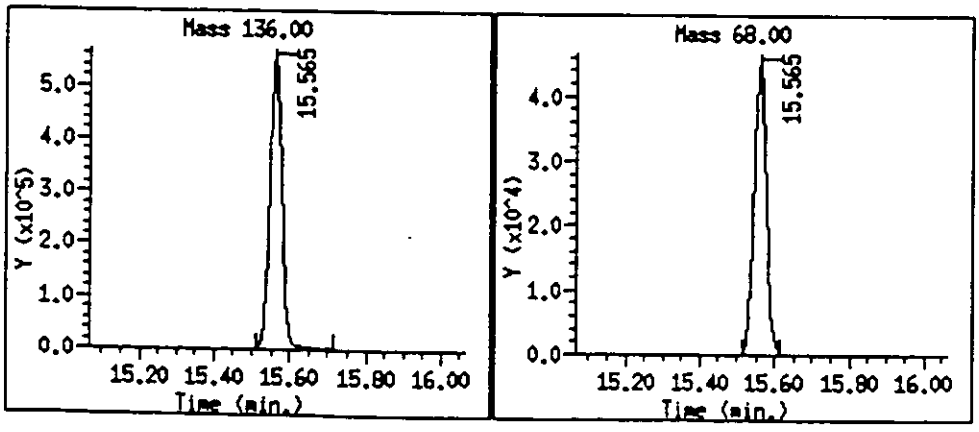




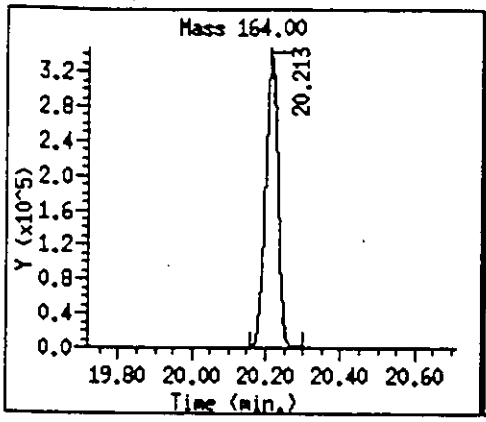
× 1 1,4-Dichlorobenzene-d4

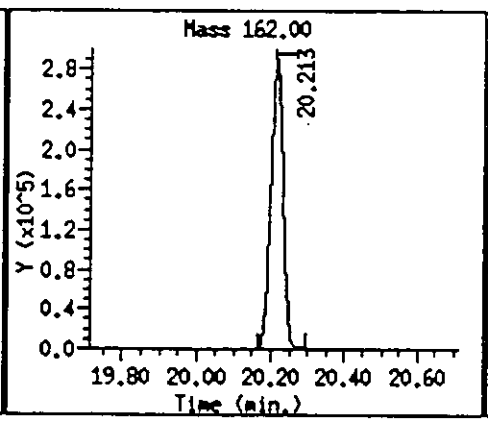


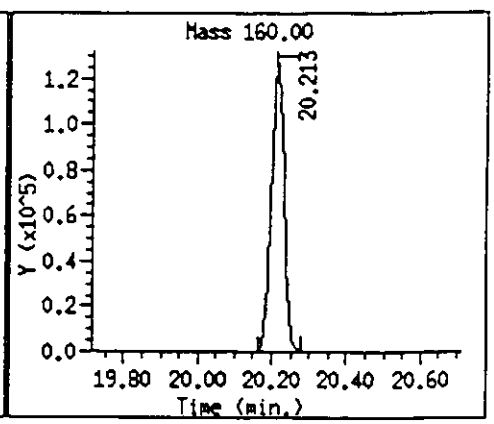
× 2 Naphthalene-d8



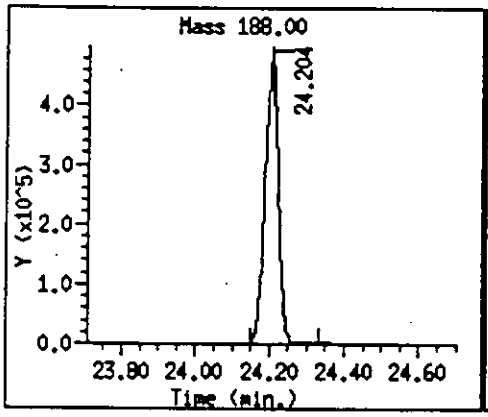
× 3 Acenaphthene-d10

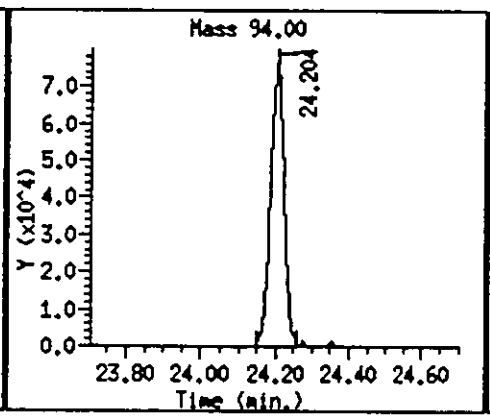


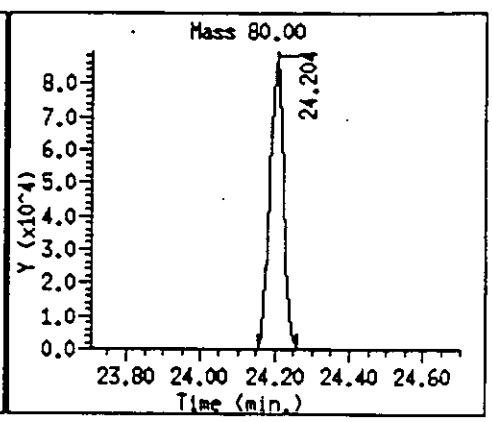




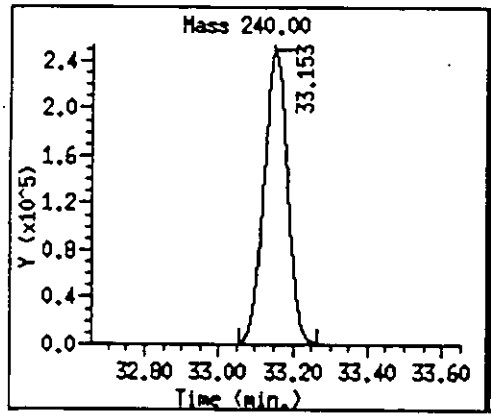
× 4 Phenanthrene-d10

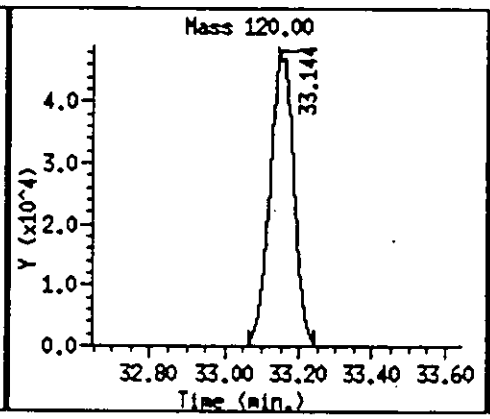


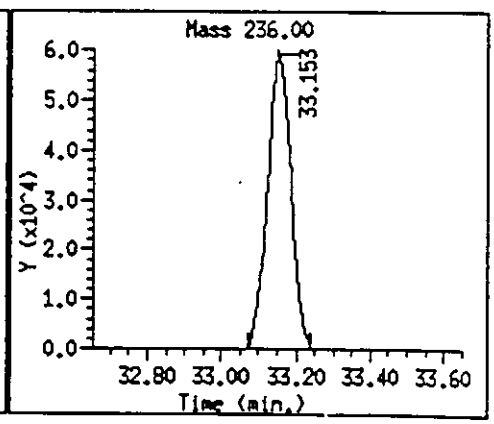




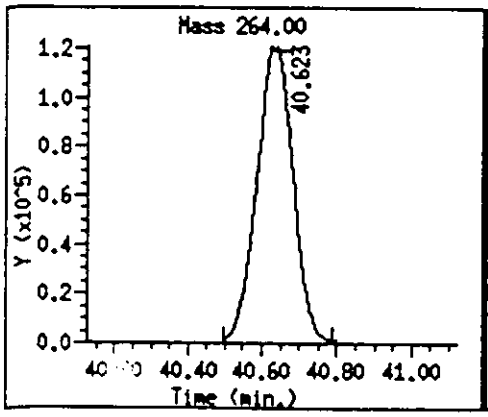
× 5 Chrysene-d12

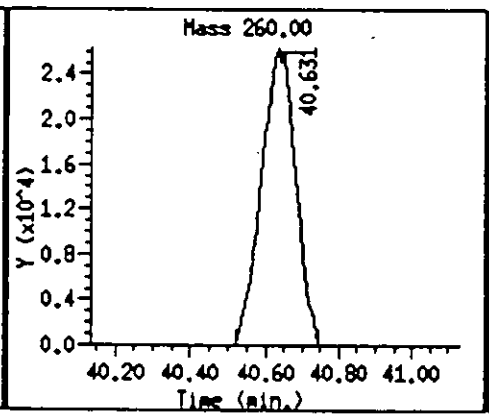


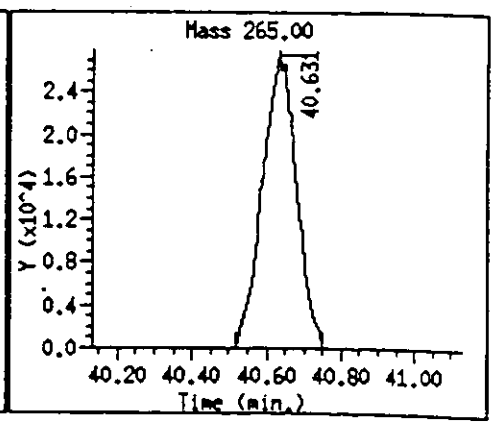




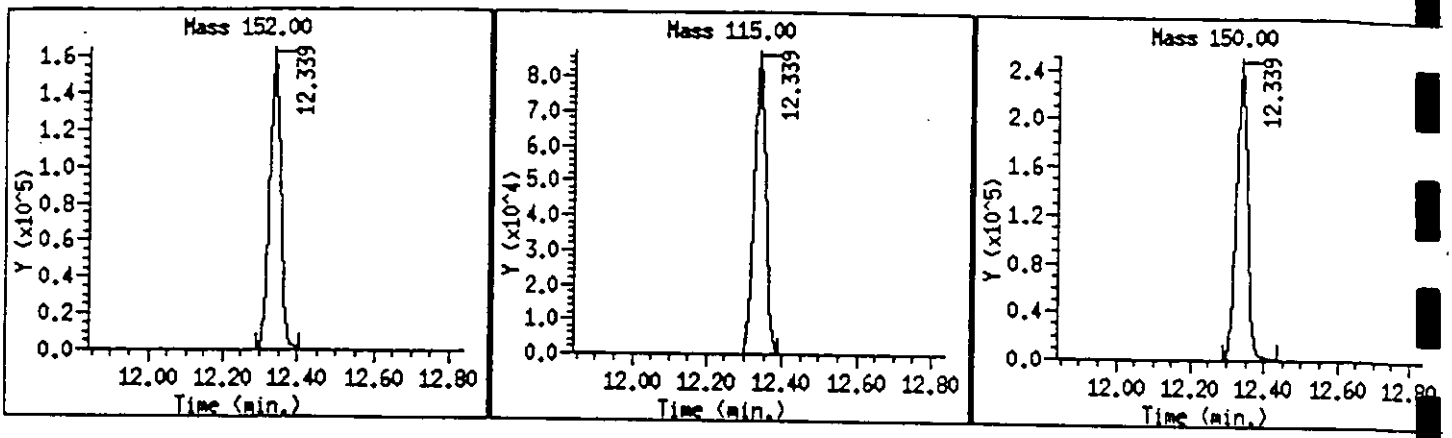
× 6 Perylene-d12



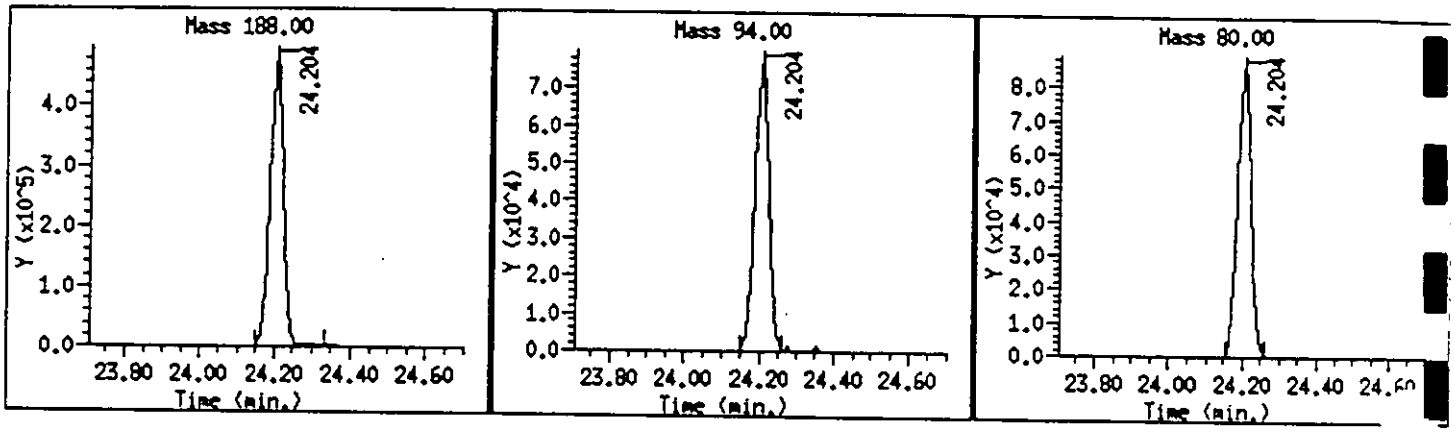




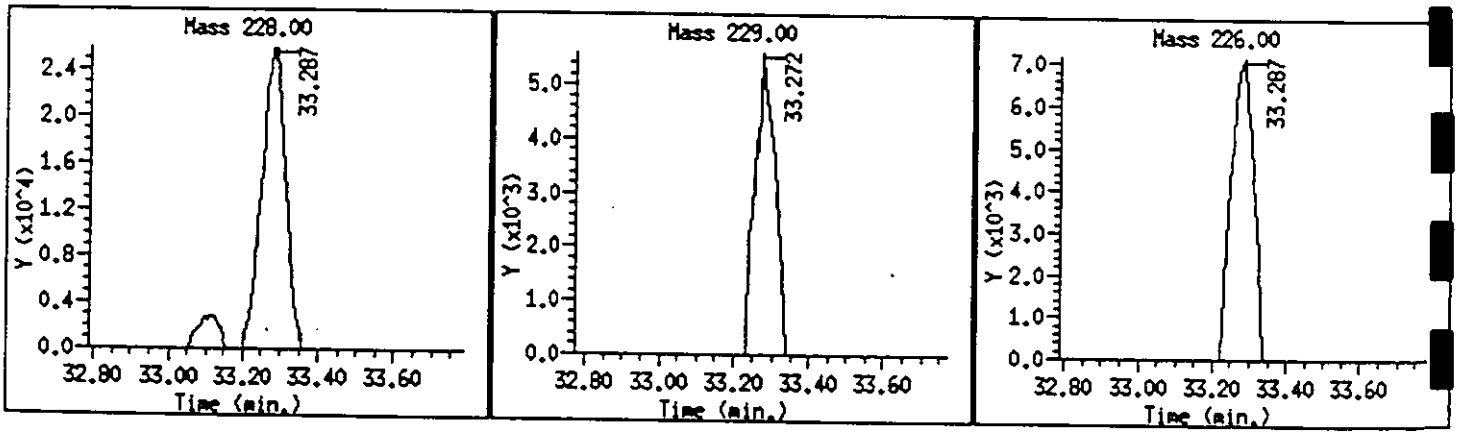
s 10 1,2-Dichlorobenzene-d4



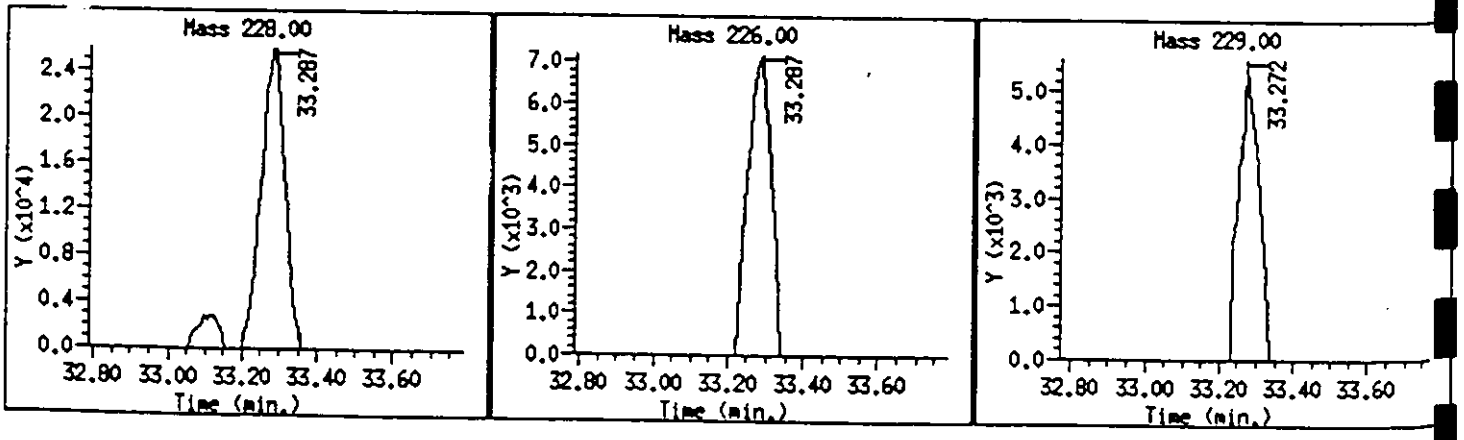
s 16 Anthracene-d10



80 Benzo(a)anthracene



81 Chrysene



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

CONTINUING CALIBRATION COMPOUNDS

J 8/8/92

Instrument ID: ~~TRILABS.i~~

Lab File ID: ja321.d

Analysis Type: mm5

Lab Sample ID:

8.0.92

Init. Calibration Date(s): 08/01/92 08/01/92

Init. Calibration Times: 1014 1415

Method File: /chem/TRILABS.i/8-3-92.b/tlibna.m

8.0.92

COMPOUND	$\overline{RRF}$	RF 50	MIN RRF	%D	MAX %D	
2-Fluorophenol	0.969	0.969	0.100	0.1	30.0	
Phenol-d5	1.339	1.352	0.100	1.0	30.0	
2-Chlorophenol-d4	1.118	1.059	0.100	5.3	50.0	
1,2-Dichlorobenzene-d4	0.831	0.792	0.100	4.8	50.0	
Nitrobenzene-d5	0.412	0.410	0.100	0.7	30.0	
1,3,5-Trichlorobenzene-d3	0.296	0.332	0.100	12.3	50.0	
1,4-Dibromobenzene-d4	0.931	0.898	0.100	3.6	50.0	
2-Fluorobiphenyl	1.186	1.259	0.100	6.2	30.0	
2,4,6-Tribromophenol	0.253	0.242	0.100	4.4	40.0	
Anthracene-d10	1.084	1.054	0.100	2.8	50.0	
Pyrene-d10	1.501	1.485	0.100	1.0	50.0	
Terphenyl-d14	1.486	1.604	0.100	8.0	40.0	
N-Nitrosodimethylamine	0.403	0.379	0.010	6.0	50.0	
Phenol	1.318	1.340	0.100	1.6	25.0	
Aniline	1.704	1.722	0.100	1.0	30.0	
bis(2-Chloroethyl)ether	1.215	1.205	0.100	0.8	30.0	
2-Chlorophenol	1.142	1.091	0.100	4.5	30.0	
1,3-Dichlorobenzene	1.401	1.409	0.100	0.6	30.0	
1,4-Dichlorobenzene	1.428	1.427	0.100	0.1	25.0	
1,2-Dichlorobenzene	1.380	1.385	0.100	0.4	30.0	
2-Methylphenol	1.118	1.107	0.100	1.0	30.0	
2,2'-oxybis(1-Chloropropane)	0.439	0.442	0.100	0.7	50.0	
Benzyl alcohol	0.586	0.499	0.100	14.9	30.0	
4-Methylphenol	1.194	1.127	0.100	5.6	30.0	
N-Nitroso-di-n-propylamine	0.868	0.812	0.010	6.4	30.0	
Hexachloroethane	0.692	0.691	0.100	0.2	30.0	
Nitrobenzene	0.372	0.392	0.100	5.4	30.0	
Isophorone	0.723	0.736	0.100	1.8	30.0	
2-Nitrophenol	0.171	0.193	0.100	13.0	25.0	
2,4-Dimethylphenol	0.422	0.242	0.100	42.5	30.0	<-
bis(2-Chloroethoxy)methane	0.445	0.448	0.100	0.7	30.0	
Benzoic acid	0.178	0.152	0.100	15.0	30.0	
2,4-Dichlorophenol	0.294	0.295	0.100	0.3	25.0	
1,2,4-Trichlorobenzene	0.320	0.326	0.100	1.7	30.0	
Naphthalene	0.892	0.905	0.100	1.5	30.0	
4-Chloroaniline	0.367	0.380	0.100	3.3	30.0	
Hexachlorobutadiene	0.175	0.174	0.100	0.9	25.0	
4-Chloro-3-methylphenol	0.302	0.272	0.100	10.0	25.0	
2-Methylnaphthalene	0.687	0.694	0.100	1.1	30.0	
Hexachlorocyclopentadiene	0.236	0.239	0.010	1.2	35.0	
2,4,6-Trichlorophenol	0.316	0.303	0.100	4.1	25.0	
2,4,5-Trichlorophenol	0.369	0.314	0.100	14.7	30.0	
2-Chloronaphthalene	1.072	1.094	0.100	2.0	30.0	
2-Nitroaniline	0.338	0.332	0.100	1.7	30.0	

SA 8-17-92

TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: TRILABS.i
Lab File ID: ja321.d
Analysis Type: mm5
Lab Sample ID:

Init. Calibration Date(s): 08/01/92 08/01/92
Init. Calibration Times: 1014 1415
Method File: /chem/TRILABS.i/8-3-92.b/tlibna.m

8-10-92

COMPOUND	$\overline{RRF}$	RF 50	MIN RRF	%D	MAX %D	
Dimethylphthalate	1.277	1.250	0.100	2.1	30.0	
2,6-Dinitrotoluene	0.324	0.308	0.100	5.1	30.0	
2,4-Dinitrotoluene	0.446	0.439	0.100	1.5	30.0	
Acenaphthylene	1.729	1.739	0.100	0.6	30.0	
3-Nitroaniline	0.329	0.330	0.100	0.4	30.0	
Acenaphthene	0.988	1.011	0.100	2.3	25.0	
2,4-Dinitrophenol	0.155	0.114	0.010	26.3	50.0	
4-Nitrophenol	0.143	0.106	0.010	25.9	35.0	
Dibenzofuran	1.465	1.416	0.100	3.4	30.0	
Diethylphthalate	1.411	1.320	0.100	6.5	30.0	
4-Chlorophenyl-phenylether	0.497	0.503	0.100	1.2	30.0	
Fluorene	1.080	1.099	0.100	1.8	30.0	
4-Nitroaniline	0.372	0.370	0.100	0.4	30.0	
4,6-Dinitro-2-methylphenol	0.140	0.120	0.100	14.2	50.0	
N-Nitrosodiphenylamine	0.496	0.457	0.100	7.9	25.0	
4-Bromophenyl-phenylether	0.192	0.187	0.100	2.6	30.0	
Hexachlorobenzene	0.273	0.270	0.100	0.8	30.0	
Pentachlorophenol	0.122	0.097	0.100	20.5	25.0	
Phenanthrene	1.083	0.993	0.100	8.4	30.0	
Anthracene	1.128	1.077	0.100	4.5	30.0	
Carbazole	1.262	1.184	0.100	6.1	50.0	
Di-n-butylphthalate	1.928	1.867	0.100	3.1	30.0	
Fluoranthene	1.359	1.322	0.100	2.7	25.0	
Pyrene	1.807	1.721	0.100	4.8	35.0	
Benzidine	0.545	0.608	0.010	11.6	50.0	
Butylbenzylphthalate	1.234	1.265	0.100	2.6	30.0	
3,3'-Dichlorobenzidine	0.471	0.428	0.100	9.1	30.0	
bis(2-Ethylhexyl)phthalate	1.638	1.772	0.100	8.2	30.0	
Di-n-octylphthalate	2.948	3.683	0.100	24.9	25.0	
Benzo(a)anthracene	1.433	1.469	0.100	2.5	30.0	
Chrysene	1.359	1.308	0.100	3.8	30.0	
Benzo(b)fluoranthene	1.285	1.393	0.100	8.4	30.0	
Benzo(k)fluoranthene	1.197	1.305	0.100	9.1	30.0	
Benzo(e)pyrene	1.168	1.148	0.100	1.7	50.0	
Benzo(a)pyrene	1.155	1.135	0.100	1.7	25.0	
Perylene	0.974	0.924	0.100	5.1	50.0	
Indeno(1,2,3-cd)pyrene	1.244	0.893	0.100	28.2	30.0	
Dibenzo(a,h)anthracene	1.024	0.727	0.100	29.0	30.0	
Benzo(g,h,i)perylene	1.155	0.783	0.100	32.1	30.0	<-

Triangle Laboratories of RTP, Inc. 8-11-92

Data file: /chem/TRILABS.1/8-3-92.b/Ja321.d

Date : 03-AUG-1992 09:52

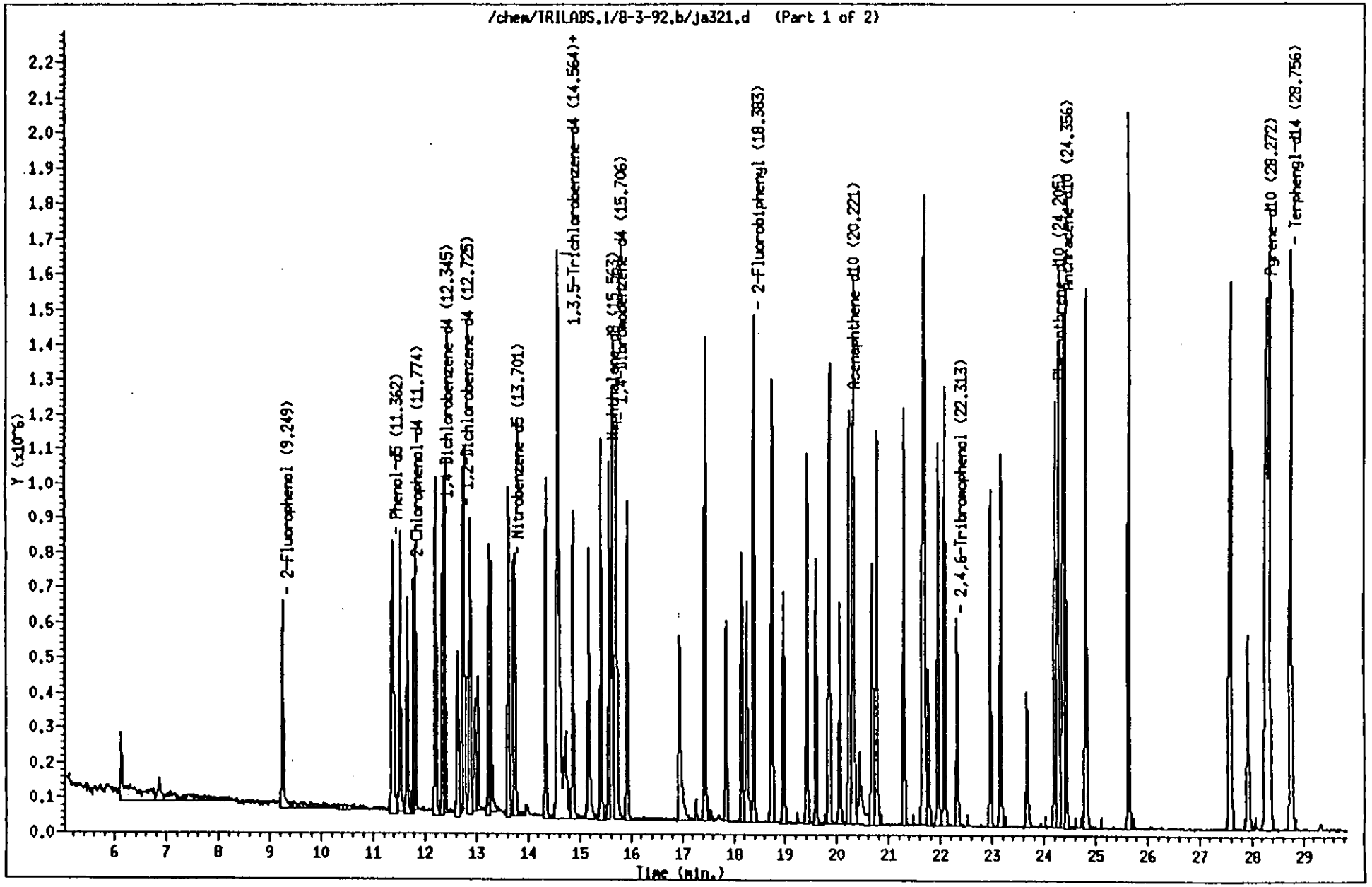
Instrument : ~~TRILABS.1~~ J SA 8-17-92

Sample ID : astd050

Column phase : DB-5

Column diameter : 0.32

Volume Injected (uL) : 1.0



Triangle Laboratories of RTP, Inc. 8-17-92

Data File: /chem/TRILABS.1/8-3-92.b/Ja321.d

Date : 03-AUG-1992 09:52

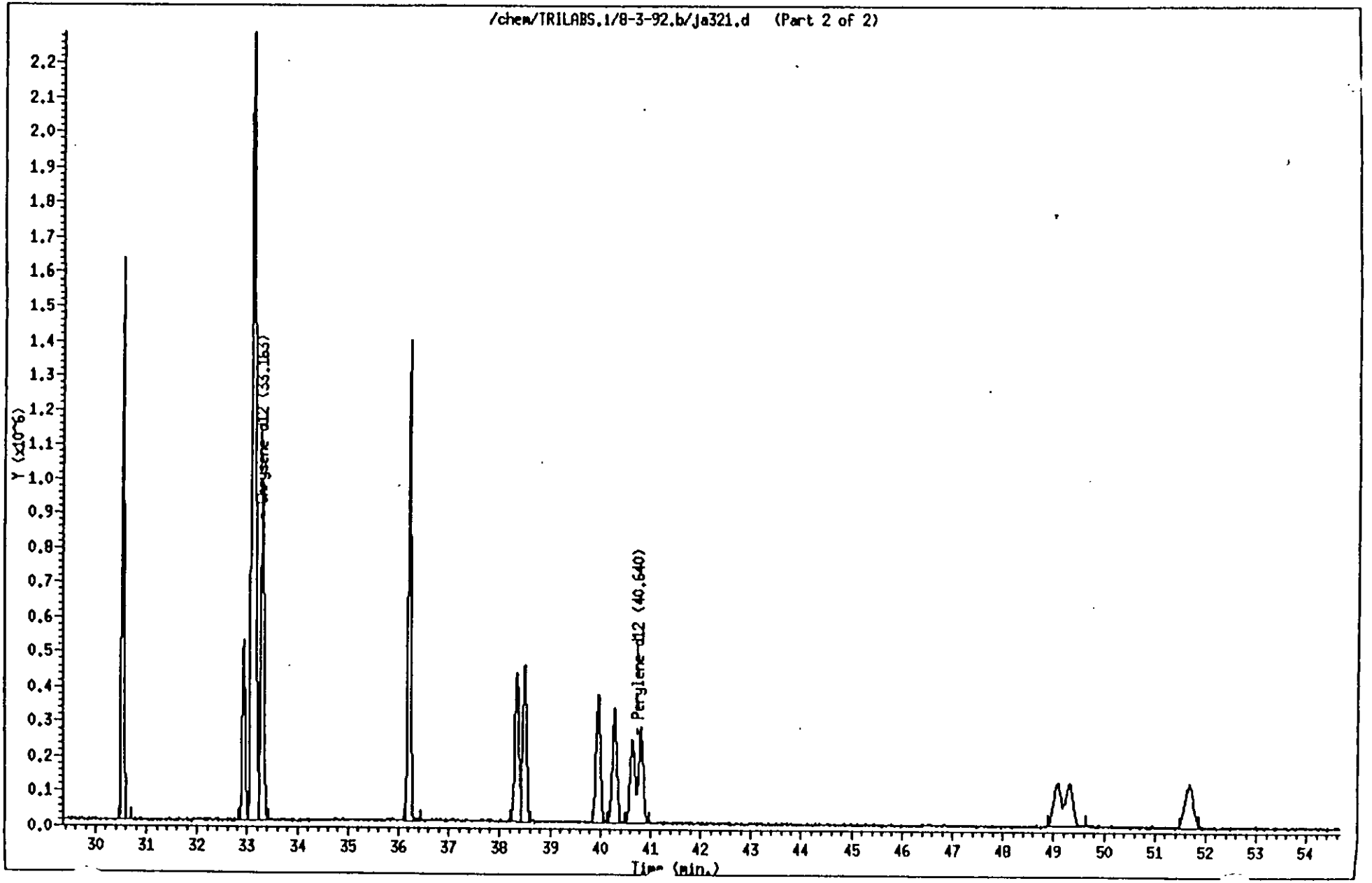
Instrument : ~~TRILABS.1~~ J SA 8-17-92

Sample ID : sstd050

Column phase : DB-5

Column diameter : 0.32

Volume Injected (uL) : 1.0



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

SEMI-VOLATILE QUANTATATION REPORT

Data file : /chem/TRILABS.i/8-3-92.b/ja321.d
Lab. Id. :
Inj Date : 03-AUG-1992 09:52 Autotune Date: 22-Jul-92 12:21:3
Operator : mick Inst ID: ~~TRILABS.i~~ J 8-17-92
Smp Info : sstd050
Misc Info :
Comment :
Method : /chem/TRILABS.i/8-3-92.b/tlibna.m
Meth Date : 06-Aug-1992 08:44
Cal Date : 03-AUG-92 09:52 Cal File: ja321.d
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: all.sub
Rpt Date : 06-Aug-1992 08:47 Sample Type: mm5

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ug)
•	1	1,4-Dichlorobenzene	12.345(1.000)	291596	40.00	40.00
*	2	Naphthalene-d8	15.563(1.000)	1057254	40.00	40.00
•	3	Acenaphthene-d10	20.221(1.000)	617203	40.00	40.00
*	4	Phenanthrene-d10	24.205(1.000)	1066490	40.00	40.00
*	5	Chrysene-d12	33.163(1.000)	866698	40.00	40.00
*	6	Perylene-d12	40.640(1.000)	546802	40.00	40.00
$	7	2-Fluorophenol	9.249(0.749)	353021	49.96	52.46
$	8	Phenol-d5	11.354(0.920)	492906	50.49	53.02
$	9	2-Chlorophenol-d4	11.774(0.954)	385956	47.34	49.71
$	10	1,2-Dichlorobenzene	12.725(1.031)	288536	47.62	50.00
$	11	Nitrobenzene-d5	13.693(0.880)	541192	49.64	52.12
$	12	1,3,5-Trichlorobenz	14.564(0.936)	439399	56.16	58.97
$	13	1,4-Dibromobenzene-	15.699 ~~(1.009)~~ 9.31	327219	51.53	54.10
$	14	2-Fluorobiphenyl	18.383(0.909)	971699	53.11	55.77
$	15	2,4,6-Tribromopheno	22.313(1.103)	186589	47.82	50.21
$	16	Anthracene-d10	24.356(1.006)	1404463	48.57	51.00
$	17	Pyrene-d10	28.272(0.853)	1609265	49.48	51.96
$	18	Terphenyl-d14	28.756(0.867)	1738015	53.98	56.68
	19	N-Nitrosodimethylam	6.123(0.496)	138040	46.67	49.00
	20	Phenol	11.386(0.922)	488319	50.82	53.36
	21	Aniline	11.521(0.933)	627504	50.51	53.03
	22	bis(2-Chloroethyl)e	11.655(0.944)	439256	49.57	52.05
	23	2-Chlorophenol	11.814(0.957)	397595	47.74	50.13
	24	1,3-Dichlorobenzene	12.210(0.989)	513728	50.29	52.80
	25	1,4-Dichlorobenzene	12.385(1.003)	520115	49.96	52.46
	26	1,2-Dichlorobenzene	12.757(1.033)	504861	50.18	52.69
	27	2-Methylphenol	12.868(1.042)	403351	49.51	51.98
	28	2,2'-oxybis(1-Chlor	13.027(1.055)	161134	50.36	52.88
	29	Benzyl alcohol	12.630(1.023)	181819	42.54	44.67
	30	4-Methylphenol	13.241(1.073)	410801	47.17	49.53
	31	N-Nitroso-di-n-prop	13.281(1.076)	296059	46.78	49.12

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug)
32 Hexachloroethane	13.614(1.103)	251728	49.89	52.38
33 Nitrobenzene	13.749(0.883)	518418	52.71	55.34
34 Isophorone	14.342(0.922)	973003	50.91	53.46
35 2-Nitrophenol	14.556(0.935)	255411	56.52	59.35
36 2,4-Dimethylphenol	14.604(0.938)	320274	28.72	30.16
37 bis(2-Chloroethoxy)	14.866(0.955)	592010	50.37	52.89
38 Benzoic acid	14.739(0.947)	200397	41.70	43.79
39 2,4-Dichlorophenol	15.167(0.975)	389830	50.15	52.66
40 1,2,4-Trichlorobenz	15.405(0.990)	430451	50.82	53.37
41 Naphthalene	15.619(1.004)	1196507	50.73	53.27
42 4-Chloroaniline	15.722(1.010)	501878	51.66	54.25
43 Hexachlorobutadiene	15.929(1.023)	229405	49.55	52.02
44 4-Chloro-3-methylph	16.941(1.089)	359176	44.99	47.23
45 2-Methylnaphthalene	17.432(1.120)	917682	50.54	53.07
46 Hexachlorocyclopent	17.844(0.882)	184130	50.58	53.11
47 2,4,6-Trichlorophen	18.145(0.897)	233520	47.95	50.35
48 2,4,5-Trichlorophen	18.240(0.902)	242426	42.63	44.76
49 2-Chloronaphthalene	18.732(0.926)	843696	51.00	53.55
50 2-Nitroaniline	18.962(0.938)	256164	49.12	51.58
51 Dimethylphthalate	19.421(0.960)	964509	48.96	51.41
52 2,6-Dinitrotoluene	19.595(0.969)	237372	47.42	49.79
53 2,4-Dinitrotoluene	20.665(1.022)	338876	49.24	51.70
54 Acenaphthylene	19.848(1.004)	1341972	50.79	53.33(M)
55 3-Nitroaniline	20.046(0.991)	254952	50.22	52.73
56 Acenaphthene	20.308(1.004)	779736	51.13	53.68
57 2,4-Dinitrophenol	20.332(1.006)	88324	36.87	38.71
58 4-Nitrophenol	20.435(1.011)	81699	37.03	38.88
59 Dibenzofuran	20.760(1.027)	1092681	48.32	50.73
60 Diethylphthalate	21.290(1.053)	1018106	46.75	49.08
61 4-Chlorophenyl-phen	21.647(1.071)	388371	50.61	53.14
62 Fluorene	21.679(1.072)	848121	50.87	53.42
63 4-Nitroaniline	21.679(1.072)	285723	49.81	52.30
64 4,6-Dinitro-2-methy	21.758(0.899)	159886	42.92	45.06
65 N-Nitrosodiphenylam	21.948(0.907)	609151	46.06	48.36
66 4-Bromophenyl-pheny	22.962(0.949)	248688	48.67	51.11
67 Hexachlorobenzene	23.160(0.957)	360503	49.58	52.06
68 Pentachlorophenol	23.667(0.978)	129351	39.74	41.72
69 Phenanthrene	24.276(1.003)	1323570	45.82	48.11
70 Anthracene	24.412(1.009)	1435800	47.72	50.11
71 Carbazole	24.808(1.025)	1578772	46.92	49.27
72 Di-n-butylphthalate	25.638(1.059)	2489428	48.42	50.84
73 Fluoranthene	27.583(1.140)	1762373	48.64	51.07
74 Pyrene	28.328(0.854)	1864033	47.59	49.97
75 Benzidine	27.916(0.842)	658423	55.78	58.56
76 Butylbenzylphthalat	30.536(0.921)	1370800	51.28	53.84
77 3,3'-Dichlorobenzid	32.924(0.993)	463871	45.43	47.70
78 bis(2-Ethylhexyl)ph	33.091(0.998)	1919746	54.09	56.80
79 Di-n-octylphthalate	36.209(0.891)	2517250	62.46	65.59(M)
80 Benzo(a)anthracene	33.115(0.999)	1591250	51.25	53.81
81 Chrysene	33.291(1.004)	1416777	48.11	50.52
82 Benzo(b)fluoranthen	38.329(0.943)	952259	54.84	57.58

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ug)
83 Benzo(k)fluoranthen	38.496(0.947)	892217	54.54	57.27
84 Benzo(e)pyrene	39.967(0.983)	784515	49.15	51.61
85 Benzo(a)pyrene	40.284(0.991)	775793	49.12	51.58
86 Perylene	40.815(1.004)	631789	47.46	49.83
87 Indeno(1,2,3-cd)pyr	49.068(1.207)	610212	35.88	37.68(M)
88 Dibenzo(a,h)anthrac	49.305(1.213)	497210	35.50	37.28(M)
89 Benzo(g,h,i)perylen	51.670(1.271)	535473	33.92	35.62

QC Flag Legend

M - Compound response manually integrated.

