AB2588 TESTING AT UNIVERSITY TECHNICAL SERVICES PETRO-LEWIS COGENERATION PLANT TAFT, CALIFORNIA

May 22-25, 1990

Prepared for

University Technical Services
4464 Alvarado Canyon Road
San Diego, California 92120

August 1990

Prepared by

Pape & Steiner Environmental Services
5801 Norris Road
Bakersfield, California 93308

Report PS-90-2183/Project 6822-90

AB2588 TESTING AT UNIVERSITY TECHNICAL SERVICES PETRO-LEWIS COGENERATION PLANT TAFT, CALIFORNIA

May 22-25, 1990

Prepared for

University Technical Services
4464 Alvarado Canyon Road
San Diego, California 92120

August 1990

Prepared by

Pape & Steiner Environmental Services
5801 Norris Road
Bakersfield, California 93308

Report PS-90-2183/Project 6822-90

TABLE OF CONTENTS

SECTION 1

INTRODUCTION

At the request of University Technical Services (UTS), Pape & Steiner Environmental Services undertook a series of emission tests on the effluent of the cogeneration plant serving Petro-Lewis located in the Belridge oilfield from May 22 through 25, 1990. The purpose of these tests was to collect emission data for AB2588 Air Toxics Hot Spots Information and Assessment Act of 1987.

UTS owns and operates a field-gas-fired cogeneration plant which generates 9 MW of electricity for PG&E and steam for use in Petro-Lewis' EOR operations. The plant consists of a Solar Mars Gas Turbine equipped with water injection for NO_x control and a HRSG to generate steam.

Triplicate 6-hour PAH tests were conducted on the HRSG stack using CARB Method 429. Triplicate 6-hour aldehyde tests were conducted at the same time using CARB Method 430. Triplicate 4-hour benzene tests were also conducted using CARB Method 410 with Summa canisters instead of Tedlar bags. CARB Method 1-100 was used to continuously monitor the stack gases during the tests to insure no upsets occurred. A sample of the fuel gas burned in the gas turbine was collected and analyzed for CHNOS, specific gravity, moisture and Btu using ASTM Methods.

Section 2 of this report describes the tests conducted on this program.

SECTION 2

TEST MATRIX

Table 2-1 summarizes the tests performed on the HRSG effluent. All PAH, formaldehyde and benzene tests were conducted simultaneously on each day of testing. No upsets occurred during the testing program. The plant operated near full load (~ 9 MW) throughout the test period.

Section 3 of the report summarizes the test results.

TABLE 2-1. UTS - PETRO-LEWIS COGENERATION PLANT TEST MATRIX

Date	Test No.	Test Parameter	Test Time
05/22/90	Blanks	PAH, Formaldehyde	
05/23/90	1	PAH	10:00 am - 4:04 pm
		Formaldehyde	10:00 am - 4:05 pm
		Benzene	9:50 am - 1:50 pm
05/24/90	2	PAH	9:00 am - 3:05 pm
		Formaldehyde	9:00 am - 3:05 pm
		Benzene	8:50 am - 12:50 pm
05/25/90	3	PAH	9:00 am - 3:06 pm
		Formaldehyde	9:00 am - 3:06 pm
		Benzene	8:45 am - 12:45 pm

SECTION 3

TEST RESULTS

Tables 3-1 to 3-3 summarize the results of the Air Toxics tests performed on the effluent of the UTS - Petro-Lewis Cogeneration Plant. All results are reported at 68°F and 29.92 inches Mercury. All test results are reported "as is," with no blank train correction factor applied to the results, as required by the CARB methodology. A separate result appears for the blank train to allow regulatory agencies an opportunity to compare the measured result with the blank train to determine if the measured result is significant when compared to the background contamination. If a substance was found to be "non-detected," the detection limit for that substance in that sample was used for calculation purposes and a "less than" symbol (<) was placed beside the reported value. In actual fact, the true value for this substance is something less than the reported amount. It should be noted that chemists routinely require a measured value to be five times greater than the detection limit or the blank in order for the measured value to be considered reliable.

3.1 PAH

CARB Method 429, in its current form, was used to measure PAH. It has been determined that the XAD-2 resin cleaning procedure specified by

the method is not rigorous enough to remove the background PAH present in the resin. In addition, despite using the best grade of toluene available, it too contains many of the PAHs of interest. High blanks (especially for naphthalene) were encountered on this program and Triangle Labs has stated (Appendix C) that only those PAHs that are five times the blank value should be considered significant.

The naphthalene data are not reliable because of the contamination problem. The levels of 2-methyl-naphthalene, acenaphthene, fluorene, phenanthrene, fluoranthene, pyrene and chrysene are slightly higher than the blank but are not considered to be significant. The remaining PAHs were less than the detection limit (part per trillion and lower).

3.2 BENZENE

Benzene was not found at a detection limit of 2 ppb and the data are actually somewhat less than the reported value.

3.3 FORMALDEHYDE

Slightly elevated levels of formaldehyde were found when compared to the blank but were not high enough to be considered significant.

TABLE 3-1. SUMMARY OF SOURCE EMISSION TESTS - PAH

Unit Tested: UTS - Petro Lewis Cogeneration Plant Location: HRSG Stack

Test Number	1	2	3
Date	05/23/90	05/24/90	05/25/90
Test Condition	9 MW	9 MW	9 MW
Barometric Pressure (in. Hg)	29.35	29.58	29.46
Stack Pressure (in. Hg)	29.25	29.48	29.36
Stack Area (ft^2)	19.47	19.47	19.47
Elapsed Sampling Time (min.)	360.0	360.0	360.0
Volume Gas Sampled (dscf)	172.076	170.005	171.621
F-Factor	8424.74	8424.74	8424.74
GAS DATA			
Average Gas Velocity (fps)	94.7	93.4	94.3
Average Gas Temperature (°F)	377.1	381.2	380.0
Gas Flowrate (dscfm)	62,628	62,330	62,844
Gas Analysis (Dry % Basis)			
Carbon Dioxide	3.79	3.77	3.79
Oxygen	15.26	15.51	15.47
Water	8.20	7.70	7.60

TABLE 3-1. SUMMARY OF SOURCE EMISSION TESTS - PAH (CONTINUED)

Unit Tested: UTS - Petro Lewis Cogeneration Plant

PPM

Compound	Run 1	Run 2	Run 3	Average	Blank
Naphthalene	4.25E-04	5.25E-04	4.99E-04	4.83E-04	5.67E-05
2-Methyl-Naphthalene	6.99E-06	5.15E-06	6.22E-06	6.12E-06	4.96E-06
2-Chloro-Naphthalene	<4.57E-09	<6.17E-09	<6.11E-09	<5.62E-09	<5.21E-08
Acenaphthene	<8.85E-07	7.11E-07	1.78E-06	<1.12E-06	8.25E-07
Acenaphthalene	<8.97E-08	<6.90E-08	<7.49E-08	<7.79E-08	1.40E-07
Fluorene	2.14E-06	2.01E-06	7.46E-06	3.87E-06	2.01E-06
Phenanthrene	5.52E-06	2.55E-06	3.18E-06	3.75E-06	2.84E-06
Anthracene	<1.11E-08	<1.68E-08	<1.67E-08	<1.49E-08	<2.23E-08
Fluoranthene	1.17E-06	5.37E-07	6.27E-07	7.78E-07	4.74E-07
Pyrene	1.07E-06	4.80E-07	5.07E-07	6.86E-07	3.71E-07
Benzo-a-Anthracene	<9.10E-09	<1.97E-08	<1.74E-08	<1.54E-08	<2.39E-08
Chrysene	1.34E-06	8.22E-07	5.97E-07	9.21E-07	7.01E-07
Benzo-b-Fluoranthene	8.82E-08	<3.77E-08	<5.89E-08	<6.16E-08	1.50E-07
Benzo-k-Fluoranthene	<1.04E-08	<2.18E-8	<2.16E-08	<1.79E-08	<2.46E-07
Benzo-e-Pyrene	7.80E-08	<4.36E-08	<1.63E-07	<9.49E-08	<1.22E-07
Benzo-a-Pyrene	<1.84E-08	<3.57E-08	<4.72E-08	<3.38E-08	<4.14E-08
Perylene	<2.45E-08	<3.97E-08	<4.52E-08	<3.64E-08	<4.73E-08
Indeno-123-c,d-Pyrene	<7.80E-08	<2.01E-07	<1.74E-07	<1.51E-07	<3.45E-07
Dibenzo-ah-Anthracene	<1.33E-07	<3.23E-07	<3.36E-07	<2.64E-07	<5.47E-07
Benzo-ghi-Perylene	1.05E-07	<2.25E-07	<2.83E-07	<2.04E-07	<2.52E-07

TABLE 3-1. SUMMARY OF SOURCE EMISSION TESTS - PAH (CONTINUED)

Unit Tested: UTS - Petro Lewis Cogeneration Plant

LB/HR

Compound	Run 1	Run 2	Run 3	Average	Blank
Naphthalene	5.30E-04	6.53E-04	6.25E-04	6.03E-04	7.08E-05
2-Methyl-Naphthalene	9.69E-06	7.11E-06	8.65E-06	8.48E-06	6.87E-06
2-Chloro-Naphthalene	<7.23E-09	<9.71E-09	<9.69E-09	<8.88E-09	<8.23E-08
Acenaphthene	<1.33E-06	1.06E-06	2.68E-06	<1.69E-06	1.24E-06
Acenaphthalene	<1.33E-07	<1.02E-07	<1.11E-07	<1.15E-07	2.08E-07
Fluorene	3.47E-06	3.24E-06	1.21E-05	6.28E-06	3.26E-06
Phenanthrene	9.59E-06	4.41E-06	5.54E-06	6.51E-06	4.93E-06
Anthracene	<1.93E-08	<2.91E-08	<2.91E-08	<2.58E-08	<3.87E-08
Fluoranthene	2.31E-06	1.05E-06	1.24E-06	1.53E-06	9.34E-07
Pyrene	2.11E-06	9.42E-07	1.00E-06	1.35E-06	7.31E-07
Benzo-a-Anthracene	<2.02E-08	<4.37E-08	<3.88E-08	<3.42E-08	<5.32E-08
Chrysene	2.99E-06	1.82E-06	1.33E-06	2.05E-06	1.56E-06
Benzo-b-Fluoranthene	2.17E-07	<9.22E-08	<1.45E-07	<1.51E-07	3.68E-07
Benzo-k-Fluoranthene	<2.55E-08	<5.34E-08	<5.33E-08	<4.41E-08	<6.05E-07
Benzo-e-Pyrene	1.92E-07	<1.07E-07	<4.02E-07	<2.34E-07	<3.00E-07
Benzo-a-Pyrene	<4.53E-08	<8.74E-08	<1.16E-07	<8.30E-08	<1.02E-07
Perylene	<6.02E-08	<9.71E-08	<1.11E-07	<8.96E-08	<1.16E-07
Indeno-123-c,d-Pyrene	<2.10E-07	<5.39E-07	<4.70E-07	<4.06E-07	<9.29E-07
Dibenzo-ah-Anthracene	<3.60E-07	<8.74E-07	<9.16E-07	<7.17E-07	<1.49E-06
Benzo-ghi-Perylene	2.84E-07	<6.02E-07	<7.66E-07	<5.50E-07	<6.78E-07

TABLE 3-1. SUMMARY OF SOURCE EMISSION TESTS - PAH (CONCLUDED)

Unit Tested: UTS - Petro Lewis Cogeneration Plant

LB/MMBtu

Compound	Run 1	Run 2	Run 3	Average	Blank
Naphthalene	4.41E-06	5.71E-06	5.38E-06	5.16E-06	6.05E-07
2-Methyl-Naphthalene	8.05E-08	6.21E-08	7.44E-08	7.23E-08	5.87E-08
2-Chloro-Naphthalene	<6.01E-11	<8.49E-11	<8.34E-11	<7.61E-11	<7.03E-10
Acenaphthene	<1.11E-08	9.29E-09	2.31E-08	<1.45E-08	1.06E-08
Acenaphthalene	<1.11E-09	<8.91E-10	<9.59E-10	<9.85E-10	1.77E-09
Fluorene	2.89E-08	2.83E-08	1.04E-07	5.38E-08	2.79E-08
Phenanthrene	7.97E-08	3.85E-08	4.76E-08	5.53E-08	4.22E-08
Anthracene	<1.60E-10	<2.55E-10	<2.50E-10	<2.22E-10	<3.31E-10
Fluoranthene	1.92E-08	9.21E-09	1.07E-08	1.30E-08	7.98E-09
Pyrene	1.75E-08	8.23E-09	8.63E-09	1.15E-08	6.25E-09
Benzo-a-Anthracene	<1.68E-10	<3.82E-10	<3.33E-10	<2.95E-10	<4.55E-10
Chrysene	2.49E-08	1.59E-08	1.15E-08	1.74E-08	1.33E-08
Benzo-b-Fluoranthene	1.80E-09	<8.06E-10	<1.25E-09	<1.29E-09	3.14E-09
Benzo-k-Fluoranthene	<2.12E-10	<4.67E-10	<4.59E-10	<3.79E-10	<5.17E-09
Benzo-e-Pyrene	1.59E-09	<9.33E-10	<3.46E-10	<2.00E-09	<2.56E-09
Benzo-a-Pyrene	<3.77E-10	<7.64E-10	<1.00E-09	<7.14E-10	<8.69E-10
Perylene	<5.01E-10	<8.49E-10	<9.59E-10	<7.69E-10	<9.93E-10
Indeno-123-c,d-Pyrene	<1.75E-09	<4.71E-09	<4.04E-09	<3.50E-09	<7.94E-09
Dibenzo-ah-Anthracene	<3.00E-09	<7.64E-09	<7.88E-09	<6.17E-09	<1.27E-08
Benzo-ghi-Perylene	2.36E-09	<5.26E-09	<6.59E-09	<4.74E-09	<5.79E-09

TABLE 3-2. SUMMARY OF SOURCE EMISSION TESTS - BENZENE

Unit Tested: UTS - Petro Lewis Cogeneration Plant Location: HRSG Stack

Test Number	1	2	3
Date	05/23/90	05/24/90	05/25/90
Test Condition	9 MW	9 MW	9 MW
Barometric Pressure (in. Hg)	29.35	29.58	29.46
Stack Pressure (in. Hg)	29.25	29.48	29.36
Stack Area (ft^2)	19.47	19.47	19.47
Elapsed Sampling Time (min.)	240.0	240.0	240.0
Volume Gas Sampled (dscf)	~0.2119	~0.2119	~0.2119
F-Factor	8424.74	8424.74	8424.74
GAS DATA			
Average Gas Velocity (fps)	94.7	93.4	94.3
Average Gas Temperature (°F)	377.1	381.2	380.0
Gas Flowrate (dscfm)	62,628	62,330	62,844
Gas Analysis (Dry % Basis)			
Carbon Dioxide	3.79	3.77	3.79
Oxygen	15.26	15.51	15.47
Water	8.20	7.70	7.60

BENZENE

Run #	ppb	lb/hr	lb/MMBtu
1	<2	<1.52E-03	<1.27E-05
2	<2	<1.52E-03	<1.33E-05
3	<2	<1.53E-03	<1.31E-05
AVG	<2	<1.52E-03	<1.30E-05

TABLE 3-3. SUMMARY OF SOURCE EMISSION TESTS - FORMALDEHYDE

Unit Tested: UTS - Petro Lewis Cogeneration Plant Location: HRSG Stack

Test Number	1	2	3
Date	05/23/90	05/24/90	05/25/90
Test Condition	9 MW	9 MW	9 MW
Barometric Pressure (in. Hg)	29.35	29.58	29.46
Stack Pressure (in. Hg)	29.25	29.48	29.36
Stack Area (ft^2)	19.47	19.47	19.47
Elapsed Sampling Time (min.)	360.0	360.0	360.0
Volume Gas Sampled (dscf)	10.593	10.736	10.902
F-Factor	8424.74	8424.74	8424.74
GAS DATA			
Average Gas Velocity (fps)	94.9	93.4	93.8
Average Gas Temperature (°F)	377.9	381.0	380.4
Gas Flowrate (dscfm)	63,092	62,463	63,898
Gas Analysis (Dry % Basis)			
Carbon Dioxide	3.79	3.77	3.79
Oxygen	15.26	15.51	15.47
Water	7.60	7.50	5.50

FORMALDEHYDE

Run #	ppm	lb/hr	lb/MMBtu
1	1.02E-01	3.00E-02	2.47E-04
2	5.80E-02	1.69E-02	1.48E-04
3	3.90E-02	1.16E-02	9.84E-05
AVG.	6.62E-02	1.95E-02	1.64E-04
Blank Train	3.43E-01	1.01E-01	8.57E-04

SECTION 4

SAMPLING EQUIPMENT AND PROCEDURES

This section of the report describes the Air Toxics Hot Spots test equipment and procedures.

Benzene was collected in a manner similar to CARB Method 410, but a Summa electropolished 316 stainless steel canister was used in place of a Tedlar bag. The internals of these canisters are extremely smooth and offer numerous advantages:

- Blanks are very consistent and very low (<1 ppb) compared with much higher Tedlar bag blanks
- No artifact formation (e.g., outgassing from Tedlar bag)
- Easy to use and virtually leak-free
- No sample degradation from exposure to sunlight or loss of sample due to bag seam failure

Aldehydes (including formaldehyde) were determined using CARB Method 430. PAH was measured using CARB Method 429 and a modified Method 5 (MM5) sampling train which utilized XAD-2 resin to trap organics. Finally, CARB Method 1-100 was used to continuously monitor the criteria pollutants emitted from the HRSG. The analyzers were housed in a clean, air-conditioned trailer which also served as the sample recovery area for the sampling trains.

The following sections describe each measurement in detail.

4.1 PRELIMINARY MEASUREMENTS

Before conducting the stack tests a series of preliminary measurements were made to determine:

- The location of the sampling site and the number and location of the sampling points to be used (CARB Method 1-1)
- The velocity, temperature, and pressure of the gases in the stack (CARB Method 1-2)
- The composition of the stack gases (CARB Method 1-100)
- The moisture content of the stack gases (CARB Method 1-4)

Using the results of these preliminary measurements and the calibration constants for the sampling train, a series of calculations were made to determine the value of K, a constant, and N_d, ideal nozzle diameter, required to run an isokinetic test according to the equation:

$$\Delta H = \left\{ \frac{60^2 \pi^2 K_p^2 C_p^2 (1 - B_{wo})^2 P_s MW_d}{576^2 K_o^2 MW_s P_m} \right\} (N_d^4) \left(\frac{T_m}{T_s} \right) (\Delta P)$$

where

$$K = \left\{ \frac{60^2 \pi^2 K_p^2 C_p^2 (1 - B_{wo})^2 P_s MW_d}{576^2 K_o^2 MW_s P_m} \right\}$$

An actual nozzle, whose diameter was as close as possible to the ideal nozzle diameter, was selected for the test. Isokinetic sampling rates for each sampling point in the stack were computed using the equation:

$$\Delta H = (K)(N_d^4)\left(\frac{T_m}{T_s}\right)(\Delta P)$$

Since K and N_d are known, and remain constant during a test, the only variables are the meter temperatures, the stack gas temperature and the velocity pressure for each sampling point.

4.2 ALDEHYDE SAMPLING PROCEDURES

4.2.1 Preparation of the Aldehyde Sampling Train

All sampling train components were cleaned in the laboratory (soap and water, tap water rinse, distilled water rinse, acetonitrile rinse) to eliminate previous contamination. The sampling train components were sealed and transported to the sampling site. The CARB Method 430 equipment and procedures used to measure aldehydes consisted of:

- A 316 stainless steel sampling nozzle
- A heated Pyrex glass probe (6 feet long) equipped with a S-type pitot tube and a thermocouple to measure stack velocity, pressure and temperature
- A Pyrex glass midget impinger train in an icebath (impinger 1 was empty; impingers 2, 3 and 4 contained 15 ml DNPH; bubbler 5 was dry; bubbler 6 contained a weighed amount of silica gel)
- An umbilical to connect the probe and sample box to the control module
- A control module containing a vacuum pump, a rotameter and a calibrated dry gas meter to measure the pressure, temperature and flowrate throughout the train.

The sampling train was charged using freshly prepared reagents (within 48-hours). Each impinger and its contents was weighed to the nearest 0.1 gm on a calibrated electronic balance. Blanks of all reagents were retained for subsequent analysis. A blank sample train was treated in the same manner.

4.2.2 Sampling Procedures for the Aldehyde Sampling Train

Prior to a test, the sampling train was heated and leak-checked at 15 inches Mercury to insure leakage was less than 0.002 cfm. The S-type pitot tube was also leak-checked. The sampling train was installed on the unirail and the probe was inserted into the stack at the farthest point. A constant sampling rate (0.5 to 1.0 lpm) was calculated using an HP-41CV calculator for each sampling point on the traverse (12 points per traverse; 2 traverses at 90°). Each point (24) was sampled for an equal period of time (15 minutes) and all pertinent data was recorded on the data sheet for each point at 5-minute intervals over the 6-hour test period. The probe and sample box were maintained at 250°F throughout the traverse. The gases leaving the impinger train were maintained at <68°F. At the end of a traverse, the probe was withdrawn from the stack and the entire sampling train was transferred intact to the next sampling port. The remaining traverses of the stack were completed and the sampling train was withdrawn for the final leak check. This leak check was performed at 15 inches Mercury or at the highest vacuum achieved during the test. The S-type pitot tube was also checked at this time. The probe, nozzle, filter bypass, connector and impinger train were sealed with aluminum foil and lowered to the ground for sample recovery.

4.2.3 Sample Recovery Procedures for the Aldehyde Sampling Train

Sample recovery occurred in the mobile lab. Each impinger was removed from the icebath, wiped dry and weighed to the nearest 0.1 gm. The nozzle, probe, filter bypass and glass connector were rinsed with 100 ml of distilled water. Impingers 1, 2, 3 and 4 and the glass connectors were rinsed with distilled water and the rinsings were transferred to the same glass sample bottle. All sample bottles were marked, labeled and stored on ice. A chain-of-custody log was completed and the field data sheet was also labeled with the sample ID numbers. The sampling train was then recharged in preparation for the next test. The blank sample train was treated in the same manner.

4.3 VOLATILE ORGANIC COMPOUNDS SAMPLING PROCEDURES

4.3.1 Sampling Train Preparation for Volatile Organic compounds (VOC)

VOC included benzene. The Summa electropolished stainless steel canister (6 liter) used to collect the VOC was thoroughly cleaned prior to use in the field. The container was put in an oven and heated to drive off any organic contamination. Ultra-pure nitrogen was used to purge the canister during the heating step to remove any contamination. After completing the canister cleaning, a sample of the purge gas was collected and analyzed for hydrocarbon to determine the blank for the canister. The canister was then evacuated and sealed for shipment to the field.

4.3.2 Sampling Procedures for Volatile Organic Compounds (VOC)

A 1/8-inch stainless steel probe was connected to the flow regulator on the Summa electropolished stainless steel canister. An integrated grab sample of the exhaust gases was collected at a constant

sampling rate over the 4-hour test period. The canister was then sealed for shipment back to the laboratory.

4.4 PAH SAMPLING PROCEDURES

4.4.1 Sampling Train Preparation for PAH

All the sampling train components were cleaned in the laboratory (soap and water, tap water rinse, distilled water rinse, methanol rinse, toluene rinse, and methylene chloride rinse) to eliminate previous contamination. The XAD-2 resin was extracted in a Soxhlet using distilled water for one hour, fresh distilled water for an additional 8-hours, methanol for 22-hours, methylene chloride for 22-hours and fresh hexane for an additional 22-hours. The sampling components were sealed and transported to the sampling site in a mobile lab. The modified Method 5 equipment (CARB Method 429) used to measure PAH consisted of:

- A calibrated Pyrex nozzle for isokinetic sampling
- A heated Pyrex glass probe (6 feet long) equipped with an S-type pitot tube and a thermocouple to measure stack velocity pressure and temperature
- A heated Pyrex glass filter holder containing a untared 100-mm Whatman 934 AH glass fiber filter
- A Teflon line to connect the outlet of the filter holder to the inlet of the XAD-2 resin trap
- An XAD-2 resin trap containing approximately 40 grams of resin cooled to <60°F
- A Pyrex glass impinger train in an icebath (bubbler 1 had a short stem and was empty; bubbler 2 contained 100 ml of distilled water; bubbler 3 was empty; bubbler 4 contained 300 gm of silica gel)

- An umbilical to connect the probe and sample box to the control module
- A control module containing a vacuum pump, a calibrated dry gas meter and calibrated orifice meter to measure the pressure, temperature and flowrate throughout the train.

Figures 4-1 and 4-2 illustrate the PAH sampling train. All sample exposed glassware was rinsed with methylene chloride just prior to use.

The sampling train was charged in the mobile lab using freshly prepared reagents. Each impinger and its contents was weighed to the nearest 0.1 gm on a calibrated electronic balance. Blanks of all filters, resin, and reagents were retained for subsequent analysis. The sampling point locations were marked on the probe using a high-temperature marker. The sampling train was completely assembled and lifted to the sampling site. A blank sampling train was treated in the same manner.

4.4.2 Sampling Procedures for PAH Sampling Train

Prior to a test, the sampling train was heated and leak-checked at 15-inches Mercury to insure leakage is less than 0.02 cfm. The S-type pitot tube was also leak-checked. The sampling train was installed on the unirail and the probe was inserted into the stack at the farthest point. An isokinetic sampling rate was calculated using an HP-41CV calculator for each sampling point on the traverse (12 points per traverse; 2 traverses at 90°). Each point (24) was sampled for an equal period of time (15 minutes) and all pertinent data was recorded on the data sheet every 5 minutes for each point over the 6-hour test period. The probe and sample box were maintained at 250°F throughout the

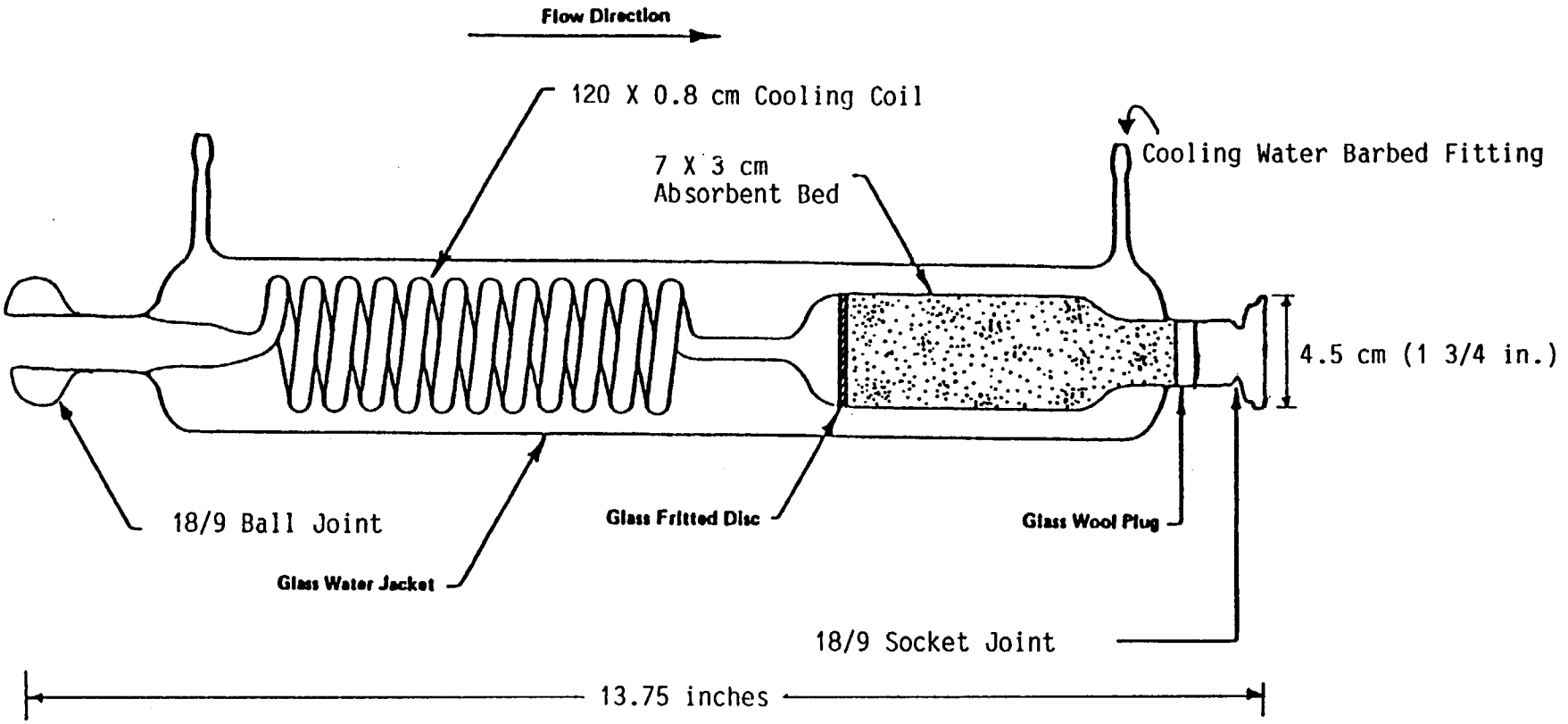


FIGURE 4-1. GLASS XAD-2 RESIN TRAP

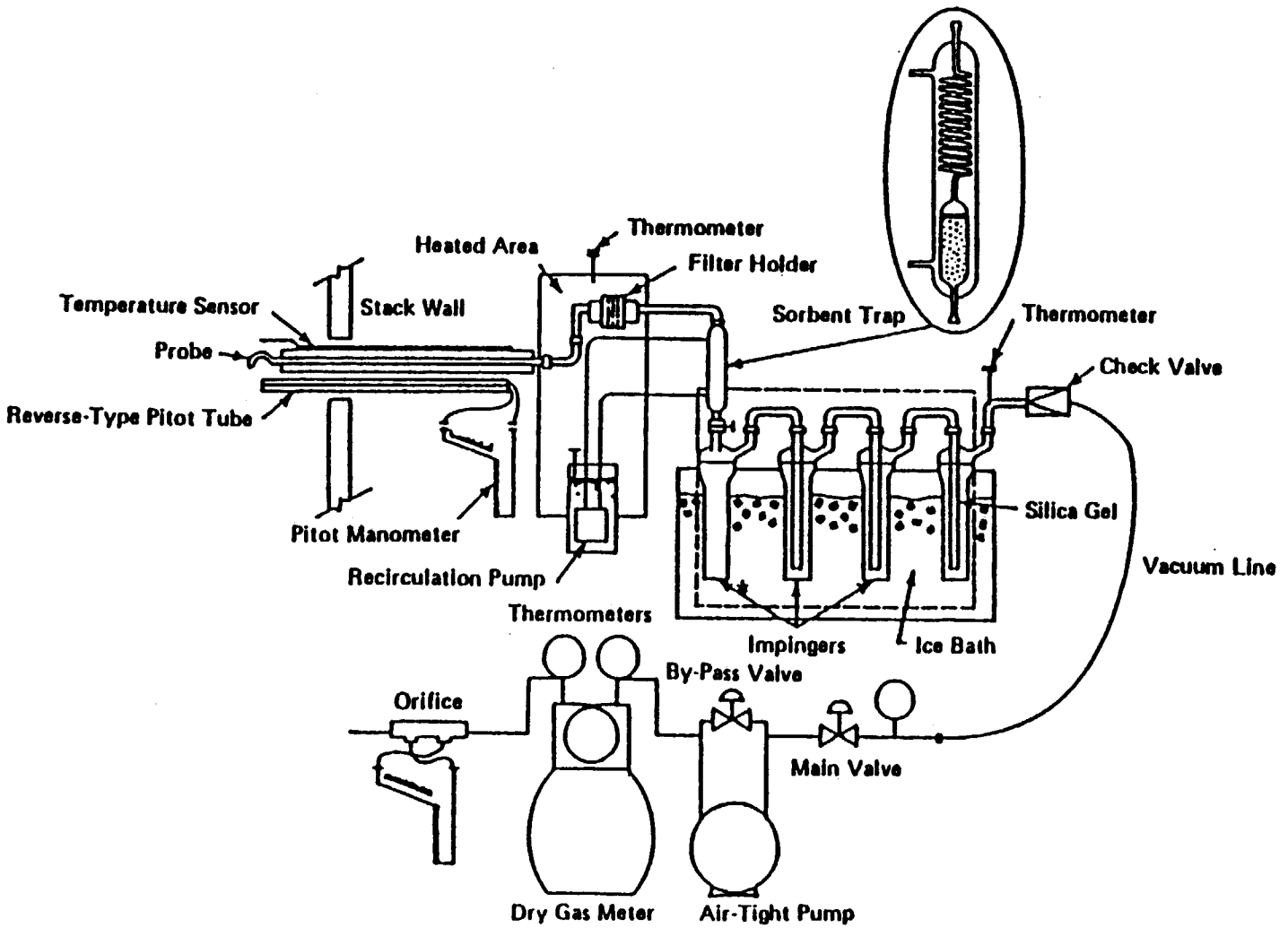


FIGURE 4-2. MODIFIED METHOD 5 TRAIN (MM5)

traverse. The XAD-2 resin was maintained at <60°F. The gases leaving the impinger train were maintained at <68°F. At the end of the traverse, the probe was withdrawn from the stack and the entire sampling train was transferred intact to the next sampling port. The remaining traverses of the stack were completed and the sampling train was withdrawn for the final leak check. This leak check was performed at 15-inches Mercury or at the highest vacuum achieved during the test. The S-type pitot tube was also checked at this time. The probe, nozzle, filter holder, resin trap, and impinger train were sealed with hexane-rinsed aluminum foil and lowered to the mobile lab for sample recovery. The blank sampling train was treated in the same manner.

4.4.3 Sample Recovery Procedures for PAH Sampling Train

Figure 4-3 illustrates the sample recovery procedures for the various components of the trace organic (PAH) sampling train. All samples were sealed, labeled and stored on ice. The blank sampling train was treated in the same manner.

4.5 SAMPLING PROCEDURES FOR CONTINUOUS MONITORING

The continuous monitors used in the Pape & Steiner Mobile Monitoring Lab are shown in Table 4-1. Figure 4-4 is a schematic of the continuous monitoring system. The procedures used to continuously monitor stack gases for NO_x, O_2, CO, and CO_2 strictly follow CARB Method 1-100.

Sample was taken from the stack (at a single point) using a 316 stainless steel probe. A heated Balston filter holder and fiberglass filter (99.9999 percent efficiency retention of 0.6 micron particles) was connected to the outlet of the probe. Sample gas was transported through

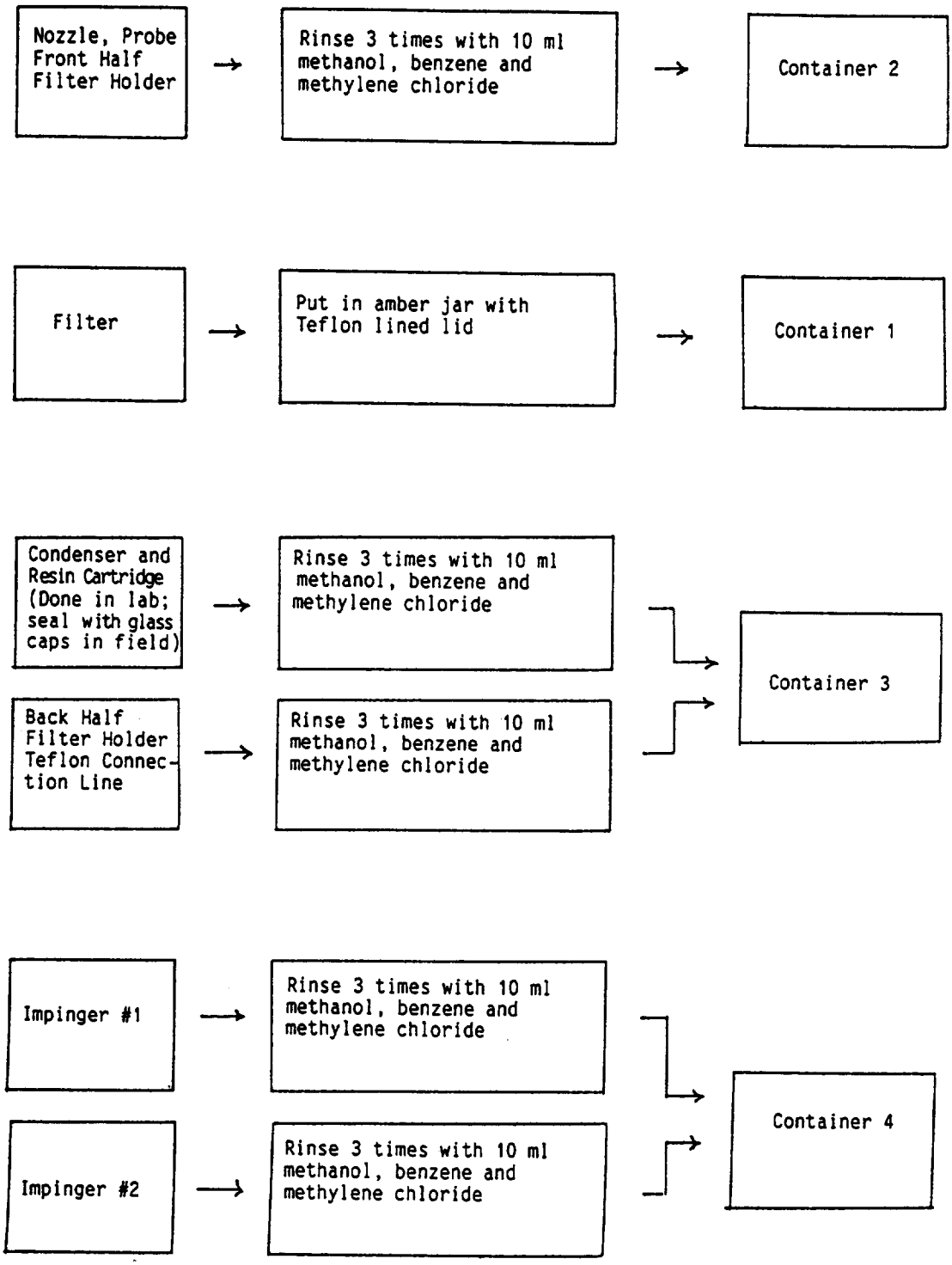


FIGURE 4-3. MM5 SAMPLE TRAIN RECOVERY PROCEDURES

TABLE 4-1 . CONTINUOUS MONITORING LAB - TRAILERS 1, 2, AND 4

NO_x CHEMILUMINESCENT ANALYZER -- THERMO ELECTRON MODEL 10

Response Time (0-90%)	1.5 sec -- NO mode; 1.7 sec -- NO_x mode
Zero Drift	Negligible after 1/2 hour warmup
Linearity	±1% of full scale
Accuracy	Derived from the NO or NO_2 calibration gas, ±1% of full scale
Output	0-10 V
Operating Ranges	0-2, 5, 10, 25, 100, 250 ,1000, 2500, and 10,000 ppm

O_2 ANALYZER, FUEL TYPE -- TELEDYNE MODEL 326

Response Time (0-90%)	60 seconds
Accuracy	±1% of scale at constant temperatures; ±1% of scale of ±5% of reading, whichever is greater, over the operating temperature range
Output	0-1 V
Operating Ranges	0-5%, 10%, 25% O_2

CO_2/CO INFRARED ANALYZER -- ANARAD MODEL AR-600

Response Time (0-90%)	5 seconds
Zero Drift	±1%
Span Drift	±1%
Linearity	1%
Resolution	Less than 1% of full scale
Output	0-1 V
Operating Ranges	0-20% CO_2/0-10,000 ppm CO

CO GAS FILTER CORRELATION - THERMO ELECTRON MODEL 48

Response Time (0-95%)	1 minute
Zero Drift	±0.2 ppm CO
Span Drift	Less than 1% full scale in 24 hours
Linearity	±1% full scale, all ranges
Accuracy	±0.1 ppm CO
Output	0-10V
Operating Ranges	1, 2, 5, 10, 20, 50 ,100, 200, 500, 1000 ppm

SO_2 UV ANALYZER -- DUPONT MODEL 400

Response Time (0-90%)	Less than 1 second
Zero Drift	Less than 1% full scale in 24 hours
Linearity	±1% full scale
Accuracy	±2% full scale
Output	0-5 V
Operating Ranges	0-100 ppm, 0-1000 ppm

STRIP CHART RECORDERS (3) -- MOLYTEK MODEL 2800

Pen Response	0.75 seconds Full Scale
Input Spans	10, 20, 50, 100 MV; 1, 5, 10 VDC
Zero Set	LH standard, adjustable to 100% of Full Scale
Accuracy	±0.25% of Span
Dead Band	±0.15% of Span
Linearity	±0.25% of Span
Chart Speed	0.5, 1, 2, 3, 6, 12 inches/hour; 0.5, 1, 2, 4, 10 inches/minute
Recording Pen	Fiber tip cartridge
Chart Width	10 inches

SCOTSMAN TRAILER

Fully Insulated	Air conditioned	8-ft x 14-ft x 11-ft

1. Filter 0.6 μ, 99.9999 percent efficient
2. Duct
3. 316 stainless steel probe
4. 3/8-inch, heated (250°F) Teflon
5. Four-pass conditioner-dryer, 316 stainless steel internals
6. 3/8-inch, unheated Teflon
7. Teflon-lined sample pump
8. 3/8-inch unheated Teflon
9. Rotameter
10. 1/4-inch Teflon tubing
11. Calibration gas manifold
12. Calibration gas selector valve
13. Calibration gas cylinders
14. Backpressure regulator
15. Auxiliary analysis port

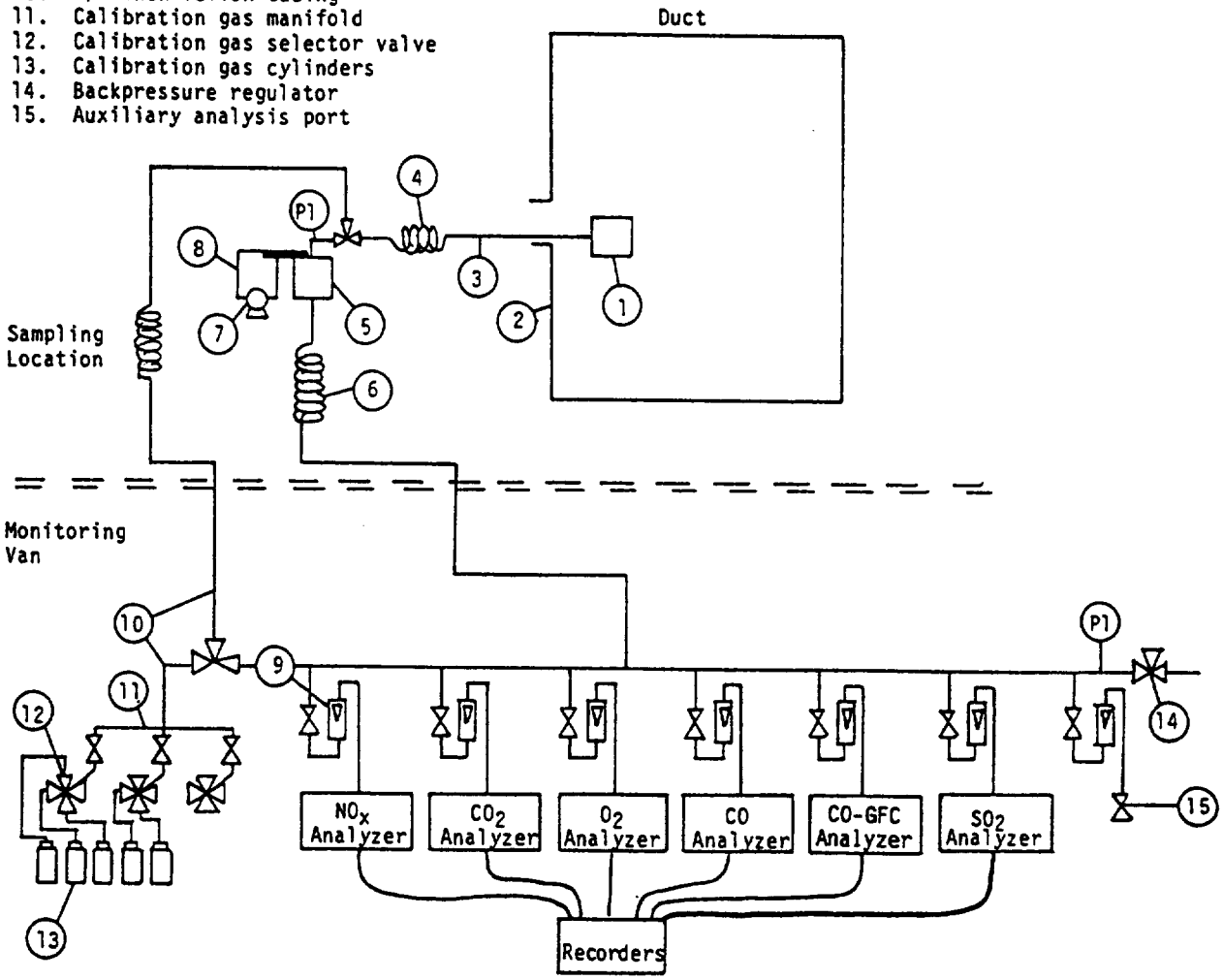


FIGURE 4-4. SCHEMATIC OF CONTINUOUS MONITORING SYSTEM

heated Teflon sample line (maintained at >250°F) by a Teflon-lined diaphragm pump to a 316 stainless steel refrigeration type conditioner (Hankison Model E-4G-SS). The sample gas was passed through the conditioner two separate times under vacuum before entering the pump, then two additional times under pressure. The clean, dry sample gas (~35°F) was then transported to the continuous analyzer system through an unheated Teflon line. A series of flowmeters, valves, and regulators maintain constant flow through the system at a constant pressure.

Calibrations of the continuous analyzers were performed using EPA Protocol 1 calibration gases (±1%) for NO_x and NBS certified calibration gases (±1%) for CO, CO_2 and O_2. Copies of the gas certifications are included in the Appendix of this report. All pertinent data (date, time, test locations, analyzer range, cal gas value) were recorded on both the field data sheets and continuous analyzer strip charts in the field.

At the start of a test day, a leak-check was performed. The sample probe was removed from the stack and the end was sealed. A leak-check was successful only if pressure at the analyzer system and flow through the rotameters to the individual analyzers all dropped to zero. A mandatory leak-check was performed at the completion of each test day.

An initial calibration was performed at the start of a test period by introducing zero and span gases for each analyzer and making the necessary adjustments. Calibration gas values were recorded on the continuous monitor strip charts and field data sheets. A calibration check was completed at the end of a test and adjustments (if necessary) to the analyzers were made in preparation for another test.

An external calibration of the sampling system was performed at the start of a test day. EPA Protocol 1 gas was flowed through the entire sampling system from the probe tip. The response of the analyzers had to be within ±5% of the certified tank value before testing could proceed. An external calibration was also performed at the end of each test day.

Test data was collected by recording 15-minute averages from the strip chart recordings onto the field data sheets. Data collected over the test period was averaged and reported.

SECTION 5

ANALYSIS PROCEDURES

This section of the report describes the procedures used to analyze the samples to be collected during the test program. ENSECO Labs in Sacramento, California performed the formaldehyde and benzene analyses. Triangle Labs in Research Triangle Park, North Carolina performed the PAH analysis.

5.1 ANALYSIS OF ALDEHYDES

Aldehydes react with DNPH by nucleophilic addition to the carbonyl radical followed by 1,2-elimination of water and the formation of the 2,4-dinitrophenylhydrazone. Acid is required to promote protonation of the carbonyl radical because DNPH is a weak nucleophile.

After organic solvent extraction, the DNPH-aldehyde derivatives were separated using reverse phase HPLC and detected with an ultraviolet (UV) adsorption detector operated at 360 nm.

Aldehydes in the sample were identified and quantified by comparison of retention times and area counts, respectively, with those of standard samples.

A blank solution of the DNPH impinger absorption solution was treated in the same manner.

5.2 ANALYSIS OF VOLATILE ORGANIC COMPOUNDS

A sample of the VOC gases contained in the 6-liter Summa canister was metered through a mass flow controller into a cryogenically-cooled trap with a temperature control assembly (Nutech Model 320-01). After 500 ml of the sample had been trapped, a valve was switched and the trap was rapidly heated (-160°C to 120°C in 60 seconds) to purge the trap's contents onto the GC column (OV-1 capillary column, 0.53 mm X 50 m with 0.88 μm crosslinked methyl silicone coating). The individual VOCs were separated by the GC (HP Model 5890 with temperature programming and jet separator option) and measured by the mass selective detector (HP Model 5970B with HP-1000 RTE-A data system) within a preselected range of atomic mass units (amu). A library search was then performed to identify the compounds eluted from the GC.

An initial calibration curve consisting of three standards was run in the linear working range of the instrument. Each day, the mass spectrometer had to meet the tuning criteria described in Table 4 of EPA Compendium Method TO-14. After tuning, a single point check standard was analyzed. Ninety percent of the target compound concentrations had to be within +30% of the three-point calibration curve. If the check standard failed to meet this criterion, a new three-point calibration curve was run. This daily, one-point check standard was used to calculate the concentration of the samples.

5.3 ANALYSIS OF PAH

Figure 5-1 is a flowchart describing the sample extraction, sample cleanup and sample analysis by GCMS.

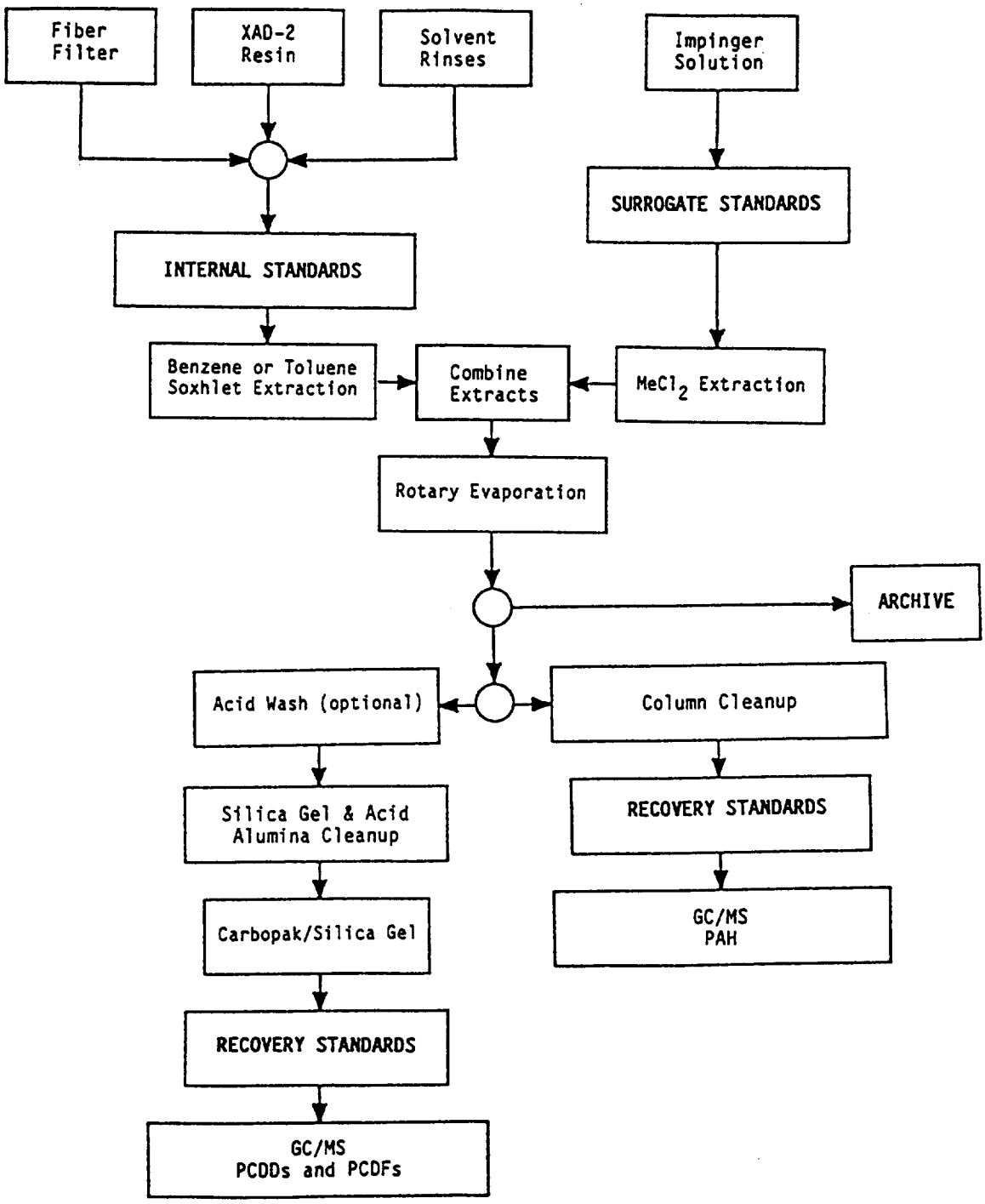


Figure 5-1. Flow Chart for Extraction, Cleanup and Analysis of Dioxin/PAH

5.4 FUEL GAS ANALYSIS

A sample of the fuel fired during this test program was collected and sent to Pacific Gas Technology for analysis. Analysis was performed by PGT in accordance with EPA Title 40 Section 60.45. The specific procedures are itemized in Table 5-1. The results appear at the end of this section.

TABLE 5-1. FUEL ANALYSIS METHODS

LABORATORY TEST PROCEDURES FOR FUEL OILS AND FUEL GASES

Reference: EPA Title 40, Section 60.45

FUEL OIL TESTS:	
Sediment and Water, Vol. %	ASTM D4007-81
Gravity by Hydrometer (API)	ASTM D1298-80
API Gravity Corrected to 60°F	ASTM Table 5A
Gross Calorific Value (Btu/lb)	ASTM D2015-77
Ultimate Analysis (C, H, O, N, S, wt. %)	
Carbon, Hydrogen	ASTM D3178-73
Nitrogen (chemiluminescence detector)	ASTM D3431-80
Sulfur	ASTM D2622-82
Ash	ASTM D482
Oxygen	ASTM D3176-74
GASEOUS FUELS BY GAS-LIQUID CHROMATOGRAPHY:	
Gas Analysis	ASTM D1945-81
Sulfur Analysis	CPA B16
Calculation of Gross Calorific Value	ASTM D3588-81
Component Weight %, F-factor calculations	EPA 40:60.45
PROCEDURES FOR SCRUBBER LIQUOR ANALYSIS:	
Specific Gravity	ASTM D1429
Chlorides	ASTM D512-67

PACIFIC GAS TECHNOLOGY

4700 Easton Drive - Suite 39
Bakersfield, California 93309
805/324-1317
Fax: 805/324-2746

GAS ANALYSIS BY CHROMATOGRAPH

PAPE & STEINER ENVIRONMENTAL SERVICES
5801 Norris Road
Bakersfield, CA 93308

Attention: Jim Steiner

RECEIVED
JUN 04 1990
Ans'd.....

SAMPLED: MAY 24, 1990
SUBMITTED: MAY 25, 1990
REPORTED: MAY 29, 1990
LAB # 2817

Sample ID : UNIVERSITY TECHNICAL SERVICES
PETRO LEWIS COGEN
FUEL GAS

P&S ID # : 23127

ANALYZED GAS	MOLE %	WT %
OXYGEN	ND	0.00
NITROGEN	0.01	0.01
CARBON DIOXIDE	17.58	29.09
HYDROGEN	ND	0.00
CARBON MONOXIDE	ND	0.00
HYDROGEN SULFIDE	ND	0.00
METHANE	63.19	38.11
ETHANE	6.62	7.48
PROPANE	7.35	12.19
iso-BUTANE	0.86	1.88
n-BUTANE	2.67	5.84
iso-PENTANE	0.42	1.14
n-PENTANE	0.47	1.28
HEXANE +	0.83	1.10

CHONS WT %	
CARBON	63.29
HYDROGEN	15.54
OXYGEN	21.16
NITROGEN	0.01
SULFUR	0.00

SPECIFIC GRAVITY * : 0.918

SPECIFIC VOLUME : 15.00 cu ft/lb

HYDROGEN SULFIDE : 6 ppm
(Draeger) (P & S # : 23126)

TOTAL * BTU/cu ft DRY : 1137
WET : 1117

BTU/lb : 17053

NET * BTU/cu ft DRY : 1033
WET : 1015

BTU/lb : 15497

* CALCULATED ACCORDING TO : ASTM D-3588

SECTION 6

QUALITY ASSURANCE

6.1 MANUAL SAMPLING EQUIPMENT

A detailed record of repair and maintenance to each sampling train is kept. Preventative maintenance to each system is performed periodically to avoid complete component breakdown during a field test.

A detailed record of sampling system calibrations is also kept. Calibration data for the sampling nozzles, pitot tubes, dry gas meters and orifice meters are available for review. Results of the EPA Quality Assurance Branch biannual audits of the dry gas meter and orifice meter combinations are also logged and verify our in-house calibration data. The calibration data for the equipment used on this program can be found in the Appendix.

6.2 LAB ANALYSIS

All field samples are assigned a label and an ID number. This ID is also affixed to a chain-of-custody log and to the field data sheet to eliminate any chance of sample mixup.

Prior to analysis, all glassware is thoroughly cleaned (soap and water, tap water rinse, distilled water rinse, IPA rinse) to eliminate any contamination. The evaporating dishes used to evaporate the washings are treated the same as a sample (dried in an oven, desiccated and weighed repeatedly at 6-hour intervals until a constant weight is

achieved). The glassware used to measure volumes and make transfers and dilutions are all NBS Class A to insure accurate measurements. All weighings are carried out on a Sartorius Research Model R160P electronic semi-micro balance supported by a marble table in a separate room from the main analytical laboratory. The balance is calibrated regularly against an NBS Class S-1 weight.

All reagents used in the field and in the laboratory are ACS reagent grade and blanks of these reagents are evaluated for every set of tests. Blanks are taken in the field from the squeeze bottles and not the original container. Records are kept on these blanks to insure consistent quality of the reagents.

A quality control program consisting of duplicate analyses (to measure precision), spikes (to measure recovery efficiency) or analysis of blind standards supplied by EPA's Quality Assurance Branch (to measure accuracy) is implemented for each test program.

6.3 ALDEHYDE ANALYSIS

Prior to shipping the DNPH to the test site, Enseco purified the DNPH and checked it for contamination. Enseco evaluated a method blank, spiked a laboratory control sample (LCS) twice to determine percent recovery and repeatability for the analyses, and evaluated a sampling train blank. The results of the QA/QC checks appear in Appendix B.

6.4 VOC ANALYSIS

A laboratory control sample (LCS) was analyzed after the check standard. This sample consisted of five target VOCs prepared in a separate canister at a concentration that differed from that of the check standard. Five compounds were used to assess control for the LCS:

methylene chloride, 1,1-dichloroethene, trichloroethene, toluene and 1,1,2,2-tetrachloroethane. The percent recovery for the five control compounds must be within a window of 80-115%.

For each lot of 20 samples analyzed, a duplicate control sample (DCS) was analyzed after the LCS. The DCS was identical to the LCS in composition and source. The 80-115% recovery criterion had to be met. In addition, the relative percent difference (RPD) for the LCS and DCS had to be <20%.

A system blank of the HC-free air was analyzed after the LCS and DCS. The blank results had to indicate that there were no target compounds present above the minimum detection level.

The results of these checks appear in Appendix B.

6.5 PAH

The XAD-2 resin was cleaned and blanked prior to use in accordance with the current CARB Method 429 cleanup procedures. It should be noted that benzene is one of the solvents recommended for cleanup. Benzene is no longer available so toluene was substituted. Despite the fact that the best grade of toluene was purchased, trace amounts of some of the listed PAHs were found in the toluene. Trace amounts of some of the listed PAHs also remained on the resin. The current XAD-2 cleaning procedure specified by the CARB Method is inadequate. Triangle Labs is petitioning CARB to remove toluene from the cleanup scheme for PAH and to increase the severity of the resin cleaning scheme to minimize PAH background interference.

The XAD-2 resin was spiked prior to use in the field to determine the percent recovery for the sampling portion of these tests. Internal

standard spikes were made at various stages of the analytical scheme to determine the recovery efficiency for the analytical portion of the test. Finally, an entire sampling train blank was also evaluated. The results of these QA/QC checks appear in Appendix C.

6.6 CONTINUOUS MONITORS

The NO_x analyzer is calibrated before and after each test using an EPA Protocol 1 gas (±1%) traceable to NBS. The CO, CO_2, and O_2 analyzers are calibrated before and after each test using a NBS certified gas mixture (±1%). Copies of the calibration gas certificates appear in the Appendix of this report.

A sampling system check was performed at the beginning and end of each test day. This was done by introducing an EPA Protocol 1 gas at the sampling probe and measuring the system response. The purpose of this was to check the system for leaks and sample loss.

Multipoint calibration linearity checks of the continuous analyzers were performed on January 4-5, 1990. These results were well within CARB limitations of ±2% of full scale. Tables 6-1 through 6-6 list the results of these checks.

Pape & Steiner Environmental Services

TABLE 6-1.

NO_x CALIBRATION SUMMARY

1. Station T-2

2. Analyzer TECO NOX
   Model 10AR S/N 5816-103-5
3. Calibration by JP Date 1/4/90
4. Calibrator Manufacturer ENVIRONICS
   Model 201-1520 S/N 1122
5. NO_x Standard ALM 2355 / ALM 2882 / AAL 21149 Concentration 8805 ppm / 2973 ppm / 80.72 ppm
   Cylinder Pressure 1650 PSI / 1600 PSI / 1100

NO_x CALIBRATION AND LINEARITY CHECKS

0 - 1000 ppm Range

Calibration Points	1 Flow, Dil. cc/min	2 Flow, Std cc/min	3 $(NO_x)_{ppm}$ out	4 Chart ppm	% Difference + 2% Full Scale
Zero	9000	-	0	0	0
80% URL	8193.4	817.8	799.0	799.0	0
1	8395.6	613.3	599.4	605	+.56%
2	8597.9	409	400	409	+.9%
3	8800.6	205	200.4	210	+.96%

0-100 ppm Range

Calibration Points	1 Flow, Dil. cc/min	2 Flow, Std cc/min	3 $(NO_x)_{ppm}$ out	4 Chart ppm	% Difference + 2% Full Scale
Zero	9000	—	0	0	0
80% URL	8765.1	242.8	80	80	0
1	8825.0	182.1	60.1	61	+.9%
2	8887.5	121.6	40.1	41	+.9%
3	8944.8	61.2	20.2	22	1.8%

Cross check Bottle # AAL 21149 Conc: 80.72 ppm
Reading = 81.8 ppm % F. Scale =

Forms 1.20 03/20/89

TABLE 6-1. (CONCLUDED)

NO_x CALIBRATION AND LINEARITY CHECKS

0-25ppm Range

Calibration Points	Flow, Dil. 1 cc/min	Flow, Std 2 cc/min	3 $(NO_x)_{out}$ ppm	4 Chart ppm	% Difference + 2% Full Scale
Zero		—	0	0	0
80% URL	3013.1	990.7	20	20	0
1	3262.8	743.7	15	15.25	+1%
2	3510	495.6	10	10.33	+1.32%
3	3757	248.2	5.0	5.35	+1.4%

Pape & Steiner Environmental Services

TABLE 6-2.

SO_2 CALIBRATION SUMMARY

1. Station T-2

2. Analyzer DuPONT SO_2
   Model 400 S/N 6328
3. Calibration by JP Date 1-5-90
4. Calibrator Manufacturer ENVIRONICS
   Model 201-1520 S/N 1122
5. SO_2 Standard AAL-9414 Concentration 5172 ppm
   Cylinder Pressure 1700 PSI

SO_2 CALIBRATION AND LINEARITY CHECKS

0-1000 ppm Range

Calibration Points	Flow, Dil. 1 cc/min	Flow, Std 2 cc/min	3 $(SO_2)_{ppm}$ out	4 Chart ppm	% Difference + 2% Full Scale
Zero	1000	—	0	0	0
80% URL	192.1	822.9	786.1	786.1	0
1	391.8	617.4	593.1	611	+1.79%
2	1300.5	905.3	398.9	410	+1.11%
3	1752.4	453.2	199.9	211	+1.11%

0-100 ppm Range

Calibration Points	Flow, Dil. 1 cc/min	Flow, Std 2 cc/min	3 $(SO_2)_{ppm}$ out	4 Chart ppm	% Difference + 2% Full Scale
Zero		—	0	0	0
80% URL	9089.7	813.8	79.88	79.88	0
1	9294.4	610.6	59.52	60.9	+.98%
2	9499.1	407.3	39.97	41.7	+1.73%
3	9701.3	204	20.02	21.6	+1.58%

Forms 1.18 03/20/89

Pape & Steiner Environmental Services

TABLE 6-3.

CO_2 CALIBRATION SUMMARY

1. Station T-2

2. Analyzer ANARAD CO_2
   Model AN 602 S/N 1793
3. Calibration by [signature] Date 1-5-90
4. Calibrator Manufacturer ENVIRONICS
   Model 201-1520 S/N 1122
5. CO_2 Standard AAL-799 Concentration 20%
   Cylinder Pressure 1000 PSI

CO_2 CALIBRATION AND LINEARITY CHECKS

0 - 20% RANGE

Calibration Points	Flow, Dil. 1 cc/min	Flow, Std 2 cc/min	3 $(CO_2)_{out}$ %	4 Chart %	% Difference + 2% Full Scale
Zero	1000	—	0	0	0
80% URL	214.5	798.8	15.87	15.77	0
1	409.3	599.2	11.68	12.2	+1.6%
2	609	399.5	7.92	8.26	+1.7%
3	806.2	200.1	3.98	4.32	+1.7%

Forms 1.19 03/20/89

Pape & Steiner Environmental Services

TABLE 6-4.

CO CALIBRATION SUMMARY

1. Station T-2
2. Analyzer ANARAD CO
   Model AR 602 S/N 1793
3. Calibration by [illegible] Date 1-5-90
4. Calibrator Manufacturer ENVIRONICS
   Model 201-1520 S/N 1122
5. CO Standard AAL-5660 Concentration 9942 PPM
   Cylinder Pressure 1450 PSI

CO CALIBRATION AND LINEARITY CHECKS

0 - 10,000 PPM RANGE

Calibration Points	Flow, Dil. 1 cc/min	Flow, Std 2 cc/min	3 $(CO)_{out}$ ppm	4 Chart ppm	% Difference + 2% Full Scale
Zero	1000	—	0	0	0
80% URL	214.5	804.2	7848	7648	0
1	411.8	602.9	5907	5900	-.07%
2	606.5	402.4	3955	4112	+1.57%
3	808.7	201.6	1982	2140	+1.58%

Calibration Points	Flow, Dil. 1 cc/min	Flow, Std 2 cc/min	3 $(CO)_{out}$ ppm	4 Chart ppm	% Difference + 2% Full Scale
Zero					
80% URL					
1					
2					
3					

Forms 1.16 03/20/89

Pape & Steiner Environmental Services

TABLE 6-5.

CO CALIBRATION SUMMARY

1. Station T-2
2. Analyzer TECO CO
   Model 48 S/N 25149-219
3. Calibration by [signature] Date 1-5-90
4. Calibrator Manufacturer ENVIRONICS
   Model 201-1520 S/N 1122
5. CO Standard AAL-5660/AAL-114/AAL 1335 Concentration 9942 PPM/1003 PPM/200 PPM
   Cylinder Pressure 1450 PSI/1300 PSI/ 750 PSI

CO CALIBRATION AND LINEARITY CHECKS

0-1000 PPM RANGE

Calibration Points	1 Flow, Dil. cc/min	2 Flow, Std cc/min	3 $(CO)_{out}$ ppm	4 Chart ppm	% Difference + 2% Full Scale
Zero	9000	—	0	0	0
80% URL	8290.8	827.5	802	802	0
1	8473	545.2	601	599	-.2%
2	8647.8	363.6	401.5	409	+.75%
3	8830	182.1	200.9	212	+1.11%

0-100 PPM RANGE

Calibration Points	1 Flow, Dil. cc/min	2 Flow, Std cc/min	3 $(CO)_{out}$ ppm	4 Chart ppm	% Difference + 2% Full Scale
Zero	9000	—	0	0	0
80% URL	8293.3	718.4	80	80	0
1	8470.5	538.5	59.96	60	+.04%
2	8650.3	359.2	40.0	40.2	+.2%
3	8827.5	179.9	20.0	20.5	+.5%

Forms 1.16 03/20/89

TABLE 6-5. (CONCLUDED)

CO CALIBRATION AND LINEARITY CHECKS

0-20 ppm Range

Calibration Points	1 Flow, Dil. cc/min	2 Flow, Std cc/min	3 $(CO)_{out}$ ppm	4 Chart ppm	% Difference + 2% Full Scale
Zero	9000	–	0	0	0
80% URL	8290.8	719.4	15.97	15.97	0
1	8470.5	540.1	11.99	11.99	0
2	8650.3	360.1	7.99	8.0	+.05%
3	8827.5	180.5	4.00	4.2	+1%

Pape & Steiner Environmental Services

TABLE 6-6.

O_2 CALIBRATION SUMMARY

1. Station T-2

2. Analyzer TELEDYNE
   Model 326M S/N 43292
3. Calibration by [signature] Date 1-4-90
4. Calibrator Manufacturer ENVIRONICS
   Model 201-1520 S/N 1122
5. O_2 Standard A-14722 Concentration 45%
   Cylinder Pressure 1800 PSI

O_2 CALIBRATION AND LINEARITY CHECKS

0-25% RANGE

Calibration Points	1 Flow, Dil. cc/min	2 Flow, Std cc/min	3 $(O_2)_{out}$ %	4 Chart %	% Difference + 2% Full Scale
Zero	2000	—	0	0	0
80% URL	1125.8	849.4	19.9%	19.9%	0
1	1348	667.2	14.9%	14.88%	-.08%
2	1570.2	444.5	10.0%	10.05%	+.2%
3	1792.3	222.5	4.98%	5.2%	+.88%

0-10% RANGE

Calibration Points	1 Flow, Dil. cc/min	2 Flow, Std cc/min	3 $(O_2)_{out}$ %	4 Chart %	% Difference + 2% Full Scale
Zero	2000	—	0	0	0
80% URL	1657.5	356.1	7.95%	7.95%	0
1	1744.9	267.1	5.98%	6.06%	+.8%
2	1832.3	178.4	3.99%	4.1%	+1.1%
3	1924.7	89.6	2.0%	2.12%	+1.2%

Forms 1.17 03/20/89

TABLE 6-6. (CONCLUDED)

O_2 CALIBRATION AND LINEARITY CHECKS

Calibration Points	Flow, Dil. 1 cc/min	Flow, Std 2 cc/min	0-5% 3 $(O_2)_{\%out}$	4 Chart %	% Difference + 2% FulT Scale
Zero		—	0	0	0
80% URL	6388.4	622.7	4%	4%	0
1	6543.2	467.2	3%	3.04%	+.8%
2	6698	311.6	2%	2.06%	+1.2%
3	6855.3	156.1	1%	1.06%	+1.2%

Forms 1.17 03/20/89

APPENDIX A

PAPE & STEINER RAW DATA

Pape & Steiner Environmental Services

SAMPLING POINT LOCATION DATA SHEET

Plant UTS PETRO LEWIS

Date 5-21-90

Test Location HDSG OUT

Upstream Dist./Dia. 70 / 1.2Ø

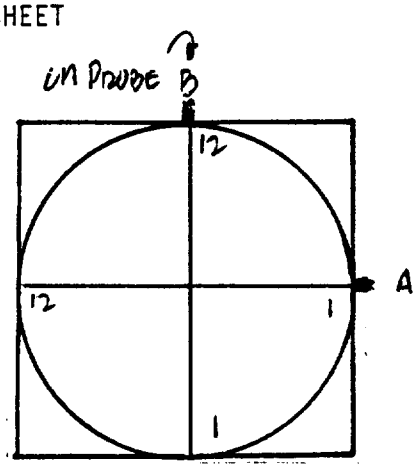
Downstream Dist./Dia. 120 / 2.0Ø

No. of Sampling Points 24

Stack Dimension 54.75

Coupling Length 4.25

3 -inch (MPT) FPT/Flange



LADDER

50' ROPE 6' PROBE/RAILS

XEQ PNT 100' POWER UTS PROVIDES TRANFORMER

Sample Point	Dist	Sample Point	Dist	Sample Point	Dist	Sample Point	Dist
1	5.5						
2	8.3						
3	11.3						
4	14.8						
5	19.2						
6	25.5						
7	42.7						
8	49.1						
9	53.4						
10	56.9						
11	60.0						
12	62.7						

SAMPLING POINT RELOCATION: NONE

Pape & Steiner Environmental Services

PLANT UTS - PETRO LEWIS TEST TYPE PAH 429 FIELD TEST DATA SHEET (Page 1 of 6)

Date 5-23-90
Test Location HDSG OUT
Run Number 1
Stack Diameter 59.75
Operator VVM
Filter No. UNTARED

Barometric Pressure 29.35
Static in. wg. -1.35
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./γ 779/1.0052
Nozzle No./Size G/0.160

Impinger Volumes/Weights			
Contents	Final	Initial	Net
DRY	699.8	408.9	290.9
100ml DI	546.6	549.4	-2.8
DRY	455.2	453.8	1.4
S.G.	944.6	905.0	36.5
	941.5	Total	326.0

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial	0.016	10
Final		

Sample Point	1000 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F: Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments	Trap Temp
A-12	0	1.60	0.72	678.203	351	243	237	68	77	76	5.0	1.265	PITOT OK	48
12	5	1.60	0.73	680.45	350	241	246	65	86	77	5.0	1.265	23145 BHW-3 BLK	
12	10	1.60	0.73	682.77	353	249	246	62	89	78	5.5	1.265		
A-11	15	1.95	0.89	685.14	351	246	242	60	92	81	7.5	1.396	23146 BHW-2 BLK	49
11	20	2.00	0.91	687.75	358	250	249	60	94	82	8.0	1.414		
11	25	2.00	0.91	690.39	360	248	247	63	94	84	8.5	1.414	23147 XAD-2 BLK	
A-10	30	2.35	1.08	692.99	355	253	231	59	97	85	8.5	1.533	23148 BLK DHW-1	47
10	35	2.30	1.06	695.53	357	256	248	57	98	88	8.5	1.517		
10	40	2.30	1.06	698.78	358	251	242	56	98	88	8.5	1.517	23149 FLT-BLK	
A-9	45	2.40	1.12	701.54	348	246	246	58	95	86	8.5	1.549	23150 FHW-BLK	47
9	50	2.40	1.12	704.55	360	246	231	60	99	89	9.0	1.549		
9	55	2.30	1.06	707.57	356	251	240	61	98	90	9.0	1.517		
	60			710.52										

Pape & Steiner Environmental Services

PLANT UTS - PETRO LEWIS TEST TYPE PAH / M 429 FIELD TEST DATA SHEET (Page 2 of 6)

Date 5-23-90
Test Location H2SG OUT
Run Number 1
Stack Diameter 59.75
Operator VVM
Filter No.

Barometric Pressure
Static in. wg.
Probe Type/Length
Pitot Coefficient
Meter Box No./γ
Nozzle No./Size

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
Total			

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	1100 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F: Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments	TRAP TEMP
H - 5	60	2.40	1.12	710.52	350	253	246	64	95	89	9.0	1.549	23139	50
5	65	2.35	1.10	713.46	345	249	246	63	99	90	9.0	1.533		
5	70	2.40	1.12	716.47	348	243	246	66	99	91	9.0	1.549	23140	
H - 7	75	2.45	1.16	719.38	335	241	237	61	95	89	9.0	1.565		46
7	80	2.45	1.17	722.35	332	252	239	64	99	90	9.0	1.565	23141	
7	85	2.45	1.17	725.50	332	256	242	62	99	91	9.0	1.565	23142	
H - 6	90	2.45	1.17	728.48	333	261	246	60	99	90	9.0	1.565		48
6	95	2.45	1.17	731.50	332	257	248	59	100	90	9.0	1.565	23143	
6	100	2.45	1.17	734.51	333	252	245	61	99	91	9.0	1.565		
A - 5	105	2.50	1.17	737.45	349	249	243	63	99	91	9.0	1.581	23144	51
5	110	2.50	1.16	740.49	358	253	246	63	101	91	9.5	1.581		
5	115	2.50	1.16	743.41	358	250	246	64	101	91	9.5	1.581		
	120			746.53										

Pape & Steiner Environmental Services

PLANT UTS - PETRO LEWIS TEST TYPE PAH / M429 FIELD TEST DATA SHEET (Page 3 of 6)

Date 5-23-90
Test Location HRSG OUT
Run Number 1
Stack Diameter 59.75
Operator VVM
Filter No.

Barometric Pressure
Static in. wg.
Probe Type/Length
Pitot Coefficient
Meter Box No./γ
Nozzle No./Size

Impinger Volumes/Weights				Gas Composition			
Contents	Final	Initial	Net	Time	CO_2	O_2	CO
				Leak Rate		cfm	"Hg
				Initial			
S.G.				Final			
		Total					

Sample Point	Time (1200)	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F: Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments	TRAP TEMP
A-4	120	2.45	1.10	146.53	354	260	243	67	101	91	9.0	1.565		47
4	125	2.45	1.10	149.60	356	253	246	64	102	93	9.0	1.565		
4	130	2.45	1.10	152.59	356	249	239	63	103	94	9.0	1.565		
A-3	135	2.45	1.10	155.61	356	251	237	61	102	94	9.0	1.565		48
3	140	2.45	1.10	158.58	358	253	245	61	102	94	9.0	1.565		
3	145	2.45	1.10	161.57	358	249	247	62	103	94	9.0	1.565		
A-2	150	2.30	1.05	164.52	371	252	247	65	104	95	8.5	1.517		52
2	155	2.30	1.06	167.31	374	247	246	63	104	99	8.5	1.517		
2	160	2.30	1.05	170.41	375	253	241	60	103	96	8.5	1.517		
A-1	165	1.90	0.87	173.22	370	257	236	59	104	95	8.5	1.378		54
1	170	1.90	0.88	176.00	369	260	237	61	105	95	8.0	1.378		
1	175	1.90	0.87	178.42	370	253	243	63	106	95	7.5	1.378		
	180			181.053										

Pape & Steiner Environmental Services

PLANT URS - PETRO LEWIS TEST TYPE PM4 / M29 FIELD TEST DATA SHEET (Page 4 of 6)

Date 5-23-90
Test Location HRSG OUT
Run Number 1
Stack Diameter 59.75
Operator VVM
Filter No.

Barometric Pressure
Static in. wg.
Probe Type/Length
Pitot Coefficient
Meter Box No./γ
Nozzle No./Size

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	1304 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments TRAP TEMP
B 1	180	1.05	0.44	781.053	455	257	248	66	97	95	4.0	1.025	55
1	185	1.05	0.44	752.52	454	263	246	63	104	96	5.0	1.025	
1	190	1.05	0.44	784,89	457	254	246	62	105	96	5.0	1.025	
B 2	195	1.10	0.46	786,72	452	257	239	60	106	99	5.0	1.049	47
2	200	1.10	0.46	788.80	452	249	243	59	106	100	5.0	1.049	
2	205	1.10	0.46	790.69	455	249	243	57	106	98	5.0	1.049	
B 3	210	1.25	0.53	792.70	445	252	249	55	107	98	5.5	1.118	49
3	215	1.20	0.51	794.71	441	250	252	58	107	98	5.0	1.095	
3	220	1.25	0.53	796.80	445	246	257	61	107	98	5.5	1.118	
B 4	225	1.45	0.63	798,96	430	257	260	63	107	99	6.0	1.204	52
4	230	1.45	0.62	801.11	430	253	262	65	107	98	6.0	1.204	
4	235	1.45	0.62	803,26	432	258	267	66	108	99	6.0	1.204	
	240			80									

Pape & Steiner Environmental Services

PLANT UTS - PETTO LEWIS TEST TYPE PAH / M429 FIELD TEST DATA SHEET (Page 5 of 6)

Date 5-23-90
Test Location HRSG OUT 1
Run Number
Stack Diameter 59.75
Operator VVM
Filter No.

Barometric Pressure
Static in. wg.
Probe Type/Length
Pitot Coefficient
Meter Box No./ γ
Nozzle No./Size

Impinger Volumes/Weights				Gas Composition			
Contents	Final	Initial	Net	Time	CO_2	O_2	CO
				Leak Rate		cfm	"Hg
				Initial			
S.G.				Final			
		Total					

Sample Point	1404 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F: Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments	TEMP TEMP
B 5	240	1.80	0.80	805.47	400	252	249	63	107	98	6.5	1.342		45
5	245	1.85	0.82	807.89	403	253	246	60	107	99	7.0	1.360		
5	250	1.80	0.80	810.46	402	247	239	61	107	99	7.0	1.342		
B 6	255	2.35	1.11	813.03	350	257	243	61	108	98	6.5	1.533		49
6	260	2.35	1.11	815.98	356	254	245	62	108	99	6.5	1.533		
6	265	2.35	1.11	818.95	352	256	246	63	108	99	6.5	1.533		
B 7	270	2.30	1.09	821.92	350	246	233	64	106	96	6.5	1.517	VERY WINDY	52
7	275	2.30	1.08	824.92	354	249	237	66	106	96	6.5	1.517		
7	280	2.30	1.08	827.96	352	247	242	67	107	96	6.5	1.517		
B 8	285	1.70	0.77	830.59	350	242	239	63	106	95	6.5	1.304		47
8	290	1.65	0.75	833.39	347	245	243	60	105	95	6.5	1.265		
8	295	1.70	0.77	836.81	353	245	244	59	104	95	6.5	1.304		
	300			838.35										

Pape & Steiner Environmental Services

PLANT UTS- PETRO LEWIS TEST TYPE PAH / M429 FIELD TEST DATA SHEET (Page 6 of 6)

Date 5-23-90
Test Location HRSG OUT
Run Number 1
Stack Diameter 59.75
Operator VVM
Filter No. UNTARED

Barometric Pressure 29.35
Static in. wg. -1.35
Probe Type/Length G / 6'
Pitot Coefficient 0.84
Meter Box No./γ 779 / 1.0052
Nozzle No./Size G / 0.160

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final	0.015	9.0

Sample Point	1504 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F: Stack	Probe	Oven	Imp.	Gas Meter: In	Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments / TRAP TEMP
B 9	300	1.35	0.61	838.35	350	249	247	66	105	93	5.0	1.162	52
9	305	1.35	0.61	840.60	352	253	246	62	105	93	5.0	1.162	
9	310	1.35	0.61	842.72	349	257	246	59	106	93	5.0	1.162	
B 10	315	1.15	0.52	845.03	355	261	243	57	105	93	4.5	1.072	49
10	320	1.15	0.52	847.17	353	258	249	58	105	93	4.5	1.072	
10	325	1.15	0.52	849.14	355	252	250	60	104	93	4.5	1.072	
B 11	330	0.98	0.44	851.19	350	249	242	61	104	93	4.5	0.990	49
11	335	1.00	0.45	853.10	349	247	237	62	104	93	4.0	1.000	
11	340	0.97	0.44	854.98	349	246	239	63	104	92	4.0	0.985	
B 12	345	0.71	0.34	856.91	330	246	243	65	103	91	3.0	0.843	53
12	350	0.70	0.33	858.57	333	249	246	65	102	91	3.0	0.837	
12	355	0.70	0.34	860.38	331	253	246	67	101	90	3.0	0.837	
	360			862.037									PITOT OK
	TA		0.64	153.834	341.13				97.	38		1.3401	

Pape & Steiner Environmental Services

PLANT UTS - PETRO LEWIS TEST TYPE PM / M 29 FIELD TEST DATA SHEET (Page 1 of 6)

Date 5-24-90
Test Location HRSG OUT
Run Number 2
Stack Diameter 59.75
Operator VVM
Filter No. UNTARED

Barometric Pressure 29.58
Static in. wg. -1.30
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./γ G79 / 1.0055
Nozzle No./Size G / 0.160

Impinger Volumes/Weights			
Contents	Final	Initial	Net
DRY	675.4	408.8	266.6
DI H_2O	552.6	553.5	-0.9
DRY	453.5	452.9	0.6
S.G.	901.7	870.3	31.4
		Total	297.7

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial	0.014	10
Final		

Sample Point	0900 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F: Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments / TEMP
A-12	0	1.60	0.72	862.947	348	233	246	67	75	73	3.5	1.265	PITOT OK 45
12	5	1.65	0.75	865.15	350	237	246	63	83	75	4.5	1.285	
12	10	1.60	0.72	867.50	355	242	253	59	87	75	4.5	1.265	23131 ²
A 11	15	1.60	0.73	869.85	355	256	249	54	88	77	4.5	1.265	23132 ² 48
11	20	1.60	0.73	872.28	356	266	246	51	86	77	4.5	1.265	
11	25	1.60	0.73	874.67	357	263	249	51	89	78	4.5	1.265	23133 ²
A 10	30	1.95	0.88	877.06	359	251	246	54	90	78	5.0	1.396	23134 ² 51
10	35	1.95	0.89	879.65	356	248	252	55	91	80	5.0	1.396	
10	40	1.95	0.89	882.29	359	247	257	56	91	80	5.0	1.396	23135 ²
A 9	45	2.30	1.05	884.91	356	249	248	53	91	81	5.5	1.517	23136 ² 52
9	50	2.30	1.05	887.77	355	252	246	53	91	80	5.5	1.517	
9	55	2.30	1.05	890.60	355	256	243	55	91	81	5.5	1.517	
	60			893.49									
													23127 F.G. Bomb
													23126 F.G. Bag

Pape & Steiner Environmental Services

PLANT UTS / PETRO LEWIS TEST TYPE PAH / M429 FIELD TEST DATA SHEET (Page 2 of 6)

Date 5-24-90
Test Location HDSG OUT
Run Number 2
Stack Diameter 69.75
Operator VVM
Filter No.

Barometric Pressure
Static in. wg.
Probe Type/Length
Pitot Coefficient
Meter Box No./γ
Nozzle No./Size

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	1000 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments TEMP
A 5	60	2.30	1.06	893.49	341	240	247	52	92	81	5.5	1.517	46
5	65	2.30	1.06	896.30	347	248	252	51	92	81	5.5	1.517	
5	70	2.30	1.06	899.62	349	249	246	51	92	81	5.5	1.517	
A 7	75	2.50	1.15	902.03	332	255	249	52	92	82	6.0	1.581	49
7	80	2.50	1.18	905.04	333	261	252	53	93	81	6.0	1.581	
7	85	2.50	1.15	908.17	334	263	250	54	93	82	6.0	1.581	
A 6	90	2.40	1.13	910.95	335	257	249	56	93	82	5.5	1.549	52
6	95	2.45	1.15	914.04	335	252	246	53	93	81	6.0	1.565	
6	100	2.45	1.15	916.96	334	247	248	52	93	82	6.0	1.565	
A 5	105	2.55	1.16	919.96	359	249	246	54	92	82	6.0	1.597	47
5	110	2.50	1.14	922.91	360	251	243	55	93	82	6.0	1.581	
5	115	2.50	1.14	925.84	358	254	239	57	93	82	6.0	1.581	
	120			928.80									

Pape & Steiner Environmental Services

PLANT UTS - PETRO LEWIS TEST TYPE PGH | M429 FIELD TEST DATA SHEET (Page 3 of 6)

Date 5-24-90
Test Location HDSG OUT
Run Number 2
Stack Diameter 59.75
Operator VVH
Filter No.

Barometric Pressure
Static in. wg.
Probe Type/Length
Pitot Coefficient
Meter Box No./γ
Nozzle No./Size

Impinger Volumes/Weights				Gas Composition			
Contents	Final	Initial	Net	Time	CO_2	O_2	CO
				Leak Rate		cfm	"Hg
				Initial			
S.G.				Final			
		Total					

Sample Point	1100 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments / TRAP TEMP
A 4	120	2.50	1.11	928.80	355	260	246	52	94	83	5.5	1.581	48
4	125	2.50	1.10	931.76	358	256	249	52	94	83	5.5	1.581	
4	130	2.50	1.10	934.62	361	253	252	54	94	84	5.5	1.581	
A 3	135	2.35	1.03	937.57	394	251	248	55	95	84	5.0	1.533	50
3	140	2.35	1.03	940.35	397	248	246	55	94	83	5.0	1.533	
3	145	2.40	1.05	943.18	396	247	239	56	94	84	5.0	1.549	
A 2	150	2.15	0.96	945.98	382	246	243	51	96	83	5.0	1.466	52
2	155	2.20	0.98	948.52	379	249	248	53	95	84	5.0	1.453	
2	160	2.20	0.98	951.18	380	226	248	54	96	84	5.0	1.483	
A 1	165	1.80	0.80	953.90	382	237	249	52	98	85	4.5	1.342	55
1	170	1.80	0.80	956.39	383	248	253	50	98	86	4.5	1.342	
1	175	1.80	0.80	958.90	382	253	257	49	98	86	4.5	1.342	
	180			961.412									

Pape & Steiner Environmental Services

PLANT UTS / PETRO LEWIS TEST TYPE P4H / M429 FIELD TEST DATA SHEET (Page 4 of 6)

Date 5-24-90
Test Location HDSG OUT
Run Number 2
Stack Diameter 54.75
Operator VVH
Filter No.

Barometric Pressure
Static in. wg.
Probe Type/Length
Pitot Coefficient
Meter Box No./γ
Nozzle No./Size

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	1205 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments / Trap Temp
B 1	180	1.05	0.43	961.412	450	253	248	53	96	86	3.0	1.025	46
1	185	1.05	0.43	963.22	454	256	248	56	96	86	3.5	1.025	
1	190	1.05	0.43	964.99	452	248	252	57	95	88	3.5	1.025	
B 2	195	1.20	0.49	966.92	450	251	247	54	94	86	3.5	1.095	48
2	200	1.25	0.52	968.91	449	257	242	53	95	86	4.0	1.118	
2	205	1.20	0.49	970.92	452	260	251	55	95	86	3.5	1.095	
B 3	210	1.30	0.54	972.97	440	263	249	58	94	85	4.0	1.140	49
3	215	1.30	0.54	975.03	439	257	248	58	93	86	4.0	1.140	
3	220	1.30	0.54	977.00	443	252	246	59	93	85	4.0	1.140	
B 4	225	1.50	0.63	979.04	426	256	249	61	93	84	4.5	1.225	52
4	230	1.50	0.64	981.28	427	260	252	57	91	86	4.5	1.225	
4	235	1.46	0.62	983.55	422	262	247	54	99	88	4.5	1.204	
	240			98									

Pape & Steiner Environmental Services

PLANT UTS PETRO-LEWIS TEST TYPE PAH | M429 FIELD TEST DATA SHEET (Page 5 of 6)

Date 5-24-90
Test Location HDSG OUT
Run Number 2
Stack Diameter 59.75
Operator VVM
Filter No.

Barometric Pressure
Static in. wg.
Probe Type/Length
Pitot Coefficient
Meter Box No./γ
Nozzle No./Size

Impinger Volumes/Weights				Gas Composition			
Contents	Final	Initial	Net	Time	CO_2	O_2	CO
				Leak Rate		cfm	"Hg
				Initial			
S.G.							
		Total		Final			

Sample Point	1305 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F: Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments / Trap Temp
B 5	240	1.80	0.79	985.71	401	249	252	58	98	87	5.0	1.342	49
5	245	1.80	0.78	988.19	405	246	252	57	97	87	5.0	1.342	
5	250	1.80	0.79	990.65	400	251	246	54	98	87	5.0	1.342	
B 6	255	1.86	0.81	993.14	400	249	249	56	99	89	5.0	1.360	51
6	260	1.86	0.81	995.63	402	246	252	56	99	88	5.0	1.360	
6	265	1.80	0.79	998.16	402	248	249	54	100	89	5.0	1.342	
B 7	270	2.30	1.07	1000.76	350	241	253	56	97	87	6.0	1.517	47
7	275	2.30	1.08	1003.63	356	253	248	57	98	87	6.5	1.517	
7	280	2.30	1.07	1006.60	352	257	246	59	98	87	6.5	1.517	
B 8	285	1.80	0.82	1009.61	365	262	249	63	99	88	5.5	1.342	50
8	290	1.80	0.83	1011.82	362	259	253	57	99	88	5.5	1.342	
8	295	1.80	0.82	1014.82	367	253	247	54	100	88	5.5	1.342	
	300			1016.84									

Pape & Steiner Environmental Services

PLANT UTS / PETRO LEWIS TEST TYPE PAH / M429 FIELD TEST DATA SHEET (Page 6 of 6)

Date 5-24-90
Test Location HRSG OUT
Run Number 2
Stack Diameter 59.75
Operator VVT
Filter No. UNTARED

Barometric Pressure 29.58
Static in. wg. -1.30
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./γ 779/1.0052
Nozzle No./Size G/0.160

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final	0.011	7.0

Sample Point	1405 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments / TEMP TEMP
B 9	300	1.30	0.58	1016.84	350	252	246	56	98	88	4.0	1.140	48
9	305	1.30	0.59	1018.92	371	255	247	54	98	89	4.0	1.140	
9	310	1.30	0.59	1021.16	379	249	251	54	99	89	4.0	1.140	
B 10	315	1.20	0.53	1023.33	385	242	248	57	98	87	4.0	1.095	46
10	320	1.16	0.52	1025.42	382	239	246	59	99	89	4.5	1.072	
10	325	1.26	0.56	1027.49	387	245	249	61	99	89	4.0	1.118	
B 11	330	0.99	0.44	1029.61	385	247	247	55	100	89	3.5	0.995	49
11	335	1.00	0.45	1031.48	384	252	246	54	100	90	3.5	1.000	
11	340	0.99	0.44	1033.34	382	255	249	57	100	90	3.5	0.995	
B 12	345	0.88	0.40	1035.29	374	257	252	54	100	91	3.0	0.938	52
12	350	0.85	0.39	1037.07	372	262	249	53	101	91	3.0	0.922	
12	355	0.87	0.40	1038.90	375	259	246	54	101	92	3.0	0.933	
	360			1040.661									PITOT OK
	TA		0.51	177.720	381.22				89.63			1.3264	

Pape & Steiner Environmental Services

PLANT UTS - PETRO LEWIS TEST TYPE PAH | M429 FIELD TEST DATA SHEET (Page 1 of 6)

Date 5-25-90
Test Location HDSG OUT
Run Number 3
Stack Diameter 54.75
Operator VVM
Filter No. UNTARED

Barometric Pressure 29.46
Static in. wg. -1.3
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./γ 779/1.0052
Nozzle No./Size G/0.160

Impinger Volumes/Weights			
Contents	Final	Initial	Net
DRY	680.4	409.7	270.7
DI H2O	548.5	552.3	-3.8
DRY	454.5	454.3	0.2
S.G.	577.6	846.5	31.1
		Total	298.2

Gas Composition			
Time	CO_2	O_2	CO
Leak Rate		cfm	"Hg
Initial nozzle		0.018	10"
Final			

Sample Point	0900 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments	Trap Temp
A 12	0	1.60	0.74	45.982	342	253	240	66	83	80	4.0	1.265	PITOT OK	46
12	5	1.60	0.73	48.31	359	257	246	63	90	86	4.0	1.265	23120	3
12	10	1.65	0.75	50.70	359	261	252	62	94	81	4.0	1.285		
A 11	15	1.65	0.75	53.09	360	256	249	61	94	83	4.0	1.285	23121	3 52
11	20	1.60	0.73	55.50	359	249	249	59	96	84	4.0	1.265	23122	3
11	25	1.60	0.73	57.96	358	247	246	58	96	85	4.0	1.265		
A 10	30	1.95	0.90	60.25	360	252	249	60	98	87	5.0	1.396	23123	3 45
10	35	2.00	0.92	62.90	360	245	242	62	99	87	5.0	1.414	23124	3
10	40	1.95	0.90	65.62	361	246	246	63	99	87	5.0	1.396		
A 9	45	2.30	1.06	68.15	355	252	249	65	98	88	6.0	1.517	23125	3
9	50	2.30	1.06	70.03	355	257	253	61	99	87	6.5	1.517		48
9	55	2.30	1.06	73.92	356	260	246	59	99	88	6.5	1.517		
	60			76.54										

Pape & Steiner Environmental Services

PLANT UTS - PETRO LEWIS TEST TYPE PHH / M429 FIELD TEST DATA SHEET (Page 2 of 6)

Date 5-25-90
Test Location HDSG OUT
Run Number 3
Stack Diameter 59.75
Operator VVA
Filter No.

Barometric Pressure
Static in. wg.
Probe Type/Length
Pitot Coefficient
Meter Box No./γ
Nozzle No./Size

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	1000 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments TRAP TEMP
A 8	60	2.40	1.12	76.84	347	252	248	60	100	89	6.5	1.549	46
8	65	2.40	1.12	79.78	348	256	252	61	100	90	6.0	1.549	
8	70	2.40	1.13	82.70	347	250	247	63	100	90	6.0	1.549	
A 7	75	2.50	1.19	85.71	332	250	246	66	100	90	6.0	1.581	48
7	80	2.50	1.19	88.79	335	247	243	62	101	90	6.0	1.581	
7	85	2.50	1.20	91.72	330	248	245	59	101	91	6.0	1.581	
A 6	90	2.50	1.20	94.74	333	253	249	55	102	92	6.0	1.581	51
6	95	2.50	1.20	97.67	334	248	251	58	102	92	6.0	1.581	
6	100	2.50	1.20	100.70	332	243	246	57	102	92	6.0	1.581	
A 5	105	2.55	1.18	103.69	358	248	249	57	102	92	6.0	1.597	47
5	110	2.55	1.18	106.71	360	252	252	60	102	92	6.0	1.597	
5	115	2.55	1.18	109.64	359	257	247	61	102	92	6.0	1.597	
	120			112.67									

Pape & Steiner Environmental Services

PLANT UTS - PETRO LEWIS TEST TYPE PAH / M429 FIELD TEST DATA SHEET (Page 3 of 6)

Date 5-25-90
Test Location HDSG OUT
Run Number 3
Stack Diameter 59.75
Operator VVM
Filter No.

Barometric Pressure
Static in. wg.
Probe Type/Length
Pitot Coefficient
Meter Box No./γ
Nozzle No./Size

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	1100 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments TEMP
A 4	120	2.50	1.12	112.67	356	256	243	59	102	91	6.0	1.581	46
4	125	2.50	1.12	115.70	385	249	247	58	102	92	6.0	1.581	
4	130	2.50	1.12	118.72	385	246	251	59	102	92	6.0	1.581	
A 3	135	2.45	1.10	121.69	389	247	252	57	102	92	6.0	1.565	48
3	140	2.45	1.10	124.70	390	252	248	58	103	93	6.0	1.565	
3	145	2.45	1.10	127.67	387	254	246	59	103	93	6.0	1.565	
A 2	150	2.30	1.04	130.51	380	257	249	59	103	93	5.5	1.517	45
2	155	2.30	1.04	133.46	380	261	247	61	103	93	5.5	1.517	
2	160	2.30	1.04	136.52	380	259	251	62	103	93	5.5	1.517	
A 1	165	1.95	0.89	139.50	379	261	247	62	104	93	5.0	1.396	49
1	170	2.00	0.91	142.00	377	256	246	60	105	94	5.0	1.414	
1	175	2.00	0.91	144.67	380	249	246	57	105	95	5.0	1.414	
	180			146.36									

Pape & Steiner Environmental Services

PLANT UTS - Petro Lewis TEST TYPE DAH / M 429 FIELD TEST DATA SHEET (Page 4 of 6)

Date 5-25-90
Test Location HRSG OUT
Run Number 3
Stack Diameter 59.75
Operator VVM
Filter No.

Barometric Pressure
Static in. wg.
Probe Type/Length
Pitot Coefficient
Meter Box No./ γ
Nozzle No./Size

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	1206 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments (TRAP TEMP)
B 1	1150	1.05	0.44	147.36	455	246	251	61	104	94	3.5	1.025	47
1	1155	1.05	0.44	149.25	456	249	246	60	103	94	3.5	1.025	
1	1200	1.05	0.44	151.14	453	243	247	58	104	94	3.5	1.025	
B 2	1205	1.20	0.50	153.09	455	249	246	59	103	95	3.5	1.095	49
2	1210	1.20	0.50	155.13	452	253	241	61	102	95	4.0	1.095	
2	1215	1.20	0.50	157.17	455	257	239	62	102	95	4.0	1.095	
B 3	1220	1.25	0.52	159.21	445	261	243	63	104	95	4.5	1.118	52
3	1225	1.25	0.53	161.31	442	256	247	65	105	95	4.5	1.118	
3	1230	1.25	0.53	163.42	446	252	252	60	104	95	4.5	1.118	
B 4	1235	1.40	0.60	165.56	431	253	249	58	104	95	4.5	1.183	47
4	1240	1.35	0.57	167.71	435	247	246	57	104	94	5.0	1.162	
4	1245	1.40	0.60	169.90	429	243	249	58	104	94	5.0	1.183	
	1250			172.11									

Pape & Steiner Environmental Services

PLANT UTS - PETRO LEWIS TEST TYPE PAH / M429 FIELD TEST DATA SHEET (Page 5 of 6)

Date 5-25-90
Test Location HRSG OUT
Run Number 3
Stack Diameter 59.75
Operator VVM
Filter No.

Barometric Pressure
Static in. wg.
Probe Type/Length
Pitot Coefficient
Meter Box No./γ
Nozzle No./Size

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	1306 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F						Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
					Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out			TRAP TEMP
5	240	1.80	0.80	172.11	400	246	248	67	105	96	5.0	1.342	49
5	245	1.80	0.80	174.70	399	247	246	63	105	95	5.0	1.342	
5	250	1.80	0.80	177.31	402	252	240	60	105	96	5.0	1.342	
6	255	2.35	1.10	179.75	355	257	246	57	106	96	6.0	1.533	46
6	260	2.35	1.10	182.62	357	261	249	56	106	96	6.0	1.533	
6	265	2.35	1.11	185.52	354	263	251	56	106	97	6.0	1.533	
7	270	2.40	1.13	188.48	352	263	253	59	105	95	6.0	1.549	48
7	275	2.40	1.14	191.45	348	259	247	60	105	96	6.5	1.549	
7	280	2.40	1.13	194.30	350	252	246	62	106	96	6.5	1.549	
8	285	1.80	0.82	197.40	375	248	242	63	105	95	6.0	1.342	51
8	290	1.80	0.82	199.90	376	246	246	61	106	96	6.0	1.342	
8	295	1.80	0.83	202.38	372	243	247	59	106	95	6.0	1.342	
	300			204.87									

Pape & Steiner Environmental Services

PLANT UTS / PETRO LEWIS TEST TYPE P4 / M29 FIELD TEST DATA SHEET (Page 6 of 6)

Date 5-25-90
Test Location HDSG OUT
Run Number 3
Stack Diameter 59.75
Operator VVM
Filter No. UNTARED

Barometric Pressure 29.46
Static in. wg. -1.3
Probe Type/Length G/6
Pitot Coefficient 0.84
Meter Box No./γ 779 / 1.0052
Nozzle No./Size G / 0.160

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final	0.012	7"

Sample Point	1406 Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments (TAMP TEMP)
B 9	300	1.30	0.59	204.51	355	247	246	60	105	95	4.0	1.140	53
9	305	1.30	0.59	207.	357	249	249	60	105	95	4.0	1.140	
9	310	1.25	0.57	209.23	354	251	250	58	105	95	4.0	1.118	
B 10	315	1.15	0.52	211.39	356	253	250	57	105	95	4.0	1.072	46
10	320	1.15	0.52	213.43	356	249	246	59	105	95	4.0	1.072	
10	325	1.15	0.52	215.50	355	246	243	61	105	96	4.0	1.072	
B 11	330	0.96	0.43	217.401	355	249	246	63	105	97	3.5	0.980	48
11	335	0.95	0.43	219.45	354	252	249	59	106	97	3.5	0.975	
11	340	0.97	0.44	221.27	356	257	252	57	106	97	3.5	0.985	
B 12	345	0.82	0.38	223.10	366	261	252	59	106	97	3.0	0.906	51
12	350	0.80	0.37	224.97	362	259	247	60	106	97	3.0	0.894	
12	355	0.82	0.38	226.81	365	257	246	62	106	97	3.0	0.906	
	360			228.663									PITOT DL
	TA		0.84	152.681	360.03				97.	43		1.3378	

Pape & Steiner Environmental Services

PLANT 4TS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 1 of 6)

Date 5-23-90
Test Location HRSG Out
Run Number 1
Stack Diameter 59.75
Operator CR
Filter No. N/A

Barometric Pressure 29.35
Static in. wg. -1.35
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./ 8761/0.9940
Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
DRY	90.4	75.10	15.3
DNPH	99.0	98.4	0.6
DNPH	117.9	118.6	-0.7
DNPH	101.5	101.2	0.3
DRY	86.1	85.9	0.2
S.G.	109.8	107.0	2.8
		Total	18.5

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial	0.0015	5.0
Final	0.0010	5.0

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F: Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
B-1	1000	1.05		525.991	455	N/A	N/A	67	77	78	0.50	1.025	Pitot OK
	5	1.04		526.073	454			65	75	76	0.50	1.020	canister # A-025
	10	1.05		526.290	458			63	81	80	0.50	1.025	0950 - 1350
2	15	1.10		526.453	456			62	82	81	0.50	1.049	23137 B
	20	1.10		526.657	454			61	84	84	0.50	1.049	
	25	1.10		526.813	455			60	86	85	0.50	1.049	23138 '
3	30	1.25		526.957	447			60	87	87	0.50	1.118	23129 '
	35	1.25		527.098	447			59	89	89	0.50	1.118	
	40	1.25		527.262	447			59	91	90	0.50	1.118	
4	45	1.40		527.413	430			58	91	90	0.50	1.183	
	50	1.45		527.560	432			58	92	91	0.50	1.204	
	55	1.45		527.698	433			58	92	92	0.50	1.204	
	60			527.856									

Pape & Steiner Environmental Services

PLANT UTS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 2 of 6)

Date 5-23-90
Test Location HRSG Out
Run Number 1
Stack Diameter 59.75
Operator CR
Filter No. N/A

Barometric Pressure 29.35
Static in. wg. -1.35
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./ 8761/0.9940
Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F						Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
					Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out			
B-5	60	1.80		527.856	404	N/A	N/A	58	91	91	0.50	1.342	
	65	1.75		528.005	401			58	91	91		1.323	
	70	1.80		528.156	401			57	91	91		1.342	
6	75	2.30		528.312	355			57	91	91		1.517	
	80	2.35		528.445	356			58	91	91		1.533	
	85	2.35		528.580	355			58	91	91		1.533	
7	90	2.30		528.740	350			58	92	92		1.517	
	95	2.30		528.898	351			58	93	93		1.517	
	100	2.30		529.043	351			57	93	93		1.517	
8	105	1.70		529.188	369			57	92	93		1.304	
	110	1.75		529.335	370			57	93	93		1.323	
	115	1.70		529.473	370			57	93	93		1.304	
	120			529.635									

Pape & Steiner Environmental Services

PLANT UTS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 3 of 6)

Date 5-23-90
Test Location HRSG Out
Run Number 1
Stack Diameter 59.75
Operator CR
Filter No. N/A

Barometric Pressure 29.35
Static in. wg. -1.35
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./ 8761/0.9940
Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F						Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
					Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out			
B-9	120	1.35		529.635	378	N/A	N/A	57	94	94	0.50	1.162	
	125	1.35		529.787	379			58	95	95		1.162	
	130	1.40		529.937	379			58	95	95		1.183	
10	135	1.15		530.073	383			56	96	96		1.072	
	140	1.15		530.233	383			56	96	96		1.072	
	145	1.20		530.393	382			57	96	96		1.095	
11	150	0.98		530.552	384			57	97	97		0.990	
	155	0.99		530.697	384			58	98	98		0.995	
	160	0.99		530.860	385			58	99	99		0.995	
12	165	0.72		531.043	328			58	100	100		0.849	
	170	0.71		531.196	331			57	100	100		0.843	
	175	0.71		531.362	329			57	99	99		0.843	
	1300 180			531.543									

Pape & Steiner Environmental Services

PLANT UTS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 4 of 6)

Date 5-23-90
Test Location HRSG Out
Run Number 1
Stack Diameter 59.75
Operator CR
Filter No. N/A

Barometric Pressure 29.35
Static in. wg. -1.35
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./ 8761 / 0.9940
Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F						Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
					Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out			
A-12	1305 1180	1.60		531.543	351	N/A	N/A	59	94	93	0.50	1.265	
	185	1.60		531.705	350			58	96	95		1.265	
	190	1.65		531.868	349			57	98	98		1.285	
11	195	2.00		532.051	359			57	99	98		1.414	
	200	2.05		532.193	358			57	99	98		1.432	
	205	2.00		532.355	358			57	99	99		1.414	
10	210	2.25		532.533	350			58	100	100		1.500	
	215	2.30		532.690	350			58	100	100		1.517	
	220	2.30		532.848	349			58	101	100		1.517	
9	225	2.40		533.030	351			58	101	101		1.549	
	230	2.40		533.188	350			59	101	101		1.549	
	235	2.35		533.351	350			59	102	102		1.533	
	240			533.523									

Pape & Steiner Environmental Services

PLANT UTS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 5 of 6)

Date 5-23-90
Test Location HRSG Out
Run Number 1
Stack Diameter 59.75
Operator CR
Filter No. N/A

Barometric Pressure 29.35
Static in. wg. -1.35
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./ 8761/0.994D
Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
A-8	240	2.40		533.523	350	N/A	N/A	59	101	99	0.50	1.549	
	245	2.40		533.688	349			58	100	99		1.549	
	250	2.40		533.853	350			58	100	100		1.549	
7	255	2.45		534.018	335			57	99	99		1.565	
	260	2.50		534.176	337			57	99	99		1.581	
	265	2.45		534.332	335			57	99	98		1.565	
6	270	2.50		534.524	354			56	99	98		1.581	
	275	2.50		534.687	356			56	98	97		1.581	
	280	2.50		534.840	355			56	97	96		1.581	
5	285	2.45		535.012	355			56	97	96		1.565	
	290	2.45		535.170	354			57	96	95		1.565	
	295	2.50		535.325	354			57	96	95		1.581	
	300			535.472									

Pape & Steiner Environmental Services

PLANT UTS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 6 of 6)

Date 5-23-90
Test Location HRSG Out
Run Number 1
Stack Diameter 59.75
Operator CR
Filter No. N/A

Barometric Pressure 29.35
Static in. wg. -1.35
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./γ 761/0.9940
Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F: Stack	Probe	Oven	Imp.	Gas Meter: In	Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
A-4	300	2.45		535.472	385	N/A	N/A	57	95	96	0.50	1.565	
	305	2.45		535.653	386			57	95	96		1.565	
	310	2.50		535.810	385			56	95	96		1.581	
3	315	2.45		535.950	385			56	95	96		1.565	
	320	2.40		536.115	384			56	95	96		1.549	
	325	2.45		536.280	385			55	95	96		1.565	
2	330	2.45		536.400	385			55	94	95		1.565	
	335	2.50		536.584	384			55	94	94		1.565	
	340	2.45		536.765	384			56	93	93		1.565	
1	345	1.90		536.923	370			57	93	93		1.378	
	350	1.90		537.075	371			56	92	92		1.378	
	355	1.85		537.217	369			57	91	92		1.360	Pitot OK
	360			537.394									
TA	1605	.0	x317	11.403	377.89				94.26			1.3437	

Pape & Steiner Environmental Services

PLANT 475 Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 1 of 6)

Date 5-24-90 Barometric Pressure 29.58
Test Location HRSG Out Static in. wg. -1.30
Run Number 2 Probe Type/Length G/6'
Stack Diameter 59.75 Pitot Coefficient 0.84
Operator CR Meter Box No./ 8761 / 0.9940
Filter No. N/A Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
DRY	97.8	82.3	15.5
DNPH	98.9	98.1	0.8
DNPH	117.1	117.7	-0.6
DNPH	100.1	99.7	0.4
DRY	85.6	86.0	-0.4
S.G.	114.5	111.8	2.7
		Total	18.4

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial	0.0010	5.0
Final	0.0015	5.0

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F						Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
					Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out			
B - 1	0900	1.05		537.245	452	N/A	N/A	68	66	66	0.50	1.025	Pitot OK
	5	1.05		537.357	452			67	67	67		1.025	canister # A-028
	10	1.05		537.558	454			67	68	68		1.025	0850 - 1250
2	15	1.15		537.708	449			66	70	70		1.072	
	20	1.20		537.862	448			64	71	70		1.095	23130 ²
	25	1.20		538.030	449			63	72	71		1.095	
3	30	1.30		538.182	442			61	74	75		1.140	23128 ²
	35	1.25		538.325	441			61	76	76		1.118	
	40	1.30		538.477	442			60	78	77		1.140	
4	45	1.45		538.647	428			60	80	79		1.204	
	50	1.50		538.795	427			60	81	80		1.225	
	55	1.50		538.946	427	↓	↓	59	82	81	↓	1.225	
	60			539.098									

Pape & Steiner Environmental Services

PLANT UTS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 2 of 6)

Date 5-24-90
Test Location HRSG Out
Run Number 2
Stack Diameter 59.75
Operator CR
Filter No. N/A

Barometric Pressure 29.58
Static in. wg. -1.30
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./γ 761/0.9940
Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F: Stack	Probe	Oven	Imp.	Gas Meter: In	Gas Meter: Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
B-5	60	1.75		539.998	402	N/A	N/A	59	81	81	0.50	1.323	
	65	1.80		539.273	401			58	81	81		1.342	
	70	1.80		539.425	401			58	81	81		1.342	
6	75	1.85		539.568	401			57	82	81		1.360	
	80	1.85		539.725	400			58	82	82		1.360	
	85	1.90		539.892	400			58	83	82		1.378	
7	90	2.30		540.057	352			57	82	82		1.517	
	95	2.30		540.196	351			56	81	81		1.517	
	100	2.35		540.357	350			56	81	81		1.533	
8	105	1.80		540.535	365			57	81	81		1.342	
	110	1.85		540.683	368			57	81	82		1.360	
	115	1.80		540.833	370			58	82	82		1.342	
	120			540.992									

Pape & Steiner Environmental Services

PLANT UTS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 3 of 6)

Date 5-24-90
Test Location HRSG Out
Run Number 2
Stack Diameter 59.75
Operator CR
Filter No. N/A

Barometric Pressure 29.58
Static in. wg. -1.30
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./γ 761 / 0.9940
Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F: Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
B-9	120	1.35		540.992	381	N/A	N/A	58	83	83	0.50	1.162	
	125	1.30		541.160	382			57	83	83		1.140	
	130	1.30		541.315	382			57	84	83		1.140	
10	135	1.20		541.468	385			57	84	83		1.095	
	140	1.25		541.632	385			58	84	83		1.118	
	145	1.20		541.793	386			58	84	84		1.095	
11	150	1.00		541.952	384			57	84	84		1.000	
	155	0.98		542.095	384			57	84	84		0.990	
	160	0.99		542.267	383			57	84	84		0.995	
12	165	0.88		542.428	373			58	84	83		0.938	
	170	0.88		542.568	374			58	84	83		0.938	
	175	0.89		542.730	375	↓	↓	58	85	84	↓	0.943	
	1200 180												

Pape & Steiner Environmental Services

PLANT UTS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 4 of 6)

Date 5-24-90
Test Location HRSG Out
Run Number 2
Stack Diameter 59.76
Operator CR
Filter No. N/A

Barometric Pressure 29.58
Static in. wg. -1.30
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./γ 761/0.9940
Nozzle No./Size Straight

Impinger Volumes/Weights				Gas Composition			
Contents	Final	Initial	Net	Time	CO_2	O_2	CO
				Leak Rate		cfm	"Hg
				Initial			
S.G.							
		Total		Final			

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F: Stack	Probe	Oven	Imp.	Gas Meter: In	Gas Meter: Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
A-12	1205 180	1.60		542.893	350	N/A	N/A	67	88	88	0.50	1.265	
	185	1.60		543.055	351			65	86	87		1.265	
	190	1.65		543.195	350			63	88	87		1.285	
11	195	1.60		543.357	355			63	88	87		1.265	
	200	1.65		543.520	357			62	88	87		1.285	
	205	1.60		543.673	358			61	88	86		1.265	
10	210	1.95		543.823	360			60	88	87		1.396	
	215	1.95		543.976	361			60	88	87		1.396	
	220	1.95		544.146	360			60	87	87		1.396	
9	225	2.30		544.302	355			59	87	87		1.517	
	230	2.30		544.444	356			59	87	87		1.517	
	235	2.30		544.597	355			59	87	87		1.517	
	240			544.762									

Pape & Steiner Environmental Services

PLANT UTS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 5 of 6)

Date 5-24-90
Test Location HRSG Out
Run Number 2
Stack Diameter 59.75
Operator CR
Filter No. N/A

Barometric Pressure 29.58
Static in. wg. -1.30
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./γ 761/0.9940
Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F						Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
					Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out			
A-8	240	2.30		544.762	345	N/A	N/A	58	89	88	0.50	1.517	
	245	2.35		544.923	344			58	90	89		1.533	
	250	2.30		545.068	345			59	90	89		1.517	
7	255	2.50		545.205	330			58	90	88		1.581	
	260	2.45		545.383	332			58	89	88		1.565	
	265	2.50		545.543	331			57	89	89		1.581	
6	270	2.45		545.692	335			57	88	88		1.565	
	275	2.45		545.847	335			57	88	87		1.565	
	280	2.45		546.020	335			58	87	87		1.565	
5	285	2.50		546.167	360			58	87	87		1.581	
	290	2.45		546.316	361			59	88	87		1.565	
	295	2.50		546.464	360			59	88	87		1.581	
	300			546.623									

Pape & Steiner Environmental Services

PLANT UTS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 6 of 6)

Date 5-24-90
Test Location HRSG Out
Run Number 2
Stack Diameter 59.75
Operator CR
Filter No. N/A

Barometric Pressure 29.58
Static in. wg. -1.30
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./γ 761/0.9940
Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F						Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
					Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out			
A-4	300	2.50		546.623	385	N/A	N/A	58	88	88	0.50	1.581	
	305	2.45		546.785	387			58	89	88		1.565	
	310	2.50		546.935	386			59	89	89		1.581	
3	315	2.35		547.045	390			58	89	88		1.533	
	320	2.35		547.245	389			59	88	88		1.533	
	325	2.30		547.420	391			60	87	88		1.517	
2	330	2.20		547.562	380			60	88	89		1.483	
	335	2.15		547.700	380			59	89	90		1.466	
	340	2.20		547.866	381			60	89	90		1.483	
1	345	1.80		548.035	380			60	89	90		1.342	
	350	1.85		548.180	379			61	90	90		1.360	
	355	1.80		548.335	379	↓	↓	61	90	91	↓	1.342	Pitot OK
	360			548.497									
TA	1505		0.031	11.252	381.03				83.84			1.3268	

Pape & Steiner Environmental Services

PLANT UTS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 1 of 6)

Date 5-25-90
Test Location HRSG Out.
Run Number 3
Stack Diameter 59.75
Operator CR
Filter No. N/A

Barometric Pressure 29.46
Static in. wg. - 1.30
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./γ 761/0.9940
Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
DRY	96.9	85.9	11.0
DNPH	99.3	98.0	1.3
DNPH	117.0	117.8	-.8
DNPH	99.9	99.6	.3
DRY	81.9	82.5	-.6
S.G.	113.6	111.4	2.2
		Total	13.4

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial	0.0010	5.0
Final	0.0010	5.0

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F: Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
B-1	0900	1.05		548.900	457	N/A	N/A	66	73	73	0.50	1.025	Pitot OK
	5	1.05		549.053	456			64	75	74		1.025	Canister # A-063
	10	1.05		549.194	456			63	76	75		1.025	0845 - 1245
2	15	1.20		549.376	453			62	78	78		1.095	
	20	1.20		549.540	455			62	80	79		1.095	22292 ^{3} CH2O
	25	1.15		549.694	452			61	82	81		1.072	
3	30	1.25		549.855	444			61	83	82		1.118	
	35	1.30		550.035	442			60	84	83		1.140	
	40	1.25		550.190	442			60	86	85		1.118	
4	45	1.40		550.350	428			59	88	87		1.183	
	50	1.40		550.535	429			59	89	88		1.183	
	55	1.40		550.687	429			59	90	89		1.183	
	60			550.847									

Pape & Steiner Environmental Services

PLANT UTS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 2 of 6)

Date 5-25-90
Test Location HRSG Out
Run Number 3
Stack Diameter 59.75
Operator CR
Filter No. N/A

Barometric Pressure 29.46
Static in. wg. -1.30
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./γ 761/0.9940
Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO
Leak Rate		cfm	"Hg
Initial			
Final			

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
B-5	60	1.75		550.847	403	N/A	N/A	59	90	89	0.50	1.323	
	65	1.80		551.025	404			59	91	90		1.342	
	70	1.80		551.187	404			59	91	90		1.342	
6	75	2.35		551.342	356			58	90	89		1.533	
	80	2.35		551.530	355			58	90	90		1.533	
	85	2.40		551.675	356			59	91	90		1.549	
7	90	2.40		551.795	353			59	91	91		1.549	
	95	2.40		551.998	353			57	91	91		1.549	
	100	2.35		552.168	352			57	91	91		1.533	
8	105	1.80		552.295	372			57	92	91		1.342	
	110	1.75		552.485	373			56	93	92		1.323	
	115	1.80		552.658	373			57	93	92		1.342	
	120			552.810									

Pape & Steiner Environmental Services

PLANT UTS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 3 of 6)

Date 5-25-90
Test Location HRSG Out
Run Number 3
Stack Diameter 59.75
Operator CR
Filter No. N/A

Barometric Pressure 29.46
Static in. wg. -1.30
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./γ 761/0.9940
Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F: Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
B-9	120	1.30		552.810	384	N/A	N/A	57	93	93	0.50	1.140	
	125	1.30		552.963	384			57	93	93		1.140	
	130	1.30		553.145	383			58	93	93		1.140	
10	135	1.15		553.293	385			58	92	92		1.072	
	140	1.15		553.448	386			57	92	92		1.072	
	145	1.15		553.607	386			57	93	92		1.072	
11	150	0.96		553.794	386			57	93	92		0.980	
	155	0.95		553.940	387			58	93	92		0.975	
	160	0.95		554.089	386			58	94	93		0.975	
12	165	0.81		554.210	367			57	95	95		0.900	
	170	0.82		554.430	366			57	96	95		0.906	
	175	0.81		554.573	367			58	96	95		0.900	
	1200 180			554.737									

Pape & Steiner Environmental Services

PLANT UTS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 4 of 6)

Date 5-25-90
Test Location HRSG Out
Run Number 3
Stack Diameter 59.75
Operator CR
Filter No. N/A

Barometric Pressure 29.46
Static in. wg. -1.30
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./γ 761/0.9940
Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F						Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
					Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out			
A-12	1206 180	1.60		554.737	355	N/A	N/A	63	94	94	0.50	1.265	
	185	1.60		554.905	356			62	95	94		1.265	
	190	1.55		555.072	355			61	96	95		1.245	
11	195	1.60		555.240	360			61	96	95		1.265	
	200	1.55		555.410	359			60	96	95		1.245	
	205	1.55		555.550	361			60	95	94		1.245	
10	210	1.95		555.700	360			59	96	95		1.396	
	215	1.95		555.868	360			59	96	95		1.396	
	220	1.95		556.043	360			58	97	96		1.396	
9	225	2.30		556.200	355			58	97	96		1.517	
	230	2.25		556.370	356			58	97	96		1.500	
	235	2.30		556.538	355			57	97	97		1.517	
	240			556.692									

Pape & Steiner Environmental Services

PLANT UTS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 5 of 6)

Date 5-25-90
Test Location HRSG Out
Run Number 3
Stack Diameter 59.75
Operator CR
Filter No. N/A

Barometric Pressure 29.46
Static in. wg. -1.30
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./γ 761/0.9940
Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F: Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
A-8	240	2.40		556.692	347	N/A	N/A	57	98	97	0.50	1.549	
	245	2.35		556.850	347			57	98	97		1.533	
	250	2.40		557.030	348			58	98	98		1.549	
7	255	2.50		557.185	335			58	99	99		1.581	
	260	2.50		557.346	334			59	99	98		1.581	
	265	2.55		557.510	335			59	98	98		1.597	
6	270	2.55		557.690	332			59	98	99		1.597	
	275	2.60		557.835	333			59	99	99		1.612	
	280	2.55		558.005	330			60	99	98		1.597	
5	285	2.50		558.163	360			60	98	97		1.581	
	290	2.45		558.325	361			60	98	97		1.565	
	295	2.50		558.487	360			59	97	96		1.581	
	300			558.653									

Pape & Steiner Environmental Services

PLANT UTS Petro Lewis TEST TYPE CARB 430 FIELD TEST DATA SHEET (Page 6 of 6)

Date 5-25-90
Test Location HRSG Out
Run Number 3
Stack Diameter 59.75
Operator CR
Filter No. N/A

Barometric Pressure 29.46
Static in. wg. -1.30
Probe Type/Length G/6'
Pitot Coefficient 0.84
Meter Box No./ γ 761 / 0.9940
Nozzle No./Size Straight

Impinger Volumes/Weights			
Contents	Final	Initial	Net
S.G.			
		Total	

Gas Composition			
Time	CO_2	O_2	CO

Leak Rate	cfm	"Hg
Initial		
Final		

Sample Point	Time	ΔP in wg	ΔH in wg	Gas Meter Volume Ft^3	Temperature °F Stack	Probe	Oven	Imp.	Gas Meter In	Gas Meter Out	Pump Vacuum in. Hg	$\sqrt{\Delta P}$	Comments
A-4	300	2.50		558.653	385	N/A	N/A	59	97	96	0.50	1.581	
	305	2.50		558.812	385			58	97	96		1.581	
	310	2.50		558.965	383			58	97	96		1.581	
3	315	2.45		559.124	390			58	97	96		1.565	
	320	2.50		559.279	392			59	97	97		1.581	
	325	2.45		559.440	390			60	98	97		1.565	
2	330	2.30		559.597	380			60	98	98		1.517	
	335	2.30		559.788	382			61	99	98		1.517	
	340	2.35		559.929	382			61	99	98		1.533	
1	345	2.00		560.073	380			60	99	98		1.414	
	350	2.00		560.250	380			60	99	99		1.414	
	355	1.95		560.405	378			60	100	99		1.396	Pitot OK
	360			560.562									
TA	1506			11.662	380.35				92.84			1.3363	

Pape & Steiner Environmental Services

CONTINUOUS MONITOR DATA SHEET

Plant UTS
Date 5/23/90 Run No. 1 + 2
Test Location Outlet
Operator GWM
Fuel Type _____ Trailer No. 2

APCD Witness/Number _____
Generator Type _____
Burner Type _____
O_2 Controller Type _____
Gas Cylinder Nos. O_2, CO_2, CO: 6781
NOx: 2171

Time	Sample Point	Fuel Flow	Dry Uncorrected						Response Time		NO-NOx Converter Gas						Comments
			O_2 %	CO_2 %	CO ppm	SO_2 ppm	NO ppm	NO_x ppm	Up (sec)	Down (sec)	NO	NO2	NOx				
			15.00	5.00	16.00			41.39									
			0.00	4.66	16.36			39.70						LEAK	✓	OK	SPAN GAS VALUES EXTERNAL RESPONSE
0930			14.85	3.64	7.10			36.5									
0945			14.85	3.68	7.20			36.2									RUN # 1
1000			14.90	3.68	7.16			35.0									
1015			14.90	3.68	7.16			35.0									
1030			14.90	3.68	7.30			33.6									
1045			14.90	3.68	7.30			34.5									
1100			14.90	3.68	7.10			36.3									
1115			14.90	3.68	7.40			36.0									
1130			14.90	3.68	7.40			36.6									
			-0.25	0.14	0.04			-4.0									ZERO CHECK
			14.45	4.72	16.00			38.40									SPAN CHECK
1145			15.30	3.80	7.40			39.2									RUN # 2
1200			15.30	3.80	7.26			39.2									
1215			15.30	3.80	7.78			38.3									
1230			15.30	3.80	7.64			38.0									
1245			15.30	3.80	7.40			38.4									
1300			15.30	3.80	7.08			38.0									
1315			15.30	3.80	6.68			37.3									
1330			15.30	3.80	7.00			37.0									
1345			15.30	3.80	6.78			37.0									

Pape & Steiner Environmental Services

CONTINUOUS MONITOR DATA SHEET

Plant UTS

Date 5/23/90 Run No. 3

Test Location OUTLET

Operator Gwm

Fuel Type _____ Trailer No. _____

APCD Witness/Number _____

Generator Type _____

Burner Type _____

O_2 Controller Type _____

Gas Cylinder Nos. SAME

Time	Sample Point	Fuel Flow	Dry Uncorrected						Response Time		NO-NOx Converter Gas						Comments
			O_2 %	CO_2 %	CO ppm	SO_2 ppm	NO ppm	NO_x ppm	Up (sec)	Down (sec)	NO	NO2	NOx				
			14.90	5.00	16.00			39.30									SPAN CHECK
			0.03	0.00	0.00			-2.20									ZERO CHECK
1400			15.25	3.80	7.00			39.0									
1415			15.25	3.80	7.36			38.9									RUN # 3
1430			15.25	3.80	7.44			40.0									
1445			15.25	3.84	7.20			41.0									
1500			15.25	3.84	7.16			40.0									
1515			15.25	3.84	7.00			40.8									
1530			15.25	3.84	6.90			41.1									
1545			15.38	3.78	8.80			38.0									
			15.05	5.04	15.64			42.26									SPAN CHECK
			0.05	0.00	-0.18			1.40									ZERO CHECK
			0.04	4.98	16.26			41.50						LEAK ✓ OK			EXTERNAL RESPONSE

Pape & Steiner Environmental Services

CONTINUOUS MONITOR DATA SHEET

Plant UTS

Date 5/24/90 Run No. 4 & 5

Test Location OUTLET

Operator GWM

Fuel Type FUEL GAS Trailer No. 2

APCD Witness/Number

Generator Type

Burner Type

O_2 Controller Type

Gas Cylinder Nos. O_2, CO_2, CO : 6781

NO_x: 2171

Time	Sample Point	Fuel Flow	Dry Uncorrected O_2 %	CO_2 %	CO ppm	SO_2 ppm	NO ppm	NO_x ppm	Response Time Up (sec)	Down (sec)	NO-NOx Converter Gas NO	NO2	NOx				Comments
			15.00	5.00	16.00			41.39									SPAN GAS VALUES
			0.00	4.76	15.90			42.10						LEAK	✓	OK	EXTERNAL RESPONSE
0900			15.75	3.56	11.86			39.2									RUN # 4
0915			15.70	3.56	11.76			40.1									
0930			15.60	3.46	13.06			41.3									* CO off-scale momentarily
0945			15.40	3.40	11.80			40.5									* " " "
1000			15.33	3.40	12.90			40.0									* " " "
1015			15.25	3.36	12.65			40.0									Changed to 0-5ppm CO scale
1030			15.25	3.36	12.05			37.4									
1045			15.25	3.36	12.25			37.1									
1100			15.25	3.36	12.00			37.1									
			14.93	4.42	16.60			42.80									SPAN CHECK
			0.00	0.00	0.10			1.30									ZERO CHECK
1115			15.53	3.76	11.10			36.7									RUN # 5
1130			15.53	3.76	11.80			35.7									
1145			15.53	3.76	11.60			35.3									
1200			15.53	3.78	11.80			35.6									
1215			15.53	3.78	11.12			36.2									
1230			15.43	3.80	10.80			37.4									
1245			15.33	3.84	10.40			36.4									
1300			15.33	3.84	10.76			36.9									
~~1315~~																	

Pape & Steiner Environmental Services

CONTINUOUS MONITOR DATA SHEET

Plant UTS

Date 5/24/90 Run No. 6

Test Location OUTLET

Operator Bwm

Fuel Type FUEL GAS Trailer No. 2

APCD Witness/Number

Generator Type

Burner Type

O_2 Controller Type

Gas Cylinder Nos. SAME

Time	Sample Point	Fuel Flow	Dry Uncorrected						Response Time		NO-NOx Converter Gas						Comments
			O_2 %	CO_2 %	CO ppm	SO_2 ppm	NO ppm	NO_x ppm	Up (sec)	Down (sec)	NO	NO2	NOx				
			15.00	4.74	15.99			42.80									SPAN CHECK
			0.00	0.00	0.26			1.20									ZERO CHECK
1315			15.53	3.80	11.04			35.0									RUN #6
1330			15.53	3.80	10.74			35.5									
1345			15.53	3.80	10.24			35.9									
1400			15.53	3.80	10.38			35.9									
1415			15.53	3.80	10.38			35.1									
1430			15.53	3.76	10.56			35.3									
1445			15.53	3.76	10.36			35.4									
~~1500~~																	
			14.80	5.00	15.80			46.85									SPAN CHECK
			0.00	0.02	0.06			-0.20									ZERO CHECK
			0.00	4.96	15.82			41.00						LEAK ✓ OK			EXTERNAL RESPONSE

Pape & Steiner Environmental Services

CONTINUOUS MONITOR DATA SHEET

Plant UTS

Date 5/25/90 Run No. 7 & 8

Test Location OUTLET

Operator Gum

Fuel Type FUEL GAS Trailer No. 2

APCD Witness/Number

Generator Type

Burner Type

O_2 Controller Type

Gas Cylinder Nos. O_2, CO_2, CO: 6791

NOx : 2171

Time	Sample Point	Fuel Flow	Dry Uncorrected						Response Time		NO-NOx Converter Gas						Comments
			O_2 %	CO_2 %	CO ppm	SO_2 ppm	NO ppm	NO_x ppm	Up (sec)	Down (sec)	NO	NO2	NOx				
			15.00	5.00	16.00			41.39									SPAN GAS VALUES
			0.00	4.90	15.68			42.80						LEAK	✓ OK		EXTERNAL RESPONSE
0915			15.48	3.76	10.46			38.8									RUN #7
0930			15.48	3.76	11.24			36.3									
0945			15.48	3.76	11.06			36.0									
1000			15.48	3.76	11.10			35.5									
1015			15.48	3.70	10.98			35.5									
1030			15.48	3.70	11.18			34.8									
1045			15.48	3.70	11.20			34.0									
1100			15.48	3.70	10.88			34.0									
1115			15.48	3.70	11.22			33.9									
			14.90	4.86	16.16			39.40									SPAN CHECK
			0.05	0.00	-0.14			-2.25									ZERO CHECK
1130			15.30	3.80	11.04			36.5									RUN #8
1145			15.30	3.80	10.98			36.5									
1200			15.30	3.80	10.80			37.0									
1215			15.30	3.80	10.74			37.0									
1230			15.30	3.80	10.80			36.6									
1245			15.30	3.80	10.62			37.0									
1300			15.30	3.80	10.60			37.0									
1315			15.30	3.80	10.00			37.4									
1330			15.30	3.80	10.20			37.1									

Pape & Steiner Environmental Services

CONTINUOUS MONITOR DATA SHEET

Plant UTS

Date 5/25/90 Run No. 9

Test Location OUTLET

Operator BWM

Fuel Type FUEL GAS Trailer No. 2

APCD Witness/Number

Generator Type

Burner Type

O_2 Controller Type

Gas Cylinder Nos. SAME

Time	Sample Point	Fuel Flow	Dry Uncorrected						Response Time		NO-NOx Converter Gas						Comments
			O_2 %	CO_2 %	CO ppm	SO_2 ppm	NO ppm	NO_x ppm	Up (sec)	Down (sec)	NO	NO2	NOx				
			14.85	5.00	16.00			42.00									SPAN CHECK
			0.00	0.00	0.00			0.00									ZERO CHECK
1345			15.53	3.76	10.16			37.5									RUN #9
1400			15.45	3.80	10.30			37.2									
1415			15.46	3.80	10.00			37.7									22291 ft³
1430			15.45	3.80	10.06			37.8									
			14.90	5.00	16.00			42.50									SPAN CHECK
			0.05	0.00	0.06			0.00									ZERO CHECK
			0.65	4.90	15.83			42.45						LEAK	✓ OK		EXTERNAL RESPONSE

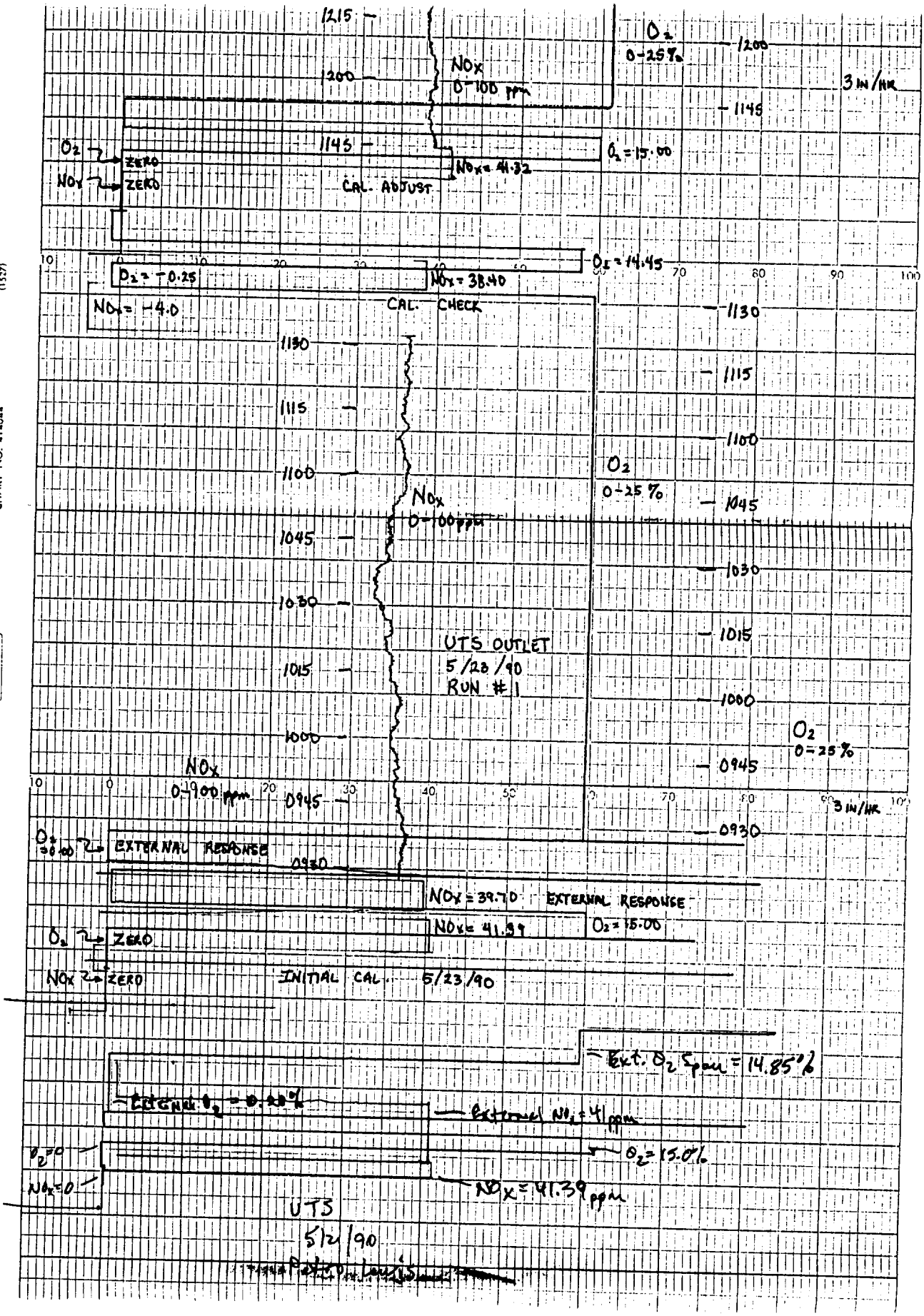
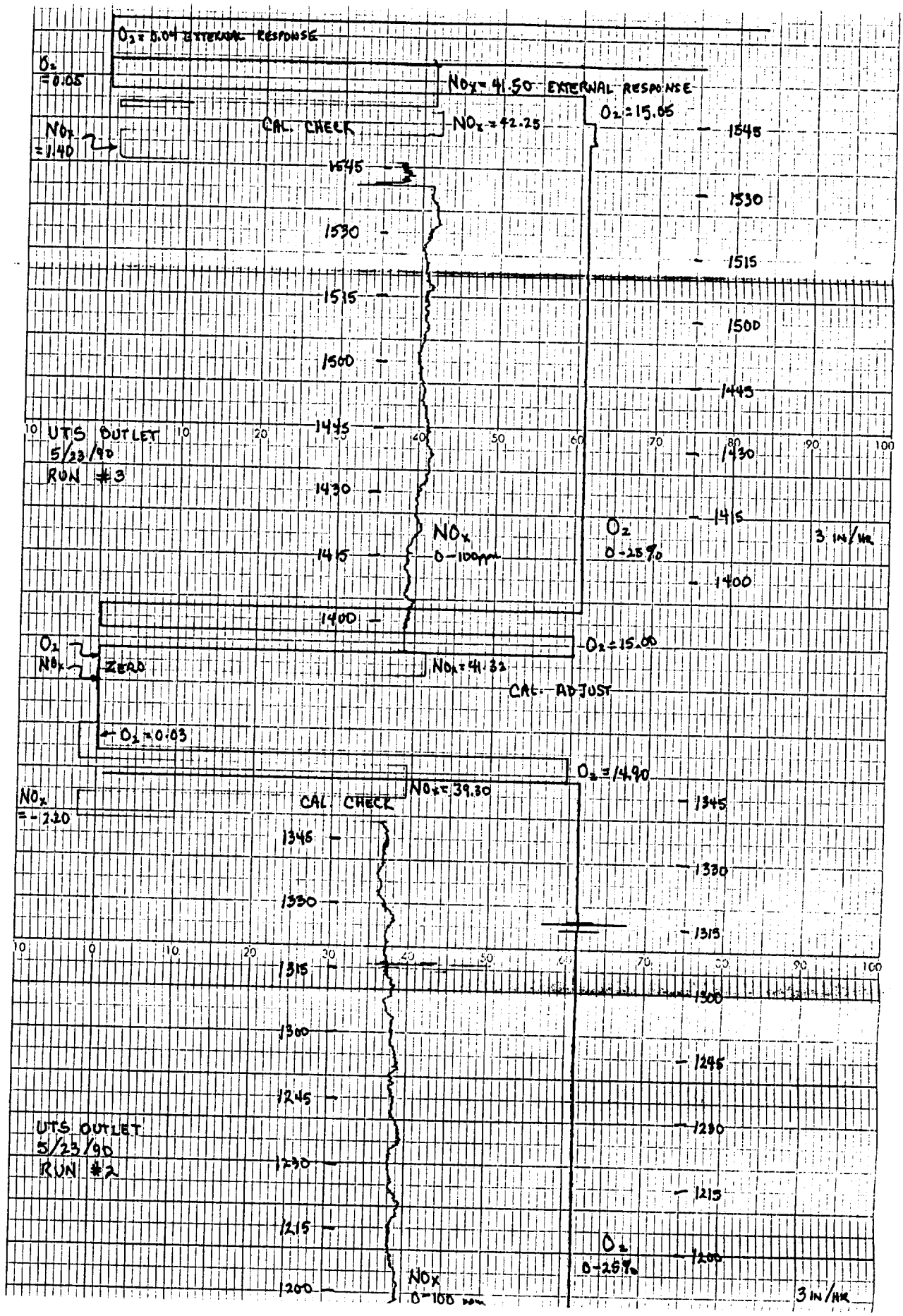
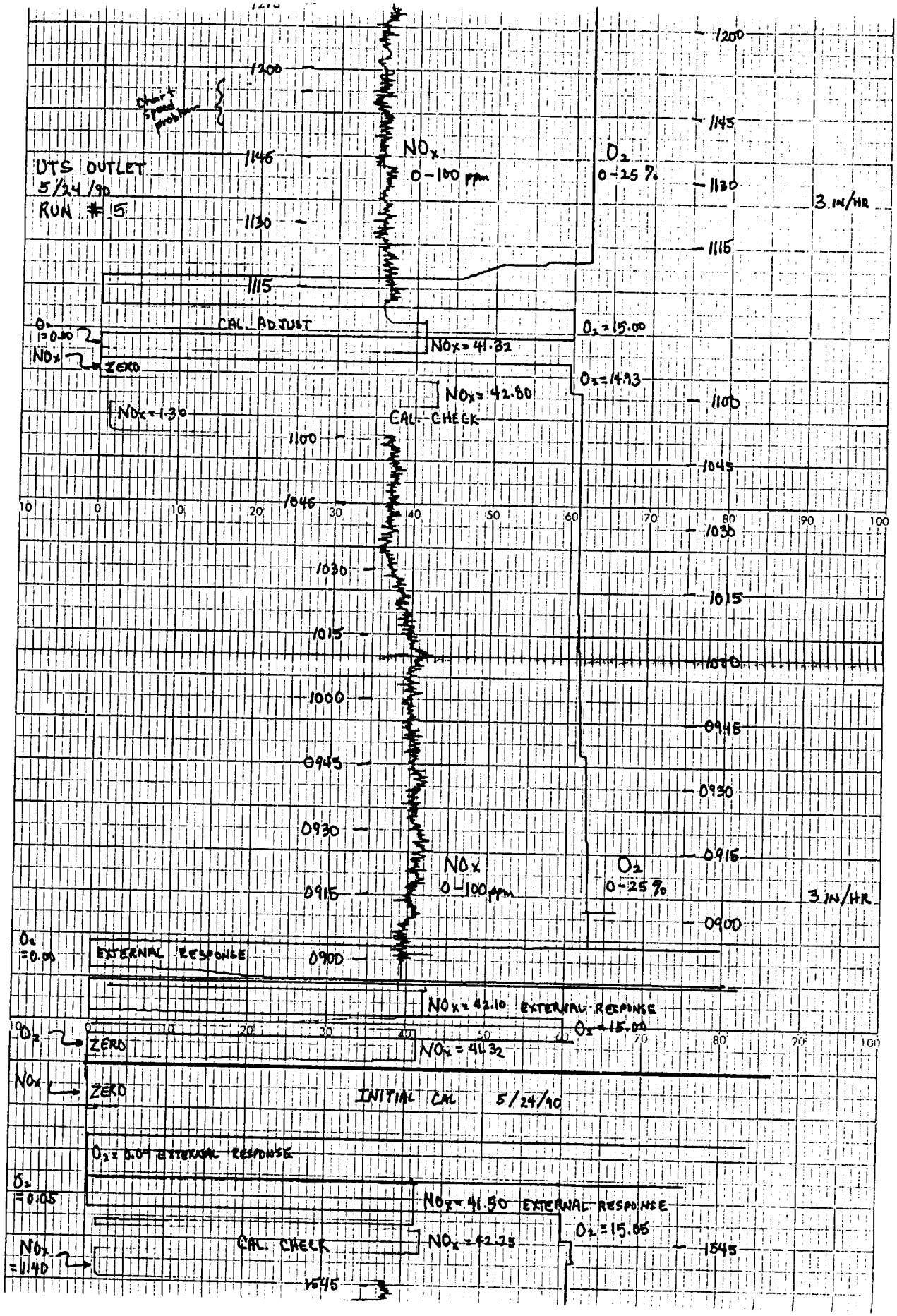
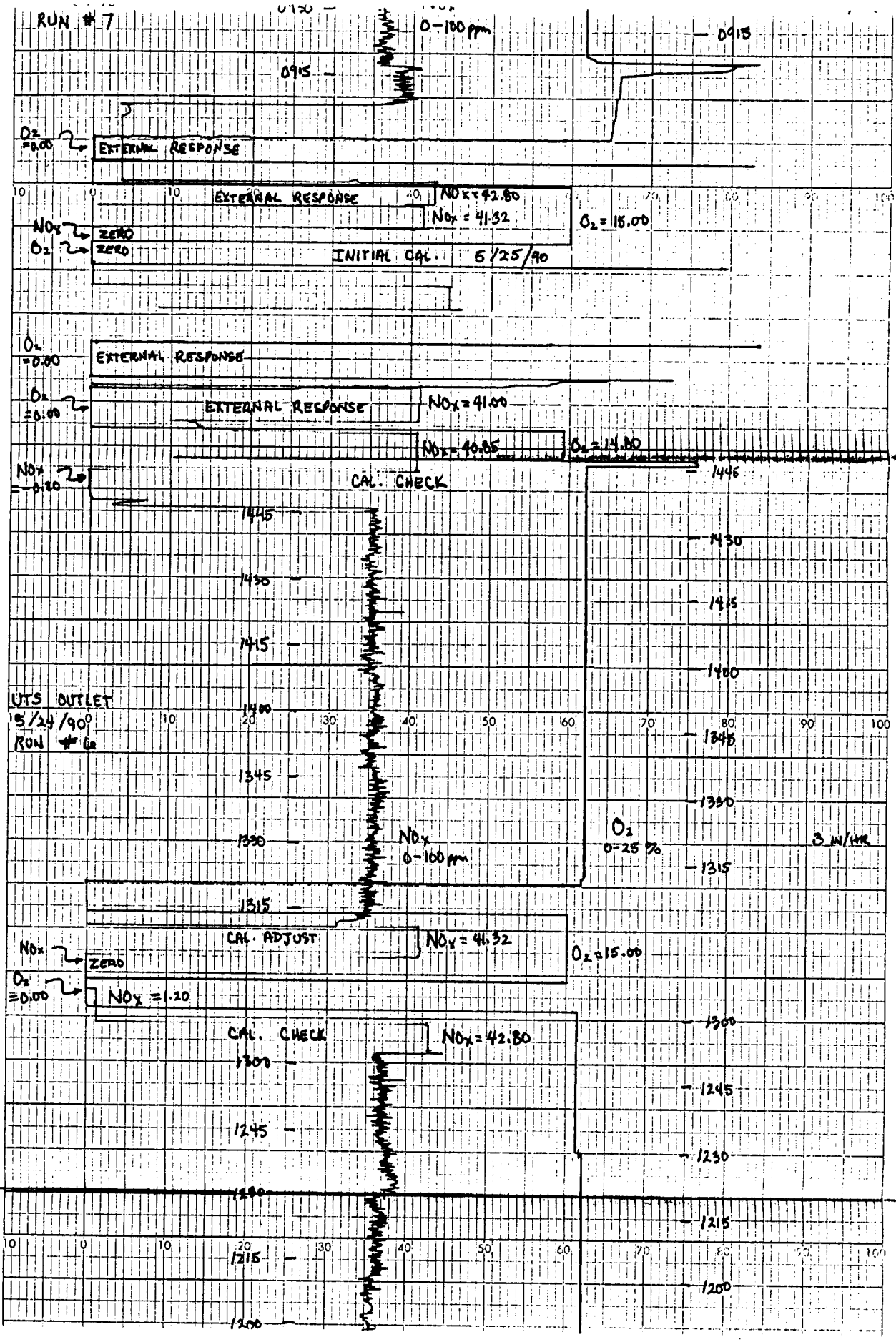


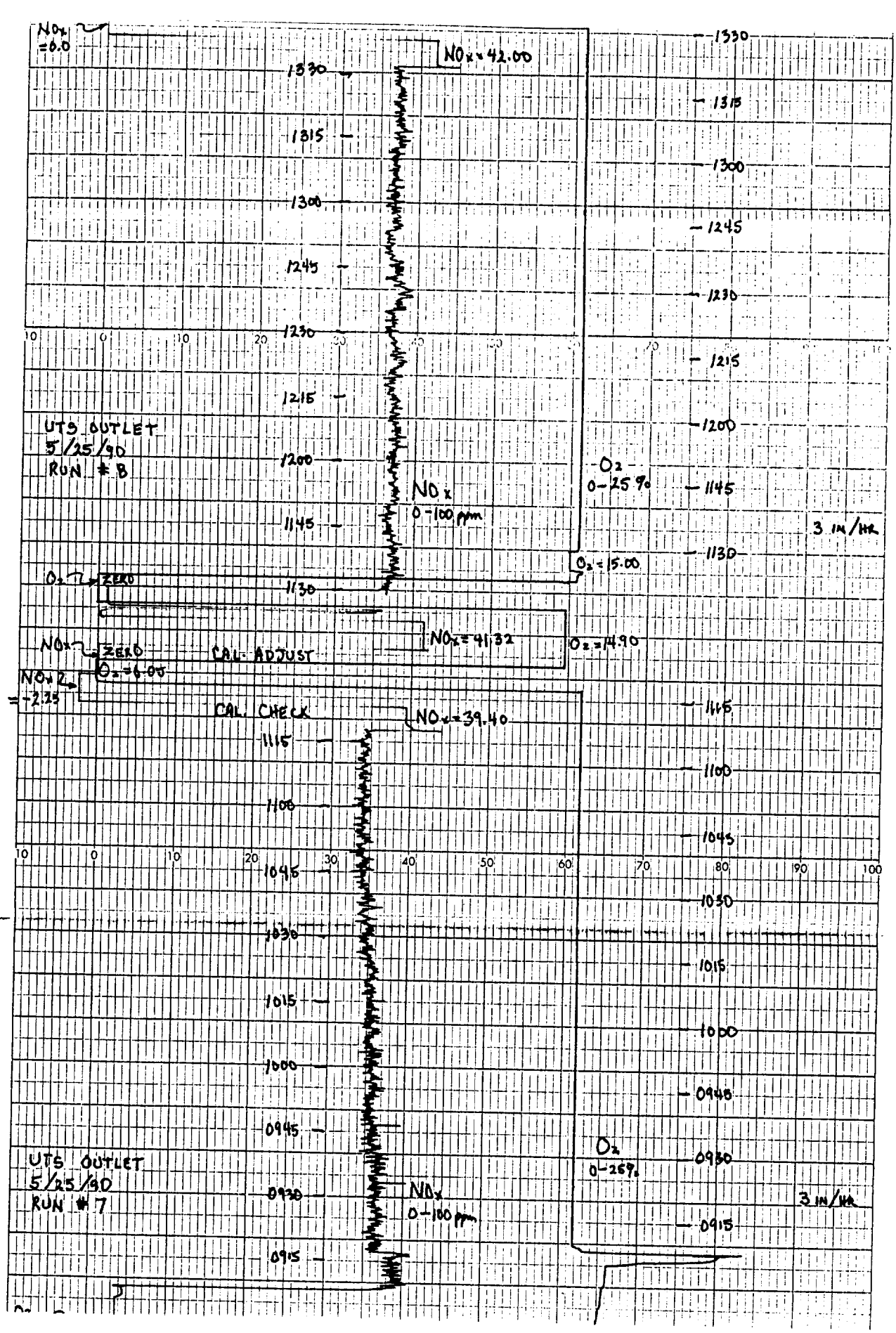
CHART NO. 414044 (1527)

Charts-Inc


O_2 = 0.04 EXTERNAL RESPONSE
O_2 = 0.05
NO_x = 41.50 EXTERNAL RESPONSE
O_2 = 15.05
NO_x = 42.25
CAL. CHECK
NO_x = 1.40
1545
1530
1515
1500
1445
1430
1415
1400
UTS OUTLET
5/23/90
RUN #3
NO_x
0-100ppm
O_2
0-25%
3 IN/HR
O_2 = 15.00
NO_x = 41.32
CAL. ADJUST
O_2
NO_x
ZERO
O_2 = 0.03
O_2 = 14.90
NO_x = 39.30
CAL. CHECK
NO_x = 1.20
1345
1330
1315
1300
1245
1230
1215
1200
UTS OUTLET
5/23/90
RUN #2
NO_x
0-100 ppm
O_2
0-25%
3 IN/HR
10 0 10 20 30 40 50 60 70 80 90 100
(1527)
CHART NO. 414044
Charts-Inc


UTS OUTLET
5/24/90
RUN #5
Other speed problems
NOx
0-100 ppm
O2
0-25 %
3 IN/HR
CAL ADJUST
O2 = 0.00
NOx
ZERO
NOx = 41.32
O2 = 15.00
O2 = 4.93
NOx = 42.80
NOx = 1.30
CAL. CHECK
EXTERNAL RESPONSE
NOx = 42.10 EXTERNAL RESPONSE
O2 = 15.00
O2
ZERO
NOx = 44.32
NOx
ZERO
INITIAL CAL 5/24/90
O2 = 0.04 EXTERNAL RESPONSE
O2 = 0.05
NOx = 41.50 EXTERNAL RESPONSE
O2 = 15.05
NOx = 42.25
CAL. CHECK
NOx = 1.40
CHART NO. 414044
(1527)
Charts-Inc


RUN # 7
0-100 ppm
0915
O2 =0.00
EXTERNAL RESPONSE
EXTERNAL RESPONSE
NOx = 42.80
NOx = 41.32
O2 = 15.00
NOx ZERO
O2 ZERO
INITIAL CAL. 6/25/90
O2 =0.00
EXTERNAL RESPONSE
O2 =0.00
EXTERNAL RESPONSE
NOx = 41.00
NOx = 40.05
O2 = 14.80
NOx =0.20
CAL. CHECK
1445
1430
1415
1400
UTS OUTLET
5/24/90
RUN # 6a
1345
1330
1315
1300
1245
1230
1215
1200
NOx 0-100 ppm
O2 0-25 %
3 IN/HR
CAL. ADJUST
NOx = 41.32
O2 = 15.00
NOx ZERO
O2 =0.00
NOx = .20
CAL. CHECK
NOx = 42.80
Charts Inc
(1527)
CHART NO. 414044
Charts Inc


NOx =0.0
NOx = 42.00
UTS OUTLET
5/25/90
RUN # B
NOx
0-100 ppm
O2
0-25 %
3 IN/HR
O2 = 15.00
O2 ZERO
NOx = 41.32
O2 = 14.90
NOx ZERO
CAL. ADJUST
O2 = 6.00
NOx = -2.25
CAL. CHECK
NOx = 39.40
UTS OUTLET
5/25/90
RUN # 7
NOx
0-100 ppm
O2
0-25%
3 IN/HR
CHART NO. 414044
Charts-Inc
(1527)

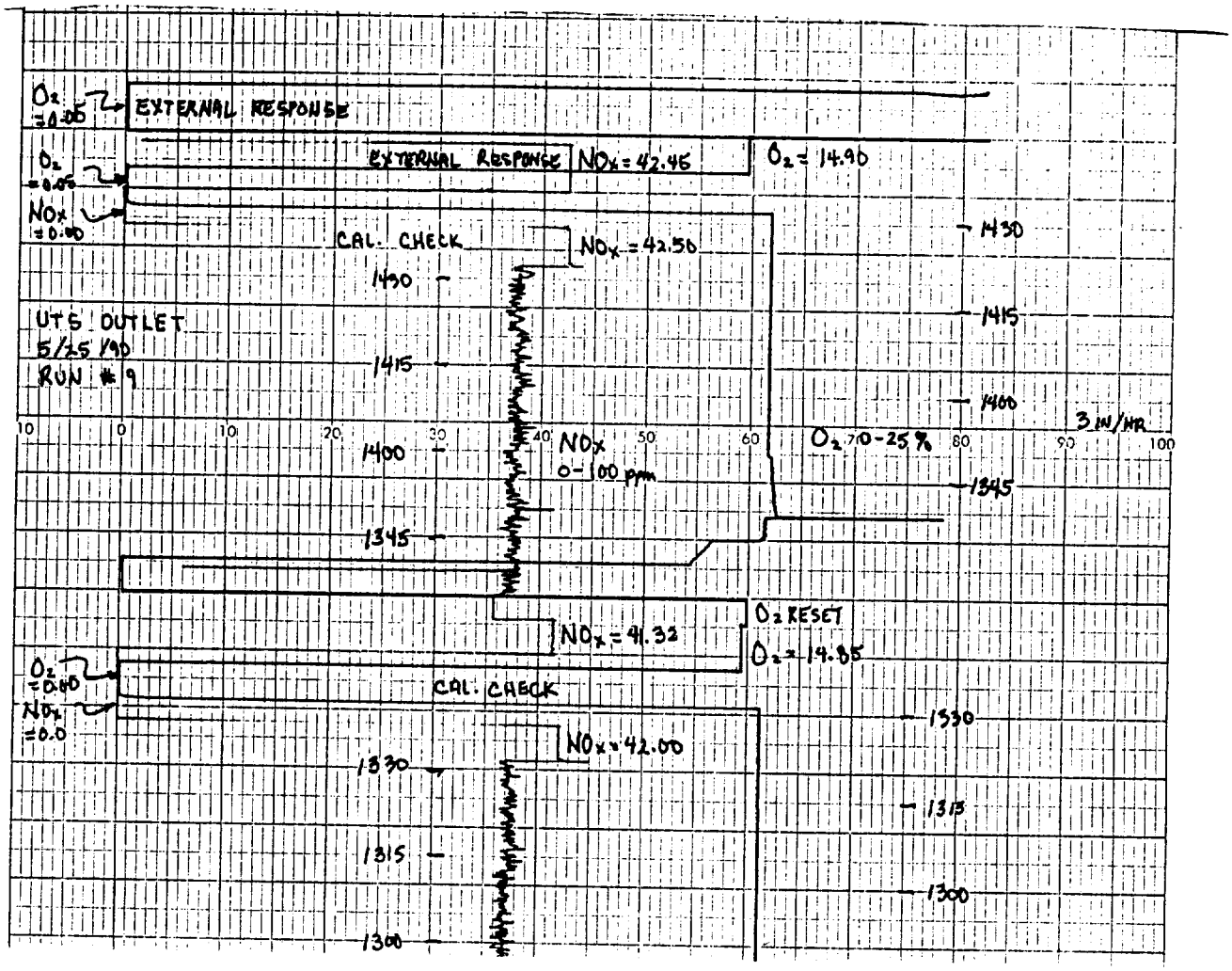
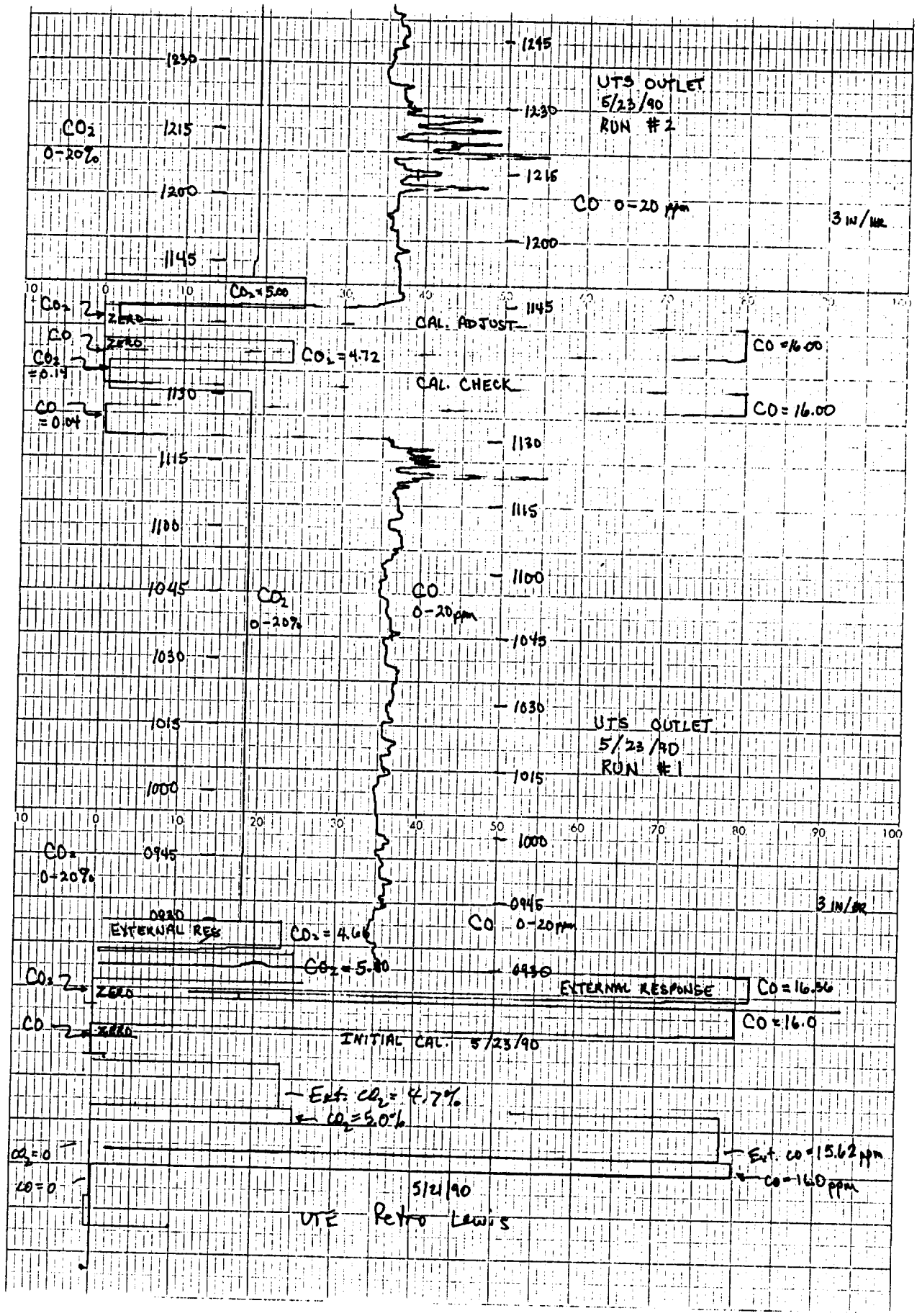
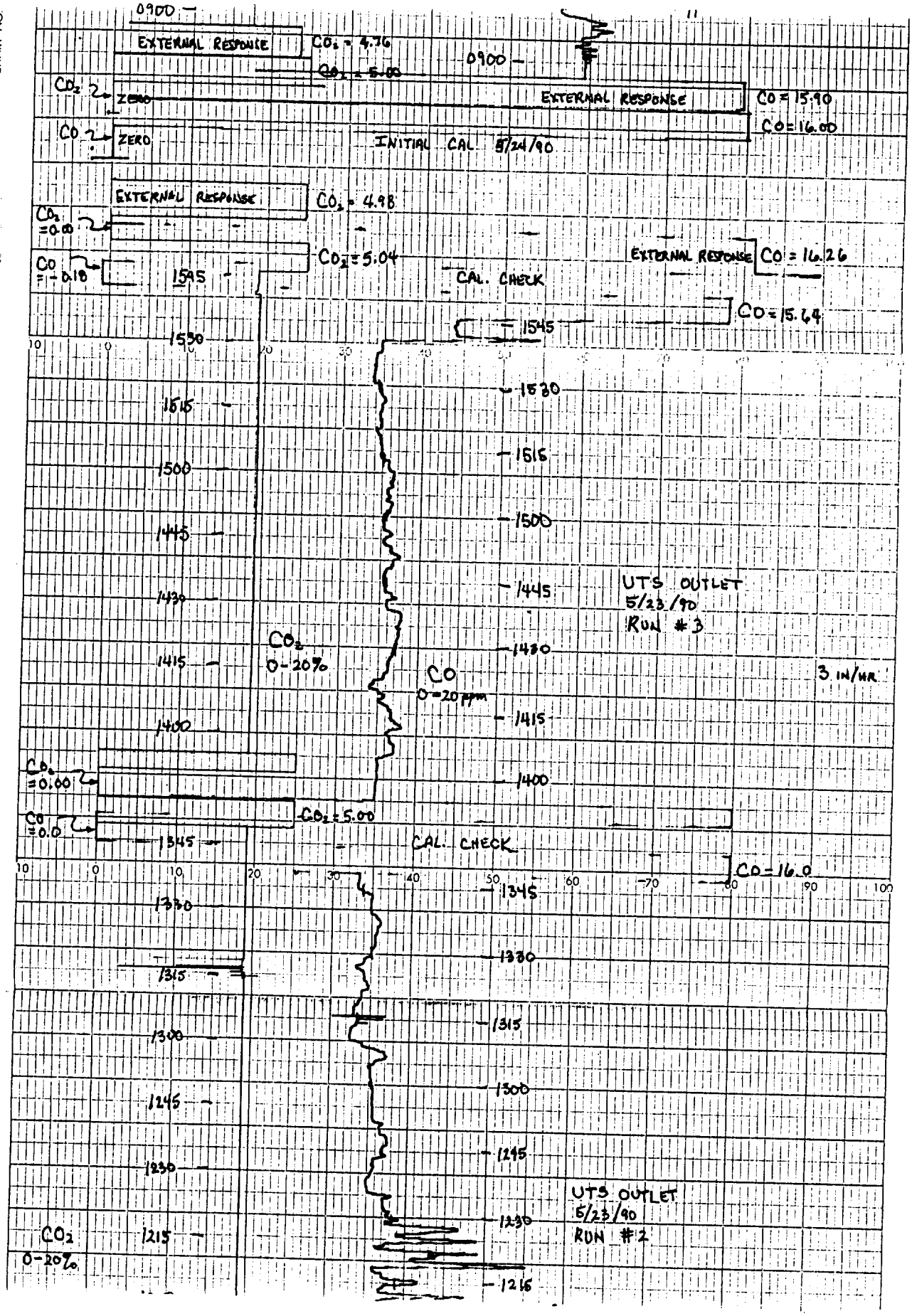
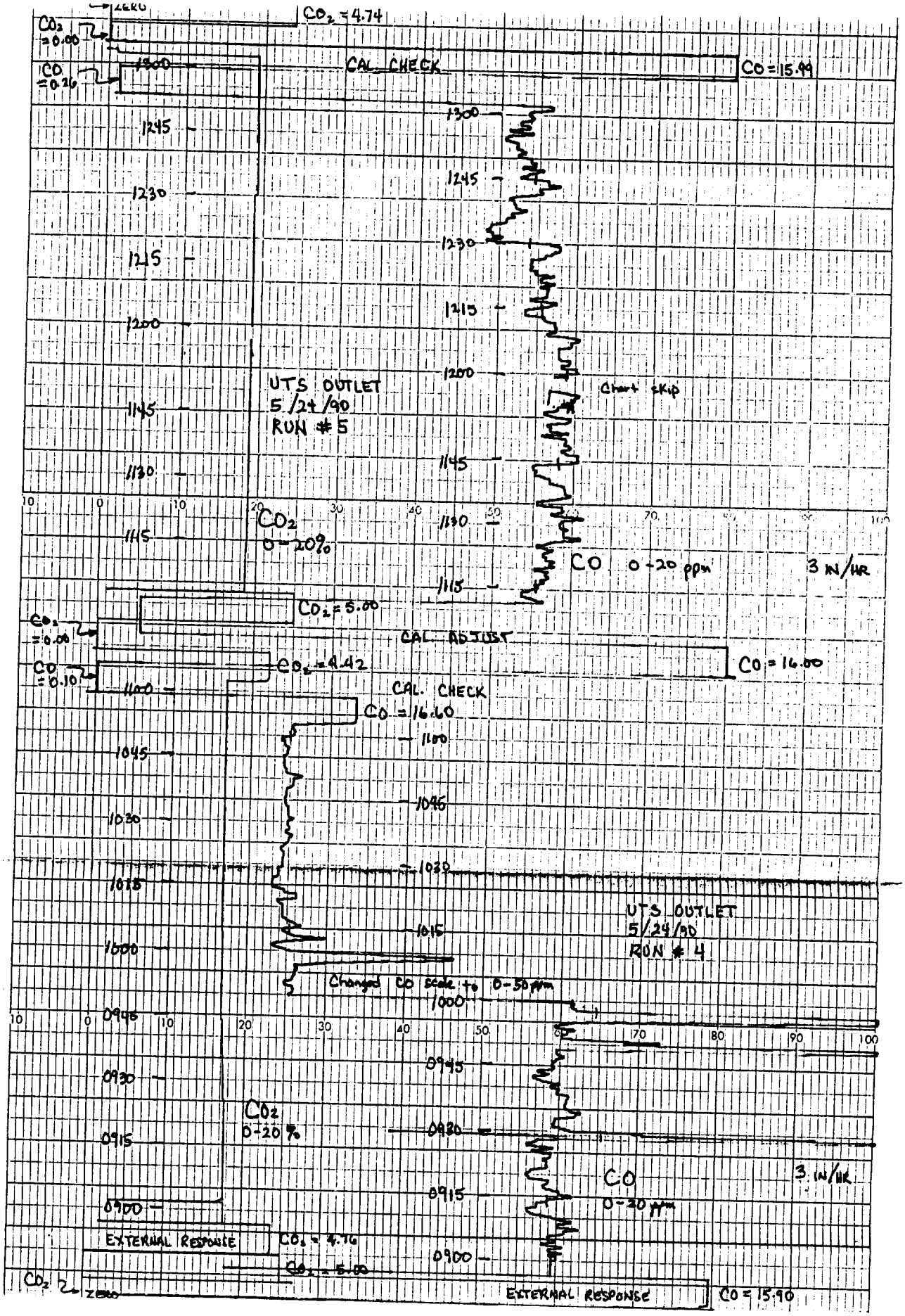
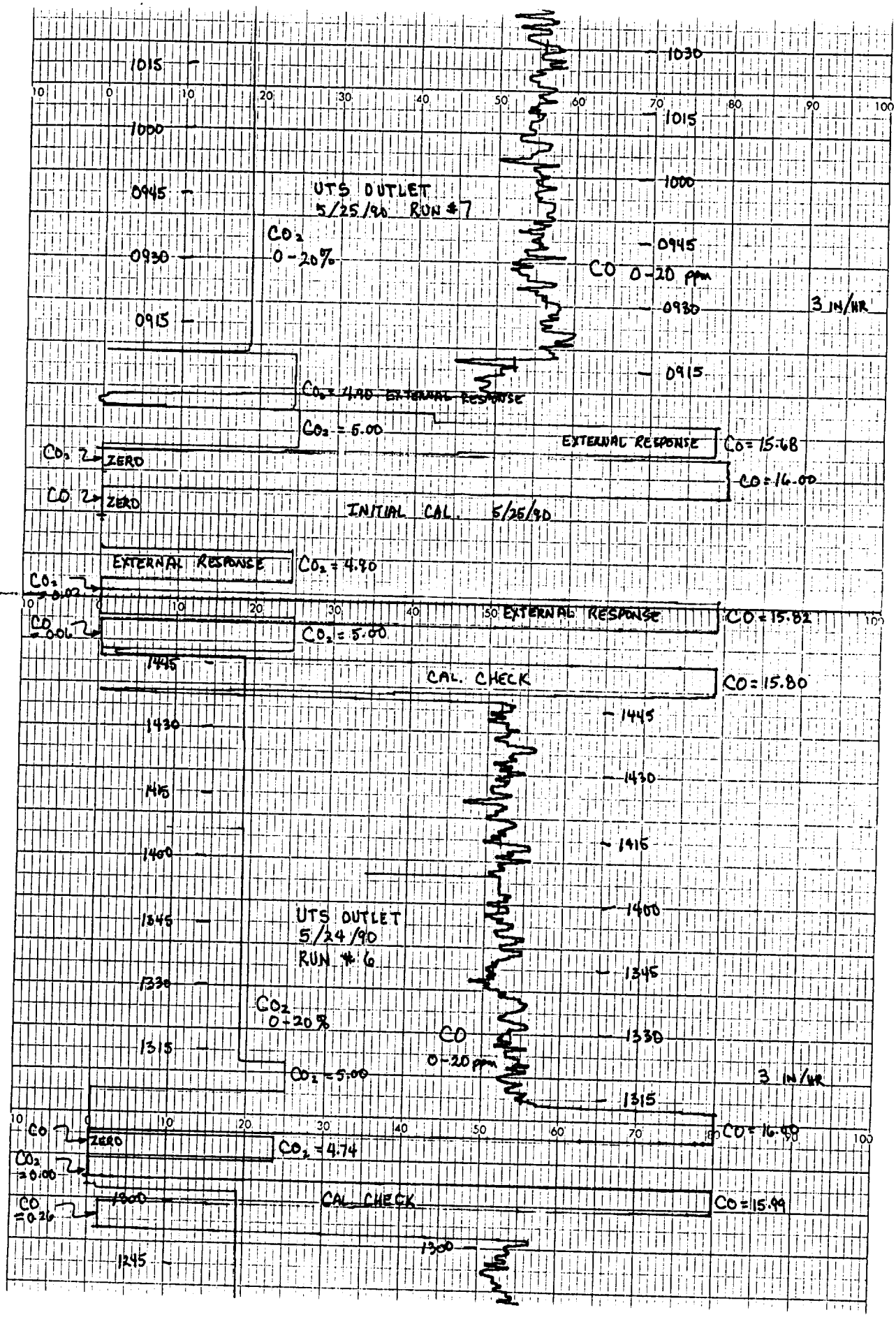


CHART NO. 414044 (1527)


UTS OUTLET
5/23/90
RUN #2
CO2
0-20%
CO 0-20 ppm
3 IN/HR
CO2 = 5.00
ZERO
CO2 = 4.72
CAL. ADJUST
CO = 16.00
CAL. CHECK
CO = 16.00
CO2 = 0.14
CO = 0.04
CO
0-20ppm
CO2
0-20%
UTS OUTLET
5/23/90
RUN #1
CO2
0-20%
EXTERNAL RES
CO2 = 4.66
CO2 = 5.00
CO 0-20ppm
EXTERNAL RESPONSE
CO = 16.56
CO = 16.0
INITIAL CAL. 5/23/90
Ext. CO2 = 4.7%
CO2 = 5.0%
Ext. CO = 15.62 ppm
CO = 16.0 ppm
5/24/90
UTE Petro Lewis
Charts-Inc
CHART NO. 414044
(1327)


0900
EXTERNAL RESPONSE
CO_2 = 4.76
CO_2 = 5.00
CO_2 ZERO
EXTERNAL RESPONSE
CO = 15.90
CO = 16.00
CO ZERO
INITIAL CAL 5/24/90
EXTERNAL RESPONSE
CO_2 = 4.98
CO_2 =0.00
CO_2 = 5.04
CO = 0.10
1545
CAL. CHECK
EXTERNAL RESPONSE
CO = 16.26
CO = 15.64
1545
1530
1515
1500
1445
1430
1415
1400
1545
1530
1515
1500
1445
1430
1415
1400
UTS OUTLET
5/23/90
RUN #3
3 IN/HR
CO_2
0-20%
CO
0-20 ppm
CO_2 =0.00
CO_2 = 5.00
CO =0.0
1345
CAL. CHECK
CO = 16.0
1330
1315
1300
1245
1230
1215
1345
1330
1315
1300
1245
1230
1215
UTS OUTLET
5/23/90
RUN #2
CO_2
0-20%
CHART NO.
Charts Inc
CHART NO. 414044
(1327)
arts-Inc


ZERO
CO_2 = 4.74
CO_2 = 0.00
CAL CHECK
CO = 0.26
CO = 15.99
UTS OUTLET
5/24/90
RUN # 5
CO_2 0-20%
CO 0-20 ppm
3 IN/HR
Chart skip
CO_2 = 5.00
CAL ADJUST
CO_2 = 0.00
CO_2 = 4.42
CO = 0.10
CO = 16.00
CAL CHECK
CO = 16.60
UTS OUTLET
5/24/90
RUN # 4
Changed CO scale to 0-50 ppm
CO_2 0-20 %
CO 0-20 ppm
3 IN/HR
EXTERNAL RESPONSE
CO_2 = 4.76
CO_2 = 5.00
CO_2 ZERO
EXTERNAL RESPONSE
CO = 15.90
CHART NO. 414044
Charts-inc
(1527)
CHART NO. 414044


1015
1000
0945
0930
0915
1030
1015
1000
0945
0930
0915
UTS OUTLET
5/25/90 RUN #7
CO2
0-20%
CO 0-20 ppm
3 IN/HR
CO2 = 1.40 EXTERNAL RESPONSE
CO2 = 5.00
EXTERNAL RESPONSE
CO = 15.68
CO2 ZERO
CO = 16.00
CO ZERO
INITIAL CAL. 5/25/90
EXTERNAL RESPONSE
CO2 = 4.90
CO2 = 0.02
EXTERNAL RESPONSE
CO = 15.82
CO = 0.04
CO2 = 5.00
1445
1430
1415
1400
1345
1330
1315
CAL. CHECK
CO = 15.80
UTS OUTLET
5/24/90
RUN #6
CO2
0-20%
CO
0-20 ppm
CO2 = 5.00
3 IN/HR
CO ZERO
CO2 = 4.74
CO = 16.00
CO2 = 0.00
CO = 0.20
1900
1245
1300
CAL. CHECK
CO = 15.99
CHART NO. 414044
Charts, Inc
(1327)
14044

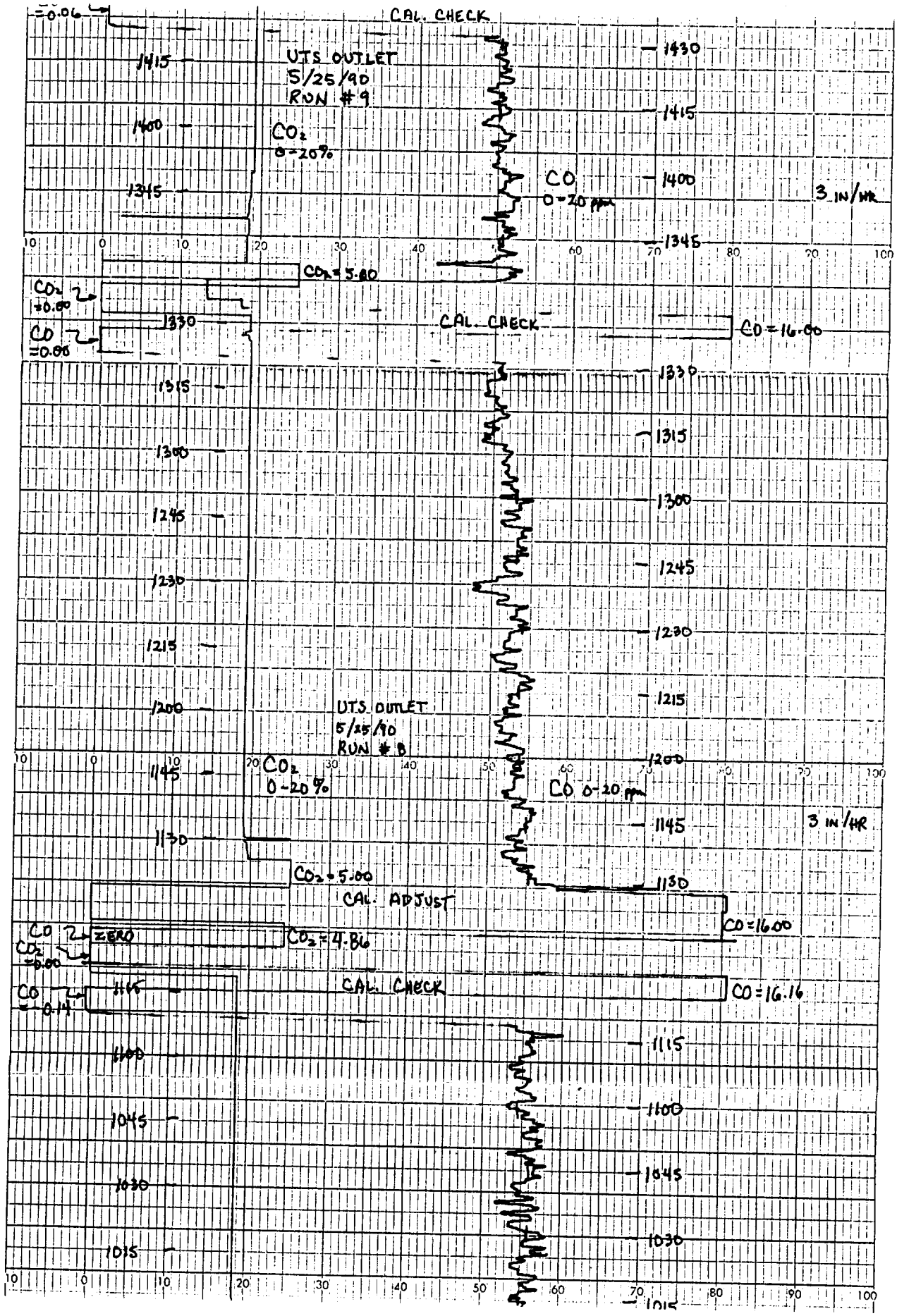
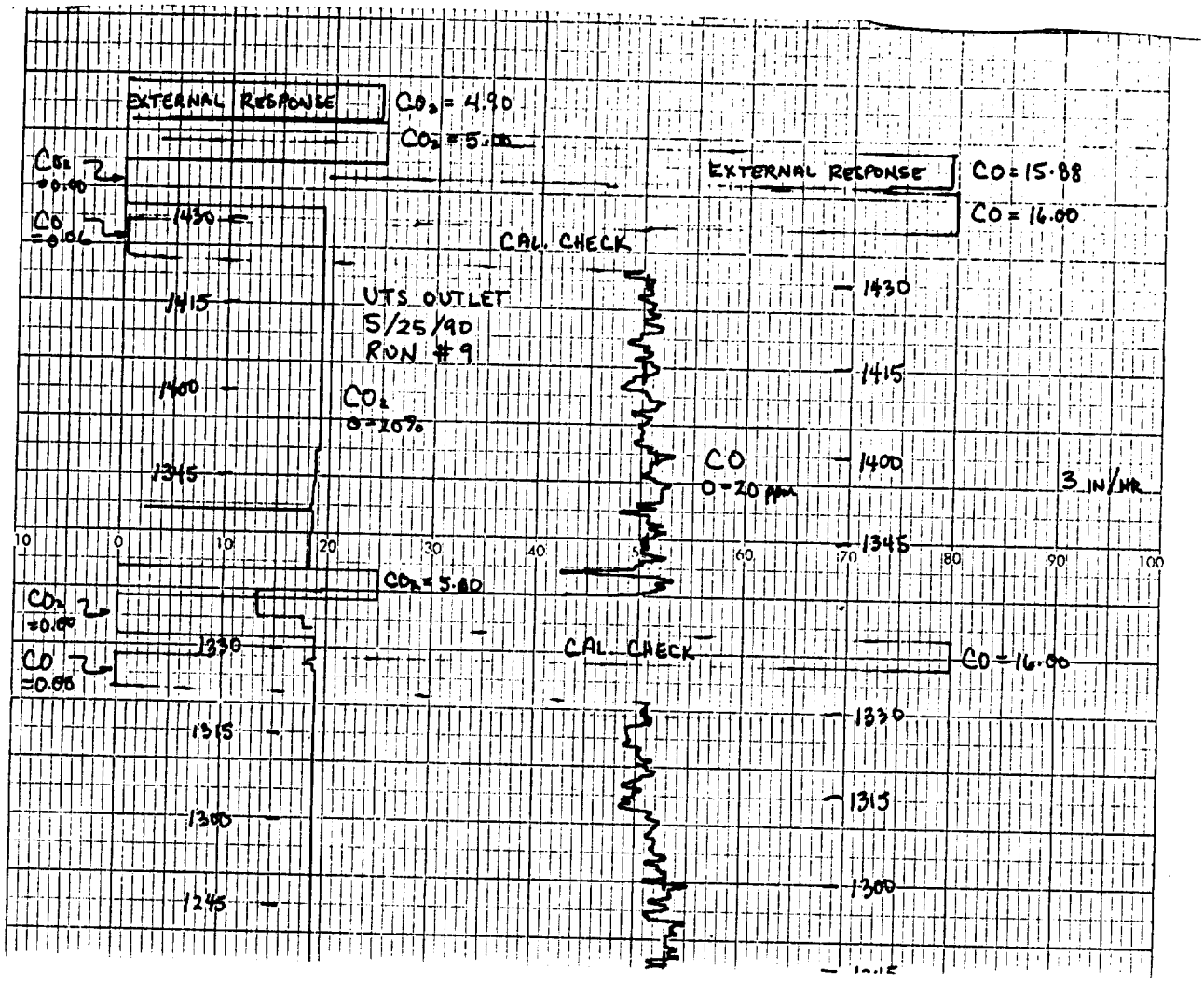


CHART NO. 41044 (1527) Charts-Inc 27)


EXTERNAL RESPONSE
CO_2 = 4.90
CO_2 = 5.00
CO_2 =0.00
CO =0.00
1430
1415
1400
1345
UTS OUTLET
5/25/90
RUN #9
CO_2
0-20%
CAL. CHECK
EXTERNAL RESPONSE
CO = 15.88
CO = 16.00
CO
0-20 PPM
3 IN/HR
10 0 10 20 30 40 50 60 70 80 90 100
CO_2 = 5.00
CO_2 =0.00
CO =0.00
1330
1315
1300
1245
CAL. CHECK
CO = 16.00
(1527)
CHART NO. 414044

Pape & Steiner Environmental Services

SAMPLE HANDLING/LOG-IN

Date 5/24/90 Test Location UTS OUTLET

	Sample Type	Volume		Comments
1.	23127 Meth F.G. Sample All Test			Fuel gas bomb
2.	23126 ~~Bag~~ Meth F.G. Sample All Test Bomb			Fuel gas bag sample
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				

CHAIN OF CUSTODY

Pape & Steiner Environmental Services

SAMPLE HANDLING/LOG-IN

Date 5/21/90 Test Location UTS Petro Lewis

	Sample Type	Volume	Comments
1.	23150 429 (Meth) FltW (Sample) BlK (Test)		
2.	23149 429 (Meth) FLT (Sample) BlK (Test)		
3.	23148 429 (Meth) BHW-1 (Sample) BlK (Test)		
4.	23147 429 (Meth) XMD-2 (Sample) BlK (Test)		
5.	23146 429 (Meth) BHW-2 (Sample) BlK (Test)		
6.	23145 429 (Meth) BHW-3 (Sample) BlK (Test)		
7.			
8.			
9.			
10.			
11.			
12.			

CHAIN OF CUSTODY

BH

LW. 5/21/90

Pape & Steiner Environmental Services

SAMPLE HANDLING/LOG-IN

Date 5/24/90 Test Location UTS OUTLET

	Sample Type	Volume	Comments
1.	23136 429 (Meth) FHW (Sample) 2 (Test)		
2.	23135 429 (Meth) FLT (Sample) 2 (Test)		
3.	23134 429 (Meth) BHW-1 (Sample) 2 (Test)		
4.	23133 429 (Meth) XAD-2 (Sample) 2 (Test)		
5.	23132 429 (Meth) BHW-2 (Sample) 2 (Test)		
6.	23131 429 (Meth) BHW-3 (Sample) 2 (Test)		
	BLANK		
7.			
8.			
9.			
10.			
11.			
12.			

CHAIN OF CUSTODY

AW. 5/29/90

Pape & Steiner Environmental Services

SAMPLE HANDLING/LOG-IN

Date 5/25/90 Test Location UTS OUTLET

	Sample Type	Volume	Comments
1.	23125 429 Meth FHW Sample 3 Test		
2.	23124 429 Meth FLT Sample 3 Test		
3.	23123 429 Meth BHW-1 Sample 3 Test		
4.	23122 429 Meth XAD-2 Sample 3 Test		
5.	23121 429 Meth BHW-2 Sample 3 Test		
6.	23120 429 Meth BHW-3 Sample 3 Test		
	Germ		
7.			
8.			
9.			
10.			
11.			
12.			

CHAIN OF CUSTODY

FHW 5/29/90

Pape & Steiner Environmental Services

SAMPLE HANDLING/LOG-IN

Date 5/23/90 - Test Location UTS OUTLET

	Sample Type	Volume	Comments
1.	23129 410 (Meth) A025 (Sample) 1 (Test)		Canister, Run #1
2.	23128 410 (Meth) A028 (Sample) 2 (Test)		" , Run #2
3.	22291 410 (Meth) A063 (Sample) 3 (Test)		" , Run #3
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			

CHAIN OF CUSTODY

Pape & Steiner Environmental Services

SAMPLE HANDLING/LOG-IN

Date 5/25/90 Test Location UTS OUTLET

	Sample Type	Volume	Comments
1.	22292 430 (Meth) CH2O (Sample) 3 (Test) Gwm		
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			

CHAIN OF CUSTODY

RW. 5/29/90

SOURCE TEST CALCULATIONS

PLANT : UTS, PETRO LEWIS — RUN NO.: 1
HRSG OUTLET — DATE : 23-May-90

TEST PARAMETER : ORGANICS

STD.TEMP, Tstd	=	68	of	STD. PRESS,Pstd	=	29.92	"Hg
METER TEMP, Tm	=	97.4	of	STATIC PRESS.	=	-1.35	"H2O
STACK TEMP, Ts	=	377.1	of	PITOT COEF., Cp	=	0.84	
SQ.RT. ^P	=	1.3401		STACK I.D.	=	59.75	inch
METER ^H	=	0.84	"H2O	DUCT LENGTH	=		inch
METER VOL., Vm	=	183.834	ft3	DUCT WIDTH	=		inch
METER COEF., ŷ	=	1.0052		STACK AREA, As	=	19.472	ft2
BAR. PRESS, Pb	=	29.35	"Hg	TEST TIME, \	=	360.0	min.
COND., Vlc	=	326.0	ml	NOZZLE DIA.	=	0.1600	inch

GAS ANALYSIS	=	15.26	% O2	0.00	% CO
		3.79	% CO2	80.95	% N2

****

Vm(std) = [Tstd + 460 / Pstd] x Vm x ŷ x (Pb + (^H / 13.6)) / (Tm + 460).....	=	172.076	dscf
Vw(std) = (8.9148E-5) x (Tstd + 460) x Vlc	=	15.345	scf
Bws = Vw(std) / [Vm(std) + Vw(std)].....	=	0.082	Lower Bws value used.
Bws @ Saturated Conditions = Vapor Press. of H2O @ Dew Point Temp. / (Pstack, in.Hg.)	=	1.000	
% Excess Air =(%O2 - 0.5%CO) / [0.264%N2 - (%O2-0.5%CO)] x 100	=		%
Md =(.44 x %CO2)+(.32 x %O2)+[.28 x (%N2 + %CO)]	=	30.59	lb/lb-mole
Ms = (Md x (1-Bws)) + (18.0 x Bws).....	=	29.56	lb/lb-mole
P(stack) = Pb + [Pstatic / 13.6]	=	29.25	"Hg
vs = 85.49 x Cp x (Sq.Rt.^P) x [Sq.Rt.(Ts + 460) / (Ms x P(stack))]	=	94.69	ft/sec
Qs = vs x As x 60	=	110,623	acf/min
Qs(std) = Qs x (1-Bws)x((Tstd + 460)/(Ts + 460)) x (P(stack) / Pstd)	=	62,628	dscf/min
I = (Ts+460) x [(0.002669 x Vlc) + (Vm(std) / (Tstd + 460) / Pstd] x 100 / [\ x P(stack) x An x vs x 60)	=	106.44	%

SOURCE TEST CALCULATIONS

PLANT : UTS, PETRO LEWIS
HRSG OUTLET

RUN NO.: 3
DATE : 25-May-90

TEST PARAMETER : ORGANICS

STD.TEMP, Tstd	=	68	of	STD. PRESS,Pstd	=	29.92	"Hg
METER TEMP, Tm	=	97.4	of	STATIC PRESS.	=	-1.30	"H2O
STACK TEMP, Ts	=	380.0	of	PITOT COEF., Cp	=	0.84	
SQ.RT. ^P	=	1.3378		STACK I.D.	=	59.75	inch
METER ^H	=	0.84	"H2O	DUCT LENGTH	=		inch
METER VOL., Vm	=	182.681	ft3	DUCT WIDTH	=		inch
METER COEF., ŷ	=	1.0052		STACK AREA, As	=	19.472	ft2
BAR. PRESS, Pb	=	29.46	"Hg	TEST TIME, \	=	360.0	min.
COND., Vlc	=	298.2	ml	NOZZLE DIA.	=	0.1600	inch

GAS ANALYSIS	=	15.47	% O2	0.00	% CO
		3.79	% CO2	80.74	% N2

****

Vm(std) = [Tstd + 460 / Pstd] x Vm x ŷ x (Pb + (^H / 13.6)) / (Tm + 460)..... = 171.621 dscf

Vw(std) = (8.9148E-5) x (Tstd + 460) x Vlc .... = 14.036 scf

Bws = Vw(std) / [Vm(std) + Vw(std)]..... = 0.076 | Lower Bws value used.

Bws @ Saturated Conditions = Vapor Press. of H2O @ Dew Point Temp. / (Pstack, in.Hg.) ..... = 1.000

% Excess Air =(%O2 - 0.5%CO) / [0.264%N2 - (%O2-0.5%CO)] x 100 ..... = %

Md =(.44 x %CO2)+(.32 x %O2)+[.28 x (%N2 + %CO)] = 30.63 lb/lb-mole

Ms = (Md x (1-Bws)) + (18.0 x Bws)..... = 29.67 lb/lb-mole

P(stack) = Pb + [Pstatic / 13.6] ..... = 29.36 "Hg

vs = 85.49 x Cp x (Sq.Rt.^P) x [Sq.Rt.(Ts + 460) / (Ms x P(stack))] ..... = 94.33 ft/sec

Qs = vs x As x 60 ..... = 110,207 acf/min

Qs(std) = Qs x (1-Bws)x((Tstd + 460)/(Ts + 460)) x (P(stack) / Pstd) ..... = 62,844 dscf/min

I = (Ts+460) x [(0.002669 x Vlc) + (Vm(std) / (Tstd + 460) / Pstd] x 100 / [\ x P(stack) x An x vs x 60) ..... = 105.79 %

SOURCE TEST CALCULATIONS

PLANT : UTS, PETRO LEWIS
HRSG OUTLET

RUN NO.: 2
DATE : 24-May-90

TEST PARAMETER : ORGANICS

STD.TEMP, Tstd	=	68	of	STD. PRESS,Pstd	=	29.92	"Hg
METER TEMP, Tm	=	89.6	of	STATIC PRESS.	=	-1.30	"H2O
STACK TEMP, Ts	=	381.2	of	PITOT COEF., Cp	=	0.84	
SQ.RT. ^P	=	1.3264		STACK I.D.	=	59.75	inch
METER ^H	=	0.81	"H2O	DUCT LENGTH	=		inch
METER VOL., Vm	=	177.720	ft3	DUCT WIDTH	=		inch
METER COEF., ŷ	=	1.0052		STACK AREA, As	=	19.472	ft2
BAR. PRESS, Pb	=	29.58	"Hg	TEST TIME, \	=	360.0	min.
COND., Vlc	=	299.7	ml	NOZZLE DIA.	=	0.1600	inch

GAS ANALYSIS = 15.51 % O2 0.00 % CO
3.77 % CO2 80.72 % N2

****

Vm(std) = [Tstd + 460 / Pstd] x Vm x ŷ x
(Pb + (^H / 13.6)) / (Tm + 460)..... = 170.005 dscf

Vw(std) = (8.9148E-5) x (Tstd + 460) x Vlc .... = 14.107 scf

Bws = Vw(std) / [Vm(std) + Vw(std)]..... = 0.077 | Lower Bws value used.

Bws @ Saturated Conditions = Vapor Press. of H2O @ Dew Point Temp. / (Pstack, in.Hg.) ..... = 1.000

% Excess Air =(%O2 - 0.5%CO) / [0.264%N2 - (%O2-0.5%CO)] x 100 ..... = %

Md =(.44 x %CO2)+(.32 x %O2)+[.28 x (%N2 + %CO)] = 30.63 lb/lb-mole

Ms = (Md x (1-Bws)) + (18.0 x Bws)..... = 29.66 lb/lb-mole

P(stack) = Pb + [Pstatic / 13.6] ..... = 29.48 "Hg

vs = 85.49 x Cp x (Sq.Rt.^P) x [Sq.Rt.(Ts + 460) / (Ms x P(stack))] ..... = 93.41 ft/sec

Qs = vs x As x 60 ..... = 109,135 acf/min

Qs(std) = Qs x (1-Bws)x((Tstd + 460)/(Ts + 460)) x (P(stack) / Pstd) ..... = 62,330 dscf/min

I = (Ts+460) x [(0.002669 x Vlc) + (Vm(std) / (Tstd + 460) / Pstd] x 100 / [\ x P(stack) x An x vs x 60) ..... = 105.66 %

SOURCE TEST CALCULATIONS

PLANT : UTS, PETRO LEWIS
HRSG OUTLET

RUN NO.: 3
DATE : 25-May-90

TEST PARAMETER : ORGANICS

STD.TEMP, Tstd	=	68	of	STD. PRESS,Pstd	=	29.92	"Hg
METER TEMP, Tm	=	97.4	of	STATIC PRESS.	=	-1.30	"H2O
STACK TEMP, Ts	=	380.0	of	PITOT COEF., Cp	=	0.84	
SQ.RT. ^P	=	1.3378		STACK I.D.	=	59.75	inch
METER ^H	=	0.84	"H2O	DUCT LENGTH	=		inch
METER VOL., Vm	=	182.681	ft3	DUCT WIDTH	=		inch
METER COEF., ŷ	=	1.0052		STACK AREA, As	=	19.472	ft2
BAR. PRESS, Pb	=	29.46	"Hg	TEST TIME, \	=	360.0	min.
COND., Vlc	=	298.2	ml	NOZZLE DIA.	=	0.1600	inch

GAS ANALYSIS	=	15.47	% O2	0.00	% CO
		3.79	% CO2	80.74	% N2

****

Vm(std) = [Tstd + 460 / Pstd] x Vm x ŷ x (Pb + (^H / 13.6)) / (Tm + 460)..... = 171.621 dscf

Vw(std) = (8.9148E-5) x (Tstd + 460) x Vlc .... = 14.036 scf

Bws = Vw(std) / [Vm(std) + Vw(std)]..... = 0.076 | Lower Bws value used.

Bws @ Saturated Conditions = Vapor Press. of H2O @ Dew Point Temp. / (Pstack, in.Hg.) ..... = 1.000

% Excess Air =(%O2 - 0.5%CO) / [0.264%N2 - (%O2-0.5%CO)] x 100 ..... = %

Md =(.44 x %CO2)+(.32 x %O2)+[.28 x (%N2 + %CO)] = 30.63 lb/lb-mole

Ms = (Md x (1-Bws)) + (18.0 x Bws)..... = 29.67 lb/lb-mole

P(stack) = Pb + [Pstatic / 13.6] ..... = 29.36 "Hg

vs = 85.49 x Cp x (Sq.Rt.^P) x [Sq.Rt.(Ts + 460) / (Ms x P(stack))] ..... = 94.33 ft/sec

Qs = vs x As x 60 ..... = 110,207 acf/min

Qs(std) = Qs x (1-Bws)x((Tstd + 460)/(Ts + 460)) x (P(stack) / Pstd) ..... = 62,844 dscf/min

I = (Ts+460) x [(0.002669 x Vlc) + (Vm(std) / (Tstd + 460) / Pstd] x 100 / [\ x P(stack) x An x vs x 60) ..... = 105.79 %

ANALYTICAL SUMMARY

Company : UTS, PETRO LEWIS
Source/Unit : HRSG OUTLET
Test Method : CARB METHOD 429, POLYCYCLIC AROMATIC HYDROCARBONS, FRONT HALF CATCH
Date : 23-May-90

PAH Compound	MW	Sample Weight, ng				Laboratory Detection Limit, ng			
		Run 1	Run 2	Run 3	BLANK	Run 1	Run 2	Run 3	BLANK
Naphthalene	128.0626	10920	13370	12800	1340				
2-Methyl-Naphthalene	142.0782	167	108	138	95.8				
2-Chloro-Naphthalene	162.0236	ND	ND	ND	1.5	0.1	0.1	0.1	
Acenaphthene	154.0782	27.5	15.7	27	19				
Acenaphthalene	152.0626	2.7	2	2.2	3.5				
Fluorene	166.0782	65.4	44.6	85.1	44				
Phenanthrene	178.0782	190	80	102	78.6				
Anthracene	178.0782	ND	ND	ND	ND	0.3	0.3	0.3	0.3
Fluoranthene	202.0782	43.9	19	23.7	17				
Pyrene	202.0782	40	16.6	19	13.4				
Benzo-a-Anthracene	228.0939	ND	ND	ND	ND	0.4	0.5	0.5	0.5
Chrysene	228.0939	52.6	31.2	24.8	8.4				
Benzo-b-Fluoranthene	252.0939	3.2	ND	2.3	5.2		0.9		
Benzo-k-Fluoranthene	252.0939	ND	ND	ND	11.9	0.5	0.6	0.8	
Benzo-e-Pyrene	252.0939	3.2	1.4	7.8	5.5				
Benzo-a-Pyrene	252.0939	ND	ND	1.8	ND	0.9	0.8		1.2
Perylene	252.0939	ND	ND	ND	ND	1.2	0.9	1.7	1.5
Indeno-123-c,d-Pyrene	276.0939	ND	ND	ND	ND	4.3	4.2	5.3	11.1
Dibenzo-ah-Anthracene	278.3526	ND	ND	ND	ND	7.4	6.1	11.8	21
Benzo-ghi-Perylene	276.0939	5.4	6.5	11.6	ND				8.7

ANALYTICAL SUMMARY

Company : UTS, PETRO LEWIS
Source/Unit : HRSG OUTLET
Test Method : CARB METHOD 429, POLYCYCLIC AROMATIC HYDROCARBONS, BACK HALF CATCH
Date : 23-May-90

PAH Compound	MW	Sample Weight, ng				Detection Limit, ng			
		Run 1	Run 2	Run 3	BLANK	Run 1	Run 2	Run 3	BLANK
Naphthalene	128.0626	91	79.8	95.3	123				
2-Methyl-Naphthalene	142.0782	34.1	38.4	40.4	46.2				
2-Chloro-Naphthalene	162.0236	ND	ND	ND	ND	0.05	0.1	0.1	0.2
Acenaphthene	154.0782	ND	6.2	28.3	6.6	0.09			
Acenaphthalene	152.0626	ND	ND	ND	0.79	0.06	0.1	0.1	
Fluorene	166.0782	6.7	22.2	165	23.4				
Phenanthrene	178.0782	9	10.8	12.2	23.3				
Anthracene	178.0782	ND	ND	ND	ND	0.1	0.3	0.3	0.5
Fluoranthene	202.0782	4	2.7	1.9	2.3				
Pyrene	202.0782	3.8	2.8	1.7	1.7				
Benzo-a-Anthracene	228.0939	ND	ND	ND	ND	0.02	0.4	0.3	0.6
Chrysene	228.0939	9.5	6.3	2.7	23.8				
Benzo-b-Fluoranthene	252.0939	1.3	ND	ND	2.4		1	0.7	
Benzo-k-Fluoranthene	252.0939	ND	ND	ND	ND	0.03	0.5	0.3	0.6
Benzo-e-Pyrene	252.0939	0.78	ND	ND	ND		0.8	0.5	0.7
Benzo-a-Pyrene	252.0939	ND	ND	ND	ND	0.04	1	0.6	0.9
Perylene	252.0939	ND	ND	ND	ND	0.05	1.1	0.6	0.9
Indeno-123-c,d-Pyrene	276.0939	ND	ND	ND	ND	0.06	6.9	4.4	8.1
Dibenzo-ah-Anthracene	278.3526	ND	ND	ND	ND	0.08	11.9	7.1	9.7
Benzo-ghi-Perylene	276.0939	0.49	ND	ND	ND		5.9	4.2	5.3

ANALYTICAL SUMMARY

Company : UTS, PETRO LEWIS
Source/Unit : HRSG OUTLET
Test Method : CARB METHOD 429, POLYCYCLIC AROMATIC HYDROCARBONS, TOTAL CATCH
Date : 23-May-90

PAH Compound	MW	Sample Weight, ng *			
		Run 1	Run 2	Run 3	BLANK
Naphthalene	128.0626	11011	13449.8	12895.3	1463
2-Methyl-Naphthalene	142.0782	201.1	146.4	178.4	142
2-Chloro-Naphthalene	162.0236	< 0.15	< 0.2	< 0.2	< 1.7
Acenaphthene	154.0782	< 27.59	21.9	55.3	25.6
Acenaphthalene	152.0626	< 2.76	< 2.1	< 2.3	4.29
Fluorene	166.0782	72.1	66.8	250.1	67.4
Phenanthrene	178.0782	199	90.8	114.2	101.9
Anthracene	178.0782	< 0.4	< 0.6	< 0.6	< 0.8
Fluoranthene	202.0782	47.9	21.7	25.6	19.3
Pyrene	202.0782	43.8	19.4	20.7	15.1
Benzo-a-Anthracene	228.0939	< 0.42	< 0.9	< 0.8	< 1.1
Chrysene	228.0939	62.1	37.5	27.5	32.2
Benzo-b-Fluoranthene	252.0939	4.5	< 1.9	< 3	7.6
Benzo-k-Fluoranthene	252.0939	< 0.53	< 1.1	< 1.1	< 12.5
Benzo-e-Pyrene	252.0939	3.98	< 2.2	< 8.3	< 6.2
Benzo-a-Pyrene	252.0939	< 0.94	< 1.8	< 2.4	< 2.1
Perylene	252.0939	< 1.25	< 2	< 2.3	< 2.4
Indeno-123-c,d-Pyrene	276.0939	< 4.36	< 11.1	< 9.7	< 19.2
Dibenzo-ah-Anthracene	278.3526	< 7.48	< 18	< 18.9	< 30.7
Benzo-ghi-Perylene	276.0939	5.89	< 12.4	< 15.8	< 14

* Sample Weight, ng = Total sample weight or detection limit, if not detectable.

ANALYTICAL SUMMARY

Company : UTS, PETRO LEWIS
Source/Unit : HRSG OUTLET
Test Method : CARB METHOD 429, POLYCYCLIC AROMATIC HYDROCARBONS, MINIMUM DETECTABLE CONCENTRATION, TOTAL SAMPLE (FRONT HALF + BACK HALF)
Date : 23-May-90

	Run 1	Run 2	Run 3	BLANK
Vm(std), f	172.076	170.005	171.621	171.234

PAH Compound	Laboratory Detection Limit (Front Half DL + Back Half DL), ng (1)				Minimum Detectable Concentration, ng/dscm (2)			
	Run 1	Run 2	Run 3	BLANK	Run 1	Run 2	Run 3	BLANK
Naphthalene	0.15	0.2	0.2	0.2	0.03	0.04	0.04	0.04
2-Methyl-Naphthalene	0.09				0.02			
2-Chloro-Naphthalene	0.06	0.1	0.1		0.01	0.02	0.02	
Acenaphthene								
Acenaphthalene	0.4	0.6	0.6	0.8	0.08	0.12	0.12	0.16
Fluorene								
Phenanthrene	0.42	0.9	0.8	1.1	0.09	0.19	0.16	0.23
Anthracene		1.9	0.7			0.39	0.14	
Fluoranthene	0.53	1.1	1.1	0.6	0.11	0.23	0.23	0.12
Pyrene		0.8	0.5	0.7		0.17	0.10	0.14
Benzo-a-Anthracene	0.94	1.8	0.6	2.1	0.19	0.37	0.12	0.43
Chrysene	1.25	2	2.3	2.4	0.26	0.42	0.47	0.49
Benzo-b-Fluoranthene	4.36	11.1	9.7	19.2	0.89	2.31	2.00	3.96
Benzo-k-Fluoranthene	7.48	18	18.9	30.7	1.54	3.74	3.89	6.33
Benzo-e-Pyrene		5.9	4.2	14		1.23	0.86	2.89
Benzo-a-Pyrene								
Perylene								
Indeno-123-c,d-Pyrene								
Dibenzo-ah-Anthracene								
Benzo-ghi-Perylene								

(1) Laboratory Detection Limit, ng = As / (Ais x RRF)

where As = Mean noise for the congener mass chromatogram at the m/z.
Ais = SIM response for the internal standard ion (m/z).
RRF = Relative response factor = (As x Cis) / (Ais x Cs)

where : Cis = Concentration of the appropriate internal standard, ng/ul.
Cs = Concentration of the native ion of interest.

(2) Minimum Detectable Concentration, ng/dscm = Laboratory Detection Limit / [Vm(std) x 0.028317]

where: 0.028317 = Factor for converting dscf to dscm.

EMISSION CALCULATIONS

Company : UTS, PETRO LEWIS
Source/Unit : HRSG OUTLET
Test Method : CARB METHOD 429, POLYCYCLIC AROMATIC HYDROCARBONS, TOTAL PAH's
Date : 23-May-90
STANDARD TEMP : 68 of

	Run 1	Run 2	Run 3	BLANK
Vm(std), ft3	172.076	170.005	171.621	171.234

PAH Compound	MW	Sample Weight, ng *				ppm				
		Run 1	Run 2	Run 3	BLANK	Run 1	Run 2	Run 3	Average	BLANK
Naphthalene	128.0626	11011	13449.8	12895.3	1463	4.25E-04	5.25E-04	4.99E-04	4.83E-04	5.67E-05
2-Methyl-Naphthalene	142.0782	201.1	146.4	178.4	142	6.99E-06	5.15E-06	6.22E-06	6.12E-06	4.96E-06
2-Chloro-Naphthalene	162.0236	<0.15	<0.2	< 0.2	< 1.7	<4.57E-09	<6.17E-09	<6.11E-09	<5.62E-09	<5.21E-08
Acenaphthene	154.0782	<27.59	21.9	55.3	25.6	<8.85E-07	7.11E-07	1.78E-06	<1.12E-06	8.25E-07
Acenaphthalene	152.0626	<2.76	<2.1	< 2.3	4.29	<8.97E-08	<6.90E-08	<7.49E-08	<7.79E-08	1.40E-07
Fluorene	166.0782	72.1	66.8	250.1	67.4	2.14E-06	2.01E-06	7.46E-06	3.87E-06	2.01E-06
Phenanthrene	178.0782	199	90.8	114.2	101.9	5.52E-06	2.55E-06	3.18E-06	3.75E-06	2.84E-06
Anthracene	178.0782	<0.4	<0.6	< 0.6	< 0.8	<1.11E-08	<1.68E-08	<1.67E-08	<1.49E-08	<2.23E-08
Fluoranthene	202.0782	47.9	21.7	25.6	19.3	1.17E-06	5.37E-07	6.27E-07	7.78E-07	4.74E-07
Pyrene	202.0782	43.8	19.4	20.7	15.1	1.07E-06	4.80E-07	5.07E-07	6.86E-07	3.71E-07
Benzo-a-Anthracene	228.0939	<0.42	<0.9	< 0.8	< 1.1	<9.10E-09	<1.97E-08	<1.74E-08	<1.54E-08	<2.39E-08
Chrysene	228.0939	62.1	37.5	27.5	32.2	1.34E-06	8.22E-07	5.97E-07	9.21E-07	7.01E-07
Benzo-b-Fluoranthene	252.0939	4.5	< 1.9	< 3	7.6	8.82E-08	<3.77E-08	<5.89E-08	<6.16E-08	1.50E-07
Benzo-k-Fluoranthene	252.0939	<0.53	< 1.1	< 1.1	< 12.5	<1.04E-08	<2.18E-08	<2.16E-08	<1.79E-08	<2.46E-07
Benzo-e-Pyrene	252.0939	3.98	< 2.2	< 8.3	< 6.2	7.80E-08	<4.36E-08	<1.63E-07	<9.49E-08	<1.22E-07
Benzo-a-Pyrene	252.0939	<0.94	< 1.8	< 2.4	< 2.1	<1.84E-08	<3.57E-08	<4.72E-08	<3.38E-08	<4.14E-08
Perylene	252.0939	<1.25	< 2	< 2.3	< 2.4	<2.45E-08	<3.97E-08	<4.52E-08	<3.64E-08	<4.73E-08
Indeno-123-c,d-Pyrene	276.0939	<4.36	<11.1	< 9.7	< 19.2	<7.80E-08	<2.01E-07	<1.74E-07	<1.51E-07	<3.45E-07
Dibenzo-ah-Anthracene	278.3526	<7.48	< 18	< 18.9	< 30.7	<1.33E-07	<3.23E-07	<3.36E-07	<2.64E-07	<5.47E-07
Benzo-ghi-Perylene	276.0939	5.89	<12.4	<15.8	< 14	1.05E-07	<2.25E-07	<2.83E-07	<2.04E-07	<2.52E-07

* Sample Weight = Total sample weight or detection limit, if not detectable.

ppm = 1.60982 x [T(std) + 460] x (ng / 1e6) / [MW x Vm(std)]

EMISSION CALCULATIONS

Company : UTS, PETRO LEWIS
Source/Unit : HRSG OUTLET
Test Method : CARB METHOD 429, POLYCYCLIC AROMATIC HYDROCARBONS, TOTAL PAH's
Date : 23-May-90
STANDARD TEMP : 68 of

	Run 1	Run 2	Run 3	BLANK
Qs(std), ft3	62,628	62,330	62,844	62,601

PAH Compound	MW	ppm				lb/hr				
		Run 1	Run 2	Run 3	BLANK	Run 1	Run 2	Run 3	Average	BLANK
Naphthalene	128.0626	4.25E-04	5.25E-04	4.99E-04	5.67E-05	5.30E-04	6.53E-04	6.25E-04	6.03E-04	7.08E-05
2-Methyl-Naphthalene	142.0782	6.99E-06	5.15E-06	6.22E-06	4.96E-06	9.69E-06	7.11E-06	8.65E-06	8.48E-06	6.87E-06
2-Chloro-Naphthalene	162.0236	<4.57E-09	<6.17E-09	<6.11E-09	<5.21E-08	<7.23E-09	<9.71E-09	<9.69E-09	<8.88E-09	<8.23E-08
Acenaphthene	154.0782	<8.85E-07	7.11E-07	1.78E-06	8.25E-07	<1.33E-06	1.06E-06	2.68E-06	<1.69E-06	1.24E-06
Acenaphthalene	152.0626	<8.97E-08	<6.90E-08	<7.49E-08	1.40E-07	<1.33E-07	<1.02E-07	<1.11E-07	<1.15E-07	2.08E-07
Fluorene	166.0782	2.14E-06	2.01E-06	7.46E-06	2.01E-06	3.47E-06	3.24E-06	1.21E-05	6.28E-06	3.26E-06
Phenanthrene	178.0782	5.52E-06	2.55E-06	3.18E-06	2.84E-06	9.59E-06	4.41E-06	5.54E-06	6.51E-06	4.93E-06
Anthracene	178.0782	<1.11E-08	<1.68E-08	<1.67E-08	<2.23E-08	<1.93E-08	<2.91E-08	<2.91E-08	<2.58E-08	<3.87E-08
Fluoranthene	202.0782	1.17E-06	5.37E-07	6.27E-07	4.74E-07	2.31E-06	1.05E-06	1.24E-06	1.53E-06	9.34E-07
Pyrene	202.0782	1.07E-06	4.80E-07	5.07E-07	3.71E-07	2.11E-06	9.42E-07	1.00E-06	1.35E-06	7.31E-07
Benzo-a-Anthracene	228.0939	<9.10E-09	<1.97E-08	<1.74E-08	<2.39E-08	<2.02E-08	<4.37E-08	<3.88E-08	<3.42E-08	<5.32E-08
Chrysene	228.0939	1.34E-06	8.22E-07	5.97E-07	7.01E-07	2.99E-06	1.82E-06	1.33E-06	2.05E-06	1.56E-06
Benzo-b-Fluoranthene	252.0939	8.82E-08	<3.77E-08	<5.89E-08	1.50E-07	2.17E-07	<9.22E-08	<1.45E-07	<1.51E-07	3.68E-07
Benzo-k-Fluoranthene	252.0939	<1.04E-08	<2.18E-08	<2.16E-08	<2.46E-07	<2.55E-08	<5.34E-08	<5.33E-08	<4.41E-08	<6.05E-07
Benzo-e-Pyrene	252.0939	7.80E-08	<4.36E-08	<1.63E-07	<1.22E-07	1.92E-07	<1.07E-07	<4.02E-07	<2.34E-07	<3.00E-07
Benzo-a-Pyrene	252.0939	<1.84E-08	<3.57E-08	<4.72E-08	<4.14E-08	<4.53E-08	<8.74E-08	<1.16E-07	<8.30E-08	<1.02E-07
Perylene	252.0939	<2.45E-08	<3.97E-08	<4.52E-08	<4.73E-08	<6.02E-08	<9.71E-08	<1.11E-07	<8.96E-08	<1.16E-07
Indeno-123-c,d-Pyrene	276.0939	<7.80E-08	<2.01E-07	<1.74E-07	<3.45E-07	<2.10E-07	<5.39E-07	<4.70E-07	<4.06E-07	<9.29E-07
Dibenzo-ah-Anthracene	278.3526	<1.33E-07	<3.23E-07	<3.36E-07	<5.47E-07	<3.60E-07	<8.74E-07	<9.16E-07	<7.17E-07	<1.49E-06
Benzo-ghi-Perylene	276.0939	1.05E-07	<2.25E-07	<2.83E-07	<2.52E-07	2.84E-07	<6.02E-07	<7.66E-07	<5.50E-07	<6.78E-07

lb/hr = 0.00008223 x Qs(std) x MW x ppm / [T(std) + 460]

EMISSION CALCULATIONS

Company : UTS, PETRO LEWIS
Source/Unit : HRSG OUTLET
Test Method : CARB METHOD 429, POLYCYCLIC AROMATIC HYDROCARBONS, TOTAL PAH's
Date : 23-May-90
STANDARD TEMP : 68 of

	Run 1	Run 2	Run 3	BLANK
F-Factor, dscf/MMBtu	8,424.74	8,424.74	8,424.74	8,424.74
Oxygen, %	15.26	15.51	15.47	15.41

PAH Compound	MW	ppm				lb/MMBtu				
		Run 1	Run 2	Run 3	BLANK	Run 1	Run 2	Run 3	Average	BLANK
Naphthalene	128.0626	4.25E-04	5.25E-04	4.99E-04	5.67E-05	4.41E-06	5.71E-06	5.38E-06	5.16E-06	6.05E-07
2-Methyl-Naphthalene	142.0782	6.99E-06	5.15E-06	6.22E-06	4.96E-06	8.05E-08	6.21E-08	7.44E-08	7.23E-08	5.87E-08
2-Chloro-Naphthalene	162.0236	<4.57E-09	<6.17E-09	<6.11E-09	<5.21E-08	<6.01E-11	<8.49E-11	<8.34E-11	<7.61E-11	<7.03E-10
Acenaphthene	154.0782	<8.85E-07	7.11E-07	1.78E-06	8.25E-07	<1.11E-08	9.29E-09	2.31E-08	<1.45E-08	1.06E-08
Acenaphthalene	152.0626	<8.97E-08	<6.90E-08	<7.49E-08	1.40E-07	<1.11E-09	<8.91E-10	<9.59E-10	<9.85E-10	1.77E-09
Fluorene	166.0782	2.14E-06	2.01E-06	7.46E-06	2.01E-06	2.89E-08	2.83E-08	1.04E-07	5.38E-08	2.79E-08
Phenanthrene	178.0782	5.52E-06	2.55E-06	3.18E-06	2.84E-06	7.97E-08	3.85E-08	4.76E-08	5.53E-08	4.22E-08
Anthracene	178.0782	<1.11E-08	<1.68E-08	<1.67E-08	<2.23E-08	<1.60E-10	<2.55E-10	<2.50E-10	<2.22E-10	<3.31E-10
Fluoranthene	202.0782	1.17E-06	5.37E-07	6.27E-07	4.74E-07	1.92E-08	9.21E-09	1.07E-08	1.30E-08	7.98E-09
Pyrene	202.0782	1.07E-06	4.80E-07	5.07E-07	3.71E-07	1.75E-08	8.23E-09	8.63E-09	1.15E-08	6.25E-09
Benzo-a-Anthracene	228.0939	<9.10E-09	<1.97E-08	<1.74E-08	<2.39E-08	<1.68E-10	<3.82E-10	<3.33E-10	<2.95E-10	<4.55E-10
Chrysene	228.0939	1.34E-06	8.22E-07	5.97E-07	7.01E-07	2.49E-08	1.59E-08	1.15E-08	1.74E-08	1.33E-08
Benzo-b-Fluoranthene	252.0939	8.82E-08	<3.77E-08	<5.89E-08	1.50E-07	1.80E-09	<8.06E-10	<1.25E-09	<1.29E-09	3.14E-09
Benzo-k-Fluoranthene	252.0939	<1.04E-08	<2.18E-08	<2.16E-08	<2.46E-07	<2.12E-10	<4.67E-10	<4.59E-10	<3.79E-10	<5.17E-09
Benzo-e-Pyrene	252.0939	7.80E-08	<4.36E-08	<1.63E-07	<1.22E-07	1.59E-09	<9.33E-10	<3.46E-09	<2.00E-09	<2.56E-09
Benzo-a-Pyrene	252.0939	<1.84E-08	<3.57E-08	<4.72E-08	<4.14E-08	<3.77E-10	<7.64E-10	<1.00E-09	<7.14E-10	<8.69E-10
Perylene	252.0939	<2.45E-08	<3.97E-08	<4.52E-08	<4.73E-08	<5.01E-10	<8.49E-10	<9.59E-10	<7.69E-10	<9.93E-10
Indeno-123-c,d-Pyrene	276.0939	<7.80E-08	<2.01E-07	<1.74E-07	<3.45E-07	<1.75E-09	<4.71E-09	<4.04E-09	<3.50E-09	<7.94E-09
Dibenzo-ah-Anthracene	278.3526	<1.33E-07	<3.23E-07	<3.36E-07	<5.47E-07	<3.00E-09	<7.64E-09	<7.88E-09	<6.17E-09	<1.27E-08
Benzo-ghi-Perylene	276.0939	1.05E-07	<2.25E-07	<2.83E-07	<2.52E-07	2.36E-09	<5.26E-09	<6.59E-09	<4.74E-09	<5.79E-09

lb/MMBtu = F-Factor x MW x 0.00000137 / [T(Std) + 460] x [20.9 / (20.9- %O2)] x ppm

EMISSION CALCULATIONS

Company : UTS, PETRO LEWIS
Source/Unit : HRSG OUTLET
Test Method : CARB METHOD 429, POLYCYCLIC AROMATIC HYDROCARBONS, TOTAL PAH's
Date : 23-May-90

	Run 1	Run 2	Run 3	BLANK
Vm(std), ft3	172.076	170.005	171.621	171.234

PAH Compound	Sample Weight, ng				ng/dscm				
	Run 1	Run 2	Run 3	BLANK	Run 1	Run 2	Run 3	Average	BLANK
Naphthalene	11011	13449.8	12895.3	1463	2.26E+03	2.79E+03	2.65E+03	2.57E+03	3.02E+02
2-Methyl-Naphthalene	201.1	146.4	178.4	142	4.13E+01	3.04E+01	3.67E+01	3.61E+01	2.93E+01
2-Chloro-Naphthalene	<0.15	<0.2	< 0.2	< 1.7	<3.08E-02	<4.15E-02	<4.12E-02	<3.78E-02	<3.51E-01
Acenaphthene	<27.59	21.9	55.3	25.6	<5.66E+00	4.55E+00	1.14E+01	<7.20E+00	5.28E+00
Acenaphthalene	<2.76	<2.1	< 2.3	4.29	<5.66E-01	<4.36E-01	<4.73E-01	<4.92E-01	8.85E-01
Fluorene	72.1	66.8	250.1	67.4	1.48E+01	1.39E+01	5.15E+01	2.67E+01	1.39E+01
Phenanthrene	199	90.8	114.2	101.9	4.08E+01	1.89E+01	2.35E+01	2.77E+01	2.10E+01
Anthracene	<0.4	<0.6	< 0.6	< 0.8	<8.21E-02	<1.25E-01	<1.23E-01	<1.10E-01	<1.65E-01
Fluoranthene	47.9	21.7	25.6	19.3	9.83E+00	4.51E+00	5.27E+00	6.54E+00	3.98E+00
Pyrene	43.8	19.4	20.7	15.1	8.99E+00	4.03E+00	4.26E+00	5.76E+00	3.11E+00
Benzo-a-Anthracene	<0.42	<0.9	< 0.8	< 1.1	<8.62E-02	<1.87E-01	<1.65E-01	<1.46E-01	<2.27E-01
Chrysene	62.1	37.5	27.5	32.2	1.27E+01	7.79E+00	5.66E+00	8.73E+00	6.64E+00
Benzo-b-Fluoranthene	4.5	< 1.9	< 3	7.6	9.24E-01	<3.95E-01	<6.17E-01	<6.45E-01	1.57E+00
Benzo-k-Fluoranthene	<0.53	< 1.1	< 1.1	< 12.5	<1.09E-01	<2.28E-01	<2.26E-01	<1.88E-01	<2.58E+00
Benzo-e-Pyrene	3.98	< 2.2	< 8.3	< 6.2	8.17E-01	<4.57E-01	<1.71E+00	<9.94E-01	<1.28E+00
Benzo-a-Pyrene	<0.94	< 1.8	< 2.4	< 2.1	<1.93E-01	<3.74E-01	<4.94E-01	<3.54E-01	<4.33E-01
Perylene	<1.25	< 2	< 2.3	< 2.4	<2.57E-01	<4.15E-01	<4.73E-01	<3.82E-01	<4.95E-01
Indeno-123-c,d-Pyrene	<4.36	<11.1	< 9.7	< 19.2	<8.95E-01	<2.31E+00	<2.00E+00	<1.73E+00	<3.96E+00
Dibenzo-ah-Anthracene	<7.48	< 18	< 18.9	< 30.7	<1.54E+00	<3.74E+00	<3.89E+00	<3.05E+00	<6.33E+00
Benzo-ghi-Perylene	5.89	<12.4	<15.8	< 14	1.21E+00	<2.58E+00	<3.25E+00	<2.35E+00	<2.89E+00

ng/dscm = ng / [Vm(std) x 0.028317 m3/ft3]

ANALYTICAL SUMMARY

Company : UTS, PETRO LEWIS
Source/Unit : HRSG OUTLET
Test Method : CARB METHOD 410, VOC AIR CANISTER
Date : 23-May-90

Compound	MW	Sample Concentration ppb			Detection Limit ppb		
		Run 1	2	3	Run 1	2	3
Propylene	42.080						
Vinyl Chloride	62.499						
1,3-Butadiene	54.091						
Methylene Chloride	84.933						
Chloroform	119.378						
1,2-Dichloroethane	98.960						
1,1,1-Trichloroethane	133.405						
Benzene	78.113	ND	ND	ND	2	2	2
Carbon Tetrachloride	153.823						
Trichloroethylene	131.389						
1,2-Dibromoethane	187.862						
Tetrachloroethylene	165.834						
P-Xylene + M-Xylene	106.167						
O-Xylene	106.167						
Total Xylenes	106.167						
Toluene	92.140						

EMISSION CALCULATIONS

Company	:	UTS, PETRO LEWIS
Source/Unit	:	HRSG OUTLET
Test Method	:	CARB METHOD 410, VOC AIR CANISTER
Date	:	23-May-90
Standard Temp	:	68 of

	Run 1	Run 2	Run 3
Qs(std), ft3	62,628	62,330	62,844

Compound	MW	Sample Concentration ppb			lb/hr			
		Run 1	Run 2	Run 3	Run 1	Run 2	Run 3	Average
Propylene	42.080							
Vinyl Chloride	62.499							
1,3-Butadiene	54.091							
Methylene Chloride	84.933							
Chloroform	119.378							
1,2-Dichloroethane	98.960							
1,1,1-Trichloroethane	133.405							
Benzene	78.113	<2	<2	<2	<1.52E-03	<1.52E-03	<1.53E-03	<1.52E-03
Carbon Tetrachloride	153.823							
Trichloroethylene	131.389							
1,2-Dibromoethane	187.862							
Tetrachloroethylene	165.834							
P-Xylene + M-Xylene	106.167							
O-Xylene	106.167							
Total Xylenes	106.167							
Toluene	92.140							

lb/hr = 0.00008223 x Qs(std) x MW x (ppb / 1000) / [T(std) + 460]

EMISSION CALCULATIONS

Company	:	UTS, PETRO LEWIS
Source/Unit	:	HRSG OUTLET
Test Method	:	CARB METHOD 410, VOC AIR CANISTER
Date	:	23-May-90

	Run 1	Run 2	Run 3
F-Factor, dscf/MMBtu	8,424.74	8,424.74	8,424.74
Oxygen, %	15.26	15.51	15.47

Compound	Compound MW	Sample Concentration ppb			lb/MMBtu			
		Run 1	Run 2	Run 3	Run 1	Run 2	Run 3	Average
Propylene	42.080							
Vinyl Chloride	62.499							
1,3-Butadiene	54.091							
Methylene Chloride	84.933							
Chloroform	119.378							
1,2-Dichloroethane	98.960							
1,1,1-Trichloroethane	133.405							
Benzene	78.113	< 2	< 2	< 2	<1.27E-05	<1.33E-05	<1.31E-05	<1.30E-05
Carbon Tetrachloride	153.823							
Trichloroethylene	131.389							
1,2-Dibromoethane	187.862							
Tetrachloroethylene	165.834							
P-Xylene + M-Xylene	106.167							
O-Xylene	106.167							
Total Xylenes	106.167							
Toluene	92.140							

lb/MMBtu = F-Factor x MW x 0.00000137 / [T(Std) + 460] x
[20.9 / (20.9- %O2)] x (ppb / 1000)

SOURCE TEST CALCULATIONS

PLANT : UTS, PETRO LEWIS
HRSG OUTLET

RUN NO.: 1
DATE : 23-May-90

TEST PARAMETER : ALDEHYDES

STD.TEMP, Tstd	=	68	of	STD. PRESS,Pstd	=	29.92	"Hg
METER TEMP, Tm	=	94.3	of	STATIC PRESS.	=	-1.35	"H2O
STACK TEMP, Ts	=	377.9	of	PITOT COEF., Cp	=	0.84	
SQ.RT. ^P	=	1.3437		STACK I.D.	=	59.75	inch
METER ^H	=	0.03	"H2O	DUCT LENGTH	=		inch
METER VOL., Vm	=	11.403	ft3	DUCT WIDTH	=		inch
METER COEF., ŷ	=	0.9940		STACK AREA, As	=	19.472	ft2
BAR. PRESS, Pb	=	29.35	"Hg	TEST TIME, \	=	360.0	min.
COND., Vlc	=	18.5	ml	NOZZLE DIA.	=	0.0000	inch

GAS ANALYSIS	=	15.26	% O2	0.00	% CO
		3.79	% CO2	80.95	% N2

****

Vm(std) = [Tstd + 460 / Pstd] x Vm x ŷ x (Pb + (^H / 13.6)) / (Tm + 460)..... = 10.593 dscf

Vw(std) = (8.9148E-5) x (Tstd + 460) x Vlc .... = 0.871 scf

Bws = Vw(std) / [Vm(std) + Vw(std)]..... = 0.076 | Lower Bws value used.

Bws @ Saturated Conditions = Vapor Press. of H2O @ Dew Point Temp. / (Pstack, in.Hg.) ..... = 1.000

% Excess Air =(%O2 - 0.5%CO) / [0.264%N2 - (%O2-0.5%CO)] x 100 ..... = %

Md =(.44 x %CO2)+(.32 x %O2)+[.28 x (%N2 + %CO)] = 30.59 lb/lb-mole

Ms = (Md x (1-Bws)) + (18.0 x Bws)..... = 29.64 lb/lb-mole

P(stack) = Pb + [Pstatic / 13.6] ..... = 29.25 "Hg

vs = 85.49 x Cp x (Sq.Rt.^P) x [Sq.Rt.(Ts + 460) / (Ms x P(stack))] ..... = 94.87 ft/sec

Qs = vs x As x 60 ..... = 110,831 acf/min

Qs(std) = Qs x (1-Bws)x((Tstd + 460)/(Ts + 460)) x (P(stack) / Pstd) ..... = 63,092 dscf/min

I = (Ts+460) x [(0.002669 x Vlc) + (Vm(std) / (Tstd + 460) / Pstd] x 100 / [\ x P(stack) x An x vs x 60) ..... = %

SOURCE TEST CALCULATIONS

PLANT : UTS, PETRO LEWIS
HRSG OUTLET

RUN NO.: 2
DATE : 24-May-90

TEST PARAMETER : ALDEHYDES

STD.TEMP, Tstd	=	68	of	STD. PRESS,Pstd	=	29.92	"Hg
METER TEMP, Tm	=	83.8	of	STATIC PRESS.	=	-1.30	"H2O
STACK TEMP, Ts	=	381.0	of	PITOT COEF., Cp	=	0.84	
SQ.RT. ^P	=	1.3268		STACK I.D.	=	59.75	inch
METER ^H	=	0.03	"H2O	DUCT LENGTH	=		inch
METER VOL., Vm	=	11.252	ft3	DUCT WIDTH	=		inch
METER COEF., ŷ	=	0.9940		STACK AREA, As	=	19.472	ft2
BAR. PRESS, Pb	=	29.58	"Hg	TEST TIME, \	=	360.0	min.
COND., Vlc	=	18.4	ml	NOZZLE DIA.	=	0.0000	inch

GAS ANALYSIS = 15.51 % O2 0.00 % CO
3.77 % CO2 80.72 % N2

****

Vm(std) = [Tstd + 460 / Pstd] x Vm x ŷ x
(Pb + (^H / 13.6)) / (Tm + 460)..... = 10.736 dscf

Vw(std) = (8.9148E-5) x (Tstd + 460) x Vlc .... = 0.866 scf

Bws = Vw(std) / [Vm(std) + Vw(std)]..... = 0.075 | Lower Bws value used.

Bws @ Saturated Conditions = Vapor Press. of H2O @ Dew Point Temp. / (Pstack, in.Hg.) ..... = 1.000

% Excess Air =(%O2 - 0.5%CO) / [0.264%N2 - (%O2-0.5%CO)] x 100 ..... = %

Md =(.44 x %CO2)+(.32 x %O2)+[.28 x (%N2 + %CO)] = 30.63 lb/lb-mole

Ms = (Md x (1-Bws)) + (18.0 x Bws)..... = 29.69 lb/lb-mole

P(stack) = Pb + [Pstatic / 13.6] ..... = 29.48 "Hg

vs = 85.49 x Cp x (Sq.Rt.^P) x [Sq.Rt.(Ts + 460) / (Ms x P(stack))] ..... = 93.39 ft/sec

Qs = vs x As x 60 ..... = 109,110 acf/min

Qs(std) = Qs x (1-Bws)x((Tstd + 460)/(Ts + 460)) x (P(stack) / Pstd) ..... = 62,463 dscf/min

I = (Ts+460) x [(0.002669 x Vlc) + (Vm(std) / (Tstd + 460) / Pstd] x 100 / [\ x P(stack) x An x vs x 60) ..... = %

SOURCE TEST CALCULATIONS

PLANT : UTS, PETRO LEWIS
HRSG OUTLET

RUN NO.: 3
DATE : 25-May-90

TEST PARAMETER : ALDEHYDES

STD.TEMP, Tstd	=	68	of	STD. PRESS,Pstd	=	29.92	"Hg
METER TEMP, Tm	=	92.8	of	STATIC PRESS.	=	-1.30	"H2O
STACK TEMP, Ts	=	380.4	of	PITOT COEF., Cp	=	0.84	
SQ.RT. ^P	=	1.3363		STACK I.D.	=	59.75	inch
METER ^H	=	0.03	"H2O	DUCT LENGTH	=		inch
METER VOL., Vm	=	11.662	ft3	DUCT WIDTH	=		inch
METER COEF., ẏ	=	0.9940		STACK AREA, As	=	19.472	ft2
BAR. PRESS, Pb	=	29.46	"Hg	TEST TIME, \	=	360.0	min.
COND., Vlc	=	13.4	ml	NOZZLE DIA.	=	0.0000	inch

GAS ANALYSIS	=	15.47	% O2	0.00	% CO
		3.79	% CO2	80.74	% N2

****

Vm(std) = [Tstd + 460 / Pstd] x Vm x ẏ x (Pb + (^H / 13.6)) / (Tm + 460)..... = 10.902 dscf

Vw(std) = (8.9148E-5) x (Tstd + 460) x Vlc .... = 0.631 scf

Bws = Vw(std) / [Vm(std) + Vw(std)]..... = 0.055 | Lower Bws value used.

Bws @ Saturated Conditions = Vapor Press. of H2O @ Dew Point Temp. / (Pstack, in.Hg.) ..... = 1.000

% Excess Air =(%O2 - 0.5%CO) / [0.264%N2 - (%O2-0.5%CO)] x 100 ..... = %

Md =(.44 x %CO2)+(.32 x %O2)+[.28 x (%N2 + %CO)] = 30.63 lb/lb-mole

Ms = (Md x (1-Bws)) + (18.0 x Bws)..... = 29.94 lb/lb-mole

P(stack) = Pb + [Pstatic / 13.6] ..... = 29.36 "Hg

vs = 85.49 x Cp x (Sq.Rt.^P) x [Sq.Rt.(Ts + 460) / (Ms x P(stack))] ..... = 93.83 ft/sec

Qs = vs x As x 60 ..... = 109,617 acf/min

Qs(std) = Qs x (1-Bws)x((Tstd + 460)/(Ts + 460)) x (P(stack) / Pstd) ..... = 63,898 dscf/min

I = (Ts+460) x [(0.002669 x Vlc) + (Vm(std) / (Tstd + 460) / Pstd] x 100 / [\ x P(stack) x An x vs x 60) ..... = %

ANALYTICAL SUMMARY

Company : UTS, PETRO LEWIS
Source/Unit : HRSG OUTLET
Test Method : CARB METHOD 430, FORMALDEHYDE
Date : 23-May-90

Sample Type	Number	Run #	Total mg	Detection Limit
DNPH	23138	1	0.038	0.007
DNPH	23130	2	0.022	0.007
DNPH	22292	3	0.015	0.007
DNPH	23137	BLANK	0.13	0.007

EMISSION CALCULATIONS

Company : UTS, PETRO LEWIS
Source/Unit : HRSG OUTLET
Test Method : CARB METHOD 430, FORMALDEHYDE
Date : 23-May-90
Standard Temp : 68 of

	Run 1	Run 2	Run 3	BLANK
Vm(std), ft3	10.593	10.736	10.902	10.744
Qs(std), ft3	63,092	62,463	63,898	63,151
F-Factor, dscf/MMBtu	8,424.74	8,424.74	8,424.74	8424.74
Oxygen, %	15.26	15.51	15.47	15.41

Run #	mg	ppm	lb/hr	lb/MMBtu	ng/dscm
1	0.0380	1.02E-01	3.00E-02	2.47E-04	1.27E+05
2	0.0220	5.80E-02	1.69E-02	1.48E-04	7.24E+04
3	0.0150	3.90E-02	1.16E-02	9.84E-05	4.86E+04
Average	0.0250	6.62E-02	1.95E-02	1.64E-04	8.25E+04
Blank Train	0.13	3.43E-01	1.01E-01	8.57E-04	4.27E+05

ppm = 1.60982 x [T(std) + 460] x mg / [MW x Vm(std)]

lb/hr = 0.00008223 x Qs(std) x MW x ppm / [T(std) + 460]
Where : MW of Formaldehyde = 30.026

lb/MMBtu = F-Factor x MW x 0.00000137 / [T(Std) + 460] x
[20.9 / (20.9- %O2)] x ppm

ng/dscm = mg x (1e6 ng/mg) / [Vm(std) x 0.028317 m3/ft3]

DRY GAS METER / ORIFICE METER CALIBRATION DATA

Date .....MAR 2,1990 | Dry Gas Meter No. ... 68190
Bar. Press, in.Hg 29.68 | Standard Test Meter # 69279
Meter Box No. ... 779 | Operator ..... SM

STANDARD TEST METER			DRY TEST METER				
Press. dHs (in. H2O)	Temp. Ts (dF)	Volume Vs (ft3)	Press. dH (in. H2O)	Temp. Tdi (dF)	Temp. Tdo (dF)	Volume Vd (ft3)	Time t (min)
	65.0	914.011		97	86	499.055	
-2.2	66.0	893.231	0.5	83	84	477.783	55.0
Avg/Net :	65.5	20.780			88	21.272	
	65.0	936.622		100	87	522.521	
-3.5	65.0	914.443	1.0	93	86	499.499	42.0
Avg/Net :	65.0	22.179			92	23.022	
	65.0	956.696		102	89	543.288	
-4.6	65.0	936.873	1.5	91	86	522.791	31.0
Avg/Net :	65.0	19.823			92	20.497	
	68.0	869.476		102	87	453.571	
-5.4	70.0	846.558	2.0	87	87	430.188	31.0
Avg/Net :	69.0	22.918			91	23.383	
	66.0	892.843		104	84	476.982	
-7.3	67.0	870.245	3.0	80	80	454.345	25.0
Avg/Net :	66.5	22.598			87	22.637	

$$y = Vs \times (Pbar + (dHs / 13.6)) \times (Avg.\ Td + 460) / [\ Vd \times (Pbar + (dH / 13.6)) \times (\ Ts + 460)]$$

$$Ko = [(Vs/t) \times [(Tdo + 460) / (Ts + 460)] \times [(Pbar + (dHs/13.6) / (Pbar + (dH/13.6)] / [((Tdo + 460) \times dH) / (Pbar + (dH/13.6)) \times (Mm)]^{0.5}$$

dH :	0.5	1.0	1.5	2.0	3.0	Avg.	Std.Dev.
y :	1.0110	1.0008	1.0015	1.0018	1.0109	1.0052	0.0047
Ko :	0.6917	0.6826	0.6732	0.6669	0.6619	0.6752	0.0107

y : 0.47 % Relative Std. Dev.

Ko : 1.59 % Relative Std. Dev.

DRY GAS METER / ORIFICE METER CALIBRATION DATA

Date .....DEC 31,1989
Bar. Press, in.Hg 29.80
Meter Box No. ... 761

Dry Gas Meter No. ... 0
Standard Test Meter # 69279
Operator ..... JS

STANDARD TEST METER			DRY TEST METER				
Press. dHs (in. H2O)	Temp. Ts (dF)	Volume Vs (ft3)	Press. dH (in. H2O)	Temp. Tdi (dF)	Temp. Tdo (dF)	Volume Vd (ft3)	Time t (min)
	62.0	432.517		93	82	1005.281	
-1.9	61.0	411.911	0.5	85	80	983.617	53.0
Avg/Net :	61.5	20.606			85	21.664	
	63.0	455.879		98	84	1029.794	
-3.0	62.0	433.712	1.0	96	83	1006.531	41.0
Avg/Net :	62.5	22.167			90	23.263	
	63.0	484.021		100	86	1059.265	
-4.0	63.0	457.817	1.5	99	85	1031.813	40.0
Avg/Net :	63.0	26.204			93	27.452	
	64.0	506.444		102	86	1082.680	
-4.8	63.0	484.021	2.0	100	86	1059.265	30.0
Avg/Net :	63.5	22.423			94	23.415	
	64.0	529.568		105	87	1106.631	
-6.9	64.0	506.444	3.0	102	86	1082.680	25.0
Avg/Net :	64.0	23.124			95	23.951	

$$y = Vs \times (Pbar + (dHs / 13.6)) \times (Avg.\ Td + 460) / [\ Vd \times (Pbar + (dH / 13.6)) \times (\ Ts + 460)]$$

$$Ko = [(Vs/t) \times [(Tdo + 460) / (Ts + 460)] \times [(Pbar + (dHs/13.6) / (Pbar + (dH/13.6)] / [((Tdo + 460) \times dH) / (Pbar + (dH/13.6)) \times (Mm)]^{0.5}$$

dH :	0.5	1.0	1.5	2.0	3.0	Avg.	Std.Dev.
y :	0.9881	0.9936	0.9947	0.9956	0.9978	0.9940	0.0032
Ko :	0.7165	0.7026	0.6935	0.6831	0.6854	0.6962	0.0122

y : 0.32 % Relative Std. Dev.

Ko : 1.76 % Relative Std. Dev.

TELEX: 510-100-8831 (ScotGas)
FAX: 714-887-0549
PHONE: 714-887-2571

Scott Specialty Gases

a division of

Scott Environmental Technology Inc. 2600 CAJON BLVD., SAN BERNARDINO, CA 92405

Pape & Steiner

Shipped From: Scott San Bernardino
Date Shipped 11/27/89
Our Project No: 3535
Your P.O. No: SP2302-89 REL 35
Page 1 of 1
Expiration Date: 5/91
CGA 660

CERTIFICATE OF ANALYSIS – EPA PROTOCOL GASES*

Certified Per Traceability Protocol No. 1 Procedure No. G1 Cylinder No. AAL 2171 Cylinder Pressure 1900 PSIG Certified Accuracy ±1 % NBS Traceable

COMPONENTS	CERTIFIED CONC	REFERENCE STD SRM/CRM NO.	REFERENCE STD CYL. NO.	REFERENCE STD CONC.	GAS ANALYZER MAKE/MODEL/SERIAL NO.	GAS ANALYZER LAST CAL. DATE	GAS ANALYZER ANALYTICAL PRINCIPLE
Nitric Oxide	41.32 PPM	CRM 1684 B	ALM-3640	97.28 PPM	Thermo-Electron 10 S/N 14853-150	AR 11/10/89	Chemi-Luminenscent
NOX	41.39 PPM						

BALANCE GAS Nitrogen

ANALYZER READINGS: Z = Zero Gas T = Test Gas R = Reference Gas

Component Nitric Oxide
First Analysis Date 11/13/89 Units PPM

Z 0.0	R 97.23	T 41.21
R 97.14	Z 0.0	T 41.23
Z 0.0	T 41.27	R 97.20
	Mean Test Assay	41.27

Second Analysis Date 11/21/89 Units PPM

Z 0.0	R 97.26	T 41.30
R 97.25	Z 0.05	T 41.33
Z 0.06	T 41.40	R 97.32
	Mean Test Assay	41.32

Component _____
Date _____ Units _____

Z	R	T
R	Z	T
Z	T	R
	Mean Test Assay	

Date _____ Units _____

Z	R	T
R	Z	T
Z	T	R
	Mean Test Assay	

Component _____
Date _____ Units _____

Z	R	T
R	Z	T
Z	T	R
	Mean Test Assay	

Date _____ Units _____

Z	R	T
R	Z	T
Z	T	R
	Mean Test Assay	

Chronology: Date _____
Assay _____

Analyst Lee Oldham

Approved By: Doug Brant

A-84

TELEX: 510-100-8831 (ScotGas)
FAX: 714-887-0549
PHONE: 714-887-2571

Scott Specialty Gases a division of

Scott Environmental Technology Inc. 2600 CAJON BLVD., SAN BERNARDINO, CA 92405

Date: 5/3/90

PAPE & STEINER
5801 NORRIS ROAD
BAKERSFIELD, CA 93308

Our Project No.: 6685

Your P.O. No.: SP2546-90 REL# 15

CGA 590

Gentlemen:

Thank you for choosing Scott for your Specialty Gas needs. The analyses for the gases ordered, as reported by our laboratory, are listed below. Results are in volume percent, unless otherwise indicated.

ANALYTICAL REPORT

Cyl. No. AAL-6781 Analytical Accuracy ±1%

Component	Concentration
CARBON DIOXIDE	5.00%
CARBON MONOXIDE	16.00 ppm
OXYGEN	15.0%
NITROGEN	BALANCE
CO TRACEABLE TO CRM2635	

Cyl. No. _____ Analytical Accuracy _____

Component	Concentration

Cyl. No. _____ Analytical Accuracy _____

Component	Concentration

Cyl. No. _____ Analytical Accuracy _____

Component	Concentration

Analyst _____

Approved By R. Scott

APPENDIX B

ENSECO DATA

Enseco - Air Toxics Laboratory
9537 Telstar Avenue, Suite 118 • El Monte, CA 91731
(818) 442-8400 • FAX: (818) 442-3758

June 14, 1990

PAPE & STEINER
5801 Norris Rd.
Bakersfield, CA 93308
ATTN: MR. JIM STEINER

ANALYSIS NO.: A9015105-001/003
ANALYSES: Volatile Organics by GCMS - EPA TO14
DATE SAMPLED: 5/23 - 25/90
DATE SAMPLE REC'D: 5/31/90

PROJECT: UTS - PETRO LEWIS

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: A9015105-001/003 shown above.

The samples were received by ENSECO Air Toxics Laboratory, intact and with the chain-of-custody record attached.

Please note that ND means note detected at the detection limit expressed.

Merita M. Lourey
REVIEWED

APPROVED

Enseco - Air Toxics Laboratory
9537 Telstar Avenue, Suite 118 • El Monte, CA 91731
(818) 442-8400 • FAX: (818) 442-3758

LABORATORY REPORT

PAPE & STEINER
5801 Norris Rd.
Bakersfield, CA 93309
ATTN: MR. JIM STEINER

ANALYSIS NO.: A9015105-001/003
ANALYSES: Volatile Organics by GCMS - EPA TO14
DATE SAMPLED: 5/23 - 25/90
DATE SAMPLE REC'D: 5/31/90
DATE ANALYZED: 6/07/90
SAMPLE TYPE: Air
QC BATCH NO.: MS201-9006071

Volatile Organics by GCMS
EPA TO14

Sample Identification	Benzene ppb (vol/vol)	Detection Limits
CAN #A-025 TEST 1 23129	ND	2
CAN #A-028 TEST 2 23128	ND	2
CAN #A-063 TEST 3 22291	ND	2

Enseco - Air Toxics Laboratory
9537 Telstar Avenue, Suite 118 • El Monte, CA 91731
(818) 442-8400 • FAX: (818) 442-3758

LABORATORY REPORT

PAPE & STEINER
5801 Norris Rd.
Bakersfield, CA 93309
ATTN: MR. JIM STEINER

ANALYSIS NO.: A9015105-001/003
ANALYSES: Volatile Organics by GCMS - EPA TO14
DATE SAMPLED: 5/23 - 25/90
DATE SAMPLE REC'D: 5/31/90
DATE ANALYZED: 6/07/90
SAMPLE TYPE: Air
QC BATCH NO.: MS201-9006071

QC SUMMARY
Volatile Organics by GCMS
EPA TO14

Compounds	Laboratory Control Sample % Recovery	Duplicate Control Sample % Recovery	RPD
Methylene Chloride	98	100	2
1,1 Dichloroethene	105	106	1
Trichloroethene	102	103	1
Toluene	100	105	5
1,1,2,2-Tetrachlorethane	101	110	8
Limits	80 - 115	80 - 115	20

Enseco
A CORNING Company

☐ 7440 Lincoln Way, Garden Grove, CA 92641, (714) 898-6370
☐ 2610 Bunsen Ave., Unit A Ventura, CA 93003, (805) 650-0546
☐ 2325 Skyway Dr., Unit K, Santa Maria, CA 93455, (805) 922-2776
☑ 9537 Telstar Ave., Unit 118, El Monte, CA 91731, (818) 442-8400
☐ Mobile Labs, (800) ENSECO-8

CHAIN OF CUSTODY RECORD

Date _____ Page 1 of 1

Lab Number A9015105-001 002 003

CLIENT: Pope & Steiner Env. Services
ADDRESS: 5801 Norris Rd
Bakersfield CA 93308
PROJECT NAME: UTS - Petro Lewis
CONTRACT / PURCHASE ORDER / QUOTE #:

PROJECT MANAGER: Jim Steiner
PHONE NUMBER: 805 - 393 8442
SITE CONTACT:

ANALYSES: Benzene

Sample No. / Identification	Date	Time	Lab Sample Number	SAMPLE TYPE: LIQ.	AIR	SOLID	No. of Containers	Benzene	Sample Condition/ REMARKS
CAN # A025 TEST 1	5-23	0950 1350	23129		✓			✓	
CAN # A-028 TEST 2	5-24	0850 1250	23128		✓			✓	
CAN # A-063 TEST 3	5-25	0842 1245	22291		✓			✓	

SAMPLERS: (Signature) Charles Reshard

Received by: (Signature) Jan L Del — Date 5/31/89 Time 5:50 pm

Relinquished by: (Signature) — Received by: (Signature) — Date — Time

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Enseco Terms and Conditions, unless a contract or purchase order has been executed and is cited above.

Relinquished by: (Signature) — Date — Time — Received for Laboratory by: — Date RECEIVED — Time — Date ACCEPTED — Time

Method of Shipment:

Special Instructions:

SAMPLE DISPOSITION:
1. Storage time requested: _____ days
(Samples will be stored for 30 days without additional charges; thereafter storage charges will be billed at the published rates.)
2. Sample to be returned to client: Y N
(Enseco will dispose of unreturned samples at no extra charge. Disposal will be by incineration wherever possible; otherwise, as appropriate, according to legal requirements.)

DISTRIBUTION: White with report, Yellow to Enseco, Pink to Courier, Gold to Sample Control

Enseco
A CORNING Company

RECEIVED
JUN 14 1990
ANS'D.....

June 11, 1990
Lab ID: 053020

Jim Steiner
Pape & Steiner Environmental Services
5801 Norris Rd.
Bakersfield, CA 93308

Dear Mr. Steiner:

Enclosed is the report for the four aqueous samples for your UTS Outlet Project under PO #SP-2724 which were received at Enseco-Cal Lab on 26 May 1990.

The report consists of the following sections:

I Sample Description
II Analysis Request
III Quality Control Report
IV Analysis Results

If you have any questions, please feel free to call.

Sincerely,

Timothy M. Cleary

Timothy M. Cleary
Program Administrator

jl

Enseco Incorporated
2544 Industrial Boulevard
West Sacramento, California 95691
916/372-1393 Fax: 916/372-7768

I Sample Description

See the attached Sample Description Information.

The samples were received under chain-of-custody.

II Analysis Request

The following analytical test was requested.

Lab ID	Analysis Description
053020-1 thru 4	Formaldehyde

III Quality Control

A. **Project Specific QC.** No project specific QC (i.e., spikes and/or duplicates) was requested.

B. **Method Blank Results.** A method blank is a laboratory-generated sample which assesses the degree to which laboratory operations and procedures cause false-positive analytical results for your samples.

C. **Laboratory Control Samples - The LCS Program**

Duplicate Control Samples. A DCS is a well-characterized matrix (blank water, sand or celite) which is spiked with certain target parameters and analyzed at approximately 10% of the sample load in order to establish method-specific control limits. The DCS results associated with your samples are on the attached Duplicate Control Sample Report.

Single Control Samples. An SCS consists of a control matrix that is spiked with surrogate compounds appropriate to the method being used. In cases where no surrogate is available, (e.g. metals or conventional analyses) a single control sample identical to the DCS serves as the control sample. An SCS is prepared for each sample lot. Accuracy is calculated identically to the DCS. The SCS results associated with your samples are on the attached Single Control Sample Report.

Accuracy is measured by Percent Recovery as in:

$$\% \text{ recovery} = \frac{\text{(measured concentration)}}{\text{(actual concentration)}} \times 100$$

Precision is measured using duplicate tests by Relative Percent Difference (RPD) as in:

$$RPD = \frac{(\%\ \text{recovery test 1} - \%\ \text{recovery test 2})}{(\%\ \text{recovery test 1} + \%\ \text{recovery test 2})/2} \times 100$$

Control limits for accuracy (percent recovery) are based on the average, historical percent recovery +/-3 standard deviation units. Control limits for precision (relative percent difference) range from 0 (identical duplicate DCS results) to the average, historical relative percent difference + 3 standard deviation units. In cases where there is not enough historical data, EPA limits or advisory limits are set, with the approval of the Quality Assurance department.

IV Analysis Results

Test methods may include minor modifications of published EPA Methods such as reporting limits or parameter lists. Reporting limits are adjusted to reflect dilution of the sample, when appropriate. Solid and waste samples are reported on an "as received" basis, i.e., no correction is made for moisture content, unless the method requires or the client requests that such correction be made.

Results are on the attached data sheet.

SAMPLE DESCRIPTION INFORMATION
for
Pape & Steiner Environmental Services

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
053020-0001-SA	23138	AQUEOUS	23 MAY 90		26 MAY 90
053020-0002-SA	23130	AQUEOUS	23 MAY 90		26 MAY 90
053020-0003-SA	23137	AQUEOUS	23 MAY 90		26 MAY 90
053020-0004-SA	22292	AQUEOUS	25 MAY 90		30 MAY 90

QC LOT ASSIGNMENT REPORT
HPLC Analysis Area

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
053020-0001-SA	GAS	FORM-G	29 MAY 90-A	29 MAY 90-A
053020-0002-SA	GAS	FORM-G	29 MAY 90-A	29 MAY 90-A
053020-0003-SA	GAS	FORM-G	29 MAY 90-A	29 MAY 90-A
053020-0004-SA	GAS	FORM-G	29 MAY 90-A	01 JUN 90-A

METHOD BLANK REPORT
HPLC Analysis Area

Analyte	Result	Units	Reporting Limit
Test: FORM-CARB-G Matrix: AQUEOUS QC Lot: 29 MAY 90-A QC Run: 29 MAY 90-A			
Formaldehyde	0.58	ug/sample	0.50
Test: FORM-CARB-G Matrix: AQUEOUS QC Lot: 29 MAY 90-A QC Run: 01 JUN 90-A			
Formaldehyde	ND	ug/sample	0.50

DUPLICATE CONTROL SAMPLE REPORT
HPLC Analysis Area

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	AVG	Accuracy Average(%) DCS	Limits	Precision (RPD) DCS	Limit
Category: FORM-G Matrix: GAS QC Lot: 29 MAY 90-A Concentration Units: ug								
Formaldehyde	2.0	7.10	2.76	4.93	247#	60-140	88*	40

= Recovery outside QC Limits
* = RPD outside QC Limits

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
A CORNING Company

SINGLE CONTROL SAMPLE REPORT
HPLC Analysis Area

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
Category: FORM-G				
Matrix: GAS				
QC Lot: 29 MAY 90-A QC Run: 01 JUN 90-A				
Concentration Units: ug				
Formaldehyde	2.00	1.81	90	60-140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
A CORNING Company

Formaldehyde

Method CARB 430

Client Name: Pape & Steiner Environmental Services
Matrix: AQUEOUS Received: 26 MAY 90
Units: mg/sample Authorized: 26 MAY 90

Lab ID	Client ID	Result	Reporting Limit	Date Prepared	Date Analyzed	
053020-0001-SA	23138	0.038	0.0070	29 MAY 90	06 JUN 90	RB
053020-0002-SA	23130	0.022	0.0070	29 MAY 90	06 JUN 90	RB
053020-0003-SA	23137	0.13	0.0070	29 MAY 90	06 JUN 90	RB
053020-0004-SA	22292	0.015	0.0070	04 JUN 90	06 JUN 90	R

Note R : Raised reporting limit(s) due to high analyte level(s).

Note B : Compound is also detected in the blank.

ND = Not detected
NA = Not applicable

Reported By: Claire Hanamoto Approved By: Lisa Stafford

The cover letter is an integral part of this report.
Rev 230787

APPENDIX C

TRIANGLE LABORATORY, INC.

QA/QC for CARB Method 429

Triangle Laboratories, Inc
801-10 Capitola Dr.
Research Triangle Park, NC 27713
(919) 544-5729

DATE: June 8,1990
CLIENT P.O. NO: SP-2722
TLI NO: 15729

OBJECTIVE: Analysis of MM-5 Samples for Polynuclear Aromatic Hydrocarbons by High resolution mass spectrometry

Method

The analysis method for the PAH was a developmental method based on CARB 429, but using high resolution mass spectrometry, high resolution gas chromatography. The method of isotope dilution was used to measure the majority of the analytes for which a labeled internal standard could be obtained. Details on the method are presented in the accompanying document.

The XAD resin was spiked with 100 ng of Terphenyl-D14 prior to field sampling. The samples were Soxhlett extracted for 16 hours with toluene. Deuterated PAH internal standards (100 ng) were added immediately prior to extraction of the MM-5 train components. The aqueous fraction was spiked with 100 ng of Anthracene D-10 prior to extraction. All solvents were concentrated and combined with the extracts prior to analysis. The combined extract was split with half for the analysis of PAH and half for the analysis of PCDD/PCDF. The PAH aliquot was further split to allow an analysis for other organic compounds. The PAH fraction was cleaned up using a silica gel procedure. Prior to analysis, a solution of D12-Benzo-e-Pyrene to a final concentration of 25 ng/mL was added to an aliquot of the extract in order to measure the recovery of the internal standards.

The GC/MS analysis conditions are listed below:

GC CONDITIONS:	
Column:	J&W DB-5, 60m x .25mm x 25micron film thickness
Program:	Initial temp. = 120; hold 5 min. to 300C at 14 C/min; hold 25 min.
MS CONDITIONS:	
Instrument:	VG 7070S, 11-250 data system
Scan:	selected ion recording mass resolution 8000
Ion Source:	220C
Interface:	Capillary 270C

Triangle Laboratories, Inc
801-10 Capitola Dr.
Research Triangle Park, NC 27713
(919) 544-5729

An initial calibration was performed using the list of compounds in Table 1, with response factors relative to the corresponding internal standards, as shown in Table 2. These response factors were used to calculate the amounts of the analytes in the samples. The data are reported as summary sheets, chromatograms, and tabulations of the found GC peaks, areas and retention times (I-file and B-file).

Results

The Front Half samples have been extracted with toluene, and the Back Half sample have bee fortified with toluene solution of the labeled standards, which contains residual amount of higher aromatic hydrocarbons including the target compounds of the method. This became apparent from TLI Blank analysis, which is contaminated with a number of the target compounds. Contamination with Naphthalene and 2-Methylnaphthalene is at a such high level that any concentrations presented for the field samples become irrelevant and should be disregarded. For other analytes present in the Blank, flagged with the "B" descriptor, a compound should be considered not attributed to the sample unless its concentration exceeds by at least five times the level found in the Blank.

Some samples in this project present fairly low recoveries of the labeled (internal, surrogate and alternate) standards. In most of the cases, however, relevant chromatograms contain sufficiently strong standard peaks, satisfying >10:1 signal-to-noise (S/N) criterion, therefore are flagged with "V"-valid descriptor. This affects the calculations for the internal standards recoveries, but not the analytes concentrations, except for higher detection limits, due to application of the isotopic dilution technique.

The aqueous (impinger) samples have not been fortified with D14-Therphenyl surrogate standard, therefore the reports show either "INTERFERENCE" printout or artificially low recoveries.

Triangle Laboratories, Inc
801-10 Capitola Dr.
Research Triangle Park, NC 27713
(919) 544-5729

The QA/QC samples show virtually identical analyte distribution as associate TLI Blanks, therefore should be considered clean.

The method generally shows the ability to quantitate PAHs at a level of approximately 20-100 times lower than achieved with low resolution, scanning mass spectrometry. The lower detection limits point out the problem that arises from using toluene, which is produced from an oil cracking and distillation process, for low level analyses for PAHs.

The release of this particular TLI project 15729 analytical data by Triangle Labs was authorized by the Quality Assurance Officer who reviewed each sample data package individually following a series of inspections/reviews at two other levels of the data processing production line. All general deviations from the acceptable QA/QC requirements were discussed above along with their effects on the validity and reliability of the results.

For Triangle Labs,

Hani Karam
Air Quality
Product Manager

Jacek Bielawski
QA Project Officer

Don Harvan
V.P., Operations

Table 1
High resolution PAH analytes

NAME	RT	M_Z	ID	INTID	QUANT
Naphthalene	9.04	128	AN	IS0	IS0
2-Me-Naphthalene	10.58	142	AN	IS1	IS1
2-Cl-Naphthalene	12.16	162	AN	IS4	IS4
Acenapthalene	13.23	152	AN	IS2	IS2
Acenaphthene	13.50	154	AN	IS3	IS3
Fluorene	15.03	166	AN	IS5	IS5
Phenanthrene	17.10	178	AN	IS6	IS6
Anthracene	17.16	178	AN	IS6	IS6
Fluoranthene	19.40	202	AN	IS7	IS7
Pyrene	20.10	202	AN	IS8	IS8
Benzo-a-Anthracene	23.11	228	AN	IS9	IS9
Chrysene	23.19	228	AN	IS10	IS10
Benzo-b-Fluoranthene	27.15	252	AN	IS12	IS12
Benzo-k-Fluoranthene	27.21	252	AN	IS13	IS13
Benzo-e-Pyrene	28.35	252	AN	IS14	IS14
Benzo-a-Pyrene	28.51	252	AN	IS14	IS14
Perylene	29.16	252	AN	IS11	IS11
Indeno-123-cd-Pyrene	36.10	276	AN	IS16	IS16
DiBenzo-ah-Anthracene	36.17	278	AN	IS17	IS17
Benzo-ghi-Perylene	38.17	276	AN	IS15	IS15

Table 2
High resolution PAH internal standards

NAME	RT	M_Z	ID	INTID	QUANT
d8-Naphthalene	9.00	136	IS0	IS2	RS1
d10-2-Me-Naphthalene	10.52	152	IS1	IS2	RS1
d8-Acenaphthalene	13.21	160	IS2	RS1	RS1
d10-Acenaphthene	13.45	164	IS3	IS2	RS1
d7-2-Cl-Naphthalene	12.14	169	IS4	IS2	RS1
d10-Fluorene	14.58	176	IS5	IS2	RS1
d10-Phenanthrene	17.06	188	IS6	IS2	RS1
d10-Fluoranthene	19.38	212	IS7	IS11	RS1
d10-Pyrene	20.08	212	IS8	IS11	RS1
d12-Benzo-a-Anthracene	23.06	240	IS9	IS11	RS1
d12-Chrysene	23.13	240	IS10	IS11	RS1
d12-Perylene	29.09	264	IS11	RS1	RS1
d12-Benzo-b-Fluoranthene	27.09	264	IS12	IS11	RS1
d12-Benzo-k-Fluoranthene	27.14	264	IS13	IS11	RS1
d12-Benzo-a-Pyrene	28.43	264	IS14	IS11	RS1
d12-Benzo-ghi-Perylene	38.04	288	IS15	IS11	RS1
d12-Indeno-123-cd-Pyrene	35.58	288	IS16	IS11	RS1
d14-DiBenzo-ah-Anthracene	36.03	292	IS17	IS11	RS1

TRIANGLE LABORATORIES INC. Date: 05/27/90

Continuing Calibration for U900395

Analysis Date....: 05/27/90 Method....: PAHH
Operator.....: MC Machine...: u
Init Calibration.: UPH0521 Std.Conc..: 100.00
ICal Date.....: 05/21/90

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%RSD	Flags
Naph	0.835		6:33 10:33	8:36	1.0058	0.915	-0.079	-8.7%	
2-Me-Naph	0.829		8:35 12:35	10:42	1.0110	0.989	-0.159	-16.1%	
Acenaph	1.133			13:29	1.0025	1.335	-0.202	-15.1%	
Acenaphthen	0.960		11:57 15:57	14:04	1.0084	1.150	-0.191	-16.6%	
2-Cl-Naph	1.247	3.322	10:08 14:08	12:12	1.0055	1.750	-0.503	-28.7%**	
Fluorene	1.369		13:28 17:28	15:34	1.0065	1.629	-0.259	-15.9%	
Phenan	1.306		8:12 28:12	18:17	1.0046	1.608	-0.302	-18.8%	
Anth	1.016			18:24	1.0110	1.165	-0.148	-12.7%	
Fluoran	0.884		11:30 31:30	21:32	1.0016	0.867	0.017	2.0%	
Pyrene	1.119			22:08	1.0015	1.133	-0.014	-1.2%	
B-a-Anth	0.940		15:22 35:22	25:26	1.0026	1.238	-0.297	-24.0%	
Chrysene	0.771			25:33	1.0026	0.897	-0.126	-14.1%	
B-b-Fluoran	0.963			29:12	1.0040	1.166	-0.203	-17.4%	
B-k-Fluoran	1.089			29:17	1.0029	1.266	-0.178	-14.0%	
B-e-Pyrene	1.293			30:21	0.9956	1.771	-0.478	-27.0%	
B-a-Pyrene	1.205			30:35	1.0033	1.340	-0.135	-10.1%	
Perylene	1.397		20:50 40:50	30:57	1.0038	1.546	-0.149	-9.6%	
B-ghi-Pery	2.013		26:38 46:38	36:46	1.0036	2.132	-0.119	-5.6%	
I-123-cd-Py	1.091			38:34	1.0056	1.000	0.091	9.1%	
DiB-ah-Anth	1.154		34:39 38:39	36:53	1.0064	1.611	-0.457	-28.3%**	

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%RSD	Flags
d10-Anth	0.760			18:21	1.3643	0.983	-0.223	-22.7%	
d14-Terphenyl	2.439		20:15 32:15	22:33	0.7455	3.482	-1.044	-30.0%**	

TRIANGLE LABORATORIES INC. Date: 05/27/90

Continuing Calibration for U900395

Analysis Date....: 05/27/90 Method....: PAHH

Operator.....: MC Machine...: u

Init Calibration.: LPH0521 Std.Conc..: 100.00

ICal Date.....: 05/21/90

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%RSD	Flags
Naph	0.835		6:33 10:33	8:36	1.0058	0.915	-0.079	-8.7%	
2-Me-Naph	0.829		8:35 12:35	10:42	1.0110	0.989	-0.159	-16.1%	
Acenaph	1.133			13:29	1.0025	1.335	-0.202	-15.1%	
Acenaphthen	0.960		11:57 15:57	14:04	1.0084	1.150	-0.191	-16.6%	
2-Cl-Naph	1.247	3.322	10:08 14:08	12:12	1.0055	1.750	-0.503	-28.7%**	
Fluorene	1.369		13:28 17:28	15:34	1.0065	1.629	-0.259	-15.9%	
Phenan	1.306		8:12 28:12	18:17	1.0046	1.608	-0.302	-18.8%	
Anth	1.016			18:24	1.0110	1.165	-0.148	-12.7%	
Fluoran	0.884		11:30 31:30	21:32	1.0016	0.867	0.017	2.0%	
Pyrene	1.119			22:08	1.0015	1.133	-0.014	-1.2%	
B-a-Anth	0.940		15:22 35:22	25:26	1.0026	1.238	-0.297	-24.0%	
Chrysene	0.771			25:33	1.0026	0.897	-0.126	-14.1%	
B-b-Fluoran	0.963			29:12	1.0040	1.166	-0.203	-17.4%	
B-k-Fluoran	1.089			29:17	1.0029	1.266	-0.178	-14.0%	
B-e-Pyrene	1.293			30:21	0.9956	1.771	-0.478	-27.0%	
B-a-Pyrene	1.205			30:35	1.0033	1.340	-0.135	-10.1%	
Perylene	1.397		20:50 40:50	30:57	1.0038	1.546	-0.149	-9.6%	
B-ghi-Pery	2.013		26:38 46:38	36:46	1.0036	2.132	-0.119	-5.6%	
I-123-cd-Py	1.091			38:34	1.0056	1.000	0.091	9.1%	
DiB-ah-Anth	1.154		34:39 38:39	36:53	1.0064	1.611	-0.457	-28.3%**	

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%RSD	Flags
d10-Anth	0.760			18:21	1.3643	0.983	-0.223	-22.7%	
d14-Terphenyl	2.439		20:15 32:15	22:33	0.7455	3.482	-1.044	-30.0%**	

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

06/05/90

FILE NAME....: U900397 CLIENT ID....: P&S TLI NUMBER....: n/a
CONCAL.....: U900395 SAMPLE ID....: FH TLI BLANK
ANALYST.....: MC ANALYSIS DATE: 06/26/90 PROJECT NUMBER: 15729
SAMPLE SIZE..: 1.00 SAMPLE MATRIX: MM5 DATE RECEIVED.: 05/09/90
ICAL DATE....: 05/21/90 SAMPLE ORIGIN: n/a DATE COLLECTED: / /
SPIKE FILE...: SPPAHH1C SHIPMENT NO...: n/a

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	9470			8:30	
2-Me-Naph	187			10:37	
2-Cl-Naph	ND		2.4		
Acenaphthen	33.3			14:03	
Acenaph	2.7			13:28	
Fluorene	141			15:33	
Phenan	251			18:17	
Anth	ND		0.9		
Fluoran	39.1			21:32	
Pyrene	26.2			22:08	
B-a-Anth	ND		0.6		
Chrysene	8.8			25:33	
B-b-Fluoran	0.88			29:11	
B-k-Fluoran	ND		0.6		
B-e-Pyrene	3.0			30:22	
B-a-Pyrene	ND		1.2		
Perylene	ND		1.3		
I-123-cd-Py	ND		3.6		
DiB-ah-Anth	ND		5.7		
B-ghi-Pery	ND		2.9		

SURROGATE RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	8.3	8.32	22:32	V

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	74.7	74.7	18:22	

FILE NAME....: U900397
CONCAL.....: U900395
ANALYST.....: MC
SAMPLE SIZE..: 1.00
ICAL DATE....: 05/21/90
SPIKE FILE...: SPPAHH1C

CLIENT ID....: P&S
SAMPLE ID....: FH TLI BLANK
ANALYSIS DATE: 06/26/90
SAMPLE MATRIX: MM5
SAMPLE ORIGIN: n/a

TLI NUMBER....: n/a
PROJECT NUMBER: 15729
DATE RECEIVED.: 05/09/90
DATE COLLECTED: / /
SHIPMENT NO...: n/a

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	3.5	3.48	8:26	V
d10-2-Me-Naph	5.6	5.61	10:31	V
d7-2-Cl-Naph	8.0	8.05	12:05	V
d8-Acenaph	9.1	9.06	13:26	V
d10-Acenaphthen	10.5	10.5	13:56	V
d10-Fluorene	18.0	18.0	15:28	V
d10-Phenan	47.4	47.4	18:13	—
d10-Fluoran	74.0	74.0	21:30	—
d10-Pyrene	78.2	78.2	22:06	—
d12-B-a-Anth	67.0	67.0	25:22	—
d12-Chrysene	89.5	89.5	25:29	—
d12-B-b-Fluoran	50.0	50.0	29:06	—
d12-B-k-Fluoran	53.7	53.7	29:12	—
d12-B-a-Pyrene	44.3	44.3	30:28	—
d12-Perylene	58.9	58.9	30:50	—
d12-I-123-cd-Py	40.1	40.1	36:37	—
d14-DiB-ah-Anth	37.7	37.7	36:39	V
d12-B-ghi-Pery	46.1	46.1	38:22	—

DL 6.

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128		0.00	7:55	121650.40	T	F	0.939	
		0.00	8:30	27126.44	T	T	1.008	✓
128		*** Total ***		148776.84	# of Peaks:		2	
136		0.00	7:57	19.75	T	F	0.592	
		0.00	8:26	313.06	T	~~F~~ T	0.628	✓
136		*** Total ***		332.81	# of Peaks:		2	
142		0.00	10:03	121.76	T	F	0.956	
		0.00	10:37	624.36	T	T	1.010	✓
		0.00	10:59	412.80	T	F	1.044	
		0.00	11:40	8.49	T	F	1.109	
142		*** Total ***		1167.41	# of Peaks:		4	
152		0.00	8:06	6.22	T	F	0.603	
		0.00	8:23	2.99	T	F	0.624	
		0.00	10:31	337.35	T	~~F~~ T	0.783	✓
		0.00	10:52	3.02	T	F	0.809	
		0.00	12:07	96.15	T	F	0.902	
		0.00	12:27	60.64	T	F	0.927	
		0.00	12:37	26.24	T	F	0.939	
		0.00	12:53	121.33	T	F	0.959	
		0.00	13:28	21.43	T	T	1.002	✓
		0.00	13:54	104.74	T	F	1.035	
		0.00	14:02	474.86	T	F	1.045	
		0.00	14:15	143.11	T	F	1.061	
		0.00	14:31	964.51	T	F	1.081	
		0.00	14:44	887.61	T	F	1.097	
		0.00	14:58	52.36	T	F	1.114	
		0.00	15:16	69.79	T	F	1.136	
		0.00	15:28	286.72	T	F	1.151	
		0.00	15:39	197.29	T	F	1.165	
		0.00	15:51	141.11	T	F	1.180	
		0.00	16:04	162.53	T	F	1.196	
152		*** Total ***		4160.00	# of Peaks:		20	
154		0.00	12:07	426.04	T	F	0.870	
		0.00	12:37	7.68	T	F	0.906	
		0.00	12:53	8.47	T	F	0.925	
		0.00	14:03	174.16	T	T	1.008	✓
		0.00	14:15	19.20	T	F	1.023	
		0.00	14:31	61.72	T	F	1.042	
		0.00	14:42	64.87	T	F	1.055	
		0.00	14:58	25.14	T	F	1.074	
		0.00	15:13	34.02	T	F	1.092	
		0.00	15:28	682.47	T	F	1.110	
		0.00	15:39	20.14	T	F	1.123	
		0.00	15:52	175.24	T	F	1.139	
		0.00	16:01	38.63	T	F	1.150	
154		*** Total ***		1737.78	# of Peaks:		13	
160		0.00	13:26	597.04	T	T	0.444	✓

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
160		0.00	14:34	6.37	T	F	0.482	
		0.00	15:26	6.10	T	F	0.510	
		0.00	15:51	4.18	T	F	0.524	
160		*** Total ***		777.63	# of Peaks:		5	
164		0.00	13:56	454.71	T	T	1.037	✓
164		*** Total ***		454.71	# of Peaks:		1	
166		0.00	14:01	362.01	T	F	0.906	
		0.00	14:14	152.36	T	F	0.920	
		0.00	14:30	689.11	T	F	0.938	
		0.00	14:44	1039.22	T	F	0.953	
		0.00	15:18	46.70	T	F	0.989	
		0.00	15:33	1366.43	T	T	1.005	✓
		0.00	15:49	133.41	T	F	1.023	
		0.00	16:11	393.89	T	F	1.046	
		0.00	16:16	153.70	T	F	1.052	
		0.00	16:27	71.06	T	F	1.064	
		0.00	16:42	212.75	T	F	1.080	
		0.00	16:51	121.06	T	F	1.089	
		0.00	17:08	3971.01	T	F	1.108	
		0.00	17:16	446.17	T	F	1.116	
166		*** Total ***		9158.88	# of Peaks:		14	
169		3.21	12:05	384.04	T	T	0.900	✓
169		*** Total ***		384.04	# of Peaks:		1	
176		0.00	15:28	594.54	T	T	1.151	✓
		0.00	17:09	10.91	T	F	1.277	
		0.00	18:20	5.93	T	F	1.365	
176		*** Total ***		611.38	# of Peaks:		3	
178		0.00	14:01	62.33	T	F	0.769	
		0.00	14:30	1481.87	T	F	0.796	
		0.00	14:44	93.34	T	F	0.809	
		0.00	15:28	65.05	T	F	0.849	
		0.00	15:38	45.21	T	F	0.858	
		0.00	15:49	51.63	T	F	0.868	
		0.00	15:58	60.74	T	F	0.876	
		0.00	16:27	42.28	T	F	0.903	
		0.00	16:52	1117.29	T	F	0.926	
		0.00	17:08	1660.91	T	F	0.941	
		0.00	17:16	709.73	T	F	0.948	
		0.00	17:25	267.44	T	F	0.956	
		0.00	17:39	1335.56	T	F	0.969	
		0.00	17:50	53.80	T	F	0.979	
		0.00	18:03	91.21	T	F	0.991	
		0.00	18:17	6495.71	T	T	1.004	✓
		0.00	18:40	84.15	T	F	1.025	
		0.00	18:48	64.51	T	F	1.032	
		0.00	19:26	84.60	T	F	1.067	
		0.00	19:32	83.93	T	F	1.072	
		0.00	19:43	176.40	T	F	1.082	

Matched GC Peaks / Ratio / Rat. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
178		*** Total ***		14127.69	# of Peaks:		21	
188		0.00	18:13	1610.02	T	T	1.356	✓
		0.00	18:22	1922.56	T	T	1.367	✓
188		*** Total ***		3532.58	# of Peaks:		2	
202		0.00	21:12	5091.64	T	F	0.959	
		0.00	21:32	2988.70	T	T	1.002	✓
		0.00	22:08	2174.25	T	T	1.002	✓
		0.00	25:26	3260.13	T	F	1.151	
		0.00	27:02	7899.17	T	F	1.223	
202		*** Total ***		21413.89	# of Peaks:		5	
212		0.00	21:30	8825.91	T	T	0.697	✓
		0.00	22:06	7336.72	T	T	0.717	✓
		0.00	25:22	18.78	T	F	0.823	
		0.00	25:29	47.18	T	F	0.826	
212		*** Total ***		16228.59	# of Peaks:		4	
228		0.00	20:14	106.77	T	F	0.794	
		0.00	21:15	15.99	T	F	0.834	
		0.00	21:34	704.97	T	F	0.846	
		0.00	22:03	39.44	T	F	0.865	
		0.00	22:13	1254.59	T	F	0.872	
		0.00	22:26	7.64	T	F	0.880	
		0.00	22:33	18.79	T	F	0.885	
		0.00	22:46	57.19	T	F	0.893	
		0.00	24:25	12.87	T	F	0.958	
		0.00	24:39	11.40	T	F	0.967	
		0.00	24:50	22.71	T	F	0.974	
		0.00	25:33	595.23	T	T	1.003	✓
		0.00	27:04	138.60	T	F	1.062	
228		*** Total ***		2986.19	# of Peaks:		13	
240		0.00	22:32	45.32	T	F	0.731	
		0.00	25:22	2283.79	T	T	0.823	✓
		0.00	25:29	7511.69	T	T	0.826	✓
240		*** Total ***		9840.80	# of Peaks:		3	
244		0.00	20:16	23.40	T	F	0.670	
		0.00	20:32	49.46	T	F	0.679	
		0.00	20:44	13.04	T	F	0.685	
		0.00	21:06	42.16	T	F	0.698	
		0.00	22:32	758.58	T	T	0.745	✓
		0.00	23:05	3.94	T	F	0.763	
		0.00	24:00	10.77	T	F	0.793	
		0.00	24:56	38.71	T	F	0.824	
244		*** Total ***		940.06	# of Peaks:		8	
252		0.00	29:11	10.62	T / F / T		0.946	✓
		0.00	30:22	55.85	T	T	0.997	✓
252		*** Total ***		66.47	# of Peaks:		2	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
264		0.00	28:01	56.38	T	F	0.926	
		0.00	28:10	62.55	T	F	0.931	
		0.00	28:41	8.80	T	F	0.948	
		0.00	29:06	1031.18	T	T	0.944	✓
		0.00	29:12	2060.06	T	T	0.947	✓
		0.00	29:27	1073.15	T	F	0.974	
		0.00	29:57	230.28	T	F	0.990	
		0.00	30:06	30.45	T	F	0.995	
		0.00	30:14	1309.07	T	T	0.999	✓
		0.00	30:28	1038.39	T	T	0.988	✓
		0.00	30:50	803.22	T	T	1.019	✓
264		*** Total ***		7703.53	# of Peaks:		11	
276	D	0.00	36:45	5.72	T	T	1.004	S/N
	D	0.00	38:33	10.56	T	T	1.005	S/N
		0.00	39:21	1.18	T	F	1.026	
		0.00	40:27	1.49	T	F	1.054	
276		*** Total ***		18.95	# of Peaks:		4	
278		0.00	36:43	1.27	T	F	1.002	
		0.00	37:51	2.03	T	F	1.033	
278		*** Total ***		3.30	# of Peaks:		2	
288		0.00	36:37	212.98	T	T	1.188	✓
		0.00	38:22	560.84	T	T	1.244	✓
288		*** Total ***		773.82	# of Peaks:		2	
292		0.00	36:39	176.63	T	T	1.189	✓
292		*** Total ***		176.63	# of Peaks:		1	

*** End of Report ***

Listing of U9003971.dbf File
Raw Mass, Retention Time and Data Area

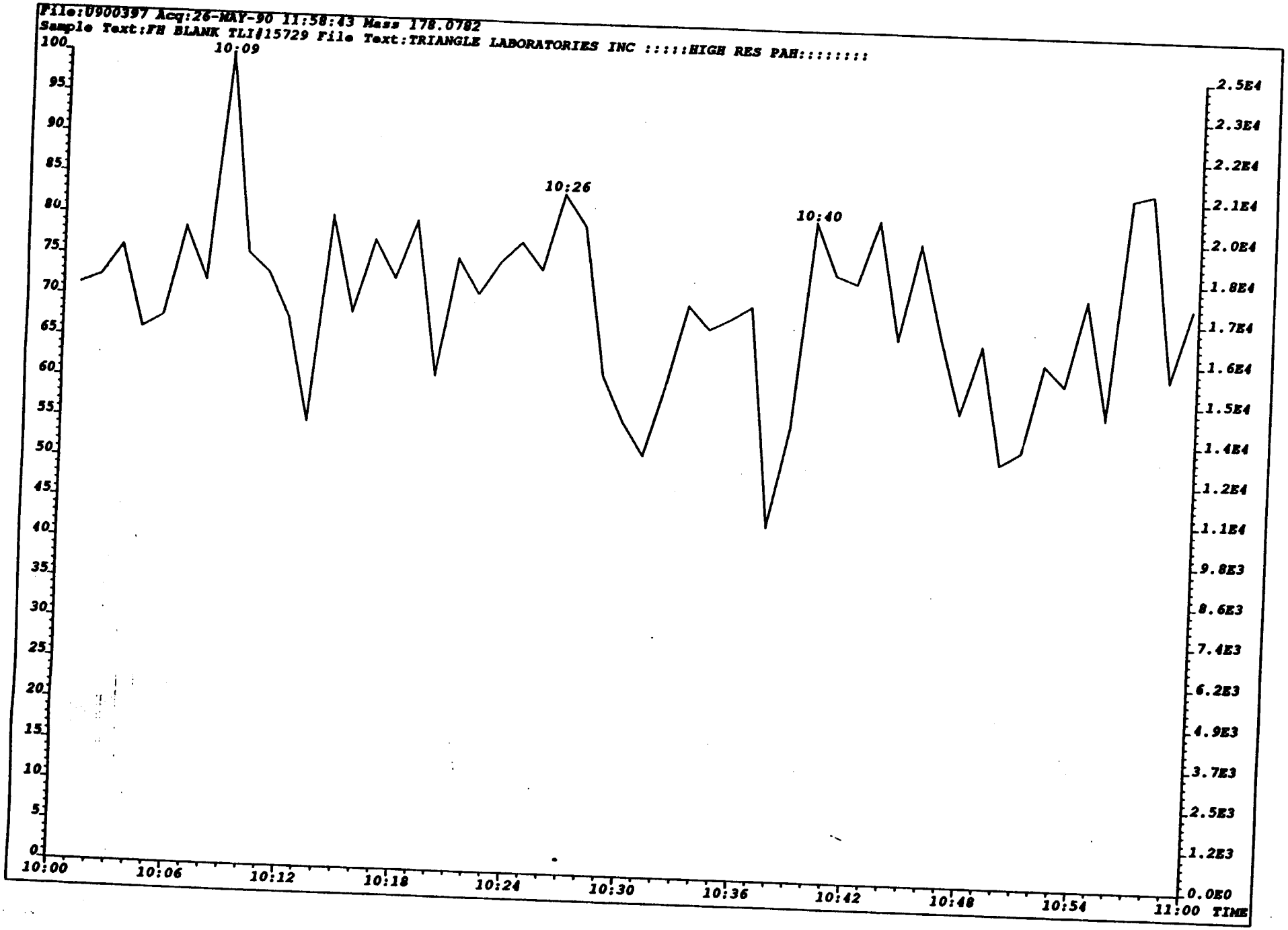
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
128	7:55	121650.40	8:30	27126.44				
136	7:57	19.75	8:26	313.06				
142	10:03	121.76	10:37	624.36	10:59	412.80	11:40	8.49
152	8:06	6.22	8:23	2.99	10:31	337.35	10:52	3.02
154	12:07	426.04	14:15	19.20	15:13	34.02	16:01	38.63
	12:37	7.68	14:31	61.72	15:28	682.47		
	12:53	8.47	14:42	64.87	15:39	20.14		
	14:03	174.16	14:58	25.14	15:52	175.24		
164	13:56	454.71						
152	12:07	96.15	13:28	21.43	14:31	964.51	15:28	286.72
	12:27	60.64	13:54	104.74	14:44	887.61	15:39	197.29
	12:37	26.24	14:02	474.86	14:58	52.36	15:51	141.11
	12:53	121.33	14:15	143.11	15:16	69.79	16:04	162.53
160	13:26	597.04	14:34	6.37	15:51	4.18		
	13:57	163.94	15:26	6.10				
169	12:05	292.86	13:55	1.00	14:31	88.93		
	12:29	13.55	14:23	270.68				
171	11:50	0.96	12:05	91.18				
166	14:01	362.01	15:18	46.70	16:16	153.70	17:08	3971.01
	14:14	152.36	15:33	1366.43	16:27	71.06	17:16	446.17
	14:30	689.11	15:49	133.41	16:42	212.75		
	14:44	1039.22	16:11	393.89	16:51	121.06		
176	15:28	594.54	17:09	10.91	18:20	5.93		
178	14:01	62.33	15:58	60.74	17:39	1335.56	19:26	84.60
	14:30	1481.87	16:27	42.28	17:50	53.80	19:32	83.93
	14:44	93.34	16:52	1117.29	18:03	91.21	19:43	176.40
	15:28	65.05	17:08	1660.91	18:17	6495.71		
	15:38	45.21	17:16	709.73	18:40	84.15		
	15:49	51.63	17:25	267.44	18:48	64.51		
188	18:13	1610.02	18:22	1922.56				
202	21:12	5091.64	22:08	2174.25	27:02	7899.17		
	21:32	2988.70	25:26	3260.13				
212	21:30	8825.91	22:06	7336.72	25:22	18.78	25:29	47.18
228	20:14	106.77	22:13	1254.59	24:25	12.87	27:04	138.60
	21:15	15.99	22:26	7.64	24:39	11.40		
	21:34	704.97	22:33	18.79	24:50	22.71		

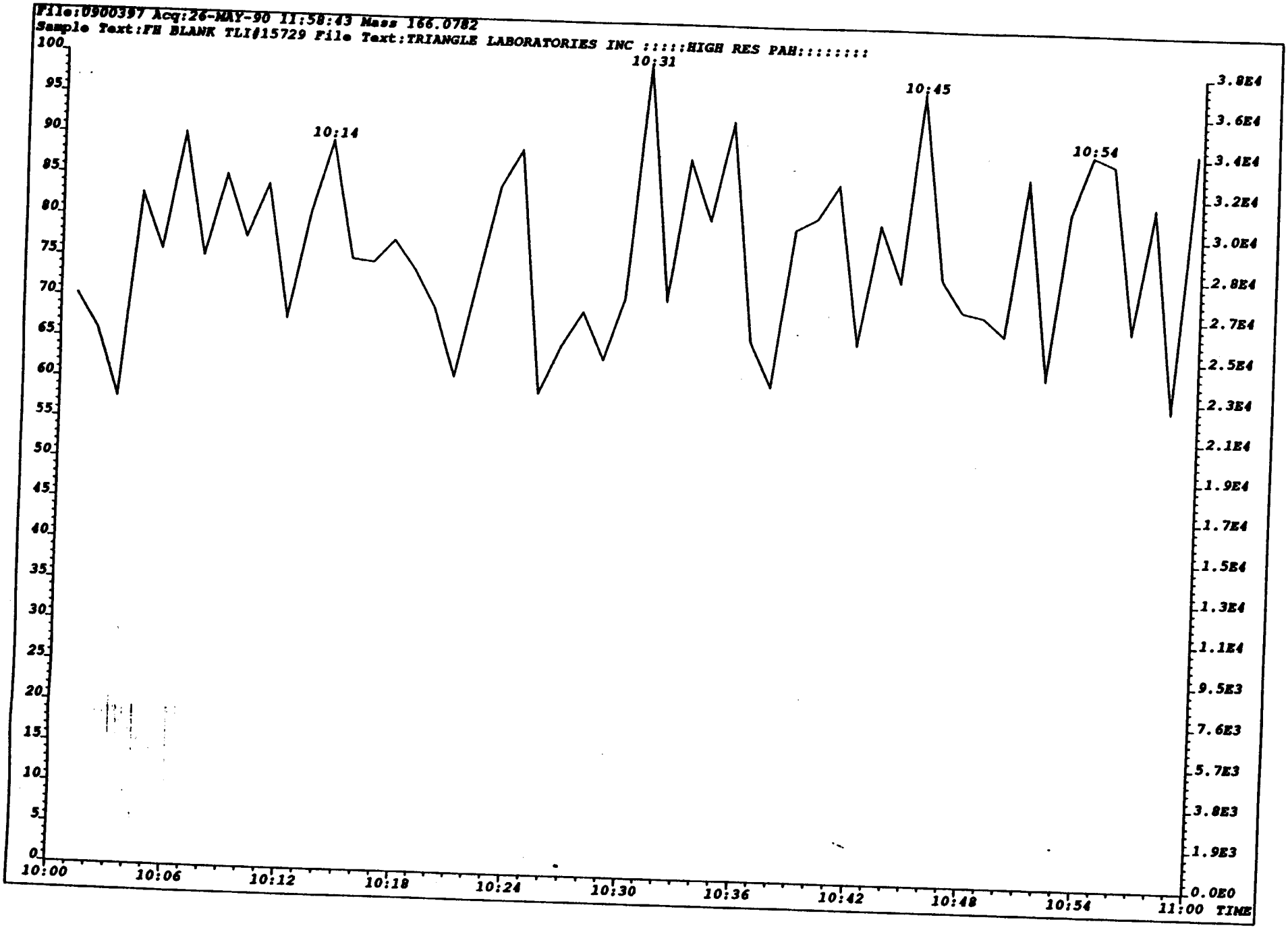
22:03 39.44 | 22:46 57.19 | 25:33 595.23

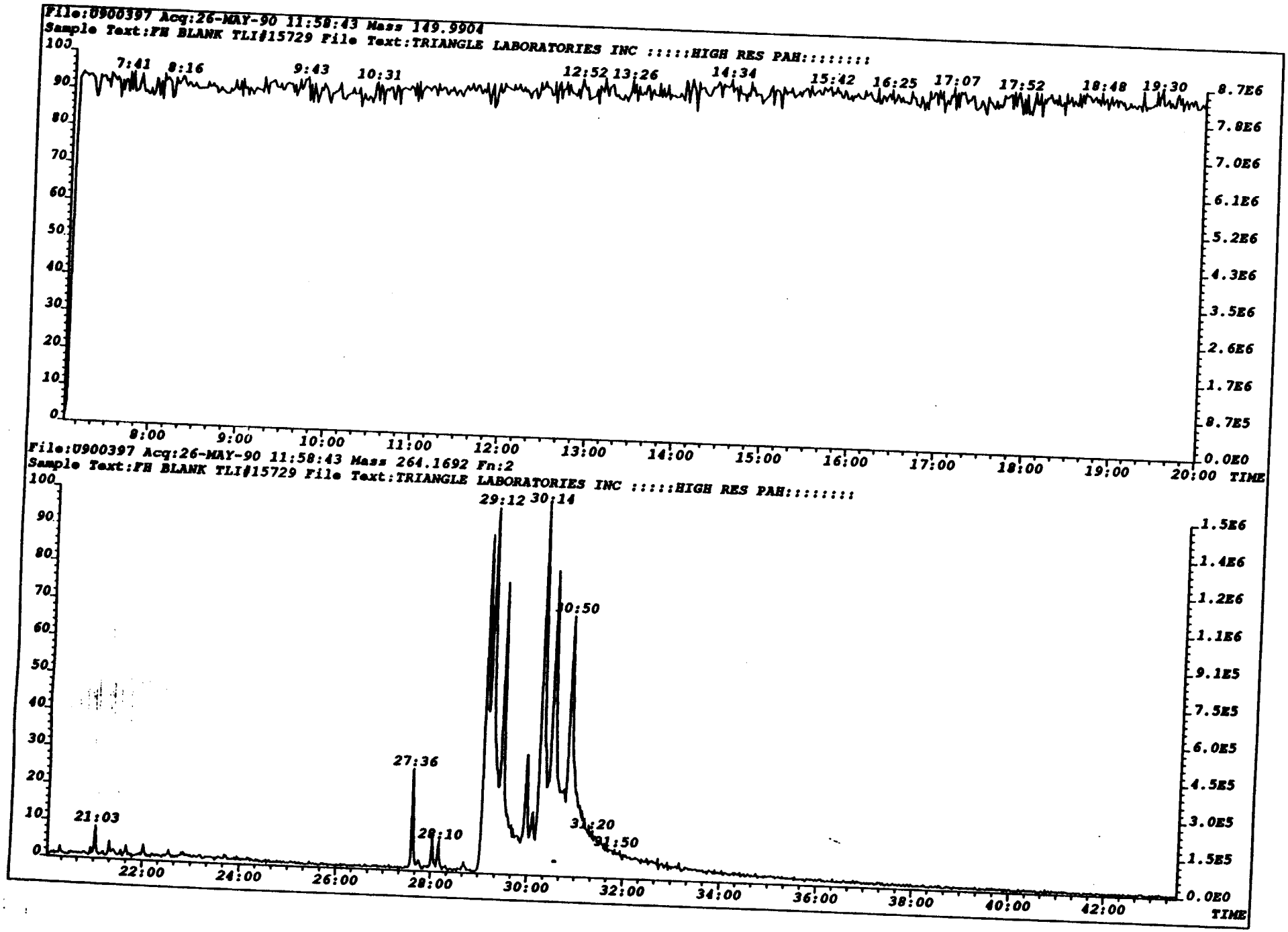
Listing of U9003971.dbf File
Raw Mass, Retention Time and Data Area

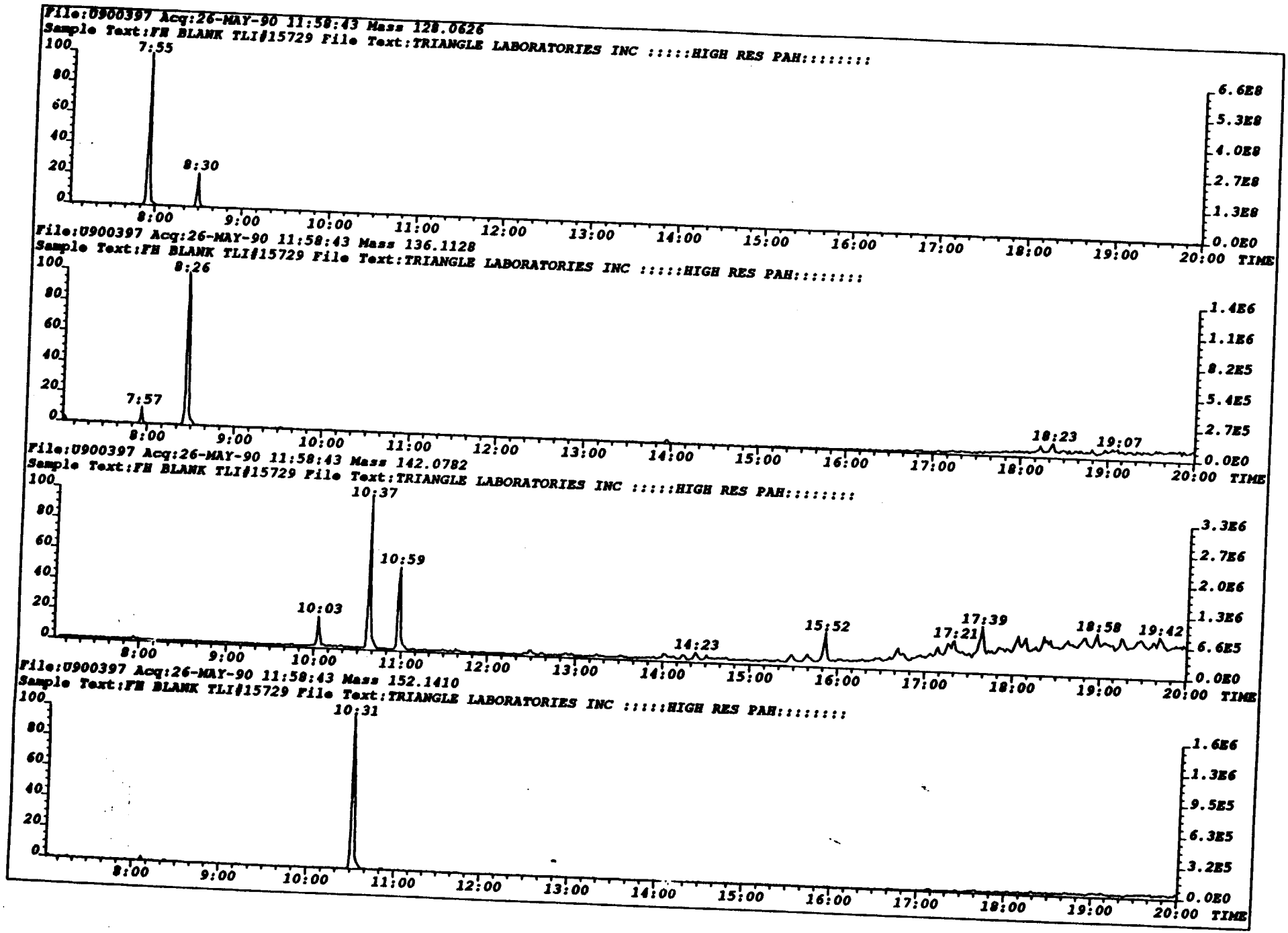
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
240	22:32	45.32	25:22	2283.79	25:29	7511.69		
244	20:16	23.40	20:44	13.04	22:32	758.58	24:00	10.77
	20:32	49.46	21:06	42.16	23:05	3.94	24:56	38.71
252	29:11	10.62	30:22	55.85				
264	28:01	56.38	29:06	1031.18	29:57	230.28	30:28	1038.39
	28:10	62.55	29:12	2060.06	30:06	30.45	30:50	803.22
	28:41	8.80	29:27	1073.15	30:14	1309.07		
276	36:45	5.72	38:33	10.56	39:21	1.18	40:27	1.49
288	36:37	212.98	38:22	560.84				
278	36:43	1.27	37:51	2.03				
292	36:39	176.63						

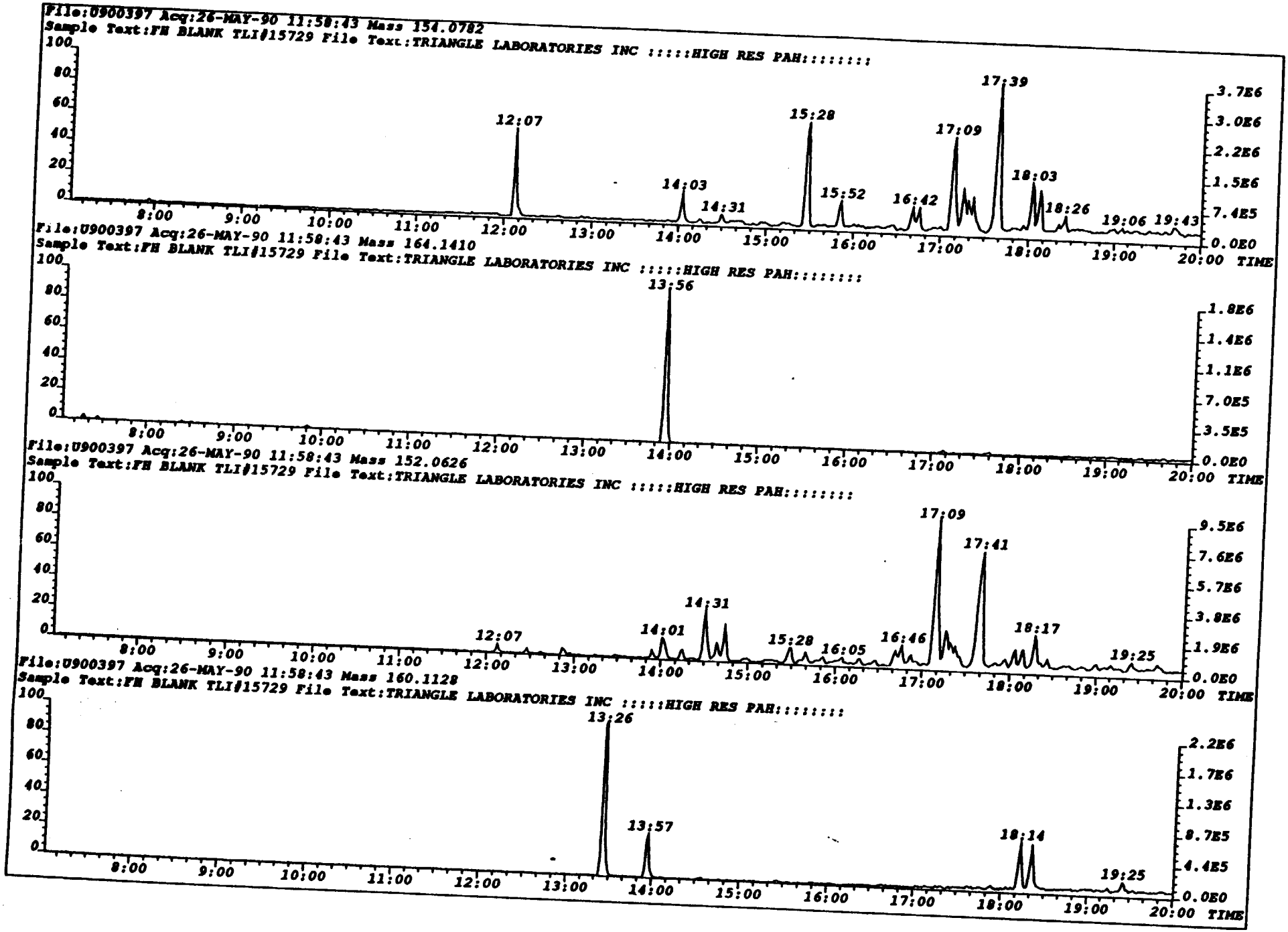
*** End of Report ***

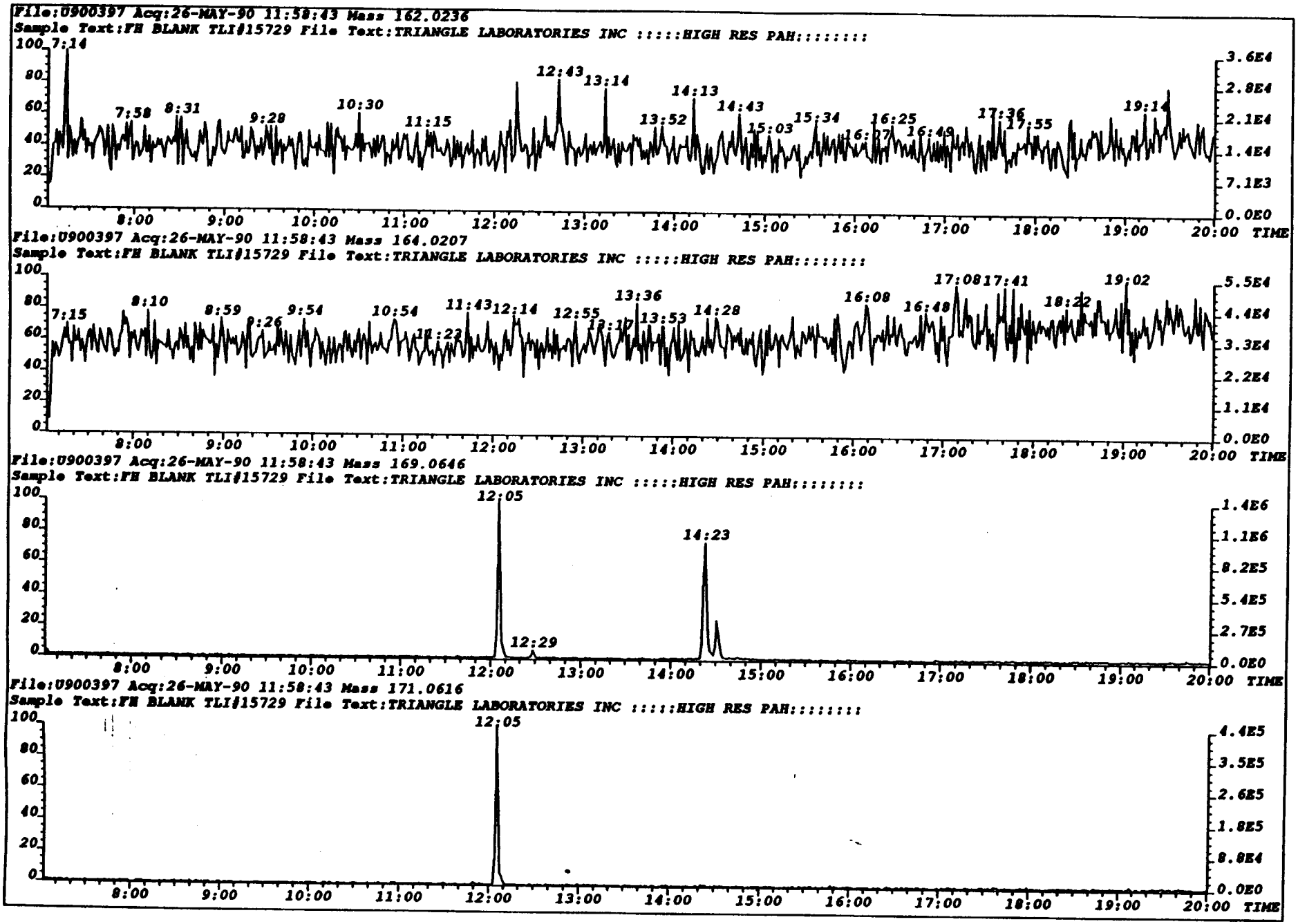

File:U900397 Acq:26-MAY-90 11:58:43 Mass 178.0782
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:09
10:26
10:40
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
2.5E4
2.3E4
2.2E4
2.1E4
2.0E4
1.8E4
1.7E4
1.6E4
1.5E4
1.4E4
1.2E4
1.1E4
9.8E3
8.6E3
7.4E3
6.2E3
4.9E3
3.7E3
2.5E3
1.2E3
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

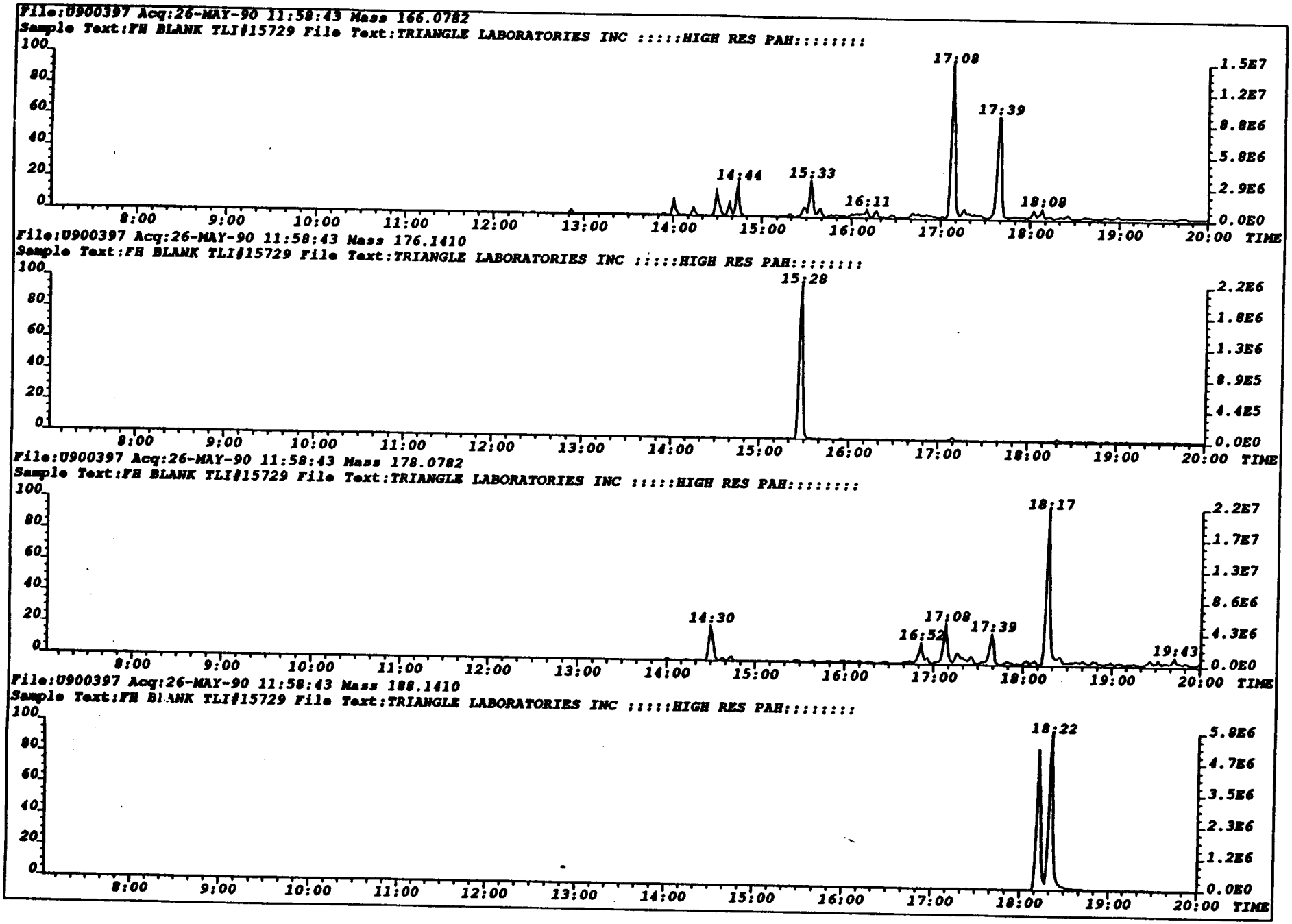

File:0900397 Acq:26-MAY-90 11:58:43 Mass 166.0782
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:14
10:31
10:45
10:54
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
3.8E4
3.6E4
3.4E4
3.2E4
3.0E4
2.8E4
2.7E4
2.5E4
2.3E4
2.1E4
1.9E4
1.7E4
1.5E4
1.3E4
1.1E4
9.5E3
7.6E3
5.7E3
3.8E3
1.9E3
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

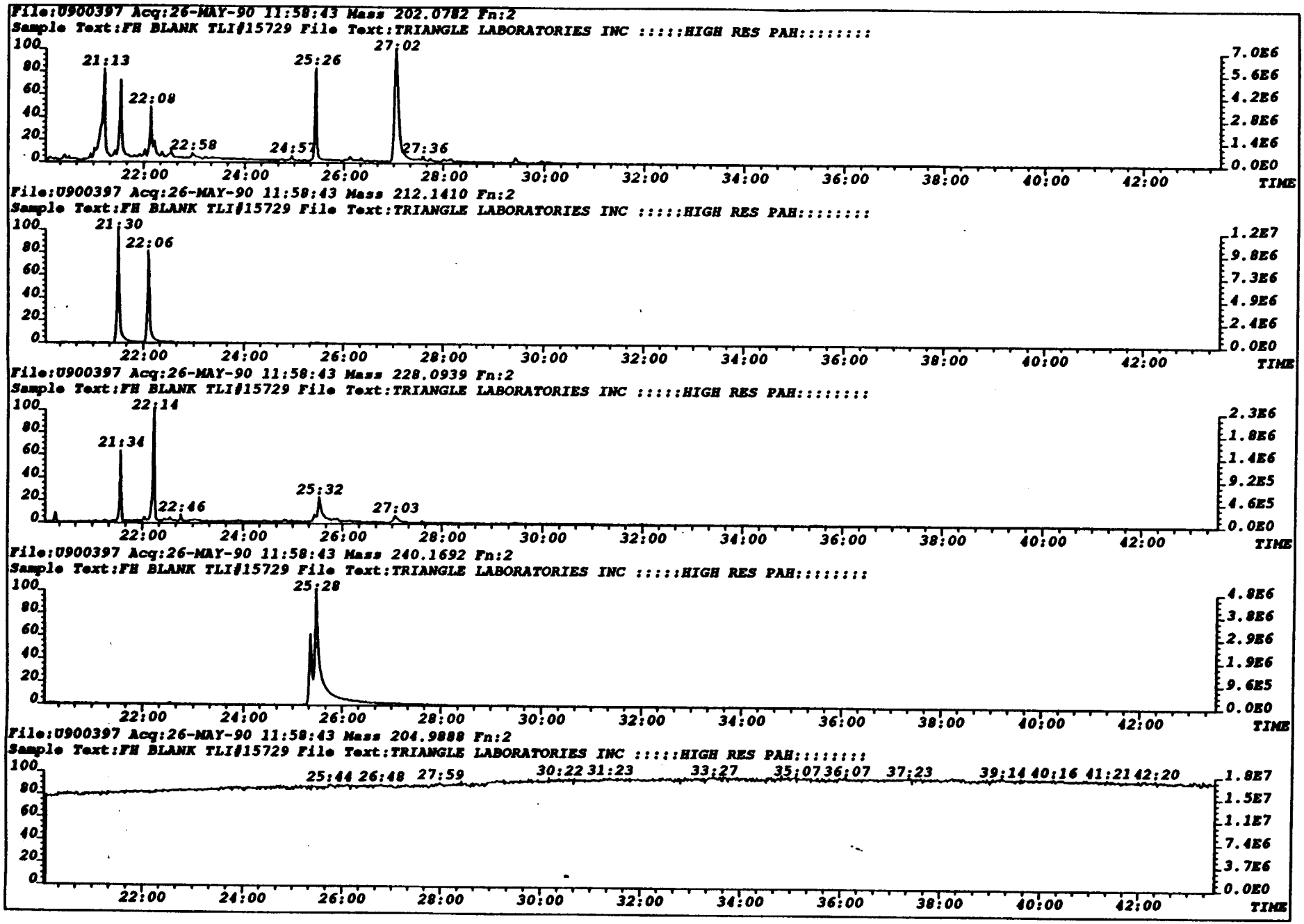

File:U900397 Acq:26-MAY-90 11:58:43 Mass 149.9904
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
7:41
8:16
9:43
10:31
12:52
13:26
14:34
15:42
16:25
17:07
17:52
18:48
19:30
8.7E6
7.8E6
7.0E6
6.1E6
5.2E6
4.3E6
3.5E6
2.6E6
1.7E6
8.7E5
0.0E0
TIME
File:U900397 Acq:26-MAY-90 11:58:43 Mass 264.1692 Fn:2
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
29:12
30:14
30:50
27:36
21:03
28:10
31:20
31:50
1.5E6
1.4E6
1.2E6
1.1E6
9.1E5
7.5E5
6.0E5
4.5E5
3.0E5
1.5E5
0.0E0
TIME

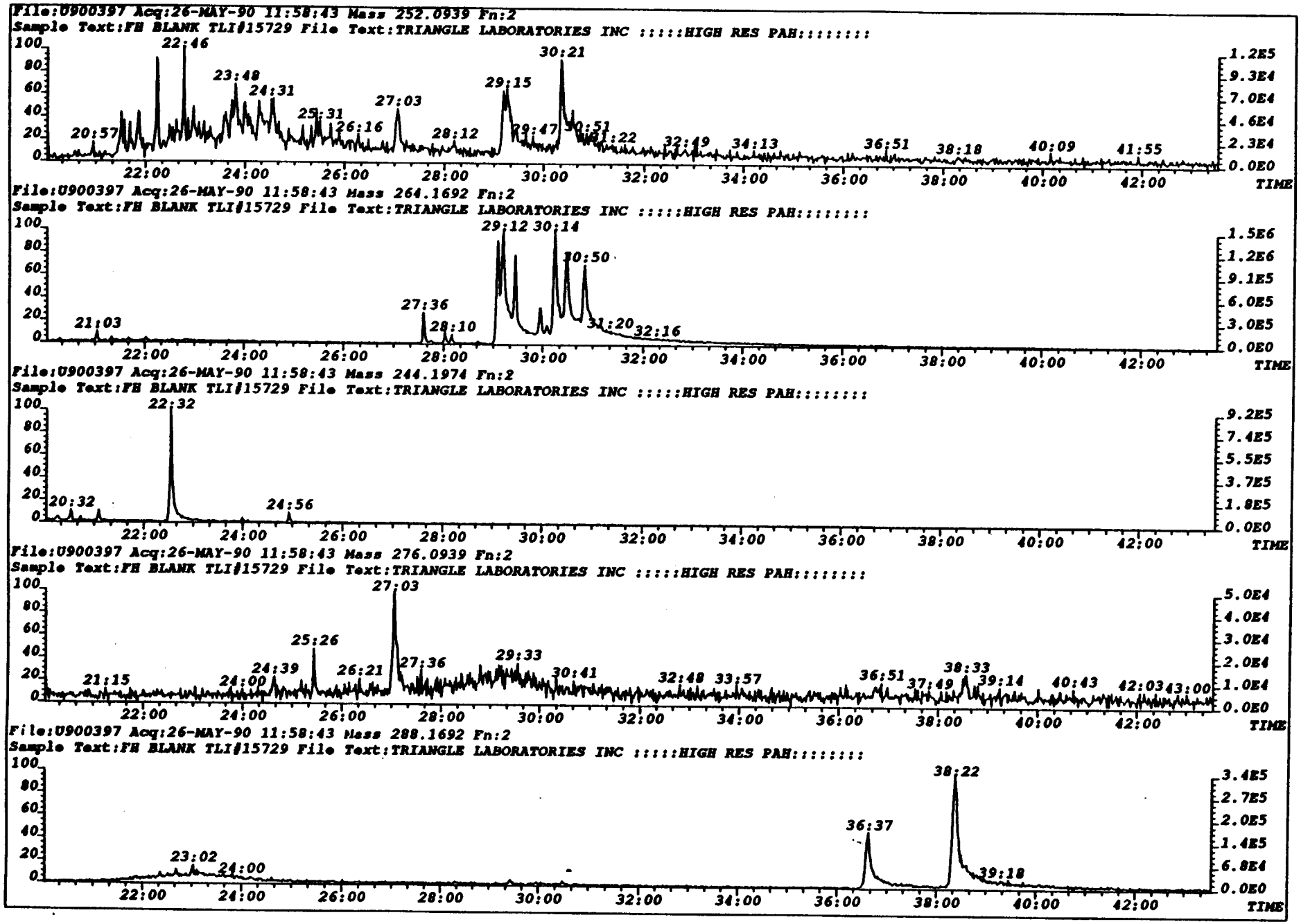

File:U900397 Acq:26-MAY-90 11:58:43 Mass 128.0626
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
7:55
8:30
6.6E8
5.3E8
4.0E8
2.7E8
1.3E8
0.0E0
TIME
File:U900397 Acq:26-MAY-90 11:58:43 Mass 136.1128
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
8:26
7:57
18:23
19:07
1.4E6
1.1E6
8.2E5
5.4E5
2.7E5
0.0E0
TIME
File:U900397 Acq:26-MAY-90 11:58:43 Mass 142.0782
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:37
10:59
10:03
14:23
15:52
17:21
17:39
18:58
19:42
3.3E6
2.7E6
2.0E6
1.3E6
6.6E5
0.0E0
TIME
File:U900397 Acq:26-MAY-90 11:58:43 Mass 152.1410
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:31
1.6E6
1.3E6
9.5E5
6.3E5
3.2E5
0.0E0
TIME

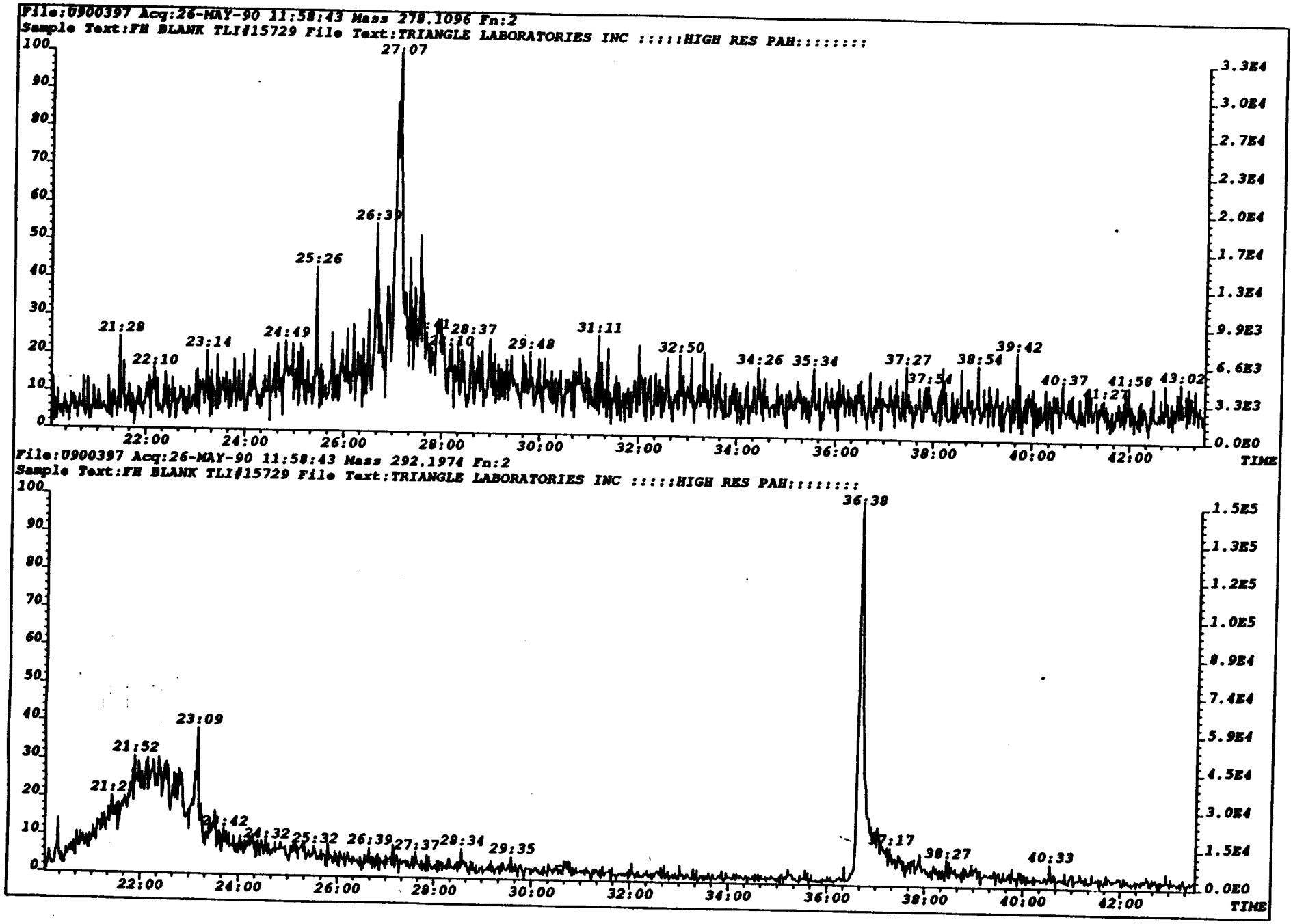

File:U900397 Acq:26-MAY-90 11:58:43 Mass 154.0782
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
12:07
14:03
14:31
15:28
15:52
16:42
17:09
17:39
18:03
18:26
19:06
19:43
File:U900397 Acq:26-MAY-90 11:58:43 Mass 164.1410
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
13:56
File:U900397 Acq:26-MAY-90 11:58:43 Mass 152.0626
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
12:07
14:01
14:31
15:28
16:05
16:46
17:09
17:41
18:17
19:25
File:U900397 Acq:26-MAY-90 11:58:43 Mass 160.1128
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
13:26
13:57
18:14
19:25
TIME

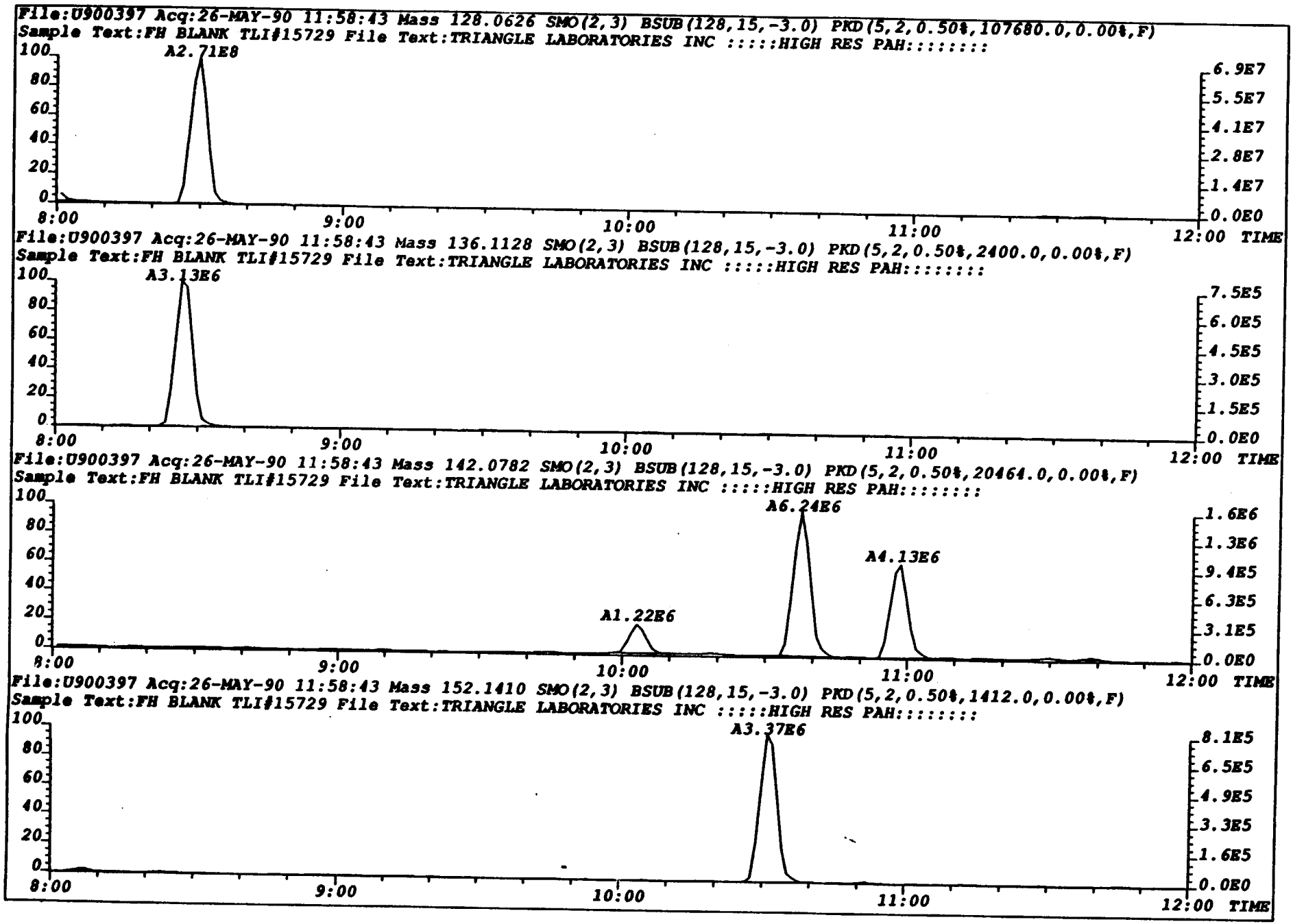

File:U900397 Acq:26-MAY-90 11:58:43 Mass 162.0236
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
7:14
7:58
8:31
9:28
10:30
11:15
12:43
13:14
13:52
14:13
14:43
15:03
15:34
16:25
16:49
17:36
17:55
19:14
3.6E4
2.8E4
2.1E4
1.4E4
7.1E3
0.0E0
File:U900397 Acq:26-MAY-90 11:58:43 Mass 164.0207
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
7:15
8:10
8:59
9:26
9:54
10:54
11:43
12:14
12:55
13:36
13:53
14:28
16:08
16:48
17:08
17:41
18:22
19:02
5.5E4
4.4E4
3.3E4
2.2E4
1.1E4
0.0E0
File:U900397 Acq:26-MAY-90 11:58:43 Mass 169.0646
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
12:05
12:29
14:23
1.4E6
1.1E6
8.2E5
5.4E5
2.7E5
0.0E0
File:U900397 Acq:26-MAY-90 11:58:43 Mass 171.0616
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
12:05
4.4E5
3.5E5
2.6E5
1.8E5
8.8E4
0.0E0
100
80
60
40
20
0
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
TIME

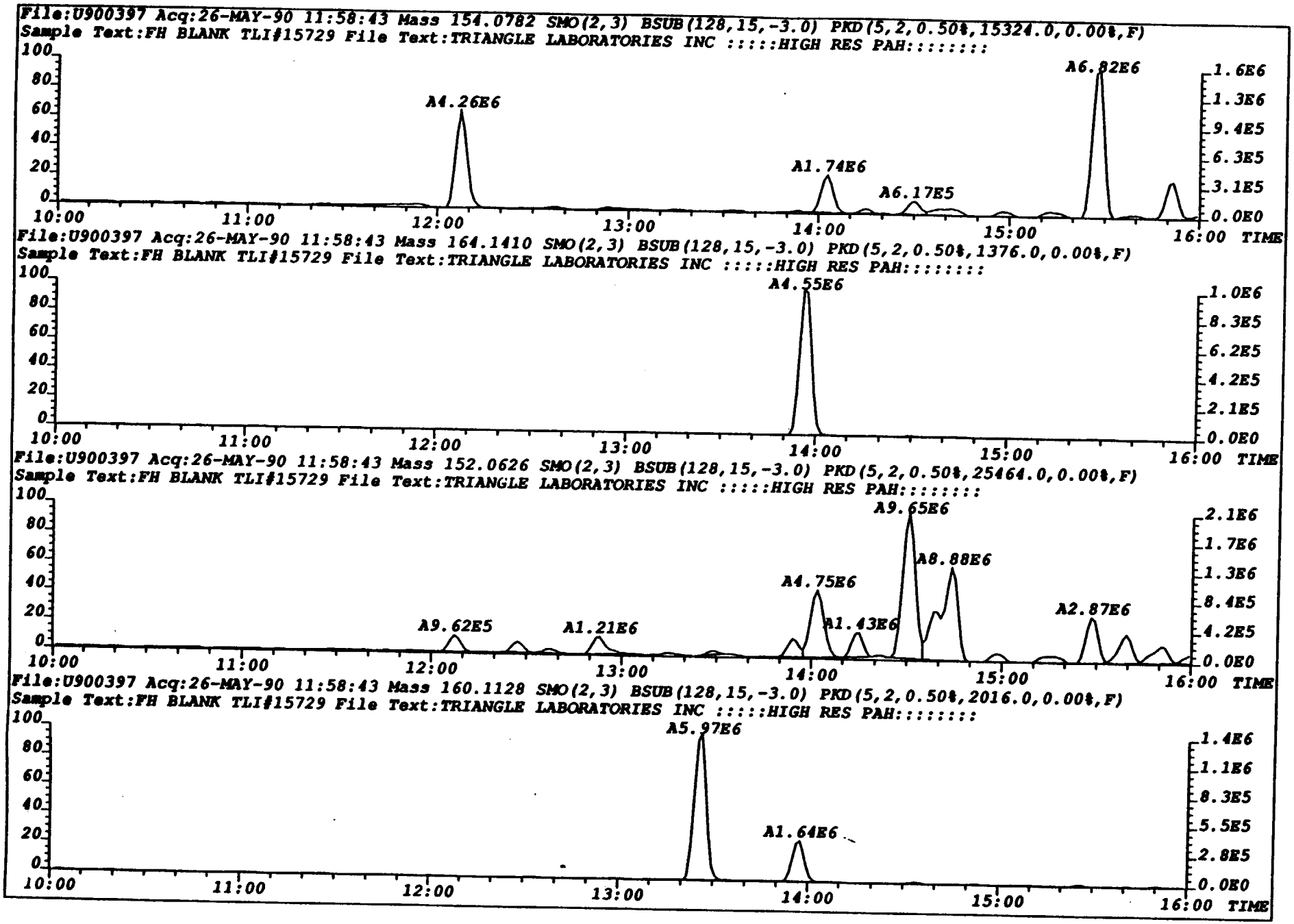

File:U900397 Acq:26-MAY-90 11:58:43 Mass 166.0782
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
17:08
17:39
14:44
15:33
16:11
18:08
1.5E7
1.2E7
8.8E6
5.8E6
2.9E6
0.0E0
File:U900397 Acq:26-MAY-90 11:58:43 Mass 176.1410
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
15:28
2.2E6
1.8E6
1.3E6
8.9E5
4.4E5
0.0E0
File:U900397 Acq:26-MAY-90 11:58:43 Mass 178.0782
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
18:17
14:30
17:08
16:52
17:39
19:43
2.2E7
1.7E7
1.3E7
8.6E6
4.3E6
0.0E0
File:U900397 Acq:26-MAY-90 11:58:43 Mass 188.1410
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
18:22
5.8E6
4.7E6
3.5E6
2.3E6
1.2E6
0.0E0
100
80
60
40
20
0
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
TIME

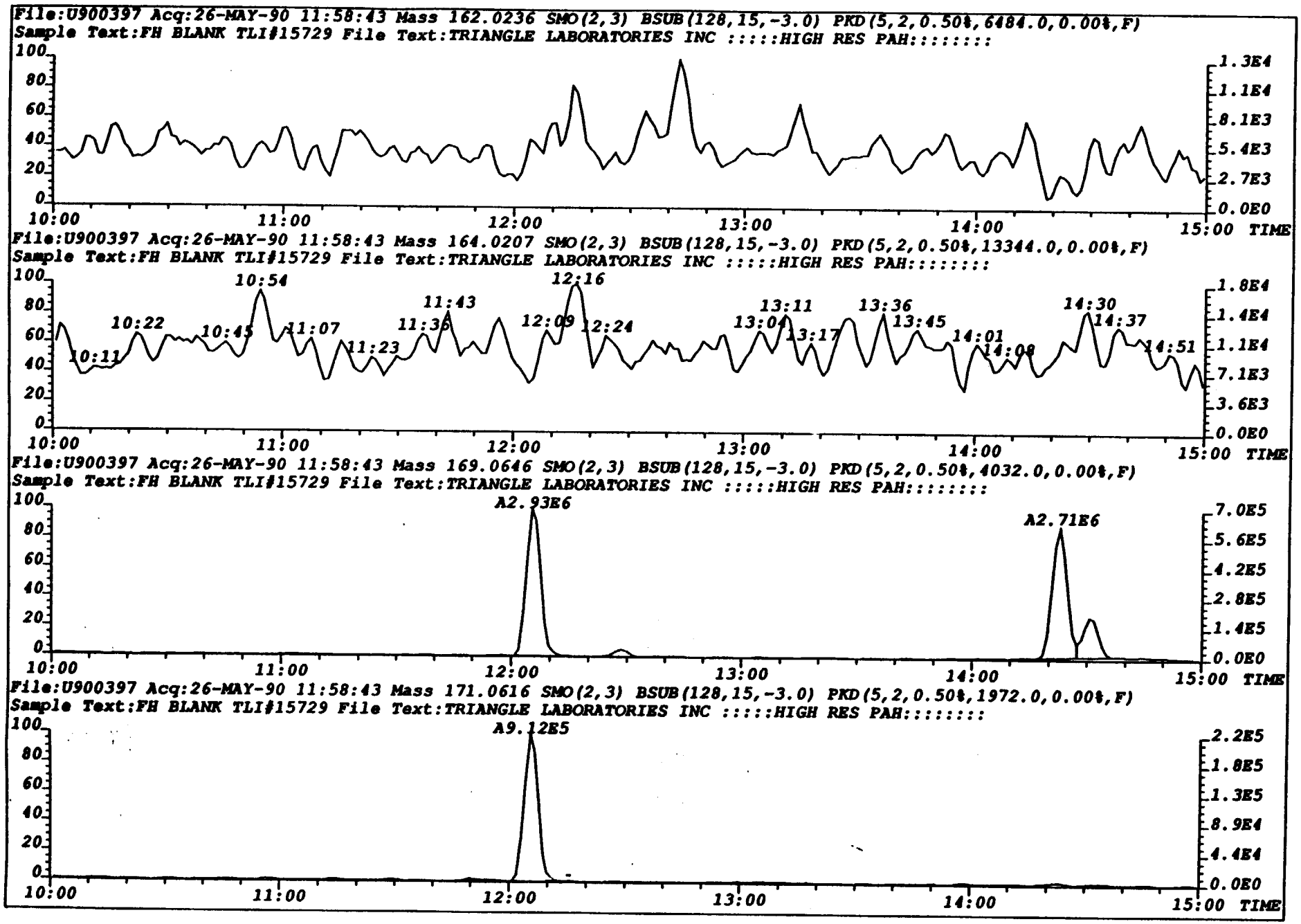

File:U900397 Acq:26-MAY-90 11:58:43 Mass 202.0782 Fn:2
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
21:13
22:08
22:58
24:57
25:26
27:02
27:36
7.0E6
5.6E6
4.2E6
2.8E6
1.4E6
0.0E0
TIME
File:U900397 Acq:26-MAY-90 11:58:43 Mass 212.1410 Fn:2
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
21:30
22:06
1.2E7
9.8E6
7.3E6
4.9E6
2.4E6
0.0E0
TIME
File:U900397 Acq:26-MAY-90 11:58:43 Mass 228.0939 Fn:2
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
21:34
22:14
22:46
25:32
27:03
2.3E6
1.8E6
1.4E6
9.2E5
4.6E5
0.0E0
TIME
File:U900397 Acq:26-MAY-90 11:58:43 Mass 240.1692 Fn:2
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
25:28
4.8E6
3.8E6
2.9E6
1.9E6
9.6E5
0.0E0
TIME
File:U900397 Acq:26-MAY-90 11:58:43 Mass 204.9888 Fn:2
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
25:44 26:48 27:59 30:22 31:23 33:27 35:07 36:07 37:23 39:14 40:16 41:21 42:20
1.8E7
1.5E7
1.1E7
7.4E6
3.7E6
0.0E0
TIME
22:00 24:00 26:00 28:00 30:00 32:00 34:00 36:00 38:00 40:00 42:00

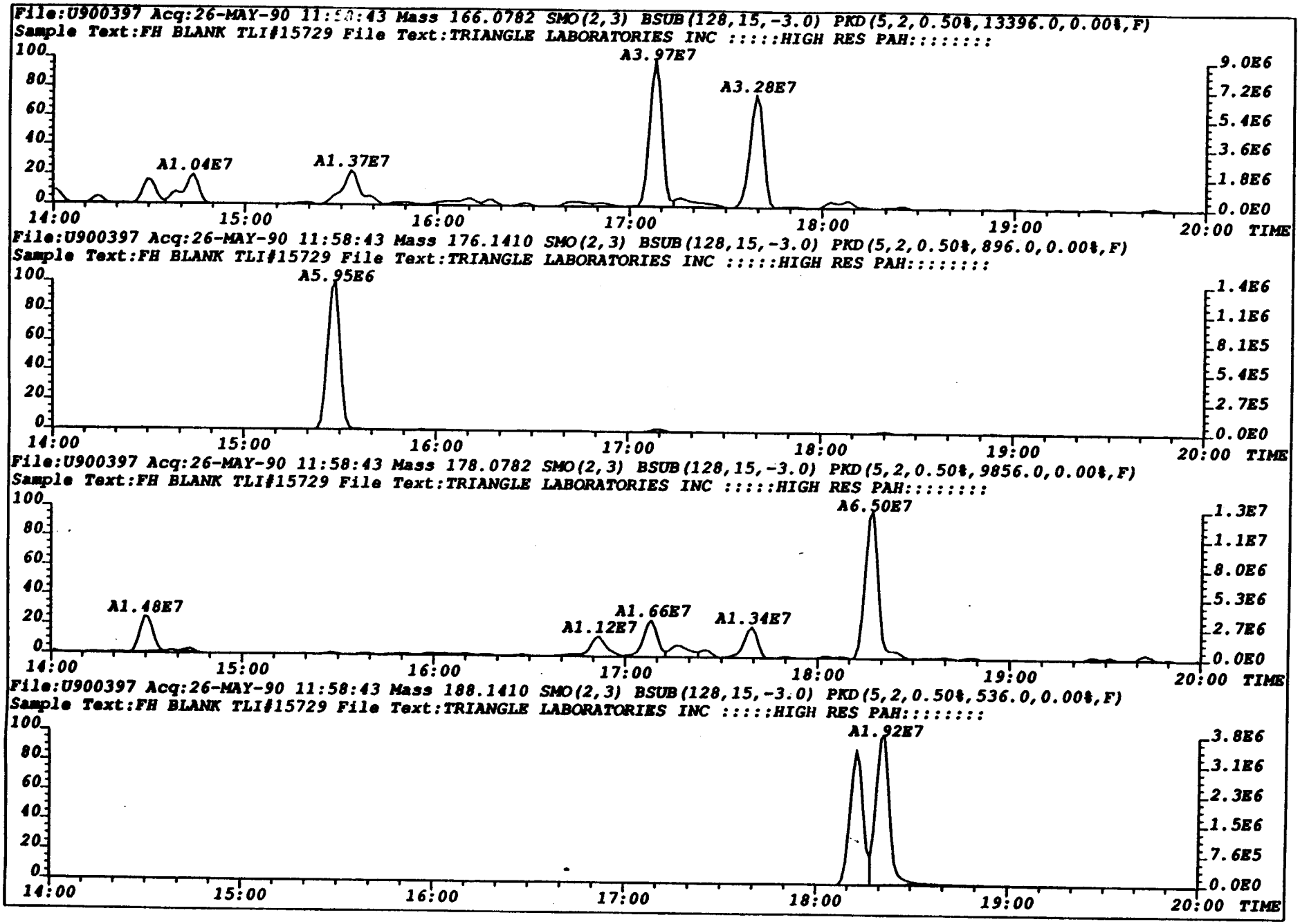

File:U900397 Acq:26-MAY-90 11:58:43 Mass 252.0939 Fn:2
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
20:57 22:46 23:48 24:31 25:31 26:16 27:03 28:12 29:15 29:47 30:21 30:51 31:22 32:49 34:13 36:51 38:18 40:09 41:55
File:U900397 Acq:26-MAY-90 11:58:43 Mass 264.1692 Fn:2
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
21:03 27:36 28:10 29:12 30:14 30:50 31:20 32:16
File:U900397 Acq:26-MAY-90 11:58:43 Mass 244.1974 Fn:2
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
20:32 22:32 24:56
File:U900397 Acq:26-MAY-90 11:58:43 Mass 276.0939 Fn:2
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
21:15 24:00 24:39 25:26 26:21 27:03 27:36 29:33 30:41 32:48 33:57 36:51 37:49 38:33 39:14 40:43 42:03 43:00
File:U900397 Acq:26-MAY-90 11:58:43 Mass 288.1692 Fn:2
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
23:02 24:00 36:37 38:22 39:18
TIME

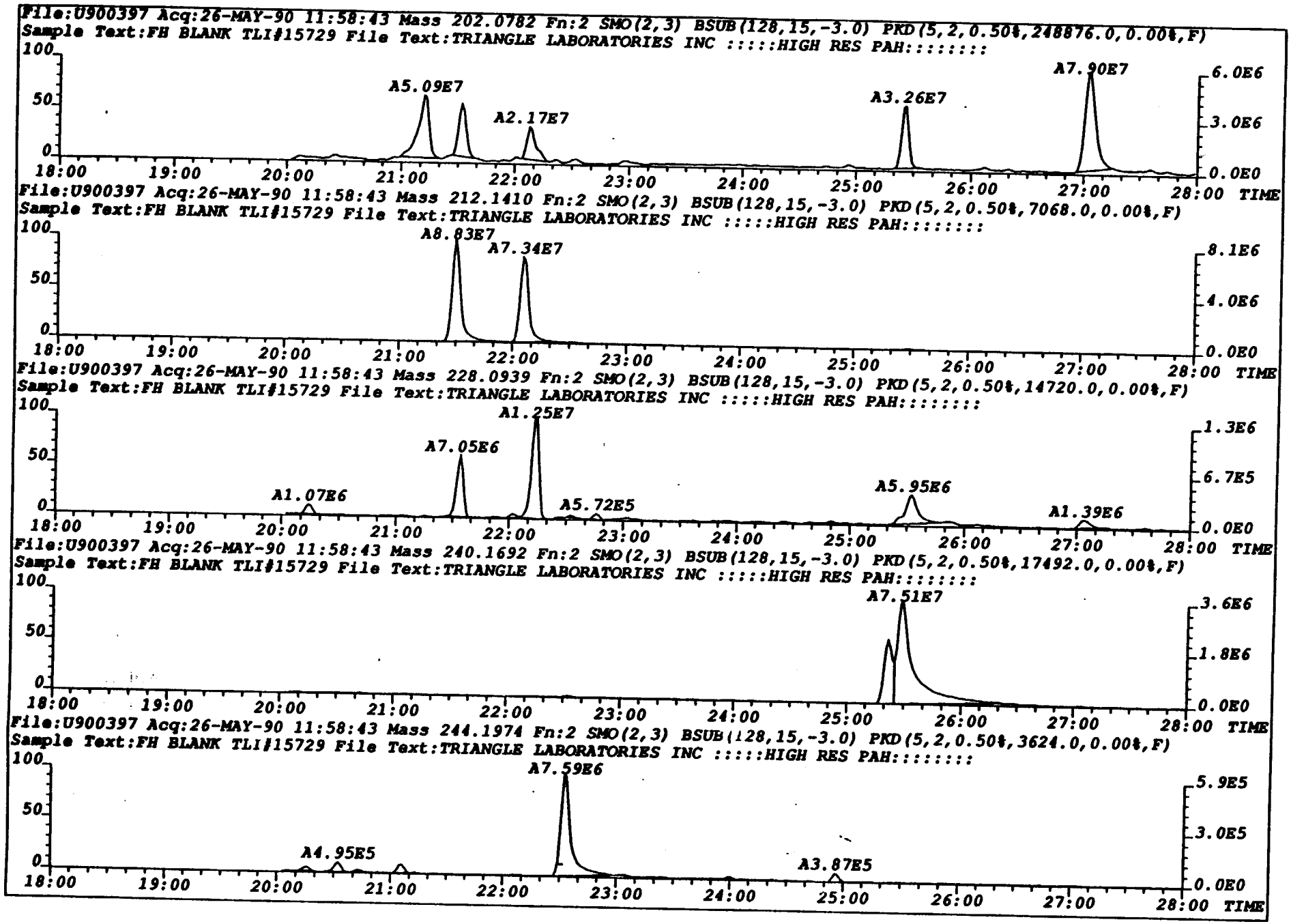

File:U900397 Acq:26-MAY-90 11:58:43 Mass 278.1096 Fn:2
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
27:07
26:39
25:26
21:28
22:10
23:14
24:49
28:37
29:48
31:11
32:50
34:26
35:34
37:27
37:54
38:54
39:42
40:37
41:58
43:02
TIME
File:U900397 Acq:26-MAY-90 11:58:43 Mass 292.1974 Fn:2
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
36:38
23:09
21:52
21:2
24:32
25:32
26:39
27:37
28:34
29:35
37:17
38:27
40:33
TIME

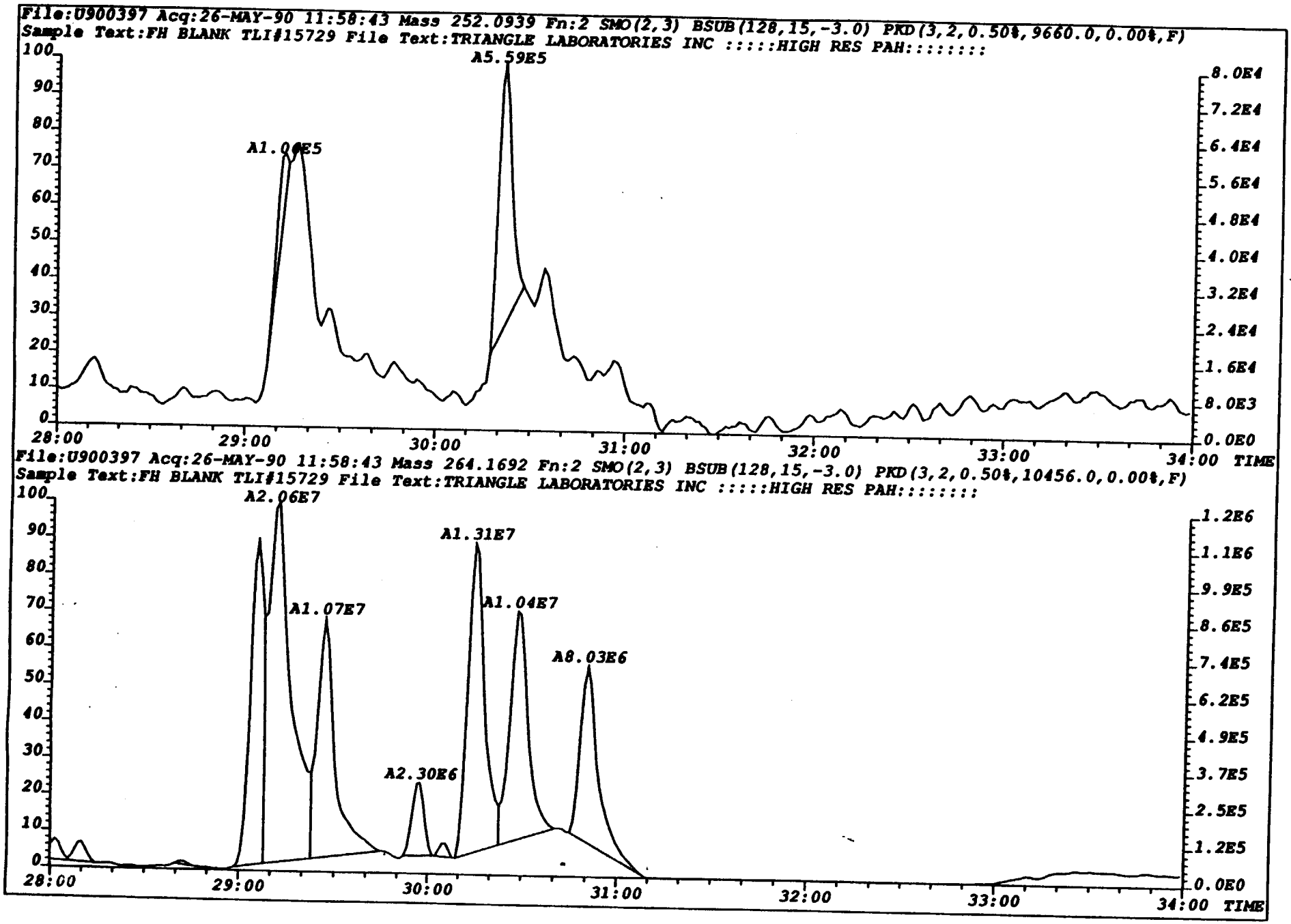

File:U900397 Acq:26-MAY-90 11:58:43 Mass 128.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,107680.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.71E8
6.9E7
5.5E7
4.1E7
2.8E7
1.4E7
0.0E0
8:00
9:00
10:00
11:00
12:00 TIME
File:U900397 Acq:26-MAY-90 11:58:43 Mass 136.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2400.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A3.13E6
7.5E5
6.0E5
4.5E5
3.0E5
1.5E5
0.0E0
File:U900397 Acq:26-MAY-90 11:58:43 Mass 142.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,20464.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A6.24E6
A4.13E6
A1.22E6
1.6E6
1.3E6
9.4E5
6.3E5
3.1E5
0.0E0
File:U900397 Acq:26-MAY-90 11:58:43 Mass 152.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1412.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A3.37E6
8.1E5
6.5E5
4.9E5
3.3E5
1.6E5
0.0E0

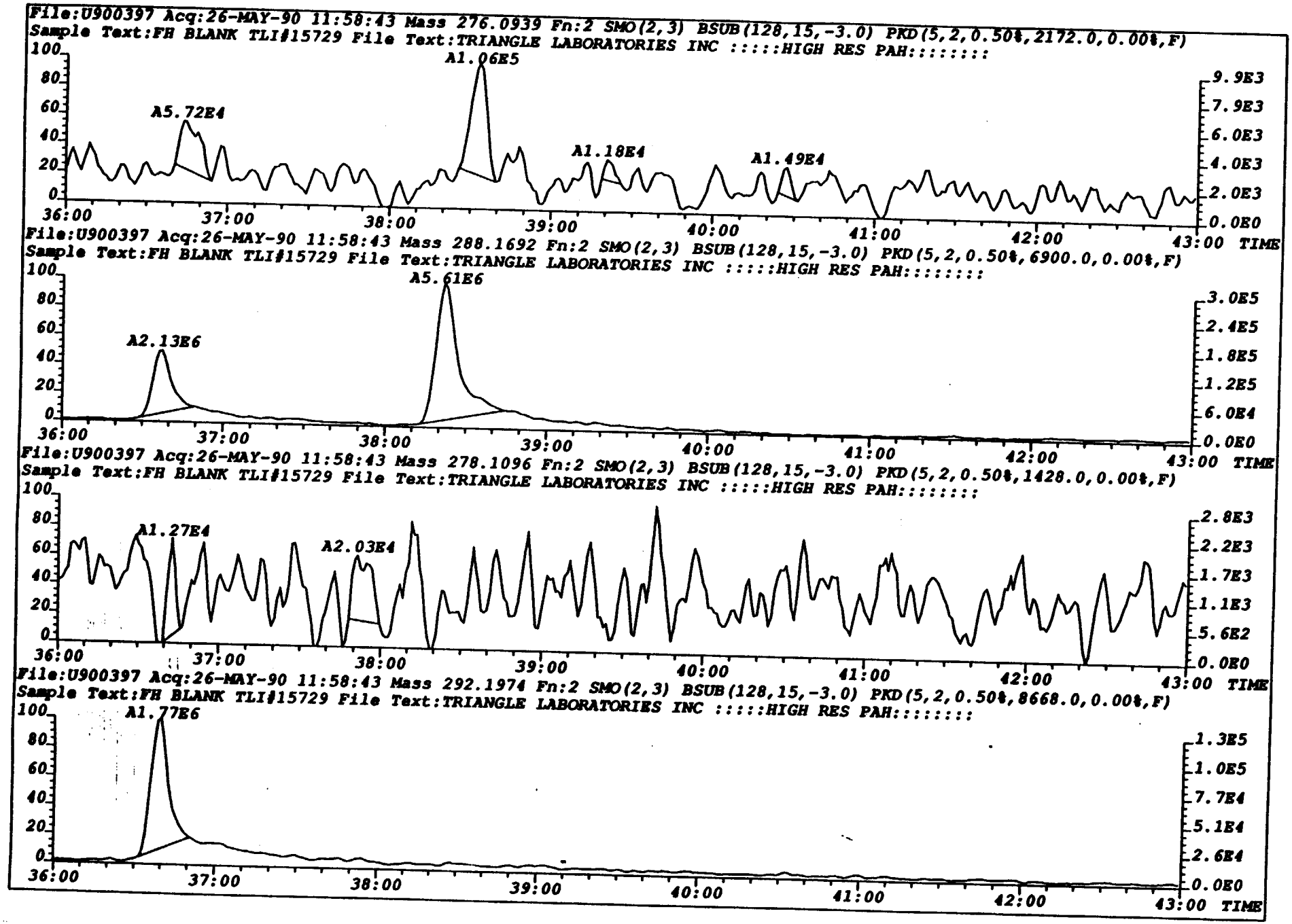

File:U900397 Acq:26-MAY-90 11:58:43 Mass 154.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,15324.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A4.26E6
A1.74E6
A6.17E5
A6.82E6
File:U900397 Acq:26-MAY-90 11:58:43 Mass 164.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1376.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A4.55E6
File:U900397 Acq:26-MAY-90 11:58:43 Mass 152.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,25464.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A9.62E5
A1.21E6
A4.75E6
A1.43E6
A9.65E6
A8.88E6
A2.87E6
File:U900397 Acq:26-MAY-90 11:58:43 Mass 160.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2016.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A5.97E6
A1.64E6
TIME


File:U900397 Acq:26-MAY-90 11:58:43 Mass 162.0236 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,6484.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:00 11:00 12:00 13:00 14:00 15:00 TIME
File:U900397 Acq:26-MAY-90 11:58:43 Mass 164.0207 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,13344.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:11 10:22 10:45 10:54 11:07 11:23 11:36 11:43 12:09 12:16 12:24 13:04 13:11 13:17 13:36 13:45 14:01 14:08 14:30 14:37 14:51
10:00 11:00 12:00 13:00 14:00 15:00 TIME
File:U900397 Acq:26-MAY-90 11:58:43 Mass 169.0646 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,4032.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.93E6
A2.71E6
10:00 11:00 12:00 13:00 14:00 15:00 TIME
File:U900397 Acq:26-MAY-90 11:58:43 Mass 171.0616 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1972.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A9.12E5
10:00 11:00 12:00 13:00 14:00 15:00 TIME


File:U900397 Acq:26-MAY-90 11:58:43 Mass 166.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,13396.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A3.97E7
A3.28E7
A1.04E7
A1.37E7
File:U900397 Acq:26-MAY-90 11:58:43 Mass 176.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,896.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A5.95E6
File:U900397 Acq:26-MAY-90 11:58:43 Mass 178.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,9856.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A6.50E7
A1.48E7
A1.66E7
A1.12E7
A1.34E7
File:U900397 Acq:26-MAY-90 11:58:43 Mass 188.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,536.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.92E7
TIME


File:U900397 Acq:26-MAY-90 11:58:43 Mass 202.0782 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,248876.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A5.09E7
A2.17E7
A3.26E7
A7.90E7
File:U900397 Acq:26-MAY-90 11:58:43 Mass 212.1410 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7068.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A8.83E7
A7.34E7
File:U900397 Acq:26-MAY-90 11:58:43 Mass 228.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,14720.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.25E7
A7.05E6
A1.07E6
A5.72E5
A5.95E6
A1.39E6
File:U900397 Acq:26-MAY-90 11:58:43 Mass 240.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,17492.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A7.51E7
File:U900397 Acq:26-MAY-90 11:58:43 Mass 244.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3624.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A7.59E6
A4.95E5
A3.87E5
18:00
19:00
20:00
21:00
22:00
23:00
24:00
25:00
26:00
27:00
28:00
TIME


File:U900397 Acq:26-MAY-90 11:58:43 Mass 252.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,9660.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A5.59E5
A1.06E5
28:00
29:00
30:00
31:00
32:00
33:00
34:00 TIME
File:U900397 Acq:26-MAY-90 11:58:43 Mass 264.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,10456.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.06E7
A1.31E7
A1.07E7
A1.04E7
A8.03E6
A2.30E6
28:00
29:00
30:00
31:00
32:00
33:00
34:00 TIME


File:U900397 Acq:26-MAY-90 11:58:43 Mass 276.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2172.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.06E5
A5.72E4
A1.18E4
A1.49E4
File:U900397 Acq:26-MAY-90 11:58:43 Mass 288.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,6900.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A5.61E6
A2.13E6
File:U900397 Acq:26-MAY-90 11:58:43 Mass 278.1096 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1428.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.27E4
A2.03E4
File:U900397 Acq:26-MAY-90 11:58:43 Mass 292.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,8668.0,0.00%,F)
Sample Text:FH BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.77E6
TIME

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

FILE NAME....: U900398
CONCAL.....: U900395
ANALYST.....: MC
SAMPLE SIZE..: 1.00
ICAL DATE....: 05/21/90
SPIKE FILE...: SPPAHH1C

CLIENT ID....: P&S
SAMPLE ID....: QA/QC MM5 FH
ANALYSIS DATE: 06/26/90
SAMPLE MATRIX: MM5
SAMPLE ORIGIN: n/a

TLI NUMBER....: N/A
PROJECT NUMBER: 15729
DATE RECEIVED.: 05/09/90
DATE COLLECTED: / /
SHIPMENT NO...: n/a

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	8010			8:31	B
2-Me-Naph	162			10:38	B
2-Cl-Naph	ND		0.6		
Acenaphthen	30.9			14:03	B
Acenaph	4.1			13:29	B
Fluorene	114			15:34	B
Phenan	270			18:17	B
Anth	ND		0.7		
Fluoran	39.8			21:33	B
Pyrene	27.2			22:09	B
B-a-Anth	ND		0.6		
Chrysene	11.2			25:33	B
B-b-Fluoran	1.5			29:12	B
B-k-Fluoran	ND		0.6		
B-e-Pyrene	3.8			30:23	B
B-a-Pyrene	ND		1.1		
Perylene	ND		1.3		
I-123-cd-Py	ND		2.3		
DiB-ah-Anth	ND		5.6		
B-ghi-Pery	ND		2.2		

SURROGATE RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	84.5	84.5	22:33	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	89.3	89.3	18:21	

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

FILE NAME....: U900398
CONCAL.....: U900395
ANALYST.....: MC
SAMPLE SIZE..: 1.00
ICAL DATE....: 05/21/90
SPIKE FILE...: SPPAHH1C

CLIENT ID....: P&S
SAMPLE ID....: QA/QC MM5 FH
ANALYSIS DATE: 06/26/90
SAMPLE MATRIX: MM5
SAMPLE ORIGIN: n/a

TLI NUMBER....: N/A
PROJECT NUMBER: 15729
DATE RECEIVED.: 05/09/90
DATE COLLECTED: / /
SHIPMENT NO...: n/a

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	19.4	19.4	8:27	V
d10-2-Me-Naph	23.1	23.1	10:32	V
d7-2-Cl-Naph	30.5	30.5	12:06	V
d8-Acenaph	27.7	27.7	13:26	V
d10-Acenaphthen	31.4	31.4	13:57	V
d10-Fluorene	36.7	36.7	15:28	V
d10-Phenan	57.3	57.3	18:14	—
d10-Fluoran	81.1	81.1	21:31	—
d10-Pyrene	87.0	87.0	22:07	—
d12-B-a-Anth	63.3	63.3	25:22	—
d12-Chrysene	100	100	25:29	—
d12-B-b-Fluoran	56.5	56.5	29:06	—
d12-B-k-Fluoran	57.0	57.0	29:12	—
d12-B-a-Pyrene	47.5	47.5	30:29	—
d12-Perylene	60.1	60.1	30:51	—
d12-I-123-cd-Py	61.8	61.8	36:38	—
d14-DiB-ah-Anth	38.6	38.6	36:39	V
d12-B-ghi-Pery	62.1	62.1	38:23	—

DL 6.