Data File: /chem/TRILABS.i/8-3-92.b/ja320.d

Date : 03-AUG-92 09:22

Instrument : TRILABS.i

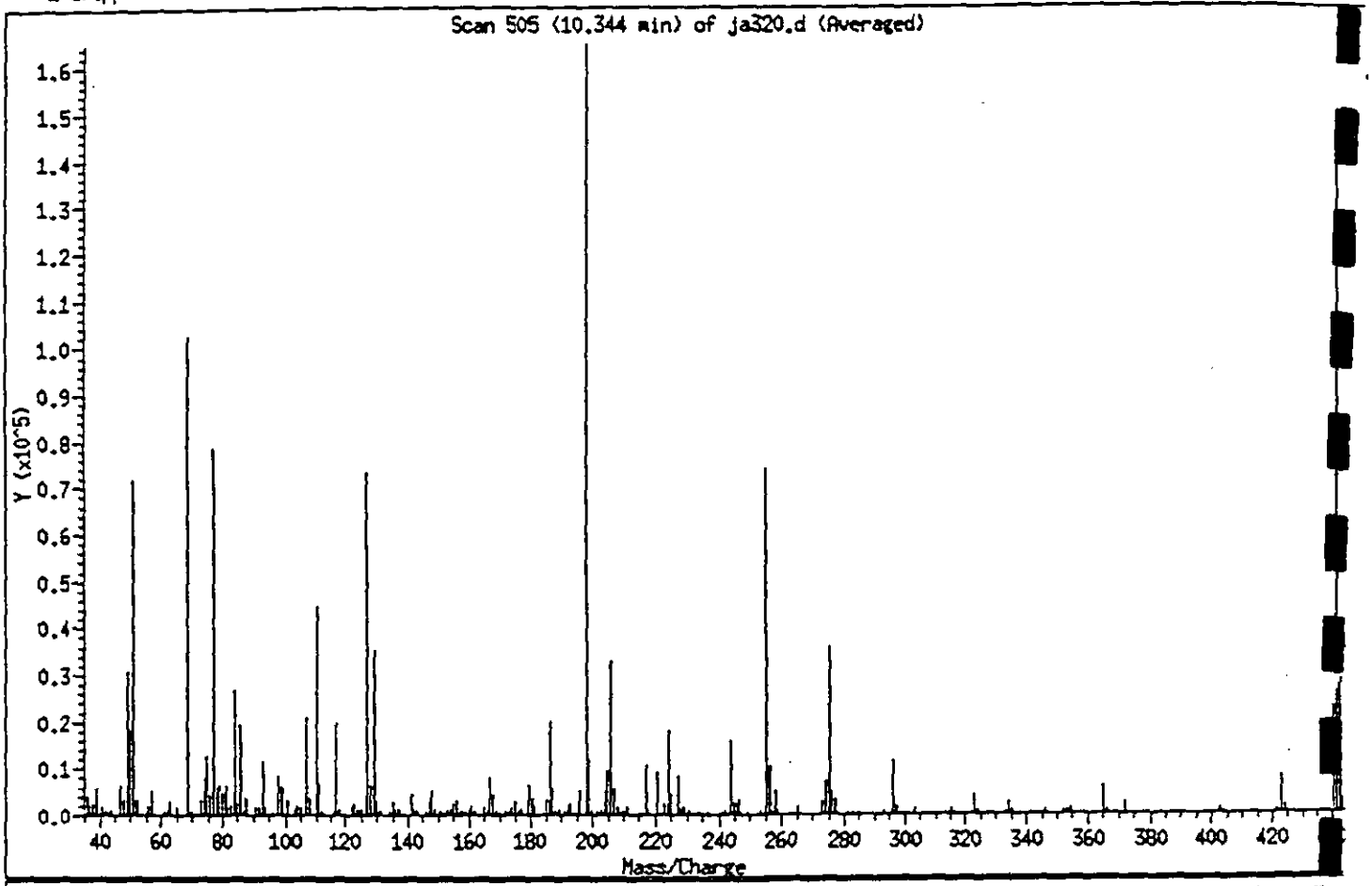
Sample ID : DFTPP02

Column phase : db5 1u

Column diameter : 0.32

Volume Injected (uL) : 1.0

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.0
51	30.00 - 60.00% of mass 198	43.6
68	Less than 2.00% of mass 69	0.0
69	Less than 200.00% of mass 198	62.1
70	Less than 2.00% of mass 69	0.7
127	40.00 - 60.00% of mass 198	44.5
197	Less than 1.00% of mass 198	0.0
199	5.00 - 9.00% of mass 198	7.1
275	10.00 - 30.00% of mass 198	21.7
365	1.00 - 100.00% of mass 198	3.5
441	Present, but less than mass 443	79.1
442	40.00 - 99.99% of mass 198	89.8
443	17.00 - 23.00% of mass 442	19.2

Data File: /chem/TRILABS.1/8-3-92.b/ja320.d
Date : 03-AUG-92 09:22
Instrument : TRILABS.1
Sample ID : DFTPP02
Column phase : db5 1u
Column diameter : 0.32
Volume Injected (uL) : 1.0

Spectrum: Scan 505 (10.344 min) of ja320.d (Averaged)
Base Peak: 197.90
Number of mass peaks: 100 Display threshold: 1%

Mass	Abund	Mass	Abund	Mass	Abund	Mass	Abund
35.95	3709	83.95	26416	154.95	2425	226.90	8173
36.95	1864	85.00	2209	155.95	3150	244.00	15547
37.95	2181	85.90	19152	160.95	2129	244.90	2212
39.05	5877	87.90	3416	166.95	7703	245.90	3208
46.95	6040	90.90	1657	167.95	4109	254.85	74069
47.95	3205	92.90	11349	174.95	2716	255.95	10321
48.95	30786	98.00	8216	178.95	6218	257.85	5091
49.95	18470	99.00	5733	180.05	3583	272.95	2901
51.05	71808	101.00	3205	180.95	2033	273.95	7131
52.05	3270	104.00	1827	185.05	3274	274.95	35696
55.95	1990	105.00	1752	185.95	19700	275.85	4588
56.95	5043	107.00	20762	186.95	5483	276.95	3129
63.05	2869	108.00	3443	191.95	1933	295.95	11189
64.95	1696	110.00	44299	192.95	2154	322.90	3836
68.95	102322	111.00	6692	195.95	5035	333.90	2431
73.05	3088	117.00	19390	197.90	164832	364.90	5782
74.05	7864	122.00	1936	198.90	11648	371.85	2258
74.95	12663	122.90	2335	204.00	5220	422.90	7712
76.05	4455	127.00	73306	204.90	9358	441.00	22432
77.05	78312	128.00	6244	205.90	32798	441.90	148050
78.05	5816	129.00	34928	206.90	5384	443.00	28368
78.95	6219	130.00	2824	216.90	10589	443.90	2666
80.05	4544	135.00	2572	220.90	8883		
81.05	6080	140.95	4440	223.00	2409		
82.05	1648	146.95	2770	224.00	17799		
82.95	2137	147.85	4989	224.90	4289		

TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: J.i
Lab File ID: JA33907.d
Analysis Type:
Lab Sample ID:
Cal Date : 15-Aug-1992

Calibration Date: 08/15/92
Init. Calibration Date(s): 08/15/92
Init. Calibration Times: 0609
Method File: /chem/J.i/8-14-92.b/tlinbna.m

SA 8-25-92

COMPOUND	$\overline{RRF}$	RF 50	MIN RRF	%D	MAX %D
2-Fluorophenol	0.859	0.942	0.100	9.6	30.0
Phenol-d5	1.134	1.429	0.100	26.0	30.0
2-Chlorophenol-d4	1.054	1.204	0.100	14.2	50.0
1,2-Dichlorobenzene-d4	0.830	0.902	0.100	8.7	50.0
Nitrobenzene-d5	0.408	0.418	0.100	2.6	30.0
1,3,5-Trichlorobenzene-d3	0.310	0.284	0.100	8.6	50.0
1,4-Dibromobenzene-d4 SA 8-31-92	1.269	1.215	0.100	4.2	50.0
2-Fluorobiphenyl	1.085	1.150	0.100	6.0	30.0
2,4,6-Tribromophenol	0.228	0.238	0.100	4.1	40.0
Anthracene-d10	0.959	1.123	0.100	17.0	50.0
Pyrene-d10	2.435	2.153	0.100	11.6	50.0
Terphenyl-d14	2.246	2.198	0.100	2.1	40.0
N-Nitrosodimethylamine	0.401	0.356	0.010	11.4	50.0
Phenol	1.083	1.311	0.100	21.0	25.0
Aniline	1.521	1.616	0.100	6.2	30.0
bis(2-Chloroethyl)ether	1.062	1.295	0.100	22.0	30.0
2-Chlorophenol	1.081	1.181	0.100	9.3	30.0
1,3-Dichlorobenzene	1.416	1.375	0.100	2.9	30.0
1,4-Dichlorobenzene	1.461	1.447	0.100	1.0	25.0
1,2-Dichlorobenzene	1.458	1.445	0.100	0.9	30.0
2-Methylphenol	1.030	1.236	0.100	20.0	30.0
2,2'-oxybis(1-Chloropropane)	0.470	0.447	0.100	4.9	50.0
Benzyl alcohol	0.420	0.534	0.100	27.0	30.0
4-Methylphenol	1.009	1.176	0.100	16.6	30.0
N-Nitroso-di-n-propylamine	0.908	1.044	0.010	14.9	30.0
Hexachloroethane	0.756	0.770	0.100	1.8	30.0
Nitrobenzene	0.342	0.377	0.100	10.2	30.0
Isophorone	0.757	0.755	0.100	0.2	30.0
2-Nitrophenol	0.181	0.170	0.100	6.3	25.0
2,4-Dimethylphenol	0.273	0.194	0.100	29.1	30.0
bis(2-Chloroethoxy)methane	0.347	0.428	0.100	23.2	30.0
Benzoic acid	0.208	0.257	0.100	23.7	30.0
2,4-Dichlorophenol	0.285	0.298	0.100	4.6	25.0
1,2,4-Trichlorobenzene	0.323	0.321	0.100	0.6	30.0
Naphthalene	0.784	0.863	0.100	10.0	30.0
4-Chloroaniline	0.328	0.406	0.100	23.9	30.0
Hexachlorobutadiene	0.204	0.185	0.100	9.0	25.0
4-Chloro-3-methylphenol	0.293	0.284	0.100	3.0	25.0
2-Methylnaphthalene	0.684	0.735	0.100	7.4	30.0
Hexachlorocyclopentadiene	0.202	0.233	0.010	14.9	35.0
2,4,6-Trichlorophenol	0.270	0.268	0.100	0.8	25.0
2,4,5-Trichlorophenol	0.270	0.268	0.100	0.8	30.0
2-Chloronaphthalene	0.945	1.000	0.100	5.9	30.0
2-Nitroaniline	0.311	0.317	0.100	2.1	30.0

TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

CONTINUING CALIBRATION COMPOUNDS

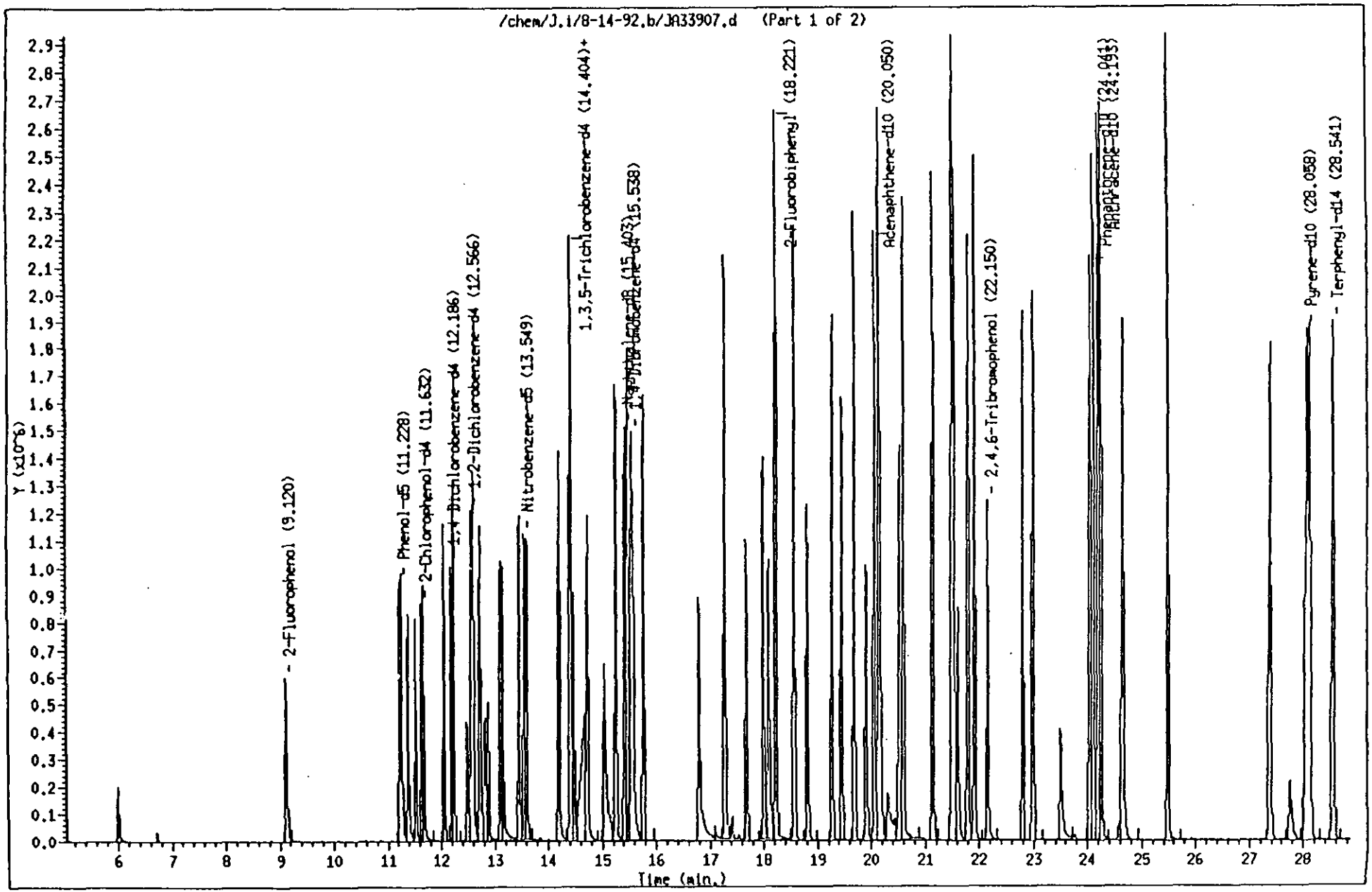
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Lab File ID: JA33907.d Init. Calibration Date(s): 08/15/92 08/15/92
Analysis Type: Init. Calibration Times: 0159 0609
Lab Sample ID: Method File: /chem/J.i/8-14-92.b/tlinbna.m
Cal Date : 15-Aug-1992 15:02 target

COMPOUND	$\overline{RRF}$	RF 50	MIN RRF	%D	MAX %D
Dimethylphthalate	1.149	1.183	0.100	3.0	30.0
2,6-Dinitrotoluene	0.288	0.316	0.100	9.7	30.0
2,4-Dinitrotoluene	0.370	0.417	0.100	12.8	30.0
Acenaphthylene	1.428	1.531	0.100	7.3	30.0
3-Nitroaniline	0.258	0.285	0.100	10.5	30.0
Acenaphthene	0.897	0.998	0.100	11.3	25.0
2,4-Dinitrophenol	0.153	0.136	0.010	10.9	50.0
4-Nitrophenol	0.101	0.088	0.010	12.6	35.0
Dibenzofuran	1.288	1.410	0.100	9.5	30.0
Diethylphthalate	1.198	1.413	0.100	18.0	30.0
4-Chlorophenyl-phenylether	0.435	0.466	0.100	7.0	30.0
Fluorene	0.899	1.074	0.100	19.4	30.0
4-Nitroaniline	0.216	0.280	0.100	29.8	30.0
4,6-Dinitro-2-methylphenol	0.133	0.119	0.100	10.5	50.0
N-Nitrosodiphenylamine	0.568	0.527	0.100	7.2	25.0
4-Bromophenyl-phenylether	0.218	0.203	0.100	7.1	30.0
Hexachlorobenzene	0.301	0.283	0.100	6.1	30.0
Pentachlorophenol	0.114	0.087	0.100	23.5	25.0
Phenanthrene	0.968	1.021	0.100	5.5	30.0
Anthracene	0.958	1.087	0.100	13.5	30.0
Carbazole	0.787	0.915	0.100	16.3	50.0
Di-n-butylphthalate	1.311	1.700	0.100	29.7	30.0
Fluoranthene	0.670	0.837	0.100	24.9	25.0
Pyrene	2.720	2.398	0.100	11.9	35.0
Benzidine	0.305	0.437	0.010	43.3	50.0
Butylbenzylphthalate	1.235	1.191	0.100	3.5	30.0
3,3'-Dichlorobenzidine	0.405	0.382	0.100	5.8	30.0
bis(2-Ethylhexyl)phthalate	1.612	1.719	0.100	6.6	30.0
Di-n-octylphthalate	2.755	2.938	0.100	6.6	25.0
Benzo(a)anthracene	1.398	1.386	0.100	0.8	30.0
Chrysene	1.290	1.197	0.100	7.2	30.0
Benzo(b)fluoranthene	1.311	1.237	0.100	5.6	30.0
Benzo(k)fluoranthene	1.252	1.271	0.100	1.5	30.0
Benzo(e)pyrene	1.171	1.108	0.100	5.4	50.0
Benzo(a)pyrene	1.169	1.120	0.100	4.2	25.0
Indeno(1,2,3-cd)pyrene	0.820	0.681	0.100	17.0	30.0
Perylene	0.971	0.895	0.100	7.9	50.0
Dibenzo(a,h)anthracene	0.870	0.751	0.100	13.8	30.0
Benzo(g,h,i)perylene	0.874	0.764	0.100	12.6	30.0

Triangle Laboratories of RTP, Inc.

SA 8-25-92

Data File: /chem/J.i/8-14-92.b/JN33907.d
Date : 15-AUG-1992 07:29
Instrument : J.i
Sample ID : SSTD060 SA 8-25 92
Column phase : DB-5
Column diameter : 0.32
Volume Injected (uL) : 0.0

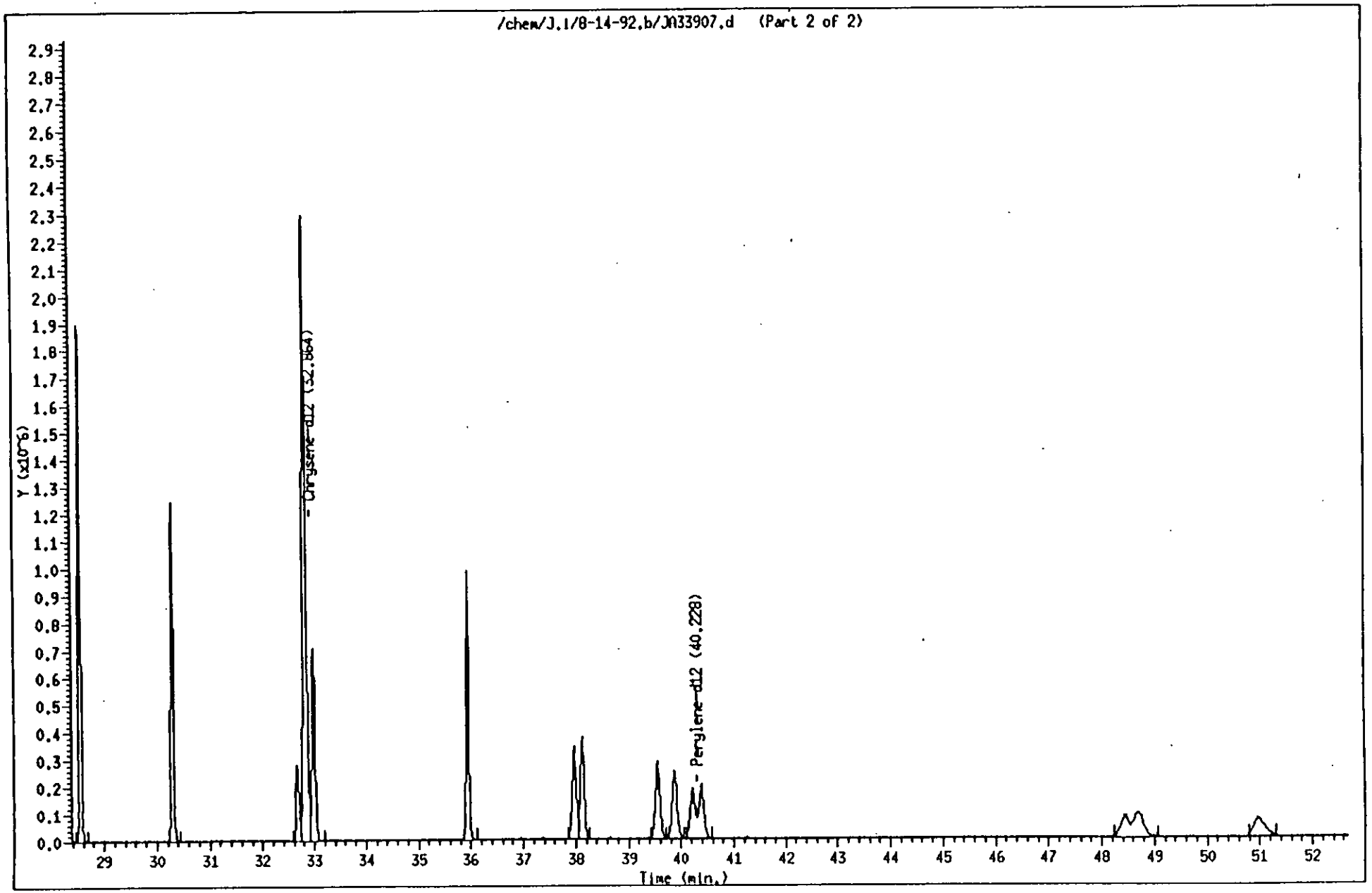


Trr ge Laboratories of KIP, Inc.

SA 8-25 <

Pa

Data ...e: /chem/J.1/8-14-92.b/JA33907.d
Date : 15-AUG-1992 07:29
Instrument : J.1
Sample ID : SSTDØ60 SA8-2592
Column phase : DB-5
Column diameter : 0.32
Volume Injected (uL) : 0.0



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

SEMI-VOLATILE QUANTATATION REPORT

Data file : /chem/J.i/8-14-92.b/JA33907.d
Lab. Id. :
Inj Date : 15-AUG-1992 07:29 Autotune Date: 22-Jul-92 12:21:3
Operator : DD Inst ID: J.i
Smp Info : SSTD050
Misc Info :
Comment :
Method : /chem/J.i/8-14-92.b/tlinbna.m
Meth Date : 15-Aug-1992 15:02 target
Cal Date : 15-AUG-92 07:29 Cal File: JA33907.d
Als bottle: 7 Continuing Calibration Sample
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: 8270.sub
Rpt Date : 15-Aug-1992 15:10 Sample Type: Not Specified

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
•	1	Naphthalene-d8	15.403(1.000)	1589502	40.00	40.00
*	2	1,4 Dichlorobenzene	12.186(1.000)	334209	40.00	40.00
*	3	Acenaphthene-d10	20.050(1.000)	1192900	40.00	40.00
*	4	Phenanthrene-d10	24.041(1.000)	1817305	40.00	40.00
•	5	Chrysene-d12	32.864(1.000)	680080	40.00	40.00
*	6	Perylene-d12	40.228(1.000)	472326	40.00	40.00
$	7	2-Fluorophenol	9.120(0.748)	393488	54.79	54.79
$	8	Phenol-d5	11.228(0.921)	596930	62.99	62.99
$	9	2-Chlorophenol-d4	11.624(0.954)	503128	57.11	57.11
$	10	1,2-Dichlorobenzene	12.566(1.031)	376878	54.34	54.34
$	11	Nitrobenzene-d5	13.549(0.880)	831410	51.28	51.28
$	12	1,3,5-Trichlorobenz	14.412(0.936)	563695	45.69	45.69
$	13	1,4-Dibromobenzene-	15.538(1.275)	507788	47.90	47.90
$	14	2-Fluorobiphenyl	18.221(0.909)	1715399	52.99	52.99
$	15	2,4,6-Tribromopheno	22.150(1.105)	354282	52.02	52.02
$	16	Anthracene-d10	24.193(1.006)	2550299	58.50	58.50
$	17	Pyrene-d10	28.058(0.854)	1830667	44.22	44.22
$	18	Terphenyl-d14	28.541(0.868)	1868234	48.93	48.93
	19	N-Nitrosodimethylam	6.001(0.492)	148536	44.29	44.29
	20	Phenol	11.260(0.924)	547577	60.50	60.50
	21	Aniline	11.387(0.934)	675179	53.11	53.11
	22	bis(2-Chloroethyl)e	11.521(0.945)	540892	60.97	60.97
	23	2-Chlorophenol	11.672(0.958)	493314	54.63	54.63
	24	1,3-Dichlorobenzene	12.059(0.990)	574394	48.54	48.54
	25	1,4-Dichlorobenzene	12.234(1.004)	604312	49.51	49.51
	26	1,2-Dichlorobenzene	12.606(1.034)	603494	49.53	49.53
	27	2-Methylphenol	12.733(1.045)	516528	60.00	60.00
	28	2,2'-oxybis(1-Chlor	12.884(1.057)	186672	47.54	47.54
	29	Benzyl alcohol	12.487(1.025)	223102	63.50	63.50
	30	4-Methylphenol	13.105(1.075)	491467	58.28	58.28(M)
	31	N-Nitroso-di-n-prop	13.153(1.079)	436070	57.47	57.47

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
32 Hexachloroethane	13.454(1.104)	321484	50.89	50.89
33 Nitrobenzene	13.597(0.883)	748553	55.09	55.09
34 Isophorone	14.198(0.922)	1500545	49.91	49.91
35 2-Nitrophenol	14.404(0.935)	337386	46.84	46.84
36 2,4-Dimethylphenol	14.467(0.939)	384547	35.43	35.43
37 bis(2-Chloroethoxy)	14.730(0.956)	850093	61.60	61.60
38 Benzoic acid	14.674(0.953)	510657	61.86	61.86
39 2,4-Dichlorophenol	15.030(0.976)	592523	52.30	52.30
40 1,2,4-Trichlorobenz	15.244(0.990)	638055	49.70	49.70
41 Naphthalene	15.467(1.004)	1714591	55.01	55.01
42 4-Chloroaniline	15.570(1.011)	806416	61.93	61.93
43 Hexachlorobutadiene	15.761(1.023)	368205	45.51	45.51
44 4-Chloro-3-methylph	16.788(1.090)	564567	48.48	48.48
45 2-Methylnaphthalene	17.270(1.121)	1459556	53.68	53.68
46 Hexachlorocyclopent	17.674(0.881)	346703	57.44	57.44
47 2,4,6-Trichlorophen	17.991(0.897)	399971	49.60	49.60
48 2,4,5-Trichlorophen	18.086(0.902)	448192	55.58	55.58(TH)
49 2-Chloronaphthalene	18.570(0.926)	1491646	52.92	52.92
50 2-Nitroaniline	18.815(0.938)	473110	51.05	51.05
51 Dimethylphthalate	19.274(0.961)	1764739	51.52	51.52
52 2,6-Dinitrotoluene	19.448(0.970)	470507	54.83	54.83
53 2,4-Dinitrotoluene	20.518(1.023)	622387	56.41	56.41
54 Acenaphthylene	19.677(0.981)	2283599	53.63	53.63
55 3-Nitroaniline	19.899(0.992)	424874	55.26	55.26
56 Acenaphthene	20.137(1.004)	1487660	55.63	55.63
57 2,4-Dinitrophenol	20.177(1.006)	202884	44.56	44.56
58 4-Nitrophenol	20.304(1.013)	131477	43.69	43.69
59 Dibenzofuran	20.598(1.027)	2102888	54.75	54.75
60 Diethylphthalate	21.135(1.054)	2107007	58.98	58.98
61 4-Chlorophenyl-phen	21.484(1.071)	694575	53.48	53.48
62 Fluorene	21.516(1.073)	1600932	59.69	59.69
63 4-Nitroaniline	21.532(1.074)	417156	64.88	64.88(M)
64 4,6-Dinitro-2-methy	21.611(0.899)	271099	44.74	44.74
65 N-Nitrosodiphenylam	21.794(0.907)	1197360	46.38	46.38
66 4-Bromophenyl-pheny	22.799(0.948)	460306	46.43	46.43
67 Hexachlorobenzene	22.989(0.956)	642849	46.95	46.95
68 Pentachlorophenol	23.503(0.978)	197754	38.27	38.27
69 Phenanthrene	24.105(1.003)	2320241	52.77	52.77
70 Anthracene	24.241(1.008)	2470149	56.76	56.76
71 Carbazole	24.645(1.025)	2077822	58.14	58.14
72 Di-n-butylphthalate	25.482(1.060)	3860683	64.82	64.82
73 Fluoranthene	27.378(1.139)	1900320	62.44	62.44(M)
74 Pyrene	28.114(0.855)	2038283	44.06	44.06
75 Benzidine	27.757(0.845)	371178	71.64	71.64(M)
76 Butylbenzylphthalat	30.303(0.922)	1012589	48.23	48.23
77 3,3'-Dichlorobenzid	32.672(0.994)	324317	47.09	47.09
78 bis(2-Ethylhexyl)ph	32.832(0.999)	1461644	53.32	53.32
79 Di-n-octylphthalate	35.945(0.894)	1734335	53.32	53.32
80 Benzo(a)anthracene	32.824(0.999)	1178585	49.58	49.58
81 Chrysene	32.991(1.004)	1017216	46.38	46.38
82 Benzo(b)fluoranthen	37.967(0.944)	730374	47.17	47.17

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
83 Benzo(k)fluoranthen	38.134(0.948)	750447	50.75	50.75
84 Benzo(e)pyrene	39.548(0.983)	654077	47.29	47.29
85 Benzo(a)pyrene	39.872(0.991)	661125	47.91	47.91
87 Indeno(1,2,3-cd)pyr	48.433(1.204)	401774	41.47	41.47(M)
86 Perylene	40.394(1.004)	528198	46.04	46.04
88 Dibenzo(a,h)anthrac	48.703(1.211)	443105	43.11	43.11
89 Benzo(g,h,i)perylen	50.946(1.266)	451228	43.70	43.70

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

COMPOUND LISTING

Method File: /chem/J.i/8-18-92.b/tlinbna.m
Number of Compounds: 93 Current Date: 19-Aug-1992 17:55
Quantitation Method: ISTD Number of Calibration Levels: 2
Last Calibration Update: 19-AUG-92 12:13

		Compound	RT	Rel RT	Mass
*	1	Naphthalene-d8	15.667	1.000	136.00
*	2	1,4 Dichlorobenzene-d4	12.426	1.000	152.00
*	3	Acenaphthene-d10	20.319	1.000	164.00
*	4	Phenanthrene-d10	24.303	1.000	188.00
*	5	Chrysene-d12	33.304	1.000	240.00
•	6	Perylene-d12	40.846	1.000	264.00
$	7	2-Fluorophenol	9.338	0.751	112.00
$	8	Phenol-d5	11.479	0.924	99.00
$	9	2-Chlorophenol-d4	11.886	0.956	132.00
$	10	1,2-Dichlorobenzene-d4	12.824	1.032	152.00
$	11	Nitrobenzene-d5	13.811	0.882	82.00
$	12	1,3,5-Trichlorobenzene-d4	14.670	0.936	185.00
$	13	1,4-Dibromobenzene-d4	15.803	1.272	240.00
$	14	2-Fluorobiphenyl	18.487	0.910	172.00
$	15	2,4,6-Tribromophenol	22.427	1.104	330.00
$	16	Anthracene-d10	24.472	1.007	188.00
$	17	Pyrene-d10	28.387	0.852	212.00
$	18	Terphenyl-d14	28.865	0.867	244.00
	19	N-Nitrosodimethylamine	6.274	0.505	74.00
	20	Phenol	11.527	0.928	94.00
	21	Aniline	11.655	0.938	93.00
	22	bis(2-Chloroethyl)ether	11.774	0.948	93.00
	23	2-Chlorophenol	11.926	0.960	128.00
	24	1,3-Dichlorobenzene	12.307	0.990	146.00
	25	1,4-Dichlorobenzene	12.482	1.004	146.00
	26	1,2-Dichlorobenzene	12.864	1.035	146.00
	27	2-Methylphenol	12.976	1.044	108.00
	28	2,2'-oxybis(1-Chloropropane)	13.064	1.051	45.00
	29	Benzyl alcohol	12.768	1.027	108.00
	30	4-Methylphenol	13.382	1.077	108.00
	31	N-Nitroso-di-n-propylamine	13.461	1.083	70.00
	32	Hexachloroethane	13.708	1.103	117.00
	33	Nitrobenzene	13.875	0.886	77.00
	34	Isophorone	14.493	0.925	82.00
	35	2-Nitrophenol	14.678	0 937	139.00
	36	2,4-Dimethylphenol	14.734	0.940	107.00
	37	bis(2-Chloroethoxy)methane	14.981	0.956	93.00
	38	Benzoic acid	15.101	0.964	122.00
	39	2,4-Dichlorophenol	15.284	0.976	162.00
	40	1,2,4-Trichlorobenzene	15.507	0.990	180.00
	41	Naphthalene	15.731	1.004	128.00
	42	4-Chloroaniline	15.836	1.011	127.00
	43	Hexachlorobutadiene	16.020	1.022	225.00
	44	4-Chloro-3-methylphenol	17.035	1.087	107.00

TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

COMPOUND LISTING

Method File: /chem/J.i/8-18-92.b/tlinbna.m
Number of Compounds: 93 Current Date: 19-Aug-1992 17:55
Quantitation Method: ISTD Number of Calibration Levels: 2
Last Calibration Update: 19-AUG-92 12:13

	Compound	RT	Rel RT	Mass
45	2-Methylnaphthalene	17.546	1.120	142.00
46	Hexachlorocyclopentadiene	17.936	0.883	237.00
47	2,4,6-Trichlorophenol	18.254	0.898	196.00
48	2,4,5-Trichlorophenol	18.351	0.903	196.00
49	2-Chloronaphthalene	18.846	0.927	162.00
50	2-Nitroaniline	19.085	0.939	65.00
51	Dimethylphthalate	19.538	0.962	163.00
52	2,6-Dinitrotoluene	19.730	0.971	165.00
53	2,4-Dinitrotoluene	20.799	1.024	165.00
54	Acenaphthylene	19.961	0.982	152.00
55	3-Nitroaniline	20.176	0.993	138.00
56	Acenaphthene	20.424	1.005	154.00
57	2,4-Dinitrophenol	20.432	1.006	184.00
58	4-Nitrophenol	20.536	1.011	109.00
59	Dibenzofuran	20.880	1.028	168.00
60	Diethylphthalate	21.405	1.053	149.00
61	4-Chlorophenyl-phenylether	21.755	1.071	204.00
62	Fluorene	21.804	1.073	166.00
63	4-Nitroaniline	21.828	1.074	138.00
64	4,6-Dinitro-2-methylphenol	21.892	0.901	198.00
65	N-Nitrosodiphenylamine	22.068	0.908	169.00
66	4-Bromophenyl-phenylether	23.071	0.949	248.00
67	Hexachlorobenzene	23.270	0.958	284.00
68	Pentachlorophenol	23.755	0.977	266.00
69	Phenanthrene	24.384	1.003	178.00
70	Anthracene	24.529	1.009	178.00
71	Carbazole	24.911	1.025	167.00
72	Di-n-butylphthalate	25.727	1.059	149.00
73	Fluoranthene	27.689	1.139	202.00
74	Pyrene	28.452	0.854	202.00
75	Benzidine	28.030	0.842	184.00
76	Butylbenzylphthalate	30.660	0.921	149.00
77	3,3'-Dichlorobenzidine	33.063	0.993	252.00
78	bis(2-Ethylhexyl)phthalate	33.231	0.998	149.00
79	Di-n-octylphthalate	36.342	0.890	149.00
80	Benzo(a)anthracene	33.256	0.999	228.00
81	Chrysene	33.448	1.004	228.00
82	Benzo(b)fluoranthene	38.509	0.943	252.00
83	Benzo(k)fluoranthene	38.677	0.947	252.00
84	Benzo(e)pyrene	40.164	0.983	252.00
85	Benzo(a)pyrene	40.497	0.991	252.00
86	Perylene	41.029	1.004	252.00
87	Indeno(1,2,3-cd)pyrene	49.432	1.210	276.00
88	Dibenzo(a,h)anthracene	49.670	1.216	278.00

TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

COMPOUND LISTING

Method File: /chem/J.i/8-18-92.b/tlinbna.m
Number of Compounds: 93 Current Date: 19-Aug-1992 17:55
Quantitation Method: ISTD Number of Calibration Levels: 2
Last Calibration Update: 19-AUG-92 12:13

Compound	RT	Rel RT	Mass
89 Benzo(g,h,i)perylene	52.091	1.275	276.00
90 2-Chloroaniline	14.574	1.173	127.00
91 3-Chloroaniline	15.779	1.270	127.00
92 Chloro-2-nitrobenzene	16.575	1.334	75.00
93 Chloro-4-nitrobenzene	16.575	1.334	75.00

Data File: /chem/J.i/8-14-92.b/JA33906.d

Date : 15-AUG-1992 07:13

Instrument : J.i

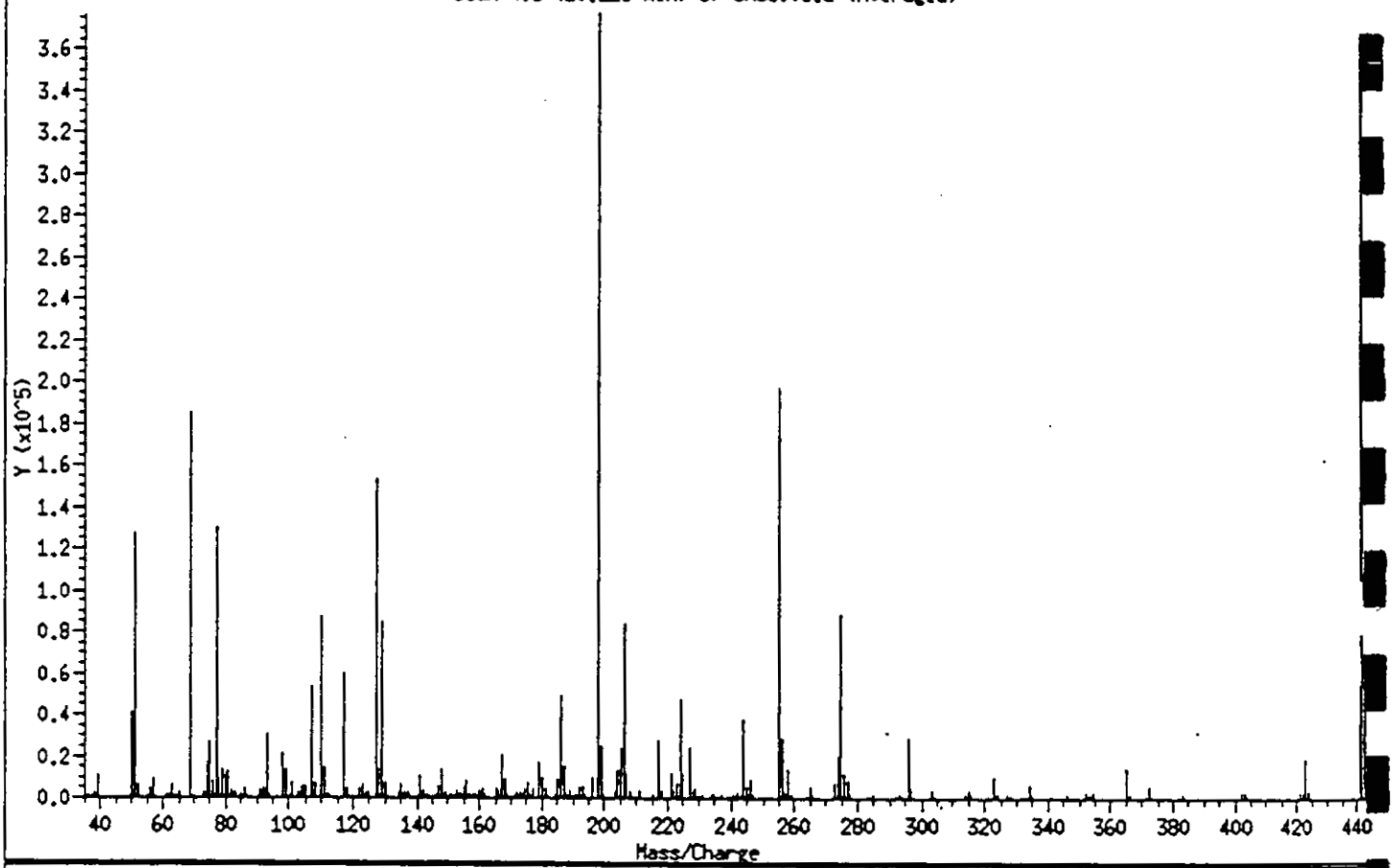
Sample ID : DFTPP

Column phase : db5 1u

Column diameter : 0.32

Volume Injected (uL) : 1.0

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.0
51	30.00 - 60.00% of mass 198	33.8
68	Less than 2.00% of mass 69	0.0
69	Less than 200.00% of mass 198	49.1
70	Less than 2.00% of mass 69	0.4
127	40.00 - 60.00% of mass 198	40.6
197	Less than 1.00% of mass 198	0.0
199	5.00 - 9.00% of mass 198	6.6
275	10.00 - 30.00% of mass 198	23.3
365	1.00 - 100.00% of mass 198	3.8
441	Present, but less than mass 443	77.3
442	40.00 - 99.99% of mass 198	96.8
443	17.00 - 23.00% of mass 442	19.1

Data File: /chem/J.i/8-14-92.b/JA33906.d

Date : 15-AUG-1992 07:13

Instrument : J.i

Sample ID : DFTPP

Column phase : db5 1u

Column diameter : 0.32

Volume Injected (uL) : 1.0

Spectrum: Scan 495 (10.226 min) of JA33906.d (Averaged)

Base Peak: 197.90

Number of mass peaks: 96 Display threshold: 1%

Mass	Abund	Mass	Abund	Mass	Abund	Mass	Abund
39.05	10531	108.00	7351	179.95	9995	246.00	8609
50.05	41086	110.00	87365	181.05	4557	254.95	196277
51.05	127069	111.00	13871	185.15	8546	255.95	28025
52.05	6463	117.00	59808	186.05	48797	257.95	13198
56.05	4780	118.00	4256	187.05	14828	264.95	5564
57.05	8916	122.00	4239	189.05	3828	272.95	7241
63.05	5913	123.00	5818	192.05	5170	274.05	19958
68.95	184957	127.00	152634	193.05	5458	274.95	87741
74.05	16843	128.00	13050	196.05	10073	275.95	11693
75.05	26398	129.00	84946	197.90	376320	276.95	8057
76.05	8233	130.00	7021	198.90	24716	295.95	28869
77.05	129669	135.00	5950	204.00	13347	296.95	4222
78.05	8746	140.95	11086	205.00	24203	323.00	10036
79.05	13741	147.05	5367	206.00	83442	334.00	6408
80.05	10343	147.95	13490	207.00	11301	365.00	14318
81.05	12792	155.05	5616	211.00	3822	372.05	5314
86.00	4801	155.95	7823	216.90	27158	423.00	18934
92.00	4044	160.95	4837	221.00	11283	441.10	53877
93.00	30177	164.95	4464	223.10	7257	442.00	364266
98.00	21357	166.95	20298	224.00	46840	443.00	69690
99.00	13454	167.95	9324	225.00	11786	444.00	6652
101.00	7044	174.05	4344	227.00	23699		
104.00	4990	175.05	7450	229.00	4449		
105.00	4913	176.95	4065	244.00	37493		
107.00	53381	178.95	16684	245.00	5429		

TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

INITIAL CALIBRATION DATA

Start Cal Date : 01-AUG-1992 10:14
End Cal Date : 01-AUG-1992 15:20
Report Date : 10-Aug-1992 12:49
Quant Method : ISTD
Cal Curve Type : Averaged
Target Version : Target 2.00
Integrator : HP RTE
Method file : /chem/TRILABS.i/8-1-92.b/tlibna.m
Cal Date : 10-Aug-1992 12:49 target

8-10-92

Calibration File Names:
Level 1: /chem/TRILABS.i/8-1-92.b/ja31103.d
Level 2: /chem/TRILABS.i/8-1-92.b/ja31002.d
Level 3: /chem/TRILABS.i/8-1-92.b/ja31003.d
Level 4: /chem/TRILABS.i/8-1-92.b/ja31101.d
Level 5: /chem/TRILABS.i/8-1-92.b/ja31102.d

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	$\overline{RRF}$	% RSD/R^2
19 N-Nitrosodimethylamine	0.42705	0.38452	0.43161	0.41011	0.36102	0.40286	7.396
20 Phenol	1.47125	1.44466	1.39730	1.22420	1.05287	1.31806	13.407
21 Aniline	1.77734	1.78247	1.87602	1.68122	1.40368	1.70415	10.653
22 bis(2-Chloroethyl)ether	1.27458	1.32444	1.36498	1.15422	0.95883	1.21541	13.478
23 2-Chlorophenol	1.23026	1.18771	1.31790	1.09866	0.87696	1.14230	14.710
24 1,3-Dichlorobenzene	1.45084	1.48246	1.60186	1.36720	1.10390	1.40125	13.297
25 1,4-Dichlorobenzene	1.51616	1.50399	1.63537	1.33976	1.14413	1.42789	13.330
26 1,2-Dichlorobenzene	1.45469	1.46941	1.60624	1.30927	1.06044	1.38001	15.021
27 2-Methylphenol	1.18084	1.19952	1.26278	1.05623	0.88843	1.11756	13.277
28 2,2'-oxybis(1-Chloropropane)	0.46531	0.41559	0.48686	0.44673	0.37991	0.43888	9.588
29 Benzyl alcohol	0.52102	0.54230	0.66325	0.62391	0.58080	0.58625	9.933
30 4-Methylphenol	1.25745	1.18527	1.40854	1.16560	0.95544	1.19446	13.747
31 N-Nitroso-di-n-propylamine	0.90386	0.83888	1.01461	0.84289	0.74006	0.86806	11.610
32 Hexachloroethane	0.68373	0.70685	0.77983	0.67839	0.61161	0.69208	8.745
33 Nitrobenzene	0.36343	0.39600	0.40046	0.35405	0.34660	0.37211	6.618
34 Isophorone	0.68787	0.76203	0.81919	0.67282	0.67324	0.72303	9.018
35 2-Nitrophenol	0.17560	0.19173	0.19330	0.15292	0.14124	0.17096	13.597
36 2,4-Dimethylphenol	0.24797	0.45621	0.49370	0.45501	0.45625	0.42183	23.366
37 bis(2-Chloroethoxy)methane	0.44180	0.47229	0.48991	0.42931	0.38989	0.44464	8.749
38 Benzoic acid	0.13472	+++++	+++++	+++++	0.17977	0.15724	20.256
39 2,4-Dichlorophenol	0.27042	0.29695	0.33674	0.29539	0.27073	0.29405	9.212
40 1,2,4-Trichlorobenzene	0.30750	0.33085	0.35215	0.31445	0.29706	0.32040	6.737
41 Naphthalene	0.88767	0.94427	0.98012	0.87555	0.77370	0.89226	8.821
42 4-Chloroaniline	0.37991	0.38763	0.43465	0.32982	0.30548	0.36750	13.831
43 Hexachlorobutadiene	0.16546	0.18017	0.18733	0.17489	0.16797	0.17516	5.100
44 4-Chloro-3-methylphenol	0.27020	0.30395	0.34051	0.28677	0.30881	0.30205	8.723
45 2-Methylnaphthalene	0.67560	0.73413	0.77445	0.63603	0.61430	0.68690	9.734
46 Hexachlorocyclopentadiene	0.15476	0.21187	0.27214	0.26959	0.27126	0.23592	22.086

TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

INITIAL CALIBRATION DATA

Start Cal Date : 01-AUG-1992 10:14
End Cal Date : 01-AUG-1992 15:20
Report Date : 10-Aug-1992 12:49
Quant Method : ISTD
Cal Curve Type : Averaged
Target Version : Target 2.00
Integrator : HP RTE
Method file : /chem/TRILABS.i/8-1-92.b/tlibna.m
Cal Date : 10-Aug-1992 12:49 target

Calibration File Names:
Level 1: /chem/TRILABS.i/8-1-92.b/ja31103.d
Level 2: /chem/TRILABS.i/8-1-92.b/ja31002.d
Level 3: /chem/TRILABS.i/8-1-92.b/ja31003.d
Level 4: /chem/TRILABS.i/8-1-92.b/ja31101.d
Level 5: /chem/TRILABS.i/8-1-92.b/ja31102.d

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	$\overline{RRF}$	% RSD/R^2
47 2,4,6-Trichlorophenol	0.28379	0.30185	0.34379	0.32889	0.31956	0.31557	7.412
48 2,4,5-Trichlorophenol	0.32771	0.35184	0.40777	0.37962	0.37575	0.36854	8.207
49 2-Chloronaphthalene	1.05659	1.08198	1.15228	1.09010	0.97893	1.07198	5.858
50 2-Nitroaniline	0.32456	0.33336	0.37286	0.33212	0.32671	0.33792	5.880
51 Dimethylphthalate	1.17895	1.23842	1.37966	1.31430	1.27159	1.27658	5.948
52 2,6-Dinitrotoluene	0.28537	0.30625	0.36150	0.33911	0.32963	0.32437	9.083
53 2,4-Dinitrotoluene	0.38378	0.41349	0.51222	0.48350	0.43680	0.44596	11.654
54 Acenaphthylene	1.59941	1.63652	1.93784	1.76298	1.71022	1.72939	7.675
55 3-Nitroaniline	0.31825	0.31172	0.38100	0.32942	0.30468	0.32901	9.256
56 Acenaphthene	0.94516	0.97811	1.09788	1.00808	0.91246	0.98834	7.175
57 2,4-Dinitrophenol	+++++	0.11088	0.17255	0.17352	0.16400	0.15524	19.249
58 4-Nitrophenol	0.09879	0.11300	0.16482	0.16542	0.17279	0.14296	24.029
59 Dibenzofuran	1.37915	1.43802	1.60831	1.53119	1.37080	1.46549	6.983
60 Diethylphthalate	1.28306	1.35368	1.58174	1.46813	1.37010	1.41134	8.213
61 4-Chlorophenyl-phenylether	0.48341	0.49401	0.54149	0.52017	0.44751	0.49732	7.221
62 Fluorene	1.07087	1.08137	1.22369	1.05659	0.96932	1.08037	8.474
63 4-Nitroaniline	0.32055	0.36608	0.44250	0.38081	0.34873	0.37173	12.232
64 4,6-Dinitro-2-methylphenol	0.09752	0.13404	0.15773	0.15136	0.15793	0.13972	18.263
65 N-Nitrosodiphenylamine	0.49978	0.48128	0.51739	0.48276	0.49888	0.49602	2.977
66 4-Bromophenyl-phenylether	0.18912	0.19364	0.20352	0.18644	0.18531	0.19161	3.858
67 Hexachlorobenzene	0.26944	0.27579	0.29671	0.26542	0.25606	0.27268	5.581
68 Pentachlorophenol	0.07833	0.10813	0.13743	0.13787	0.14863	0.12208	23.525
69 Phenanthrene	0.99993	1.04364	1.19666	1.08603	1.09084	1.08342	6.757
70 Anthracene	1.03675	1.10417	1.27611	1.13179	1.09277	1.12832	7.938
71 Carbazole	1.07898	1.27126	1.42977	1.25573	1.27345	1.26184	9.858
72 Di-n-butylphthalate	1.68167	1.96251	2.18925	1.94863	1.85833	1.92808	9.542
73 Fluoranthene	1.19968	1.38744	1.56132	1.31814	1.32821	1.35896	9.717
74 Pyrene	1.56819	1.86305	2.02127	1.96888	1.61585	1.80745	11.366

TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

INITIAL CALIBRATION DATA

Start Cal Date : 01-AUG-1992 10:14
End Cal Date : 01-AUG-1992 15:20
Report Date : 10-Aug-1992 12:49
Quant Method : ISTD
Cal Curve Type : Averaged
Target Version : Target 2.00
Integrator : HP RTE
Method file : /chem/TRILABS.i/8-1-92.b/tlibna.m
Cal Date : 10-Aug-1992 12:49 target

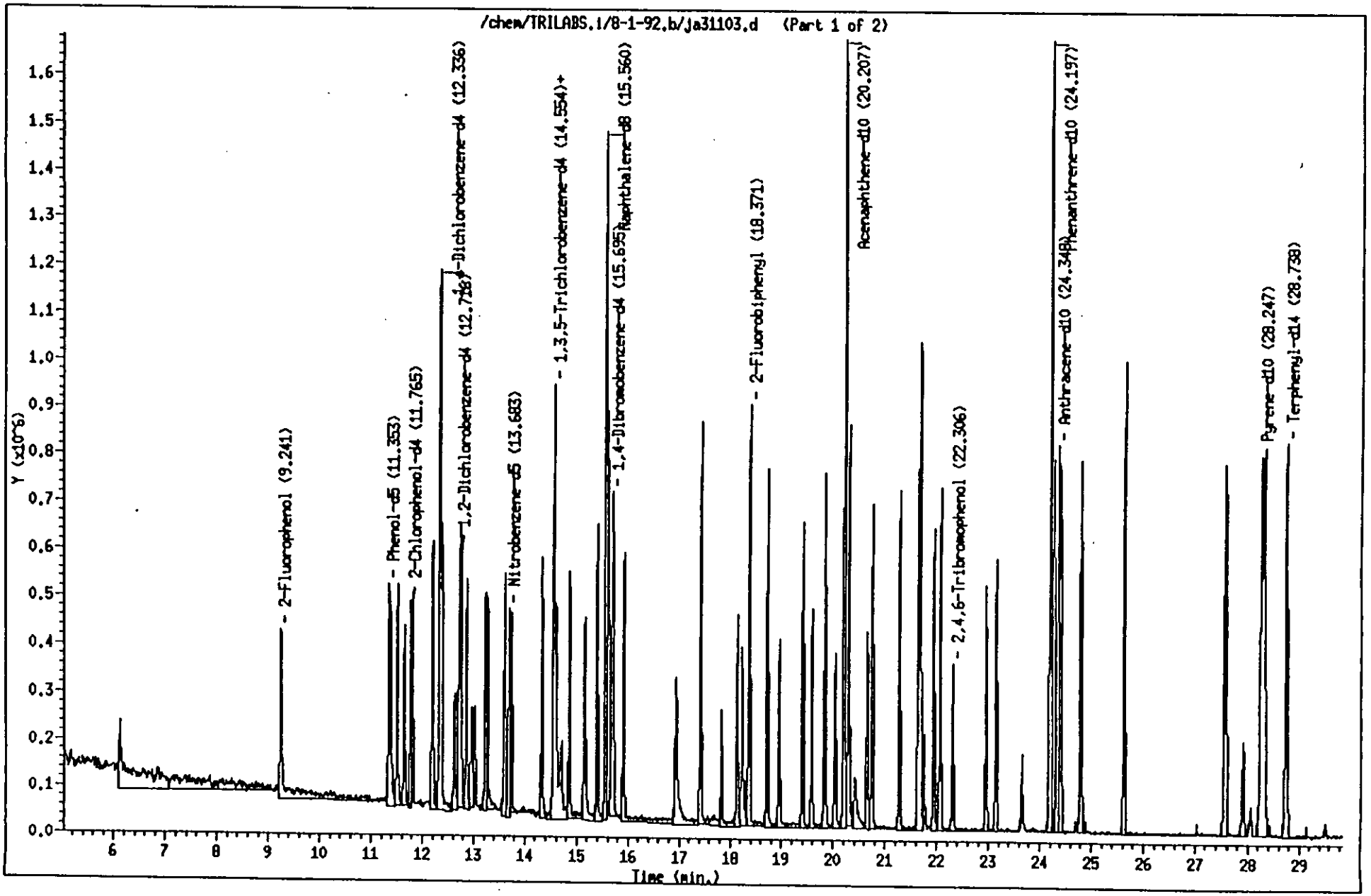
Calibration File Names:
Level 1: /chem/TRILABS.i/8-1-92.b/ja31103.d
Level 2: /chem/TRILABS.i/8-1-92.b/ja31002.d
Level 3: /chem/TRILABS.i/8-1-92.b/ja31003.d
Level 4: /chem/TRILABS.i/8-1-92.b/ja31101.d
Level 5: /chem/TRILABS.i/8-1-92.b/ja31102.d

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	$\overline{RRF}$	% RSD/R^2
75 Benzidine	0.45127	0.56232	0.66312	0.55456	0.49262	0.54478	14.763
76 Butylbenzylphthalate	1.21254	1.30798	1.40311	1.18682	1.05788	1.23366	10.551
77 3,3'-Dichlorobenzidine	0.41892	0.43919	0.51388	0.47097	0.51313	0.47122	9.089
78 bis(2-Ethylhexyl)phthalate	1.71987	1.82234	1.83944	1.53144	1.27621	1.63786	14.433
79 Di-n-octylphthalate	3.25078	3.89779	3.26097	2.37359	1.95627	2.94788	26.305
80 Benzo(a)anthracene	1.39837	1.44153	1.54797	1.43134	1.34564	1.43297	5.190
81 Chrysene	1.27790	1.28836	1.43231	1.40107	1.39483	1.35890	5.203
82 Benzo(b)fluoranthene	1.28690	1.36757	1.35272	1.24456	1.17512	1.28537	6.165
83 Benzo(k)fluoranthene	1.20998	1.25258	1.28262	1.15853	1.07943	1.19663	6.723
84 Benzo(e)pyrene	1.11281	1.15123	1.23635	1.16415	1.17320	1.16755	3.840
85 Benzo(a)pyrene	1.08150	1.13826	1.22611	1.14798	1.18186	1.15514	4.644
86 Perylene	0.92325	0.91772	1.02113	0.97867	1.02792	0.97374	5.359
87 Indeno(1,2,3-cd)pyrene	0.83326	0.95361	1.35055	1.49304	1.58895	1.24388	26.827
88 Dibenzo(a,h)anthracene	0.67140	0.77006	1.09635	1.23430	1.34988	1.02440	28.647
89 Benzo(g,h,i)perylene	0.71725	0.89159	1.28282	1.40504	1.47649	1.15464	28.829
$ 7 2-Fluorophenol	1.06475	1.03567	1.03952	0.91588	0.79026	0.96922	11.916
$ 8 Phenol-d5	1.49876	1.44681	1.36677	1.30542	1.07737	1.33903	12.243
$ 9 2-Chlorophenol-d4	1.23723	1.11639	1.20459	1.10947	0.92388	1.11831	10.903
$ 10 1,2-Dichlorobenzene-d4	0.90344	0.86114	0.88827	0.83297	0.66976	0.83111	11.325
$ 11 Nitrobenzene-d5	0.40623	0.40803	0.43040	0.41616	0.40130	0.41242	2.761
$ 12 1,3,5-Trichlorobenzene-d4	0.31631	0.32503	0.30429	0.27883	0.25554	0.29600	9.639
$ 13 1,4-Dibromobenzene-d4	0.96595	0.94362	1.02022	0.94334	0.78300	0.93122	9.514
$ 14 2-Fluorobiphenyl	1.24395	1.18214	1.20395	1.17725	1.12045	1.18555	3.788
$ 15 2,4,6-Tribromophenol	0.23422	0.23676	0.26392	0.28185	0.24751	0.25285	7.905
$ 16 Anthracene-d10	1.08717	1.06573	1.16040	1.09367	1.01484	1.08436	4.848
$ 17 Pyrene-d10	1.42462	1.57285	1.58117	1.63506	1.29065	1.50087	9.402
$ 18 Terphenyl-d14	1.46921	1.60697	1.59545	1.52608	1.23097	1.48574	10.293

Tr gle Laboratories of RTP, Inc. 8-10-92

Data file: /chem/TRILABS.1/8-1-92.b/ja31103.d
Date : 01-AUG-1992 15:20
Instrument : J.1
Sample ID : sstd020
Column phase : DB-5
Volume Injected (uL) : 0.0

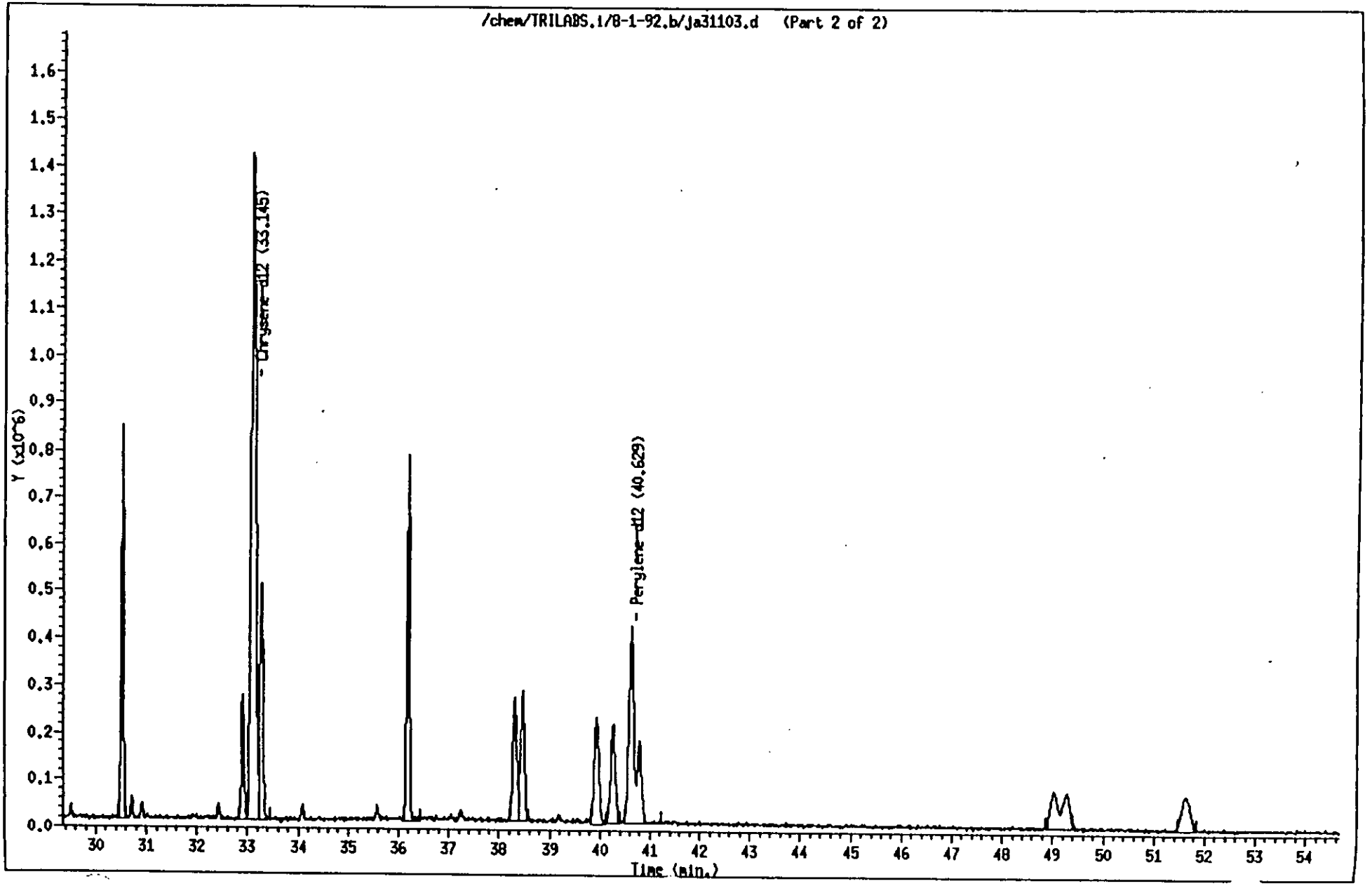
Column diameter : 0.32



Triangle Laboratories of RTP, Inc. SA 8-10-92

Data File: /chem/TRILABS.1/8-1-92.b/ja31103.d
Date : 01-AUG-1992 15:20
Instrument : J.1
Sample ID : sstd020
Column phase : DB-5
Volume injected (uL) : 0.0

Column diameter : 0.32



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

SEMI-VOLATILE QUANTATATION REPORT

Data file : /chem/TRILABS.i/8-1-92.b/ja31103.d
Lab. Id. :
Inj Date : 01-AUG-1992 15:20 Autotune Date: 22-Jul-92 12:21:3
Operator : mick Inst ID: J.i
Smp Info : sstd020
Misc Info :
Comment :
Method : /chem/TRILABS.i/8-1-92.b/tlibna.m
Meth Date : 06-Aug-1992 14:18 target
Cal Date : 01-AUG-92 15:20 Cal File: ja31103.d
Als bottle: 3 Calibration Sample, Level: 1
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: all.sub
Rpt Date : 10-Aug-1992 11:12 Sample Type: Not Specified

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ng)
*	1	1,4-Dichlorobenzene	12.336(1.000)	399902	40.00	40.00
•	2	Naphthalene-d8	15.560(1.000)	1597843	40.00	40.00
•	3	Acenaphthene-d10	20.207(1.000)	940802	40.00	40.00
*	4	Phenanthrene-d10	24.197(1.000)	1447878	40.00	40.00
*	5	Chrysene-d12	33.145(1.000)	1156518	40.00	40.00
*	6	Perylene-d12	40.629(1.000)	894044	40.00	40.00
$	7	2-Fluorophenol	9.241(0.749)	212898	21.97	21.97
$	8	Phenol-d5	11.345(0.920)	299679	22.38	22.38
$	9	2-Chlorophenol-d4	11.765(0.954)	247385	22.12	22.12
$	10	1,2-Dichlorobenzene	12.716(1.031)	180643	21.74	21.74
$	11	Nitrobenzene-d5	13.691(0.880)	324544	19.70	19.70
$	12	1,3,5-Trichlorobenz	14.554(0.935)	252709	21.37	21.37
$	13	1,4-Dibromobenzene-	15.687(1.272)	193142	20.74	20.74
$	14	2-Fluorobiphenyl	18.371(0.909)	585154	20.98	20.98
$	15	2,4,6-Tribromopheno	22.306(1.104)	110179	18.52	18.52
$	16	Anthracene-d10	24.348(1.006)	787048	20.05	20.05
$	17	Pyrene-d10	28.247(0.852)	823801	18.98	18.98
$	18	Terphenyl-d14	28.738(0.867)	849584	19.77	19.77
	19	N-Nitrosodimethylam	6.114(0.000)	85389	21.20	21.20(M)
	20	Phenol	11.377(0.922)	294178	22.32	22.32
	21	Aniline	11.512(0.933)	355381	20.85	20.85
	22	bis(2-Chloroethyl)e	11.647(0.944)	254854	20.97	20.97
	23	2-Chlorophenol	11.805(0.957)	245991	21.54	21.54
	24	1,3-Dichlorobenzene	12.201(0.989)	290097	20.70	20.70
	25	1,4-Dichlorobenzene	12.376(1.003)	303158	21.23	21.23
	26	1,2-Dichlorobenzene	12.748(1.033)	290867	21.08	21.08
	27	2-Methylphenol	12.859(1.042)	236111	21.13	21.13
	28	2,2'-oxybis(1-Chlor	13.026(1.056)	93040	21.20	21.20
	29	Benzyl alcohol	12.621(1.023)	104179	17.77	17.77
	30	4-Methylphenol	13.232(1.073)	251428	21.05	21.05
	31	N-Nitroso-di-n-prop	13.271(1.076)	180728	20.82	20.82

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
32 Hexachloroethane	13.604(1.103)	136713	19.75	19.75
33 Nitrobenzene	13.739(0.883)	290353	19.53	19.53
34 Isophorone	14.332(0.921)	549551	19.02	19.02
35 2-Nitrophenol	14.546(0.935)	140290	20.54	20.54
36 2,4-Dimethylphenol	14.602(0.938)	198110	11.75	11.75
37 bis(2-Chloroethoxy)	14.855(0.955)	352961	19.87	19.87
38 Benzoic acid	14.705(0.945)	107633	14.82	14.82
39 2,4-Dichlorophenol	15.156(0.974)	216048	18.39	18.39
40 1,2,4-Trichlorobenz	15.394(0.989)	245668	19.19	19.19
41 Naphthalene	15.616(1.004)	709177	19.89	19.89
42 4-Chloroaniline	15.711(1.010)	303517	20.67	20.67
43 Hexachlorobutadiene	15.917(1.023)	132187	18.89	18.89
44 4-Chloro-3-methylph	16.938(1.089)	215868	17.89	17.89
45 2-Methylnaphthalene	17.428(1.120)	539753	19.67	19.67
46 Hexachlorocyclopent	17.832(0.882)	72797	13.11	13.11
47 2,4,6-Trichlorophen	18.141(0.898)	133494	17.98	17.98
48 2,4,5-Trichlorophen	18.236(0.902)	154156	17.78	17.78
49 2-Chloronaphthalene	18.719(0.926)	497021	19.71	19.71
50 2-Nitroaniline	18.949(0.938)	152671	19.20	19.20
51 Dimethylphthalate	19.407(0.960)	554580	18.47	18.47
52 2,6-Dinitrotoluene	19.582(0.969)	134240	17.59	17.59
53 2,4-Dinitrotoluene	20.659(1.022)	180532	17.21	17.21
54 Acenaphthylene	19.835(0.982)	752362	18.49	18.49
55 3-Nitroaniline	20.041(0.992)	149705	19.34	19.34
56 Acenaphthene	20.295(1.004)	444606	19.12	19.12
57 2,4-Dinitrophenol	20.318(1.006)	27547	7.54	7.54
58 4-Nitrophenol	20.421(1.011)	46471	13.82	13.82
59 Dibenzofuran	20.754(1.027)	648752	18.82	18.82
60 Diethylphthalate	21.276(1.053)	603554	18.18	18.18
61 4-Chlorophenyl-phen	21.640(1.071)	227396	19.44	19.44
62 Fluorene	21.672(1.073)	503738	19.82	19.82
63 4-Nitroaniline	21.664(1.072)	150789	17.24	17.24
64 4,6-Dinitro-2-methy	21.752(0.899)	70600	13.96	13.96
65 N-Nitrosodiphenylam	21.934(0.906)	361811	20.15	20.15
66 4-Bromophenyl-pheny	22.954(0.949)	136909	19.74	19.74
67 Hexachlorobenzene	23.152(0.957)	195055	19.76	19.76
68 Pentachlorophenol	23.651(0.977)	56704	12.83	12.83
69 Phenanthrene	24.260(1.003)	723889	18.45	18.45
70 Anthracene	24.404(1.009)	750543	18.37	18.37
71 Carbazole	24.791(1.025)	781119	17.10	17.10
72 Di-n-butylphthalate	25.622(1.059)	1217430	17.44	17.44
73 Fluoranthene	27.566(1.139)	868493	17.65	17.65
74 Pyrene	28.311(0.854)	906821	17.35	17.35
75 Benzidine	27.907(0.842)	260950	16.56	16.56
76 Butylbenzylphthalat	30.518(0.921)	701160	19.65	19.65
77 3,3'-Dichlorobenzid	32.906(0.993)	242247	17.78	17.78
78 bis(2-Ethylhexyl)ph	33.073(0.998)	994531	21.00	21.00
79 Di-n-octylphthalate	36.190(0.891)	1453168	22.05	22.05
80 Benzo(a)anthracene	33.097(0.999)	808619	19.51	19.51
81 Chrysene	33.273(1.004)	738958	18.80	18.80
82 Benzo(b)fluoranthen	38.302(0.943)	575272	20.59	20.59(TH)

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
83 Benzo(k)fluoranthen	38.469(0.947)	540887	20.22	20.22
84 Benzo(e)pyrene	39.940(0.983)	497451	19.06	19.06
85 Benzo(a)pyrene	40.264(0.991)	483454	18.72	18.72
86 Perylene	40.795(1.004)	412715	18.96	18.96
87 Indeno(1,2,3-cd)pyr	49.031(1.207)	372484	13.39	13.39
88 Dibenzo(a,h)anthrac	49.253(1.212)	300129	13.10	13.10
89 Benzo(g,h,i)perylen	51.632(1.271)	320628	12.42	12.42

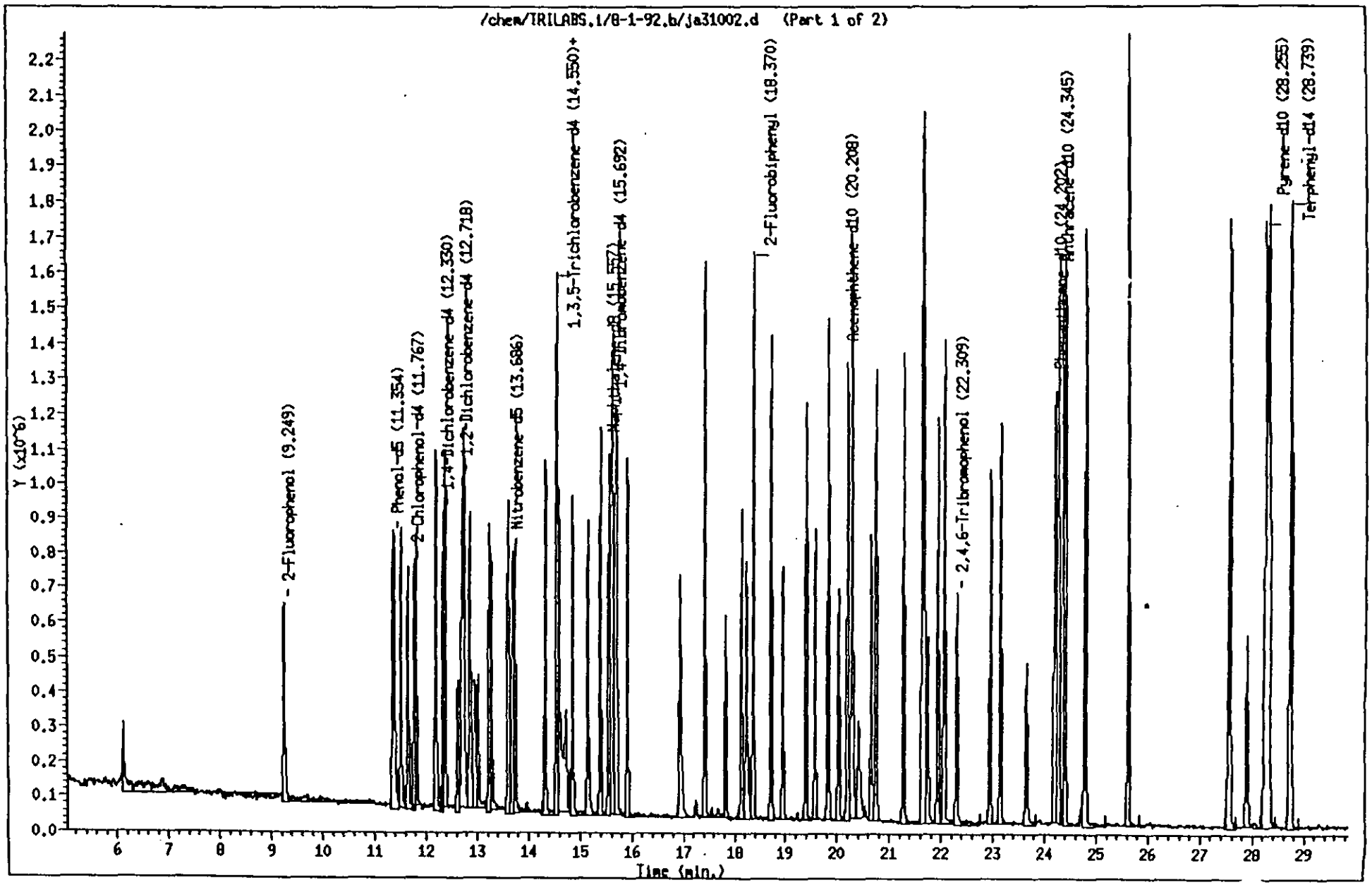
QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Triangle Laboratories of RTP, Inc.