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128		0.00	7:55	67560.68	T	F	0.937	
		0.00	8:31	126516.60	T	T	1.008	✓
128		*** Total ***		194077.28	# of Peaks:		2	
136		0.00	8:27	1726.18	T	T	0.629	✓
		0.00	9:32	13.72	T	F	0.710	
136		*** Total ***		1739.90	# of Peaks:		2	
142		0.00	10:04	264.16	T	F	0.956	
		0.00	10:20	50.57	T	F	0.981	
		0.00	10:38	2194.10	T	T	1.009	✓
		0.00	10:58	1187.86	T	F	1.041	
		0.00	11:08	13.57	T	F	1.057	
		0.00	11:31	27.26	T	F	1.093	
		0.00	11:40	36.60	T	F	1.108	
142		*** Total ***		3774.12	# of Peaks:		7	
152		0.00	8:06	88.52	T	F	0.603	
		0.00	8:23	36.14	T	F	0.624	
		0.00	10:32	1372.64	T	T	0.784	✓
		0.00	10:52	9.72	T	F	0.809	
		0.00	12:08	306.01	T	F	0.903	
		0.00	12:27	70.80	T	F	0.927	
		0.00	12:37	89.19	T	F	0.939	
		0.00	12:53	249.42	T	F	0.959	
		0.00	13:29	97.88	T	T	1.004	✓
		0.00	13:55	228.62	T	F	1.036	
		0.00	14:03	823.62	T	F	1.046	
		0.00	14:15	204.68	T	F	1.061	
		0.00	14:31	7722.67	T	F	1.081	
		0.00	14:45	2891.95	T	F	1.098	
		0.00	14:59	182.63	T	F	1.115	
		0.00	15:15	84.68	T	F	1.135	
		0.00	15:29	183.59	T	F	1.153	
		0.00	15:39	210.50	T	F	1.165	
		0.00	15:48	67.44	T	F	1.176	
		0.00	16:05	170.15	T	F	1.197	
152		*** Total ***		15090.85	# of Peaks:		20	
154		0.00	11:31	8.34	T	F	0.826	
		0.00	12:07	1335.53	T	F	0.869	
		0.00	12:27	12.05	T	F	0.892	
		0.00	12:37	28.32	T	F	0.904	
		0.00	12:54	41.04	T	F	0.925	
		0.00	14:03	479.29	T	T	1.007	✓
		0.00	14:15	32.89	T	F	1.022	
		0.00	14:31	614.92	T	F	1.041	
		0.00	14:39	180.55	T	F	1.050	
		0.00	14:59	67.71	T	F	1.074	
		0.00	15:13	75.12	T	F	1.091	
		0.00	15:28	171.42	T	F	1.109	
		0.00	15:37	22.78	T	F	1.119	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
154		0.00	16:02	47.34	T	F	1.149	
154		*** Total ***		3147.61	# of Peaks:		15	
160		0.00	13:26	1805.82	T	T	0.444	✓
		0.00	13:57	484.51	T	F	0.461	
		0.00	14:33	14.22	T	F	0.481	
160		*** Total ***		2304.55	# of Peaks:		3	
164		0.00	13:57	1346.82	T	T	1.038	✓
		0.00	14:31	10.18	T	F	1.081	
		0.00	14:31	14.79	T	F	1.081	
164		*** Total ***		1371.79	# of Peaks:		3	
166		0.00	14:01	575.03	T	F	0.906	
		0.00	14:14	198.01	T	F	0.920	
		0.00	14:31	5373.41	T	F	0.939	
		0.00	14:44	3469.21	T	F	0.953	
		0.00	15:34	2235.80	T	T	1.006	✓
		0.00	15:48	111.64	T	F	1.022	
		0.00	16:10	610.13	T	F	1.045	
		0.00	16:17	242.73	T	F	1.053	
		0.00	16:28	86.90	T	F	1.065	
		0.00	16:45	367.20	T	F	1.083	
		0.00	17:08	5410.78	T	F	1.108	
		0.00	17:16	577.13	T	F	1.116	
166		*** Total ***		19257.97	# of Peaks:		12	
169		3.44	12:06	1443.90	T	T	0.901	✓
		99.99	14:23	591.45	F	F	1.071	
169		*** Total ***		2035.35	# of Peaks:		2	
176		0.00	14:31	7.29	T	F	1.081	
		0.00	15:28	1203.58	T	T	1.151	✓
		0.00	17:10	16.27	T	F	1.278	
		0.00	18:21	8.58	T	F	1.366	
176		*** Total ***		1235.72	# of Peaks:		4	
178		0.00	14:01	87.19	T	F	0.769	
		0.00	14:22	5.09	T	F	0.788	
		0.00	14:31	10409.34	T	F	0.796	
		0.00	14:44	911.96	T	F	0.808	
		0.00	14:58	112.45	T	F	0.821	
		0.00	15:39	49.50	T	F	0.858	
		0.00	16:00	45.54	T	F	0.878	
		0.00	16:28	45.36	T	F	0.903	
		0.00	16:52	704.22	T	F	0.925	
		0.00	17:08	2032.78	T	F	0.940	
		0.00	17:17	799.51	T	F	0.948	
		0.00	17:40	1534.99	T	F	0.969	
		0.00	17:50	79.93	T	F	0.978	
		0.00	18:17	8373.62	T	T	1.003	✓
		0.00	18:49	117.41	T	F	1.032	
		0.00	19:26	117.11	T	F	1.066	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
178		0.00	19:43	100.06	T	F	1.081	
178		*** Total ***		25526.06	# of Peaks:		17	
188		0.00	18:14	1928.20	T	F	1.357	✓
		0.00	18:21	2277.49	T	T	1.366	✓
188		*** Total ***		4205.69	# of Peaks:		2	
202		0.00	20:26	126.75	T	F	0.924	
		0.00	21:12	1091.93	T	F	0.959	
		0.00	21:26	43.95	T	F	0.969	
		0.00	21:33	3308.96	T	T	1.002	✓
		0.00	22:09	2493.65	T	T	1.002	✓
		0.00	22:58	143.43	T	F	1.038	
		0.00	25:26	5113.92	T	F	1.150	
		0.00	27:03	12821.95	T	F	1.223	
202		*** Total ***		25144.54	# of Peaks:		8	
212		0.00	21:31	9584.94	T	T	0.697	✓
		0.00	22:07	8086.62	T	T	0.717	✓
		0.00	22:33	280.48	T	F	0.731	
		0.00	25:22	16.57	T	F	0.822	
		0.00	25:29	37.73	T	F	0.826	
212		*** Total ***		18006.34	# of Peaks:		5	
228		0.00	20:15	75.08	T	F	0.795	
		0.00	21:34	504.47	T	F	0.846	
		0.00	21:54	8.40	T	F	0.859	
		0.00	22:04	30.19	T	F	0.866	
		0.00	22:14	933.20	T	F	0.872	
		0.00	22:47	25.85	T	F	0.894	
		0.00	24:26	10.96	T	F	0.959	
		0.00	24:40	13.00	T	F	0.968	
		0.00	24:50	16.42	T	F	0.974	
		0.00	25:33	834.43	T	T	1.003	✓
		0.00	25:54	113.85	T	F	1.016	
		0.00	27:04	266.80	T	F	1.062	
		0.00	27:37	13.61	T	F	1.084	
228		*** Total ***		2846.26	# of Peaks:		13	
240		0.00	22:33	529.37	T	F	0.731	
		0.00	23:58	44.52	T	F	0.777	
		0.00	25:22	2135.25	T	T	0.822	✓
		0.00	25:29	8335.11	T	T	0.826	✓
240		*** Total ***		11044.25	# of Peaks:		4	
244		0.00	20:33	40.61	T	F	0.679	
		0.00	21:06	37.00	T	F	0.698	
		0.00	22:33	7633.70	T	T	0.745	✓
		0.00	24:57	39.86	T	F	0.825	
244		*** Total ***		7751.17	# of Peaks:		4	
252		0.00	29:12	20.06	T	T	1.000	✓
		0.00	30:23	74.06	T	T	0.997	✓

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
252		*** Total ***		94.12	# of Peaks:		2	
264		0.00	28:02	70.68	T	F	0.927	
		0.00	28:10	58.91	T	F	0.931	
		0.00	29:06	1155.07	T	T	0.943	✓
		0.00	29:12	2164.40	T	T	0.947	✓
		0.00	29:28	1078.63	T	F	0.974	.
		0.00	29:57	251.25	T	F	0.990	.
		0.00	30:06	59.54	T	F	0.995	.
		0.00	30:15	1296.72	T	T	1.000	✓
		0.00	30:29	1103.74	T	T	0.988	✓
		0.00	30:51	812.68	T	T	1.020	✓
264		*** Total ***		8051.62	# of Peaks:		10	
276	DC	0.00	36:47	6.49	T	T	1.004	S/N
		0.00	38:35	8.31	T	T	1.005	S/N
		0.00	40:19	1.07	T	F	1.050	
276		*** Total ***		15.87	# of Peaks:		3	
278		0.00	38:36	1.29	T	F	1.053	
278		*** Total ***		1.29	# of Peaks:		1	
288		0.00	36:38	325.38	T	T	1.187	✓
		0.00	37:40	3.23	T	F	1.221	
		0.00	38:23	749.28	T	T	1.244	✓
		0.00	39:09	8.11	T	F	1.269	
		0.00	39:33	1.97	T	F	1.282	
		0.00	39:40	1.59	T	F	1.286	
288		*** Total ***		1089.56	# of Peaks:		6	
292		0.00	36:39	179.01	T	T	1.188	✓
292		*** Total ***		179.01	# of Peaks:		1	

*** End of Report ***

Listing of U9004001.dbf File
Raw Mass, Retention Time and Data Area

M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
128	8:29	1545.73						
136	8:26	4655.07						
142	10:38	259.67	10:59	136.84				
152	10:31	3425.16	10:52	20.31				
154	12:08	207.84	14:03	39.03	15:32	12.74		
	13:27	6.54	14:53	5.46				
164	13:58	2488.93						
152	12:08	45.37	13:56	4.20	15:33	55.16		
	12:58	9.83	14:03	34.45				
160	13:27	3904.80	13:58	966.79				
162	13:15	14.27						
169	12:07	2530.54	14:23	278.61				
171	12:07	743.47						
166	15:34	38.30	16:08	4.34	16:49	18.55	17:09	40.05
176	15:29	1906.72						
178	14:31	3.24	17:07	42.49	18:18	152.46	19:26	2.82
	15:23	8.82	17:20	16.03	18:33	1.82	19:43	3.31
	16:28	9.06	17:40	5.96	18:41	7.05		
	16:44	29.69	18:02	4.61	19:16	4.72		
188	18:13	2251.02	18:22	2415.16				
202	21:33	27.76	22:09	28.02	22:58	7.62	25:32	7.88
212	21:31	7442.80	22:06	6313.85	25:23	16.70	25:30	54.28
228	21:17	1.71	24:01	1.44	24:52	1.37	25:40	9.06
	21:52	4.80	24:26	7.76	25:33	14.01	27:17	2.07
240	24:01	188.76	25:23	1849.11	25:30	6627.12		
244	21:17	1.04	23:43	1.22	24:56	33.39	26:51	0.85
	22:25	0.42	23:52	4.78	25:14	1.46	27:52	1.27
	22:33	11.55	24:01	12.03	25:33	8.44		
	22:57	1.19	24:08	3.62	25:55	1.98		
	23:28	0.51	24:30	81.54	26:08	1.66		
252	28:14	1.21	30:51	0.65	32:14	0.62		
	30:16	1.76	31:31	1.34	33:58	1.02		

Listing of U9003981.dbf File
Raw Mass, Retention Time and Data Area

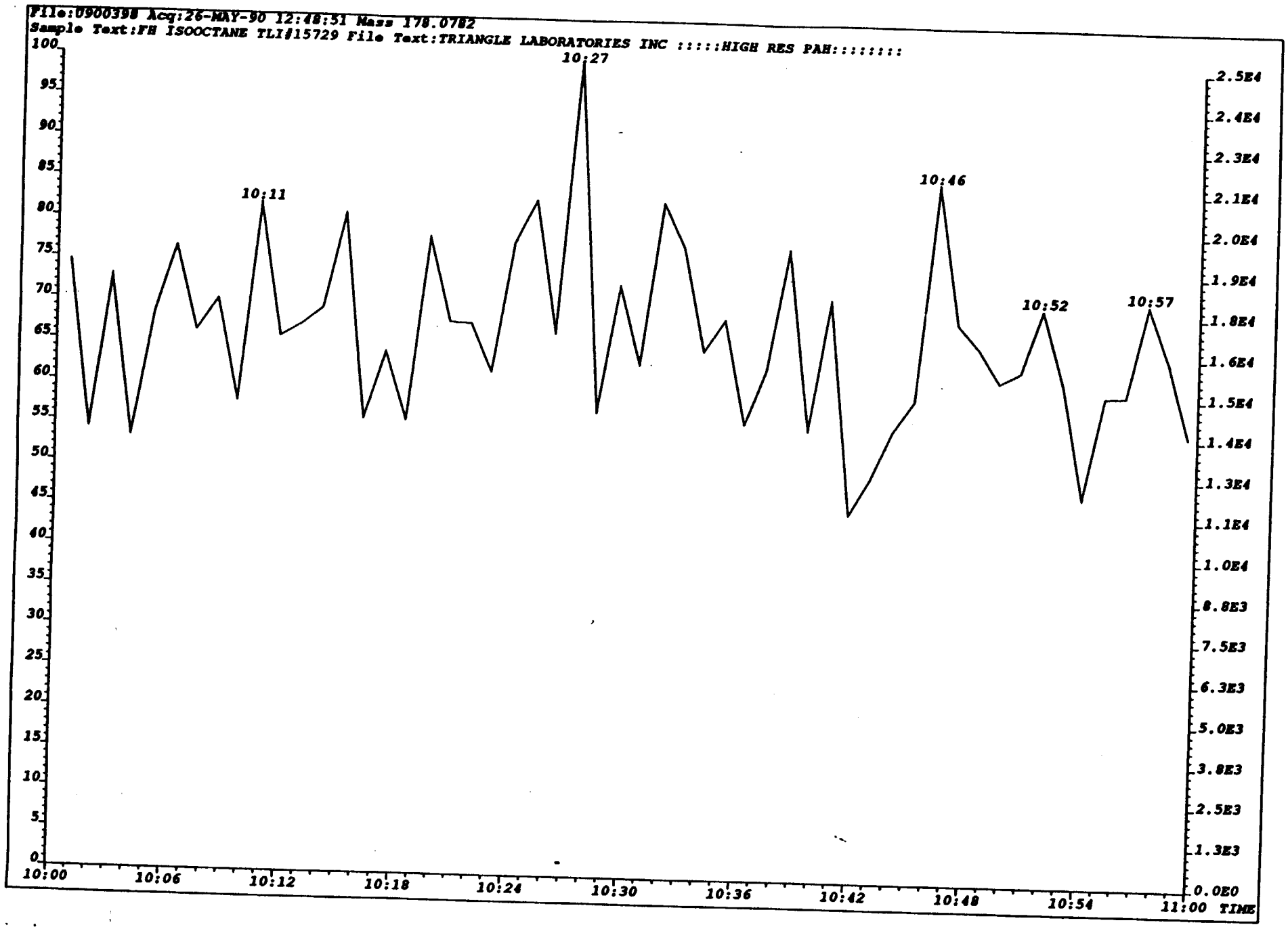
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
128	7:55	67560.68	8:31	126516.60				
136	8:27	1726.18	9:32	13.72				
142	10:04	264.16	10:38	2194.10	11:08	13.57	11:40	36.60
	10:20	50.57	10:58	1187.86	11:31	27.26		
152	8:06	88.52	8:23	36.14	10:32	1372.64	10:52	9.72
154	11:31	8.34	12:54	41.04	14:39	180.55	15:37	22.78
	12:07	1335.53	14:03	479.29	14:59	67.71	15:52	30.31
	12:27	12.05	14:15	32.89	15:13	75.12	16:02	47.34
	12:37	28.32	14:31	614.92	15:28	171.42		
164	13:57	1346.82	14:31	10.18				
152	12:08	306.01	13:29	97.88	14:31	7722.67	15:29	183.59
	12:27	70.80	13:55	228.62	14:45	2891.95	15:39	210.50
	12:37	89.19	14:03	823.62	14:59	182.63	15:48	67.44
	12:53	249.42	14:15	204.68	15:15	84.68	16:05	170.15
160	13:26	1805.82	13:57	484.51	14:33	14.22		
162	12:09	2.34	12:16	8.34	12:44	2.90	13:14	5.44
164	14:31	14.79						
169	12:06	1118.85	12:29	42.00	14:23	589.31	14:32	208.64
171	11:51	5.31	12:06	325.05	14:23	2.14		
166	14:01	575.03	14:44	3469.21	16:10	610.13	16:45	367.20
	14:14	198.01	15:34	2235.80	16:17	242.73	17:08	5410.78
	14:31	5373.41	15:48	111.64	16:28	86.90	17:16	577.13
176	14:31	7.29	15:28	1203.58	17:10	16.27	18:21	8.58
178	14:01	87.19	15:39	49.50	17:17	799.51	19:26	117.11
	14:22	5.09	16:00	45.54	17:40	1534.99	19:43	100.06
	14:31	10409.34	16:28	45.36	17:50	79.93		
	14:44	911.96	16:52	704.22	18:17	8373.62		
	14:58	112.45	17:08	2032.78	18:49	117.41		
188	18:14	1928.20	18:21	2277.49				
202	20:26	126.75	21:26	43.95	22:09	2493.65	25:26	5113.92
	21:12	1091.93	21:33	3308.96	22:58	143.43	27:03	12821.95
212	21:31	9584.94	22:33	280.48	25:29	37.73		
	22:07	8086.62	25:22	16.57				
228	20:15	75.08	22:14	933.20	24:50	16.42	27:37	13.61
	21:34	504.47	22:47	25.85	25:33	834.43		

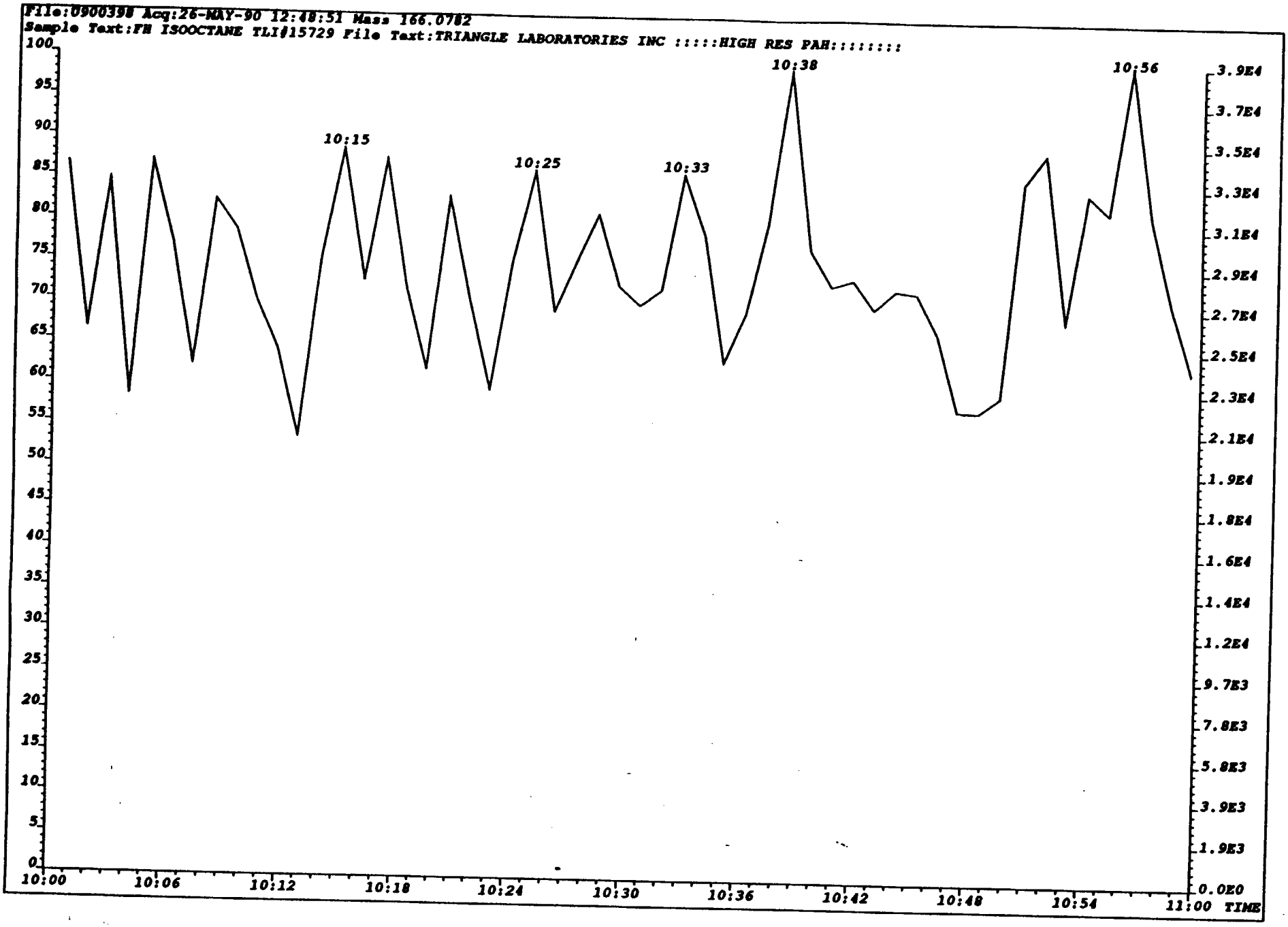
21:54	8.40 | 24:26	10.96 | 25:54	113.85
22:04	30.19 | 24:40	13.00 | 27:04	266.80

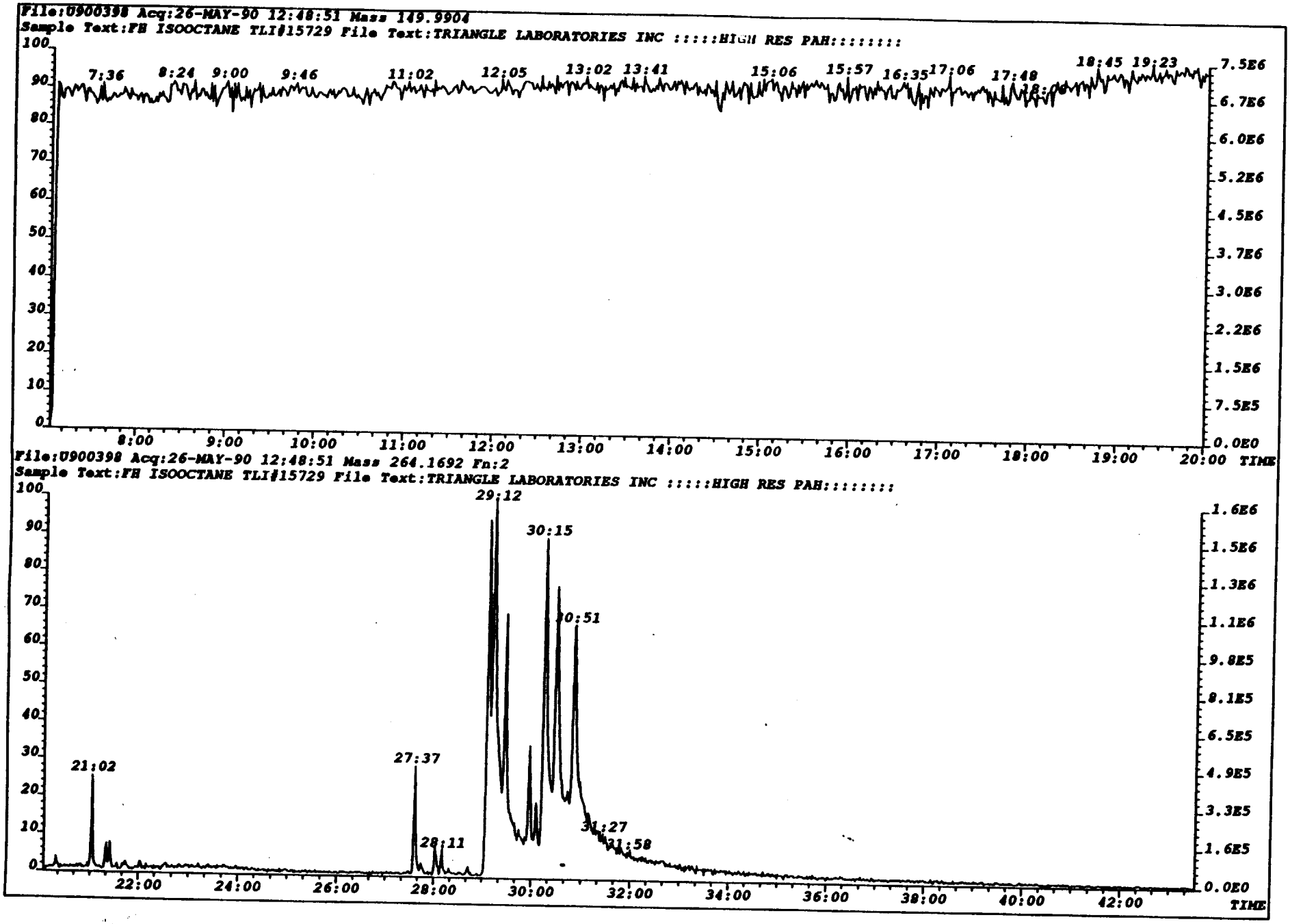
Listing of U900398I.dbf File
Raw Mass, Retention Time and Data Area

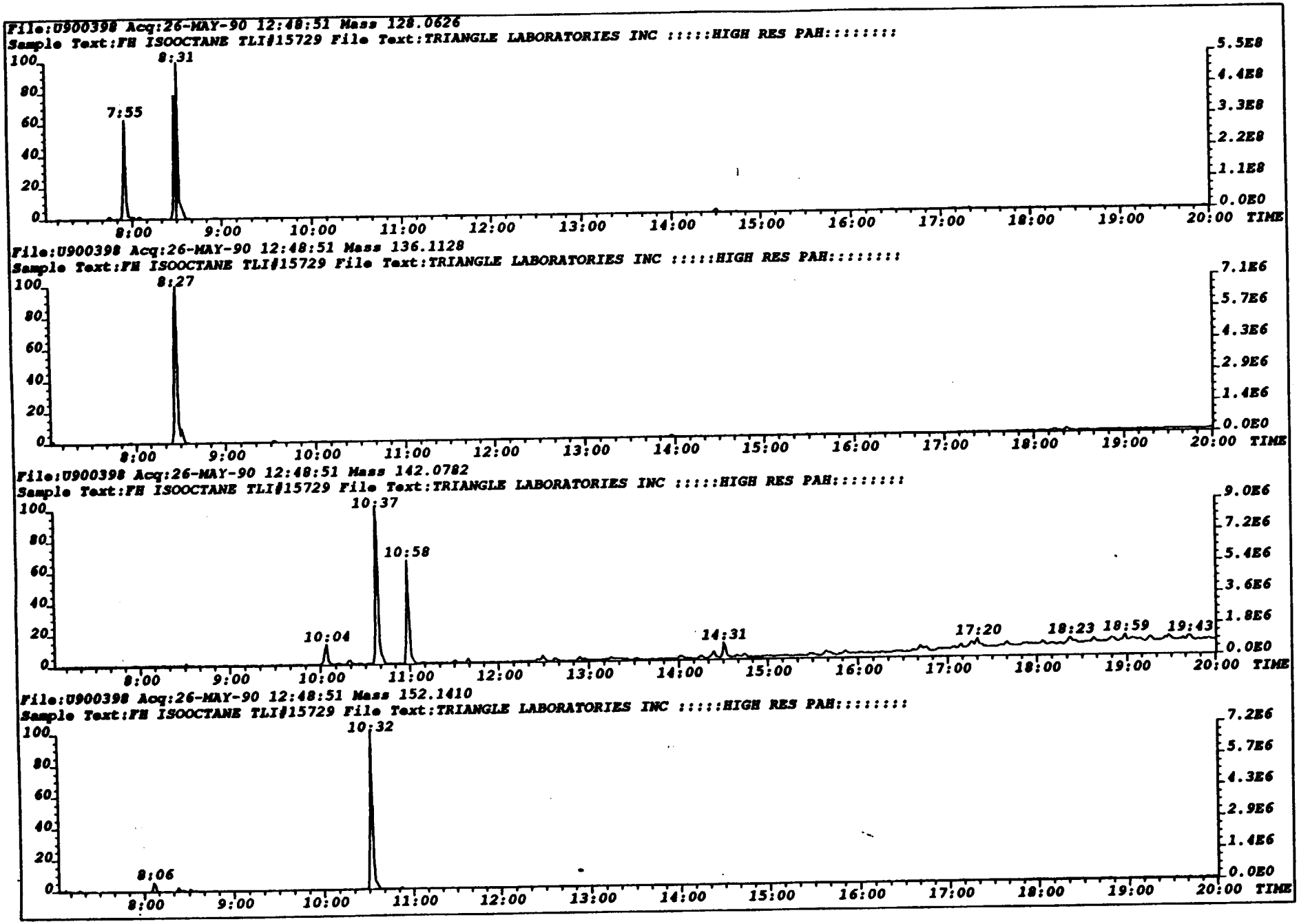
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
240	22:33	529.37	23:58	44.52	25:22	2135.25	25:29	8335.11
244	20:33	40.61	21:06	37.00	22:33	7633.70	24:57	39.86
252	29:12	20.06	30:23	74.06				
264	28:02	70.68	29:12	2164.40	30:06	59.54	30:51	812.68
	28:10	58.91	29:28	1078.63	30:15	1296.72		
	29:06	1155.07	29:57	251.25	30:29	1103.74		
276	36:47	6.49	38:35	8.31	40:19	1.07		
288	36:38	325.38	38:23	749.28	39:33	1.97		
	37:40	3.23	39:09	8.11	39:40	1.59		
278	38:36	1.29						
292	36:39	179.01						

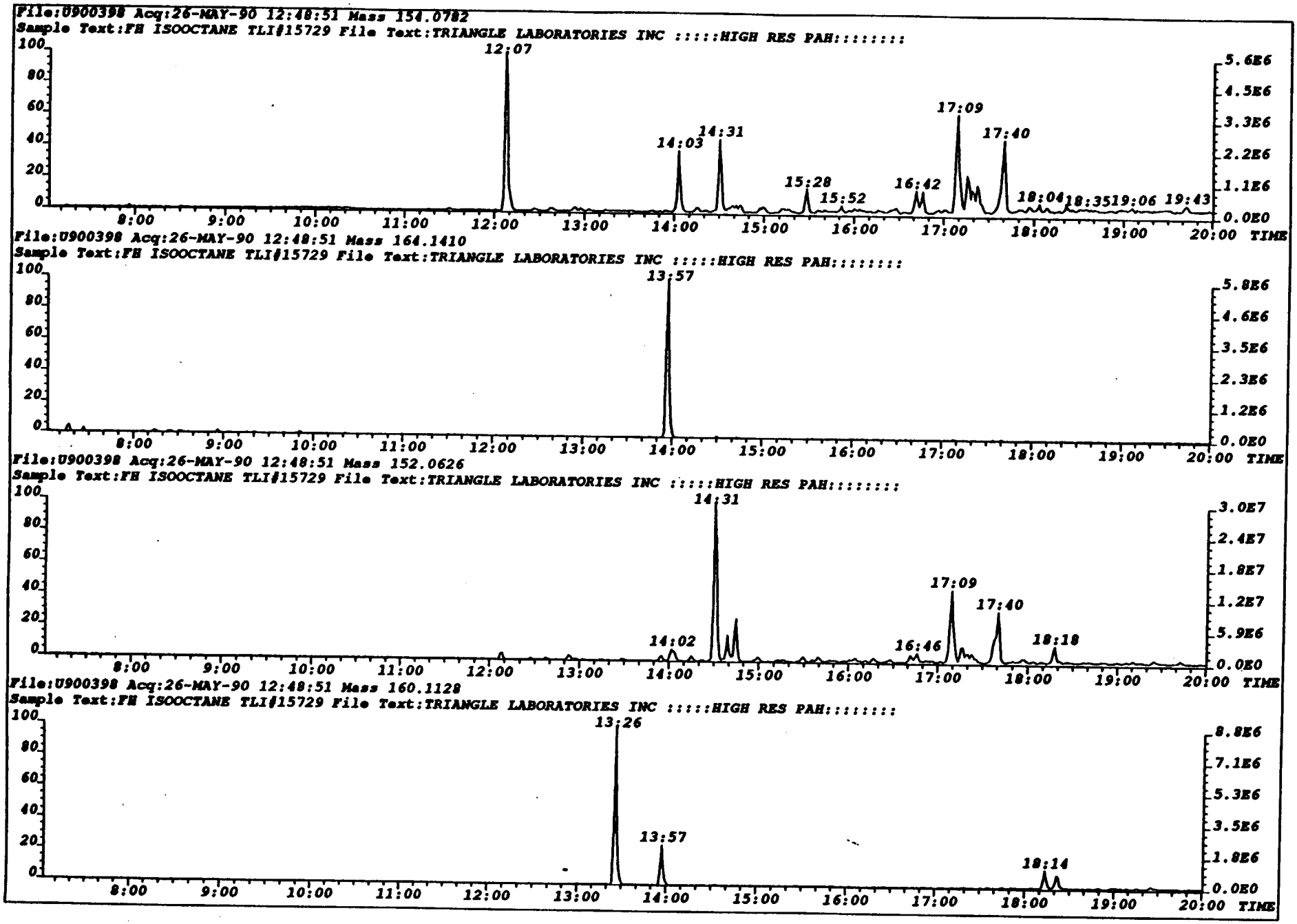
*** End of Report ***

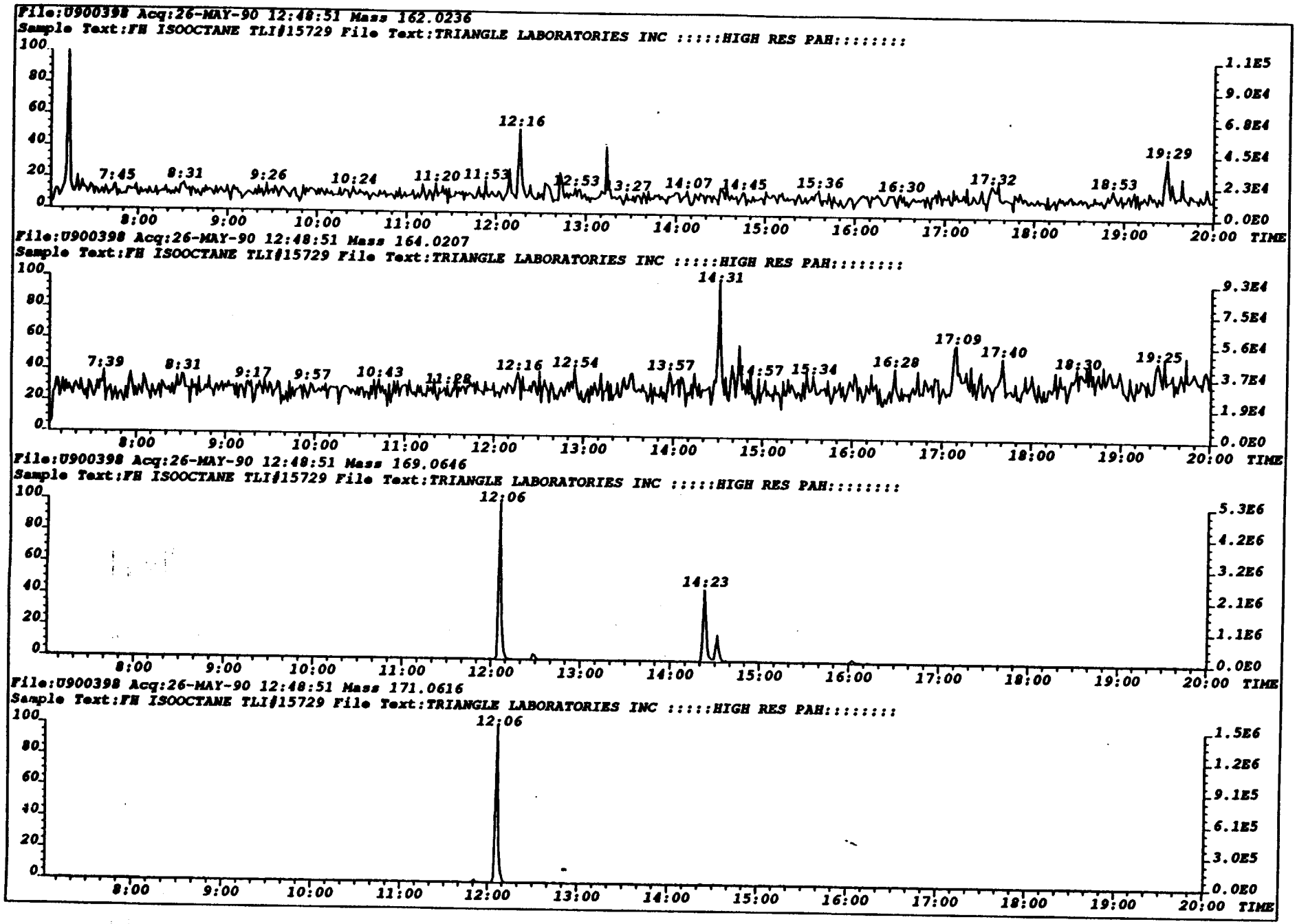

File:U900398 Acq:26-MAY-90 12:48:51 Mass 178.0782
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:27
10:11
10:46
10:52
10:57
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
2.5E4
2.4E4
2.3E4
2.1E4
2.0E4
1.9E4
1.8E4
1.6E4
1.5E4
1.4E4
1.3E4
1.1E4
1.0E4
8.8E3
7.5E3
6.3E3
5.0E3
3.8E3
2.5E3
1.3E3
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

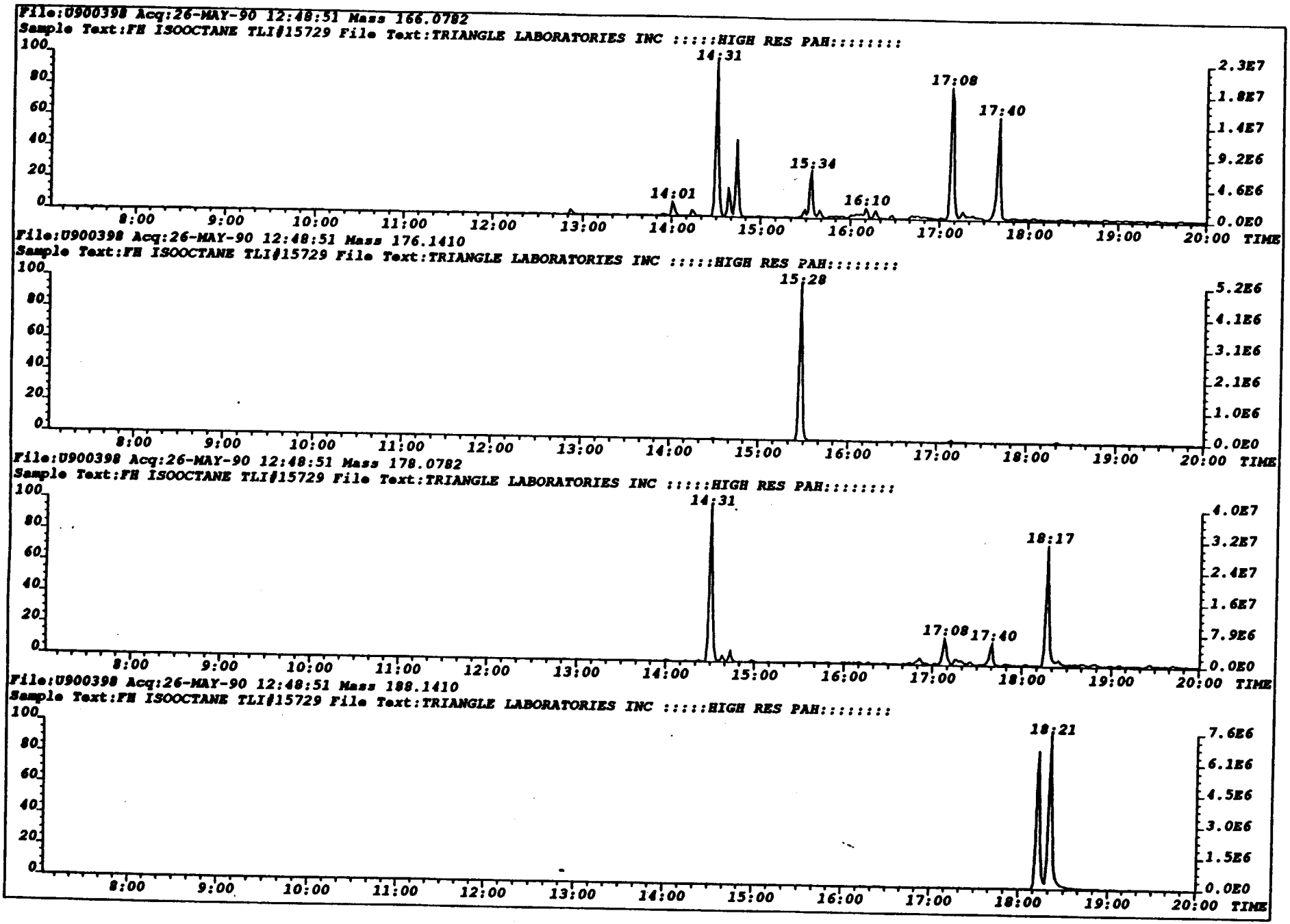

File:0900398 Acq:26-MAY-90 12:48:51 Mass 166.0782
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:15
10:25
10:33
10:38
10:56
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
3.9E4
3.7E4
3.5E4
3.3E4
3.1E4
2.9E4
2.7E4
2.5E4
2.3E4
2.1E4
1.9E4
1.8E4
1.6E4
1.4E4
1.2E4
9.7E3
7.8E3
5.8E3
3.9E3
1.9E3
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

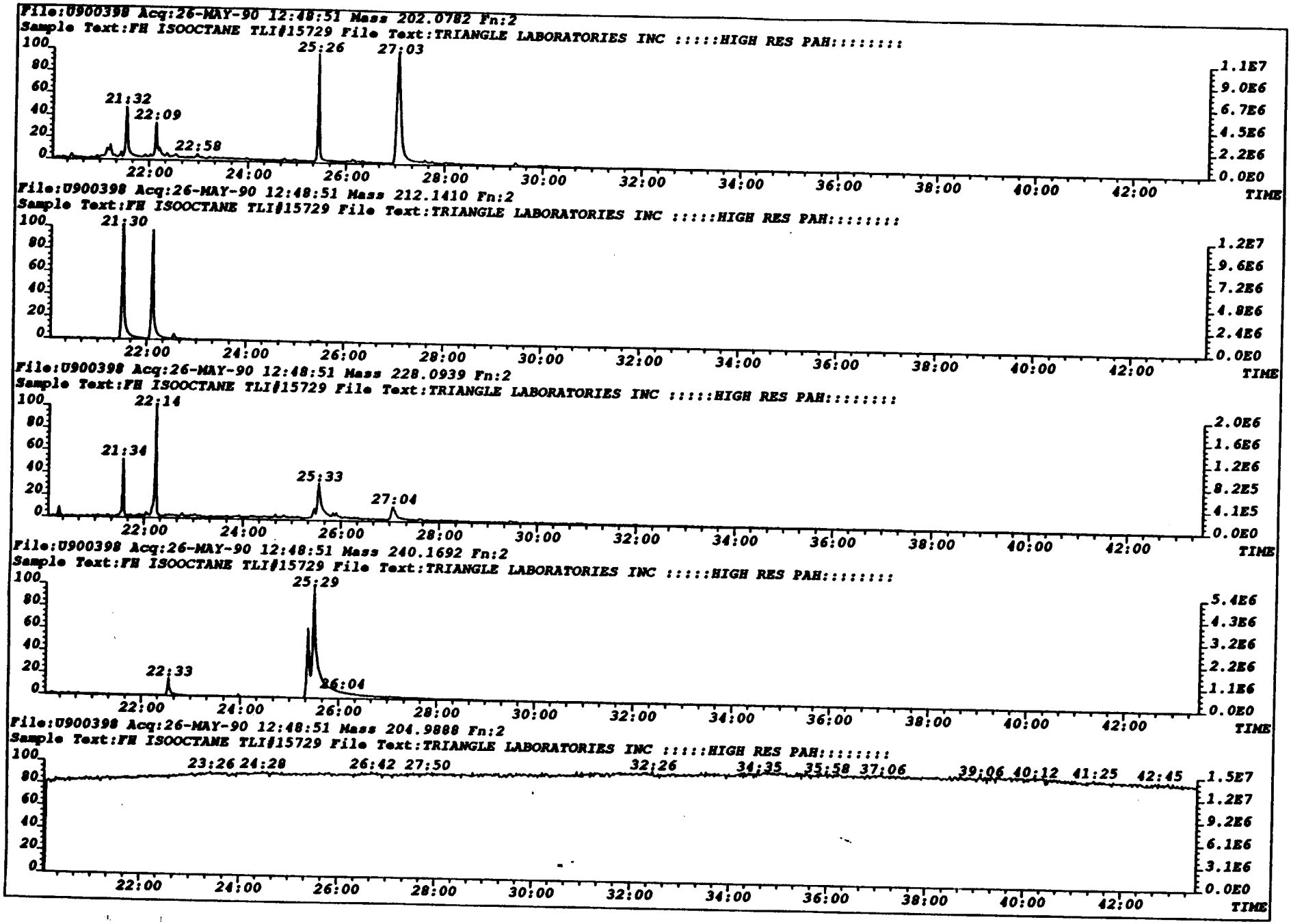

File:U900398 Acq:26-MAY-90 12:48:51 Mass 149.9904
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
7:36
8:24
9:00
9:46
11:02
12:05
13:02
13:41
15:06
15:57
16:35
17:06
17:48
18:45
19:23
TIME
File:U900398 Acq:26-MAY-90 12:48:51 Mass 264.1692 Fn:2
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
21:02
27:37
28:11
29:12
30:15
30:51
31:27
31:58
TIME

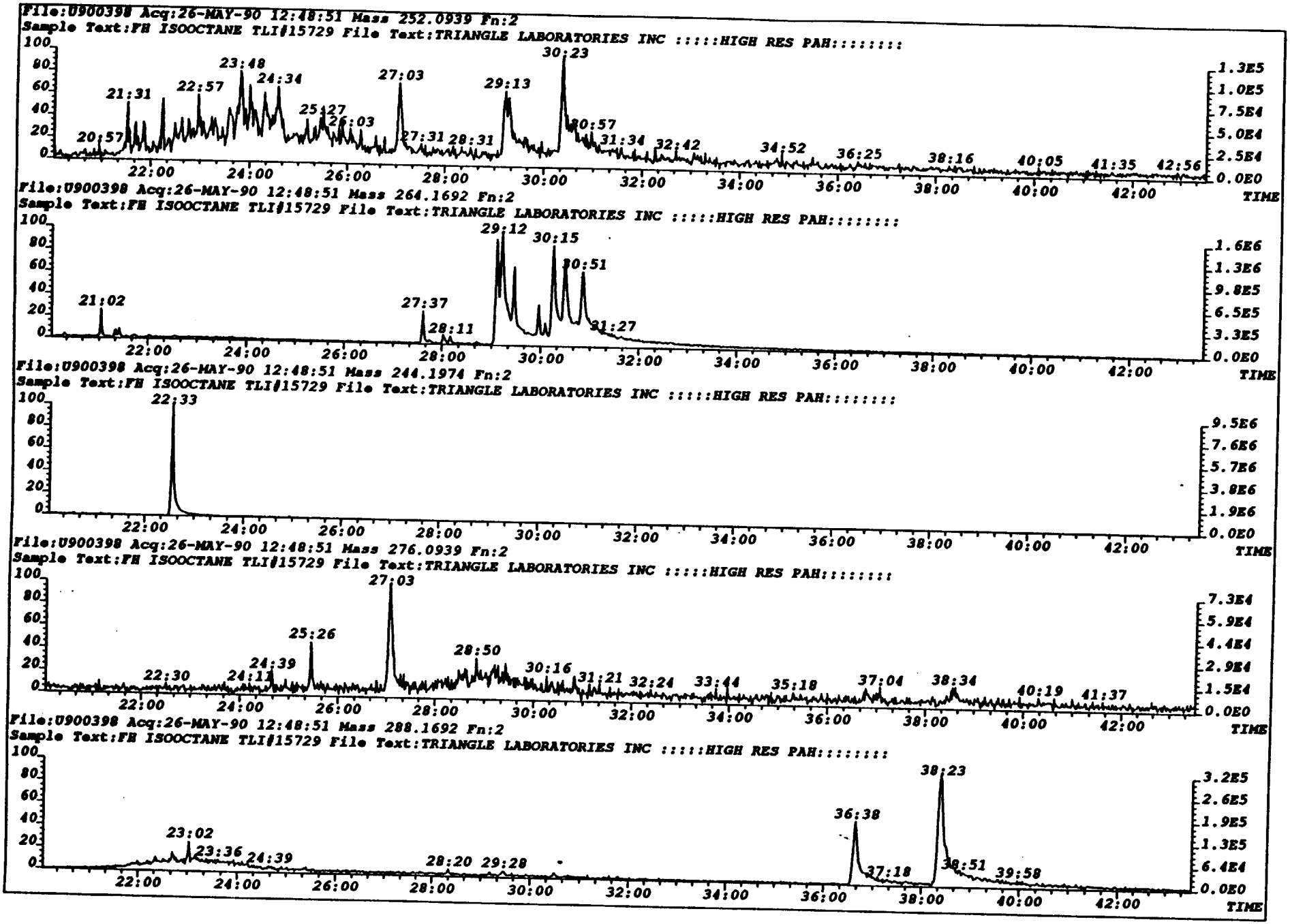

File:U900398 Acq:26-MAY-90 12:48:51 Mass 128.0626
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
8:31
7:55
5.5E8
4.4E8
3.3E8
2.2E8
1.1E8
0.0E0
TIME
File:U900398 Acq:26-MAY-90 12:48:51 Mass 136.1128
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
8:27
7.1E6
5.7E6
4.3E6
2.9E6
1.4E6
0.0E0
TIME
File:U900398 Acq:26-MAY-90 12:48:51 Mass 142.0782
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:37
10:58
10:04
14:31
17:20
18:23
18:59
19:43
9.0E6
7.2E6
5.4E6
3.6E6
1.8E6
0.0E0
TIME
File:U900398 Acq:26-MAY-90 12:48:51 Mass 152.1410
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:32
8:06
7.2E6
5.7E6
4.3E6
2.9E6
1.4E6
0.0E0
TIME

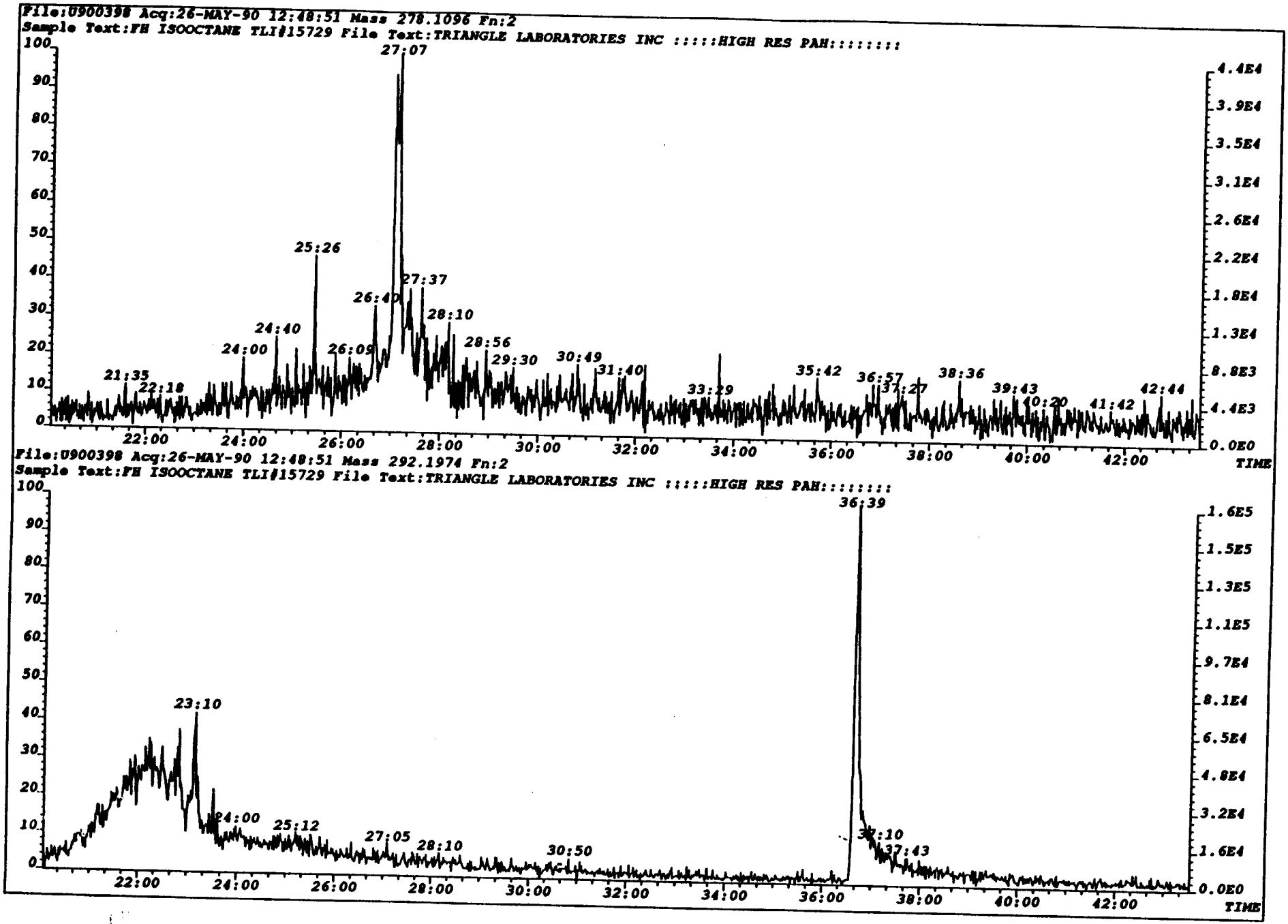

File:U900398 Acq:26-MAY-90 12:48:51 Mass 154.0782
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
12:07
14:03
14:31
15:28
15:52
16:42
17:09
17:40
18:04
18:35
19:06
19:43
5.6E6
4.5E6
3.3E6
2.2E6
1.1E6
0.0E0
File:U900398 Acq:26-MAY-90 12:48:51 Mass 164.1410
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
13:57
5.8E6
4.6E6
3.5E6
2.3E6
1.2E6
0.0E0
File:U900398 Acq:26-MAY-90 12:48:51 Mass 152.0626
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
14:31
14:02
16:46
17:09
17:40
18:18
3.0E7
2.4E7
1.8E7
1.2E7
5.9E6
0.0E0
File:U900398 Acq:26-MAY-90 12:48:51 Mass 160.1128
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
13:26
13:57
18:14
8.8E6
7.1E6
5.3E6
3.5E6
1.8E6
0.0E0
100
80
60
40
20
0
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
TIME

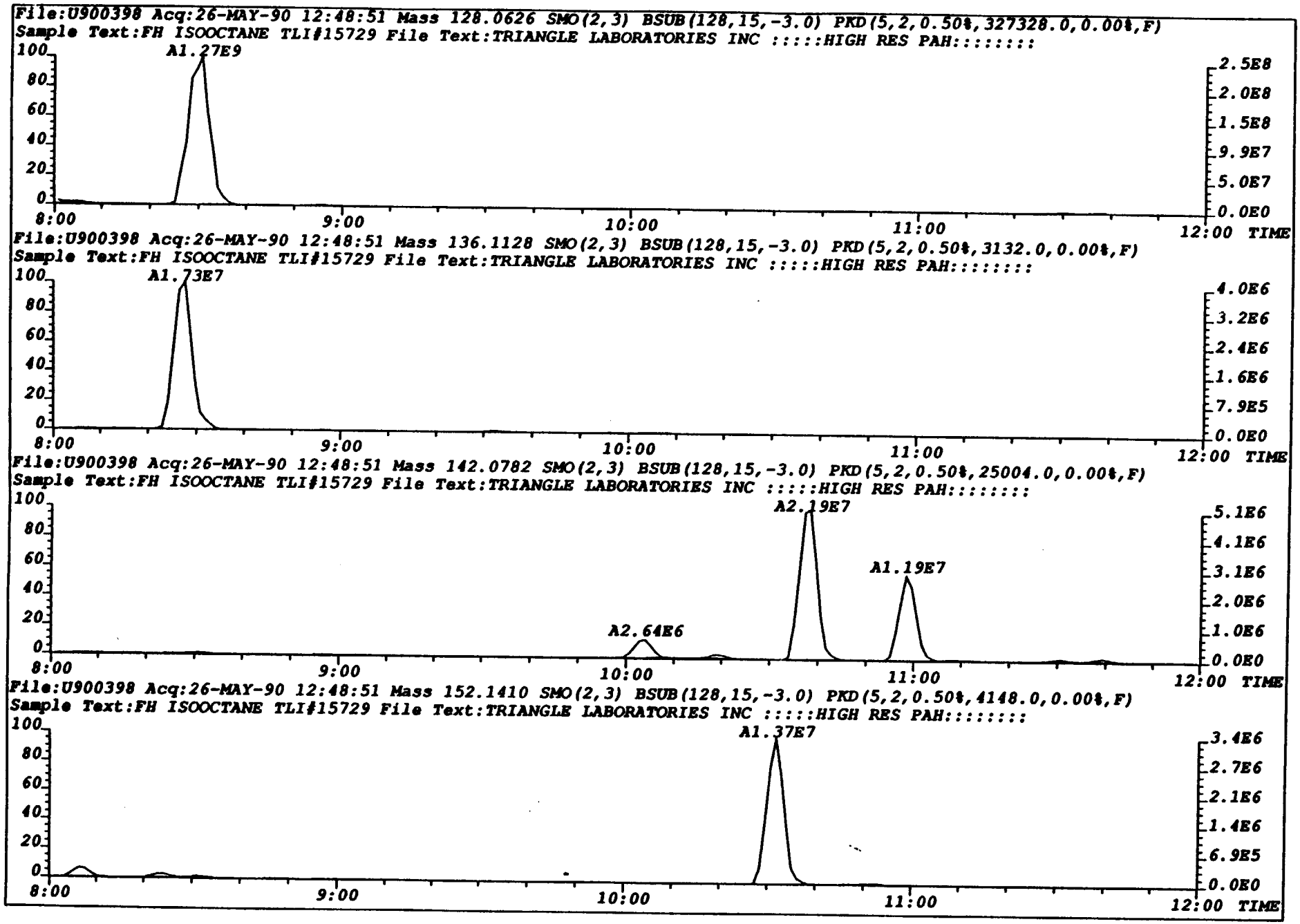

File:U900398 Acq:26-MAY-90 12:48:51 Mass 162.0236
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
12:16
7:45
8:31
9:26
10:24
11:20
11:53
12:53
13:27
14:07
14:45
15:36
16:30
17:32
18:53
19:29
File:U900398 Acq:26-MAY-90 12:48:51 Mass 164.0207
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
14:31
7:39
8:31
9:17
9:57
10:43
11:28
12:16
12:54
13:57
14:57
15:34
16:28
17:09
17:40
18:30
19:25
File:U900398 Acq:26-MAY-90 12:48:51 Mass 169.0646
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
12:06
14:23
File:U900398 Acq:26-MAY-90 12:48:51 Mass 171.0616
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
12:06
TIME

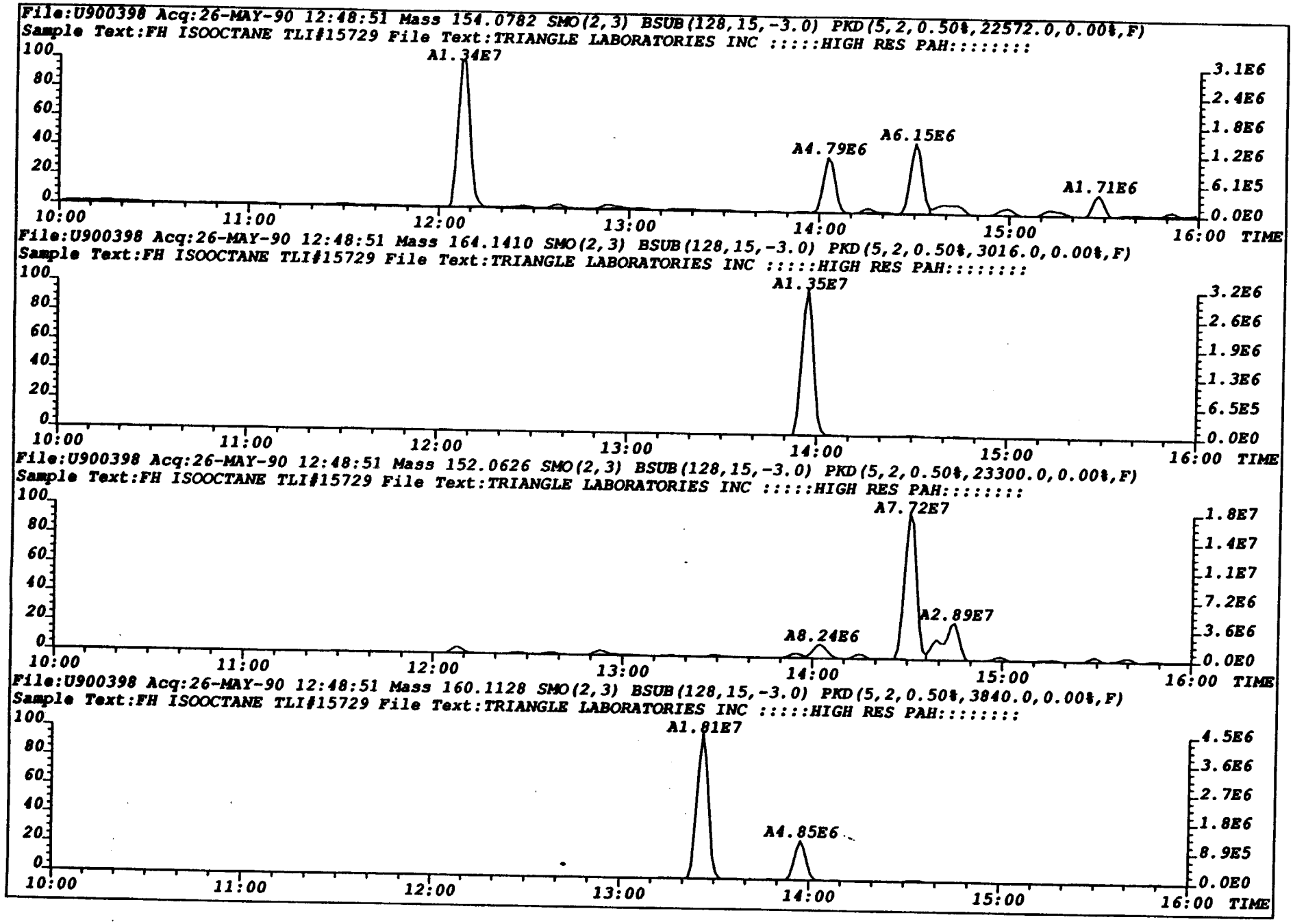

File:U900398 Acq:26-MAY-90 12:48:51 Mass 166.0782
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
14:31
17:08
17:40
15:34
14:01
16:10
File:U900398 Acq:26-MAY-90 12:48:51 Mass 176.1410
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
15:28
File:U900398 Acq:26-MAY-90 12:48:51 Mass 178.0782
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
14:31
18:17
17:08
17:40
File:U900398 Acq:26-MAY-90 12:48:51 Mass 188.1410
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
18:21
TIME

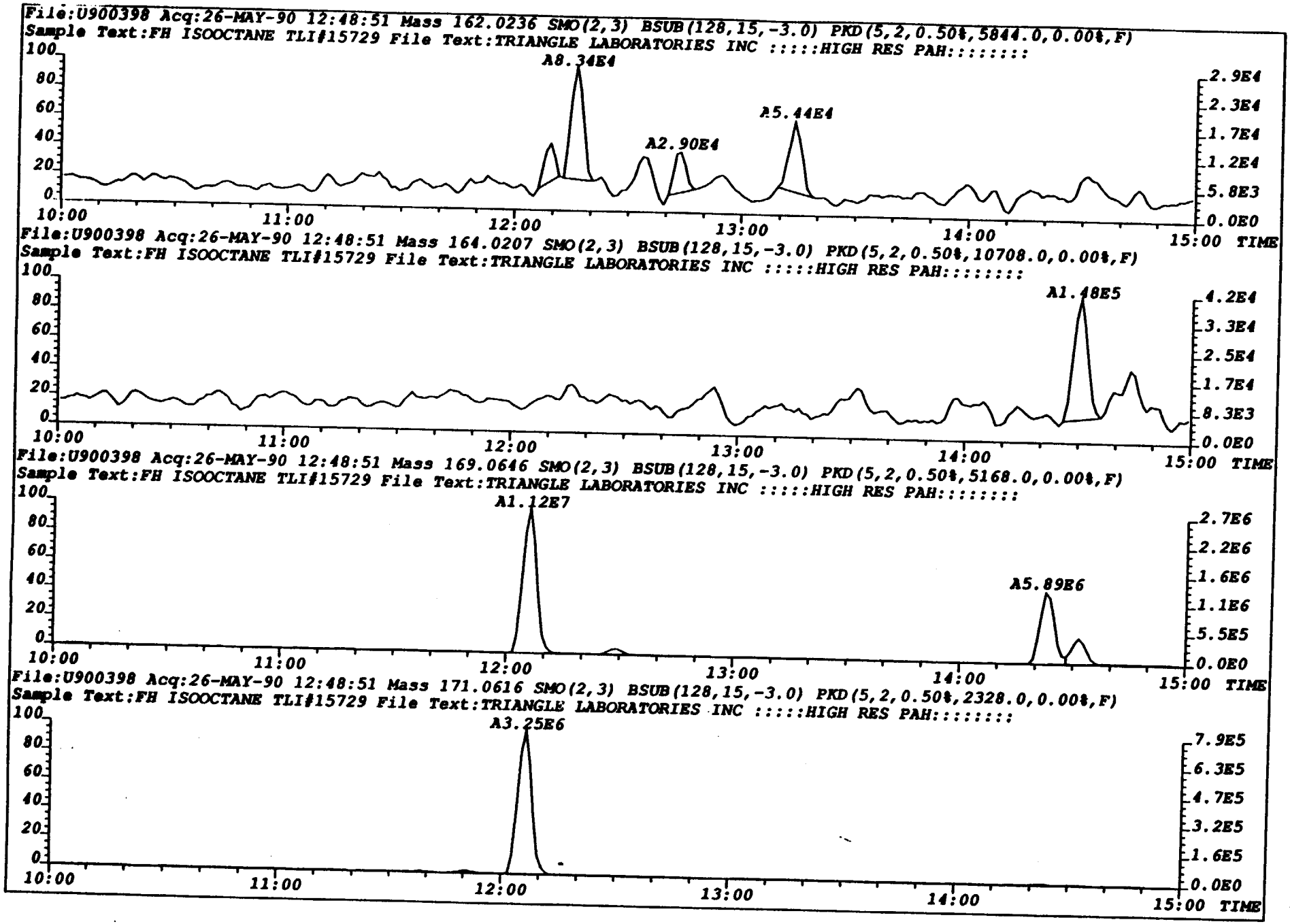

File:U900398 Acq:26-MAY-90 12:48:51 Mass 202.0782 Fn:2
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
21:32
22:09
22:58
25:26
27:03
File:U900398 Acq:26-MAY-90 12:48:51 Mass 212.1410 Fn:2
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
21:30
File:U900398 Acq:26-MAY-90 12:48:51 Mass 228.0939 Fn:2
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
21:34
22:14
25:33
27:04
File:U900398 Acq:26-MAY-90 12:48:51 Mass 240.1692 Fn:2
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
22:33
25:29
26:04
File:U900398 Acq:26-MAY-90 12:48:51 Mass 204.9888 Fn:2
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
23:26 24:28
26:42 27:50
32:26
34:35
35:58 37:06
39:06 40:12
41:25
42:45
TIME

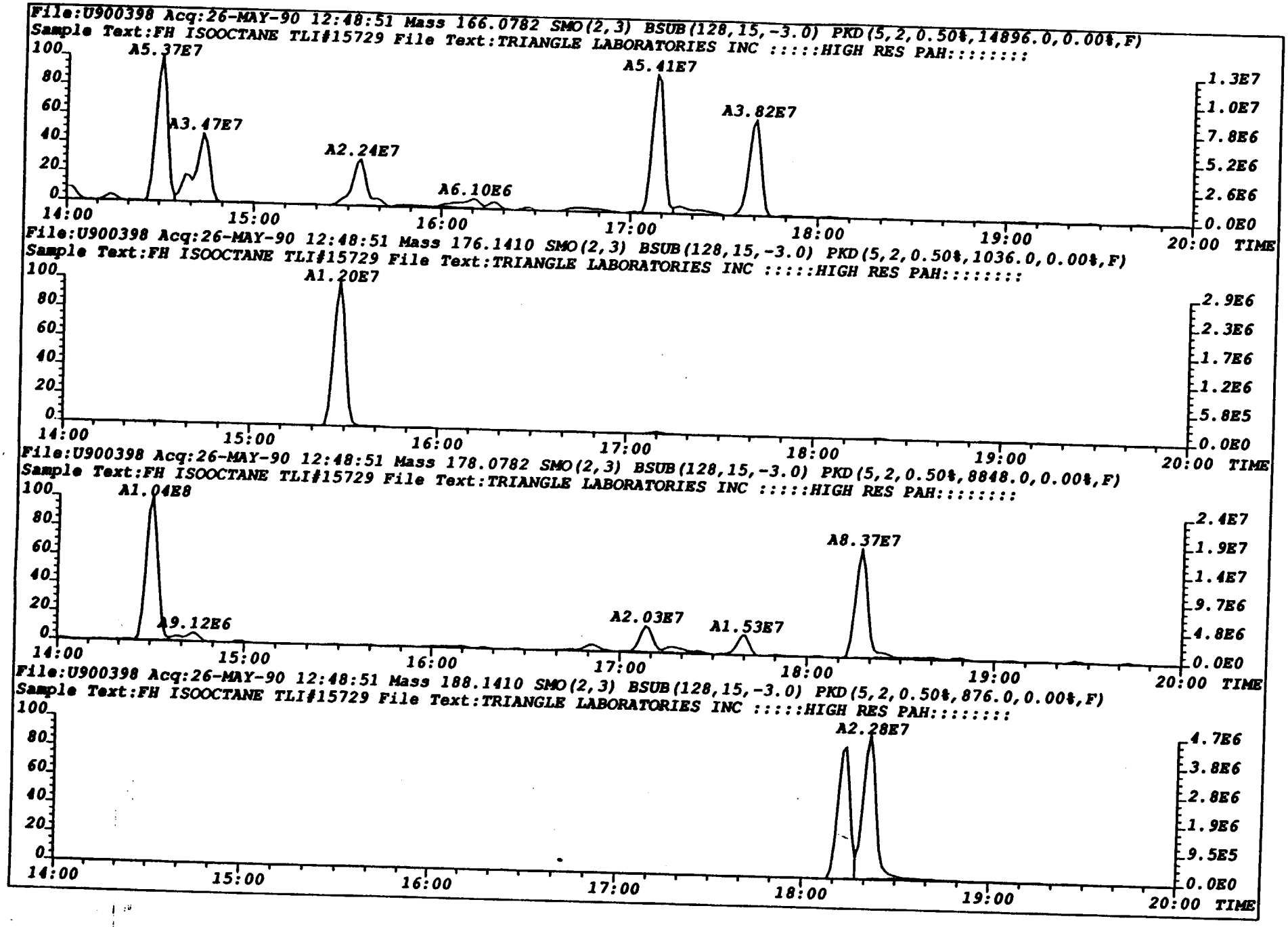

File:U900398 Acq:26-MAY-90 12:48:51 Mass 252.0939 Fn:2
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
20:57 21:31 22:57 23:48 24:34 25:27 26:03 27:03 27:31 28:31 29:13 30:23 30:57 31:34 32:42 34:52 36:25 38:16 40:05 41:35 42:56
File:U900398 Acq:26-MAY-90 12:48:51 Mass 264.1692 Fn:2
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
21:02 27:37 28:11 29:12 30:15 30:51 31:27
File:U900398 Acq:26-MAY-90 12:48:51 Mass 244.1974 Fn:2
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
22:33
File:U900398 Acq:26-MAY-90 12:48:51 Mass 276.0939 Fn:2
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
22:30 24:11 24:39 25:26 27:03 28:50 30:16 31:21 32:24 33:44 35:18 37:04 38:34 40:19 41:37
File:U900398 Acq:26-MAY-90 12:48:51 Mass 288.1692 Fn:2
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
23:02 23:36 24:39 28:20 29:28 36:38 37:18 38:23 38:51 39:58
TIME

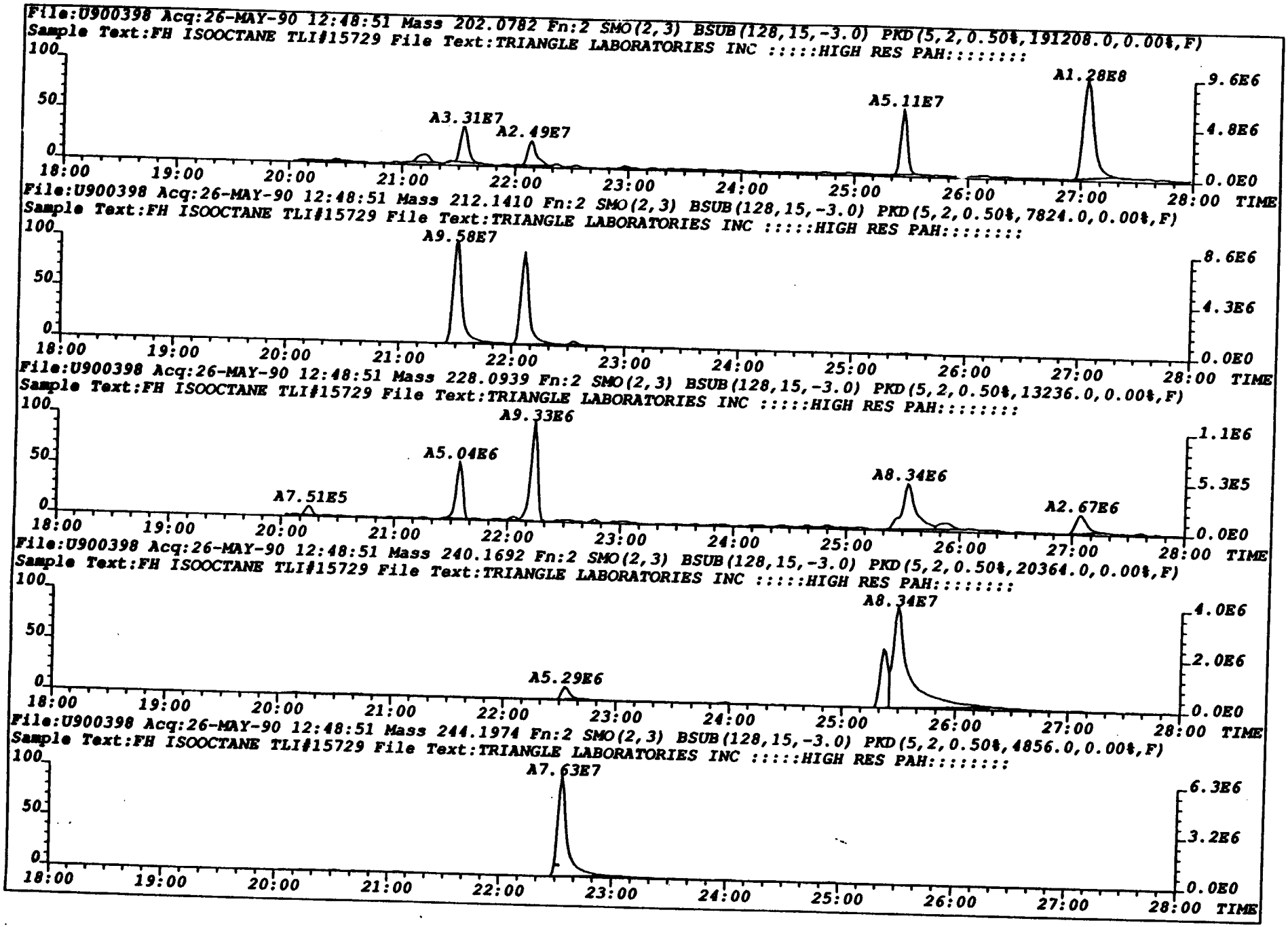

File:U900398 Acq:26-MAY-90 12:48:51 Mass 278.1096 Fn:2
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
27:07
25:26
27:37
26:40
24:40
28:10
24:00
28:56
26:09
29:30
30:49
21:35
22:18
31:40
35:42
36:57
38:36
33:29
37:27
39:43
42:44
40:20
41:42
TIME
File:U900398 Acq:26-MAY-90 12:48:51 Mass 292.1974 Fn:2
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
36:39
23:10
24:00
25:12
27:05
28:10
30:50
37:10
37:43
TIME

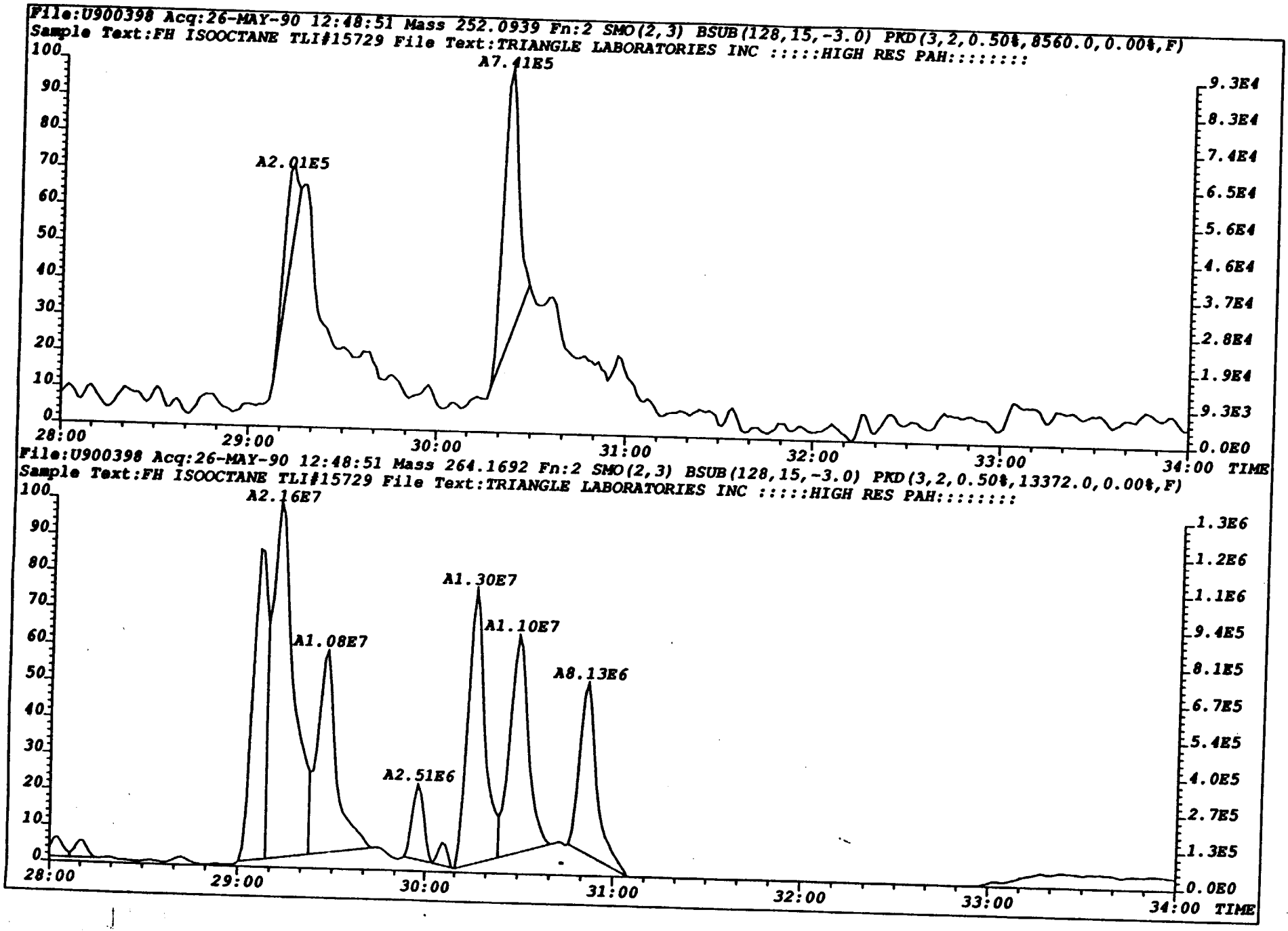

File:U900398 Acq:26-MAY-90 12:48:51 Mass 128.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,327328.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.27E9
File:U900398 Acq:26-MAY-90 12:48:51 Mass 136.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3132.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.73E7
File:U900398 Acq:26-MAY-90 12:48:51 Mass 142.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,25004.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.19E7
A1.19E7
A2.64E6
File:U900398 Acq:26-MAY-90 12:48:51 Mass 152.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,4148.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.37E7
100
80
60
40
20
0
8:00
9:00
10:00
11:00
12:00
TIME
2.5E8
2.0E8
1.5E8
9.9E7
5.0E7
0.0E0
4.0E6
3.2E6
2.4E6
1.6E6
7.9E5
0.0E0
5.1E6
4.1E6
3.1E6
2.0E6
1.0E6
0.0E0
3.4E6
2.7E6
2.1E6
1.4E6
6.9E5
0.0E0

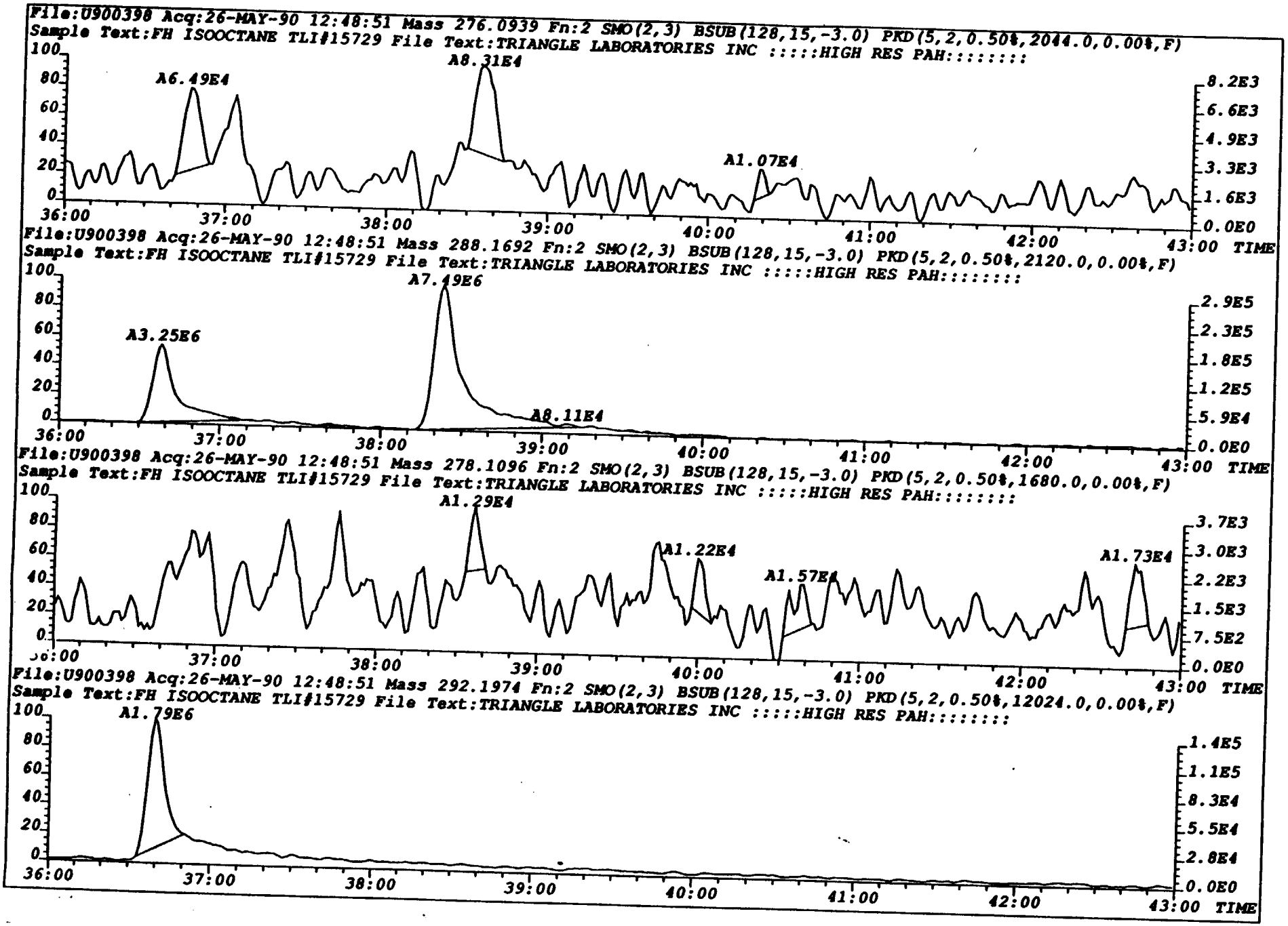

File:U900398 Acq:26-MAY-90 12:48:51 Mass 154.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,22572.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.34E7
A4.79E6
A6.15E6
A1.71E6
File:U900398 Acq:26-MAY-90 12:48:51 Mass 164.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3016.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.35E7
File:U900398 Acq:26-MAY-90 12:48:51 Mass 152.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,23300.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A7.72E7
A2.89E7
A8.24E6
File:U900398 Acq:26-MAY-90 12:48:51 Mass 160.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3840.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.81E7
A4.85E6
TIME


File:U900398 Acq:26-MAY-90 12:48:51 Mass 162.0236 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,5844.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A8.34E4
A2.90E4
A5.44E4
2.9E4
2.3E4
1.7E4
1.2E4
5.8E3
0.0E0
10:00
11:00
12:00
13:00
14:00
15:00 TIME
File:U900398 Acq:26-MAY-90 12:48:51 Mass 164.0207 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,10708.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.48E5
4.2E4
3.3E4
2.5E4
1.7E4
8.3E3
0.0E0
File:U900398 Acq:26-MAY-90 12:48:51 Mass 169.0646 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,5168.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.12E7
A5.89E6
2.7E6
2.2E6
1.6E6
1.1E6
5.5E5
0.0E0
File:U900398 Acq:26-MAY-90 12:48:51 Mass 171.0616 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2328.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A3.25E6
7.9E5
6.3E5
4.7E5
3.2E5
1.6E5
0.0E0


File:U900398 Acq:26-MAY-90 12:48:51 Mass 166.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,14896.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A5.37E7
A3.47E7
A2.24E7
A6.10E6
A5.41E7
A3.82E7
File:U900398 Acq:26-MAY-90 12:48:51 Mass 176.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1036.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.20E7
File:U900398 Acq:26-MAY-90 12:48:51 Mass 178.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,8848.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.04E8
A9.12E6
A2.03E7
A1.53E7
A8.37E7
File:U900398 Acq:26-MAY-90 12:48:51 Mass 188.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,876.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.28E7
TIME


File:U900398 Acq:26-MAY-90 12:48:51 Mass 202.0782 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,191208.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A3.31E7
A2.49E7
A5.11E7
A1.28E8
File:U900398 Acq:26-MAY-90 12:48:51 Mass 212.1410 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7824.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A9.58E7
File:U900398 Acq:26-MAY-90 12:48:51 Mass 228.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,13236.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A9.33E6
A5.04E6
A7.51E5
A8.34E6
A2.67E6
File:U900398 Acq:26-MAY-90 12:48:51 Mass 240.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,20364.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A8.34E7
A5.29E6
File:U900398 Acq:26-MAY-90 12:48:51 Mass 244.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,4856.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A7.63E7
100
50
0
18:00
19:00
20:00
21:00
22:00
23:00
24:00
25:00
26:00
27:00
28:00
TIME
9.6E6
4.8E6
0.0E0
8.6E6
4.3E6
1.1E6
5.3E5
4.0E6
2.0E6
6.3E6
3.2E6


File:U900398 Acq:26-MAY-90 12:48:51 Mass 252.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,8560.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A7.41E5
A2.01E5
File:U900398 Acq:26-MAY-90 12:48:51 Mass 264.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,13372.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.16E7
A1.30E7
A1.10E7
A1.08E7
A8.13E6
A2.51E6
TIME
TIME


File:U900398 Acq:26-MAY-90 12:48:51 Mass 276.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2044.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A6.49E4
A8.31E4
A1.07E4
File:U900398 Acq:26-MAY-90 12:48:51 Mass 288.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2120.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A3.25E6
A7.49E6
A8.11E4
File:U900398 Acq:26-MAY-90 12:48:51 Mass 278.1096 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1680.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.29E4
A1.22E4
A1.57E4
A1.73E4
File:U900398 Acq:26-MAY-90 12:48:51 Mass 292.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,12024.0,0.00%,F)
Sample Text:FH ISOOCTANE TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.79E6
TIME

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

FILE NAME....: U900400
CONCAL.....: U900395
ANALYST.....: MC
SAMPLE SIZE..: 1.00
ICAL DATE....: 05/21/90
SPIKE FILE...: SPPAHH1C

CLIENT ID....: P&S
SAMPLE ID....: BH TLI BLANK
ANALYSIS DATE: 06/26/90
SAMPLE MATRIX: AQUEOUS
SAMPLE ORIGIN: n/a

TLI NUMBER....:
PROJECT NUMBER: 15729
DATE RECEIVED.: 05/09/90
DATE COLLECTED: / /
SHIPMENT NO...: n/a

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	36.3			8:29	
2-Me-Naph	7.7			10:38	
2-Cl-Naph	ND		0.2		
Acenaphthen	1.4			14:03	
Acenaph	ND		0.2		
Fluorene	1.2			15:34	
Phenan	4.2			18:18	
Anth	ND		0.5		
Fluoran	0.43			21:33	
Pyrene	0.39			22:09	
B-a-Anth	ND		0.5		
Chrysene	0.24			25:33	
B-b-Fluoran	ND		1.0		
B-k-Fluoran	ND		0.4		
B-e-Pyrene	ND		0.4		
B-a-Pyrene	ND		0.6		
Perylene	ND		0.6		
I-123-cd-Py	ND		1.8		
DiB-ah-Anth	ND		2.7		
B-ghi-Pery	ND		1.9		

SURROGATE RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	0.13	0.13	22:33	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	92.8	92.8	18:22	

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

FILE NAME....: U900400	CLIENT ID....: P&S	TLI NUMBER....:	
CONCAL.....: U900395	SAMPLE ID....: BH TLI BLANK		
ANALYST.....: MC	ANALYSIS DATE: 06/26/90	PROJECT NUMBER:	15729
SAMPLE SIZE..: 1.00	SAMPLE MATRIX: AQUEOUS	DATE RECEIVED.:	05/09/90
ICAL DATE....: 05/21/90	SAMPLE ORIGIN: n/a	DATE COLLECTED:	/ /
SPIKE FILE...: SPPAHH1C		SHIPMENT NO...:	n/a

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	51.1	51.1	8:26	
d10-2-Me-Naph	56.3	56.3	10:31	
d7-2-Cl-Naph	67.8	67.8	12:07	
d8-Acenaph	58.6	58.6	13:27	
d10-Acenaphthen	56.8	56.8	13:58	
d10-Fluorene	57.0	57.0	15:29	
d10-Phenan	65.5	65.5	18:13	
d10-Fluoran	61.6	61.6	21:31	
d10-Pyrene	66.5	66.5	22:06	
d12-B-a-Anth	53.7	53.7	25:23	
d12-Chrysene	78.0	78.0	25:30	
d12-B-b-Fluoran	52.9	52.9	29:06	
d12-B-k-Fluoran	71.4	71.4	29:13	
d12-B-a-Pyrene	69.1	69.1	30:29	
d12-Perylene	107	107	30:51	
d12-I-123-cd-Py	61.0	61.0	36:38	
d14-DiB-ah-Anth	61.7	61.7	36:40	
d12-B-ghi-Pery	54.1	54.1	38:22	

DL-3

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128		0.00	8:2?	1545.73	T	T	1.006	✓
128		*** Total ***		1545.73	# of Peaks:		1	
136		0.00	8:26	4655.07	T	T	0.627	
136		*** Total ***		4655.07	# of Peaks:		1	
142		0.00	10:38	259.67	T	T	1.011	✓
		0.00	10:59	136.84	T	F	1.044	
142		*** Total ***		396.51	# of Peaks:		2	
152		0.00	10:31	3425.16	T	T	0.782	✓
		0.00	10:52	20.31	T	F	0.808	
		0.00	12:08	45.37	T	F	0.902	
		0.00	12:58	9.83	T	F	0.964	
		0.00	13:56	4.20	T	F	1.036	
		0.00	14:03	34.45	T	F	1.045	
		0.00	15:33	55.16	T	F	1.156	
152		*** Total ***		3594.48	# of Peaks:		7	
154		0.00	12:08	207.84	T	F	0.869	
		0.00	13:27	6.54	T	F	0.963	
		0.00	14:03	39.03	T	T	1.006	✓
		0.00	14:53	5.46	T	F	1.066	
		0.00	15:32	12.74	T	F	1.112	
154		*** Total ***		271.61	# of Peaks:		5	
160		0.00	13:27	3904.80	T	T	0.445	✓
		0.00	13:58	966.79	T	F	0.462	
160		*** Total ***		4871.59	# of Peaks:		2	
164		0.00	13:58	2488.93	T	T	1.038	✓
164		*** Total ***		2488.93	# of Peaks:		1	
166		0.00	15:34	38.30	T	T	1.005	✓
		0.00	16:08	4.34	T	F	1.042	
		0.00	16:49	18.55	T	F	1.086	
		0.00	17:09	40.05	T	F	1.108	
166		*** Total ***		101.24	# of Peaks:		4	
169		3.40	12:07	3274.01	T	T	0.901	✓
169		*** Total ***		3274.01	# of Peaks:		1	
176		0.00	15:29	1906.72	T	T	1.151	✓
176		*** Total ***		1906.72	# of Peaks:		1	
178		0.00	14:31	3.24	T	F	0.790	
		0.00	15:23	8.82	T	F	0.838	
		0.00	16:28	9.06	T	F	0.897	
		0.00	16:44	29.69	T	F	0.911	
		0.00	17:07	42.49	T	F	0.932	
		0.00	17:20	16.03	T	F	0.944	
		0.00	17:40	5.96	T	F	0.962	

Listing of U9004008.cbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
178		0.00	18:18	152.46	T	~~F~~ T	0.996	✓
		0.00	18:33	1.82	T	~~F~~ F	1.010	
		0.00	18:41	7.05	T	F	1.017	
		0.00	19:16	4.72	T	F	1.049	
		0.00	19:26	2.82	T	F	1.058	
		0.00	19:43	3.31	T	F	1.074	
178		*** Total ***		292.08	# of Peaks:		14	
188		0.00	18:13	2251.02	T	T	1.354	✓
		0.00	18:22	2415.16	T	T	1.366	✓
188		*** Total ***		4666.18	# of Peaks:		2	
202		0.00	21:33	27.76	T	T	1.002	✓
		0.00	22:09	28.02	T	T	1.002	✓
		0.00	22:58	7.62	T	F	1.039	
		0.00	25:32	7.88	T	F	1.155	
202		*** Total ***		71.28	# of Peaks:		4	
212		0.00	21:31	7442.80	T	T	0.697	✓
		0.00	22:06	6313.85	T	T	0.716	✓
		0.00	25:23	16.70	T	F	0.823	
		0.00	25:30	54.28	T	F	0.827	
212		*** Total ***		13827.63	# of Peaks:		4	
228		0.00	21:17	1.71	T	F	0.835	
		0.00	21:52	4.80	T	F	0.858	
		0.00	24:01	1.44	T	F	0.942	
		0.00	24:26	7.76	T	F	0.958	
		0.00	24:52	1.37	T	F	0.975	
		0.00	25:33	14.01	T	T	1.002	✓
		0.00	25:40	9.06	T	F	1.007	
		0.00	27:17	2.07	T	F	1.070	
228		*** Total ***		42.22	# of Peaks:		8	
240		0.00	24:01	188.76	T	F	0.778	
		0.00	25:23	1849.11	T	T	0.823	✓
		0.00	25:30	6627.12	T	T	0.827	✓
240		*** Total ***		8664.99	# of Peaks:		3	
244		0.00	21:17	1.04	T	F	0.704	
		0.00	22:25	0.42	T	F	0.741	
		0.00	22:33	11.55	T	T	0.745	✓
		0.00	22:57	1.19	T	F	0.759	
		0.00	23:28	0.51	T	F	0.776	
		0.00	23:43	1.22	T	F	0.784	
		0.00	23:52	4.78	T	F	0.789	
		0.00	24:01	12.03	T	F	0.794	
		0.00	24:08	3.62	T	F	0.798	
		0.00	24:30	81.54	T	F	0.810	
		0.00	24:56	33.39	T	F	0.824	
		0.00	25:14	1.46	T	F	0.834	
		0.00	25:33	8.44	T	F	0.845	
		0.00	25:55	1.98	T	F	0.857	

Listing of U900400I.dbf File
Raw Mass, Retention Time and Data Area

M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
128	8:29	1545.73						
136	8:26	4655.07						
142	10:38	259.67	10:59	136.84				
152	10:31	3425.16	10:52	20.31				
154	12:08	207.84	14:03	39.03	15:32	12.74		
	13:27	6.54	14:53	5.46				
164	13:58	2488.93						
152	12:08	45.37	13:56	4.20	15:33	55.16		
	12:58	9.83	14:03	34.45				
160	13:27	3904.80	13:58	966.79				
162	13:15	14.27						
169	12:07	2530.54	14:23	278.61				
171	12:07	743.47						
166	15:34	38.30	16:08	4.34	16:49	18.55	17:09	40.05
176	15:29	1906.72						
178	14:31	3.24	17:07	42.49	18:18	152.46	19:26	2.82
	15:23	8.82	17:20	16.03	18:33	1.82	19:43	3.31
	16:28	9.06	17:40	5.96	18:41	7.05		
	16:44	29.69	18:02	4.61	19:16	4.72		
188	18:13	2251.02	18:22	2415.16				
202	21:33	27.76	22:09	28.02	22:58	7.62	25:32	7.88
212	21:31	7442.80	22:06	6313.85	25:23	16.70	25:30	54.28
228	21:17	1.71	24:01	1.44	24:52	1.37	25:40	9.06
	21:52	4.80	24:26	7.76	25:33	14.01	27:17	2.07
240	24:01	188.76	25:23	1849.11	25:30	6627.12		
244	21:17	1.04	23:43	1.22	24:56	33.39	26:51	0.85
	22:25	0.42	23:52	4.78	25:14	1.46	27:52	1.27
	22:33	11.55	24:01	12.03	25:33	8.44		
	22:57	1.19	24:08	3.62	25:55	1.98		
	23:28	0.51	24:30	81.54	26:08	1.66		
252	28:14	1.21	30:51	0.65	32:14	0.62		
	30:16	1.76	31:31	1.34	33:58	1.02		

Matched GC Peaks / Ratio / Ret. Time

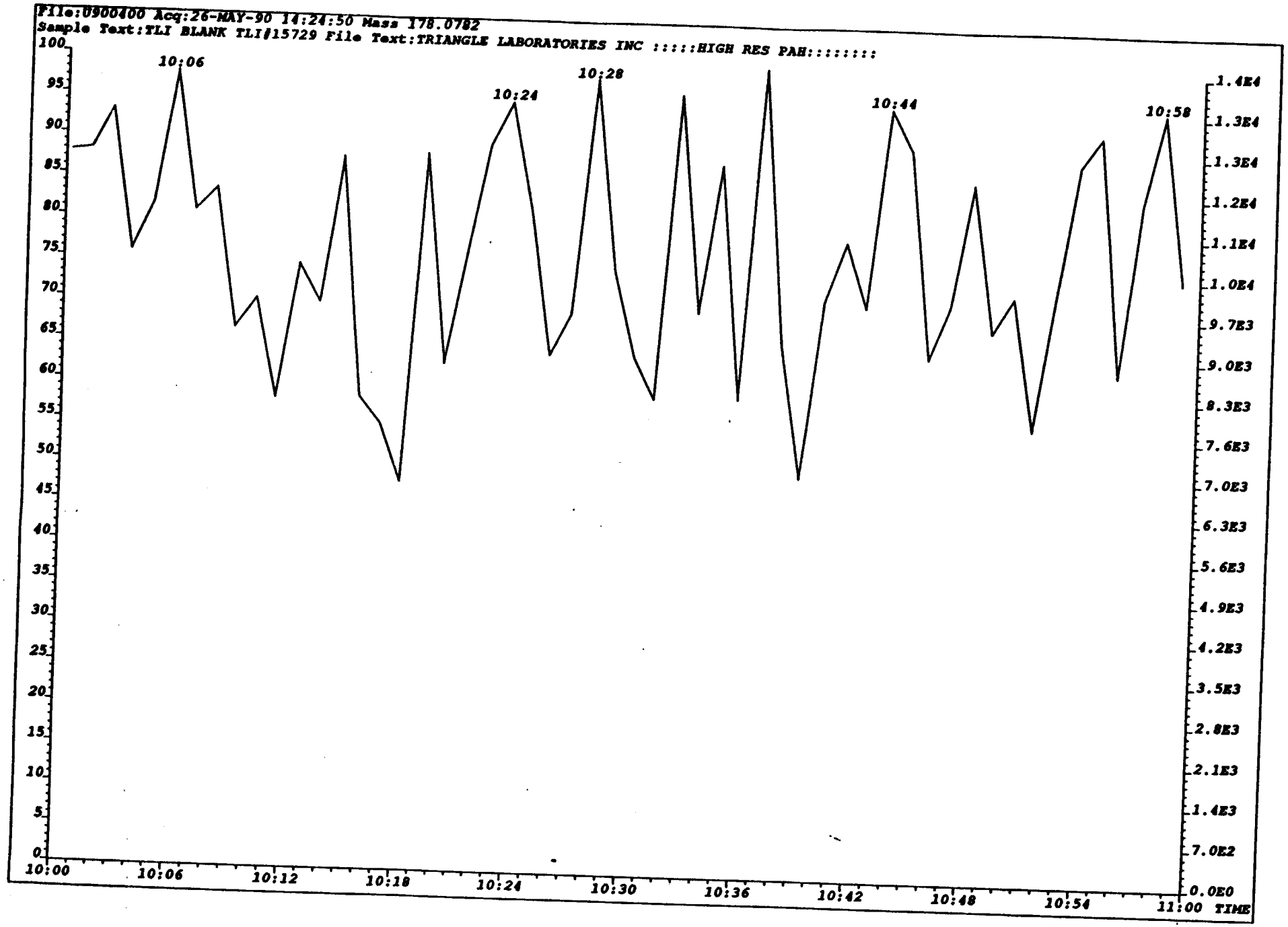
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
244		0.00	26:08	1.66	T	F	0.864	
		0.00	26:51	0.85	T	F	0.888	
		0.00	27:52	1.27	T	F	0.921	
244		*** Total ***		166.95	# of Peaks:		17	
252		0.00	28:14	1.21	T	F	0.915	
		0.00	30:16	1.76	T	F	0.981	
		0.00	30:51	0.65	T	F	1.000	
		0.00	31:31	1.34	T	F	1.022	
		0.00	32:14	0.62	T	F	1.045	
		0.00	33:58	1.02	T	F	1.101	
252		*** Total ***		6.60	# of Peaks:		6	
264		0.00	29:06	1105.05	T	T	0.943	✓
		0.00	29:13	2772.35	T	T	0.947	✓
		0.00	30:15	1324.43	T	T	1.000	✓
		0.00	30:29	1638.86	T	T	0.988	✓
		0.00	30:51	1472.48	T	T	1.020	✓
264		*** Total ***		8313.17	# of Peaks:		5	
276		0.00	39:13	0.96	T	F	1.022	
		0.00	39:50	1.11	T	F	1.038	
		0.00	42:40	0.46	T	F	1.112	
		0.00	43:00	1.17	T	F	1.121	
276		*** Total ***		3.70	# of Peaks:		4	
278		0.00	37:24	0.41	T	F	1.020	
		0.00	37:37	0.83	T	F	1.026	
		0.00	37:49	1.88	T	F	1.031	
		0.00	38:27	0.81	T	F	1.049	
278		*** Total ***		3.93	# of Peaks:		4	
288		0.00	36:38	327.89	T	T	1.187	✓
		0.00	37:10	19.17	T	F	1.205	
		0.00	37:31	1.85	T	F	1.216	
		0.00	38:22	666.24	T	T	1.244	✓
		0.00	40:17	1.11	T	F	1.306	
288		*** Total ***		1016.26	# of Peaks:		5	
292		0.00	36:40	292.38	T	T	1.189	✓
		0.00	37:15	11.38	T	F	1.207	
		0.00	37:29	5.50	T	F	1.215	
		0.00	37:53	1.43	T	F	1.228	
		0.00	38:10	1.21	T	F	1.237	
		0.00	38:46	0.60	T	F	1.257	
		0.00	38:53	0.86	T	F	1.260	
		0.00	39:46	1.13	T	F	1.289	
		0.00	40:07	0.60	T	F	1.300	
292		*** Total ***		315.09	# of Peaks:		9	

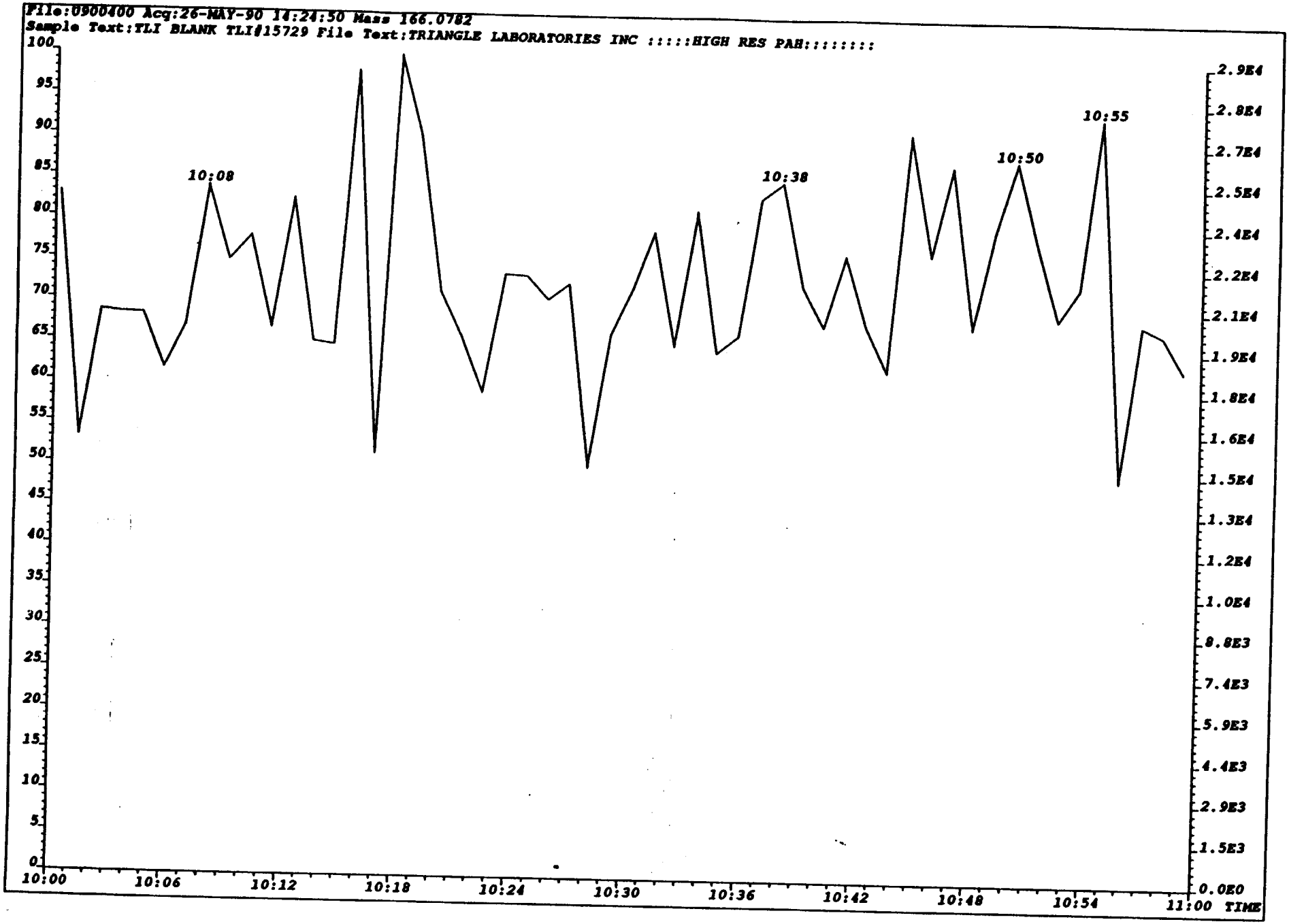
*** End of Report ***

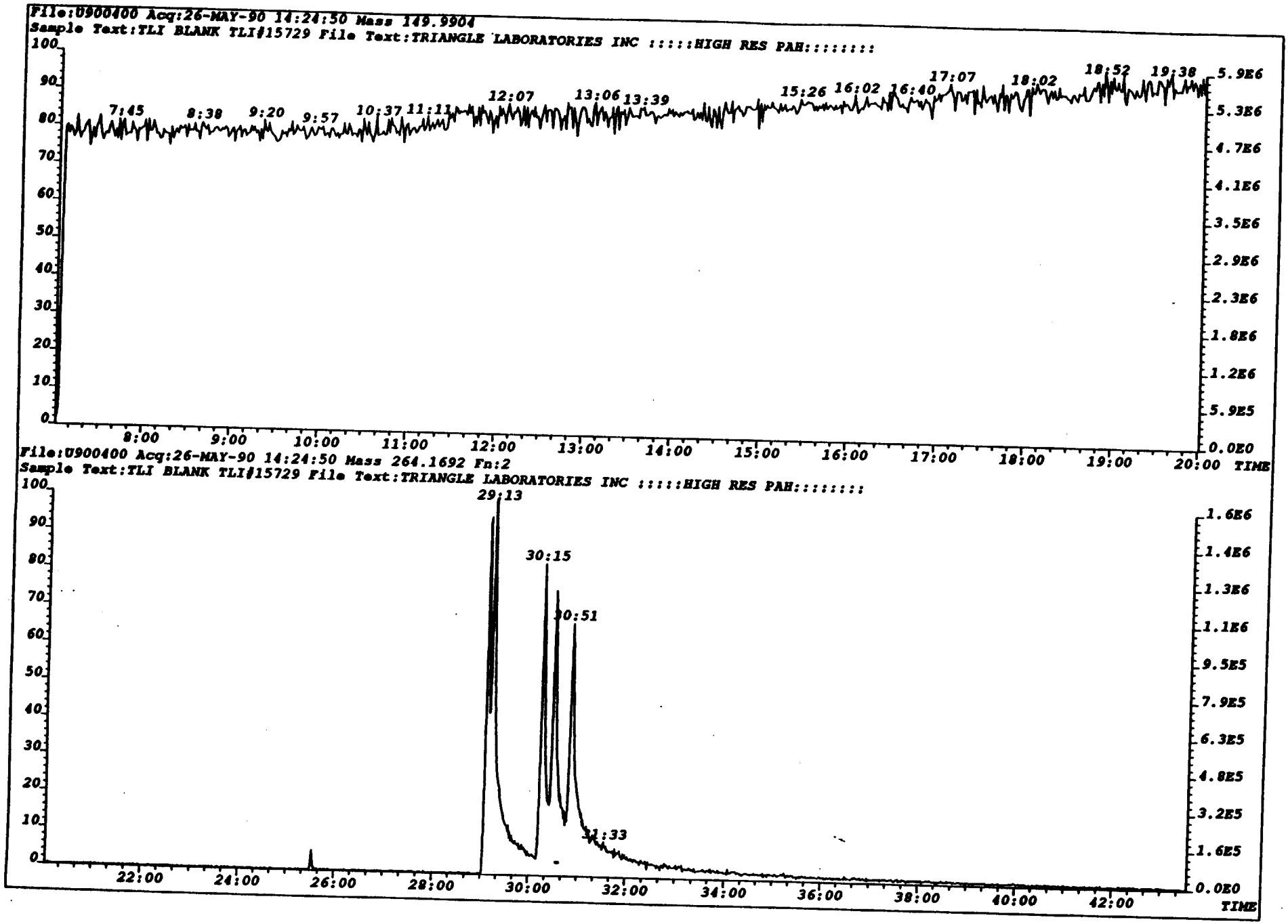
Listing of U900400I.dbf File
Raw Mass, Retention Time and Data Area

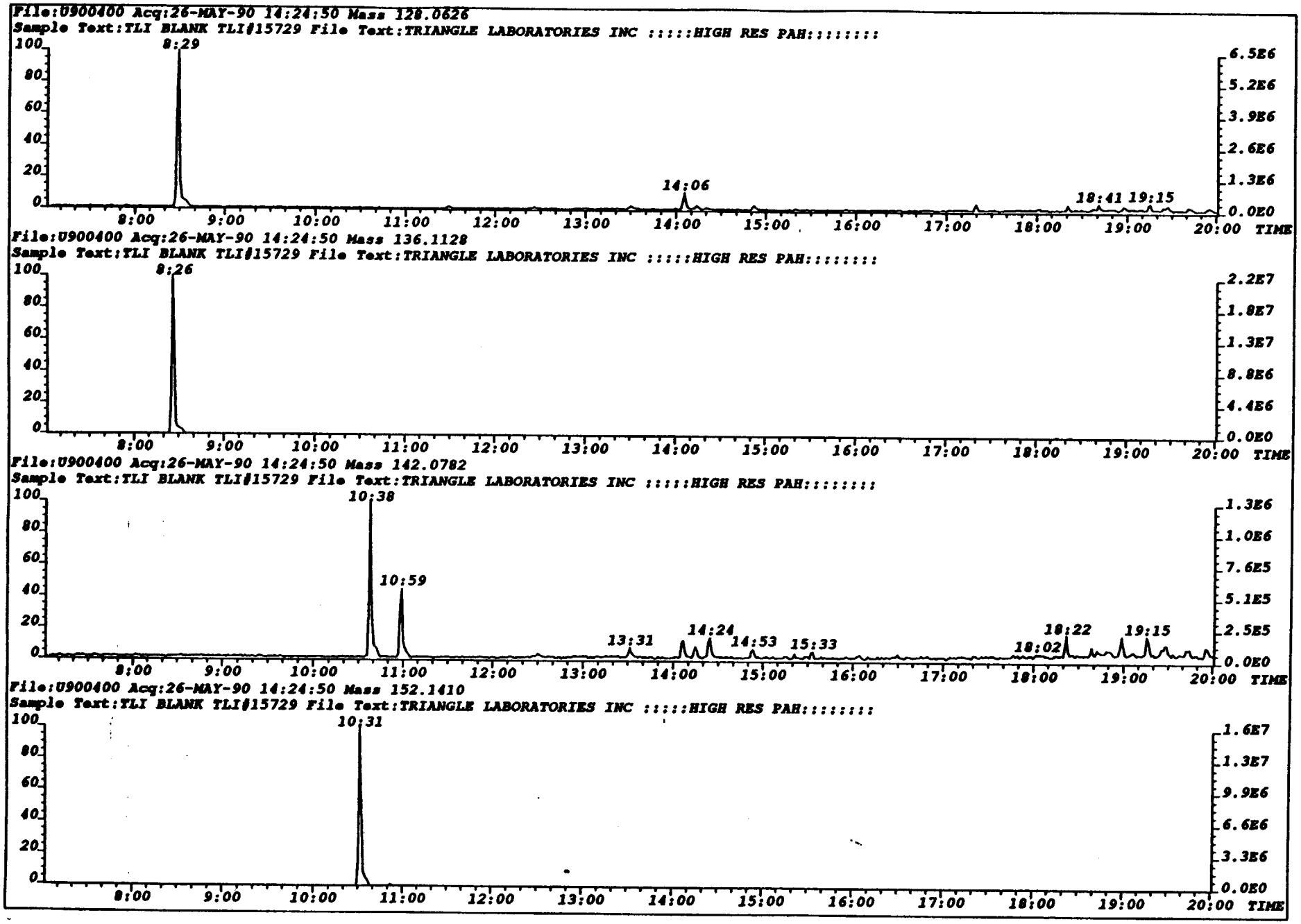
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
264	29:06	1105.05	30:15	1324.43	30:51	1472.48		
	29:13	2772.35	30:29	1638.86				
276	39:13	0.96	39:50	1.11	42:40	0.46	43:00	1.17
288	36:38	327.89	37:31	1.85	40:17	1.11		
	37:10	19.17	38:22	666.24				
278	37:24	0.41	37:37	0.83	37:49	1.88	38:27	0.81
292	36:40	292.38	37:53	1.43	38:53	0.86		
	37:15	11.38	38:10	1.21	39:46	1.13		
	37:29	5.50	38:46	0.60	40:07	0.60		

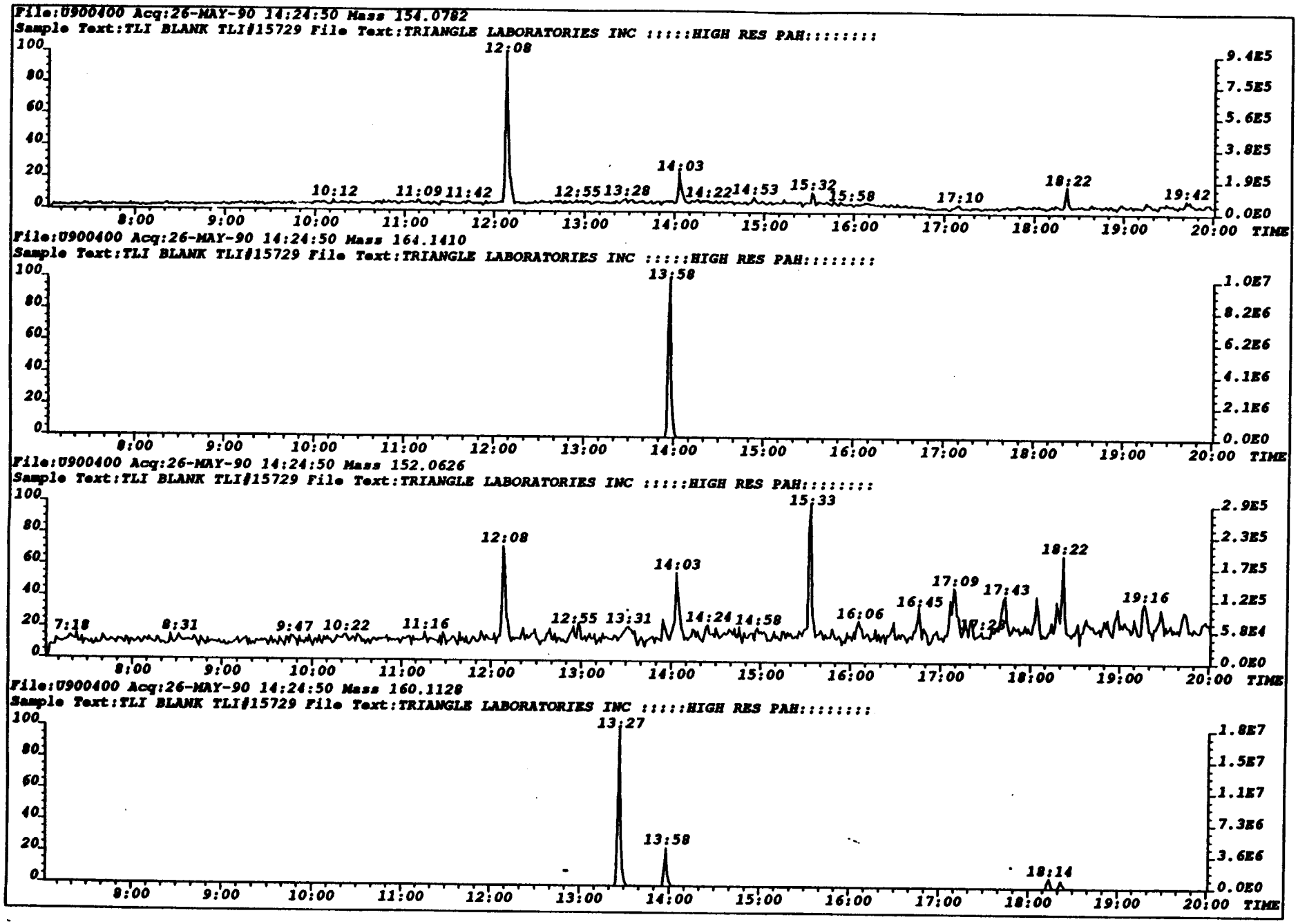
*** End of Report ***

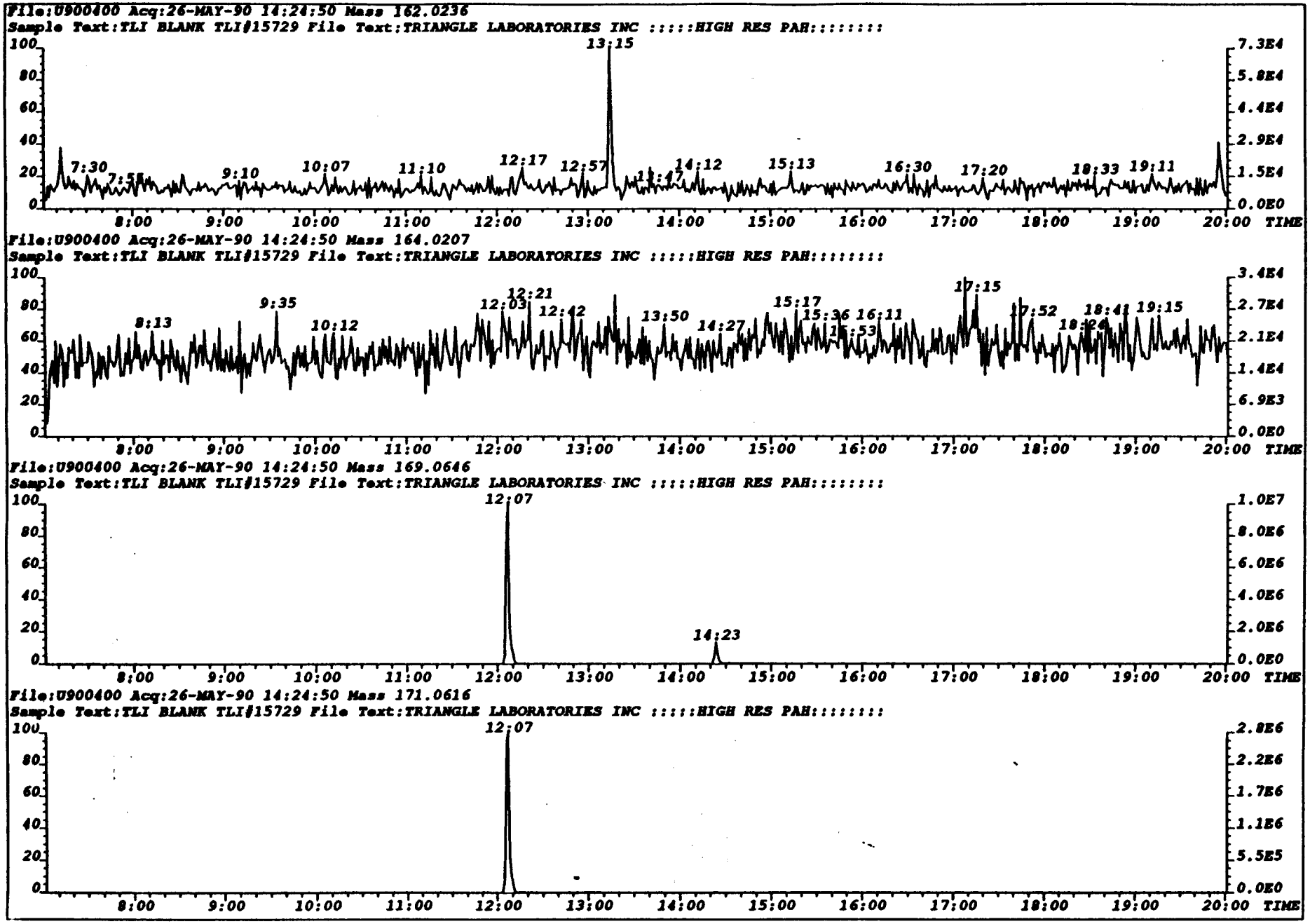

File:U900400 Acq:26-MAY-90 14:24:50 Mass 178.0782
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:06
10:24
10:28
10:44
10:58
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1.4E4
1.3E4
1.3E4
1.2E4
1.1E4
1.0E4
9.7E3
9.0E3
8.3E3
7.6E3
7.0E3
6.3E3
5.6E3
4.9E3
4.2E3
3.5E3
2.8E3
2.1E3
1.4E3
7.0E2
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

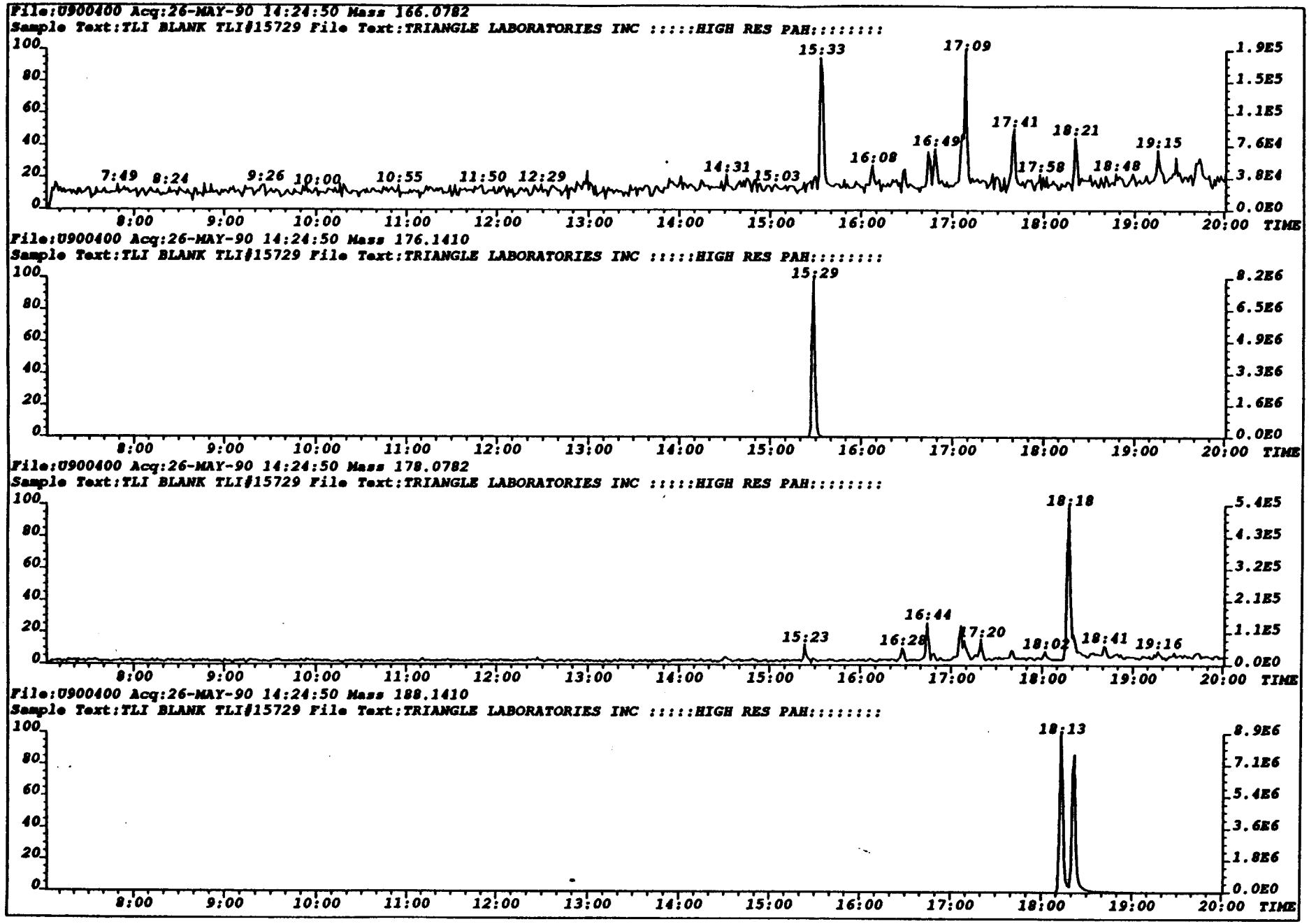

File:0900400 Acq:26-MAY-90 14:24:50 Mass 166.0782
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:08
10:38
10:50
10:55
TIME

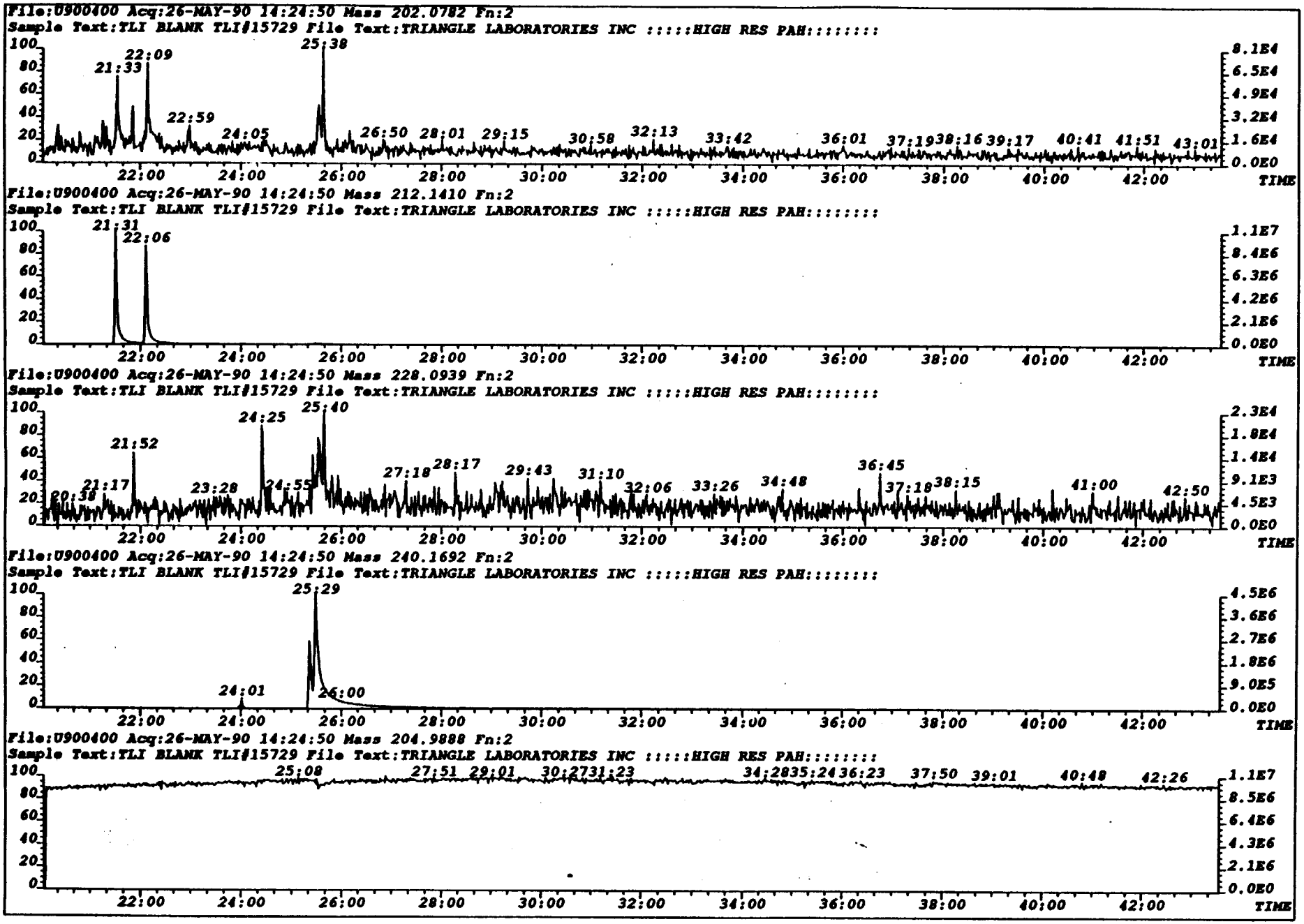

File:U900400 Acq:26-MAY-90 14:24:50 Mass 149.9904
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
7:45
8:38
9:20
9:57
10:37
11:11
12:07
13:06
13:39
15:26
16:02
16:40
17:07
18:02
18:52
19:38
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 264.1692 Fn:2
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
29:13
30:15
30:51
31:33
TIME

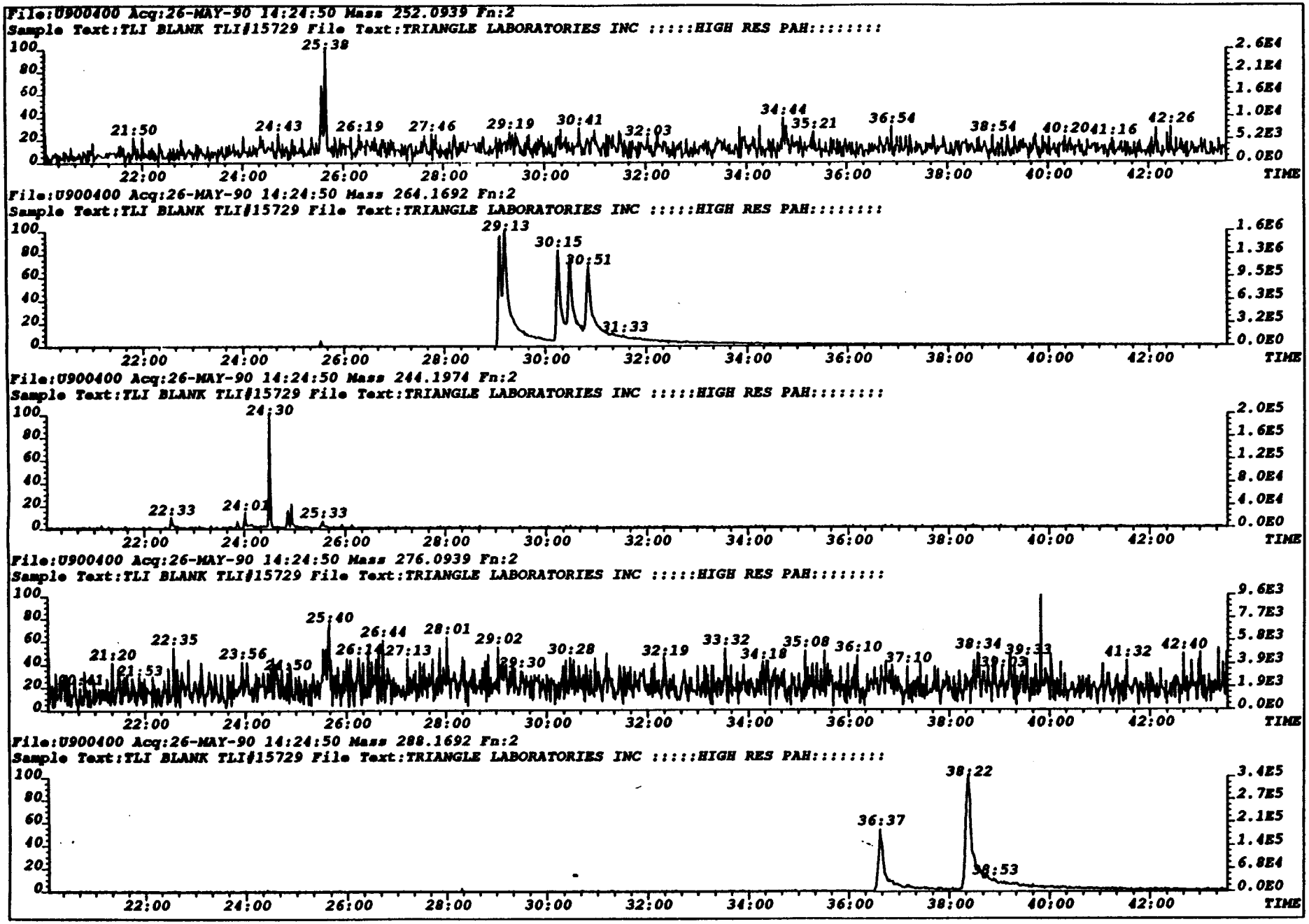

File:U900400 Acq:26-MAY-90 14:24:50 Mass 128.0626
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
8:29
14:06
18:41 19:15
File:U900400 Acq:26-MAY-90 14:24:50 Mass 136.1128
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
8:26
File:U900400 Acq:26-MAY-90 14:24:50 Mass 142.0782
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:38
10:59
13:31
14:24
14:53
15:33
18:02
18:22
19:15
File:U900400 Acq:26-MAY-90 14:24:50 Mass 152.1410
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:31
TIME

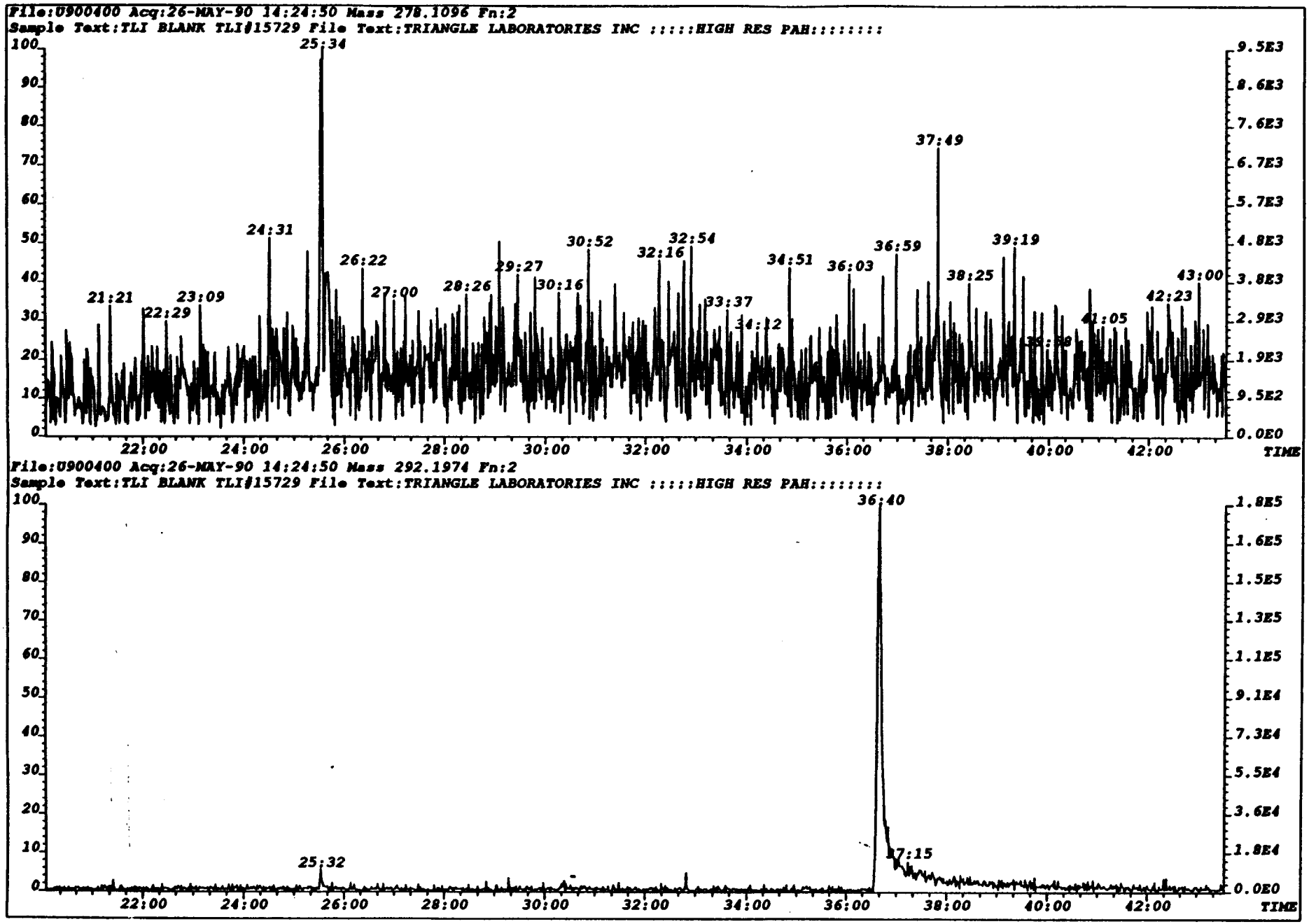

File:U900400 Acq:26-MAY-90 14:24:50 Mass 154.0782
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
12:08
14:03
10:12
11:09
11:42
12:55
13:28
14:22
14:53
15:32
15:58
17:10
18:22
19:42
9.4E5
7.5E5
5.6E5
3.8E5
1.9E5
0.0E0
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 164.1410
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
13:58
1.0E7
8.2E6
6.2E6
4.1E6
2.1E6
0.0E0
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 152.0626
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
15:33
12:08
14:03
18:22
17:09
17:43
16:45
19:16
7:18
8:31
9:47
10:22
11:16
12:55
13:31
14:24
14:58
16:06
2.9E5
2.3E5
1.7E5
1.2E5
5.8E4
0.0E0
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 160.1128
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
13:27
13:58
18:14
1.8E7
1.5E7
1.1E7
7.3E6
3.6E6
0.0E0
TIME

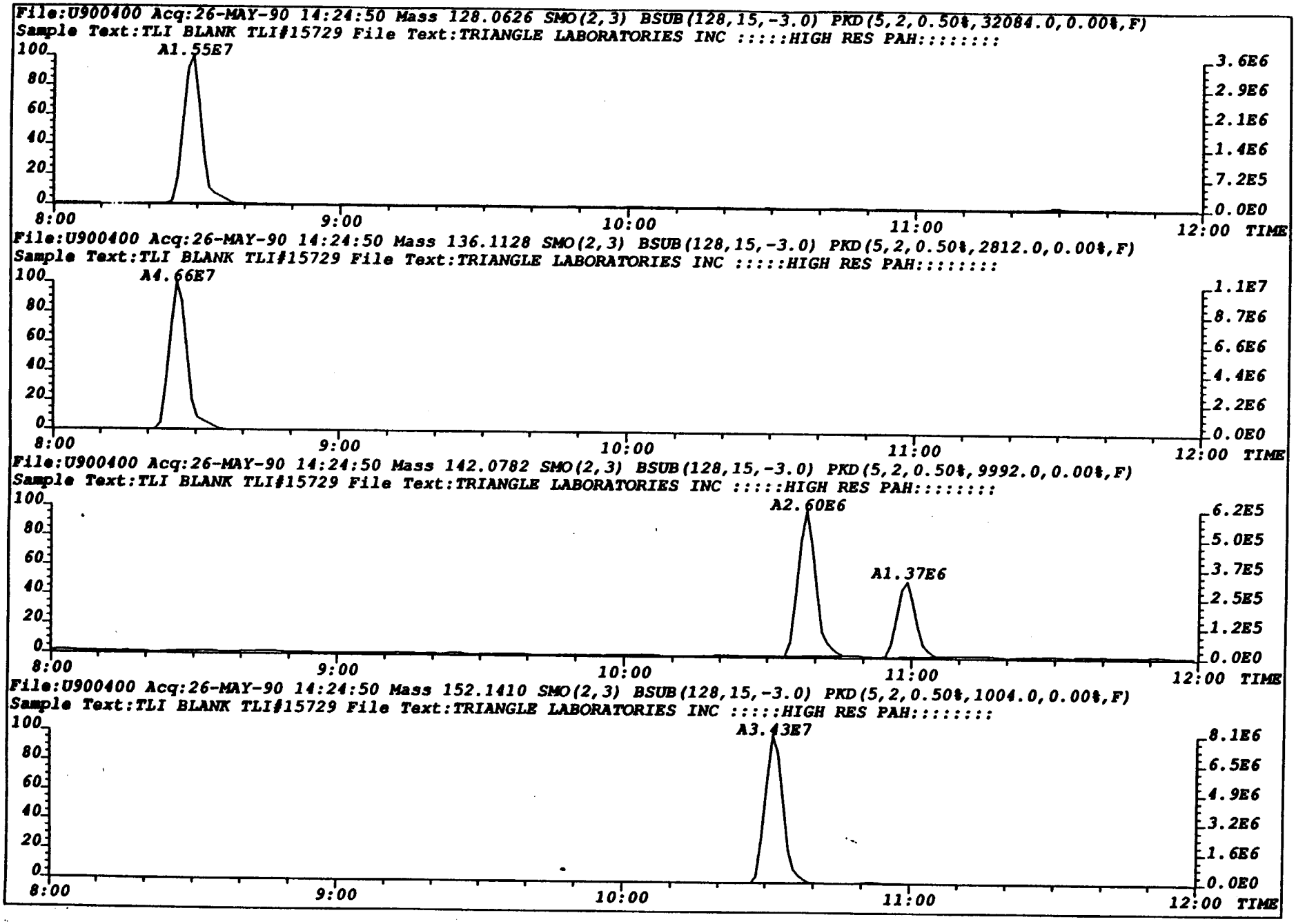

File:U900400 Acq:26-MAY-90 14:24:50 Mass 162.0236
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
13:15
7:30
9:10
10:07
11:10
12:17
12:57
14:12
15:13
16:30
17:20
18:33
19:11
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 164.0207
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
8:13
9:35
10:12
12:03
12:21
12:42
13:50
14:27
15:17
15:36
16:11
17:15
17:52
18:41
19:15
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 169.0646
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
12:07
14:23
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 171.0616
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
12:07
TIME

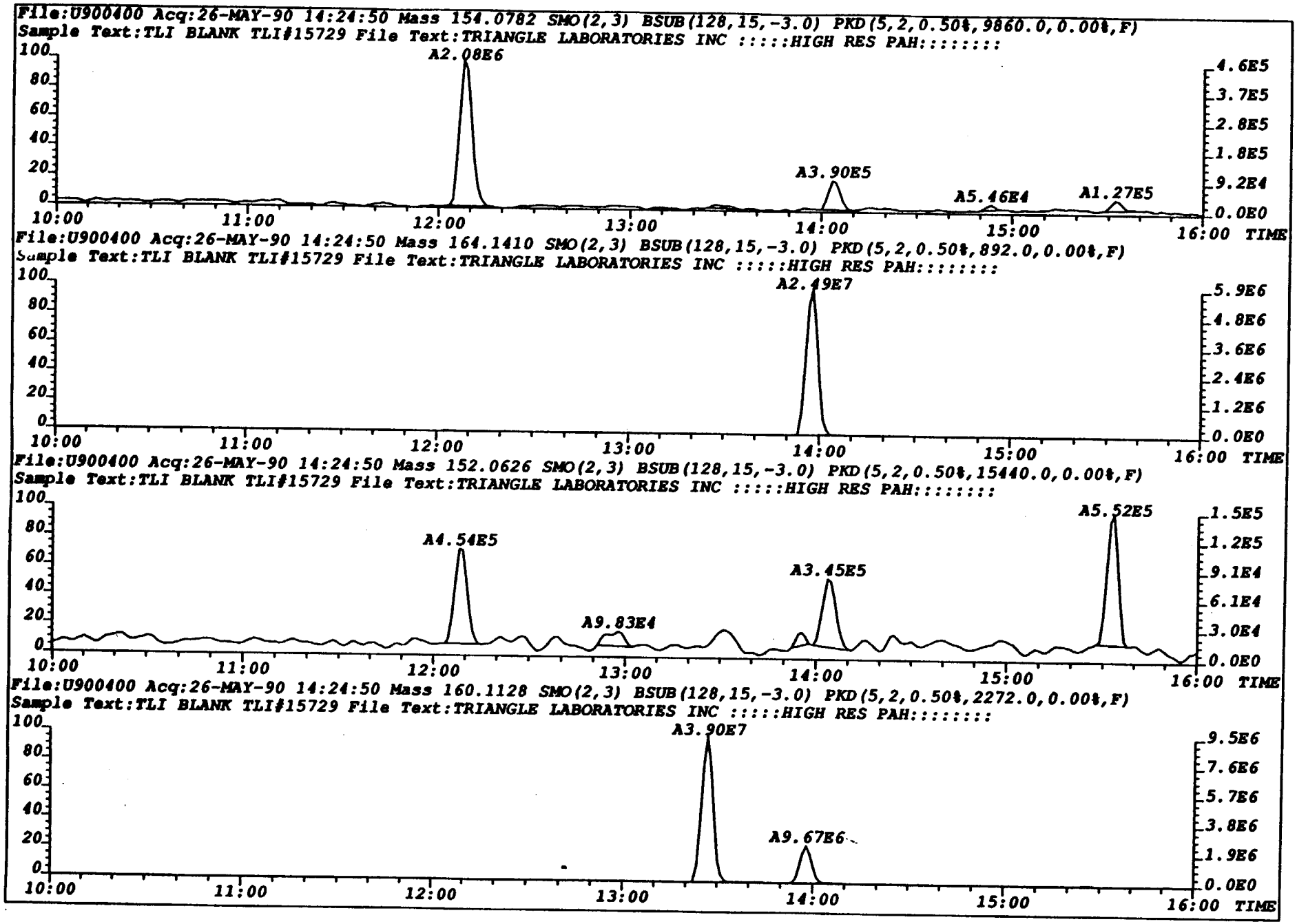

File:U900400 Acq:26-MAY-90 14:24:50 Mass 166.0782
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
15:33
17:09
17:41
18:21
16:49
19:15
16:08
17:58
18:48
14:31
15:03
7:49
8:24
9:26
10:00
10:55
11:50
12:29
1.9E5
1.5E5
1.1E5
7.6E4
3.8E4
0.0E0
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 176.1410
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
15:29
8.2E6
6.5E6
4.9E6
3.3E6
1.6E6
0.0E0
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 178.0782
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
18:18
16:44
15:23
16:28
17:20
18:02
18:41
19:16
5.4E5
4.3E5
3.2E5
2.1E5
1.1E5
0.0E0
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 188.1410
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
18:13
8.9E6
7.1E6
5.4E6
3.6E6
1.8E6
0.0E0
TIME

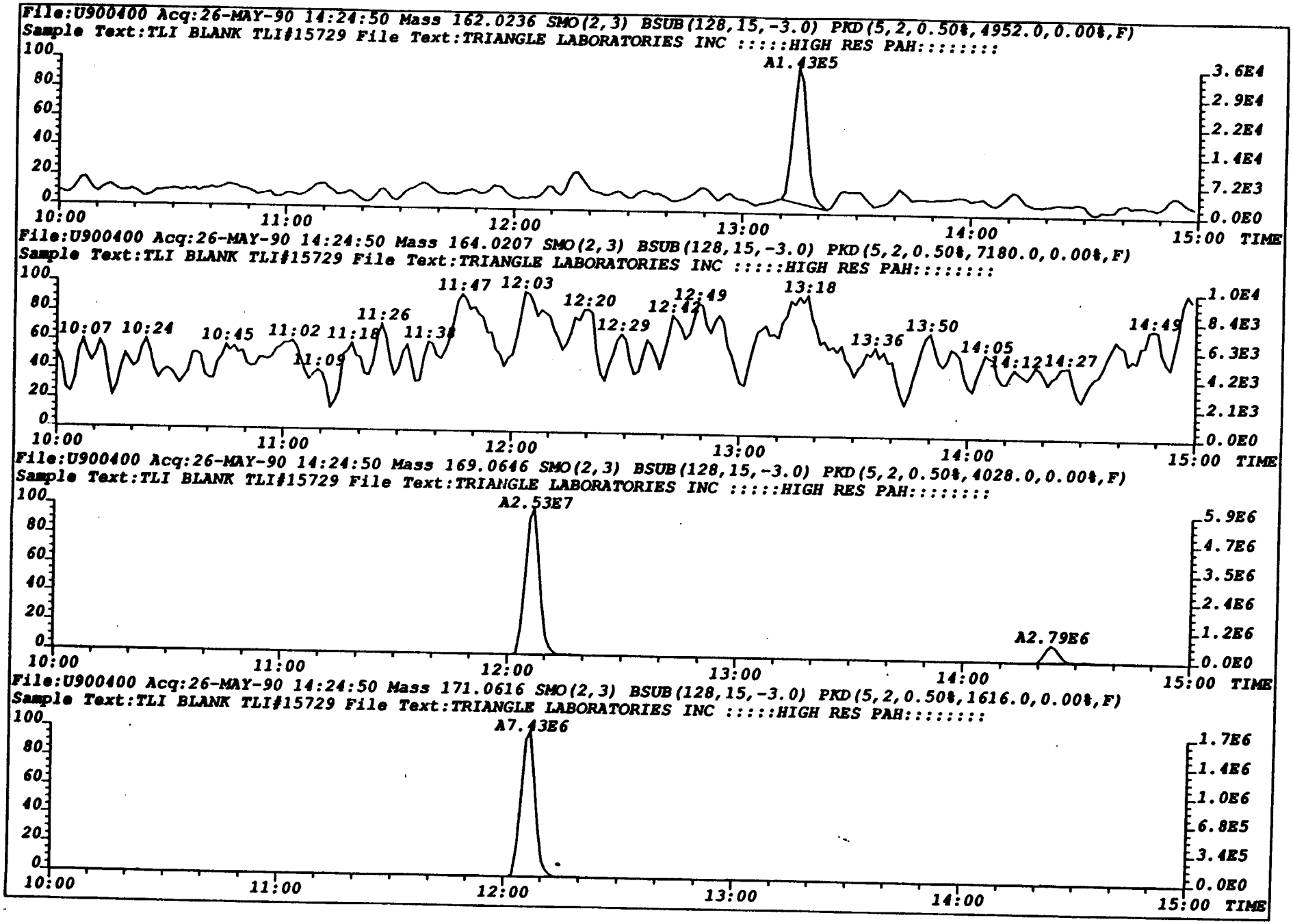

File:U900400 Acq:26-MAY-90 14:24:50 Mass 202.0782 Fn:2
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
21:33 22:09 22:59 24:05 25:38 26:50 28:01 29:15 30:58 32:13 33:42 36:01 37:19 38:16 39:17 40:41 41:51 43:01
8.1E4 6.5E4 4.9E4 3.2E4 1.6E4 0.0E0
File:U900400 Acq:26-MAY-90 14:24:50 Mass 212.1410 Fn:2
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
21:31 22:06
1.1E7 8.4E6 6.3E6 4.2E6 2.1E6 0.0E0
File:U900400 Acq:26-MAY-90 14:24:50 Mass 228.0939 Fn:2
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
20:38 21:17 21:52 23:28 24:25 24:55 25:40 27:18 28:17 29:43 31:10 32:06 33:26 34:48 36:45 37:18 38:15 41:00 42:50
2.3E4 1.8E4 1.4E4 9.1E3 4.5E3 0.0E0
File:U900400 Acq:26-MAY-90 14:24:50 Mass 240.1692 Fn:2
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
24:01 25:29 26:00
4.5E6 3.6E6 2.7E6 1.8E6 9.0E5 0.0E0
File:U900400 Acq:26-MAY-90 14:24:50 Mass 204.9888 Fn:2
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
25:08 27:51 29:01 30:27 31:23 34:28 35:24 36:23 37:50 39:01 40:48 42:26
1.1E7 8.5E6 6.4E6 4.3E6 2.1E6 0.0E0
100 80 60 40 20 0
22:00 24:00 26:00 28:00 30:00 32:00 34:00 36:00 38:00 40:00 42:00
TIME

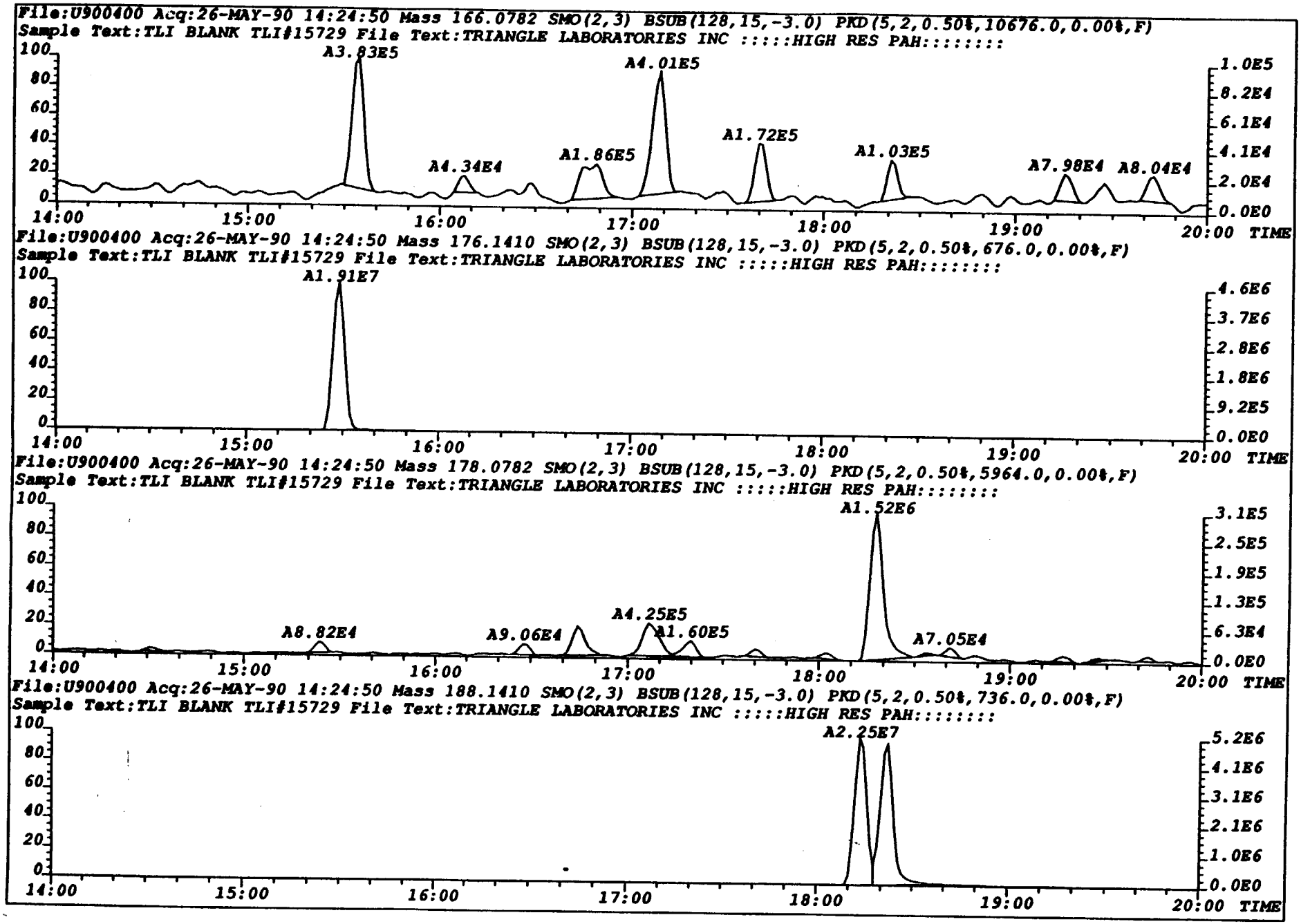

File:U900400 Acq:26-MAY-90 14:24:50 Mass 252.0939 Fn:2
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
25:38
21:50
24:43
26:19
27:46
29:19
30:41
32:03
34:44
35:21
36:54
38:54
40:20
41:16
42:26
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 264.1692 Fn:2
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
29:13
30:15
30:51
31:33
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 244.1974 Fn:2
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
24:30
22:33
24:01
25:33
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 276.0939 Fn:2
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
25:40
26:44
28:01
22:35
21:20
29:02
23:56
26:14
27:13
30:28
32:19
33:32
34:18
35:08
36:10
37:10
38:34
39:33
41:32
42:40
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 288.1692 Fn:2
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
38:22
36:37
38:53
TIME

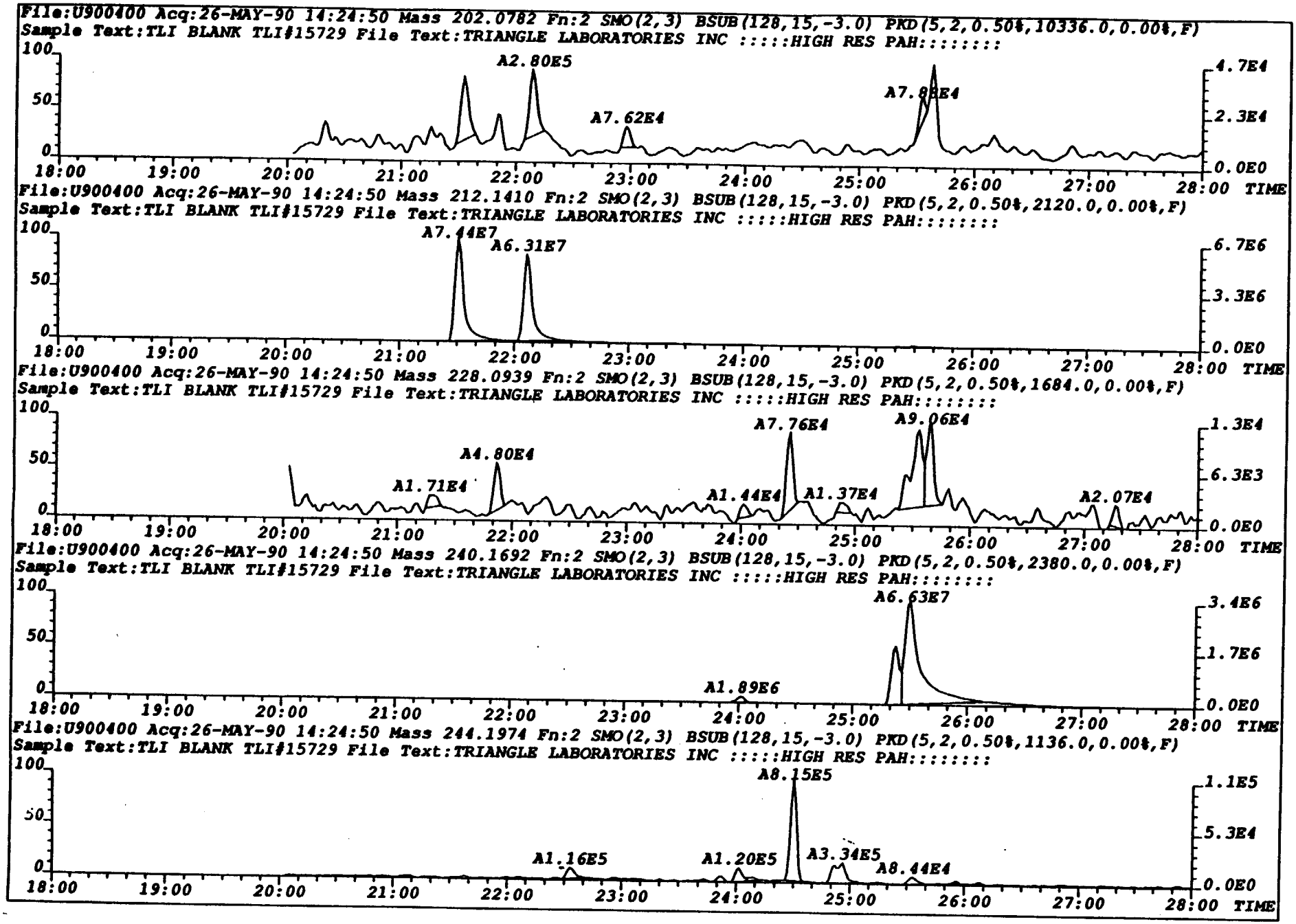

File:U900400 Acq:26-MAY-90 14:24:50 Mass 278.1096 Fn:2
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
25:34
24:31
26:22
21:21
22:29
23:09
27:00
28:26
29:27
30:16
30:52
32:16
32:54
33:37
34:12
34:51
36:03
36:59
37:49
38:25
39:19
41:05
42:23
43:00
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 292.1974 Fn:2
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
36:40
25:32
37:15
TIME

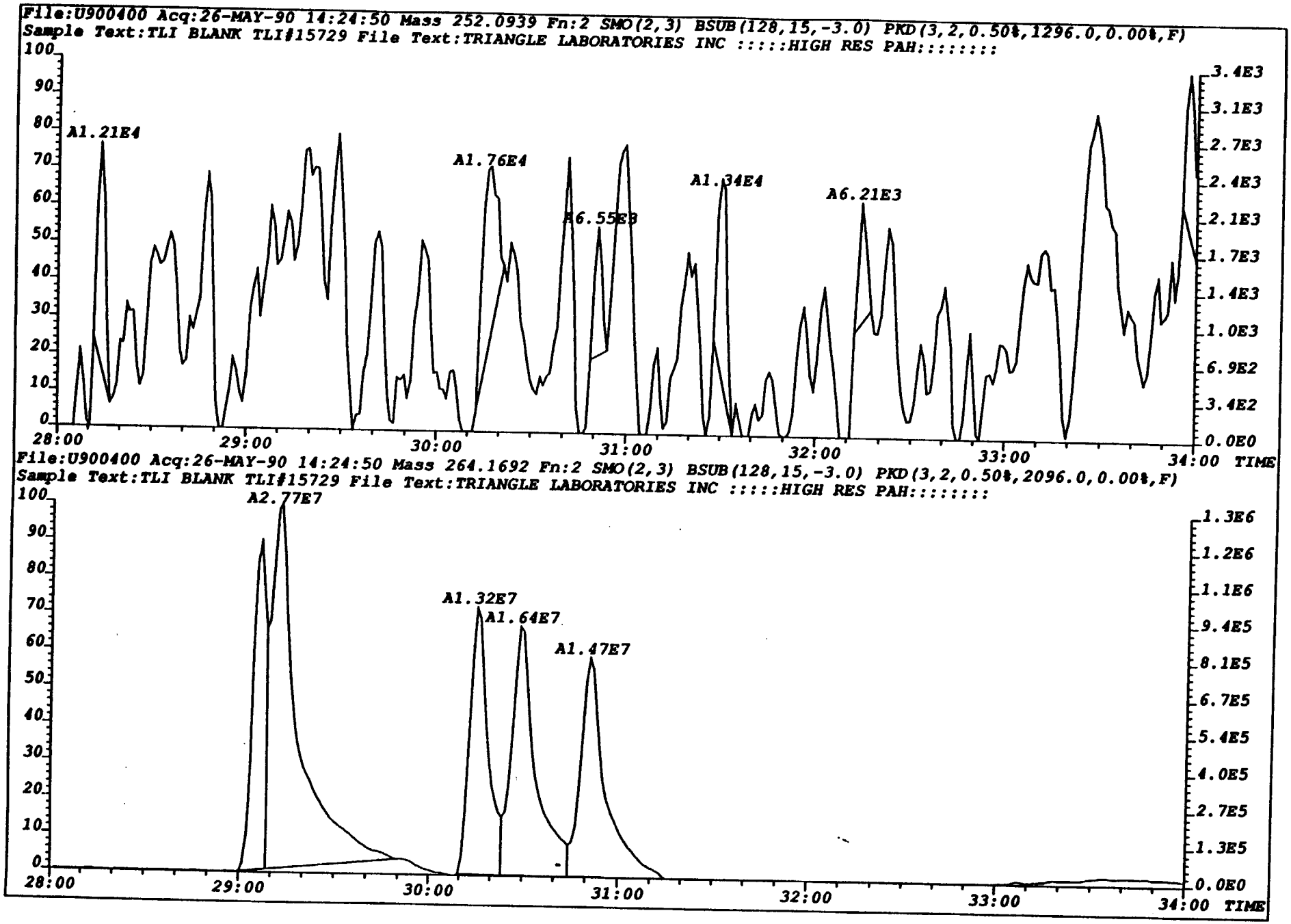

File:U900400 Acq:26-MAY-90 14:24:50 Mass 128.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,32084.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.55E7
File:U900400 Acq:26-MAY-90 14:24:50 Mass 136.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2812.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A4.66E7
File:U900400 Acq:26-MAY-90 14:24:50 Mass 142.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,9992.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.60E6
A1.37E6
File:U900400 Acq:26-MAY-90 14:24:50 Mass 152.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1004.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A3.43E7
8:00
9:00
10:00
11:00
12:00
TIME

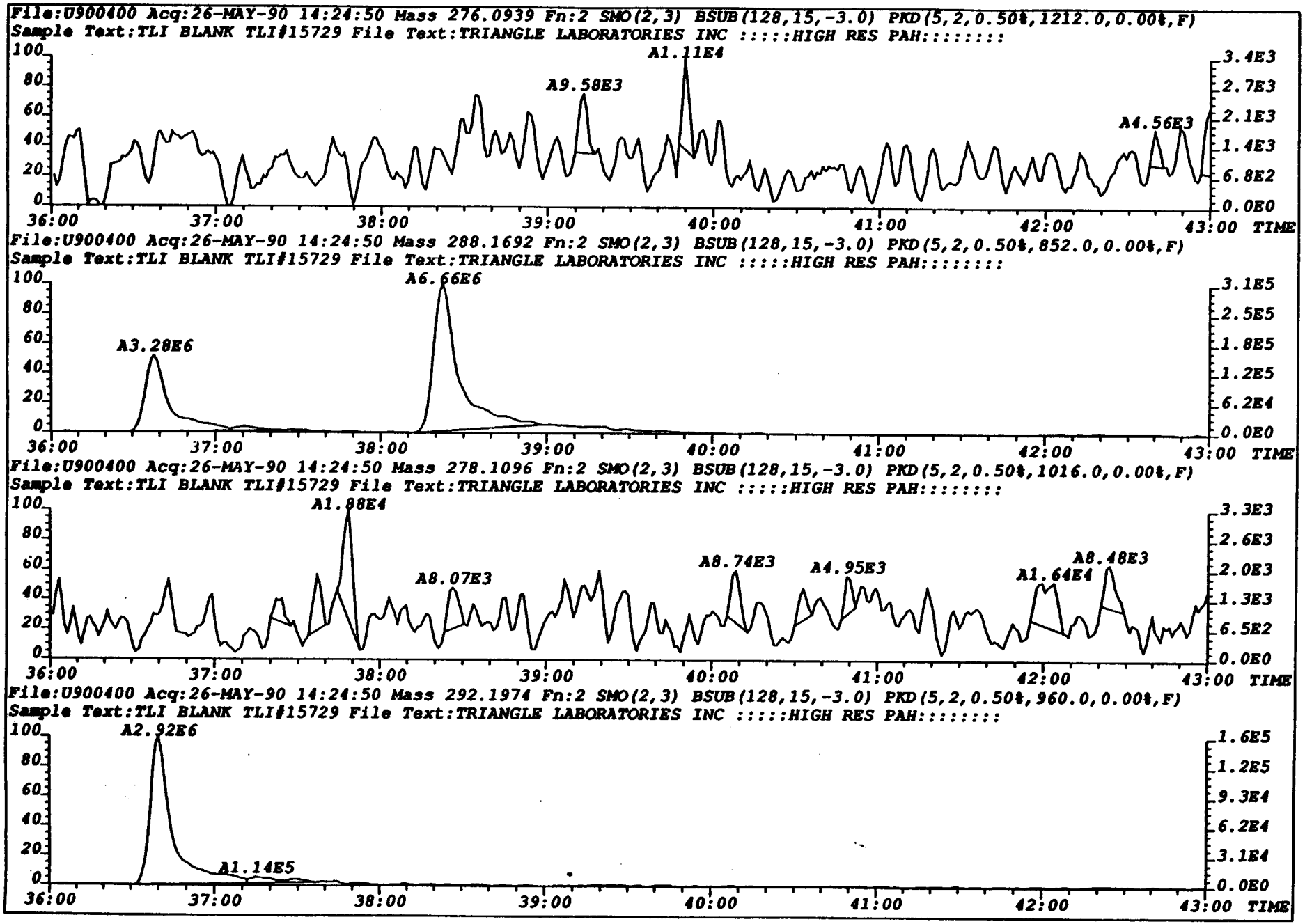

File:U900400 Acq:26-MAY-90 14:24:50 Mass 154.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,9860.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.08E6
A3.90E5
A5.46E4
A1.27E5
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 164.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,892.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.49E7
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 152.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,15440.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A4.54E5
A9.83E4
A3.45E5
A5.52E5
TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 160.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2272.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A3.90E7
A9.67E6
TIME


File:U900400 Acq:26-MAY-90 14:24:50 Mass 162.0236 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,4952.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.43E5
File:U900400 Acq:26-MAY-90 14:24:50 Mass 164.0207 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7180.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:07 10:24 10:45 11:02 11:09 11:18 11:26 11:38 11:47 12:03 12:20 12:29 12:42 12:49 13:18 13:36 13:50 14:05 14:12 14:27 14:49
File:U900400 Acq:26-MAY-90 14:24:50 Mass 169.0646 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,4028.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.53E7
A2.79E6
File:U900400 Acq:26-MAY-90 14:24:50 Mass 171.0616 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1616.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A7.43E6
10:00 11:00 12:00 13:00 14:00 15:00 TIME


File:U900400 Acq:26-MAY-90 14:24:50 Mass 166.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,10676.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A3.83E5
A4.01E5
A4.34E4
A1.86E5
A1.72E5
A1.03E5
A7.98E4
A8.04E4
File:U900400 Acq:26-MAY-90 14:24:50 Mass 176.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,676.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.91E7
File:U900400 Acq:26-MAY-90 14:24:50 Mass 178.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,5964.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.52E6
A4.25E5
A8.82E4
A9.06E4
A1.60E5
A7.05E4
File:U900400 Acq:26-MAY-90 14:24:50 Mass 188.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,736.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.25E7
TIME


File:U900400 Acq:26-MAY-90 14:24:50 Mass 202.0782 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,10336.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.80E5
A7.62E4
A7.88E4
File:U900400 Acq:26-MAY-90 14:24:50 Mass 212.1410 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2120.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A7.44E7
A6.31E7
File:U900400 Acq:26-MAY-90 14:24:50 Mass 228.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1684.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.71E4
A4.80E4
A1.44E4
A7.76E4
A1.37E4
A9.06E4
A2.07E4
File:U900400 Acq:26-MAY-90 14:24:50 Mass 240.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2380.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.89E6
A6.63E7
File:U900400 Acq:26-MAY-90 14:24:50 Mass 244.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1136.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.16E5
A1.20E5
A8.15E5
A3.34E5
A8.44E4
18:00
19:00
20:00
21:00
22:00
23:00
24:00
25:00
26:00
27:00
28:00
TIME


File:U900400 Acq:26-MAY-90 14:24:50 Mass 252.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,1296.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.21E4
A1.76E4
A6.55E3
A1.34E4
A6.21E3
28:00
29:00
30:00
31:00
32:00
33:00
34:00 TIME
File:U900400 Acq:26-MAY-90 14:24:50 Mass 264.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,2096.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.77E7
A1.32E7
A1.64E7
A1.47E7
28:00
29:00
30:00
31:00
32:00
33:00
34:00 TIME


File:U900400 Acq:26-MAY-90 14:24:50 Mass 276.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1212.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.11E4
A9.58E3
A4.56E3
File:U900400 Acq:26-MAY-90 14:24:50 Mass 288.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,852.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A6.66E6
A3.28E6
File:U900400 Acq:26-MAY-90 14:24:50 Mass 278.1096 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1016.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.88E4
A8.07E3
A8.74E3
A4.95E3
A1.64E4
A8.48E3
File:U900400 Acq:26-MAY-90 14:24:50 Mass 292.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,960.0,0.00%,F)
Sample Text:TLI BLANK TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.92E6
A1.14E5
TIME

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

06/05/90

FILE NAME....: U900401 CLIENT ID....: P&S TLI NUMBER....: N/A
CONCAL.....: U900395 SAMPLE ID....: QA/QC MM5 BH
ANALYST.....: MC ANALYSIS DATE: 06/26/90 PROJECT NUMBER: 15729
SAMPLE SIZE..: 1.00 SAMPLE MATRIX: AQUEOUS DATE RECEIVED.: 05/09/90
ICAL DATE....: 05/21/90 SAMPLE ORIGIN: n/a DATE COLLECTED: / /
SPIKE FILE...: SPPAHH1C SHIPMENT NO...: n/a

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	32.8			8:31	B
2-Me-Naph	7.2			10:39	B
2-Cl-Naph	ND		0.2		
Acenaphthen	1.4			14:03	B
Acenaph	ND		0.3		
Fluorene	1.2			15:34	B
Phenan	4.1			18:17	B
Anth	ND		0.5		
Fluoran	0.61			21:32	B
Pyrene	0.74			22:09	B
B-a-Anth	ND		0.5		
Chrysene	ND		0.2		
B-b-Fluoran	ND		0.9		
B-k-Fluoran	ND		0.3		
B-e-Pyrene	ND		0.4		
B-a-Pyrene	ND		0.6		
Perylene	ND		0.6		
I-123-cd-Py	ND		1.7		
DiB-ah-Anth	ND		2.7		
B-ghi-Pery	ND		1.7		

SURROGATE RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	0.27	0.27	22:33	

ALTERNATE STANDARDS RECOVERY SUMMARY (TYPE A)

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	90.4	90.4	18:22	

FILE NAME....: U900401
CONCAL.....: U900395
ANALYST.....: MC
SAMPLE SIZE..: 1.00
ICAL DATE....: 05/21/90
SPIKE FILE...: SPPAHH1C

CLIENT ID....: P&S
SAMPLE ID....: QA/QC MM5 BH
ANALYSIS DATE: 06/26/90
SAMPLE MATRIX: AQUEOUS
SAMPLE ORIGIN: n/a

TLI NUMBER....: N/A
PROJECT NUMBER: 15729
DATE RECEIVED.: 05/09/90
DATE COLLECTED: / /
SHIPMENT NO...: n/a

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	47.3	47.3	8:28	
d10-2-Me-Naph	51.8	51.8	10:32	
d7-2-Cl-Naph	62.7	62.7	12:06	
d8-Acenaph	54.3	54.3	13:26	
d10-Acenaphthen	55.4	55.4	13:57	
d10-Fluorene	53.7	53.7	15:28	
d10-Phenan	64.3	64.3	18:14	
d10-Fluoran	61.5	61.5	21:30	
d10-Pyrene	67.3	67.3	22:07	
d12-B-a-Anth	53.4	53.4	25:22	
d12-Chrysene	92.8	92.8	25:29	
d12-B-b-Fluoran	59.5	59.5	29:07	
d12-B-k-Fluoran	77.7	77.7	29:12	
d12-B-a-Pyrene	68.1	68.1	30:29	
d12-Perylene	103	103	30:51	
d12-I-123-cd-Py	64.2	64.2	36:37	
d14-DiB-ah-Anth	60.1	60.1	36:39	
d12-B-ghi-Pery	60.3	60.3	38:23	

DC 6.

Listing of U900401B.dbf

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Ret	Match RT	REL_RT	Who/ Why
128		0.00	8:31	1576.54	T	T	1.006	✓
128		*** Total ***		1576.54	# of Peaks:		1	
136		0.00	8:28	5257.23	T	F T	0.630	✓
136		*** Total ***		5257.23	# of Peaks:		1	
142		0.00	10:39	272.46	T	T	1.011	✓
		0.00	10:59	142.43	T	F	1.043	
142		*** Total ***		414.89	# of Peaks:		2	
152		0.00	10:32	3837.99	T	F T	0.784	✓
		0.00	10:52	28.39	T	F	0.809	
		0.00	12:08	51.38	T	F	0.903	
		0.00	13:30	4.67	T	T	1.005	✓
		0.00	13:55	10.55	T	F	1.036	
		0.00	14:03	39.45	T	F	1.046	
152		*** Total ***		3972.43	# of Peaks:		6	
154		0.00	11:45	11.45	T	F	0.842	
		0.00	12:08	223.31	T	F	0.870	
		0.00	13:28	3.96	T	F	0.965	
		0.00	13:34	2.83	T	F	0.973	
		0.00	14:03	46.83	T	T	1.007	✓
		0.00	14:53	3.71	T	F	1.067	
154		*** Total ***		292.09	# of Peaks:		6	
160		0.00	13:26	4415.05	T	T	0.444	✓
		0.00	13:57	1176.41	T	F	0.461	
160		*** Total ***		5591.46	# of Peaks:		2	
164		0.00	13:57	2954.73	T	T	1.038	✓
164		*** Total ***		2954.73	# of Peaks:		1	
166		0.00	14:02	6.75	T	F	0.907	
		0.00	15:34	43.89	T	T	1.006	✓
		0.00	16:28	6.68	T	F	1.065	
		0.00	16:45	30.94	T	F	1.083	
		0.00	17:08	41.81	T	F	1.108	
166		*** Total ***		130.07	# of Peaks:		5	
169		3.35	12:06	3691.68	T	T	0.901	✓
169		*** Total ***		3691.68	# of Peaks:		1	
176		0.00	15:28	2191.75	T	T	1.151	✓
176		*** Total ***		2191.75	# of Peaks:		1	
178		0.00	14:14	1.73	T	F	0.781	
		0.00	14:31	5.03	T	F	0.796	
		0.00	15:24	3.66	T	F	0.845	
		0.00	16:27	16.27	T	F	0.902	
		0.00	16:44	50.73	T	F	0.918	
		0.00	17:06	52.52	T	F	0.938	

Matched GC Peaks / Ratio / Ret. Time

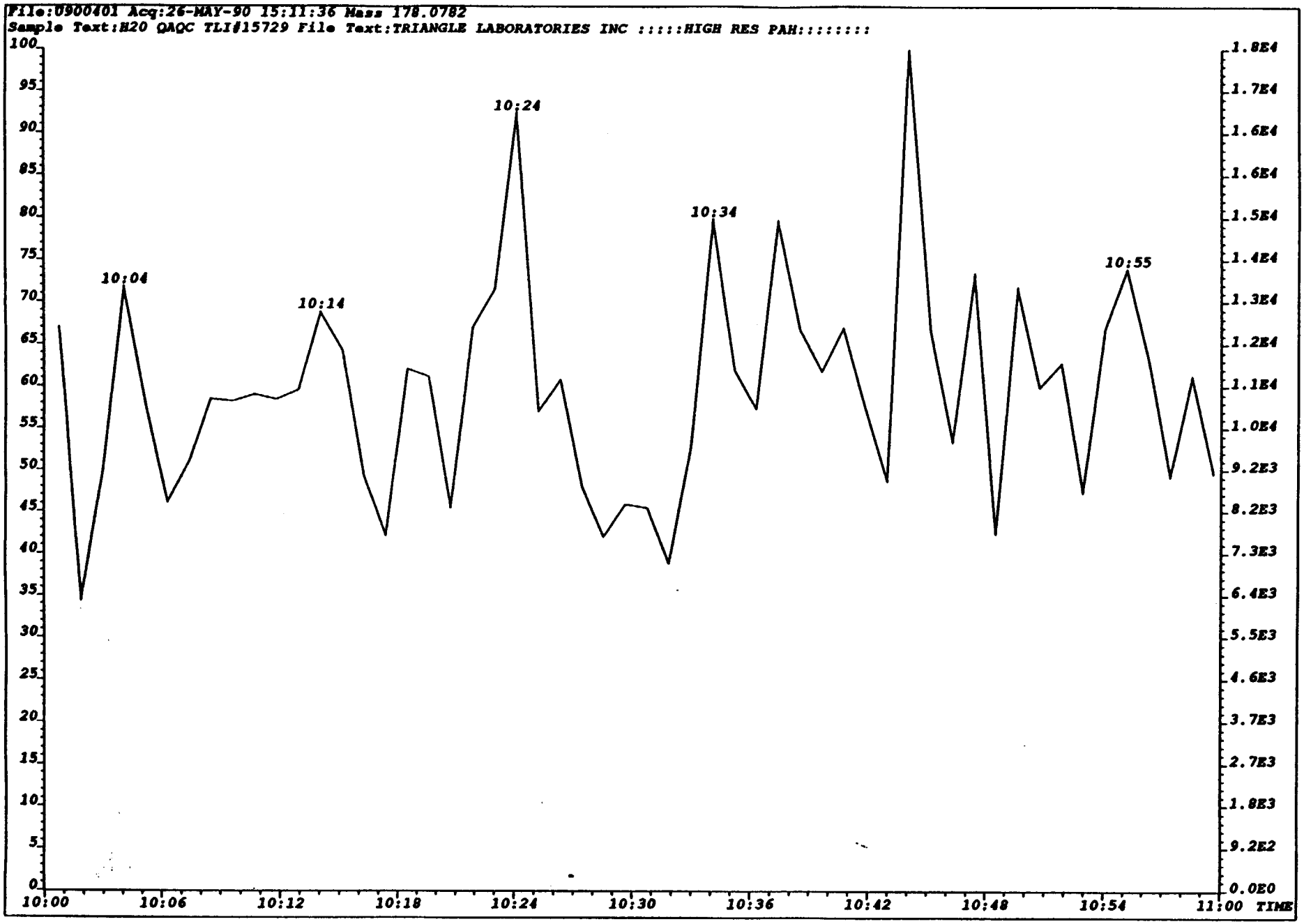
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
178		0.00	17:40	4.79	T	F	0.969	
		0.00	18:02	6.58	T	F	0.989	
		0.00	18:17	176.46	T	T	1.003	✓
		0.00	19:16	5.47	T	F	1.057	
		0.00	19:43	7.20	T	F	1.081	
178		*** Total ***		334.51	# of Peaks:		12	
188		0.00	18:14	2690.80	T	T	1.357	✓
		0.00	18:22	2870.59	T	T	1.367	
188		*** Total ***		5561.39	# of Peaks:		2	
202		0.00	21:32	47.52	T	T	1.002	✓
		0.00	22:09	65.52	T	T	1.002	
		0.00	22:56	10.22	T	F	1.037	
		0.00	25:33	19.36	T	F	1.155	
202		*** Total ***		142.62	# of Peaks:		4	
212		0.00	21:30	9051.24	T	T	0.697	✓
		0.00	22:07	7781.69	T	T	0.717	✓
		0.00	24:02	38.75	T	F	0.779	
		0.00	25:22	15.02	T	F	0.822	
		0.00	25:29	79.90	T	F	0.826	
212		*** Total ***		16966.60	# of Peaks:		5	
228		0.00	24:26	10.58	T	F	0.959	
		0.00	25:33	9.40	T	T	1.003	S/N
		0.00	27:27	1.39	T	F	1.077	
228		*** Total ***		21.37	# of Peaks:		3	
240		0.00	24:02	334.20	T	F	0.779	
		0.00	25:22	2241.18	T	T	0.822	✓
		0.00	25:29	9608.07	T	T	0.826	✓
240		*** Total ***		12183.45	# of Peaks:		3	
244		0.00	22:33	30.58	T	T	0.745	✓
		0.00	22:58	1.21	T	F	0.759	
		0.00	23:21	1.10	T	F	0.772	
		0.00	23:51	5.49	T	F	0.788	
		0.00	24:01	24.73	T	F	0.794	
		0.00	24:30	109.87	T	F	0.810	
		0.00	24:53	43.67	T	F	0.823	
		0.00	25:33	12.78	T	F	0.845	
		0.00	25:56	1.49	T	F	0.857	
		0.00	27:41	0.90	T	F	0.915	
244		*** Total ***		231.82	# of Peaks:		10	
252		0.00	33:43	1.20	T	F	1.093	
252		*** Total ***		1.20	# of Peaks:		1	
264		0.00	29:07	1514.20	T	T	0.944	✓
		0.00	29:12	3673.00	T	T	0.947	✓
		0.00	30:15	1614.37	T	T	1.000	✓
		0.00	30:29	1969.09	T	T	0.988	✓

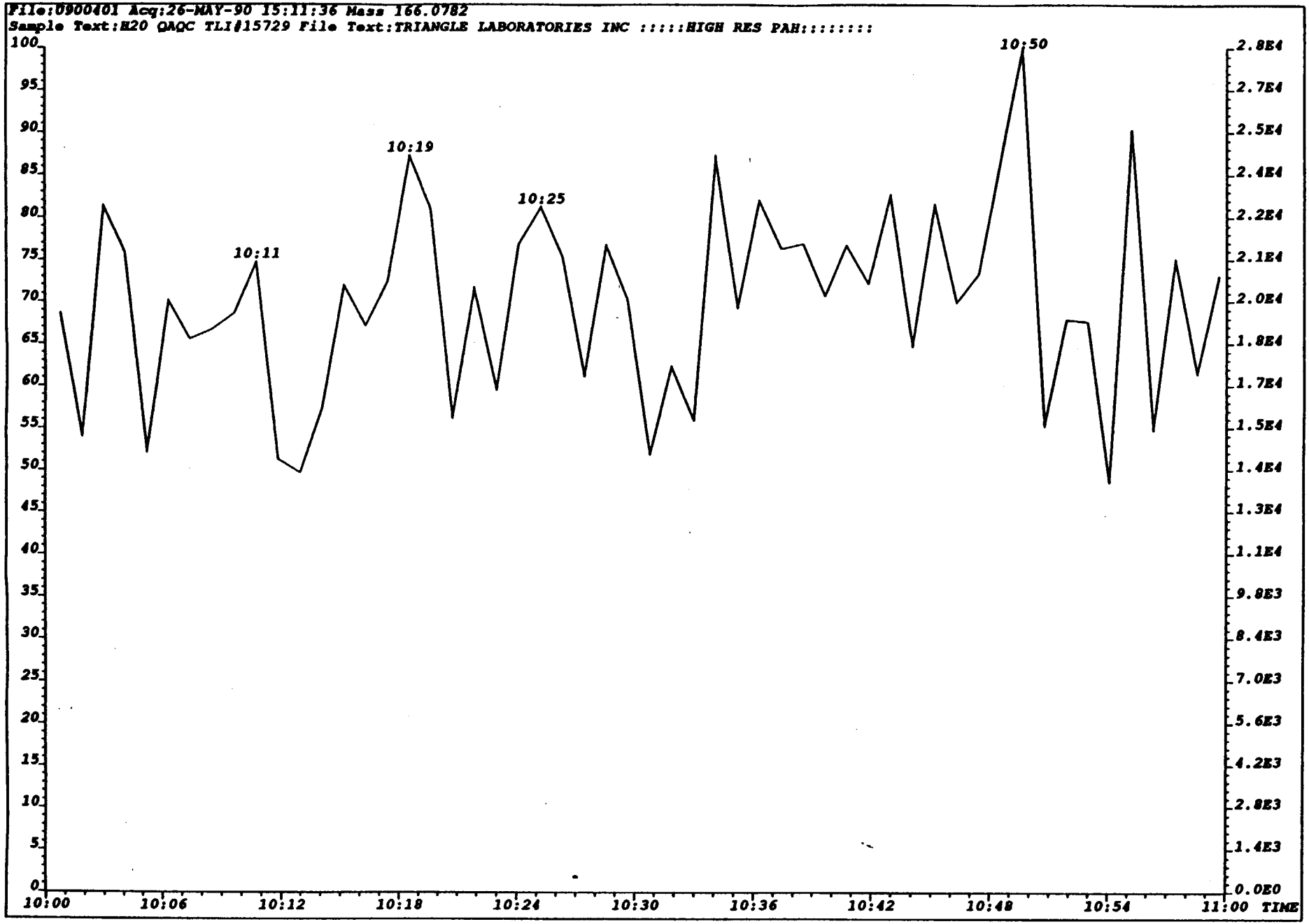
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
128	8:31	1576.54						
136	8:28	5257.23						
142	10:39	272.46	10:59	142.43				
152	10:32	3837.99	10:52	28.39				
154	11:45	11.45	13:28	3.96	14:03	46.83		
	12:08	223.31	13:34	2.83	14:53	3.71		
164	13:57	2954.73						
152	12:08	51.38	13:30	4.67	13:55	10.55	14:03	39.45
160	13:26	4415.05	13:57	1176.41				
162	12:16	2.32	13:14	8.15				
169	12:06	2843.99	14:23	222.07				
171	12:06	847.69						
166	14:02	6.75	16:28	6.68	17:08	41.81		
	15:34	43.89	16:45	30.94				
176	15:28	2191.75						
178	14:14	1.73	16:27	16.27	17:19	4.07	18:17	176.46
	14:31	5.03	16:44	50.73	17:40	4.79	19:16	5.47
	15:24	3.66	17:06	52.52	18:02	6.58	19:43	7.20
188	18:14	2690.80	18:22	2870.59				
202	21:32	47.52	22:09	65.52	22:56	10.22	25:33	19.36
212	21:30	9051.24	24:02	38.75	25:29	79.90		
	22:07	7781.69	25:22	15.02				
228	24:26	10.58	25:33	9.40	27:27	1.39		
240	24:02	334.20	25:22	2241.18	25:29	9608.07		
244	22:33	30.58	23:51	5.49	24:53	43.67	27:41	0.90
	22:58	1.21	24:01	24.73	25:33	12.78		
	23:21	1.10	24:30	109.87	25:56	1.49		
252	33:43	1.20						
264	29:07	1514.20	30:15	1614.37	30:51	1739.66	33:13	3.30
	29:12	3673.00	30:29	1969.09	33:05	4.48		
276	38:06	1.50	38:39	1.25	42:26	0.55		

38:20 0.77 | 41:19 0.82

M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
288	36:37	420.57	38:23	905.57				
278	37:27	1.19	38:39	1.05				
292	36:39	347.21	37:46	5.73	38:12	2.08	39:57	1.09
	37:36	3.56	38:01	2.96	39:42	1.47		

*** End of Report ***

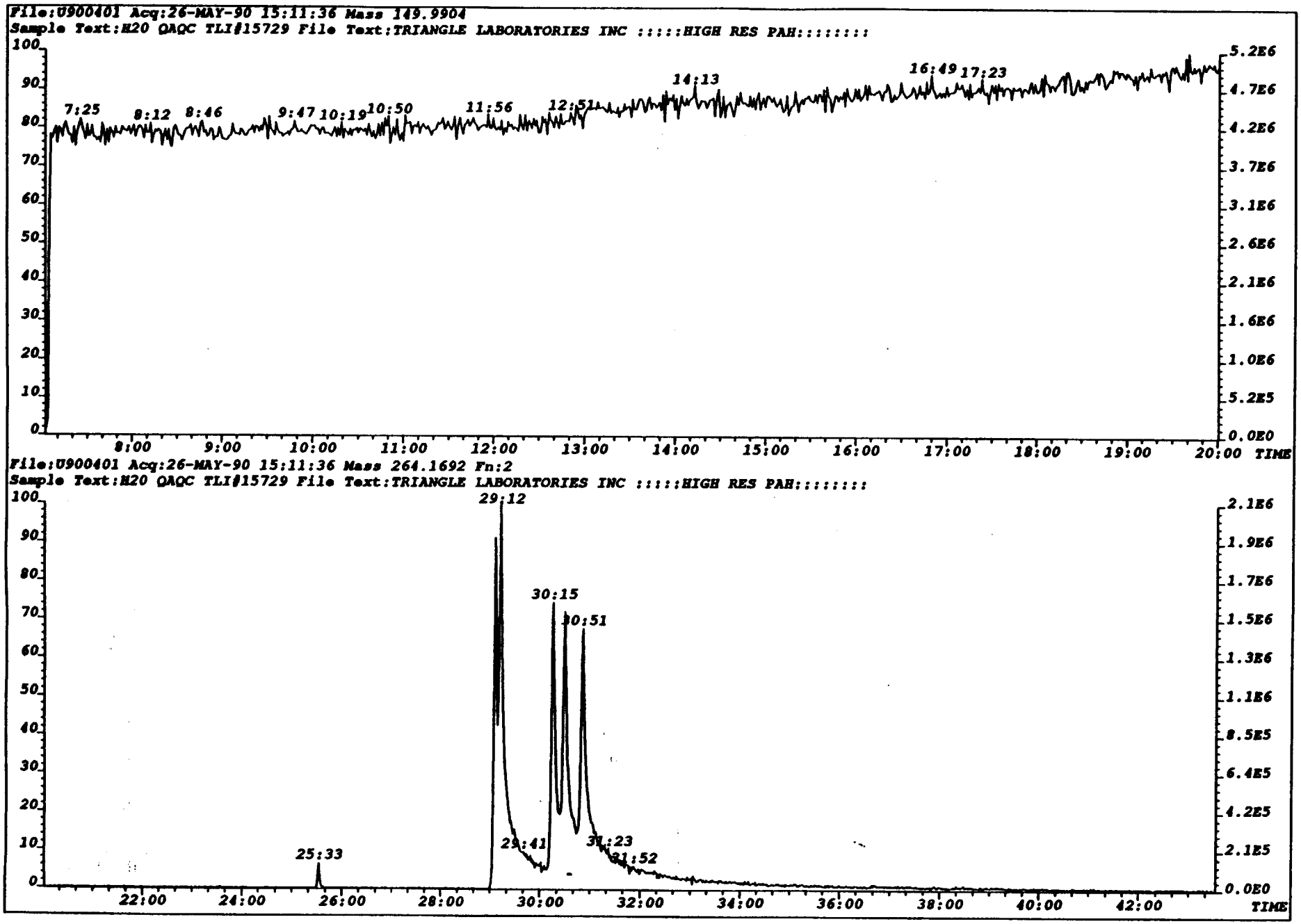

File:0900401 Acq:26-MAY-90 15:11:36 Mass 178.0782
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:04
10:14
10:24
10:34
10:55
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1.8E4
1.7E4
1.6E4
1.6E4
1.5E4
1.4E4
1.3E4
1.2E4
1.1E4
1.0E4
9.2E3
8.2E3
7.3E3
6.4E3
5.5E3
4.6E3
3.7E3
2.7E3
1.8E3
9.2E2
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

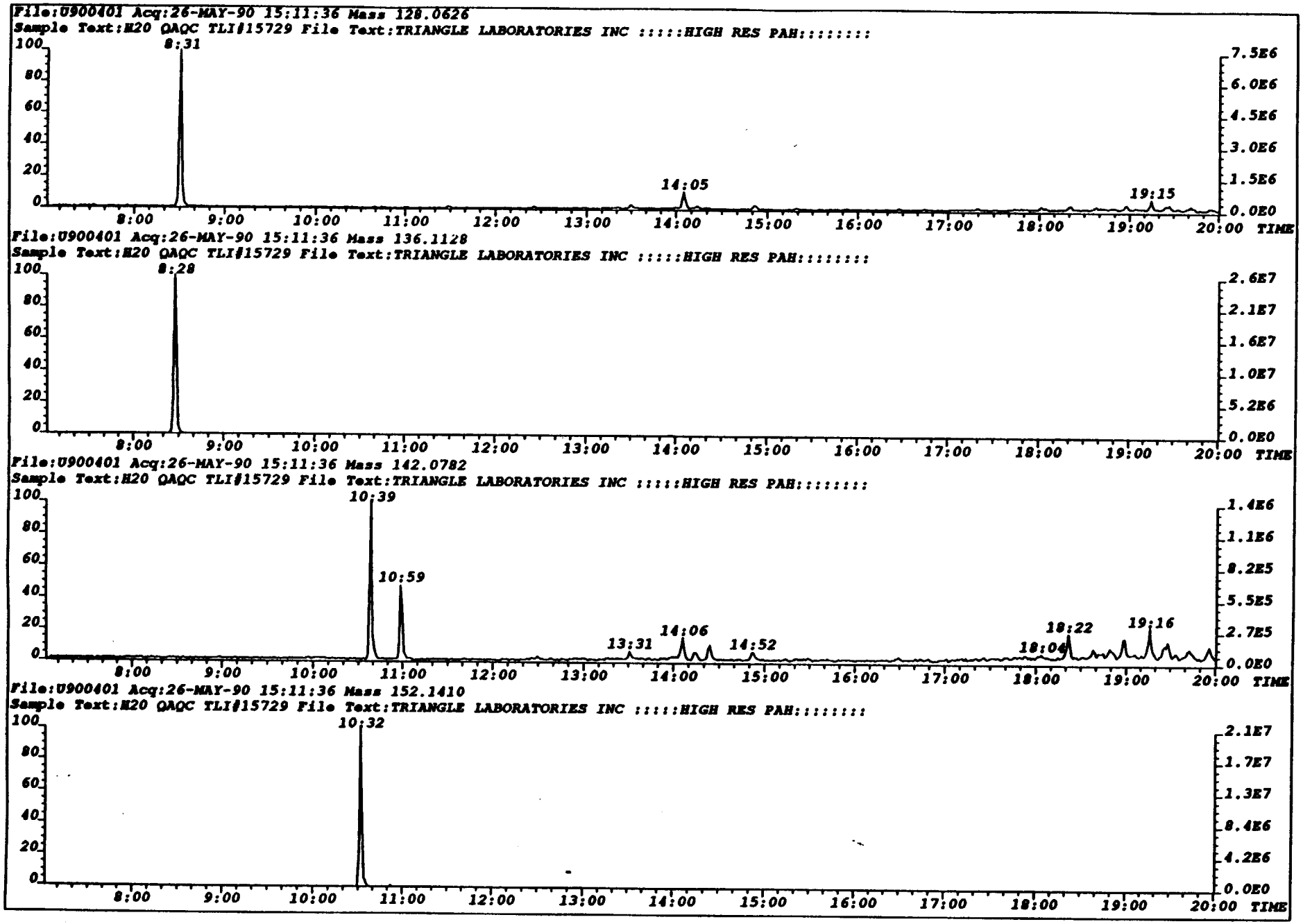

File:0900401 Acq:26-MAY-90 15:11:36 Mass 166.0782
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:11
10:19
10:25
10:50
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
2.8E4
2.7E4
2.5E4
2.4E4
2.2E4
2.1E4
2.0E4
1.8E4
1.7E4
1.5E4
1.4E4
1.3E4
1.1E4
9.8E3
8.4E3
7.0E3
5.6E3
4.2E3
2.8E3
1.4E3
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

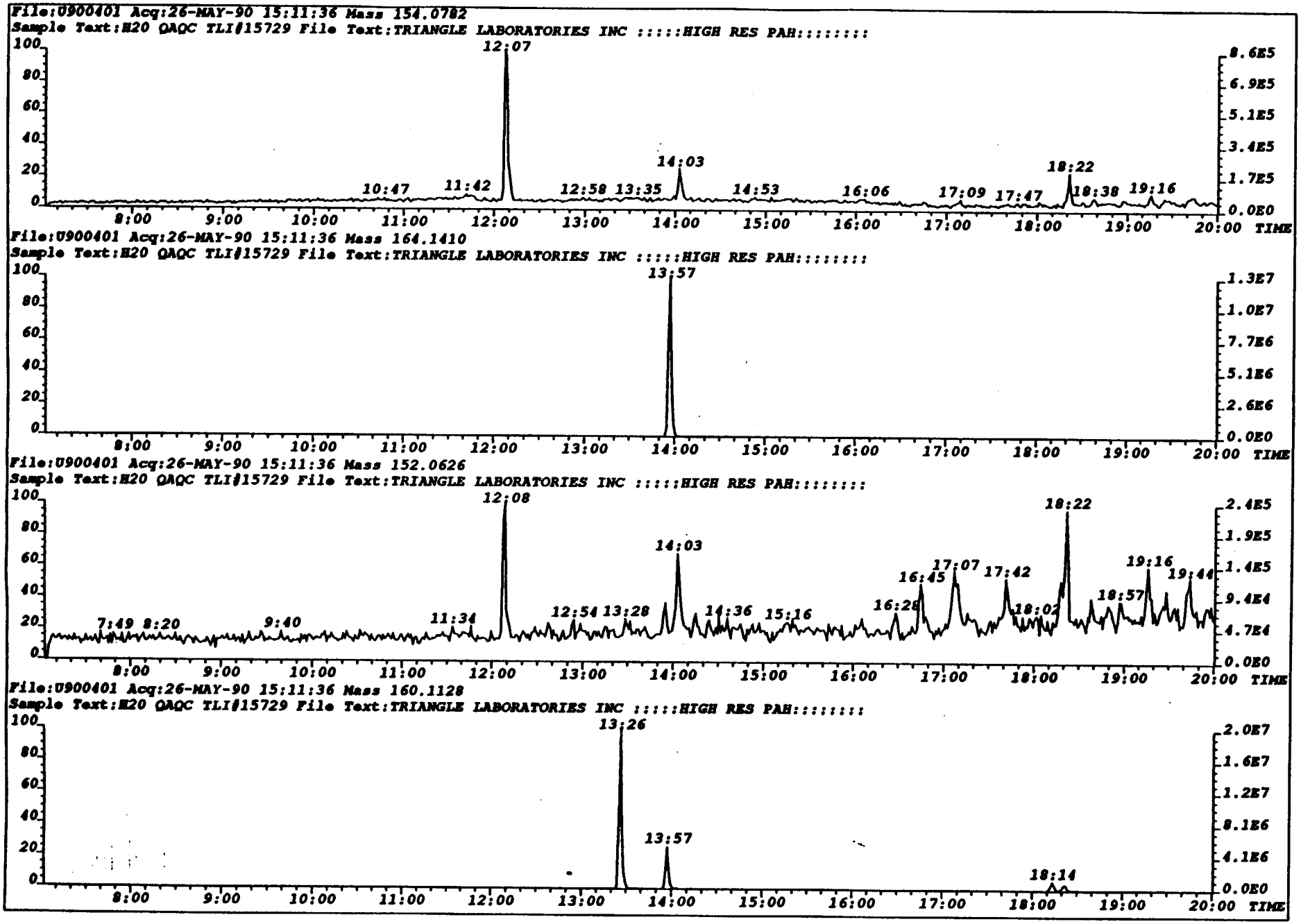
Matched GC Peaks / Ratio / Ret. Time

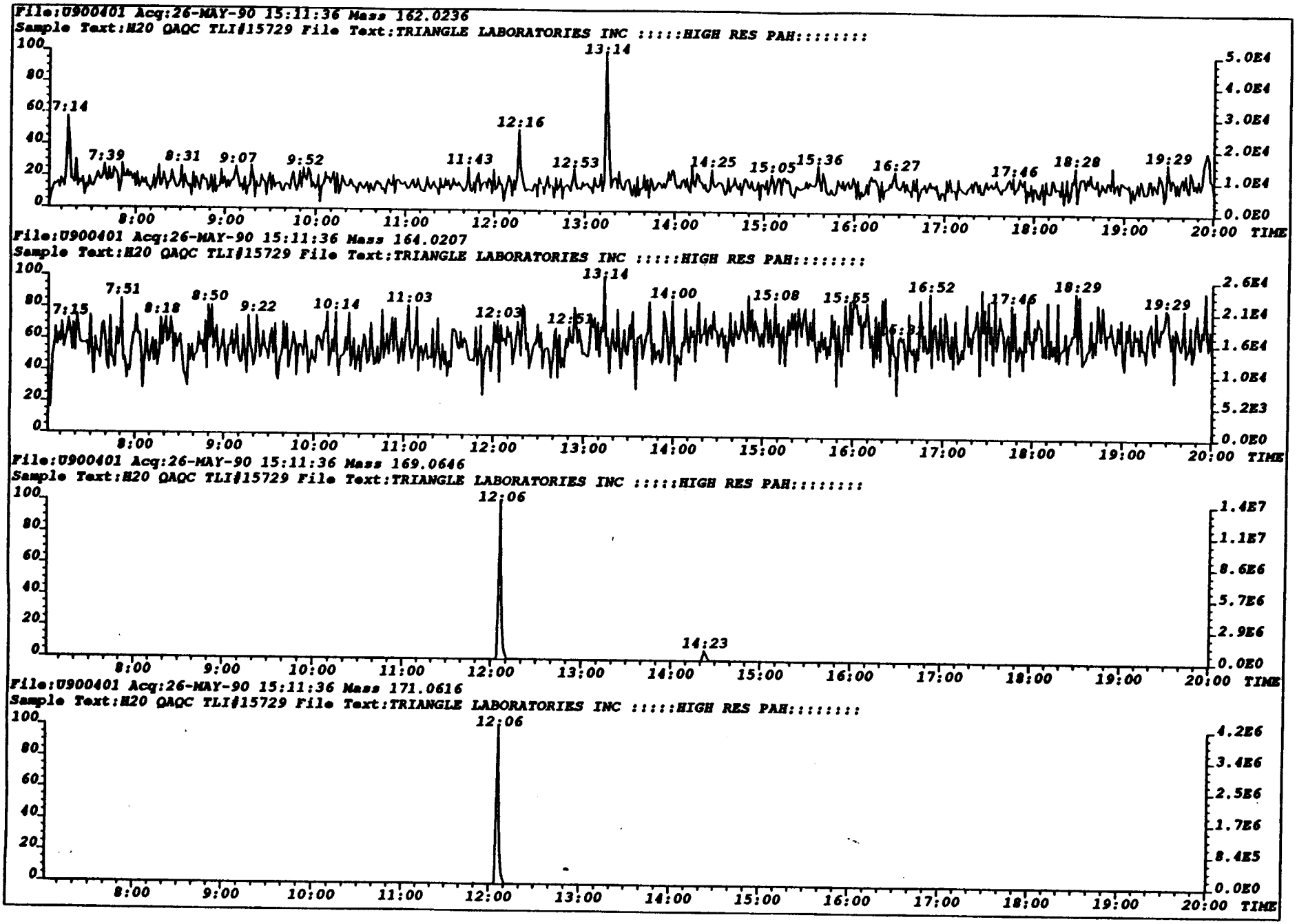
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
264		0.00	30:51	1739.66	T	T	1.020	✓
		0.00	33:05	4.48	T	F	1.094	
		0.00	33:13	3.30	T	F	1.098	
264		*** Total ***		10518.10	# of Peaks:		7	
276		0.00	38:06	1.50	T	F	0.993	
		0.00	38:20	0.77	T	F	0.999	
	D	0.00	38:39	1.25	T	T	1.007	S/N
		0.00	41:19	0.82	T	F	1.076	
		0.00	42:26	0.55	T	F	1.106	
276		*** Total ***		4.89	# of Peaks:		5	
278		0.00	37:27	1.19	T	F	1.022	
		0.00	38:39	1.05	T	F	1.055	
278		*** Total ***		2.24	# of Peaks:		2	
288		0.00	36:37	420.57	T	T	1.187	✓
		0.00	38:23	905.57	T	T	1.244	✓
288		*** Total ***		1326.14	# of Peaks:		2	
292		0.00	36:39	347.21	T	T	1.188	✓
		0.00	37:36	3.56	T	F	1.219	
		0.00	37:46	5.73	T	F	1.224	
		0.00	38:01	2.96	T	F	1.232	
		0.00	38:12	2.08	T	F	1.238	
		0.00	39:42	1.47	T	F	1.287	
		0.00	39:57	1.09	T	F	1.295	
292		*** Total ***		364.10	# of Peaks:		7	

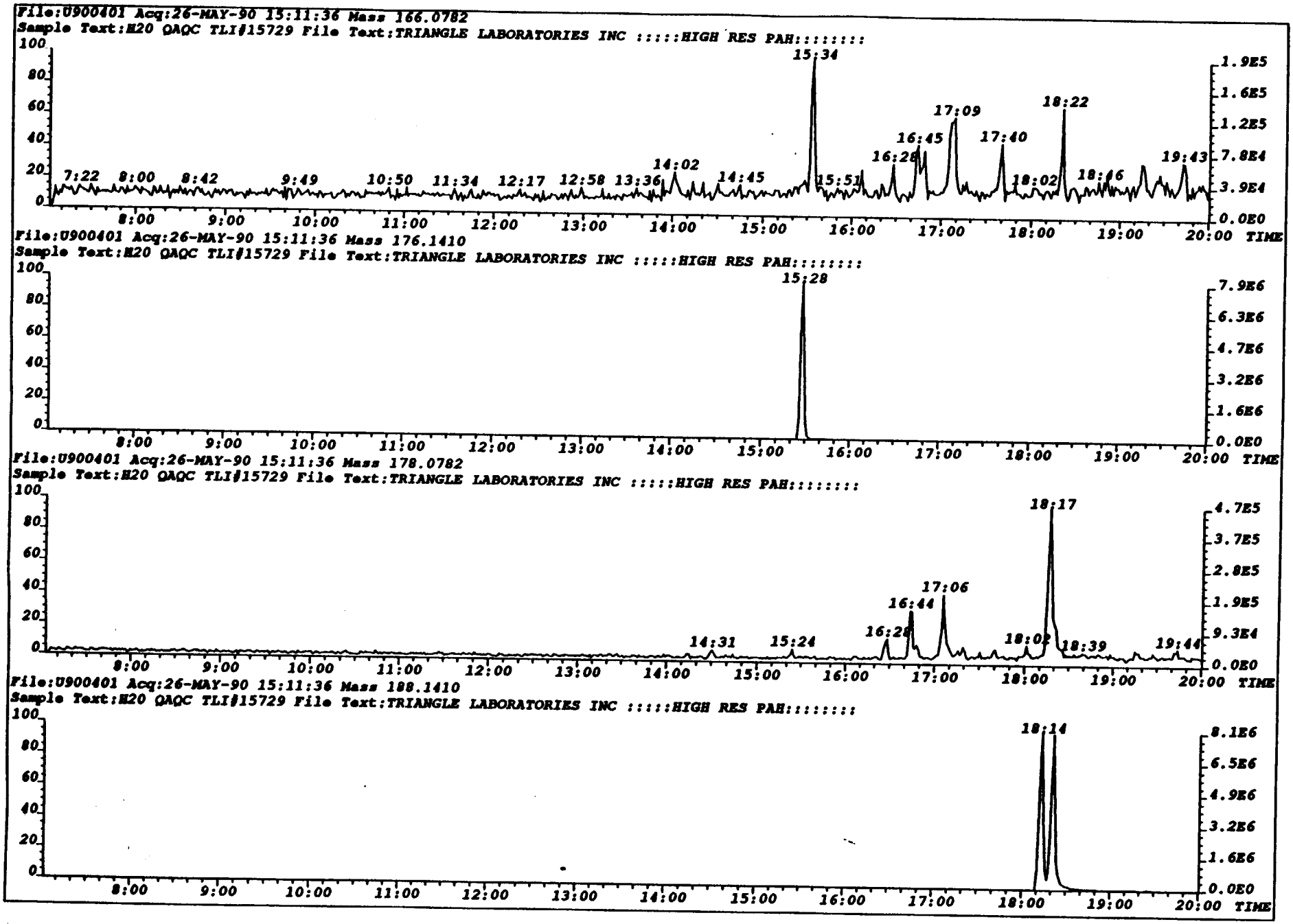
*** End of Report ***

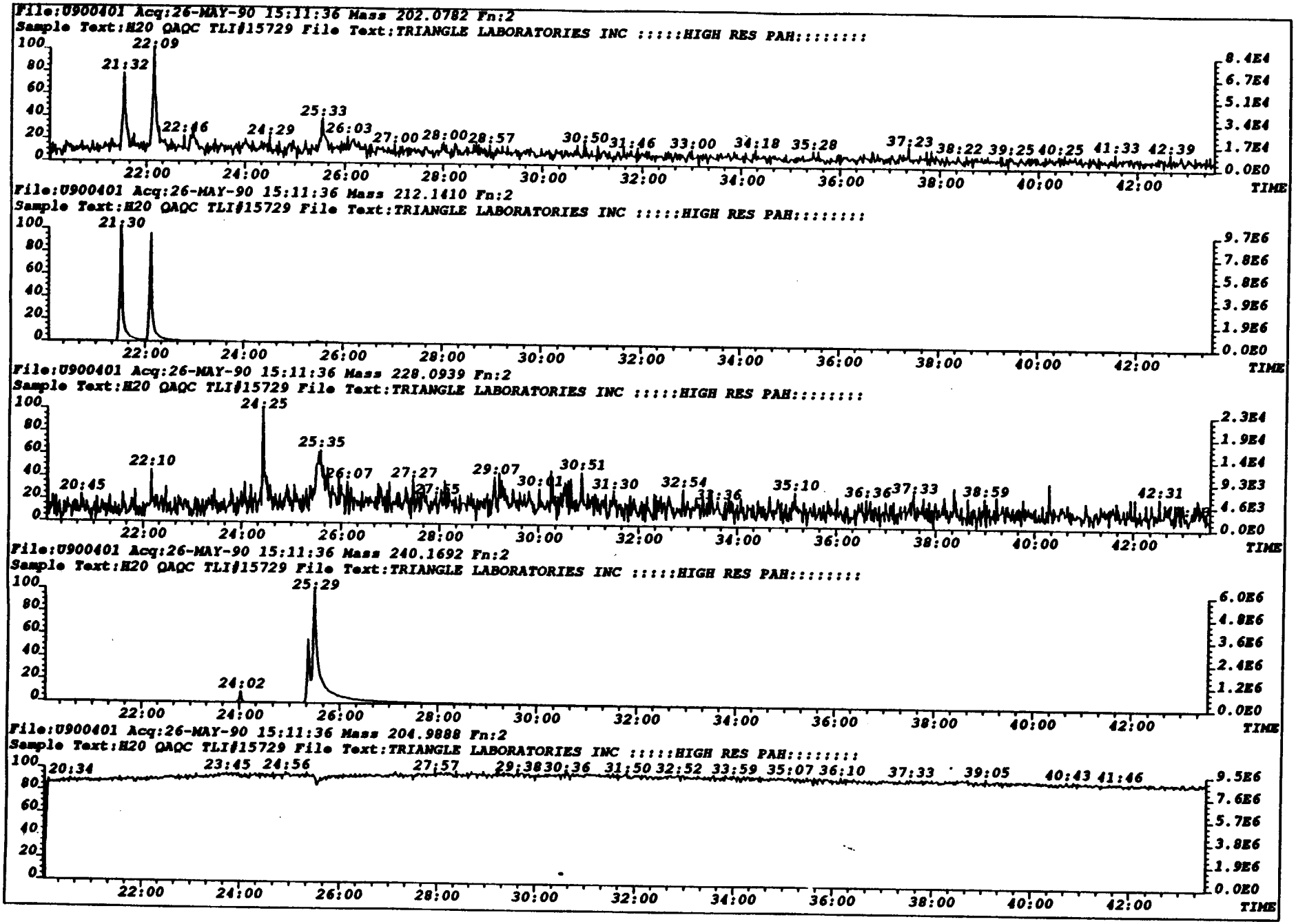

File:U900401 Acq:26-MAY-90 15:11:36 Mass 149.9904
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
7:25
8:12
8:46
9:47
10:19
10:50
11:56
12:51
14:13
16:49
17:23
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
TIME
File:U900401 Acq:26-MAY-90 15:11:36 Mass 264.1692 Fn:2
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
29:12
30:15
30:51
25:33
29:41
31:23
31:52
22:00
24:00
26:00
28:00
30:00
32:00
34:00
36:00
38:00
40:00
42:00
TIME

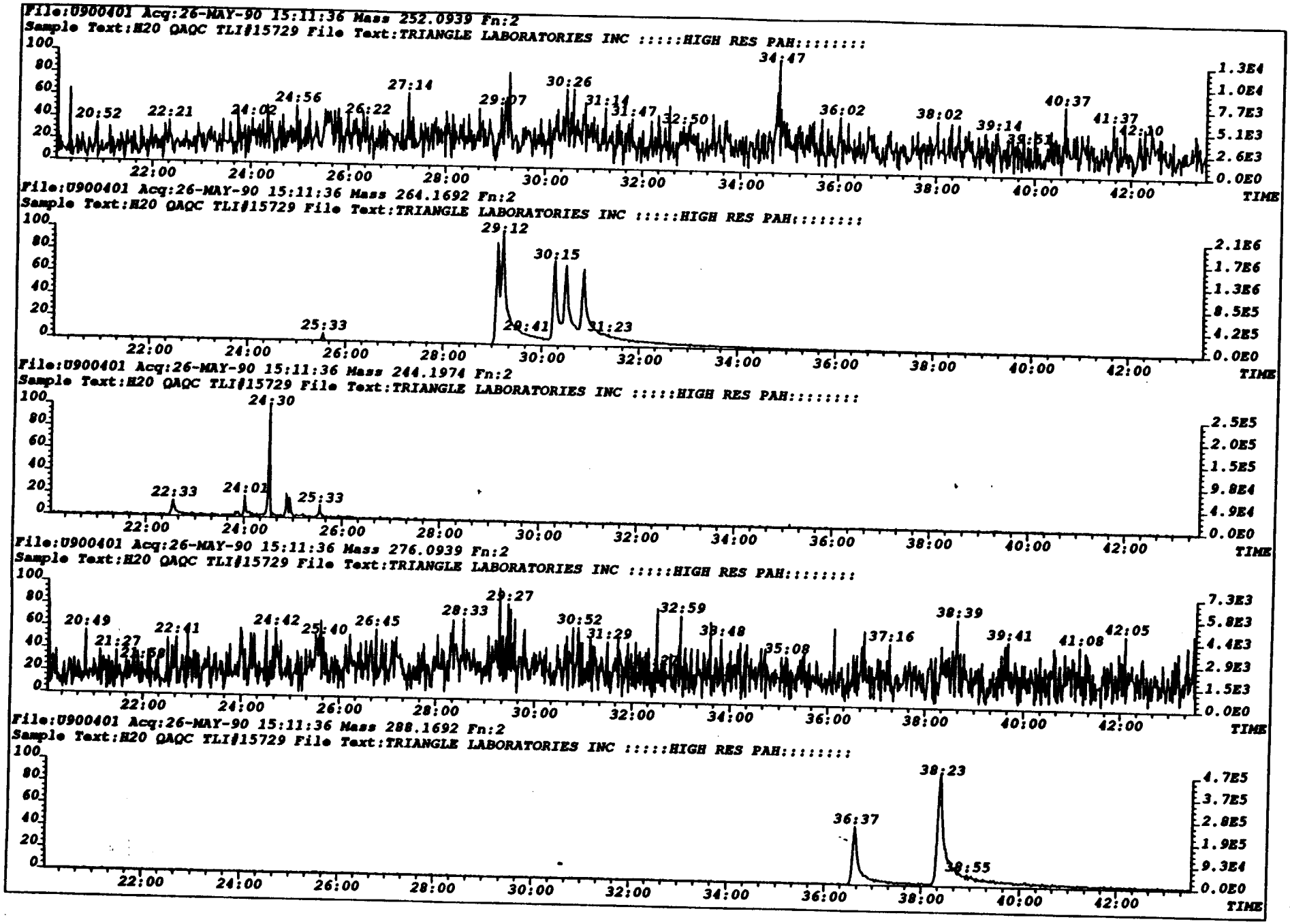

File:U900401 Acq:26-MAY-90 15:11:36 Mass 128.0626
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
8:31
14:05
19:15
File:U900401 Acq:26-MAY-90 15:11:36 Mass 136.1128
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
8:28
File:U900401 Acq:26-MAY-90 15:11:36 Mass 142.0782
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:39
10:59
13:31
14:06
14:52
18:04
18:22
19:16
File:U900401 Acq:26-MAY-90 15:11:36 Mass 152.1410
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:32
TIME

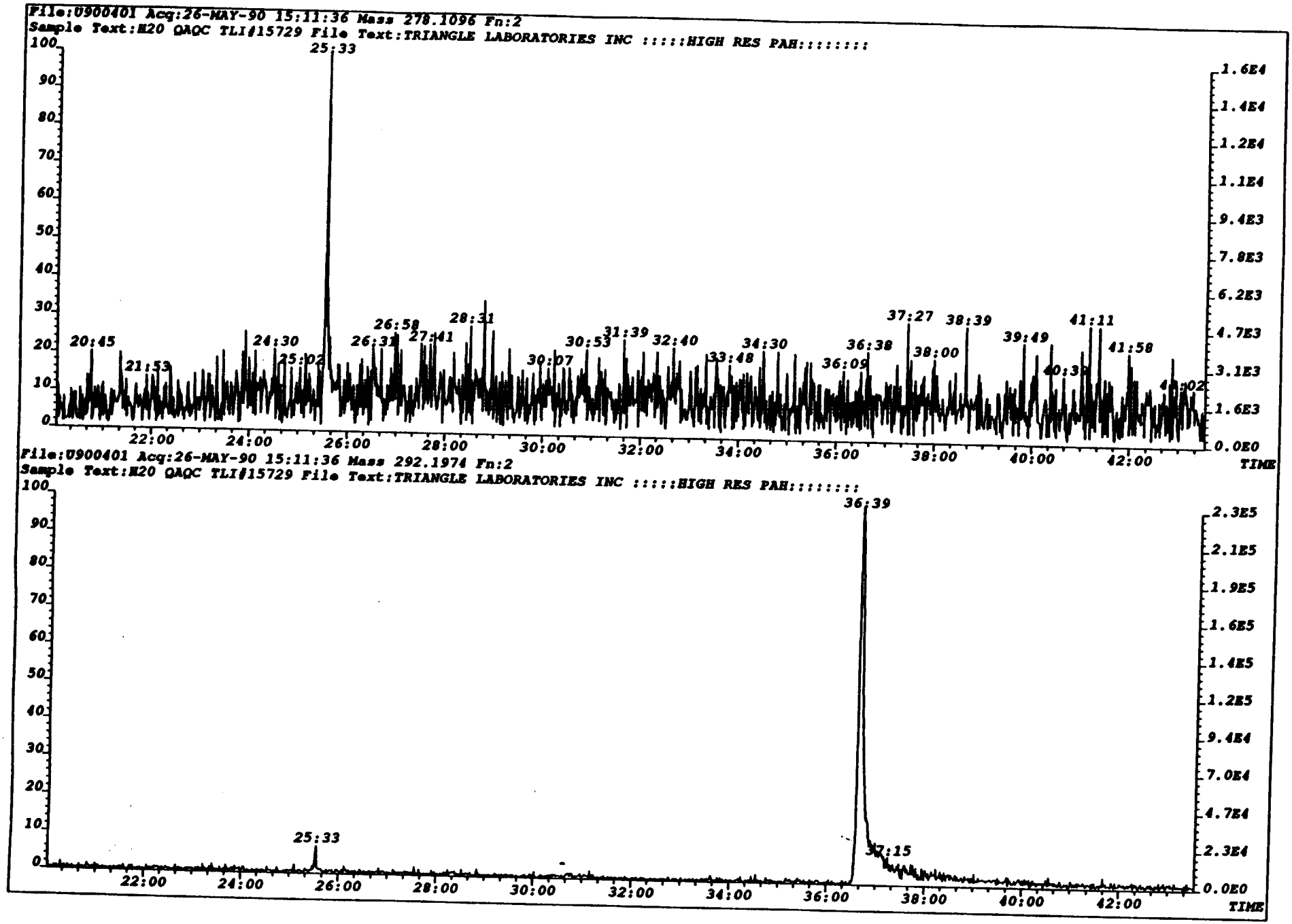

File:U900401 Acq:26-MAY-90 15:11:36 Mass 154.0782
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
12:07
14:03
18:22
10:47
11:42
12:58
13:35
14:53
16:06
17:09
17:47
18:38
19:16
File:U900401 Acq:26-MAY-90 15:11:36 Mass 164.1410
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
13:57
File:U900401 Acq:26-MAY-90 15:11:36 Mass 152.0626
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
12:08
14:03
18:22
7:49
8:20
9:40
11:34
12:54
13:28
14:36
15:16
16:28
16:45
17:07
17:42
18:02
18:57
19:16
19:44
File:U900401 Acq:26-MAY-90 15:11:36 Mass 160.1128
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
13:26
13:57
18:14
TIME

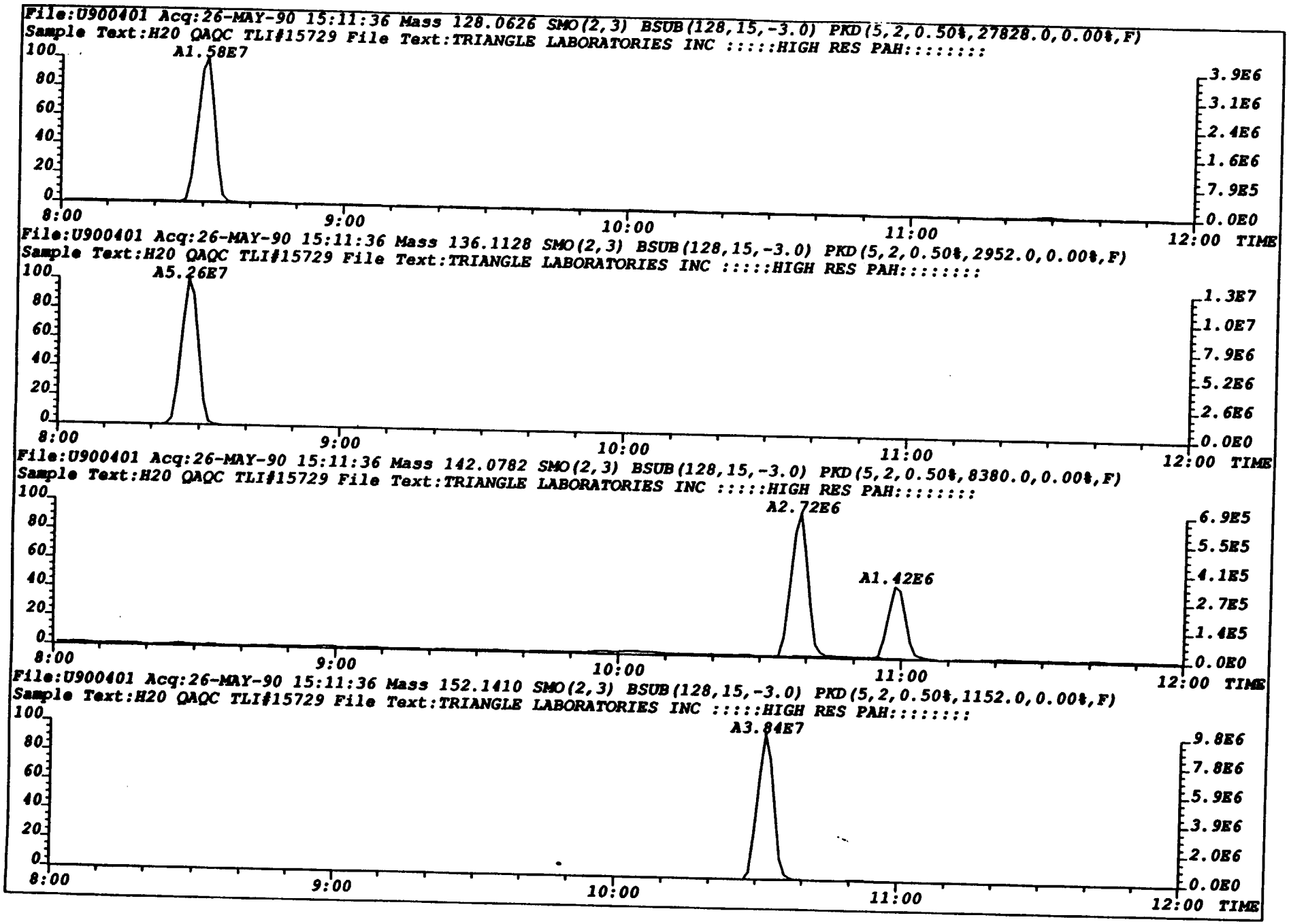

File:U900401 Acq:26-MAY-90 15:11:36 Mass 162.0236
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
7:14
7:39
8:31
9:07
9:52
11:43
12:16
12:53
13:14
14:25
15:05
15:36
16:27
17:46
18:28
19:29
5.0E4
4.0E4
3.0E4
2.0E4
1.0E4
0.0E0
TIME
File:U900401 Acq:26-MAY-90 15:11:36 Mass 164.0207
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
7:15
7:51
8:18
8:50
9:22
10:14
11:03
12:03
12:51
13:14
14:00
15:08
15:55
16:52
17:46
18:29
19:29
2.6E4
2.1E4
1.6E4
1.0E4
5.2E3
0.0E0
TIME
File:U900401 Acq:26-MAY-90 15:11:36 Mass 169.0646
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
12:06
14:23
1.4E7
1.1E7
8.6E6
5.7E6
2.9E6
0.0E0
TIME
File:U900401 Acq:26-MAY-90 15:11:36 Mass 171.0616
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
12:06
4.2E6
3.4E6
2.5E6
1.7E6
8.4E5
0.0E0
TIME

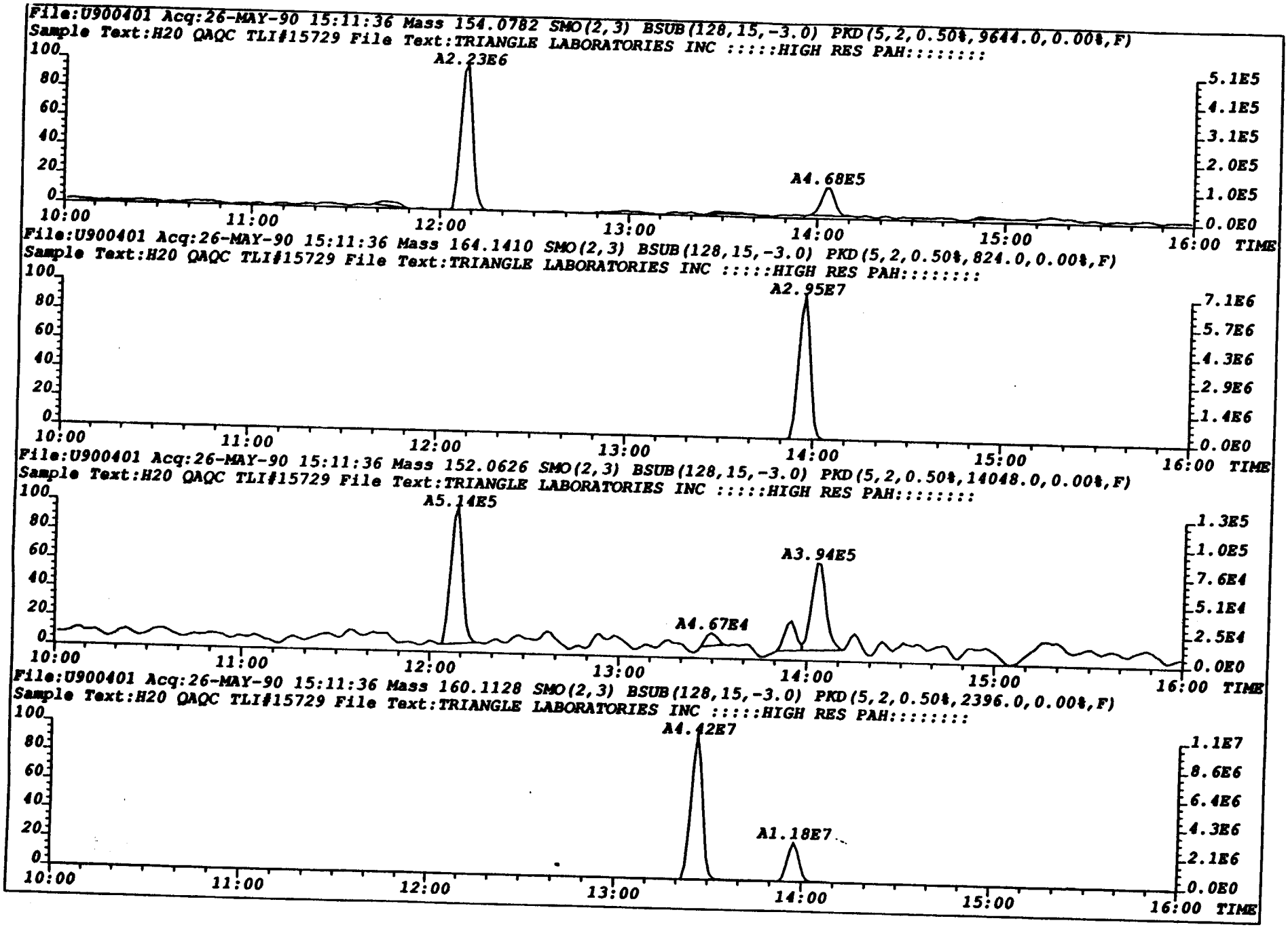

File:U900401 Acq:26-MAY-90 15:11:36 Mass 166.0782
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
15:34
17:09
18:22
16:45
16:28
17:40
14:02
14:45
19:43
7:22
8:00
8:42
9:49
10:50
11:34
12:17
12:58
13:36
15:51
18:02
18:46
1.9E5
1.6E5
1.2E5
7.8E4
3.9E4
0.0E0
TIME
File:U900401 Acq:26-MAY-90 15:11:36 Mass 176.1410
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
15:28
7.9E6
6.3E6
4.7E6
3.2E6
1.6E6
0.0E0
TIME
File:U900401 Acq:26-MAY-90 15:11:36 Mass 178.0782
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
18:17
17:06
16:44
16:28
14:31
15:24
18:02
18:39
19:44
4.7E5
3.7E5
2.8E5
1.9E5
9.3E4
0.0E0
TIME
File:U900401 Acq:26-MAY-90 15:11:36 Mass 188.1410
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
18:14
8.1E6
6.5E6
4.9E6
3.2E6
1.6E6
0.0E0
TIME

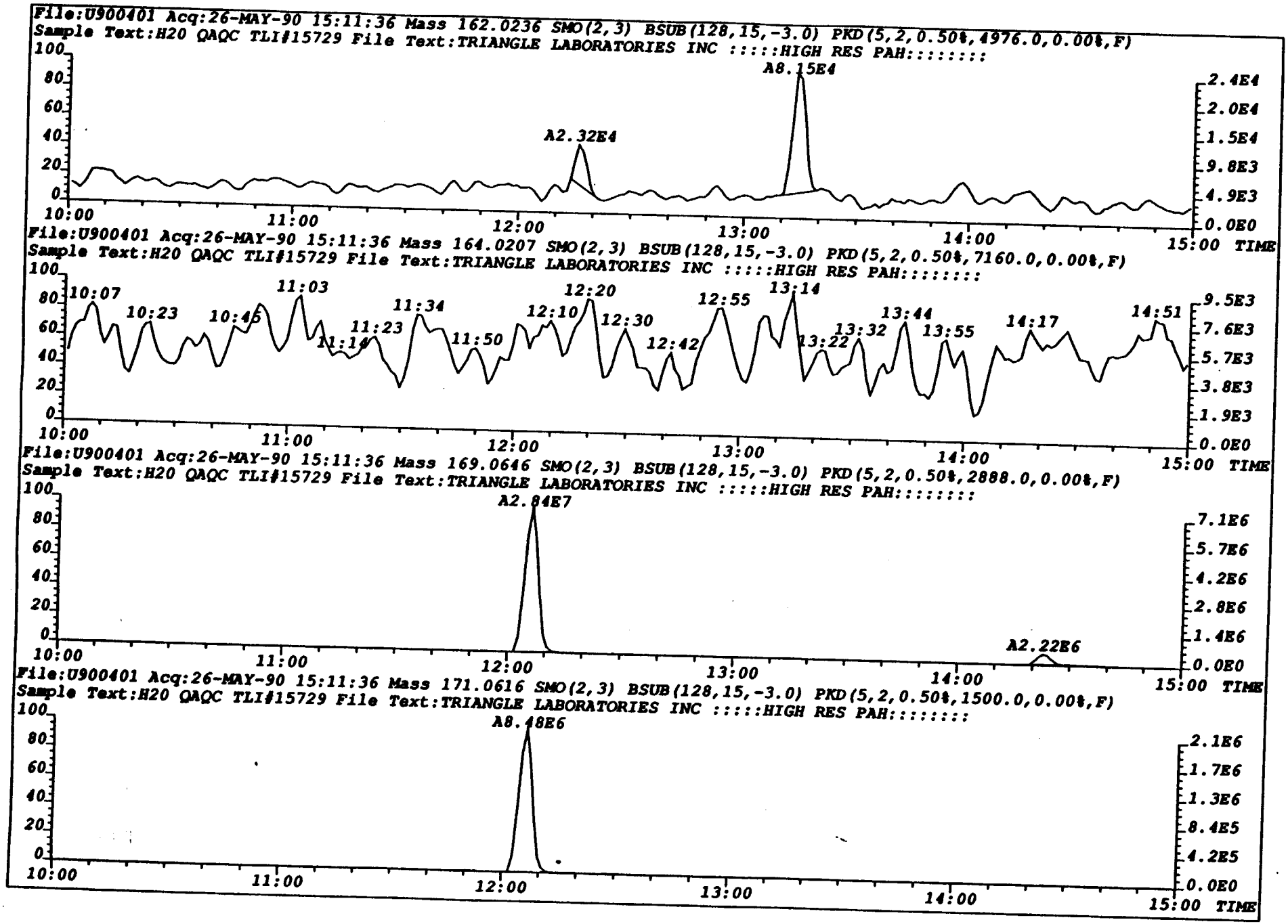

File:U900401 Acq:26-MAY-90 15:11:36 Mass 202.0782 Fn:2
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
21:32
22:09
22:46
24:29
25:33
26:03
27:00
28:00
28:57
30:50
31:46
33:00
34:18
35:28
37:23
38:22
39:25
40:25
41:33
42:39
TIME
File:U900401 Acq:26-MAY-90 15:11:36 Mass 212.1410 Fn:2
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
21:30
TIME
File:U900401 Acq:26-MAY-90 15:11:36 Mass 228.0939 Fn:2
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
20:45
22:10
24:25
25:35
26:07
27:27
27:55
29:07
30:01
30:51
31:30
32:54
33:36
35:10
36:36
37:33
38:59
42:31
TIME
File:U900401 Acq:26-MAY-90 15:11:36 Mass 240.1692 Fn:2
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
24:02
25:29
TIME
File:U900401 Acq:26-MAY-90 15:11:36 Mass 204.9888 Fn:2
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
20:34
23:45
24:56
27:57
29:38
30:36
31:50
32:52
33:59
35:07
36:10
37:33
39:05
40:43
41:46
TIME

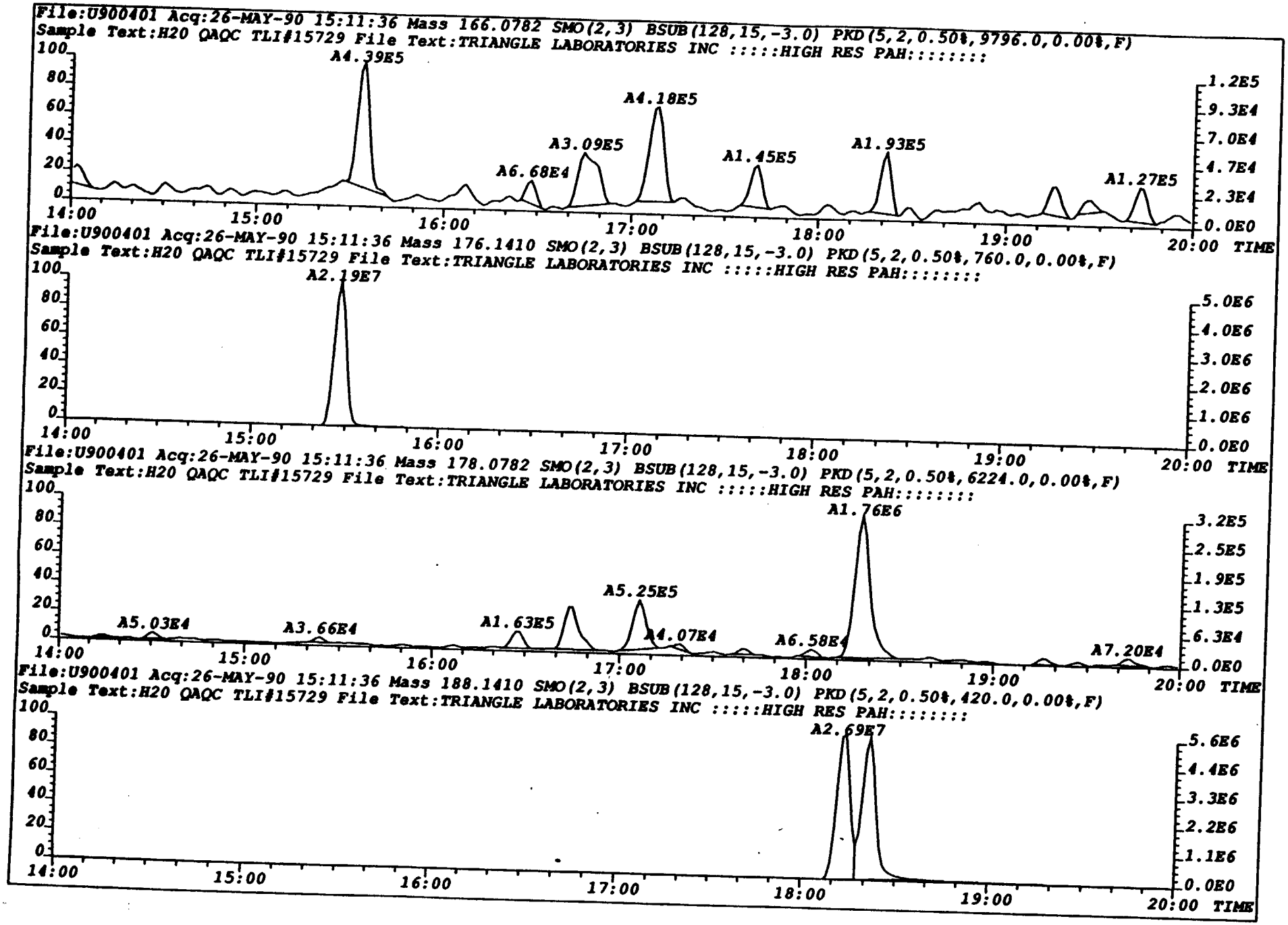

File:U900401 Acq:26-MAY-90 15:11:36 Mass 252.0939 Fn:2
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
20:52
22:21
24:02
24:56
26:22
27:14
29:07
30:26
31:14
31:47
32:50
34:47
36:02
38:02
39:14
39:51
40:37
41:37
42:10
File:U900401 Acq:26-MAY-90 15:11:36 Mass 264.1692 Fn:2
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
25:33
29:12
29:41
30:15
31:23
File:U900401 Acq:26-MAY-90 15:11:36 Mass 244.1974 Fn:2
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
22:33
24:01
24:30
25:33
File:U900401 Acq:26-MAY-90 15:11:36 Mass 276.0939 Fn:2
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
20:49
21:27
22:41
24:42
25:40
26:45
28:33
29:27
30:52
31:29
32:59
33:48
35:08
37:16
38:39
39:41
41:08
42:05
File:U900401 Acq:26-MAY-90 15:11:36 Mass 288.1692 Fn:2
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
36:37
38:23
38:55
TIME

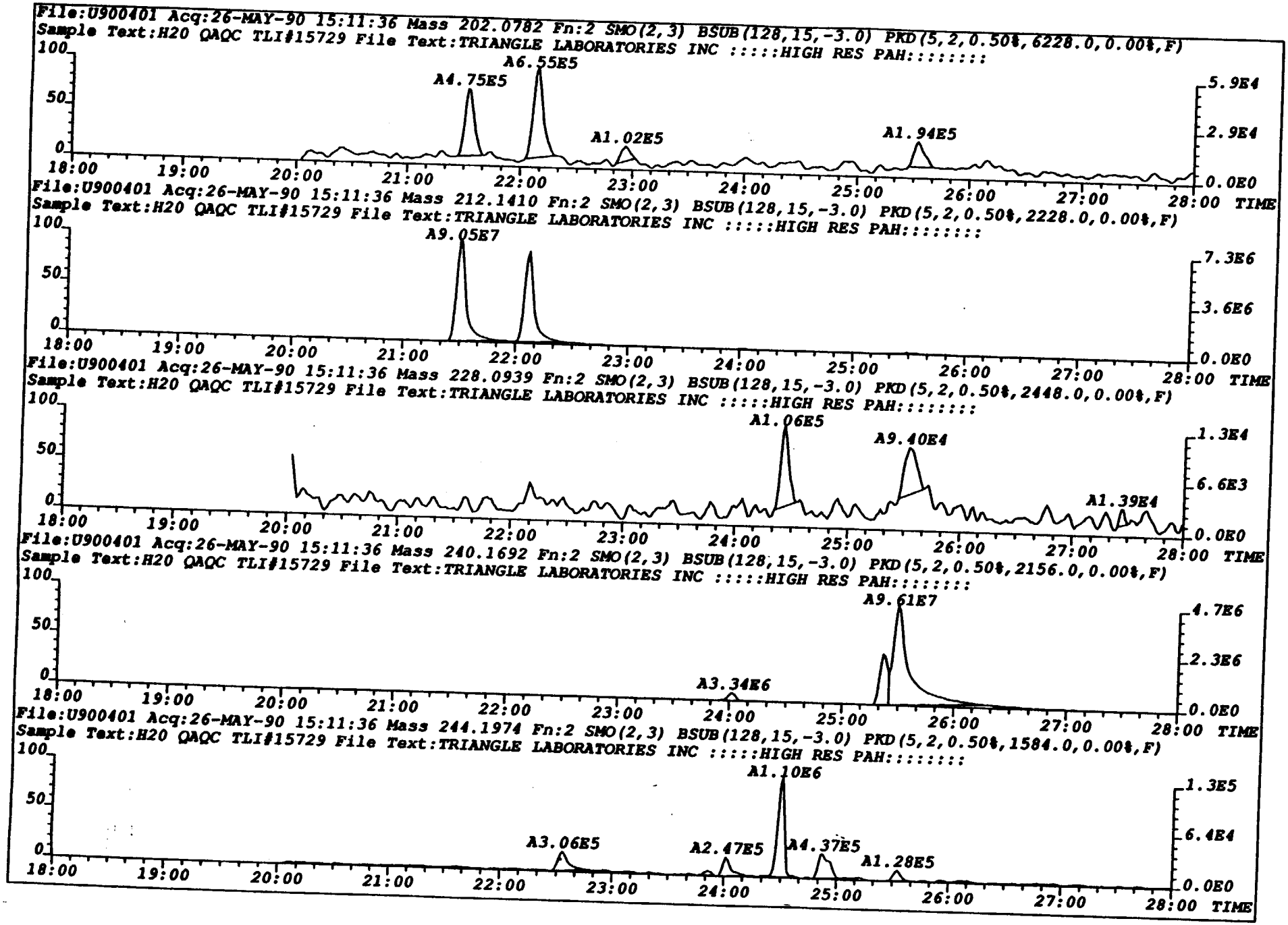

File:U900401 Acq:26-MAY-90 15:11:36 Mass 278.1096 Fn:2
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
25:33
20:45
21:53
24:30
25:02
26:31
26:58
27:41
28:31
30:07
30:53
31:39
32:40
33:48
34:30
36:09
36:38
37:27
38:00
38:39
39:49
40:3
41:11
41:58
TIME
File:U900401 Acq:26-MAY-90 15:11:36 Mass 292.1974 Fn:2
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
36:39
25:33
37:15
TIME

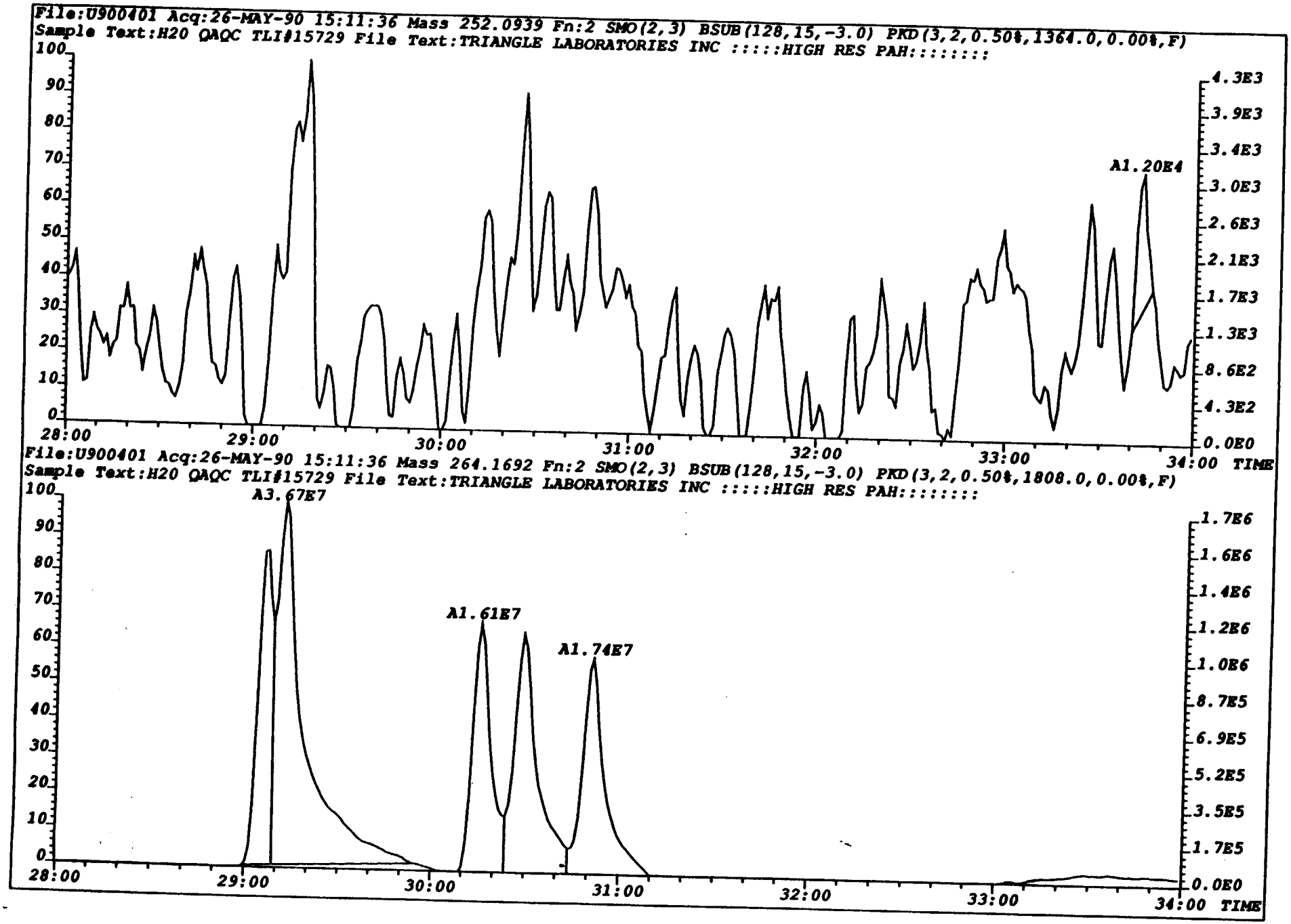

File:U900401 Acq:26-MAY-90 15:11:36 Mass 128.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,27828.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.58E7
File:U900401 Acq:26-MAY-90 15:11:36 Mass 136.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2952.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A5.26E7
File:U900401 Acq:26-MAY-90 15:11:36 Mass 142.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,8380.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.72E6
A1.42E6
File:U900401 Acq:26-MAY-90 15:11:36 Mass 152.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1152.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A3.84E7
8:00
9:00
10:00
11:00
12:00 TIME

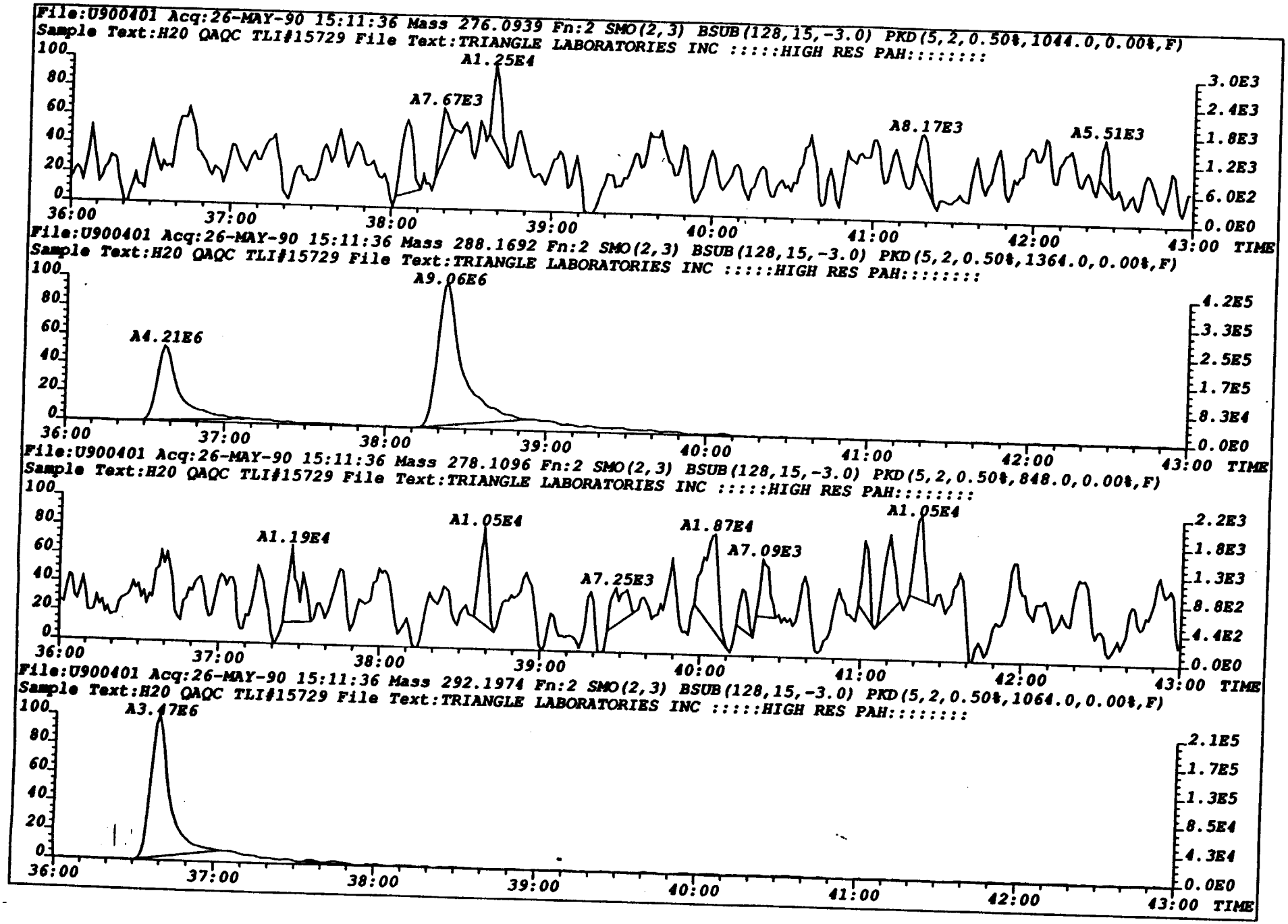

File:U900401 Acq:26-MAY-90 15:11:36 Mass 154.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,9644.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.23E6
A4.68E5
File:U900401 Acq:26-MAY-90 15:11:36 Mass 164.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,824.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.95E7
File:U900401 Acq:26-MAY-90 15:11:36 Mass 152.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,14048.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A5.14E5
A3.94E5
A4.67E4
File:U900401 Acq:26-MAY-90 15:11:36 Mass 160.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2396.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A4.42E7
A1.18E7
TIME


File:U900401 Acq:26-MAY-90 15:11:36 Mass 162.0236 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,4976.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A8.15E4
A2.32E4
2.4E4
2.0E4
1.5E4
9.8E3
4.9E3
0.0E0
10:00
11:00
12:00
13:00
14:00
15:00 TIME
File:U900401 Acq:26-MAY-90 15:11:36 Mass 164.0207 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7160.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
10:07
10:23
10:46
11:03
11:14
11:23
11:34
11:50
12:10
12:20
12:30
12:42
12:55
13:14
13:22
13:32
13:44
13:55
14:17
14:51
9.5E3
7.6E3
5.7E3
3.8E3
1.9E3
0.0E0
File:U900401 Acq:26-MAY-90 15:11:36 Mass 169.0646 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2888.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.84E7
A2.22E6
7.1E6
5.7E6
4.2E6
2.8E6
1.4E6
0.0E0
File:U900401 Acq:26-MAY-90 15:11:36 Mass 171.0616 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1500.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A8.48E6
2.1E6
1.7E6
1.3E6
8.4E5
4.2E5
0.0E0


File:U900401 Acq:26-MAY-90 15:11:36 Mass 166.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,9796.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A4.39E5
A4.18E5
A3.09E5
A6.68E4
A1.45E5
A1.93E5
A1.27E5
File:U900401 Acq:26-MAY-90 15:11:36 Mass 176.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,760.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.19E7
File:U900401 Acq:26-MAY-90 15:11:36 Mass 178.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,6224.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.76E6
A5.25E5
A5.03E4
A3.66E4
A1.63E5
A4.07E4
A6.58E4
A7.20E4
File:U900401 Acq:26-MAY-90 15:11:36 Mass 188.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,420.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A2.69E7
TIME


File:U900401 Acq:26-MAY-90 15:11:36 Mass 202.0782 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,6228.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A4.75E5
A6.55E5
A1.02E5
A1.94E5
5.9E4
2.9E4
0.0E0
File:U900401 Acq:26-MAY-90 15:11:36 Mass 212.1410 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2228.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A9.05E7
7.3E6
3.6E6
0.0E0
File:U900401 Acq:26-MAY-90 15:11:36 Mass 228.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2448.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.06E5
A9.40E4
A1.39E4
1.3E4
6.6E3
0.0E0
File:U900401 Acq:26-MAY-90 15:11:36 Mass 240.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2156.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A9.61E7
A3.34E6
4.7E6
2.3E6
0.0E0
File:U900401 Acq:26-MAY-90 15:11:36 Mass 244.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1584.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.10E6
A3.06E5
A2.47E5
A4.37E5
A1.28E5
1.3E5
6.4E4
0.0E0
100
50
0
18:00
19:00
20:00
21:00
22:00
23:00
24:00
25:00
26:00
27:00
28:00
TIME


File:U900401 Acq:26-MAY-90 15:11:36 Mass 252.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,1364.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.20E4
TIME
File:U900401 Acq:26-MAY-90 15:11:36 Mass 264.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,1808.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A3.67E7
A1.61E7
A1.74E7
TIME


File:U900401 Acq:26-MAY-90 15:11:36 Mass 276.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1044.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.25E4
A7.67E3
A8.17E3
A5.51E3
File:U900401 Acq:26-MAY-90 15:11:36 Mass 288.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1364.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A9.06E6
A4.21E6
File:U900401 Acq:26-MAY-90 15:11:36 Mass 278.1096 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,848.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A1.19E4
A1.05E4
A7.25E3
A1.87E4
A7.09E3
A1.05E4
File:U900401 Acq:26-MAY-90 15:11:36 Mass 292.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1064.0,0.00%,F)
Sample Text:H20 QAQC TLI#15729 File Text:TRIANGLE LABORATORIES INC :::::HIGH RES PAH::::::::
A3.47E6
TIME

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
202		0.00	21:33	3346.52	T	T	1.002	✓
		0.00	22:09	2775.62	T	T	1.002	✓
		0.00	22:23	239.67	T	F	1.012	
		0.00	22:58	360.58	T	F	1.038	
202		*** Total ***		7268.93	# of Peaks:		6	
212		0.00	21:31	20530.24	T	T	0.696	✓
		0.00	22:07	15859.42	T	T	0.716	✓
		0.00	22:34	515.42	T	F	0.730	
212		*** Total ***		36905.08	# of Peaks:		3	
228		0.00	20:15	99.59	T	F	0.794	
		0.00	21:35	708.83	T	F	0.846	
		0.00	21:55	46.46	T	F	0.859	
		0.00	22:04	23.12	T	F	0.865	
		0.00	22:14	1510.45	T	F	0.872	
		0.00	22:58	271.01	T	F	0.901	
		0.00	24:40	41.73	T	F	0.967	
		0.00	24:51	16.01	T	F	0.975	
		0.00	25:33	672.80	T	T	1.002	✓
		0.00	25:55	53.19	T	F	1.016	
228		*** Total ***		3443.19	# of Peaks:		10	
240		0.00	22:34	1178.37	T	F	0.730	
		0.00	23:59	675.32	T	F	0.776	
		0.00	25:23	2473.16	T	T	0.821	✓
		0.00	25:30	9153.52	T	T	0.825	✓
240		*** Total ***		13480.37	# of Peaks:		4	
244		0.00	20:33	393.80	T	F	0.678	
		0.00	20:43	117.12	T	F	0.684	
		0.00	21:07	301.42	T	F	0.697	
		0.00	22:33	18061.06	T	T	0.744	✓
244		*** Total ***		18873.40	# of Peaks:		4	
252		0.00	26:05	4.41	T	F	0.844	
		0.00	26:32	3.94	T	F	0.859	
		0.00	26:42	5.43	T	F	0.864	
		0.00	27:19	17.43	T	F	0.884	
		0.00	29:15	44.93	T	T	1.001	✓
		0.00	30:25	31.15	T	T	0.996	✓
	D	0.00	30:38	3.52	T	T	1.003	J / ✓
		0.00	32:49	1.74	T	F	1.062	
252		*** Total ***		112.55	# of Peaks:		8	
264		0.00	27:38	156.29	T	F	0.912	
		0.00	28:04	26.34	T	F	0.926	
		0.00	29:08	876.74	T	T	0.943	✓
		0.00	29:14	1694.69	T	T	0.946	✓
		0.00	29:31	799.23	T	F	0.974	
		0.00	30:00	164.05	T	F	0.990	
		0.00	30:09	23.65	T	F	0.995	
		0.00	30:17	1017.50	T	T	0.999	✓

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
264		0.00	30:32	856.15	T	T	0.988	✓
		0.00	30:54	659.51	T	T	1.020	✓
264		*** Total ***		6274.15	# of Peaks:		10	
276		0.00	38:42	9.92	T	T	1.005	✓
		0.00	39:40	1.70	T	F	1.030	
276		*** Total ***		11.62	# of Peaks:		2	
288		0.00	36:44	62.47	T	T	1.189	✓
		0.00	38:30	167.55	T	T	1.246	✓
288		*** Total ***		230.02	# of Peaks:		2	
292		0.00	36:47	50.24	T	T	1.190	✓
292		*** Total ***		50.24	# of Peaks:		1	

*** End of Report ***

06/27/90

Listing of U900620I.dbf File
Raw Mass, Retention Time and Data Area

M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
128	7:57	28261.65	8:21	9028.68	8:33	417348.20		
136	8:21	10856.73	9:28	63.97	13:58	37.98		
142	8:53	14.73	10:16	334.44	10:56	2646.93		
	10:01	1287.51	10:35	5996.06	12:29	724.97		
152	8:02	1370.99	8:57	60.35	10:49	38.33		
	8:18	103.48	10:29	6366.97				
154	12:07	5480.73	14:03	1092.44	14:59	75.13	16:01	65.78
	12:27	21.87	14:16	30.03	15:14	119.57		
	12:54	19.57	14:42	102.70	15:28	84.61		
164	13:57	4952.45						
152	12:07	1208.97	13:29	84.62	14:42	75.35	15:48	77.60
	12:27	211.74	13:55	927.46	14:59	113.99	16:05	369.08
	12:37	94.10	14:04	1079.98	15:15	120.27		
	12:55	213.27	14:16	60.62	15:29	85.98		
	13:15	41.02	14:33	53.47	15:40	123.31		
160	13:26	6335.30	13:57	1989.06	14:34	28.76		
162	12:15	13.02						
169	12:05	5150.37	12:28	367.26	14:23	194.97	14:32	222.43
171	12:05	1536.42						
166	14:03	172.60	15:34	1372.33	16:28	104.59	17:17	2674.13
	14:15	22.81	15:49	41.70	16:46	1383.25		
	14:32	69.20	16:07	348.52	17:09	4165.12		
176	15:28	4331.63	17:10	70.71	18:21	32.34		
178	14:32	221.78	16:46	610.87	17:40	864.32	18:49	134.76
	15:29	31.06	16:51	509.71	18:04	30.35	19:06	241.48
	16:00	9.19	17:08	1576.14	18:18	7809.96	19:14	85.44
	16:28	52.78	17:17	1772.91	18:40	394.13	19:47	64.28
188	18:14	5947.58	18:21	6870.52				
202	21:10	393.72	21:33	3346.52	22:23	239.67		
	21:26	152.82	22:09	2775.62	22:58	360.58		
212	21:31	20530.24	22:07	15859.42	22:34	515.42		

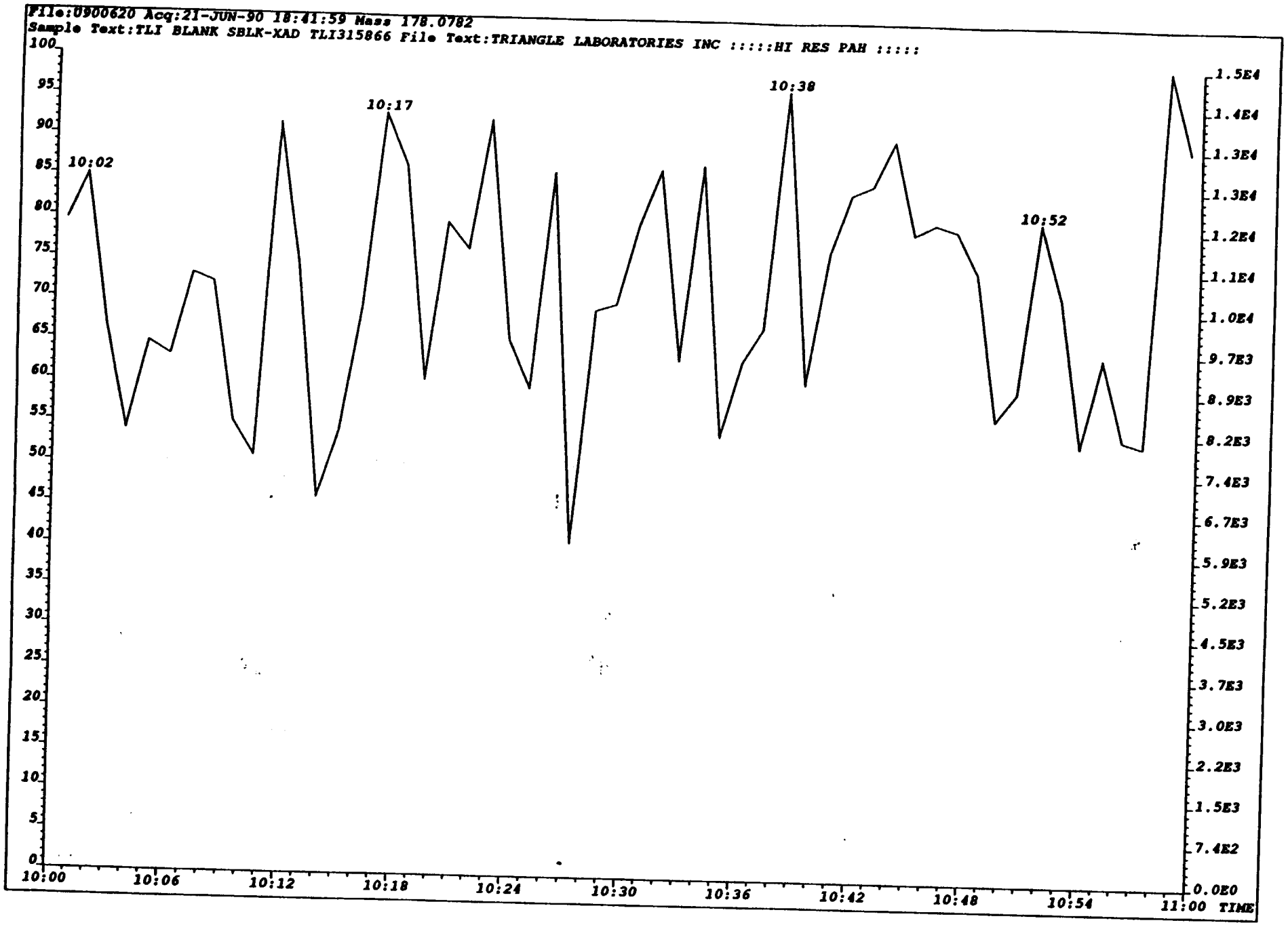
228	20:15	99.59	22:04	23.12	24:40	41.73	25:55	53.19
	21:35	708.83	22:14	1510.45	24:51	16.01		
	21:55	46.46	22:58	271.01	25:33	672.80		
240	22:34	1178.37	23:59	675.32	25:23	2473.16	25:30	9153.52

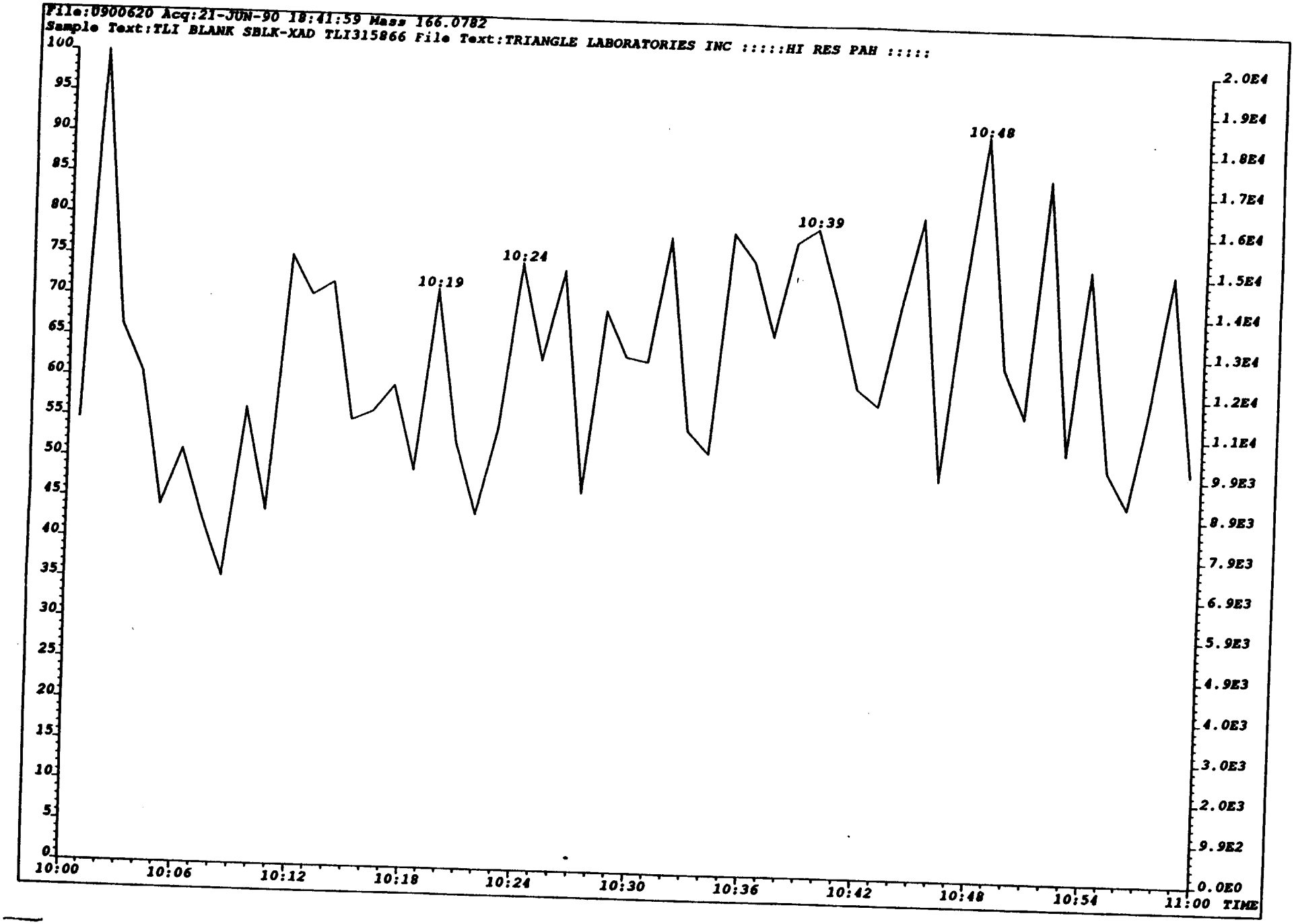
Listing of U900620I.dbf File
Raw Mass, Retention Time and Data Area

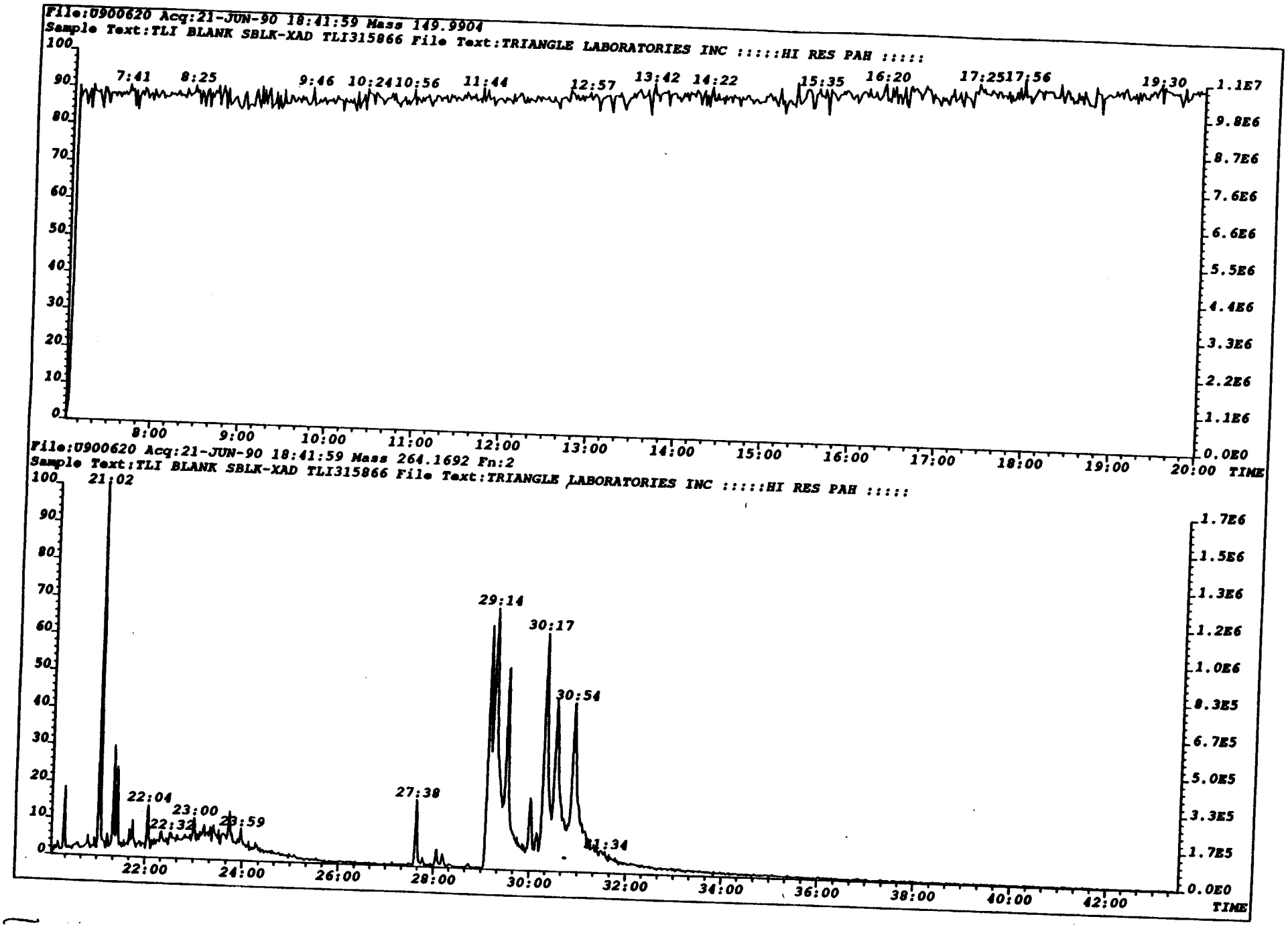
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
244	20:33	393.80	20:43	117.12	21:07	301.42	22:33	18061.06
252	26:05	4.41	26:42	5.43	29:15	44.93	30:38	3.52
	26:32	3.94	27:19	17.43	30:25	31.15	32:49	1.74
264	27:38	156.29	29:14	1694.69	30:09	23.65	30:54	659.51
	28:04	26.34	29:31	799.23	30:17	1017.50		
	29:08	876.74	30:00	164.05	30:32	856.15		
276	38:42	9.92	39:40	1.70				
288	36:44	62.47	38:30	167.55				
292	36:47	50.24						

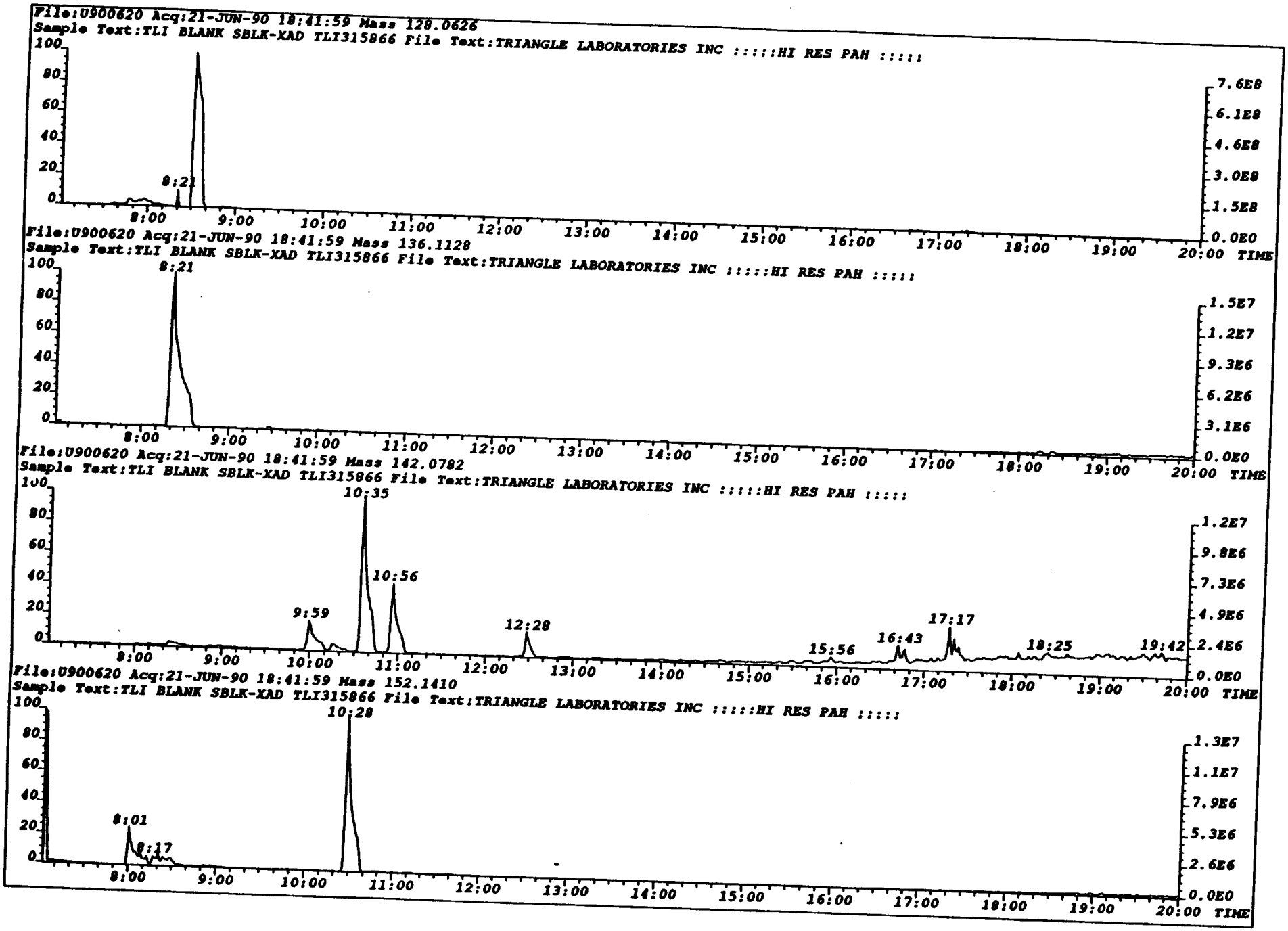
*** End of Report ***

C

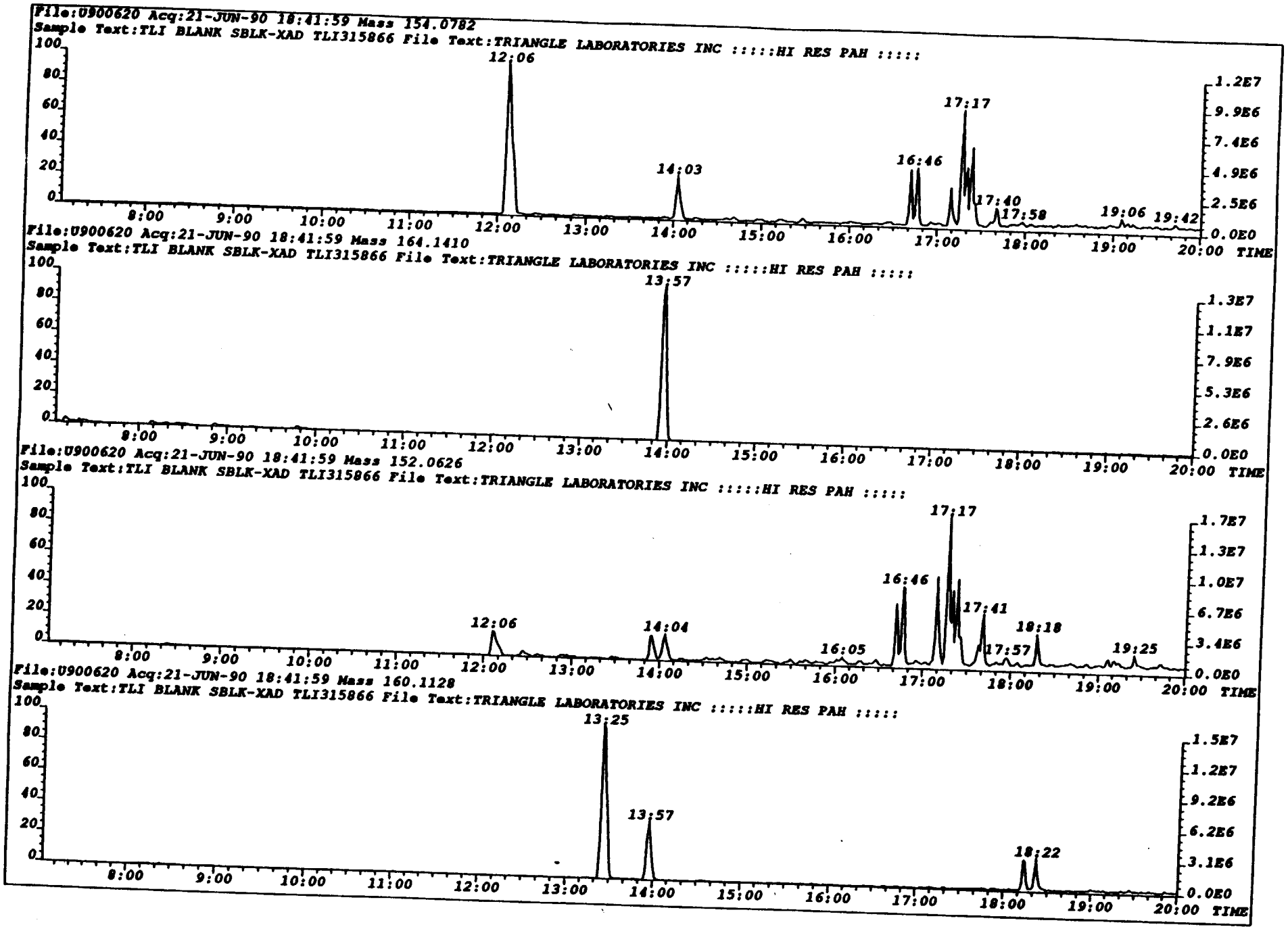

File:0900620 Acq:21-JUN-90 18:41:59 Mass 178.0782
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:02
10:17
10:38
10:52
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1.5E4
1.4E4
1.3E4
1.3E4
1.2E4
1.1E4
1.0E4
9.7E3
8.9E3
8.2E3
7.4E3
6.7E3
5.9E3
5.2E3
4.5E3
3.7E3
3.0E3
2.2E3
1.5E3
7.4E2
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

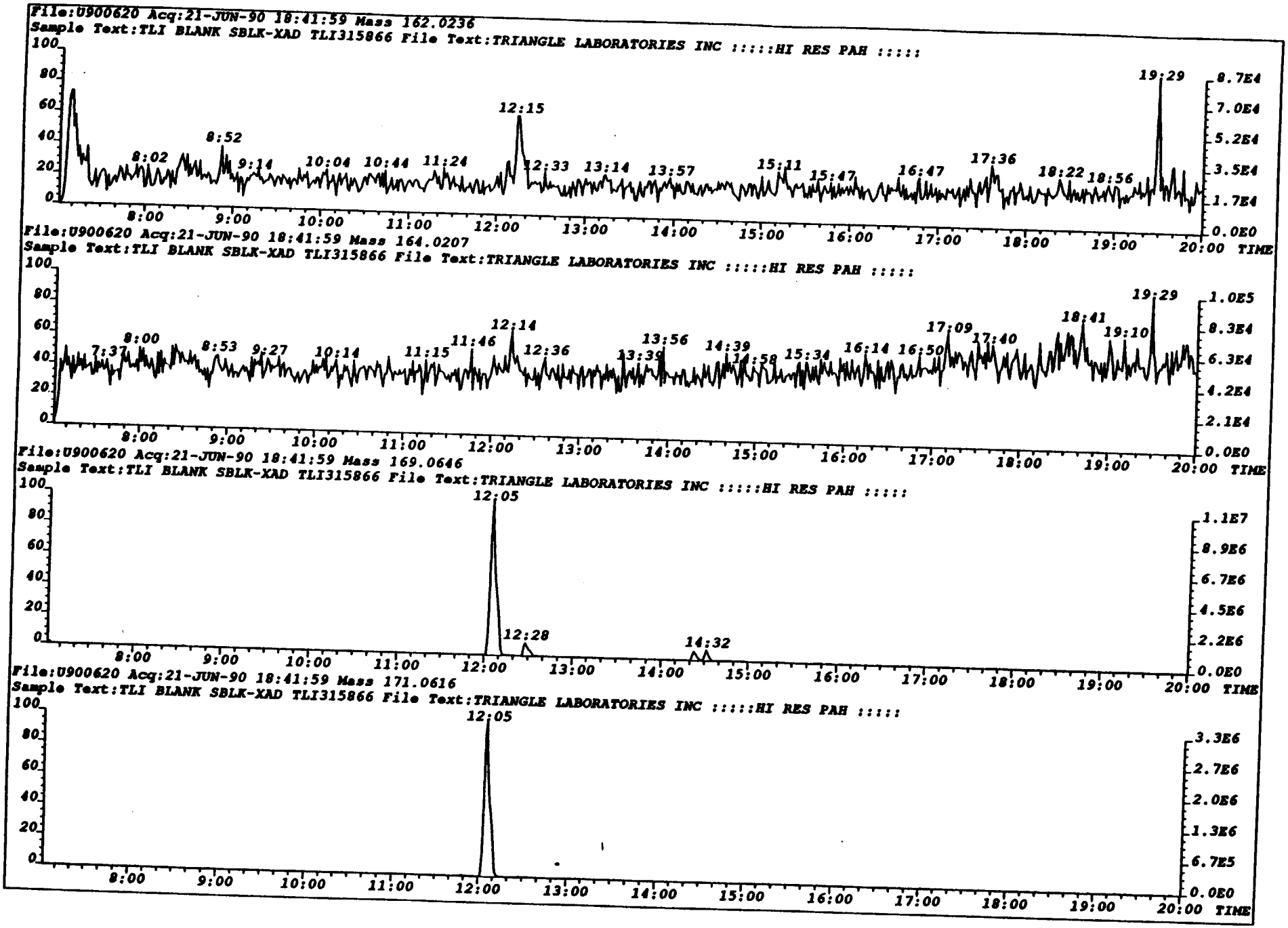

File:0900620 Acq:21-JUN-90 18:41:59 Mass 166.0782
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:19
10:24
10:39
10:48
TIME

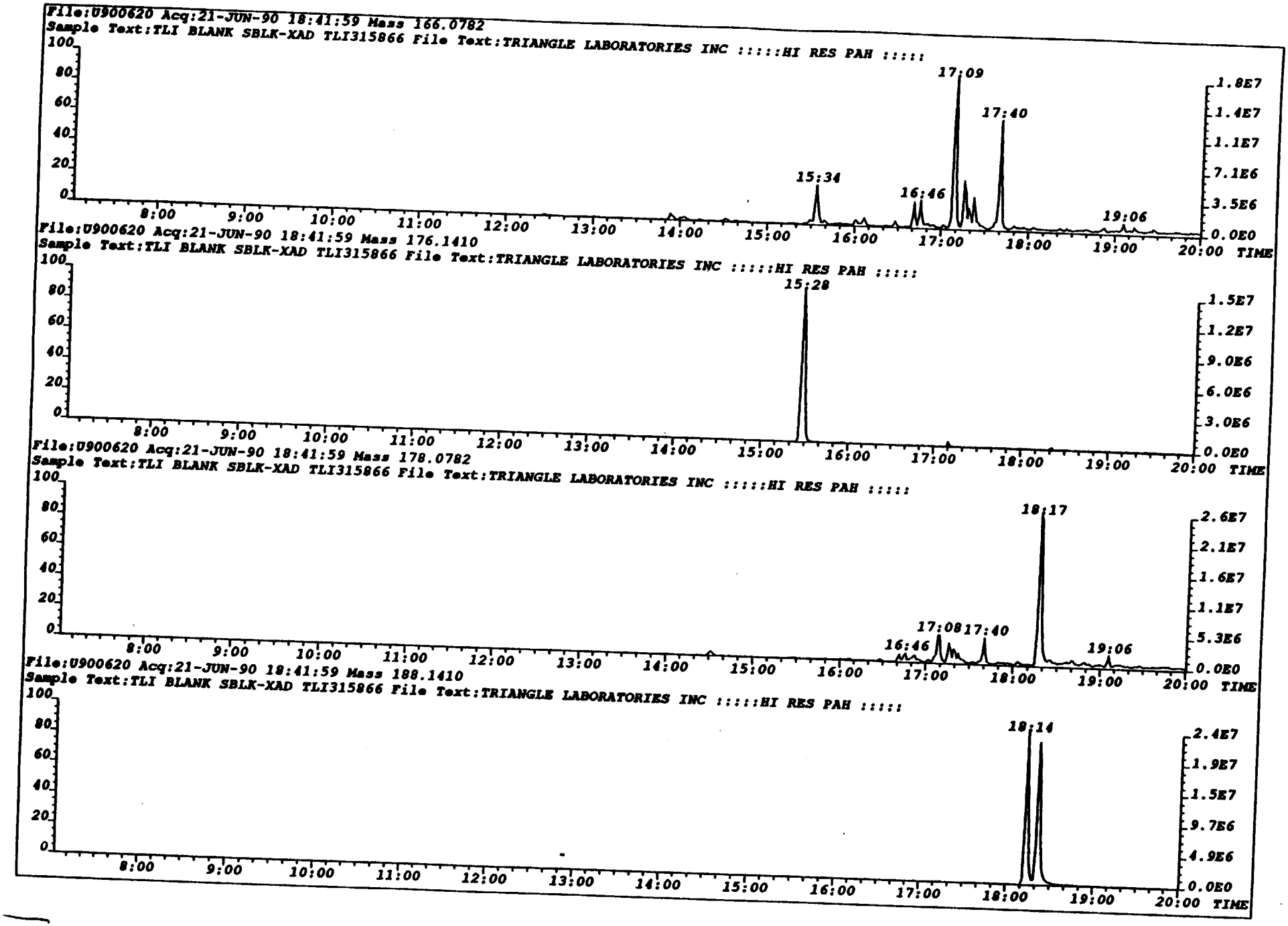

File:U900620 Acq:21-JUN-90 18:41:59 Mass 149.9904
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
7:41
8:25
9:46
10:24
10:56
11:44
12:57
13:42
14:22
15:35
16:20
17:25
17:56
19:30
1.1E7
9.8E6
8.7E6
7.6E6
6.6E6
5.5E6
4.4E6
3.3E6
2.2E6
1.1E6
0.0E0
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
TIME
File:U900620 Acq:21-JUN-90 18:41:59 Mass 264.1692 Fn:2
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:02
22:04
22:32
23:00
23:59
27:38
29:14
30:17
30:54
31:34
1.7E6
1.5E6
1.3E6
1.2E6
1.0E6
8.3E5
6.7E5
5.0E5
3.3E5
1.7E5
0.0E0
22:00
24:00
26:00
28:00
30:00
32:00
34:00
36:00
38:00
40:00
42:00
TIME

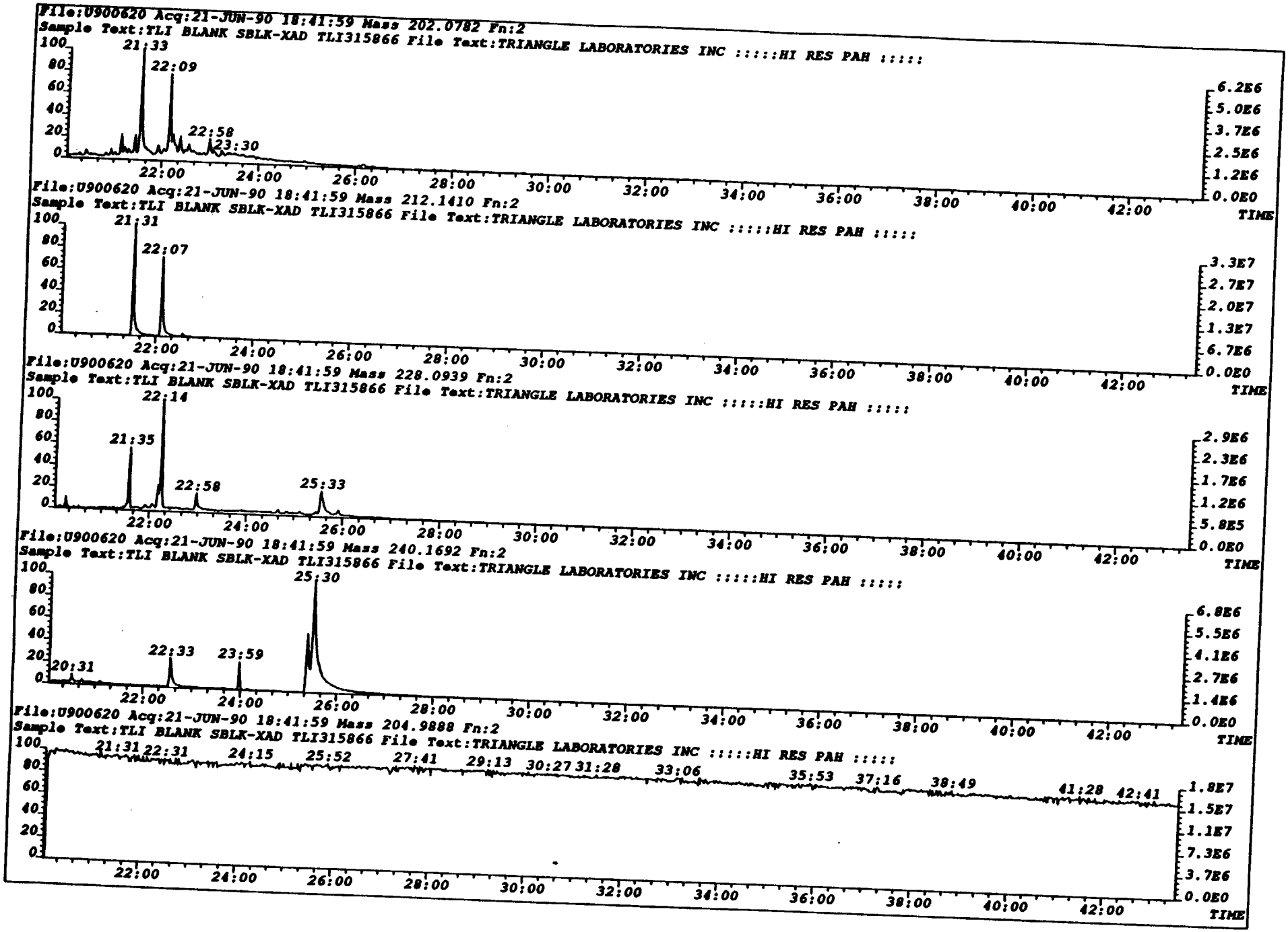

File:U900620 Acq:21-JUN-90 18:41:59 Mass 128.0626
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:21
File:U900620 Acq:21-JUN-90 18:41:59 Mass 136.1128
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:21
File:U900620 Acq:21-JUN-90 18:41:59 Mass 142.0782
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:35
10:56
9:59
12:28
15:56
16:43
17:17
18:25
19:42
File:U900620 Acq:21-JUN-90 18:41:59 Mass 152.1410
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:28
8:01
8:17
TIME

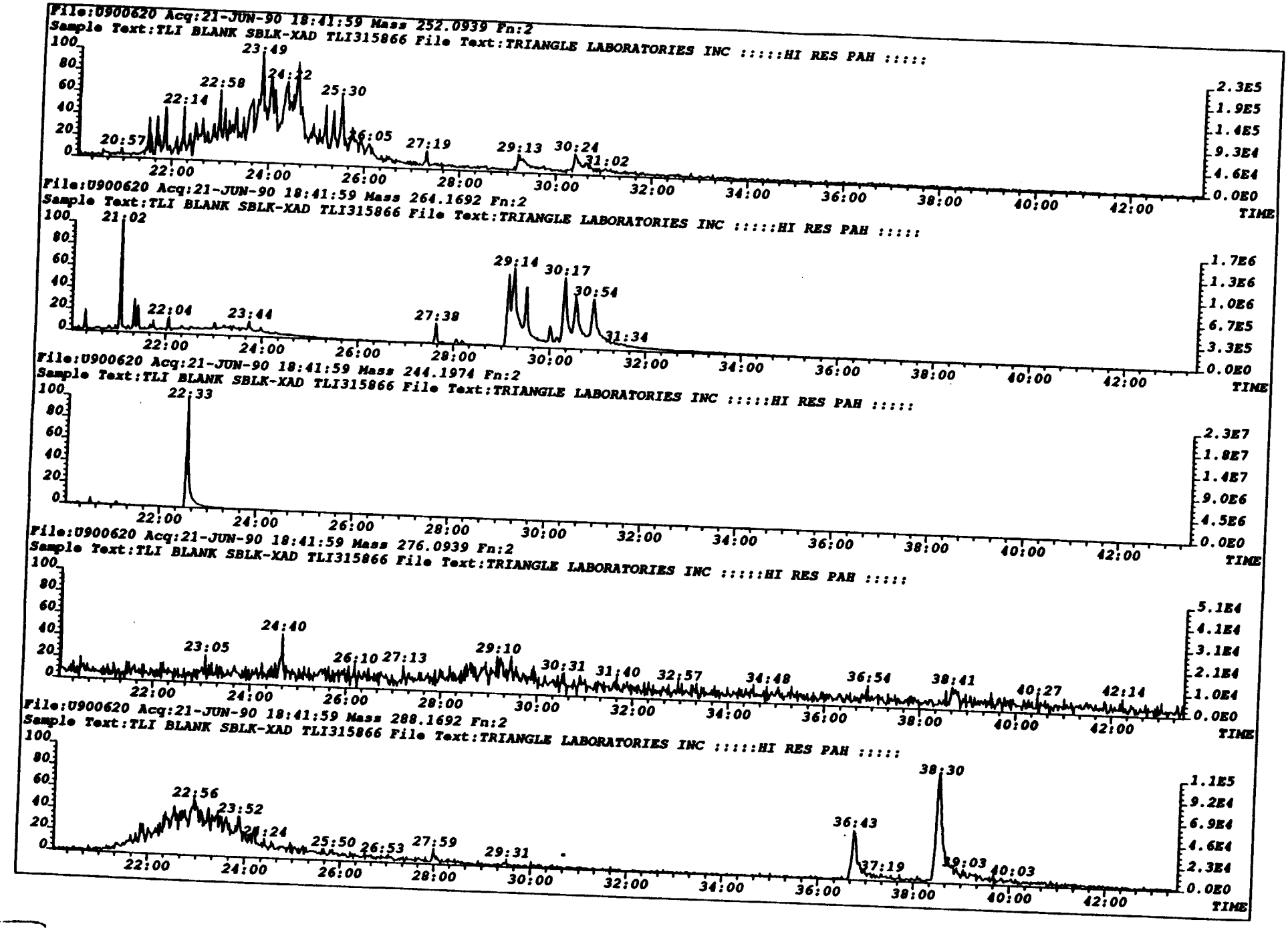
3

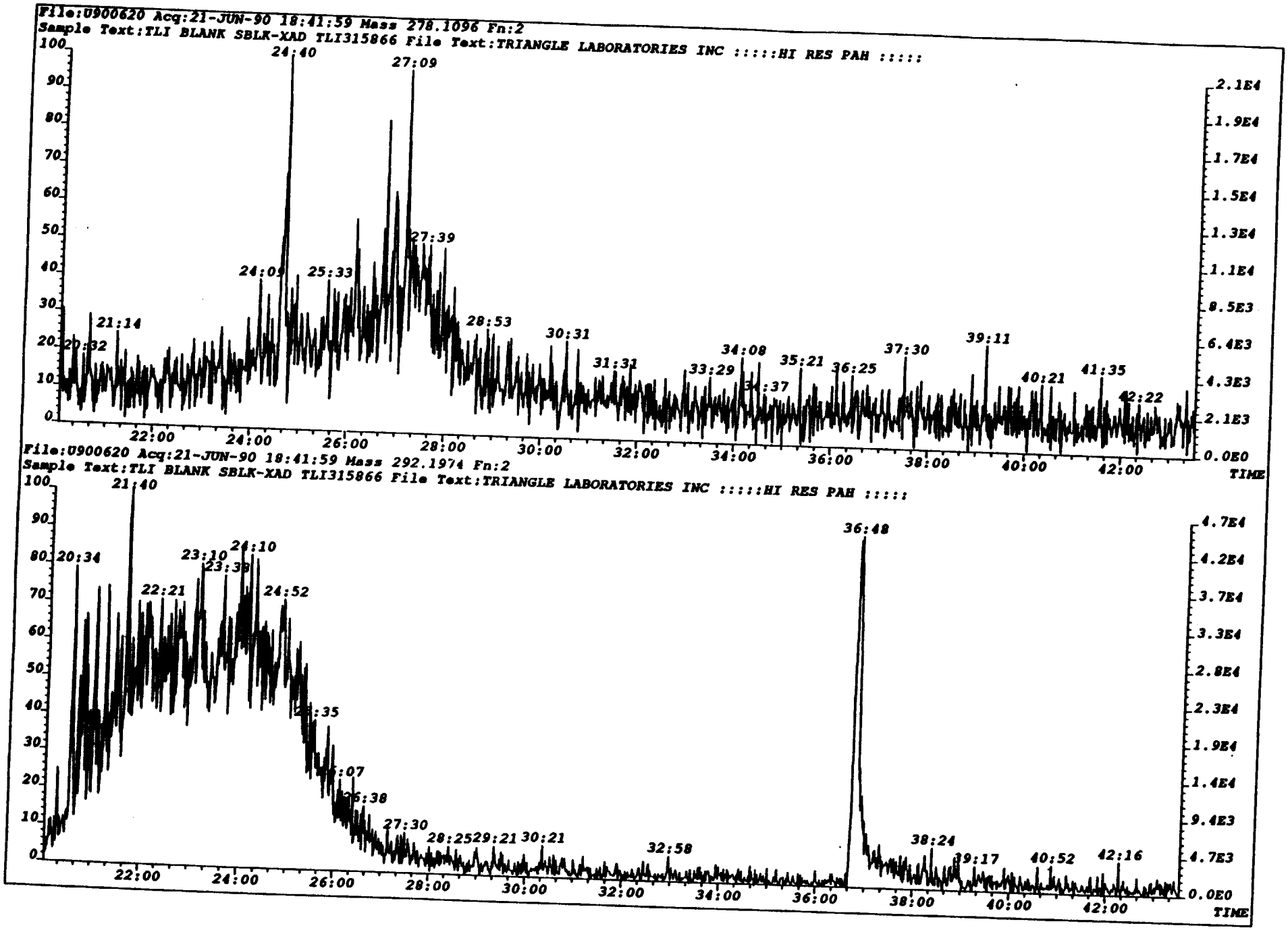

File:U900620 Acq:21-JUN-90 18:41:59 Mass 154.0782
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:06
14:03
16:46
17:17
17:40
17:58
19:06
19:42
TIME
File:U900620 Acq:21-JUN-90 18:41:59 Mass 164.1410
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:57
TIME
File:U900620 Acq:21-JUN-90 18:41:59 Mass 152.0626
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:06
14:04
16:05
16:46
17:17
17:41
17:57
18:18
19:25
TIME
File:U900620 Acq:21-JUN-90 18:41:59 Mass 160.1128
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:25
13:57
18:22
TIME

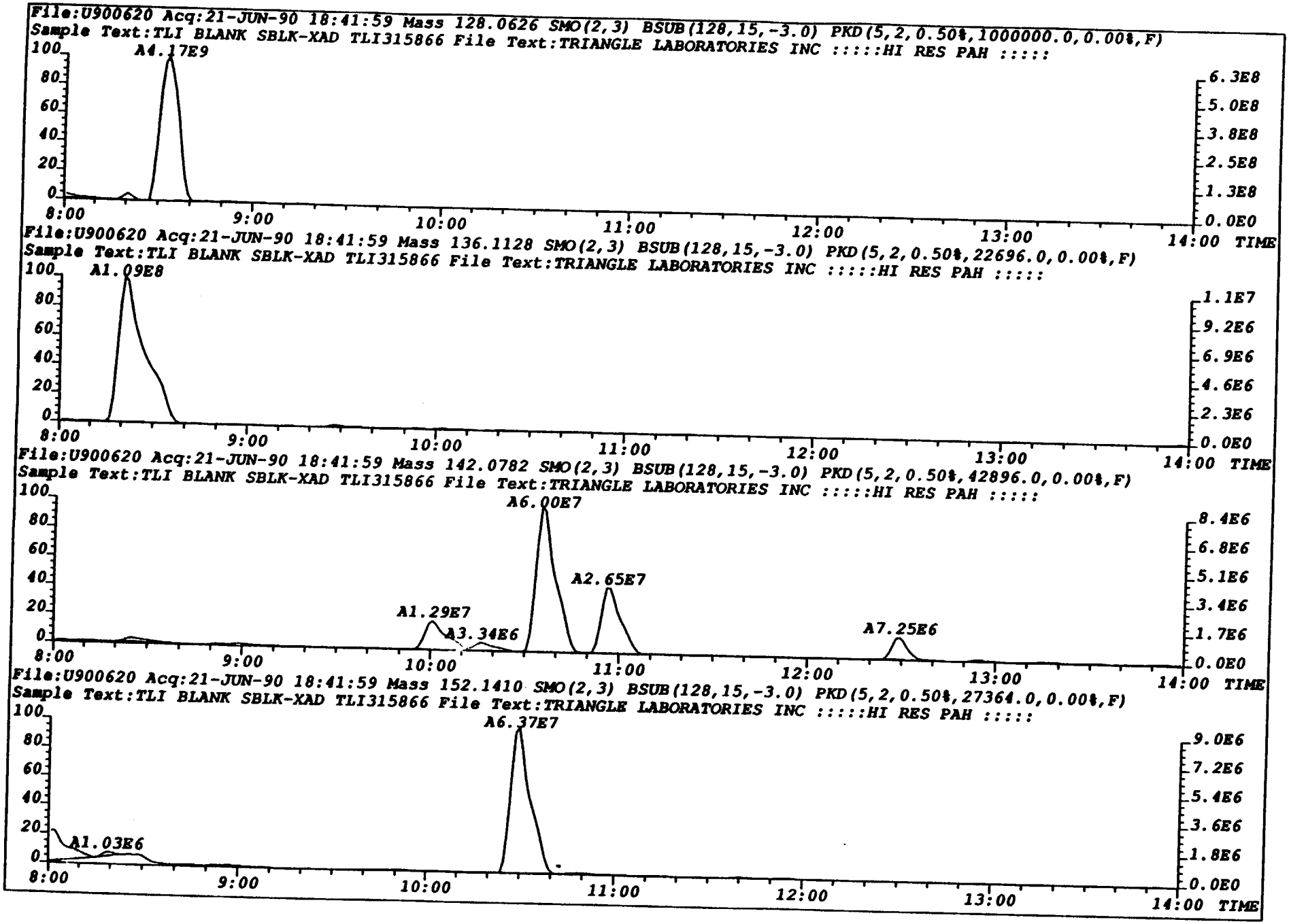

File:U900620 Acq:21-JUN-90 18:41:59 Mass 162.0236
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:02 8:52 9:14 10:04 10:44 11:24 12:15 12:33 13:14 13:57 15:11 15:47 16:47 17:36 18:22 18:56 19:29
8.7E4 7.0E4 5.2E4 3.5E4 1.7E4 0.0E0
File:U900620 Acq:21-JUN-90 18:41:59 Mass 164.0207
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
7:37 8:00 8:53 9:27 10:14 11:15 11:46 12:14 12:36 13:39 13:56 14:39 15:34 16:14 16:50 17:09 17:40 18:41 19:10 19:29
1.0E5 8.3E4 6.3E4 4.2E4 2.1E4 0.0E0
File:U900620 Acq:21-JUN-90 18:41:59 Mass 169.0646
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:05 12:28 14:32
1.1E7 8.9E6 6.7E6 4.5E6 2.2E6 0.0E0
File:U900620 Acq:21-JUN-90 18:41:59 Mass 171.0616
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:05
3.3E6 2.7E6 2.0E6 1.3E6 6.7E5 0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 TIME


File:U900620 Acq:21-JUN-90 18:41:59 Mass 166.0782
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
17:09
17:40
15:34
16:46
19:06
1.8E7
1.4E7
1.1E7
7.1E6
3.5E6
0.0E0
TIME
File:U900620 Acq:21-JUN-90 18:41:59 Mass 176.1410
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
15:28
1.5E7
1.2E7
9.0E6
6.0E6
3.0E6
0.0E0
TIME
File:U900620 Acq:21-JUN-90 18:41:59 Mass 178.0782
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
18:17
17:08
17:40
16:46
19:06
2.6E7
2.1E7
1.6E7
1.1E7
5.3E6
0.0E0
TIME
File:U900620 Acq:21-JUN-90 18:41:59 Mass 188.1410
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
18:14
2.4E7
1.9E7
1.5E7
9.7E6
4.9E6
0.0E0
TIME

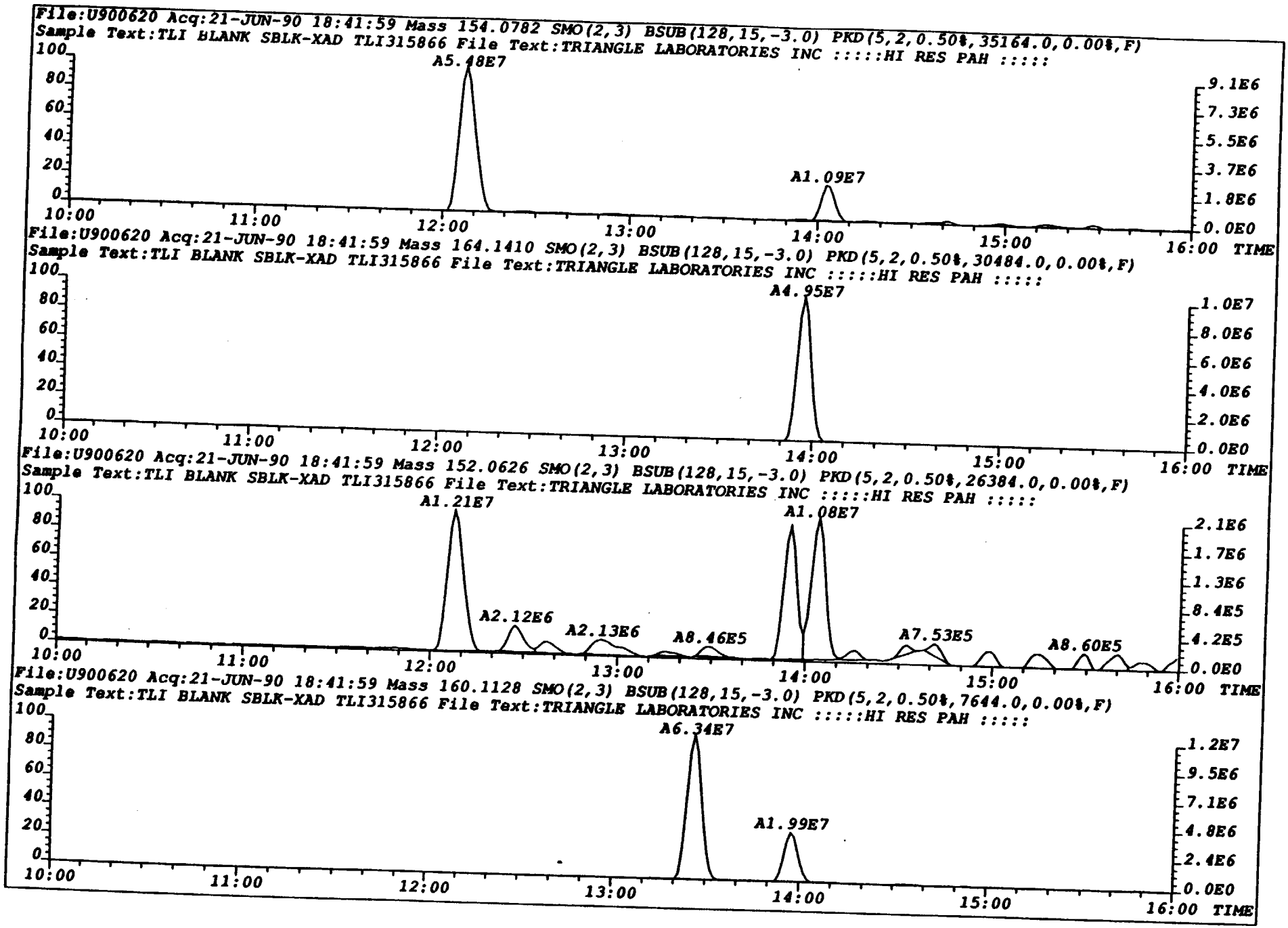

File:U900620 Acq:21-JUN-90 18:41:59 Mass 202.0782 Fn:2
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:33
22:09
22:58
23:30
6.2E6
5.0E6
3.7E6
2.5E6
1.2E6
0.0E0
TIME
File:U900620 Acq:21-JUN-90 18:41:59 Mass 212.1410 Fn:2
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:31
22:07
3.3E7
2.7E7
2.0E7
1.3E7
6.7E6
0.0E0
TIME
File:U900620 Acq:21-JUN-90 18:41:59 Mass 228.0939 Fn:2
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:14
21:35
22:58
25:33
2.9E6
2.3E6
1.7E6
1.2E6
5.8E5
0.0E0
TIME
File:U900620 Acq:21-JUN-90 18:41:59 Mass 240.1692 Fn:2
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
25:30
20:31
22:33
23:59
6.8E6
5.5E6
4.1E6
2.7E6
1.4E6
0.0E0
TIME
File:U900620 Acq:21-JUN-90 18:41:59 Mass 204.9888 Fn:2
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:31 22:31 24:15 25:52 27:41 29:13 30:27 31:28 33:06 35:53 37:16 38:49 41:28 42:41
1.8E7
1.5E7
1.1E7
7.3E6
3.7E6
0.0E0
TIME


File:U900620 Acq:21-JUN-90 18:41:59 Mass 252.0939 Fn:2
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
20:57 22:14 22:58 23:49 24:22 25:30 26:05 27:19 29:13 30:24 31:02
File:U900620 Acq:21-JUN-90 18:41:59 Mass 264.1692 Fn:2
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:02 22:04 23:44 27:38 29:14 30:17 30:54 31:34
File:U900620 Acq:21-JUN-90 18:41:59 Mass 244.1974 Fn:2
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:33
File:U900620 Acq:21-JUN-90 18:41:59 Mass 276.0939 Fn:2
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
23:05 24:40 26:10 27:13 29:10 30:31 31:40 32:57 34:48 36:54 38:41 40:27 42:14
File:U900620 Acq:21-JUN-90 18:41:59 Mass 288.1692 Fn:2
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:56 23:52 24:24 25:50 26:53 27:59 29:31 36:43 37:19 38:30 39:03 40:03
TIME


File:U900620 Acq:21-JUN-90 18:41:59 Mass 278.1096 Fn:2
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
24:40
27:09
27:39
24:09
25:33
21:14
20:32
28:53
30:31
31:31
33:29
34:08
34:37
35:21
36:25
37:30
39:11
40:21
41:35
42:22
TIME
File:U900620 Acq:21-JUN-90 18:41:59 Mass 292.1974 Fn:2
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:40
20:34
23:10
24:10
23:39
22:21
24:52
36:48
27:30
28:25
29:21
30:21
32:58
38:24
39:17
40:52
42:16
TIME


File:U900620 Acq:21-JUN-90 18:41:59 Mass 128.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1000000.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.17E9
File:U900620 Acq:21-JUN-90 18:41:59 Mass 136.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,22696.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.09E8
File:U900620 Acq:21-JUN-90 18:41:59 Mass 142.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,42896.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.00E7
A2.65E7
A1.29E7
A3.34E6
A7.25E6
File:U900620 Acq:21-JUN-90 18:41:59 Mass 152.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,27364.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.37E7
A1.03E6
8:00
9:00
10:00
11:00
12:00
13:00
14:00
TIME

20


File:U900620 Acq:21-JUN-90 18:41:59 Mass 154.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,35164.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A5.48E7
A1.09E7
File:U900620 Acq:21-JUN-90 18:41:59 Mass 164.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,30484.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.95E7
File:U900620 Acq:21-JUN-90 18:41:59 Mass 152.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,26384.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.21E7
A2.12E6
A2.13E6
A8.46E5
A1.08E7
A7.53E5
A8.60E5
File:U900620 Acq:21-JUN-90 18:41:59 Mass 160.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7644.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.34E7
A1.99E7
TIME

16

TRIANGLE LABORATORY, INC.

Analysis Results for CARB Method 429

(3 samples, 1 field blank, 1 lab blank + confirmation)

F

Triangle Laboratories, Inc
801-10 Capitola Dr.
Research Triangle Park, NC 27713
(919) 544-5729

DATE: June 5,1990
CLIENT P.O.
TLI NO: 15866

OBJECTIVE: Analysis of MM-5 Samples for Polynuclear Aromatic Hydrocarbons by High resolution mass spectrometry

Method

The analysis method for the PAH was a developmental method based on CARB 429, but using high resolution mass spectrometry, high resolution gas chromatography. The method of isotope dilution was used to measure the majority of the analytes for which a labeled internal standard could be obtained. Details on the method are presented in the accompanying document.

The XAD resin was spiked with 100 ng of Terphenyl-D14 prior to field sampling. The samples were Soxhlett extracted for 16 hours with methylene chloride. Deuterated PAH internal standards (100 ng) were added immediately prior to extraction of the MM-5 train components. The aqueous fraction was spiked with 100 ng of Anthracene D-10 prior to extraction. All solvents were concentrated and combined with the extracts prior to analysis. The combined extract was split with half for the analysis of PAH and half for archive.The PAH fraction was cleaned up using a silica gel procedure. Prior to analysis, a solution of D12-Benzo-e-Pyrene to a final concentration of 50 ng/mL was added to an aliquot of the extract in order to measure the recovery of the labeled standards.

The GC/MS analysis conditions are listed below:

GC CONDITIONS:	
Column:	J&W DB-5, 60m x .25mm x 25micron film thickness
Program:	Initial temp. = 120; hold 5 min. to 300C at 14 C/min; hold 25 min.
MS CONDITIONS:	
Instrument:	VG 7070S, 11-250 data system
Scan:	selected ion recording mass resolution 8000
Ion Source:	220C
Interface:	Capillary 270C

Triangle Laboratories, Inc
801-10 Capitola Dr.
Research Triangle Park, NC 27713
(919) 544-5729

An initial calibration was performed using the list of compounds in Table 1, with response factors relative to the corresponding internal standards, as shown in Table 2. These response factors were used to calculate the amounts of the analytes in the samples. The data are reported as summary sheets, chromatograms, and tabulations of the found GC peaks, areas and retention times (I-file and B-file).

RESULTS

The XAD resin contains residual amount of higher aromatic hydrocarbons including the target compounds of the method. This became apparent from TLI Blank analysis, which is contaminated with a number of the target compounds. Contamination with Naphtalene is at a such high level that any concentrations presented for the field samples become irrelevant and should be disregarded. For other analytes present in the Blank, flagged with the "B" descriptor, a compound should be considered not attributed to the sample unless its concentration exceeds by at least five times the level found in the Blank.

The aqueous (impinger) samples have not been fortified with D10-Anthracene surrogate standard, therefore the reports show either "INTERFERENCE" printout or artificially low recoveries.

All samples show artificially high recoveries of the lower masses labeled standards (D8-Naphthalene through D12-Chrysene). There is not an apparent reason for this problem. Probably a small unidentified leak exists in the system, which affect to a higher degree the larger molecules with longer retention times, including the recovery standard, than the earlier eluting compounds. This contention seem to be supported by fact that the standards with closest to the recovery standard retention times (D12-benzo-b-Fluoranthene, D12-Benzo-k-Fluoranthene, D12-Benzo-a-Pyrene and D12-Perylene), show expected recovery figures.

The problem is currently under investigation, and once fully identified, appropriate corrective action will be taken.

Although the reported standard recoveries are at fault, we consider the analyte concentrations valid due to benefit from the isotope dilution technique used. Factors which cause the unrealistic recoveries, affect equally analytes and corresponding internal standards, as both elute at almost identical retention time, therefore any deviations in instrument response cancel each other.

The method generally shows the ability to quantitate PAHs at a level of approximately 20-100 times lower than achieved with low resolution, scanning mass spectrometry. The lower detection limits point out the problem that arises from necessity to use a super clean, not commercially available, XAD resin for low level analyses for PAHs.

Results of the sample TEST 1 BH (TLI# 32-73-1CEF) were rejected by the QA/QC officer due to loss of the lock-mass, with recommendation for reanalysis.

The results for this sample will be shipped as soon as becomes available.

We apologize for delay.

The release of this particular set of TLI project 15866 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 at two other levels of the data processing production line. All general deviations from acceptable QA/QC requirements were discussed above along with their effects on the validity and reliability of the results.

For Triangle Labs,

Hani Karam
Air Quality
Product Manager

Jacek Bielawski
QA Project Officer

Don Harvan
V.P., Operations

TRIANGLE LABORATORIES INC. Date: 06/25/90

Continuing Calibration for U900619

Analysis Date....: 06/21/90 Method....: PAHH

Operator.....: MC Machine...: u

Init Calibration.: UPH0621 Std.Conc..: 100.00

ICal Date.....: 06/21/90

06/30

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%RSD	Flags
Naph	0.845		6:32 10:32	8:35	1.0059	0.832	0.014	1.6%	
2-Me-Naph	0.870		8:36 12:36	10:42	1.0094	0.865	0.005	0.5%	
Acenaph	1.061			13:32	1.0037	1.076	-0.016	-1.4%	
Acenaphthen	0.961		12:00 16:00	14:06	1.0071	0.962	-0.001	-0.1%	
2-Cl-Naph	1.125	3.274	10:10 14:10	12:13	1.0041	1.131	-0.005	-0.5%	
Fluorene	1.210		13:30 17:30	15:35	1.0054	1.247	-0.036	-2.9%	
Phenan	1.231		8:14 28:14	18:18	1.0037	1.246	-0.015	-1.2%	
Anth	0.709			18:25	1.0101	0.696	0.013	1.9%	
Fluoran	0.720		11:31 31:31	21:32	1.0008	0.719	0.001	0.1%	
Pyrene	0.895			22:09	1.0015	0.899	-0.003	-0.3%	
B-a-Anth	1.416		15:24 35:24	25:28	1.0026	1.216	0.199	16.4%	
Chrysene	0.812			25:35	1.0033	0.785	0.027	3.4%	
B-b-Fluoran	1.314			29:15	1.0040	1.237	0.077	6.3%	
B-k-Fluoran	0.914			29:20	1.0028	0.911	0.003	0.3%	
B-e-Pyrene	1.155			30:25	0.9962	1.316	-0.161	-12.2%	
B-a-Pyrene	1.053			30:38	1.0033	1.029	0.024	2.4%	
Perylene	0.950		20:54 40:54	31:01	1.0038	1.070	-0.120	-11.2%	
I-123-cd-Py	1.458			36:54	1.0045	1.743	-0.285	-16.4%	
B-ghi-Pery	0.817		28:31 48:31	38:42	1.0048	0.845	-0.028	-3.3%	
DiB-ah-Anth	1.202		34:46 38:46	37:00	1.0063	1.341	-0.139	-10.4%	

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%RSD	Flags
d10-Anth	1.021			18:22	1.3622	0.966	0.055	5.7%	
d14-Terphenyl	2.821		20:18 32:18	22:34	0.7448	2.765	0.056	2.0%	

TRIANGLE LABORATORIES INC. Date: 06/25/90

Continuing Calibration for U900619

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%RSD	Flags
d8-Naph	4.067		8:29 15:29	8:32	0.6329	3.177	0.890	28.0%**	
d10-2-Me-Naph	2.360		3:29 23:29	10:36	0.7862	1.878	0.482	25.7%**	
d8-Acenaph	2.465		10:18 32:18	13:29	0.4450	1.931	0.534	27.6%**	
d10-Acenaphthen	1.646		11:29 15:29	14:00	1.0383	1.310	0.336	25.7%**	
d7-2-Cl-Naph	2.498	3.257	11:29 15:29	12:10	0.9023	1.920	0.579	30.2%**	
d10-Fluorene	1.340		11:29 20:29	15:30	1.1496	1.050	0.290	27.6%**	
d10-Phenan	1.344		3:29 23:29	18:14	1.3523	1.214	0.131	10.8%	
d10-Fluoran	3.683		19:54 40:54	21:31	0.6963	3.233	0.449	13.9%	
d10-Pyrene	2.943			22:07	0.7157	2.603	0.341	13.1%	
d12-B-a-Anth	0.767		20:54 40:54	25:24	0.8220	1.089	-0.322	-29.6%**	
d12-Chrysene	3.425			25:30	0.8252	2.884	0.541	18.7%	
d12-B-b-Fluoran	0.546			29:08	0.9428	0.766	-0.220	-28.7%**	
d12-B-k-Fluoran	1.855			29:15	0.9466	1.759	0.096	5.5%	
d12-B-a-Pyrene	1.182			30:32	0.9881	1.052	0.130	12.3%	
d12-Perylene	0.758		20:18 40:18	30:54	1.0198	0.657	0.101	15.3%	
d12-I-123-cd-Py	0.222			36:44	1.1888	0.233	-0.010	-4.5%	
d12-B-ghi-Pery	0.553		20:54 40:54	38:31	1.2465	0.582	-0.029	-5.0%	
d14-DiB-ah-Anth	0.171		28:54 40:54	36:46	1.1899	0.219	-0.047	-21.7%	

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%RSD	Flags
d12-B-e-Pyrene	0.000			30:18	1.0000	1.000	-1.000	100.0%**	

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

FILE NAME....:	U900620	CLIENT ID....:	P&S	TLI NUMBER....:	n/a
CONCAL.....:	U900619	SAMPLE ID....:	TLI BLANK FH		
ANALYST.....:	MC	ANALYSIS DATE:	06/21/90	PROJECT NUMBER:	15866
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5 FH	DATE RECEIVED.:	05/30/90
ICAL DATE....:	06/21/90	SAMPLE ORIGIN:	HRSG OUT	DATE COLLECTED:	05/23/90
SPIKE FILE...:	SPPAHH1C			SHIPMENT NO...:	UTS

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	4620			8:33	___
2-Me-Naph	109			10:35	___
2-Cl-Naph	ND		0.1		___
Acenaphthen	22.9			14:03	___
Acenaph	1.2			13:29	___
Fluorene	25.4			15:34	___
Phenan	105			18:18	___
Anth	ND		0.2		___
Fluoran	22.7			21:33	___
Pyrene	19.5			22:09	___
B-a-Anth	ND		0.3		___
Chrysene	9.4			25:33	___
B-b-Fluoran	4.1			29:15	___
B-k-Fluoran	ND		0.6		___
B-e-Pyrene	2.8			30:25	___
B-a-Pyrene	ND		1.1		___
Perylene	ND		1.3		___
I-123-cd-Py	ND		8.6		___
DiB-ah-Anth	ND		13.9		___
B-ghi-Pery	7.0			38:42	___

SURROGATE RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	642	642	22:33	___

ALTERNATE STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	699	699	18:21	___

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

FILE NAME....: U900620
CONCAL.....: U900619
ANALYST.....: MC
SAMPLE SIZE..: 1.00
ICAL DATE....: 06/21/90
SPIKE FILE...: SPPAHH1C

CLIENT ID....: P&S
SAMPLE ID....: TLI BLANK FH
ANALYSIS DATE: 06/21/90
SAMPLE MATRIX: MM5 FH
SAMPLE ORIGIN: HRSG OUT

TLI NUMBER....: n/a
PROJECT NUMBER: 15866
DATE RECEIVED.: 05/30/90
DATE COLLECTED: 05/23/90
SHIPMENT NO...: UTS

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	336	336	8:21	—
d10-2-Me-Naph	333	333	10:29	—
d7-2-Cl-Naph	342	342	12:05	—
d8-Acenaph	322	322	13:26	—
d10-Acenaphthen	372	372	13:57	—
d10-Fluorene	405	405	15:28	—
d10-Phenan	481	481	18:14	—
d10-Fluoran	624	624	21:31	—
d10-Pyrene	599	599	22:07	—
d12-B-a-Anth	223	223	25:23	—
d12-Chrysene	312	312	25:30	—
d12-B-b-Fluoran	112	112	29:08	—
d12-B-k-Fluoran	94.7	94.7	29:14	—
d12-B-a-Pyrene	80.0	80.0	30:32	—
d12-Perylene	98.7	98.7	30:54	—
d12-I-123-cd-Py	26.4	26.4	36:44	—
d14-DiB-ah-Anth	22.5	22.5	36:47	—
d12-B-ghi-Pery	28.3	28.3	38:30	—

PAHH_RPT rev:1.00.

DL 3.71

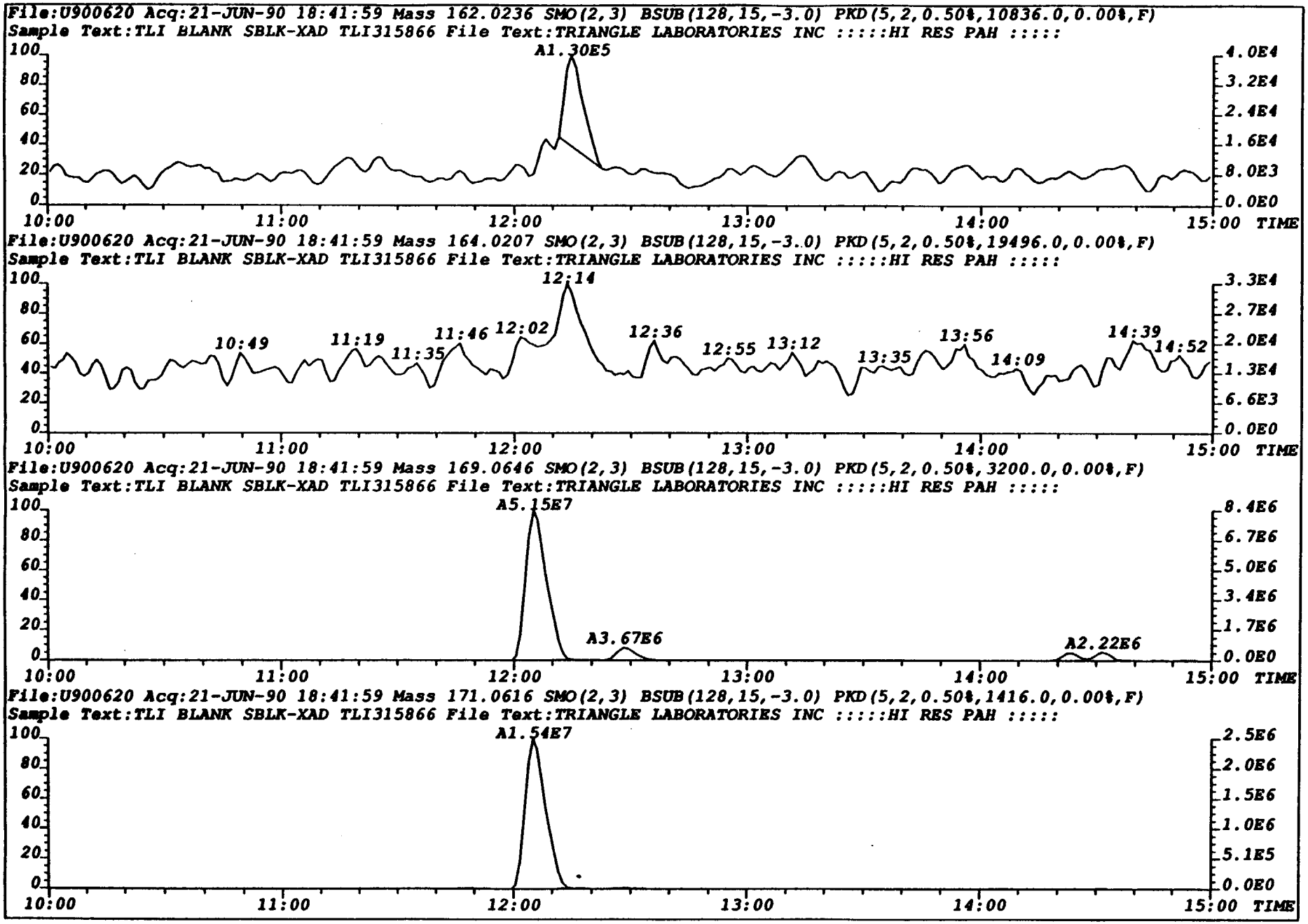
JA

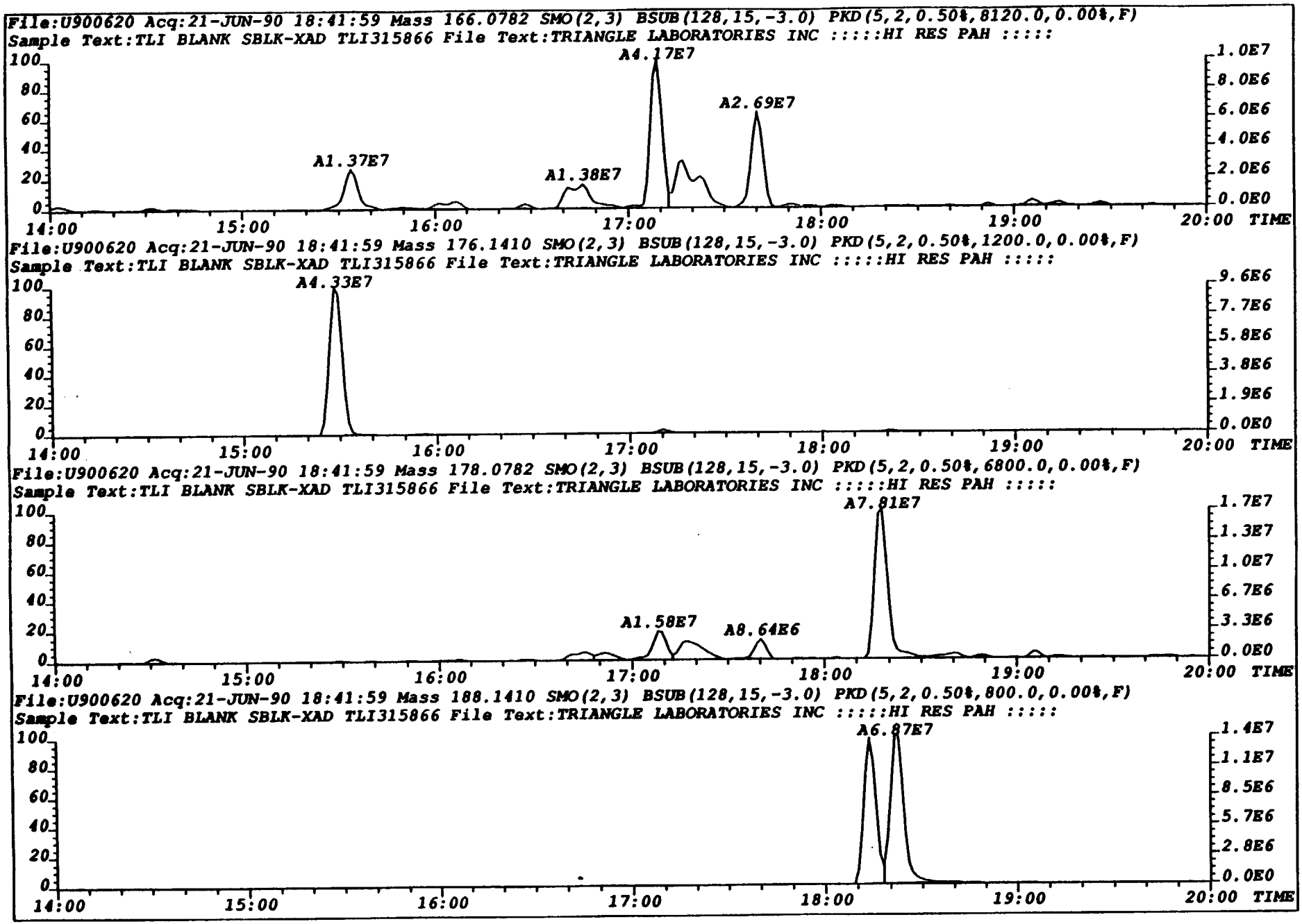
Matched GC Peaks / Ratio / Ret. Time

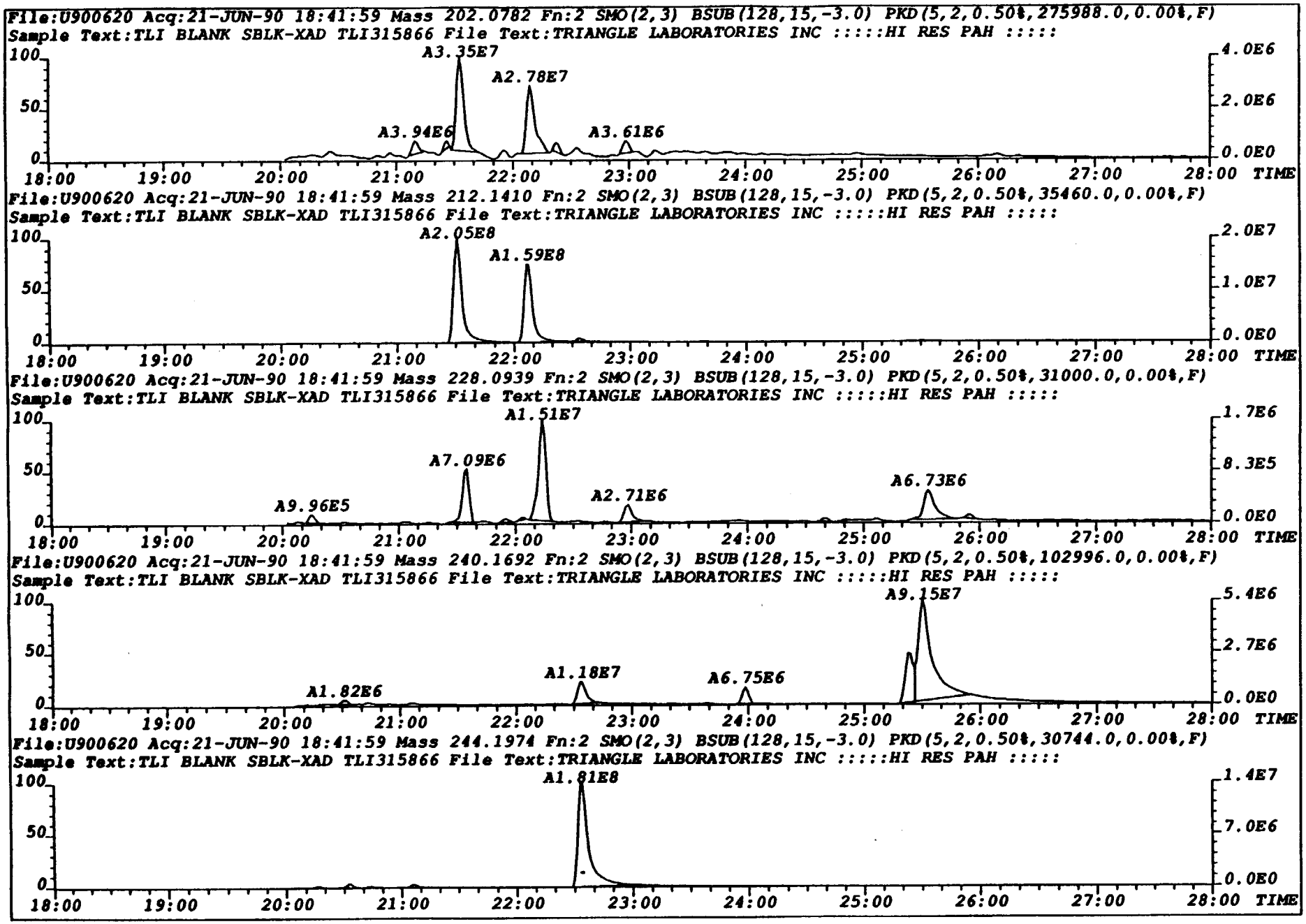
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128		0.00	7:57	28261.65	T	F	0.952	
		0.00	8:21	9028.68	T	F	1.000	
		0.00	8:33	417348.20	T	T	1.024	✓
128		*** Total ***		454638.53	# of Peaks:		3	
136		0.00	8:21	10856.73	T	T	0.622	
		0.00	9:28	63.97	T	F	0.705	
		0.00	13:58	37.98	T	F	1.040	
136		*** Total ***		10958.68	# of Peaks:		3	
142		0.00	8:53	14.73	T	F	0.847	
		0.00	10:01	1287.51	T	F	0.955	
		0.00	10:16	334.44	T	F	0.979	
		0.00	10:35	5996.06	T	T	1.010	✓
		0.00	10:56	2646.93	T	F	1.043	
		0.00	12:29	724.97	T	F	1.191	
142		*** Total ***		11004.64	# of Peaks:		6	
152		0.00	8:02	1370.99	T	F	0.598	
		0.00	8:18	103.48	T	F	0.618	
		0.00	8:57	60.35	T	F	0.666	
		0.00	10:29	6366.97	T	T	0.780	✓
		0.00	10:49	38.33	T	F	0.805	
		0.00	12:07	1208.97	T	F	0.902	
		0.00	12:27	211.74	T	F	0.927	
		0.00	12:37	94.10	T	F	0.939	
		0.00	12:55	213.27	T	F	0.962	
		0.00	13:15	41.02	T	F	0.986	
		0.00	13:29	84.62	T	T	1.004	✓
		0.00	13:55	927.46	T	F	1.036	
		0.00	14:04	1079.98	T	F	1.047	
		0.00	14:16	60.62	T	F	1.062	
		0.00	14:33	53.47	T	F	1.083	
		0.00	14:42	75.35	T	F	1.094	
		0.00	14:59	113.99	T	F	1.115	
		0.00	15:15	120.27	T	F	1.135	
		0.00	15:29	85.98	T	F	1.153	
		0.00	15:40	123.31	T	F	1.166	
		0.00	15:48	77.60	T	F	1.176	
		0.00	16:05	369.08	T	F	1.197	
152		*** Total ***		12880.95	# of Peaks:		22	
154		0.00	12:07	5480.73	T	F	0.869	
		0.00	12:27	21.87	T	F	0.892	
		0.00	12:54	19.57	T	F	0.925	
		0.00	14:03	1092.44	T	T	1.007	✓
		0.00	14:16	30.03	T	F	1.023	
		0.00	14:42	102.70	T	F	1.054	
		0.00	14:59	75.13	T	F	1.074	
		0.00	15:14	119.57	T	F	1.092	
		0.00	15:28	84.61	T	F	1.109	
		0.00	16:01	65.78	T	F	1.148	

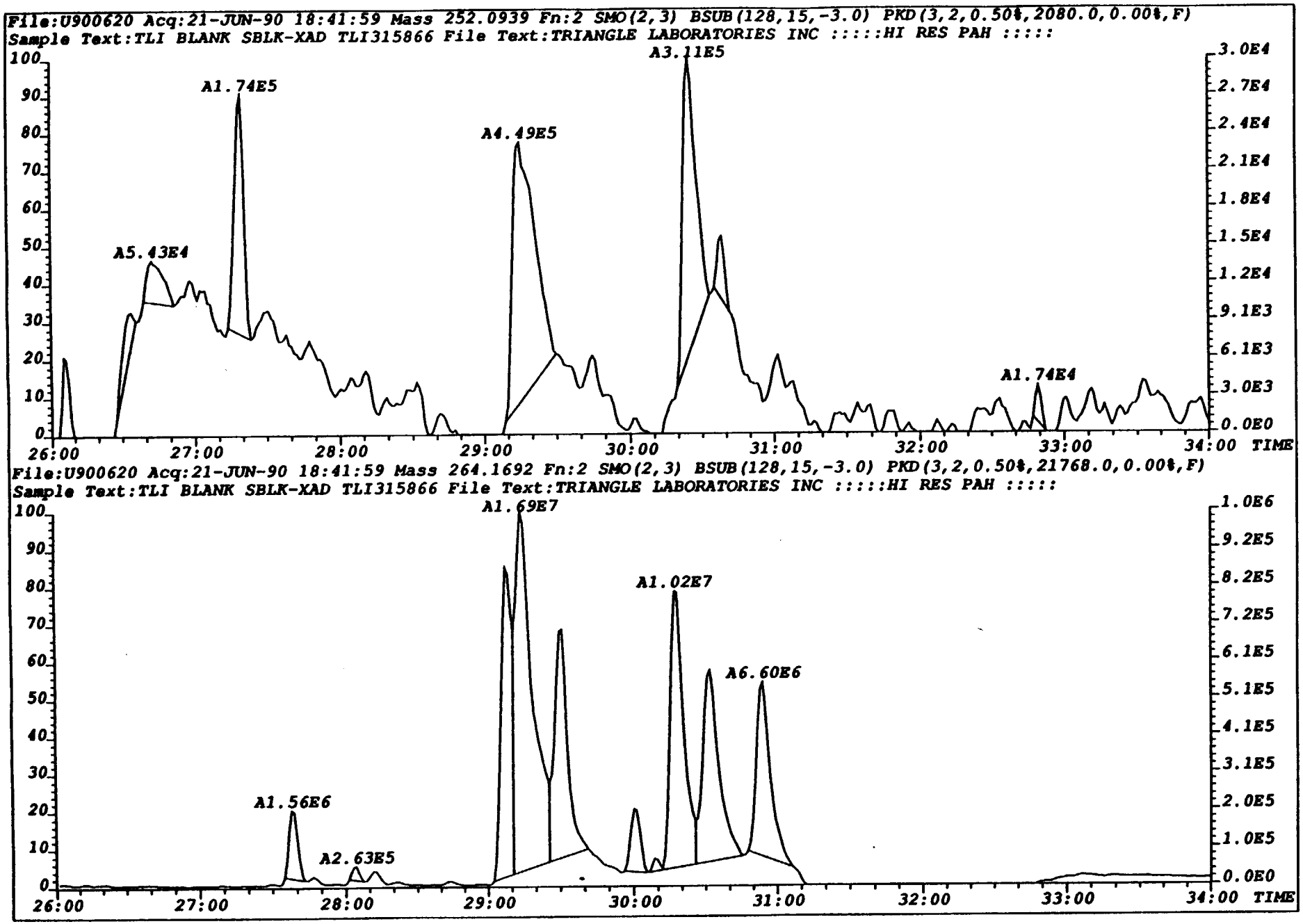
Matched GC Peaks / Ratio / Rat. Time

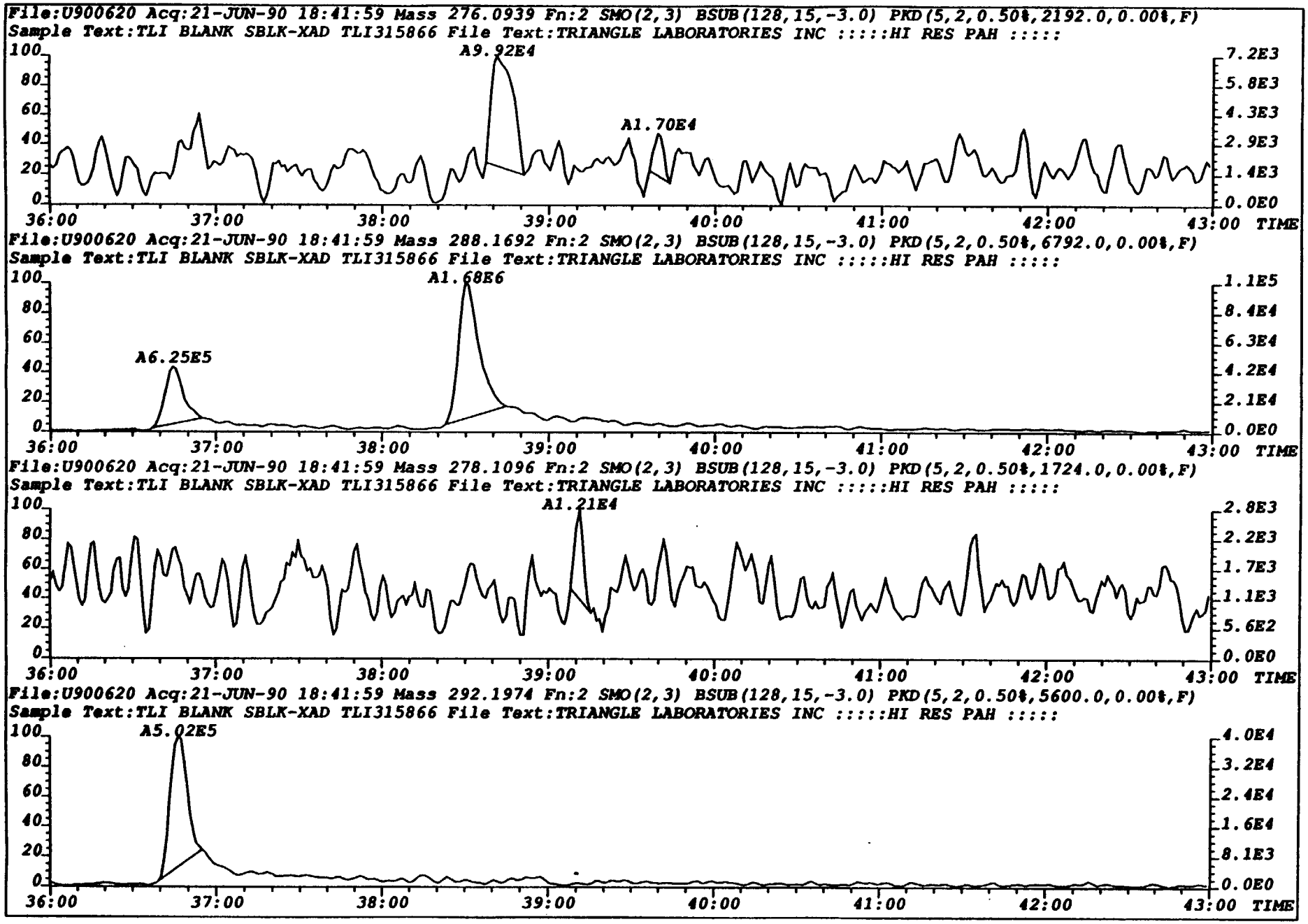
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
160		0.00	13:26	6335.30	T	T	0.443	✓
		0.00	13:57	1989.06	T	F	0.460	
		0.00	14:34	28.76	T	F	0.481	
160		*** Total ***		8353.12	# of Peaks:		3	
164		0.00	13:57	4952.45	T	T	1.038	✓
164		*** Total ***		4952.45	# of Peaks:		1	
166		0.00	14:03	172.60	T	F	0.908	
		0.00	14:15	22.81	T	F	0.921	
		0.00	14:32	69.20	T	F	0.940	
		0.00	15:34	1372.33	T	T	1.006	✓
		0.00	15:49	41.70	T	F	1.023	
		0.00	16:07	348.52	T	F	1.042	
		0.00	16:28	104.59	T	F	1.065	
		0.00	16:46	1383.25	T	F	1.084	
		0.00	17:09	4165.12	T	F	1.109	
		0.00	17:17	2674.13	T	F	1.117	
166		*** Total ***		10354.25	# of Peaks:		10	
169		3.35	12:05	6686.79	T	T	0.900	✓
169		*** Total ***		6686.79	# of Peaks:		1	
176		0.00	15:28	4331.63	T	T	1.151	✓
		0.00	17:10	70.71	T	F	1.278	
		0.00	18:21	32.34	T	F	1.366	
176		*** Total ***		4434.68	# of Peaks:		3	
178		0.00	14:32	221.78	T	F	0.797	
		0.00	15:29	31.06	T	F	0.849	
		0.00	16:00	9.19	T	F	0.878	
		0.00	16:28	52.78	T	F	0.903	
		0.00	16:46	610.87	T	F	0.920	
		0.00	16:51	509.71	T	F	0.924	
		0.00	17:08	1576.14	T	F	0.940	
		0.00	17:17	1772.91	T	F	0.948	
		0.00	17:40	864.32	T	F	0.969	
		0.00	18:04	30.35	T	F	0.991	
		0.00	18:18	7809.96	T	T	1.004	✓
		0.00	18:40	394.13	T	F	1.024	
		0.00	18:49	134.76	T	F	1.032	
		0.00	19:06	241.48	T	F	1.048	
		0.00	19:14	85.44	T	F	1.055	
		0.00	19:47	64.28	T	F	1.085	
178		*** Total ***		14409.16	# of Peaks:		16	
188		0.00	18:14	5947.58	T	T	1.357	✓
		0.00	18:21	6870.52	T	T	1.366	✓
188		*** Total ***		12818.10	# of Peaks:		2	
202		0.00	21:10	393.72	T	F	0.957	
		0.00	21:26	152.82	T	F	0.969	


File:U900620 Acq:21-JUN-90 18:41:59 Mass 162.0236 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,10836.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.30E5
File:U900620 Acq:21-JUN-90 18:41:59 Mass 164.0207 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,19496.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:14
10:49
11:19
11:35
11:46
12:02
12:36
12:55
13:12
13:35
13:56
14:09
14:39
14:52
File:U900620 Acq:21-JUN-90 18:41:59 Mass 169.0646 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3200.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A5.15E7
A3.67E6
A2.22E6
File:U900620 Acq:21-JUN-90 18:41:59 Mass 171.0616 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1416.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.54E7
10:00
11:00
12:00
13:00
14:00
15:00
TIME


File:U900620 Acq:21-JUN-90 18:41:59 Mass 166.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,8120.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.17E7
A2.69E7
A1.37E7
A1.38E7
File:U900620 Acq:21-JUN-90 18:41:59 Mass 176.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1200.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.33E7
File:U900620 Acq:21-JUN-90 18:41:59 Mass 178.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,6800.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.81E7
A1.58E7
A8.64E6
File:U900620 Acq:21-JUN-90 18:41:59 Mass 188.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,800.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.87E7
14:00
15:00
16:00
17:00
18:00
19:00
20:00
TIME


File:U900620 Acq:21-JUN-90 18:41:59 Mass 202.0782 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,275988.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.35E7
A2.78E7
A3.94E6
A3.61E6
File:U900620 Acq:21-JUN-90 18:41:59 Mass 212.1410 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,35460.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.05E8
A1.59E8
File:U900620 Acq:21-JUN-90 18:41:59 Mass 228.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,31000.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.51E7
A7.09E6
A9.96E5
A2.71E6
A6.73E6
File:U900620 Acq:21-JUN-90 18:41:59 Mass 240.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,102996.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A9.15E7
A1.18E7
A6.75E6
A1.82E6
File:U900620 Acq:21-JUN-90 18:41:59 Mass 244.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,30744.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.81E8
100
50
0
18:00
19:00
20:00
21:00
22:00
23:00
24:00
25:00
26:00
27:00
28:00
TIME
4.0E6
2.0E6
0.0E0
2.0E7
1.0E7
1.7E6
8.3E5
5.4E6
2.7E6
1.4E7
7.0E6


File:U900620 Acq:21-JUN-90 18:41:59 Mass 252.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,2080.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.74E5
A4.49E5
A3.11E5
A5.43E4
A1.74E4
TIME
File:U900620 Acq:21-JUN-90 18:41:59 Mass 264.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,21768.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.69E7
A1.02E7
A6.60E6
A1.56E6
A2.63E5
TIME


File:U900620 Acq:21-JUN-90 18:41:59 Mass 276.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2192.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A9.92E4
A1.70E4
File:U900620 Acq:21-JUN-90 18:41:59 Mass 288.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,6792.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.68E6
A6.25E5
File:U900620 Acq:21-JUN-90 18:41:59 Mass 278.1096 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1724.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.21E4
File:U900620 Acq:21-JUN-90 18:41:59 Mass 292.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,5600.0,0.00%,F)
Sample Text:TLI BLANK SBLK-XAD TLI315866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A5.02E5
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
TIME

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

07/05/90

FILE NAME....:	U900625	CLIENT ID....:	P&S	TLI NUMBER....:	n/a
CONCAL.....:	U900619	SAMPLE ID....:	TLI BLANK BH		
ANALYST.....:	MC	ANALYSIS DATE:	06/21/90	PROJECT NUMBER:	15866
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5 BH	DATE RECEIVED.:	05/30/90
ICAL DATE....:	06/21/90	SAMPLE ORIGIN:	HRSG OUT	DATE COLLECTED:	05/23/90
SPIKE FILE...:	SPPAHH1C			SHIPMENT NO...:	UTS

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	118			8:24	___
2-Me-Naph	43.1			10:36	___
2-Cl-Naph	ND		0.1		___
Acenaphthen	7.0			14:03	___
Acenaph	0.45			13:29	___
Fluorene	5.3			15:33	___
Phenan	9.5			18:18	___
Anth	ND		0.3		___
Fluoran	0.87			21:33	___
Pyrene	0.70			22:08	___
B-a-Anth	ND		0.5		___
Chrysene	ND		0.2		___
B-b-Fluoran	ND		1.1		___
B-k-Fluoran	ND		0.6		___
B-e-Pyrene	ND		0.8		___
B-a-Pyrene	ND		1.0		___
Perylene	ND		1.0		___
I-123-cd-Py	ND		5.6		___
DiB-ah-Anth	ND		10.4		___
B-ghi-Pery	ND		5.2		___

SURROGATE RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	0.89	0.89	22:34	___

ALTERNATE STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	489	489	18:21	___

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

FILE NAME....:	U900625	CLIENT ID....:	P&S	TLI NUMBER....:	n/a
CONCAL.....:	U900619	SAMPLE ID....:	TLI BLANK BH		
ANALYST.....:	MC	ANALYSIS DATE:	06/21/90	PROJECT NUMBER:	15866
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5 BH	DATE RECEIVED.:	05/30/90
ICAL DATE....:	06/21/90	SAMPLE ORIGIN:	HRSG OUT	DATE COLLECTED:	05/23/90
SPIKE FILE...:	SPPAHH1C			SHIPMENT NO...:	UTS

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	447	447	8:21	___
d10-2-Me-Naph	510	510	10:29	___
d7-2-Cl-Naph	522	522	12:06	___
d8-Acenaph	516	516	13:26	___
d10-Acenaphthen	541	541	13:57	___
d10-Fluorene	432	432	15:29	___
d10-Phenan	414	414	18:13	___
d10-Fluoran	458	458	21:30	___
d10-Pyrene	458	458	22:06	___
d12-B-a-Anth	178	178	25:23	___
d12-Chrysene	292	292	25:30	___
d12-B-b-Fluoran	110	110	29:07	___
d12-B-k-Fluoran	119	119	29:14	___
d12-B-a-Pyrene	106	106	30:31	___
d12-Perylene	168	168	30:53	___
d12-I-123-cd-Py	51.1	51.1	36:44	___
d14-DiB-ah-Anth	37.7	37.7	36:46	___
d12-B-ghi-Pery	44.9	44.9	38:30	___

PAHH_RPT rev:1.00.