SA8-1092

Data File: /chem/TRILABS.1/8-1-92.b/ja31002.d
Date : 01-AUG-1992 10:14
Instrument : J.1
Sample ID : astd050
Column phase : DB-5
Volume Injected (uL) : 0.0
Column diameter : 0.32

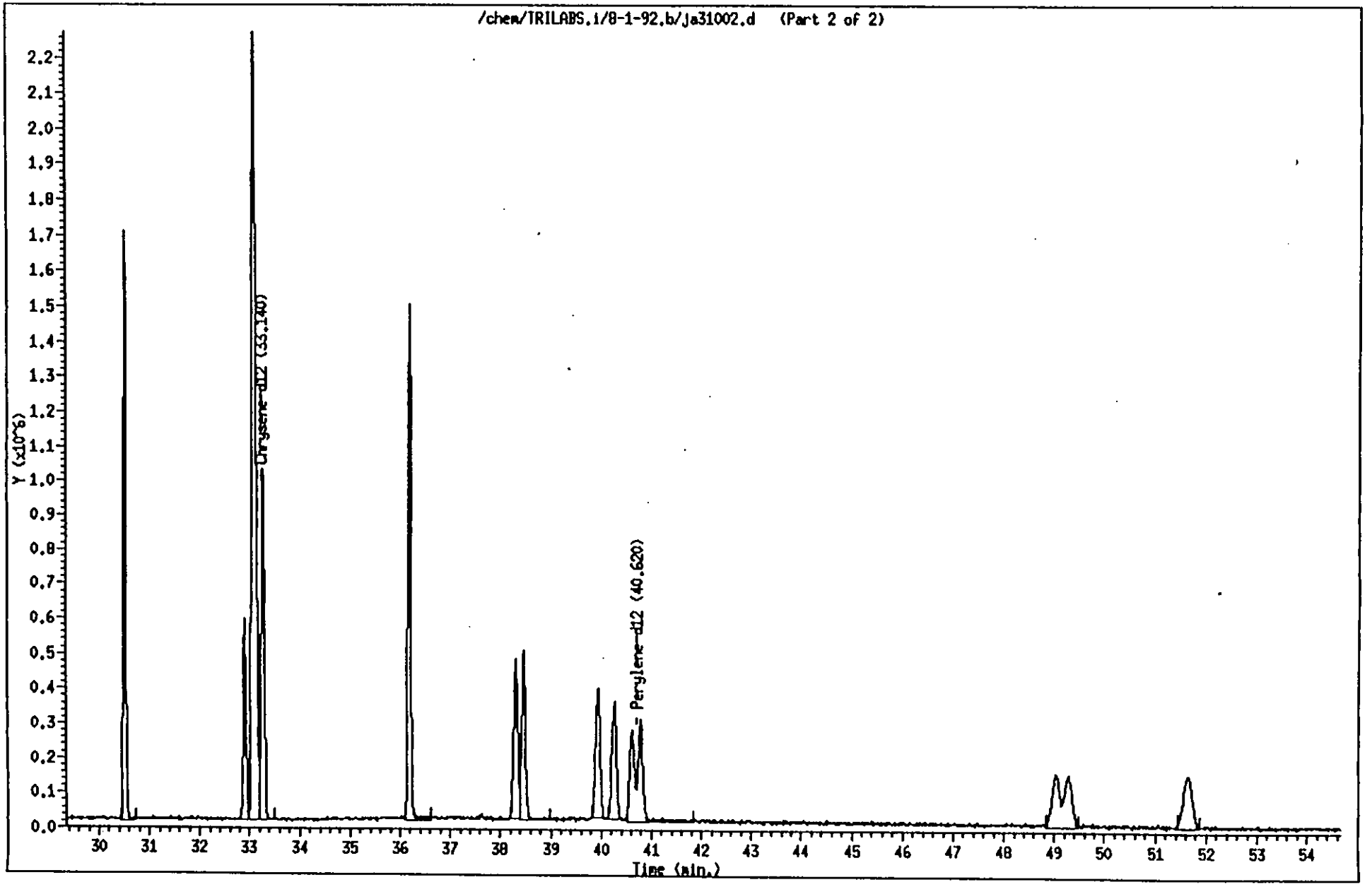


Triangle Laboratories of RTP, Inc.

SH 8-10-92

Data File: /chem/TRILABS.1/8-1-92.b/ja31002.d
Date : 01-AUG-1992 10:14
Instrument : J.1
Sample ID : sstd050
Column phase : DB-5
Volume Injected (uL) : 0.0

Column diameter : 0.32



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

BASE NEUTRAL QUANT AND RATIO REPORT

Data file : /chem/TRILABS.i/8-1-92.b/ja31002.d
Lab. Id. :
Inj Date : 01-AUG-1992 10:14 Autotune Date: 22-Jul-92 12:21:3
Operator : mick Inst ID: J.i
Smp Info : sstd050
Misc Info :
Comment :
Method : /chem/TRILABS.i/8-1-92.b/tlibna.m
Meth Date : 05-Aug-1992 18:29 target
Cal Date : 01-AUG-92 10:14 Cal File: ja31002.d
Als bottle: 2 Calibration Sample, Level: 2
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: all.sub
Rpt Date : 06-Aug-1992 08:40 Sample Type: Not Specified

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
•	1	1,4-Dichlorobenzene	12.330(1.000)	294726	40.00	40.00
•	2	Naphthalene-d8	15.557(1.000)	1106795	40.00	40.00
*	3	Acenaphthene-d10	20.208(1.000)	706196	40.00	40.00
*	4	Phenanthrene-d10	24.202(1.000)	1108293	40.00	40.00
•	5	Chrysene-d12	33.140(1.000)	900506	40.00	40.00
•	6	Perylene-d12	40.620(1.000)	572778	40.00	40.00
$	7	2-Fluorophenol	9.249(0.750)	381550	53.42	53.42
$	8	Phenol-d5	11.354(0.921)	533017	54.02	54.02
$	9	2-Chlorophenol-d4	11.767(0.954)	411285	49.91	49.91
$	10	1,2-Dichlorobenzene	12.718(1.032)	317249	51.80	51.80
$	11	Nitrobenzene-d5	13.686(0.880)	564508	49.46	49.46
$	12	1,3,5-Trichlorobenz	14.558(0.936)	449680	54.90	54.90
$	13	1,4-Dibromobenzene-	15.684(~~1.000~~)	347635	52.29	52.29
$	14	2-Fluorobiphenyl	18.370(0.909)	1043529	49.85	49.85
$	15	2,4,6-Tribromopheno	22.309(1.104)	209001	46.81	46.81
$	16	Anthracene-d10	24.345(1.006)	1476421	49.14	49.14
$	17	Pyrene-d10	28.255(0.853)	1770453	52.39	52.39
$	18	Terphenyl-d14	28.739(0.867)	1808861	54.08	54.08
	19	N-Nitrosodimethylam	6.115(0.496)	141660	47.39	47.39
	20	Phenol	11.386(0.923)	532224	54.80	54.80
	21	Aniline	11.513(0.934)	656677	52.29	52.29
	22	bis(2-Chloroethyl)e	11.648(0.945)	487935	54.48	54.48
	23	2-Chlorophenol	11.807(0.958)	437562	51.98	51.98
	24	1,3-Dichlorobenzene	12.195(0.989)	546148	52.89	52.89
	25	1,4-Dichlorobenzene	12.378(1.004)	554083	52.66	52.66
	26	1,2-Dichlorobenzene	12.750(1.034)	541340	53.23	53.23
	27	2-Methylphenol	12.861(1.043)	441914	53.66	53.66
	28	2,2'-oxybis(1-Chlor	13.020(1.056)	153106	47.34	47.34
	29	Benzyl alcohol	12.623(1.024)	199786	46.25	46.25
	30	4-Methylphenol	13.234(1.073)	436662	49.61	49.61
	31	N-Nitroso-di-n-prop	13.274(1.077)	309049	48.31	48.31

	Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
32	Hexachloroethane	13.607(1.104)	260407	51.06	51.06
33	Nitrobenzene	13.742(0.883)	547861	53.21	53.21
34	Isophorone	14.328(0.921)	1054260	52.69	52.69
35	2-Nitrophenol	14.550(0.935)	265263	56.07	56.07
36	2,4-Dimethylphenol	14.598(0.938)	631163	54.07	54.07
37	bis(2-Chloroethoxy)	14.859(0.955)	653405	53.10	53.10
38	Benzoic acid	14.733(0.000)	247698	49.24	49.24(M)
39	2,4-Dichlorophenol	15.153(0.974)	410833	50.49	50.49
40	1,2,4-Trichlorobenz	15.398(0.990)	457724	51.63	51.63
41	Naphthalene	15.613(1.004)	1306395	52.91	52.91
42	4-Chloroaniline	15.708(1.010)	536279	52.73	52.73
43	Hexachlorobutadiene	15.914(1.023)	249260	51.42	51.42
44	4-Chloro-3-methylph	16.935(1.089)	420518	50.31	50.31
45	2-Methylnaphthalene	17.426(1.120)	1015671	53.43	53.43
46	Hexachlorocyclopent	17.830(0.882)	187028	44.90	44.90
47	2,4,6-Trichlorophen	18.139(0.898)	266453	47.82	47.82
48	2,4,5-Trichlorophen	18.235(0.902)	310582	47.73	47.73
49	2-Chloronaphthalene	18.718(0.926)	955113	50.46	50.46
50	2-Nitroaniline	18.956(0.938)	294272	49.32	49.32
51	Dimethylphthalate	19.407(0.960)	1093207	48.50	48.50
52	2,6-Dinitrotoluene	19.582(0.969)	270342	47.20	47.20
53	2,4-Dinitrotoluene	20.660(1.022)	365004	46.36	46.36
54	Acenaphthylene	19.835(1.004)	1451117	117.06	0.00(M)
55	3-Nitroaniline	20.041(0.992)	275165	47.37	47.37
56	Acenaphthene	20.295(1.004)	863425	49.48	49.48
57	2,4-Dinitrophenol	20.319(1.006)	97877	35.71	35.71
58	4-Nitrophenol	20.422(1.011)	99753	39.52	39.52
59	Dibenzofuran	20.755(1.027)	1269402	49.06	49.06
60	Diethylphthalate	21.278(1.053)	1194952	47.95	47.95
61	4-Chlorophenyl-phen	21.634(1.071)	436087	49.66	49.66
62	Fluorene	21.674(1.073)	954574	50.04	50.04
63	4-Nitroaniline	21.666(1.072)	323152	49.23	49.23
64	4,6-Dinitro-2-methy	21.754(0.899)	185689	47.96	47.96
65	N-Nitrosodiphenylam	21.936(0.906)	666749	48.51	48.51
66	4-Bromophenyl-pheny	22.950(0.948)	268260	50.53	50.53
67	Hexachlorobenzene	23.148(0.956)	382069	50.57	50.57
68	Pentachlorophenol	23.655(0.977)	149793	44.28	44.28
69	Phenanthrene	24.265(1.003)	1445817	48.16	48.16
70	Anthracene	24.401(1.008)	1529677	48.93	48.93
71	Carbazole	24.797(1.025)	1761159	50.37	50.37
72	Di-n-butylphthalate	25.628(1.059)	2718792	50.89	50.89
73	Fluoranthene	27.566(1.139)	1922110	51.04	51.04
74	Pyrene	28.319(0.855)	2097115	51.53	51.53
75	Benzidine	27.898(0.842)	632966	51.61	51.61
76	Butylbenzylphthalat	30.519(0.921)	1472300	53.01	53.01
77	3,3'-Dichlorobenzid	32.908(0.993)	494371	46.60	46.60
78	bis(2-Ethylhexyl)ph	33.076(0.998)	2051285	55.63	55.63
79	Di-n-octylphthalate	36.187(0.891)	2790709	66.11	66.11
80	Benzo(a)anthracene	33.100(0.999)	1622632	50.29	50.29
81	Chrysene	33.268(1.004)	1450225	47.40	47.40
82	Benzo(b)fluoranthen	38.308(0.943)	979143	53.83	53.83

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
83 Benzo(k)fluoranthen	38.467(0.947)	896813	52.33	52.33
84 Benzo(e)pyrene	39.947(0.983)	824248	49.30	49.30
85 Benzo(a)pyrene	40.264(0.991)	814966	49.26	49.26
86 Perylene	40.787(1.004)	657065	47.12	47.12
87 Indeno(1,2,3-cd)pyr	49.036(1.207)	682762	38.33	38.33
88 Dibenzo(a,h)anthrac	49.282(1.213)	551340	37.58	37.58
89 Benzo(g,h,i)perylen	51.615(1.271)	638351	38.60	38.60

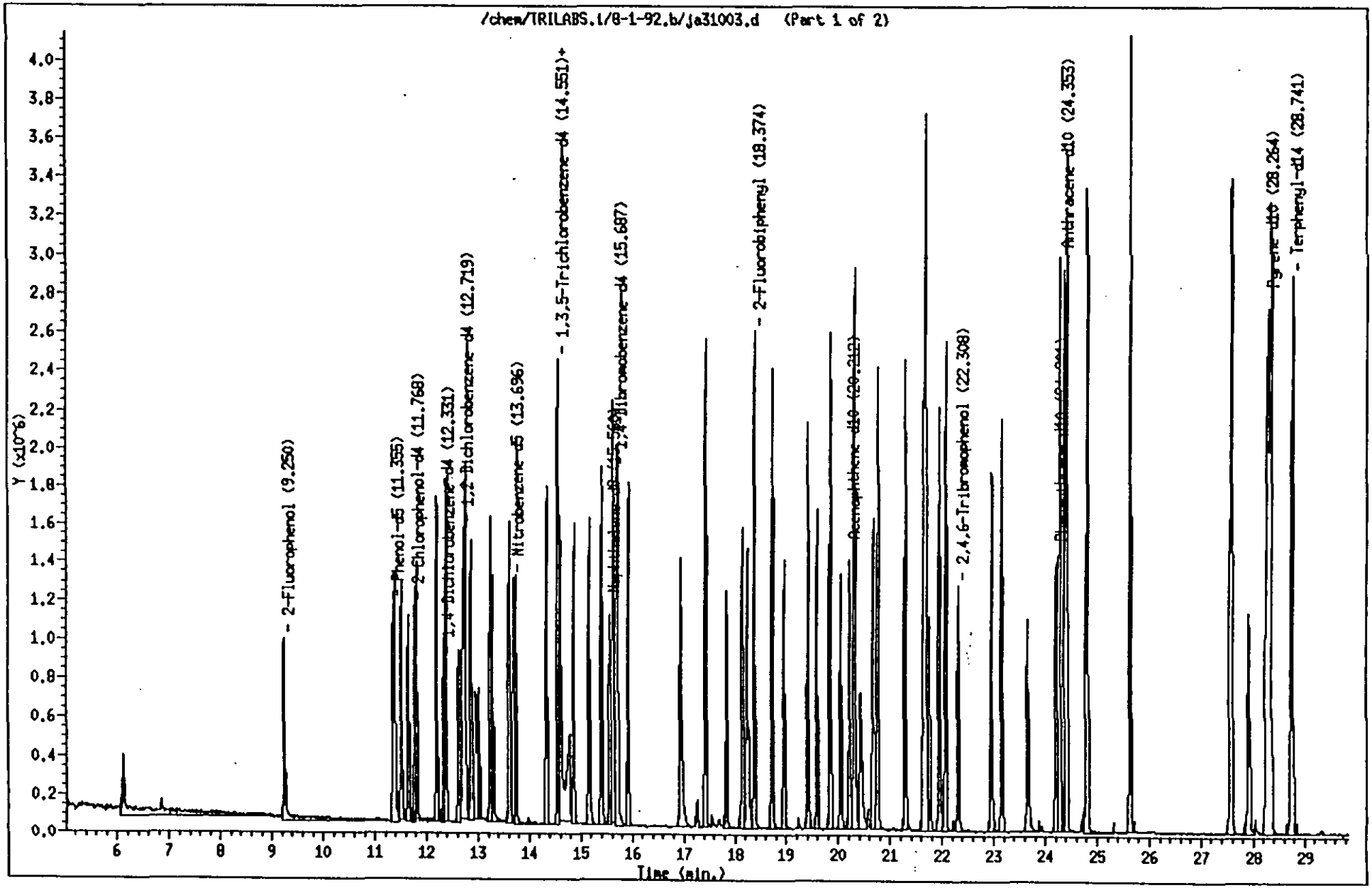
QC Flag Legend

M - Compound response manually integrated.

Tr gle Laboratories of RTP, Inc.

Data ..ie: /chem/TRILABS.1/8-1-92.b/ja31003.d
Date : 01-AUG-1992 11:19
Instrument : J.1
Sample ID : sstd080
Column phase : DB-5
Volume Injected (uL) : 0.0

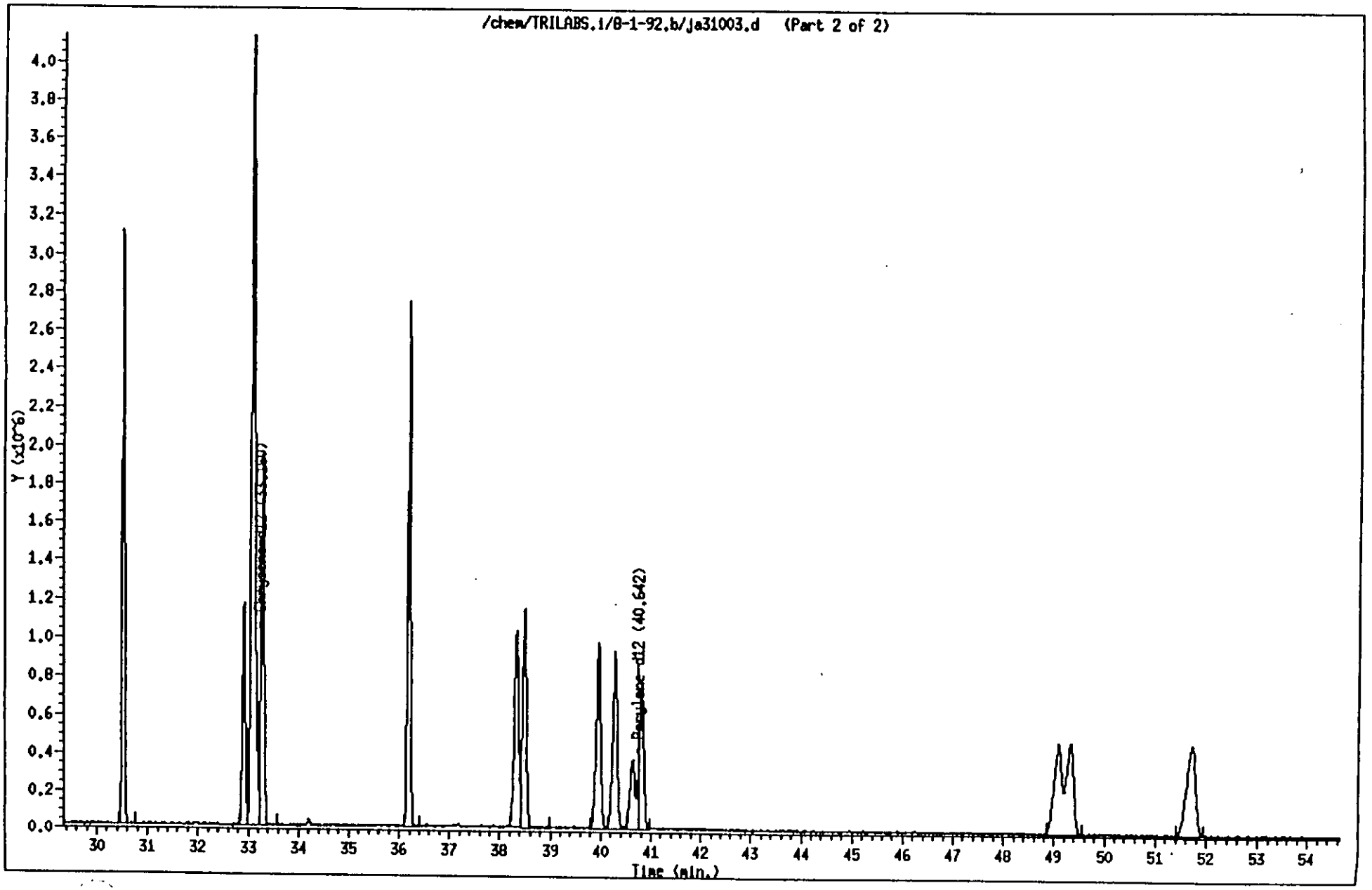
Column diameter : 0.32



Triangle Laboratories at RTP, Inc,
SA 8-10-92

Data File: /chem/TRILABS.1/8-1-92.b/Ja31003.d
Date : 01-AUG-1992 11:19
Instrument : J.1
Sample ID : sstd080
Column phase : DB-5
Volume Injected (uL) : 0.0

Column diameter : 0.32



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

BASE NEUTRAL QUANT AND RATIO REPORT

Data file : /chem/TRILABS.i/8-1-92.b/ja31003.d
Lab. Id. :
Inj Date : 01-AUG-92 11:19 Autotune Date: 22-Jul-92 12:21:3
Operator : mick Inst ID: J.i
Smp Info : sstd080
Misc Info :
Comment :
Method : /chem/TRILABS.i/8-1-92.b/tlibna.m
Meth Date : 06-Aug-1992 10:53
Cal Date : 01-AUG-92 11:19 Cal File: ja31003.d
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: all.sub
Rpt Date : 06-Aug-1992 10:53 Sample Type: Not Specified

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
*	1	1,4-Dichlorobenzene	12.331(1.000)	295800	40.00	40.00
•	2	Naphthalene-d8	15.560(1.000)	1179762	40.00	40.00
*	3	Acenaphthene-d10	20.212(1.000)	728299	40.00	40.00
*	4	Phenanthrene-d10	24.201(1.000)	1237481	40.00	40.00
*	5	Chrysene-d12	33.160(1.000)	977980	40.00	40.00
*	6	Perylene-d12	40.634(1.000)	814206	40.00	40.00
$	7	2-Fluorophenol	9.250(0.750)	614981	85.80	85.80
$	8	Phenol-d5	11.355(0.921)	808584	81.65	81.65
$	9	2-Chlorophenol-d4	11.768(0.954)	712635	86.17	86.17
$	10	1,2-Dichlorobenzene	12.719(1.032)	525500	85.50	85.50
$	11	Nitrobenzene-d5	13.696(0.880)	1015544	83.48	83.48
$	12	1,3,5-Trichlorobenz	14.559(0.936)	717984	82.24	82.24
$	13	1,4-Dibromobenzene-	15.687(1.272)	603560	153.53	153.53
$	14	2-Fluorobiphenyl	18.374(0.909)	1753675	81.24	81.24
$	15	2,4,6-Tribromopheno	22.316(1.104)	384419	83.50	83.50
$	16	Anthracene-d10	24.353(1.006)	2871938	85.61	85.61
$	17	Pyrene-d10	28.264(0.852)	3092698	84.28	84.28
$	18	Terphenyl-d14	28.741(0.867)	3120640	85.90	85.90
	19	N-Nitrosodimethylam	6.123(0.497)	255341	85.11	85.11
	20	Phenol	11.395(0.924)	826643	84.81	84.81
	21	Aniline	11.514(0.934)	1109855	88.06	88.06
	22	bis(2-Chloroethyl)e	11.657(0.945)	807525	89.84	89.84
	23	2-Chlorophenol	11.816(0.958)	779668	92.29	92.29
	24	1,3-Dichlorobenzene	12.196(0.989)	947663	91.45	91.45
	25	1,4-Dichlorobenzene	12.378(1.004)	967485	91.62	91.62
	26	1,2-Dichlorobenzene	12.751(1.034)	950253	93.11	93.11
	27	2-Methylphenol	12.871(1.044)	747060	90.39	90.39
	28	2,2'-oxybis(1-Chlor	13.022(1.056)	288028	88.74	88.74
	29	Benzyl alcohol	12.624(1.024)	392379	90.50	90.50
	30	4-Methylphenol	13.236(1.073)	833290	94.33	94.33
	31	N-Nitroso-di-n-prop	13.283(1.077)	600242	93.50	93.50

	Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ng)
32	Hexachloroethane	13.608(1.104)	461349	90.14	90.14
33	Nitrobenzene	13.743(0.883)	944885	86.09	86.09
34	Isophorone	14.337(0.921)	1932889	90.64	90.64
35	2-Nitrophenol	14.551(0.935)	456097	90.45	90.45
36	2,4-Dimethylphenol	14.599(0.938)	1164904	93.63	93.63
37	bis(2-Chloroethoxy)	14.862(0.955)	1155948	88.14	88.14
38	Benzoic acid		Compound Not Detected.		
39	2,4-Dichlorophenol	15.163(0.975)	794557	91.61	91.61
40	1,2,4-Trichlorobenz	15.401(0.990)	830912	87.92	87.92
41	Naphthalene	15.615(1.004)	2312607	87.87	87.87
42	4-Chloroaniline	15.711(1.010)	1025570	94.61	94.61
43	Hexachlorobutadiene	15.917(1.023)	442017	85.55	85.55
44	4-Chloro-3-methylph	16.930(1.088)	803446	90.18	90.18
45	2-Methylnaphthalene	17.430(1.120)	1827326	90.19	90.19
46	Hexachlorocyclopent	17.834(0.882)	396392	92.28	92.28
47	2,4,6-Trichlorophen	18.143(0.898)	500763	87.15	87.15
48	2,4,5-Trichlorophen	18.238(0.902)	593957	88.51	88.51
49	2-Chloronaphthalene	18.723(0.926)	1678404	85.99	85.99
50	2-Nitroaniline	18.953(0.938)	543100	88.27	88.27
51	Dimethylphthalate	19.412(0.960)	2009604	86.45	86.45
52	2,6-Dinitrotoluene	19.586(0.969)	526555	89.15	89.15
53	2,4-Dinitrotoluene	20.666(1.022)	746096	91.88	91.88
54	Acenaphthylene	19.840(0.982)	2822656	90.20	90.20
55	3-Nitroaniline	20.046(0.992)	554963	92.64	92.64
56	Acenaphthene	20.300(1.004)	1599171	88.86	88.86
57	2,4-Dinitrophenol	20.316(1.005)	251341	88.92	88.92
58	4-Nitrophenol	20.419(1.010)	240076	92.23	92.23
59	Dibenzofuran	20.753(1.027)	2342667	87.79	87.79
60	Diethylphthalate	21.291(1.053)	2303963	89.65	89.65
61	4-Chlorophenyl-phen	21.640(1.071)	788732	87.10	87.10
62	Fluorene	21.672(1.072)	1782420	90.61	90.61
63	4-Nitroaniline	21.680(1.073)	644539	95.22	95.22
64	4,6-Dinitro-2-methy	21.760(0.899)	390368	90.31	90.31
65	N-Nitrosodiphenylam	21.943(0.907)	1280528	83.44	83.44
66	4-Bromophenyl-pheny	22.957(0.949)	503709	84.97	84.97
67	Hexachlorobenzene	23.155(0.957)	734339	87.04	87.04
68	Pentachlorophenol	23.654(0.977)	340143	90.06	90.06
69	Phenanthrene	24.265(1.003)	2961680	88.36	88.36
70	Anthracene	24.409(1.009)	3158319	90.47	90.47
71	Carbazole	24.797(1.025)	3538627	90.64	90.64
72	Di-n-butylphthalate	25.628(1.059)	5418300	90.83	90.83
73	Fluoranthene	27.574(1.139)	3864202	91.91	91.91
74	Pyrene	28.328(0.854)	3953515	89.46	89.46
75	Benzidine	27.907(0.842)	1297038	97.37	97.37
76	Butylbenzylphthalat	30.522(0.920)	2744428	90.98	90.98
77	3,3'-Dichlorobenzid	32.919(0.993)	1005122	87.24	87.24
78	bis(2-Ethylhexyl)ph	33.079(0.998)	3597863	89.84	89.84
79	Di-n-octylphthalate	36.199(0.891)	5310202	88.49	88.49
80	Benzo(a)anthracene	33.111(0.999)	3027759	86.42	86.42
81	Chrysene	33.287(1.004)	2801535	84.32	84.32
82	Benzo(b)fluoranthen	38.328(0.943)	2202783	84.18	84.18

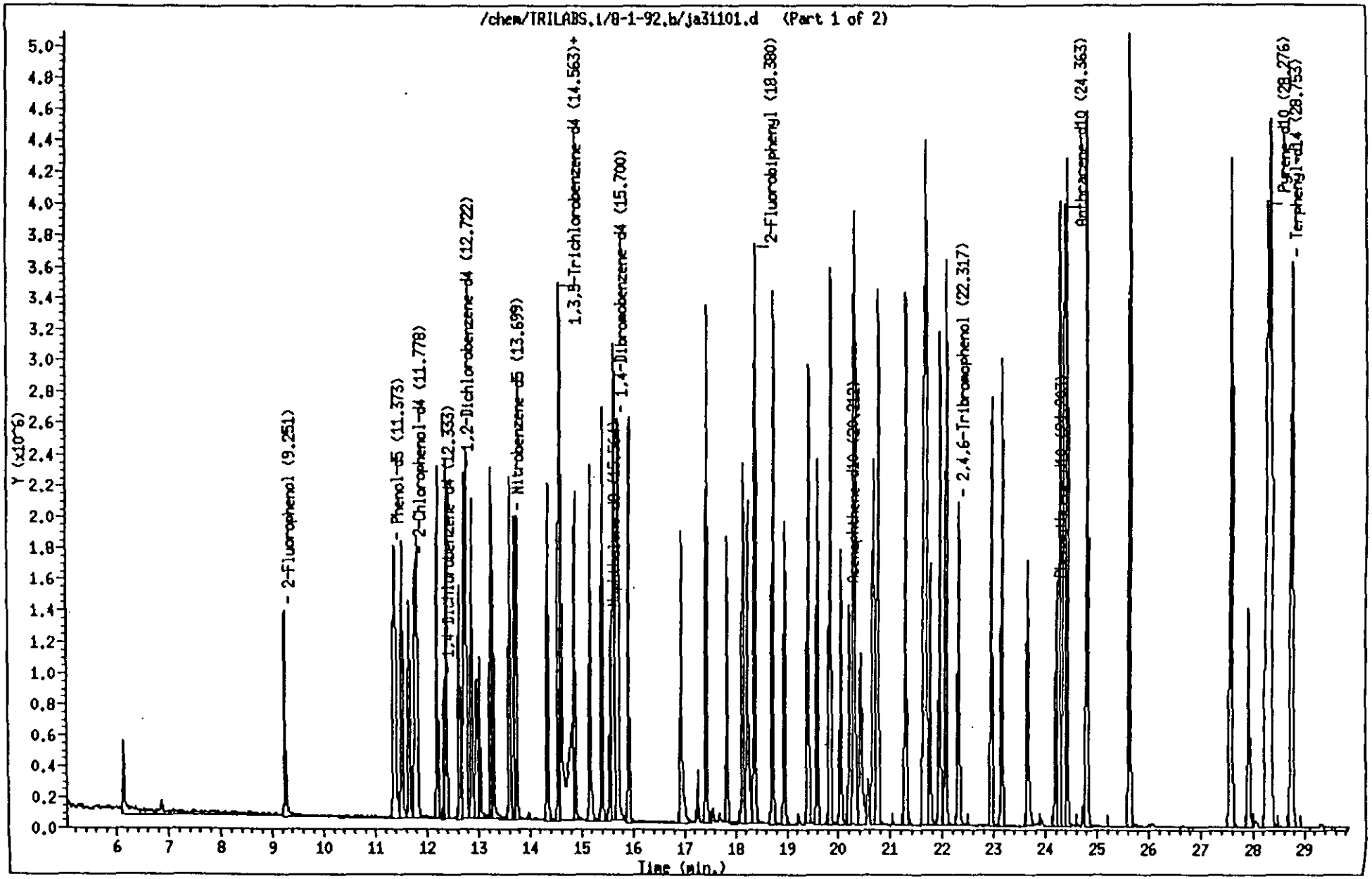
Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
83 Benzo(k)fluoranthen	38.487(0.947)	2088638	85.74	85.74
84 Benzo(e)pyrene	39.960(0.983)	2013293	84.71	84.71
85 Benzo(a)pyrene	40.285(0.991)	1996613	84.91	84.91
86 Perylene	40.809(1.004)	1662826	83.89	83.89
87 Indeno(1,2,3-cd)pyr	49.081(1.208)	2199256	86.86	86.86
88 Dibenzo(a,h)anthrac	49.328(1.214)	1785314	85.61	85.61
89 Benzo(g,h,i)perylen	51.708(1.273)	2088953	88.88	88.88

Triangle Laboratories of RTP, Inc.

Data File: /chem/TRILABS.1/8-1-92.b/ja31101.d
Date : 01-AUG-1992 13:06
Instrument : J.1
Sample ID : sstd120
Column phase : DB-5
Volume Injected (uL) : 0.0

8-1092

Column diameter : 0.32

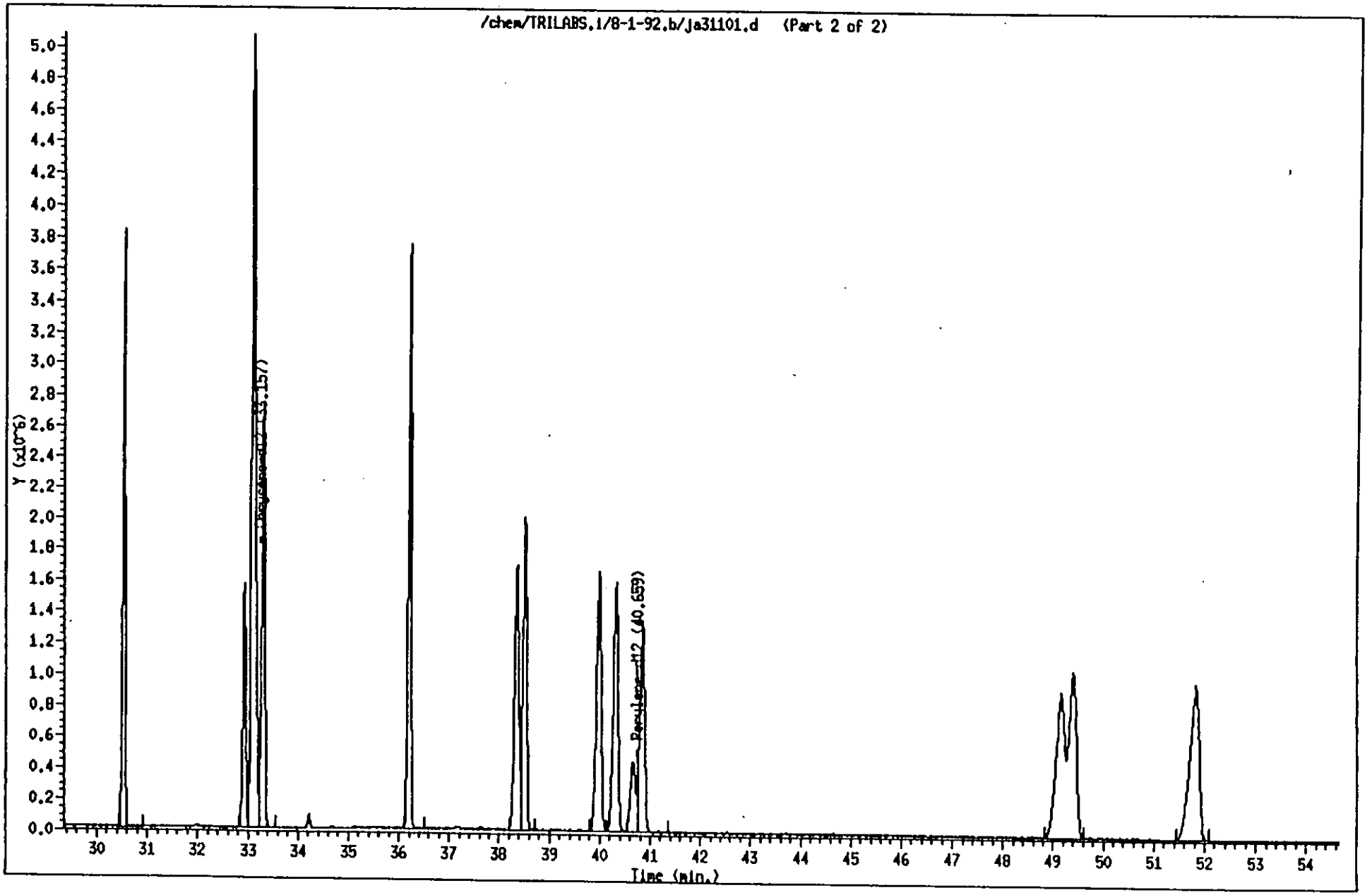


Triangle Laboratories of RTP, Inc.