PC 2.4

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128		0.00	8:24	7288.57	T	T	1.006	✓
		0.00	9:59	46.87	T	F	1.196	
		0.00	10:20	14.31	T	F	1.238	
128		*** Total ***		7349.75	# of Peaks:		3	
136		0.00	8:21	7396.96	T	~~F~~ T	0.622	✓
		0.00	10:21	13.79	T	F	0.770	
		0.00	13:58	21.10	T	F	1.040	
136		*** Total ***		7431.85	# of Peaks:		3	
142		0.00	10:36	1859.55	T	T	1.011	✓
		0.00	10:57	786.26	T	F	1.045	
		0.00	12:29	270.90	T	F	1.191	
142		*** Total ***		2916.71	# of Peaks:		3	
152		0.00	8:58	10.79	T	F	0.667	
		0.00	10:29	4988.36	T	~~F~~ T	0.780	✓
		0.00	10:48	46.41	T	F	0.804	
		0.00	11:40	19.55	T	F	0.868	
		0.00	12:07	374.60	T	F	0.902	
		0.00	12:27	61.91	T	F	0.927	
		0.00	12:38	22.36	T	F	0.940	
		0.00	12:55	44.28	T	F	0.962	
		0.00	13:14	12.90	T	F	0.985	
		0.00	13:29	24.88	T	T	1.004	✓
		0.00	13:54	335.13	T	F	1.035	
		0.00	14:03	305.26	T	F	1.046	
		0.00	14:16	4.70	T	F	1.062	
		0.00	14:30	5.60	T	F	1.079	
		0.00	14:41	6.37	T	F	1.093	
		0.00	14:59	11.46	T	F	1.115	
		0.00	15:14	16.83	T	F	1.134	
		0.00	15:29	7.24	T	F	1.153	
		0.00	15:40	5.49	T	F	1.166	
		0.00	16:04	10.40	T	F	1.196	
152		*** Total ***		6314.52	# of Peaks:		20	
154		0.00	12:07	1827.84	T	F	0.869	
		0.00	13:27	7.90	T	F	0.964	
		0.00	13:54	5.97	T	F	0.996	
		0.00	14:03	248.62	T	T	1.007	✓
		0.00	15:13	7.23	T	F	1.091	
154		*** Total ***		2097.56	# of Peaks:		5	
160		0.00	13:26	5187.12	T	~~F~~ T	0.443	✓
		0.00	13:57	1507.16	T	F	0.460	
160		*** Total ***		6694.28	# of Peaks:		2	
164		0.00	13:57	3691.36	T	T	1.038	✓
		0.00	13:57	1.98	T	~~T~~ F	1.038	
164		*** Total ***		3693.34	# of Peaks:		2	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
166		0.00	14:14	9.76	T	F	0.919	
		0.00	14:30	9.19	T	F	0.936	
		0.00	14:40	4.84	T	F	0.947	
		0.00	15:18	4.74	T	F	0.988	
		0.00	15:33	156.29	T	T	1.004	✓
		0.00	15:51	4.02	T	F	1.024	
		0.00	16:00	4.84	T	F	1.033	
		0.00	16:07	5.73	T	F	1.041	
		0.00	16:28	2.72	T	F	1.064	
		0.00	16:42	8.49	T	F	1.079	
		0.00	17:00	0.04	T	F	1.098	
		0.00	17:09	109.45	T	F	1.108	
		0.00	17:19	11.28	T	F	1.118	
166		*** Total ***		375.66	# of Peaks:		14	
169		3.28	12:06	5219.53	T	T	0.901	✓
169		*** Total ***		5219.53	# of Peaks:		1	
176		0.00	15:29	2364.06	T	T	1.153	✓
176		*** Total ***		2364.06	# of Peaks:		1	
178		0.00	14:00	1.24	T	F	0.763	
		0.00	14:14	1.27	T	F	0.776	
		0.00	14:30	11.95	T	F	0.790	
		0.00	15:29	4.20	T	F	0.844	
		0.00	15:39	1.27	T	F	0.853	
		0.00	16:44	3.16	T	F	0.912	
		0.00	16:54	2.93	T	F	0.921	
		0.00	17:08	53.24	T	F	0.934	
		0.00	17:19	23.28	T	F	0.944	
		0.00	17:40	15.77	T	F	0.963	
		0.00	17:53	3.96	T	F	0.975	
		0.00	18:03	1.60	T	F	0.984	
		0.00	18:18	308.97	T	~~F~~ T	0.997	✓
178		*** Total ***		432.84	# of Peaks:		13	
188		0.00	18:13	2617.34	T	~~F~~ T	1.356	✓
		0.00	18:21	2461.96	T	~~F~~ T	1.366	✓
188		*** Total ***		5079.30	# of Peaks:		2	
202		0.00	21:33	48.13	T	T	1.002	✓
		0.00	22:08	38.87	T	T	1.002	✓
		0.00	27:19	5.83	T	F	1.236	
202		*** Total ***		92.83	# of Peaks:		3	
212		0.00	21:30	7710.78	T	T	0.696	✓
		0.00	22:06	6204.47	T	T	0.716	✓
212		*** Total ***		13915.25	# of Peaks:		2	
228		0.00	20:56	0.91	T	F	0.821	
		0.00	21:43	1.03	T	F	0.852	
		0.00	22:53	0.95	T	F	0.897	
		0.00	23:09	0.74	T	F	0.908	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
228		0.00	23:37	0.80	T	F	0.926	
	D	0.00	25:33	8.49	T	T	1.002	S/N
		0.00	26:50	1.01	T	F	1.052	
		0.00	27:08	0.39	T	F	1.064	
		0.00	27:19	5.59	T	F	1.071	
228		*** Total ***		19.91	# of Peaks:		9	
240		0.00	25:23	1012.14	T	T	0.822	✓
		0.00	25:30	4380.31	T	T	0.826	✓
240		*** Total ***		5392.45	# of Peaks:		2	
244		0.00	22:34	12.80	T	T	0.745	✓
		0.00	23:50	0.87	T	F	0.787	
		0.00	24:09	1.22	T	F	0.797	
244		*** Total ***		14.89	# of Peaks:		3	
252		0.00	26:22	0.13	T	F	0.854	
		0.00	27:19	2.07	T	F	0.885	
		0.00	27:28	2.63	T	F	0.889	
		0.00	29:34	1.56	T	F	0.957	
		0.00	31:32	0.37	T	F	1.021	
		0.00	32:15	0.41	T	F	1.044	
		0.00	32:45	1.37	T	F	1.060	
252		*** Total ***		8.54	# of Peaks:		7	
264		0.00	29:07	437.90	T	T	0.943	✓
		0.00	29:14	1088.42	T	T	0.947	✓
		0.00	30:17	520.96	T	T	0.999	✓
		0.00	30:31	579.49	T	T	0.988	✓
		0.00	30:53	573.86	T	T	1.019	✓
		0.00	31:18	9.41	T	F	1.033	
		0.00	33:15	1.67	T	F	1.097	
264		*** Total ***		3211.71	# of Peaks:		7	
276	D	0.00	36:57	0.77	T	T	1.006	S/N
		0.00	38:22	0.49	T	F	0.997	
		0.00	42:03	0.95	T	F	1.092	
		0.00	42:14	1.17	T	F	1.097	
		0.00	42:24	0.80	T	F	1.101	
		0.00	42:30	0.48	T	F	1.104	
		0.00	42:58	0.84	T	F	1.116	
276		*** Total ***		5.50	# of Peaks:		7	
278		0.00	36:28	0.72	T	F	0.992	
		0.00	37:08	0.96	T	F	1.010	
		0.00	38:46	0.50	T	F	1.054	
278		*** Total ***		2.18	# of Peaks:		3	
288		0.00	36:44	62.01	T	T	1.189	✓
		0.00	37:29	1.50	T	F	1.214	
		0.00	37:46	1.81	T	F	1.223	
		0.00	38:01	0.42	T	F	1.231	
		0.00	38:30	136.07	T	T	1.247	✓

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
288		0.00	38:54	7.69	T	F	1.260	
		0.00	39:03	1.77	T	F	1.264	
		0.00	39:22	0.55	T	F	1.275	
		0.00	39:43	1.11	T	F	1.286	
		0.00	39:58	1.66	T	F	1.294	
		0.00	40:11	1.28	T	F	1.301	
		0.00	40:20	0.67	T	F	1.306	
288		*** Total ***		216.54	# of Peaks:		12	
292		0.00	36:46	43.05	T	T	1.191	✓
		0.00	37:01	3.84	T	F	1.199	
		0.00	37:40	1.17	T	F	1.220	
		0.00	37:58	0.81	T	F	1.229	
		0.00	39:29	0.26	T	F	1.278	
		0.00	40:28	0.62	T	F	1.310	
292		*** Total ***		49.75	# of Peaks:		6	

*** End of Report ***

Listing of U900625I.dbf File
Raw Mass, Retention Time and Data Area

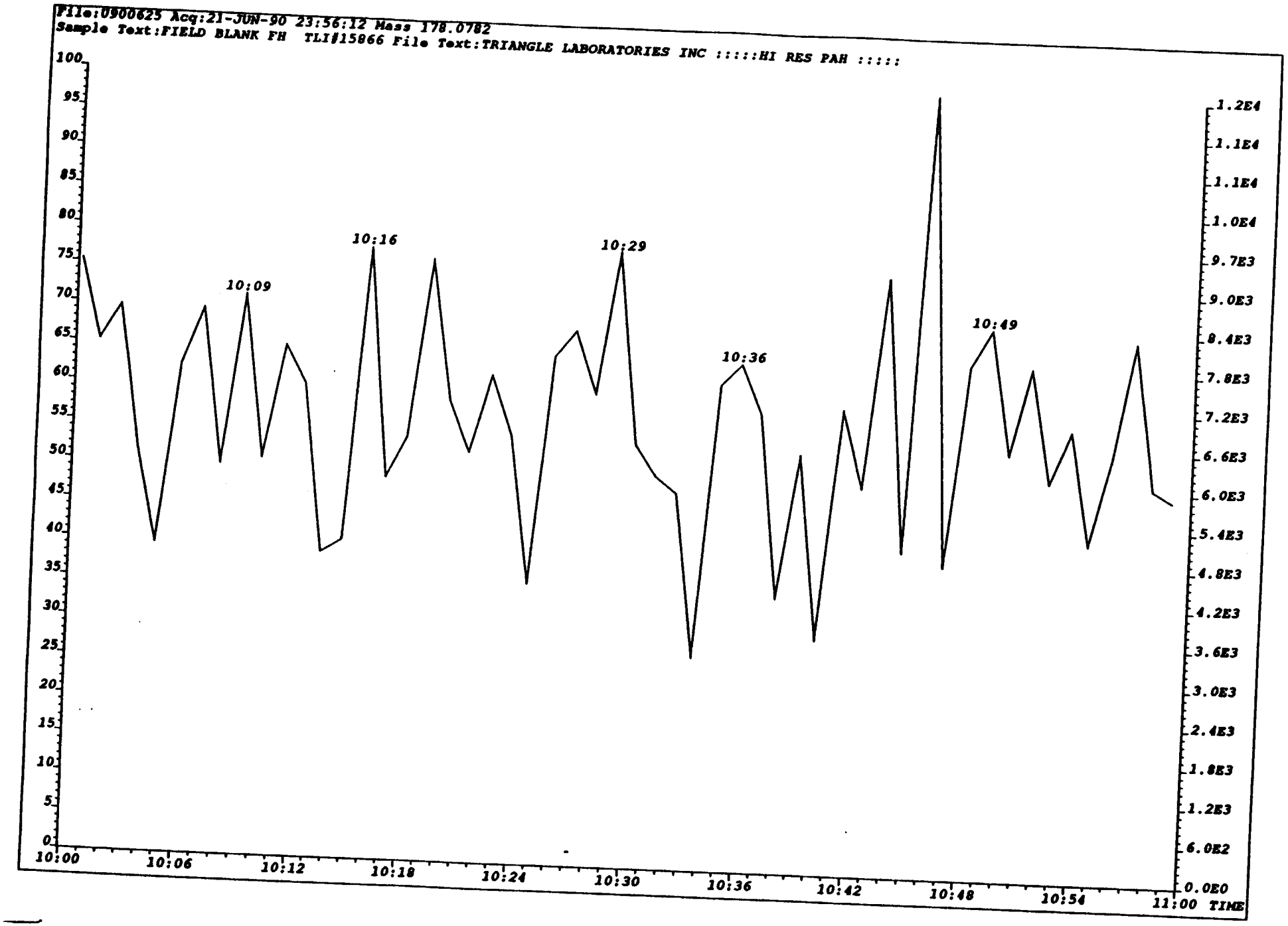
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
128	8:24	7288.57	9:59	46.87	10:20	14.31		
136	8:21	7396.96	10:21	13.79	13:58	21.10		
142	10:36	1859.55	10:57	786.26	12:29	270.90		
152	8:58	10.79	10:29	4988.36	10:48	46.41	11:40	19.55
154	12:07	1827.84	13:54	5.97	15:13	7.23		
	13:27	7.90	14:03	248.62				
164	13:57	3691.36						
152	12:07	374.60	13:14	12.90	14:16	4.70	15:14	16.83
	12:27	61.91	13:29	24.88	14:30	5.60	15:29	7.24
	12:38	22.36	13:54	335.13	14:41	6.37	15:40	5.49
	12:55	44.28	14:03	305.26	14:59	11.46	16:04	10.40
160	13:26	5187.12	13:57	1507.16				
162	13:14	3.45						
164	13:57	1.98						
169	12:06	4000.06	12:29	140.30	14:23	89.09		
171	12:06	1219.47						
166	14:03	44.27	15:18	4.74	16:07	5.73	17:09	109.45
	14:14	9.76	15:33	156.29	16:28	2.72	17:19	11.28
	14:30	9.19	15:51	4.02	16:42	8.49		
	14:40	4.84	16:00	4.84	17:00	0.04		
176	15:29	2364.06						
178	14:00	1.24	15:39	1.27	17:19	23.28	18:18	308.97
	14:14	1.27	16:44	3.16	17:40	15.77		
	14:30	11.95	16:54	2.93	17:53	3.96		
	15:29	4.20	17:08	53.24	18:03	1.60		
188	18:13	2617.34	18:21	2461.96				
202	21:33	48.13	22:08	38.87	27:19	5.83		
212	21:30	7710.78	22:06	6204.47				
228	20:56	0.91	23:09	0.74	26:50	1.01		

	21:43	1.03 | 23:37	0.80 | 27:08	0.39
	22:53	0.95 | 25:33	8.49 | 27:19	5.59
240	25:23	1012.14 | 25:30	4380.31	
244	22:34	12.80 | 23:50	0.87 | 24:09	1.22

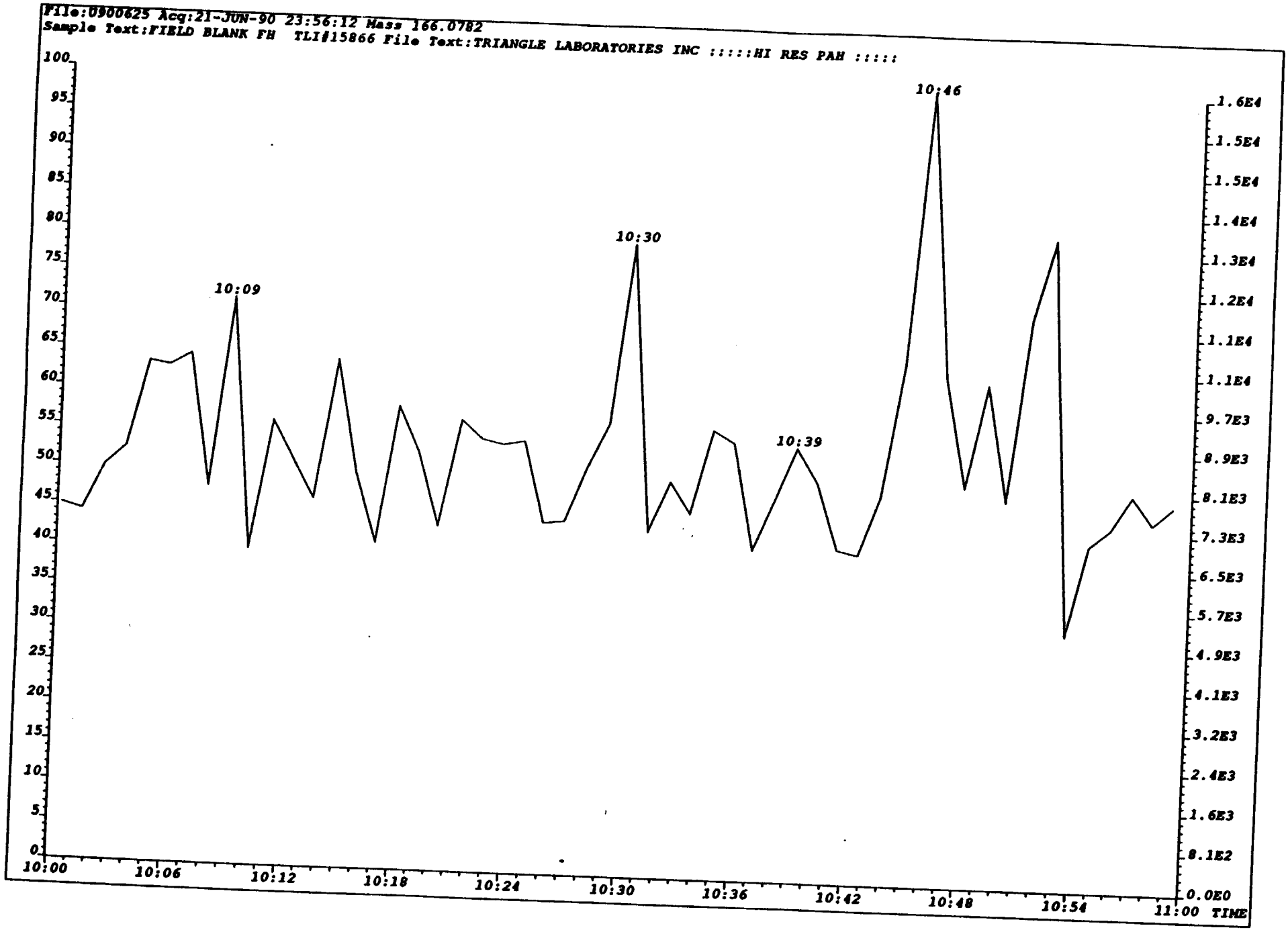
Listing of U900625I.dbf File
Raw Mass, Retention Time and Data Area

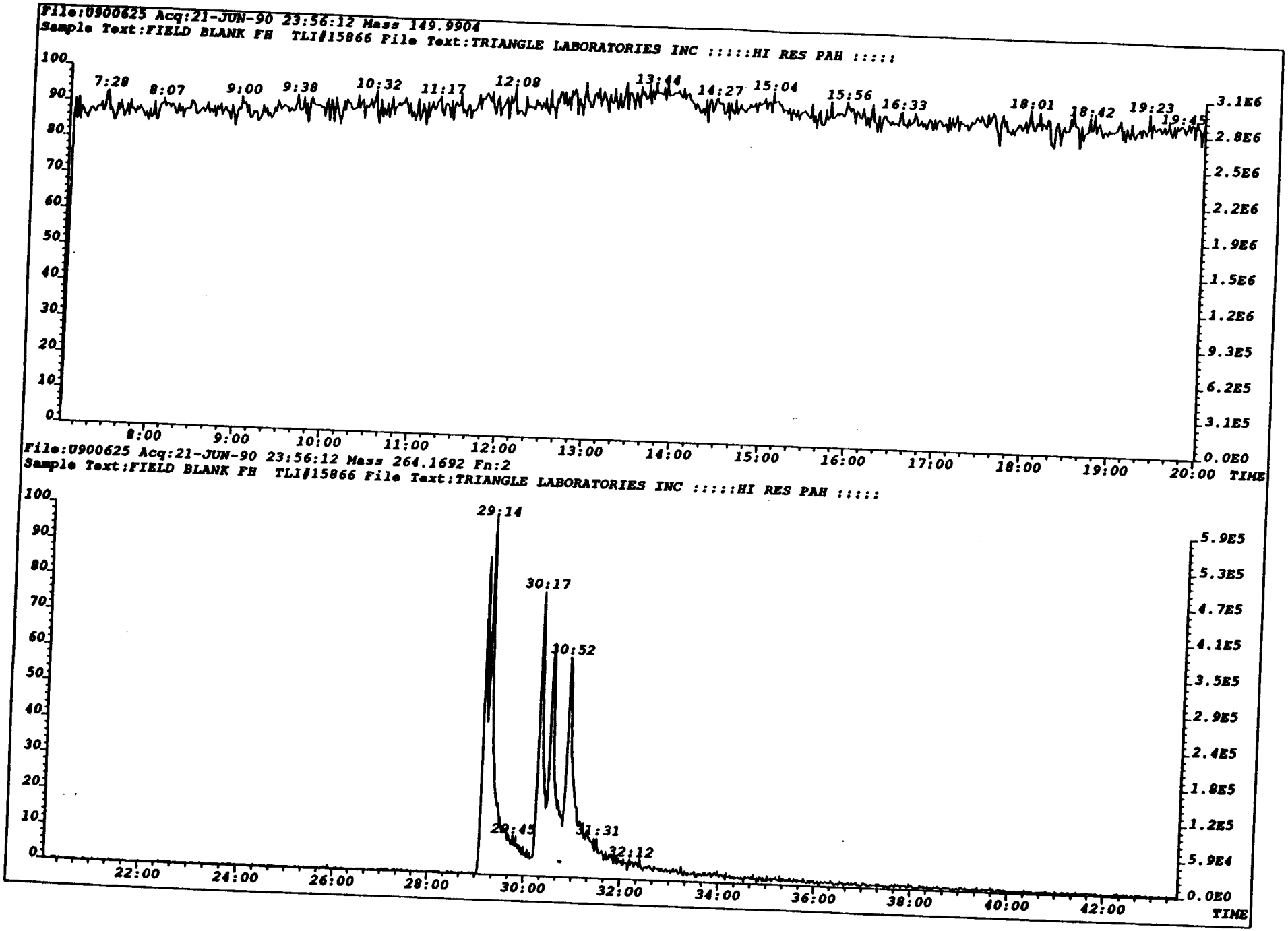
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
252	26:22	0.13	27:28	2.63	31:32	0.37	32:45	1.37
	27:19	2.07	29:34	1.56	32:15	0.41		
264	29:07	437.90	30:17	520.96	30:53	573.86	33:15	1.67
	29:14	1088.42	30:31	579.49	31:18	9.41		
276	36:57	0.77	42:03	0.95	42:24	0.80	42:58	0.84
	38:22	0.49	42:14	1.17	42:30	0.48		
288	36:44	62.01	38:01	0.42	39:03	1.77	39:58	1.66
	37:29	1.50	38:30	136.07	39:22	0.55	40:11	1.28
	37:46	1.81	38:54	7.69	39:43	1.11	40:20	0.67
278	36:28	0.72	37:08	0.96	38:46	0.50		
292	36:46	43.05	37:40	1.17	39:29	0.26		
	37:01	3.84	37:58	0.81	40:28	0.62		

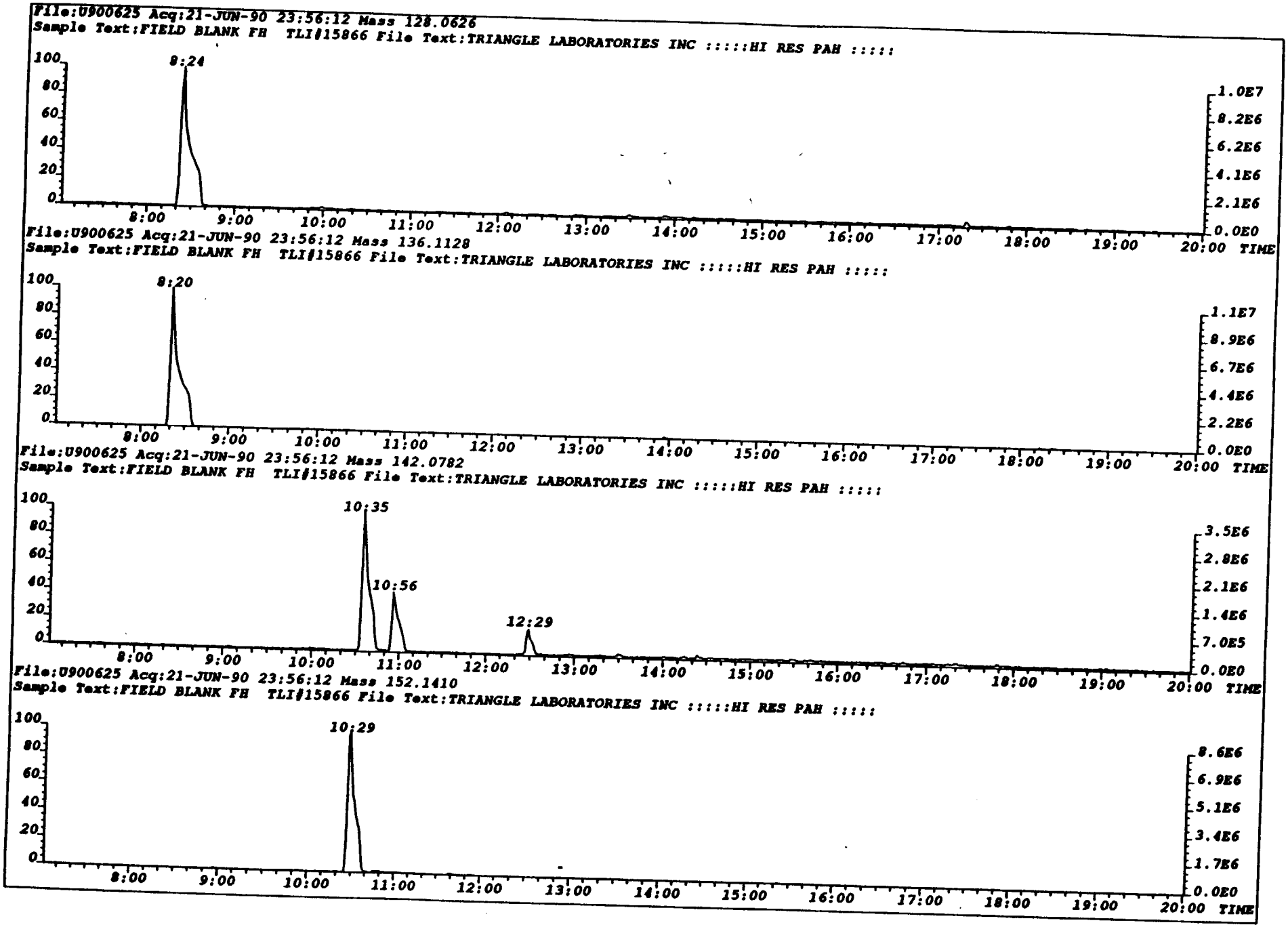
*** End of Report ***


File:0900625 Acq:21-JUN-90 23:56:12 Mass 178.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
10:09
10:16
10:29
10:36
10:49
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00 TIME
1.2E4
1.1E4
1.1E4
1.0E4
9.7E3
9.0E3
8.4E3
7.8E3
7.2E3
6.6E3
6.0E3
5.4E3
4.8E3
4.2E3
3.6E3
3.0E3
2.4E3
1.8E3
1.2E3
6.0E2
0.0E0

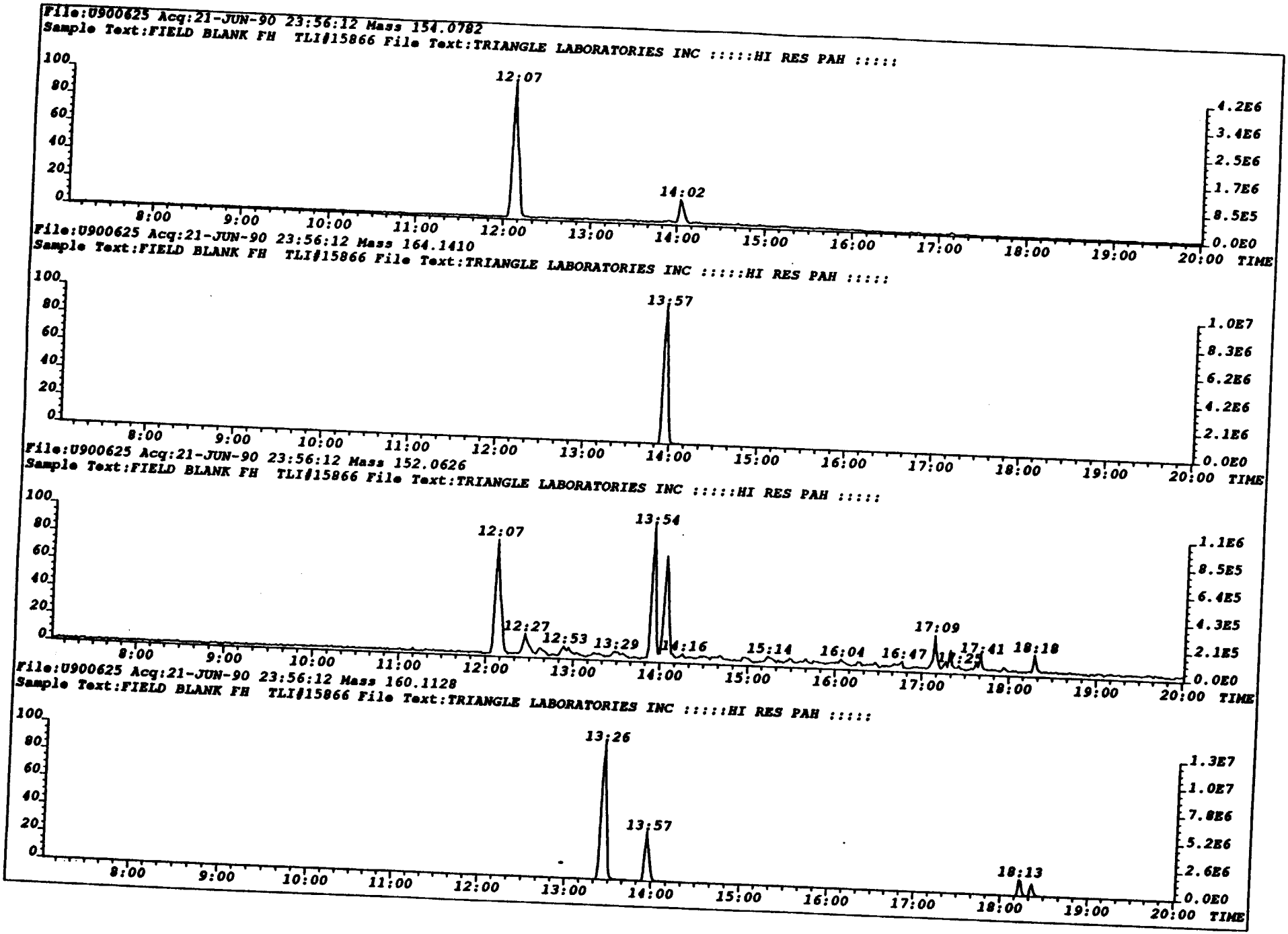
10

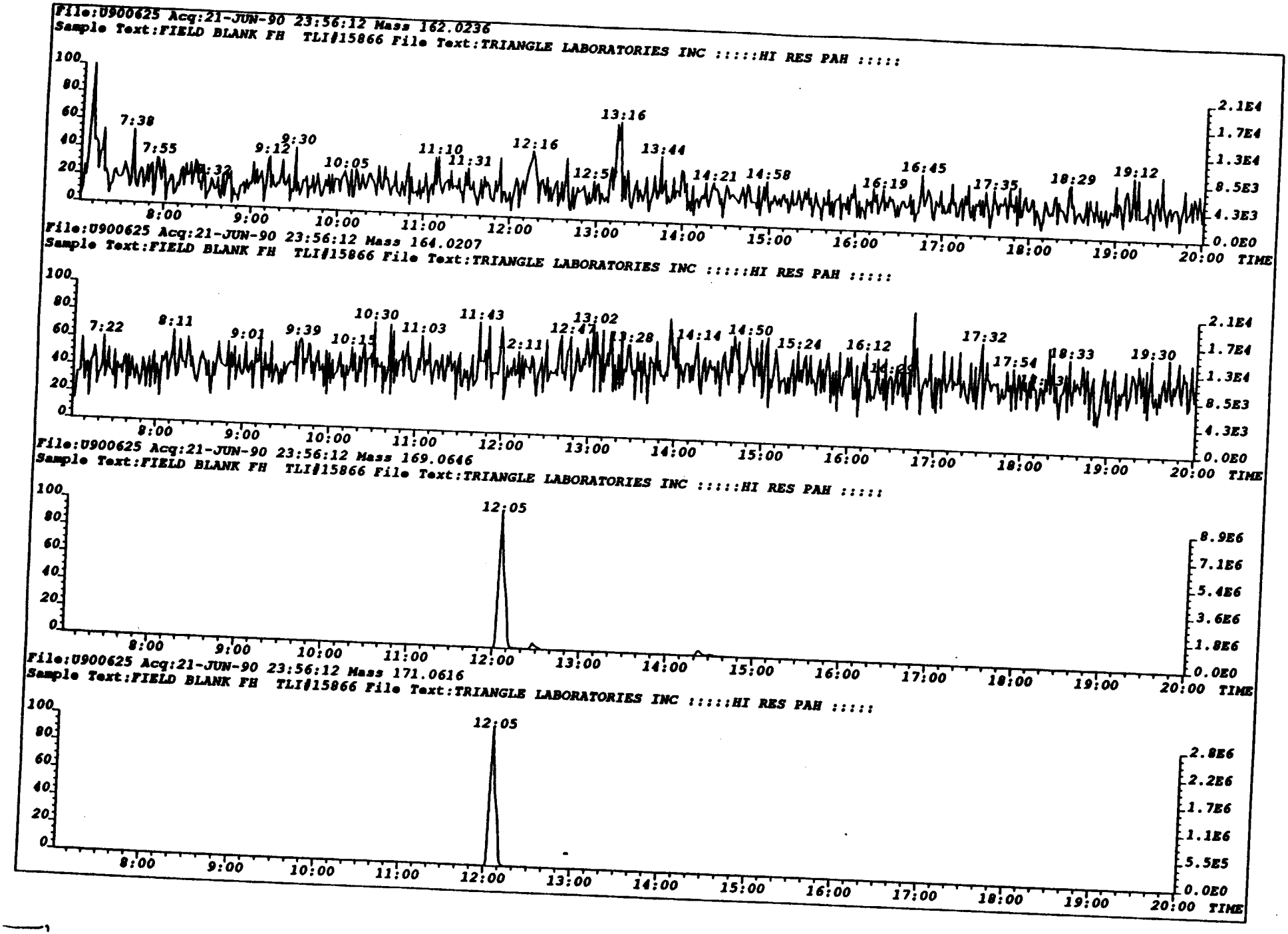

File:0900625 Acq:21-JUN-90 23:56:12 Mass 166.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:09
10:30
10:39
10:46
TIME

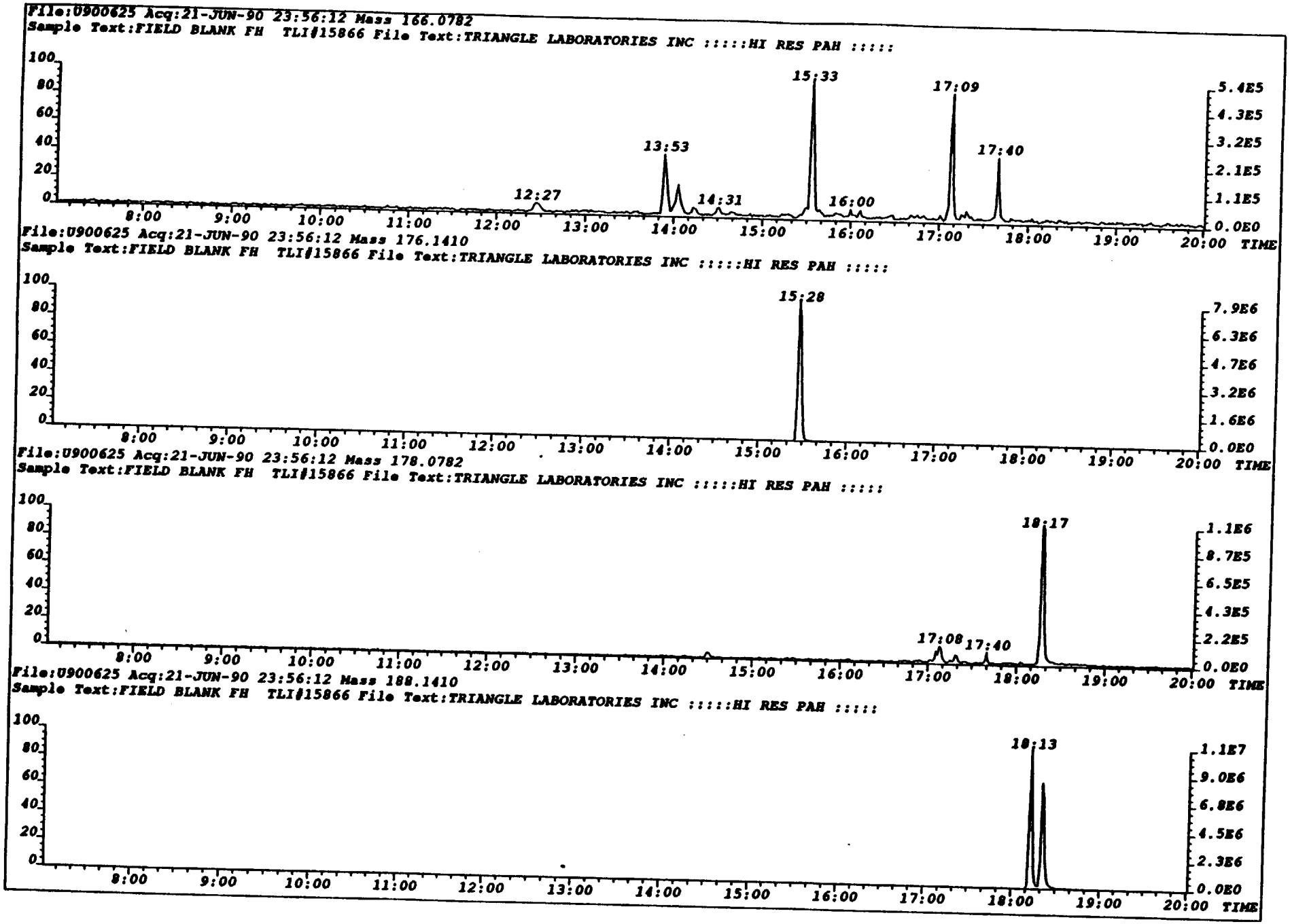

File:U900625 Acq:21-JUN-90 23:56:12 Mass 149.9904
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
7:28
8:07
9:00
9:38
10:32
11:17
12:08
13:44
14:27
15:04
15:56
16:33
18:01
18:42
19:23
19:45
3.1E6
2.8E6
2.5E6
2.2E6
1.9E6
1.5E6
1.2E6
9.3E5
6.2E5
3.1E5
0.0E0
TIME
File:U900625 Acq:21-JUN-90 23:56:12 Mass 264.1692 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
29:14
30:17
30:52
29:45
31:31
32:12
5.9E5
5.3E5
4.7E5
4.1E5
3.5E5
2.9E5
2.4E5
1.8E5
1.2E5
5.9E4
0.0E0
TIME

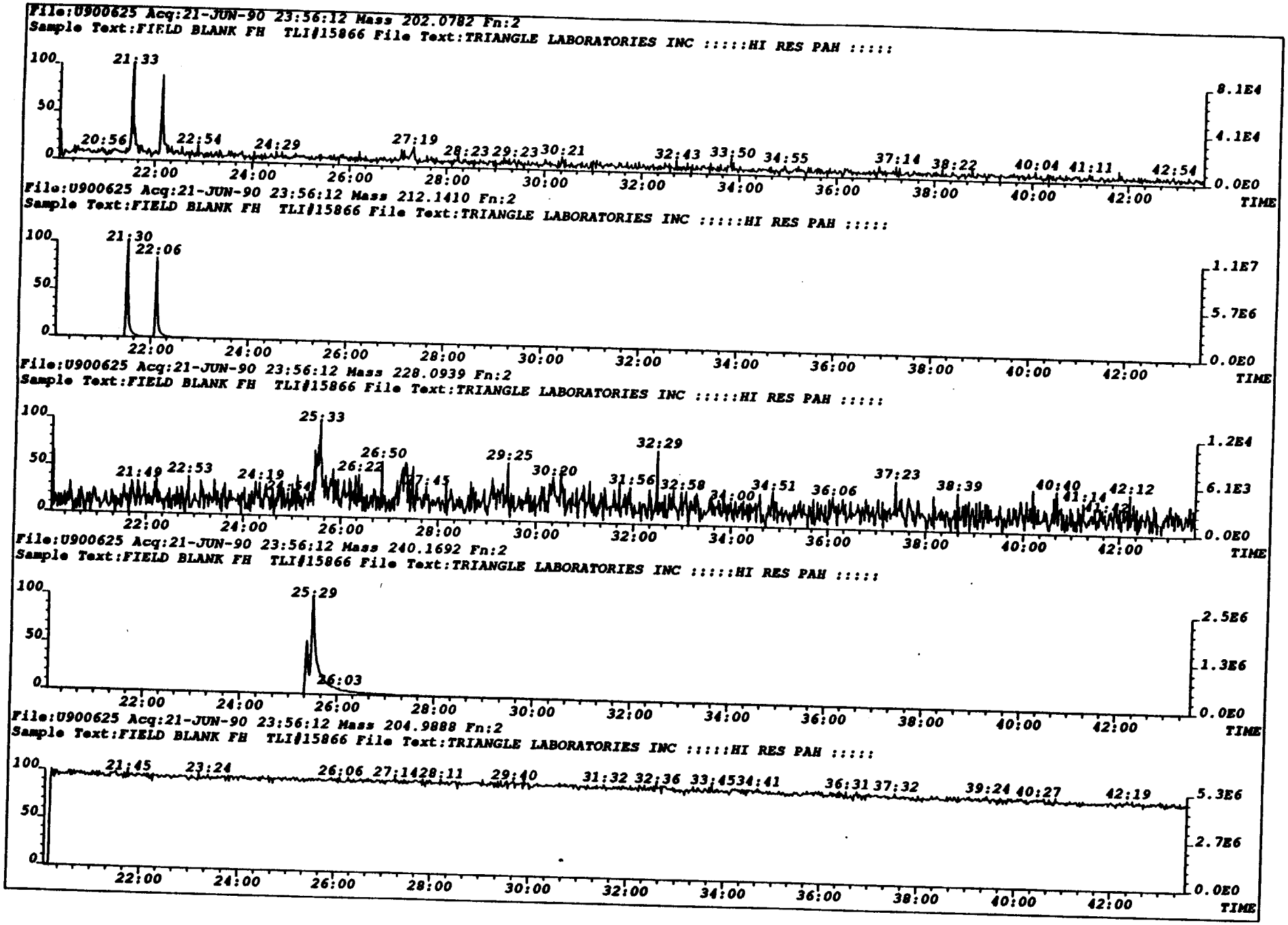

File:U900625 Acq:21-JUN-90 23:56:12 Mass 128.0626
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:24
1.0E7
8.2E6
6.2E6
4.1E6
2.1E6
0.0E0
File:U900625 Acq:21-JUN-90 23:56:12 Mass 136.1128
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:20
1.1E7
8.9E6
6.7E6
4.4E6
2.2E6
0.0E0
File:U900625 Acq:21-JUN-90 23:56:12 Mass 142.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:35
10:56
12:29
3.5E6
2.8E6
2.1E6
1.4E6
7.0E5
0.0E0
File:U900625 Acq:21-JUN-90 23:56:12 Mass 152.1410
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:29
8.6E6
6.9E6
5.1E6
3.4E6
1.7E6
0.0E0
100
80
60
40
20
0
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
TIME

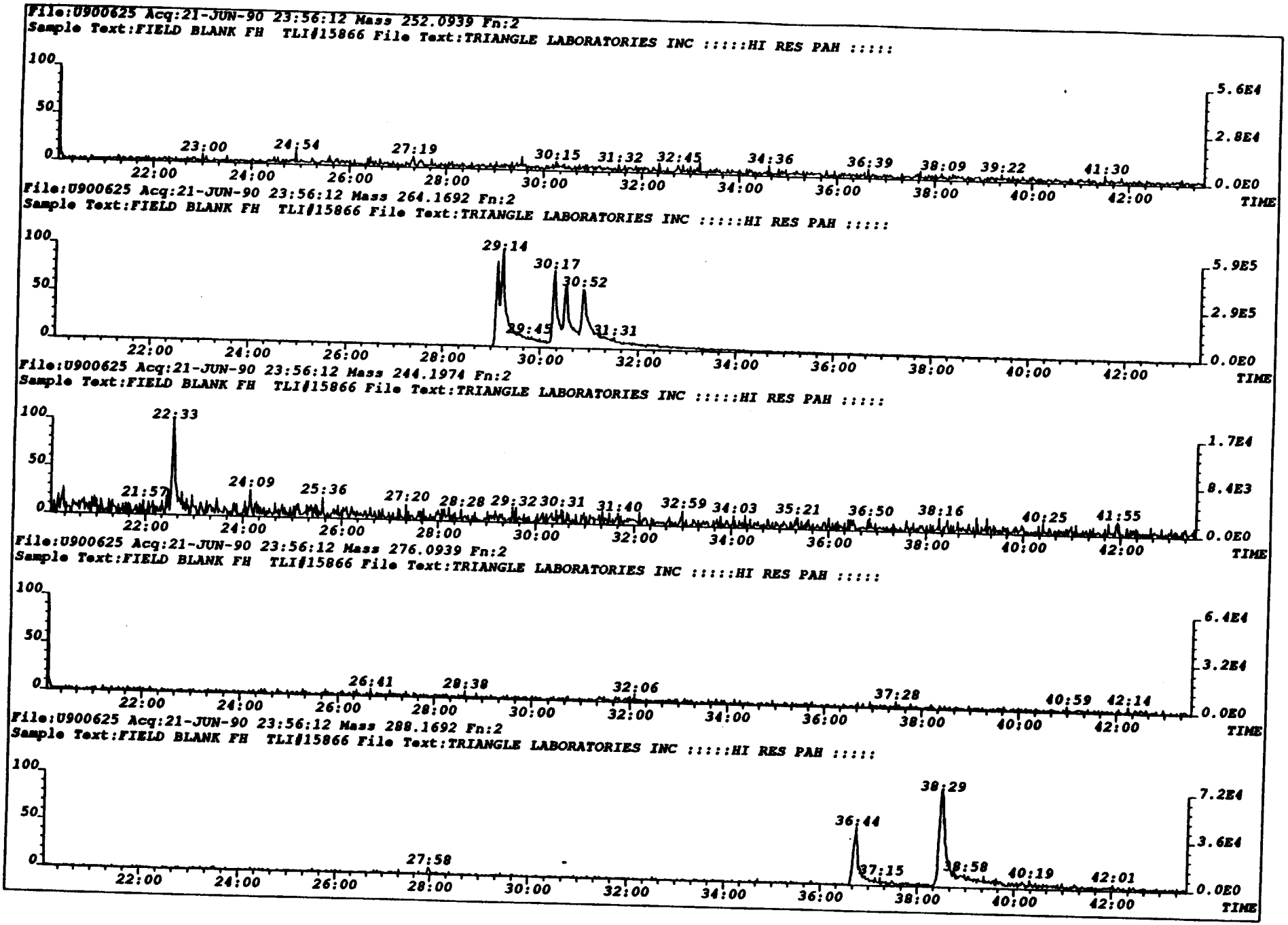
2

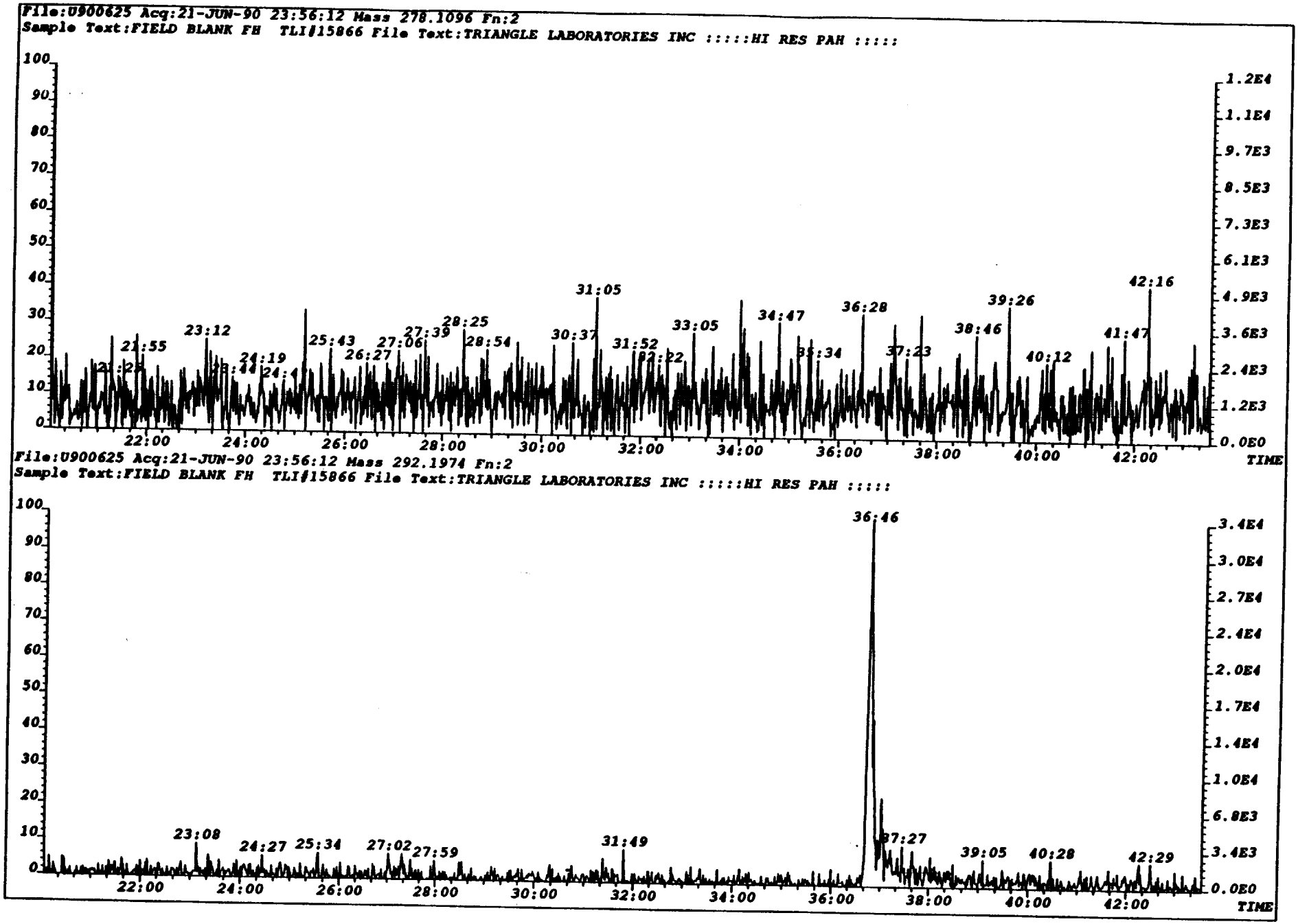

File:U900625 Acq:21-JUN-90 23:56:12 Mass 154.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:07
14:02
File:U900625 Acq:21-JUN-90 23:56:12 Mass 164.1410
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:57
File:U900625 Acq:21-JUN-90 23:56:12 Mass 152.0626
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:07
13:54
12:27
12:53
13:29
14:16
15:14
16:04
16:47
17:09
17:41
18:18
File:U900625 Acq:21-JUN-90 23:56:12 Mass 160.1128
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:26
13:57
18:13
TIME

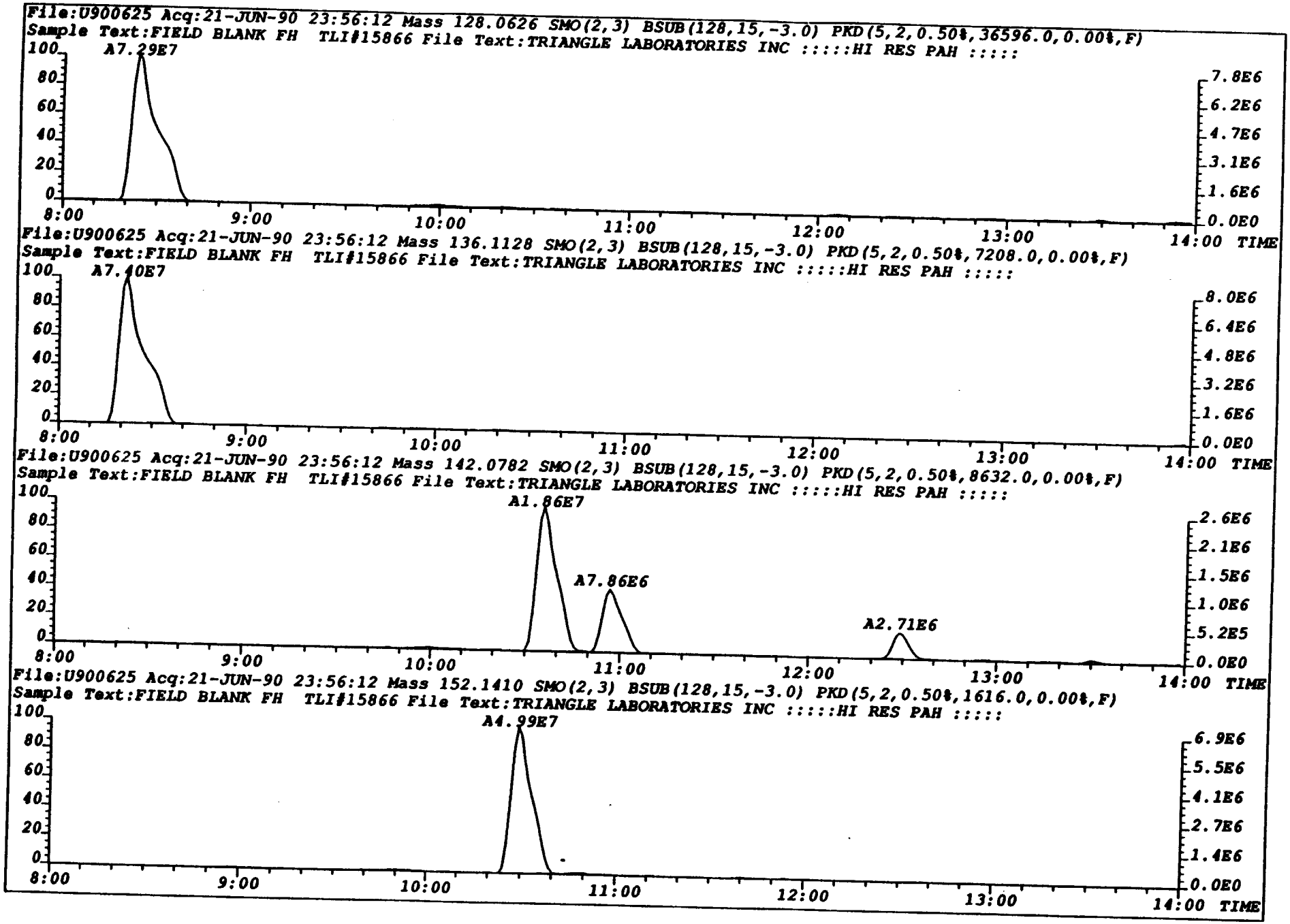

File:U900625 Acq:21-JUN-90 23:56:12 Mass 162.0236
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
File:U900625 Acq:21-JUN-90 23:56:12 Mass 164.0207
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
File:U900625 Acq:21-JUN-90 23:56:12 Mass 169.0646
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
File:U900625 Acq:21-JUN-90 23:56:12 Mass 171.0616
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
TIME


File:U900625 Acq:21-JUN-90 23:56:12 Mass 166.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:27
13:53
14:31
15:33
16:00
17:09
17:40
5.4E5
4.3E5
3.2E5
2.1E5
1.1E5
0.0E0
TIME
File:U900625 Acq:21-JUN-90 23:56:12 Mass 176.1410
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
15:28
7.9E6
6.3E6
4.7E6
3.2E6
1.6E6
0.0E0
TIME
File:U900625 Acq:21-JUN-90 23:56:12 Mass 178.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
17:08
17:40
18:17
1.1E6
8.7E5
6.5E5
4.3E5
2.2E5
0.0E0
TIME
File:U900625 Acq:21-JUN-90 23:56:12 Mass 188.1410
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
18:13
1.1E7
9.0E6
6.8E6
4.5E6
2.3E6
0.0E0
TIME

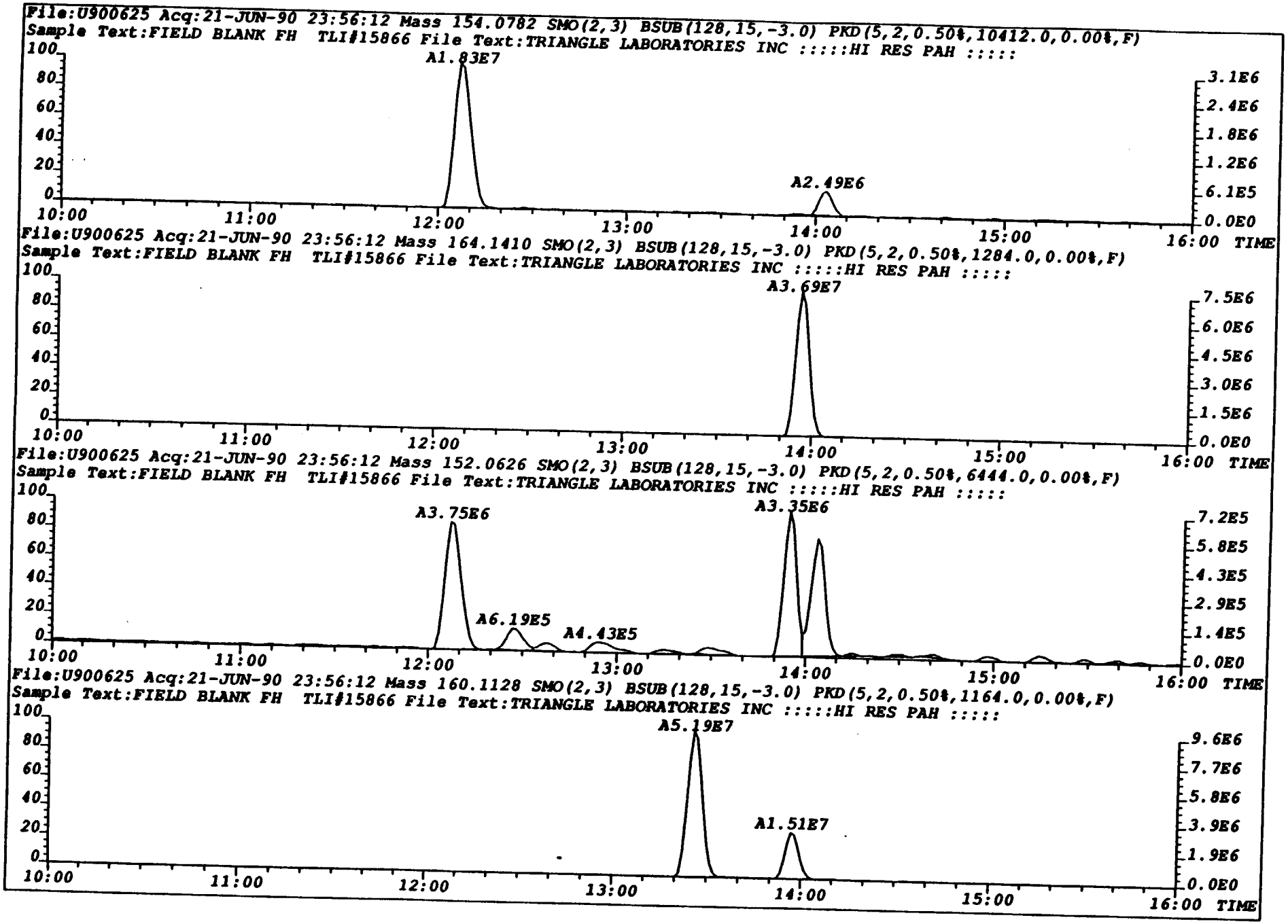

File:U900625 Acq:21-JUN-90 23:56:12 Mass 202.0782 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:33
20:56
22:54
24:29
27:19
28:23 29:23 30:21
32:43 33:50 34:55
37:14 38:22
40:04 41:11
42:54
8.1E4
4.1E4
0.0E0
TIME
File:U900625 Acq:21-JUN-90 23:56:12 Mass 212.1410 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:30
22:06
1.1E7
5.7E6
0.0E0
TIME
File:U900625 Acq:21-JUN-90 23:56:12 Mass 228.0939 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
25:33
21:49
22:53
24:19
26:50
26:22
29:25
30:20
32:29
31:56
32:58
34:51
36:06
37:23
38:39
40:40
41:14
42:12
1.2E4
6.1E3
0.0E0
TIME
File:U900625 Acq:21-JUN-90 23:56:12 Mass 240.1692 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
25:29
26:03
2.5E6
1.3E6
0.0E0
TIME
File:U900625 Acq:21-JUN-90 23:56:12 Mass 204.9888 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:45
23:24
26:06 27:14 28:11
29:40
31:32 32:36 33:45 34:41
36:31 37:32
39:24 40:27
42:19
5.3E6
2.7E6
0.0E0
TIME

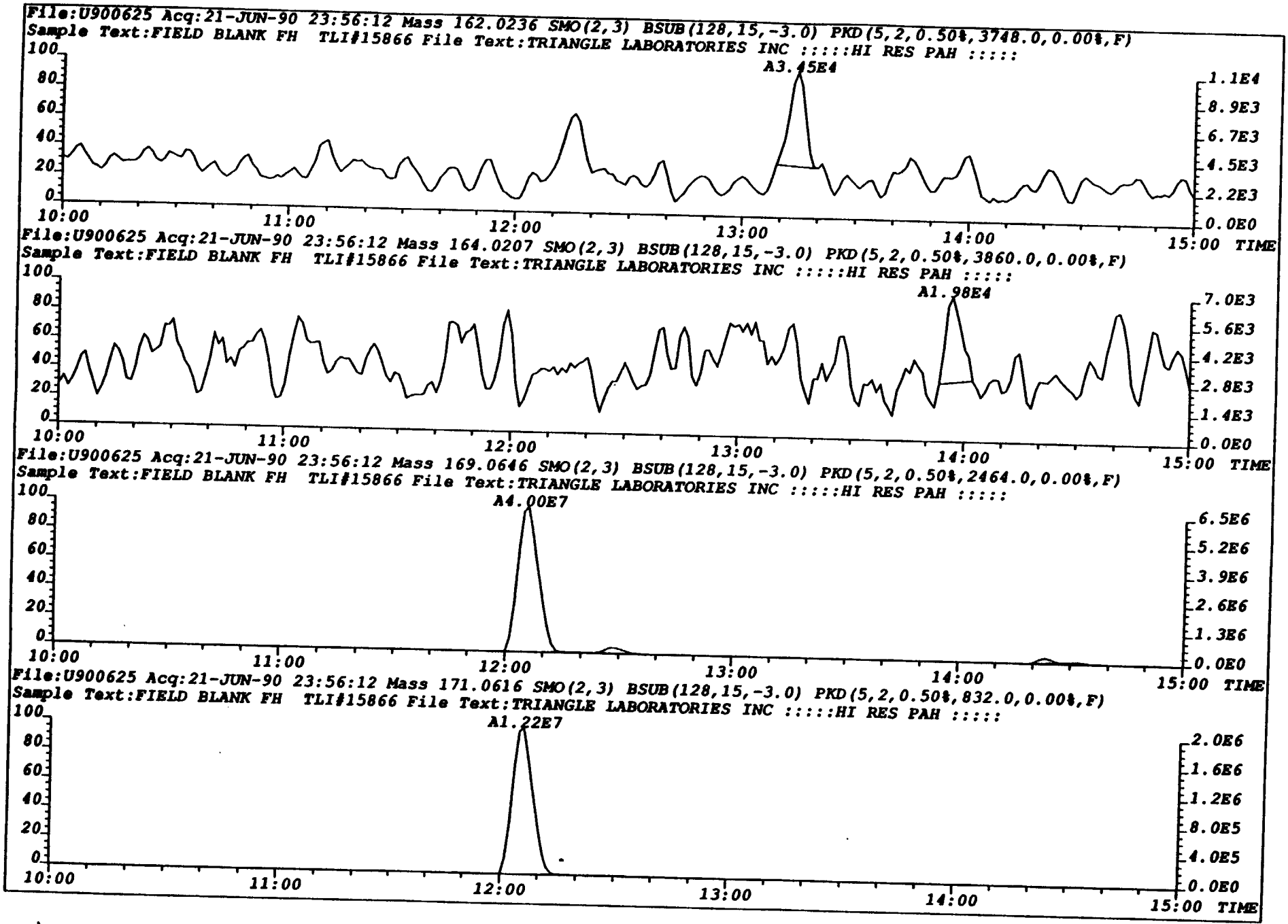

File:U900625 Acq:21-JUN-90 23:56:12 Mass 252.0939 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
100
50
0
23:00
24:54
27:19
30:15
31:32
32:45
34:36
36:39
38:09
39:22
41:30
22:00
24:00
26:00
28:00
30:00
32:00
34:00
36:00
38:00
40:00
42:00
5.6E4
2.8E4
0.0E0
TIME
File:U900625 Acq:21-JUN-90 23:56:12 Mass 264.1692 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
29:14
30:17
30:52
29:45
31:31
5.9E5
2.9E5
0.0E0
TIME
File:U900625 Acq:21-JUN-90 23:56:12 Mass 244.1974 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:33
21:57
24:09
25:36
27:20
28:28
29:32
30:31
31:40
32:59
34:03
35:21
36:50
38:16
40:25
41:55
1.7E4
8.4E3
0.0E0
TIME
File:U900625 Acq:21-JUN-90 23:56:12 Mass 276.0939 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
26:41
28:38
32:06
37:28
40:59
42:14
6.4E4
3.2E4
0.0E0
TIME
File:U900625 Acq:21-JUN-90 23:56:12 Mass 288.1692 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
38:29
36:44
27:58
37:15
38:58
40:19
42:01
7.2E4
3.6E4
0.0E0
TIME


File:U900625 Acq:21-JUN-90 23:56:12 Mass 278.1096 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:55
23:12
24:19
25:43
26:27
27:06
27:39
28:25
28:54
30:37
31:05
31:52
33:05
34:47
36:28
39:26
38:46
41:47
42:16
TIME
File:U900625 Acq:21-JUN-90 23:56:12 Mass 292.1974 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
23:08
24:27
25:34
27:02
27:59
31:49
36:46
37:27
39:05
40:28
42:29
TIME

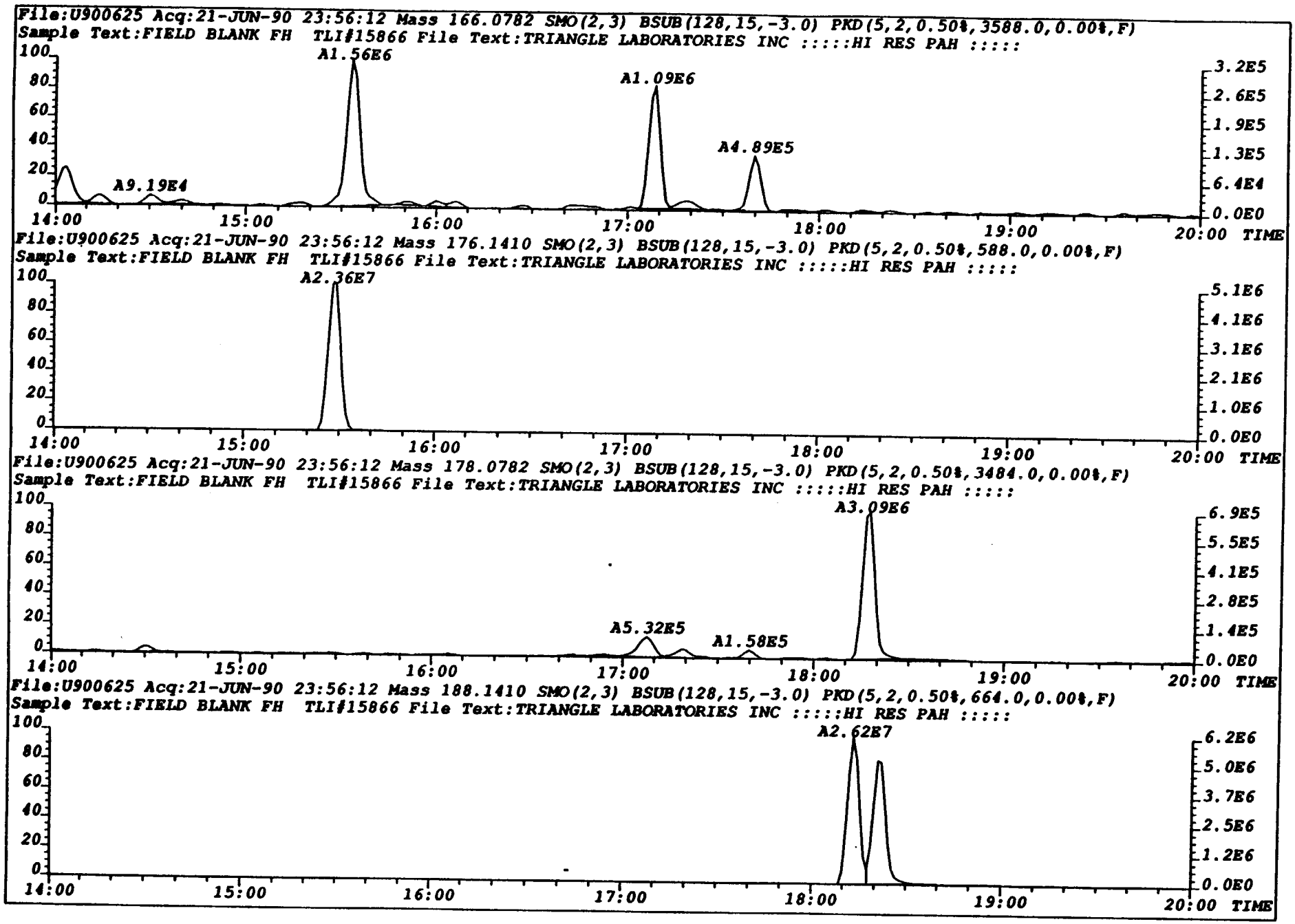

File:U900625 Acq:21-JUN-90 23:56:12 Mass 128.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,36596.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.29E7
7.8E6
6.2E6
4.7E6
3.1E6
1.6E6
0.0E0
8:00
9:00
10:00
11:00
12:00
13:00
14:00 TIME
File:U900625 Acq:21-JUN-90 23:56:12 Mass 136.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7208.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.40E7
8.0E6
6.4E6
4.8E6
3.2E6
1.6E6
0.0E0
File:U900625 Acq:21-JUN-90 23:56:12 Mass 142.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,8632.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.86E7
A7.86E6
A2.71E6
2.6E6
2.1E6
1.5E6
1.0E6
5.2E5
0.0E0
File:U900625 Acq:21-JUN-90 23:56:12 Mass 152.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1616.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.99E7
6.9E6
5.5E6
4.1E6
2.7E6
1.4E6
0.0E0

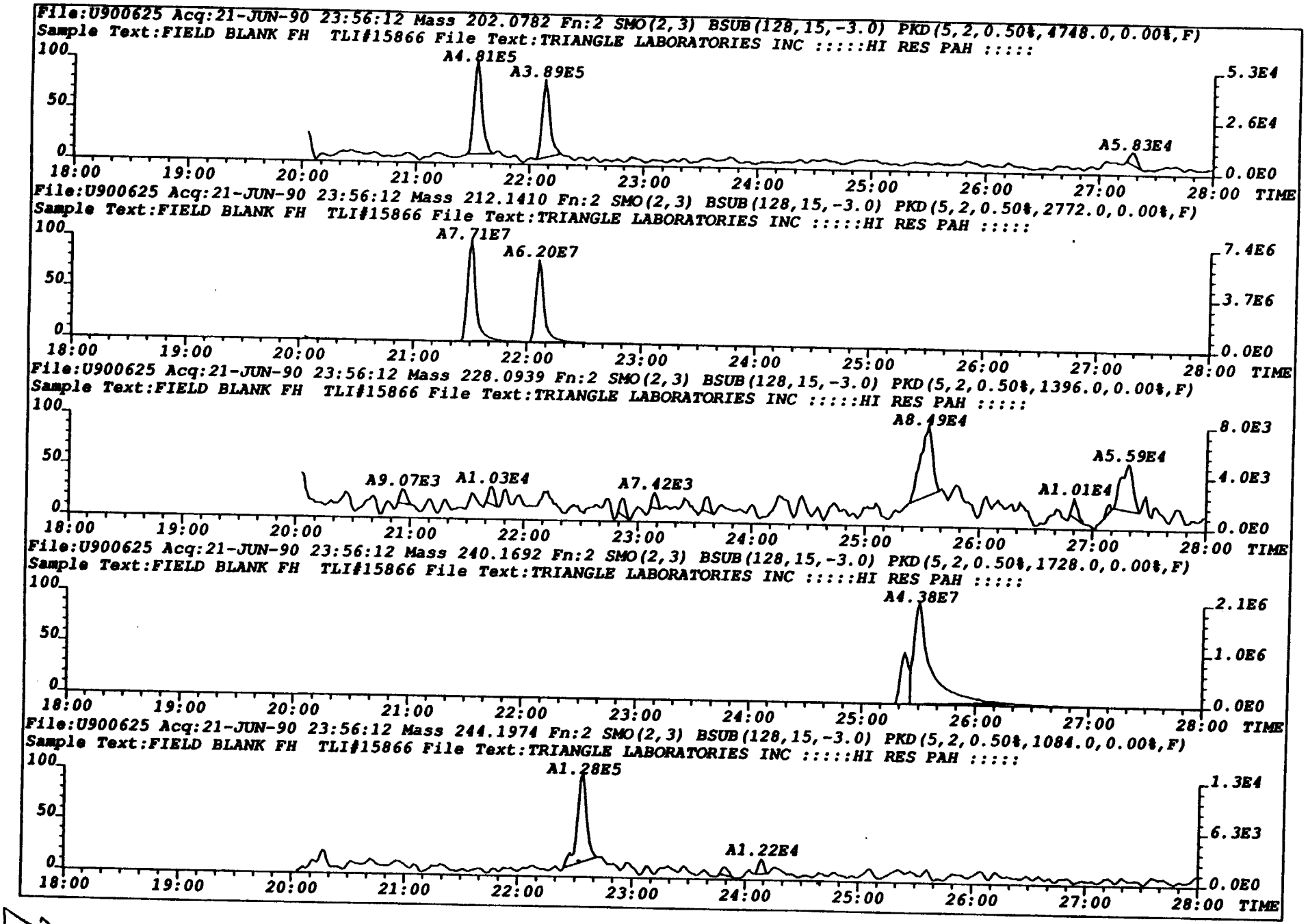
20

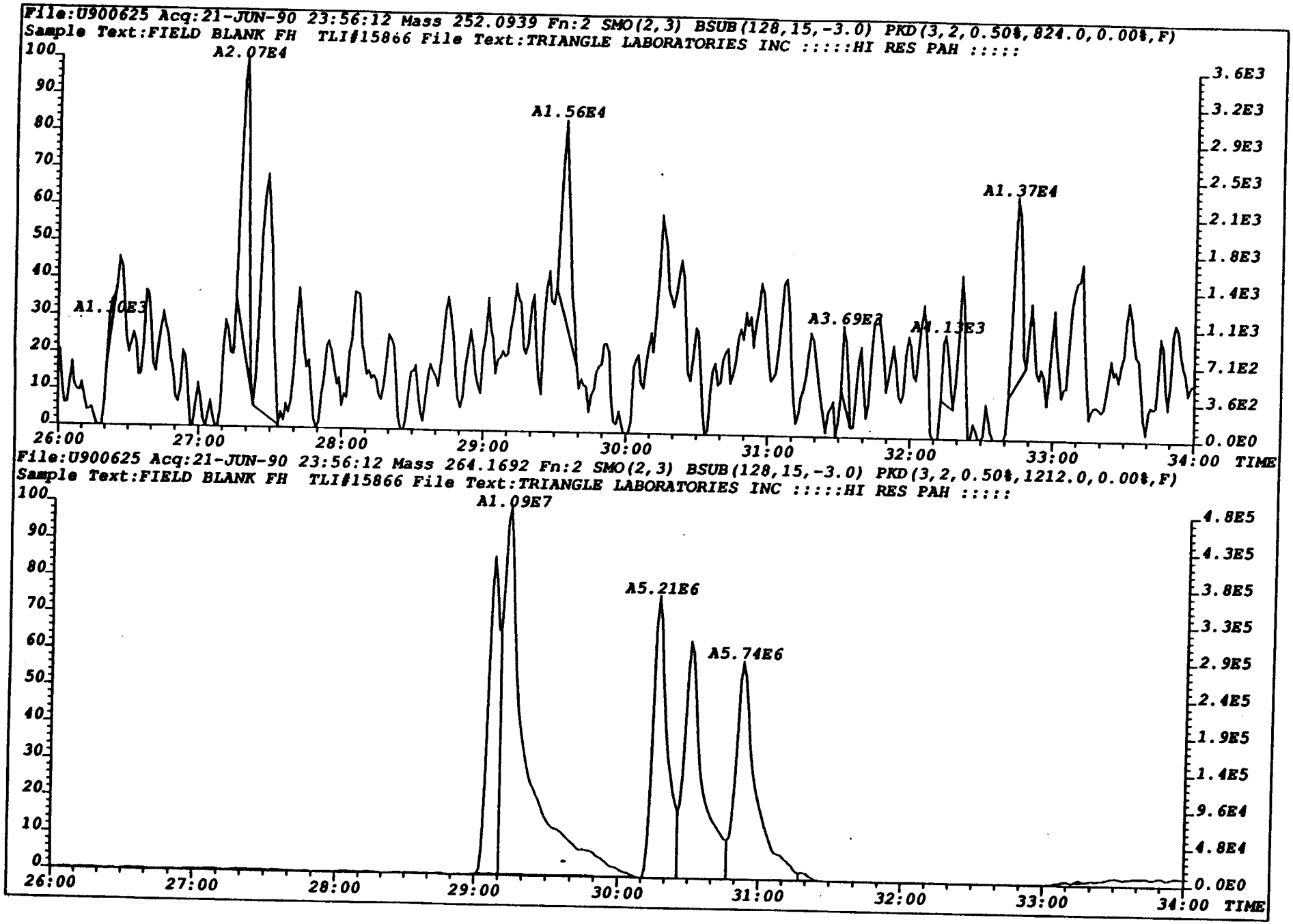

File:U900625 Acq:21-JUN-90 23:56:12 Mass 154.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,10412.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.83E7
A2.49E6
File:U900625 Acq:21-JUN-90 23:56:12 Mass 164.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1284.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.69E7
File:U900625 Acq:21-JUN-90 23:56:12 Mass 152.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,6444.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.75E6
A6.19E5
A4.43E5
A3.35E6
File:U900625 Acq:21-JUN-90 23:56:12 Mass 160.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1164.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A5.19E7
A1.51E7
TIME

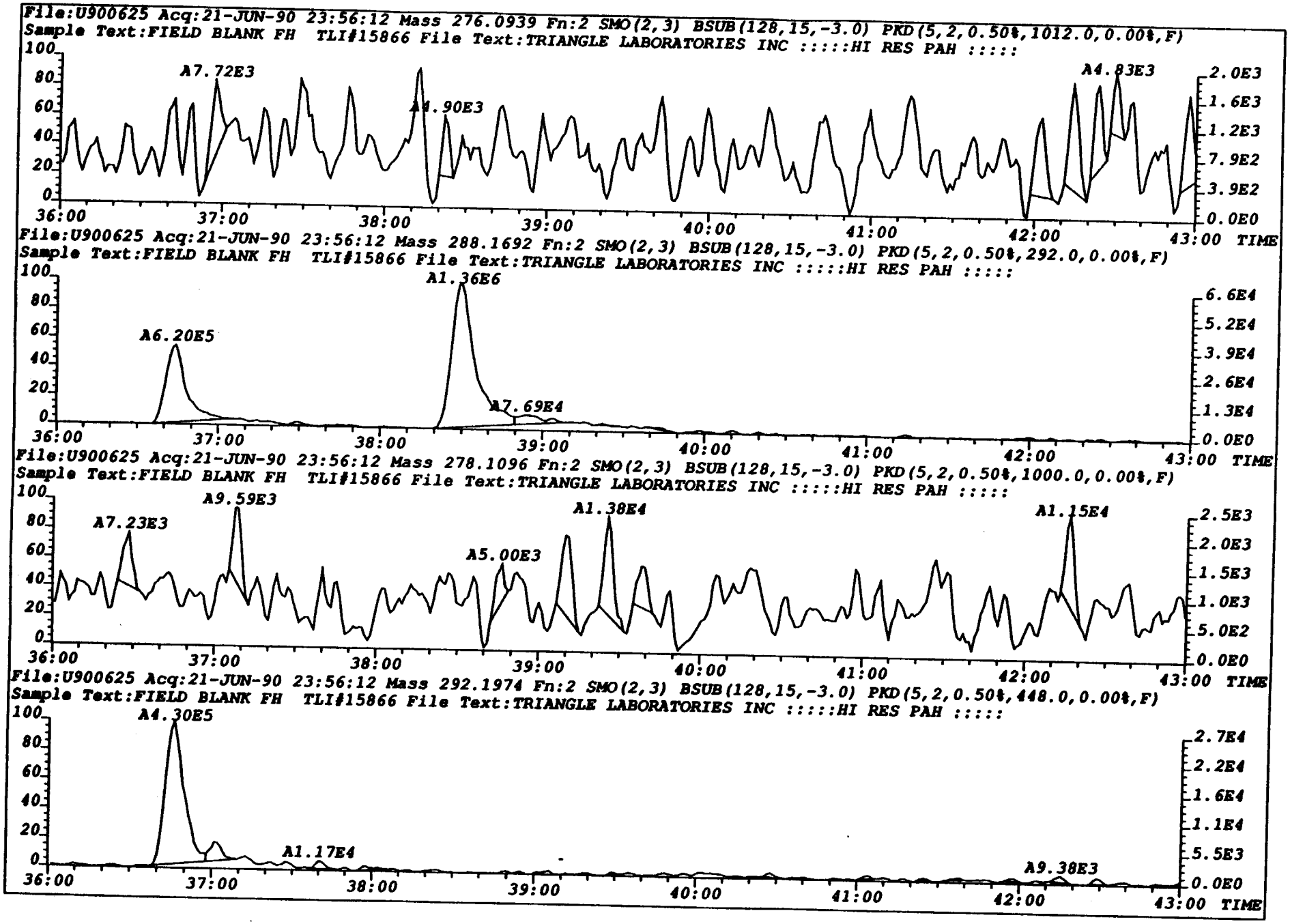

File:U900625 Acq:21-JUN-90 23:56:12 Mass 162.0236 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3748.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.45E4
100
80
60
40
20
0
1.1E4
8.9E3
6.7E3
4.5E3
2.2E3
0.0E0
10:00
11:00
12:00
13:00
14:00
15:00 TIME
File:U900625 Acq:21-JUN-90 23:56:12 Mass 164.0207 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3860.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.98E4
7.0E3
5.6E3
4.2E3
2.8E3
1.4E3
0.0E0
File:U900625 Acq:21-JUN-90 23:56:12 Mass 169.0646 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2464.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.00E7
6.5E6
5.2E6
3.9E6
2.6E6
1.3E6
0.0E0
File:U900625 Acq:21-JUN-90 23:56:12 Mass 171.0616 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,832.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.22E7
2.0E6
1.6E6
1.2E6
8.0E5
4.0E5
0.0E0

12


File:U900625 Acq:21-JUN-90 23:56:12 Mass 166.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3588.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.56E6
A1.09E6
A4.89E5
A9.19E4
File:U900625 Acq:21-JUN-90 23:56:12 Mass 176.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,588.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.36E7
File:U900625 Acq:21-JUN-90 23:56:12 Mass 178.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3484.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.09E6
A5.32E5
A1.58E5
File:U900625 Acq:21-JUN-90 23:56:12 Mass 188.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,664.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.62E7
TIME


File:U900625 Acq:21-JUN-90 23:56:12 Mass 202.0782 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,4748.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.81E5
A3.89E5
A5.83E4
File:U900625 Acq:21-JUN-90 23:56:12 Mass 212.1410 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2772.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.71E7
A6.20E7
File:U900625 Acq:21-JUN-90 23:56:12 Mass 228.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1396.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A8.49E4
A5.59E4
A9.07E3
A1.03E4
A7.42E3
A1.01E4
File:U900625 Acq:21-JUN-90 23:56:12 Mass 240.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1728.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.38E7
File:U900625 Acq:21-JUN-90 23:56:12 Mass 244.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1084.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.28E5
A1.22E4
TIME


File:U900625 Acq:21-JUN-90 23:56:12 Mass 252.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,824.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.07E4
A1.56E4
A1.37E4
A1.10E3
A3.69E3
A4.13E3
TIME
File:U900625 Acq:21-JUN-90 23:56:12 Mass 264.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,1212.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.09E7
A5.21E6
A5.74E6
TIME


File:U900625 Acq:21-JUN-90 23:56:12 Mass 276.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1012.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.72E3
A4.90E3
A4.83E3
File:U900625 Acq:21-JUN-90 23:56:12 Mass 288.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,292.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.36E6
A6.20E5
A7.69E4
File:U900625 Acq:21-JUN-90 23:56:12 Mass 278.1096 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1000.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A9.59E3
A7.23E3
A1.38E4
A5.00E3
A1.15E4
File:U900625 Acq:21-JUN-90 23:56:12 Mass 292.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,448.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.30E5
A1.17E4
A9.38E3
TIME

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

FILE NAME....:	U900621	CLIENT ID....:	P&S	TLI NUMBER....:	32-73-1ABD
CONCAL.....:	U900619	SAMPLE ID....:	TEST 1 FH		
ANALYST.....:	MC	ANALYSIS DATE:	06/21/90	PROJECT NUMBER:	15866
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5 FH	DATE RECEIVED.:	05/30/90
ICAL DATE....:	06/21/90	SAMPLE ORIGIN:	HRSG OUT	DATE COLLECTED:	05/23/90
SPIKE FILE...:	SPPAHH1C			SHIPMENT NO...:	UTS

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	10920			8:31	B
2-Me-Naph	167			10:36	B
2-Cl-Naph	ND		0.1		
Acenaphthen	27.5			14:04	B
Acenaph	2.7			13:30	B
Fluorene	65.4			15:34	B
Phenan	190			18:18	B
Anth	ND		0.3		
Fluoran	43.9			21:33	B
Pyrene	40.0			22:09	B
B-a-Anth	ND		0.4		
Chrysene	52.6			25:33	B
B-b-Fluoran	3.2			29:15	B
B-k-Fluoran	ND		0.5		
B-e-Pyrene	3.2			30:25	B
B-a-Pyrene	ND		0.9		
Perylene	ND		1.2		
I-123-cd-Py	ND		4.3		
DiB-ah-Anth	ND		7.4		
B-ghi-Pery	5.4			38:43	B

SURROGATE RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	304	304	22:33	

ALTERNATE STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	363	363	18:21	

FILE NAME....:	U900621	CLIENT ID....:	P&S	TLI NUMBER....:	32-73-1ABD
CONCAL.....:	U900619	SAMPLE ID....:	TEST 1 FH		
ANALYST.....:	MC	ANALYSIS DATE:	06/21/90	PROJECT NUMBER:	15866
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5 FH	DATE RECEIVED.:	05/30/90
ICAL DATE....:	06/21/90	SAMPLE ORIGIN:	HRSG OUT	DATE COLLECTED:	05/23/90
SPIKE FILE...:	SPPAHH1C			SHIPMENT NO...:	UTS

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	233	233	8:22	
d10-2-Me-Naph	230	230	10:31	
d7-2-Cl-Naph	248	248	12:06	
d8-Acenaph	217	217	13:27	
d10-Acenaphthen	234	234	13:57	
d10-Fluorene	243	243	15:29	
d10-Phenan	284	284	18:14	
d10-Fluoran	373	373	21:31	
d10-Pyrene	361	361	22:07	
d12-B-a-Anth	162	162	25:23	
d12-Chrysene	246	246	25:30	
d12-B-b-Fluoran	113	113	29:08	
d12-B-k-Fluoran	98.4	98.4	29:14	
d12-B-a-Pyrene	83.3	83.3	30:32	
d12-Perylene	92.5	92.5	30:54	
d12-I-123-cd-Py	45.2	45.2	36:43	
d14-DiB-ah-Anth	36.1	36.1	36:47	
d12-B-ghi-Pery	64.7	64.7	38:30	

2

DL 3.0

Page No. 1 Listing of U900621B.dbf
06/27/90

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128		0.00	8:22	79146.59	T	F	1.000	
		0.00	8:31	644608.70	T	T	1.018	✓
128		*** Total ***		723755.29	# of Peaks:		2	
136		0.00	8:22	7093.83	T	T	0.622	✓
		0.00	9:28	59.46	T	F	0.704	
		0.00	10:22	6.23	T	F	0.771	
		0.00	13:58	22.47	T	F	1.038	
136		*** Total ***		7181.99	# of Peaks:		4	
142		0.00	10:02	449.17	T	F	0.954	
		0.00	10:17	113.57	T	F	0.978	
		0.00	10:36	5988.39	T	T	1.008	✓
		0.00	10:57	2892.56	T	F	1.041	
		0.00	12:29	440.09	T	F	1.187	
142		*** Total ***		9883.78	# of Peaks:		5	
152		0.00	8:03	1280.15	T	F	0.599	
		0.00	8:26	552.44	T	F	0.627	
		0.00	10:31	4139.14	T	T	0.782	✓
		0.00	10:49	21.83	T	F	0.804	
		0.00	12:08	2242.86	T	F	0.902	
		0.00	12:29	1813.87	T	F	0.928	
		0.00	12:38	130.60	T	F	0.939	
		0.00	12:54	643.21	T	F	0.959	
		0.00	13:16	60.26	T	F	0.986	
		0.00	13:30	117.74	T	T	1.004	✓
		0.00	13:56	1378.85	T	F	1.036	
		0.00	14:04	1765.00	T	F	1.046	
		0.00	14:16	380.59	T	F	1.061	
		0.00	14:33	277.89	T	F	1.082	
		0.00	14:45	1773.77	T	F	1.097	
		0.00	14:59	101.21	T	F	1.114	
		0.00	15:16	142.26	T	F	1.135	
		0.00	15:30	287.80	T	F	1.152	
		0.00	15:40	270.53	T	F	1.165	
		0.00	15:48	101.60	T	F	1.175	
		0.00	16:05	290.00	T	F	1.196	
152		*** Total ***		17771.60	# of Peaks:		21	
154		0.00	12:08	10208.70	T	F	0.870	
		0.00	12:29	120.58	T	F	0.895	
		0.00	12:54	43.27	T	F	0.925	
		0.00	14:04	777.38	T	T	1.008	✓
		0.00	14:16	44.20	T	F	1.023	
		0.00	14:42	120.00	T	F	1.054	
		0.00	14:59	44.44	T	F	1.074	
		0.00	15:14	53.68	T	F	1.092	
		0.00	15:28	145.59	T	F	1.109	
		0.00	16:01	47.68	T	F	1.148	
154		*** Total ***		11605.52	# of Peaks:		10	

160	0.00	13:27	4011.88	T	T	0.444	✓

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
160		0.00	13:58	1202.94	T	F	0.461	
160		*** Total ***		5214.82	# of Peaks:		2	
164		0.00	12:56	67.66	T	F	0.962	
		0.00	13:57	2937.90	T	T	1.037	✓
164		*** Total ***		3005.56	# of Peaks:		2	
166		0.00	14:03	875.72	T	F	0.907	
		0.00	14:15	334.12	T	F	0.920	
		0.00	14:33	213.70	T	F	0.940	
		0.00	14:45	1968.68	T	F	0.953	
		0.00	15:34	1994.14	T	T	1.005	✓
		0.00	15:48	103.28	T	F	1.020	
		0.00	16:01	143.91	T	F	1.034	
		0.00	16:07	194.17	T	F	1.041	
		0.00	16:28	122.25	T	F	1.064	
		0.00	16:46	639.48	T	F	1.083	
		0.00	17:09	4302.13	T	F	1.108	
		0.00	17:17	851.14	T	F	1.116	
166		*** Total ***		11742.72	# of Peaks:		12	
169		3.42	12:06	4567.54	T	T	0.900	✓
169		*** Total ***		4567.54	# of Peaks:		1	
176		0.00	15:29	2445.75	T	T	1.151	✓
		0.00	17:10	33.02	T	F	1.276	
176		*** Total ***		2478.77	# of Peaks:		2	
178		0.00	14:02	136.75	T	F	0.770	
		0.00	14:15	47.95	T	F	0.782	
		0.00	14:32	469.26	T	F	0.797	
		0.00	14:45	463.06	T	F	0.809	
		0.00	15:29	57.23	T	F	0.849	
		0.00	15:40	35.97	T	F	0.859	
		0.00	16:00	27.82	T	F	0.878	
		0.00	16:28	106.04	T	F	0.903	
		0.00	16:45	359.90	T	F	0.919	
		0.00	16:53	534.35	T	F	0.926	
		0.00	17:09	1691.50	T	F	0.941	
		0.00	17:17	783.20	T	F	0.948	
		0.00	17:40	804.21	T	F	0.969	
		0.00	18:18	7829.79	T	T	1.004	✓
		0.00	18:40	82.97	T	F	1.024	
		0.00	18:49	79.89	T	F	1.032	
		0.00	18:59	40.45	T	F	1.041	
		0.00	19:06	36.39	T	F	1.048	
		0.00	19:27	37.90	T	F	1.067	
		0.00	19:38	49.67	T	F	1.077	
178		*** Total ***		13674.30	# of Peaks:		20	
188		0.00	18:14	3305.15	T	~~F~~ T	1.356	✓
		0.00	18:21	3361.52	T	T	1.364	✓
188		*** Total ***		6666.67	# of Peaks:		2	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
202		0.00	20:25	203.13	T	F	0.923	
		0.00	21:10	120.72	T	F	0.957	
		0.00	21:26	16.17	T	F	0.969	
		0.00	21:33	3638.49	T	T	1.002	✓
		0.00	22:09	3236.63	T	T	1.002	✓
		0.00	22:36	67.14	T	F	1.022	
202		*** Total ***		7282.28	# of Peaks:		6	
212		0.00	21:31	11537.80	T	T	0.696	✓
		0.00	22:07	8994.77	T	T	0.716	✓
		0.00	22:33	241.24	T	F	0.730	
212		*** Total ***		20773.81	# of Peaks:		3	
228		0.00	20:15	70.72	T	F	0.794	
		0.00	21:34	392.08	T	F	0.846	
		0.00	22:02	3.50	T	F	0.864	
		0.00	22:14	1397.81	T	F	0.872	
		0.00	22:37	371.24	T	F	0.887	
		0.00	23:09	27.79	T	F	0.908	
		0.00	24:51	10.29	T	F	0.975	
		0.00	25:33	2807.10	T	T	1.002	✓
228		*** Total ***		5080.53	# of Peaks:		8	
240		0.00	22:33	503.50	T	F	0.730	
		0.00	25:23	1687.24	T	T	0.821	✓
		0.00	25:30	6804.06	T	T	0.825	✓
240		*** Total ***		8994.80	# of Peaks:		3	
244		0.00	20:33	58.27	T	F	0.678	
		0.00	21:06	44.43	T	F	0.696	
		0.00	22:33	8054.85	T	T	0.744	✓
244		*** Total ***		8157.55	# of Peaks:		3	
252		0.00	29:15	33.03	T	T	1.001	✓
		0.00	30:25	35.15	T	T	0.996	✓
252		*** Total ***		68.18	# of Peaks:		2	
264		0.00	27:38	122.18	T	F	0.912	
		0.00	28:03	33.85	T	F	0.926	
		0.00	28:12	35.53	T	F	0.931	
		0.00	29:08	831.56	T	T	0.943	✓
		0.00	29:14	1656.58	T	T	0.946	✓
		0.00	29:30	961.50	T	F	0.974	
		0.00	30:00	122.33	T	F	0.990	
		0.00	30:09	19.57	T	F	0.995	
		0.00	30:17	957.42	T	T	0.999	✓
		0.00	30:32	839.29	T	T	0.988	✓
		0.00	30:54	581.92	T	T	1.020	✓
264		*** Total ***		6161.73	# of Peaks:		11	
276		0.00	38:43	16.50	T	T	1.006	✓
276		*** Total ***		16.50	# of Peaks:		1	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
278		0.00	36:08	1.50	T	F	0.982	
		0.00	38:33	0.88	T	F	1.048	
278		*** Total ***		2.38	# of Peaks:		2	
288		0.00	36:43	100.80	T	T	1.188	✓
		0.00	38:30	360.40	T	T	1.246	✓
		0.00	39:36	1.79	T	F	1.282	
288		*** Total ***		462.99	# of Peaks:		3	
292		0.00	36:47	75.69	T	T	1.190	✓
292		*** Total ***		75.69	# of Peaks:		1	

*** End of Report ***

06/27/90

Listing of U9006211.dbf File
Raw Mass, Retention Time and Data Area

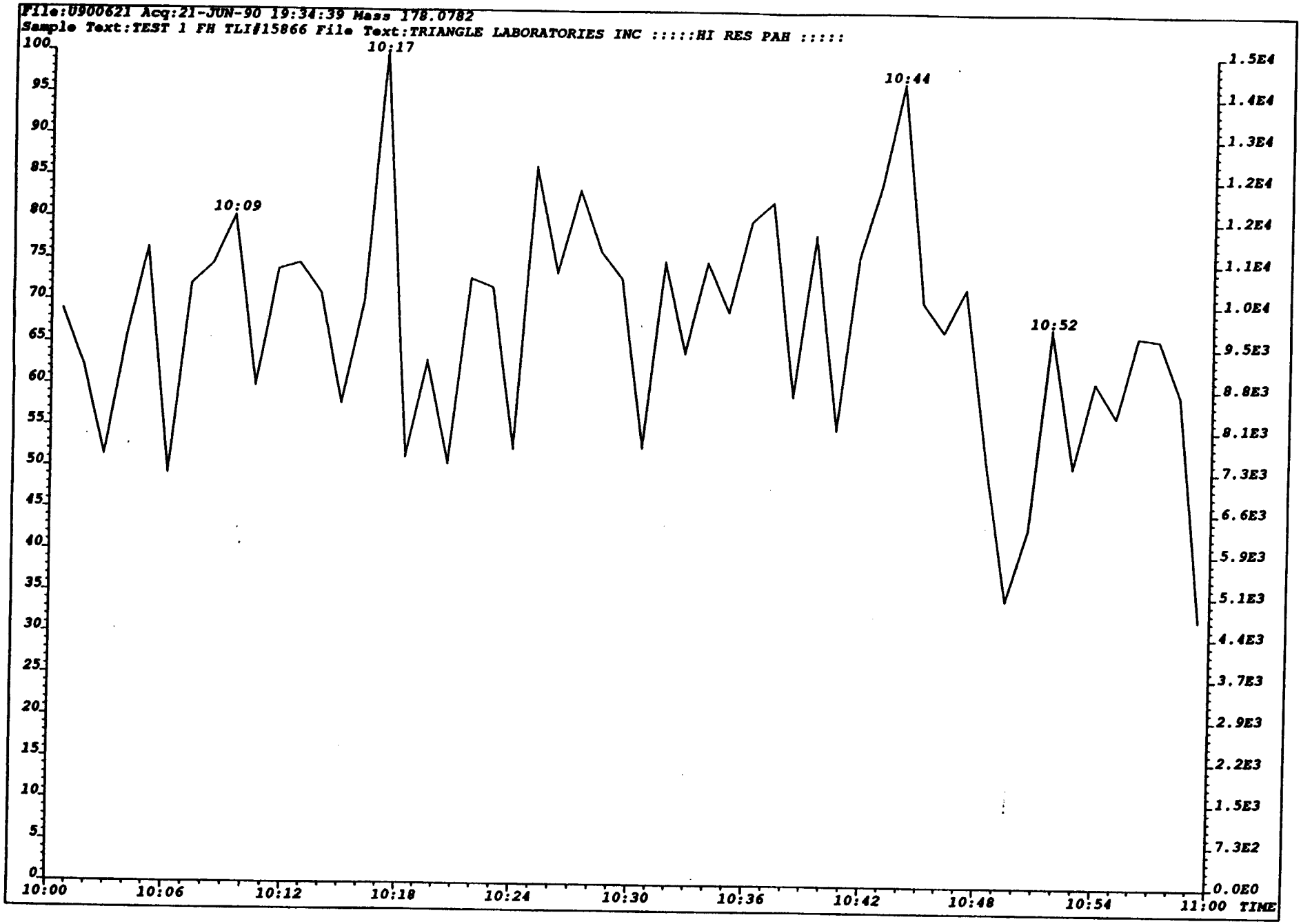
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
128	8:22	79146.59	8:31	644608.70				
136	8:22	7093.83	9:28	59.46	10:22	6.23	13:58	22.47
142	10:02	449.17	10:36	5988.39	12:29	440.09		
	10:17	113.57	10:57	2892.56				
152	8:03	1280.15	8:26	552.44	10:31	4139.14	10:49	21.83
154	12:08	10208.70	14:04	777.38	14:59	44.44	16:01	47.68
	12:29	120.58	14:16	44.20	15:14	53.68		
	12:54	43.27	14:42	120.00	15:28	145.59		
164	13:57	2937.90						
152	12:08	2242.86	13:30	117.74	14:45	1773.77	15:48	101.60
	12:29	1813.87	13:56	1378.85	14:59	101.21	16:05	290.00
	12:38	130.60	14:04	1765.00	15:16	142.26		
	12:54	643.21	14:16	380.59	15:30	287.80		
	13:16	60.26	14:33	277.89	15:40	270.53		
160	13:27	4011.88	13:58	1202.94				
162	12:16	23.44						
164	12:56	67.66						
169	12:06	3534.82	12:29	173.68	14:25	46.13	14:33	198.12
171	12:06	1032.72						
166	14:03	875.72	14:45	1968.68	16:01	143.91	16:46	639.48
	14:15	334.12	15:34	1994.14	16:07	194.17	17:09	4302.13
	14:33	213.70	15:48	103.28	16:28	122.25	17:17	851.14
176	15:29	2445.75	17:10	33.02				
178	14:02	136.75	15:40	35.97	17:09	1691.50	18:49	79.89
	14:15	47.95	16:00	27.82	17:17	783.20	18:59	40.45
	14:32	469.26	16:28	106.04	17:40	804.21	19:06	36.39
	14:45	463.06	16:45	359.90	18:18	7829.79	19:27	37.90
	15:29	57.23	16:53	534.35	18:40	82.97	19:38	49.67
188	18:14	3305.15	18:21	3361.52				
202	20:25	203.13	21:26	16.17	22:09	3236.63		
	21:10	120.72	21:33	3638.49	22:36	67.14		

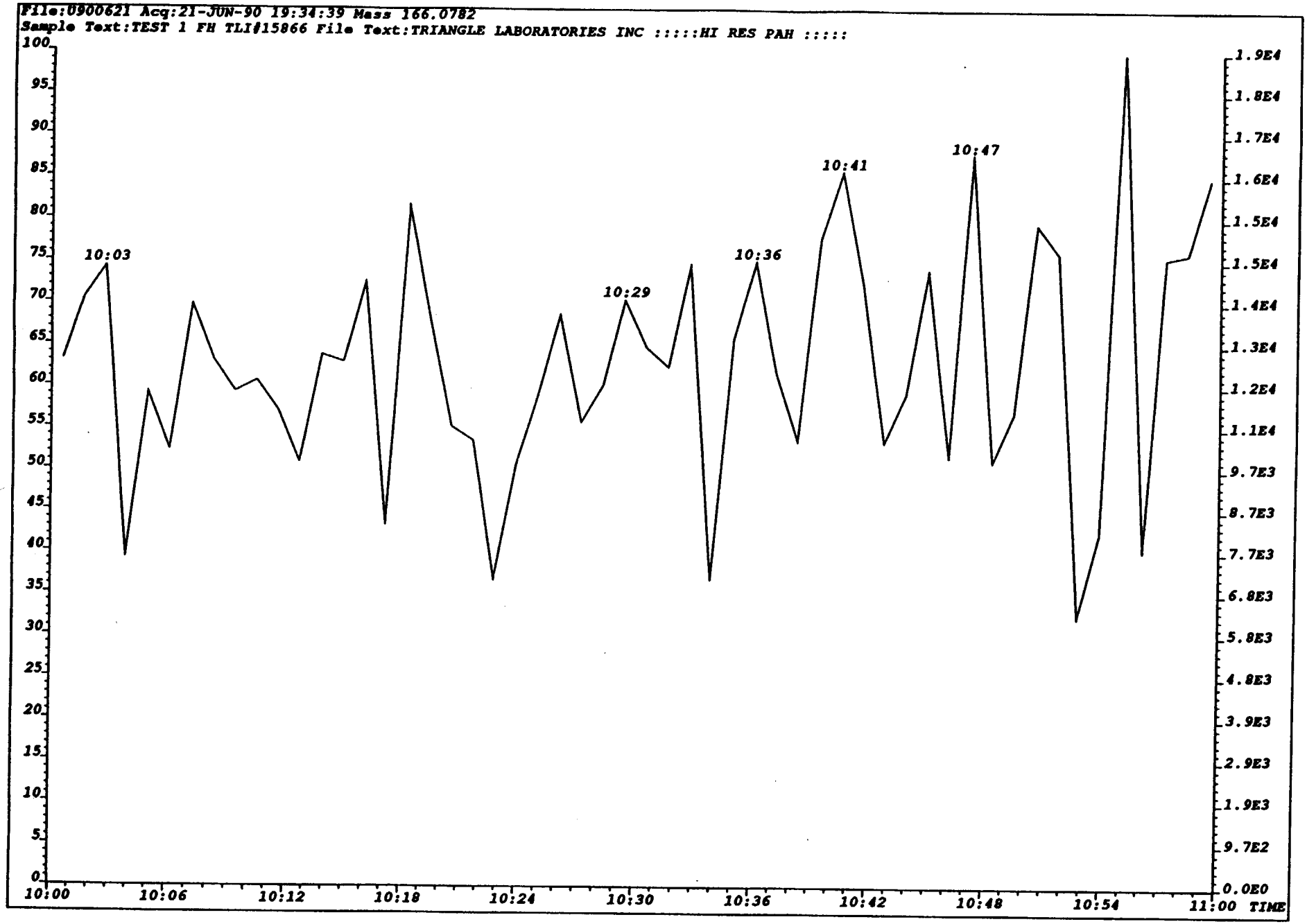
212	21:31	11537.80	22:07	8994.77	22:33	241.24			
228	20:15	70.72	22:02	3.50	22:37	371.24	24:51	10.29	
	21:34	392.08	22:14	1397.81	23:09	27.79	25:33	2807.10	

Listing of U900621I.dbf File
Raw Mass, Retention Time and Data Area

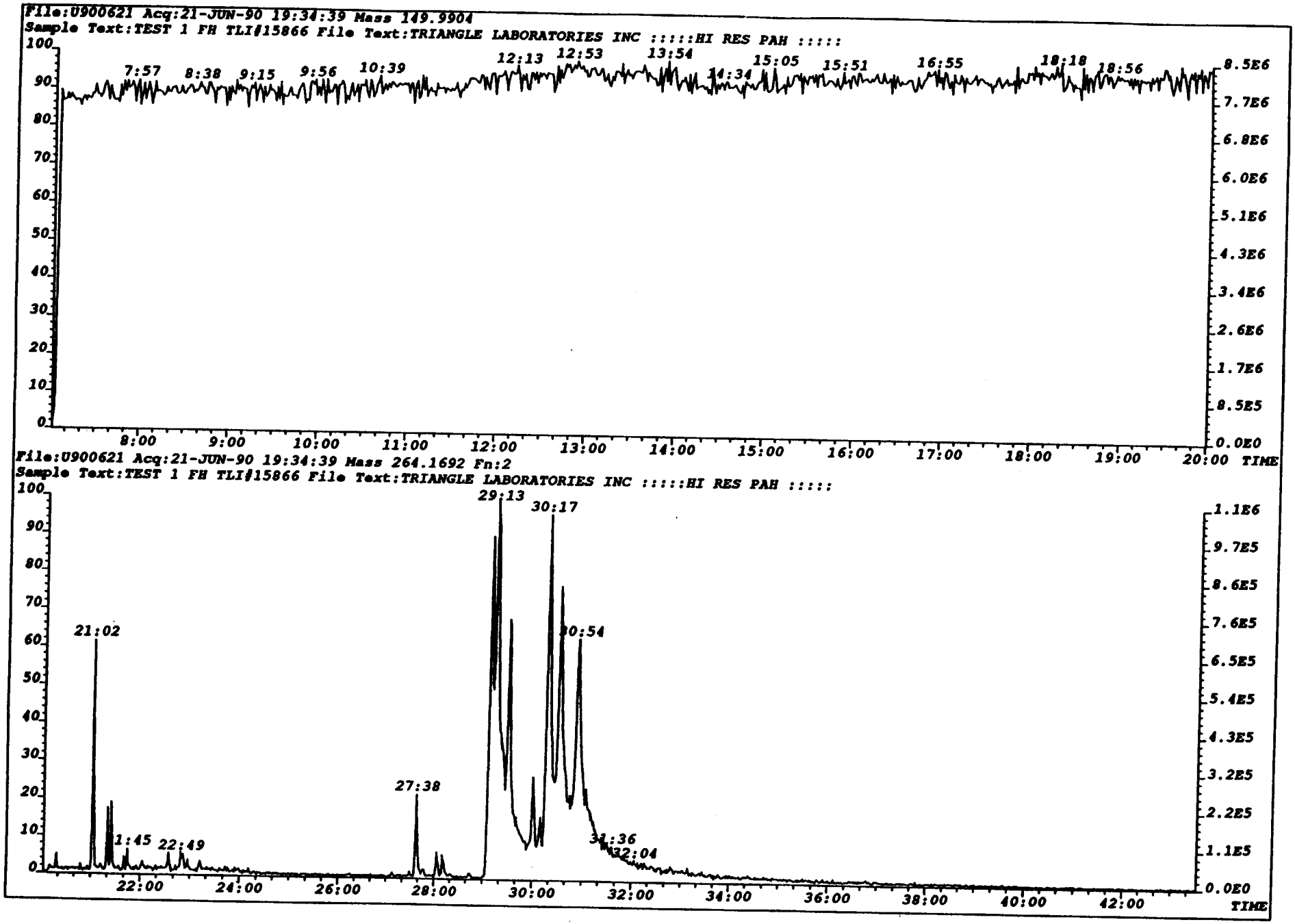
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
240	22:33	503.50	25:23	1687.24	25:30	6804.06		
244	20:33	58.27	21:06	44.43	22:33	8054.85		
252	29:15	33.03	30:25	35.15				
264	27:38	122.18	29:08	831.56	30:00	122.33	30:32	839.29
	28:03	33.85	29:14	1656.58	30:09	19.57	30:54	581.92
	28:12	35.53	29:30	961.50	30:17	957.42		
276	38:43	16.50						
288	36:43	100.80	38:30	360.40	39:36	1.79		
278	36:08	1.50	38:33	0.88				
292	36:47	75.69						

*** End of Report ***

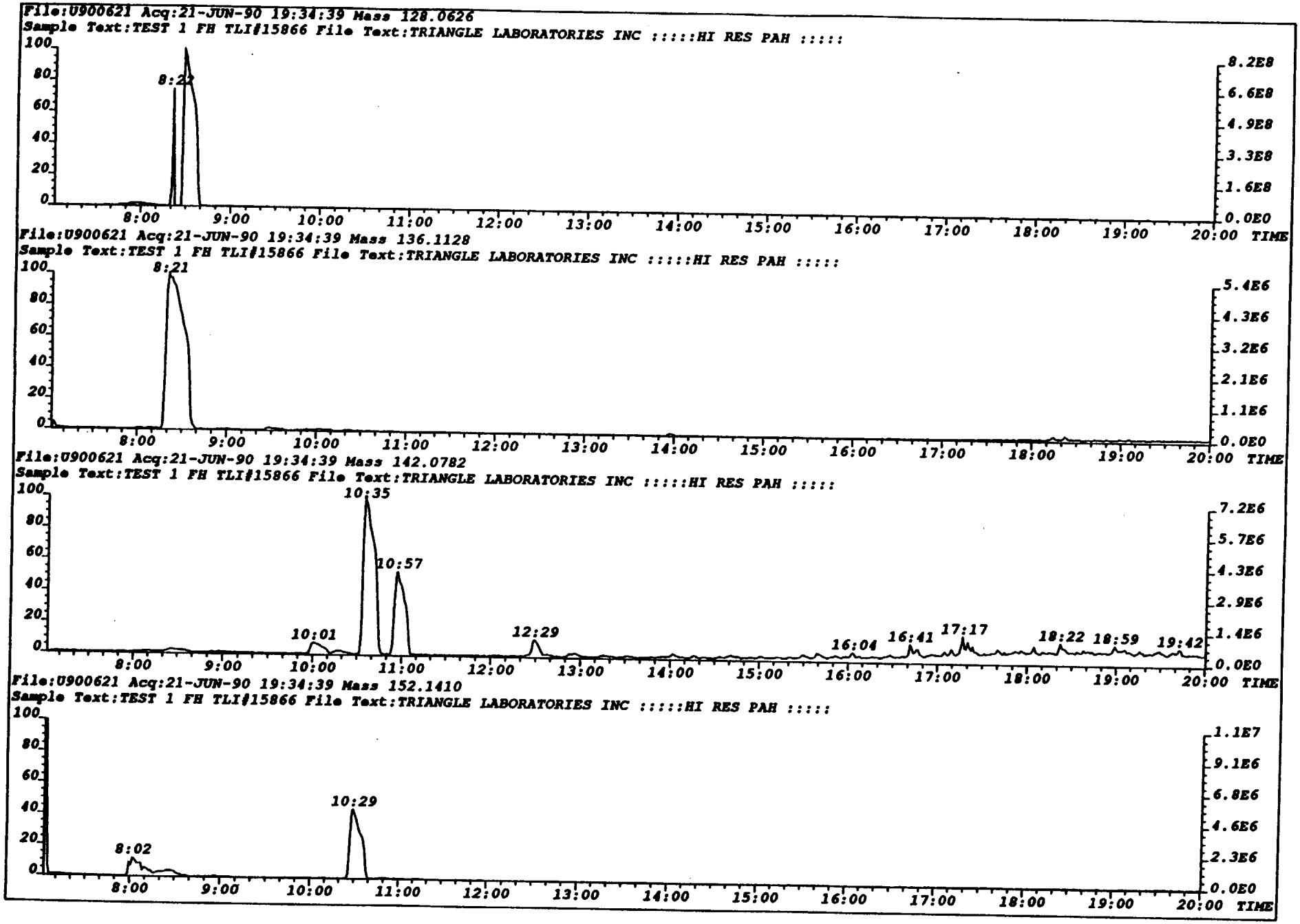

File:0900621 Acq:21-JUN-90 19:34:39 Mass 178.0782
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:09
10:17
10:44
10:52
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1.5E4
1.4E4
1.3E4
1.2E4
1.2E4
1.1E4
1.0E4
9.5E3
8.8E3
8.1E3
7.3E3
6.6E3
5.9E3
5.1E3
4.4E3
3.7E3
2.9E3
2.2E3
1.5E3
7.3E2
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

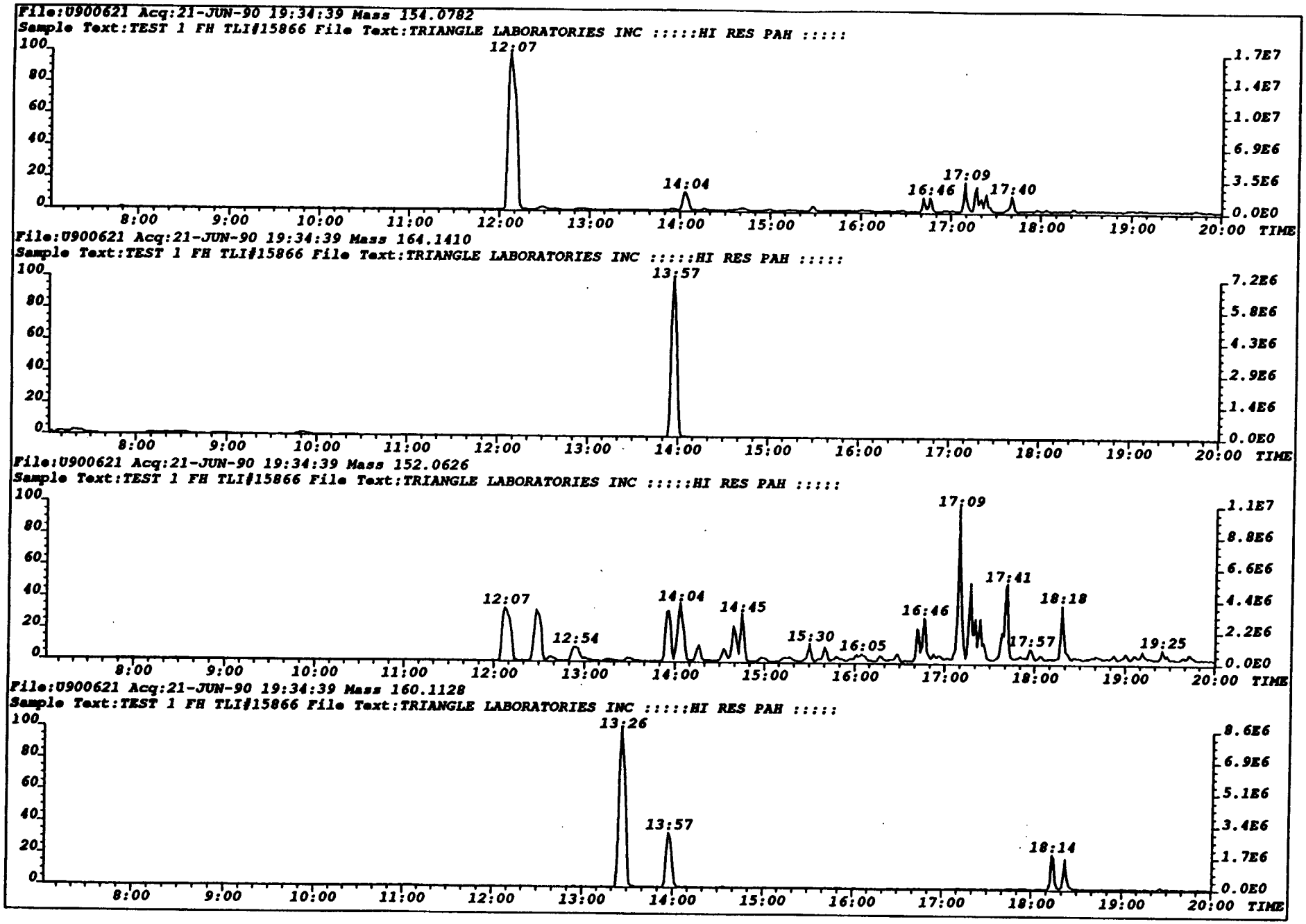

File:0900621 Acq:21-JUN-90 19:34:39 Mass 166.0782
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:03
10:29
10:36
10:41
10:47
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1.9E4
1.8E4
1.7E4
1.6E4
1.5E4
1.5E4
1.4E4
1.3E4
1.2E4
1.1E4
9.7E3
8.7E3
7.7E3
6.8E3
5.8E3
4.8E3
3.9E3
2.9E3
1.9E3
9.7E2
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

12

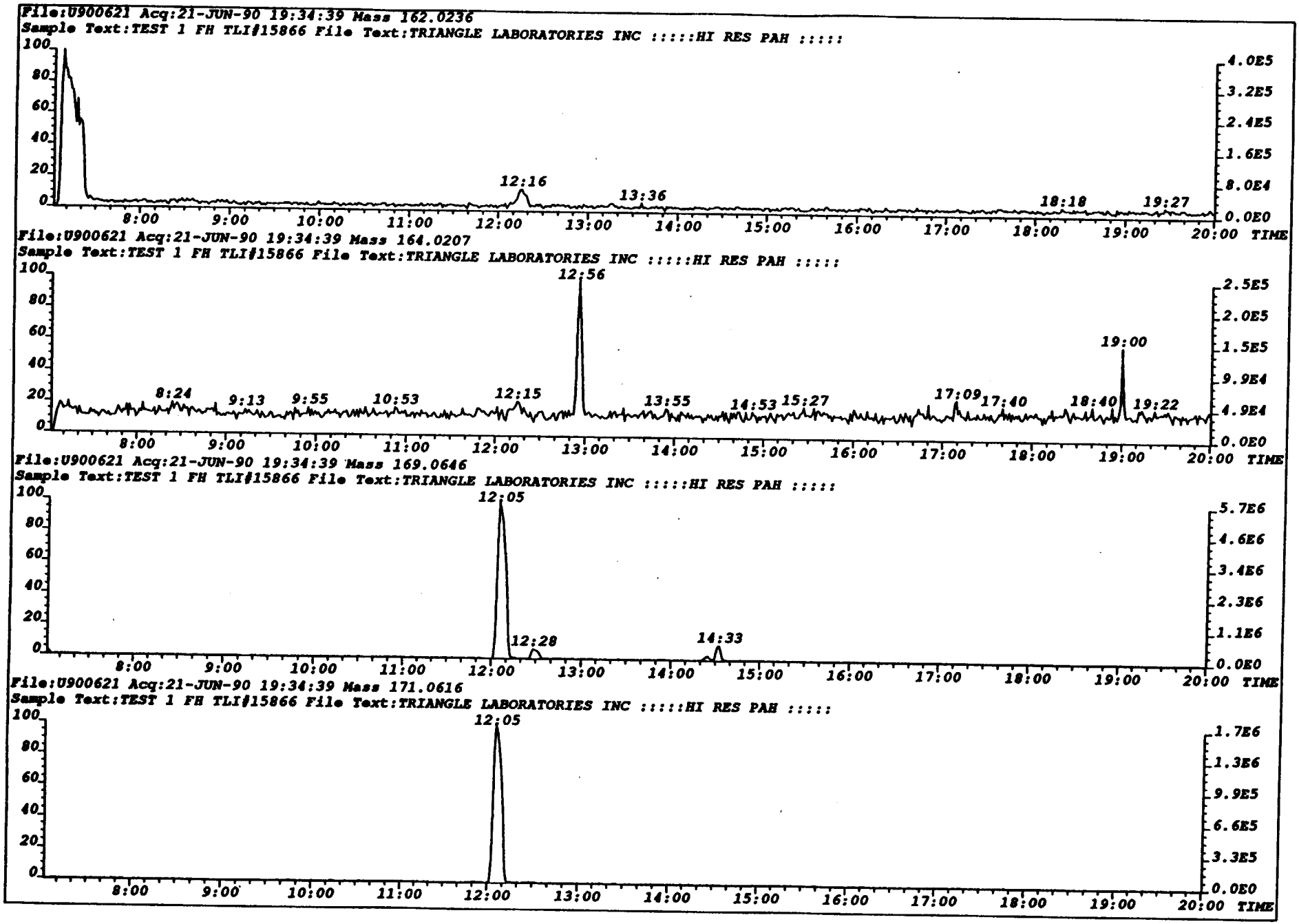

File:U900621 Acq:21-JUN-90 19:34:39 Mass 149.9904
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
7:57
8:38
9:15
9:56
10:39
12:13
12:53
13:54
14:34
15:05
15:51
16:55
18:18
18:56
TIME
File:U900621 Acq:21-JUN-90 19:34:39 Mass 264.1692 Fn:2
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:02
21:45
22:49
27:38
29:13
30:17
30:54
34:36
42:04
TIME

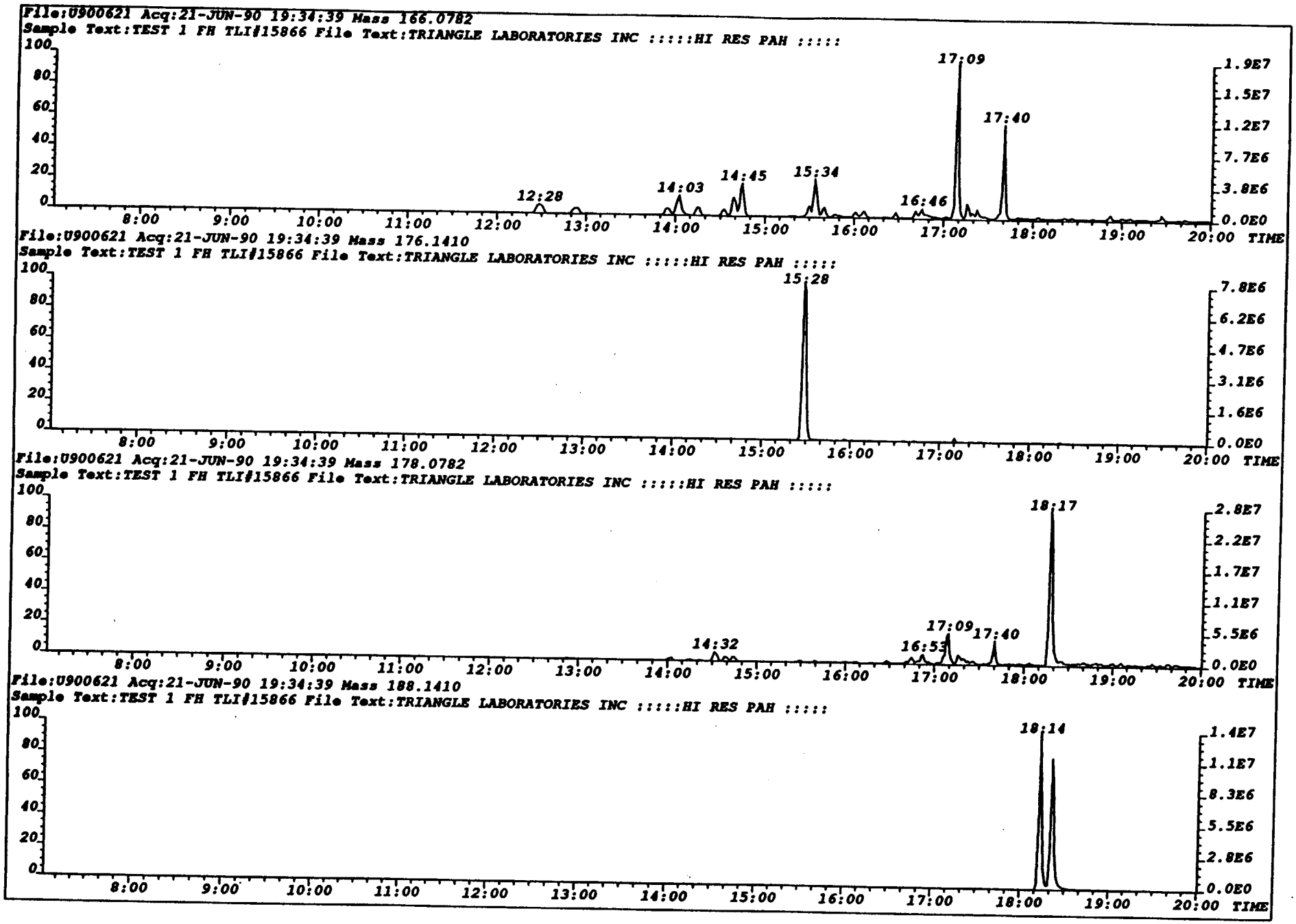
(2)

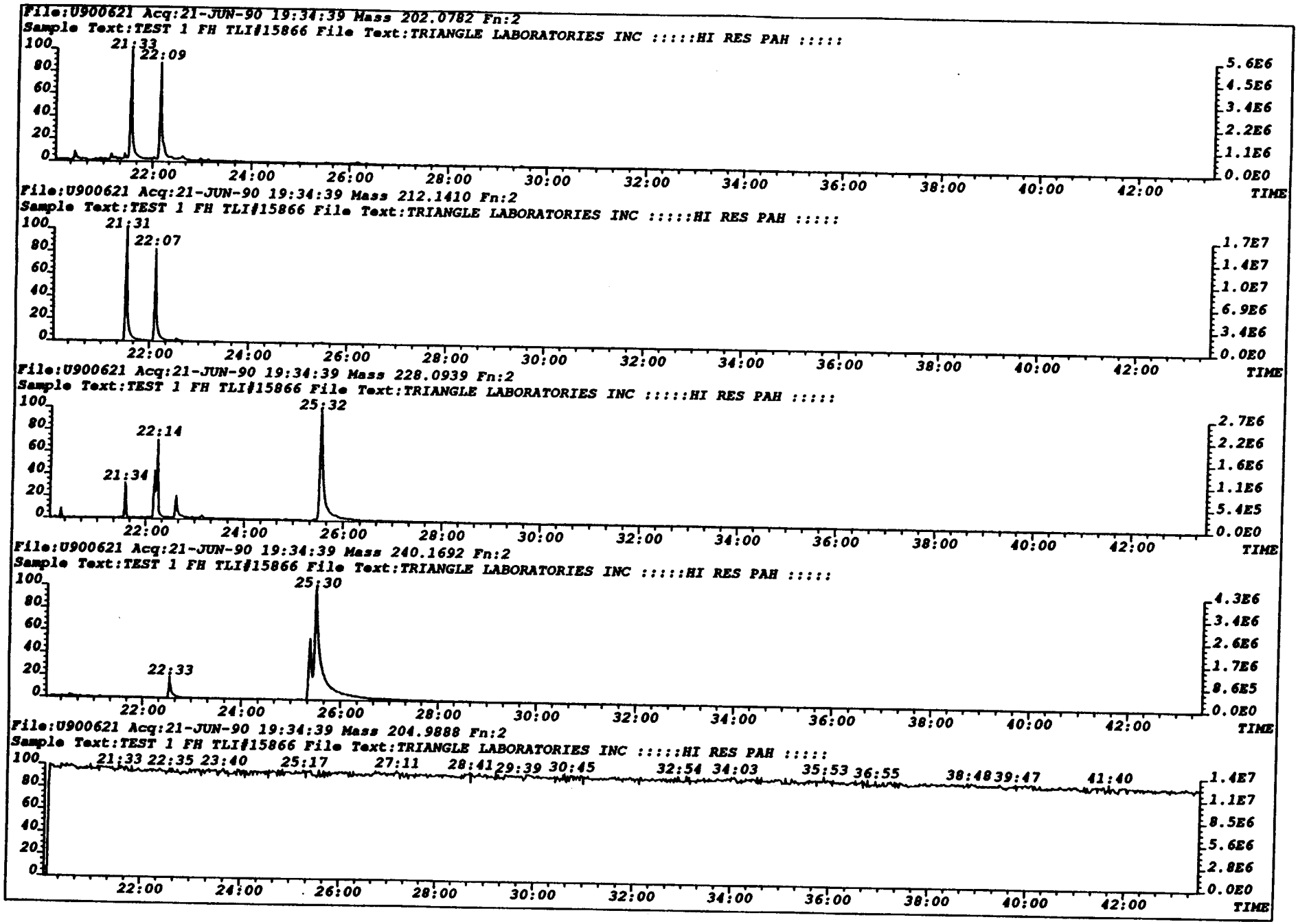

File:U900621 Acq:21-JUN-90 19:34:39 Mass 128.0626
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:22
8.2E8
6.6E8
4.9E8
3.3E8
1.6E8
0.0E0
File:U900621 Acq:21-JUN-90 19:34:39 Mass 136.1128
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:21
5.4E6
4.3E6
3.2E6
2.1E6
1.1E6
0.0E0
File:U900621 Acq:21-JUN-90 19:34:39 Mass 142.0782
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:35
10:57
10:01
12:29
16:04
16:41
17:17
18:22
18:59
19:42
7.2E6
5.7E6
4.3E6
2.9E6
1.4E6
0.0E0
File:U900621 Acq:21-JUN-90 19:34:39 Mass 152.1410
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:29
8:02
1.1E7
9.1E6
6.8E6
4.6E6
2.3E6
0.0E0
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
TIME

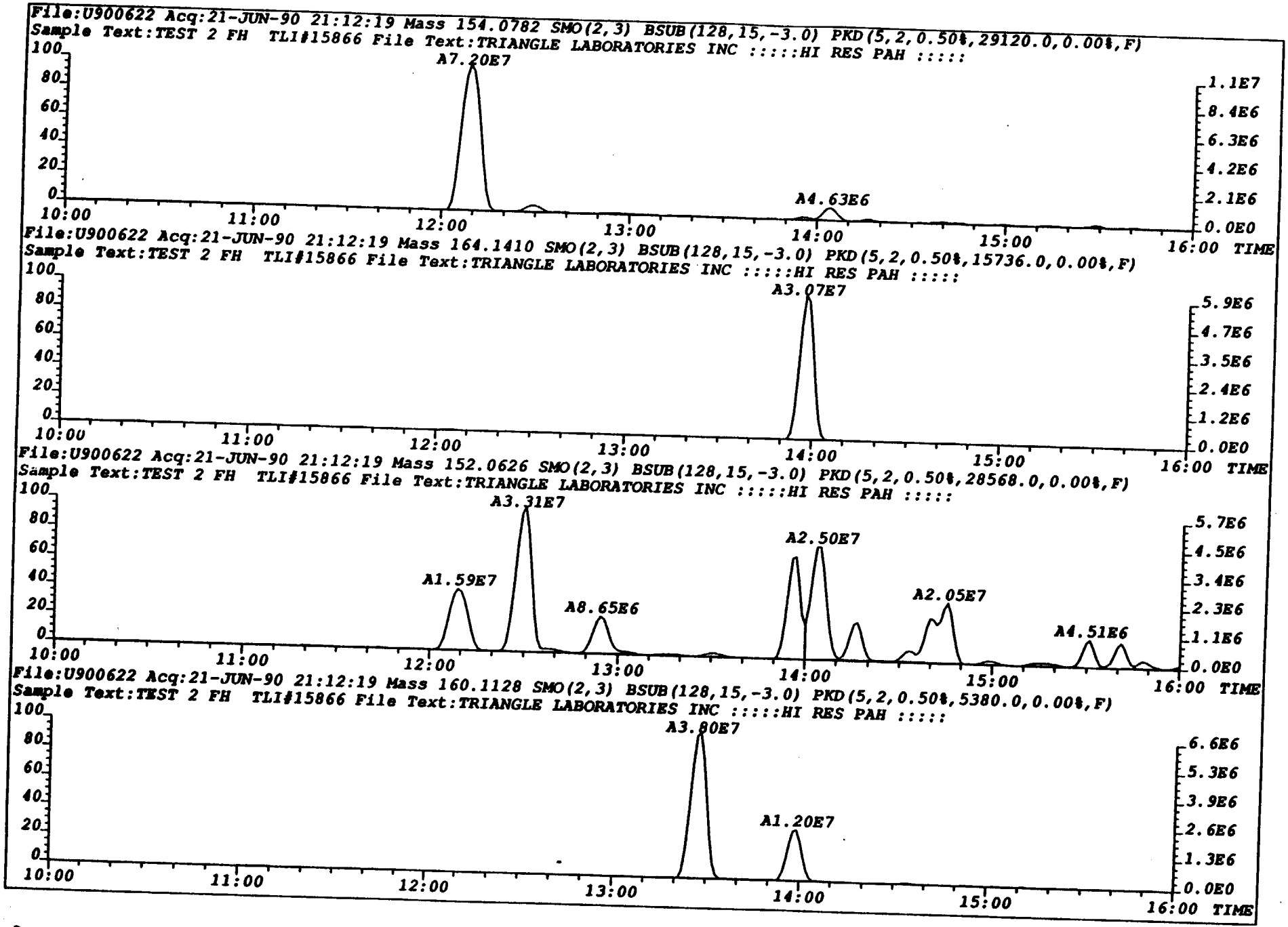

File:U900621 Acq:21-JUN-90 19:34:39 Mass 154.0782
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:07
14:04
16:46
17:09
17:40
File:U900621 Acq:21-JUN-90 19:34:39 Mass 164.1410
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:57
File:U900621 Acq:21-JUN-90 19:34:39 Mass 152.0626
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:07
12:54
14:04
14:45
15:30
16:05
16:46
17:09
17:41
17:57
18:18
19:25
File:U900621 Acq:21-JUN-90 19:34:39 Mass 160.1128
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:26
13:57
18:14
TIME

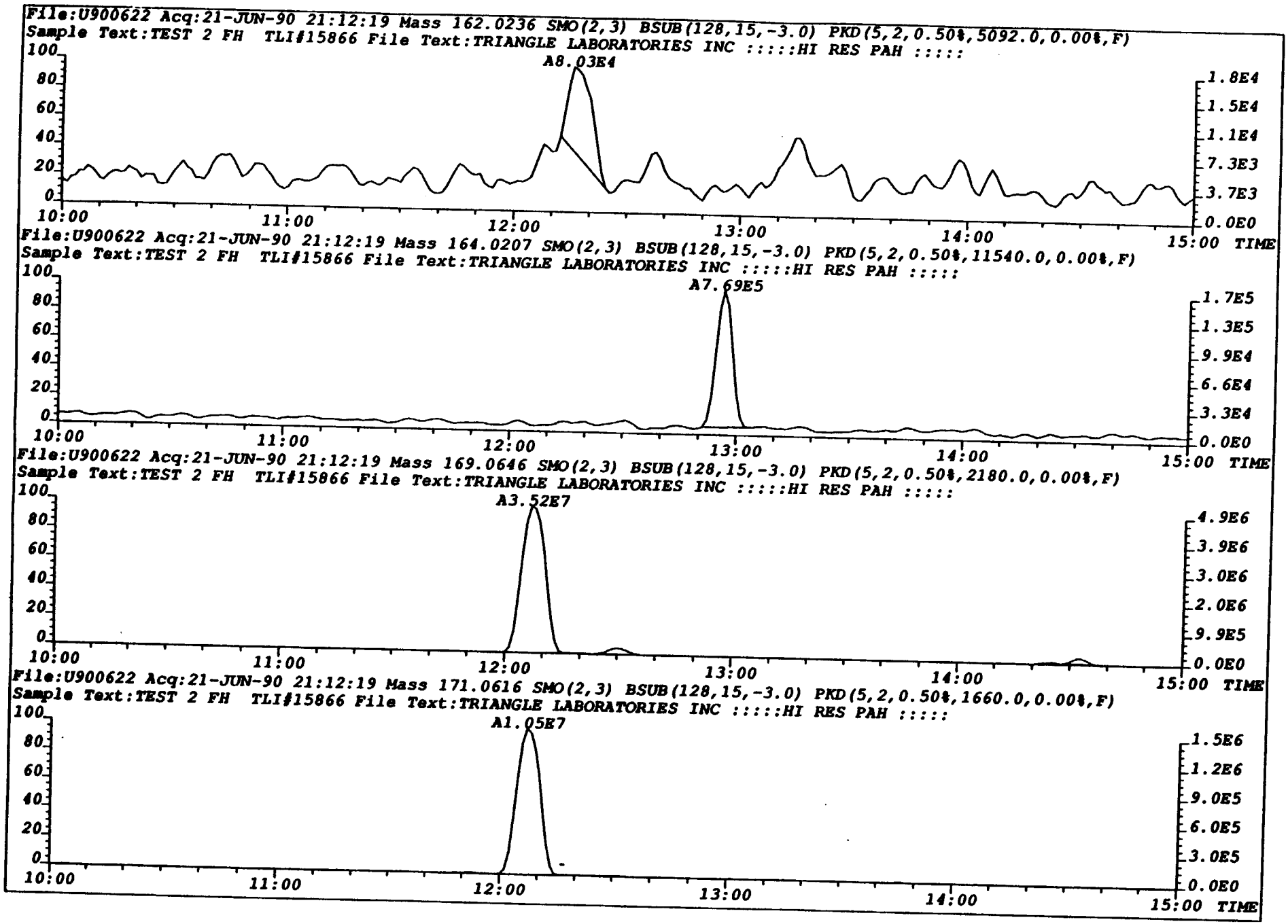
5,


File:U900621 Acq:21-JUN-90 19:34:39 Mass 162.0236
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:16
13:36
18:18
19:27
File:U900621 Acq:21-JUN-90 19:34:39 Mass 164.0207
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:56
8:24
9:13
9:55
10:53
12:15
13:55
14:53
15:27
17:09
17:40
18:40
19:00
19:22
File:U900621 Acq:21-JUN-90 19:34:39 Mass 169.0646
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:05
12:28
14:33
File:U900621 Acq:21-JUN-90 19:34:39 Mass 171.0616
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:05
TIME

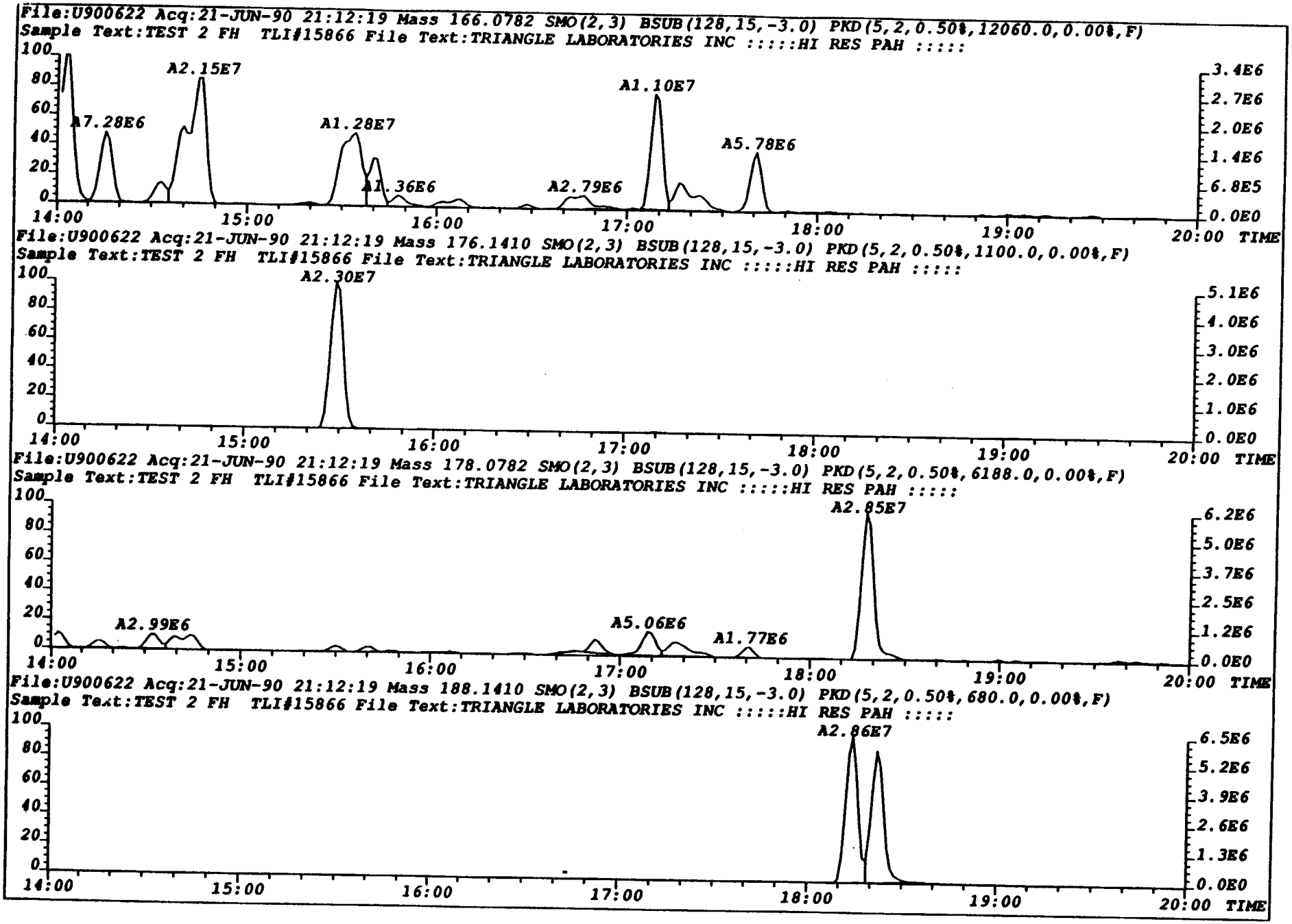

File:U900621 Acq:21-JUN-90 19:34:39 Mass 166.0782
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:28
14:03
14:45
15:34
16:46
17:09
17:40
File:U900621 Acq:21-JUN-90 19:34:39 Mass 176.1410
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
15:28
File:U900621 Acq:21-JUN-90 19:34:39 Mass 178.0782
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
14:32
16:53
17:09
17:40
18:17
File:U900621 Acq:21-JUN-90 19:34:39 Mass 188.1410
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
18:14
TIME

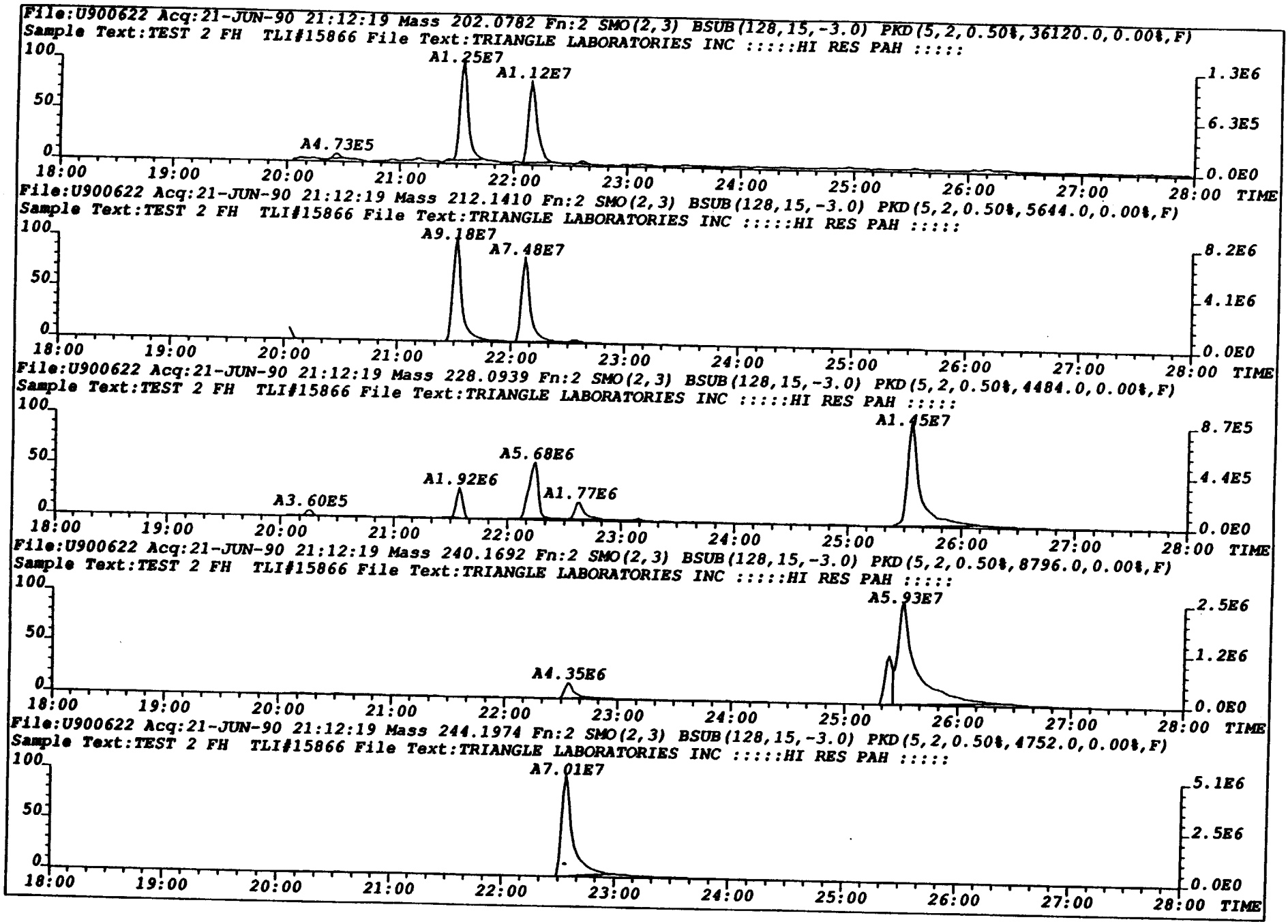

File:U900621 Acq:21-JUN-90 19:34:39 Mass 202.0782 Fn:2
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:33
22:09
5.6E6
4.5E6
3.4E6
2.2E6
1.1E6
0.0E0
TIME
File:U900621 Acq:21-JUN-90 19:34:39 Mass 212.1410 Fn:2
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:31
22:07
1.7E7
1.4E7
1.0E7
6.9E6
3.4E6
0.0E0
TIME
File:U900621 Acq:21-JUN-90 19:34:39 Mass 228.0939 Fn:2
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
25:32
22:14
21:34
2.7E6
2.2E6
1.6E6
1.1E6
5.4E5
0.0E0
TIME
File:U900621 Acq:21-JUN-90 19:34:39 Mass 240.1692 Fn:2
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
25:30
22:33
4.3E6
3.4E6
2.6E6
1.7E6
8.6E5
0.0E0
TIME
File:U900621 Acq:21-JUN-90 19:34:39 Mass 204.9888 Fn:2
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:33 22:35 23:40 25:17 27:11 28:41 29:39 30:45 32:54 34:03 35:53 36:55 38:48 39:47 41:40
1.4E7
1.1E7
8.5E6
5.6E6
2.8E6
0.0E0
TIME

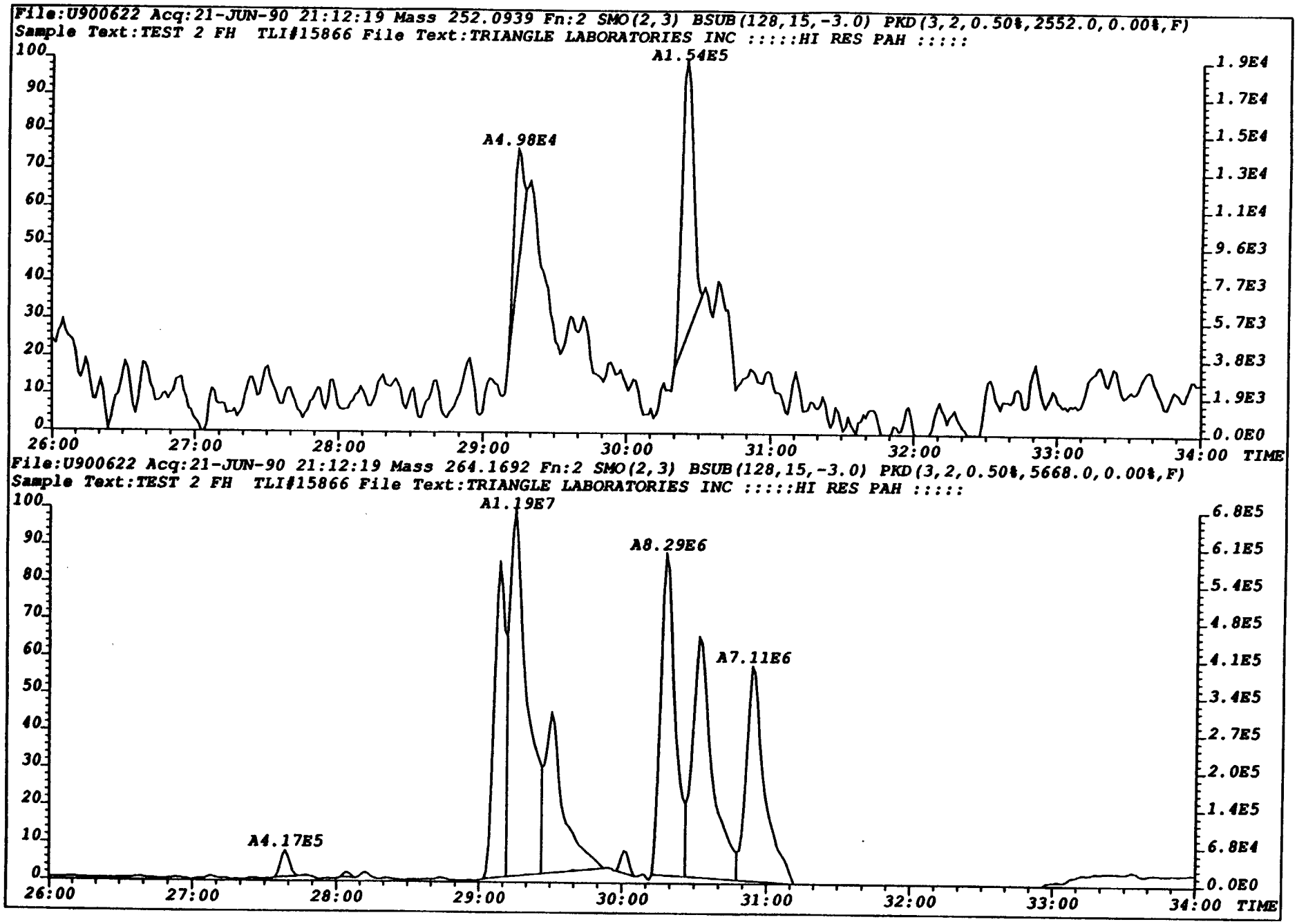

File:U900622 Acq:21-JUN-90 21:12:19 Mass 154.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,29120.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.20E7
A4.63E6
File:U900622 Acq:21-JUN-90 21:12:19 Mass 164.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,15736.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.07E7
File:U900622 Acq:21-JUN-90 21:12:19 Mass 152.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,28568.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.31E7
A1.59E7
A8.65E6
A2.50E7
A2.05E7
A4.51E6
File:U900622 Acq:21-JUN-90 21:12:19 Mass 160.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,5380.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.80E7
A1.20E7
TIME

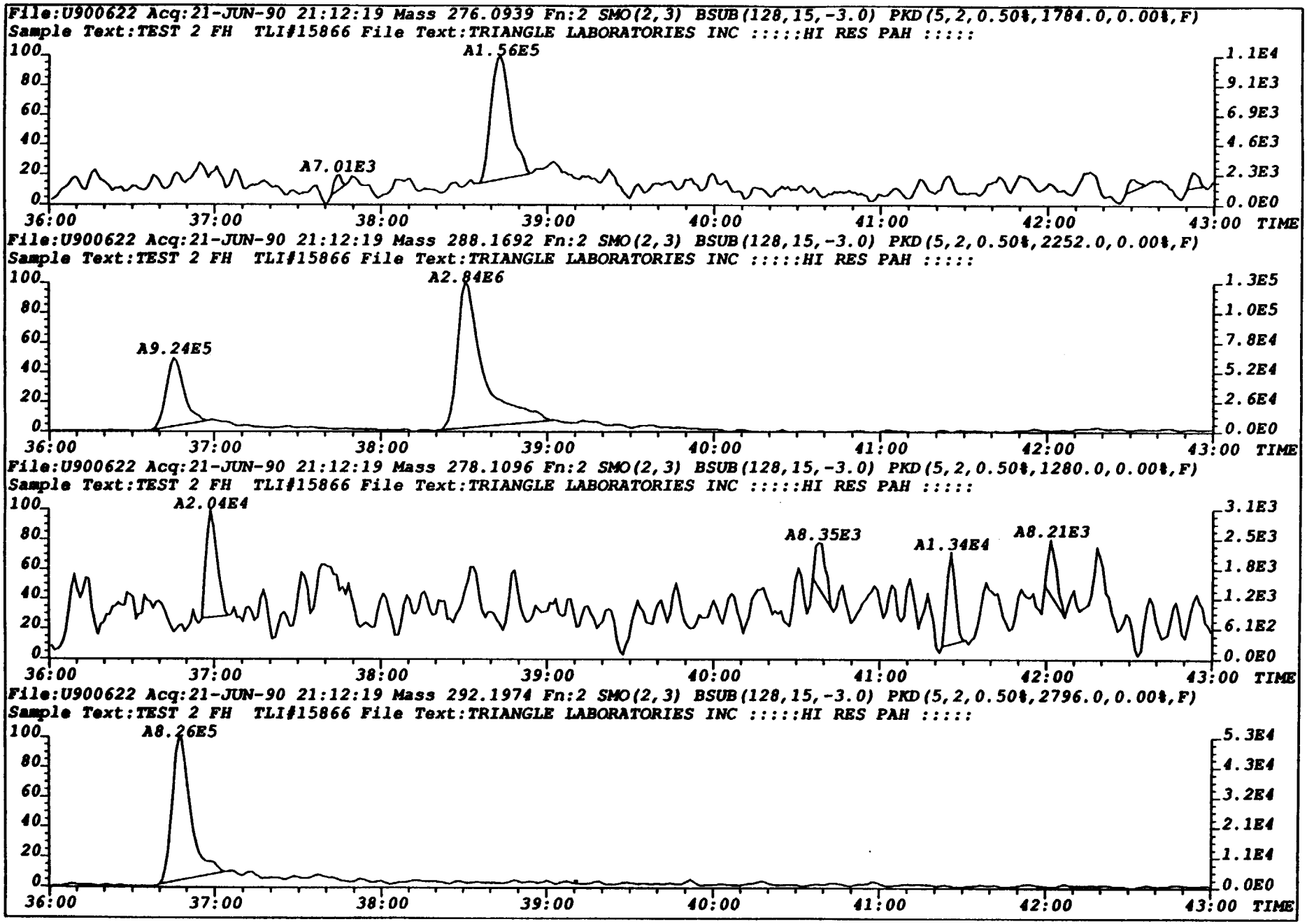

File:U900622 Acq:21-JUN-90 21:12:19 Mass 162.0236 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,5092.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A8.03E4
1.8E4
1.5E4
1.1E4
7.3E3
3.7E3
0.0E0
10:00
11:00
12:00
13:00
14:00
15:00 TIME
File:U900622 Acq:21-JUN-90 21:12:19 Mass 164.0207 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,11540.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.69E5
1.7E5
1.3E5
9.9E4
6.6E4
3.3E4
0.0E0
File:U900622 Acq:21-JUN-90 21:12:19 Mass 169.0646 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2180.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.52E7
4.9E6
3.9E6
3.0E6
2.0E6
9.9E5
0.0E0
File:U900622 Acq:21-JUN-90 21:12:19 Mass 171.0616 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1660.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.05E7
1.5E6
1.2E6
9.0E5
6.0E5
3.0E5
0.0E0

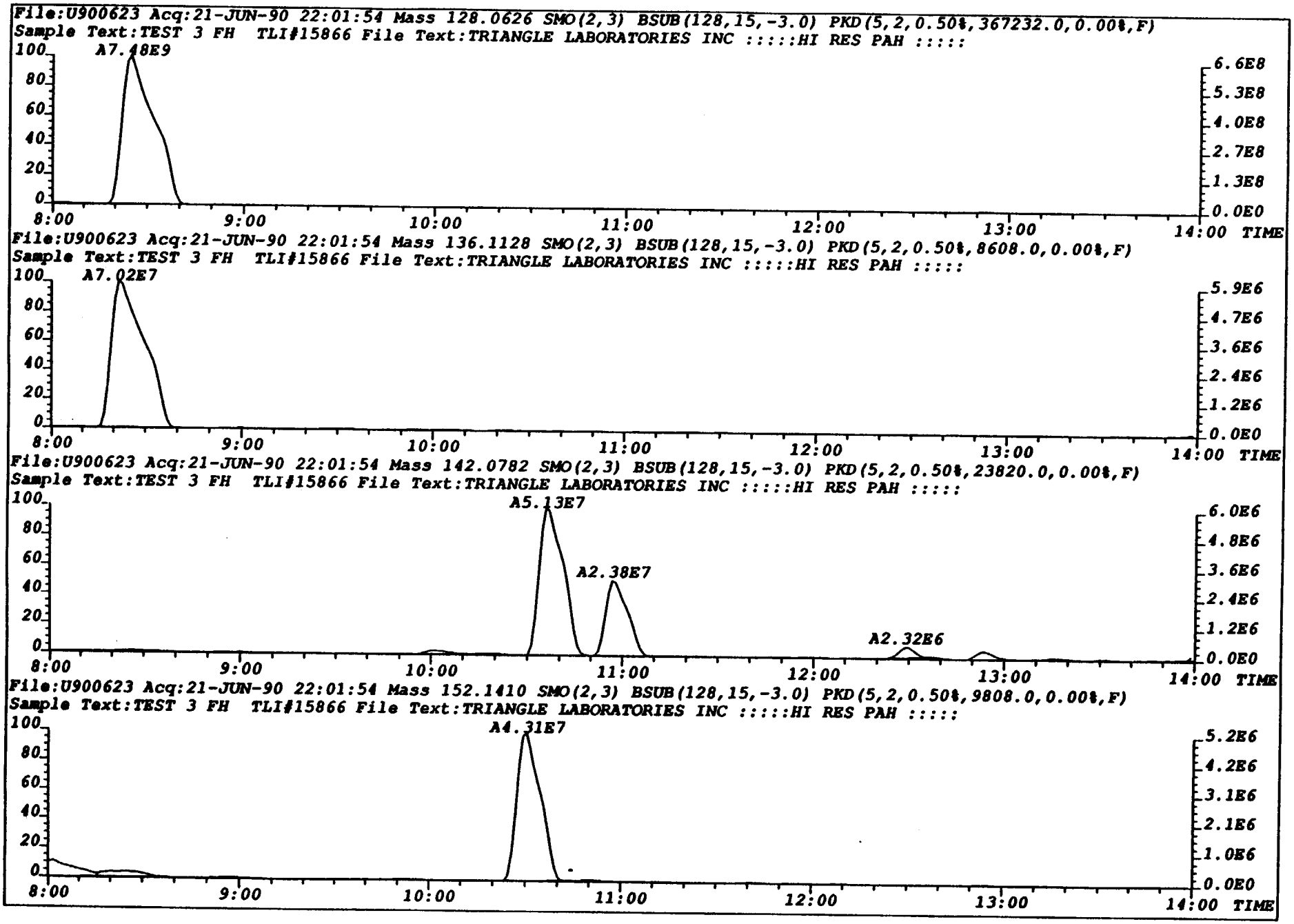
22


File:U900622 Acq:21-JUN-90 21:12:19 Mass 166.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,12060.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.28E6
A2.15E7
A1.28E7
A1.36E6
A2.79E6
A1.10E7
A5.78E6
File:U900622 Acq:21-JUN-90 21:12:19 Mass 176.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1100.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.30E7
File:U900622 Acq:21-JUN-90 21:12:19 Mass 178.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,6188.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.99E6
A5.06E6
A1.77E6
A2.85E7
File:U900622 Acq:21-JUN-90 21:12:19 Mass 188.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,680.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.86E7
14:00
15:00
16:00
17:00
18:00
19:00
20:00 TIME


File:U900622 Acq:21-JUN-90 21:12:19 Mass 202.0782 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,36120.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.25E7
A1.12E7
A4.73E5
File:U900622 Acq:21-JUN-90 21:12:19 Mass 212.1410 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,5644.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A9.18E7
A7.48E7
File:U900622 Acq:21-JUN-90 21:12:19 Mass 228.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,4484.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.45E7
A5.68E6
A1.92E6
A1.77E6
A3.60E5
File:U900622 Acq:21-JUN-90 21:12:19 Mass 240.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,8796.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A5.93E7
A4.35E6
File:U900622 Acq:21-JUN-90 21:12:19 Mass 244.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,4752.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.01E7
100
50
0
18:00
19:00
20:00
21:00
22:00
23:00
24:00
25:00
26:00
27:00
28:00
TIME
1.3E6
6.3E5
0.0E0
8.2E6
4.1E6
8.7E5
4.4E5
2.5E6
1.2E6
5.1E6
2.5E6


File:U900622 Acq:21-JUN-90 21:12:19 Mass 252.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,2552.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.54E5
A4.98E4
TIME
File:U900622 Acq:21-JUN-90 21:12:19 Mass 264.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,5668.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.19E7
A8.29E6
A7.11E6
A4.17E5
TIME


File:U900622 Acq:21-JUN-90 21:12:19 Mass 276.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1784.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.56E5
A7.01E3
File:U900622 Acq:21-JUN-90 21:12:19 Mass 288.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2252.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.84E6
A9.24E5
File:U900622 Acq:21-JUN-90 21:12:19 Mass 278.1096 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1280.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.04E4
A8.35E3
A1.34E4
A8.21E3
File:U900622 Acq:21-JUN-90 21:12:19 Mass 292.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2796.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A8.26E5
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
TIME


File:U900623 Acq:21-JUN-90 22:01:54 Mass 128.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,367232.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.48E9
File:U900623 Acq:21-JUN-90 22:01:54 Mass 136.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,8608.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.02E7
File:U900623 Acq:21-JUN-90 22:01:54 Mass 142.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,23820.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A5.13E7
A2.38E7
A2.32E6
File:U900623 Acq:21-JUN-90 22:01:54 Mass 152.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,9808.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.31E7
TIME

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

07/05/90

FILE NAME....: U900623 CLIENT ID....: P&S TLI NUMBER....: 32-73-3ABD
CONCAL.....: U900619 SAMPLE ID....: TEST 3 FH
ANALYST.....: MC ANALYSIS DATE: 06/21/90 PROJECT NUMBER: 15866
SAMPLE SIZE..: 1.00 SAMPLE MATRIX: MM5 FH DATE RECEIVED.: 05/30/90
ICAL DATE....: 06/21/90 SAMPLE ORIGIN: HRSG OUT DATE COLLECTED: 05/23/90
SPIKE FILE...: SPPAHH1C SHIPMENT NO...: UTS

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	12800			8:25	B
2-Me-Naph	138			10:36	B
2-Cl-Naph	ND		0.1		
Acenaphthen	27.0			14:03	B
Acenaph	2.2			13:30	B
Fluorene	85.1			15:30	B
Phenan	102			18:18	B
Anth	ND		0.3		
Fluoran	23.7			21:33	B
Pyrene	19.0			22:08	B
B-a-Anth	ND		0.5		
Chrysene	24.8			25:33	B
B-b-Fluoran	2.3			29:16	B
B-k-Fluoran	ND		0.8		
B-e-Pyrene	7.8			30:24	B
B-a-Pyrene	1.8			30:37	
Perylene	ND		1.7		
I-123-cd-Py	ND		5.3		
DiB-ah-Anth	ND		11.8		
B-ghi-Pery	11.6			38:41	B

SURROGATE RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	402	402	22:33	

ALTERNATE STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	546	546	18:22	

FILE NAME....:	U900623	CLIENT ID....:	P&S	TLI NUMBER....:	32-73-3ABD
CONCAL.....:	U900619	SAMPLE ID....:	TEST 3 FH		
ANALYST.....:	MC	ANALYSIS DATE:	06/21/90	PROJECT NUMBER:	15866
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5 FH	DATE RECEIVED.:	05/30/90
ICAL DATE....:	06/21/90	SAMPLE ORIGIN:	HRSG OUT	DATE COLLECTED:	05/23/90
SPIKE FILE...:	SPPAHH1C			SHIPMENT NO...:	UTS

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	339	339	8:21	___
d10-2-Me-Naph	353	353	10:30	___
d7-2-Cl-Naph	380	380	12:06	___
d8-Acenaph	328	328	13:27	___
d10-Acenaphthen	383	383	13:58	___
d10-Fluorene	376	376	15:29	___
d10-Phenan	410	410	18:13	___
d10-Fluoran	492	492	21:30	___
d10-Pyrene	478	478	22:06	___
d12-B-a-Anth	173	173	25:23	___
d12-Chrysene	265	265	25:30	___
d12-B-b-Fluoran	103	103	29:07	___
d12-B-k-Fluoran	87.3	87.3	29:14	___
d12-B-a-Pyrene	68.5	68.5	30:31	___
d12-Perylene	87.6	87.6	30:54	___
d12-I-123-cd-Py	49.9	49.9	36:44	___
d14-DiB-ah-Anth	31.2	31.2	36:46	___
d12-B-ghi-Pery	45.4	45.4	38:30	___

Page No. 1 Listing of U9006238.dbf
06/27/90

DL 8.8 JB

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128		0.00	8:25	747873.30	T	T	1.008	✓
128		*** Total ***		747873.30	# of Peaks:		1	
136		0.00	8:21	7021.46	T	~~F~~ T	0.621	✓
		0.00	9:28	11.88	T	F	0.704	
		0.00	13:58	25.82	T	F	1.038	
136		*** Total ***		7059.16	# of Peaks:		3	
142		0.00	10:01	117.69	T	F	0.954	
		0.00	10:36	5133.20	T	T	1.010	✓
		0.00	10:57	2379.23	T	F	1.043	
		0.00	12:29	232.02	T	F	1.189	
142		*** Total ***		7862.14	# of Peaks:		4	
152		0.00	8:01	594.06	T	F	0.596	
		0.00	8:25	282.49	T	F	0.626	
		0.00	10:30	4311.25	T	~~F~~ T	0.781	✓
		0.00	10:50	18.81	T	F	0.805	
		0.00	12:08	1747.03	T	F	0.902	
		0.00	12:29	1448.77	T	F	0.928	
		0.00	12:53	3615.18	T	F	0.958	
		0.00	13:17	57.27	T	F	0.988	
		0.00	13:30	98.78	T	T	1.004	✓
		0.00	14:02	6827.14	T	F	1.043	
		0.00	14:16	3687.45	T	F	1.061	
		0.00	14:44	3588.51	T	F	1.095	
		0.00	14:59	100.92	T	F	1.114	
		0.00	15:14	131.76	T	F	1.133	
		0.00	15:30	1297.52	T	F	1.152	
		0.00	15:40	1741.58	T	F	1.165	
		0.00	15:48	695.43	T	F	1.175	
		0.00	16:05	185.63	T	F	1.196	
152		*** Total ***		30429.58	# of Peaks:		18	
154		0.00	12:08	8074.40	T	F	0.869	
		0.00	12:29	117.83	T	F	0.894	
		0.00	12:53	201.53	T	F	0.922	
		0.00	13:54	4.32	T	F	0.995	
		0.00	14:03	848.45	T	T	1.006	✓
		0.00	14:16	304.33	T	F	1.021	
		0.00	14:41	191.82	T	F	1.051	
		0.00	14:59	36.01	T	F	1.073	
		0.00	15:13	60.83	T	F	1.089	
		0.00	15:29	160.35	T	F	1.109	
		0.00	15:40	76.98	T	F	1.122	
154		*** Total ***		10076.85	# of Peaks:		11	
160		0.00	13:27	4118.84	T	T	0.444	✓
		0.00	13:58	1244.53	T	F	0.461	
		0.00	14:33	24.27	T	F	0.480	
160		*** Total ***		5387.64	# of Peaks:		3	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
164		0.00	13:58	3269.13	T	T	1.038	✓
		0.00	14:01	7.24	T	F	1.042	
164		*** Total ***		3419.39	# of Peaks:		3	
166		0.00	14:01	5776.60	T	F	0.905	
		0.00	14:14	4012.98	T	F	0.919	
		0.00	14:32	367.75	T	F	0.939	
		0.00	14:44	3723.92	T	F	0.952	
		0.00	15:30	2725.71	T	FT	1.001	✓
		0.00	15:40	2105.75	T	F	1.012	
		0.00	15:47	849.59	T	F	1.019	
		0.00	16:07	192.25	T	F	1.041	
		0.00	16:28	40.79	T	F	1.064	
		0.00	16:45	660.09	T	F	1.082	
		0.00	17:09	1532.78	T	F	1.108	
		0.00	17:17	1418.78	T	F	1.116	
166		*** Total ***		23406.99	# of Peaks:		12	
169		3.40	12:06	4749.42	T	T	0.900	✓
169		*** Total ***		4749.42	# of Peaks:		1	
176		0.00	15:29	2567.45	T	T	1.151	✓
		0.00	17:10	29.14	T	F	1.276	
176		*** Total ***		2596.59	# of Peaks:		2	
178		0.00	14:01	1075.49	T	F	0.763	
		0.00	14:14	917.83	T	F	0.775	
		0.00	14:32	387.92	T	F	0.791	
		0.00	14:44	897.63	T	F	0.802	
		0.00	15:29	303.35	T	F	0.843	
		0.00	15:39	448.42	T	F	0.852	
		0.00	15:47	221.45	T	F	0.859	
		0.00	16:28	31.21	T	F	0.897	
		0.00	16:45	320.53	T	F	0.912	
		0.00	16:52	491.17	T	F	0.918	
		0.00	17:09	754.00	T	F	0.934	
		0.00	17:17	1145.09	T	F	0.941	
		0.00	17:40	255.03	T	F	0.962	
		0.00	18:18	4101.10	T	F	0.996	✓
		0.00	18:41	44.68	T	F	1.017	
		0.00	18:49	16.89	T	F	1.025	
		0.00	19:00	27.20	T	F	1.034	
		0.00	19:05	57.43	T	F	1.039	
		0.00	19:38	37.55	T	F	1.069	
178		*** Total ***		11533.97	# of Peaks:		19	
188		0.00	18:13	3238.53	T	T	1.354	✓
		0.00	18:22	3436.45	T	FT	1.366	✓
188		*** Total ***		6674.98	# of Peaks:		2	
202		0.00	20:26	83.35	T	F	0.925	
		0.00	21:09	41.66	T	F	0.957	
		0.00	21:25	8.22	T	F	0.969	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
202		0.00	21:33	1769.51	T	T	1.002	✓
		0.00	22:08	1381.22	T	T	1.002	✓
202		*** Total ***		3283.96	# of Peaks:		5	
212		0.00	21:30	10365.21	T	T	0.696	✓
		0.00	22:06	8107.30	T	T	0.715	✓
		0.00	22:34	172.64	T	F	0.730	
212		*** Total ***		18645.15	# of Peaks:		3	
228		0.00	20:15	46.01	T	F	0.794	
		0.00	21:35	250.48	T	F	0.846	
		0.00	22:14	659.93	T	F	0.872	
		0.00	22:37	129.62	T	F	0.887	
		0.00	25:33	970.50	T	T	1.002	✓
228		*** Total ***		2056.54	# of Peaks:		5	
240		0.00	22:34	417.69	T	F	0.730	
		0.00	25:23	1226.07	T	T	0.821	✓
		0.00	25:30	4980.80	T	T	0.825	✓
240		*** Total ***		6624.56	# of Peaks:		3	
244		0.00	20:32	71.41	T	F	0.678	
		0.00	21:06	25.07	T	F	0.696	
		0.00	22:33	7240.59	T	T	0.744	✓
244		*** Total ***		7337.07	# of Peaks:		3	
252		0.00	26:05	4.38	T	F	0.844	
		0.00	29:16	14.41	T	T	1.001	✓
		0.00	30:24	47.91	T	T	0.996	✓
		0.00	30:37	8.68	T	T	1.003	
		0.00	31:15	3.85	T	F	1.011	
252		*** Total ***		79.23	# of Peaks:		5	
264		0.00	27:38	51.30	T	F	0.912	
		0.00	29:07	515.03	T	T	0.942	✓
		0.00	29:14	999.69	T	T	0.946	✓
		0.00	29:29	495.30	T	F	0.973	
		0.00	30:00	36.98	T	F	0.990	
		0.00	30:17	651.13	T	T	0.999	✓
		0.00	30:31	469.43	T	T	0.988	✓
		0.00	30:54	374.70	T	T	1.020	✓
264		*** Total ***		3593.56	# of Peaks:		8	
276		0.00	36:21	2.63	T	F	0.944	
		0.00	36:28	2.43	T	F	0.947	
	D	0.00	36:54	1.23	T	T	1.005	S/N
		0.00	37:17	0.50	T	F	0.968	
		0.00	38:41	16.88	T	T	1.005	✓
		0.00	38:57	1.26	T	F	1.012	
		0.00	39:09	0.90	T	F	1.017	
		0.00	39:39	1.06	T	F	1.030	
		0.00	42:26	0.77	T	F	1.102	
276		*** Total ***		27.66	# of Peaks:		9	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
278		0.00	36:43	0.65	T	F	0.999	
	D	0.00	36:59	1.29	T	T	1.006	S/N
278		*** Total ***		1.94	# of Peaks:		2	
288		0.00	36:44	75.65	T	T	1.189	✓
		0.00	38:30	172.22	T	T	1.246	✓
288		*** Total ***		247.87	# of Peaks:		2	
292		0.00	36:46	44.42	T	T	1.190	✓
292		*** Total ***		44.42	# of Peaks:		1	

*** End of Report ***

06/27/90

Listing of U9006Z31.dbf File
Raw Mass, Retention Time and Data Area

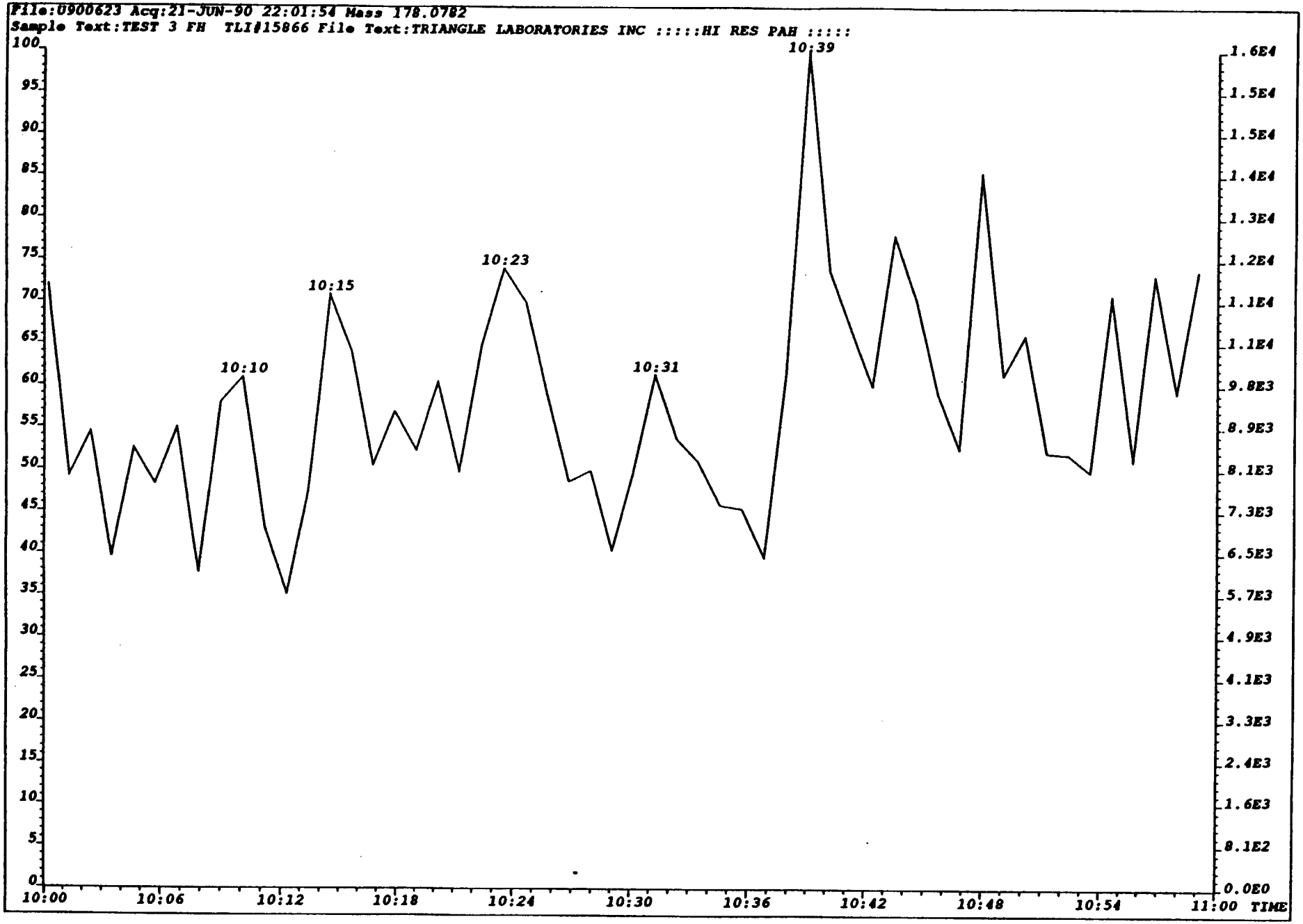
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
128	8:25	747873.30						
136	8:21	7021.46	9:28	11.88	13:58	25.82		
142	10:01	117.69	10:36	5133.20	10:57	2379.23	12:29	232.02
152	8:01	594.06	8:25	282.49	10:30	4311.25	10:50	18.81
154	12:08	8074.40	13:54	4.32	14:41	191.82	15:29	160.35
	12:29	117.83	14:03	848.45	14:59	36.01	15:40	76.98
	12:53	201.53	14:16	304.33	15:13	60.83		
164	13:58	3269.13						
152	12:08	1747.03	13:30	98.78	14:59	100.92	15:48	695.43
	12:29	1448.77	14:02	6827.14	15:14	131.76	16:05	185.63
	12:53	3615.18	14:16	3687.45	15:30	1297.52		
	13:17	57.27	14:44	3588.51	15:40	1741.58		
160	13:27	4118.84	13:58	1244.53	14:33	24.27		
162	10:42	5.52	12:16	13.87	13:16	3.24		
164	12:56	143.02	14:01	7.24				
169	12:06	3670.60	12:29	103.86	14:24	16.35	14:32	123.07
171	12:06	1078.82						
166	14:01	5776.60	14:44	3723.92	15:47	849.59	16:45	660.09
	14:14	4012.98	15:30	2725.71	16:07	192.25	17:09	1532.78
	14:32	367.75	15:40	2105.75	16:28	40.79	17:17	1418.78
176	15:29	2567.45	17:10	29.14				
178	14:01	1075.49	15:39	448.42	17:09	754.00	18:49	16.89
	14:14	917.83	15:47	221.45	17:17	1145.09	19:00	27.20
	14:32	387.92	16:28	31.21	17:40	255.03	19:05	57.43
	14:44	897.63	16:45	320.53	18:18	4101.10	19:38	37.55
	15:29	303.35	16:52	491.17	18:41	44.68		
188	18:13	3238.53	18:22	3436.45				
202	20:26	83.35	21:25	8.22	22:08	1381.22		
	21:09	41.66	21:33	1769.51				
212	21:30	10365.21	22:06	8107.30	22:34	172.64		

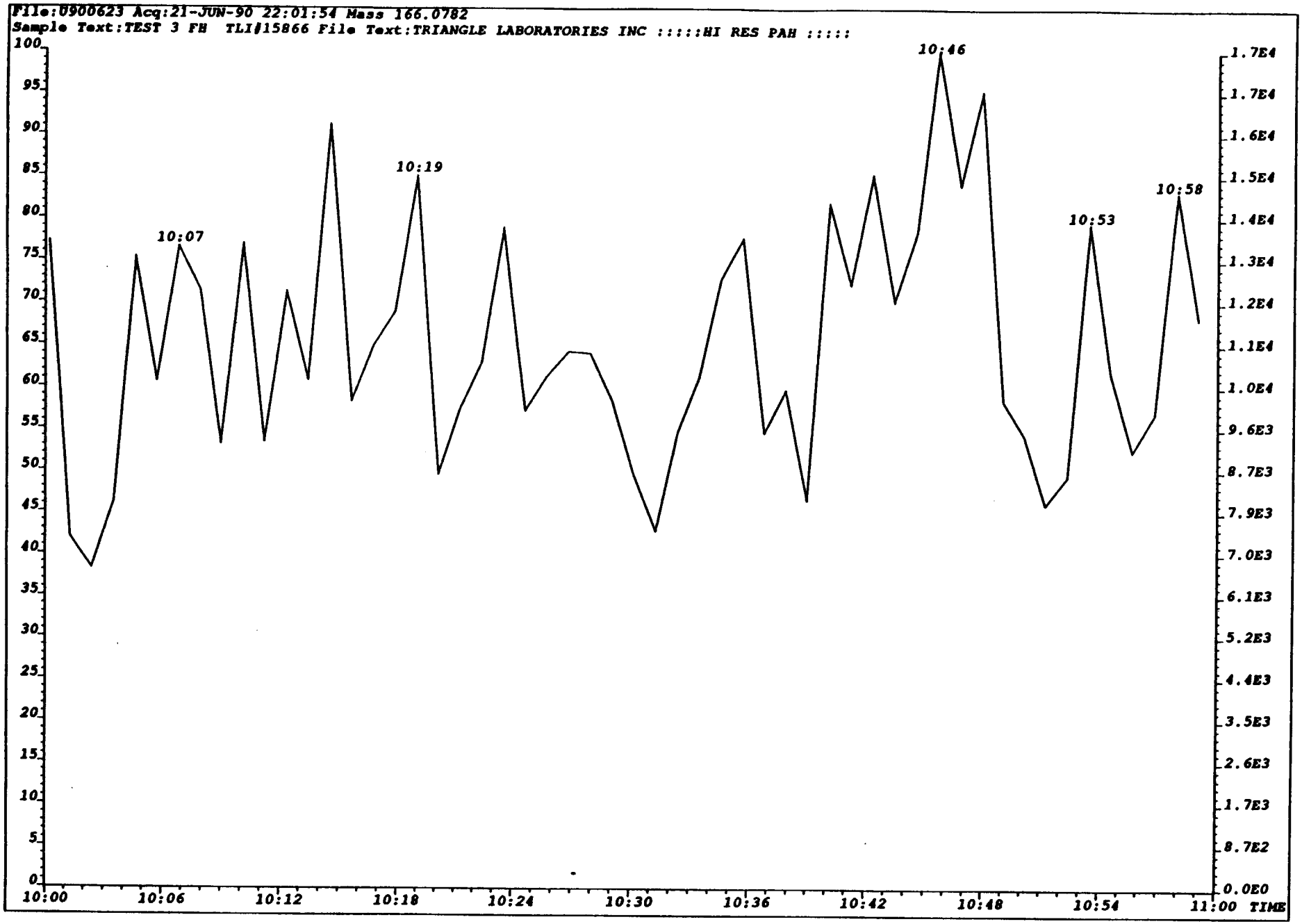
228	20:15	46.01	22:14	659.93	25:33	970.50
	21:35	250.48	22:37	129.62		
240	22:34	417.69	25:23	1226.07	25:30	4980.80

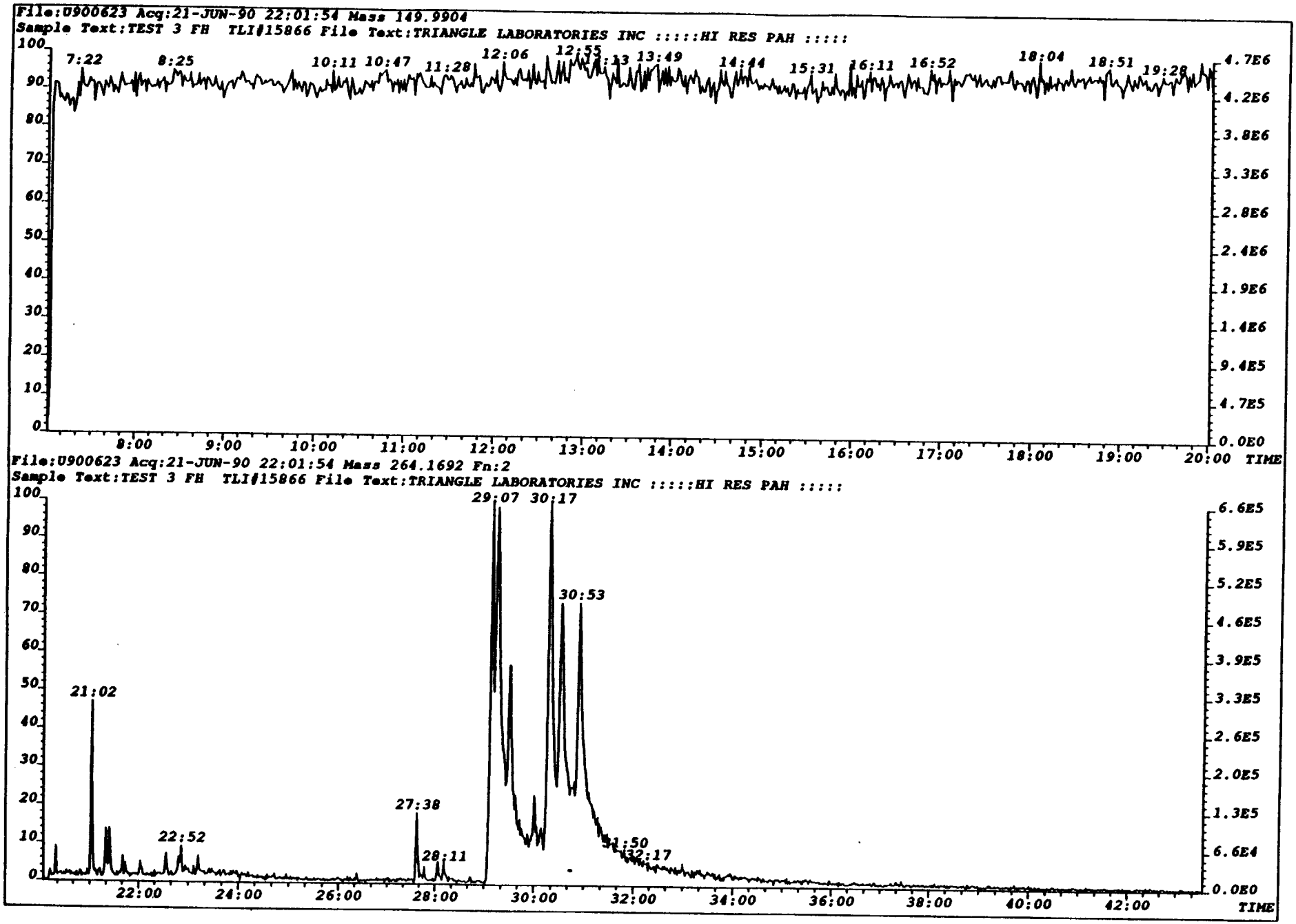
Listing of U9006231.dbf File
Raw Mass, Retention Time and Data Area

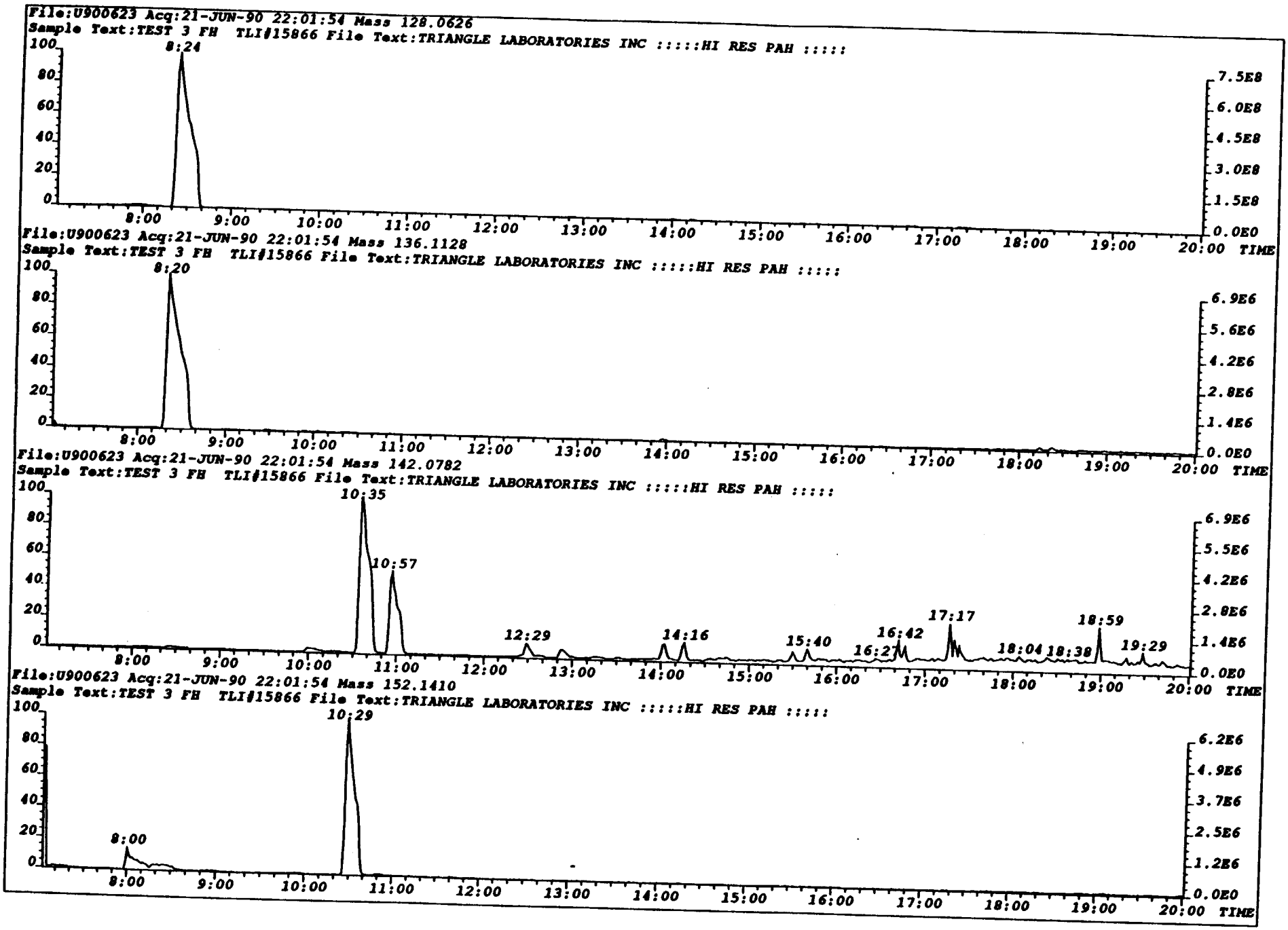
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
244	20:32	71.41	21:06	25.07	22:33	7240.59		
252	26:05	4.38	30:24	47.91	31:15	3.85		
	29:16	14.41	30:37	8.68				
264	27:38	51.30	29:14	999.69	30:00	36.98	30:31	469.43
	29:07	515.03	29:29	495.30	30:17	651.13	30:54	374.70
276	36:21	2.63	37:17	0.50	39:09	0.90		
	36:28	2.43	38:41	16.88	39:39	1.06		
	36:54	1.23	38:57	1.26	42:26	0.77		
288	36:44	75.65	38:30	172.22				
278	36:43	0.65	36:59	1.29				
292	36:46	44.42						

*** End of Report ***

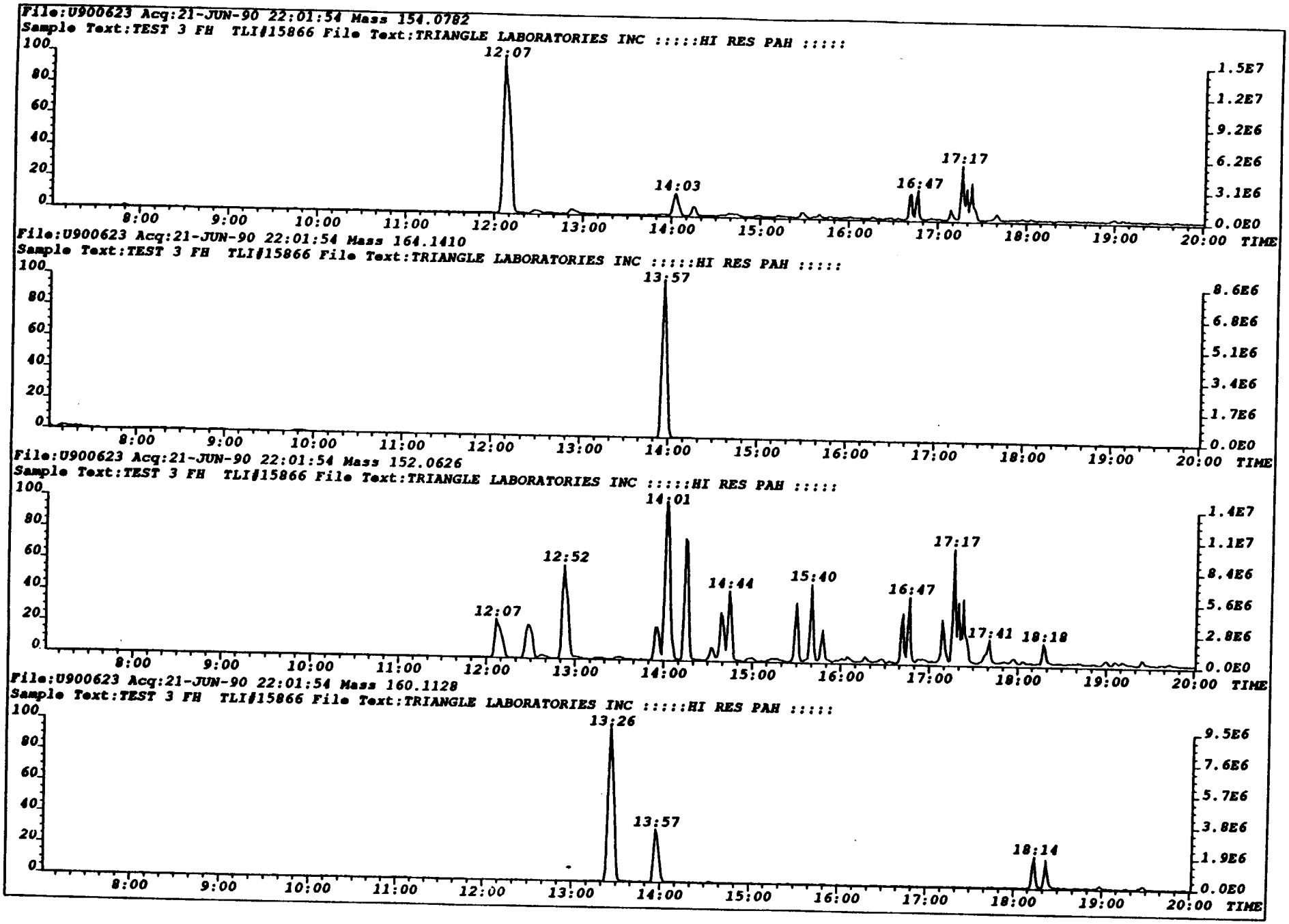

File:0900623 Acq:21-JUN-90 22:01:54 Mass 178.0782
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:10
10:15
10:23
10:31
10:39
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1.6E4
1.5E4
1.5E4
1.4E4
1.3E4
1.2E4
1.1E4
1.1E4
9.8E3
8.9E3
8.1E3
7.3E3
6.5E3
5.7E3
4.9E3
4.1E3
3.3E3
2.4E3
1.6E3
8.1E2
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME


File:0900623 Acq:21-JUN-90 22:01:54 Mass 166.0782
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:07
10:19
10:46
10:53
10:58
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1.7E4
1.7E4
1.6E4
1.5E4
1.4E4
1.3E4
1.2E4
1.1E4
1.0E4
9.6E3
8.7E3
7.9E3
7.0E3
6.1E3
5.2E3
4.4E3
3.5E3
2.6E3
1.7E3
8.7E2
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

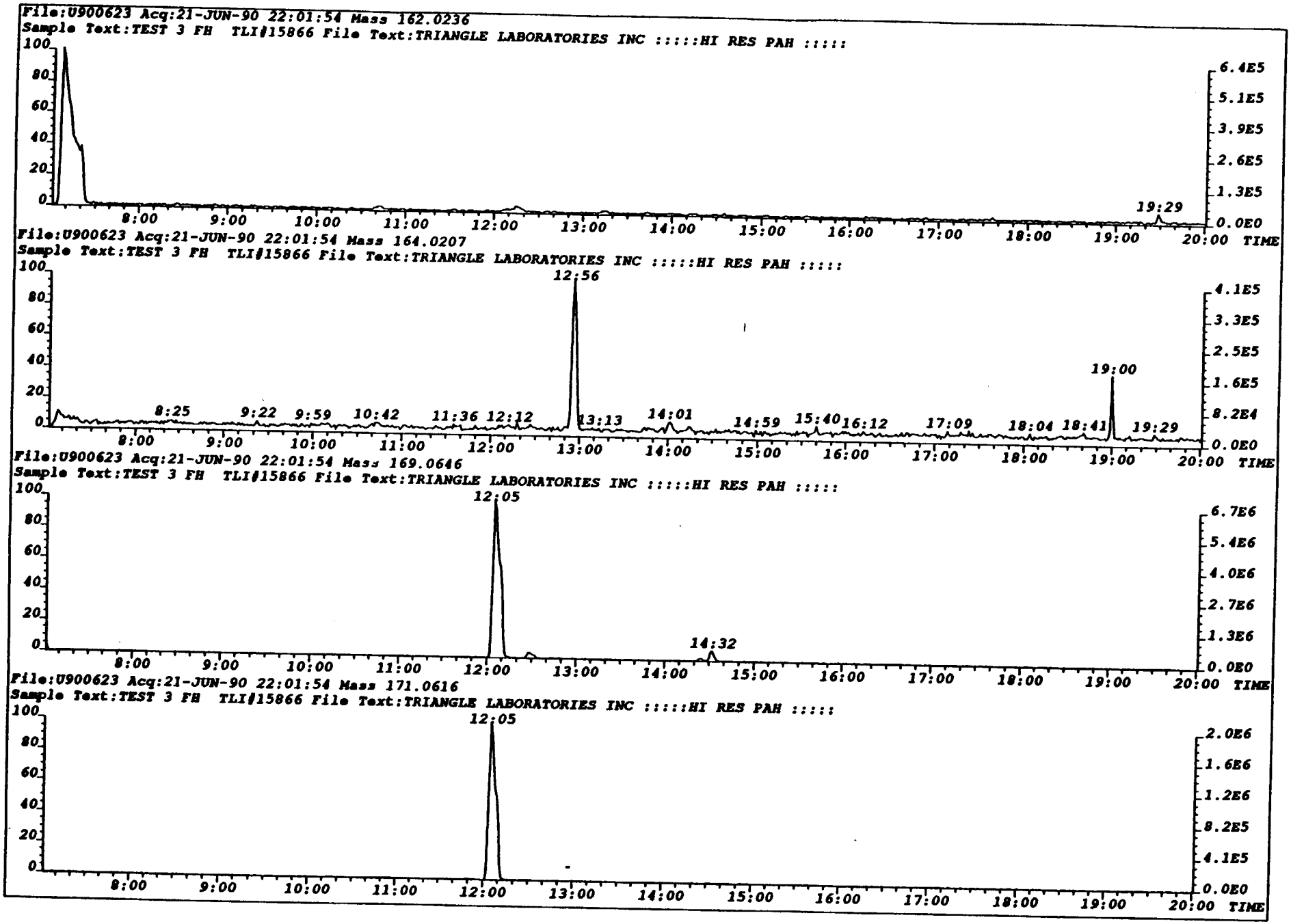

File:U900623 Acq:21-JUN-90 22:01:54 Mass 149.9904
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
7:22
8:25
10:11
10:47
11:28
12:06
12:55
13:13
13:49
14:44
15:31
16:11
16:52
18:04
18:51
19:28
TIME
File:U900623 Acq:21-JUN-90 22:01:54 Mass 264.1692 Fn:2
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:02
22:52
27:38
28:11
29:07
30:17
30:53
31:50
32:17
TIME

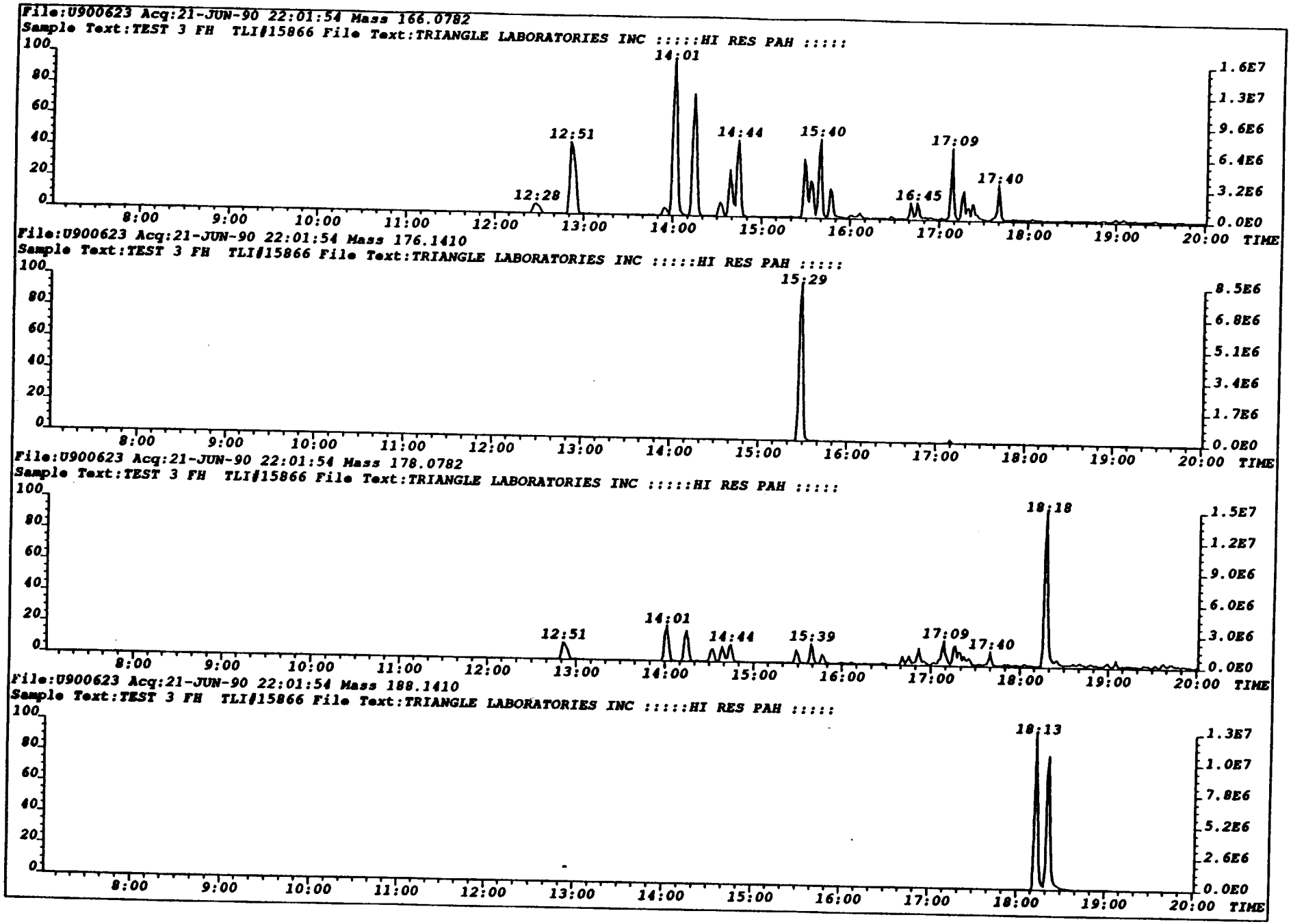

File:U900623 Acq:21-JUN-90 22:01:54 Mass 128.0626
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:24
File:U900623 Acq:21-JUN-90 22:01:54 Mass 136.1128
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:20
File:U900623 Acq:21-JUN-90 22:01:54 Mass 142.0782
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:35
10:57
12:29
14:16
15:40
16:27
16:42
17:17
18:04
18:38
18:59
19:29
File:U900623 Acq:21-JUN-90 22:01:54 Mass 152.1410
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:29
8:00
TIME

13

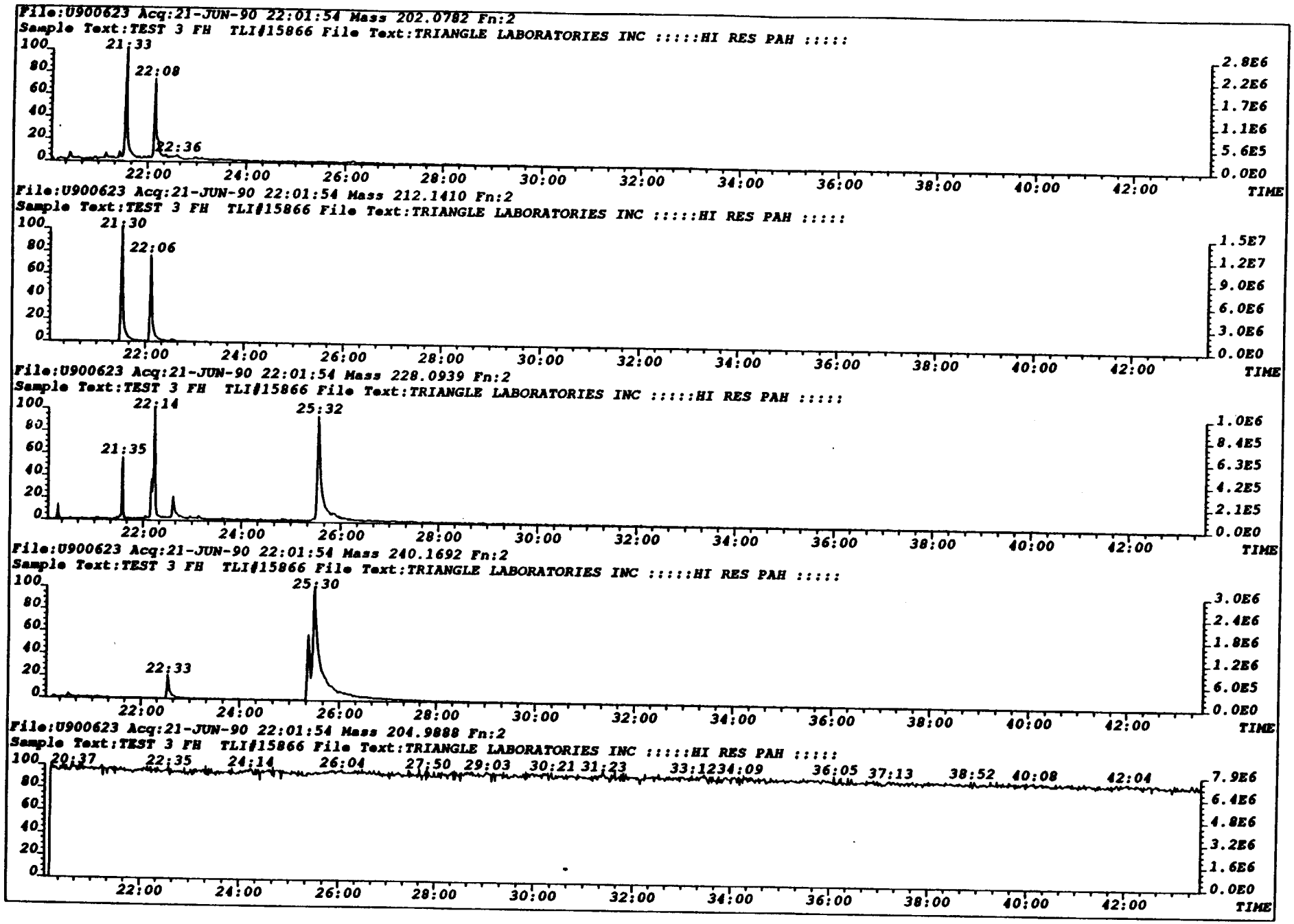

File:U900623 Acq:21-JUN-90 22:01:54 Mass 154.0782
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:07
14:03
16:47
17:17
File:U900623 Acq:21-JUN-90 22:01:54 Mass 164.1410
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:57
File:U900623 Acq:21-JUN-90 22:01:54 Mass 152.0626
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
14:01
12:52
12:07
14:44
15:40
16:47
17:17
17:41
18:18
File:U900623 Acq:21-JUN-90 22:01:54 Mass 160.1128
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:26
13:57
18:14
TIME

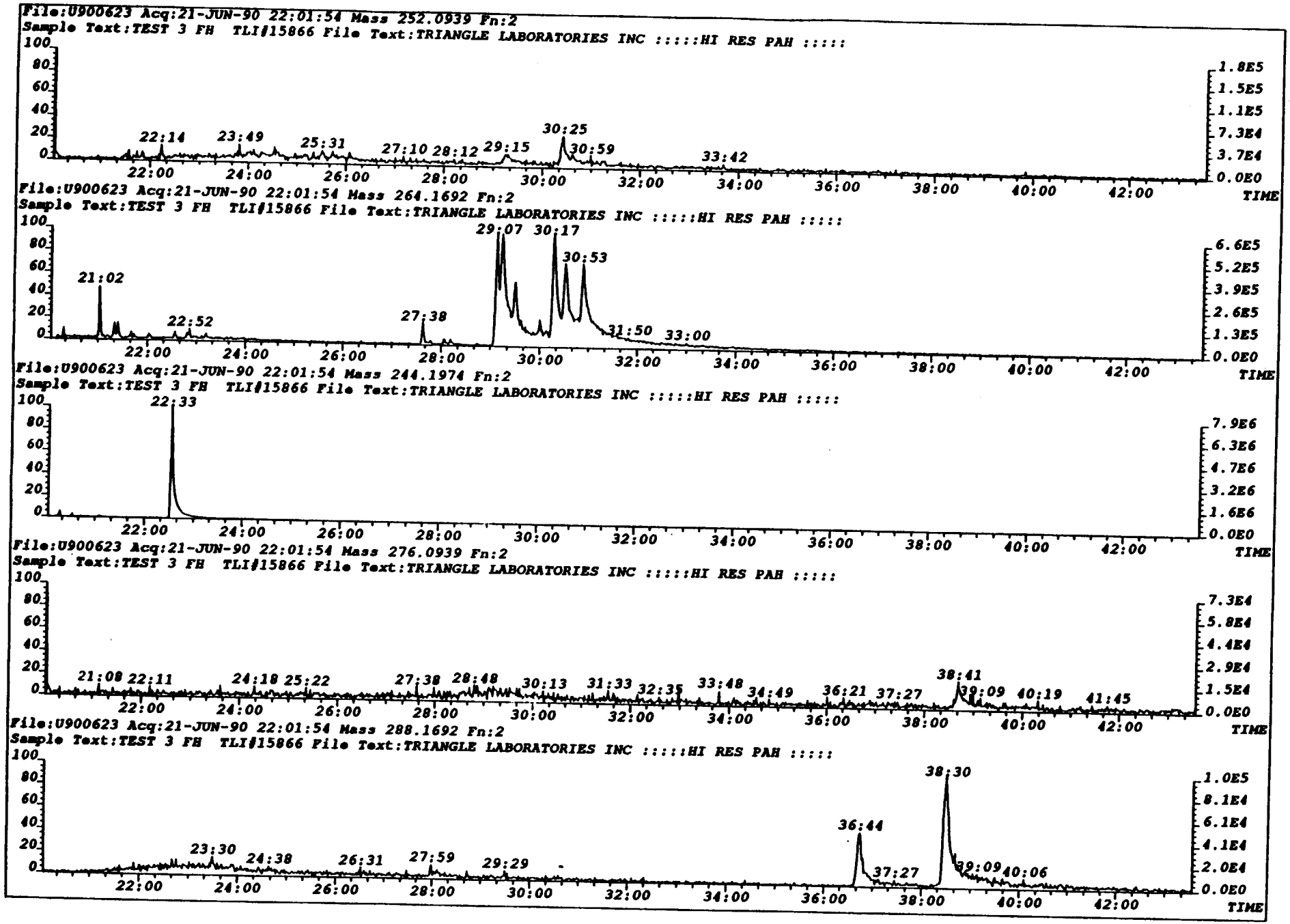
F

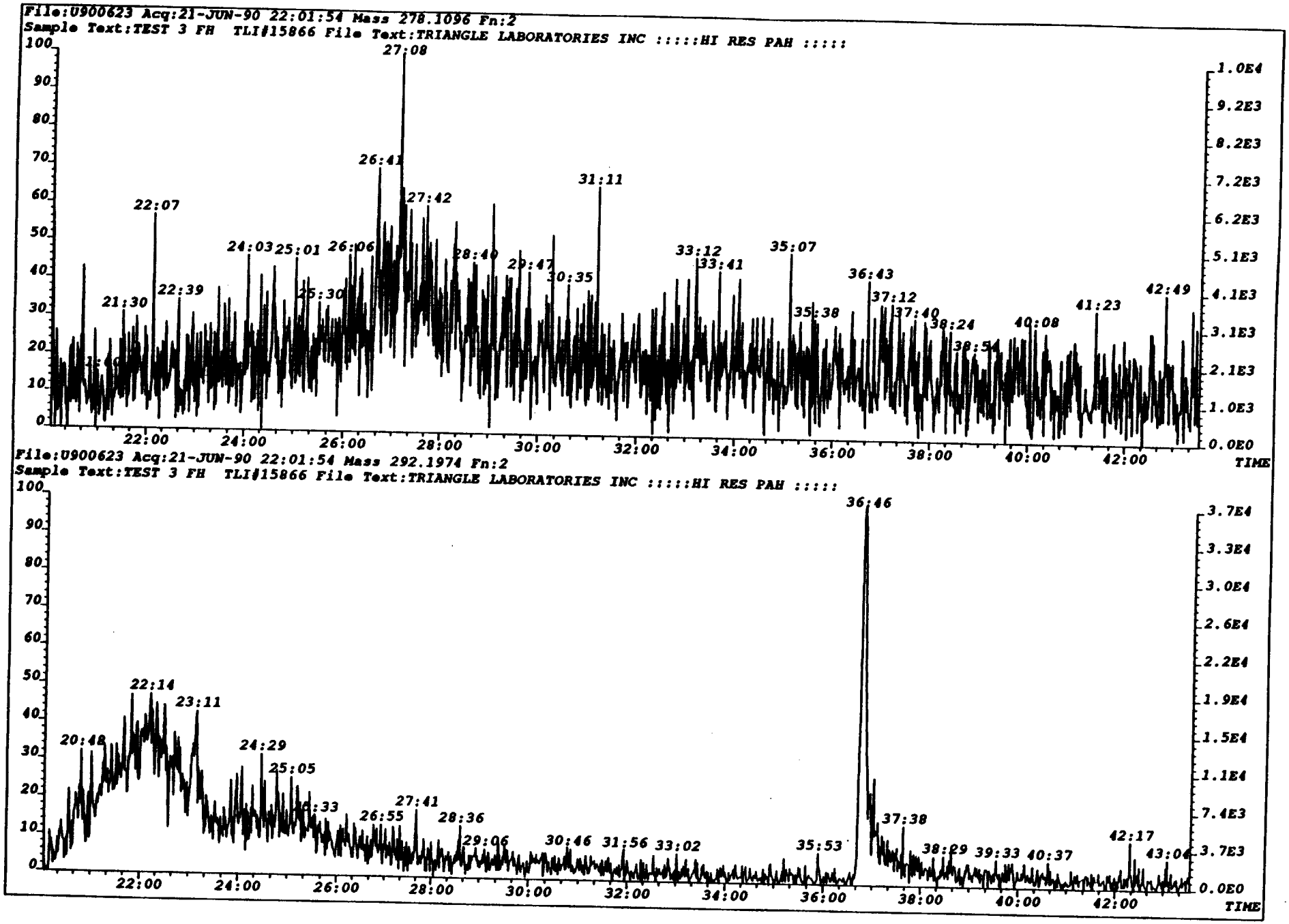

File:U900623 Acq:21-JUN-90 22:01:54 Mass 162.0236
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
19:29
File:U900623 Acq:21-JUN-90 22:01:54 Mass 164.0207
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:56
8:25 9:22 9:59 10:42 11:36 12:12 13:13 14:01 14:59 15:40 16:12 17:09 18:04 18:41 19:00 19:29
File:U900623 Acq:21-JUN-90 22:01:54 Mass 169.0646
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:05
14:32
File:U900623 Acq:21-JUN-90 22:01:54 Mass 171.0616
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:05
TIME

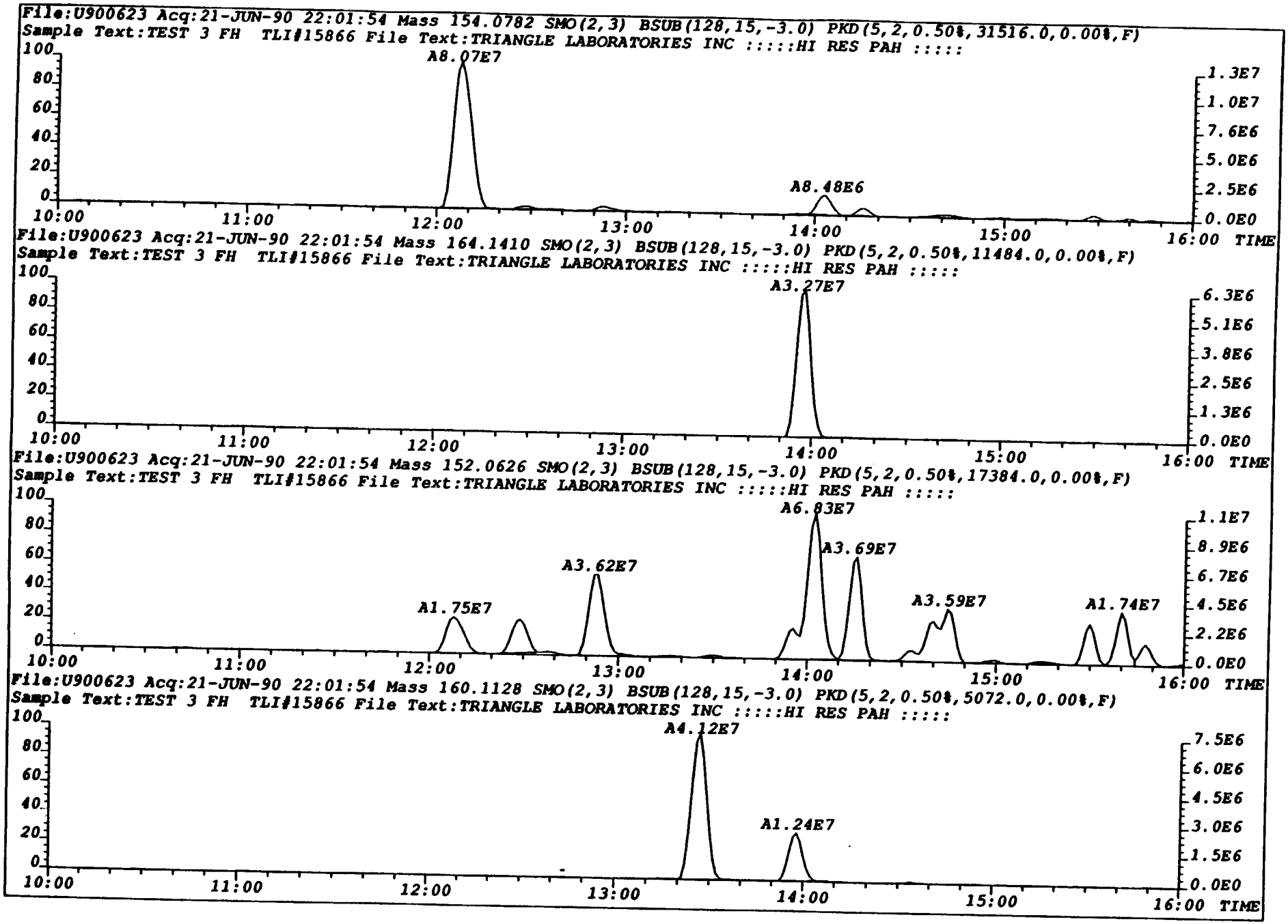

File:U900623 Acq:21-JUN-90 22:01:54 Mass 166.0782
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:28
12:51
14:01
14:44
15:40
16:45
17:09
17:40
File:U900623 Acq:21-JUN-90 22:01:54 Mass 176.1410
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
15:29
File:U900623 Acq:21-JUN-90 22:01:54 Mass 178.0782
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:51
14:01
14:44
15:39
17:09
17:40
18:18
File:U900623 Acq:21-JUN-90 22:01:54 Mass 188.1410
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
18:13
TIME

19

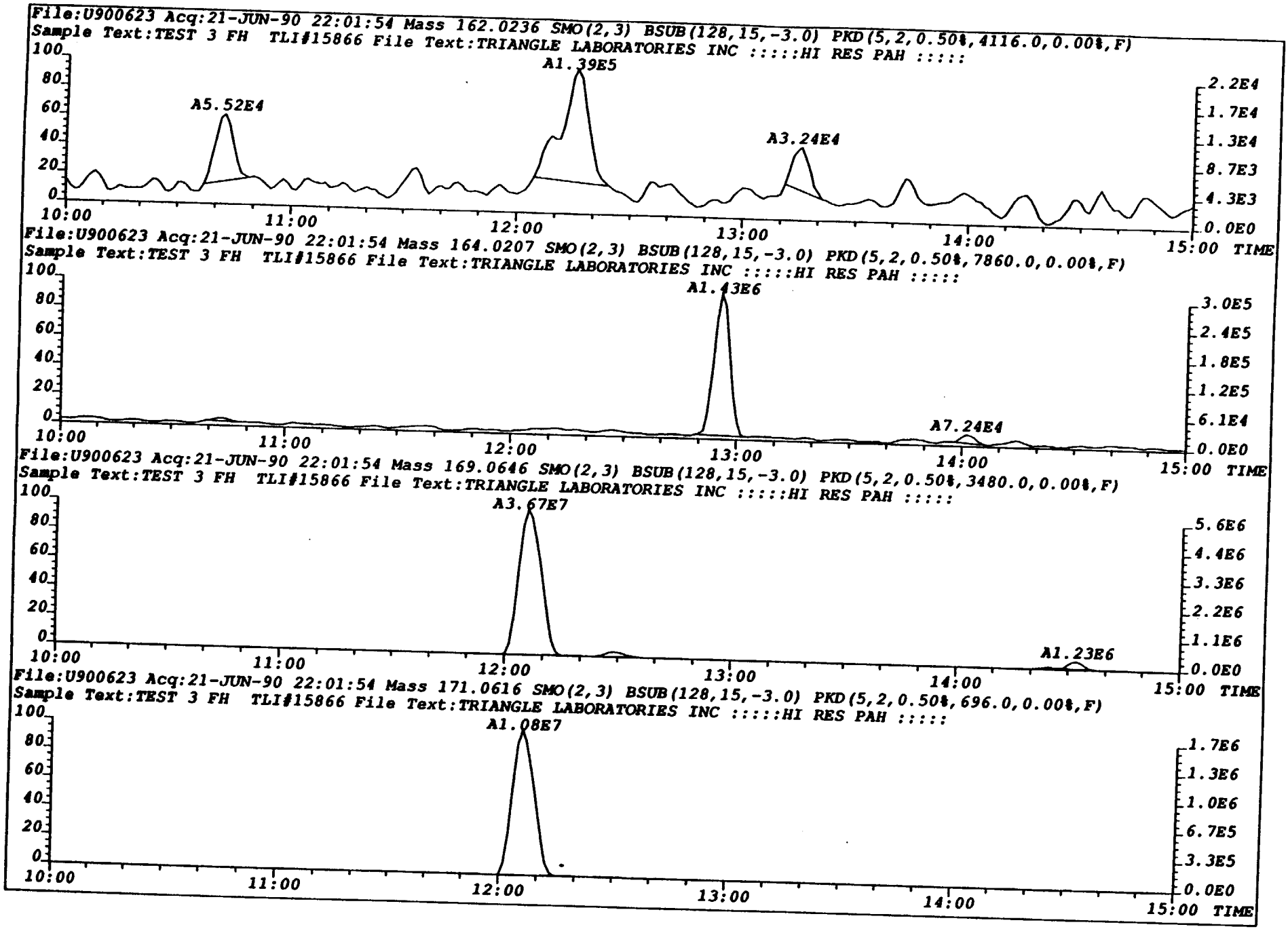

File:U900623 Acq:21-JUN-90 22:01:54 Mass 202.0782 Fn:2
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:33
22:08
22:36
2.8E6
2.2E6
1.7E6
1.1E6
5.6E5
0.0E0
TIME
File:U900623 Acq:21-JUN-90 22:01:54 Mass 212.1410 Fn:2
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:30
22:06
1.5E7
1.2E7
9.0E6
6.0E6
3.0E6
0.0E0
TIME
File:U900623 Acq:21-JUN-90 22:01:54 Mass 228.0939 Fn:2
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:14
25:32
21:35
1.0E6
8.4E5
6.3E5
4.2E5
2.1E5
0.0E0
TIME
File:U900623 Acq:21-JUN-90 22:01:54 Mass 240.1692 Fn:2
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
25:30
22:33
3.0E6
2.4E6
1.8E6
1.2E6
6.0E5
0.0E0
TIME
File:U900623 Acq:21-JUN-90 22:01:54 Mass 204.9888 Fn:2
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
20:37
22:35
24:14
26:04
27:50
29:03
30:21
31:23
33:12
34:09
36:05
37:13
38:52
40:08
42:04
7.9E6
6.4E6
4.8E6
3.2E6
1.6E6
0.0E0
TIME
22:00
24:00
26:00
28:00
30:00
32:00
34:00
36:00
38:00
40:00
42:00

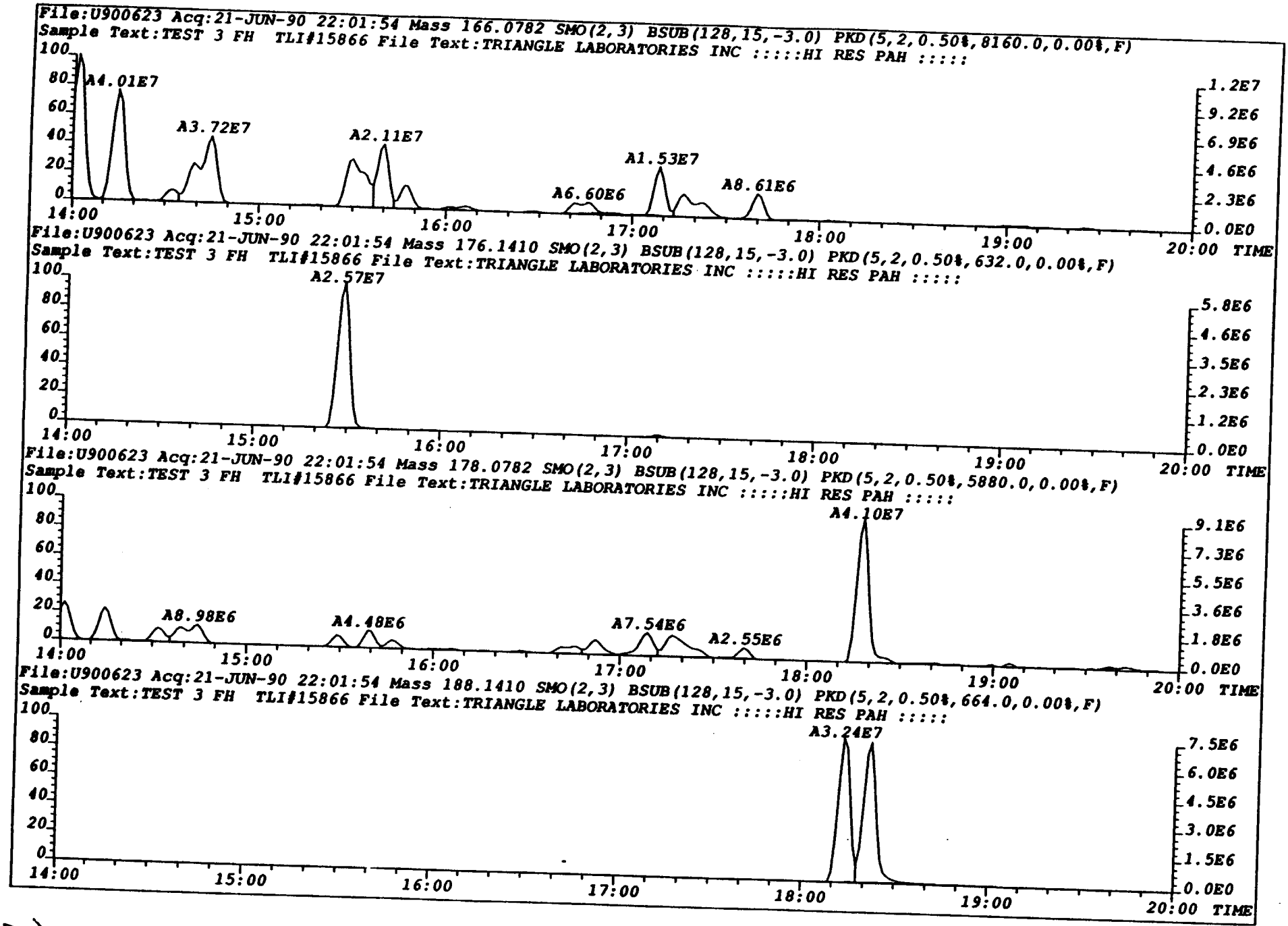

File:U900623 Acq:21-JUN-90 22:01:54 Mass 252.0939 Fn:2
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:14 23:49 25:31 27:10 28:12 29:15 30:25 30:59 33:42
File:U900623 Acq:21-JUN-90 22:01:54 Mass 264.1692 Fn:2
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:02 22:52 27:38 29:07 30:17 30:53 31:50 33:00
File:U900623 Acq:21-JUN-90 22:01:54 Mass 244.1974 Fn:2
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:33
File:U900623 Acq:21-JUN-90 22:01:54 Mass 276.0939 Fn:2
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:08 22:11 24:18 25:22 27:38 28:48 30:13 31:33 32:35 33:48 34:49 36:21 37:27 38:41 39:09 40:19 41:45
File:U900623 Acq:21-JUN-90 22:01:54 Mass 288.1692 Fn:2
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
23:30 24:38 26:31 27:59 29:29 36:44 37:27 38:30 39:09 40:06
22:00 24:00 26:00 28:00 30:00 32:00 34:00 36:00 38:00 40:00 42:00
TIME

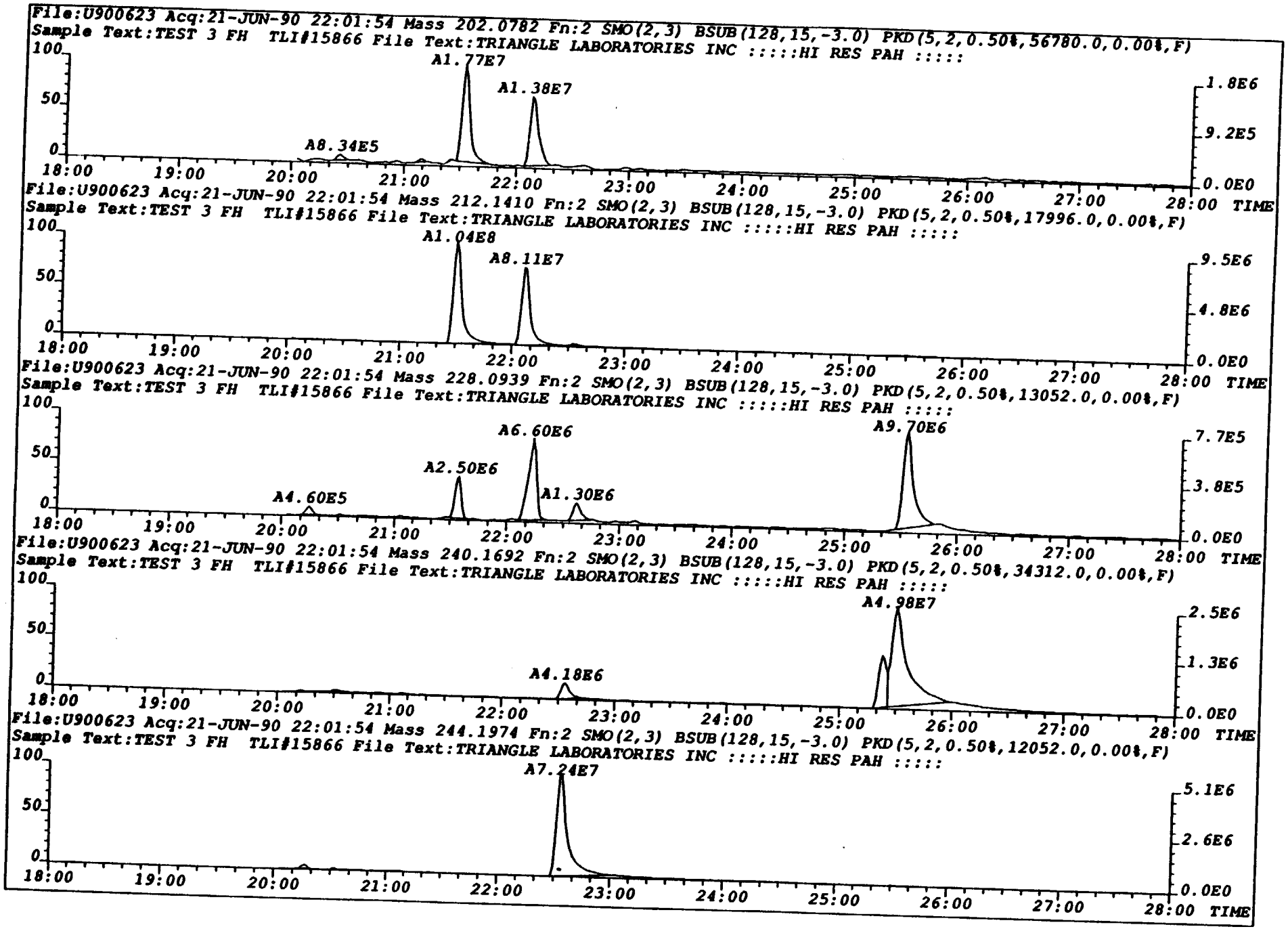

File:U900623 Acq:21-JUN-90 22:01:54 Mass 278.1096 Fn:2
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
27:08
26:41
22:07
27:42
31:11
24:03
25:01
26:06
28:40
33:12
33:41
35:07
36:43
37:12
21:30
22:39
25:30
30:35
35:38
37:40
38:24
40:08
41:23
42:49
TIME
File:U900623 Acq:21-JUN-90 22:01:54 Mass 292.1974 Fn:2
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
36:46
22:14
23:11
20:48
24:29
25:05
27:41
26:55
28:36
29:06
30:46
31:56
33:02
35:53
37:38
38:29
39:33
40:37
42:17
43:04
TIME

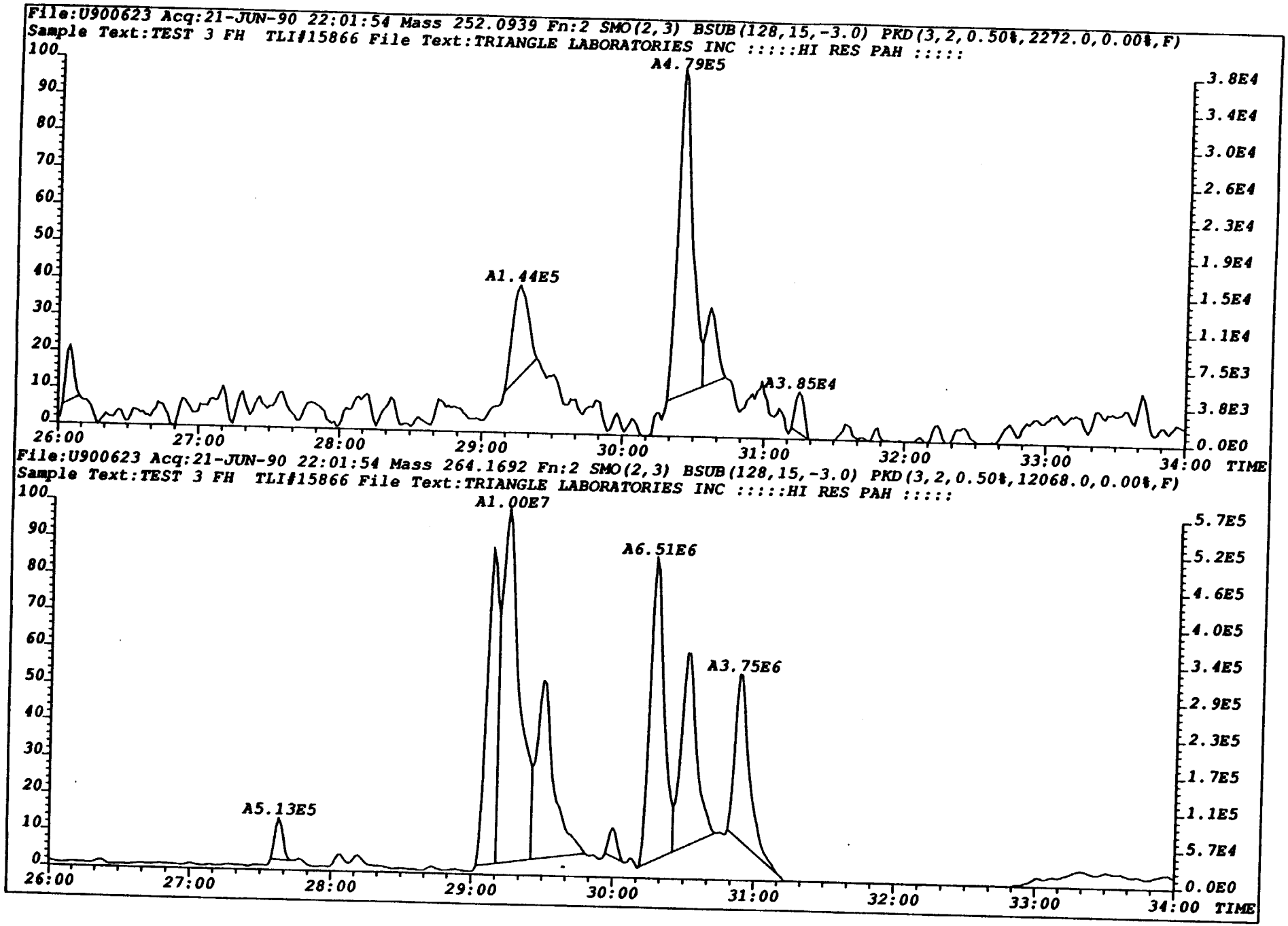

File:U900623 Acq:21-JUN-90 22:01:54 Mass 154.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,31516.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A8.07E7
A8.48E6
File:U900623 Acq:21-JUN-90 22:01:54 Mass 164.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,11484.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.27E7
File:U900623 Acq:21-JUN-90 22:01:54 Mass 152.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,17384.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.83E7
A3.69E7
A3.62E7
A1.75E7
A3.59E7
A1.74E7
File:U900623 Acq:21-JUN-90 22:01:54 Mass 160.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,5072.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.12E7
A1.24E7
TIME

20

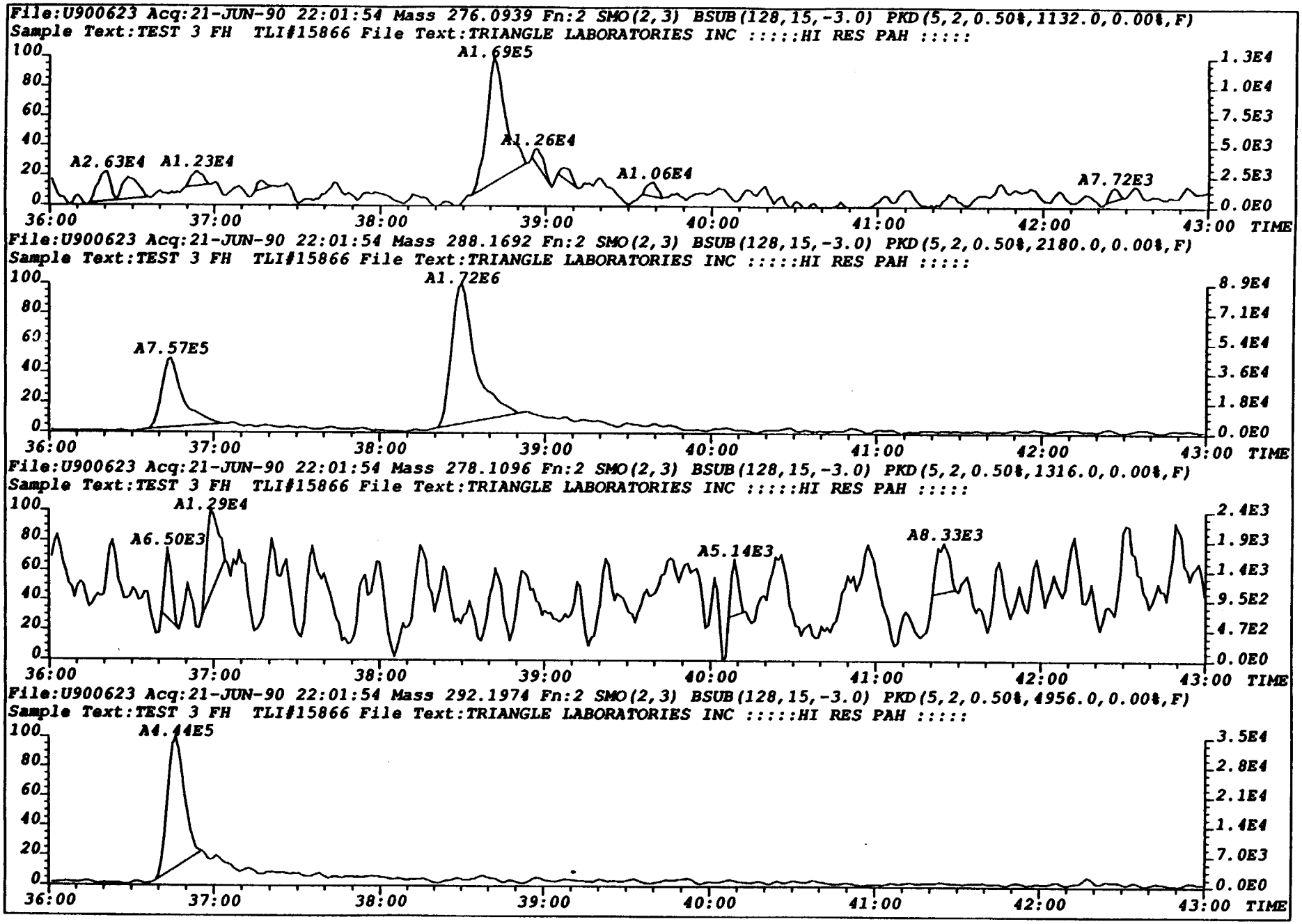

File:U900623 Acq:21-JUN-90 22:01:54 Mass 162.0236 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,4116.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A5.52E4
A1.39E5
A3.24E4
File:U900623 Acq:21-JUN-90 22:01:54 Mass 164.0207 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7860.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.43E6
A7.24E4
File:U900623 Acq:21-JUN-90 22:01:54 Mass 169.0646 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3480.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.67E7
A1.23E6
File:U900623 Acq:21-JUN-90 22:01:54 Mass 171.0616 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,696.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.08E7
10:00
11:00
12:00
13:00
14:00
15:00
TIME


File:U900623 Acq:21-JUN-90 22:01:54 Mass 166.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,8160.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.01E7
A3.72E7
A2.11E7
A6.60E6
A1.53E7
A8.61E6
TIME
File:U900623 Acq:21-JUN-90 22:01:54 Mass 176.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,632.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.57E7
TIME
File:U900623 Acq:21-JUN-90 22:01:54 Mass 178.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,5880.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.10E7
A8.98E6
A4.48E6
A7.54E6
A2.55E6
TIME
File:U900623 Acq:21-JUN-90 22:01:54 Mass 188.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,664.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.24E7
TIME


File:U900623 Acq:21-JUN-90 22:01:54 Mass 202.0782 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,56780.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.77E7
A1.38E7
A8.34E5
File:U900623 Acq:21-JUN-90 22:01:54 Mass 212.1410 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,17996.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.04E8
A8.11E7
File:U900623 Acq:21-JUN-90 22:01:54 Mass 228.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,13052.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.60E6
A9.70E6
A2.50E6
A4.60E5
A1.30E6
File:U900623 Acq:21-JUN-90 22:01:54 Mass 240.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,34312.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.98E7
A4.18E6
File:U900623 Acq:21-JUN-90 22:01:54 Mass 244.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,12052.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.24E7
100
50
0
18:00
19:00
20:00
21:00
22:00
23:00
24:00
25:00
26:00
27:00
28:00 TIME
1.8E6
9.2E5
0.0E0
9.5E6
4.8E6
7.7E5
3.8E5
2.5E6
1.3E6
5.1E6
2.6E6


File:U900623 Acq:21-JUN-90 22:01:54 Mass 252.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,2272.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.79E5
A1.44E5
A3.85E4
TIME
File:U900623 Acq:21-JUN-90 22:01:54 Mass 264.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,12068.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.00E7
A6.51E6
A3.75E6
A5.13E5
TIME

F2


File:U900623 Acq:21-JUN-90 22:01:54 Mass 276.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1132.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.69E5
A1.26E4
A2.63E4
A1.23E4
A1.06E4
A7.72E3
File:U900623 Acq:21-JUN-90 22:01:54 Mass 288.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2180.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.72E6
A7.57E5
File:U900623 Acq:21-JUN-90 22:01:54 Mass 278.1096 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1316.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.29E4
A6.50E3
A5.14E3
A8.33E3
File:U900623 Acq:21-JUN-90 22:01:54 Mass 292.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,4956.0,0.00%,F)
Sample Text:TEST 3 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.44E5
TIME

57

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

07/05/90

FILE NAME....:	U900624	CLIENT ID....:	P&S	TLI NUMBER....:	32-74-1ABD
CONCAL.....:	U900619	SAMPLE ID....:	FIELD BLANK FH		
ANALYST.....:	MC	ANALYSIS DATE:	06/21/90	PROJECT NUMBER:	15866
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5 FH	DATE RECEIVED.:	05/30/90
ICAL DATE....:	06/21/90	SAMPLE ORIGIN:	HRSG OUT	DATE COLLECTED:	05/23/90
SPIKE FILE...:	SPPAHH1C			SHIPMENT NO...:	UTS

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	1340			8:25	B
2-Me-Naph	95.8			10:36	B
2-Cl-Naph	1.5			12:11	
Acenaphthen	19.0			14:03	B
Acenaph	3.5			13:30	B
Fluorene	44.0			15:34	B
Phenan	78.6			18:17	B
Anth	ND		0.3		
Fluoran	17.0			21:33	B
Pyrene	13.4			22:09	B
B-a-Anth	ND		0.5		
Chrysene	8.4			25:34	B
B-b-Fluoran	5.2			29:13	B
B-k-Fluoran	11.9			29:18	
B-e-Pyrene	5.5			30:25	B
B-a-Pyrene	ND		1.2		
Perylene	ND		1.5		
I-123-cd-Py	ND		11.1		
DiB-ah-Anth	ND		21.0		
B-ghi-Pery	ND		8.7		

SURROGATE RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	622	622	22:33	

ALTERNATE STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	655	655	18:22	

FILE NAME....:	U900624	CLIENT ID....:	P&S	TLI NUMBER....:	32-74-1ABD
CONCAL.....:	U900619	SAMPLE ID....:	FIELD BLANK FH		
ANALYST.....:	MC	ANALYSIS DATE:	06/21/90	PROJECT NUMBER:	15866
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5 FH	DATE RECEIVED.:	05/30/90
ICAL DATE....:	06/21/90	SAMPLE ORIGIN:	HRSG OUT	DATE COLLECTED:	05/23/90
SPIKE FILE...:	SPPAHH1C			SHIPMENT NO...:	UTS

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	332	332	8:22	___
d10-2-Me-Naph	383	383	10:30	___
d7-2-Cl-Naph	412	412	12:06	___
d8-Acenaph	398	398	13:26	___
d10-Acenaphthen	442	442	13:57	___
d10-Fluorene	478	478	15:28	___
d10-Phenan	455	455	18:14	___
d10-Fluoran	637	637	21:31	___
d10-Pyrene	615	615	22:07	___
d12-B-a-Anth	195	195	25:23	___
d12-Chrysene	344	344	25:31	___
d12-B-b-Fluoran	104	104	29:08	___
d12-B-k-Fluoran	101	101	29:14	___
d12-B-a-Pyrene	91.6	91.6	30:31	___
d12-Perylene	114	114	30:53	___
d12-I-123-cd-Py	27.0	27.0	36:44	___
d14-DiB-ah-Anth	19.9	19.9	36:46	___
d12-B-ghi-Pery	28.5	28.5	38:30	___

DL 3.7

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128		0.00	7:50	12300.81	T	F	0.936	
		0.00	8:25	88947.64	T	T	1.006	✓
128		*** Total ***		101248.45	# of Peaks:		2	
136		0.00	8:22	7972.65	T	~~F~~ T	0.623	✓
		0.00	10:21	19.43	T	F	0.770	
		0.00	13:57	30.58	T	F	1.038	
136		*** Total ***		8022.66	# of Peaks:		3	
142		0.00	10:01	79.56	T	F	0.954	
		0.00	10:36	4508.67	T	T	1.010	✓
		0.00	10:57	1929.51	T	F	1.043	
		0.00	12:30	452.31	T	F	1.190	
142		*** Total ***		6970.05	# of Peaks:		4	
152		0.00	8:02	40.89	T	F	0.598	
		0.00	8:59	12.96	T	F	0.669	
		0.00	10:30	5443.05	T	~~F~~ T	0.782	✓
		0.00	10:50	40.44	T	F	0.806	
		0.00	11:41	16.74	T	F	0.870	
		0.00	12:07	941.22	T	F	0.902	
		0.00	12:27	169.52	T	F	0.927	
		0.00	12:37	128.13	T	F	0.939	
		0.00	12:53	1311.93	T	F	0.959	
		0.00	13:15	52.60	T	F	0.986	
		0.00	13:30	217.75	T	T	1.005	✓
		0.00	13:55	607.86	T	F	1.036	
		0.00	14:02	2415.63	T	F	1.045	
		0.00	14:15	1150.92	T	F	1.061	
		0.00	14:33	163.55	T	F	1.083	
		0.00	14:40	734.54	T	F	1.092	
		0.00	15:00	106.00	T	F	1.117	
		0.00	15:15	85.34	T	F	1.135	
		0.00	15:29	502.80	T	F	1.153	
		0.00	15:41	614.51	T	F	1.167	
		0.00	15:47	217.86	T	F	1.175	
		0.00	16:05	151.12	T	F	1.197	
152		*** Total ***		15125.36	# of Peaks:		22	
154		0.00	12:07	4387.51	T	F	0.869	
		0.00	12:37	25.99	T	F	0.904	
		0.00	12:53	84.51	T	F	0.924	
		0.00	14:03	799.60	T	T	1.007	✓
		0.00	14:15	114.91	T	F	1.022	
		0.00	14:42	111.93	T	F	1.054	
		0.00	15:00	91.98	T	F	1.075	
		0.00	15:13	116.47	T	F	1.091	
		0.00	15:28	81.47	T	F	1.109	
		0.00	15:39	42.55	T	F	1.122	
		0.00	16:02	47.13	T	F	1.149	
154		*** Total ***		5904.05	# of Peaks:		11	

160	0.00	13:26	5812.98	T	FT	0.443 ✓

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
160		0.00	13:57	1737.75	T	F	0.460	
		0.00	14:34	37.90	T	F	0.481	
		0.00	15:01	31.29	T	F	0.496	
160		*** Total ***		7619.92	# of Peaks:		4	
162		2.83	12:11	100.96	T	T	1.007	✓
162		*** Total ***		100.96	# of Peaks:		1	
164		0.00	12:10	26.33	T	F	0.906	
		0.00	13:57	4378.28	T	T	1.038	✓
164		*** Total ***		4404.61	# of Peaks:		2	
166		0.00	14:01	2144.63	T	F	0.906	
		0.00	14:14	1326.45	T	F	0.920	
		0.00	14:32	226.28	T	F	0.940	
		0.00	14:40	749.79	T	F	0.948	
		0.00	15:17	17.08	T	F	0.988	
		0.00	15:34	2083.07	T	T	1.006	✓
		0.00	15:39	804.32	T	F	1.012	
		0.00	15:47	353.66	T	F	1.020	
		0.00	16:06	322.37	T	F	1.041	
		0.00	16:22	8.84	T	F	1.058	
		0.00	16:28	129.71	T	F	1.065	
		0.00	16:46	1533.05	T	F	1.084	
		0.00	17:08	2027.20	T	F	1.108	
		0.00	17:16	2058.18	T	F	1.116	
166		*** Total ***		13784.63	# of Peaks:		14	
169		3.28	12:06	5982.77	T	T	0.901	✓
169		*** Total ***		5982.77	# of Peaks:		1	
176		0.00	15:28	3792.84	T	T	1.151	✓
		0.00	17:11	47.76	T	F	1.279	
		0.00	18:20	32.59	T	F	1.365	
176		*** Total ***		3873.19	# of Peaks:		3	
178		0.00	14:01	357.49	T	F	0.769	
		0.00	14:14	279.30	T	F	0.781	
		0.00	14:32	177.63	T	F	0.797	
		0.00	14:38	183.61	T	F	0.803	
		0.00	15:29	146.52	T	F	0.849	
		0.00	15:39	183.78	T	F	0.858	
		0.00	15:47	82.21	T	F	0.866	
		0.00	16:01	4.94	T	F	0.878	
		0.00	16:27	182.63	T	F	0.902	
		0.00	16:45	1266.59	T	F	0.919	
		0.00	17:07	1264.57	T	F	0.939	
		0.00	17:16	1220.99	T	F	0.947	
		0.00	17:41	283.36	T	F	0.970	
		0.00	17:52	17.78	T	F	0.980	
		0.00	18:03	36.41	T	F	0.990	
		0.00	18:17	4091.96	T	T	1.003	✓
		0.00	18:40	202.83	T	F	1.024	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
178		0.00	18:48	61.21	T	F	1.031	
		0.00	19:05	130.56	T	F	1.047	
		0.00	19:45	40.16	T	F	1.083	
178		*** Total ***		10214.53	# of Peaks:		20	
188		0.00	18:14	4178.25	T	~~F~~ T	1.357	✓
		0.00	18:22	4782.49	T	~~F~~ T	1.367	✓
188		*** Total ***		8960.74	# of Peaks:		2	
202		0.00	21:09	133.89	T	F	0.956	
		0.00	21:26	20.58	T	F	0.969	
		0.00	21:33	1899.36	T	T	1.002	✓
		0.00	22:09	1457.54	T	T	1.002	✓
202		*** Total ***		3511.37	# of Peaks:		4	
212		0.00	21:31	15558.63	T	T	0.697	✓
		0.00	22:07	12092.26	T	T	0.716	✓
		0.00	22:33	392.10	T	F	0.730	
212		*** Total ***		28042.99	# of Peaks:		3	
228		0.00	20:15	10.85	T	F	0.794	
		0.00	21:34	120.10	T	F	0.845	
		0.00	21:54	9.10	T	F	0.858	
		0.00	22:04	5.56	T	F	0.865	
		0.00	22:14	220.38	T	F	0.871	
		0.00	22:58	19.88	T	F	0.900	
		0.00	24:50	5.56	T	F	0.973	
		0.00	25:34	496.34	T	T	1.002	✓
228		*** Total ***		887.77	# of Peaks:		8	
240		0.00	22:33	749.16	T	F	0.730	
		0.00	25:23	1604.52	T	T	0.822	✓
		0.00	25:31	7494.35	T	T	0.826	✓
240		*** Total ***		9848.03	# of Peaks:		3	
244		0.00	20:33	128.53	T	F	0.678	
		0.00	21:06	115.15	T	F	0.696	
		0.00	22:33	13005.76	T	T	0.744	✓
244		*** Total ***		13249.44	# of Peaks:		3	
252		0.00	27:18	~~6.81~~	T	F	0.884	
		0.00	29:13	~~6.10~~ 38.5	T	~~F~~ T	0.946	✓
		0.00	30:25	52.97	T	T	0.997	✓
	D	0.00	30:38	4.20	T	T	1.004	S/N
	D	0.00	31:02	7.15	T	T	1.005	S/N
252		*** Total ***		77.23	# of Peaks:		5	
			29:18	145	T	T		✓ JB.
264		0.00	27:38	33.20	T	F	0.912	
		0.00	29:08	603.71	T	T	0.943	✓
		0.00	29:14	1340.85	T	T	0.947	✓
		0.00	29:30	282.15	T	F	0.974	
		0.00	30:17	755.98	T	T	0.999	✓
		0.00	30:31	728.12	T	T	0.988	✓

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
264		0.00	30:53	568.35	T	T	1.019	✓
264		*** Total ***		4312.36	# of Peaks:		7	
276		0.00	36:33	0.62	T	F	0.949	
	R	0.00	36:54	3.89	T	T	1.005	S/N+
	D	0.00	38:40	4.36	T	T	1.004	S/N
		0.00	39:04	1.62	T	F	1.015	
		0.00	41:06	0.81	T	F	1.068	
276		*** Total ***		11.30	# of Peaks:		5	
278		0.00	36:45	0.56	T	F	1.000	
		0.00	36:51	0.44	T	F	1.002	
	D	0.00	37:02	3.63	T	T	1.007	S/N
		0.00	37:53	0.91	T	F	1.030	
		0.00	38:20	1.10	T	F	1.043	
278		*** Total ***		6.64	# of Peaks:		5	
288		0.00	36:44	47.63	T	T	1.189	✓
		0.00	38:30	125.53	T	T	1.247	✓
288		*** Total ***		173.16	# of Peaks:		2	
292		0.00	36:46	32.88	T	T	1.191	✓
292		*** Total ***		32.88	# of Peaks:		1	

*** End of Report ***

Listing of U9006241.dbf File
Raw Mass, Retention Time and Data Area

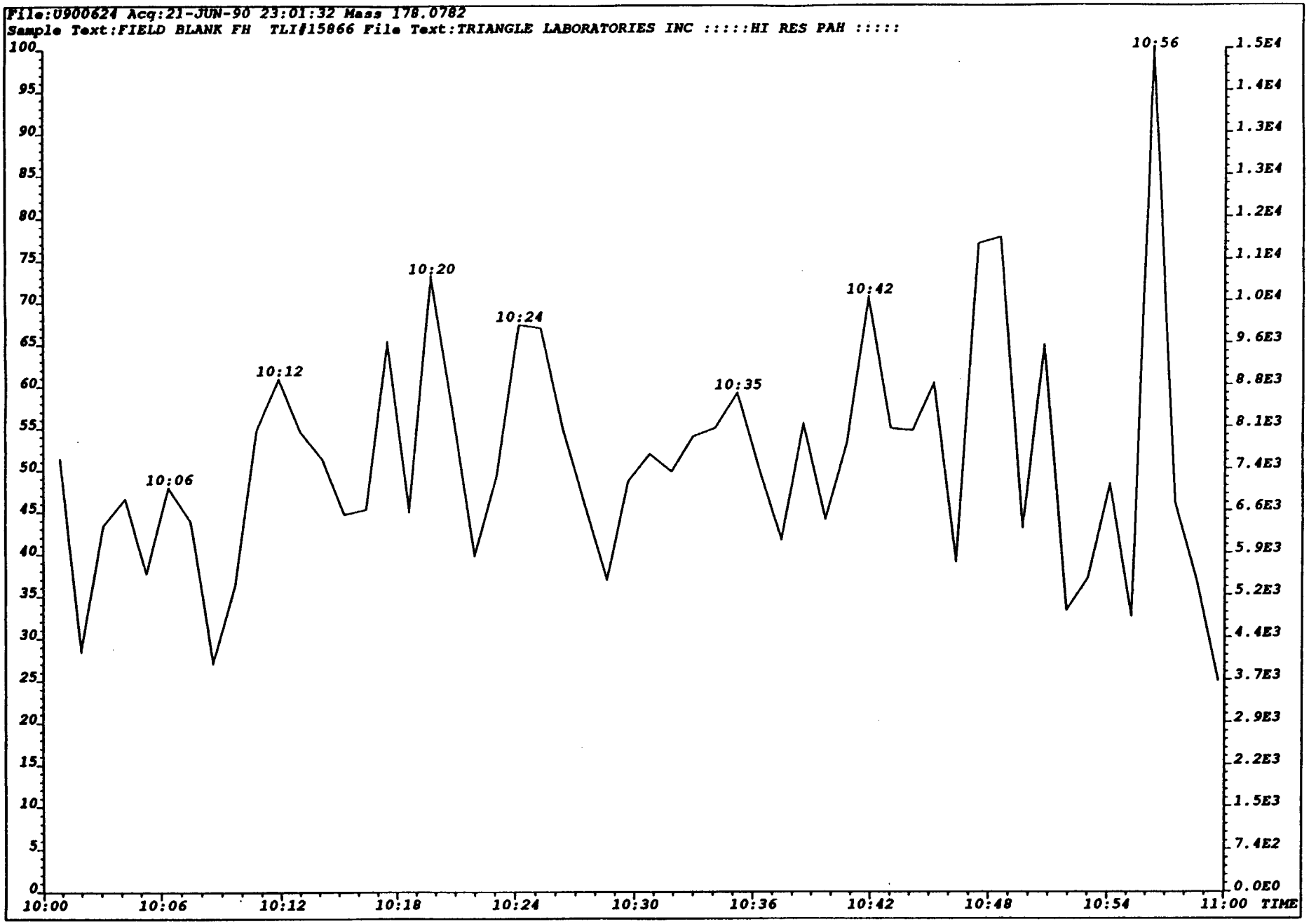
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
128	7:50	12300.81	8:25	88947.64				
136	8:22	7972.65	10:21	19.43	13:57	30.58		
142	10:01	79.56	10:36	4508.67	10:57	1929.51	12:30	452.31
152	8:02	40.89	10:30	5443.05	11:41	16.74		
	8:59	12.96	10:50	40.44				
154	12:07	4387.51	14:03	799.60	15:00	91.98	15:39	42.55
	12:37	25.99	14:15	114.91	15:13	116.47	16:02	47.13
	12:53	84.51	14:42	111.93	15:28	81.47		
164	13:57	4378.28						
152	12:07	941.22	13:30	217.75	14:40	734.54	15:47	217.86
	12:27	169.52	13:55	607.86	15:00	106.00	16:05	151.12
	12:37	128.13	14:02	2415.63	15:15	85.34		
	12:53	1311.93	14:15	1150.92	15:29	502.80		
	13:15	52.60	14:33	163.55	15:41	614.51		
160	13:26	5812.98	13:57	1737.75	14:34	37.90	15:01	31.29
162	12:11	74.63	13:15	4.82				
164	12:10	26.33						
169	12:06	4585.37	12:29	209.54	14:24	265.18	14:32	155.10
171	11:51	3.66	12:05	1397.40				
166	14:01	2144.63	15:17	17.08	16:06	322.37	17:08	2027.20
	14:14	1326.45	15:34	2083.07	16:22	8.84	17:16	2058.18
	14:32	226.28	15:39	804.32	16:28	129.71		
	14:40	749.79	15:47	353.66	16:46	1533.05		
176	15:28	3792.84	17:11	47.76	18:20	32.59		
178	14:01	357.49	15:39	183.78	17:07	1264.57	18:17	4091.96
	14:14	279.30	15:47	82.21	17:16	1220.99	18:40	202.83
	14:32	177.63	16:01	4.94	17:41	283.36	18:48	61.21
	14:38	183.61	16:27	182.63	17:52	17.78	19:05	130.56
	15:29	146.52	16:45	1266.59	18:03	36.41	19:45	40.16
188	18:14	4178.25	18:22	4782.49				
202	21:09	133.89	21:26	20.58	21:33	1899.36	22:09	1457.54

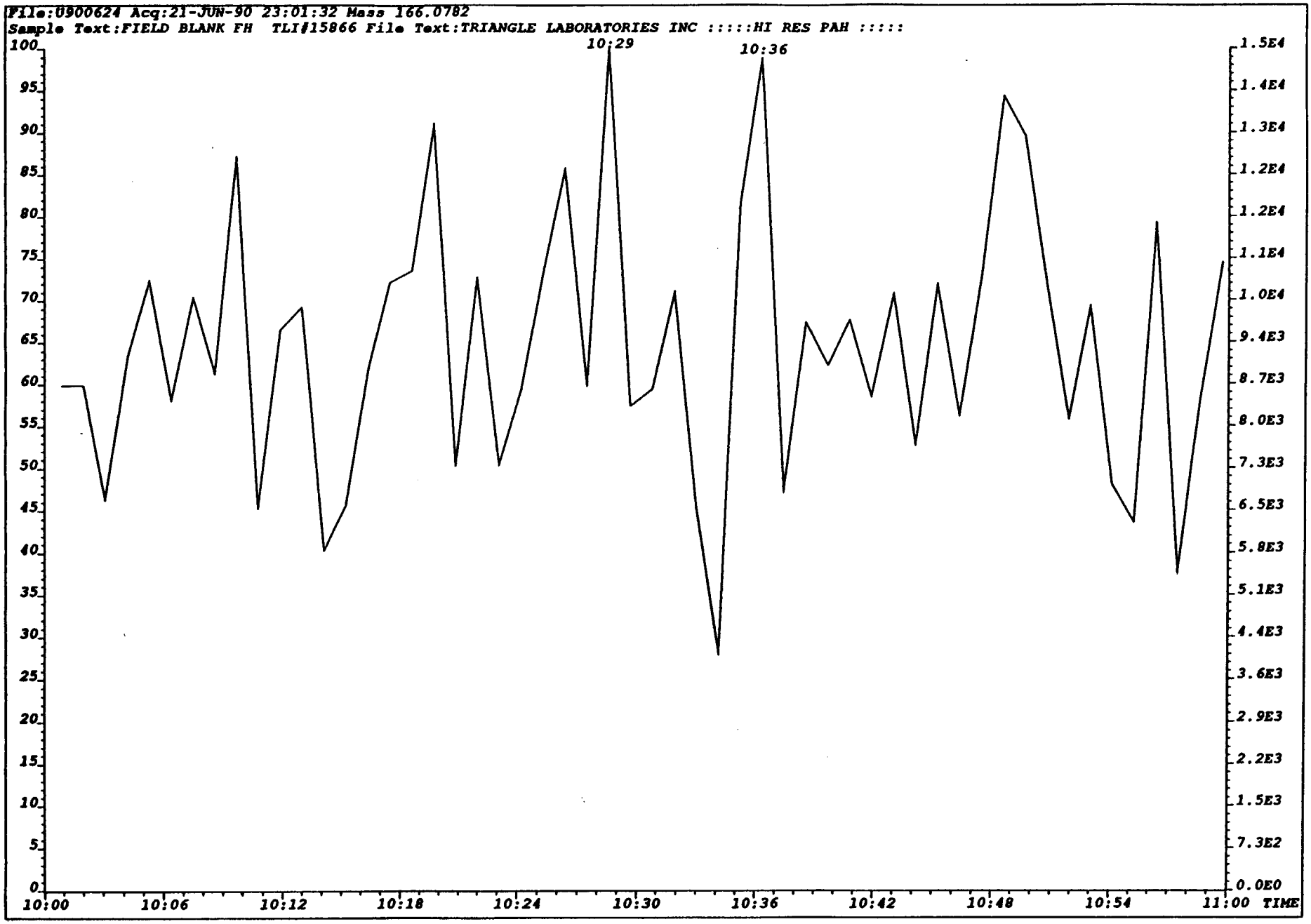
212	21:31	15558.63	22:07	12092.26	22:33	392.10			
228	20:15	10.85	21:54	9.10	22:14	220.38	24:50	5.56	
	21:34	120.10	22:04	5.56	22:58	19.88	25:34	496.34	

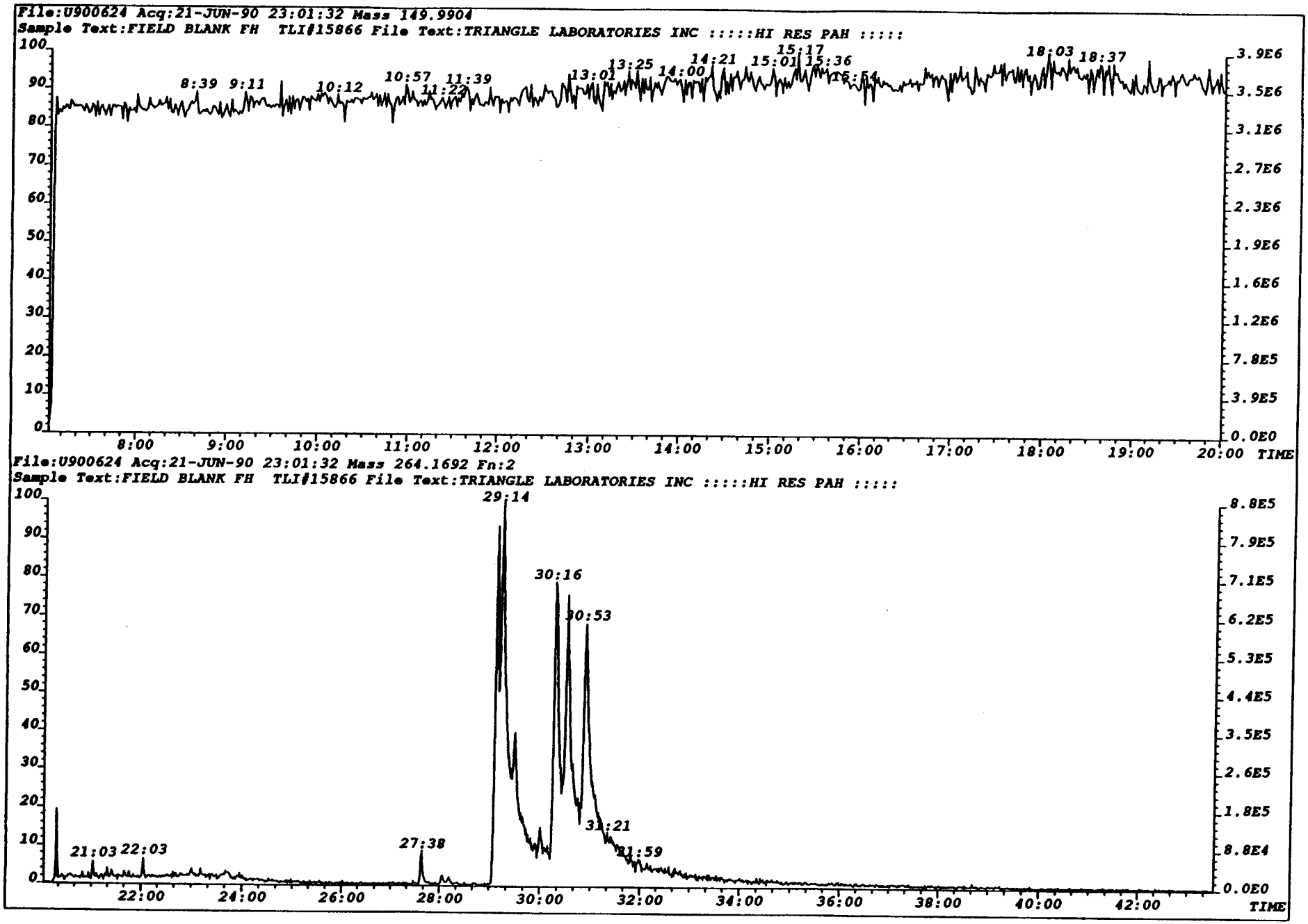
Listing of U9006241.dbf File
Raw Mass, Retention Time and Data Area

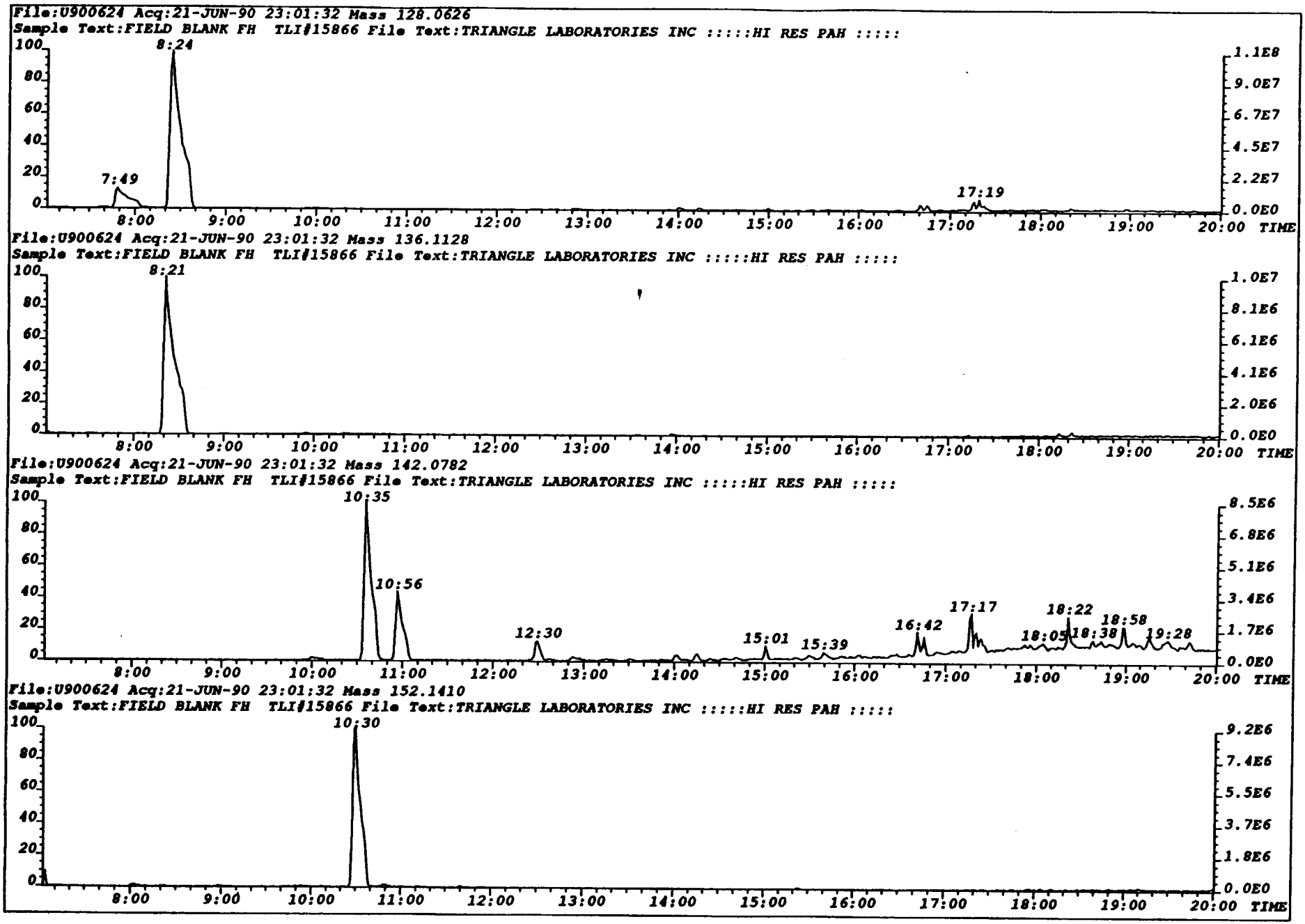
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
240	22:33	749.16	25:23	1604.52	25:31	7494.35		
244	20:33	128.53	21:06	115.15	22:33	13005.76		
252	27:18	6.81	30:25	52.97	31:02	7.15		
	29:13	6.10	30:38	4.20				
264	27:38	33.20	29:14	1340.85	30:17	755.98	30:53	568.35
	29:08	603.71	29:30	282.15	30:31	728.12		
276	36:33	0.62	38:40	4.36	41:06	0.81		
	36:54	3.89	39:04	1.62				
288	36:44	47.63	38:30	125.53				
278	36:45	0.56	37:02	3.63	38:20	1.10		
	36:51	0.44	37:53	0.91				
292	36:46	32.88						

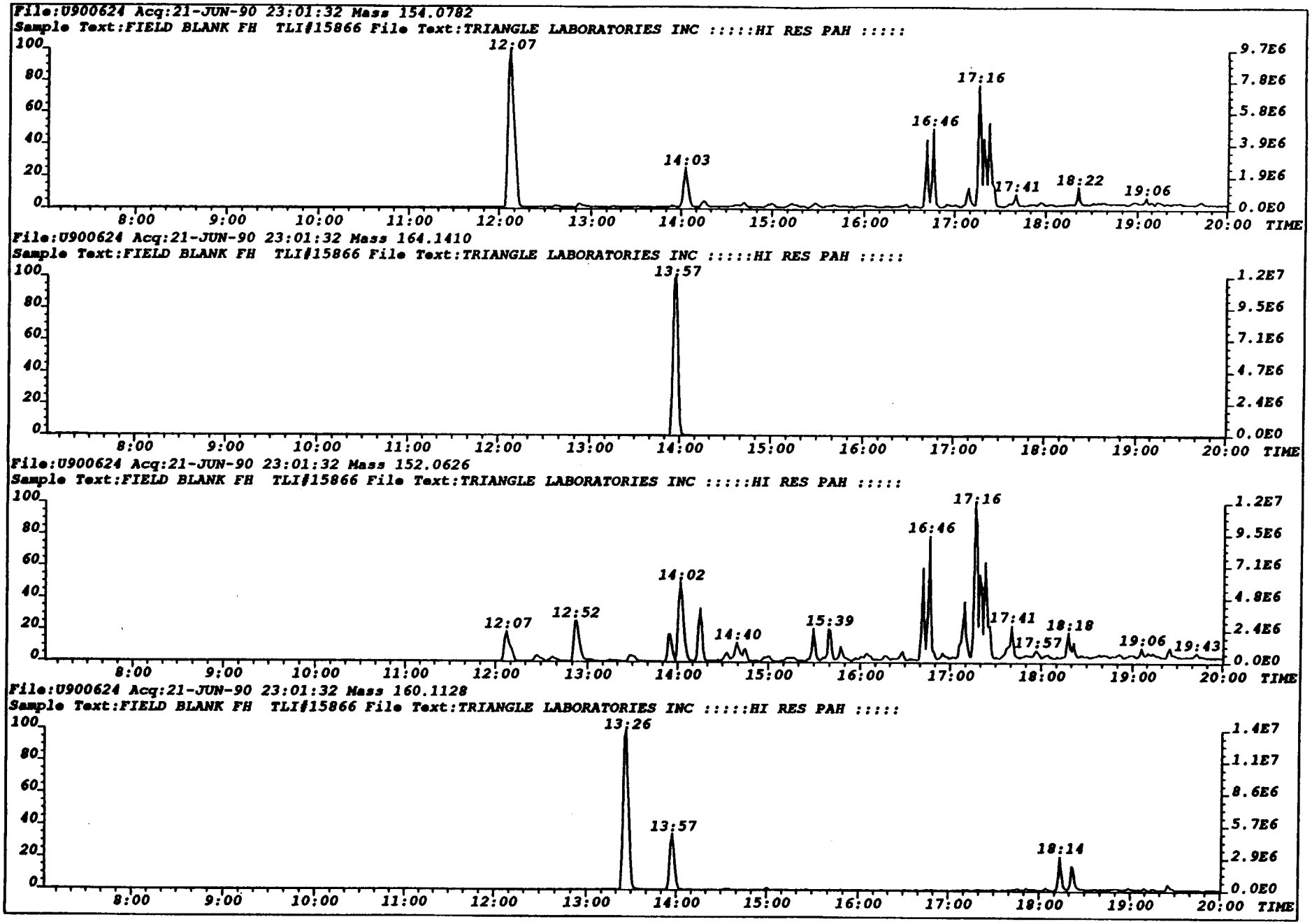
*** End of Report ***

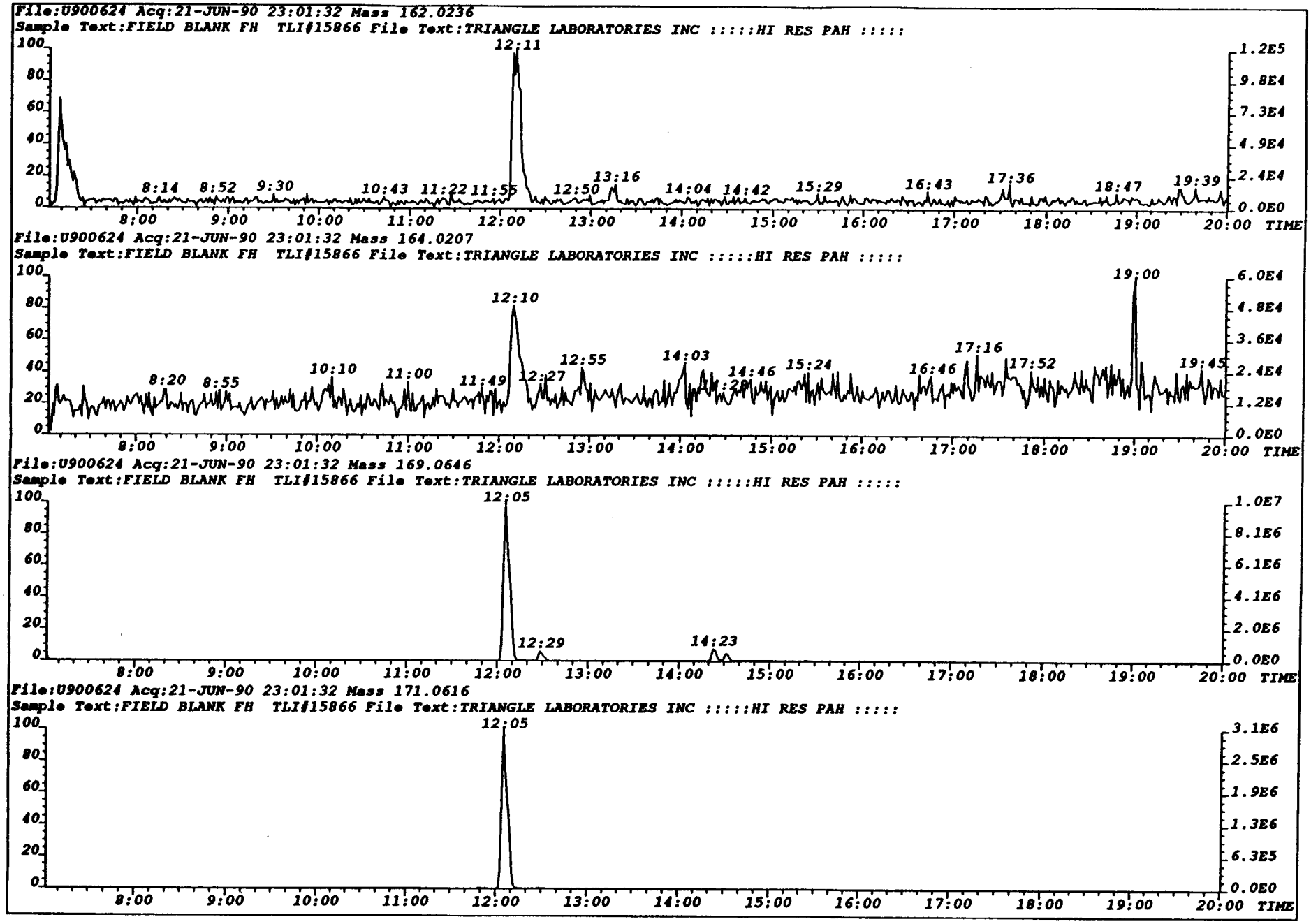

File:U900624 Acq:21-JUN-90 23:01:32 Mass 178.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:06
10:12
10:20
10:24
10:35
10:42
10:56
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1.5E4
1.4E4
1.3E4
1.3E4
1.2E4
1.1E4
1.0E4
9.6E3
8.8E3
8.1E3
7.4E3
6.6E3
5.9E3
5.2E3
4.4E3
3.7E3
2.9E3
2.2E3
1.5E3
7.4E2
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

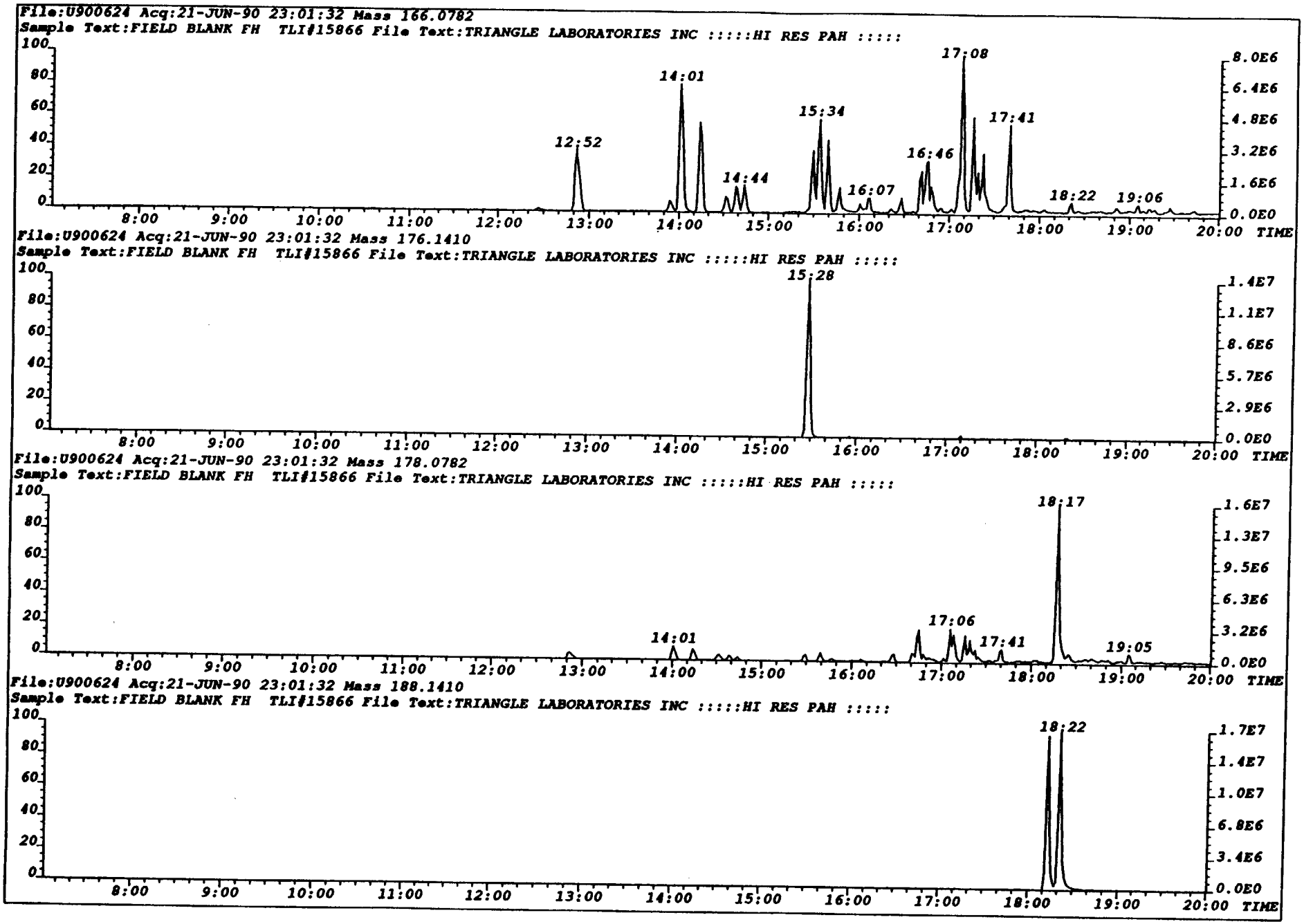

File:U900624 Acq:21-JUN-90 23:01:32 Mass 166.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:29
10:36
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1.5E4
1.4E4
1.3E4
1.2E4
1.2E4
1.1E4
1.0E4
9.4E3
8.7E3
8.0E3
7.3E3
6.5E3
5.8E3
5.1E3
4.4E3
3.6E3
2.9E3
2.2E3
1.5E3
7.3E2
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

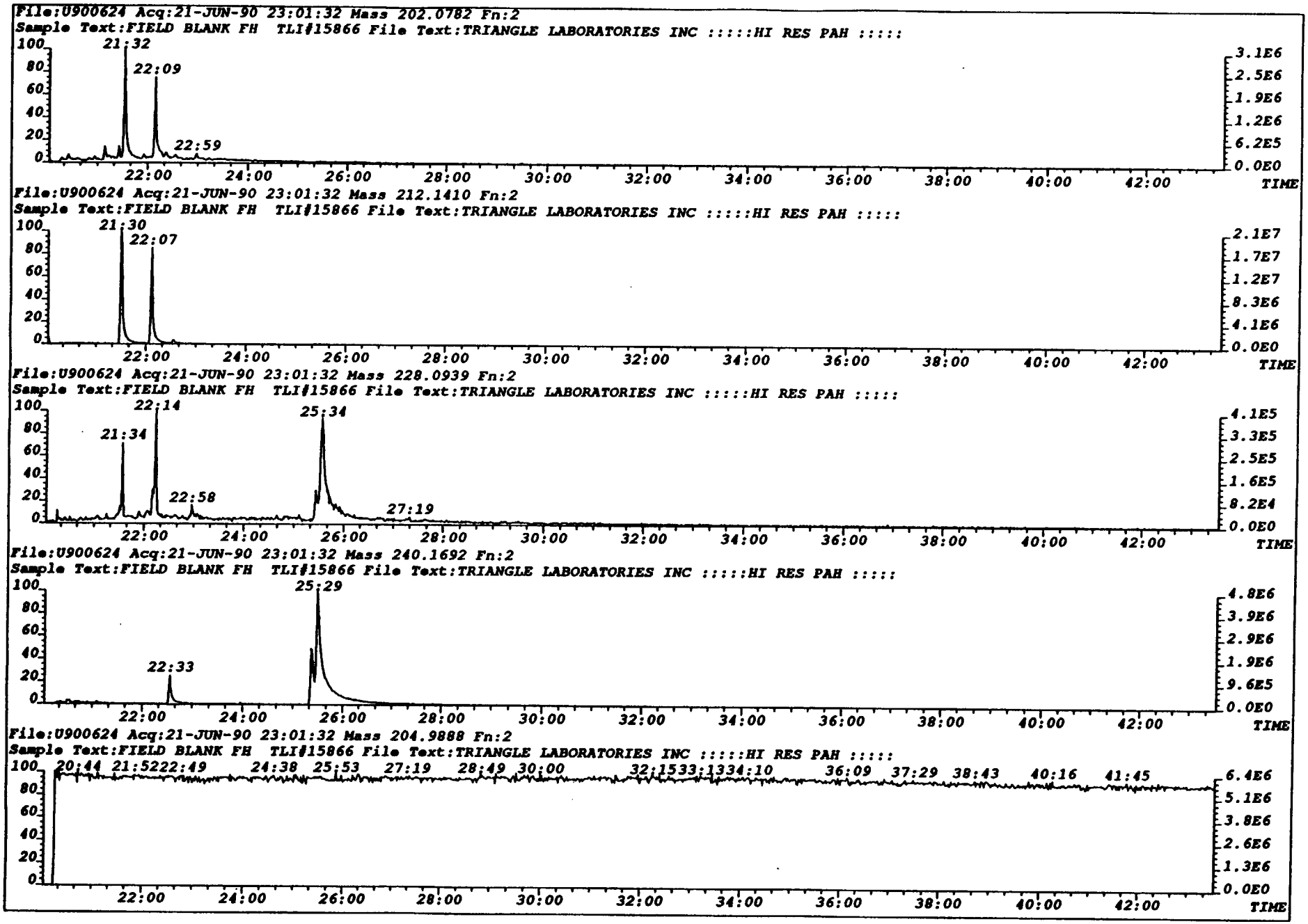

File:U900624 Acq:21-JUN-90 23:01:32 Mass 149.9904
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:39 9:11 10:12 10:57 11:39 11:22 13:01 13:25 14:00 14:21 15:01 15:17 15:36 18:03 18:37
TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 264.1692 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
29:14 30:16 30:53 31:21 21:03 22:03 27:38
TIME

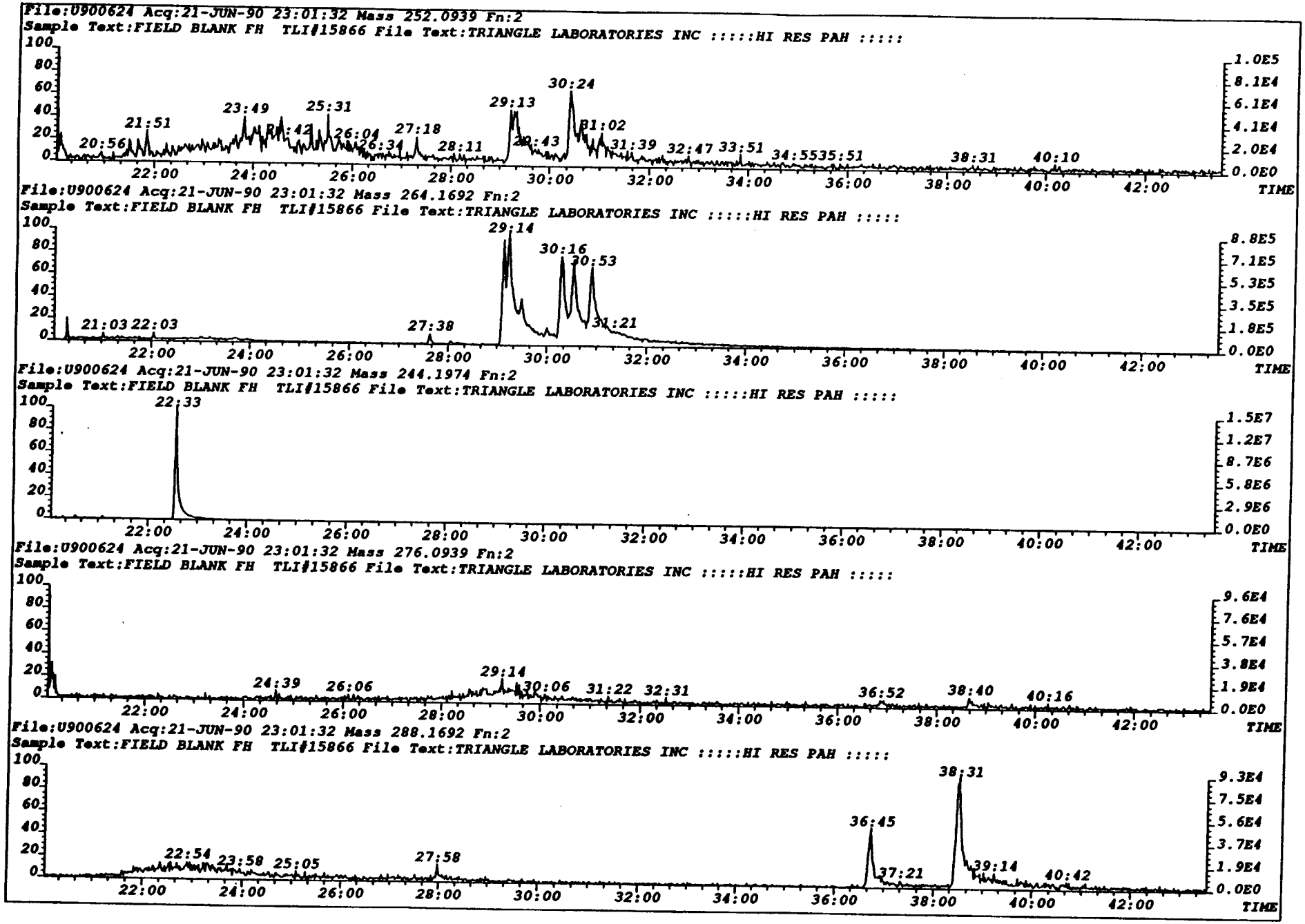

File:U900624 Acq:21-JUN-90 23:01:32 Mass 128.0626
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:24
7:49
17:19
1.1E8
9.0E7
6.7E7
4.5E7
2.2E7
0.0E0
File:U900624 Acq:21-JUN-90 23:01:32 Mass 136.1128
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:21
1.0E7
8.1E6
6.1E6
4.1E6
2.0E6
0.0E0
File:U900624 Acq:21-JUN-90 23:01:32 Mass 142.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:35
10:56
12:30
15:01
15:39
16:42
17:17
18:05
18:22
18:38
18:58
19:28
8.5E6
6.8E6
5.1E6
3.4E6
1.7E6
0.0E0
File:U900624 Acq:21-JUN-90 23:01:32 Mass 152.1410
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:30
9.2E6
7.4E6
5.5E6
3.7E6
1.8E6
0.0E0
100
80
60
40
20
0
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
TIME

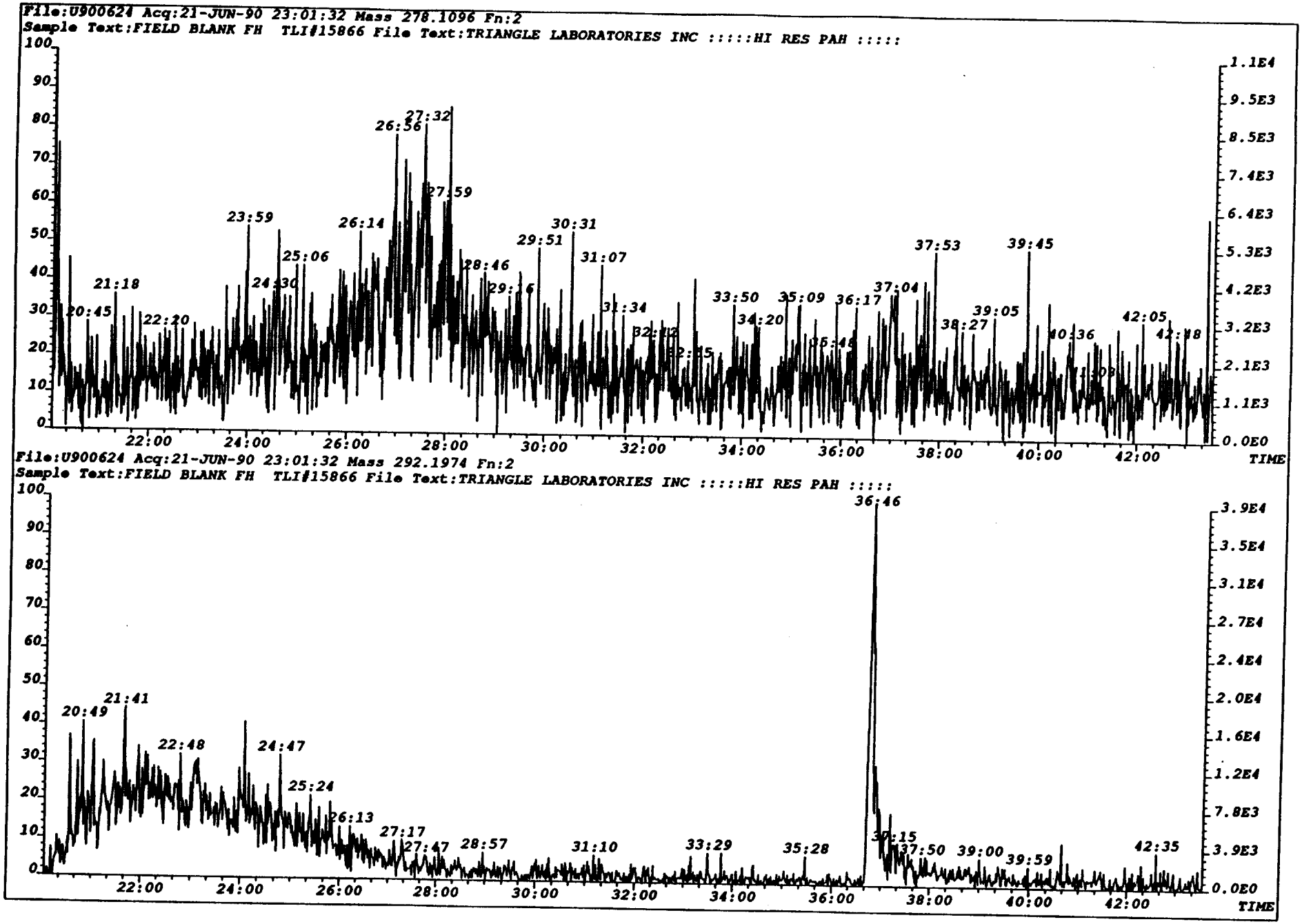

File:U900624 Acq:21-JUN-90 23:01:32 Mass 154.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:07
14:03
16:46
17:16
17:41
18:22
19:06
9.7E6
7.8E6
5.8E6
3.9E6
1.9E6
0.0E0
File:U900624 Acq:21-JUN-90 23:01:32 Mass 164.1410
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:57
1.2E7
9.5E6
7.1E6
4.7E6
2.4E6
0.0E0
File:U900624 Acq:21-JUN-90 23:01:32 Mass 152.0626
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:07
12:52
14:02
14:40
15:39
16:46
17:16
17:41
17:57
18:18
19:06
19:43
1.2E7
9.5E6
7.1E6
4.8E6
2.4E6
0.0E0
File:U900624 Acq:21-JUN-90 23:01:32 Mass 160.1128
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:26
13:57
18:14
1.4E7
1.1E7
8.6E6
5.7E6
2.9E6
0.0E0
100
80
60
40
20
0
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
TIME

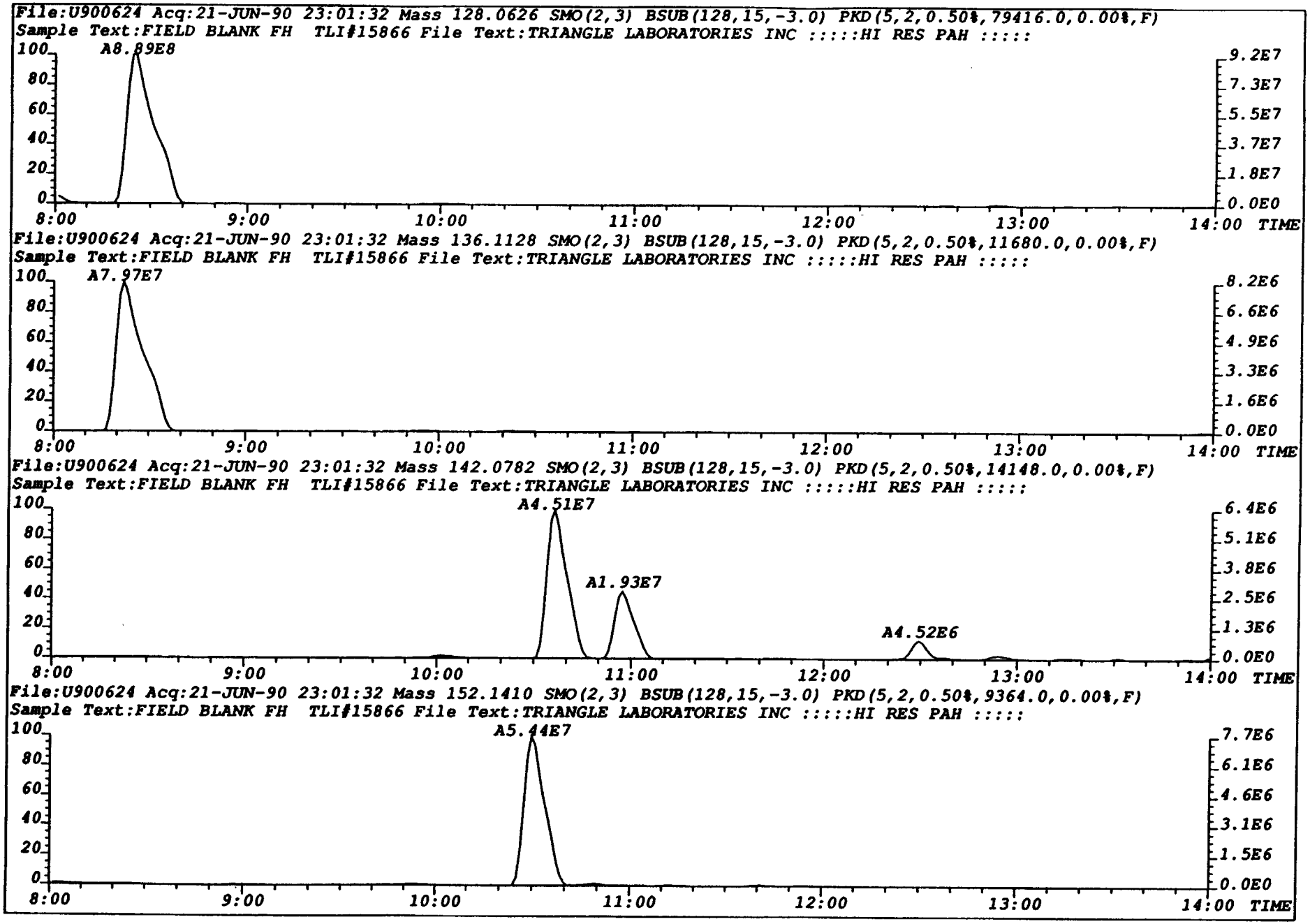

File:U900624 Acq:21-JUN-90 23:01:32 Mass 162.0236
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:11
8:14 8:52 9:30 10:43 11:22 11:55 12:50 13:16 14:04 14:42 15:29 16:43 17:36 18:47 19:39
1.2E5 9.8E4 7.3E4 4.9E4 2.4E4 0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 164.0207
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
19:00
12:10
8:20 8:55 10:10 11:00 11:49 12:27 12:55 14:03 14:46 15:24 16:46 17:16 17:52 19:45
6.0E4 4.8E4 3.6E4 2.4E4 1.2E4 0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 169.0646
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:05
12:29 14:23
1.0E7 8.1E6 6.1E6 4.1E6 2.0E6 0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 171.0616
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:05
3.1E6 2.5E6 1.9E6 1.3E6 6.3E5 0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 TIME

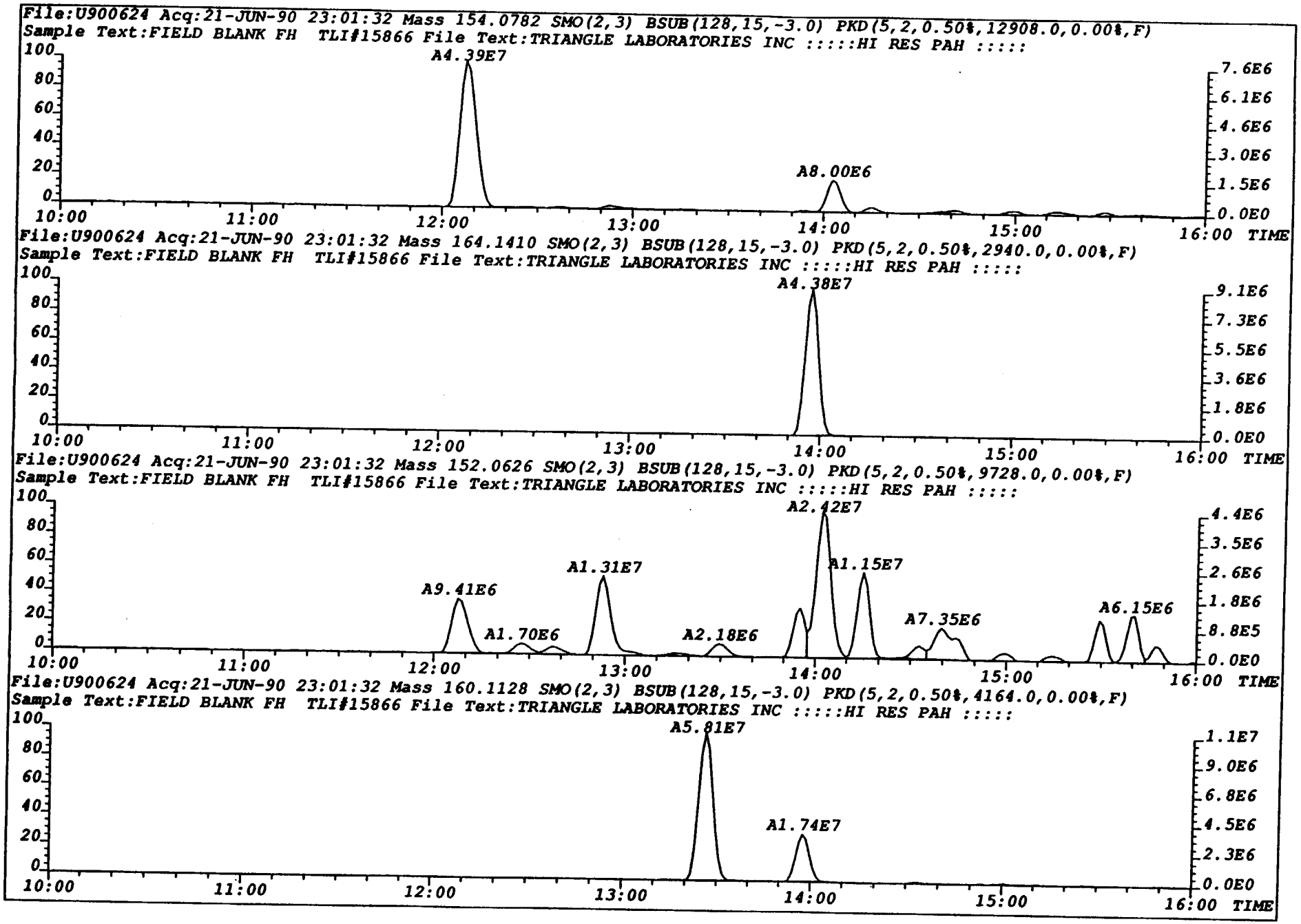

File:U900624 Acq:21-JUN-90 23:01:32 Mass 166.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:52
14:01
14:44
15:34
16:07
16:46
17:08
17:41
18:22
19:06
File:U900624 Acq:21-JUN-90 23:01:32 Mass 176.1410
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
15:28
File:U900624 Acq:21-JUN-90 23:01:32 Mass 178.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
14:01
17:06
17:41
18:17
19:05
File:U900624 Acq:21-JUN-90 23:01:32 Mass 188.1410
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
18:22
TIME

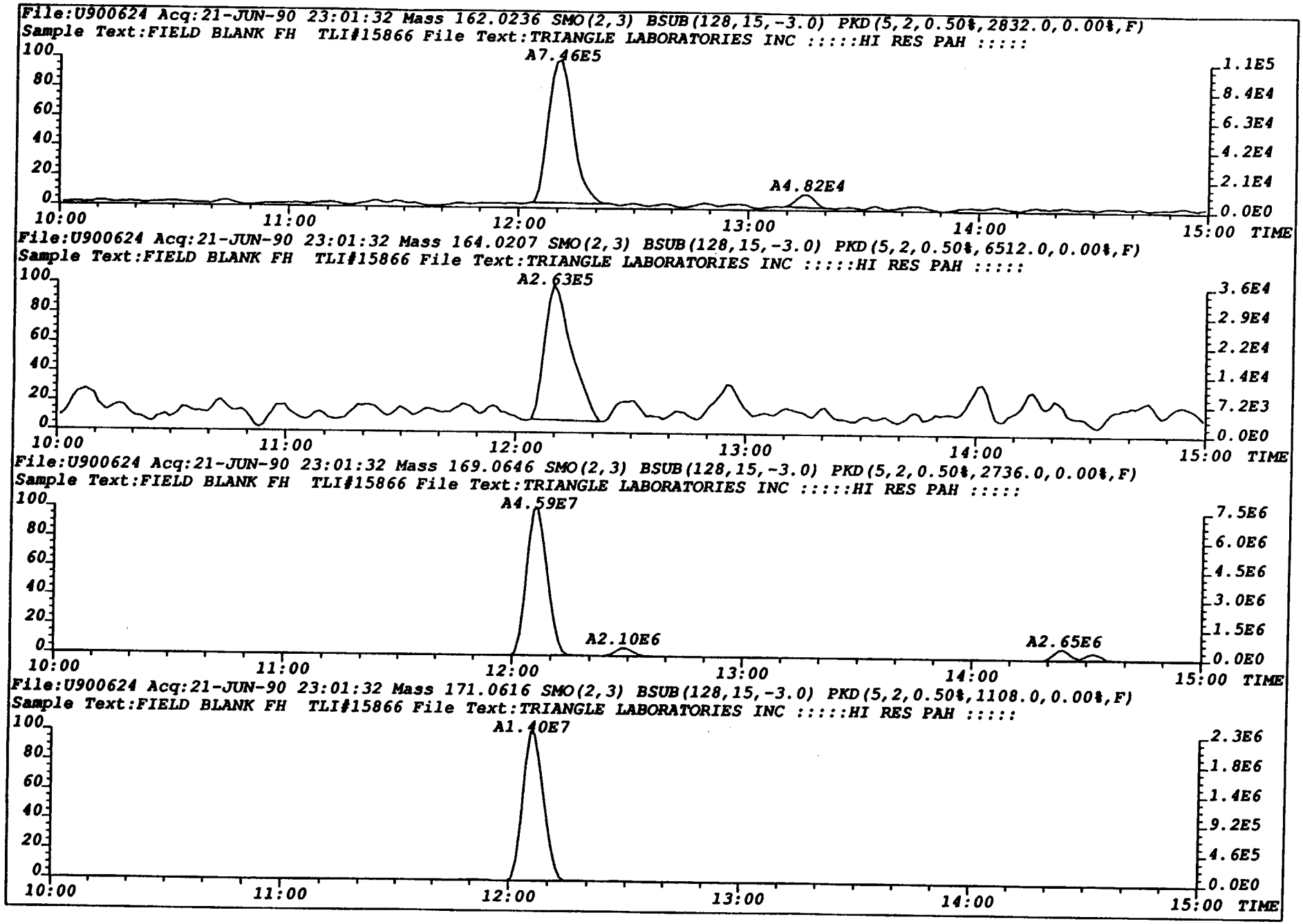

File:U900624 Acq:21-JUN-90 23:01:32 Mass 202.0782 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:32
22:09
22:59
3.1E6
2.5E6
1.9E6
1.2E6
6.2E5
0.0E0
TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 212.1410 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:30
22:07
2.1E7
1.7E7
1.2E7
8.3E6
4.1E6
0.0E0
TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 228.0939 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:14
25:34
21:34
22:58
27:19
4.1E5
3.3E5
2.5E5
1.6E5
8.2E4
0.0E0
TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 240.1692 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
25:29
22:33
4.8E6
3.9E6
2.9E6
1.9E6
9.6E5
0.0E0
TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 204.9888 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
6.4E6
5.1E6
3.8E6
2.6E6
1.3E6
0.0E0
TIME

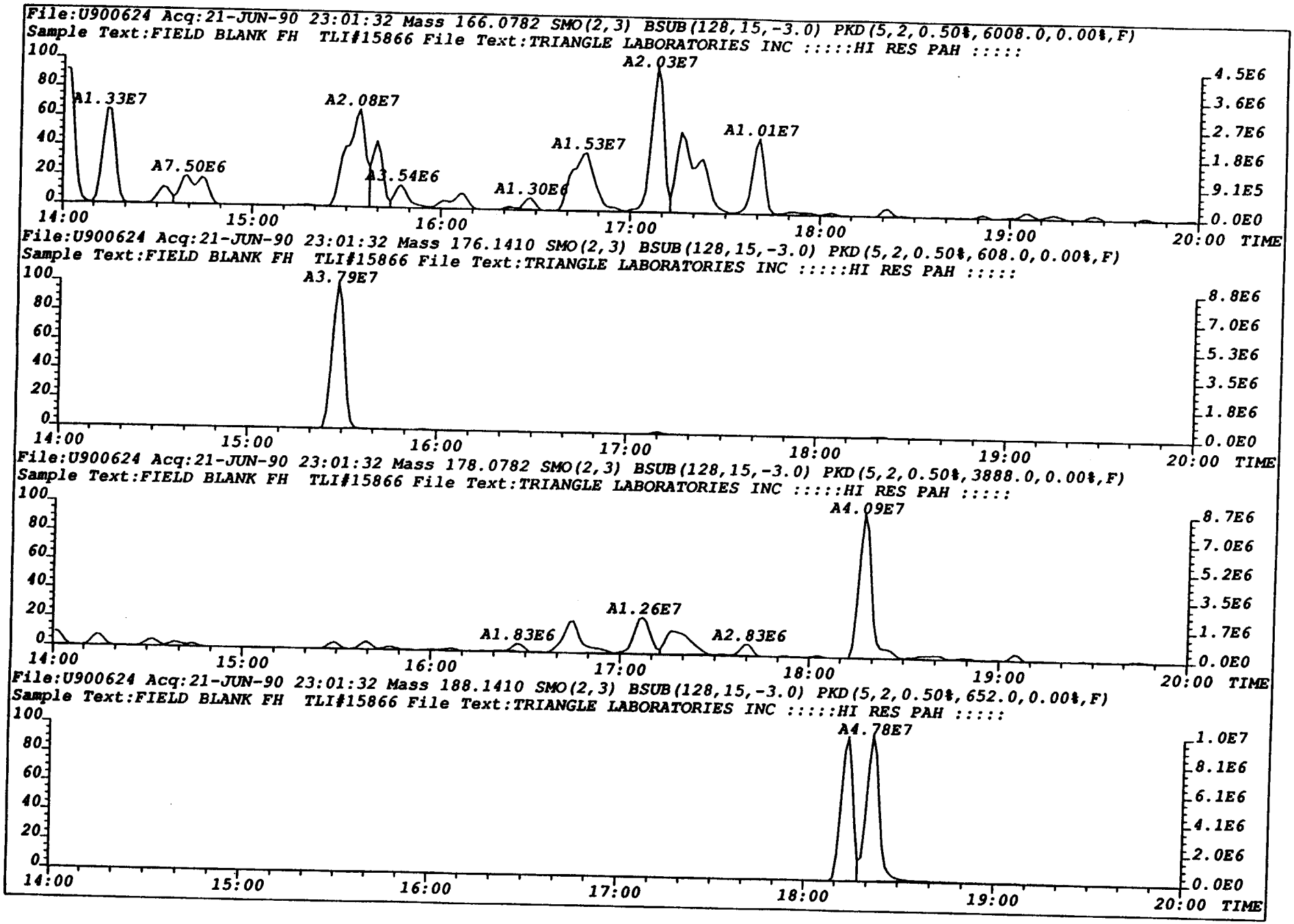

File:U900624 Acq:21-JUN-90 23:01:32 Mass 252.0939 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
File:U900624 Acq:21-JUN-90 23:01:32 Mass 264.1692 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
File:U900624 Acq:21-JUN-90 23:01:32 Mass 244.1974 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
File:U900624 Acq:21-JUN-90 23:01:32 Mass 276.0939 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
File:U900624 Acq:21-JUN-90 23:01:32 Mass 288.1692 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
TIME

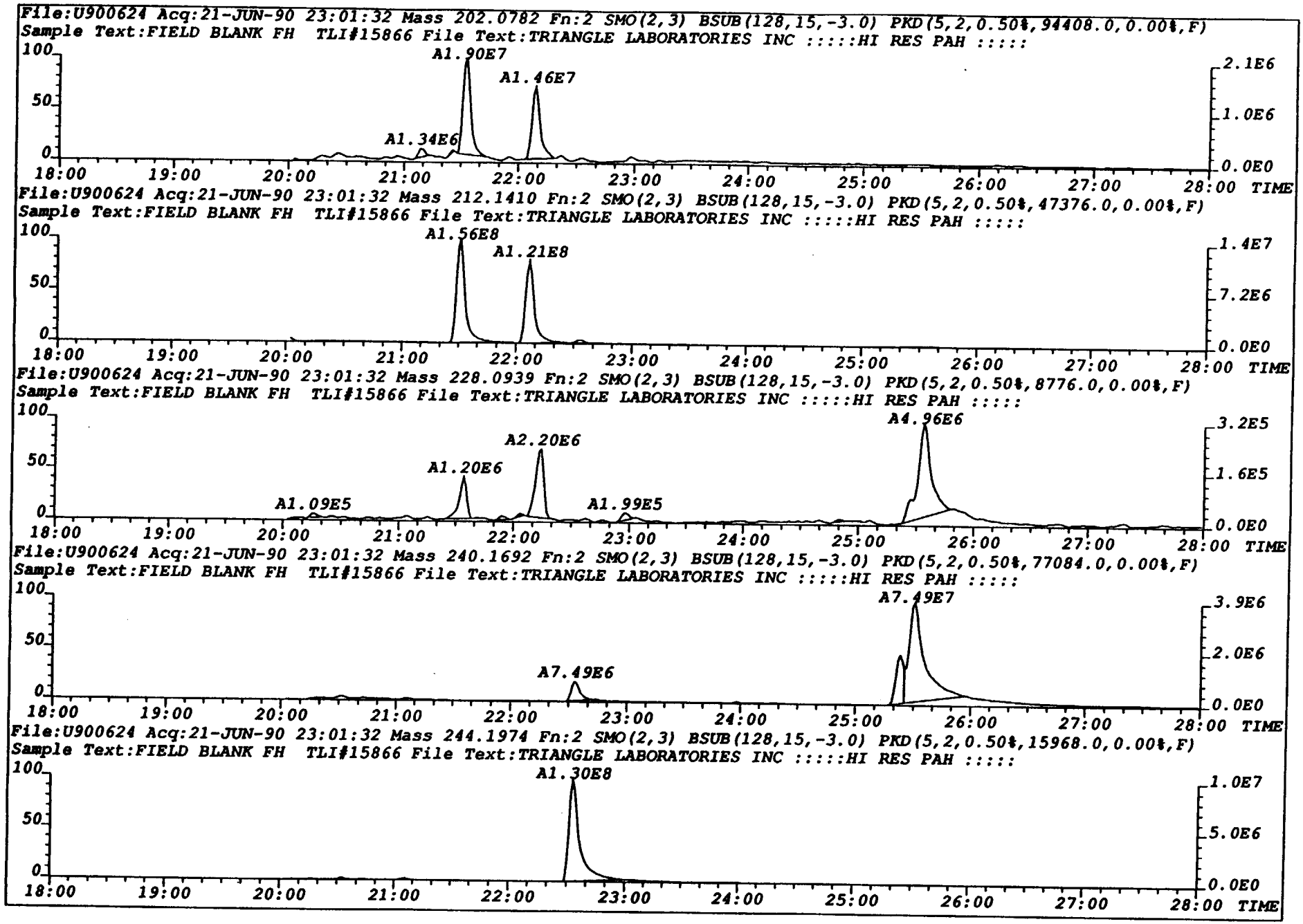

File:U900624 Acq:21-JUN-90 23:01:32 Mass 278.1096 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 292.1974 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
TIME

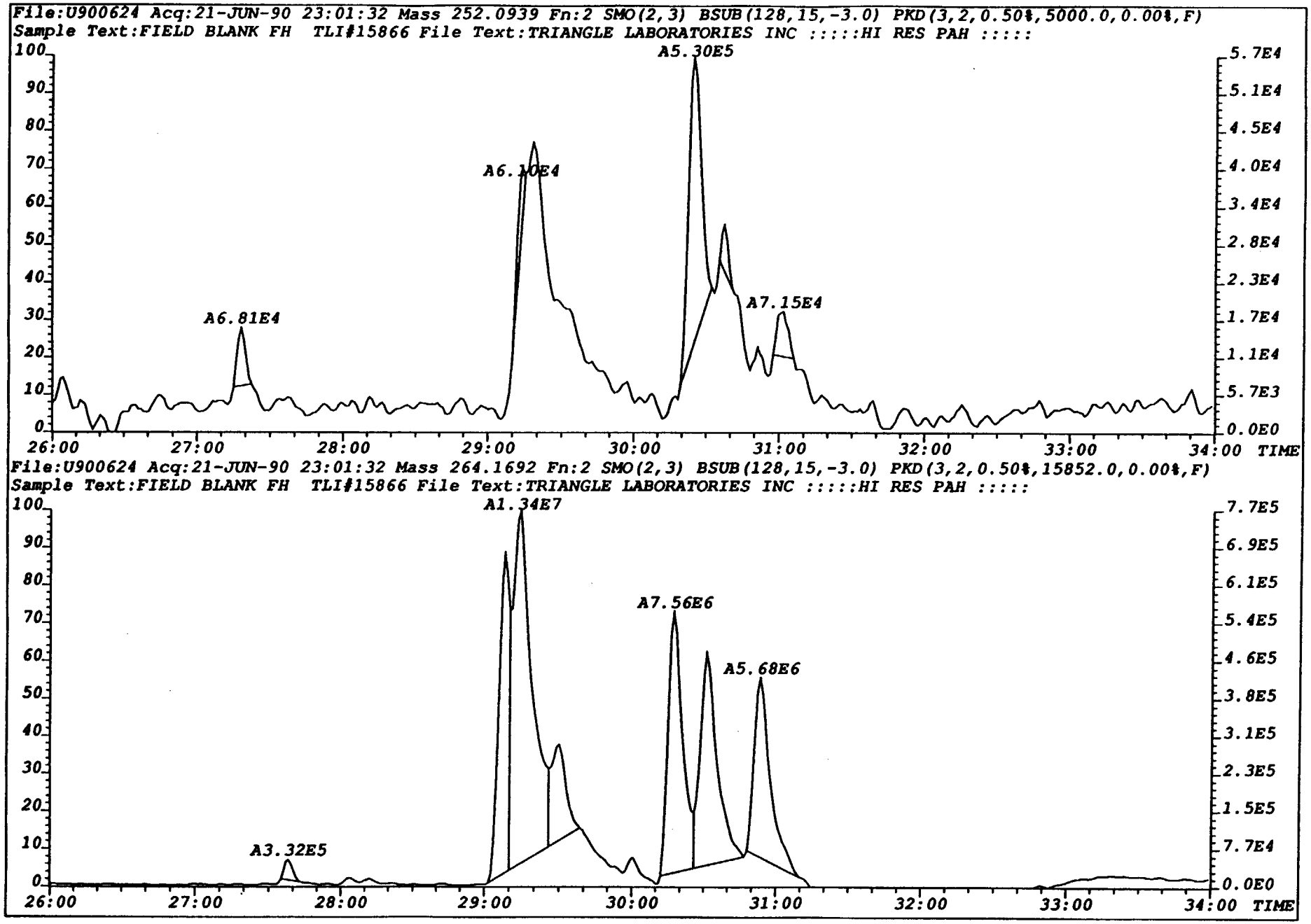

File:U900624 Acq:21-JUN-90 23:01:32 Mass 128.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,79416.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A8.89E8
9.2E7
7.3E7
5.5E7
3.7E7
1.8E7
0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 136.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,11680.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.97E7
8.2E6
6.6E6
4.9E6
3.3E6
1.6E6
0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 142.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,14148.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.51E7
A1.93E7
A4.52E6
6.4E6
5.1E6
3.8E6
2.5E6
1.3E6
0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 152.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,9364.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A5.44E7
7.7E6
6.1E6
4.6E6
3.1E6
1.5E6
0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 TIME

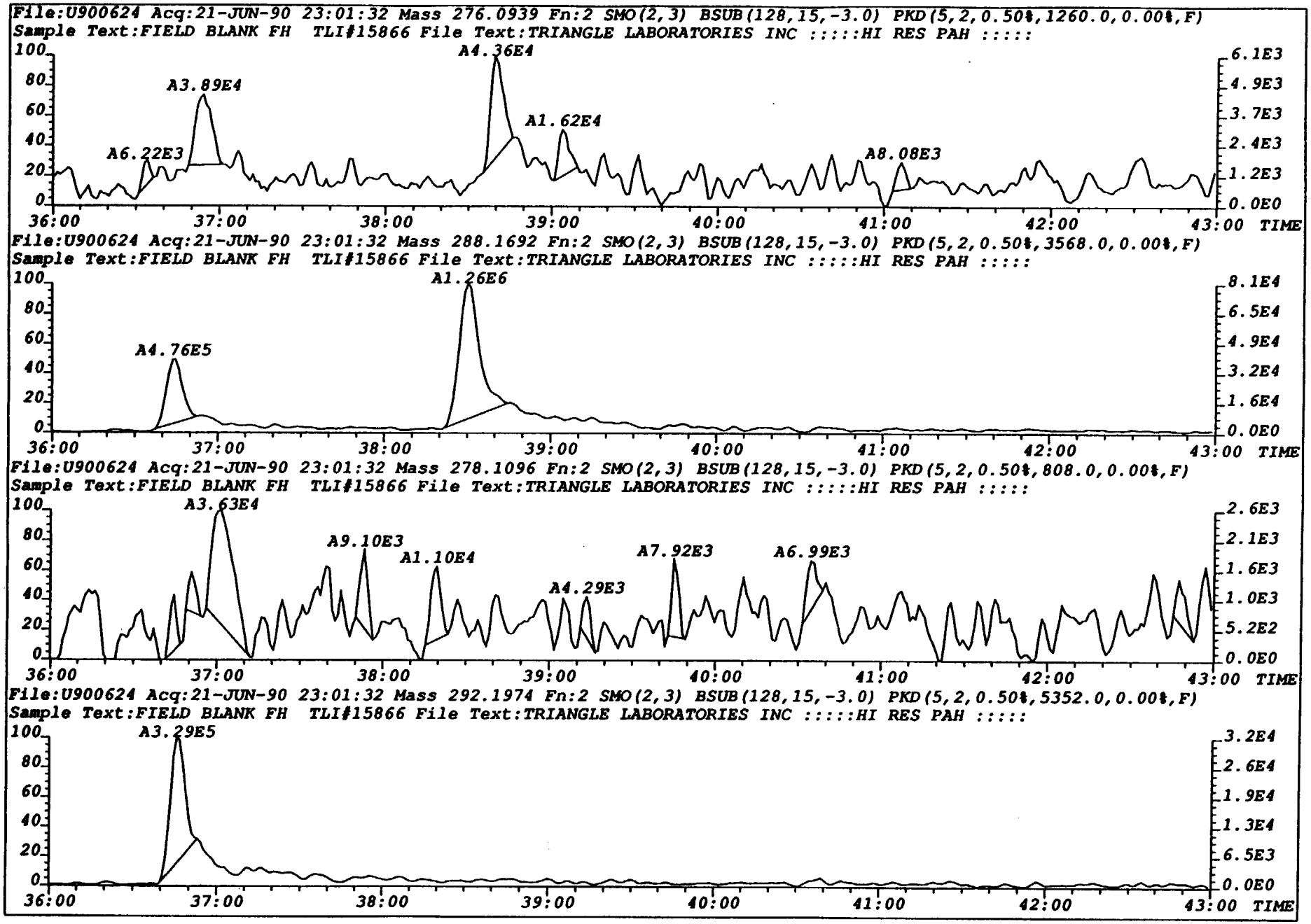

File:U900624 Acq:21-JUN-90 23:01:32 Mass 154.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,12908.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.39E7
A8.00E6
File:U900624 Acq:21-JUN-90 23:01:32 Mass 164.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2940.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.38E7
File:U900624 Acq:21-JUN-90 23:01:32 Mass 152.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,9728.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.42E7
A1.31E7
A1.15E7
A9.41E6
A1.70E6
A2.18E6
A7.35E6
A6.15E6
File:U900624 Acq:21-JUN-90 23:01:32 Mass 160.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,4164.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A5.81E7
A1.74E7
TIME

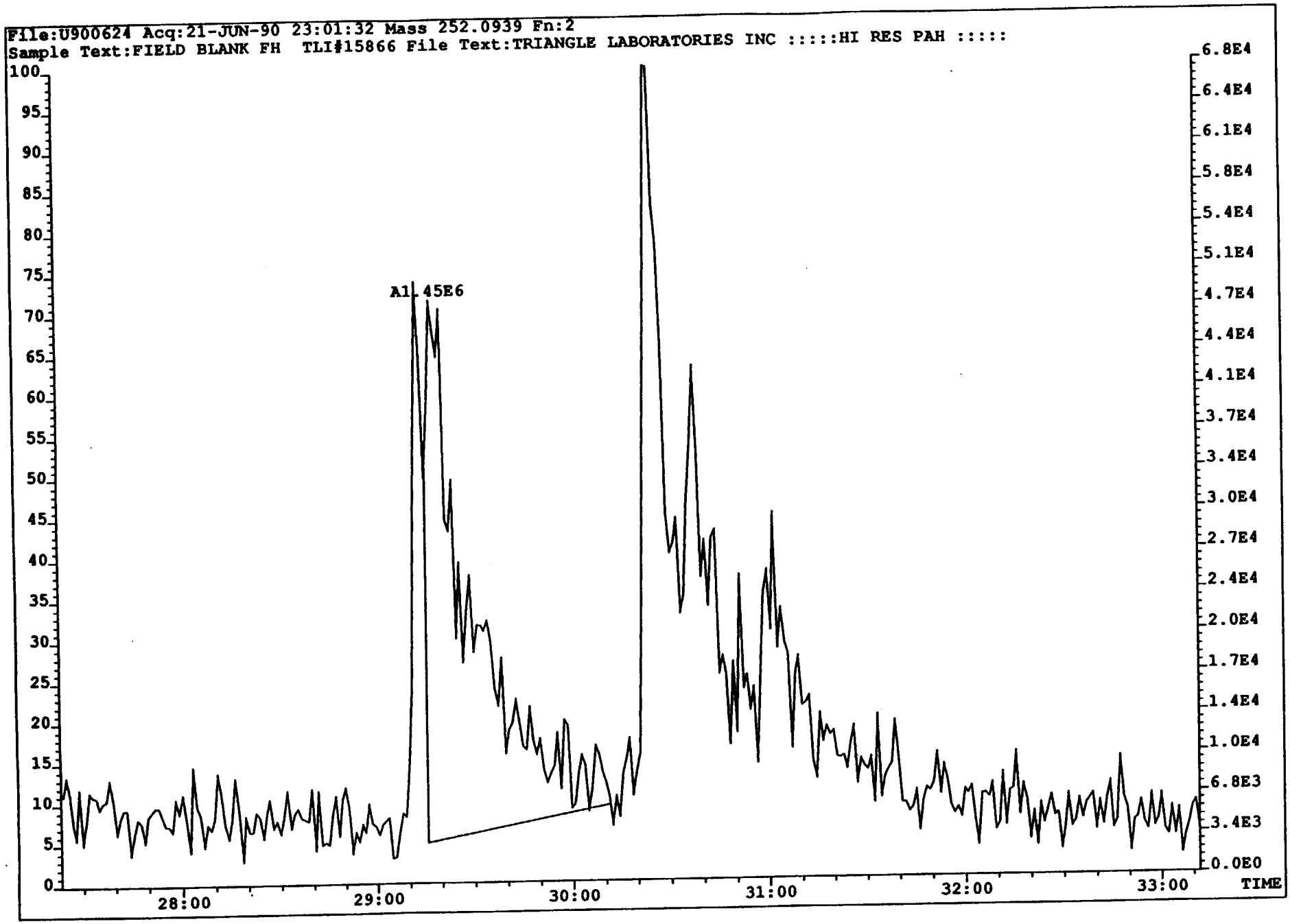

File:U900624 Acq:21-JUN-90 23:01:32 Mass 162.0236 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2832.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.46E5
A4.82E4
File:U900624 Acq:21-JUN-90 23:01:32 Mass 164.0207 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,6512.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.63E5
File:U900624 Acq:21-JUN-90 23:01:32 Mass 169.0646 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2736.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.59E7
A2.10E6
A2.65E6
File:U900624 Acq:21-JUN-90 23:01:32 Mass 171.0616 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1108.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.40E7
TIME

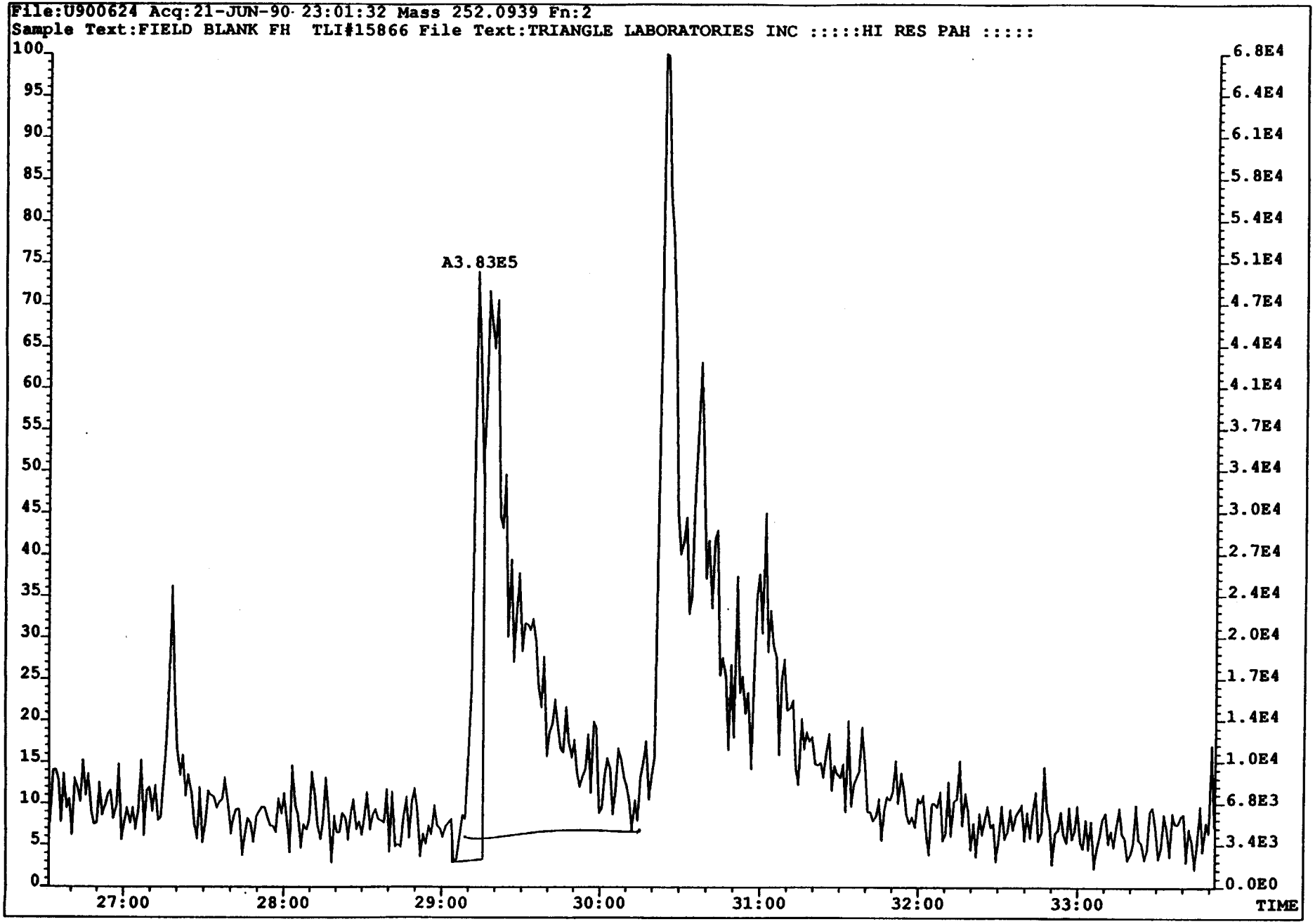

File:U900624 Acq:21-JUN-90 23:01:32 Mass 166.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,6008.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.33E7
A7.50E6
A2.08E7
A3.54E6
A1.30E6
A1.53E7
A2.03E7
A1.01E7
TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 176.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,608.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.79E7
TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 178.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3888.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.83E6
A1.26E7
A2.83E6
A4.09E7
TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 188.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,652.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.78E7
TIME


File:U900624 Acq:21-JUN-90 23:01:32 Mass 202.0782 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,94408.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.90E7
A1.46E7
A1.34E6
File:U900624 Acq:21-JUN-90 23:01:32 Mass 212.1410 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,47376.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.56E8
A1.21E8
File:U900624 Acq:21-JUN-90 23:01:32 Mass 228.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,8776.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.96E6
A2.20E6
A1.20E6
A1.09E5
A1.99E5
File:U900624 Acq:21-JUN-90 23:01:32 Mass 240.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,77084.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.49E7
A7.49E6
File:U900624 Acq:21-JUN-90 23:01:32 Mass 244.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,15968.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.30E8
100
50
0
18:00
19:00
20:00
21:00
22:00
23:00
24:00
25:00
26:00
27:00
28:00
TIME
2.1E6
1.0E6
0.0E0
1.4E7
7.2E6
3.2E5
1.6E5
3.9E6
2.0E6
1.0E7
5.0E6


File:U900624 Acq:21-JUN-90 23:01:32 Mass 252.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,5000.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A5.30E5
A6.10E4
A6.81E4
A7.15E4
TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 264.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,15852.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.34E7
A7.56E6
A5.68E6
A3.32E5
TIME


File:U900624 Acq:21-JUN-90 23:01:32 Mass 276.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1260.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.36E4
A3.89E4
A1.62E4
A6.22E3
A8.08E3
6.1E3
4.9E3
3.7E3
2.4E3
1.2E3
0.0E0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 288.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3568.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.26E6
A4.76E5
8.1E4
6.5E4
4.9E4
3.2E4
1.6E4
0.0E0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 278.1096 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,808.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.63E4
A9.10E3
A1.10E4
A7.92E3
A6.99E3
A4.29E3
2.6E3
2.1E3
1.6E3
1.0E3
5.2E2
0.0E0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 TIME
File:U900624 Acq:21-JUN-90 23:01:32 Mass 292.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,5352.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.29E5
3.2E4
2.6E4
1.9E4
1.3E4
6.5E3
0.0E0
36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 TIME


File:U900624 Acq:21-JUN-90 23:01:32 Mass 252.0939 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1 45E6
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
6.8E4
6.4E4
6.1E4
5.8E4
5.4E4
5.1E4
4.7E4
4.4E4
4.1E4
3.7E4
3.4E4
3.0E4
2.7E4
2.4E4
2.0E4
1.7E4
1.4E4
1.0E4
6.8E3
3.4E3
0.0E0
28:00
29:00
30:00
31:00
32:00
33:00
TIME


File:U900624 Acq:21-JUN-90 23:01:32 Mass 252.0939 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.83E5
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
6.8E4
6.4E4
6.1E4
5.8E4
5.4E4
5.1E4
4.7E4
4.4E4
4.1E4
3.7E4
3.4E4
3.0E4
2.7E4
2.4E4
2.0E4
1.7E4
1.4E4
1.0E4
6.8E3
3.4E3
0.0E0
27:00
28:00
29:00
30:00
31:00
32:00
33:00
TIME

27

8-13-90

Triangle Laboratories, Inc
801-10 Capitola Dr.
Research Triangle Park, NC 27713
(919) 544-5729

DATE: August 13,1990
CLIENT P.O. SP-2722 8-13-90
TLI NO: 15866

OBJECTIVE: Analysis of MM-5 Samples for Polynuclear Aromatic Hydrocarbons by High resolution mass spectrometry

Method

The analysis method for the PAH was a developmental method based on CARB 429, but using high resolution mass spectrometry, high resolution gas chromatography. The method of isotope dilution was used to measure the majority of the analytes for which a labeled internal standard could be obtained.

The XAD resin was spiked with 100 ng of Terphenyl-D14 prior to field sampling. The samples were Soxhlett extracted for 16 hours with toluene. Deuterated PAH internal standards (100 ng) were added immediately prior to extraction of the MM-5 train components. The aqueous fraction was spiked with 100 ng of Anthracene D-10 prior to extraction. All solvents were concentrated and combined with the extracts prior to analysis. The combined extract was split with half for the analysis of PAH and half for archive. The PAH fraction was cleaned up using a silica gel procedure. Prior to analysis, a solution of D12-Benzo-e-Pyrene to a final concentration of 50 ng/mL was added to an aliquot of the extract in order to measure the recovery of the internal standards.

The GC/MS analysis conditions are listed below:

GC CONDITIONS:

Column:	J&W DB-5, 60m x .25mm x 25micron film thickness
Program:	Initial temp. = 120; hold 5 min. to 300C at 14 C/min; hold 25 min.

MS CONDITIONS:

Instrument:	VG 7070S, 11-250 data system
Scan:	selected ion recording mass resolution 8000
Ion Source:	220C
Interface:	Capillary 270C

Triangle Laboratories, Inc
801-10 Capitola Dr.
Research Triangle Park, NC 27713
(919) 544-5729

An initial calibration was performed using the list of compounds in Table 1, with response factors relative to the corresponding internal standards, as shown in Table 2. These response factors were used to calculate the amounts of the analytes in the samples. The data are reported as summary sheets, chromatograms, and tabulations of the found GC peaks, areas and retention times (I-file and B-file).

Results

This package contains results of the TEST 1 (BH) sample, which has been reanalyzed due to failure to meet the QC criteria at the initial injection.

The sample was extracted together with the rest of the project samples, therefore, the same TLI Blank should be used.

All general information pertaining to the data validation presented for the original shipment, relates to this sample as well.

The release of this particular set of TLI project 15866 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 at two other levels of the data processing production line. All general deviations from acceptable QA/QC requirements were discussed above along with their effect on the validity and reliability of the results.

For Triangle Labs,

Hani Karam
Air Quality
Product Manager

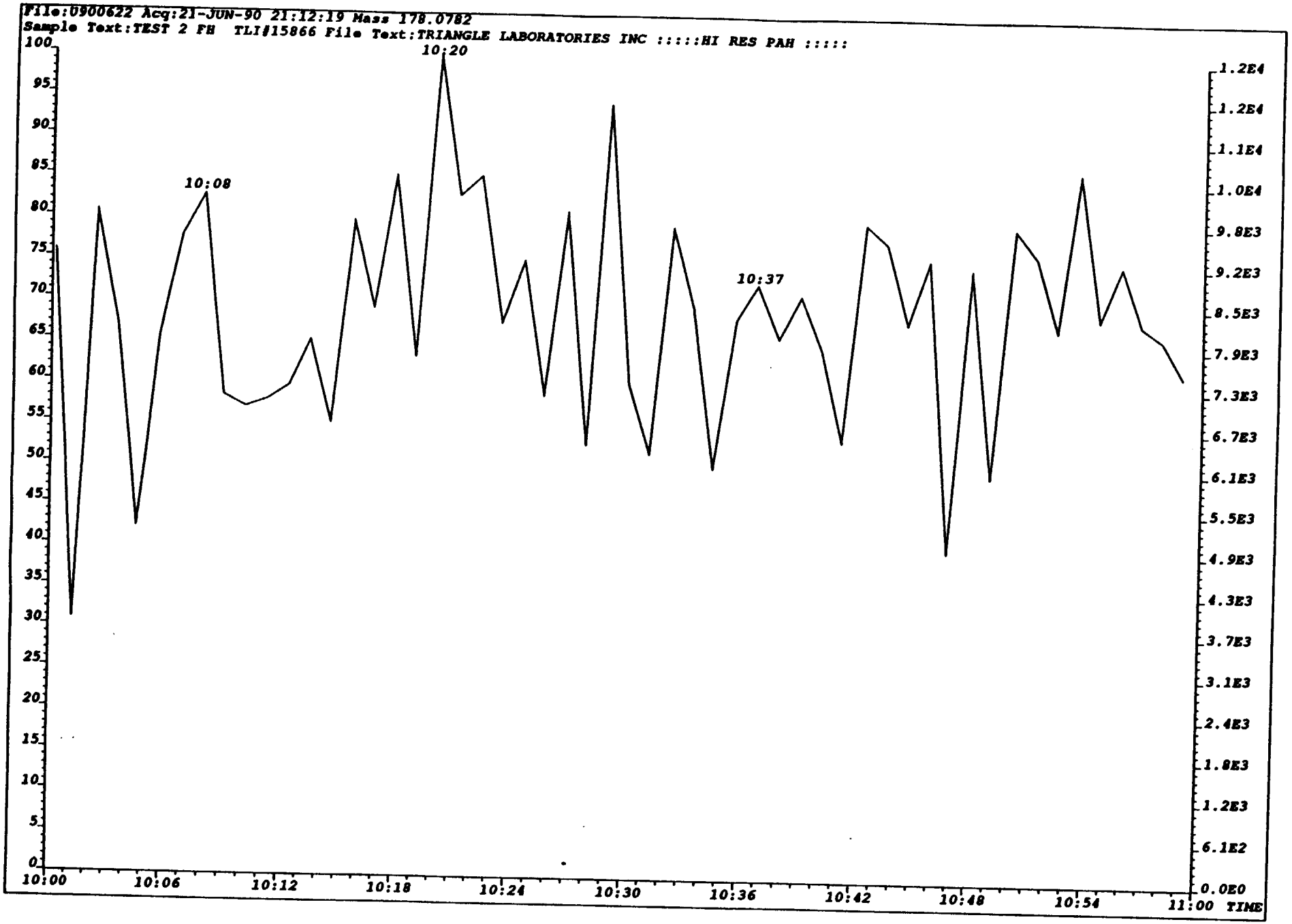
Jacek Bielawski
QA Project Officer

Don Harvan
V.P., Operations

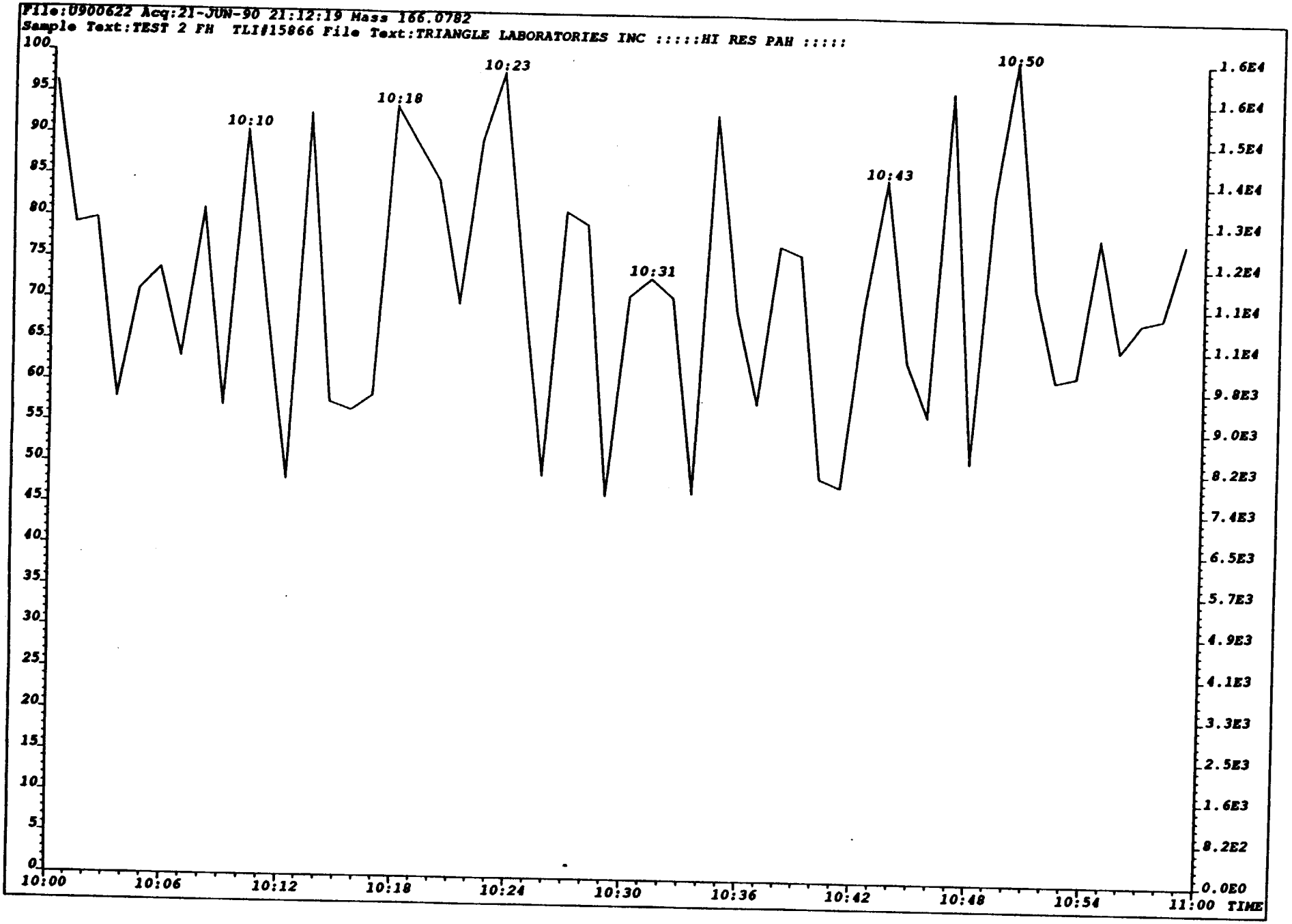
212	21:31	9183.04	22:07	7479.10	22:34	191.84			
228	20:15	35.95	22:03	2.69	23:10	12.76	24:52	6.04	
	21:27	0.46	22:15	567.98	23:24	2.87	25:33	1451.89	
	21:35	192.43	22:38	176.75	24:09	3.13			

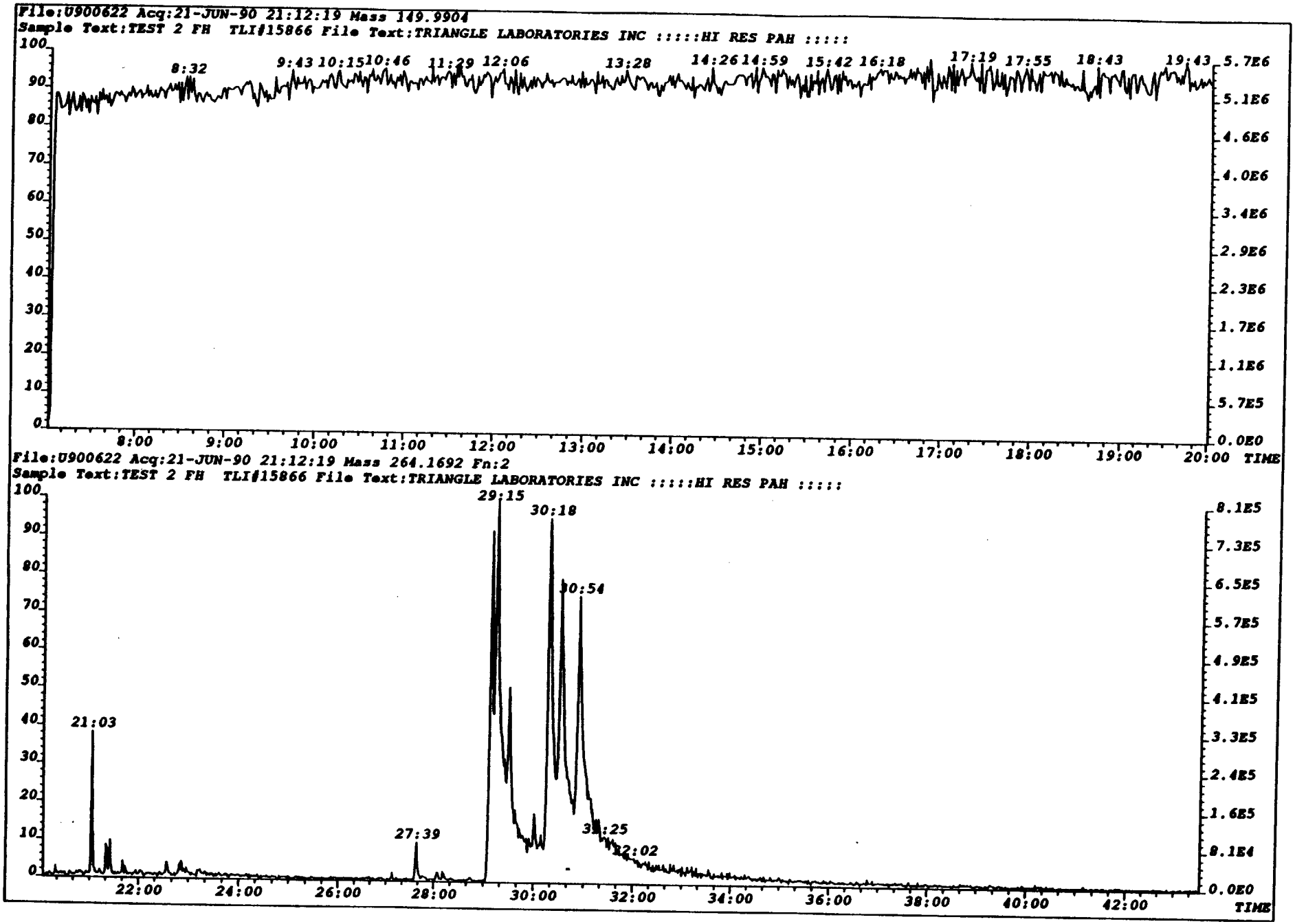
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
240	22:34	434.61	25:24	1015.54	25:31	5925.78		
244	22:34	7007.16						
252	29:15	4.98	30:25	15.38				
264	27:39	41.71	29:15	1192.08	30:18	828.78		
	28:04	5.88	29:30	551.13	30:32	851.47		
	29:08	618.54	30:01	32.63	30:54	711.19		
276	37:44	0.70	38:43	15.60	42:30	0.74	42:52	0.86
288	36:45	92.39	38:31	283.78				
278	36:59	2.04						
292	36:47	82.60						

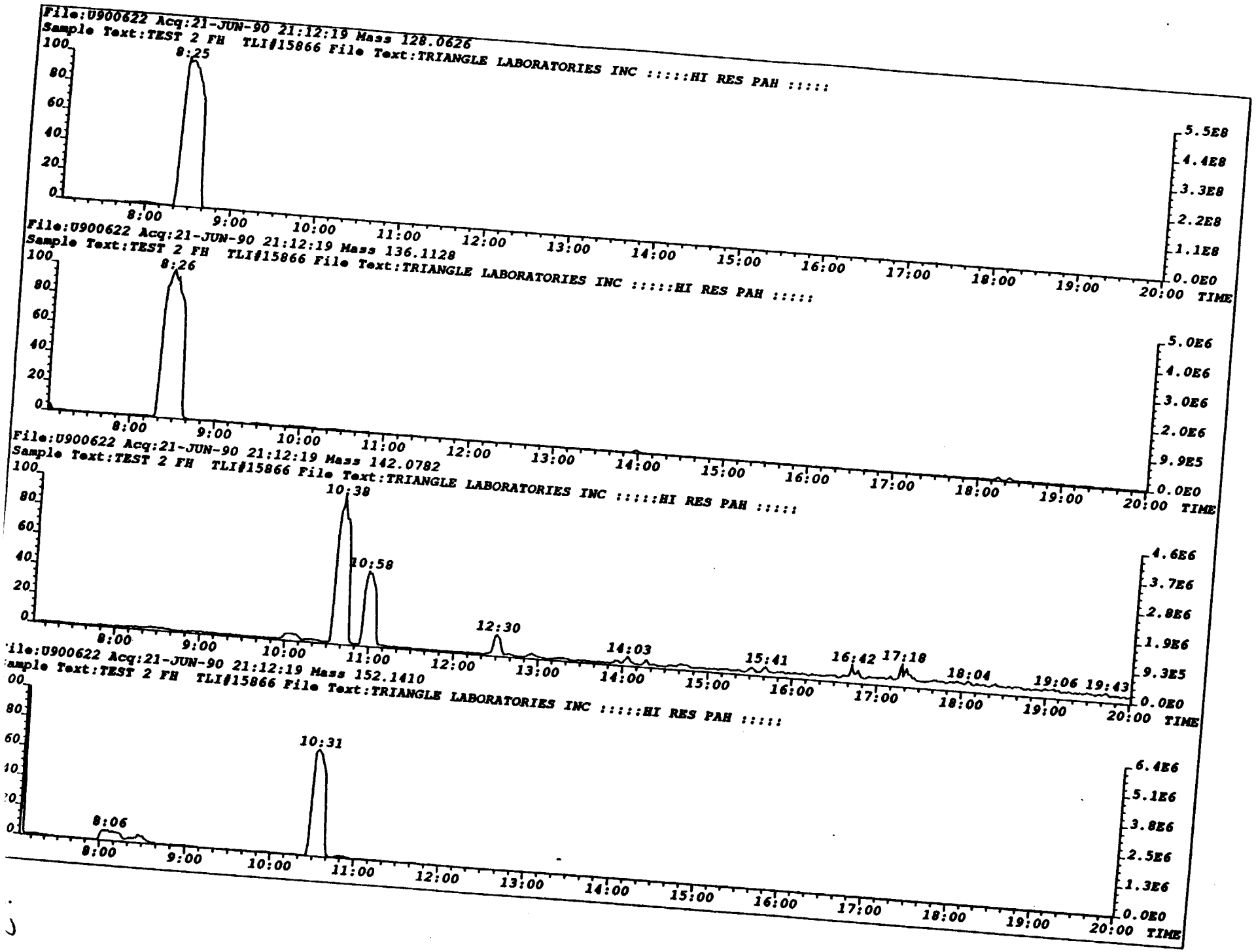
*** End of Report ***

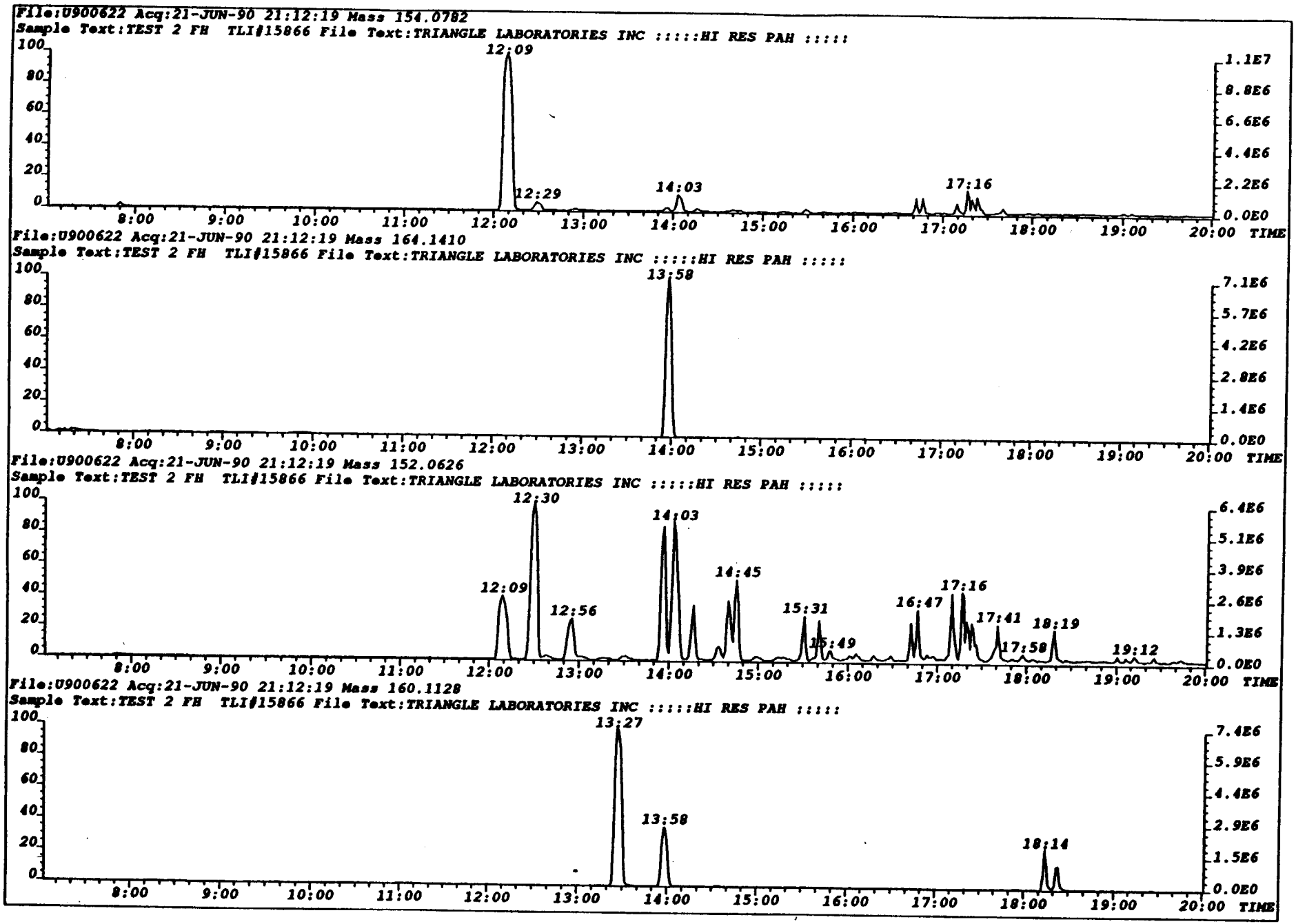

File:0900622 Acq:21-JUN-90 21:12:19 Mass 178.0782
Sample Text:TEST 2 FB TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:08
10:20
10:37
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1.2E4
1.2E4
1.1E4
1.0E4
9.8E3
9.2E3
8.5E3
7.9E3
7.3E3
6.7E3
6.1E3
5.5E3
4.9E3
4.3E3
3.7E3
3.1E3
2.4E3
1.8E3
1.2E3
6.1E2
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

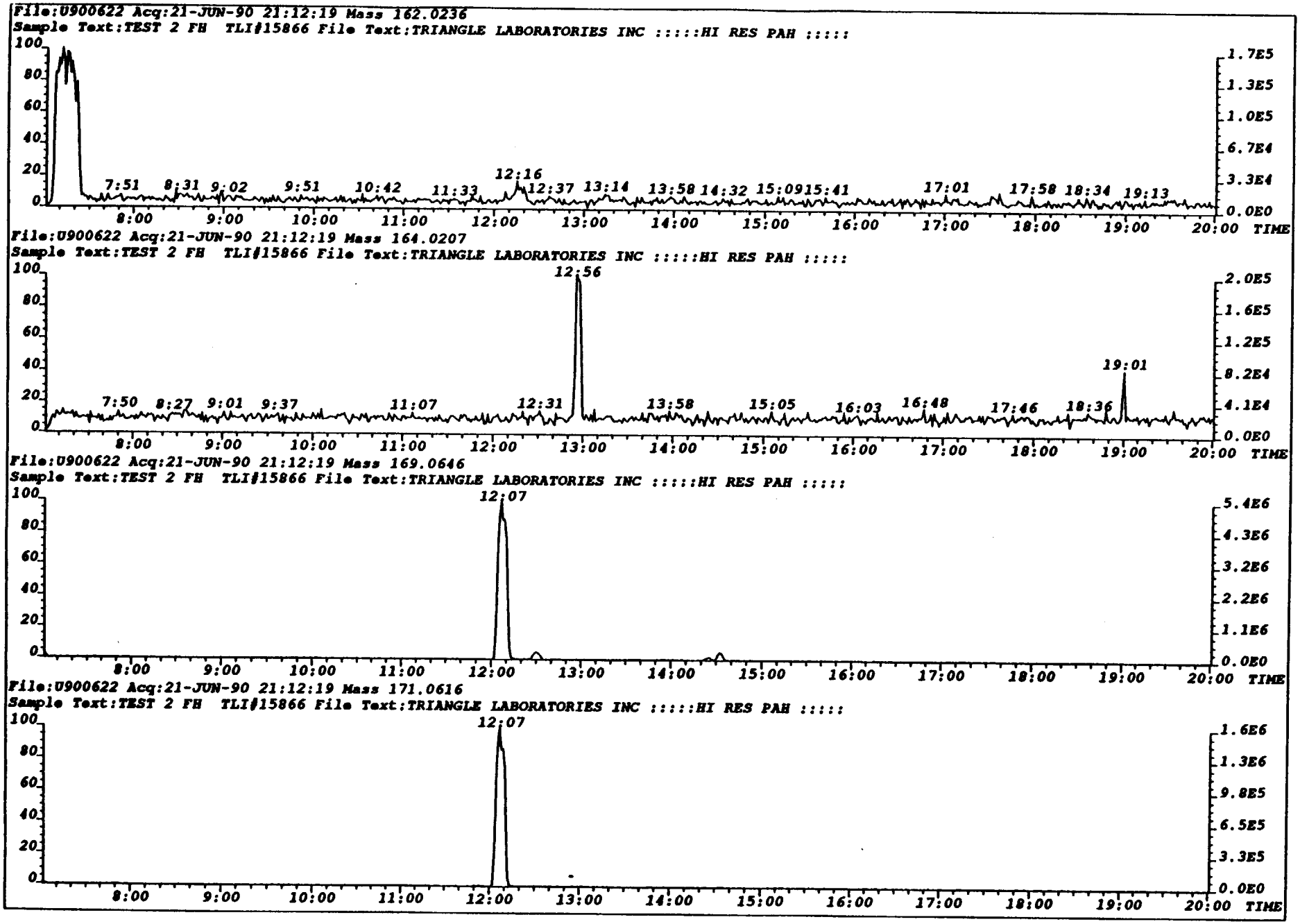
C

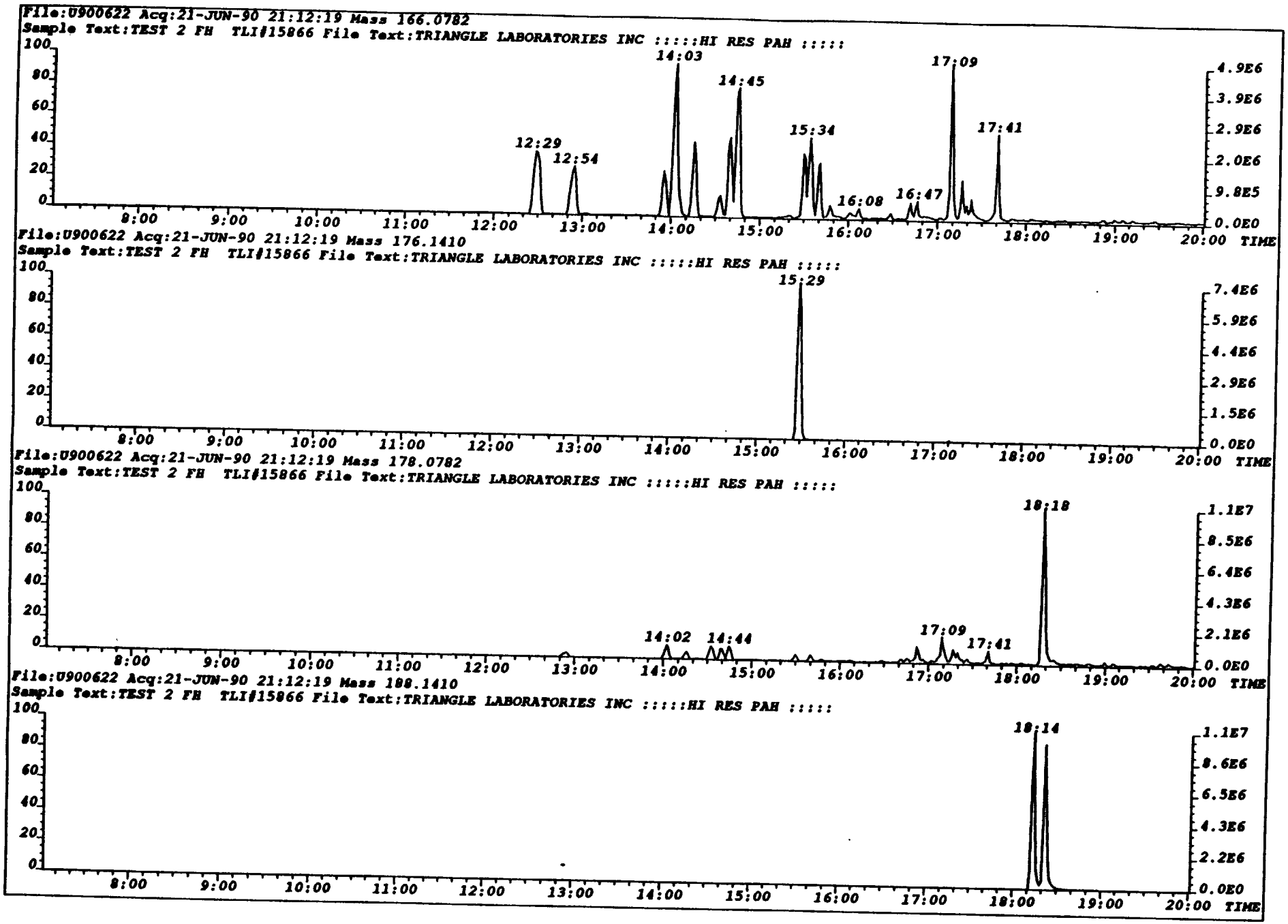

File:0900622 Acq:21-JUN-90 21:12:19 Mass 166.0782
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:10
10:18
10:23
10:31
10:43
10:50
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1.6E4
1.6E4
1.5E4
1.4E4
1.3E4
1.2E4
1.1E4
1.1E4
9.8E3
9.0E3
8.2E3
7.4E3
6.5E3
5.7E3
4.9E3
4.1E3
3.3E3
2.5E3
1.6E3
8.2E2
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00 TIME

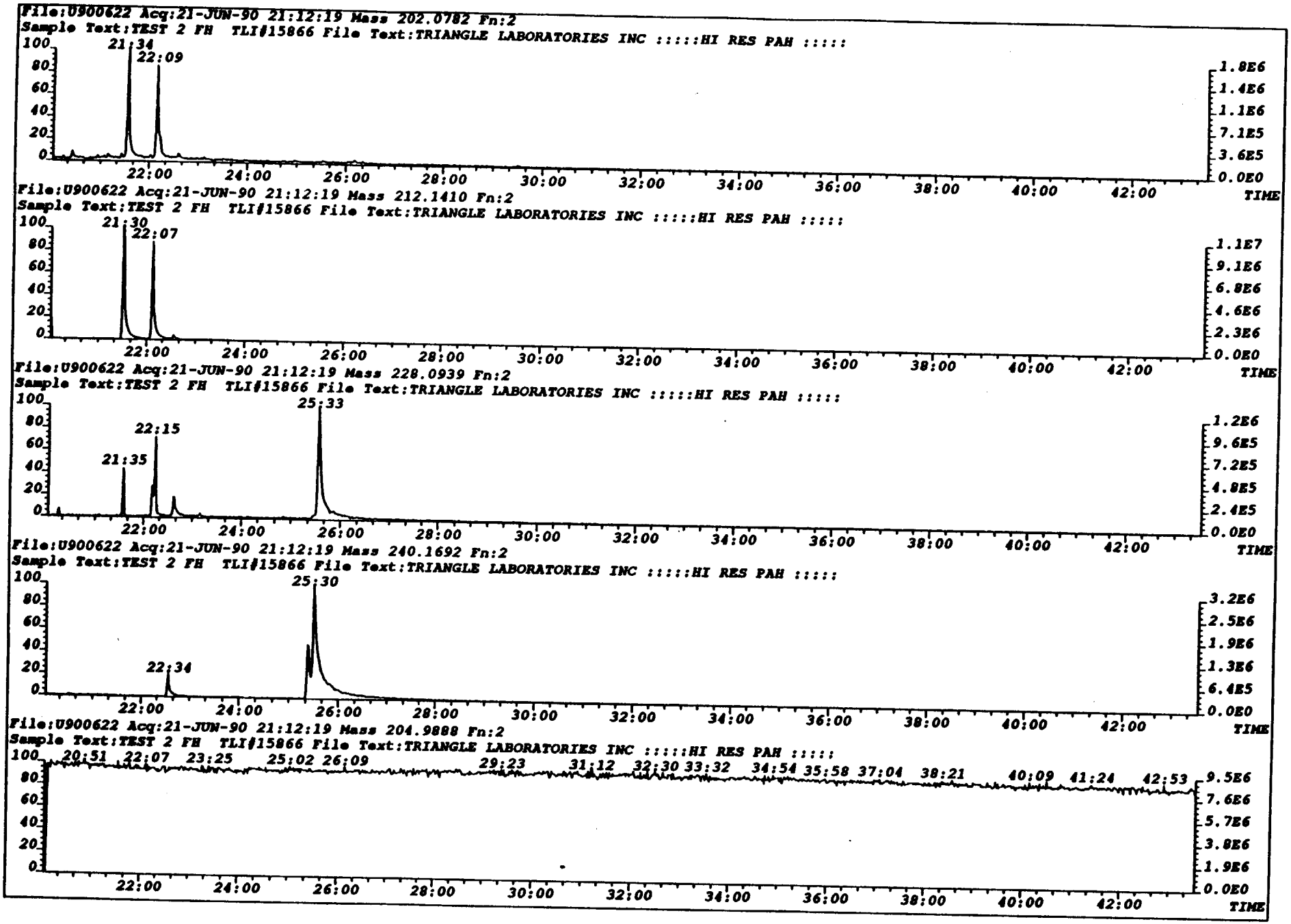

File:U900622 Acq:21-JUN-90 21:12:19 Mass 149.9904
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:32
9:43
10:15
10:46
11:29
12:06
13:28
14:26
14:59
15:42
16:18
17:19
17:55
18:43
19:43
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
TIME
File:U900622 Acq:21-JUN-90 21:12:19 Mass 264.1692 Fn:2
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
29:15
30:18
30:54
21:03
27:39
31:25
32:02
22:00
24:00
26:00
28:00
30:00
32:00
34:00
36:00
38:00
40:00
42:00
TIME


File:U900622 Acq:21-JUN-90 21:12:19 Mass 128.0626
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:25
5.5E8
4.4E8
3.3E8
2.2E8
1.1E8
0.0E0
TIME
File:U900622 Acq:21-JUN-90 21:12:19 Mass 136.1128
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:26
5.0E6
4.0E6
3.0E6
2.0E6
9.9E5
0.0E0
TIME
File:U900622 Acq:21-JUN-90 21:12:19 Mass 142.0782
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:38
10:58
12:30
14:03
15:41
16:42
17:18
18:04
19:06
19:43
4.6E6
3.7E6
2.8E6
1.9E6
9.3E5
0.0E0
TIME
File:U900622 Acq:21-JUN-90 21:12:19 Mass 152.1410
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:31
8:06
6.4E6
5.1E6
3.8E6
2.5E6
1.3E6
0.0E0
TIME