Data File: /chem/TRILABS.1/8-1-92.b/ja31101.d
Date : 01-AUG-1992 13:06
Instrument : J.1
Sample ID : sstd120
Column phase : DB-5
Volume Injected (uL) : 0.0

SA 8-10-92

Column diameter : 0.32



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

BASE NEUTRAL QUANT AND RATIO REPORT

Data file : /chem/TRILABS.i/8-1-92.b/ja31101.d
Lab. Id. :
Inj Date : 01-AUG-92 13:06 Autotune Date: 22-Jul-92 12:21:3
Operator : mick Inst ID: J.i
Smp Info : sstd120
Misc Info :
Comment :
Method : /chem/TRILABS.i/8-1-92.b/tlibna.m
Meth Date : 06-Aug-1992 10:53
Cal Date : 01-AUG-92 13:06 Cal File: ja31101.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: all.sub
Rpt Date : 06-Aug-1992 10:54 Sample Type: Not Specified

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
•	1	1,4-Dichlorobenzene	12.333(1.000)	319158	40.00	40.00
*	2	Naphthalene-d8	15.564(1.000)	1280307	40.00	40.00
•	3	Acenaphthene-d10	20.212(1.000)	769425	40.00	40.00
•	4	Phenanthrene-d10	24.203(1.000)	1342508	40.00	40.00
*	5	Chrysene-d12	33.157(1.000)	968624	40.00	40.00
*	6	Perylene-d12	40.651(1.000)	1039542	40.00	40.00
$	7	2-Fluorophenol	9.251(0.750)	876934	113.39	113.39
$	8	Phenol-d5	11.365(0.921)	1249904	116.98	116.98
$	9	2-Chlorophenol-d4	11.778(0.955)	1062286	119.05	119.05
$	10	1,2-Dichlorobenzene	12.722(1.032)	797547	120.26	120.26
$	11	Nitrobenzene-d5	13.699(0.880)	1598440	121.08	121.08
$	12	1,3,5-Trichlorobenz	14.563(0.936)	1070947	113.03	113.03
$	13	1,4-Dibromobenzene-	15.692(1.272)	903222	168.14	168.14(A)
$	14	2-Fluorobiphenyl	18.380(0.909)	2717411	119.16	119.16
$	15	2,4,6-Tribromopheno	22.317(1.104)	650596	133.76	133.76
$	16	Anthracene-d10	24.363(1.007)	4404763	121.03	121.03
$	17	Pyrene-d10	28.276(0.853)	4751285	130.72	130.72
$	18	Terphenyl-d14	28.753(0.867)	4434589	123.25	123.25
	19	N-Nitrosodimethylam	6.131(0.497)	392668	121.30	121.30
	20	Phenol	11.397(0.924)	1172144	111.45	111.45
	21	Aniline	11.524(0.934)	1609724	118.38	118.38
	22	bis(2-Chloroethyl)e	11.659(0.945)	1105138	113.95	113.95
	23	2-Chlorophenol	11.818(0.958)	1051935	115.41	115.41
	24	1,3-Dichlorobenzene	12.206(0.990)	1309058	117.08	117.08
	25	1,4-Dichlorobenzene	12.381(1.004)	1282790	112.59	112.59
	26	1,2-Dichlorobenzene	12.754(1.034)	1253596	113.84	113.84
	27	2-Methylphenol	12.873(1.044)	1011316	113.41	113.41
	28	2,2'-oxybis(1-Chlor	13.025(1.056)	427735	122.14	122.14
	29	Benzyl alcohol	12.635(1.024)	597375	127.70	127.70
	30	4-Methylphenol	13.247(1.074)	1116035	117.10	117.10
	31	N-Nitroso-di-n-prop	13.295(1.078)	807048	116.52	116.52

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ng)
32 Hexachloroethane	13.612(1.104)	649543	117.62	117.62
33 Nitrobenzene	13.747(0.883)	1359892	114.17	114.17
34 Isophorone	14.341(0.921)	2584250	111.66	111.66
35 2-Nitrophenol	14.555(0.935)	587352	107.33	107.33
36 2,4-Dimethylphenol	14.611(0.939)	1747649	129.43	129.43
37 bis(2-Chloroethoxy)	14.866(0.955)	1648956	115.86	115.86
38 Benzoic acid		Compound Not Detected.		
39 2,4-Dichlorophenol	15.167(0.974)	1134578	120.54	120.54
40 1,2,4-Trichlorobenz	15.397(0.989)	1207787	117.77	117.77
41 Naphthalene	15.620(1.004)	3362900	117.75	117.75
42 4-Chloroaniline	15.716(1.010)	1266823	107.69	107.69
43 Hexachlorobutadiene	15.922(1.023)	671731	119.81	119.81
44 4-Chloro-3-methylph	16.936(1.088)	1101443	113.92	113.92
45 2-Methylnaphthalene	17.427(1.120)	2442928	111.11	111.11
46 Hexachlorocyclopent	17.840(0.883)	622289	137.12	137.12
47 2,4,6-Trichlorophen	18.149(0.898)	759171	125.06	125.06
48 2,4,5-Trichlorophen	18.237(0.902)	876257	123.60	123.60
49 2-Chloronaphthalene	18.729(0.927)	2516252	122.02	122.02
50 2-Nitroaniline	18.959(0.938)	766619	117.93	117.93
51 Dimethylphthalate	19.419(0.961)	3033762	123.54	123.54
52 2,6-Dinitrotoluene	19.593(0.969)	782769	125.45	125.45
53 2,4-Dinitrotoluene	20.674(1.023)	1116048	130.10	130.10
54 Acenaphthylene	19.839(0.982)	4069441	122.84	122.84
55 3-Nitroaniline	20.053(0.992)	760388	120.14	120.14
56 Acenaphthene	20.308(1.005)	2326924	122.39	122.39
57 2,4-Dinitrophenol	20.324(1.006)	400543	134.13	134.13
58 4-Nitrophenol	20.427(1.011)	381836	138.84	138.84
59 Dibenzofuran	20.761(1.027)	3534418	125.38	125.38
60 Diethylphthalate	21.292(1.053)	3388854	124.82	124.82
61 4-Chlorophenyl-phen	21.641(1.071)	1200687	125.51	125.51
62 Fluorene	21.681(1.073)	2438909	117.35	117.35
63 4-Nitroaniline	21.697(1.073)	879005	122.92	122.92
64 4,6-Dinitro-2-methy	21.769(0.899)	609621	130.00	130.00
65 N-Nitrosodiphenylam	21.952(0.907)	1944334	116.79	116.79
66 4-Bromophenyl-pheny	22.959(0.949)	750909	116.76	116.76
67 Hexachlorobenzene	23.157(0.957)	1068982	116.80	116.80
68 Pentachlorophenol	23.657(0.977)	555285	135.52	135.52
69 Phenanthrene	24.275(1.003)	4374002	120.28	120.28
70 Anthracene	24.420(1.009)	4558299	120.36	120.36
71 Carbazole	24.808(1.025)	5057491	119.41	119.41
72 Di-n-butylphthalate	25.639(1.059)	7848165	121.27	121.27
73 Fluoranthene	27.578(1.139)	5308858	116.39	116.39
74 Pyrene	28.340(0.855)	5721302	130.71	130.71
75 Benzidine	27.911(0.842)	1611489	122.15	122.15
76 Butylbenzylphthalat	30.534(0.921)	3448736	115.44	115.44
77 3,3'-Dichlorobenzid	32.924(0.993)	1368584	119.93	119.93
78 bis(2-Ethylhexyl)ph	33.084(0.998)	4450168	112.20	112.20
79 Di-n-octylphthalate	36.206(0.891)	7402342	96.62	96.62
80 Benzo(a)anthracene	33.125(0.999)	4159279	119.86	119.86
81 Chrysene	33.309(1.005)	4071342	123.72	123.72
82 Benzo(b)fluoranthen	38.351(0.943)	3881327	116.17	116.17

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
83 Benzo(k)fluoranthen	38.511(0.947)	3613034	116.18	116.18
84 Benzo(e)pyrene	39.984(0.984)	3630545	119.65	119.65
85 Benzo(a)pyrene	40.326(0.992)	3580135	119.25	119.25
86 Perylene	40.850(1.005)	3052109	120.60	120.60
87 Indeno(1,2,3-cd)pyr	49.156(1.209)	4656233	144.03	144.03
88 Dibenzo(a,h)anthrac	49.395(1.215)	3849330	144.58	144.58
89 Benzo(g,h,i)perylen	51.825(1.275)	4381791	146.02	146.02

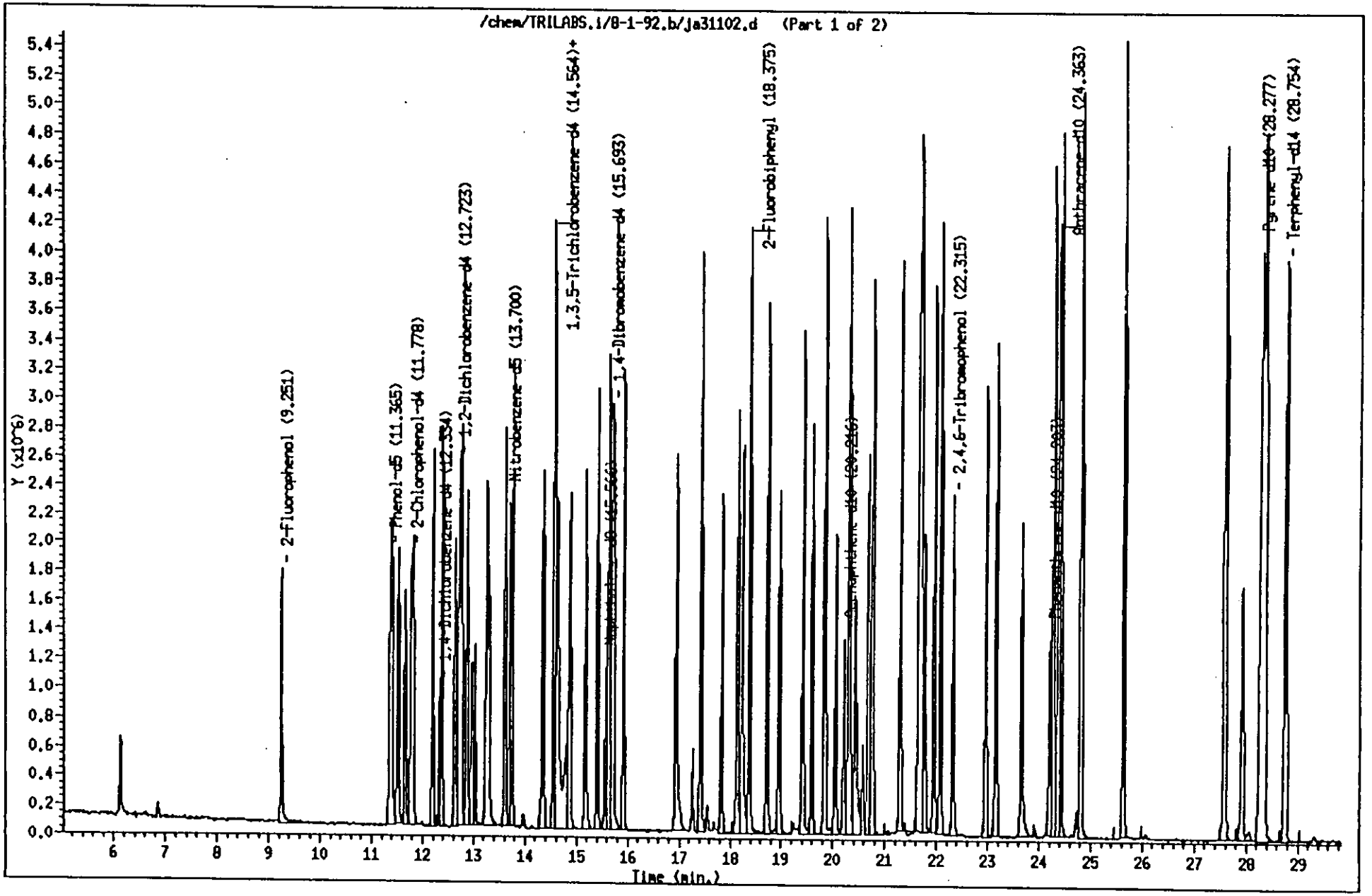
QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Trilogy Laboratories at KIP, Inc. SAC 0892

Data file: /chem/TRILABS.1/8-1-92.b/ja31102.d
Date : 01-AUG-1992 14:15
Instrument : J.1
Sample ID : sstd160
Column phase : DB-5
Volume Injected (uL) : 0.0

Column diameter : 0.32



Triangle Laboratories of RTP, Inc.

Data File: /chem/TRILABS.1/8-1-92.b/Ja31102.d SA- 8-1092

Date : 01-AUG-1992 14:15

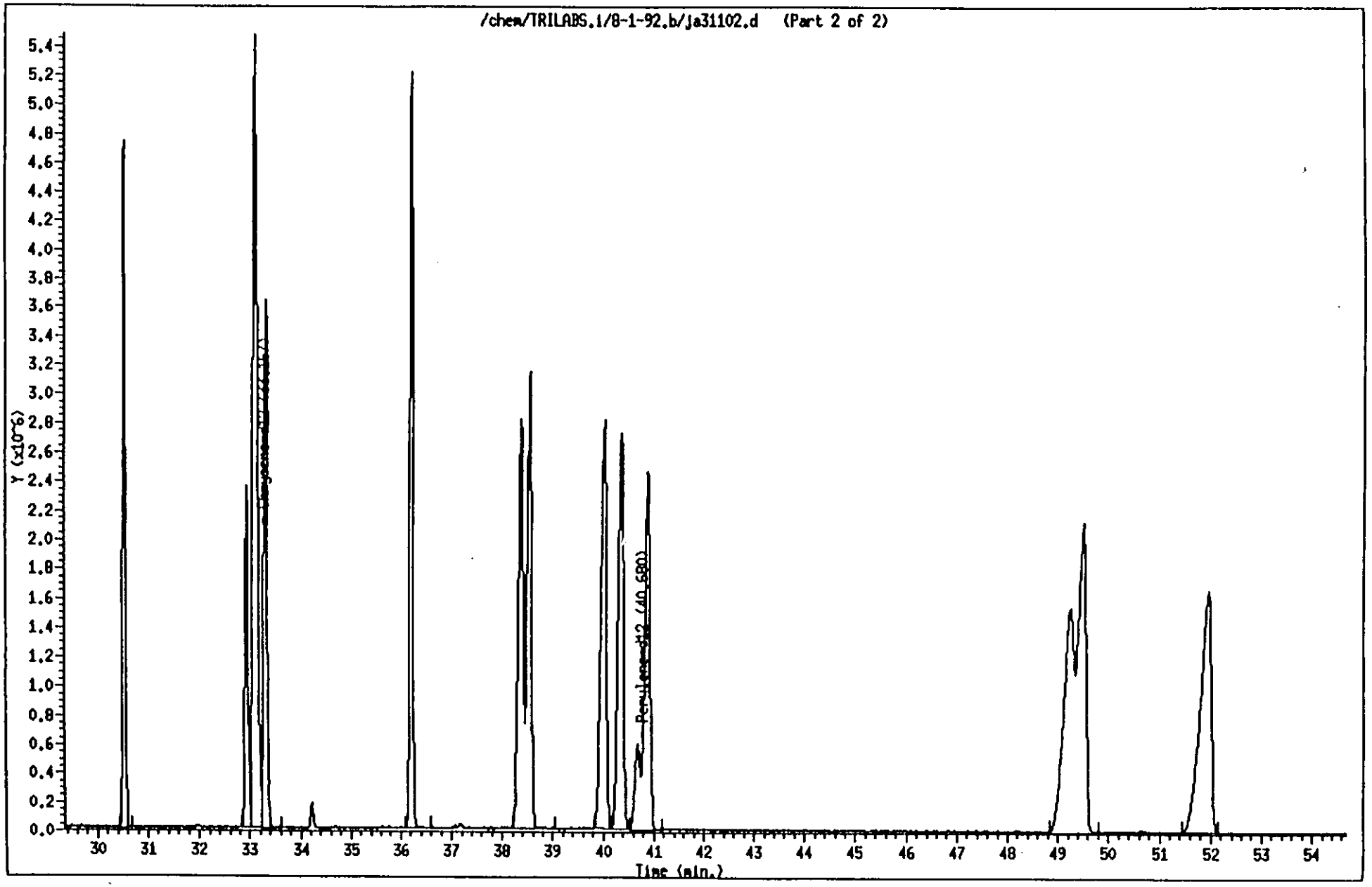
Instrument : J.1

Sample ID : sstd160

Column phase : DB-5

Column diameter : 0.32

Volume Injected (uL) : 0.0



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

SEMI-VOLATILE QUANTATATION REPORT

Data file : /chem/TRILABS.i/8-1-92.b/ja31102.d
Lab. Id. :
Inj Date : 01-AUG-1992 14:15 Autotune Date: 22-Jul-92 12:21:3
Operator : mick Inst ID: J.i
Smp Info : sstd160
Misc Info :
Comment :
Method : /chem/TRILABS.i/8-1-92.b/tlibna.m
Meth Date : 10-Aug-1992 11:14 target
Cal Date : 01-AUG-92 14:15 Cal File: ja31102.d
Als bottle: 2 Calibration Sample, Level: 5
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: all.sub
Rpt Date : 10-Aug-1992 11:15 Sample Type: Not Specified

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ng)
*	1	1,4-Dichlorobenzene	12.334(1.000)	342554	40.00	40.00
*	2	Naphthalene-d8	15.566(1.000)	1234581	40.00	40.00
*	3	Acenaphthene-d10	20.208(1.000)	752200	40.00	40.00
*	4	Phenanthrene-d10	24.203(1.000)	1208587	40.00	40.00
*	5	Chrysene-d12	33.167(1.000)	1030977	40.00	40.00
*	6	Perylene-d12	40.680(1.000)	1449433	40.00	40.00
$	7	2-Fluorophenol	9.251(0.750)	1082828	130.45	130.45
$	8	Phenol-d5	11.365(0.921)	1476232	128.73	128.73
$	9	2-Chlorophenol-d4	11.778(0.955)	1265912	132.18	132.18
$	10	1,2-Dichlorobenzene	12.723(1.032)	917719	128.93	128.93
$	11	Nitrobenzene-d5	13.700(0.880)	1981736	155.68	155.68
$	12	1,3,5-Trichlorobenz	14.564(0.936)	1261958	138.13	138.13
$	13	1,4-Dibromobenzene-	15.693(1.272)	1072883	134.53	134.53
$	14	2-Fluorobiphenyl	18.383(0.910)	3371219	151.21	151.21
$	15	2,4,6-Tribromopheno	22.315(1.104)	744712	156.62	156.62
$	16	Anthracene-d10	24.363(1.007)	4906107	149.74	149.74
$	17	Pyrene-d10	28.277(0.853)	5322505	137.58	137.58
$	18	Terphenyl-d14	28.754(0.867)	5076390	132.56	132.56
	19	N-Nitrosodimethylam	6.131(0.497)	494682	143.38	143.38
	20	Phenol	11.405(0.925)	1442661	127.80	127.80
	21	Aniline	11.524(0.934)	1923351	131.79	131.79
	22	bis(2-Chloroethyl)e	11.659(0.945)	1313800	126.22	126.22
	23	2-Chlorophenol	11.818(0.958)	1201631	122.83	122.83
	24	1,3-Dichlorobenzene	12.207(0.990)	1512585	126.04	126.04
	25	1,4-Dichlorobenzene	12.382(1.004)	1567712	128.20	128.20
	26	1,2-Dichlorobenzene	12.755(1.034)	1453038	122.94	122.94
	27	2-Methylphenol	12.874(1.044)	1217346	127.19	127.19
	28	2,2'-oxybis(1-Chlor	13.025(1.056)	520559	138.50	138.50
	29	Benzyl alcohol	12.635(1.024)	795815	158.51	158.51
	30	4-Methylphenol	13.247(1.074)	1309158	127.98	127.98
	31	N-Nitroso-di-n-prop	13.303(1.079)	1014048	136.40	136.40

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
32 Hexachloroethane	13.613(1.104)	838032	141.39	141.39
33 Nitrobenzene	13.756(0.884)	1711639	149.03	149.03
34 Isophorone	14.350(0.922)	3324653	148.98	148.98
35 2-Nitrophenol	14.564(0.936)	697465	132.18	132.18
36 2,4-Dimethylphenol	14.620(0.939)	2253103	173.05	173.05
37 bis(2-Chloroethoxy)	14.875(0.956)	1925411	140.30	140.30
38 Benzoic acid	14.843(0.000)	887748	160.19	160.19(AM)
39 2,4-Dichlorophenol	15.169(0.974)	1336950	147.31	147.31
40 1,2,4-Trichlorobenz	15.407(0.990)	1466982	148.34	148.34
41 Naphthalene	15.621(1.004)	3820802	138.74	138.74
42 4-Chloroaniline	15.717(1.010)	1508552	132.99	132.99
43 Hexachlorobutadiene	15.916(1.022)	829489	153.42	153.42
44 4-Chloro-3-methylph	16.937(1.088)	1524983	163.58	163.58(A)
45 2-Methylnaphthalene	17.429(1.120)	3033635	143.09	143.09
46 Hexachlorocyclopent	17.834(0.883)	816169	183.96	183.96(A)
47 2,4,6-Trichlorophen	18.144(0.898)	961481	162.01	162.01(A)
48 2,4,5-Trichlorophen	18.239(0.903)	1130567	163.13	163.13(A)
49 2-Chloronaphthalene	18.732(0.927)	2945396	146.11	146.11
50 2-Nitroaniline	18.963(0.938)	983015	154.69	154.69
51 Dimethylphthalate	19.422(0.961)	3825966	159.37	159.37
52 2,6-Dinitrotoluene	19.597(0.970)	991792	162.59	162.59(A)
53 2,4-Dinitrotoluene	20.678(1.023)	1314229	156.71	156.71
54 Acenaphthylene	19.843(0.982)	5145715	158.22	158.22
55 3-Nitroaniline	20.058(0.993)	916722	148.16	148.16
56 Acenaphthene	20.304(1.005)	2745415	147.71	147.71
57 2,4-Dinitrophenol	20.328(1.006)	493444	169.03	169.03(A)
58 4-Nitrophenol	20.431(1.011)	519881	193.37	193.37(A)
59 Dibenzofuran	20.766(1.028)	4124466	149.66	149.66
60 Diethylphthalate	21.297(1.054)	4122355	155.32	155.32
61 4-Chlorophenyl-phen	21.646(1.071)	1346459	143.97	143.97
62 Fluorene	21.679(1.073)	2916496	143.55	143.55
63 4-Nitroaniline	21.703(1.074)	1049255	150.09	150.09
64 4,6-Dinitro-2-methy	21.775(0.900)	763481	180.85	180.85(A)
65 N-Nitrosodiphenylam	21.950(0.907)	2411774	160.92	160.92(A)
66 4-Bromophenyl-pheny	22.957(0.949)	895877	154.74	154.74
67 Hexachlorobenzene	23.164(0.957)	1237900	150.24	150.24
68 Pentachlorophenol	23.655(0.977)	718512	194.79	194.79(A)
69 Phenanthrene	24.274(1.003)	5273486	161.09	161.09(A)
70 Anthracene	24.419(1.009)	5282843	154.96	154.96
71 Carbazole	24.808(1.025)	6156305	161.47	161.47(A)
72 Di-n-butylphthalate	25.639(1.059)	8983820	154.21	154.21
73 Fluoranthene	27.586(1.140)	6421022	156.38	156.38
74 Pyrene	28.341(0.855)	6663629	143.03	143.03
75 Benzidine	27.919(0.842)	2031532	144.68	144.68
76 Butylbenzylphthalat	30.535(0.921)	4362615	137.20	137.20
77 3,3'-Dichlorobenzid	32.941(0.993)	2116116	174.23	174.23(A)
78 bis(2-Ethylhexyl)ph	33.086(0.998)	5262954	124.67	124.67
79 Di-n-octylphthalate	36.216(0.890)	11341935	106.17	106.17
80 Benzo(a)anthracene	33.126(0.999)	5549287	150.24	150.24
81 Chrysene	33.319(1.005)	5752161	164.23	164.23(A)
82 Benzo(b)fluoranthen	38.377(0.948)	6813041	148.04	148.04(M)

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ng)
83 Benzo(k)fluoranthen	38.553(0.948)	6258253	144.33	144.33
84 Benzo(e)pyrene	40.027(0.984)	6801881	160.77	160.77(A)
85 Benzo(a)pyrene	40.362(0.992)	6852103	163.70	163.70(A)
86 Perylene	40.887(1.005)	5959613	168.90	168.90(A)
87 Indeno(1,2,3-cd)pyr	49.241(1.210)	9212332	204.38	204.38(A)
88 Dibenzo(a,h)anthrac	49.505(1.217)	7826259	210.83	210.83(A)
89 Benzo(g,h,i)perylen	51.959(1.277)	8560318	204.60	204.60(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

Triangle Laboratories of RTP, Inc. 8-1-92

Data File: /chem/TRILABS.i/8-1-92.b/ja309.d

Date : 01-AUG-92 08:28

Instrument : TRILABS.i

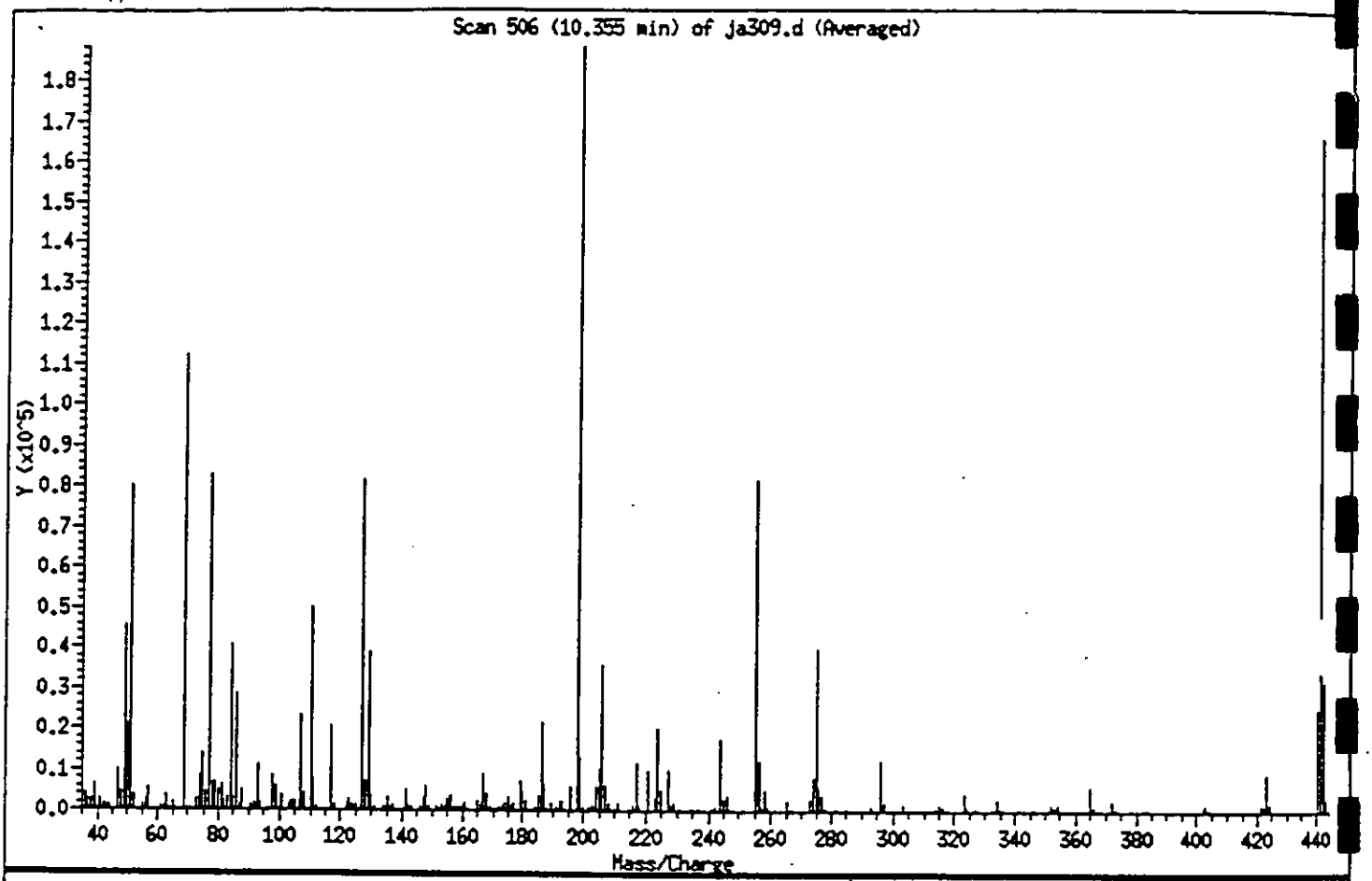
Sample ID : DFTPP02

Column phase : db5 1u

Column diameter : 0.32

Volume Injected (uL) : 1.0

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.0
51	30.00 - 60.00% of mass 198	42.5
68	Less than 2.00% of mass 69	0.0
69	Less than 200.00% of mass 198	59.6
70	Less than 2.00% of mass 69	0.3
127	40.00 - 60.00% of mass 198	43.1
197	Less than 1.00% of mass 198	0.0
199	5.00 - 9.00% of mass 198	6.8
275	10.00 - 30.00% of mass 198	21.1
365	1.00 - 100.00% of mass 198	3.1
441	Present, but less than mass 443	79.4
442	40.00 - 99.99% of mass 198	88.4
443	17.00 - 23.00% of mass 442	18.9

Triangle Laboratories of RTP, Inc. SS 8-10-92

Data File: /chem/TRILABS.i/8-1-92.b/ja309.d

Date : 01-AUG-92 08:28

Instrument : TRILABS.i

Sample ID : DFTPP02

Column phase : db5 1u

Column diameter : 0.32

Volume Injected (uL) : 1.0

Spectrum: Scan 506 (10.355 min) of ja309.d (Averaged)
Base Peak: 197.90
Number of mass peaks: 100 Display threshold: 1%

Mass	Abund	Mass	Abund	Mass	Abund	Mass	Abund
35.95	3831	83.95	40357	155.95	3470	244.00	17200
36.95	2680	85.00	3060	164.95	2090	245.00	2555
38.05	2590	85.90	28285	166.95	8844	245.90	3398
39.05	6201	87.90	4692	167.95	4220	254.95	81344
40.95	2495	93.00	11166	175.05	3146	255.95	12205
46.95	9753	98.00	8230	178.95	6992	257.95	5091
47.95	4653	98.90	5752	179.95	4282	264.85	2134
48.95	45562	100.90	3449	180.95	2302	272.95	2888
50.05	20952	104.00	2232	185.15	3639	273.95	8035
51.05	79898	105.00	2175	185.95	21262	274.95	39736
52.05	3534	107.00	23166	186.95	6255	275.95	5543
56.05	2611	108.00	3863	191.95	2301	276.85	3401
56.95	5365	110.00	49852	193.05	2318	295.95	12181
62.95	3341	111.00	7473	195.95	5893	323.00	3979
68.95	112016	117.00	20553	197.90	188069	333.90	2694
73.05	2613	122.00	1938	198.90	12786	364.90	5910
74.05	8250	123.00	2785	204.00	6002	371.95	2366
74.95	13593	127.00	81141	205.00	10314	422.90	8726
76.15	4578	128.00	7001	206.00	35658	441.00	24982
77.05	82909	129.00	38700	207.00	6319	442.00	166285
78.05	6449	130.00	3450	216.90	11605	443.00	31477
78.95	6811	135.00	3114	220.90	9827	443.90	2882
80.05	4834	140.95	4901	223.10	2978		
81.05	6357	146.95	2930	223.90	20183		
81.95	2310	147.95	5619	225.00	5035		
83.05	3231	154.95	2655	226.90	9728		

TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

INITIAL CALIBRATION DATA

Start Cal Date : 15-AUG-1992 01:59
End Cal Date : 15-AUG-1992 06:09
Report Date : 15-Aug-1992 15:08
Quant Method : ISTD
Cal Curve Type : Averaged
Target Version : Target 2.00
Integrator : HP RTE
Method file : /chem/J.i/8-14-92.b/tlinbna.m
Cal Date : 15-Aug-1992 15:02 target

SA 8-25-92
good for PAH list
JS 8-25-92

Calibration File Names:
Level 1: /chem/J.i/8-14-92.b/JA33901.d
Level 2: /chem/J.i/8-14-92.b/JA33902.d
Level 3: /chem/J.i/8-14-92.b/JA33903.d
Level 4: /chem/J.i/8-14-92.b/JA33904.d
Level 5: /chem/J.i/8-14-92.b/JA33905.d

SA 8-25-92

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	RRF	% RSD/~~RRF~~
19 N-Nitrosodimethylamine	0.44749	0.42192	0.43512	0.35427	0.34798	0.40136	11.658
20 Phenol	1.50070	1.34974	0.81510	0.83361	0.91669	1.08317	29.458
21 Aniline	1.95116	1.82394	1.43181	1.21360	1.18639	1.52138	23.034
22 bis(2-Chloroethyl)ether	1.41712	1.34416	0.92450	0.79701	0.82568	1.06169	27.890
23 2-Chlorophenol	1.38197	1.33870	0.90833	0.87216	0.90201	1.08063	23.704
24 1,3-Dichlorobenzene	1.70854	1.50727	1.19231	1.26314	1.40911	1.41607	14.445
25 1,4-Dichlorobenzene	1.72704	1.55051	1.21899	1.36929	1.43791	1.46075	13.092
26 1,2-Dichlorobenzene	1.74639	1.55353	1.12221	1.34360	1.52525	1.45819	16.180
27 2-Methylphenol	1.27564	1.22238	0.98915	0.79272	0.87188	1.03036	20.606
28 2,2'-oxybis(1-Chloropropane)	0.54164	0.59052	0.44162	0.41068	0.36500	0.46989	19.909
29 Benzyl alcohol	0.31534	0.51024	0.47874	0.44540	0.35271	0.42049	19.798
30 4-Methylphenol	1.28829	1.29907	0.91774	0.77682	0.76442	1.00927	26.410
31 N-Nitroso-di-n-propylamine	1.15149	1.15409	0.91027	0.71008	0.61470	0.90813	27.255
32 Hexachloroethane	0.90442	0.85026	0.68215	0.65450	0.68846	0.75596	14.971
33 Nitrobenzene	0.44378	0.39300	0.34540	0.28666	0.24083	0.34194	23.700
34 Isophorone	0.83314	0.80735	0.78811	0.71337	0.64094	0.75658	10.381
35 2-Nitrophenol	0.20724	0.14682	0.16881	0.19329	0.19007	0.18125	13.052
36 2,4-Dimethylphenol	0.23433	0.22397	0.35945	0.29339	0.25448	0.27312	20.163
37 bis(2-Chloroethoxy)methane	0.46605	0.45121	0.28918	0.26136	0.26852	0.34726	29.461
38 Benzoic acid	0.19426	0.24092	0.16486	0.21644	0.22209	0.20771	14.043
39 2,4-Dichlorophenol	0.31060	0.32011	0.26880	0.26428	0.26171	0.28510	9.799
40 1,2,4-Trichlorobenzene	0.35584	0.33502	0.28182	0.31127	0.33111	0.32301	8.649
41 Naphthalene	0.96980	0.84195	0.64337	0.70823	0.75789	0.78425	16.139
42 4-Chloroaniline	0.44308	0.41900	0.27929	0.24148	0.25542	0.32765	29.215
43 Hexachlorobutadiene	0.20547	0.18476	0.20350	0.21650	0.20771	0.20359	5.716
44 4-Chloro-3-methylphenol	0.29732	0.34044	0.31410	0.26285	0.25042	0.29303	12.581
45 2-Methylnaphthalene	0.82770	0.67951	0.57577	0.65127	0.68654	0.68416	13.369
46 Hexachlorocyclopentadiene	0.15258	0.23585	0.19338	0.19237	0.23769	0.20237	17.520

TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

INITIAL CALIBRATION DATA

Start Cal Date : 15-AUG-1992 01:59
End Cal Date : 15-AUG-1992 06:09
Report Date : 15-Aug-1992 15:08
Quant Method : ISTD
Cal Curve Type : Averaged
Target Version : Target 2.00
Integrator : HP RTE
Method file : /chem/J.i/8-14-92.b/tlinbna.m
Cal Date : 15-Aug-1992 15:02 target

Calibration File Names:
Level 1: /chem/J.i/8-14-92.b/JA33901.d
Level 2: /chem/J.i/8-14-92.b/JA33902.d
Level 3: /chem/J.i/8-14-92.b/JA33903.d
Level 4: /chem/J.i/8-14-92.b/JA33904.d
Level 5: /chem/J.i/8-14-92.b/JA33905.d