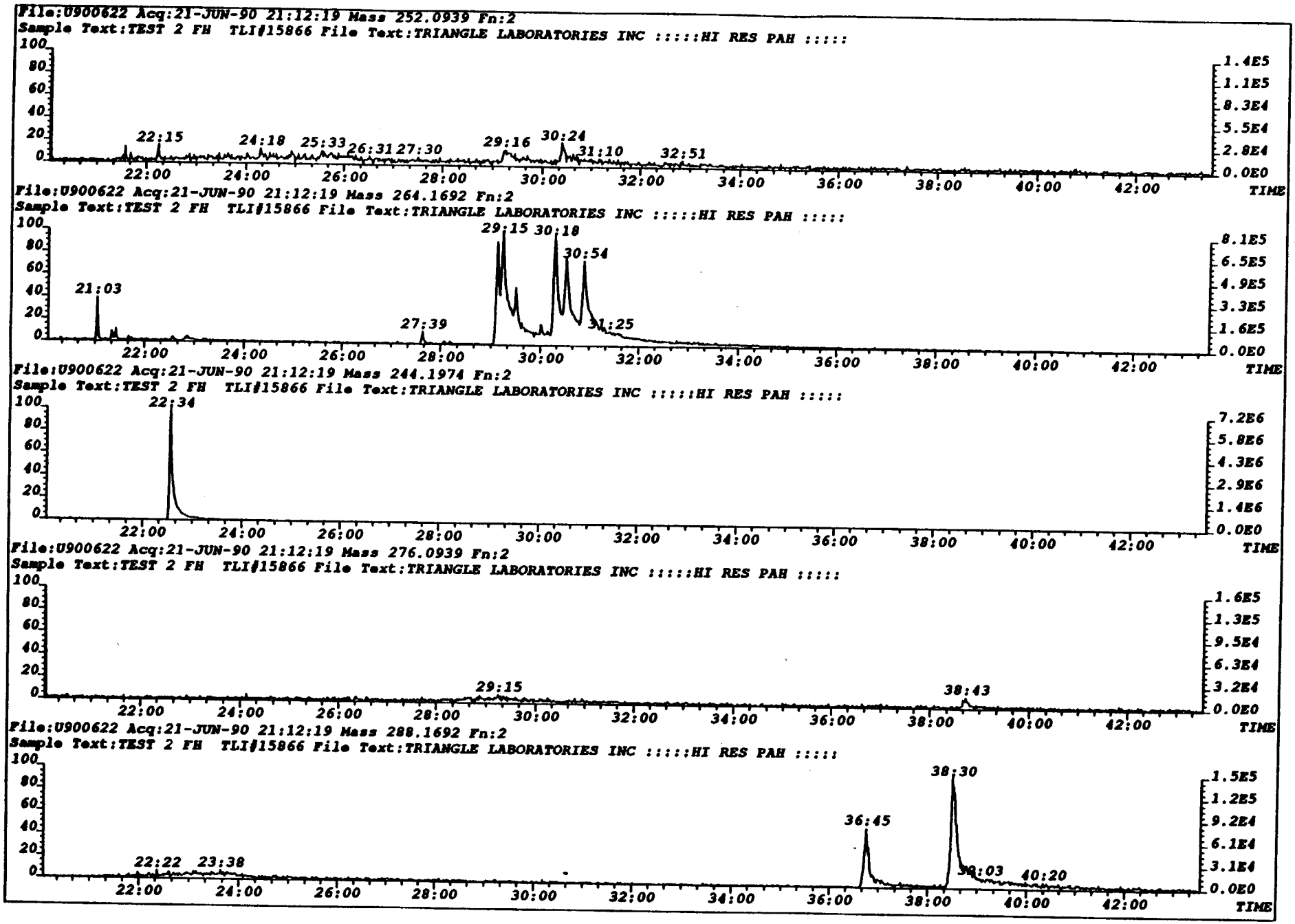

File:U900622 Acq:21-JUN-90 21:12:19 Mass 154.0782
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:09
12:29
14:03
17:16
File:U900622 Acq:21-JUN-90 21:12:19 Mass 164.1410
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:58
File:U900622 Acq:21-JUN-90 21:12:19 Mass 152.0626
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:30
14:03
12:09
12:56
14:45
15:31
15:49
16:47
17:16
17:41
18:19
17:58
19:12
File:U900622 Acq:21-JUN-90 21:12:19 Mass 160.1128
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:27
13:58
18:14
TIME

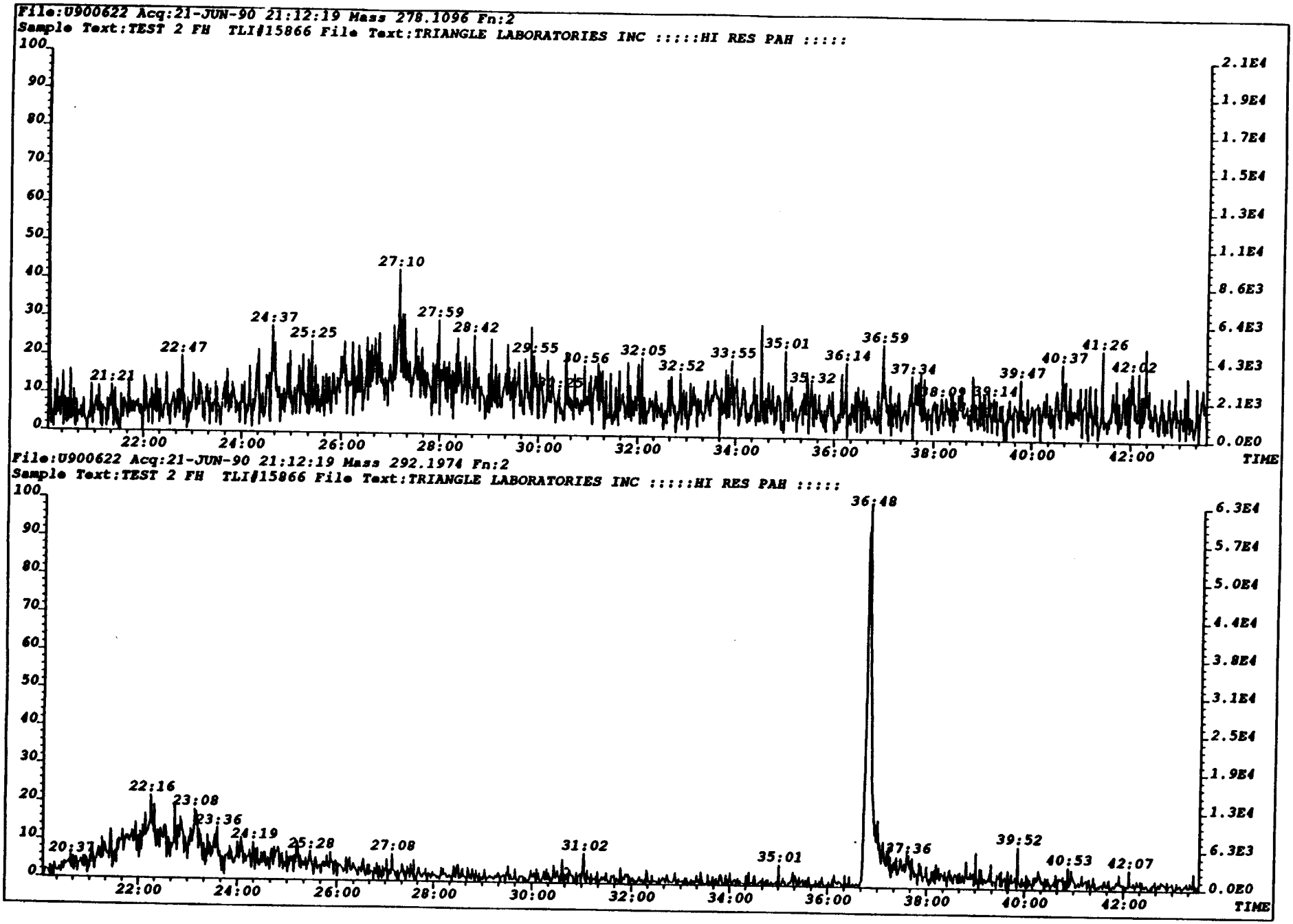

File:U900622 Acq:21-JUN-90 21:12:19 Mass 162.0236
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
7:51 8:31 9:02 9:51 10:42 11:33 12:16 12:37 13:14 13:58 14:32 15:09 15:41 17:01 17:58 18:34 19:13
File:U900622 Acq:21-JUN-90 21:12:19 Mass 164.0207
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
7:50 8:27 9:01 9:37 11:07 12:31 12:56 13:58 15:05 16:03 16:48 17:46 18:36 19:01
File:U900622 Acq:21-JUN-90 21:12:19 Mass 169.0646
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:07
File:U900622 Acq:21-JUN-90 21:12:19 Mass 171.0616
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:07
TIME

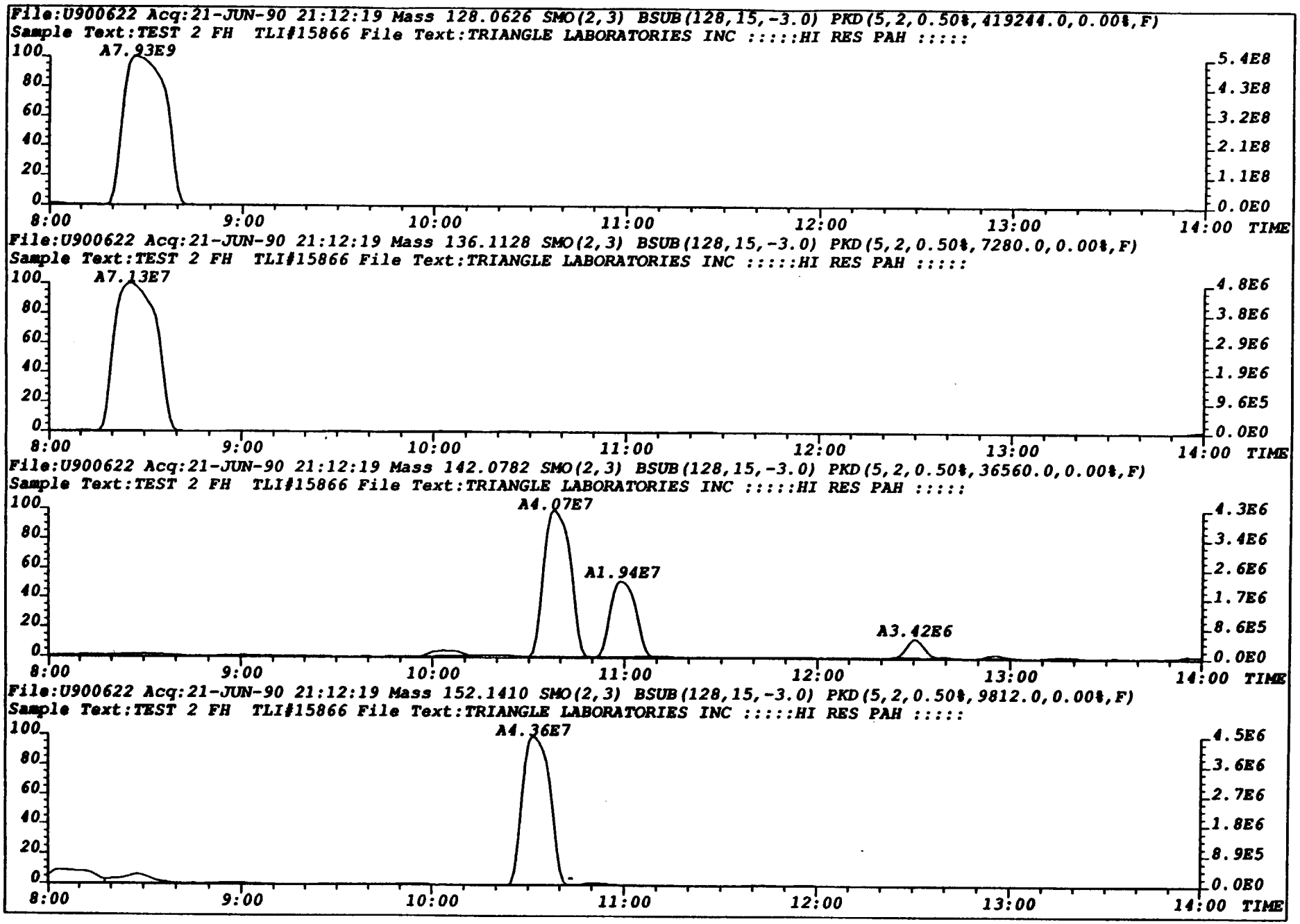

File:U900622 Acq:21-JUN-90 21:12:19 Mass 166.0782
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:29
12:54
14:03
14:45
15:34
16:08
16:47
17:09
17:41
File:U900622 Acq:21-JUN-90 21:12:19 Mass 176.1410
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
15:29
File:U900622 Acq:21-JUN-90 21:12:19 Mass 178.0782
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
14:02
14:44
17:09
17:41
18:18
File:U900622 Acq:21-JUN-90 21:12:19 Mass 188.1410
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
18:14
TIME

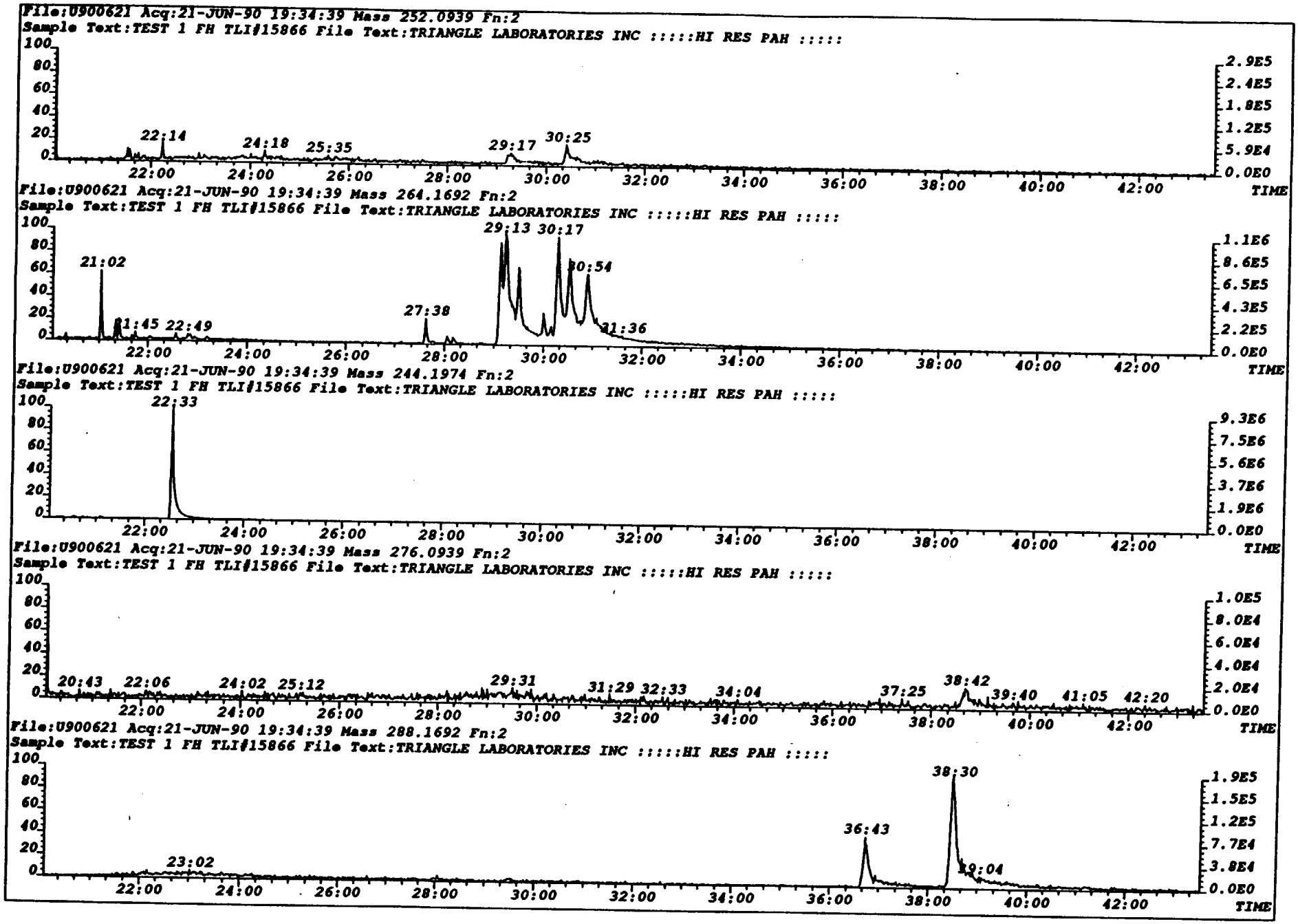

File:U900622 Acq:21-JUN-90 21:12:19 Mass 202.0782 Fn:2
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:34
22:09
1.8E6
1.4E6
1.1E6
7.1E5
3.6E5
0.0E0
TIME
File:U900622 Acq:21-JUN-90 21:12:19 Mass 212.1410 Fn:2
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:30
22:07
1.1E7
9.1E6
6.8E6
4.6E6
2.3E6
0.0E0
TIME
File:U900622 Acq:21-JUN-90 21:12:19 Mass 228.0939 Fn:2
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
25:33
22:15
21:35
1.2E6
9.6E5
7.2E5
4.8E5
2.4E5
0.0E0
TIME
File:U900622 Acq:21-JUN-90 21:12:19 Mass 240.1692 Fn:2
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
25:30
22:34
3.2E6
2.5E6
1.9E6
1.3E6
6.4E5
0.0E0
TIME
File:U900622 Acq:21-JUN-90 21:12:19 Mass 204.9888 Fn:2
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
20:51 22:07 23:25 25:02 26:09 29:23 31:12 32:30 33:32 34:54 35:58 37:04 38:21 40:09 41:24 42:53
9.5E6
7.6E6
5.7E6
3.8E6
1.9E6
0.0E0
TIME

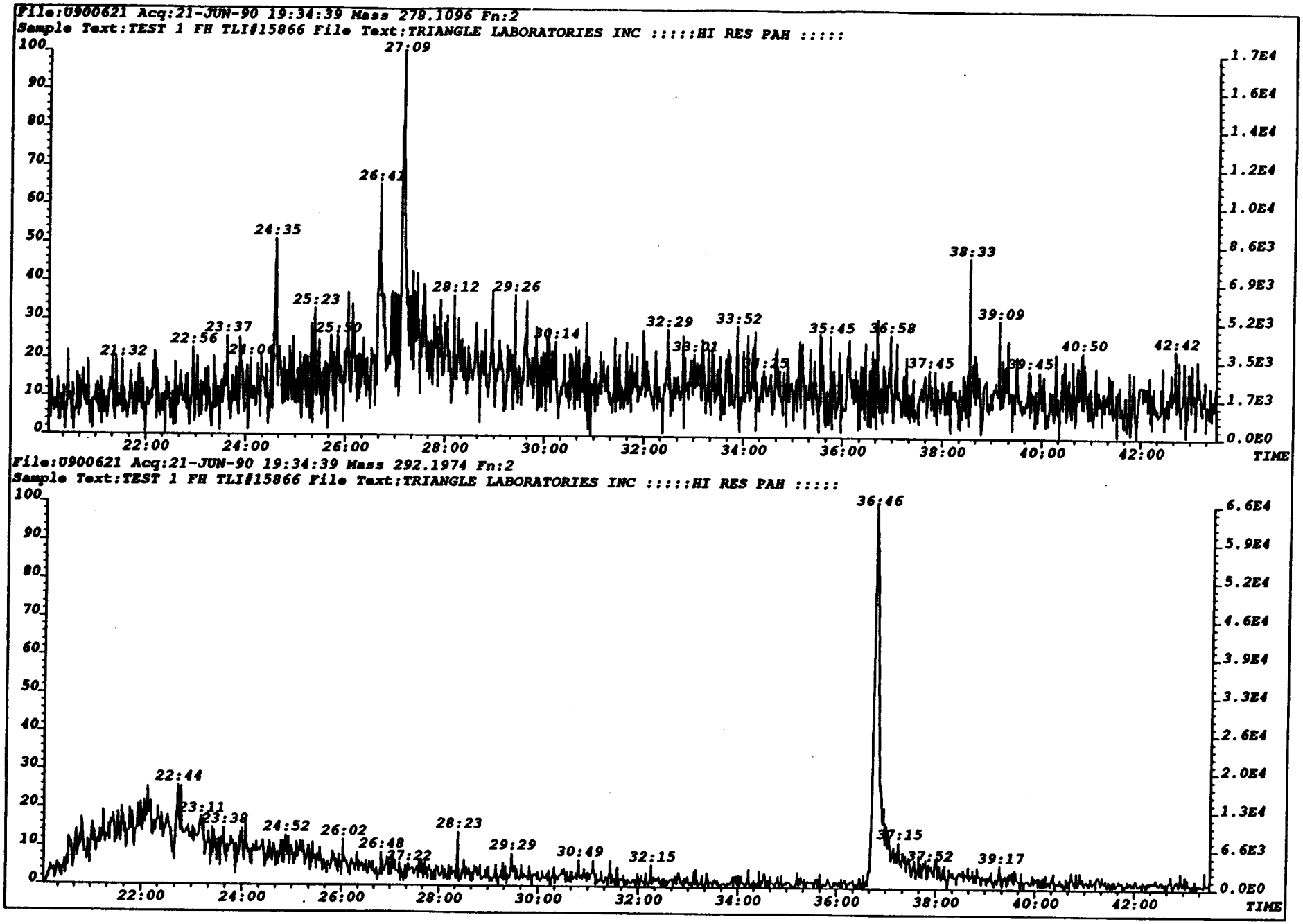
H

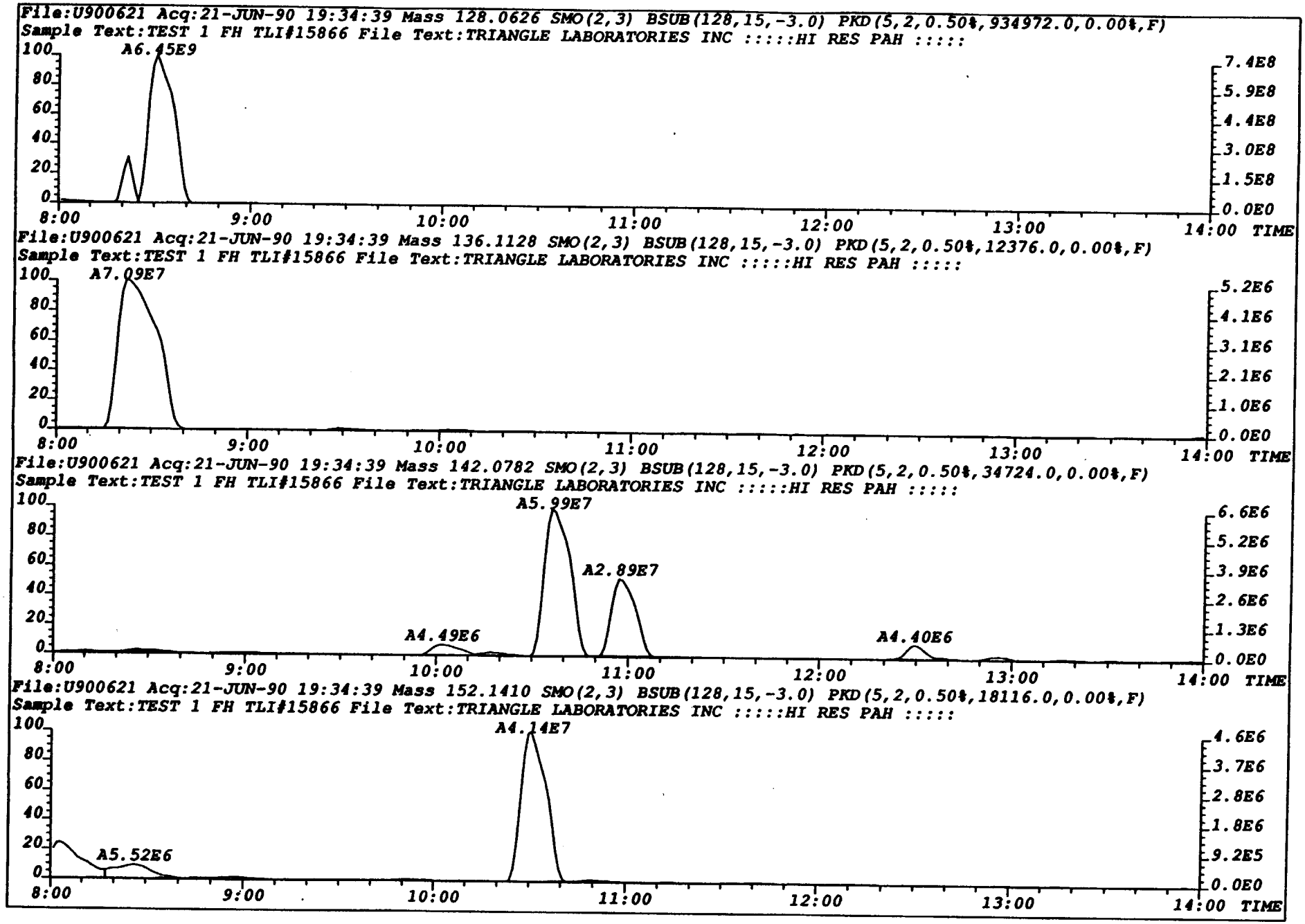

File:U900622 Acq:21-JUN-90 21:12:19 Mass 252.0939 Fn:2
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:15
24:18
25:33
26:31
27:30
29:16
30:24
31:10
32:51
1.4E5
1.1E5
8.3E4
5.5E4
2.8E4
0.0E0
TIME
File:U900622 Acq:21-JUN-90 21:12:19 Mass 264.1692 Fn:2
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:03
27:39
29:15
30:18
30:54
31:25
8.1E5
6.5E5
4.9E5
3.3E5
1.6E5
0.0E0
TIME
File:U900622 Acq:21-JUN-90 21:12:19 Mass 244.1974 Fn:2
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:34
7.2E6
5.8E6
4.3E6
2.9E6
1.4E6
0.0E0
TIME
File:U900622 Acq:21-JUN-90 21:12:19 Mass 276.0939 Fn:2
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
29:15
38:43
1.6E5
1.3E5
9.5E4
6.3E4
3.2E4
0.0E0
TIME
File:U900622 Acq:21-JUN-90 21:12:19 Mass 288.1692 Fn:2
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:22
23:38
36:45
38:30
39:03
40:20
1.5E5
1.2E5
9.2E4
6.1E4
3.1E4
0.0E0
TIME

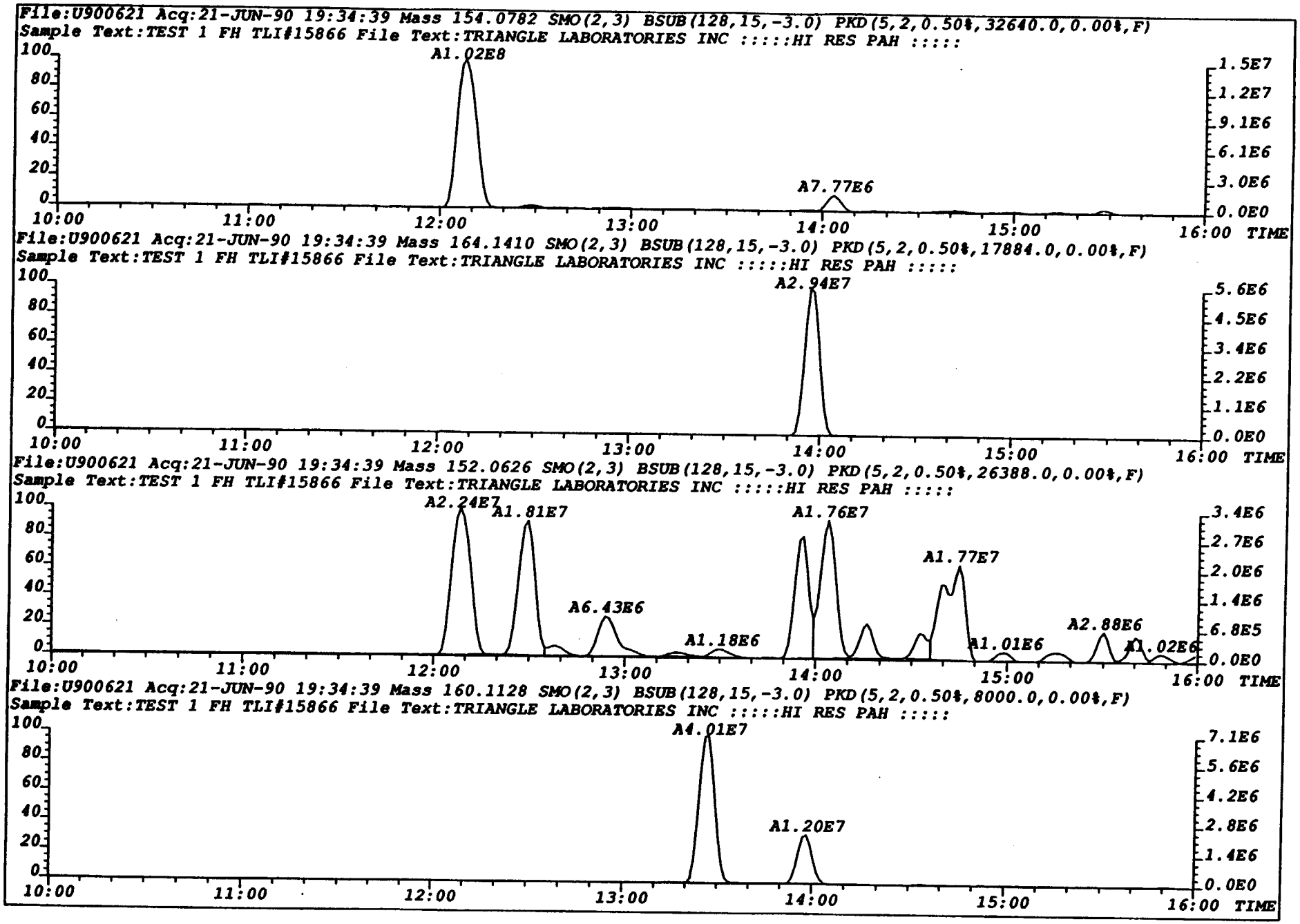

File:U900622 Acq:21-JUN-90 21:12:19 Mass 278.1096 Fn:2
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
27:10
24:37
27:59
25:25
28:42
22:47
21:21
29:55
30:56
32:05
32:52
33:55
35:01
36:14
36:59
35:32
37:34
39:47
40:37
41:26
42:02
TIME
File:U900622 Acq:21-JUN-90 21:12:19 Mass 292.1974 Fn:2
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
36:48
22:16
23:08
23:36
24:19
20:37
25:28
27:08
31:02
35:01
37:36
39:52
40:53
42:07
TIME

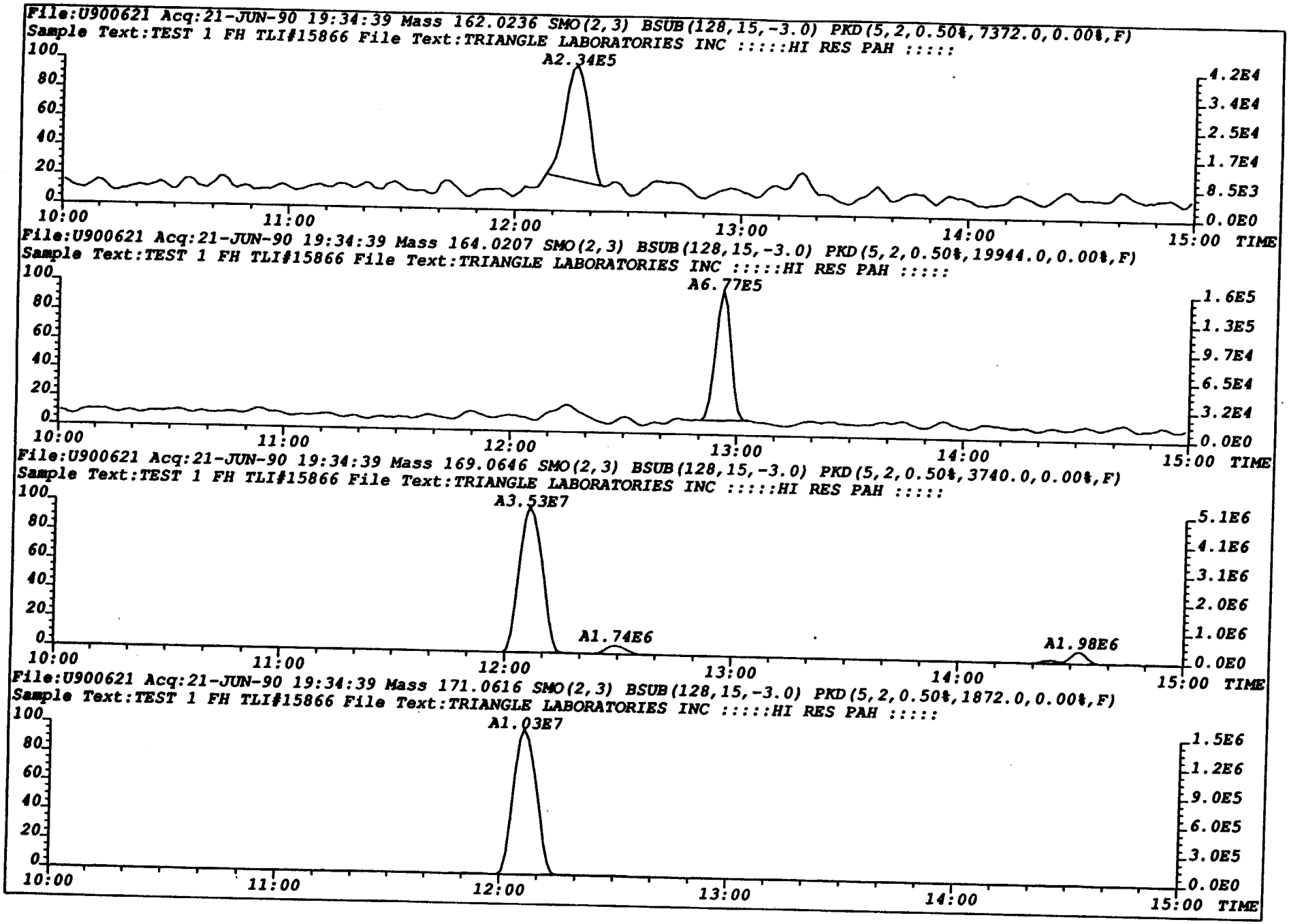

File:U900622 Acq:21-JUN-90 21:12:19 Mass 128.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,419244.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.93E9
File:U900622 Acq:21-JUN-90 21:12:19 Mass 136.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7280.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.13E7
File:U900622 Acq:21-JUN-90 21:12:19 Mass 142.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,36560.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.07E7
A1.94E7
A3.42E6
File:U900622 Acq:21-JUN-90 21:12:19 Mass 152.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,9812.0,0.00%,F)
Sample Text:TEST 2 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.36E7
TIME

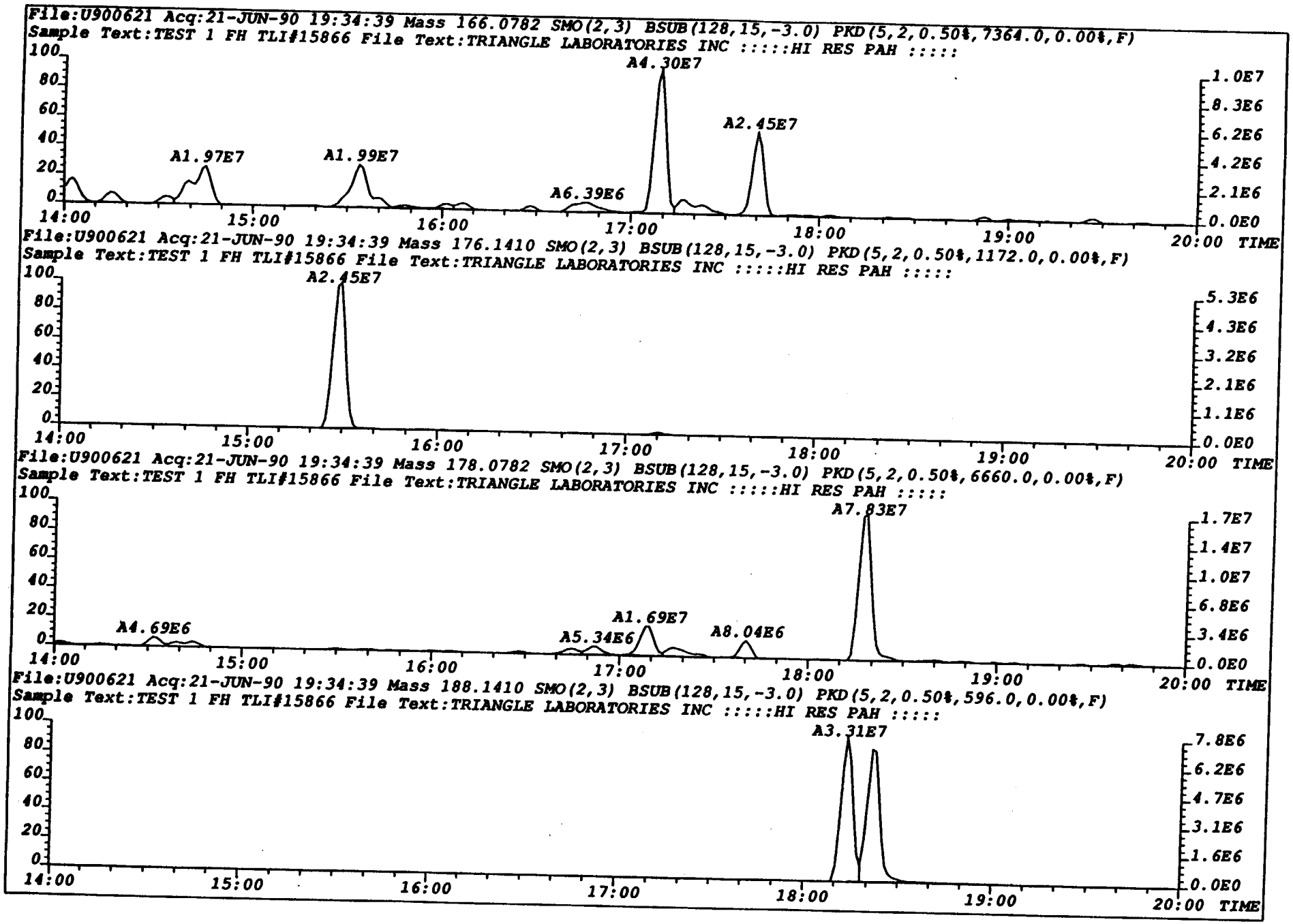

File:U900621 Acq:21-JUN-90 19:34:39 Mass 252.0939 Fn:2
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:14
24:18
25:35
29:17
30:25
2.9E5
2.4E5
1.8E5
1.2E5
5.9E4
0.0E0
TIME
File:U900621 Acq:21-JUN-90 19:34:39 Mass 264.1692 Fn:2
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:02
21:45
22:49
27:38
29:13
30:17
30:54
31:36
1.1E6
8.6E5
6.5E5
4.3E5
2.2E5
0.0E0
TIME
File:U900621 Acq:21-JUN-90 19:34:39 Mass 244.1974 Fn:2
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:33
9.3E6
7.5E6
5.6E6
3.7E6
1.9E6
0.0E0
TIME
File:U900621 Acq:21-JUN-90 19:34:39 Mass 276.0939 Fn:2
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
20:43
22:06
24:02
25:12
29:31
31:29
32:33
34:04
37:25
38:42
39:40
41:05
42:20
1.0E5
8.0E4
6.0E4
4.0E4
2.0E4
0.0E0
TIME
File:U900621 Acq:21-JUN-90 19:34:39 Mass 288.1692 Fn:2
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
23:02
36:43
38:30
39:04
1.9E5
1.5E5
1.2E5
7.7E4
3.8E4
0.0E0
TIME

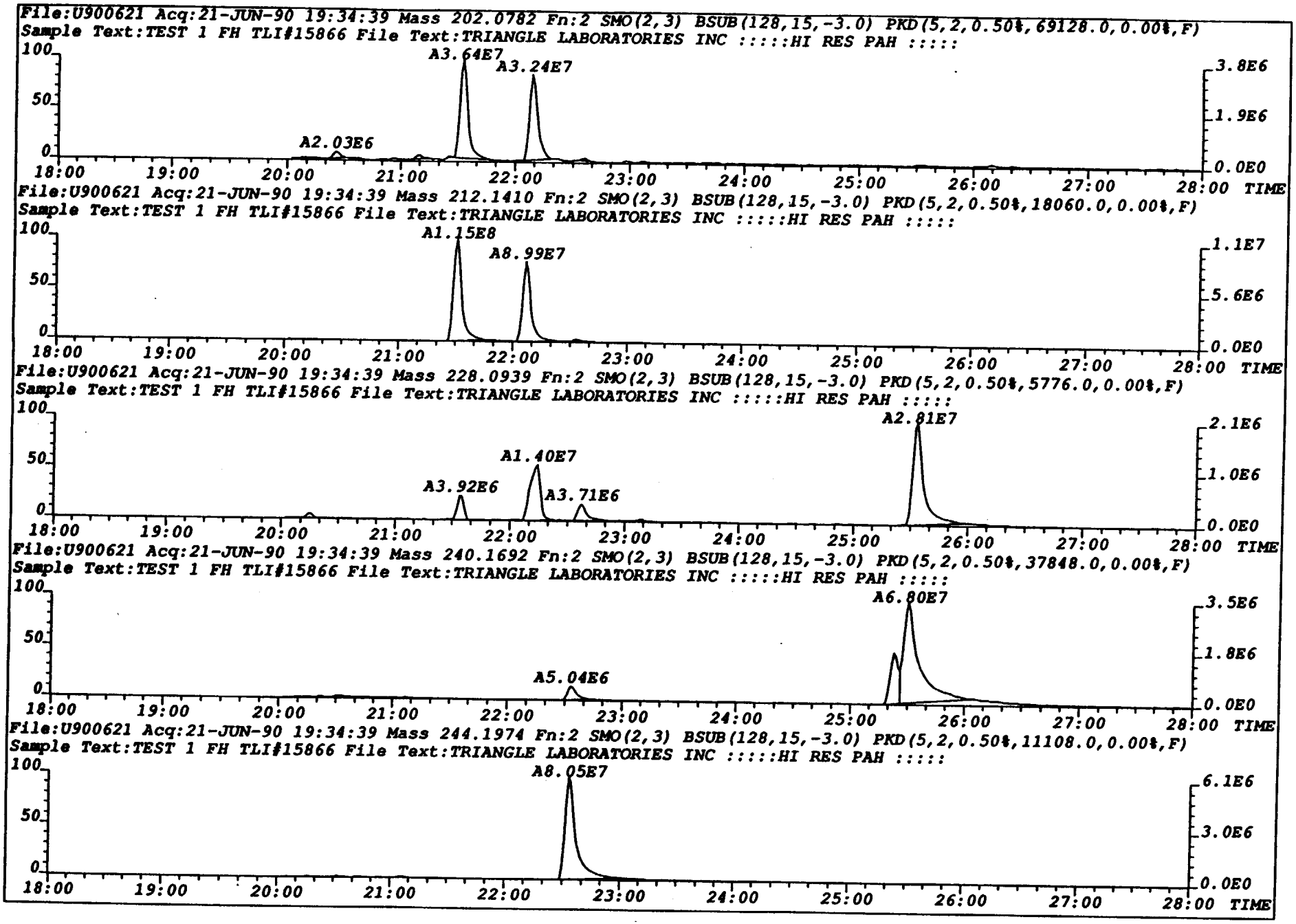

File:U900621 Acq:21-JUN-90 19:34:39 Mass 278.1096 Fn:2
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
27:09
26:41
24:35
25:23
28:12
29:26
38:33
39:09
23:37
22:56
32:29
33:52
35:45
36:58
40:50
42:42
TIME
File:U900621 Acq:21-JUN-90 19:34:39 Mass 292.1974 Fn:2
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
36:46
22:44
23:11
23:38
24:52
26:02
26:48
27:22
28:23
29:29
30:49
32:15
37:15
37:52
39:17
TIME

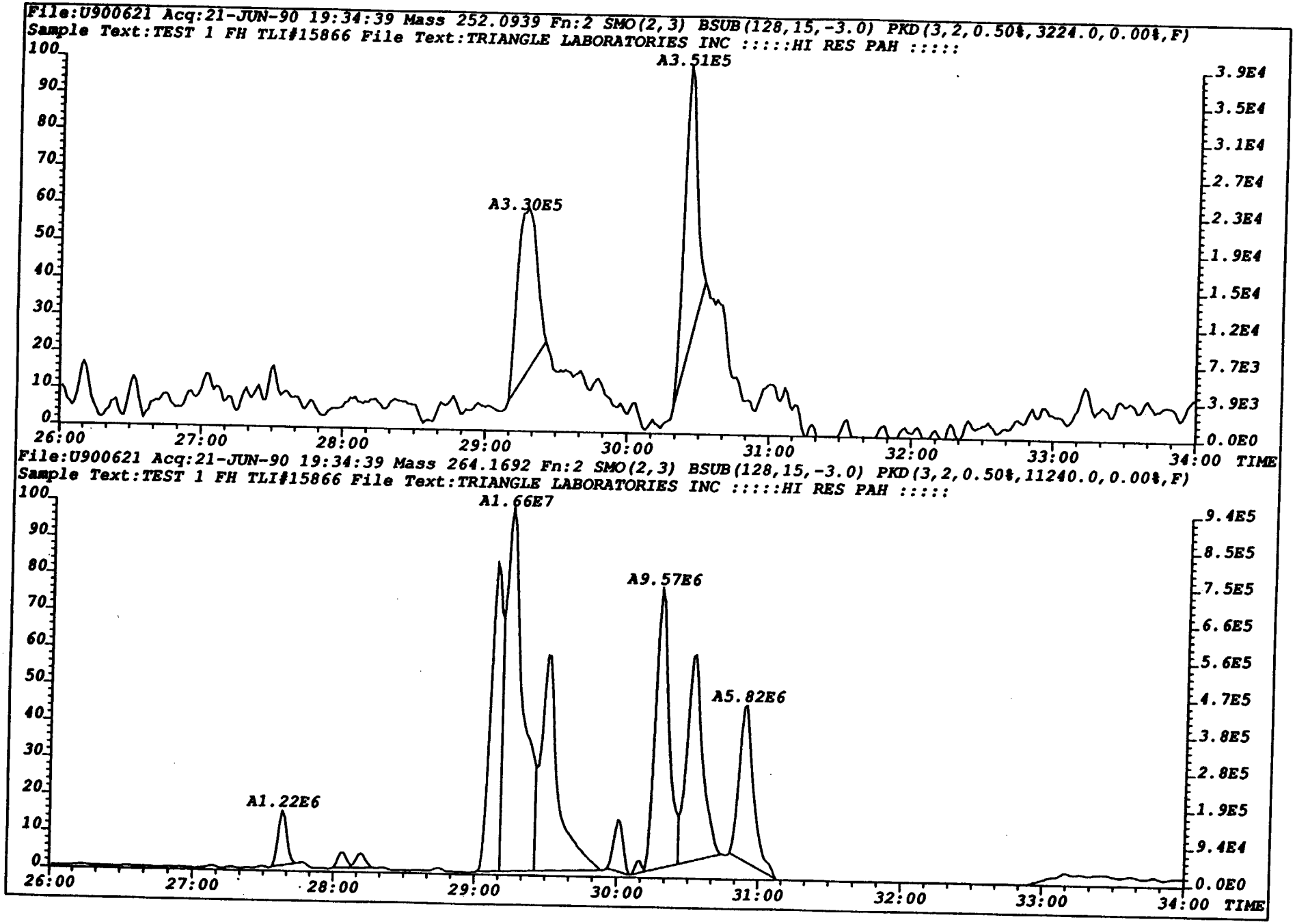

File:U900621 Acq:21-JUN-90 19:34:39 Mass 128.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,934972.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.45E9
7.4E8
5.9E8
4.4E8
3.0E8
1.5E8
0.0E0
8:00
9:00
10:00
11:00
12:00
13:00
14:00 TIME
File:U900621 Acq:21-JUN-90 19:34:39 Mass 136.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,12376.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.09E7
5.2E6
4.1E6
3.1E6
2.1E6
1.0E6
0.0E0
File:U900621 Acq:21-JUN-90 19:34:39 Mass 142.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,34724.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A5.99E7
A2.89E7
A4.49E6
A4.40E6
6.6E6
5.2E6
3.9E6
2.6E6
1.3E6
0.0E0
File:U900621 Acq:21-JUN-90 19:34:39 Mass 152.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,18116.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.14E7
A5.52E6
4.6E6
3.7E6
2.8E6
1.8E6
9.2E5
0.0E0

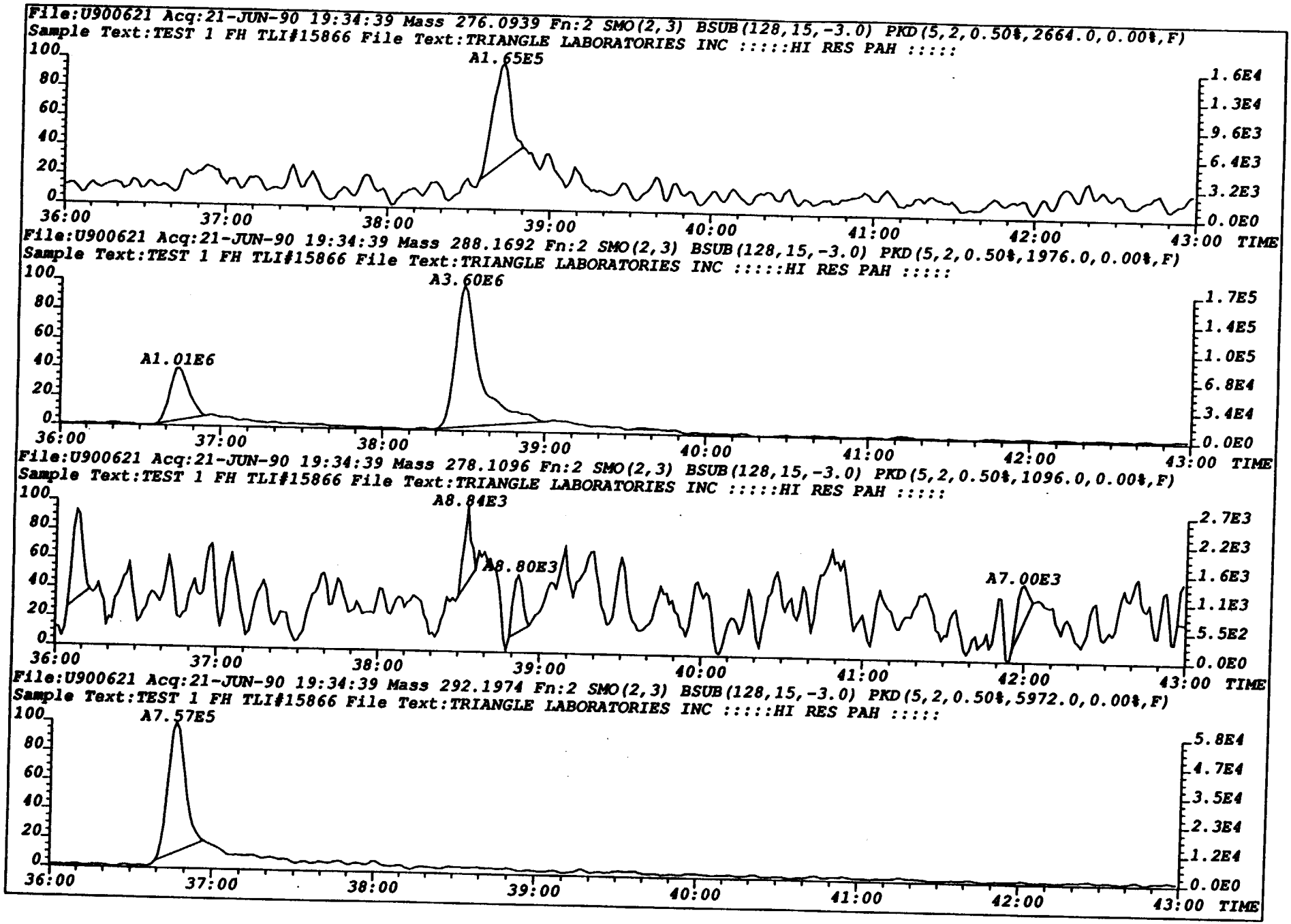

File:U900621 Acq:21-JUN-90 19:34:39 Mass 154.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,32640.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.02E8
A7.77E6
File:U900621 Acq:21-JUN-90 19:34:39 Mass 164.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,17884.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.94E7
File:U900621 Acq:21-JUN-90 19:34:39 Mass 152.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,26388.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.24E7
A1.81E7
A6.43E6
A1.18E6
A1.76E7
A1.77E7
A1.01E6
A2.88E6
A1.02E6
File:U900621 Acq:21-JUN-90 19:34:39 Mass 160.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,8000.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.01E7
A1.20E7
10:00
11:00
12:00
13:00
14:00
15:00
16:00
TIME


File:U900621 Acq:21-JUN-90 19:34:39 Mass 162.0236 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7372.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.34E5
4.2E4
3.4E4
2.5E4
1.7E4
8.5E3
0.0E0
10:00
11:00
12:00
13:00
14:00
15:00 TIME
File:U900621 Acq:21-JUN-90 19:34:39 Mass 164.0207 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,19944.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.77E5
1.6E5
1.3E5
9.7E4
6.5E4
3.2E4
0.0E0
10:00
11:00
12:00
13:00
14:00
15:00 TIME
File:U900621 Acq:21-JUN-90 19:34:39 Mass 169.0646 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3740.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.53E7
A1.74E6
A1.98E6
5.1E6
4.1E6
3.1E6
2.0E6
1.0E6
0.0E0
10:00
11:00
12:00
13:00
14:00
15:00 TIME
File:U900621 Acq:21-JUN-90 19:34:39 Mass 171.0616 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1872.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.03E7
1.5E6
1.2E6
9.0E5
6.0E5
3.0E5
0.0E0
10:00
11:00
12:00
13:00
14:00
15:00 TIME


File:U900621 Acq:21-JUN-90 19:34:39 Mass 166.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7364.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.97E7
A1.99E7
A6.39E6
A4.30E7
A2.45E7
File:U900621 Acq:21-JUN-90 19:34:39 Mass 176.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1172.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.45E7
File:U900621 Acq:21-JUN-90 19:34:39 Mass 178.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,6660.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.69E6
A5.34E6
A1.69E7
A8.04E6
A7.83E7
File:U900621 Acq:21-JUN-90 19:34:39 Mass 188.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,596.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.31E7
TIME


File:U900621 Acq:21-JUN-90 19:34:39 Mass 202.0782 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,69128.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.64E7
A3.24E7
A2.03E6
File:U900621 Acq:21-JUN-90 19:34:39 Mass 212.1410 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,18060.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.15E8
A8.99E7
File:U900621 Acq:21-JUN-90 19:34:39 Mass 228.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,5776.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.81E7
A1.40E7
A3.92E6
A3.71E6
File:U900621 Acq:21-JUN-90 19:34:39 Mass 240.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,37848.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.80E7
A5.04E6
File:U900621 Acq:21-JUN-90 19:34:39 Mass 244.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,11108.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A8.05E7
100
50
0
18:00
19:00
20:00
21:00
22:00
23:00
24:00
25:00
26:00
27:00
28:00
TIME
3.8E6
1.9E6
0.0E0
1.1E7
5.6E6
2.1E6
1.0E6
3.5E6
1.8E6
6.1E6
3.0E6


File:U900621 Acq:21-JUN-90 19:34:39 Mass 252.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,3224.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.51E5
A3.30E5
TIME
File:U900621 Acq:21-JUN-90 19:34:39 Mass 264.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,11240.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.66E7
A9.57E6
A5.82E6
A1.22E6
TIME


File:U900621 Acq:21-JUN-90 19:34:39 Mass 276.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2664.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.65E5
File:U900621 Acq:21-JUN-90 19:34:39 Mass 288.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1976.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.60E6
A1.01E6
File:U900621 Acq:21-JUN-90 19:34:39 Mass 278.1096 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1096.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A8.84E3
A8.80E3
A7.00E3
File:U900621 Acq:21-JUN-90 19:34:39 Mass 292.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,5972.0,0.00%,F)
Sample Text:TEST 1 FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.57E5
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
TIME

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

07/05/90

FILE NAME....: U900622
CONCAL.....: U900619
ANALYST.....: MC
SAMPLE SIZE..: 1.00
ICAL DATE....: 06/21/90
SPIKE FILE...: SPPAHH1C

CLIENT ID....: P&S
SAMPLE ID....: TEST 2 FH
ANALYSIS DATE: 06/21/90
SAMPLE MATRIX: MM5 FH
SAMPLE ORIGIN: HRSG OUT

TLI NUMBER....: 32-73-2ABD
PROJECT NUMBER: 15866
DATE RECEIVED.: 05/30/90
DATE COLLECTED: 05/23/90
SHIPMENT NO...: UTS

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	13370			8:27	B
2-Me-Naph	108			10:38	B
2-Cl-Naph	ND		0.1		
Acenaphthen	15.7			14:04	B
Acenaph	2.0			13:31	B
Fluorene	44.6			15:34	B
Phenan	80.0			18:18	B
Anth	ND		0.3		
Fluoran	19.0			21:34	B
Pyrene	16.6			22:09	B
B-a-Anth	ND		0.5		
Chrysene	31.2			25:33	B
B-b-Fluoran	ND		0.9		
B-k-Fluoran	ND		0.6		
B-e-Pyrene	1.4			30:25	B
B-a-Pyrene	ND		0.8		
Perylene	ND		0.9		
I-123-cd-Py	ND		4.2		
DiB-ah-Anth	ND		6.1		
B-ghi-Pery	6.5			38:43	B

SURROGATE RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	306	306	22:34	

ALTERNATE STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	336	336	18:22	

FILE NAME....:	U900622	CLIENT ID....:	P&S	TLI NUMBER....:	32-73-2ABD
CONCAL.....:	U900619	SAMPLE ID....:	TEST 2 FH		
ANALYST.....:	MC	ANALYSIS DATE:	06/21/90	PROJECT NUMBER:	15866
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5 FH	DATE RECEIVED.:	05/30/90
ICAL DATE....:	06/21/90	SAMPLE ORIGIN:	HRSG OUT	DATE COLLECTED:	05/23/90
SPIKE FILE...:	SPPAHH1C			SHIPMENT NO...:	UTS

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	271	271	8:26	—
d10-2-Me-Naph	280	280	10:31	—
d7-2-Cl-Naph	287	287	12:07	—
d8-Acenaph	238	238	13:28	—
d10-Acenaphthen	282	282	13:58	—
d10-Fluorene	264	264	15:29	—
d10-Phenan	284	284	18:14	—
d10-Fluoran	343	343	21:31	—
d10-Pyrene	347	347	22:07	—
d12-B-a-Anth	113	113	25:24	—
d12-Chrysene	248	248	25:31	—
d12-B-b-Fluoran	97.4	97.4	29:08	—
d12-B-k-Fluoran	81.8	81.8	29:15	—
d12-B-a-Pyrene	97.7	97.7	30:32	—
d12-Perylene	131	131	30:54	—
d12-I-123-cd-Py	47.8	47.8	36:45	—
d14-D1B-ah-Anth	45.5	45.5	36:47	—
d12-B-ghi-Pery	58.8	58.8	38:31	—

DL 2.7

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128		0.00	8:27	793173.40	T	~~F~~ T	1.002	✓
128		*** Total ***		793173.40	# of Peaks:		1	
136		0.00	8:26	7131.48	T	~~F~~ T	0.626	✓
		0.00	9:30	23.99	T	F	0.705	
		0.00	10:25	12.89	T	F	0.774	
		0.00	13:59	27.89	T	F	1.038	
136		*** Total ***		7196.25	# of Peaks:		4	
142		0.00	10:03	157.45	T	F	0.956	
		0.00	10:38	4069.66	T	T	1.011	✓
		0.00	10:59	1941.08	T	F	1.044	
		0.00	12:30	342.34	T	F	1.189	
142		*** Total ***		6510.53	# of Peaks:		4	
152		0.00	8:04	604.90	T	F	0.599	
		0.00	8:28	321.08	T	F	0.629	
		0.00	10:31	4356.66	T	~~F~~ T	0.781	✓
		0.00	10:50	43.98	T	F	0.804	
		0.00	11:41	10.28	T	F	0.868	
		0.00	12:09	1590.58	T	F	0.902	
		0.00	12:30	3310.66	T	F	0.928	
		0.00	12:54	865.19	T	F	0.958	
		0.00	13:17	40.34	T	F	0.986	
		0.00	13:31	81.06	T	T	1.004	✓
		0.00	13:57	1990.28	T	F	1.036	
		0.00	14:04	2495.92	T	F	1.045	
		0.00	14:17	694.63	T	F	1.061	
		0.00	14:45	2049.63	T	F	1.095	
		0.00	14:59	76.90	T	F	1.113	
		0.00	15:17	108.20	T	F	1.135	
		0.00	15:31	451.31	T	F	1.152	
		0.00	15:41	430.45	T	F	1.165	
		0.00	15:49	139.11	T	F	1.175	
		0.00	16:05	168.80	T	F	1.194	
152		*** Total ***		19829.96	# of Peaks:		20	
154		0.00	12:09	7196.33	T	F	0.870	
		0.00	12:29	243.34	T	F	0.894	
		0.00	12:54	27.36	T	F	0.924	
		0.00	13:56	73.71	T	F	0.998	
		0.00	14:04	462.93	T	T	1.007	✓
		0.00	14:17	63.21	T	F	1.023	
		0.00	14:41	62.38	T	F	1.051	
		0.00	15:14	33.75	T	F	1.091	
		0.00	15:29	78.34	T	F	1.109	
154		*** Total ***		8241.35	# of Peaks:		9	
160		0.00	13:28	3802.78	T	T	0.444	✓
		0.00	13:59	1198.21	T	F	0.461	
160		*** Total ***		5000.99	# of Peaks:		2	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
164		0.00	13:58	3065.46	T	T	1.037	✓
164		*** Total ***		3142.38	# of Peaks:		2	
166		0.00	14:02	1772.21	T	F	0.906	
		0.00	14:16	728.13	T	F	0.921	
		0.00	14:33	202.95	T	F	0.940	
		0.00	14:45	2152.58	T	F	0.953	
		0.00	15:20	26.12	T	F	0.990	
		0.00	15:34	1278.34	T	T	1.005	✓
		0.00	15:40	480.84	T	F	1.012	
		0.00	15:48	135.61	T	F	1.020	
		0.00	16:07	142.98	T	F	1.041	
		0.00	16:29	32.48	T	F	1.065	
		0.00	16:47	279.11	T	F	1.084	
		0.00	17:09	1103.74	T	F	1.108	
		0.00	17:16	497.17	T	F	1.115	
166		*** Total ***		8832.26	# of Peaks:		13	
169		3.35	12:07	4571.50	T	T	0.900	✓
169		*** Total ***		4571.50	# of Peaks:		1	
176		0.00	15:29	2299.33	T	T	1.150	✓
		0.00	17:11	9.54	T	F	1.276	
176		*** Total ***		2308.87	# of Peaks:		2	
178		0.00	14:02	286.87	T	F	0.770	
		0.00	14:16	133.61	T	F	0.782	
		0.00	14:32	298.74	T	F	0.797	
		0.00	14:44	500.31	T	F	0.808	
		0.00	15:30	94.56	T	F	0.850	
		0.00	15:40	95.41	T	F	0.859	
		0.00	15:48	28.45	T	F	0.867	
		0.00	16:00	8.06	T	F	0.878	
		0.00	16:29	21.55	T	F	0.904	
		0.00	16:41	20.96	T	F	0.915	
		0.00	16:52	242.26	T	F	0.925	
		0.00	17:09	505.98	T	F	0.941	
		0.00	17:18	468.11	T	F	0.949	
		0.00	17:41	177.34	T	F	0.970	
		0.00	18:18	2850.33	T	T	1.004	✓
		0.00	18:49	10.07	T	F	1.032	
		0.00	19:00	17.68	T	F	1.042	
		0.00	19:05	13.30	T	F	1.047	
		0.00	19:37	35.39	T	F	1.076	
		0.00	19:43	31.14	T	F	1.081	
178		*** Total ***		5840.12	# of Peaks:		20	
188		0.00	18:14	2860.81	T	T	1.354	✓
		0.00	18:22	2693.66	T	T	1.364	✓
188		*** Total ***		5554.47	# of Peaks:		2	
202		0.00	20:26	47.30	T	F	0.924	
		0.00	21:34	1252.01	T	T	1.002	✓

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
202		0.00	22:09	1117.79	T	T	1.002	✓
		0.00	22:37	26.55	T	F	1.023	
202		*** Total ***		2443.65	# of Peaks:		4	
212		0.00	21:31	9183.04	T	T	0.696	✓
		0.00	22:07	7479.10	T	T	0.716	✓
		0.00	22:34	191.84	T	F	0.730	
212		*** Total ***		16853.98	# of Peaks:		3	
228		0.00	20:15	35.95	T	F	0.794	
		0.00	21:27	0.46	T	F	0.841	
		0.00	21:35	192.43	T	F	0.846	
		0.00	22:03	2.69	T	F	0.864	
		0.00	22:15	567.98	T	F	0.872	
		0.00	22:38	176.75	T	F	0.887	
		0.00	23:10	12.76	T	F	0.908	
		0.00	23:24	2.87	T	F	0.917	
		0.00	24:09	3.13	T	F	0.946	
		0.00	24:52	6.04	T	F	0.975	
		0.00	25:33	1451.89	T	T	1.001	✓
228		*** Total ***		2452.95	# of Peaks:		11	
240		0.00	22:34	434.61	T	F	0.730	
		0.00	25:24	1015.54	T	T	0.822	✓
		0.00	25:31	5925.78	T	T	0.826	✓
240		*** Total ***		7375.93	# of Peaks:		3	
244		0.00	22:34	7007.16	T	T	0.745	✓
244		*** Total ***		7007.16	# of Peaks:		1	
252	D	0.00	29:15	4.98	T	T	1.000	S/N
		0.00	30:25	15.38	T	T	0.996	✓
252		*** Total ***		20.36	# of Peaks:		2	
264		0.00	27:39	41.71	T	F	0.913	
		0.00	28:04	5.88	T	F	0.926	
		0.00	29:08	618.54	T	T	0.943	✓
		0.00	29:15	1192.08	T	T	0.947	✓
		0.00	29:30	551.13	T	F	0.974	
		0.00	30:01	32.63	T	F	0.991	
		0.00	30:18	828.78	T	T	1.000	✓
		0.00	30:32	851.47	T	T	0.988	✓
		0.00	30:54	711.19	T	T	1.020	✓
264		*** Total ***		4833.41	# of Peaks:		9	
276		0.00	37:44	0.70	T	F	0.980	
		0.00	38:43	15.60	T	T	1.005	✓
		0.00	42:30	0.74	T	F	1.103	
		0.00	42:52	0.86	T	F	1.113	
276		*** Total ***		17.90	# of Peaks:		4	
278	D	0.00	36:59	2.04	T	T	1.005	S/N
278		*** Total ***		2.04	# of Peaks:		1	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
288		0.00	36:45	92.39	T	T	1.189	✓
		0.00	38:31	283.78	T	T	1.246	✓
288		*** Total ***		376.17	# of Peaks:		2	
292		0.00	36:47	82.60	T	T	1.190	✓
292		*** Total ***		82.60	# of Peaks:		1	

*** End of Report ***

06/27/90

Listing of U900622I.dbf File
Raw Mass, Retention Time and Data Area

M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
128	8:27	793173.40						
136	8:26	7131.48	9:30	23.99	10:25	12.89	13:59	27.89
142	10:03	157.45	10:38	4069.66	10:59	1941.08	12:30	342.34
152	8:04	604.90	10:31	4356.66	11:41	10.28		
	8:28	321.08	10:50	43.98				
154	12:09	7196.33	13:56	73.71	14:41	62.38		
	12:29	243.34	14:04	462.93	15:14	33.75		
	12:54	27.36	14:17	63.21	15:29	78.34		
164	13:58	3065.46						
152	12:09	1590.58	13:31	81.06	14:45	2049.63	15:41	430.45
	12:30	3310.66	13:57	1990.28	14:59	76.90	15:49	139.11
	12:54	865.19	14:04	2495.92	15:17	108.20	16:05	168.80
	13:17	40.34	14:17	694.63	15:31	451.31		
160	13:28	3802.78	13:59	1198.21				
162	12:17	8.03						
164	12:57	76.92						
169	12:07	3520.27	12:30	116.15	14:24	17.50	14:32	79.50
171	12:07	1051.23						
166	14:02	1772.21	15:20	26.12	16:07	142.98	17:16	497.17
	14:16	728.13	15:34	1278.34	16:29	32.48		
	14:33	202.95	15:40	480.84	16:47	279.11		
	14:45	2152.58	15:48	135.61	17:09	1103.74		
176	15:29	2299.33	17:11	9.54				
178	14:02	286.87	15:40	95.41	16:52	242.26	18:49	10.07
	14:16	133.61	15:48	28.45	17:09	505.98	19:00	17.68
	14:32	298.74	16:00	8.06	17:18	468.11	19:05	13.30
	14:44	500.31	16:29	21.55	17:41	177.34	19:37	35.39
	15:30	94.56	16:41	20.96	18:18	2850.33	19:43	31.14
188	18:14	2860.81	18:22	2693.66				
202	20:26	47.30	21:34	1252.01	22:09	1117.79	22:37	26.55

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

FILE NAME....:	U901111	CLIENT ID....:	P&S	TLI NUMBER....:	32-73-1CEF
CONCAL.....:	U901110	SAMPLE ID....:	TEST 1 BH		
ANALYST.....:	MC	ANALYSIS DATE:	08/08/90	PROJECT NUMBER:	15866
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5 BH	DATE RECEIVED.:	05/30/90
ICAL DATE....:	08/08/90	SAMPLE ORIGIN:	HRSG OUT	DATE COLLECTED:	05/23/90
SPIKE FILE...:	SPPAHH1C			SHIPMENT NO...:	UTS

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	91.0			7:15	B
2-Me-Naph	34.1			9:21	B
2-Cl-Naph	ND		0.05		—
Acenaphthen	ND		0.09		—
Acenaph	ND		0.06		—
Fluorene	6.7			14:23	B
Phenan	9.0			17:09	B
Anth	ND		0.1		—
Fluoran	4.0			20:25	B
Pyrene	3.8			21:01	B
B-a-Anth	ND		0.02		—
Chrysene	9.5			24:17	—
B-b-Fluoran	1.3			27:27	—
B-k-Fluoran	ND		0.03		—
B-e-Pyrene	0.78			28:24	—
B-a-Pyrene	ND		0.04		—
Perylene	ND		0.05		—
I-123-cd-Py	ND		0.06		—
DiB-ah-Anth	ND		0.08		—
B-ghi-Pery	0.49			34:50	—

SURROGATE RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	0.84	0.84	21:30	—

ALTERNATE STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	81.4	81.4	17:13	—

FILE NAME....: U901111
CONCAL.....: U901110
ANALYST.....: MC
SAMPLE SIZE..: 1.00
ICAL DATE....: 08/08/90
SPIKE FILE...: SPPAHH1C

CLIENT ID....: P&S
SAMPLE ID....: TEST 1 BH
ANALYSIS DATE: 08/08/90
SAMPLE MATRIX: MM5 BH
SAMPLE ORIGIN: HRSG OUT

TLI NUMBER....: 32-73-1CEF
PROJECT NUMBER: 15866
DATE RECEIVED.: 05/30/90
DATE COLLECTED: 05/23/90
SHIPMENT NO...: UTS

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	55.4	55.4	7:12	___
d10-2-Me-Naph	62.2	62.2	9:15	___
d7-2-Cl-Naph	61.2	61.2	10:50	___
d8-Acenaph	60.6	60.6	12:12	___
d10-Acenaphthen	63.4	63.4	12:45	___
d10-Fluorene	61.1	61.1	14:18	___
d10-Phenan	68.0	68.0	17:06	___
d10-Fluoran	82.1	82.1	20:23	___
d10-Pyrene	82.2	82.2	20:59	___
d12-B-a-Anth	92.7	92.7	24:09	___
d12-Chrysene	87.2	87.2	24:15	___
d12-B-b-Fluoran	104	104	27:22	___
d12-B-k-Fluoran	104	104	27:27	___
d12-B-a-Pyrene	94.0	94.0	28:29	___
d12-Perylene	105	105	28:47	___
d12-I-123-cd-Py	94.5	94.5	33:22	___
d14-DiB-ah-Anth	91.8	91.8	33:24	___
d12-B-ghi-Pery	96.4	96.4	34:42	___

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128		0.00	7:15	4866.67	T	T	1.007	✓
		0.00	8:10	118.78	T	F	1.134	
		0.00	8:41	8.58	T	F	1.206	
128		*** Total ***		4994.03	# of Peaks:		3	
136		0.00	7:12	5826.41	T	FT	0.590	✓
		0.00	12:45	33.63	T	F	1.045	
136		*** Total ***		5860.04	# of Peaks:		2	
142		0.00	9:21	1281.61	T	T	1.011	✓
		0.00	9:42	587.40	T	F	1.049	
		0.00	11:17	82.00	T	F	1.220	
142		*** Total ***		1951.01	# of Peaks:		3	
152		0.00	7:06	21.42	T	F	0.582	
		0.00	9:15	4483.67	T	FT	0.758	✓
		0.00	9:35	15.42	T	F	0.786	
		0.00	10:05	21.61	T	F	0.827	
		0.00	10:53	213.95	T	F	0.892	
		0.00	11:41	172.89	T	F	0.958	
	D	0.00	12:16	18.32	T	T	1.005	S/W
		0.00	12:43	55.03	T	F	1.042	
		0.00	12:52	265.26	T	F	1.055	
		0.00	13:06	190.30	T	F	1.074	
		0.00	13:37	233.52	T	F	1.116	
		0.00	15:51	43.92	T	F	1.299	
152		*** Total ***		5735.31	# of Peaks:		12	
154		0.00	7:06	107.87	T	F	0.557	
		0.00	10:53	416.00	T	F	0.854	
		0.00	12:02	170.09	T	F	0.944	
		0.00	15:51	493.87	T	F	1.243	
154		*** Total ***		1187.83	# of Peaks:		4	
160		0.00	12:12	4449.37	T	FT	0.431	✓
		0.00	12:45	1229.66	T	F	0.450	
160		*** Total ***		5679.03	# of Peaks:		2	
162		0.21	12:45	13.36	F	F	1.177	
162		*** Total ***		13.36	# of Peaks:		1	
164		0.00	10:53	6.90	T	F	0.892	
		0.00	11:32	7.80	T	F	0.945	
		0.00	11:51	10.55	T	F	0.971	
		0.00	12:15	13.17	T	F	1.004	
		0.00	12:28	6.78	T	F	1.022	
		0.00	12:35	8.08	T	F	1.031	
		0.00	12:43	11.00	T	TF	1.042	
		0.00	12:45	3212.82	T	T	1.045	
164		*** Total ***		3277.10	# of Peaks:		8	✓
166		0.00	12:26	10.35	T	F	0.869	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
166		0.00	12:52	207.64	T	F	0.900	
		0.00	13:06	189.78	T	F	0.916	
		0.00	13:36	500.27	T	F	0.951	
		0.00	14:23	195.09	T	T	1.006	✓
		0.00	14:32	86.95	T	F	1.016	
		0.00	14:40	30.16	T	F	1.026	
		0.00	15:00	10.79	T	F	1.049	
		0.00	15:22	8.89	T	F	1.075	
		0.00	15:39	10.67	T	F	1.094	
		0.00	16:05	212.86	T	F	1.125	
		0.00	16:16	20.96	T	F	1.138	
166		*** Total ***		1496.99	# of Peaks:		13	
169		3.21	10:50	3659.61	T	T	0.888	✓
169		*** Total ***		3659.61	# of Peaks:		1	
176		0.00	14:18	2159.37	T	T	1.172	✓
176		*** Total ***		2159.37	# of Peaks:		1	
178		0.00	12:09	2.06	T	F	0.711	
		0.00	12:51	46.31	T	F	0.751	
		0.00	13:05	39.68	T	F	0.765	
		0.00	13:22	5.56	T	F	0.782	
		0.00	13:36	61.49	T	F	0.795	
		0.00	14:22	14.84	T	F	0.840	
		0.00	14:32	20.64	T	F	0.850	
		0.00	14:40	11.42	T	F	0.858	
		0.00	15:00	5.72	T	F	0.877	
		0.00	15:23	17.32	T	F	0.900	
		0.00	15:39	71.42	T	F	0.915	
		0.00	16:03	152.65	T	F	0.939	
		0.00	16:14	38.53	T	F	0.949	
		0.00	16:36	32.19	T	F	0.971	
		0.00	17:09	271.84	T	T	1.003	✓
		0.00	17:30	2.71	T	F	1.023	
		0.00	17:37	11.68	T	F	1.030	
		0.00	17:51	5.85	T	F	1.044	
		0.00	18:26	4.60	T	F	1.078	
		0.00	18:36	2.98	T	F	1.088	
		0.00	18:59	4.54	T	F	1.110	
178		*** Total ***		824.03	# of Peaks:		21	
188		0.00	17:06	2326.92	T	T	1.402	✓
		0.00	17:13	2394.72	T	~~F~~ T	1.411	✓
188		*** Total ***		4721.64	# of Peaks:		2	
202		0.00	20:05	19.85	T	F	0.957	
		0.00	20:25	536.20	T	T	1.002	✓
		0.00	21:01	505.60	T	T	1.002	✓
202		*** Total ***		1061.65	# of Peaks:		3	
212		0.00	20:23	17745.26	T	T	0.708	✓
		0.00	20:59	14857.70	T	T	0.729	✓

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
212		0.00	24:09	265.87	T	F	0.839	
		0.00	24:15	437.73	T	F	0.843	
212		*** Total ***		33306.56	# of Peaks:		4	
228		0.00	21:08	55.96	T	F	0.871	
		0.00	21:34	56.67	T	F	0.889	
		0.00	23:07	33.04	T	F	0.953	
		0.00	24:17	1307.45	T	T	1.006	✓
		0.00	26:03	20.12	T	F	1.074	
		0.00	26:42	26.83	T	F	1.101	
		0.00	26:59	21.88	T	F	1.113	
		0.00	27:11	7.06	T	F	1.121	
228		*** Total ***		1529.01	# of Peaks:		8	
240		0.00	24:09	11704.68	T	T	0.839	✓
		0.00	24:15	17491.71	T	T	0.843	✓
240		*** Total ***		29196.39	# of Peaks:		2	
244		0.00	21:04	6.33	T	F	0.744	
		0.00	21:30	178.27	T	T	0.759	✓
		0.00	21:58	4.35	T	F	0.776	
		0.00	23:01	7.55	T	F	0.813	
		0.00	25:46	1.59	T	F	0.910	
		0.00	26:08	9.62	T	F	0.923	
		0.00	26:22	2.87	T	F	0.931	
		0.00	27:02	3.11	T	F	0.955	
		0.00	27:10	4.82	T	F	0.960	
		0.00	27:19	2.85	T	F	0.965	
		0.00	28:01	1.23	T	F	0.990	
244		*** Total ***		222.59	# of Peaks:		11	
252		0.00	24:08	14.85	T	F	0.838	
		0.00	24:17	15.67	T	F	0.844	
		0.00	24:29	14.93	T	F	0.851	
		0.00	24:47	7.48	T	F	0.861	
		0.00	25:46	4.02	T	F	0.895	
		0.00	26:02	10.09	T	F	0.904	
		0.00	26:27	19.60	T	F	0.919	
		0.00	26:38	14.95	T	F	0.925	
		0.00	27:27	134.50	T	T	1.003	✓
		0.00	27:47	8.69	T	F	0.965	
		0.00	28:24	73.94	T	T	0.997	✓
		0.00	30:24	3.84	T	F	1.056	
		0.00	31:56	24.52	T	F	1.109	
		0.00	33:28	21.96	T	F	1.163	
252		*** Total ***		369.04	# of Peaks:		14	
264		0.00	27:22	9038.91	T	T	0.951	✓
		0.00	27:27	9062.76	T	T	0.954	✓
		0.00	28:18	7524.23	T	T	1.000	✓
		0.00	28:29	5772.55	T	T	0.990	✓
		0.00	28:47	4010.19	T	T	1.017	✓
264		*** Total ***		35408.64	# of Peaks:		5	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
276		0.00	31:14	7.53	T	F	0.900	
		0.00	31:36	5.86	T	F	0.911	
	D	0.00	33:28	7.23	T	T	1.003	S/W
		0.00	34:11	3.77	T	F	0.985	
		0.00	34:50	20.92	T	T	1.004	✓
		0.00	35:42	2.94	T	F	1.029	
		0.00	36:41	7.32	T	F	1.057	
		0.00	37:20	15.57	T	F	1.076	
		0.00	38:17	5.41	T	F	1.103	
		0.00	41:09	5.28	T	F	1.186	
		0.00	42:02	2.55	T	F	1.211	
		0.00	42:17	2.80	T	F	1.219	
276		*** Total ***		87.18	# of Peaks:		12	
278		0.00	31:46	6.35	T	F	0.951	
		0.00	31:55	2.37	T	F	0.956	
	D	0.00	33:32	11.00	T	T	1.004	S/W
		0.00	34:17	4.62	T	F	1.026	
		0.00	34:57	2.38	T	F	1.046	
278		*** Total ***		26.72	# of Peaks:		5	
288		0.00	33:22	2560.18	T	T	1.159	✓
		0.00	34:42	4807.74	T	T	1.206	✓
288		*** Total ***		7367.92	# of Peaks:		2	
292		0.00	33:24	2570.80	T	T	1.160	✓
292		*** Total ***		2570.80	# of Peaks:		1	

*** End of Report ***

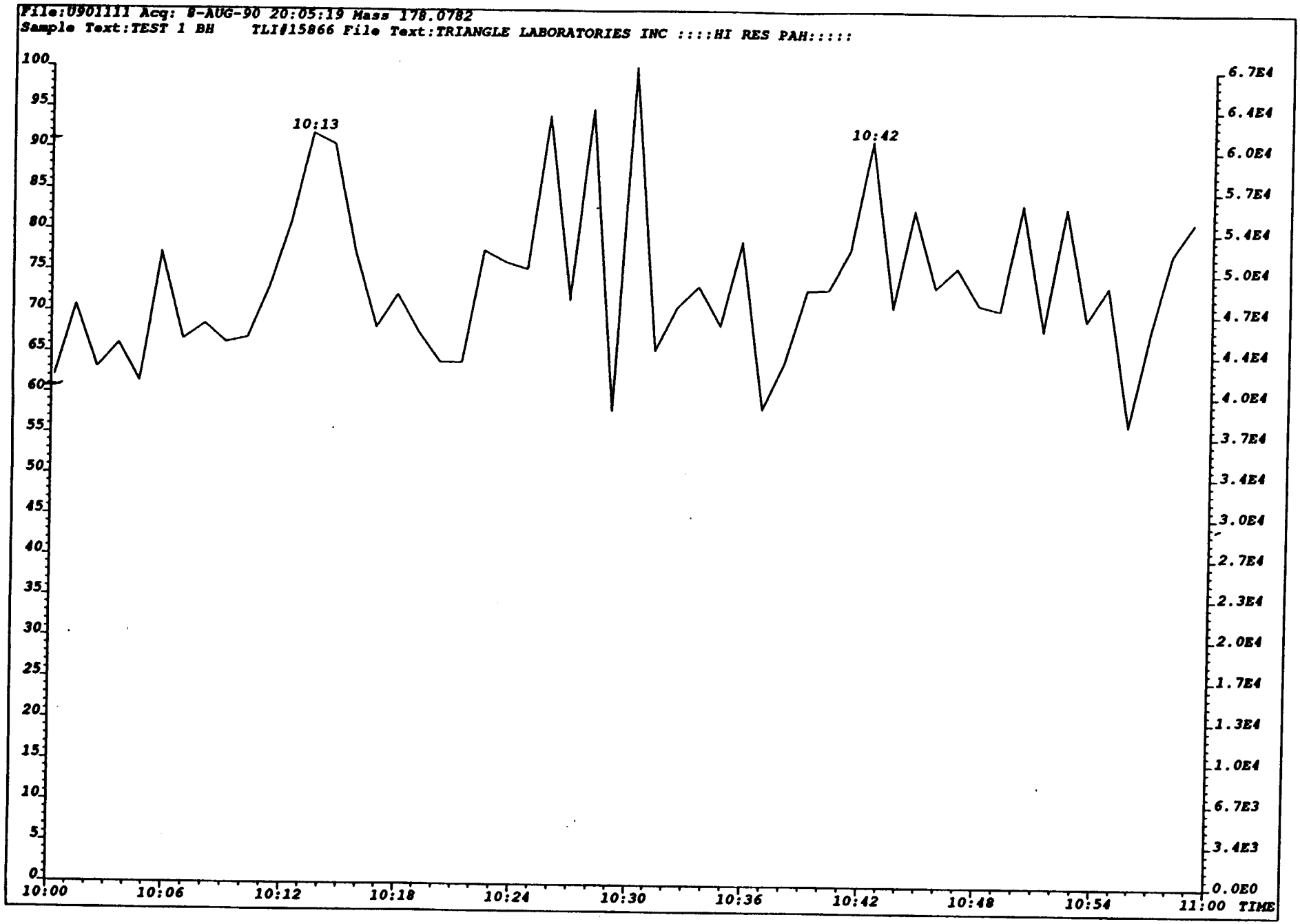
Listing of U901111I.dbf File
Raw Mass, Retention Time and Data Area

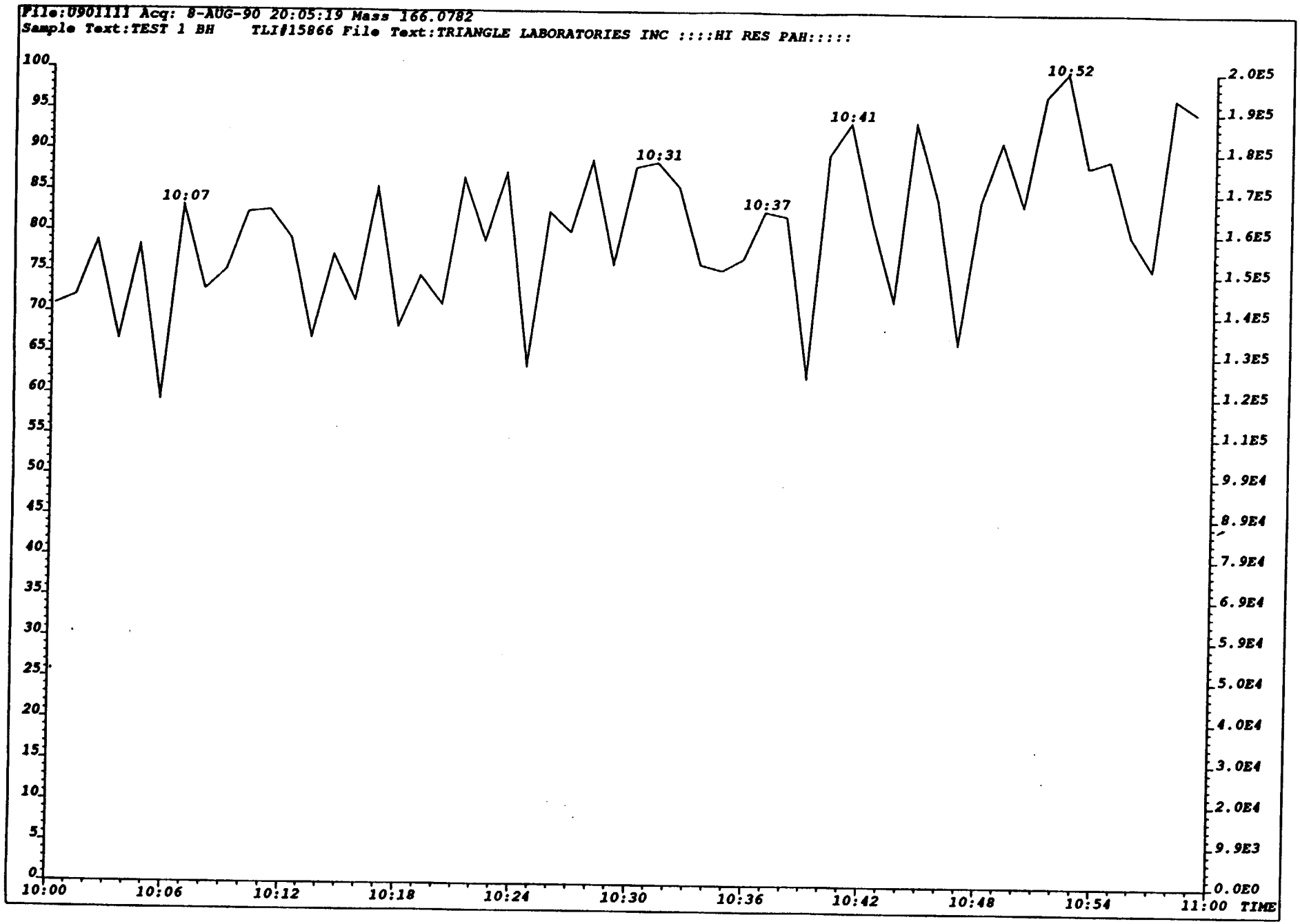
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
128	7:15	4866.67	8:10	118.78	8:41	8.58		
136	7:12	5826.41	12:45	33.63				
142	9:21	1281.61	9:42	587.40	11:17	82.00		
152	9:15	4483.67	9:35	15.42				
154	7:06	107.87	10:53	416.00	12:02	170.09	15:51	493.87
164	12:45	3212.82						
152	7:06	21.42	11:41	172.89	12:52	265.26	15:51	43.92
	10:05	21.61	12:16	18.32	13:06	190.30		
	10:53	213.95	12:43	55.03	13:37	233.52		
160	12:12	4449.37	12:45	1229.66				
162	11:02	5.86	11:18	2.71	11:41	3.00	12:45	2.36
164	10:53	6.90	11:51	10.55	12:28	6.78	12:43	11.00
	11:32	7.80	12:15	13.17	12:35	8.08		
169	10:50	2789.46	11:17	43.65	13:16	1075.24		
171	10:50	870.15	12:17	2.46	12:36	0.89		
166	12:26	10.35	13:36	500.27	15:00	10.79	16:16	20.96
	12:43	12.58	14:23	195.09	15:22	8.89		
	12:52	207.64	14:32	86.95	15:39	10.67		
	13:06	189.78	14:40	30.16	16:05	212.86		
176	14:18	2159.37						
178	12:09	2.06	14:32	20.64	16:14	38.53	18:26	4.60
	12:51	46.31	14:40	11.42	16:36	32.19	18:36	2.98
	13:05	39.68	15:00	5.72	17:09	271.84	18:59	4.54
	13:22	5.56	15:23	17.32	17:30	2.71		
	13:36	61.49	15:39	71.42	17:37	11.68		
	14:22	14.84	16:03	152.65	17:51	5.85		
188	17:06	2326.92	17:13	2394.72				
202	20:05	19.85	20:25	536.20	21:01	505.60		
212	20:23	17745.26	20:59	14857.70	24:09	265.87	24:15	437.73
228	21:08	55.96	23:07	33.04	26:03	20.12	26:59	21.88
	21:34	56.67	24:17	1307.45	26:42	26.83	27:11	7.06
240	24:09	11704.68	24:15	17491.71				
244	21:04	6.33	23:01	7.55	26:22	2.87	27:19	2.85
	21:30	178.27	25:46	1.59	27:02	3.11	28:01	1.23
	21:58	4.35	26:08	9.62	27:10	4.82		

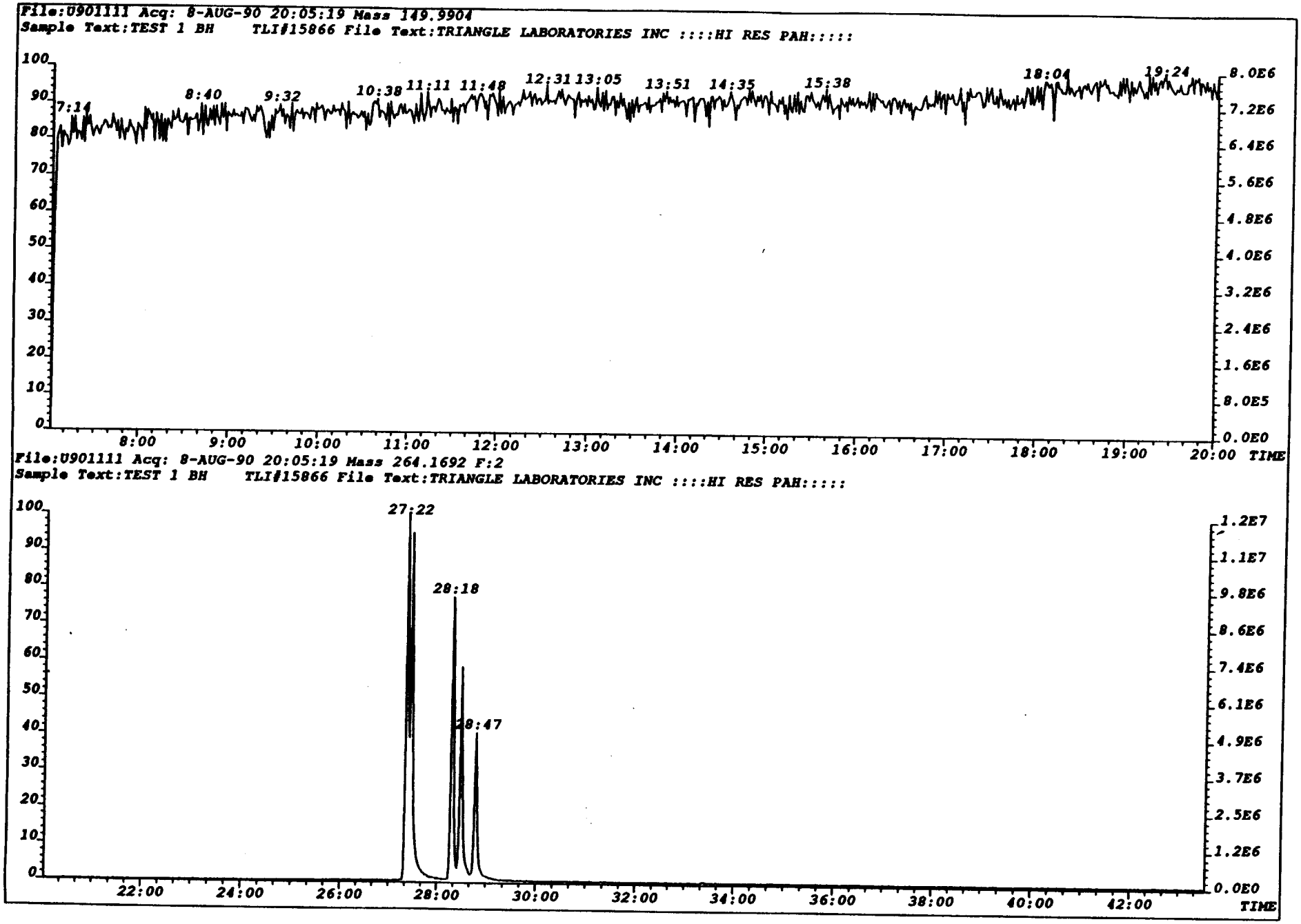
Listing of U901111I.dbf File
Raw Mass, Retention Time and Data Area

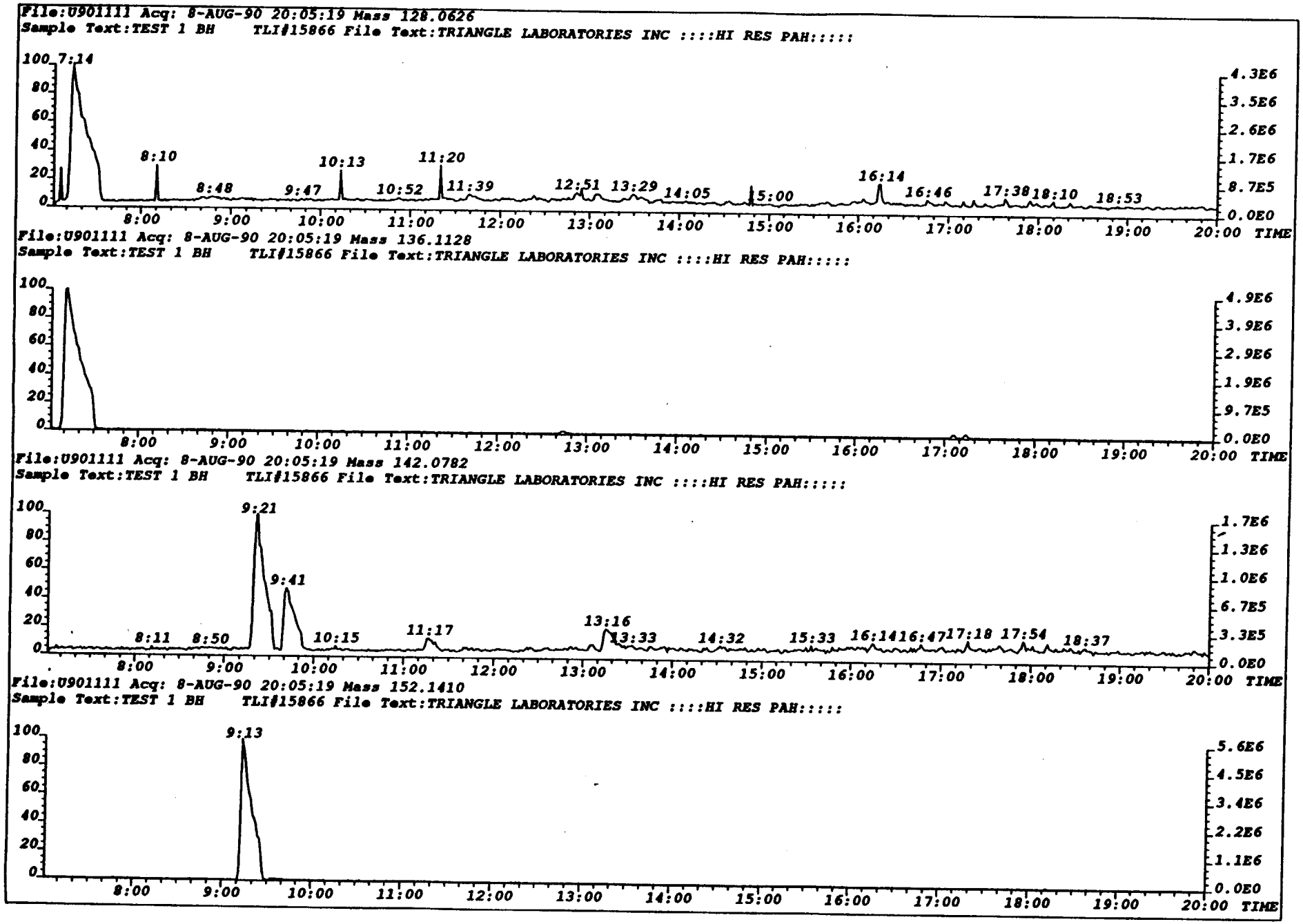
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
252	24:08	14.85	25:46	4.02	27:27	134.50	31:56	24.52
	24:17	15.67	26:02	10.09	27:47	8.69	33:28	21.96
	24:29	14.93	26:27	19.60	28:24	73.94		
	24:47	7.48	26:38	14.95	30:24	3.84		
264	27:22	9038.91	28:18	7524.23	28:47	4010.19		
	27:27	9062.76	28:29	5772.55				
276	31:14	7.53	34:11	3.77	36:41	7.32	41:09	5.28
	31:36	5.86	34:50	20.92	37:20	15.57	42:02	2.55
	33:28	7.23	35:42	2.94	38:17	5.41	42:17	2.80
288	33:22	2560.18	34:42	4807.74				
278	31:46	6.35	33:32	11.00	34:57	2.38		
	31:55	2.37	34:17	4.62				
292	33:24	2570.80						

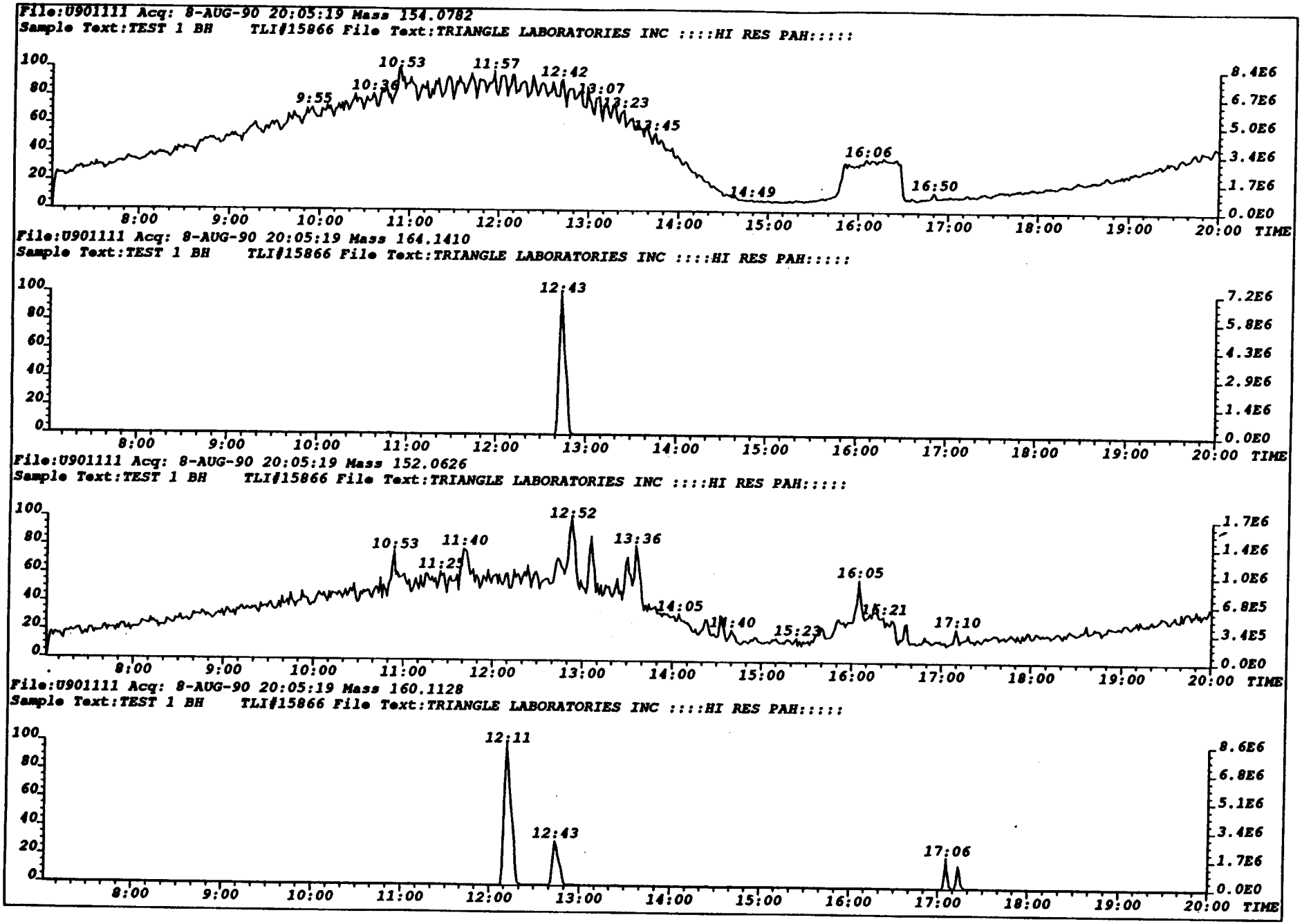
*** End of Report ***

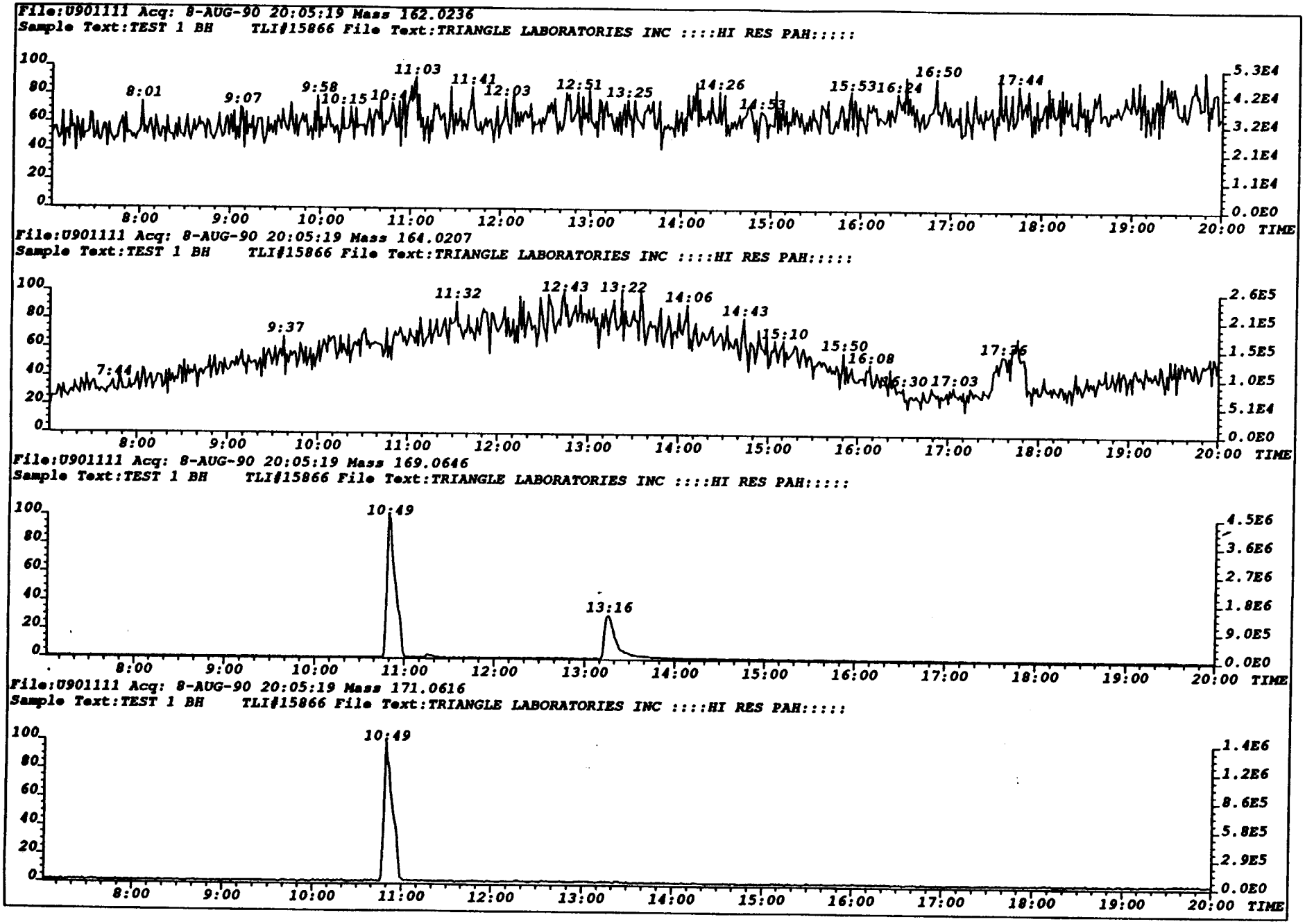

File:U901111 Acq: 8-AUG-90 20:05:19 Mass 178.0782
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
10:13
10:42
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
6.7E4
6.4E4
6.0E4
5.7E4
5.4E4
5.0E4
4.7E4
4.4E4
4.0E4
3.7E4
3.4E4
3.0E4
2.7E4
2.3E4
2.0E4
1.7E4
1.3E4
1.0E4
6.7E3
3.4E3
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

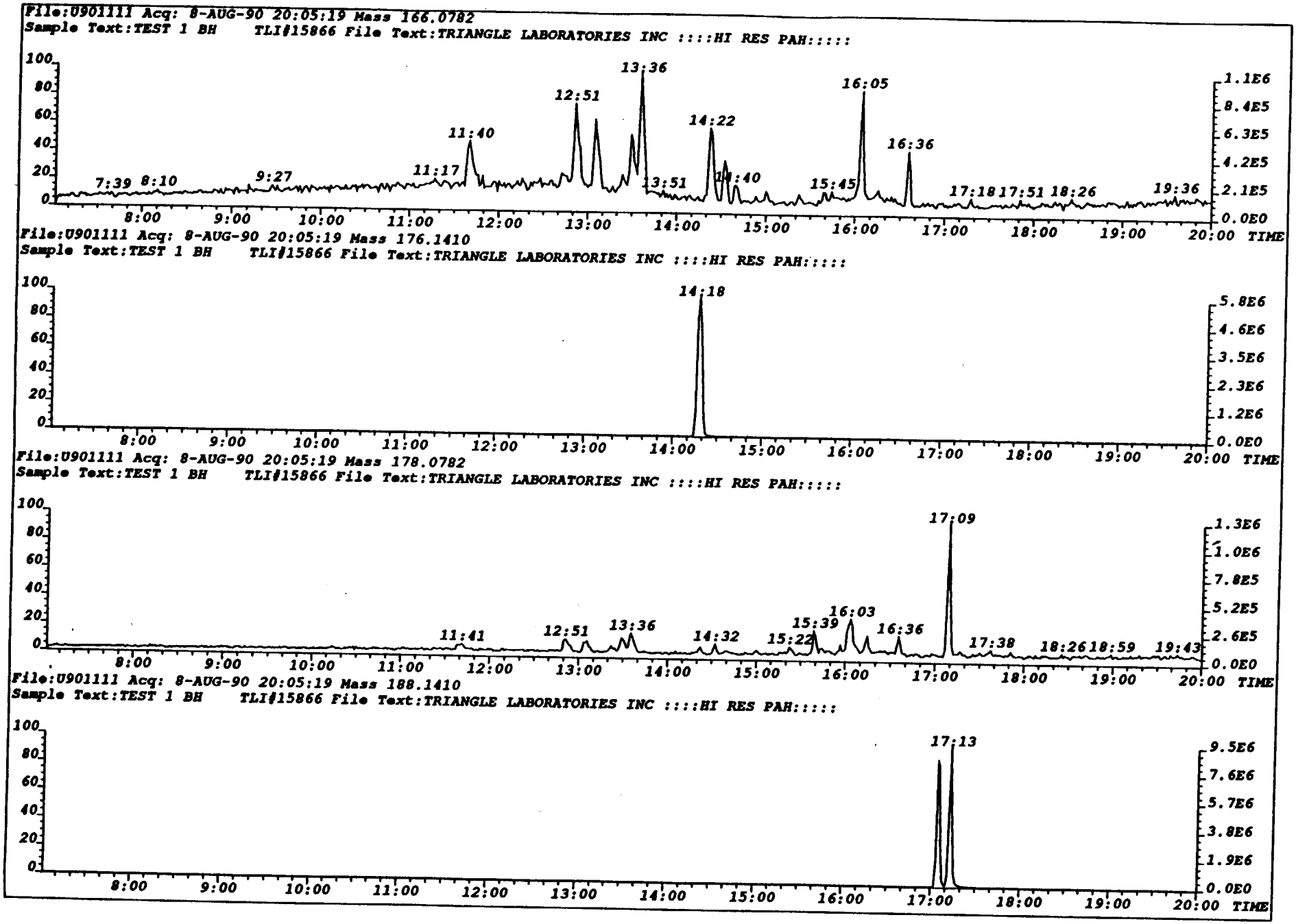

File:0901111 Acq: 8-AUG-90 20:05:19 Mass 166.0782
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
10:07
10:31
10:37
10:41
10:52
TIME

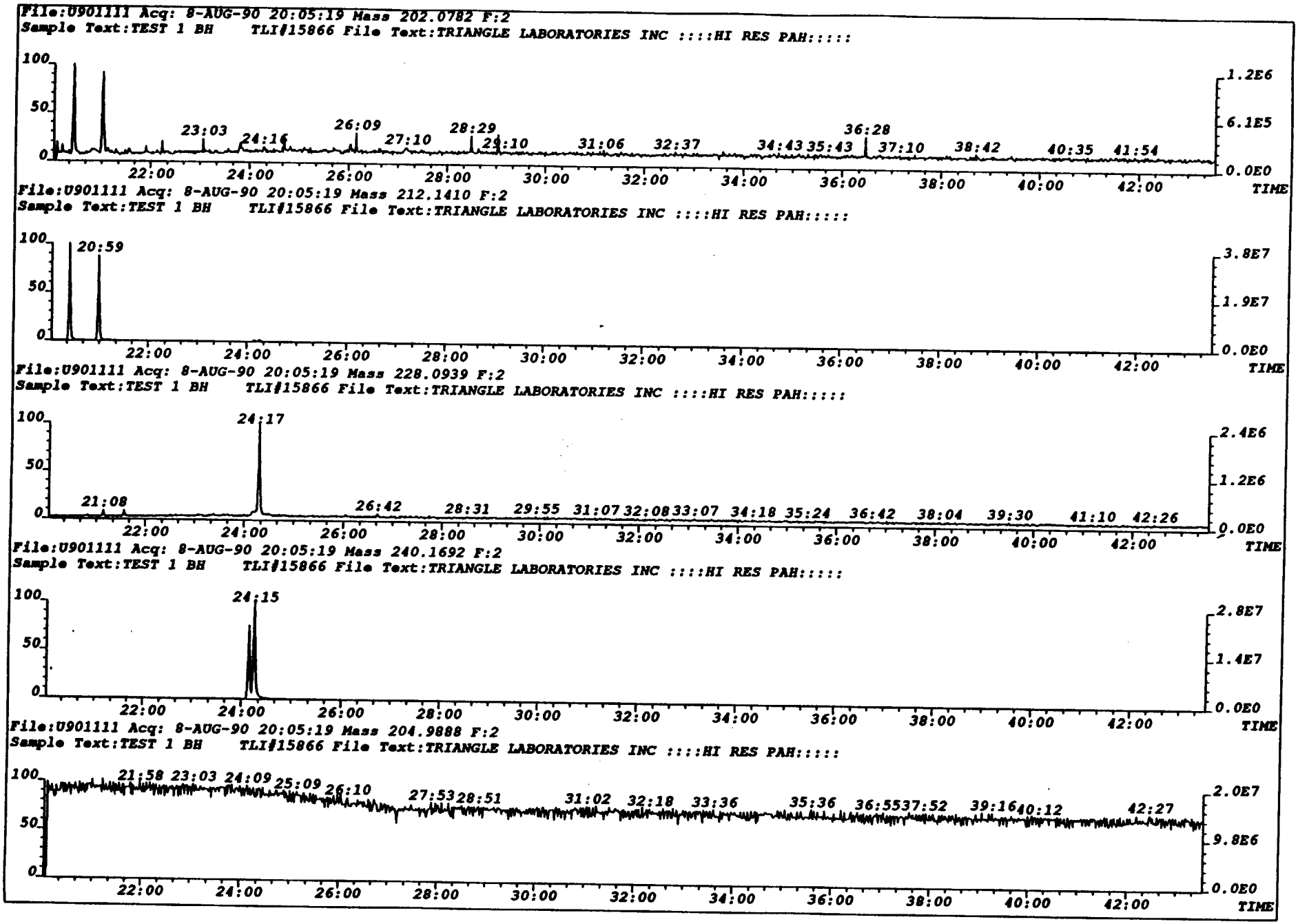

File:U901111 Acq: 8-AUG-90 20:05:19 Mass 149.9904
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
7:14
8:40
9:32
10:38
11:11
11:48
12:31
13:05
13:51
14:35
15:38
18:04
19:24
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
TIME
8.0E6
7.2E6
6.4E6
5.6E6
4.8E6
4.0E6
3.2E6
2.4E6
1.6E6
8.0E5
0.0E0
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 264.1692 F:2
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
27:22
28:18
28:47
22:00
24:00
26:00
28:00
30:00
32:00
34:00
36:00
38:00
40:00
42:00
TIME
1.2E7
1.1E7
9.8E6
8.6E6
7.4E6
6.1E6
4.9E6
3.7E6
2.5E6
1.2E6
0.0E0

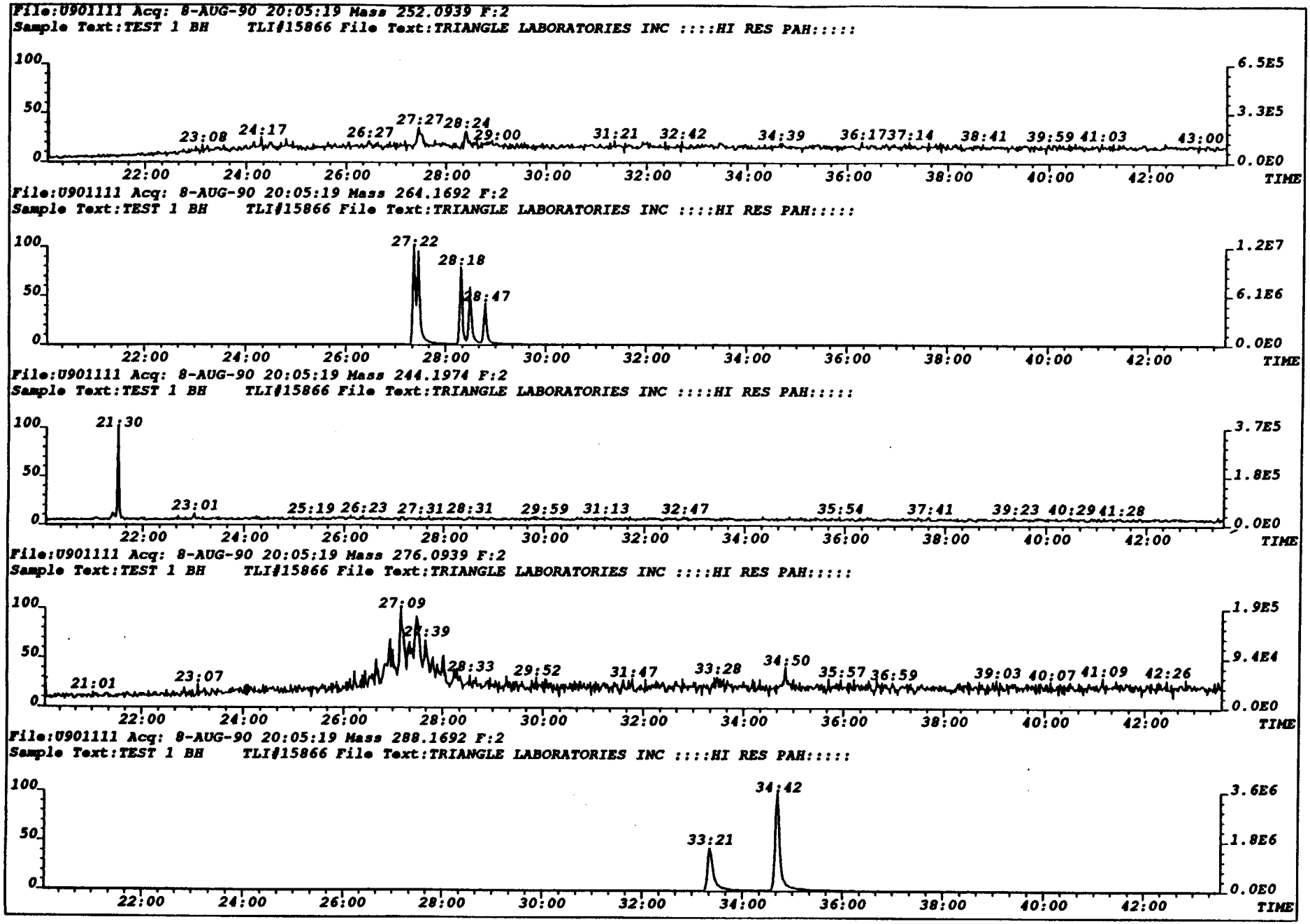

File:U901111 Acq: 8-AUG-90 20:05:19 Mass 128.0626
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
7:14
8:10
8:48
9:47
10:13
10:52
11:20
11:39
12:51
13:29
14:05
15:00
16:14
16:46
17:38
18:10
18:53
4.3E6
3.5E6
2.6E6
1.7E6
8.7E5
0.0E0
TIME
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 136.1128
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
4.9E6
3.9E6
2.9E6
1.9E6
9.7E5
0.0E0
TIME
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 142.0782
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
9:21
9:41
8:11
8:50
10:15
11:17
13:16
13:33
14:32
15:33
16:14
16:47
17:18
17:54
18:37
1.7E6
1.3E6
1.0E6
6.7E5
3.3E5
0.0E0
TIME
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 152.1410
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
9:13
5.6E6
4.5E6
3.4E6
2.2E6
1.1E6
0.0E0
TIME

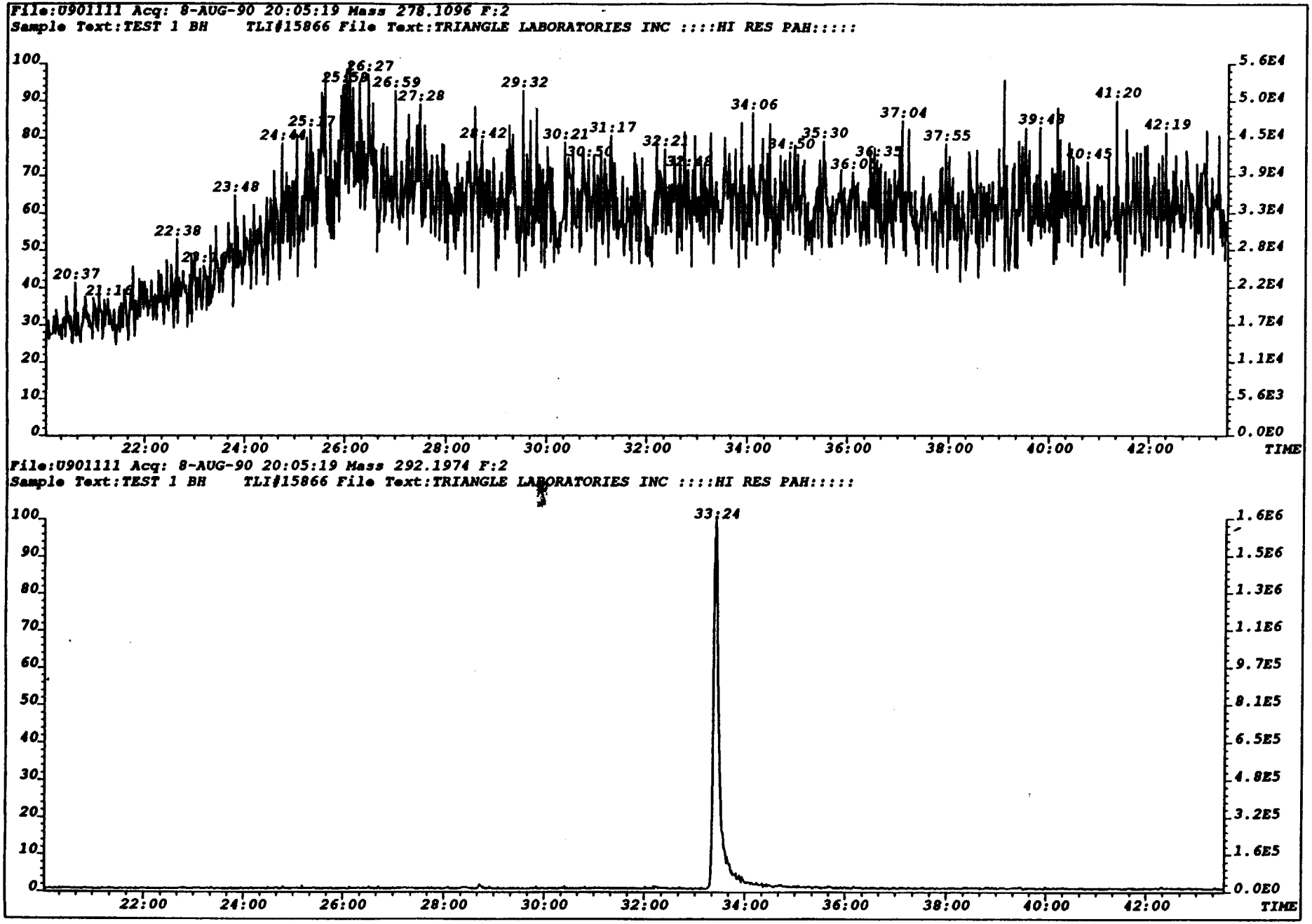

File:U901111 Acq: 8-AUG-90 20:05:19 Mass 154.0782
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
9:55
10:36
10:53
11:57
12:42
13:07
13:23
13:45
14:49
16:06
16:50
8.4E6
6.7E6
5.0E6
3.4E6
1.7E6
0.0E0
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 164.1410
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
12:43
7.2E6
5.8E6
4.3E6
2.9E6
1.4E6
0.0E0
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 152.0626
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
10:53
11:25
11:40
12:52
13:36
14:05
15:23
16:05
17:10
1.7E6
1.4E6
1.0E6
6.8E5
3.4E5
0.0E0
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 160.1128
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
12:11
12:43
17:06
8.6E6
6.8E6
5.1E6
3.4E6
1.7E6
0.0E0
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
TIME

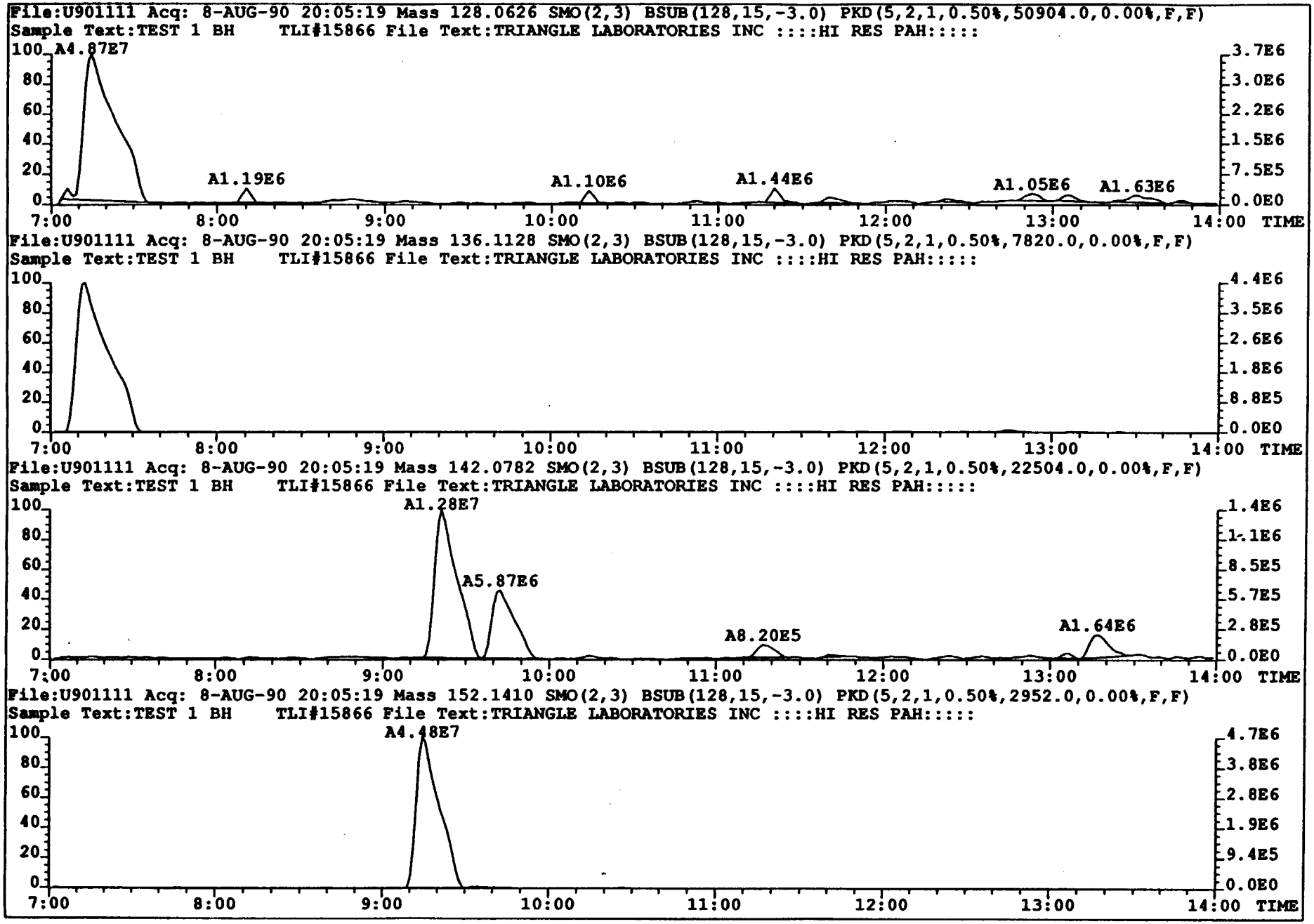

File:U901111 Acq: 8-AUG-90 20:05:19 Mass 162.0236
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
8:01
9:07
9:58
10:15
11:03
11:41
12:03
12:51
13:25
14:26
15:53
16:24
16:50
17:44
TIME
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 164.0207
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
7:44
9:37
11:32
12:43
13:22
14:06
14:43
15:10
15:50
16:08
16:30
17:03
17:36
TIME
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 169.0646
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
10:49
13:16
TIME
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 171.0616
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
10:49
TIME

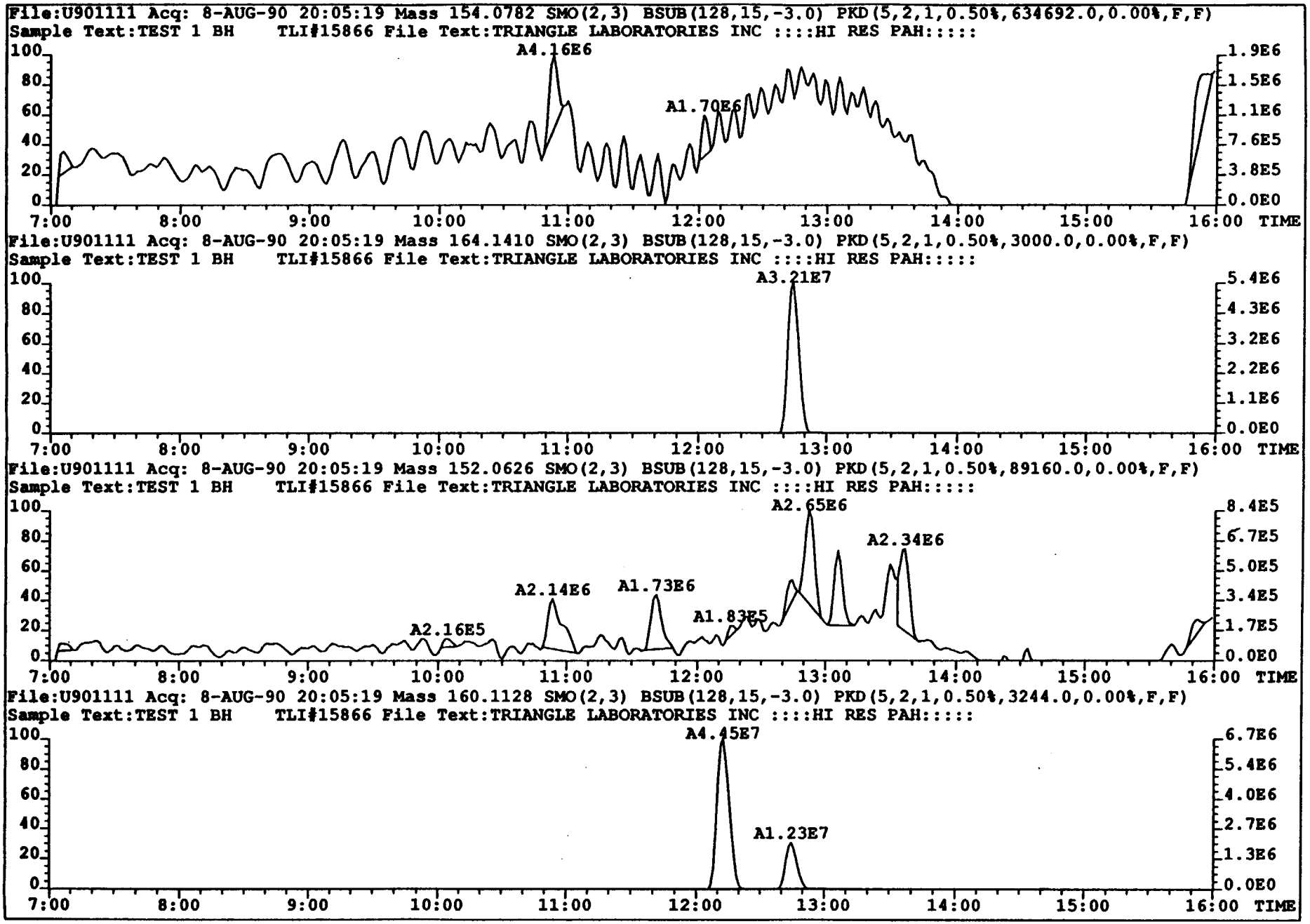

File:U901111 Acq: 8-AUG-90 20:05:19 Mass 166.0782
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
7:39 8:10 9:27 11:17 11:40 12:51 13:36 13:51 14:22 14:40 15:45 16:05 16:36 17:18 17:51 18:26 19:36
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 176.1410
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
14:18
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 178.0782
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
11:41 12:51 13:36 14:32 15:22 15:39 16:03 16:36 17:09 17:38 18:26 18:59 19:43
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 188.1410
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
17:13
8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 TIME

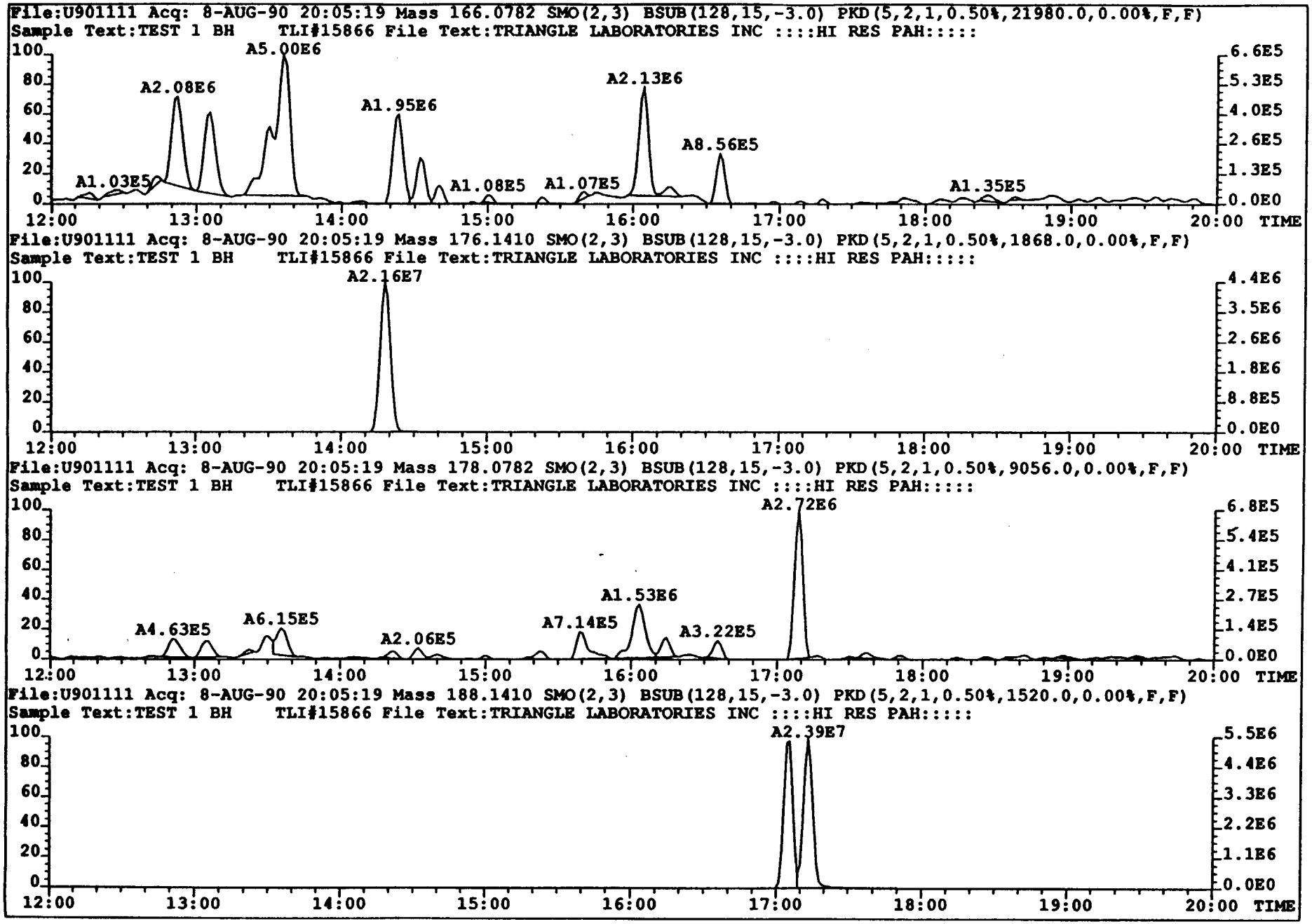

File:U901111 Acq: 8-AUG-90 20:05:19 Mass 202.0782 F:2
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
100
50
0
23:03
24:16
26:09
27:10
28:29
29:10
31:06
32:37
34:43
35:43
36:28
37:10
38:42
40:35
41:54
22:00
24:00
26:00
28:00
30:00
32:00
34:00
36:00
38:00
40:00
42:00
TIME
1.2E6
6.1E5
0.0E0
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 212.1410 F:2
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
20:59
3.8E7
1.9E7
0.0E0
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 228.0939 F:2
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
24:17
21:08
26:42
28:31
29:55
31:07
32:08
33:07
34:18
35:24
36:42
38:04
39:30
41:10
42:26
2.4E6
1.2E6
0.0E0
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 240.1692 F:2
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
24:15
2.8E7
1.4E7
0.0E0
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 204.9888 F:2
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
21:58
23:03
24:09
25:09
26:10
27:53
28:51
31:02
32:18
33:36
35:36
36:55
37:52
39:16
40:12
42:27
2.0E7
9.8E6
0.0E0

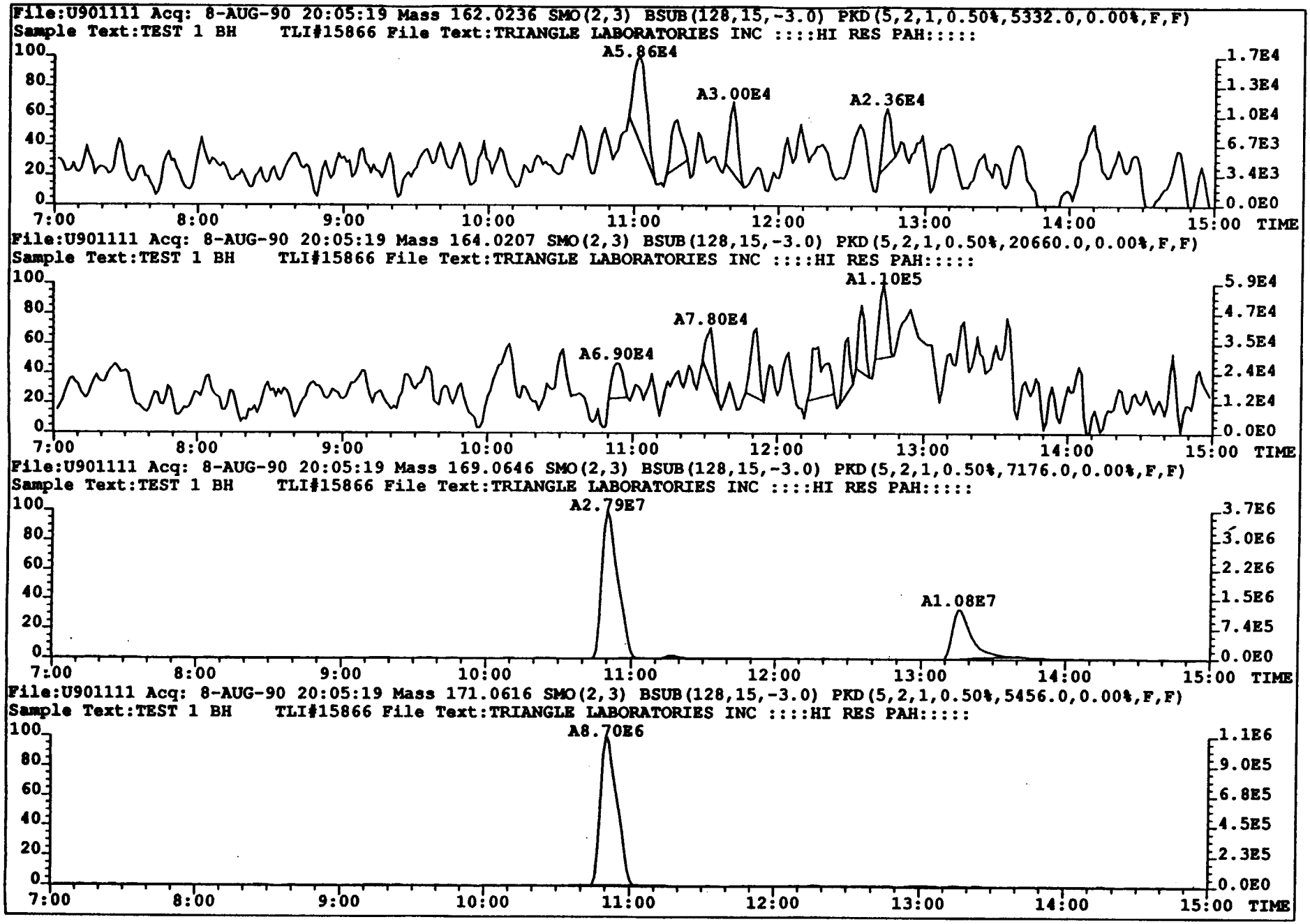

File:U901111 Acq: 8-AUG-90 20:05:19 Mass 252.0939 F:2
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
23:08 24:17 26:27 27:27 28:24 29:00 31:21 32:42 34:39 36:17 37:14 38:41 39:59 41:03 43:00
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 264.1692 F:2
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
27:22 28:18 28:47
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 244.1974 F:2
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
21:30 23:01 25:19 26:23 27:31 28:31 29:59 31:13 32:47 35:54 37:41 39:23 40:29 41:28
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 276.0939 F:2
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
21:01 23:07 27:09 27:39 28:33 29:52 31:47 33:28 34:50 35:57 36:59 39:03 40:07 41:09 42:26
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 288.1692 F:2
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
33:21 34:42
100
50
0
22:00 24:00 26:00 28:00 30:00 32:00 34:00 36:00 38:00 40:00 42:00
TIME
6.5E5 3.3E5 0.0E0
1.2E7 6.1E6 0.0E0
3.7E5 1.8E5 0.0E0
1.9E5 9.4E4 0.0E0
3.6E6 1.8E6 0.0E0

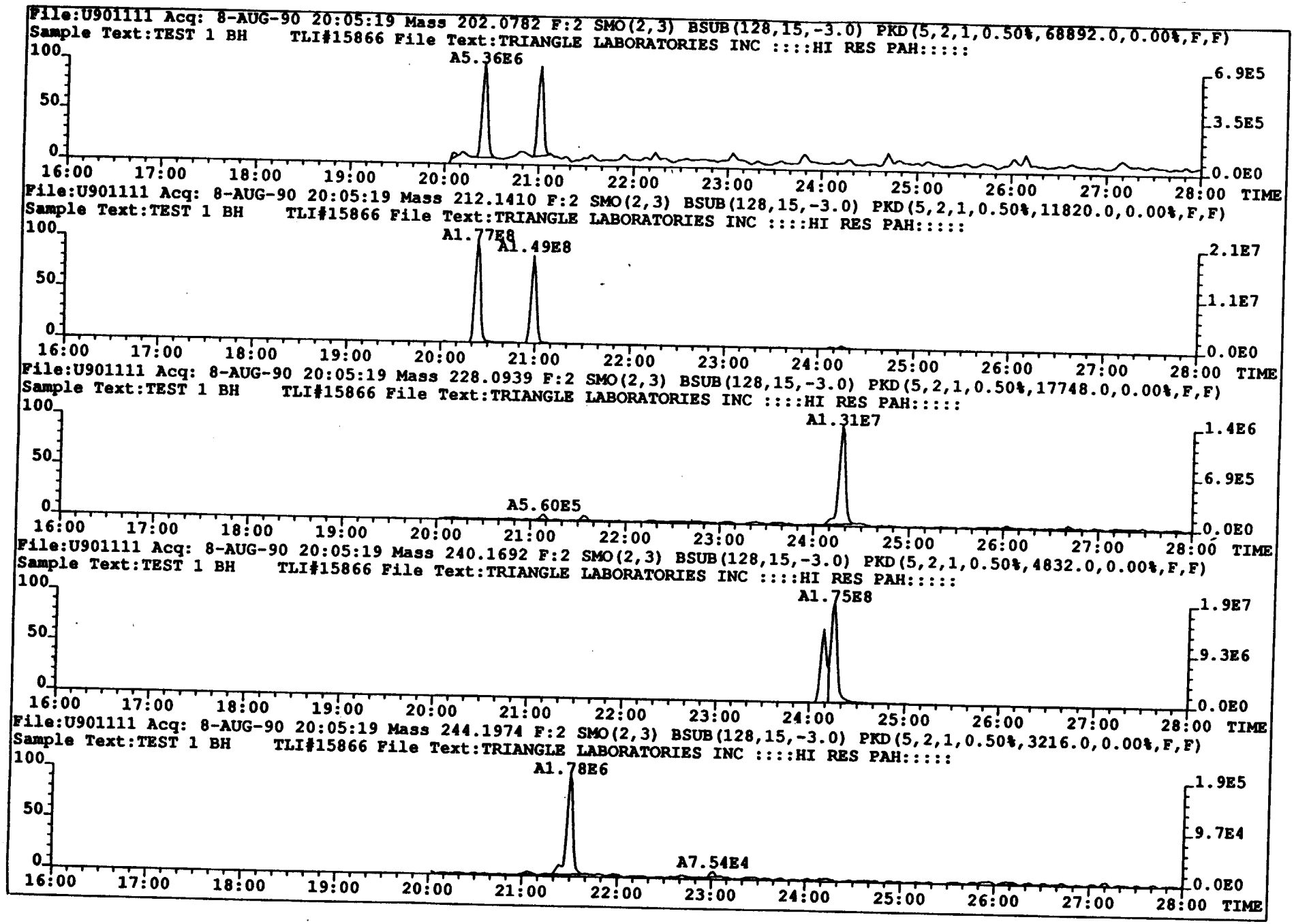

File:U901111 Acq: 8-AUG-90 20:05:19 Mass 278.1096 F:2
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
20:37
22:38
23:48
24:44
25:37
26:27
26:59
27:28
29:32
30:21
31:17
34:06
35:30
37:04
37:55
41:20
42:19
TIME
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 292.1974 F:2
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
33:24
TIME

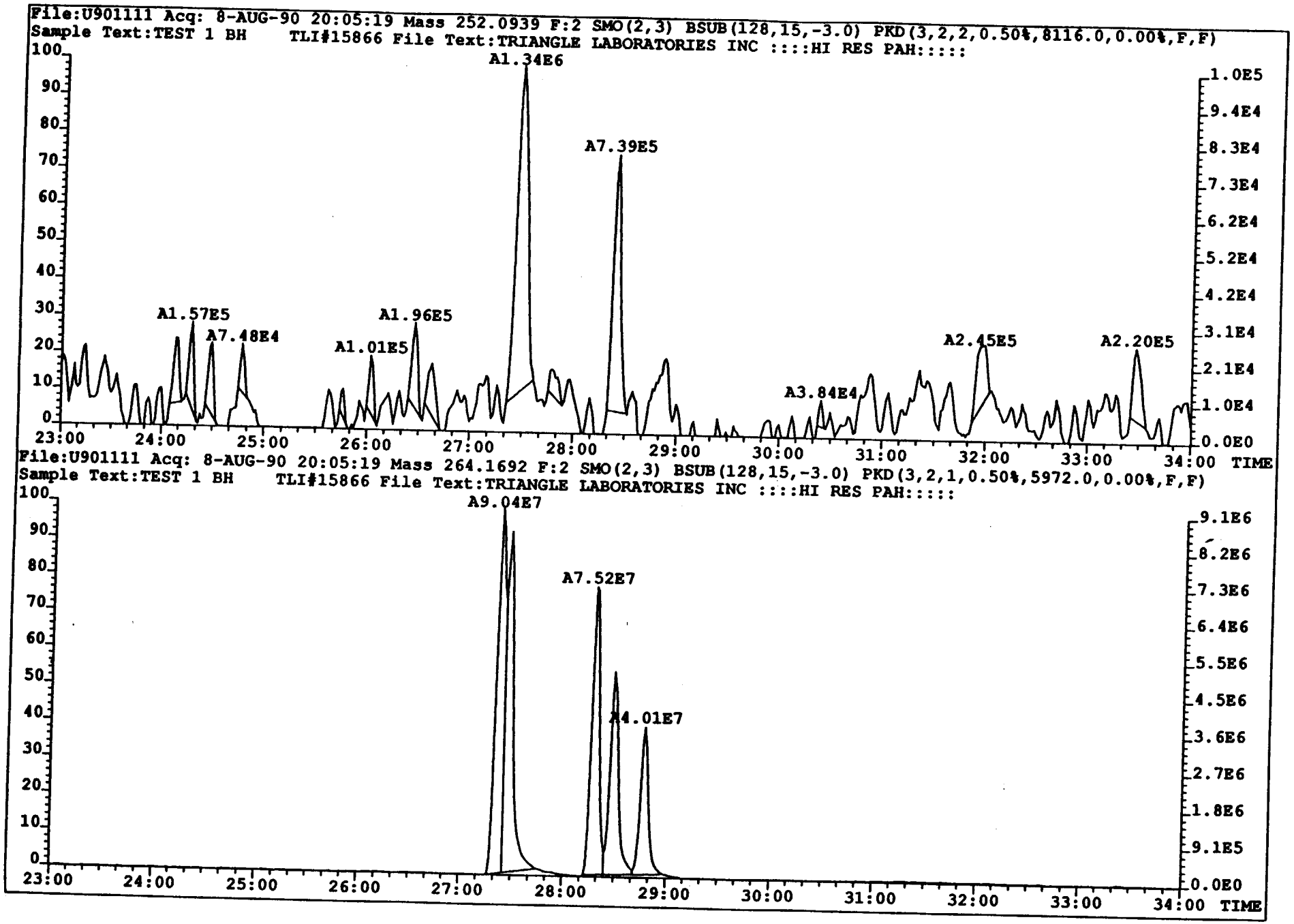

File:U901111 Acq: 8-AUG-90 20:05:19 Mass 128.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,50904.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A4.87E7
A1.19E6
A1.10E6
A1.44E6
A1.05E6
A1.63E6
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 136.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,7820.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 142.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,22504.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A1.28E7
A5.87E6
A8.20E5
A1.64E6
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 152.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,2952.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A4.48E7
TIME

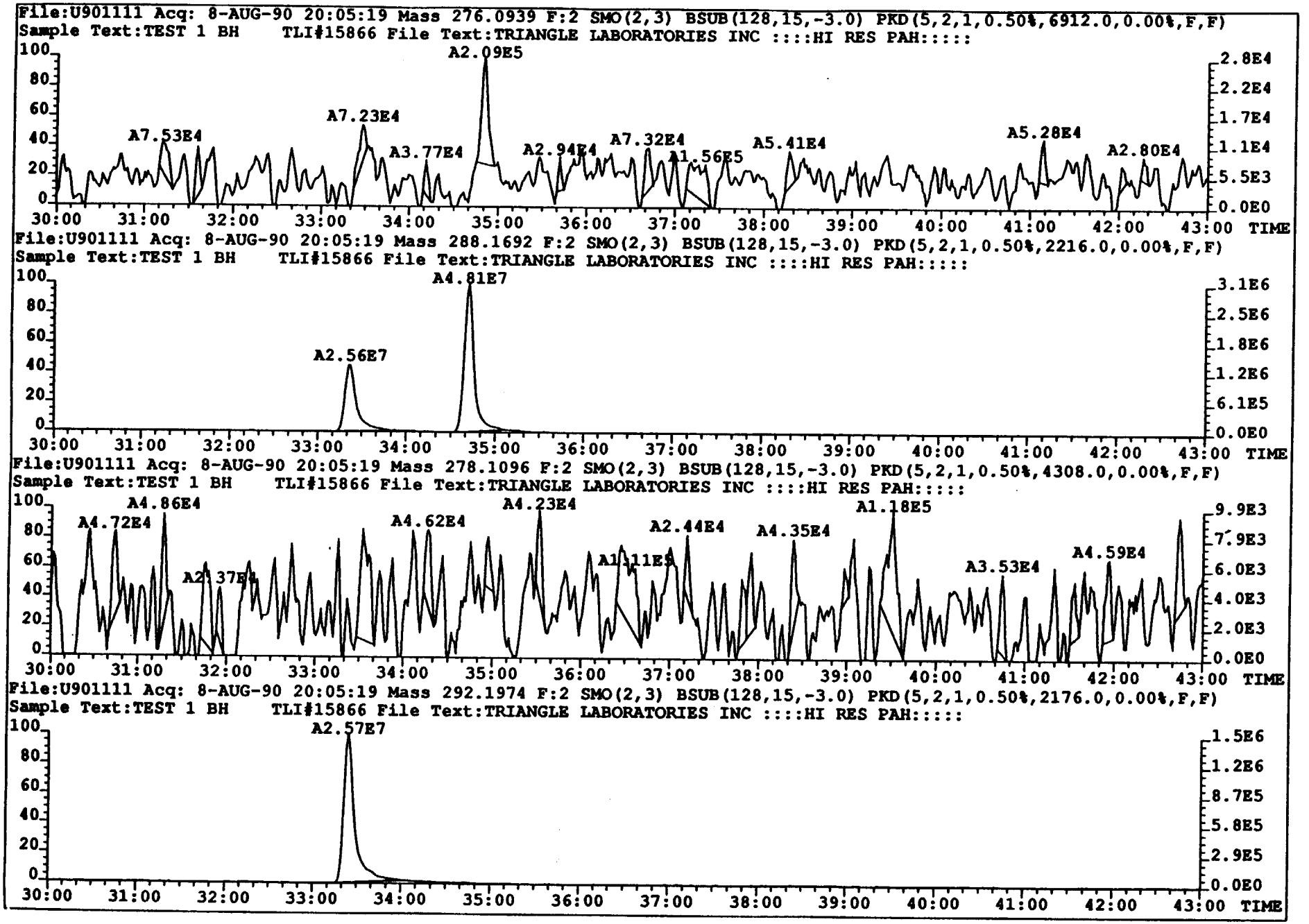

File:U901111 Acq: 8-AUG-90 20:05:19 Mass 154.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,634692.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A4.16E6
A1.70E6
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 164.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,3000.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A3.21E7
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 152.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,89160.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A2.65E6
A2.34E6
A2.14E6
A1.73E6
A1.83E5
A2.16E5
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 160.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,3244.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A4.45E7
A1.23E7
TIME

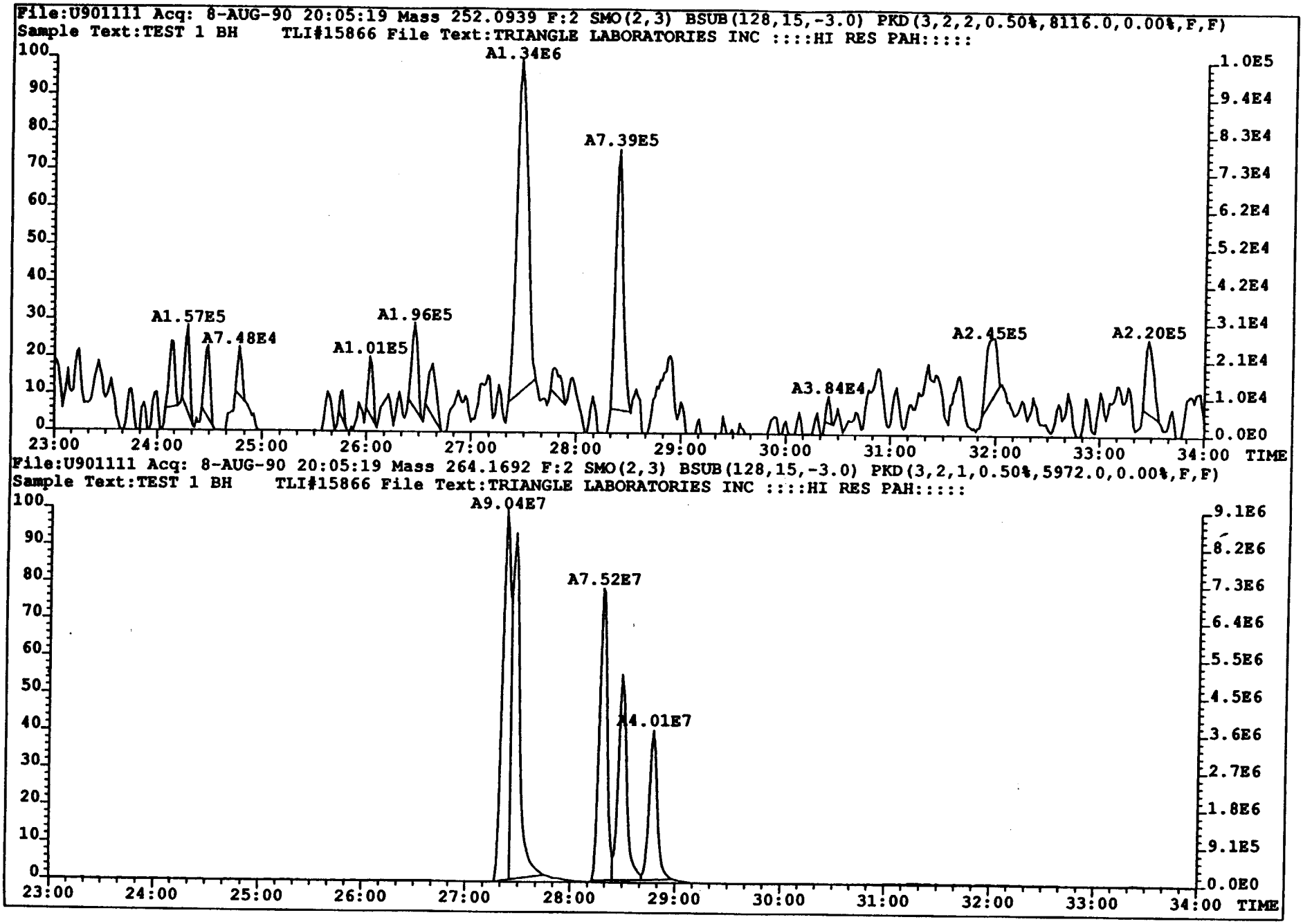

File:U901111 Acq: 8-AUG-90 20:05:19 Mass 166.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,21980.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A5.00E6
A2.08E6
A1.95E6
A2.13E6
A8.56E5
A1.03E5
A1.08E5
A1.07E5
A1.35E5
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 176.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,1868.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A2.16E7
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 178.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,9056.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A2.72E6
A1.53E6
A4.63E5
A6.15E5
A7.14E5
A2.06E5
A3.22E5
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 188.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,1520.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A2.39E7
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
TIME

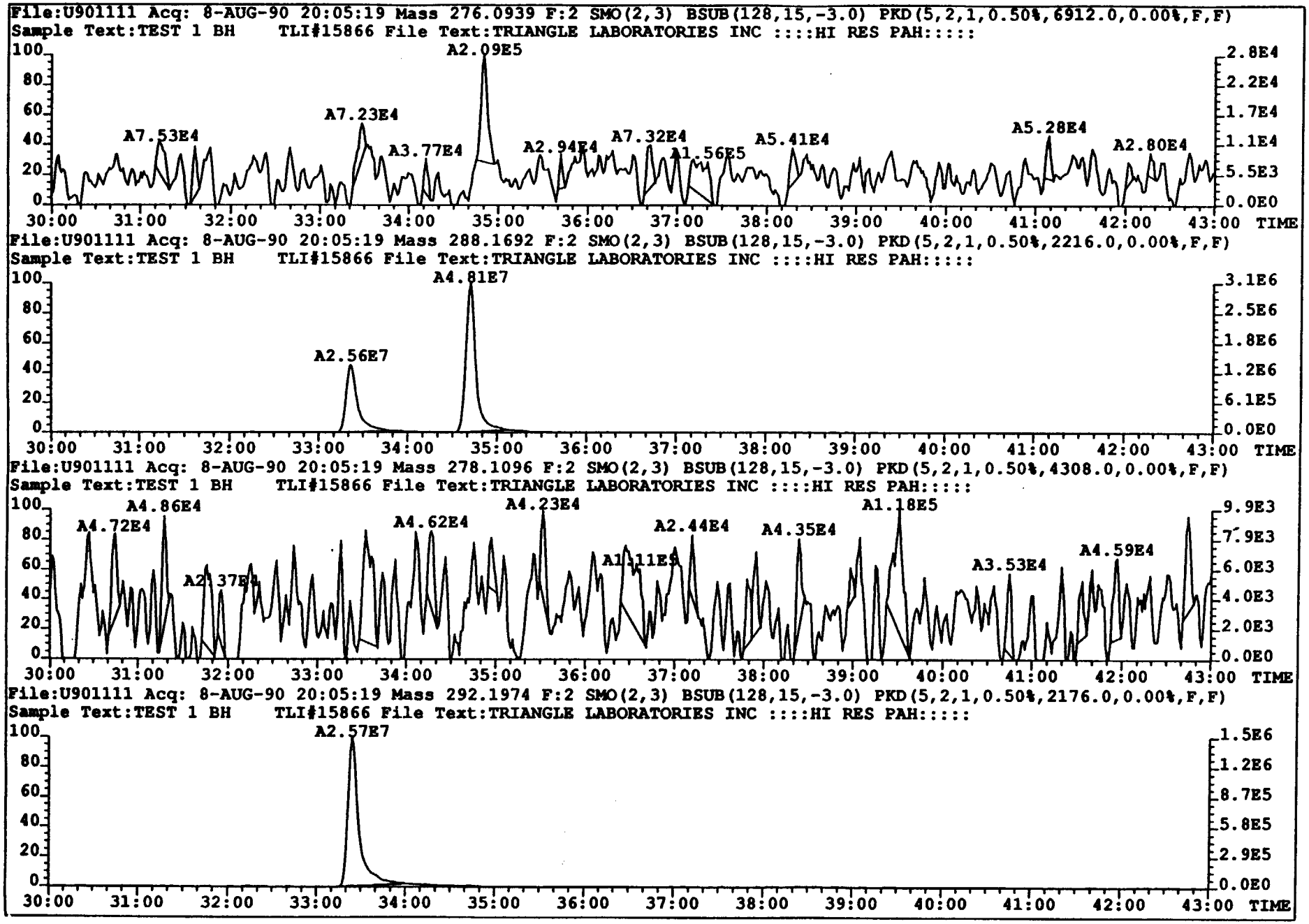

File:U901111 Acq: 8-AUG-90 20:05:19 Mass 162.0236 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,5332.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A5.86E4
A3.00E4
A2.36E4
1.7E4
1.3E4
1.0E4
6.7E3
3.4E3
0.0E0
7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 TIME
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 164.0207 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,20660.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A1.10E5
A7.80E4
A6.90E4
5.9E4
4.7E4
3.5E4
2.4E4
1.2E4
0.0E0
7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 TIME
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 169.0646 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,7176.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A2.79E7
A1.08E7
3.7E6
3.0E6
2.2E6
1.5E6
7.4E5
0.0E0
7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 TIME
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 171.0616 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,5456.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A8.70E6
1.1E6
9.0E5
6.8E5
4.5E5
2.3E5
0.0E0
7:00 8:00 9:00 10:00 11:00 12:00 13:00 14:00 15:00 TIME

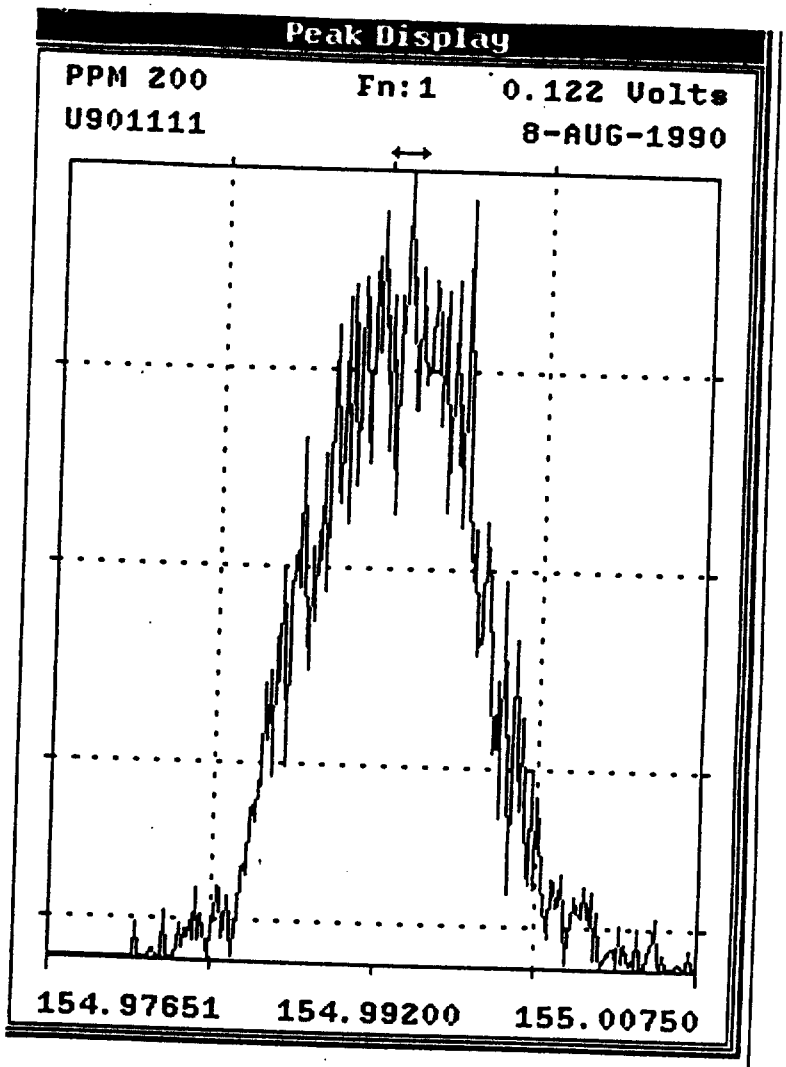

File:U901111 Acq: 8-AUG-90 20:05:19 Mass 202.0782 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,68892.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A5.36E6
6.9E5
3.5E5
0.0E0
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 212.1410 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,11820.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A1.77E8
A1.49E8
2.1E7
1.1E7
0.0E0
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 228.0939 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,17748.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A1.31E7
A5.60E5
1.4E6
6.9E5
0.0E0
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 240.1692 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,4832.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A1.75E8
1.9E7
9.3E6
0.0E0
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 244.1974 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,3216.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A1.78E6
A7.54E4
1.9E5
9.7E4
0.0E0
100
50
0
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
24:00
25:00
26:00
27:00
28:00
TIME


File:U901111 Acq: 8-AUG-90 20:05:19 Mass 252.0939 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,2,0.50%,8116.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A1.34E6
A7.39E5
A1.57E5
A7.48E4
A1.01E5
A1.96E5
A3.84E4
A2.45E5
A2.20E5
TIME
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 264.1692 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,1,0.50%,5972.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A9.04E7
A7.52E7
A4.01E7
TIME


File:U901111 Acq: 8-AUG-90 20:05:19 Mass 276.0939 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,6912.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A7.53E4
A7.23E4
A3.77E4
A2.09E5
A2.94E4
A7.32E4
A1.56E5
A5.41E4
A5.28E4
A2.80E4
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 288.1692 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,2216.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A2.56E7
A4.81E7
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 278.1096 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,4308.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A4.72E4
A4.86E4
A4.62E4
A4.23E4
A2.44E4
A4.35E4
A1.18E5
A3.53E4
A4.59E4
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 292.1974 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,2176.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A2.57E7
TIME


File:U901111 Acq: 8-AUG-90 20:05:19 Mass 252.0939 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,2,0.50%,8116.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A1.34E6
A7.39E5
A1.57E5
A7.48E4
A1.96E5
A1.01E5
A3.84E4
A2.45E5
A2.20E5
TIME
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 264.1692 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,1,0.50%,5972.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A9.04E7
A7.52E7
A4.01E7
TIME


File:U901111 Acq: 8-AUG-90 20:05:19 Mass 276.0939 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,6912.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A2.09E5
A7.53E4
A7.23E4
A3.77E4
A2.94E4
A7.32E4
A1.56E5
A5.41E4
A5.28E4
A2.80E4
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 288.1692 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,2216.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A4.81E7
A2.56E7
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 278.1096 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,4308.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A4.86E4
A4.72E4
A4.62E4
A4.23E4
A2.44E4
A4.35E4
A1.18E5
A3.53E4
A4.59E4
File:U901111 Acq: 8-AUG-90 20:05:19 Mass 292.1974 F:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,1,0.50%,2176.0,0.00%,F,F)
Sample Text:TEST 1 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC ::::HI RES PAH:::::
A2.57E7
30:00 31:00 32:00 33:00 34:00 35:00 36:00 37:00 38:00 39:00 40:00 41:00 42:00 43:00 TIME


Peak Display
PPM 200
Fn:1
0.122 Volts
U901111
8-AUG-1990
154.97651
154.99200
155.00750

TRIANGLE LABORATORIES INC. Date: 08/08/90

Continuing Calibration for U901110

Analysis Date....: 08/08/90 Method....: PAHH

Operator.....: MC Machine...: u

Init Calibration.: UPH0808 Std.Conc..: 100.00

ICal Date.....: 08/08/90

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%RSD	Flags
Naph	0.918		5:23 9:23	7:26	1.0068	0.918	0.000	0.0%	
2-Me-Naph	0.856		7:22 11:22	9:29	1.0125	0.838	0.018	2.2%	
Acenaph	1.058			12:19	1.0041	1.041	0.017	1.6%	
Acenaphthen	0.987		10:48 14:48	12:53	1.0065	0.927	0.060	6.5%	
2-Cl-Naph	1.322	3.221	8:55 12:55	10:59	1.0061	1.283	0.039	3.1%	
Fluorene	1.380		12:21 16:21	14:25	1.0046	1.352	0.028	2.1%	
Phenan	1.282		7:15 27:15	17:11	1.0049	1.301	-0.019	-1.5%	
Anth	0.768			17:17	1.0107	0.795	-0.027	-3.4%	
Fluoran	0.802		10:25 30:25	20:27	1.0016	0.750	0.052	6.9%	
Pyrene	0.970			21:02	1.0016	0.891	0.079	8.8%	
Chrysene	0.962			24:13	1.0028	0.933	0.030	3.2%	
B-a-Anth	0.776		14:09 34:09	24:20	1.0027	0.784	-0.008	-1.0%	
B-k-Fluoran	1.125			27:28	1.0024	1.104	0.021	1.9%	
B-b-Fluoran	0.937			27:32	1.0024	0.953	-0.016	-1.7%	
B-e-Pyrene	1.671			28:25	0.9965	1.650	0.020	1.2%	
B-a-Pyrene	1.104			28:36	1.0029	1.116	-0.012	-1.1%	
Perylene	1.224		18:48 38:48	28:54	1.0035	1.178	0.045	3.8%	
I-123-cd-Py	1.486			33:31	1.0040	1.625	-0.139	-8.6%	
B-ghi-Pery	0.833		24:44 44:44	34:53	1.0043	0.887	-0.053	-6.0%	
DiB-ah-Anth	1.148		31:26 35:26	33:36	1.0050	1.228	-0.080	-6.5%	

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%RSD	Flags
d10-Anth	0.379			17:15	1.4063	0.391	-0.012	-3.1%	
d14-Terphenyl	2.636		18:20 30:20	21:30	0.7588	2.810	-0.175	-6.2%	

TRIANGLE LABORATORIES INC. Date: 08/08/90

Continuing Calibration for U901110

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%RSD	Flags
d8-Naph	1.440		7:16 14:16	7:23	0.6019	1.399	0.041	2.9%	
d10-2-Me-Naph	0.959		2:16 22:16	9:22	0.7636	0.958	0.001	0.1%	
d8-Acenaph	0.977		8:20 30:20	12:16	0.4329	0.976	0.001	0.1%	
d10-Acenaphthen	0.675		10:16 14:16	12:48	1.0435	0.673	0.002	0.4%	
d7-2-Cl-Naph	0.781	3.522	10:16 14:16	10:55	0.8899	0.795	-0.014	-1.8%	
d10-Fluorene	0.469		10:16 19:16	14:21	1.1698	0.470	-0.001	-0.2%	
d10-Phenan	0.443		2:16 22:16	17:06	1.3940	0.455	-0.012	-2.7%	
d10-Fluoran	2.727		17:48 38:48	20:25	0.7089	2.874	-0.147	-5.1%	
d10-Pyrene	2.264			21:00	0.7292	2.403	-0.139	-5.8%	
d12-Chrysene	1.669			24:09	0.8385	1.679	-0.011	-0.6%	
d12-B-a-Anth	2.572		18:48 38:48	24:16	0.8426	2.667	-0.095	-3.6%	
d12-B-k-Fluoran	1.174			27:24	0.9514	1.157	0.017	1.5%	
d12-B-b-Fluoran	1.251			27:28	0.9537	1.153	0.098	8.5%	
d12-B-a-Pyrene	0.828			28:31	0.9902	0.816	0.012	1.5%	
d12-Perylene	0.503		18:20 38:20	28:48	1.0165	0.506	-0.004	-0.7%	
d12-I-123-cd-Py	0.348			33:23	1.1591	0.360	-0.012	-3.5%	
d12-B-ghi-Pery	0.624		18:48 38:48	34:44	1.2060	0.663	-0.039	-5.9%	
d14-DiB-ah-Anth	0.363		26:48 38:48	33:26	1.1609	0.372	-0.009	-2.4%	

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%RSD	Flags
d12-B-e-Pyrene	0.000			28:20	1.0000	1.000	-1.000	100.0%**	

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

FILE NAME....:	U900627	CLIENT ID....:	P&S	TLI NUMBER....:	32-73-2CEF
CONCAL.....:	U900619	SAMPLE ID....:	BH TEST 2		
ANALYST.....:	MC	ANALYSIS DATE:	06/22/90	PROJECT NUMBER:	15866
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5 BH	DATE RECEIVED.:	05/30/90
ICAL DATE....:	06/21/90	SAMPLE ORIGIN:	HRSG OUT	DATE COLLECTED:	05/23/90
SPIKE FILE...:	SPPAHH1C			SHIPMENT NO...:	UTS

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	79.8			8:24	B
2-Me-Naph	30.4			10:35	B
2-Cl-Naph	ND		0.1		
Acenaphthen	6.2			14:02	B
Acenaph	ND		0.1		
Fluorene	22.2			15:28	B
Phenan	10.8			18:17	B
Anth	ND		0.3		
Fluoran	2.7			21:32	B
Pyrene	2.8			22:08	B
B-a-Anth	ND		0.4		
Chrysene	6.3			25:33	
B-b-Fluoran	ND		1.0		
B-k-Fluoran	ND		0.5		
B-e-Pyrene	ND		0.8		
B-a-Pyrene	ND		1.0		
Perylene	ND		1.1		
I-123-cd-Py	ND		6.9		
DiB-ah-Anth	ND		11.9		
B-ghi-Pery	ND		5.9		

SURROGATE RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	3.5	3.48	22:33	

ALTERNATE STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	436	436	18:22	

FILE NAME....: U900627
CONCAL.....: U900619
ANALYST.....: MC
SAMPLE SIZE..: 1.00
ICAL DATE....: 06/21/90
SPIKE FILE...: SPPAHH1C

CLIENT ID....: P&S
SAMPLE ID....: BH TEST 2
ANALYSIS DATE: 06/22/90
SAMPLE MATRIX: MM5 BH
SAMPLE ORIGIN: HRSG OUT

TLI NUMBER....: 32-73-2CEF
PROJECT NUMBER: 15866
DATE RECEIVED.: 05/30/90
DATE COLLECTED: 05/23/90
SHIPMENT NO...: UTS

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	409	409	8:21	—
d10-2-Me-Naph	455	455	10:30	—
d7-2-Cl-Naph	469	469	12:05	—
d8-Acenaph	447	447	13:25	—
d10-Acenaphthen	482	482	13:56	—
d10-Fluorene	488	488	15:28	—
d10-Phenan	408	408	18:13	—
d10-Fluoran	466	466	21:30	—
d10-Pyrene	483	483	22:06	—
d12-B-a-Anth	204	204	25:22	—
d12-Chrysene	381	381	25:30	—
d12-B-b-Fluoran	116	116	29:07	—
d12-B-k-Fluoran	132	132	29:13	—
d12-B-a-Pyrene	102	102	30:30	—
d12-Perylene	141	141	30:52	—
d12-I-123-cd-Py	40.4	40.4	36:43	—
d14-DiB-ah-Anth	32.4	32.4	36:45	—
d12-B-ghi-Pery	39.0	39.0	38:28	—

DC 3.85

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128		0.00	8:24	7329.91	T	T	1.006	✓
		0.00	9:59	173.40	T	F	1.196	
		0.00	10:20	38.00	T	F	1.238	
128		*** Total ***		7541.31	# of Peaks:		3	
136		0.00	8:21	11046.21	T	~~F~~ T	0.622	✓
		0.00	10:21	37.02	T	F	0.771	
		0.00	13:57	33.13	T	F	1.040	
136		*** Total ***		11116.36	# of Peaks:		3	
142		0.00	10:35	1912.32	T	T	1.008	✓
		0.00	10:56	923.42	T	F	1.041	
		0.00	12:29	44.15	T	F	1.189	
142		*** Total ***		2879.89	# of Peaks:		3	
152		0.00	8:58	22.27	T	F	0.668	
		0.00	10:30	7260.95	T	~~F~~ T	0.783	✓
		0.00	10:49	92.63	T	F	0.806	
		0.00	11:40	31.90	T	F	0.870	
		0.00	12:08	176.82	T	F	0.904	
		0.00	12:28	50.72	T	F	0.929	
		0.00	12:38	9.55	T	F	0.942	
		0.00	12:52	2358.02	T	F	0.959	
		0.00	13:35	81.68	T	F	1.012	
		0.00	14:01	3151.56	T	F	1.045	
		0.00	14:14	2460.63	T	F	1.061	
		0.00	14:40	1687.05	T	F	1.093	
		0.00	14:59	22.58	T	F	1.117	
		0.00	15:14	25.79	T	F	1.135	
		0.00	15:30	748.04	T	F	1.155	
		0.00	15:40	1063.18	T	F	1.168	
		0.00	15:47	425.00	T	F	1.176	
152		*** Total ***		19668.37	# of Peaks:		17	
154		0.00	12:08	876.07	T	F	0.871	
		0.00	12:26	6.67	T	F	0.892	
		0.00	12:38	8.27	T	F	0.907	
		0.00	12:52	120.77	T	F	0.923	
		0.00	13:35	46.35	T	F	0.975	
		0.00	14:02	322.54	T	T	1.007	✓
		0.00	14:14	196.00	T	F	1.022	
		0.00	14:40	94.80	T	F	1.053	
		0.00	15:00	26.32	T	F	1.077	
		0.00	15:14	18.95	T	F	1.093	
		0.00	15:30	33.11	T	F	1.112	
		0.00	15:40	50.92	T	F	1.124	
		0.00	15:47	20.10	T	F	1.133	
		0.00	16:02	6.62	T	F	1.151	
154		*** Total ***		1827.49	# of Peaks:		14	
160		0.00	13:25	7338.25	T	~~F~~ T	0.443	✓
		0.00	13:57	2189.53	T	F	0.460	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
162	D	0.52	12:09	0.97	F	T	1.006	SN
		3.52	13:14	5.24	T	F	1.095	
		0.16	14:13	5.48	F	F	1.177	
162		*** Total ***		11.69	# of Peaks:		3	
164		0.00	12:09	0.64	T	F	0.906	
		0.00	12:52	4.58	T	F	0.959	
		0.00	13:16	1.16	T	F	0.989	
		0.00	13:56	5370.38	T	T	1.039	✓
		0.00	14:01	1.86	T	F	1.045	
		0.00	14:14	4.73	T	F	1.061	
		0.00	14:39	0.44	T	F	1.092	
164		*** Total ***		5383.79	# of Peaks:		7	
166		0.00	14:01	3506.96	T	F	0.906	
		0.00	14:14	2926.12	T	F	0.920	
		0.00	14:32	224.52	T	F	0.940	
		0.00	14:39	849.97	T	F	0.947	
		0.00	14:44	1136.57	T	F	0.953	
		0.00	15:28	1208.50	T	T	1.000	✓
		0.00	15:40	1460.52	T	F	1.013	
		0.00	15:46	555.15	T	F	1.019	
		0.00	16:06	29.86	T	F	1.041	
		0.00	16:27	40.23	T	F	1.064	
		0.00	16:44	233.24	T	F	1.082	
		0.00	17:08	358.74	T	F	1.108	
		0.00	17:18	70.98	T	F	1.119	
166		*** Total ***		12601.36	# of Peaks:		13	
169		3.32	12:05	7654.66	T	T	0.901	✓
169		*** Total ***		7654.66	# of Peaks:		1	
176		0.00	15:28	4361.86	T	T	1.153	✓
176		*** Total ***		4361.86	# of Peaks:		1	
178		0.00	14:01	696.62	T	F	0.769	
		0.00	14:14	668.24	T	F	0.781	
		0.00	14:32	48.09	T	F	0.798	
		0.00	14:39	491.62	T	F	0.804	
		0.00	15:28	174.97	T	F	0.849	
		0.00	15:38	309.33	T	F	0.858	
		0.00	15:46	145.69	T	F	0.866	
		0.00	16:06	6.83	T	F	0.884	
		0.00	16:27	70.21	T	F	0.903	
		0.00	16:44	333.29	T	F	0.919	
		0.00	17:06	342.97	T	F	0.939	
		0.00	17:18	82.05	T	F	0.950	
		0.00	17:39	36.19	T	F	0.969	
		0.00	18:02	7.80	T	F	0.990	
		0.00	18:17	567.37	T	T	1.004	✓
		0.00	18:41	18.22	T	F	1.026	
		0.00	18:47	5.41	T	F	1.031	

L

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
178		0.00	19:15	12.47	T	F	1.057	
		0.00	19:35	20.34	T	F	1.075	
		0.00	19:55	3.03	T	F	1.093	
178		*** Total ***		4040.74	# of Peaks:		20	
188		0.00	18:13	4214.18	T	~~F~~ T	1.358	✓
		0.00	18:22	3583.93	T	~~F~~ T	1.369	✓
188		*** Total ***		7798.11	# of Peaks:		2	
202		0.00	21:09	14.46	T	F	0.957	
		0.00	21:32	246.17	T	T	1.002	✓
		0.00	22:08	271.90	T	T	1.002	✓
202		*** Total ***		532.53	# of Peaks:		3	
212		0.00	21:30	12803.11	T	T	0.697	✓
		0.00	22:06	10684.20	T	T	0.716	✓
212		*** Total ***		23487.31	# of Peaks:		2	
228		0.00	21:05	2.39	T	F	0.827	
		0.00	21:14	2.24	T	F	0.833	
		0.00	21:31	2.63	T	F	0.844	
		0.00	22:03	1.21	T	F	0.865	
		0.00	22:10	28.93	T	F	0.869	
		0.00	22:37	18.24	T	F	0.887	
		0.00	24:17	1.82	T	F	0.952	
		0.00	24:26	2.29	T	F	0.958	
		0.00	24:44	1.80	T	F	0.970	
		0.00	25:33	461.07	T	T	1.002	✓
		0.00	26:41	2.55	T	F	1.046	
		0.00	27:27	4.08	T	F	1.076	
228		*** Total ***		529.25	# of Peaks:		12	
240		0.00	25:22	1885.26	T	T	0.822	✓
		0.00	25:30	9354.65	T	T	0.826	✓
240		*** Total ***		11239.91	# of Peaks:		2	
244		0.00	20:35	1.64	T	F	0.679	
		0.00	22:07	1.34	T	F	0.730	
		0.00	22:33	81.84	T	T	0.744	✓
		0.00	23:05	1.61	T	F	0.762	
		0.00	24:07	1.51	T	F	0.796	
		0.00	25:15	0.65	T	F	0.833	
		0.00	25:29	0.95	T	F	0.841	
		0.00	26:21	1.84	T	F	0.870	
244		*** Total ***		91.38	# of Peaks:		8	
252		0.00	26:06	6.54	T	F	0.846	
		0.00	26:55	0.89	T	F	0.872	
		0.00	27:18	7.11	T	F	0.884	
	D	0.00	29:16	3.91	T	T	1.002	S/V
		0.00	29:58	2.66	T	F	0.971	
	D	0.00	30:25	3.69	T	T	0.997	J/V
252		*** Total ***		24.80	# of Peaks:		6	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
264		0.00	29:07	756.39	T	T	0.943	✓
		0.00	29:13	1975.65	T	T	0.947	✓
		0.00	30:17	850.67	T	T	0.999	✓
		0.00	30:30	909.40	T	T	0.988	✓
		0.00	30:52	788.02	T	T	1.019	✓
264		*** Total ***		5280.13	# of Peaks:		5	
276		0.00	36:12	0.60	T	F	0.941	
		0.00	40:36	1.13	T	F	1.055	
		0.00	41:56	1.05	T	F	1.090	
276		*** Total ***		2.78	# of Peaks:		3	
278		0.00	36:12	0.56	T	F	0.985	
		0.00	37:56	0.39	T	F	1.032	
278		*** Total ***		0.95	# of Peaks:		2	
288		0.00	36:43	80.08	T	T	1.190	✓
		0.00	37:19	0.91	T	F	1.209	
		0.00	38:28	193.22	T	T	1.246	✓
		0.00	39:07	1.61	T	F	1.267	
		0.00	39:20	1.24	T	F	1.274	
		0.00	39:27	2.68	T	F	1.278	
		0.00	39:36	3.20	T	F	1.283	
		0.00	39:55	0.65	T	F	1.293	
		0.00	40:32	1.03	T	F	1.313	
288		*** Total ***		284.62	# of Peaks:		9	
292		0.00	36:45	60.39	T	T	1.191	✓
		0.00	39:07	0.80	T	F	1.267	
292		*** Total ***		61.19	# of Peaks:		2	