SAB-25-92

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	RRF	% RSD/~~AR~~
47 2,4,6-Trichlorophenol	0.29215	0.31146	0.30771	0.23088	0.20973	0.27039	17.342
48 2,4,5-Trichlorophenol	0.29215	0.31146	0.30771	0.23088	0.20973	0.27039	17.342
49 2-Chloronaphthalene	1.07080	1.02296	0.95635	0.82662	0.84847	0.94504	11.269
50 2-Nitroaniline	0.31453	0.34205	0.34749	0.27504	0.27447	0.31072	11.305
51 Dimethylphthalate	1.27552	1.41222	1.20616	0.91595	0.93308	1.14858	18.950
52 2,6-Dinitrotoluene	0.31440	0.33421	0.31777	0.23667	0.23550	0.28771	16.587
53 2,4-Dinitrotoluene	0.40868	0.47284	0.37255	0.30021	0.29534	0.36992	20.285
54 Acenaphthylene	1.66986	1.62031	1.42305	1.16873	1.25640	1.42767	15.353
55 3-Nitroaniline	0.26684	0.32972	0.24966	0.20217	0.24056	0.25779	18.105
56 Acenaphthene	1.03906	1.00977	0.87534	0.74498	0.81438	0.89671	14.029
57 2,4-Dinitrophenol	+++++	0.16893	0.14864	0.13242	0.16064	0.15266	10.389
58 4-Nitrophenol	0.05922	0.13944	0.08712	0.08664	0.13205	0.10089	33.559
59 Dibenzofuran	1.46881	1.50684	1.27133	1.05889	1.13372	1.28792	15.390
60 Diethylphthalate	1.42387	1.50476	1.18618	0.92421	0.95040	1.19788	22.147
61 4-Chlorophenyl-phenylether	0.50624	0.46210	0.41089	0.37867	0.41932	0.43544	11.373
62 Fluorene	1.16062	1.02012	0.78833	0.67986	0.84740	0.89927	21.248
63 4-Nitroaniline	0.22741	0.30338	0.16483	0.15472	0.22763	0.21560	27.707
64 4,6-Dinitro-2-methylphenol	0.08839	0.14240	0.14139	0.14187	0.15273	0.13336	19.179
65 N-Nitrosodiphenylamine	0.53893	0.53459	0.69382	0.59427	0.47930	0.56818	14.284
66 4-Bromophenyl-phenylether	0.21217	0.18773	0.25833	0.23265	0.20000	0.21818	12.790
67 Hexachlorobenzene	0.30719	0.27670	0.32818	0.31401	0.28057	0.30133	7.334
68 Pentachlorophenol	0.07186	0.11524	0.12301	0.12689	0.13168	0.11374	21.250
69 Phenanthrene	1.00352	1.05262	1.07317	0.86979	0.83981	0.96778	11.028
70 Anthracene	1.03635	1.00878	1.07317	0.86979	0.80082	0.95778	12.184
71 Carbazole	0.79569	0.94961	0.71731	0.75455	0.71579	0.78659	12.309
72 Di-n-butylphthalate	1.55603	1.67355	1.11717	1.14151	1.06575	1.31080	21.508
73 Fluoranthene	0.72503	0.96296	0.45137	0.53612	0.67356	0.66981	29.350
74 Pyrene	2.23162	2.23841	4.08913	3.01187	2.03143	2.72049	31.321

TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

INITIAL CALIBRATION DATA

Start Cal Date : 15-AUG-1992 01:59
End Cal Date : 15-AUG-1992 06:09
Report Date : 15-Aug-1992 15:08
Quant Method : ISTD
Cal Curve Type : Averaged
Target Version : Target 2.00
Integrator : HP RTE
Method file : /chem/J.i/8-14-92.b/tlinbna.m
Cal Date : 15-Aug-1992 15:02 target

Calibration File Names:
Level 1: /chem/J.i/8-14-92.b/JA33901.d
Level 2: /chem/J.i/8-14-92.b/JA33902.d
Level 3: /chem/J.i/8-14-92.b/JA33903.d
Level 4: /chem/J.i/8-14-92.b/JA33904.d
Level 5: /chem/J.i/8-14-92.b/JA33905.d

SA 8-25-92

	Compound	Level 1	Level 2	Level 3	Level 4	Level 5	$\overline{RRF}$	% RSD/~~RRF~~
75	Benzidine	0.34462	0.36275	0.16324	0.21400	0.43896	0.30472	37.138
76	Butylbenzylphthalate	1.13680	1.20085	1.38956	1.18544	1.26142	1.23481	7.878
77	3,3'-Dichlorobenzidine	0.38701	0.40728	0.34676	0.39257	0.49158	0.40504	13.164
78	bis(2-Ethylhexyl)phthalate	1.62011	1.70702	1.70275	1.65865	1.37292	1.61229	8.587
79	Di-n-octylphthalate	2.49686	3.09780	2.97452	2.55123	2.65227	2.75454	9.680
80	Benzo(a)anthracene	1.36043	1.39012	1.52673	1.43417	1.27898	1.39809	6.548
81	Chrysene	1.18337	1.22915	1.36679	1.29509	1.37440	1.28976	6.501
82	Benzo(b)fluoranthene	1.20282	1.23239	1.51903	1.26225	1.33903	1.31110	9.672
83	Benzo(k)fluoranthene	1.18449	1.18917	1.38934	1.16667	1.33063	1.25206	8.069
84	Benzo(e)pyrene	1.08001	1.08017	1.29258	1.12768	1.27566	1.17122	8.969
85	Benzo(a)pyrene	1.09323	1.07508	1.27086	1.15431	1.24969	1.16864	7.613
86	Perylene	0.89418	0.90779	1.03508	0.97217	1.04796	0.97144	7.265
87	Indeno(1,2,3-cd)pyrene	0.78269	0.63874	0.82522	0.84900	1.00617	0.82037	16.099
88	Dibenzo(a,h)anthracene	0.80569	0.70024	0.85882	0.88399	1.10323	0.87039	17.009
89	Benzo(g,h,i)perylene	0.84011	0.68407	0.86133	0.92812	1.05807	0.87434	15.577
90	2-Cloroanaline	+++++	+++++	+++++	+++++	+++++	0.00000	0.000
91	3-Chloroanaline	+++++	+++++	+++++	+++++	+++++	0.00000	0.000
92	Chloro-2-nitrobenzene	+++++	+++++	+++++	+++++	+++++	0.00000	0.000
93	Chloro-4-nitrobenzene	+++++	+++++	+++++	+++++	+++++	0.00000	0.000
$ 7	2-Fluorophenol	1.02146	1.09159	0.80136	0.73562	0.64719	0.85944	22.069
$ 8	Phenol-d5	1.46787	1.49542	1.05880	0.84407	0.80487	1.13420	29.246
$ 9	2-Chlorophenol-d4	1.34137	1.33256	1.00437	0.85932	0.73442	1.05441	26.088
$ 10	1,2-Dichlorobenzene-d4	1.06944	1.00495	0.66661	0.67809	0.73087	0.82999	23.139
$ 11	Nitrobenzene-d5	0.46119	0.45217	0.44580	0.37355	0.30713	0.40797	16.246
$ 12	1,3,5-Trichlorobenzene-d4	0.33106	0.25960	0.31323	0.32621	0.32199	0.31042	9.392
$ 13	1,4-Dibromobenzene-d4	1.31588	1.24286	1.23448	1.32924	1.22036	1.26857	3.955
$ 14	2-Fluorobiphenyl	1.24496	1.07050	1.11430	1.04018	0.95686	1.08536	9.781

NB 8-25-92

TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

INITIAL CALIBRATION DATA

Start Cal Date : 15-AUG-1992 01:59
End Cal Date : 15-AUG-1992 06:09
Report Date : 15-Aug-1992 15:08
Quant Method : ISTD
Cal Curve Type : Averaged
Target Version : Target 2.00
Integrator : HP RTE
Method file : /chem/J.i/8-14-92.b/tlinbna.m
Cal Date : 15-Aug-1992 15:02 target

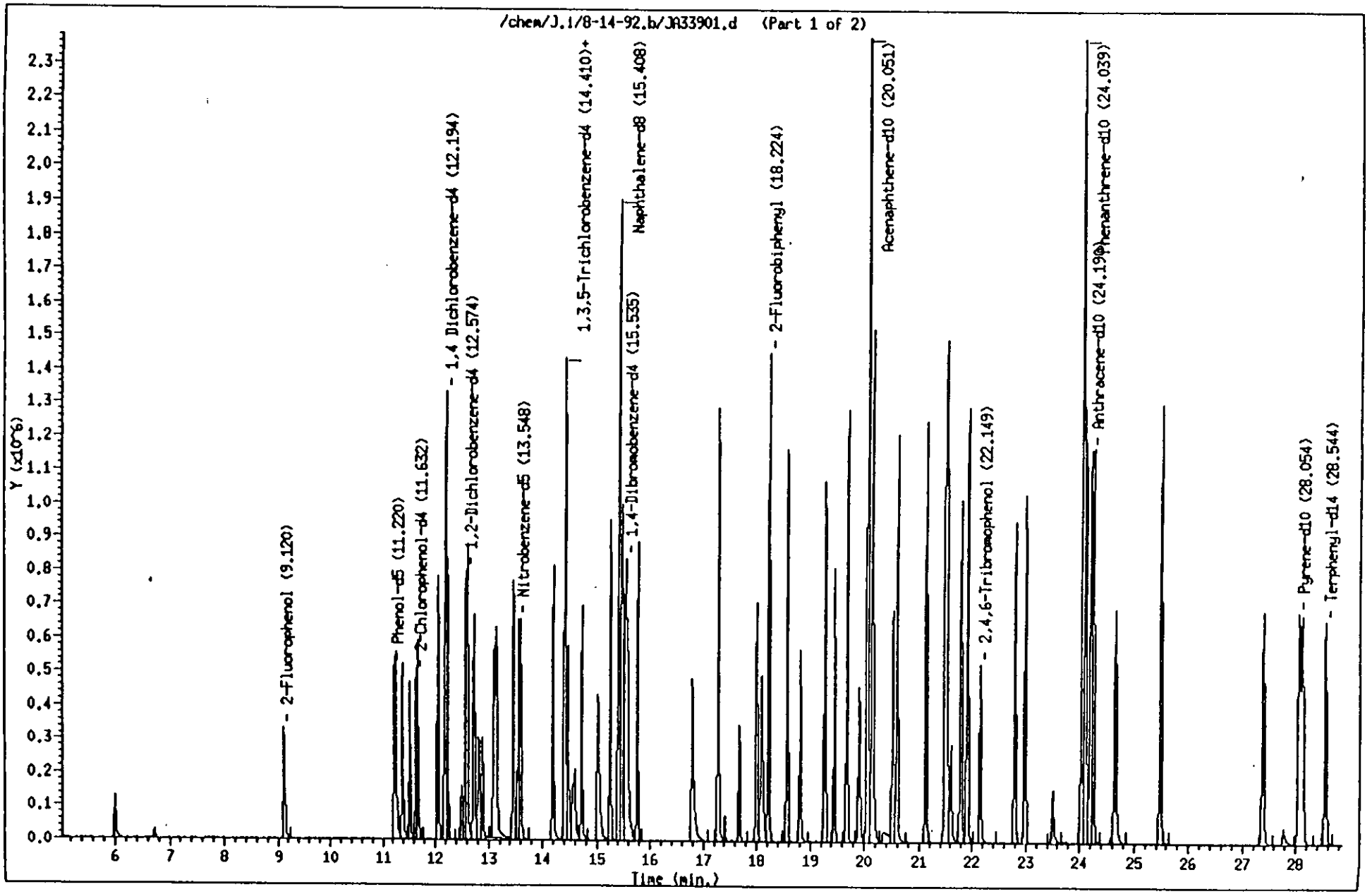
Calibration File Names:
Level 1: /chem/J.i/8-14-92.b/JA33901.d
Level 2: /chem/J.i/8-14-92.b/JA33902.d
Level 3: /chem/J.i/8-14-92.b/JA33903.d
Level 4: /chem/J.i/8-14-92.b/JA33904.d
Level 5: /chem/J.i/8-14-92.b/JA33905.d

SA 8.25.92

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	$\overline{RRF}$	% RSD
$ 15 2,4,6-Tribromophenol	0.23277	0.28264	0.23686	0.19293	0.19648	0.22833	15.956
$ 16 Anthracene-d10	1.06635	1.08746	1.01913	0.85788	0.76628	0.95942	14.648
$ 17 Pyrene-d10	2.02654	1.99569	3.79238	2.65197	1.70817	2.43495	34.223
$ 18 Terphenyl-d14	2.02852	1.90100	3.34451	2.38488	1.56867	2.24552	30.295

Triangle Laboratories of RTP, Inc. SA 8-25-92

Data File: /chem/J.1/8-14-92.b/JA33901.d
Date : 15-AUG-1992 01:59
Instrument : J.1
Sample ID : SSTDØ2Ø SA 8-25-92
Column phase : DB-5
Column diameter : 0.32
Volume Injected (uL) : 0.0

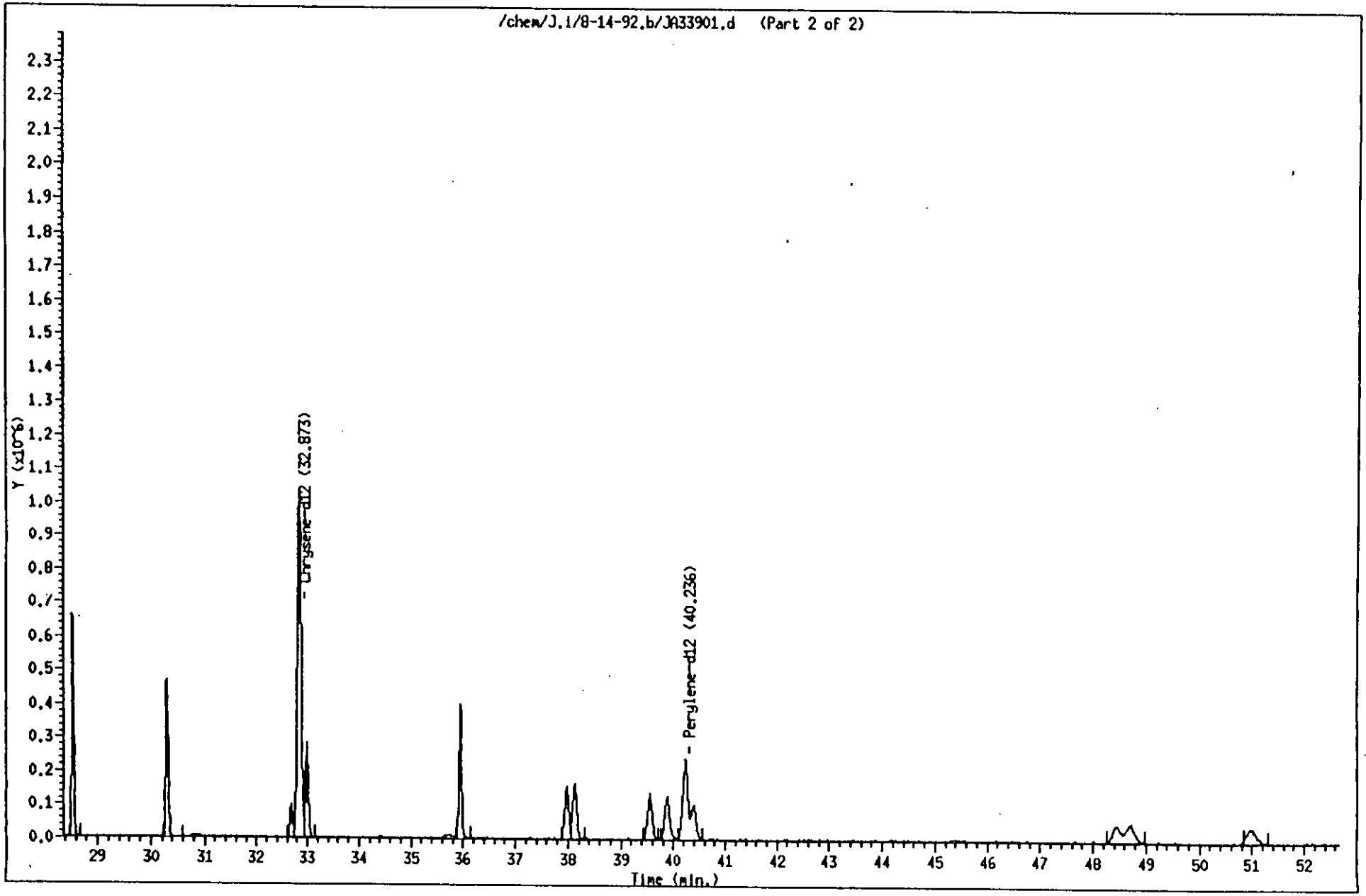


Triangle Laboratories of RTP, NC

Data File: /chem/J.1/8-14-92.b/JA33901.d
Date : 15-AUG-1992 01:59
Instrument : J.1
Sample ID : SSTD020 SA 8-25-92
Column phase : DB-5
Volume Injected (uL) : 0.0

SA 8-25-92

Column diameter : 0.32



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

SEMI-VOLATILE QUANTATATION REPORT

Data file : /chem/J.i/8-14-92.b/JA33901.d
Lab. Id. :
Inj Date : 15-AUG-1992 01:59 Autotune Date: 22-Jul-92 12:21:3
Operator : DD Inst ID: J.i
Smp Info : SSTD020
Misc Info :
Comment :
Method : /chem/J.i/8-14-92.b/tlinbna.m
Meth Date : 15-Aug-1992 15:02 target
Cal Date : 15-AUG-92 01:59 Cal File: JA33901.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: 8270.sub
Rpt Date : 15-Aug-1992 15:05 Sample Type: Not Specified

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
*	1	Naphthalene-d8	15.408(1.000)	2032705	40.00	40.00
*	2	1,4 Dichlorobenzene-d4	12.194(1.000)	445230	40.00	40.00
*	3	Acenaphthene-d10	20.051(1.000)	1465161	40.00	40.00
•	4	Phenanthrene-d10	24.039(1.000)	2128349	40.00	40.00(H)
*	5	Chrysene-d12	32.873(1.000)	723673	40.00	40.00
*	6	Perylene-d12	40.236(1.000)	598960	40.00	40.00
$	7	2-Fluorophenol	9.120(0.748)	227393	23.77	23.77
$	8	Phenol-d5	11.220(0.920)	326769	25.88	25.88(M)
$	9	2-Chlorophenol-d4	11.632(0.954)	298609	25.44	25.44
$	10	1,2-Dichlorobenzene-d4	12.574(1.031)	238073	25.77	25.77
$	11	Nitrobenzene-d5	13.548(0.879)	468736	22.60	22.60
$	12	1,3,5-Trichlorobenz-d3	14.410(0.935)	336476	21.33	21.33
$	13	1,4-Dibromobenzene-d4	15.535(1.274)	292935	20.74	20.74
$	14	2-Fluorobiphenyl	18.224(0.909)	912030	22.94	22.94
$	15	2,4,6-Tribromophenol	22.157(1.105)	170523	20.38	20.38
$	16	Anthracene-d10	24.190(1.000)	1134778	22.22	22.22
$	17	Pyrene-d10	28.054(0.853)	733277	16.64	16.64
$	18	Terphenyl-d14	28.544(0.868)	733994	18.06	18.06
	19	N-Nitrosodimethylam	6.001(0.492)	99618	22.29	22.29
	20	Phenol	11.252(0.923)	334078	27.70	27.70
	21	Aniline	11.379(0.933)	434358	25.65	25.65
	22	bis(2-Chloroethyl)e	11.521(0.945)	315473	26.69	26.69(M)
	23	2-Chlorophenol	11.672(0.957)	307648	25.57	25.57
	24	1,3-Dichlorobenzene	12.059(0.989)	380346	24.13	24.13
	25	1,4-Dichlorobenzene	12.233(1.003)	384466	23.64	23.64
	26	1,2-Dichlorobenzene	12.606(1.034)	388773	23.95	23.95
	27	2-Methylphenol	12.732(1.044)	283977	24.76	24.76(M)
	28	2,2'-oxybis(1-Chlor	12.891(1.057)	120578	23.05	23.05
	29	Benzyl alcohol	12.502(1.025)	70199	14.99	14.99(M)
	30	4-Methylphenol	13.104(1.075)	286793	25.52	25.52(M)
	31	N-Nitroso-di-n-prop	13.144(1.078)	256340	25.36	25.36

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
32 Hexachloroethane	13.453(1.103)	201337	23.92	23.92
33 Nitrobenzene	13.595(0.882)	451038	25.95	25.95
34 Isophorone	14.188(0.921)	846768	22.02	22.02
35 2-Nitrophenol	14.410(0.935)	210631	22.86	22.86
36 2,4-Dimethylphenol	14.465(0.939)	238159	17.15	17.15
37 bis(2-Chloroethoxy)	14.727(0.956)	473670	26.84	26.84(M)
38 Benzoic acid	14.600(0.948)	197432	18.70	18.70
39 2,4-Dichlorophenol	15.019(0.975)	315681	21.78	21.78
40 1,2,4-Trichlorobenz	15.249(0.990)	361661	22.03	22.03
41 Naphthalene	15.463(1.004)	985659	24.73	24.73
42 4-Chloroaniline	15.575(1.011)	450330	27.04	27.04
43 Hexachlorobutadiene	15.765(1.023)	208828	20.18	20.18
44 4-Chloro-3-methylph	16.792(1.090)	302185	20.29	20.29
45 2-Methylnaphthalene	17.274(1.121)	841232	24.19	24.19
46 Hexachlorocyclopent	17.677(0.882)	111775	15.07	15.07
47 2,4,6-Trichlorophen	17.994(0.897)	214023	21.61	21.61
48 2,4,5-Trichlorophen	18.089(0.902)	236144	23.84	23.84(TH)
49 2-Chloronaphthalene	18.564(0.926)	784445	22.66	22.66
50 2-Nitroaniline	18.809(0.938)	230417	20.24	20.24
51 Dimethylphthalate	19.268(0.961)	934419	22.21	22.21
52 2,6-Dinitrotoluene	19.442(0.970)	230326	21.85	21.85
53 2,4-Dinitrotoluene	20.519(1.023)	299392	22.09	22.09
54 Acenaphthylene	19.679(0.981)	1223307	23.39	23.39
55 3-Nitroaniline	19.901(0.992)	195485	20.70	20.70
56 Acenaphthene	20.139(1.004)	761195	23.17	23.17
57 2,4-Dinitrophenol	20.186(1.007)	48312	8.64	8.64
58 4-Nitrophenol	20.360(1.015)	43387	11.74	11.74
59 Dibenzofuran	20.598(1.027)	1076020	22.80	22.80
60 Diethylphthalate	21.136(1.054)	1043098	23.77	23.77
61 4-Chlorophenyl-phen	21.491(1.072)	370864	23.25	23.25
62 Fluorene	21.515(1.073)	850244	25.81	25.81
63 4-Nitroaniline	21.531(1.074)	166595	21.09	21.09
64 4,6-Dinitro-2-methy	21.603(0.893)	94058	13.25	13.25
65 N-Nitrosodiphenylam	21.793(0.901)	573515	18.97	18.97
66 4-Bromophenyl-pheny	22.797(0.942)	225791	19.45	19.45
67 Hexachlorobenzene	22.988(0.950)	326909	20.38	20.38
68 Pentachlorophenol	23.501(0.972)	76475	12.63	12.63
69 Phenanthrene	24.103(0.996)	1067918	21.10	21.10(H)
70 Anthracene	24.246(1.002)	1102857	21.64	21.64
71 Carbazole	24.649(1.019)	846753	20.23	20.23
72 Di-n-butylphthalate	25.487(1.054)	1655884	23.74	23.74
73 Fluoranthene	27.382(1.132)	771559	21.64	21.64
74 Pyrene	28.117(0.855)	807482	16.40	16.40
75 Benzidine	27.761(0.844)	124697	22.61	22.61
76 Butylbenzylphthalat	30.314(0.922)	411336	18.41	18.41
77 3,3'-Dichlorobenzid	32.682(0.994)	140033	19.11	19.11
78 bis(2-Ethylhexyl)ph	32.833(0.999)	586214	20.09	20.09
79 Di-n-octylphthalate	35.946(0.893)	747760	18.12	18.12
80 Benzo(a)anthracene	32.825(0.999)	492253	19.46	19.46
81 Chrysene	33.001(1.004)	428185	18.35	18.35
82 Benzo(b)fluoranthen	37.976(0.944)	360221	18.34	18.34(H)

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
83 Benzo(k)fluoranthen	38.126(0.948)	354732	19.50	19.50
84 Benzo(e)pyrene	39.556(0.983)	323441	18.44	18.44
85 Benzo(a)pyrene	39.872(0.991)	327400	18.70	18.70
87 Indeno(1,2,3-cd)pyr	48.442(1.204)	234400	19.08	19.08(M)
86 Perylene	40.395(1.004)	267789	18.40	18.40
88 Dibenzo(a,h)anthrac	48.687(1.210)	241288	18.51	18.51
89 Benzo(g,h,i)perylen	50.993(1.267)	251595	19.21	19.21

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Triangle Laboratories, Inc.

Dat le: /chem/J.1/8-14-92.b/JA33902.d SA 8-2 12

Date : 15-AUG-92 02:55

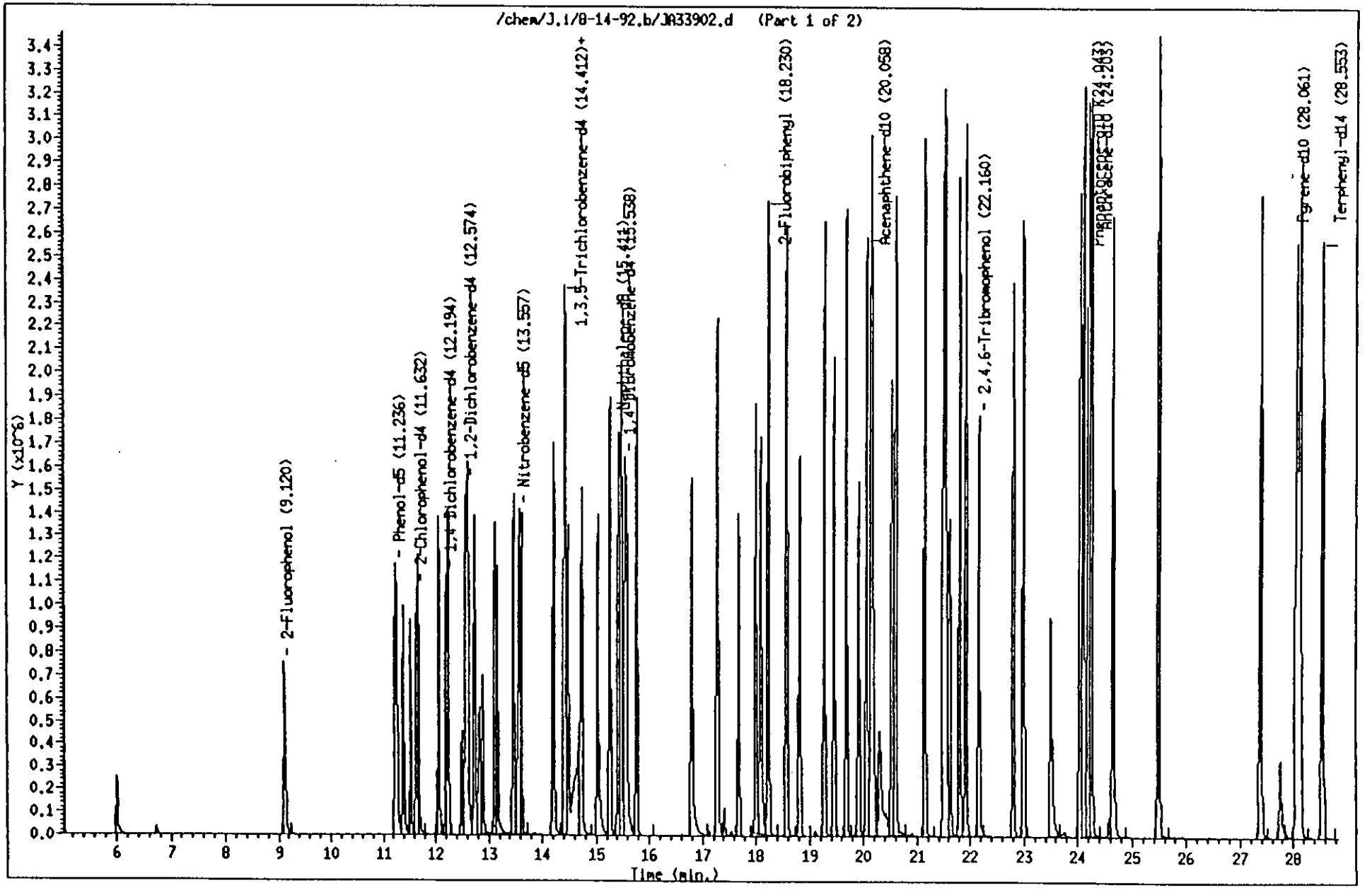
Instrument : J.1

Sample ID : SSTD 060 SA 8-25-92

Column phase : DB-5

Column diameter : 0.32

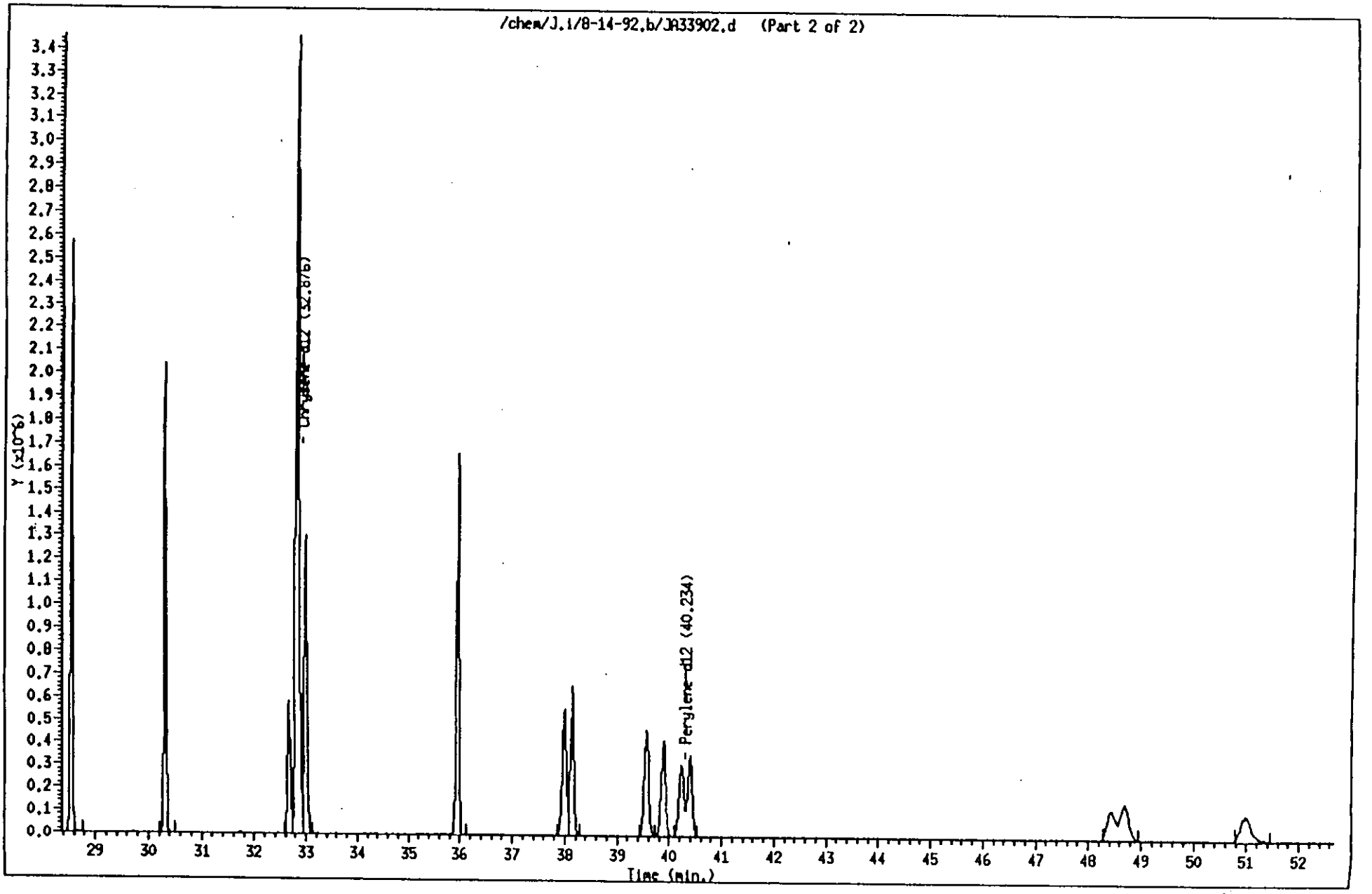
Volume Injected (uL) : 0.0



Triangle Laboratories SA 8-25-92

Data File: /chem/J.1/8-14-92.b/JA33902.d
Date : 15-AUG-92 02:55
Instrument : J.1
Sample ID : SSTD050 SA 8-25-92
Column phase : DB-5
Volume Injected (uL) : 0.0

Column diameter : 0.32



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

SEMI-VOLATILE QUANTATATION REPORT

Data file : /chem/J.i/8-14-92.b/JA33902.d
Lab. Id. :
Inj Date : 15-AUG-1992 02:55 Autotune Date: 22-Jul-92 12:21:3
Operator : DD Inst ID: J.i
Smp Info : SSTD050
Misc Info :
Comment :
Method : /chem/J.i/8-14-92.b/tlinbna.m
Meth Date : 15-Aug-1992 15:02 target
Cal Date : 15-AUG-92 02:55 Cal File: JA33902.d
Als bottle: 2 Calibration Sample, Level: 2
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: 8270.sub
Rpt Date : 15-Aug-1992 15:06 Sample Type: Not Specified

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
•	1	Naphthalene-d8	15.411(1.000)	1865825	40.00	40.00
•	2	1,4 Dichlorobenzene-d4	12.194(1.000)	369425	40.00	40.00
*	3	Acenaphthene-d10	20.058(1.000)	1451289	40.00	40.00
*	4	Phenanthrene-d10	24.043(1.000)	2453555	40.00	40.00(H)
*	5	Chrysene-d12	32.876(1.000)	1087453	40.00	40.00
*	6	Perylene-d12	40.234(1.000)	759896	40.00	40.00
$	7	2-Fluorophenol	9.120(0.748)	504077	63.50	63.50
$	8	Phenol-d5	11.236(0.921)	690555	65.92	65.92(M)
$	9	2-Chlorophenol-d4	11.632(0.954)	615352	63.19	63.19
$	10	1,2-Dichlorobenzene-d4	12.574(1.031)	464069	60.54	60.54
$	11	Nitrobenzene-d5	13.557(0.880)	1054589	55.41	55.41
$	12	1,3,5-Trichlorobenz-d3	14.412(0.935)	605452	41.81	41.81
$	13	1,4-Dibromobenzene-d4	15.538(1.274)	573931	48.98	48.98
$	14	2-Fluorobiphenyl	18.230(0.909)	1942013	49.31	49.31
$	15	2,4,6-Tribromophenol	22.160(1.105)	512734	61.89	61.89
$	16	Anthracene-d10	24.203(1.000)	3335169	56.67	56.67
$	17	Pyrene-d10	28.061(0.854)	2712776	40.98	40.98
$	18	Terphenyl-d14	28.553(0.868)	2584061	42.32	42.32
	19	N-Nitrosodimethylam	6.009(0.493)	194834	52.56	52.56
	20	Phenol	11.268(0.924)	623284	62.30	62.30
	21	Aniline	11.387(0.934)	842261	59.94	59.94
	22	bis(2-Chloroethyl)e	11.521(0.945)	620708	63.30	63.30(M)
	23	2-Chlorophenol	11.672(0.957)	618188	61.94	61.94
	24	1,3-Dichlorobenzene	12.059(0.989)	696027	53.22	53.22
	25	1,4-Dichlorobenzene	12.242(1.004)	715998	53.07	53.07
	26	1,2-Dichlorobenzene	12.606(1.034)	717389	53.26	53.26
	27	2-Methylphenol	12.733(1.044)	564472	59.31	59.31(M)
	28	2,2'-oxybis(1-Chlor	12.884(1.057)	272693	62.83	62.83
	29	Benzyl alcohol	12.503(1.025)	235619	60.67	60.67(M)
	30	4-Methylphenol	13.114(1.075)	599887	64.35	64.35(M)
	31	N-Nitroso-di-n-prop	13.153(1.079)	532938	63.54	63.54

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
32 Hexachloroethane	13.454(1.103)	392636	56.23	56.23
33 Nitrobenzene	13.605(0.883)	916590	57.46	57.46
34 Isophorone	14.206(0.922)	1882967	53.35	53.35
35 2-Nitrophenol	14.412(0.935)	342426	40.50	40.50
36 2,4-Dimethylphenol	14.468(0.939)	522359	41.00	41.00
37 bis(2-Chloroethoxy)	14.730(0.956)	1052342	64.96	64.96(M)
38 Benzoic acid	14.698(0.000)	561898	57.99	57.99(M)
39 2,4-Dichlorophenol	15.022(0.975)	746585	56.14	56.14
40 1,2,4-Trichlorobenz	15.253(0.990)	781352	51.85	51.85
41 Naphthalene	15.467(1.004)	1963656	53.67	53.67
42 4-Chloroaniline	15.578(1.011)	977229	63.94	63.94
43 Hexachlorobutadiene	15.761(1.023)	430914	45.37	45.37
44 4-Chloro-3-methylph	16.796(1.090)	794002	58.09	58.09
45 2-Methylnaphthalene	17.278(1.121)	1584806	49.66	49.66
46 Hexachlorocyclopent	17.674(0.881)	427863	58.27	58.27
47 2,4,6-Trichlorophen	17.999(0.897)	565032	57.59	57.59
48 2,4,5-Trichlorophen	18.086(0.902)	659554	67.23	67.23(TH)
49 2-Chloronaphthalene	18.570(0.926)	1855766	54.12	54.12
50 2-Nitroaniline	18.823(0.938)	620525	55.04	55.04
51 Dimethylphthalate	19.282(0.961)	2561916	61.47	61.47
52 2,6-Dinitrotoluene	19.456(0.970)	606300	58.08	58.08
53 2,4-Dinitrotoluene	20.527(1.023)	857793	63.91	63.91
54 Acenaphthylene	19.686(0.981)	2939414	56.74	56.74
55 3-Nitroaniline	19.908(0.992)	598156	63.95	63.95
56 Acenaphthene	20.146(1.004)	1831843	56.30	56.30
57 2,4-Dinitrophenol	20.186(1.006)	306462	55.33	55.33
58 4-Nitrophenol	20.297(1.012)	252954	69.10	69.10
59 Dibenzofuran	20.607(1.027)	2733577	58.49	58.49
60 Diethylphthalate	21.144(1.054)	2729793	62.80	62.80
61 4-Chlorophenyl-phen	21.485(1.071)	838302	53.06	53.06
62 Fluorene	21.525(1.073)	1850607	56.72	56.72
63 4-Nitroaniline	21.549(1.074)	550368	70.35	70.35(M)
64 4,6-Dinitro-2-methy	21.613(0.893)	436730	53.39	53.39
65 N-Nitrosodiphenylam	21.803(0.901)	1639563	47.04	47.04
66 4-Bromophenyl-pheny	22.808(0.942)	575758	43.02	43.02
67 Hexachlorobenzene	22.991(0.950)	848612	45.91	45.91
68 Pentachlorophenol	23.497(0.971)	353425	50.66	50.66
69 Phenanthrene	24.115(0.996)	3228320	54.82	54.82(H)
70 Anthracene	24.251(1.002)	3093883	52.66	52.66
71 Carbazole	24.647(1.018)	2912395	60.36	60.36
72 Di-n-butylphthalate	25.485(1.053)	5132682	63.83	63.83
73 Fluoranthene	27.388(1.132)	2953344	71.88	71.88
74 Pyrene	28.125(0.855)	3042713	41.14	41.14
75 Benzidine	27.752(0.844)	493092	59.52	59.52
76 Butylbenzylphthalat	30.314(0.922)	1632335	48.62	48.62
77 3,3'-Dichlorobenzid	32.676(0.994)	553616	50.27	50.27
78 bis(2-Ethylhexyl)ph	32.836(0.999)	2320384	52.93	52.93
79 Di-n-octylphthalate	35.950(0.894)	2942507	56.23	56.23
80 Benzo(a)anthracene	32.836(0.999)	1889619	49.71	49.71
81 Chrysene	33.012(1.004)	1670807	47.65	47.65
82 Benzo(b)fluoranthen	37.996(0.944)	1170613	46.99	46.99(H)

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
83 Benzo(k)fluoranthen	38.138(0.948)	1129553	48.94	48.94
84 Benzo(e)pyrene	39.561(0.983)	1026018	46.11	46.11
85 Benzo(a)pyrene	39.885(0.991)	1021190	45.99	45.99
87 Indeno(1,2,3-cd)pyr	48.423(1.204)	606723	38.93	38.93(M)
86 Perylene	40.400(1.004)	862285	46.72	46.72
88 Dibenzo(a,h)anthrac	48.685(1.210)	665133	40.22	40.22
89 Benzo(g,h,i)perylen	50.983(1.267)	649779	39.11	39.11

QC Flag Legend

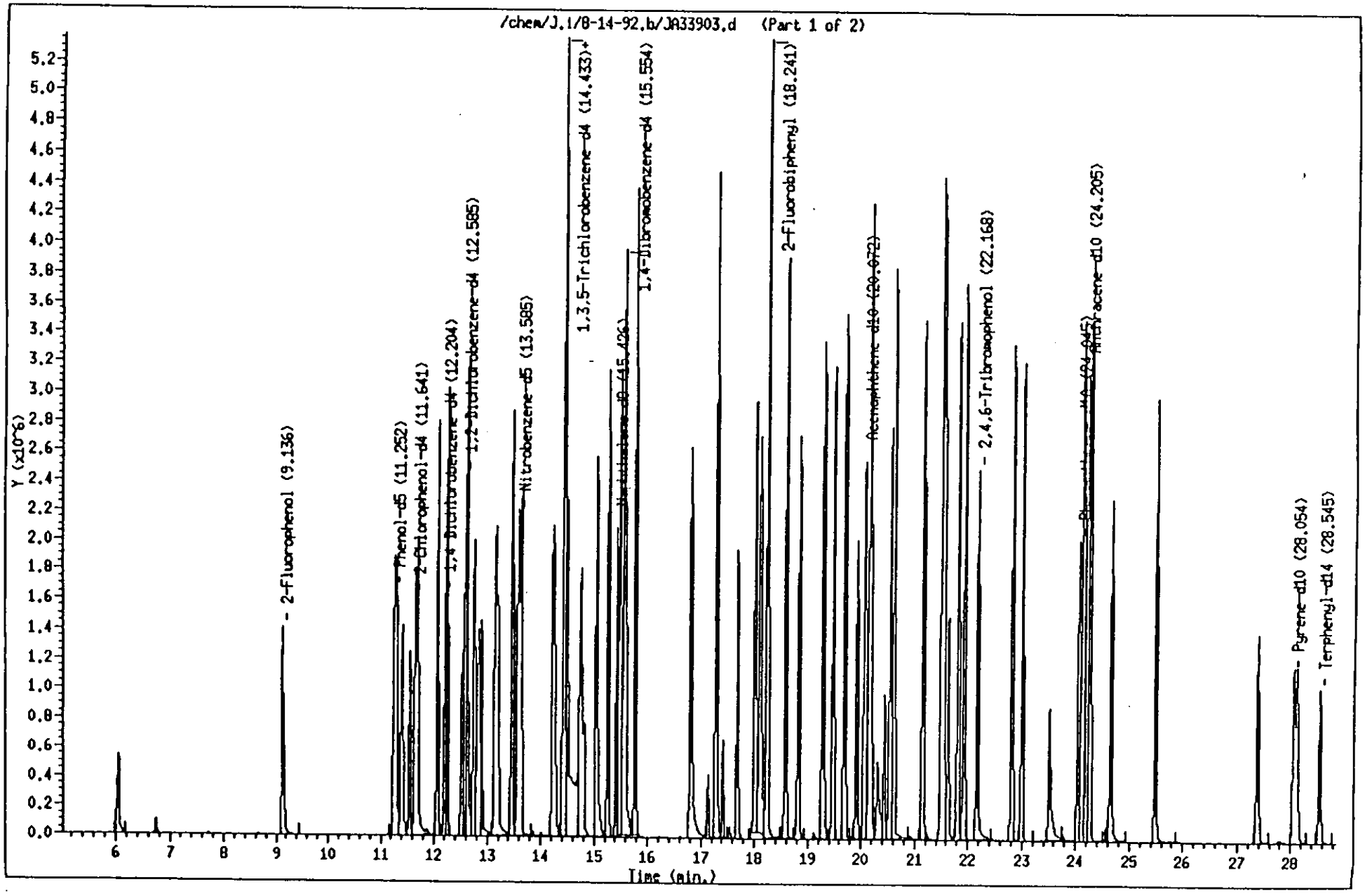
T - Target compound detected outside RT window.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Triangle Laboratories of KIP, Inc.

Data File: /chem/J.1/8-14-92.b/JA33903.d
Date : 15-AUG-92 03:59
Instrument : J.1
Sample ID : SSTD080 SA 8-25-92
Column phase : DB-5
Volume Injected (uL) : 0.0

SA 8-25-92

Column diameter : 0.32



Triangle Laboratories at RTP, Inc.

Data File: /chem/J.1/8-14-92.b/JA33903.d SA8-25-5

Date : 15-AUG-92 03:59

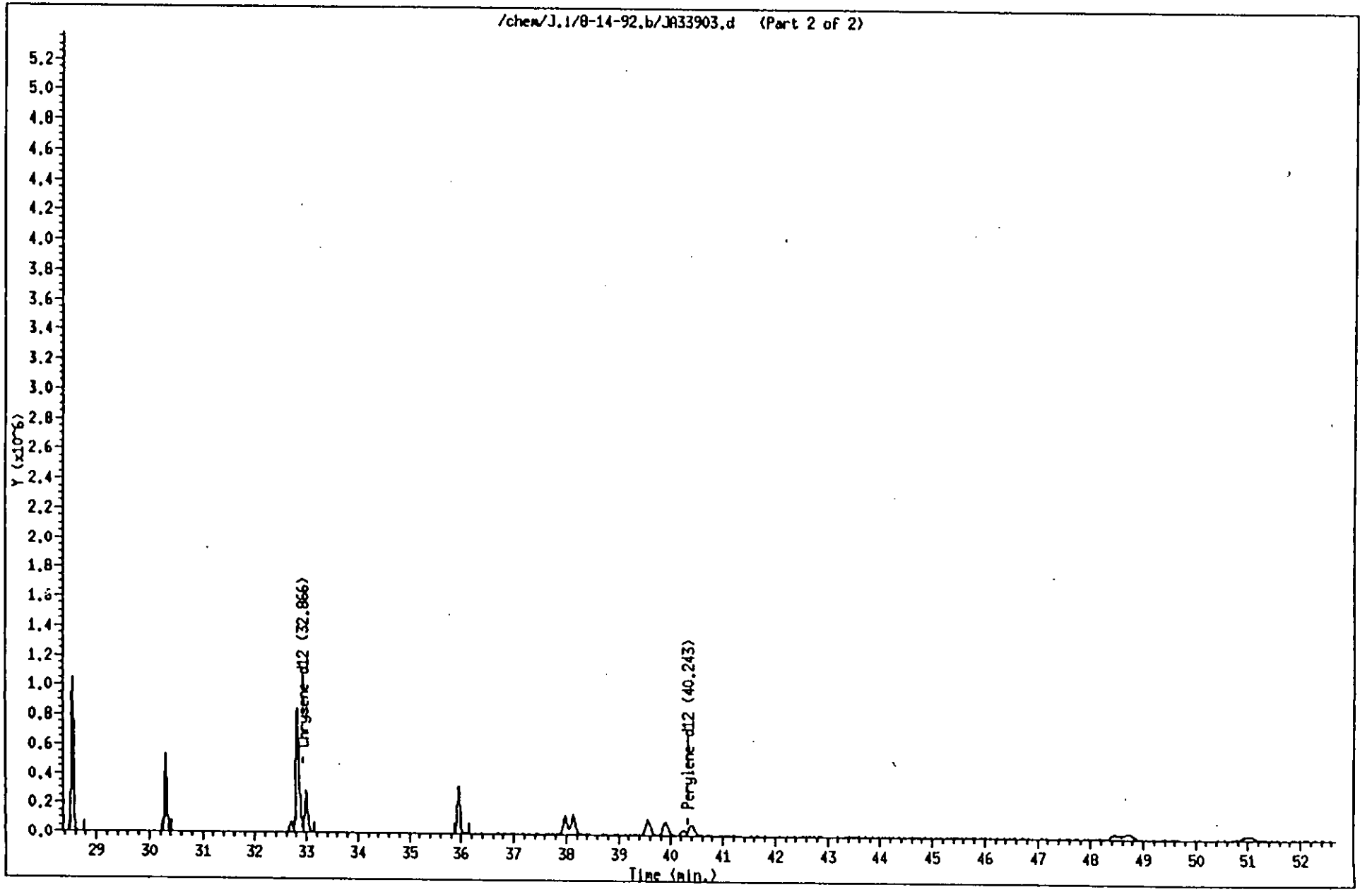
Instrument : J.1

Sample ID : SS7D080 SA 8-25-92

Column phase : DB-5

Column diameter : 0.32

Volume Injected (uL) : 0.0



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

SEMI-VOLATILE QUANTATATION REPORT

Data file : /chem/J.i/8-14-92.b/JA33903.d
Lab. Id. :
Inj Date : 15-AUG-1992 03:59 Autotune Date: 22-Jul-92 12:21:3
Operator : DD Inst ID: J.i
Smp Info : SSTD080
Misc Info :
Comment :
Method : /chem/J.i/8-14-92.b/tlinbna.m
Meth Date : 15-Aug-1992 15:02 target
Cal Date : 15-AUG-92 03:59 Cal File: JA33903.d
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: 8270.sub
Rpt Date : 15-Aug-1992 15:07 Sample Type: Not Specified

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
•	1	Naphthalene-d8	15.426(1.000)	2516860	40.00	40.00
*	2	1,4 Dichlorobenzene-d4	12.204(1.000)	564211	40.00	40.00
•	3	Acenaphthene-d10	20.064(1.000)	1668604	40.00	40.00
•	4	Phenanthrene-d10	24.045(1.000)	1712108	40.00	40.00(H)
*	5	Chrysene-d12	32.866(1.000)	167218	40.00	40.00
*	6	Perylene-d12	40.243(1.000)	110815	40.00	40.00
$	7	2-Fluorophenol	9.136(0.749)	904272	74.59	74.59
$	8	Phenol-d5	11.252(0.922)	1194772	74.68	74.68
$	9	2-Chlorophenol-d4	11.641(0.954)	1133352	76.20	76.20
$	10	1,2-Dichlorobenzene-d4	12.585(1.031)	752219	64.25	64.25
$	11	Nitrobenzene-d5	13.585(0.881)	2244056	87.41	87.41
$	12	1,3,5-Trichlorobenz-d3	14.425(0.935)	1576690	80.72	80.72
$	13	1,4-Dibromobenzene-d4	15.554(1.274)	1393015	77.85	77.85
$	14	2-Fluorobiphenyl	18.241(0.909)	3718657	82.13	82.13
$	15	2,4,6-Tribromopheno'	22.168(1.105)	790448	82.98	82.98
$	16	Anthracene-d10	24.205(1.000)	3489727	84.97	84.97
$	17	Pyrene-d10	28.054(0.854)	1268309	124.59	124.59
$	18	Terphenyl-d14	28.545(0.869)	1118526	119.15	119.15
	19	N-Nitrosodimethylam	6.064(0.497)	491001	86.73	86.73
	20	Phenol	11.308(0.927)	919776	60.20	60.20
	21	Aniline	11.411(0.935)	1615690	75.29	75.29
	22	bis(2-Chloroethyl)e	11.562(0.947)	1043224	69.66	69.66
	23	2-Chlorophenol	11.689(0.958)	1024974	67.24	67.24
	24	1,3-Dichlorobenzene	12.070(0.989)	1345429	67.35	67.35
	25	1,4-Dichlorobenzene	12.244(1.003)	1375536	66.76	66.76
	26	1,2-Dichlorobenzene	12.625(1.034)	1266327	61.56	61.56
	27	2-Methylphenol	12.768(1.046)	1116184	76.80	76.80
	28	2,2'-oxybis(1-Chlor	12.895(1.057)	498337	75.18	75.18
	29	Benzyl alcohol	12.529(1.027)	540223	91.08	91.08
	30	4-Methylphenol	13.133(1.076)	1035596	72.74	72.74
	31	N-Nitroso-di-n-prop	13.197(1.081)	1027168	80.18	80.18

	Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
32	Hexachloroethane	13.458(1.103)	769757	72.18	72.18
33	Nitrobenzene	13.633(0.884)	1738658	80.81	80.81
34	Isophorone	14.218(0.922)	3967145	83.33	83.33
35	2-Nitrophenol	14.433(0.936)	849751	74.51	74.51
36	2,4-Dimethylphenol	14.481(0.939)	1809348	105.28	105.28
37	bis(2-Chloroethoxy)	14.736(0.955)	1455668	66.62	66.62(M)
38	Benzoic acid	14.704(0.939)	829837	63.49	63.49(M)
39	2,4-Dichlorophenol	15.045(0.975)	1353083	75.42	75.42
40	1,2,4-Trichlorobenz	15.268(0.990)	1418595	69.79	69.79
41	Naphthalene	15.482(1.004)	3238542	65.62	65.62
42	4-Chloroaniline	15.594(1.011)	1405844	68.19	68.19
43	Hexachlorobutadiene	15.769(1.022)	1024385	79.96	79.96
44	4-Chloro-3-methylph	16.812(1.090)	1581079	85.75	85.75
45	2-Methylnaphthalene	17.288(1.121)	2898259	67.32	67.32
46	Hexachlorocyclopent	17.676(0.881)	645355	76.44	76.44
47	2,4,6-Trichlorophen	18.009(0.898)	1026906	91.04	91.04
48	2,4,5-Trichlorophen	18.097(0.902)	1208480	107.14	107.14(TH)
49	2-Chloronaphthalene	18.590(0.927)	3191538	80.95	80.95
50	2-Nitroaniline	18.836(0.939)	1159646	89.46	89.46
51	Dimethylphthalate	19.287(0.961)	4025211	84.01	84.01
52	2,6-Dinitrotoluene	19.477(0.971)	1060478	88.35	88.35
53	2,4-Dinitrotoluene	20.541(1.024)	1243263	80.56	80.56
54	Acenaphthylene	19.699(0.982)	4749013	79.74	79.74
55	3-Nitroaniline	19.929(0.993)	833170	77.47	77.47
56	Acenaphthene	20.159(1.005)	2921194	78.09	78.09
57	2,4-Dinitrophenol	20.191(1.006)	496044	77.89	77.89
58	4-Nitrophenol	20.311(1.012)	290721	69.07	69.07
59	Dibenzofuran	20.613(1.027)	4242708	78.97	78.97
60	Diethylphthalate	21.159(1.055)	3958527	79.21	79.21
61	4-Chlorophenyl-phen	21.500(1.072)	1371219	75.48	75.48
62	Fluorene	21.532(1.073)	2630833	70.13	70.13
63	4-Nitroaniline	21.556(1.074)	550076	61.16	61.16(M)
64	4,6-Dinitro-2-methy	21.628(0.894)	484146	84.81	84.81
65	N-Nitrosodiphenylam	21.811(0.901)	2375775	97.68	97.68
66	4-Bromophenyl-pheny	22.809(0.942)	884571	94.72	94.72
67	Hexachlorobenzene	23.000(0.950)	1123747	87.12	87.12
68	Pentachlorophenol	23.506(0.971)	421209	86.52	86.52
69	Phenanthrene	24.117(0.996)	3747488	91.20	91.20(TH)
70	Anthracene	24.261(1.002)	3674779	89.63	89.63
71	Carbazole	24.649(1.018)	2456210	72.95	72.95
72	Di-n-butylphthalate	25.487(1.053)	3825425	68.18	68.18
73	Fluoranthene	27.382(1.131)	1545575	53.91	53.91
74	Pyrene	28.118(0.856)	1367552	120.24	120.24(M)
75	Benzidine	27.785(0.000)	54595	42.85	42.85(M)
76	Butylbenzylphthalat	30.306(0.922)	464719	90.02	90.02
77	3,3'-Dichlorobenzid	32.699(0.995)	115968	68.48	68.48
78	bis(2-Ethylhexyl)ph	32.834(0.999)	569460	84.48	84.48
79	Di-n-octylphthalate	35.954(0.893)	659243	86.38	86.38
80	Benzo(a)anthracene	32.826(0.999)	510593	87.36	87.36
81	Chrysene	33.001(1.004)	457104	84.77	84.77
82	Benzo(b)fluoranthen	37.984(0.944)	336663	92.68	92.68(H)

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
83 Benzo(k)fluoranthen	38.142(0.948)	307919	91.49	91.49
84 Benzo(e)pyrene	39.556(0.983)	286475	88.29	88.29
85 Benzo(a)pyrene	39.903(0.992)	281661	86.99	86.99
87 Indeno(1,2,3-cd)pyr	48.472(1.204)	182893	80.47	80.47(M)
86 Perylene	40.394(1.004)	229405	85.24	85.24
88 Dibenzo(a,h)anthrac	48.740(0.000)	190341	78.93	78.93(M)
89 Benzo(g,h,i)perylen	51.007(1.267)	190897	78.81	78.81

QC Flag Legend

T - Target compound detected outside RT window.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

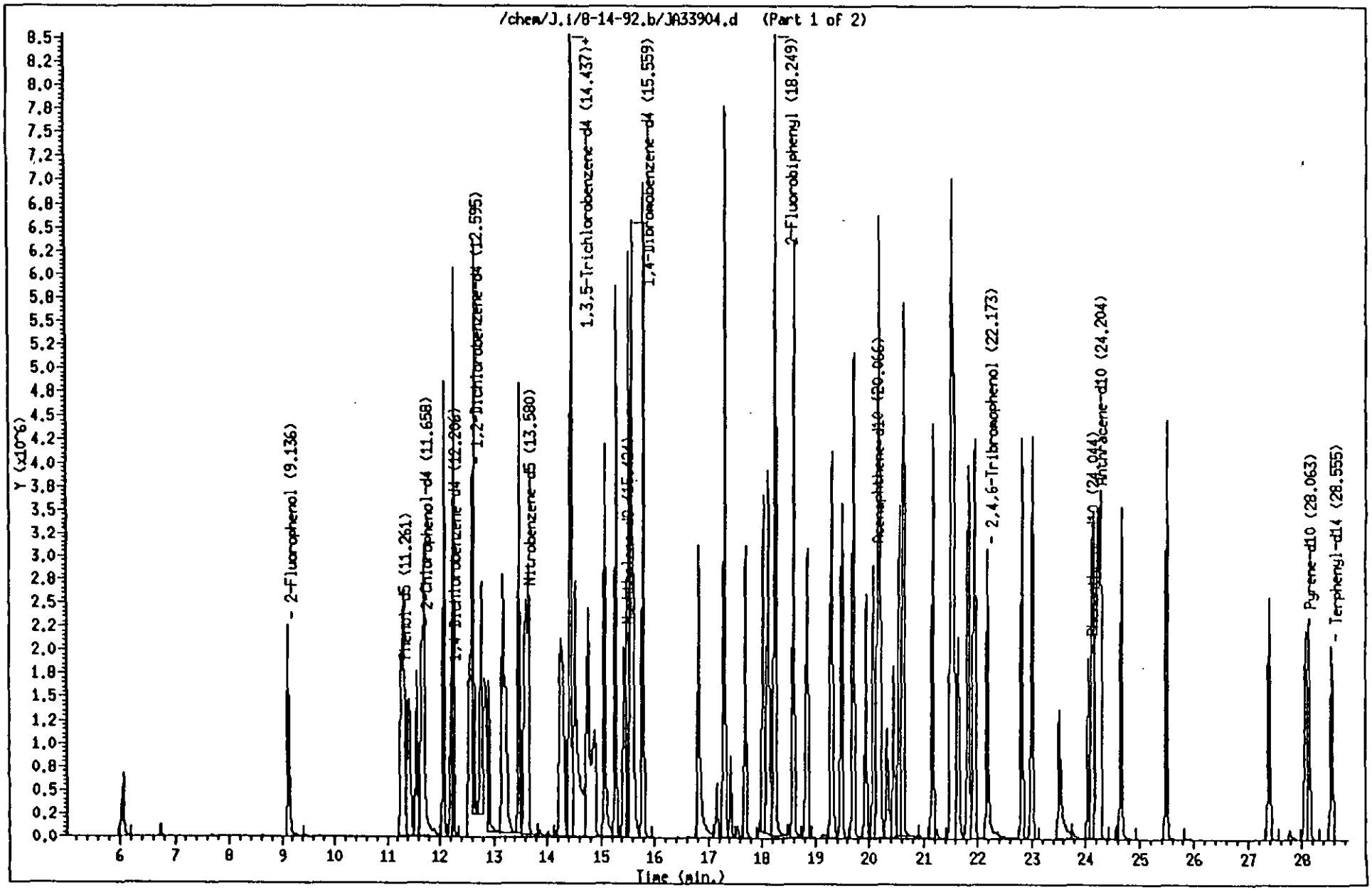
Triangle Laboratories of RTP, Inc.

Data file: /chem/J.i/8-14-92.b/JA33904.d
Date : 15-AUG-92 05:04
Instrument : J.i
Sample ID : SSTD120 SA-8-25-92
Column phase : DB-5
Volume Injected (uL) : 0.0

SAS 5-92

Page 1

Column diameter : 0.32



Triangle Laboratories of RTP, Inc.

Data File: /chem/J.1/8-14-92.b/JA33904.d SA 8-25-92

Date : 15-AUG-92 05:04

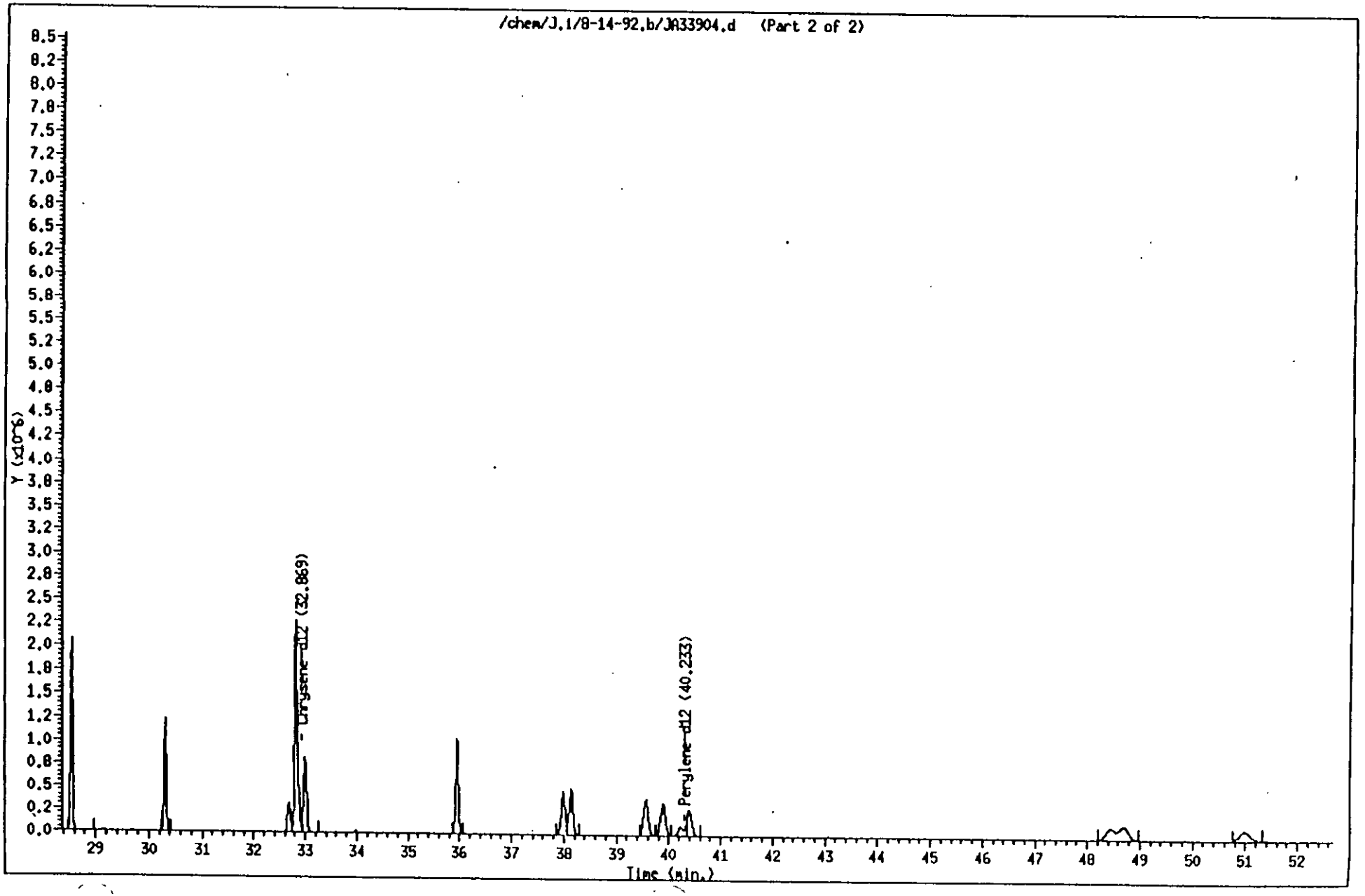
Instrument : J.1

Sample ID : SSTD0120 SA 8-25-92

Column phase : DB-5

Column diameter : 0.32

Volume Injected (uL) : 0.0



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

SEMI-VOLATILE QUANTATATION REPORT

Data file : /chem/J.i/8-14-92.b/JA33904.d
Lab. Id. :
Inj Date : 15-AUG-1992 05:04 Autotune Date: 22-Jul-92 12:21:3
Operator : DD Inst ID: J.i
Smp Info : SSTD120
Misc Info :
Comment :
Method : /chem/J.i/8-14-92.b/tlinbna.m
Meth Date : 15-Aug-1992 15:02 target
Cal Date : 15-AUG-92 05:04 Cal File: JA33904.d
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: 8270.sub
Rpt Date : 15-Aug-1992 15:07 Sample Type: Not Specified

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
•	1	Naphthalene-d8	15.424(1.000)	2570039	40.00	40.00
*	2	1,4 Dichlorobenzene-d4	12.206(1.000)	576869	40.00	40.00
*	3	Acenaphthene-d10	20.066(1.000)	1888074	40.00	40.00
•	4	Phenanthrene-d10	24.044(1.000)	1715457	40.00	40.00(H)
*	5	Chrysene-d12	32.869(1.000)	291773	40.00	40.00
•	6	Perylene-d12	40.233(1.000)	255577	40.00	40.00
$	7	2-Fluorophenol	9.136(0.748)	1273070	102.71	102.71
$	8	Phenol-d5	11.261(0.923)	1460755	89.30	89.30(M)
$	9	2-Chlorophenol-d4	11.658(0.955)	1487151	97.79	97.79
$	10	1,2-Dichlorobenzene-d4	12.595(1.032)	1173508	98.03	98.03
$	11	Nitrobenzene-d5	13.580(0.880)	2880128	109.87	109.87
$	12	1,3,5-Trichlorobenz-d3	14.429(0.935)	2515114	126.10	126.10
$	13	1,4-Dibromobenzene-d4	15.559(1.275)	2300394	125.74	125.74
$	14	2-Fluorobiphenyl	18.249(0.909)	5891790	115.00	115.00
$	15	2,4,6-Tribromopheno	22.173(1.105)	1092780	101.39	101.39
$	16	Anthracene-d10	24.204(1.000)	4414972	107.30	107.30
$	17	Pyrene-d10	28.063(0.854)	2321321	130.69	130.69
$	18	Terphenyl-d14	28.555(0.869)	2087535	127.44	127.44
	19	N-Nitrosodimethylam	6.072(0.497)	613108	105.92	105.92
	20	Phenol	11.316(0.927)	1442646	92.35	92.35
	21	Aniline	11.396(0.934)	2100265	95.72	95.72
	22	bis(2-Chloroethyl)e	11.563(0.947)	1379305	90.08	90.08(M)
	23	2-Chlorophenol	11.698(0.958)	1509365	96.85	96.85
	24	1,3-Dichlorobenzene	12.071(0.989)	2185992	107.04	107.04
	25	1,4-Dichlorobenzene	12.254(1.004)	2369707	112.48	112.48
	26	1,2-Dichlorobenzene	12.627(1.034)	2325239	110.56	110.56
	27	2-Methylphenol	12.770(1.046)	1371894	92.32	92.32(M)
	28	2,2'-oxybis(1-Chlor	12.913(0.000)	710730	104.87	104.87(M)
	29	Benzyl alcohol	12.539(1.027)	770807	127.10	127.10(M)
	30	4-Methylphenol	13.167(1.079)	1344374	92.36	92.36(M)
	31	N-Nitroso-di-n-prop	13.223(1.083)	1228877	93.83	93.83

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
32 Hexachloroethane	13.461(1.103)	1132680	103.89	103.89
33 Nitrobenzene	13.652(0.885)	2210190	100.60	100.60
34 Isophorone	14.238(0.923)	5500170	113.14	113.14
35 2-Nitrophenol	14.445(0.937)	1490327	127.97	127.97
36 2,4-Dimethylphenol	14.517(0.941)	2262042	128.90	128.90
37 bis(2-Chloroethoxy)	14.764(0.957)	2015149	90.31	90.31(M)
38 Benzoic acid	14.891(0.965)	1668742	125.04	125.04(M)
39 2,4-Dichlorophenol	15.058(0.976)	2037641	111.23	111.23
40 1,2,4-Trichlorobenz	15.272(0.990)	2399946	115.63	115.63
41 Naphthalene	15.495(1.005)	5460561	108.36	108.36
42 4-Chloroaniline	15.599(1.011)	1861846	88.44	88.44
43 Hexachlorobutadiene	15.775(1.023)	1669216	127.60	127.60
44 4-Chloro-3-methylph	16.818(1.090)	2026593	107.64	107.64
45 2-Methylnaphthalene	17.302(1.122)	5021335	114.23	114.23
46 Hexachlorocyclopent	17.683(0.881)	1089614	114.06	114.06
47 2,4,6-Trichlorophen	18.016(0.898)	1307768	102.46	102.46
48 2,4,5-Trichlorophen	18.104(0.902)	1697641	133.01	133.01(TH)
49 2-Chloronaphthalene	18.598(0.927)	4682183	104.96	104.96
50 2-Nitroaniline	18.852(0.940)	1557878	106.22	106.22
51 Dimethylphthalate	19.304(0.962)	5188127	95.69	95.69
52 2,6-Dinitrotoluene	19.487(0.971)	1340538	98.71	98.71
53 2,4-Dinitrotoluene	20.552(1.024)	1700483	97.38	97.38
54 Acenaphthylene	19.709(0.982)	6619922	98.23	98.23
55 3-Nitroaniline	19.939(0.994)	1145113	94.10	94.10
56 Acenaphthene	20.170(1.005)	4219746	99.69	99.69
57 2,4-Dinitrophenol	20.202(1.007)	750028	104.08	104.08
58 4-Nitrophenol	20.321(1.013)	490734	103.04	103.04
59 Dibenzofuran	20.624(1.028)	5997775	98.66	98.66
60 Diethylphthalate	21.171(1.055)	5234905	92.58	92.58
61 4-Chlorophenyl-phen	21.504(1.072)	2144881	104.35	104.35
62 Fluorene	21.544(1.074)	3850870	90.72	90.72
63 4-Nitroaniline	21.576(1.075)	876394	86.11	86.11(M)
64 4,6-Dinitro-2-methy	21.640(0.894)	730135	127.66	127.66
65 N-Nitrosodiphenylam	21.823(0.902)	3058346	125.51	125.51
66 4-Bromophenyl-pheny	22.815(0.943)	1197285	127.95	127.95
67 Hexachlorobenzene	23.006(0.950)	1616019	125.05	125.05
68 Pentachlorophenol	23.504(0.971)	653028	133.88	133.88
69 Phenanthrene	24.124(0.997)	4559122	110.73	110.73(TH)
70 Anthracene	24.269(1.003)	4476243	108.97	108.97
71 Carbazole	24.657(1.019)	3883212	115.11	115.11
72 Di-n-butylphthalate	25.487(1.053)	5874649	104.50	104.50
73 Fluoranthene	27.383(1.131)	2759066	96.04	96.04
74 Pyrene	28.127(0.856)	2636348	132.85	132.85(M)
75 Benzidine	27.762(0.845)	187321	84.27	84.27
76 Butylbenzylphthalat	30.316(0.922)	1037641	115.20	115.20
77 3,3'-Dichlorobenzid	32.686(0.994)	343620	116.30	116.30
78 bis(2-Ethylhexyl)ph	32.837(0.999)	1451844	123.45	123.45
79 Di-n-octylphthalate	35.950(0.894)	1956105	111.14	111.14
80 Benzo(a)anthracene	32.829(0.999)	1255357	123.09	123.09
81 Chrysene	33.004(1.004)	1133616	120.49	120.49
82 Benzo(b)fluoranthen	37.988(0.944)	967807	115.52	115.52(H)

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
83 Benzo(k)fluoranthen	38.139(0.948)	894525	115.24	115.24
84 Benzo(e)pyrene	39.569(0.983)	864630	115.53	115.53
85 Benzo(a)pyrene	39.885(0.991)	885049	118.52	118.52
87 Indeno(1,2,3-cd)pyr	48.455(1.204)	650957	124.18	124.18(M)
86 Perylene	40.408(1.004)	745396	120.09	120.09
88 Dibenzo(a,h)anthrac	48.684(1.210)	677780	121.87	121.87
89 Benzo(g,h,i)perylen	50.983(1.267)	711620	127.38	127.38

QC Flag Legend

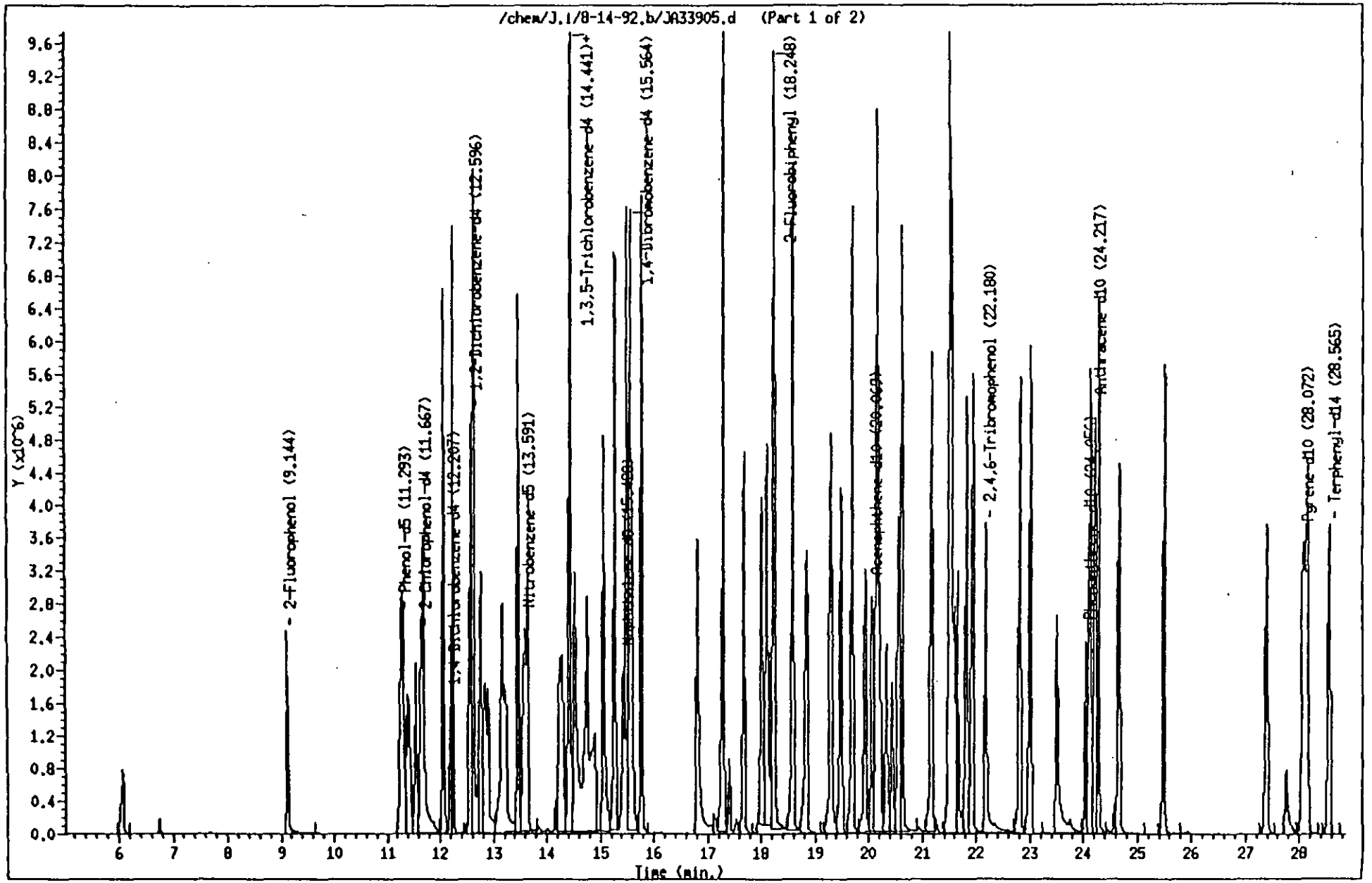
T - Target compound detected outside RT window.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Triangle Laboratories at RTP, Inc.

Data File: /chem/J.1/8-14-92.b/JA33905.d
Date : 15-AUG-1992 06:09
Instrument : J.1
Sample ID : SSTD 160 SA 8-25-92
Column phase : DB-5
Volume Injected (uL) : 0.0

SA 8-25-92

Column diameter : 0.32

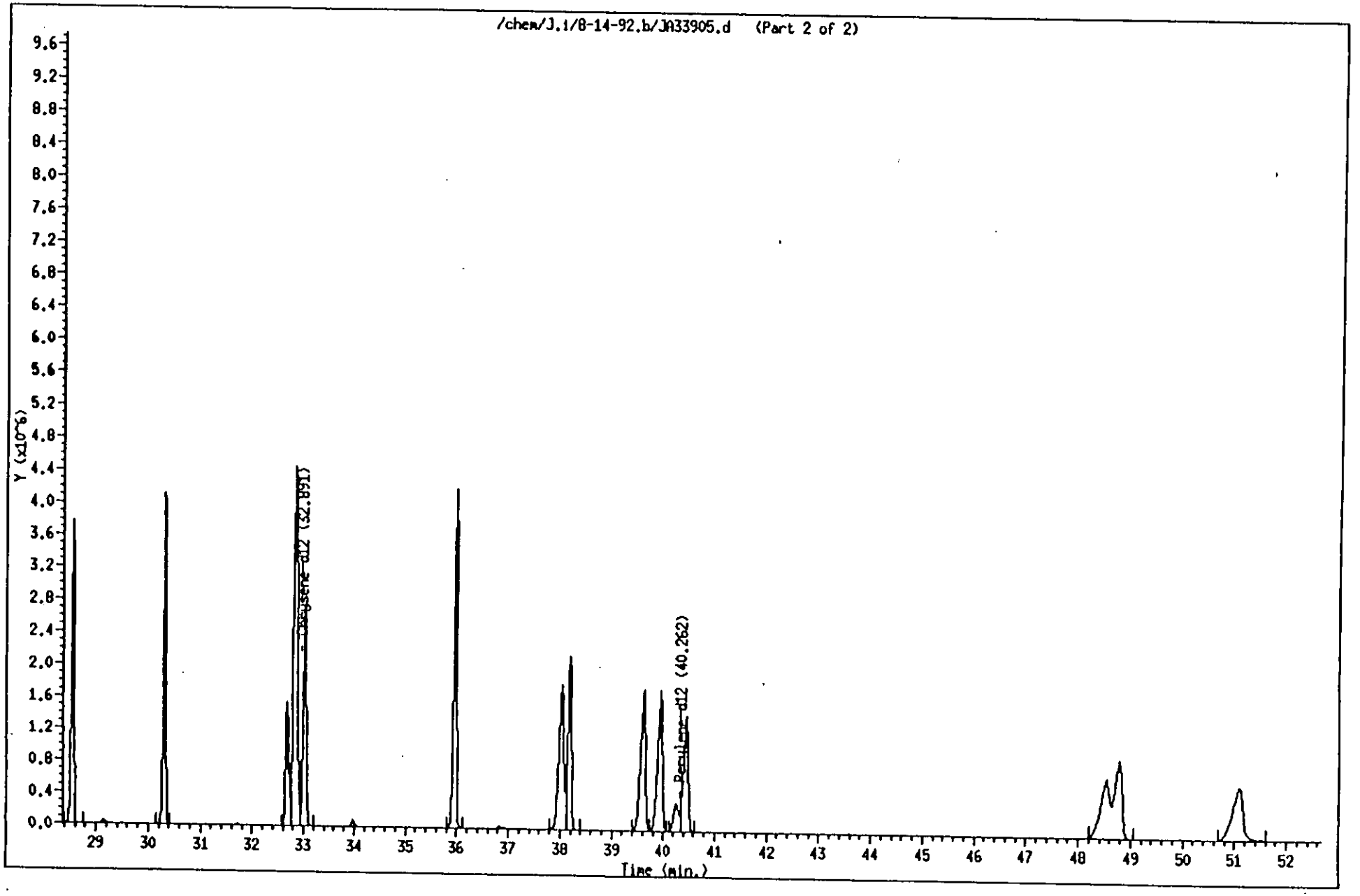


Triangle Laboratories of RTP, INC.

Data file: /chem/J.1/8-14-92.b/JA33905.d
Date : 15-AUG-1992 06:09
Instrument : J.1
Sample ID : SSTD160 SA 8-25-92
Column phase : DB-5
Volume Injected (uL) : 0.0

r 8-25-92

Column diameter : 0.32



TRIANGLE LABORATORIES OF RTP, INC INSTRUMENT J

SEMI-VOLATILE QUANTATATION REPORT

Data file : /chem/J.i/8-14-92.b/JA33905.d
Lab. Id. :
Inj Date : 15-AUG-1992 06:09 Autotune Date: 22-Jul-92 12:21:3
Operator : DD Inst ID: J.i
Smp Info : SSTD160
Misc Info :
Comment :
Method : /chem/J.i/8-14-92.b/tlinbna.m
Meth Date : 15-Aug-1992 15:02 target
Cal Date : 15-AUG-92 06:09 Cal File: JA33905.d
Als bottle: 5 Calibration Sample, Level: 5
Dil Factor: 1.000 Target Version: Target 2.00
Integrator: HP RTE Compound Sublist: 8270.sub
Rpt Date : 15-Aug-1992 15:08 Sample Type: Not Specified

		Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)
*	1	Naphthalene-d8	15.428(1.000)	2395354	40.00	40.00
*	2	1,4 Dichlorobenzene-d4	12.207(1.000)	545261	40.00	40.00
•	3	Acenaphthene-d10	20.069(1.000)	1854486	40.00	40.00
•	4	Phenanthrene-d10	24.048(1.000)	2185244	40.00	40.00(H)
*	5	Chrysene-d12	32.891(1.000)	721209	40.00	40.00
*	6	Perylene-d12	40.254(1.000)	798080	40.00	40.00
$	7	2-Fluorophenol	9.144(0.749)	1411539	120.48	120.48
$	8	Phenol-d5	11.293(0.925)	1755460	113.54	113.54(M)
$	9	2-Chlorophenol-d4	11.667(0.956)	1601808	111.44	111.44
$	10	1,2-Dichlorobenzene-d4	12.596(1.032)	1594052	140.89	140.89
$	11	Nitrobenzene-d5	13.591(0.881)	2942724	120.45	120.45
$	12	1,3,5-Trichlorobenz-d3	14.432(0.935)	3085075	165.96	165.96(A)
$	13	1,4-Dibromobenzene-d4	15.564(1.275)	2661659	153.92	153.92
$	14	2-Fluorobiphenyl	18.248(0.909)	7097954	141.05	141.05
$	15	2,4,6-Tribromopheno l	22.188(1.106)	1457466	137.67	137.67
$	16	Anthracene-d10	24.217(1.000)	6698044	127.79	127.79
$	17	Pyrene-d10	28.072(0.853)	4927786	112.24	112.24
$	18	Terphenyl-d14	28.565(0.868)	4525369	111.77	111.77
	19	N-Nitrosodimethylam	6.080(0.498)	758960	138.72	138.72
	20	Phenol	11.325(0.928)	1999334	135.40	135.40
	21	Aniline	11.444(0.937)	2587561	124.76	124.76
	22	bis(2-Chloroethyl)e	11.563(0.947)	1800835	124.43	124.43(M)
	23	2-Chlorophenol	11.707(0.959)	1967321	133.55	133.55
	24	1,3-Dichlorobenzene	12.080(0.990)	3073321	159.21	159.21
	25	1,4-Dichlorobenzene	12.255(1.004)	3136141	157.49	157.49
	26	1,2-Dichlorobenzene	12.636(1.035)	3326633	167.35	167.35(A)
	27	2-Methylphenol	12.771(1.046)	1901616	135.39	135.39(M)
	28	2,2'-oxybis(1-Chlor	12.875(0.000)	796071	124.28	124.28(M)
	29	Benzyl alcohol	12.548(1.028)	769275	134.21	134.21(M)
	30	4-Methylphenol	13.169(1.079)	1667227	121.18	121.18(M)
	31	N-Nitroso-di-n-prop	13.241(1.085)	1340688	108.30	108.30

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ng)
32 Hexachloroethane	13.464(1.103)	1501566	145.71	145.71
33 Nitrobenzene	13.655(0.885)	2307527	112.69	112.69
34 Isophorone	14.297(0.927)	6141108	135.54	135.54
35 2-Nitrophenol	14.448(0.936)	1821150	167.78	167.78(A)
36 2,4-Dimethylphenol	14.528(0.942)	2438297	149.08	149.08
37 bis(2-Chloroethoxy)	14.767(0.957)	2572770	123.71	123.71(M)
38 Benzoic acid	14.919(0.967)	2127905	171.07	171.07(AM)
39 2,4-Dichlorophenol	15.062(0.976)	2507544	146.87	146.87
40 1,2,4-Trichlorobenz	15.277(0.990)	3172548	164.01	164.01(A)
41 Naphthalene	15.492(1.004)	7261707	154.62	154.62
42 4-Chloroaniline	15.604(1.011)	2447265	124.72	124.72
43 Hexachlorobutadiene	15.780(1.023)	1990179	163.24	163.24(A)
44 4-Chloro-3-methylph	16.824(1.090)	2399382	136.73	136.73
45 2-Methylnaphthalene	17.300(1.121)	6578001	160.55	160.55(A)
46 Hexachlorocyclopent	17.682(0.881)	1763164	187.92	187.92(A)
47 2,4,6-Trichlorophen	18.015(0.898)	1555741	124.10	124.10
48 2,4,5-Trichlorophen	18.112(0.902)	1941801	154.90	154.90(TH)
49 2-Chloronaphthalene	18.599(0.927)	6293904	143.65	143.65
50 2-Nitroaniline	18.845(0.939)	2036034	141.33	141.33
51 Dimethylphthalate	19.313(0.962)	6921540	129.98	129.98
52 2,6-Dinitrotoluene	19.497(0.971)	1746913	130.96	130.96
53 2,4-Dinitrotoluene	20.564(1.025)	2190796	127.73	127.73
54 Acenaphthylene	19.711(0.982)	9319877	140.80	140.80
55 3-Nitroaniline	19.950(0.994)	1784453	149.30	149.30
56 Acenaphthene	20.173(1.005)	6041057	145.31	145.31
57 2,4-Dinitrophenol	20.213(1.007)	1191629	168.36	168.36(A)
58 4-Nitrophenol	20.341(1.014)	979542	209.41	209.41(A)
59 Dibenzofuran	20.628(1.028)	8409841	140.84	140.84
60 Diethylphthalate	21.184(1.056)	7049999	126.94	126.94
61 4-Chlorophenyl-phen	21.510(1.072)	3110463	154.07	154.07
62 Fluorene	21.550(1.074)	6285980	150.77	150.77
63 4-Nitroaniline	21.606(1.077)	1688583	168.93	168.93(AM)
64 4,6-Dinitro-2-methy	21.662(0.895)	1335037	183.24	183.24(A)
65 N-Nitrosodiphenylam	21.830(0.901)	4189551	134.97	134.97
66 4-Bromophenyl-pheny	22.824(0.942)	1748229	146.67	146.67
67 Hexachlorobenzene	23.015(0.950)	2452463	148.97	148.97
68 Pentachlorophenol	23.515(0.971)	1150980	185.23	185.23(A)
69 Phenanthrene	24.128(0.996)	7340767	139.97	139.97(TH)
70 Anthracene	24.281(1.003)	6999954	133.77	133.77
71 Carbazole	24.662(1.018)	6256725	145.59	145.59
72 Di-n-butylphthalate	25.493(1.053)	9315734	130.08	130.08
73 Fluoranthene	27.397(1.131)	5887532	160.89	160.89(A)
74 Pyrene	28.144(0.856)	5860337	119.47	119.47
75 Benzidine	27.754(0.844)	1266329	230.48	230.48(A)
76 Butylbenzylphthalat	30.319(0.922)	3638989	163.44	163.44(A)
77 3,3'-Dichlorobenzid	32.689(0.994)	1418118	194.18	194.18(A)
78 bis(2-Ethylhexyl)ph	32.850(0.999)	3960654	136.24	136.24
79 Di-n-octylphthalate	35.966(0.893)	8466901	154.06	154.06
80 Benzo(a)anthracene	32.850(0.999)	3689654	146.36	146.36
81 Chrysene	33.043(1.005)	3964910	170.50	170.50(A)
82 Benzo(b)fluoranthen	38.029(0.949)	4274602	163.40	163.40(AM)

Compounds	RT (REL RT)	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ng)
83 Benzo(k)fluoranthen	38.188(0.949)	4247791	170.04	0.00(AM)
84 Benzo(e)pyrene	39.620(0.984)	4072310	174.26	174.26(A)
85 Benzo(a)pyrene	39.945(0.992)	3989425	171.09	171.09(A)
87 Indeno(1,2,3-cd)pyr	48.525(1.205)	3212026	196.23	196.23(AM)
86 Perylene	40.453(1.005)	3345411	172.60	172.60(A)
88 Dibenzo(a,h)anthrac	48.780(1.212)	3521870	202.80	202.80(A)
89 Benzo(g,h,i)perylen	51.096(1.269)	3377713	193.62	193.62(A)

QC Flag Legend

T - Target compound detected outside RT window.
A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: /chem/J.i/8-14-92.b/JA33801.d

Date : 15-AUG-92 01:37

Instrument : J.i

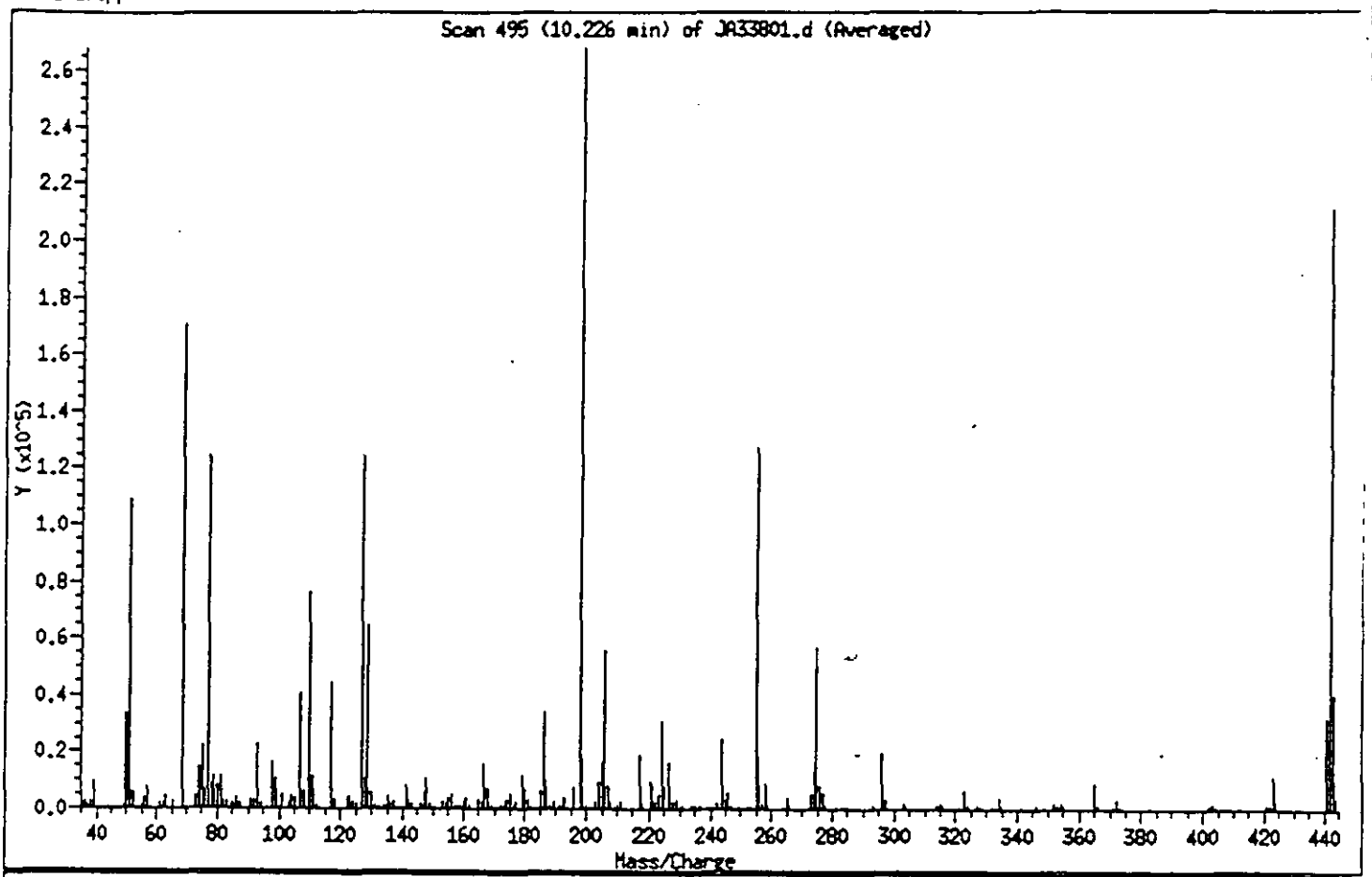
Sample ID : DFTPP

Column phase : db5 1u

Column diameter : 0.32

Volume Injected (uL) : 1.0

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.0
51	30.00 - 60.00% of mass 198	40.6
68	Less than 2.00% of mass 69	0.0
69	Less than 200.00% of mass 198	63.5
70	Less than 2.00% of mass 69	0.4
127	40.00 - 60.00% of mass 198	46.2
197	Less than 1.00% of mass 198	0.0
199	5.00 - 9.00% of mass 198	6.7
275	10.00 - 30.00% of mass 198	21.2
365	1.00 - 100.00% of mass 198	3.3
441	Present, but less than mass 443	78.8
442	40.00 - 99.99% of mass 198	78.6
443	17.00 - 23.00% of mass 442	19.3

Data File: /chem/J.1/8-14-92.b/JA33801.d

Date : 15-AUG-92 01:37

Instrument : J.1

Sample ID : DFTPP

Column phase : db5 1u

Column diameter : 0.32

Volume Injected (uL) : 1.0

Spectrum: Scan 495 (10.226 min) of JA33801.d (Averaged)

Base Peak: 197.90

Number of mass peaks: 99 Display threshold: 1%

Mass	Abund	Mass	Abund	Mass	Abund	Mass	Abund
38.95	9314	105.00	3780	174.05	3093	228.90	2920
50.05	33736	107.00	40530	174.95	5033	244.00	24443
51.05	108589	108.00	6292	178.95	11759	245.00	3421
52.05	5738	110.00	75666	179.95	7175	245.90	5724
55.95	3938	111.00	11353	180.95	3400	254.95	127064
56.95	7808	117.00	44576	185.05	6117	255.95	18445
63.05	4684	118.00	3068	186.05	33914	257.95	8854
68.95	170128	122.00	3600	186.95	9874	264.95	3809
73.05	4490	123.00	4651	192.05	3674	272.95	4978
74.05	14449	127.00	123784	193.05	3952	273.95	13221
75.05	22456	128.00	10908	196.05	7764	274.95	56732
76.05	6775	129.00	64317	197.90	267778	275.95	8095
77.05	123896	130.00	5790	198.90	17908	276.95	5482
78.05	8552	135.00	4440	204.00	9198	295.95	19349
79.05	11400	140.95	8414	205.00	16361	296.95	2895
80.05	8488	142.05	2906	206.00	55878	323.00	6152
81.05	11268	146.95	5969	207.00	8242	334.00	3883
86.00	3895	147.95	10615	216.90	18797	364.90	8800
90.90	3031	154.95	4080	220.90	9726	371.95	3248
92.00	3086	155.95	5271	221.90	2687	422.90	11222
93.00	22820	160.95	3519	223.00	4766	441.00	32120
98.00	16406	164.95	3284	224.00	31156	442.00	210592
99.00	10545	166.05	2692	225.00	7579	443.00	40736
101.00	5135	166.95	15613	226.90	16421	444.00	3707
104.00	4319	167.95	7054	227.90	2718		

WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

S-Type

Client: Woodland
Project Number: 2223
Source: Baghouse OFF Asphalt Plant
Sampling Site: Outlet
Test Number: #1
Sample Type: Formaldehyde

Pitot Tube I.D.: .85 C_p: .85
Probe Length.:
Meter Box Number: 2
Meter Y Factor: .99862
Meter K_{iso}: 1554.705
Meter Factor: 2.85707

Barometric Pressure: 29.56
Static Pressure: -.28
Estimated Moisture: ~~18%~~ 24%
Nozzle Diameter: .246
Initial Leak Check: .01 @ 10"
Final Leak Check: .01 @ 6"

Date: 6/2/92 Page 1 of 3
Staff: PK, GA, DA, JM, KP
Stack Size: 48" x 96"
Orsat Leak Check Pre: — Post: —
Pitot Leak Check Pre: — Post: —
Filter Number(s): None

48 x 96

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
	0	1247	345.96									
11A	2.5	1249.5	347.36	.49	1.07	2	107	104	279	247	—	
B	5.0		348.76	.49	1.07	2	108	105	279	248		
C	7.5		350.01	.56	1.23	2	110	105	277	249		
10A	10.0		351.82	.55	1.20	2	110	106	281	250		
B	12.5		353.43	.59	1.29	2	109	103	279	252		
C	15.0		355.01	.42	.92	2	110	104	280	252		
9A	17.5		356.66	.65	1.42	3	111	107	282	253		
B	20.0		358.01	.73	1.59	3	112	106	282	251		
C	22.5		359.58	.29 ~~.80~~	.63	3	112	106	281	253		
8A	25.0		361.12	.89	1.76	3	112	106	280	251		
B	27.5		362.06	.78	1.71	3	112	106	281	250		
C	30.0		364.03	.80	1.76	4	112	106	280	252		
7A	32.5		366.49	.47	1.14	4	111	106	281	253		
B	35.0		367.74	.30	.66	4	112	107	280	254		
C	37.5		368.91	.31	.68	4	112	107	280	255		

2,128

2 @ 2.5
7.5
5.0

Averages: Vol. 48.9 cu. ft. √ΔP: ~~.7053~~ .6961 ΔH: 1.0942 T_m: 108.7 T_s: 279.3

ΔP .5000

c:\sheets\emssdtas ver 05/25/92

1.5

V = 40.95

WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

Client: woodland p. | Pitot Tube I.D.: S-type C_p: .85 | Barometric Pressure: | Date: 6/2/92 Page 2 of 3
Project Number: | Probe Length.: | Static Pressure: | Staff:
Source: outlet | Meter Box Number: | Estimated Moisture: | Stack Size:
Sampling Site: | Meter Y Factor: | Nozzle Diameter: | Orsat Leak Check Pre: Post:
Test Number: #1 | Meter K_{iso}: | Initial Leak Check: | Pitot Leak Check Pre: Post:
Sample Type: Formaldehyde | Meter Factor: | Final Leak Check: | Filter Number(s):

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
	37.5		368.91									
B/A	40.0		370.16	.34	.74	4	112	107	280	255		
D	42.5		371.68	.55	1.20	3	111	106	281	256		
C dup	45.0		373.16	.42	.92	2	111	106	281	256		
x 9A	47.5		374.25	.32	.70	2	111	107	280	256		
D	50.0		375.62	.42	.92	2	111	107	281	256		
C	52.5		376.76	.31	.68	2	111	107	281	256		
4A	55.0		378.32	.54	1.18	2	112	108	280	257		
D	57.5		379.64	.35	.77	2	112	108	281	257		
C	60.0		380.83	.30	.66	2	111	107	281	257		
3A	62.5		382.41	.52	1.14	2	110	107	280	255		
D	65.0		383.69	.27	.59	2	111	107	278	255		
C dup	67.5		384.71	.22	.48	2	111	108	279	255		
2A	70.0		386.31	.54	1.19	2	112	108	277	255		
D	72.5		387.92	.74	1.63	2	112	106	277	253		
C	75.0		389.86	.40	.88	2	112	106	277	253		

Averages: | √ΔP: | ΔH: | T_m: | T_s:

WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

Client:_____ Pitot Tube I.D.: S-Type C_p: .85 Barometric Pressure:_____ Date: 6/2/92 Page 3 of 3
Project Number:_____ Probe Length.:_____ Static Pressure:_____ Staff:_____
Source:_____ Meter Box Number:_____ Estimated Moisture:_____ Stack Size:_____
Sampling Site:_____ Meter Y Factor:_____ Nozzle Diameter:_____ Orsat Leak Check Pre:___ Post:___
Test Number: #1 Meter K_{iso}:_____ Initial Leak Check:_____ Pitot Leak Check Pre:___ Post:___
Sample Type: Formaldehyde Meter Factor:_____ Final Leak Check: 01 @ C" Filter Number(s):_____

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
	75.0		389.86									
1A	77.5		391.51	.62	1.37	3	1/2	106	273	252		
B	80.0		392.21	.50	1.11	2	1/2	105	273	252		
C	82.5		394.91	.82	1.82	3	1/2	105	273	252		
1A												
B												
C												
1A												
B												
C												

Averages: √ΔP: ΔH: T_m: T_s:

WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

Client: Woodland Paving
Project Number:
Source: Baghouse Asphalt
Sampling Site: outlet
Test Number: #2
Sample Type: #2 Fuel

Pitot Tube I.D.: S-type C_p: .85
Probe Length.:
Meter Box Number: #2
Meter Y Factor: .99862
Meter K_{iso}: 1554.705
Meter Factor: 2.5193

Barometric Pressure: 29.51
Static Pressure: -.25
Estimated Moisture: 23%
Nozzle Diameter: .246
Initial Leak Check: .01 @ 7"
Final Leak Check:

Date: 6/3/92 Page 2 of 3
Staff: DK, GH, JM, AH, KP
Stack Size:
Orsat Leak Check Pre: Post:
Pitot Leak Check Pre: Post:
Filter Number(s):

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
	37.5	1327	414.21									
BA	40.0		414.36	.28	.55	1	112	108	271	273		
B	42.5		415.33	.19	.37	1	114	108	271	268		
C	45.0		416.18	.10	.20	1	113	109	270	272		
5A	47.5		417.42	.33	.65	1	113	110	270	267		
D	50.0		418.43	.15	.30	1	115	110	271	267		
C	52.5		419.29	.10	.20	1	115	110	266	275		
6A	55.0		420.67	.45	.90	1	114	109	268	275		
D	57.5		421.92	.33	.64	1	114	109	268	278		
C	60.0		423.23	.45	.88	1	113	108	267	279		
7A	62.5		424.19	.62	1.22	2	114	110	271	280		
D	65.0		426.40	.45	.89	2	114	110	270	280		
C	67.5		427.64	.40	.79	2	114	110	273	278		
8A	70.0		429.27	.62	1.23	2	116	110	272	280		
D	72.5		430.86	.46	.91	1	116	110	272	281		
C	75.0	1415	432.16	.45	.89	1	117	111	265	267		

Averages: √ΔP: ΔH: T_m: T_s:

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WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

Client: _____ Pitot Tube I.D.: S-type C_p: .85 Barometric Pressure: 29.51 Date: 6/3/94 Page 3 of 3

Project Number: _____ Probe Length.: _____ Static Pressure: +.28 Staff: _____

Source: _____ Meter Box Number: _____ Estimated Moisture: 23% Stack Size: _____

Sampling Site: outlet Meter Y Factor: .99862 Nozzle Diameter: _____ Orsat Leak Check Pre: ___ Post: ___

Test Number: #2 Meter K_{iso}: 1.554705 Initial Leak Check: _____ Pitot Leak Check Pre: ___ Post: ___

Sample Type: Formaldehyde Meter Factor: _____ Final Leak Check: .015@5" Filter Number(s): _____

36.21

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
	750	1417	432.16									
~~1~~A	77.5		433.55	.60	1.19	11	110	109	261			
B	80.0		434.99	.41	.82	1	112	110	261			
C	82.5	1426	436.36	.37	.74	1	112	110	261			
START ~~1~~A 2A	85.0		437.78	.48	.96	1	113	108	269			
ADDING ~~1~~B B	87.5		438.99	.32	.63	2	112	108	266			
AMPULE ~~1~~C C	90.0		440.26	.38	.75	2	112	108	270			
TO HEAD ~~1~~A 3A	92.5	1437	441.56	.44	.87	2	112	108	270			
45 FT3 ~~1~~B												
OF SAMPLE ~~1~~C												
Averages:	Vol 45.6			√ΔP: .5795	ΔH: .6913		T_m: 101.1		T_s: 269.2			

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AVE ΔP = 2<10

WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

Client: Woodland Paving
Project Number: 22327
Source: Baghouse Outlet
Sampling Site:
Test Number: Form-3
Sample Type:

Pitot Tube I.D.: S-Type C_p: .85
Probe Length.:
Meter Box Number: 2
Meter Y Factor: .99862
Meter K_{iso}: 1554.705
Meter Factor: 2.44193

Barometric Pressure: 29.59
Static Pressure: .28
Estimated Moisture: 26%
Nozzle Diameter: .251
Initial Leak Check: .016 @ 10"
Final Leak Check: 0.0140 3"

Date: 6/9/92 Page 1 of 2
Staff: BH KP DMG HPK
Stack Size: 48x96
Orsat Leak Check Pre: Post:
Pitot Leak Check Pre: Post:
Filter Number(s):

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
	0	0803	494.01									
1-1	2.5		495.10	.33	.61	2	84	75	272	257		
1-2	5.0		496.27	.38	.70	2	85	76	272	254		
1-3	7.5		497.38	.32	.58	1	84	77	271	258		
2-1	10.0		498.43	.36	.65	1	90	80	270	260		
2-2	12.5		499.71	.32	.58	1	92	81	270	260		
2-3	15.0		500.76	.28	.51	1	92	82	275	261		
3-1	17.5		501.82	.32	.58	1	92	82	275	261		
3-2	20.0		503.10	.32	.58	1	94	84	271	261		
3-3	22.5		504.16	.30	.55	1	90	85	270	249		
4-1	25.0		505.19	.31	.57	1	95	87	269	261		
4-2	27.5		506.32	.26	.48	1	94	87	268	265		
4-3	30.0		507.11	.23	.42	1	94	88	267	254		
5-1	32.5		508.41	.32	.59	1	94	88	268	255		
5-2	35.0		509.52	.29	.54	1	93	88	266	267		
5-3	37.5		510.54	.26	.48	1	93	88	266	267		
6-1	40.0		511.68	.32	.59	1	94	88	266	267		

Averages: Vol. 45.6 cu/ft. √ΔP: .5740 ΔH: .6282 T_m: 99.3 T_s: 266.8

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WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

Client: Woodland Paving
Project Number: 22327
Source: Baghouse Outlet
Sampling Site:
Test Number: Form-3
Sample Type:

Pitot Tube I.D.: S-Type C_p: .85
Probe Length.:
Meter Box Number: 2
Meter Y Factor: .99862
Meter K_{iso}: 1554.705
Meter Factor: 2.44143

Barometric Pressure: 29.59
Static Pressure: .28
Estimated Moisture: 26%
Nozzle Diameter: .251
Initial Leak Check: .016 @ 10"
Final Leak Check: 0.014 @ 3"

Date: 6/4/92 Page 2 of 3
Staff: BH KP PK GH DM
Stack Size: 48x96
Orsat Leak Check Pre: Post:
Pitot Leak Check Pre: Post:
Filter Number(s):

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
		0851	511.68									
6-2	42.5		512.75	.26	.48	1	95	89	264	258		
6-3	45.0		513.39	.21	.39	1	93	89	264	246		
7-1	47.5		515.18	.39	.72	1	96	90	269	256		
7-2	50.0		516.01	.27	.50	1	96	90	268	258		
7-3	52.5		517.13	.25	.46	1	96	91	265	250		
8-1	55.0		518.52	.44	.82	1	96	91	265	250		
8-2	57.5		519.83	.37	.69	1	96	91	265	252		
8-3	60.0		520.12	.26	.48	1	98	91	266	262		
9-1	62.5		522.1	.43	.80	1	99	92	268	260		
9-2	65.0		523.34	.40	.75	1	99	92	268	270		
9-3	67.5		524.42	.27	.50	1	100	92	264	263		
10-1	70.0		525.96	.47	.88	1	99	93	261	265		
10-2	72.5		527.15	.44	.82	1	98	93	265	267		
10-3	75.0		528.30	.32	.60	1	98	92	264	260		
11-1	77.5		529.75	.52	.97	1	97	93	262	259		
11-2	80.0		531.25	.42	.81	1	98	93	264	269		
Averages: 11-3	82.5		532.32	.35	.66	1	98	93	264	269		

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WW Engineering & Science, Inc.
Environmental Services Division

EMISSION TESTING DATA

(1)

Client: Woodland Paving
Project Number:
Source: Outlet Baghouse
Sampling Site: Cowstock Park
Test Number: #3
Sample Type: Foam - #3

Pitot Tube I.D.: S-Type C_p: .85
Probe Length.:
Meter Box Number: #2
Meter Y Factor: .99862
Meter K_{iso}: 1554.705
Meter Factor: 2.44143

Barometric Pressure: 29.59
Static Pressure: + .28
Estimated Moisture: 26%
Nozzle Diameter: .251
Initial Leak Check: .616 @ 10"
Final Leak Check: .014 @ 3"

Date: 6/9/92 Page 3 of 3
Staff:
Stack Size:
Orsat Leak Check Pre: Post:
(2) Pitot Leak Check Pre: Post:
Filter Number(s):

58°F-L
71°F-L
58°F-L
71°F-L

Sample Point/Port	Test Time (minutes)	Time (24 Hr.)	Meter Volume	Pitot Tube ΔP	Orifice ΔH	Pump Vacuum	Meter Temperature Inlet (°F)	Meter Temperature Outlet (°F)	Stack Temp. (°F)	Probe Temp (°F)	Filter Temp. (°F)	Impinger Temp. (°F)
	82.5	0934	532.31									
10-1	85.0		533.65	.46	.56	1	96	93	264	269		
10-2	87.5		534.87	.35	.66	1	98	93	264	253		
10-3	90.0		536.06	.33	.62	1	96	93	264	253		
9-1	92.5		537.37	.44	.82	2	98	93	265	241		
9-2	95.0		538.58	.34	.64	2	100	94	265	260		
9-3	97.5	0956	539.70	.30	.56	2	100	94	265	260		
ran extra time to get 45 ft³ of volume												

Averages: √ΔP: .5789 ΔH: .6282 T_m: 99.3 T_s: 266.8

WW Engineering & Science, Inc.
Environmental Services Division

MOISTURE AND MOLECULAR WEIGHT DATA

Client: WOODLAND Date: 6-1-92 Project Number: 22327
Source: BAGHOUSE Site: OUTLET Run Number: RUN #1 FORM-1
Staff:

MOISTURE DATA

	Container 1	Container 2	Container 3	Container 4	Container 5
Final Weight or Volume	895.01	713.19	444.0	600.02	
Tare Weight or Volume	604.0	602.0	442.4	593.8	
Gain	291.01	111.19	1.6	~~[illegible]~~ 707.58	
Contents (ie silica gel)	DNPH	DNPH	EMPTY	Silica Gel	

MOLECULAR WEIGHT DATA

Analysis Method: Analysis Date: Sample Type:

Run Number	Oxygen	Carbon Dioxide	Carbon Monoxide
1			
2			
3			
Average			

580.11
565.55
14.58

WW Engineering & Science, Inc.
Environmental Services Division

MOISTURE AND MOLECULAR WEIGHT DATA

Client: Woodland Paving Date: 6/8/92 Project Number:
Source: Bag house Outlet Site: Run Number: Run #3
Staff:

MOISTURE DATA

	Container 1	Container 2	Container 3	Container 4	Container 5
Final Weight or Volume	977.51	565.55	460.03	670.42	
Tare Weight or Volume	583.52	580.03	456.75	663.22	
Gain	393.99	~~-14.58~~	3.28	7.20	TOTAL
Contents (ie silica gel)		- 14.58	Empty	SG	389.89g

393.99
3.28
7.20
404.47
- 14.58
389.89

MOLECULAR WEIGHT DATA

Analysis Method: Analysis Date: Sample Type:

Run Number	Oxygen	Carbon Dioxide	Carbon Monoxide
1			
2			
3			
Average			

389.89
14.58
404.47

WW Engineering & Science, Inc.
Environmental Services Division

MOISTURE AND MOLECULAR WEIGHT DATA

Client: WOODLAND Date: 6-1-92 Project Number: 22327
Source: BAGHOUSE Site: OUTLET Run Number: RUN#2 FORM-2
Staff:

MOISTURE DATA

	Container 1	Container 2	Container 3	Container 4	Container 5
Final Weight or Volume					
Tare Weight or Volume	578.5	612.8	491.8	745.4	(total)
Gain					859
Contents (ie silica gel)	DNPH	DNPH	EMPTY	Silica Gel	

MOLECULAR WEIGHT DATA

Analysis Method: Analysis Date: Sample Type:

Run Number	Oxygen	Carbon Dioxide	Carbon Monoxide
1			
2			
3			
Average			

Calculation Sheet

Computed by JVH Subject recovery Sheet 1 of
Checked by Job No. 22327
Client Woodland Paving Date 6/8/92

176 ml Form # 2 run 6/8/92
50 ml rinse #1 impinger
60 ml rinse #2 impinger
286 ml Methylene Chloride in sample rinse container
50 ml rinse 3rd impinger + "U" joints

336
80 ml meth Cl2 } impinger #1
40 ml H2O }
456 ml
103 ml meth Cl2 } impinger #2
40 ml H2O }
699
40 ml meth Cl2
20 ml H2O
759
400 ml subtracted
~~459~~ ml Total in sample container.
359 ml

6/8/92
sealed w/tape
marked level