*** End of Report ***

06/27/90

Listing of U900627I.dbf File
Raw Mass, Retention Time and Data Area

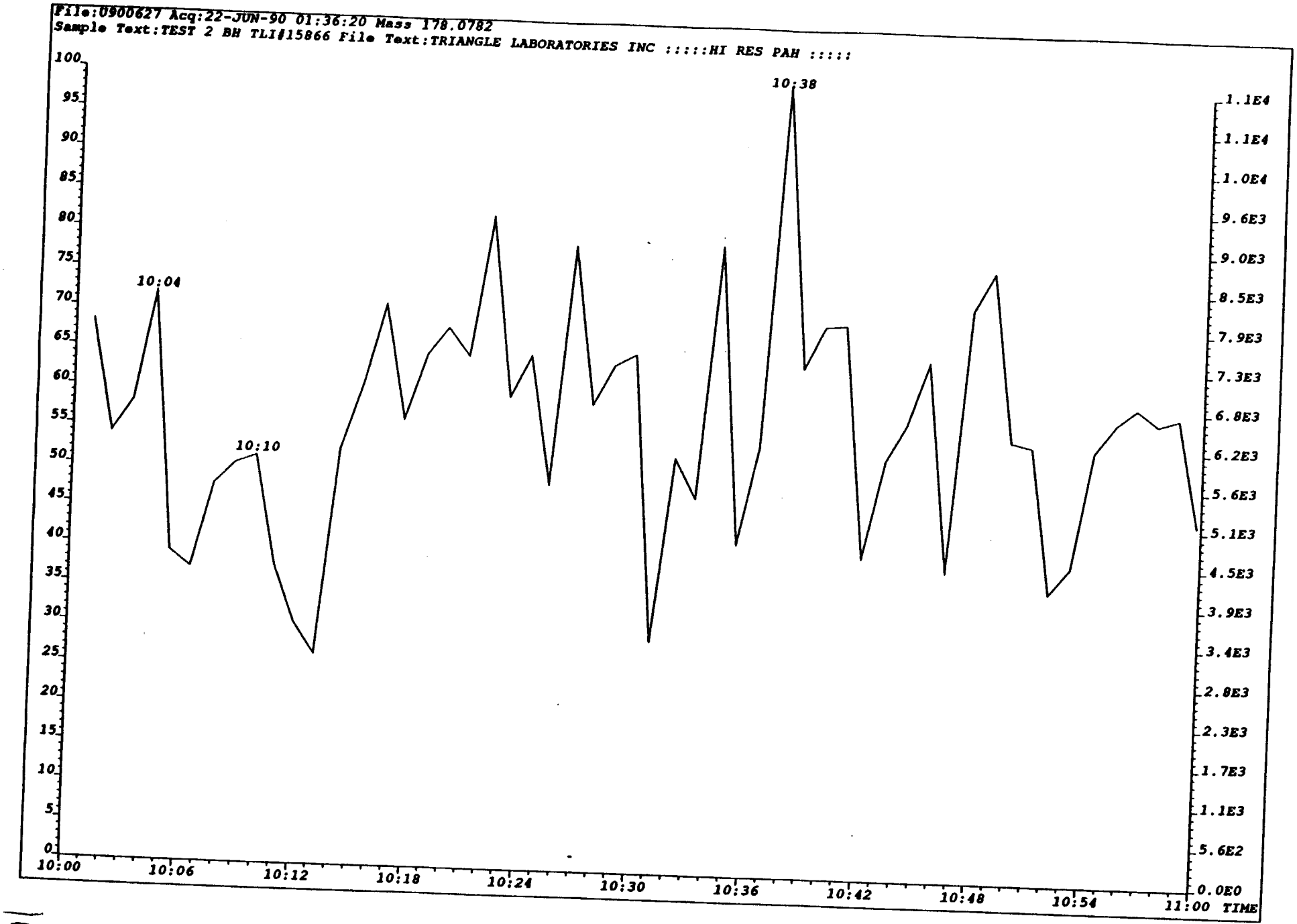
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
128	8:24	7329.91	9:59	173.40	10:20	38.00		
136	8:21	11046.21	10:21	37.02	13:57	33.13		
142	10:35	1912.32	10:56	923.42	12:29	44.15		
152	8:58	22.27	10:30	7260.95	10:49	92.63	11:40	31.90
154	12:08	876.07	13:35	46.35	15:00	26.32	15:47	20.10
	12:26	6.67	14:02	322.54	15:14	18.95	16:02	6.62
	12:38	8.27	14:14	196.00	15:30	33.11		
	12:52	120.77	14:40	94.80	15:40	50.92		
164	13:56	5370.38						
152	12:08	176.82	13:35	81.68	14:59	22.58	15:47	425.00
	12:28	50.72	14:01	3151.56	15:14	25.79		
	12:38	9.55	14:14	2460.63	15:30	748.04		
	12:52	2358.02	14:40	1687.05	15:40	1063.18		
160	13:25	7338.25	13:57	2189.53				
162	12:09	0.33	12:15	3.01	13:14	4.08	14:13	0.75
164	12:09	0.64	13:16	1.16	14:14	4.73		
	12:52	4.58	14:01	1.86	14:39	0.44		
169	12:05	5880.96	14:23	66.06				
171	12:05	1773.70						
166	14:01	3506.96	14:44	1136.57	16:06	29.86	17:18	70.98
	14:14	2926.12	15:28	1208.50	16:27	40.23		
	14:32	224.52	15:40	1460.52	16:44	233.24		
	14:39	849.97	15:46	555.15	17:08	358.74		
176	15:28	4361.86						
178	14:01	696.62	15:38	309.33	17:06	342.97	18:41	18.22
	14:14	668.24	15:46	145.69	17:18	82.05	18:47	5.41
	14:32	48.09	16:06	6.83	17:39	36.19	19:15	12.47
	14:39	491.62	16:27	70.21	18:02	7.80	19:35	20.34
	15:28	174.97	16:44	333.29	18:17	567.37	19:55	3.03
188	18:13	4214.18	18:22	3583.93				
202	21:09	14.46	21:32	246.17	22:08	271.90		

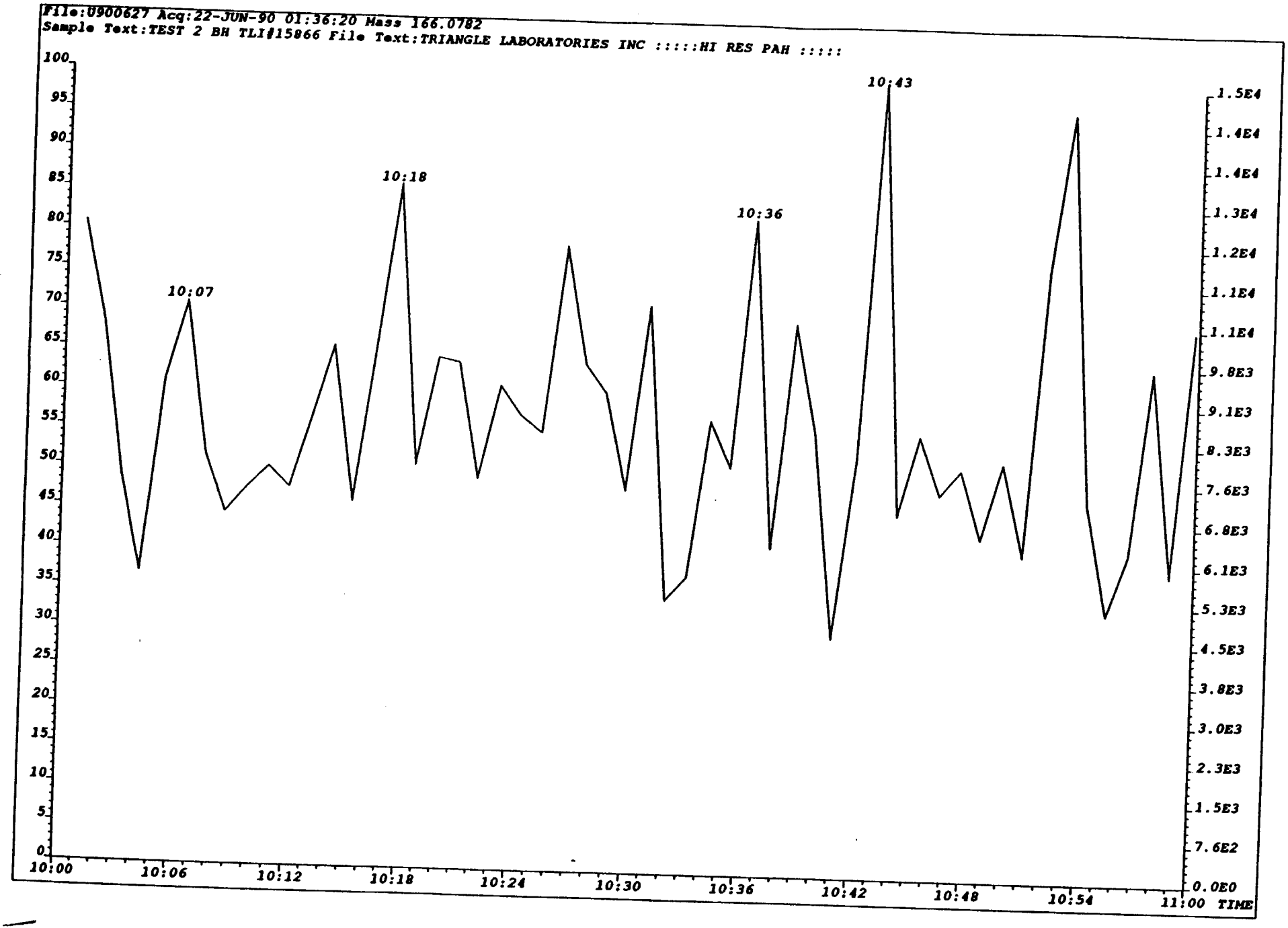
212 21:30	12803.11 | 22:06	10684.20			
228 21:05	2.39 | 22:03	1.21 | 24:17	1.82 | 25:33	461.07
21:14	2.24 | 22:10	28.93 | 24:26	2.29 | 26:41	2.55
21:31	2.63 | 22:37	18.24 | 24:44	1.80 | 27:27	4.08

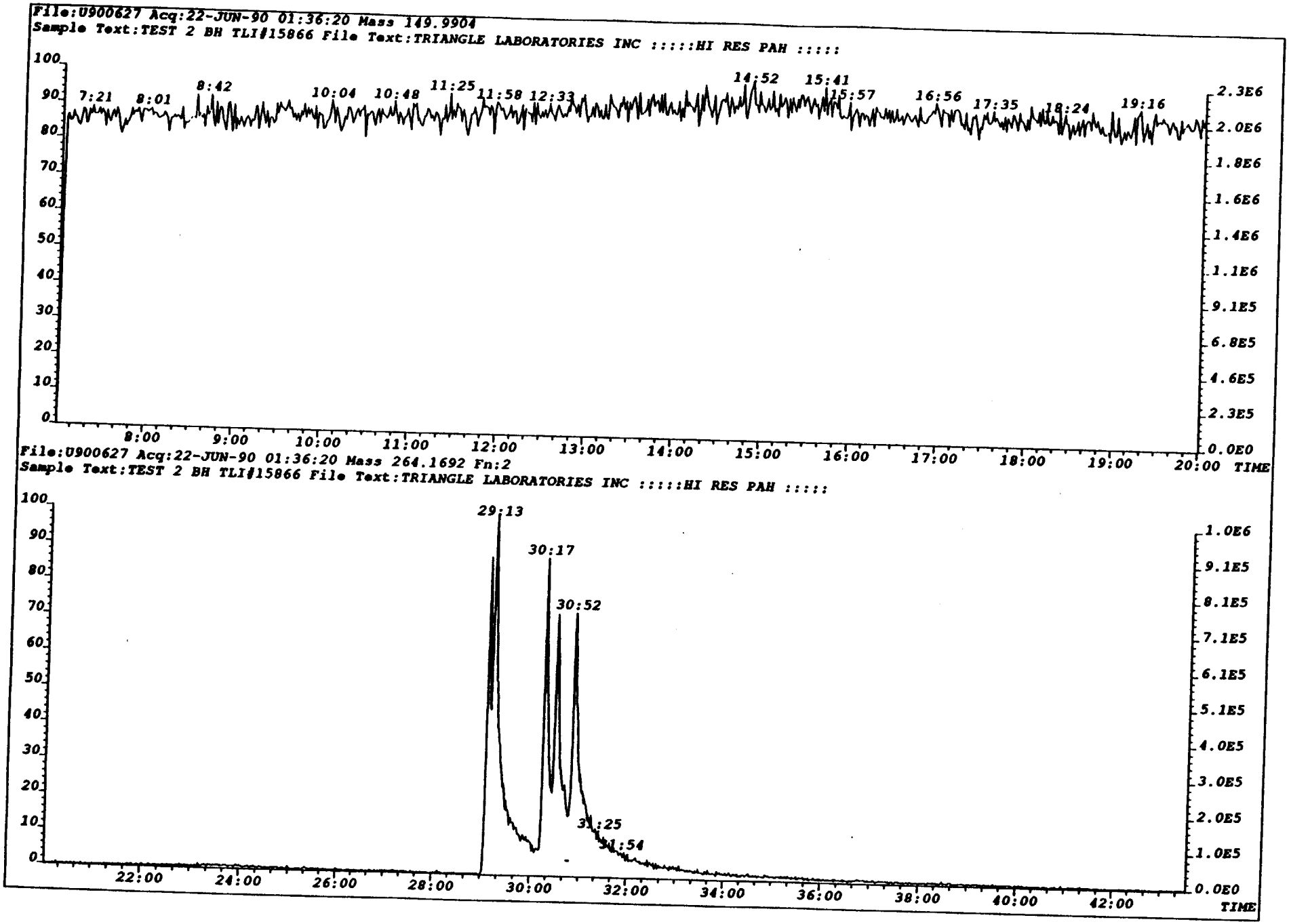
Listing of U900627I.dbf File
Raw Mass, Retention Time and Data Area

M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
240	25:22	1885.26	25:30	9354.65				
244	20:35	1.64	22:33	81.84	24:07	1.51	25:29	0.95
	22:07	1.34	23:05	1.61	25:15	0.65	26:21	1.84
252	26:06	6.54	27:18	7.11	29:58	2.66		
	26:55	0.89	29:16	3.91	30:25	3.69		
264	29:07	756.39	30:17	850.67	30:52	788.02		
	29:13	1975.65	30:30	909.40				
276	36:12	0.60	40:36	1.13	41:56	1.05		
288	36:43	80.08	39:07	1.61	39:36	3.20		
	37:19	0.91	39:20	1.24	39:55	0.65		
	38:28	193.22	39:27	2.68	40:32	1.03		
278	36:12	0.56	37:56	0.39				
292	36:45	60.39	39:07	0.80				

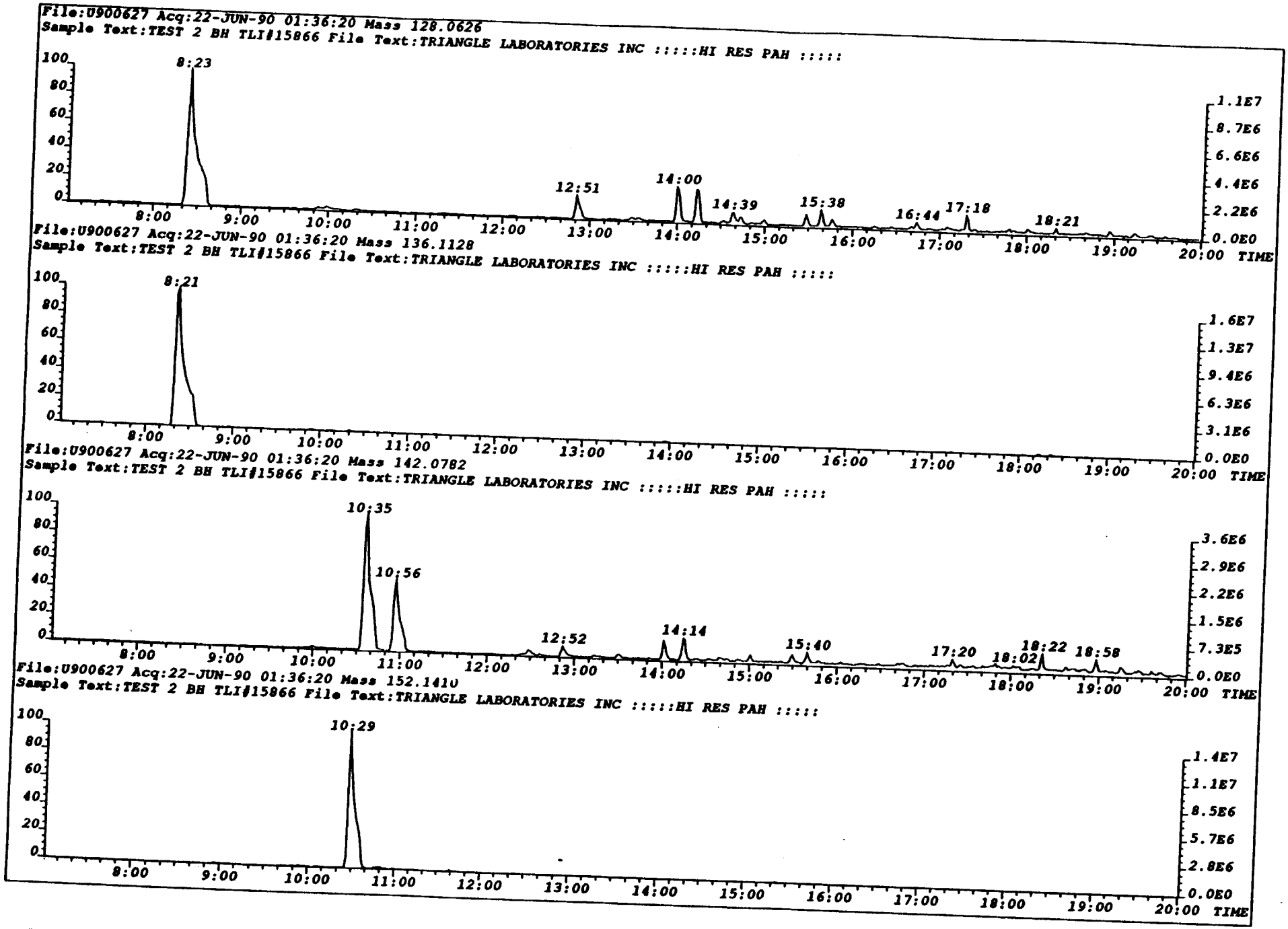
*** End of Report ***

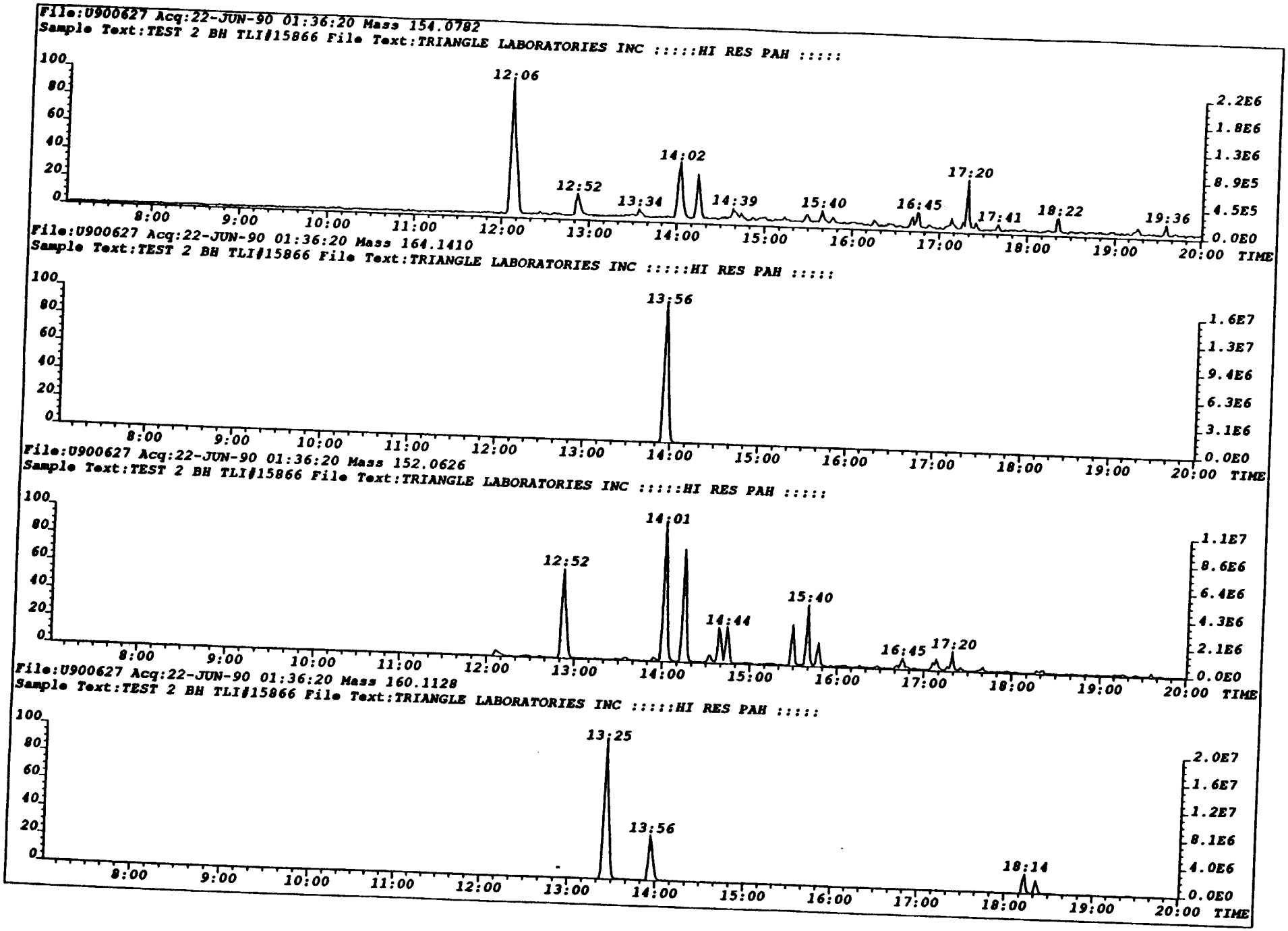

File:0900627 Acq:22-JUN-90 01:36:20 Mass 178.0782
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:04
10:10
10:38
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1.1E4
1.1E4
1.0E4
9.6E3
9.0E3
8.5E3
7.9E3
7.3E3
6.8E3
6.2E3
5.6E3
5.1E3
4.5E3
3.9E3
3.4E3
2.8E3
2.3E3
1.7E3
1.1E3
5.6E2
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

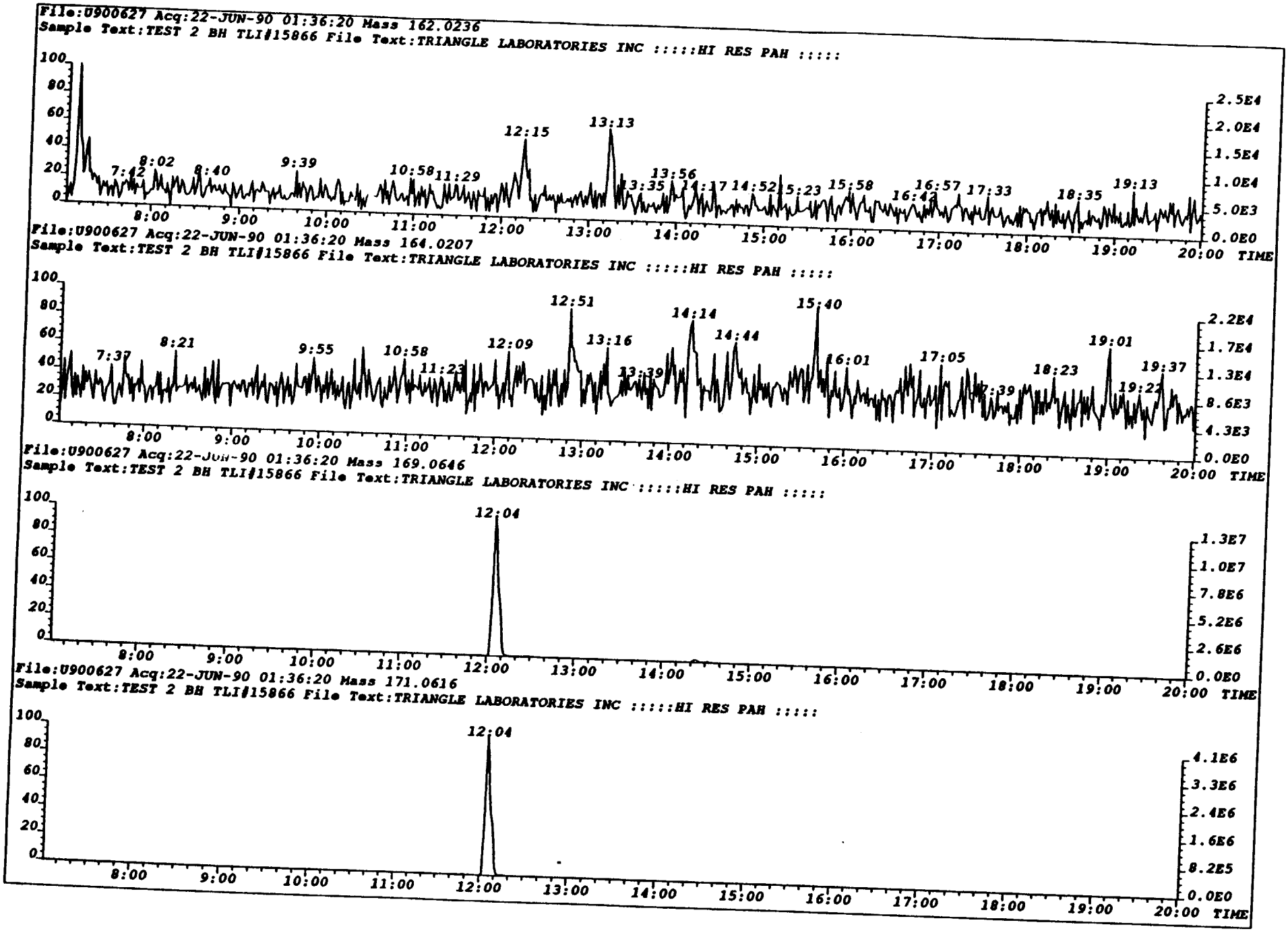

File:U900627 Acq:22-JUN-90 01:36:20 Mass 166.0782
Sample Text:TEST 2 BH TLI#15966 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:07
10:18
10:36
10:43
TIME

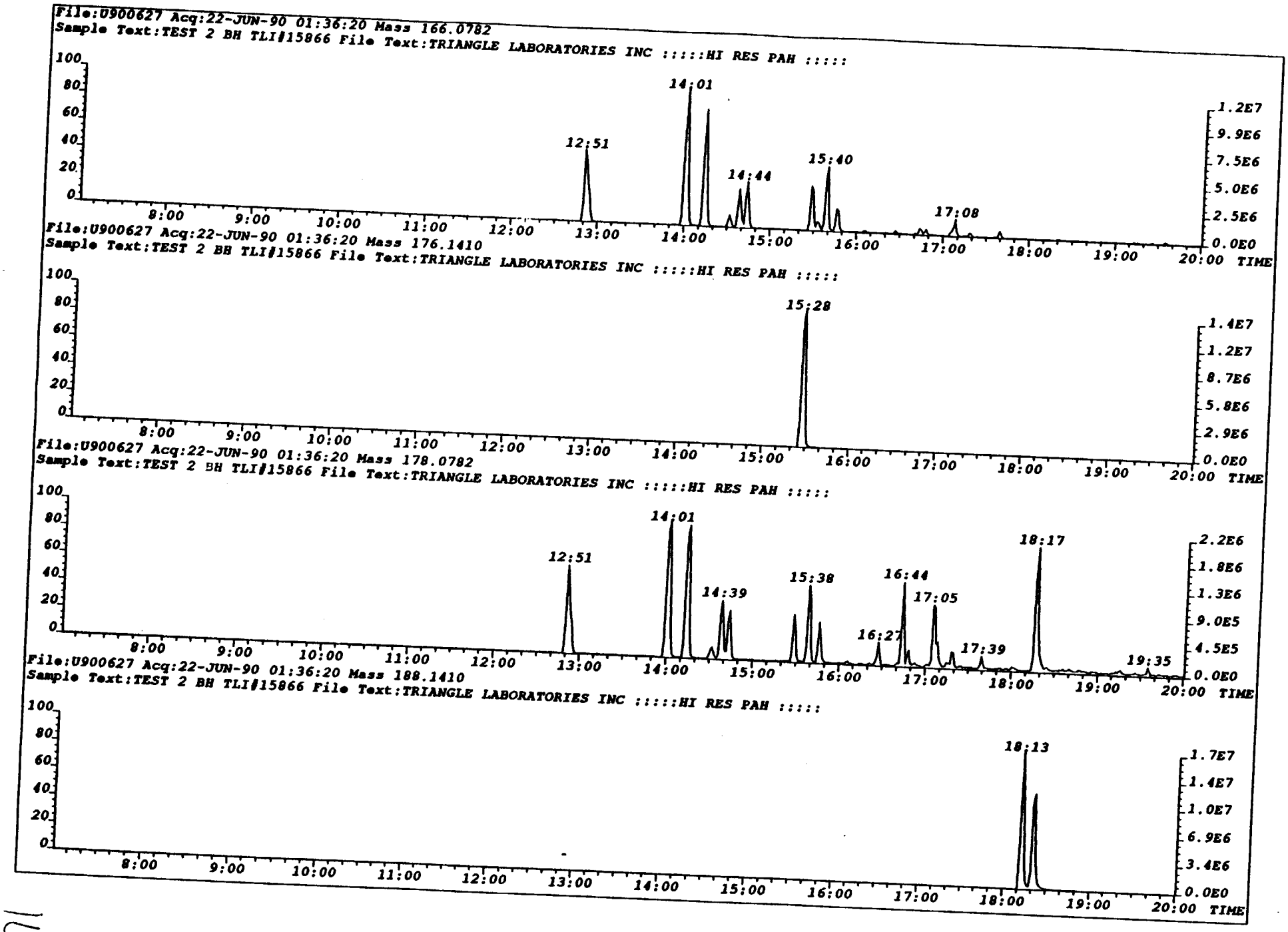

File:U900627 Acq:22-JUN-90 01:36:20 Mass 149.9904
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
7:21
8:01
8:42
10:04
10:48
11:25
11:58
12:33
14:52
15:41
15:57
16:56
17:35
18:24
19:16
TIME
File:U900627 Acq:22-JUN-90 01:36:20 Mass 264.1692 Fn:2
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
29:13
30:17
30:52
31:25
31:54
TIME

2

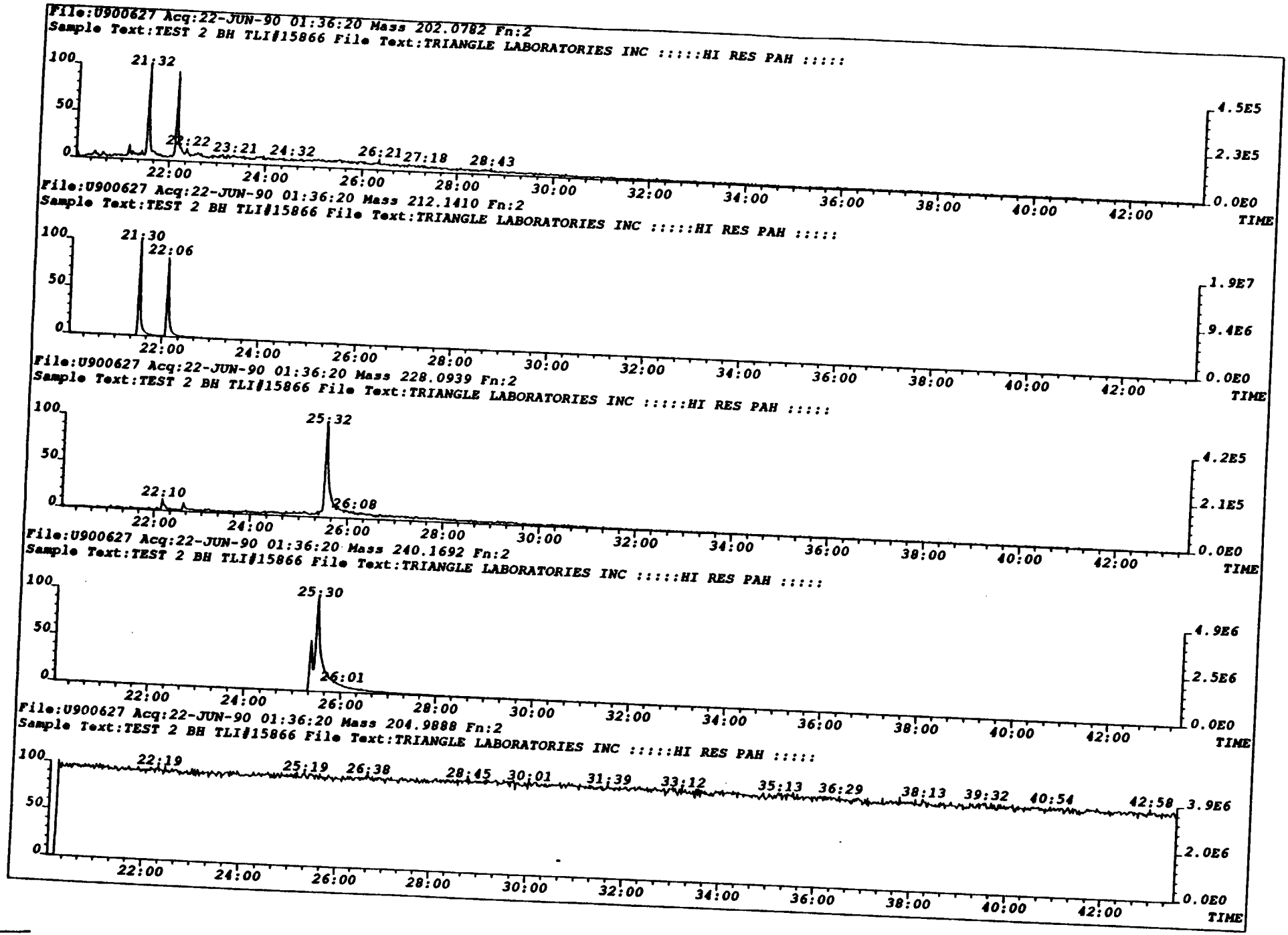

File:U900627 Acq:22-JUN-90 01:36:20 Mass 128.0626
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:23
12:51
14:00
14:39
15:38
16:44
17:18
18:21
1.1E7
8.7E6
6.6E6
4.4E6
2.2E6
0.0E0
TIME
File:U900627 Acq:22-JUN-90 01:36:20 Mass 136.1128
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:21
1.6E7
1.3E7
9.4E6
6.3E6
3.1E6
0.0E0
TIME
File:U900627 Acq:22-JUN-90 01:36:20 Mass 142.0782
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:35
10:56
12:52
14:14
15:40
17:20
18:02
18:22
18:58
3.6E6
2.9E6
2.2E6
1.5E6
7.3E5
0.0E0
TIME
File:U900627 Acq:22-JUN-90 01:36:20 Mass 152.1410
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:29
1.4E7
1.1E7
8.5E6
5.7E6
2.8E6
0.0E0
TIME

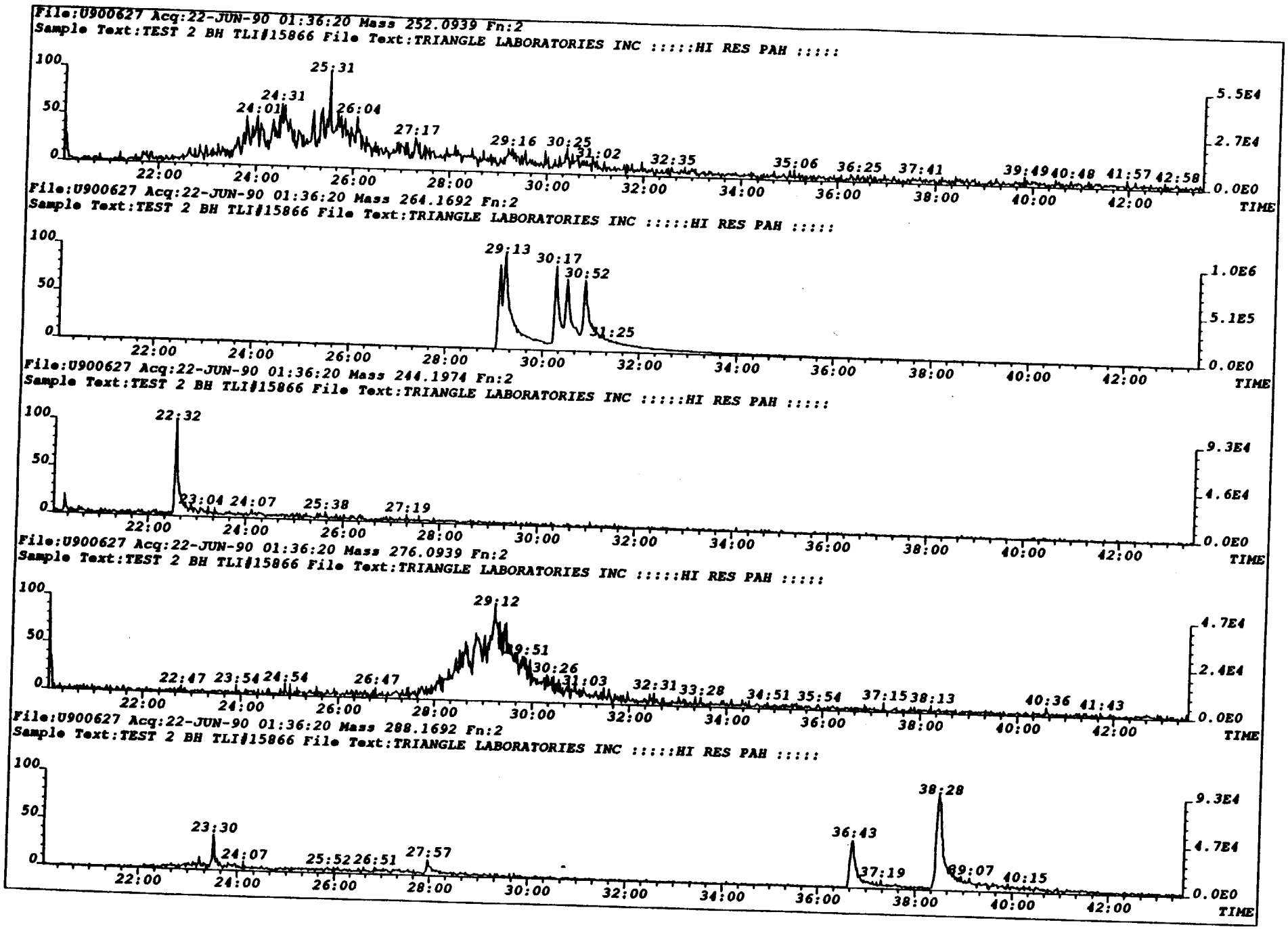

File:U900627 Acq:22-JUN-90 01:36:20 Mass 154.0782
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:06
12:52
13:34
14:02
14:39
15:40
16:45
17:20
17:41
18:22
19:36
File:U900627 Acq:22-JUN-90 01:36:20 Mass 164.1410
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:56
File:U900627 Acq:22-JUN-90 01:36:20 Mass 152.0626
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:52
14:01
14:44
15:40
16:45
17:20
File:U900627 Acq:22-JUN-90 01:36:20 Mass 160.1128
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:25
13:56
18:14
TIME


File:U900627 Acq:22-JUN-90 01:36:20 Mass 162.0236
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
File:U900627 Acq:22-JUN-90 01:36:20 Mass 164.0207
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
File:U900627 Acq:22-JUN-90 01:36:20 Mass 169.0646
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
File:U900627 Acq:22-JUN-90 01:36:20 Mass 171.0616
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
TIME

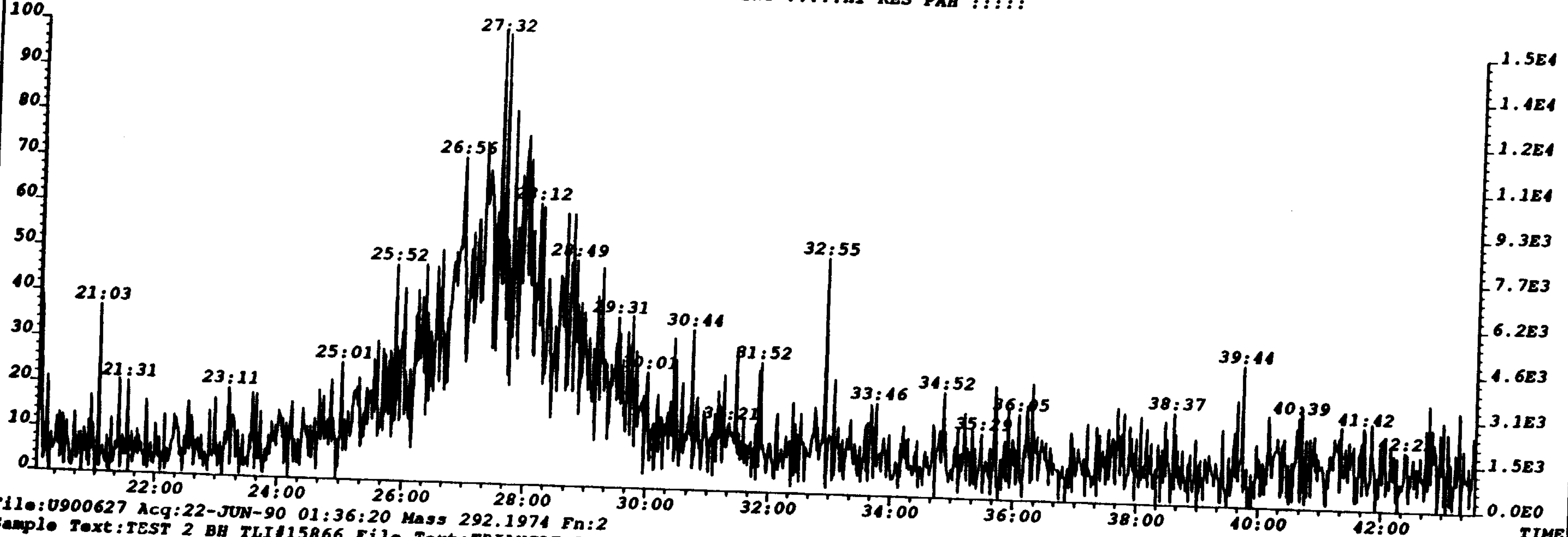

File:U900627 Acq:22-JUN-90 01:36:20 Mass 166.0782
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:51
14:01
14:44
15:40
17:08
1.2E7
9.9E6
7.5E6
5.0E6
2.5E6
0.0E0
TIME
File:U900627 Acq:22-JUN-90 01:36:20 Mass 176.1410
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
15:28
1.4E7
1.2E7
8.7E6
5.8E6
2.9E6
0.0E0
TIME
File:U900627 Acq:22-JUN-90 01:36:20 Mass 178.0782
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:51
14:01
14:39
15:38
16:27
16:44
17:05
17:39
18:17
19:35
2.2E6
1.8E6
1.3E6
9.0E5
4.5E5
0.0E0
TIME
File:U900627 Acq:22-JUN-90 01:36:20 Mass 188.1410
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
18:13
1.7E7
1.4E7
1.0E7
6.9E6
3.4E6
0.0E0
TIME

19

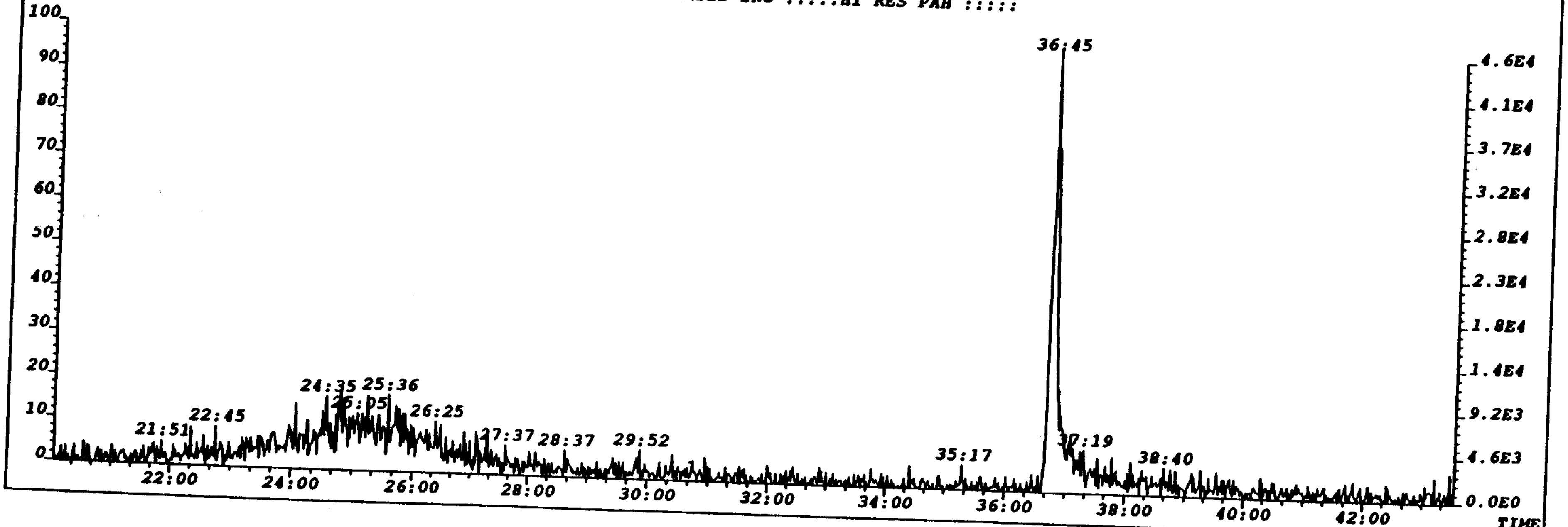

File:U900627 Acq:22-JUN-90 01:36:20 Mass 202.0782 Fn:2
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:32
22:22
23:21
24:32
26:21
27:18
28:43
4.5E5
2.3E5
0.0E0
TIME
File:U900627 Acq:22-JUN-90 01:36:20 Mass 212.1410 Fn:2
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:30
22:06
1.9E7
9.4E6
0.0E0
TIME
File:U900627 Acq:22-JUN-90 01:36:20 Mass 228.0939 Fn:2
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
25:32
22:10
26:08
4.2E5
2.1E5
0.0E0
TIME
File:U900627 Acq:22-JUN-90 01:36:20 Mass 240.1692 Fn:2
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
25:30
26:01
4.9E6
2.5E6
0.0E0
TIME
File:U900627 Acq:22-JUN-90 01:36:20 Mass 204.9888 Fn:2
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:19
25:19
26:38
28:45
30:01
31:39
33:12
35:13
36:29
38:13
39:32
40:54
42:58
3.9E6
2.0E6
0.0E0
TIME


File:U900627 Acq:22-JUN-90 01:36:20 Mass 252.0939 Fn:2
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
25:31
24:31
24:01
26:04
27:17
29:16
30:25
31:02
32:35
35:06
36:25
37:41
39:49
40:48
41:57
42:58
5.5E4
2.7E4
0.0E0
TIME
File:U900627 Acq:22-JUN-90 01:36:20 Mass 264.1692 Fn:2
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
29:13
30:17
30:52
31:25
1.0E6
5.1E5
0.0E0
TIME
File:U900627 Acq:22-JUN-90 01:36:20 Mass 244.1974 Fn:2
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:32
23:04
24:07
25:38
27:19
9.3E4
4.6E4
0.0E0
TIME
File:U900627 Acq:22-JUN-90 01:36:20 Mass 276.0939 Fn:2
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
29:12
22:47
23:54
24:54
26:47
29:51
30:26
31:03
32:31
33:28
34:51
35:54
37:15
38:13
40:36
41:43
4.7E4
2.4E4
0.0E0
TIME
File:U900627 Acq:22-JUN-90 01:36:20 Mass 288.1692 Fn:2
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
38:28
23:30
36:43
24:07
25:52
26:51
27:57
37:19
39:07
40:15
9.3E4
4.7E4
0.0E0
TIME

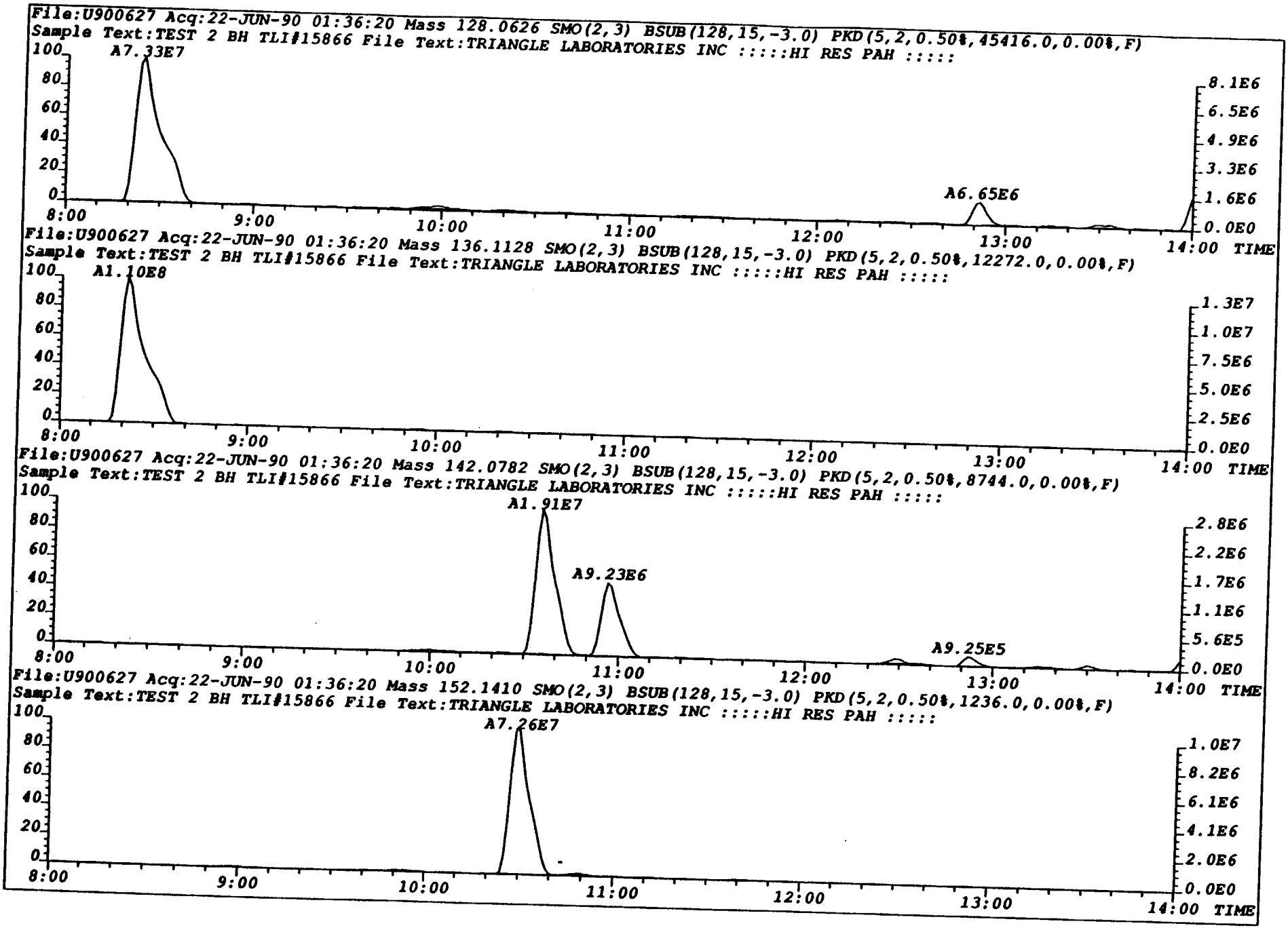
File:U900627 Acq:22-JUN-90 01:36:20 Mass 278.1096 Fn:2
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::

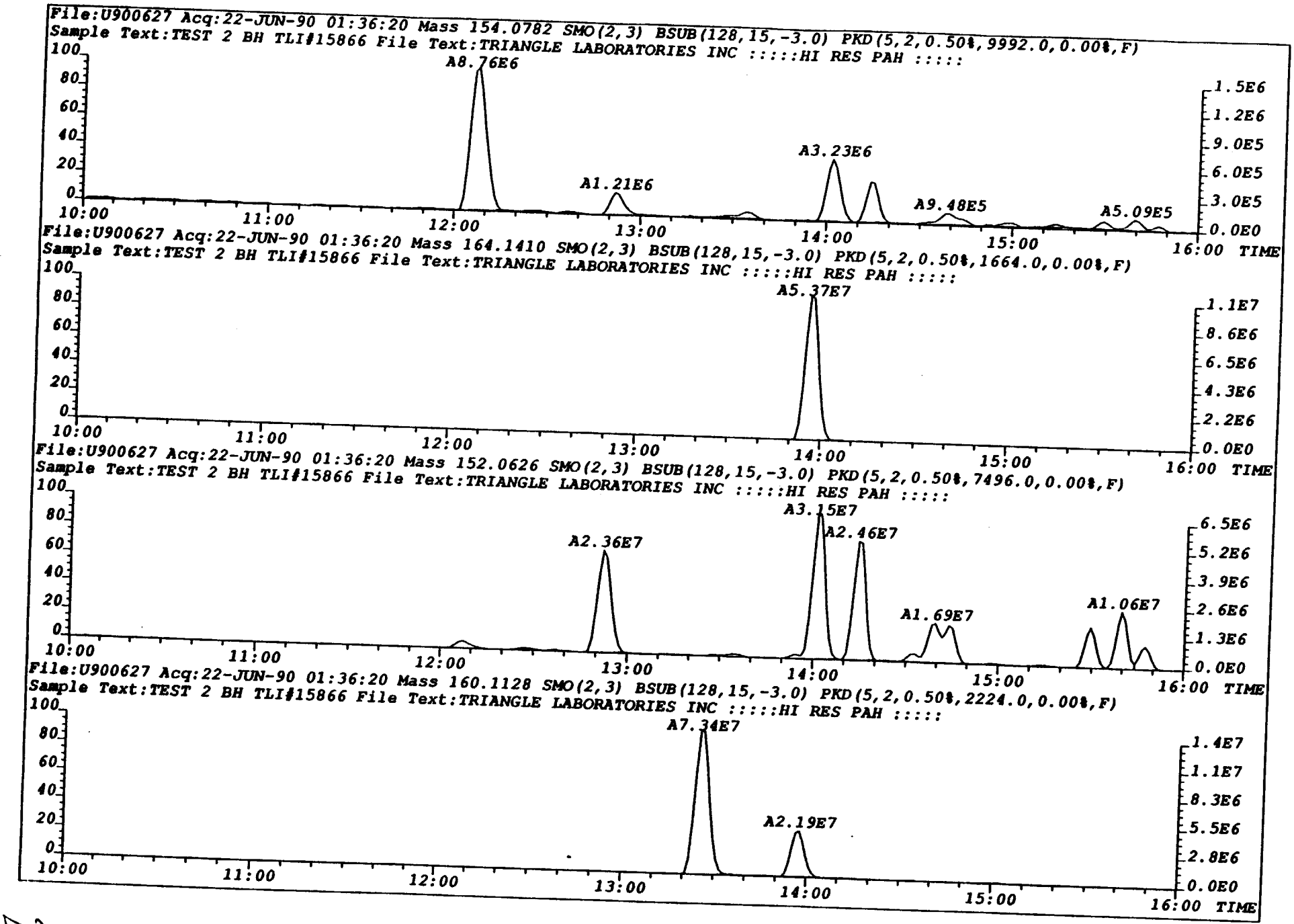


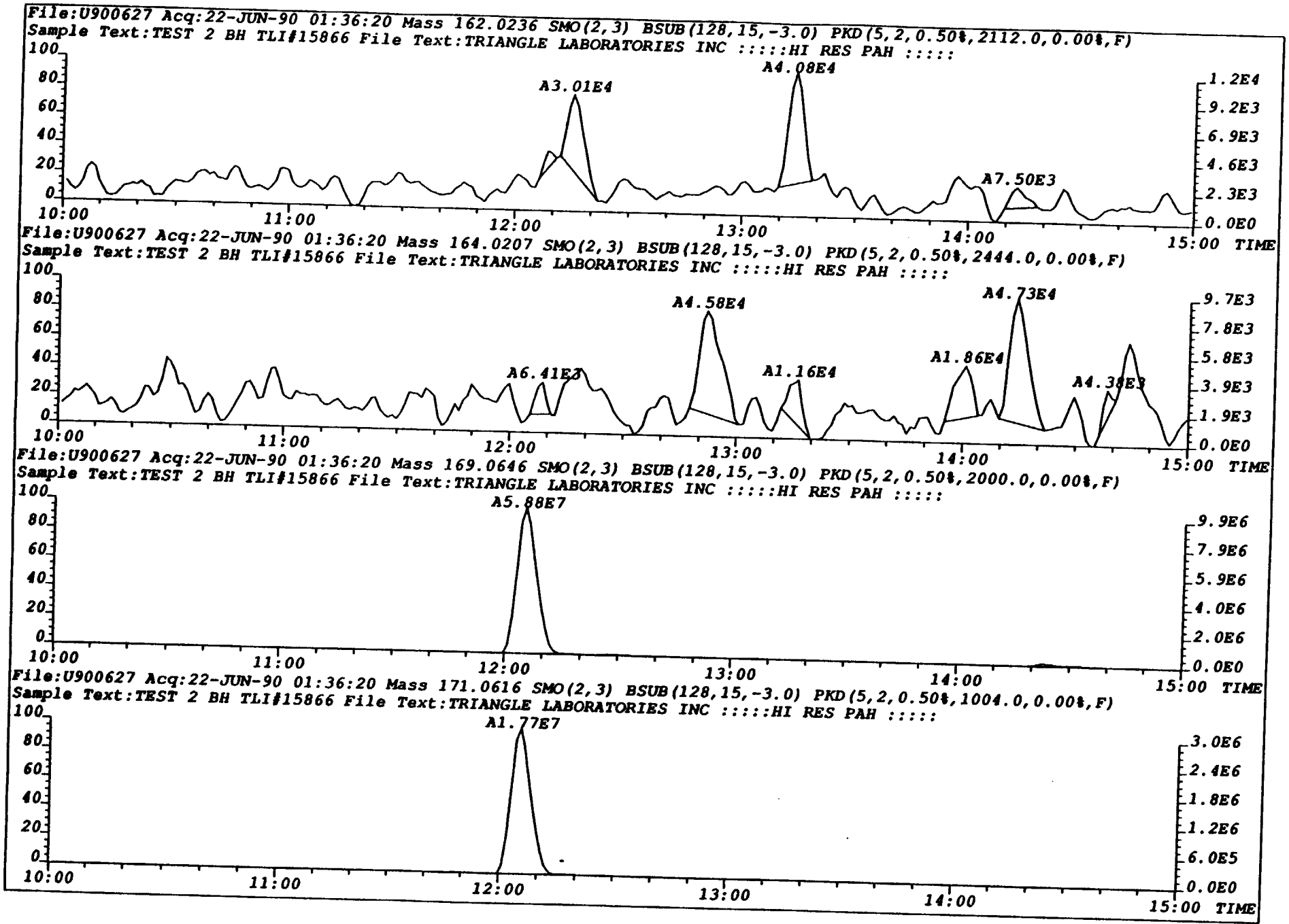
File:U900627 Acq:22-JUN-90 01:36:20 Mass 292.1974 Fn:2
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::

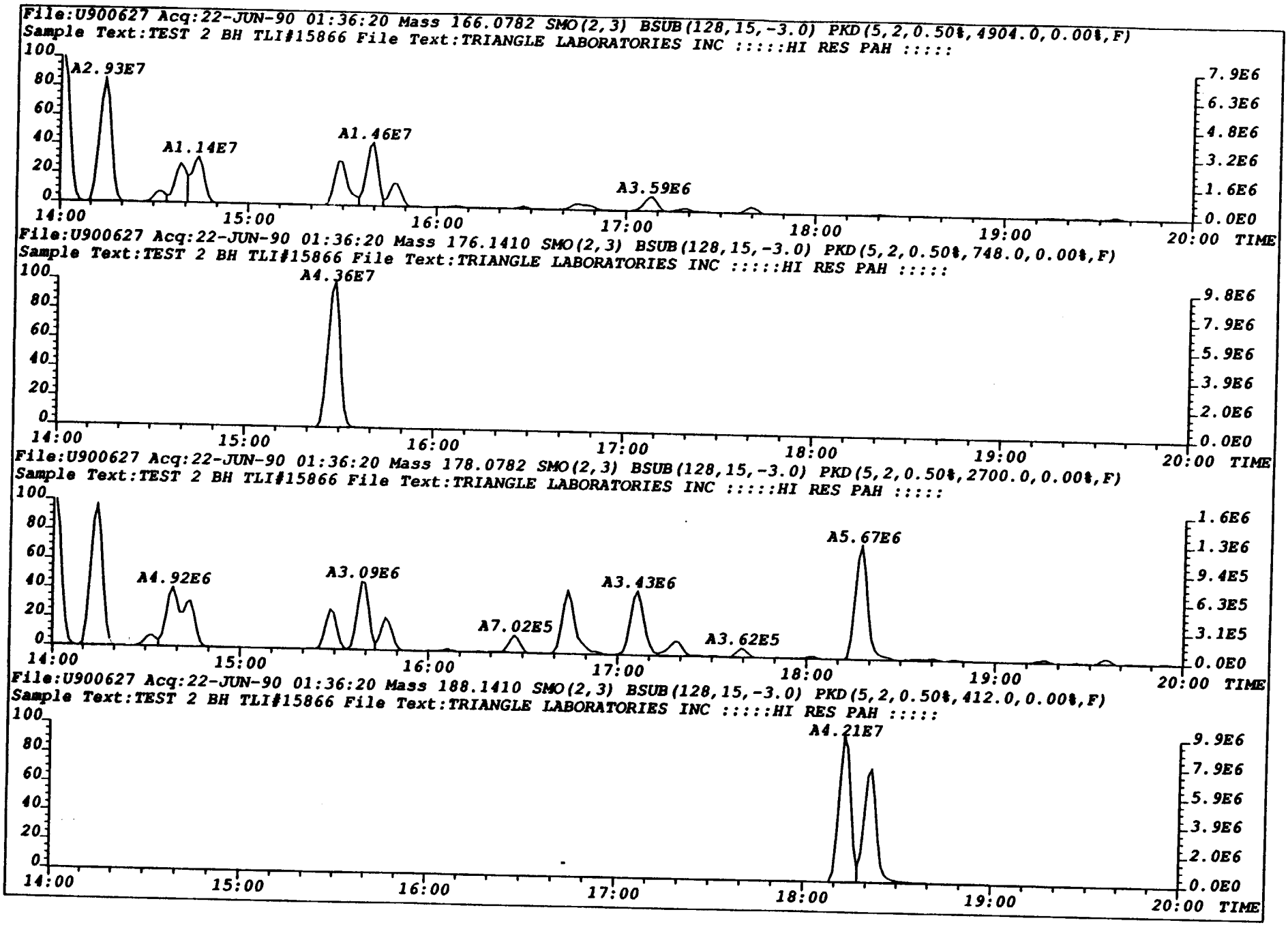


19

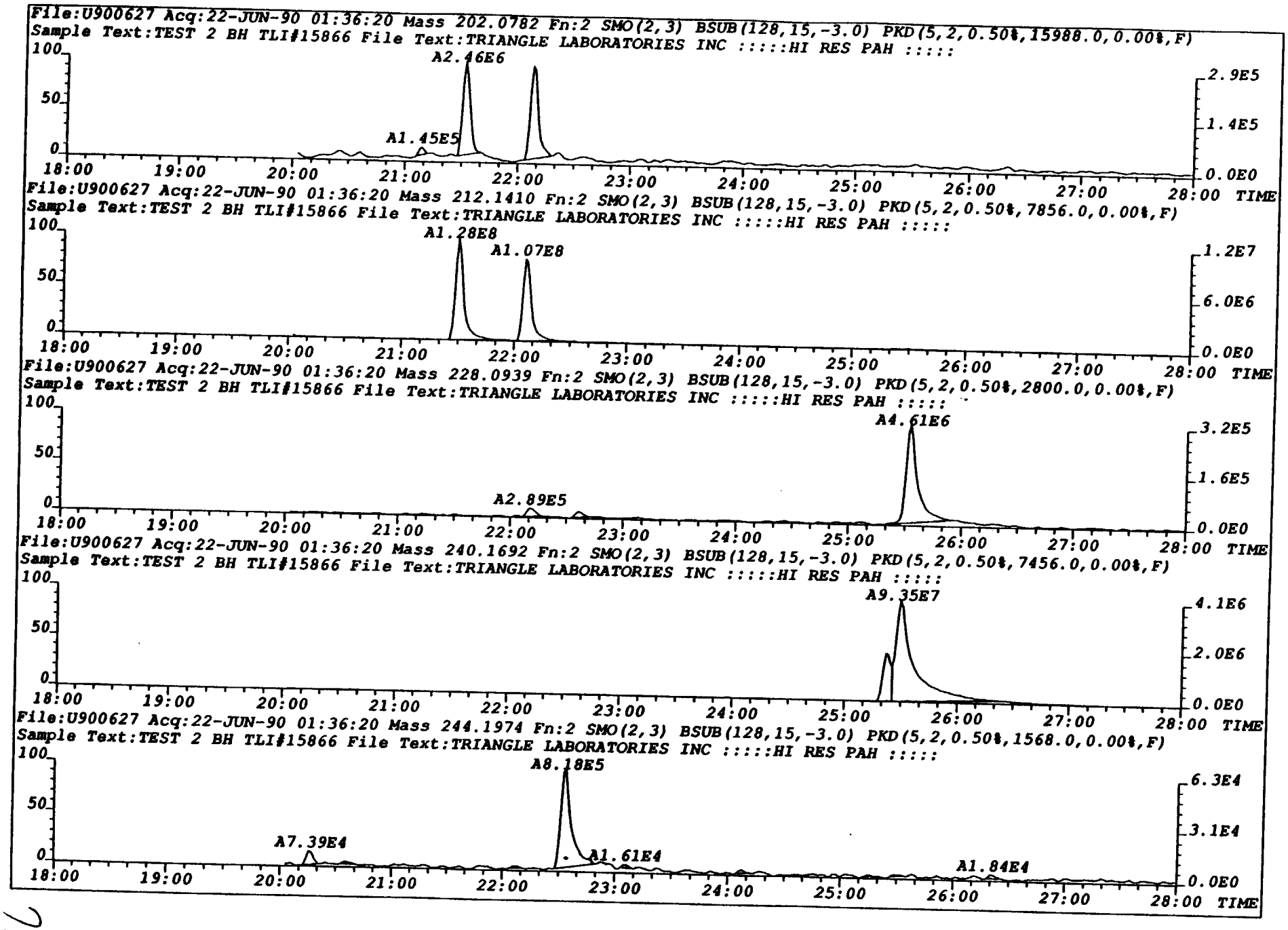

File:U900627 Acq:22-JUN-90 01:36:20 Mass 128.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,45416.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.33E7
A6.65E6
File:U900627 Acq:22-JUN-90 01:36:20 Mass 136.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,12272.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.10E8
File:U900627 Acq:22-JUN-90 01:36:20 Mass 142.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,8744.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.91E7
A9.23E6
A9.25E5
File:U900627 Acq:22-JUN-90 01:36:20 Mass 152.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1236.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.26E7
TIME

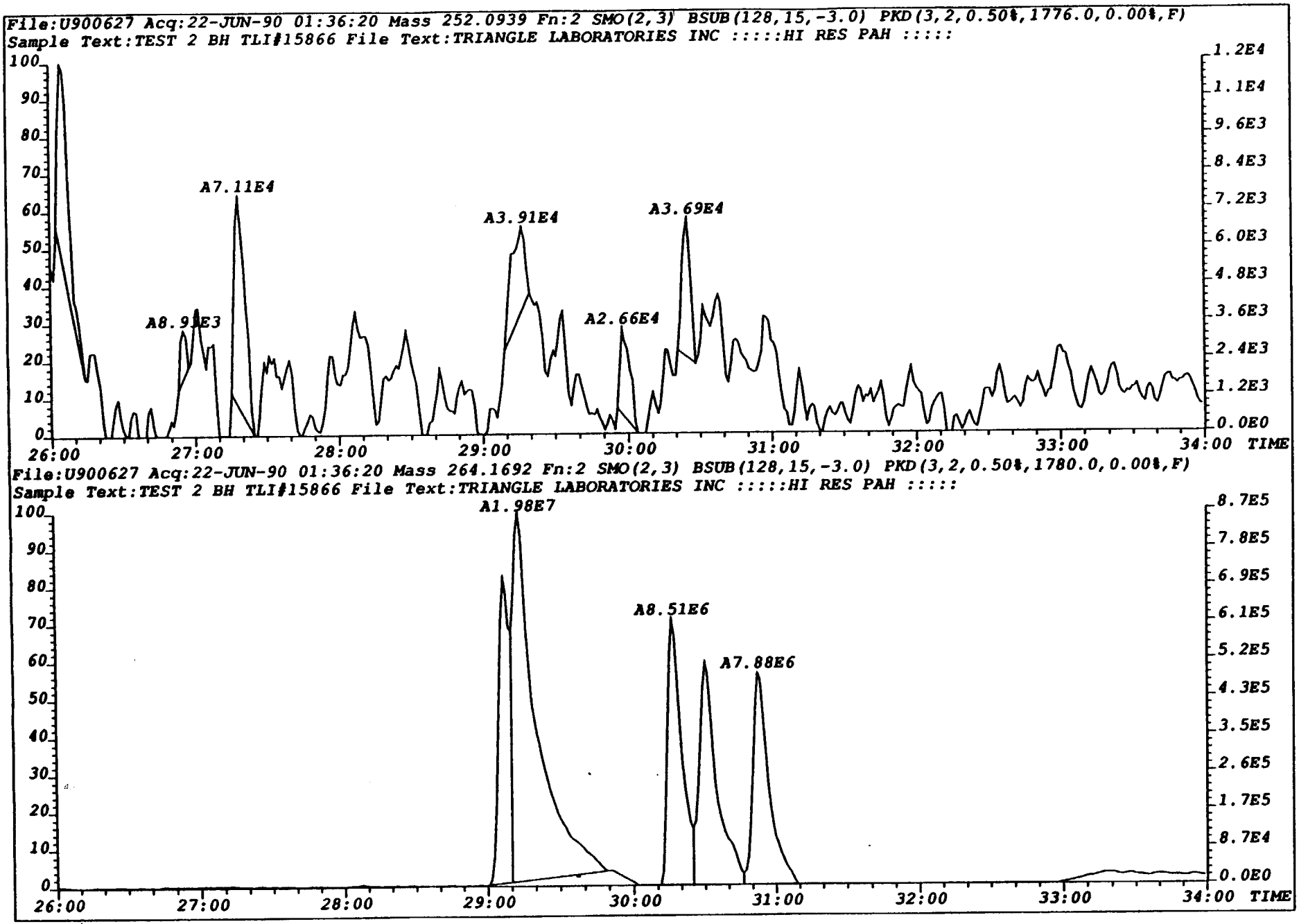

File:U900627 Acq:22-JUN-90 01:36:20 Mass 154.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,9992.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A8.76E6
A1.21E6
A3.23E6
A9.48E5
A5.09E5
File:U900627 Acq:22-JUN-90 01:36:20 Mass 164.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1664.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A5.37E7
File:U900627 Acq:22-JUN-90 01:36:20 Mass 152.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7496.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.36E7
A3.15E7
A2.46E7
A1.69E7
A1.06E7
File:U900627 Acq:22-JUN-90 01:36:20 Mass 160.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2224.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.34E7
A2.19E7
10:00
11:00
12:00
13:00
14:00
15:00
16:00
TIME


File:U900627 Acq:22-JUN-90 01:36:20 Mass 162.0236 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2112.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.01E4
A4.08E4
A7.50E3
File:U900627 Acq:22-JUN-90 01:36:20 Mass 164.0207 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2444.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.41E3
A4.58E4
A1.16E4
A1.86E4
A4.73E4
A4.38E3
File:U900627 Acq:22-JUN-90 01:36:20 Mass 169.0646 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2000.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A5.88E7
File:U900627 Acq:22-JUN-90 01:36:20 Mass 171.0616 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1004.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.77E7
TIME

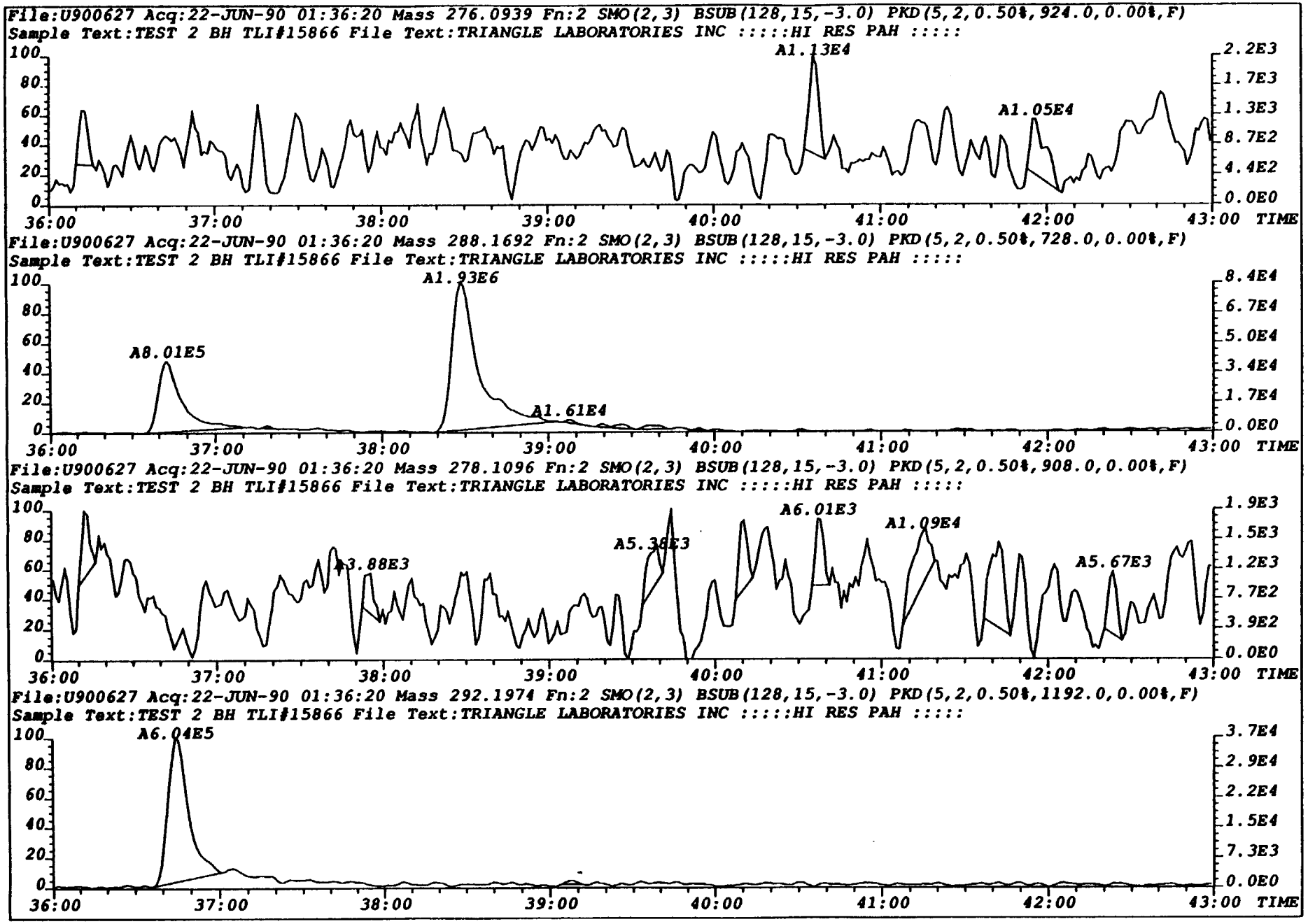

File:U900627 Acq:22-JUN-90 01:36:20 Mass 166.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,4904.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.93E7
A1.14E7
A1.46E7
A3.59E6
File:U900627 Acq:22-JUN-90 01:36:20 Mass 176.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,748.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.36E7
File:U900627 Acq:22-JUN-90 01:36:20 Mass 178.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2700.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.92E6
A3.09E6
A7.02E5
A3.43E6
A3.62E5
A5.67E6
File:U900627 Acq:22-JUN-90 01:36:20 Mass 188.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,412.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.21E7
14:00
15:00
16:00
17:00
18:00
19:00
20:00
TIME

12


File:U900627 Acq:22-JUN-90 01:36:20 Mass 202.0782 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,15988.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.46E6
A1.45E5
File:U900627 Acq:22-JUN-90 01:36:20 Mass 212.1410 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7856.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.28E8
A1.07E8
File:U900627 Acq:22-JUN-90 01:36:20 Mass 228.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2800.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.61E6
A2.89E5
File:U900627 Acq:22-JUN-90 01:36:20 Mass 240.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7456.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A9.35E7
File:U900627 Acq:22-JUN-90 01:36:20 Mass 244.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1568.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A8.18E5
A7.39E4
A1.61E4
A1.84E4
TIME


File:U900627 Acq:22-JUN-90 01:36:20 Mass 252.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,1776.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.11E4
A3.91E4
A3.69E4
A8.91E3
A2.66E4
TIME
File:U900627 Acq:22-JUN-90 01:36:20 Mass 264.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,1780.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.98E7
A8.51E6
A7.88E6
TIME

25


File:U900627 Acq:22-JUN-90 01:36:20 Mass 276.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,924.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.13E4
A1.05E4
File:U900627 Acq:22-JUN-90 01:36:20 Mass 288.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,728.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.93E6
A8.01E5
A1.61E4
File:U900627 Acq:22-JUN-90 01:36:20 Mass 278.1096 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,908.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.01E3
A1.09E4
A5.38E3
A3.88E3
A5.67E3
File:U900627 Acq:22-JUN-90 01:36:20 Mass 292.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1192.0,0.00%,F)
Sample Text:TEST 2 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.04E5
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
TIME

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

FILE NAME....: U900628
CONCAL.....: U900619
ANALYST.....: MC
SAMPLE SIZE..: 1.00
ICAL DATE....: 06/21/90
SPIKE FILE...: SPPAHH1C

CLIENT ID....: P&S
SAMPLE ID....: BH TEST 3
ANALYSIS DATE: 06/22/90
SAMPLE MATRIX: MM5 BH
SAMPLE ORIGIN: HRSG OUT

TLI NUMBER....: 32-73-3CEF
PROJECT NUMBER: 15866
DATE RECEIVED.: 05/30/90
DATE COLLECTED: 05/23/90
SHIPMENT NO...: UTS

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	95.3			8:25	B
2-Me-Naph	40.4			10:36	B
2-Cl-Naph	ND		0.1		
Acenaphthen	28.3			14:02	B
Acenaph	ND		0.1		
Fluorene	165			15:29	B
Phenan	12.2			18:17	B
Anth	ND		0.3		
Fluoran	1.9			21:32	B
Pyrene	1.7			22:09	B
B-a-Anth	ND		0.3		—
Chrysene	2.7			25:32	—
B-b-Fluoran	ND		0.7		—
B-k-Fluoran	ND		0.3		—
B-e-Pyrene	ND		0.5		—
B-a-Pyrene	ND		0.6		—
Perylene	ND		0.6		—
I-123-cd-Py	ND		4.4		—
DiB-ah-Anth	ND		7.1		—
B-ghi-Pery	ND		4.2		—

SURROGATE RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	45.9	45.9	22:33	—

ALTERNATE STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	431	431	18:21	—

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

FILE NAME....:	U900628	CLIENT ID....:	P&S	TLI NUMBER....:	32-73-3CEF
CONCAL.....:	U900619	SAMPLE ID....:	BH TEST 3		
ANALYST.....:	MC	ANALYSIS DATE:	06/22/90	PROJECT NUMBER:	15866
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5 BH	DATE RECEIVED.:	05/30/90
ICAL DATE....:	06/21/90	SAMPLE ORIGIN:	HRSG OUT	DATE COLLECTED:	05/23/90
SPIKE FILE...:	SPPAHH1C			SHIPMENT NO...:	UTS

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	293	293	8:22	___
d10-2-Me-Naph	338	338	10:29	___
d7-2-Cl-Naph	346	346	12:06	___
d8-Acenaph	349	349	13:26	___
d10-Acenaphthen	373	373	13:57	___
d10-Fluorene	414	414	15:28	___
d10-Phenan	357	357	18:14	___
d10-Fluoran	460	460	21:30	___
d10-Pyrene	478	478	22:07	___
d12-B-a-Anth	190	190	25:23	___
d12-Chrysene	371	371	25:29	___
d12-B-b-Fluoran	113	113	29:08	___
d12-B-k-Fluoran	151	151	29:13	___
d12-B-a-Pyrene	116	116	30:31	___
d12-Perylene	181	181	30:53	___
d12-I-123-cd-Py	42.8	42.8	36:43	___
d14-DiB-ah-Anth	36.5	36.5	36:46	___
d12-B-ghi-Pery	36.5	36.5	38:29	___

PAHH_RPT rev:1.00.

DL 2.7

Page No. 1 Listing of U9006288.dbf
06/27/90

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128		0.00	8:25	6692.77	T	T	1.006	✓
		0.00	9:59	68.43	T	F	1.193	
		0.00	10:21	17.32	T	F	1.237	
128		*** Total ***		6778.52	# of Peaks:		3	
136		0.00	8:22	8437.64	T	~~F~~ T	0.623	✓
		0.00	13:57	34.04	T	F	1.038	
136		*** Total ***		8471.68	# of Peaks:		2	
142		0.00	10:36	2008.48	T	T	1.011	✓
		0.00	10:57	913.27	T	F	1.045	
		0.00	12:29	90.31	T	F	1.191	
142		*** Total ***		3012.06	# of Peaks:		3	
152		0.00	8:58	18.25	T	F	0.667	
		0.00	9:54	24.25	T	F	0.737	
		0.00	10:29	5745.29	T	~~F~~ T	0.780	✓
		0.00	10:49	41.35	T	F	0.805	
		0.00	11:41	25.45	T	F	0.870	
		0.00	12:07	173.83	T	F	0.902	
		0.00	12:27	210.29	T	F	0.927	
		0.00	12:53	12978.74	T	F	0.959	
		0.00	14:02	20222.20	T	F	1.045	
		0.00	14:15	15342.60	T	F	1.061	
		0.00	14:33	2505.74	T	F	1.083	
		0.00	14:39	10818.57	T	F	1.091	
		0.00	15:29	5909.96	T	F	1.153	
		0.00	15:40	8003.39	T	F	1.166	
		0.00	15:47	3081.89	T	F	1.175	
152		*** Total ***		85101.80	# of Peaks:		15	
154		0.00	12:07	1064.83	T	F	0.869	
		0.00	12:28	26.62	T	F	0.894	
		0.00	12:37	11.43	T	F	0.904	
		0.00	12:53	690.20	T	F	0.924	
		0.00	13:27	3.92	T	F	0.964	
		0.00	13:35	6.51	T	F	0.974	
		0.00	14:02	1207.47	T	T	1.006	✓
		0.00	14:15	1195.75	T	F	1.022	
		0.00	14:39	672.83	T	F	1.050	
		0.00	14:59	19.51	T	F	1.074	
		0.00	15:15	41.28	T	F	1.093	
		0.00	15:29	244.85	T	F	1.110	
		0.00	15:39	366.58	T	F	1.122	
		0.00	15:47	177.52	T	F	1.131	
		0.00	15:58	4.01	T	F	1.145	
154		*** Total ***		5733.31	# of Peaks:		15	
160		0.00	13:26	6110.71	T	~~F~~ T	0.443	✓
		0.00	13:57	1745.68	T	F	0.460	
160		*** Total ***		7856.39	# of Peaks:		2	

162	0.16	12:53	20.74	F	F	1.065

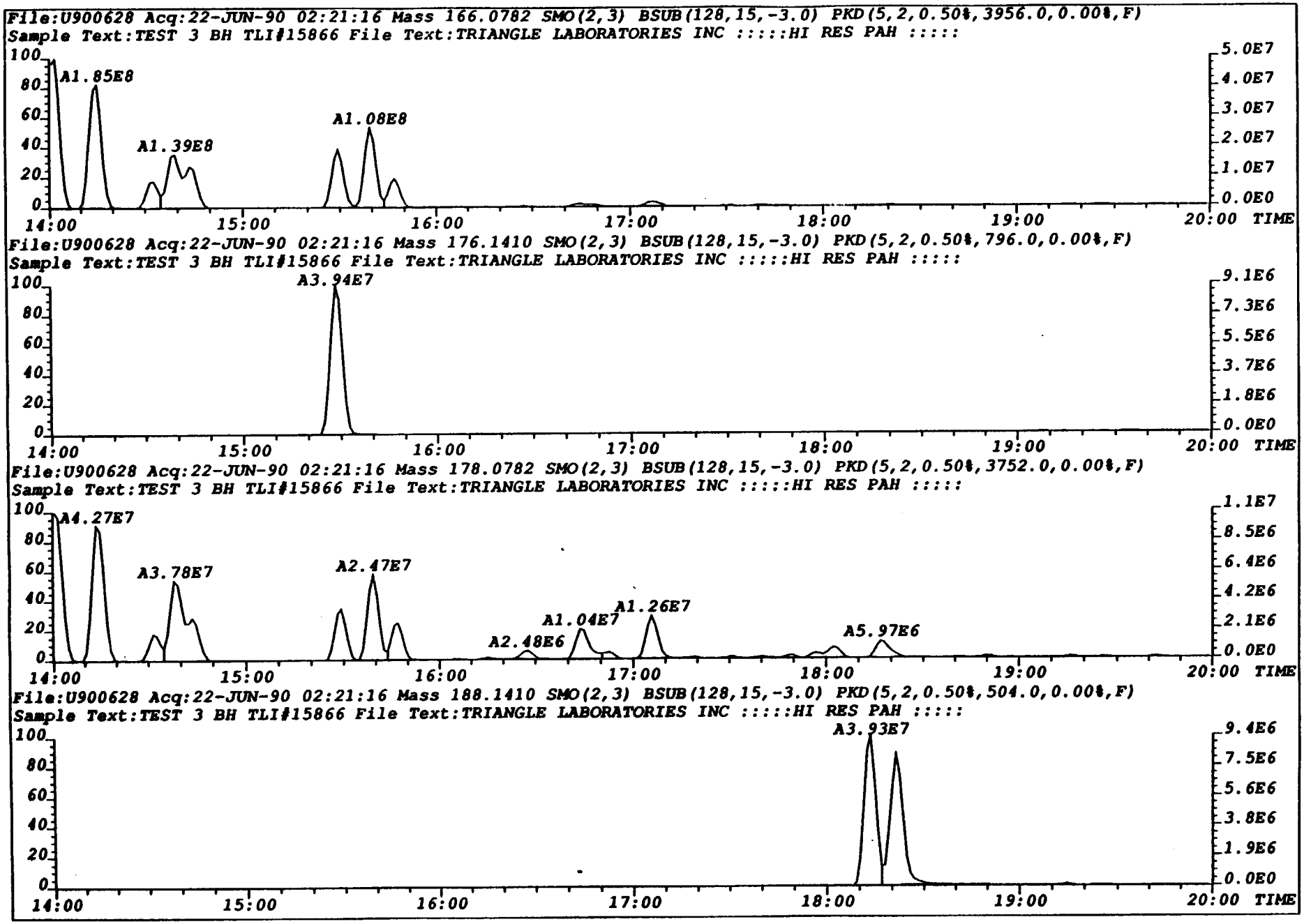
D2 2.7

Matched GC Peaks / Ratio / Ret. Time

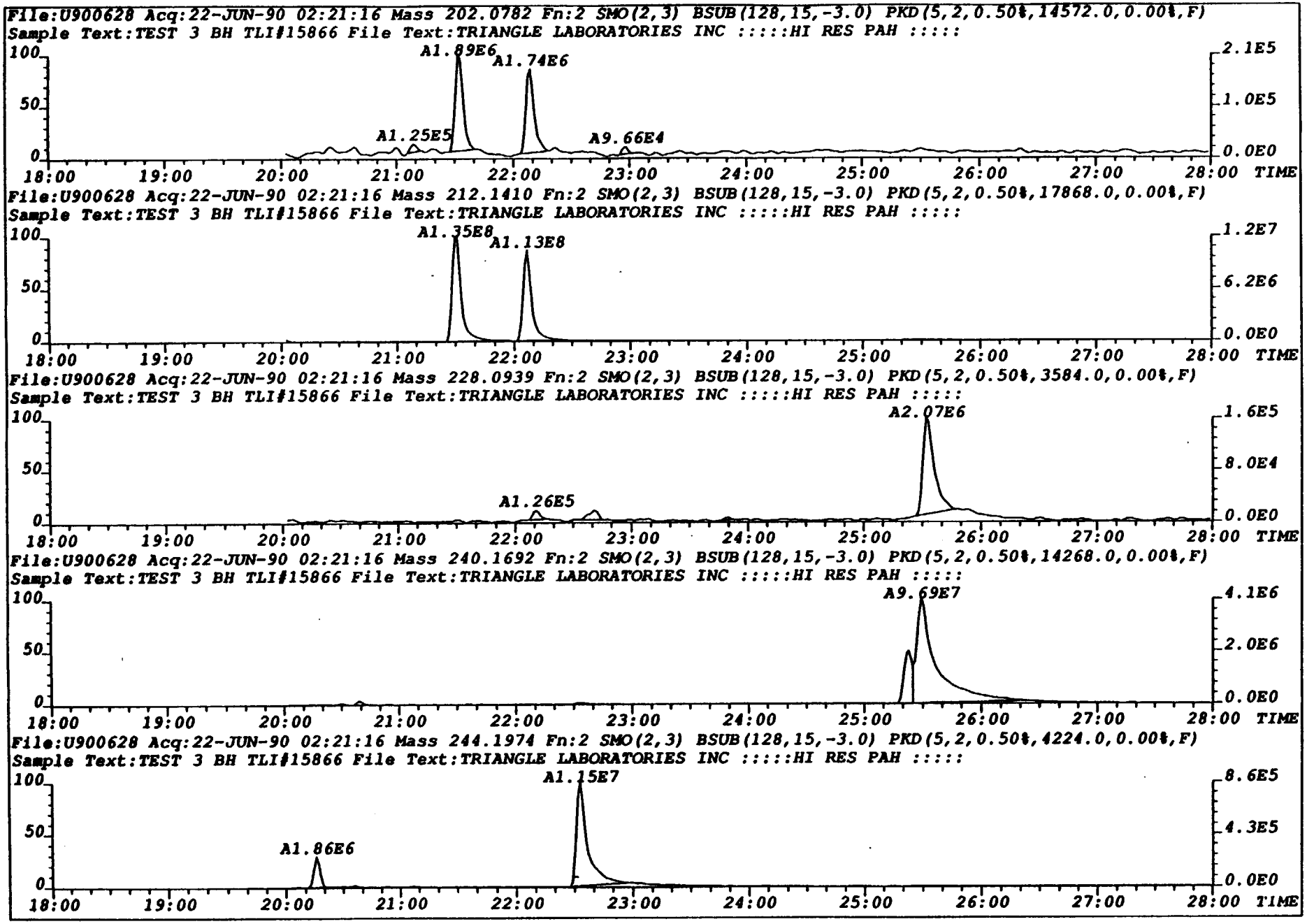
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
162		0.12	14:00	34.27	F	F	1.157	
		0.12	14:15	31.62	F	F	1.178	
		0.04	14:38	16.83	F	F	1.209	
162		*** Total ***		103.46	# of Peaks:		4	
164		0.00	12:53	17.84	T	F	0.959	
		0.00	13:57	4430.76	T	T	1.038	✓
		0.00	14:02	30.62	T	F	1.045	
		0.00	14:15	19.23	T	F	1.061	
		0.00	14:15	28.17	T	F	1.061	
		0.00	14:33	4.66	T	F	1.083	
		0.00	14:39	16.22	T	F	1.091	
164		*** Total ***		4547.50	# of Peaks:		7	
166		0.00	14:02	22745.23	T	F	0.907	
		0.00	14:15	18468.74	T	F	0.921	
		0.00	14:33	3628.14	T	F	0.941	
		0.00	14:39	13871.30	T	F	0.947	
		0.00	15:29	8088.93	T	T	1.001	✓
		0.00	15:39	10833.79	T	F	1.012	
		0.00	15:47	3902.77	T	F	1.020	
		0.00	16:45	633.40	T	F	1.083	
		0.00	17:07	773.15	T	F	1.107	
166		*** Total ***		82945.45	# of Peaks:		9	
169		3.33	12:06	6012.69	T	T	0.901	✓
169		*** Total ***		6012.69	# of Peaks:		1	
176		0.00	15:28	3935.78	T	T	1.151	✓
176		*** Total ***		3935.78	# of Peaks:		1	
178		0.00	14:00	4777.39	T	F	0.768	
		0.00	14:14	4266.76	T	F	0.781	
		0.00	14:32	790.56	T	F	0.797	
		0.00	14:38	3782.22	T	F	0.803	
		0.00	15:29	1499.61	T	F	0.849	
		0.00	15:39	2474.82	T	F	0.858	
		0.00	15:47	1073.56	T	F	0.866	
		0.00	16:16	40.99	T	F	0.892	
		0.00	16:27	247.64	T	F	0.902	
		0.00	16:44	1043.60	T	F	0.918	
		0.00	16:53	189.35	T	F	0.926	
		0.00	17:06	1257.74	T	F	0.938	
		0.00	17:19	28.92	T	F	0.950	
		0.00	17:31	42.35	T	F	0.961	
		0.00	17:40	42.42	T	F	0.969	
		0.00	17:49	69.76	T	F	0.977	
		0.00	18:02	473.37	T	F	0.989	
		0.00	18:17	596.82	T	T	1.003	✓
		0.00	18:41	21.68	T	F	1.025	
		0.00	18:50	47.53	T	F	1.033	
		0.00	19:17	34.27	T	F	1.058	
		0.00	19:42	28.88	T	F	1.080	

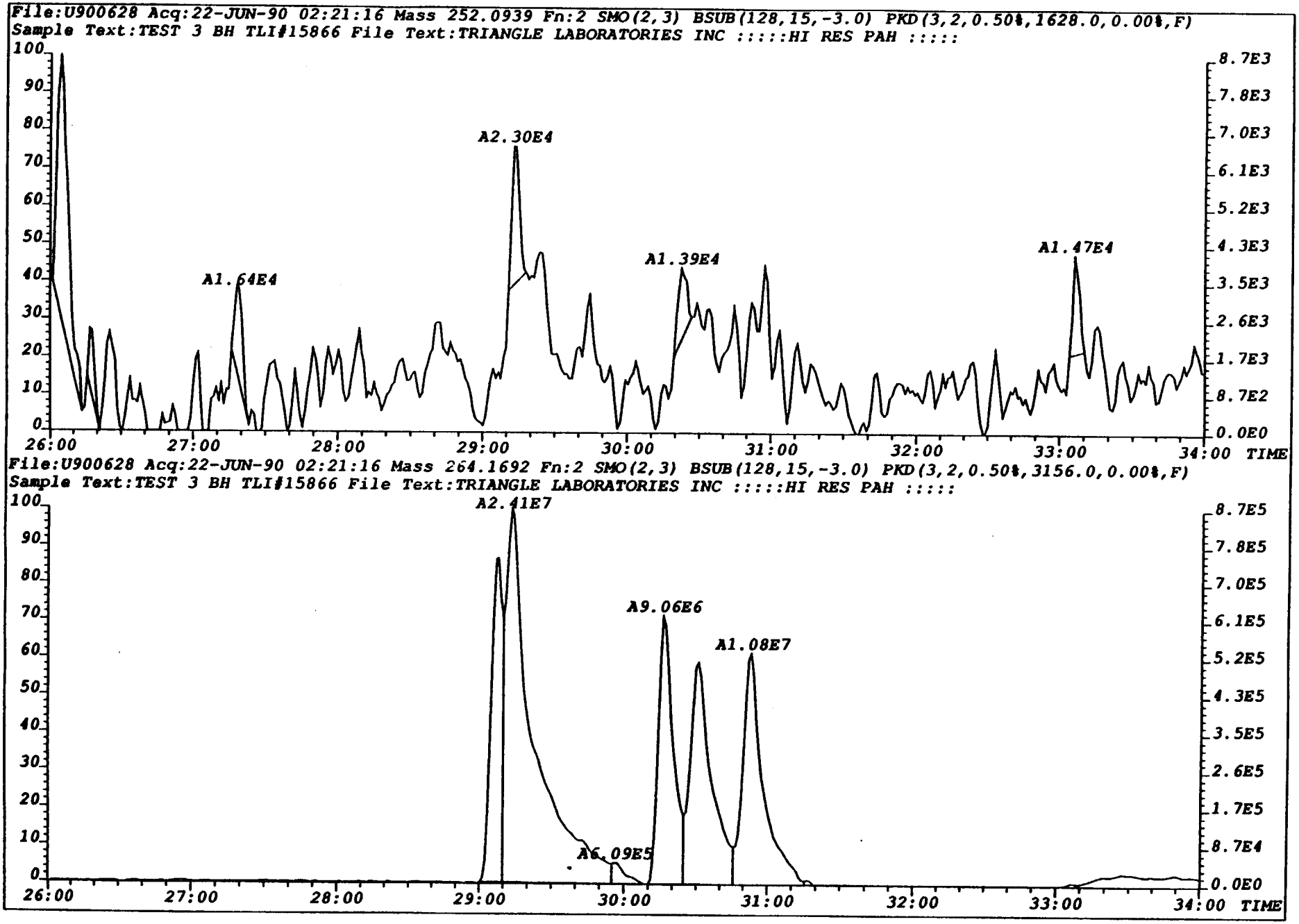
Matched GC Peaks / Ratio / Ret. Time

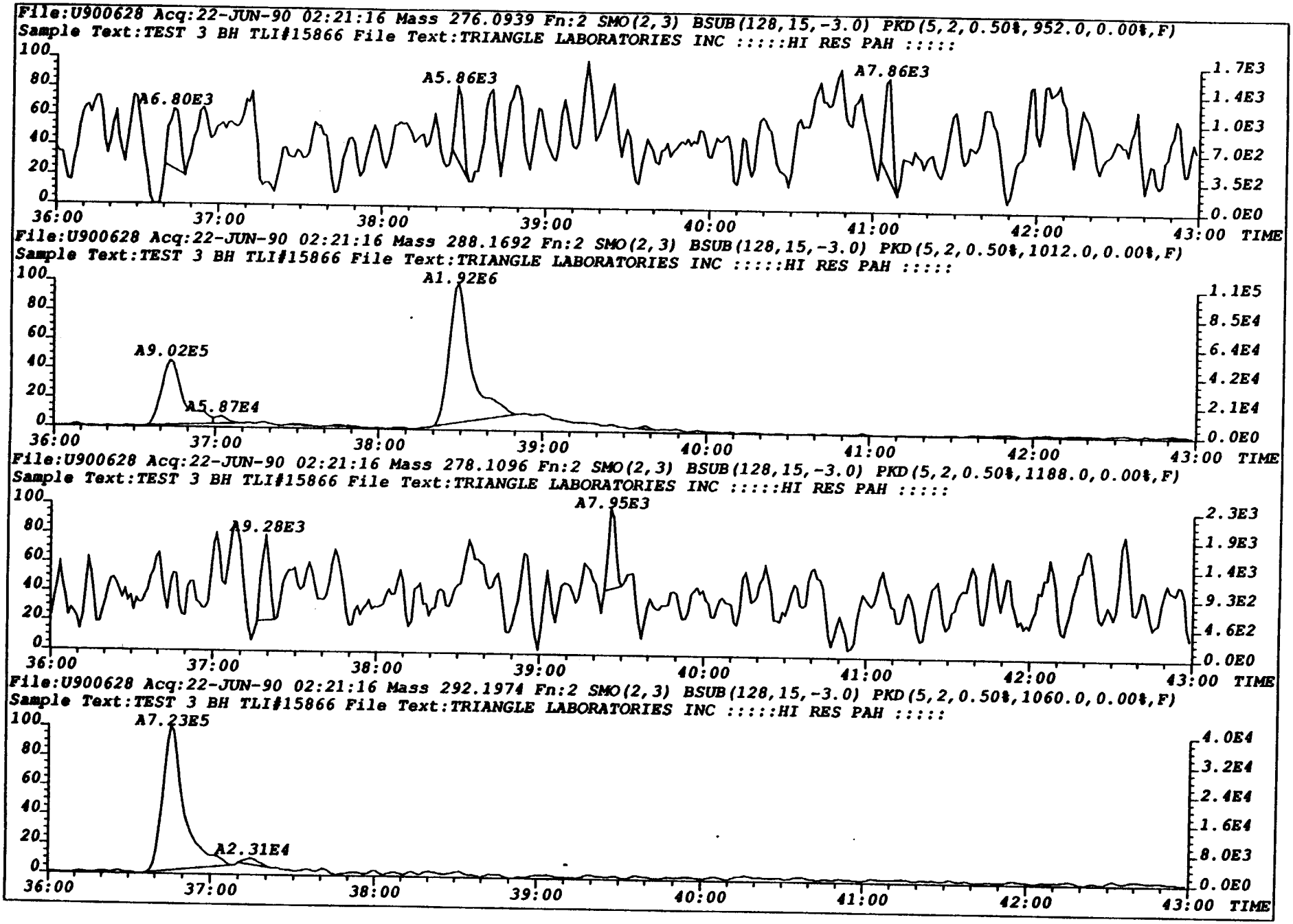
M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
178		*** Total ***		22830.24	# of Peaks:		22	
188		0.00	18:14	3929.95	T	~~F~~ T	1.357	✓
		0.00	18:21	3775.84	T	~~F~~ T	1.366	✓
		0.00	19:15	28.92	T	F	1.433	
188		*** Total ***		7734.71	# of Peaks:		3	
202		0.00	21:09	12.52	T	F	0.956	
		0.00	21:32	188.66	T	T	1.002	✓
		0.00	22:09	174.46	T	T	1.002	✓
		0.00	22:58	9.66	T	F	1.038	
202		*** Total ***		385.30	# of Peaks:		4	
212		0.00	21:30	13476.25	T	T	0.696	✓
		0.00	22:07	11280.96	T	T	0.716	✓
		0.00	25:30	40.98	T	F	0.826	
212		*** Total ***		24798.19	# of Peaks:		3	
228		0.00	22:11	12.63	T	F	0.871	
		0.00	22:31	0.69	T	F	0.884	
		0.00	22:42	16.68	T	F	0.891	
		0.00	23:50	3.41	T	F	0.935	
		0.00	25:32	206.56	T	T	1.002	✓
228		*** Total ***		239.97	# of Peaks:		5	
240		0.00	22:33	48.98	T	F	0.730	
		0.00	25:23	1876.62	T	T	0.822	✓
		0.00	25:29	9688.85	T	T	0.825	✓
240		*** Total ***		11614.45	# of Peaks:		3	
244		0.00	20:36	7.46	T	F	0.680	
		0.00	20:53	3.17	T	F	0.689	
		0.00	21:08	4.37	T	F	0.697	
		0.00	22:33	~~1150.37~~ 1165.37	T	T	0.744	✓
244		*** Total ***		1165.37	# of Peaks:		4	
252		0.00	26:04	6.86	T	F	0.844	
		0.00	26:18	0.85	T	F	0.852	
		0.00	27:19	1.64	T	F	0.885	
	D	0.00	29:13	2.30	T	T	1.000	S/N
	D	0.00	30:23	1.39	T	T	0.996	S/N
		0.00	33:06	1.47	T	F	1.072	
252		*** Total ***		14.51	# of Peaks:		6	
264		0.00	29:08	784.77	T	T	0.943	✓
		0.00	29:13	2413.41	T	T	0.946	✓
		0.00	29:56	60.86	T	F	0.988	
		0.00	30:16	905.89	T	T	0.999	✓
		0.00	30:31	1101.55	T	T	0.988	✓
		0.00	30:53	1077.01	T	T	1.019	✓
		0.00	31:16	5.98	T	F	1.032	
264		*** Total ***		6349.47	# of Peaks:		7	


File:U900628 Acq:22-JUN-90 02:21:16 Mass 166.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3956.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.85E8
A1.39E8
A1.08E8
5.0E7
4.0E7
3.0E7
2.0E7
1.0E7
0.0E0
14:00
15:00
16:00
17:00
18:00
19:00
20:00 TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 176.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,796.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.94E7
9.1E6
7.3E6
5.5E6
3.7E6
1.8E6
0.0E0
File:U900628 Acq:22-JUN-90 02:21:16 Mass 178.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3752.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.27E7
A3.78E7
A2.47E7
A2.48E6
A1.04E7
A1.26E7
A5.97E6
1.1E7
8.5E6
6.4E6
4.2E6
2.1E6
0.0E0
File:U900628 Acq:22-JUN-90 02:21:16 Mass 188.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,504.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A3.93E7
9.4E6
7.5E6
5.6E6
3.8E6
1.9E6
0.0E0

F2


File:U900628 Acq:22-JUN-90 02:21:16 Mass 202.0782 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,14572.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.89E6
A1.74E6
A1.25E5
A9.66E4
2.1E5
1.0E5
0.0E0
18:00 19:00 20:00 21:00 22:00 23:00 24:00 25:00 26:00 27:00 28:00 TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 212.1410 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,17868.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.35E8
A1.13E8
1.2E7
6.2E6
0.0E0
18:00 19:00 20:00 21:00 22:00 23:00 24:00 25:00 26:00 27:00 28:00 TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 228.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3584.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.07E6
A1.26E5
1.6E5
8.0E4
0.0E0
18:00 19:00 20:00 21:00 22:00 23:00 24:00 25:00 26:00 27:00 28:00 TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 240.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,14268.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A9.69E7
4.1E6
2.0E6
0.0E0
18:00 19:00 20:00 21:00 22:00 23:00 24:00 25:00 26:00 27:00 28:00 TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 244.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,4224.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.15E7
A1.86E6
8.6E5
4.3E5
0.0E0
18:00 19:00 20:00 21:00 22:00 23:00 24:00 25:00 26:00 27:00 28:00 TIME


File:U900628 Acq:22-JUN-90 02:21:16 Mass 252.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,1628.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.64E4
A2.30E4
A1.39E4
A1.47E4
TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 264.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,3156.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.41E7
A9.06E6
A1.08E7
A6.09E5
TIME


File:U900628 Acq:22-JUN-90 02:21:16 Mass 276.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,952.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.80E3
A5.86E3
A7.86E3
File:U900628 Acq:22-JUN-90 02:21:16 Mass 288.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1012.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.92E6
A9.02E5
A5.87E4
File:U900628 Acq:22-JUN-90 02:21:16 Mass 278.1096 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1188.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.95E3
A9.28E3
File:U900628 Acq:22-JUN-90 02:21:16 Mass 292.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1060.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.23E5
A2.31E4
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
TIME

FV

TRIANGLE LABORATORIES, INC.
PAHH ANALYSIS (a)

FILE NAME....:	U900629	CLIENT ID....:	P&S	TLI NUMBER....:	32-74-1CEF
CONCAL.....:	U900619	SAMPLE ID....:	FIELD BLANK BH		
ANALYST.....:	MC	ANALYSIS DATE:	06/22/90	PROJECT NUMBER:	15866
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5 BH	DATE RECEIVED.:	05/30/90
ICAL DATE....:	06/21/90	SAMPLE ORIGIN:	HRSG OUT	DATE COLLECTED:	05/23/90
SPIKE FILE...:	SPPAHH1C			SHIPMENT NO...:	UTS

NAME	AMT(ng)	NUMBER	DL	RT	FLAGS
Naph	123			8:24	B
2-Me-Naph	46.2			10:36	B
2-Cl-Naph	ND		0.2		
Acenaphthen	6.6			14:03	B
Acenaph	0.79			13:30	B
Fluorene	23.4			15:30	B
Phenan	23.3			18:17	B
Anth	ND		0.5		
Fluoran	2.3			21:33	B
Pyrene	1.7			22:09	B
B-a-Anth	ND		0.6		
Chrysene	23.8			25:33	
B-b-Fluoran	2.4			29:13	
B-k-Fluoran	ND		0.6		
B-e-Pyrene	ND		0.7		
B-a-Pyrene	ND		0.9		
Perylene	ND		0.9		
I-123-cd-Py	ND		8.1		
DiB-ah-Anth	ND		9.7		
B-ghi-Pery	ND		5.3		

SURROGATE RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d14-Terphenyl	0.72	0.72	22:33	

ALTERNATE STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d10-Anth	357	357	18:22	

FILE NAME....:	U900629	CLIENT ID....:	P&S	TLI NUMBER....:	32-74-1CEF
CONCAL.....:	U900619	SAMPLE ID....:	FIELD BLANK BH		
ANALYST.....:	MC	ANALYSIS DATE:	06/22/90	PROJECT NUMBER:	15866
SAMPLE SIZE..:	1.00	SAMPLE MATRIX:	MM5 BH	DATE RECEIVED.:	05/30/90
ICAL DATE....:	06/21/90	SAMPLE ORIGIN:	HRSG OUT	DATE COLLECTED:	05/23/90
SPIKE FILE...:	SPPAHH1C			SHIPMENT NO...:	UTS

INTERNAL STANDARDS RECOVERY SUMMARY

NAME	AMT (ng)	% REC.	RT	FLAGS
d8-Naph	234	234	8:21	___
d10-2-Me-Naph	270	270	10:30	___
d7-2-Cl-Naph	270	270	12:06	___
d8-Acenaph	243	243	13:26	___
d10-Acenaphthen	254	254	13:57	___
d10-Fluorene	273	273	15:28	___
d10-Phenan	283	283	18:14	___
d10-Fluoran	369	369	21:31	___
d10-Pyrene	375	375	22:07	___
d12-B-a-Anth	155	155	25:23	___
d12-Chrysene	311	311	25:31	___
d12-B-b-Fluoran	98.6	98.6	29:08	___
d12-B-k-Fluoran	132	132	29:13	___
d12-B-a-Pyrene	128	128	30:31	___
d12-Perylene	202	202	30:53	___
d12-I-123-cd-Py	37.7	37.7	36:44	___
d14-DiB-ah-Anth	43.2	43.2	36:46	___
d12-B-ghi-Pery	46.9	46.9	38:29	___

DL 2.7

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
128		0.00	8:24	4157.94	T	T	1.006	✓
		0.00	9:53	1.95	T	F	1.184	
		0.00	10:01	38.83	T	F	1.200	
		0.00	10:20	23.54	T	F	1.238	
128		*** Total ***		4222.26	# of Peaks:		4	
136		0.00	8:21	4068.75	T	T	0.622	✓
		0.00	9:54	15.79	T	F	0.737	
		0.00	10:21	27.52	T	F	0.770	
		0.00	13:59	13.09	T	F	1.041	
136		*** Total ***		4125.15	# of Peaks:		4	
142		0.00	10:36	1109.49	T	T	1.010	✓
		0.00	10:58	534.27	T	F	1.044	
		0.00	12:30	49.73	T	F	1.190	
142		*** Total ***		1693.49	# of Peaks:		3	
152		0.00	8:58	6.73	T	F	0.667	
		0.00	9:57	35.17	T	F	0.741	
		0.00	10:30	2775.81	T	T	0.782	✓
		0.00	10:49	33.38	T	F	0.805	
		0.00	11:41	36.75	T	F	0.870	
		0.00	11:54	9.63	T	F	0.886	
		0.00	12:09	210.88	T	F	0.904	
		0.00	12:29	39.85	T	F	0.929	
		0.00	12:38	18.28	T	F	0.940	
		0.00	12:53	604.49	T	F	0.959	
		0.00	13:17	11.48	T	F	0.989	
		0.00	13:30	21.77	T	T	1.005	✓
		0.00	14:02	927.96	T	F	1.045	
		0.00	14:15	666.76	T	F	1.061	
		0.00	14:32	8.08	T	F	1.082	
		0.00	14:40	249.54	T	F	1.092	
		0.00	15:00	16.01	T	F	1.117	
		0.00	15:15	20.35	T	F	1.135	
		0.00	15:30	223.64	T	F	1.154	
		0.00	15:41	304.96	T	F	1.167	
		0.00	15:47	127.21	T	F	1.175	
		0.00	16:06	17.85	T	F	1.199	
152		*** Total ***		6366.58	# of Peaks:		22	
154		0.00	10:13	2.19	T	F	0.732	
		0.00	11:55	3.02	T	F	0.854	
		0.00	12:09	1087.45	T	F	0.871	
		0.00	12:28	5.71	T	F	0.894	
		0.00	12:53	34.50	T	F	0.924	
		0.00	13:15	4.44	T	F	0.950	
		0.00	13:27	4.86	T	F	0.964	
		0.00	14:03	115.52	T	T	1.007	✓
		0.00	14:15	49.33	T	F	1.022	
		0.00	14:41	17.09	T	F	1.053	
		0.00	15:01	6.95	T	F	1.076	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
154		0.00	15:30	10.56	T	F	1.111	
		0.00	15:40	11.79	T	F	1.123	
154		*** Total ***		1365.07	# of Peaks:		14	
160		0.00	13:26	2569.96	T	~~F~~ T	0.443	✓
		0.00	13:57	783.39	T	F	0.460	
160		*** Total ***		3353.35	# of Peaks:		2	
164		0.00	13:57	1820.75	T	T	1.038	✓
		0.00	14:01	2.20	T	F	1.043	
164		*** Total ***		1822.95	# of Peaks:		2	
166		0.00	14:02	875.19	T	F	0.907	
		0.00	14:15	723.61	T	F	0.921	
		0.00	14:32	49.58	T	F	0.940	
		0.00	14:44	324.34	T	F	0.953	
		0.00	15:30	458.55	T	T	1.002	✓
		0.00	15:40	396.16	T	F	1.013	
		0.00	15:47	140.70	T	F	1.020	
		0.00	16:07	33.12	T	F	1.042	
		0.00	16:28	75.61	T	F	1.065	
		0.00	16:45	396.76	T	F	1.083	
		0.00	17:07	454.72	T	F	1.107	
		0.00	17:16	9.62	T	F	1.116	
166		*** Total ***		3937.96	# of Peaks:		12	
169		3.45	12:06	2841.94	T	T	0.901	✓
169		*** Total ***		2841.94	# of Peaks:		1	
176		0.00	15:28	1572.25	T	T	1.151	✓
176		*** Total ***		1572.25	# of Peaks:		1	
178		0.00	14:02	148.37	T	F	0.770	
		0.00	14:14	143.69	T	F	0.781	
		0.00	14:32	21.93	T	F	0.797	
		0.00	14:39	64.59	T	F	0.803	
		0.00	15:30	42.85	T	F	0.850	
		0.00	15:40	69.58	T	F	0.859	
		0.00	15:47	30.18	T	F	0.866	
		0.00	16:06	5.14	T	F	0.883	
		0.00	16:27	136.13	T	F	0.902	
		0.00	16:44	620.68	T	F	0.918	
		0.00	17:06	659.14	T	F	0.938	
		0.00	17:20	26.37	T	F	0.951	
		0.00	17:31	3.78	T	F	0.961	
		0.00	17:41	19.66	T	F	0.970	
		0.00	18:02	78.71	T	F	0.989	
		0.00	18:17	545.97	T	T	1.003	✓
		0.00	18:41	19.74	T	F	1.025	
		0.00	18:49	18.12	T	F	1.032	
		0.00	18:58	6.37	T	F	1.040	
		0.00	19:16	25.16	T	F	1.057	
		0.00	19:26	13.54	T	F	1.066	

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
178		0.00	19:43	17.07	T	F	1.081	
178		*** Total ***		2716.77	# of Peaks:		22	
188		0.00	18:14	1878.96	T	~~F~~ T	1.357	✓
		0.00	18:22	1890.85	T	~~F~~ T	1.367	✓
		0.00	19:15	27.46	T	F	1.433	
188		*** Total ***		3797.27	# of Peaks:		3	
202		0.00	20:26	13.83	T	F	0.924	
		0.00	21:09	8.11	T	F	0.956	
		0.00	21:33	106.77	T	T	1.002	✓
		0.00	22:09	79.68	T	T	1.002	✓
202		*** Total ***		208.39	# of Peaks:		4	
212		0.00	21:31	6533.26	T	T	0.697	✓
		0.00	22:07	5350.16	T	T	0.716	✓
212		*** Total ***		11883.42	# of Peaks:		2	
228		0.00	22:11	74.59	T	F	0.869	
		0.00	22:38	35.23	T	F	0.887	
		0.00	23:09	4.05	T	F	0.907	
		0.00	25:22	0.39	T	F	0.994	
		0.00	25:33	917.57	T	T	1.001	✓
		0.00	26:43	5.38	T	F	1.047	
228		*** Total ***		1037.21	# of Peaks:		6	
240		0.00	23:59	10.36	T	F	0.777	
		0.00	25:23	924.94	T	T	0.822	✓
		0.00	25:31	4921.10	T	T	0.826	✓
240		*** Total ***		5856.40	# of Peaks:		3	
244		0.00	22:33	10.91	T	T	0.744	✓
		0.00	24:56	1.33	T	F	0.823	
		0.00	25:37	1.72	T	F	0.845	
244		*** Total ***		13.96	# of Peaks:		3	
252		0.00	25:58	3.21	T	F	0.841	
		0.00	26:04	8.85	T	F	0.844	
		0.00	26:14	1.01	T	F	0.849	
		0.00	27:01	0.52	T	F	0.875	
		0.00	27:31	3.55	T	F	0.891	
		0.00	28:15	1.22	T	F	0.915	
		0.00	28:31	0.59	T	F	0.923	
		0.00	29:13	12.24	T	T	1.000	✓
		0.00	30:19	0.70	T	F	0.982	
	D	0.00	30:24	0.41	T	T	0.996	S/N
252		*** Total ***		32.30	# of Peaks:		10	
264		0.00	29:08	413.69	T	T	0.943	✓
		0.00	29:13	1271.02	T	T	0.946	✓
		0.00	29:45	139.06	T	F	0.982	
		0.00	30:06	6.13	T	F	0.993	
		0.00	30:18	547.82	T	T	1.000	✓

E

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
264		0.00	30:31	739.31	T	T	0.988	V
		0.00	30:53	726.66	T	T	1.019	V
264		*** Total ***		3843.69	# of Peaks:		7	
276		0.00	37:50	0.83	T	F	0.983	
		0.00	38:32	1.01	T	F	1.001	
	D	0.00	38:43	0.49	T	T	1.006	SN
		0.00	39:25	0.72	T	F	1.024	
276		*** Total ***		3.05	# of Peaks:		4	
278		0.00	36:51	0.54	T	F	1.002	
		0.00	38:33	0.50	T	F	1.049	
278		*** Total ***		1.04	# of Peaks:		2	
288		0.00	36:44	48.07	T	T	1.189	V
		0.00	37:55	0.34	T	F	1.228	
		0.00	38:29	149.66	T	T	1.246	V
		0.00	39:09	0.91	T	F	1.268	
		0.00	39:17	2.26	T	F	1.272	
		0.00	39:52	2.34	T	F	1.291	
288		*** Total ***		203.58	# of Peaks:		6	
292		0.00	36:46	51.79	T	T	1.191	V
		0.00	37:21	0.31	T	F	1.209	
		0.00	37:33	0.54	T	F	1.216	
		0.00	38:43	0.69	T	F	1.254	
		0.00	39:57	0.72	T	F	1.294	
292		*** Total ***		54.05	# of Peaks:		5	

*** End of Report ***

Listing of U900629I.cbf File
06/27/90
Raw Mass, Retention Time and Data Area

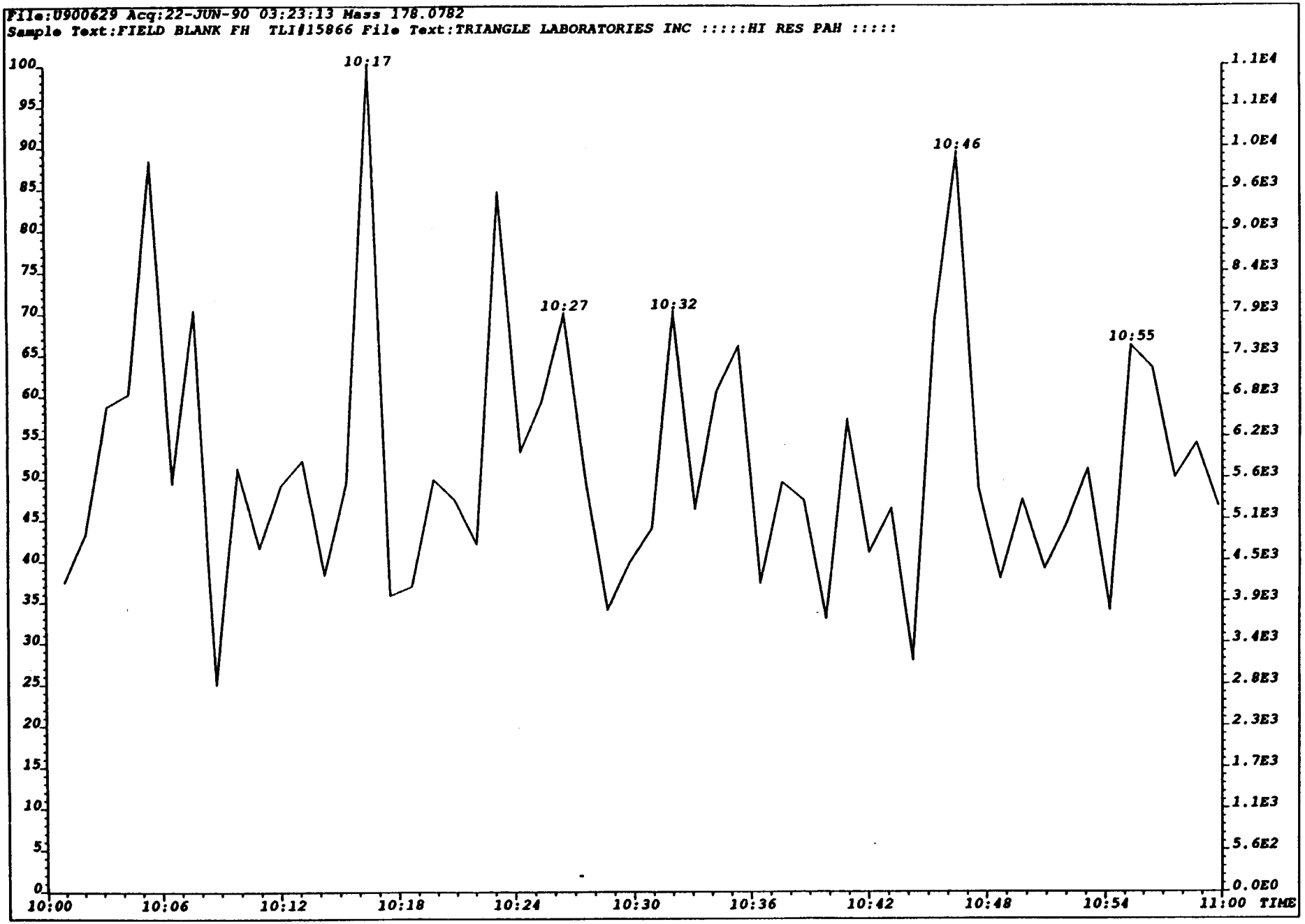
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
128	8:24	4157.94	9:53	1.95	10:01	38.83	10:20	23.54
136	8:21	4068.75	9:54	15.79	10:21	27.52	13:59	13.09
142	10:36	1109.49	10:58	534.27	12:30	49.73		
152	8:58	6.73	10:30	2775.81	11:41	36.75		
	9:57	35.17	10:49	33.38	11:54	9.63		
154	10:13	2.19	12:53	34.50	14:15	49.33	15:30	10.56
	11:55	3.02	13:15	4.44	14:41	17.09	15:40	11.79
	12:09	1087.45	13:27	4.86	15:01	6.95		
	12:28	5.71	14:03	115.52	15:15	11.66		
164	13:57	1820.75						
152	12:09	210.88	13:17	11.48	14:32	8.08	15:30	223.64
	12:29	39.85	13:30	21.77	14:40	249.54	15:41	304.96
	12:38	18.28	14:02	927.96	15:00	16.01	15:47	127.21
	12:53	604.49	14:15	666.76	15:15	20.35	16:06	17.85
160	13:26	2569.96	13:57	783.39				
162	12:19	1.94	13:14	4.13	13:57	1.11		
164	14:01	2.20						
169	12:06	2203.62	12:30	17.93	14:24	30.01		
171	12:06	638.32						
166	14:02	875.19	14:44	324.34	15:47	140.70	16:45	396.76
	14:15	723.61	15:30	458.55	16:07	33.12	17:07	454.72
	14:32	49.58	15:40	396.16	16:28	75.61	17:16	9.62
176	15:28	1572.25						
178	14:02	148.37	15:47	30.18	17:31	3.78	18:58	6.37
	14:14	143.69	16:06	5.14	17:41	19.66	19:16	25.16
	14:32	21.73	16:27	136.13	18:02	78.71	19:26	13.54
	14:39	64.59	16:44	620.68	18:17	545.97	19:43	17.07
	15:30	42.85	17:06	659.14	18:41	19.74		
	15:40	69.58	17:20	26.37	18:49	18.12		
188	18:14	1878.96	18:22	1890.85	19:15	27.46		
202	20:26	13.83	21:09	8.11	21:33	106.77	22:09	79.68

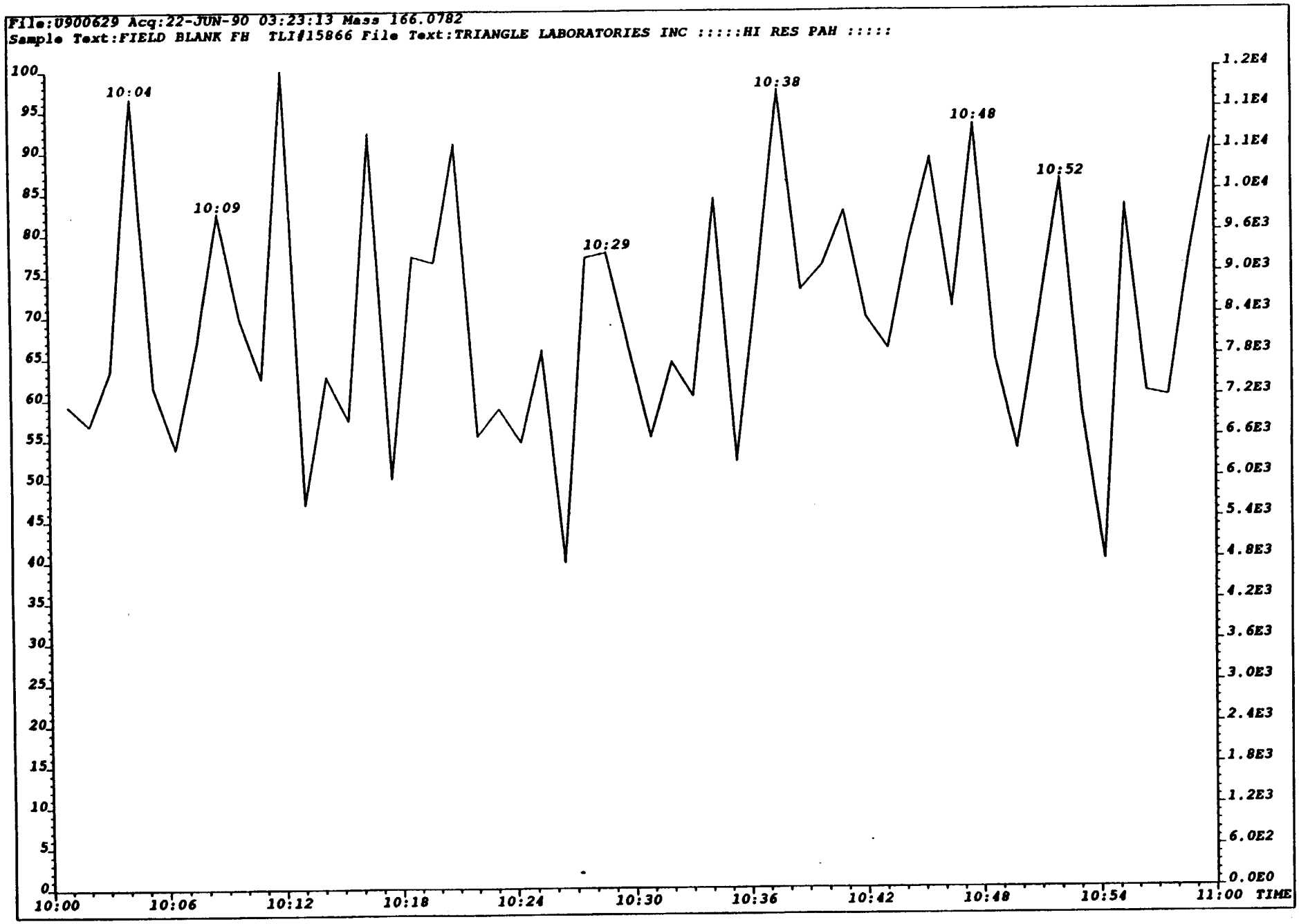
212	21:31	6533.26	22:07	5350.16		
228	22:11	74.59	23:09	4.05	25:33	917.57
	22:38	35.23	25:22	0.39	26:43	5.38

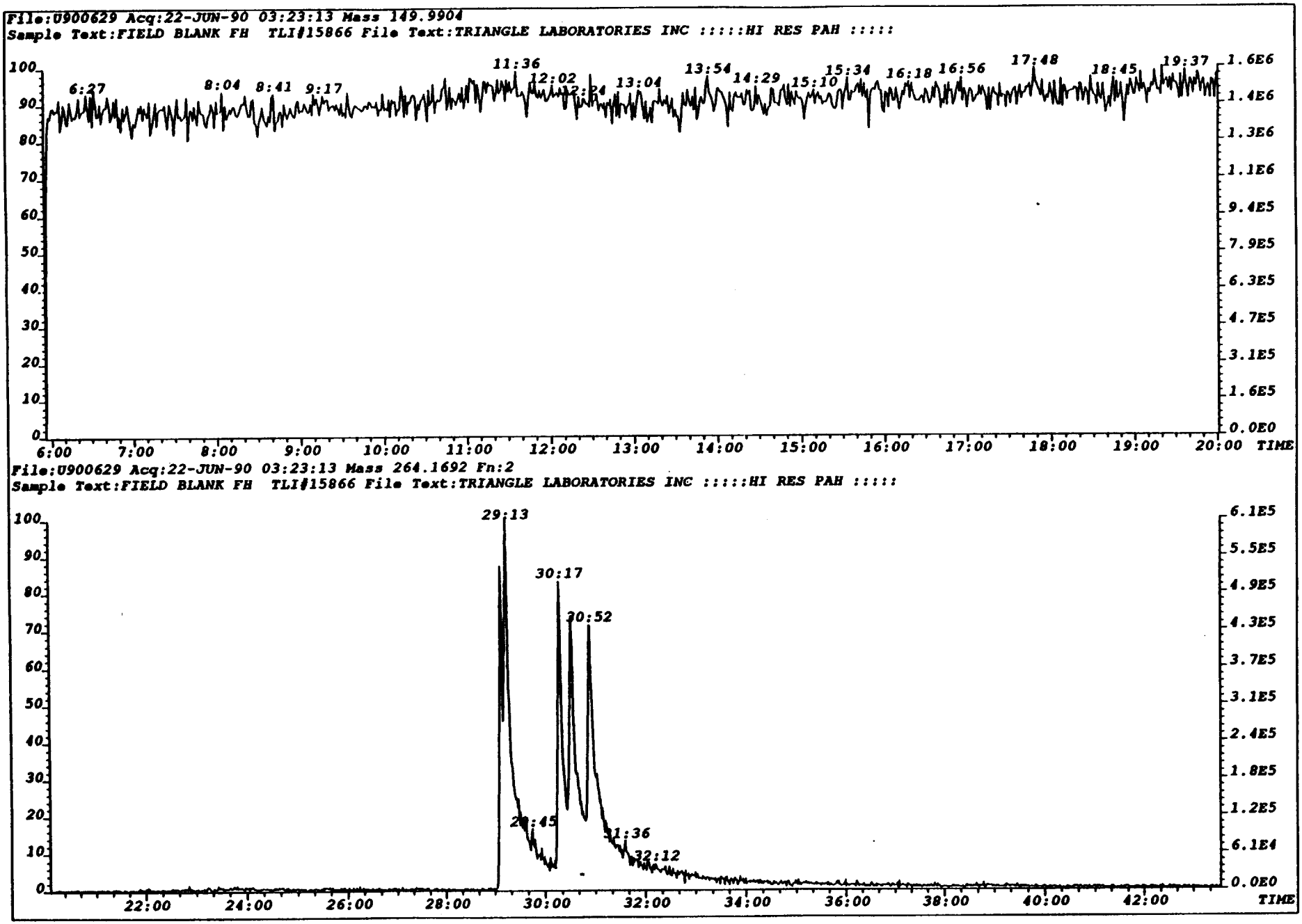
Listing of U9006291.dbf File
Raw Mass, Retention Time and Data Area

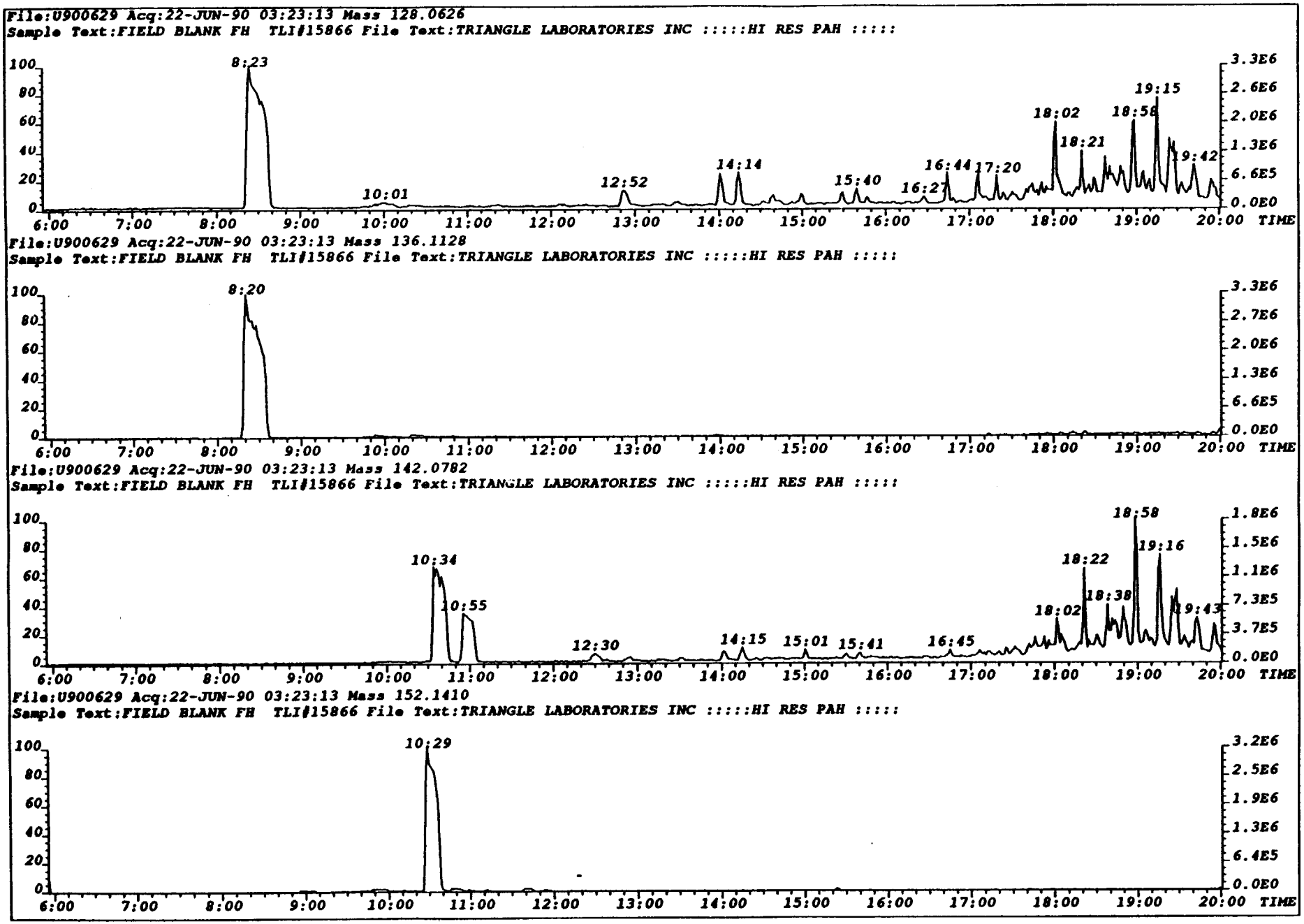
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
240	23:59	10.36	25:23	924.94	25:31	4921.10		
244	22:33	10.91	24:56	1.33	25:37	1.72		
252	25:58	3.21	27:01	0.52	28:31	0.59	30:24	0.41
	26:04	8.85	27:31	3.55	29:13	12.24		
	26:14	1.01	28:15	1.22	30:19	0.70		
264	29:08	413.69	29:45	139.06	30:18	547.82	30:53	726.66
	29:13	1271.02	30:06	6.13	30:31	739.31		
276	37:50	0.83	38:32	1.01	38:43	0.49	39:25	0.72
288	36:44	48.07	38:29	149.66	39:17	2.26		
	37:55	0.34	39:09	0.91	39:52	2.34		
278	36:51	0.54	38:33	0.50				
292	36:46	51.79	37:33	0.54	39:57	0.72		
	37:21	0.31	38:43	0.69				

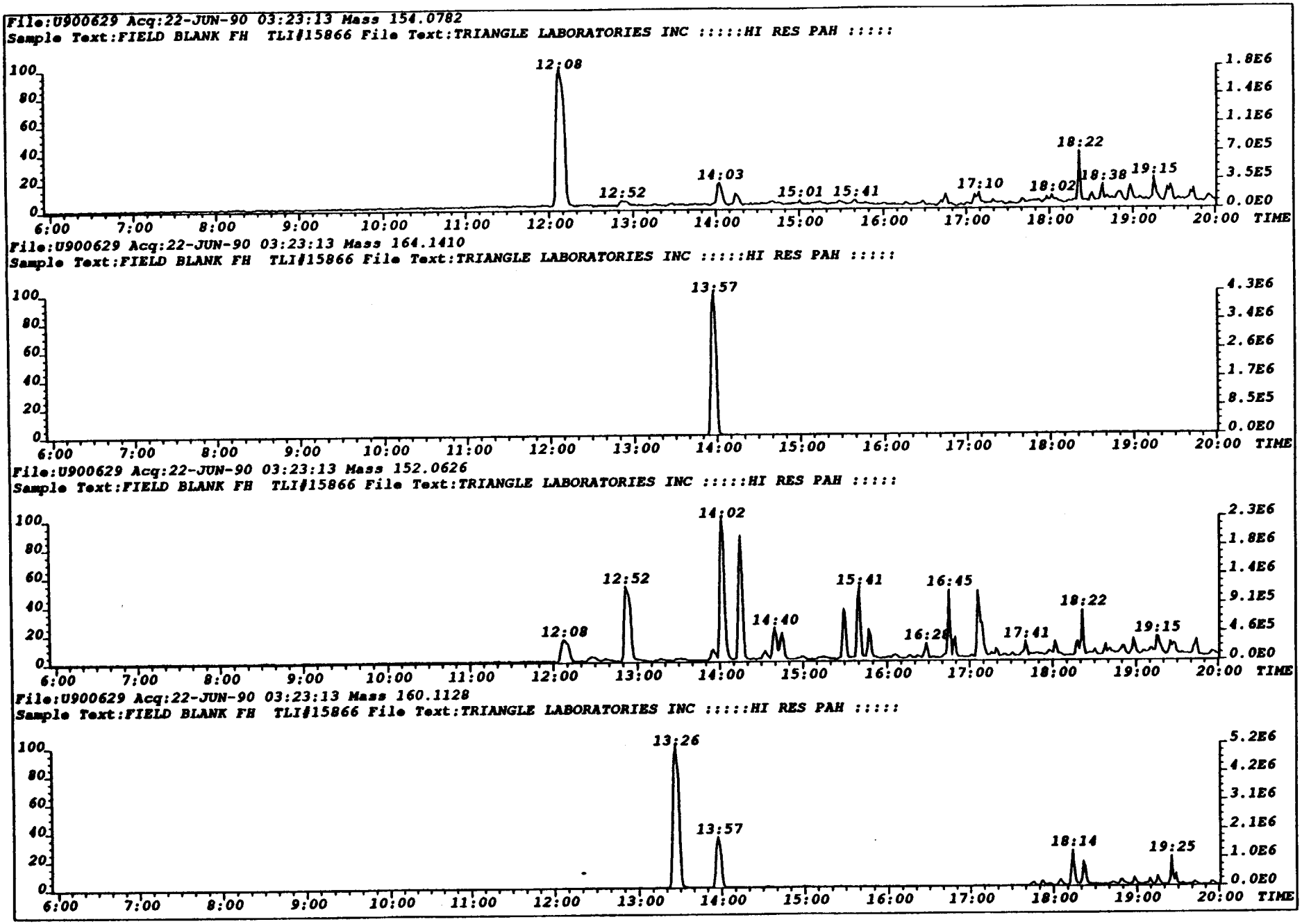
*** End of Report ***

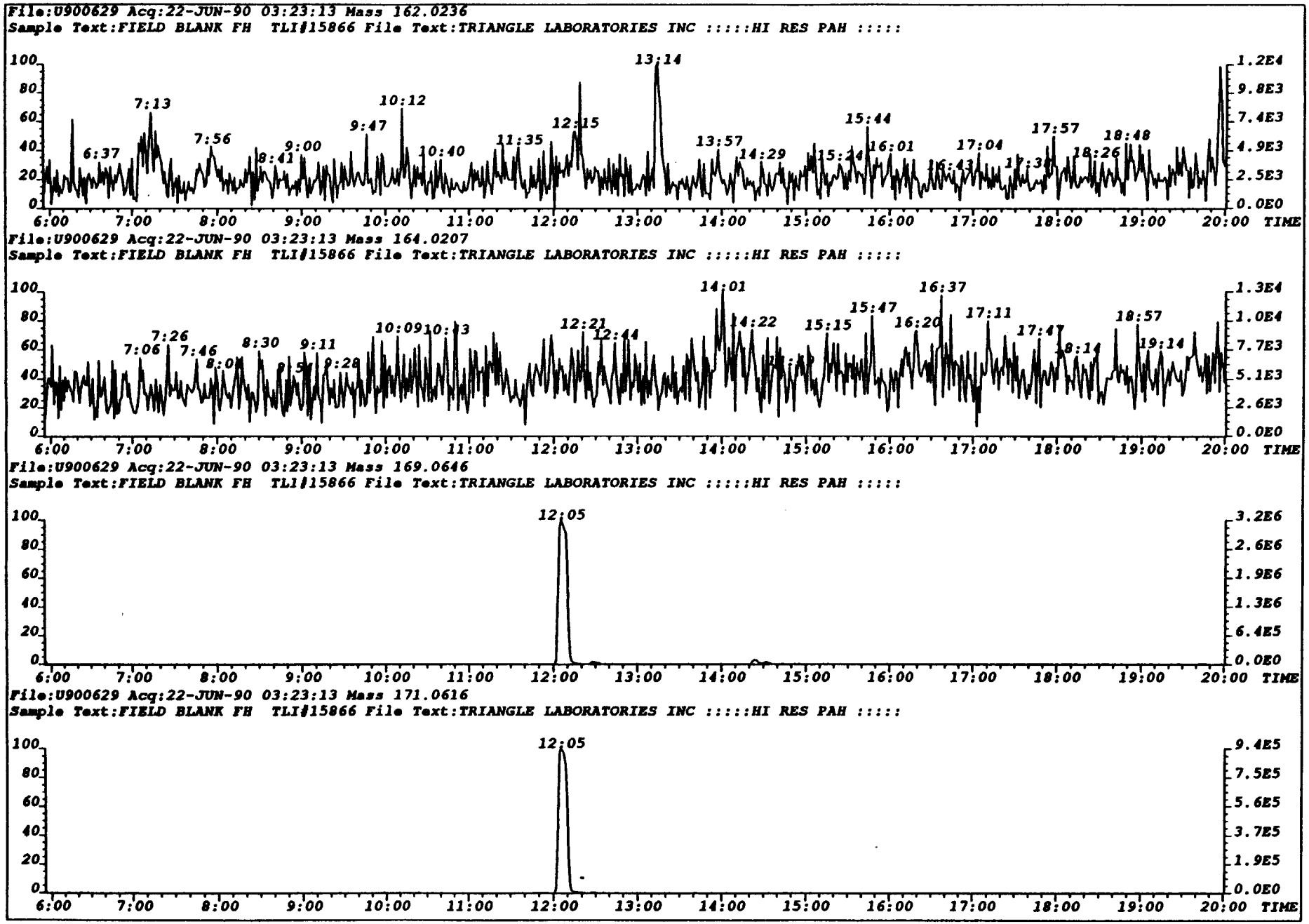

File:U900629 Acq:22-JUN-90 03:23:13 Mass 178.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:17
10:27
10:32
10:46
10:55
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1.1E4
1.1E4
1.0E4
9.6E3
9.0E3
8.4E3
7.9E3
7.3E3
6.8E3
6.2E3
5.6E3
5.1E3
4.5E3
3.9E3
3.4E3
2.8E3
2.3E3
1.7E3
1.1E3
5.6E2
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

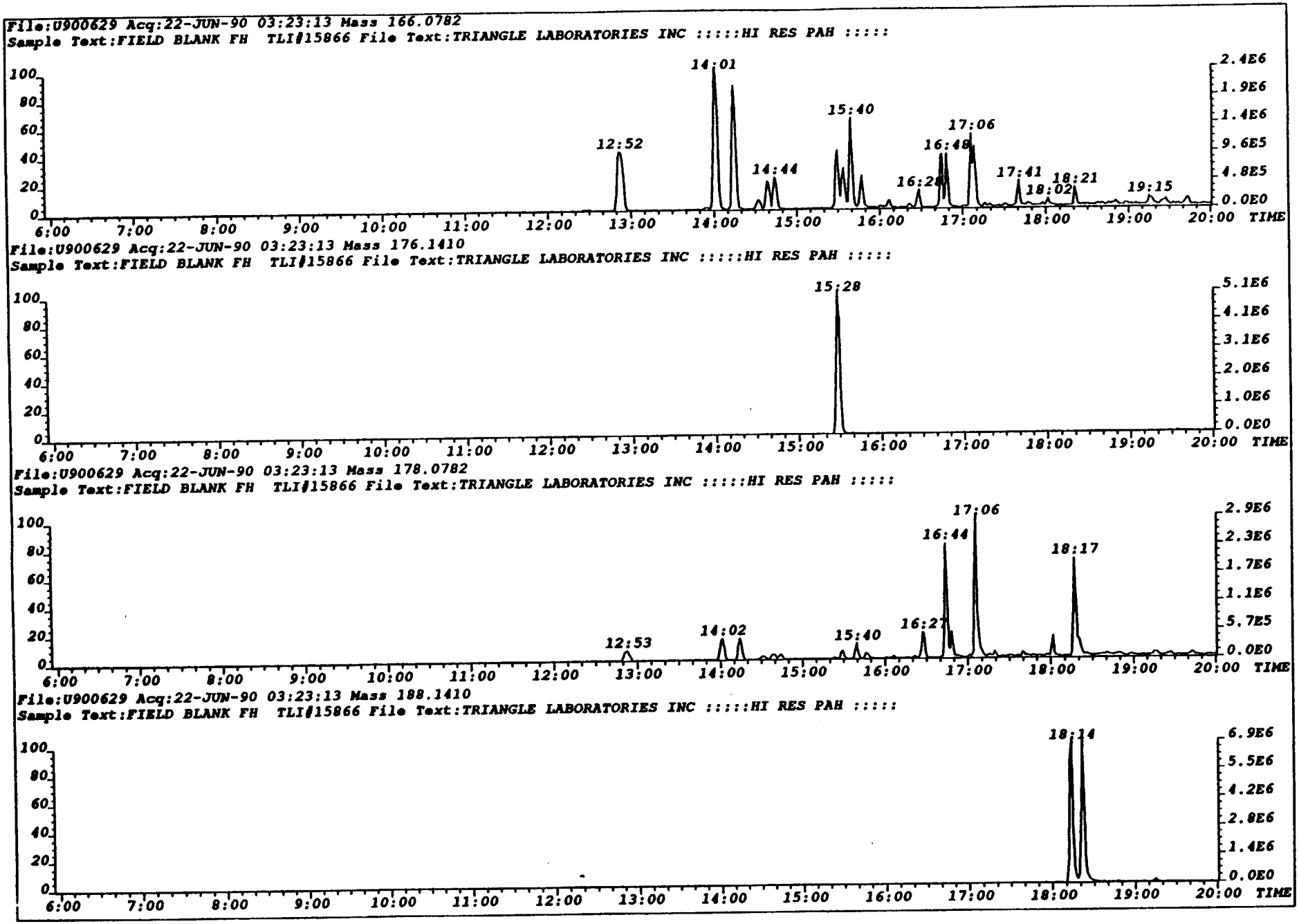

File:0900629 Acq:22-JUN-90 03:23:13 Mass 166.0782
Sample Text:FIELD BLANK FB TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:04
10:09
10:29
10:38
10:48
10:52
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1.2E4
1.1E4
1.1E4
1.0E4
9.6E3
9.0E3
8.4E3
7.8E3
7.2E3
6.6E3
6.0E3
5.4E3
4.8E3
4.2E3
3.6E3
3.0E3
2.4E3
1.8E3
1.2E3
6.0E2
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME


File:U900629 Acq:22-JUN-90 03:23:13 Mass 149.9904
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
6:27
8:04
8:41
9:17
11:36
12:02
13:04
13:54
14:29
15:10
15:34
16:18
16:56
17:48
18:45
19:37
TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 264.1692 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
29:13
30:17
30:52
31:36
32:12
TIME

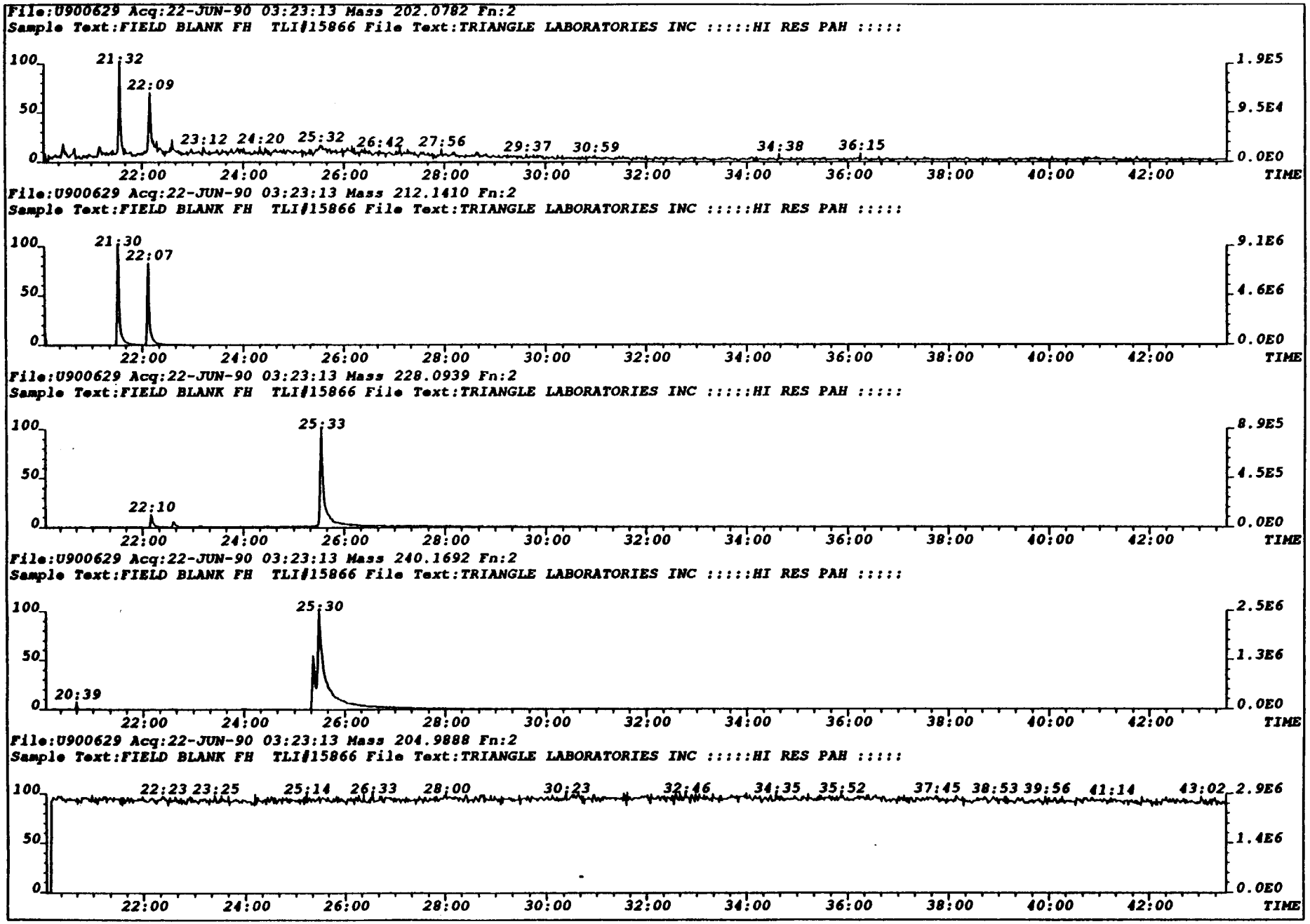

File:U900629 Acq:22-JUN-90 03:23:13 Mass 128.0626
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:23
10:01
12:52
14:14
15:40
16:27
16:44
17:20
18:02
18:21
18:58
19:15
19:42
3.3E6
2.6E6
2.0E6
1.3E6
6.6E5
0.0E0
TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 136.1128
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:20
3.3E6
2.7E6
2.0E6
1.3E6
6.6E5
0.0E0
TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 142.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:34
10:55
12:30
14:15
15:01
15:41
16:45
18:02
18:22
18:38
18:58
19:16
19:43
1.8E6
1.5E6
1.1E6
7.3E5
3.7E5
0.0E0
TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 152.1410
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:29
3.2E6
2.5E6
1.9E6
1.3E6
6.4E5
0.0E0
TIME

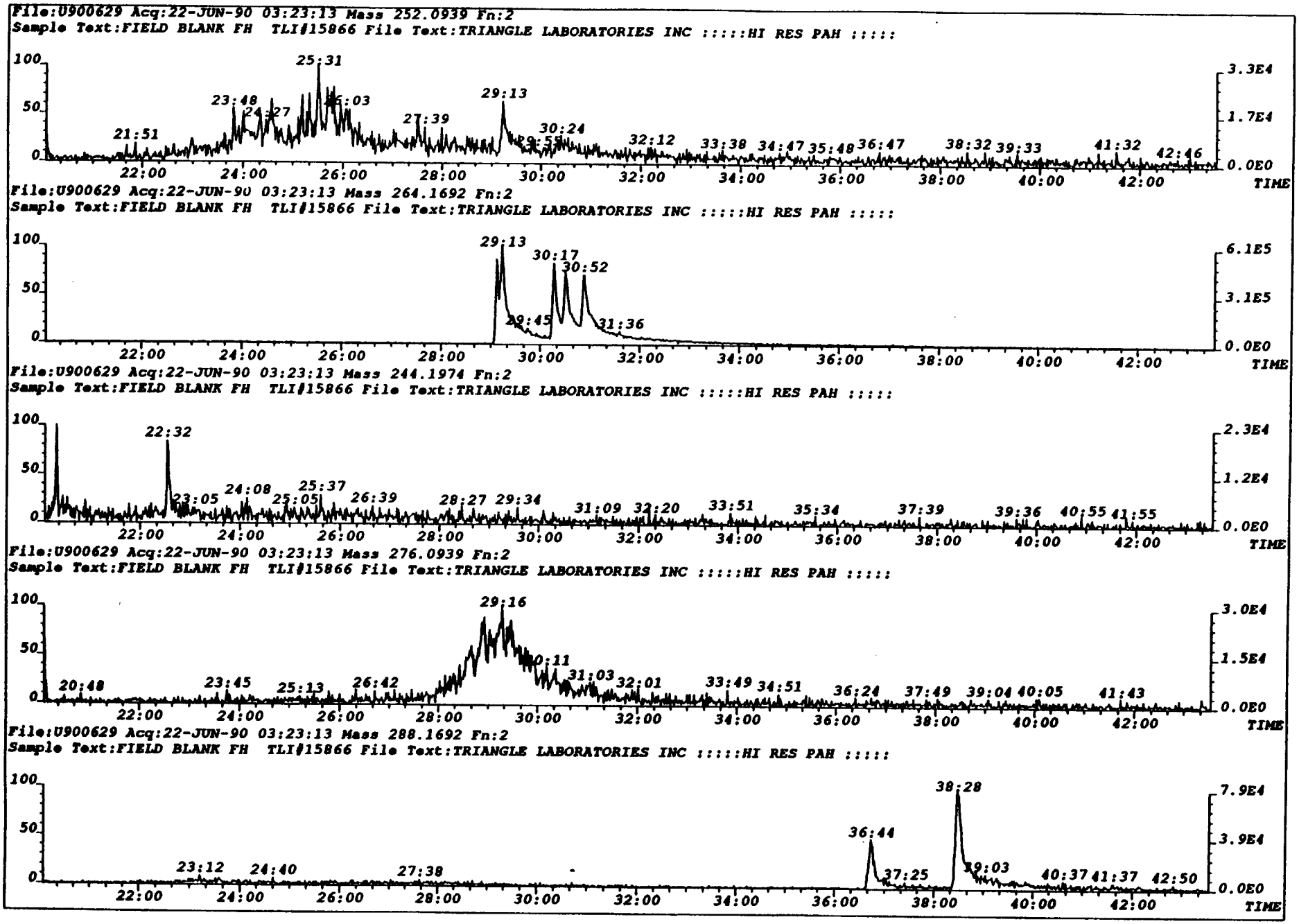

File:U900629 Acq:22-JUN-90 03:23:13 Mass 154.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:08
12:52
14:03
15:01 15:41
17:10
18:02
18:22
18:38
19:15
1.8E6
1.4E6
1.1E6
7.0E5
3.5E5
0.0E0
TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 164.1410
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:57
4.3E6
3.4E6
2.6E6
1.7E6
8.5E5
0.0E0
TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 152.0626
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
14:02
12:52
15:41
16:45
12:08
14:40
16:26
17:41
18:22
19:15
2.3E6
1.8E6
1.4E6
9.1E5
4.6E5
0.0E0
TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 160.1128
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:26
13:57
18:14
19:25
5.2E6
4.2E6
3.1E6
2.1E6
1.0E6
0.0E0
TIME

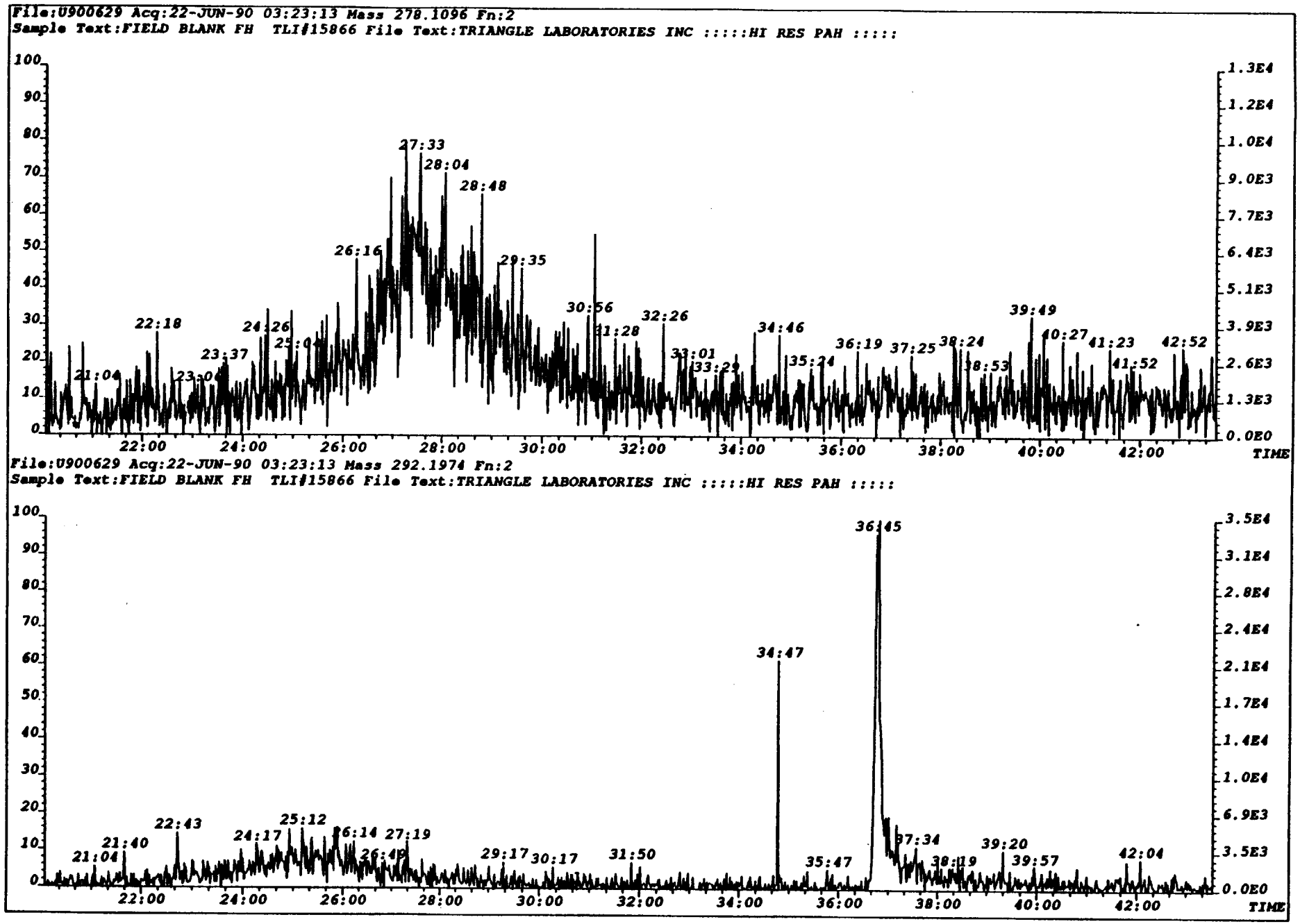

File:U900629 Acq:22-JUN-90 03:23:13 Mass 162.0236
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
File:U900629 Acq:22-JUN-90 03:23:13 Mass 164.0207
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
File:U900629 Acq:22-JUN-90 03:23:13 Mass 169.0646
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
File:U900629 Acq:22-JUN-90 03:23:13 Mass 171.0616
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
TIME

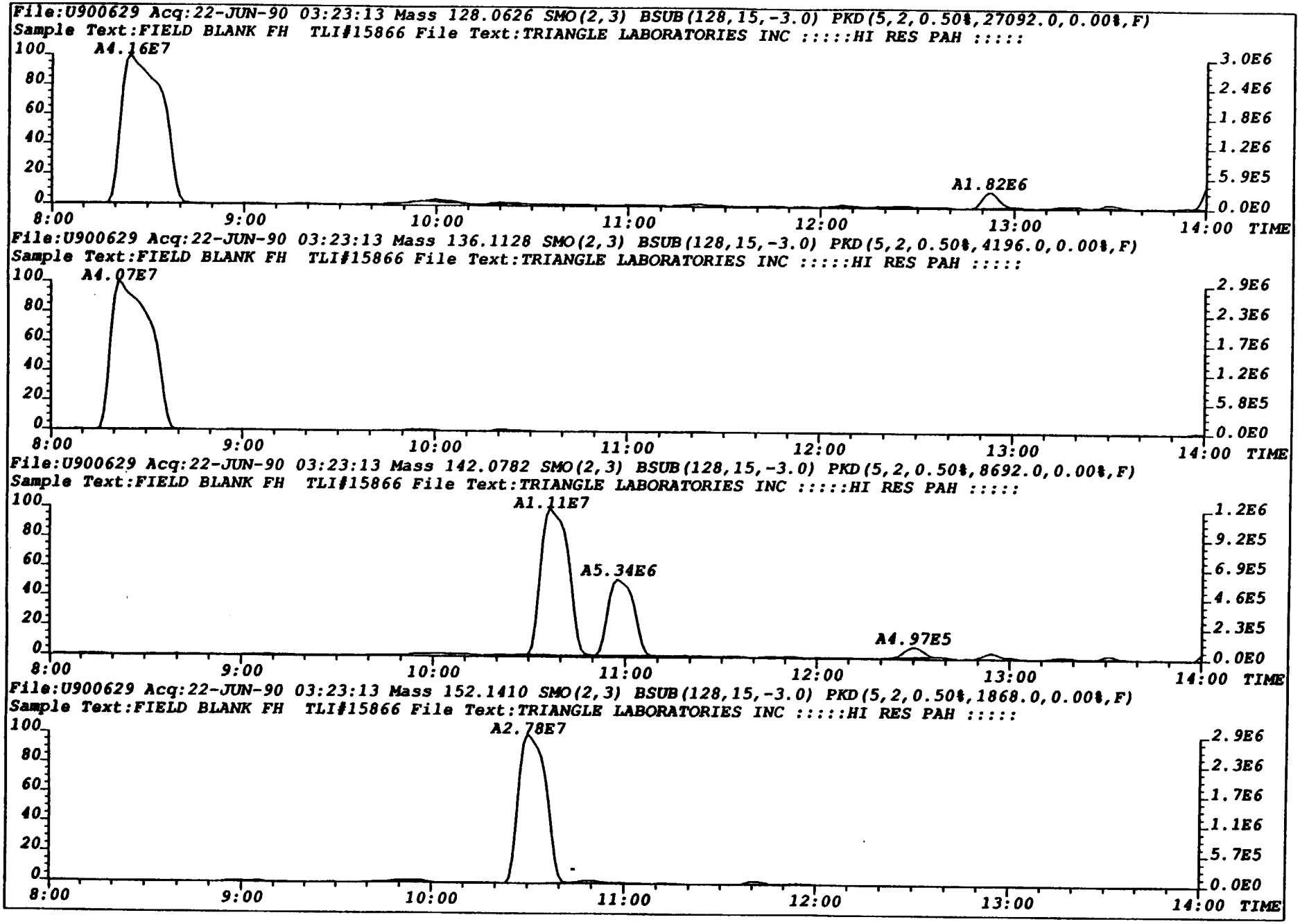

File:U900629 Acq:22-JUN-90 03:23:13 Mass 166.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:52
14:01
14:44
15:40
16:28
16:48
17:06
17:41
18:02
18:21
19:15
File:U900629 Acq:22-JUN-90 03:23:13 Mass 176.1410
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
15:28
File:U900629 Acq:22-JUN-90 03:23:13 Mass 178.0782
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:53
14:02
15:40
16:27
16:44
17:06
18:17
File:U900629 Acq:22-JUN-90 03:23:13 Mass 188.1410
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
18:14
TIME

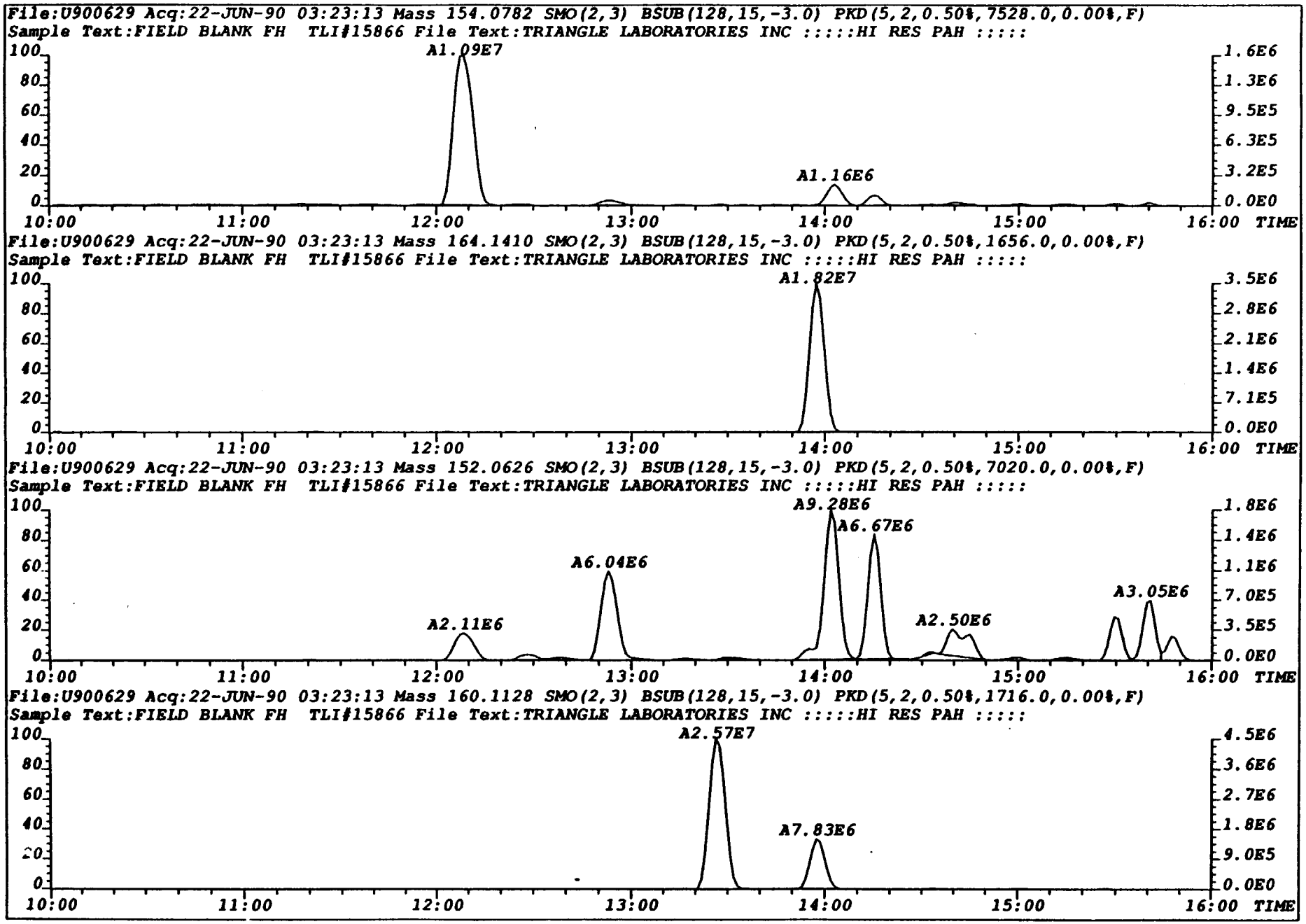
6

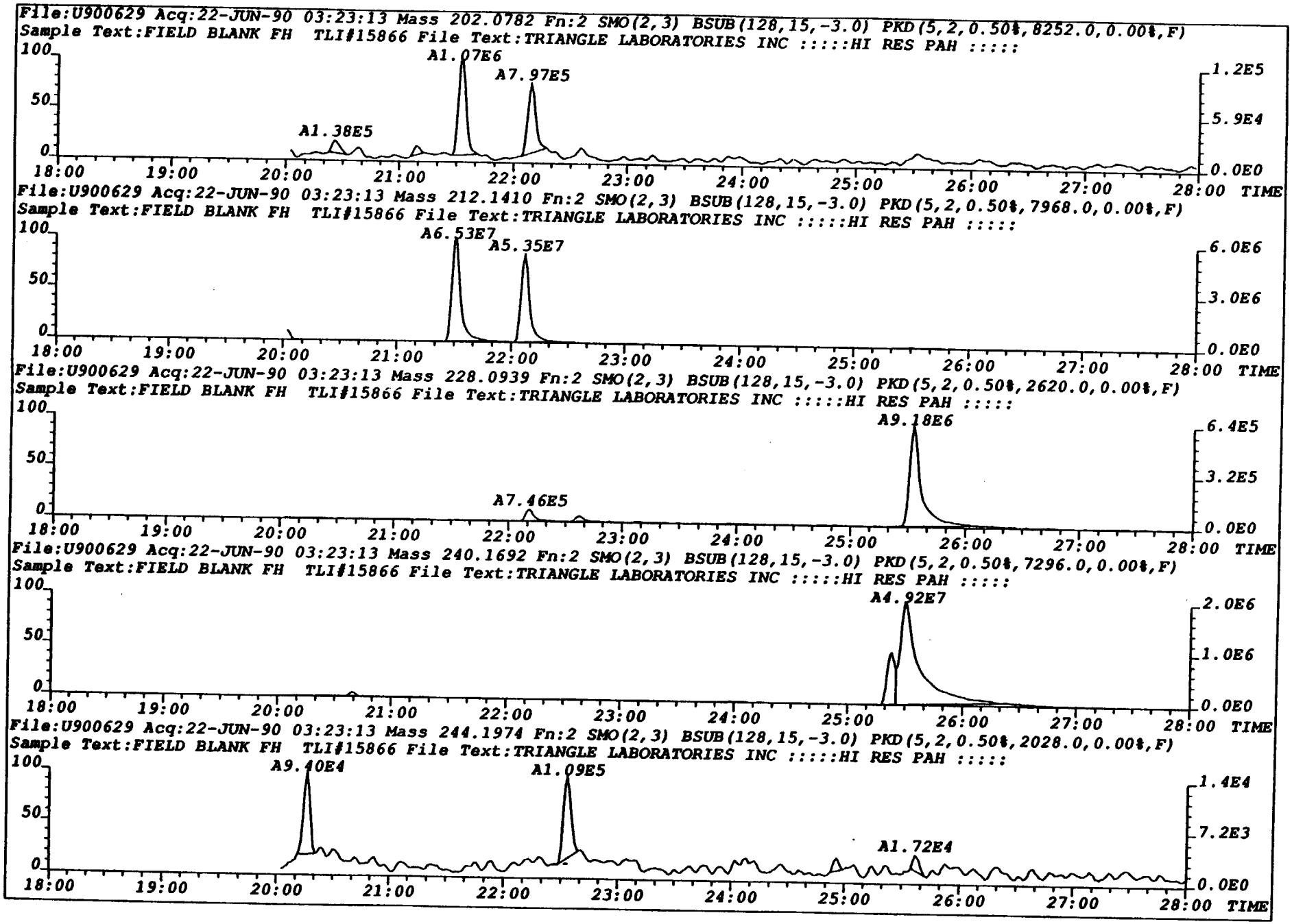

File:U900629 Acq:22-JUN-90 03:23:13 Mass 202.0782 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:32
22:09
23:12 24:20 25:32 26:42 27:56 29:37 30:59 34:38 36:15
1.9E5
9.5E4
0.0E0
File:U900629 Acq:22-JUN-90 03:23:13 Mass 212.1410 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
21:30
22:07
9.1E6
4.6E6
0.0E0
File:U900629 Acq:22-JUN-90 03:23:13 Mass 228.0939 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
25:33
22:10
8.9E5
4.5E5
0.0E0
File:U900629 Acq:22-JUN-90 03:23:13 Mass 240.1692 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
25:30
20:39
2.5E6
1.3E6
0.0E0
File:U900629 Acq:22-JUN-90 03:23:13 Mass 204.9888 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:23 23:25 25:14 26:33 28:00 30:23 32:46 34:35 35:52 37:45 38:53 39:56 41:14 43:02
2.9E6
1.4E6
0.0E0
100
50
0
22:00 24:00 26:00 28:00 30:00 32:00 34:00 36:00 38:00 40:00 42:00
TIME

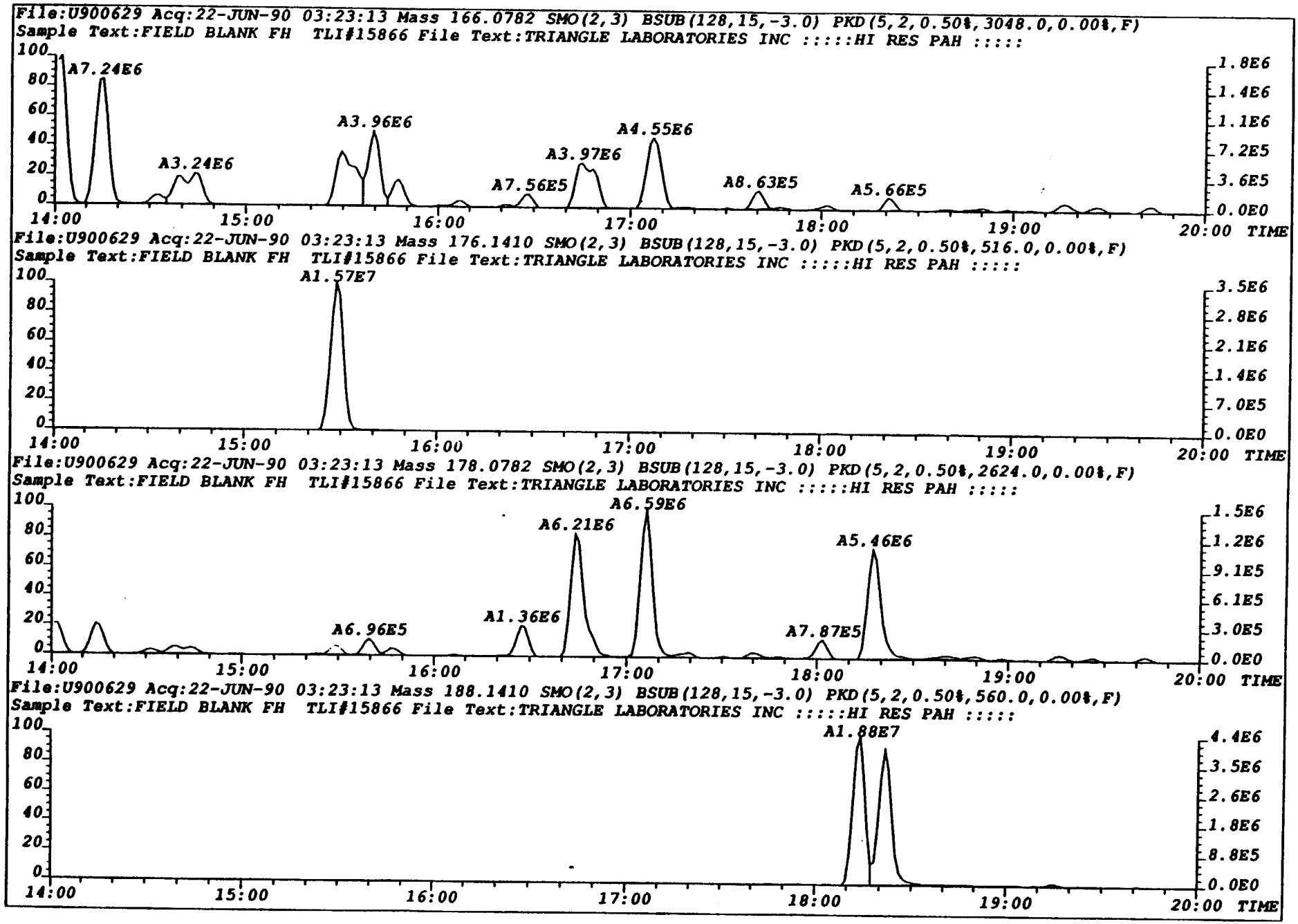

File:U900629 Acq:22-JUN-90 03:23:13 Mass 252.0939 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
25:31
23:48
24:27
26:03
29:13
27:39
30:24
21:51
32:12
33:38
34:47
35:48
36:47
38:32
39:33
41:32
42:46
3.3E4
1.7E4
0.0E0
TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 264.1692 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
29:13
30:17
30:52
29:45
31:36
6.1E5
3.1E5
0.0E0
TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 244.1974 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:32
23:05
24:08
25:37
25:05
26:39
28:27
29:34
31:09
32:20
33:51
35:34
37:39
39:36
40:55
41:55
2.3E4
1.2E4
0.0E0
TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 276.0939 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
29:16
20:48
23:45
25:13
26:42
30:11
31:03
32:01
33:49
34:51
36:24
37:49
39:04
40:05
41:43
3.0E4
1.5E4
0.0E0
TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 288.1692 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
38:28
36:44
23:12
24:40
27:38
37:25
39:03
40:37
41:37
42:50
7.9E4
3.9E4
0.0E0
TIME

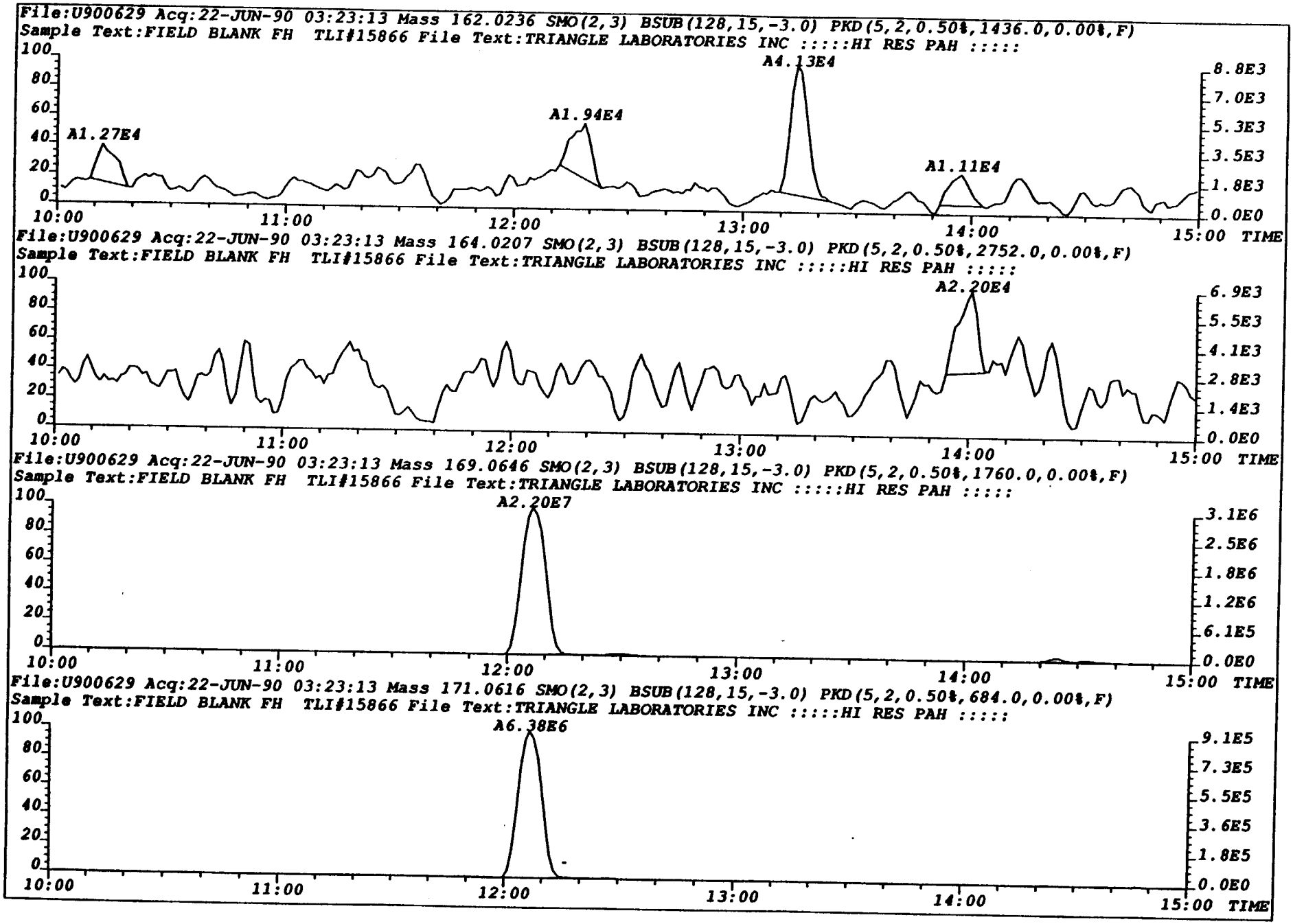

File:U900629 Acq:22-JUN-90 03:23:13 Mass 278.1096 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
27:33
28:04
28:48
26:16
29:35
30:56
32:26
22:18
24:26
23:37
34:46
39:49
40:27
41:23
42:52
TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 292.1974 Fn:2
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
36:45
34:47
22:43
25:12
21:40
24:17
27:19
29:17
30:17
31:50
35:47
37:34
39:20
39:57
42:04
TIME

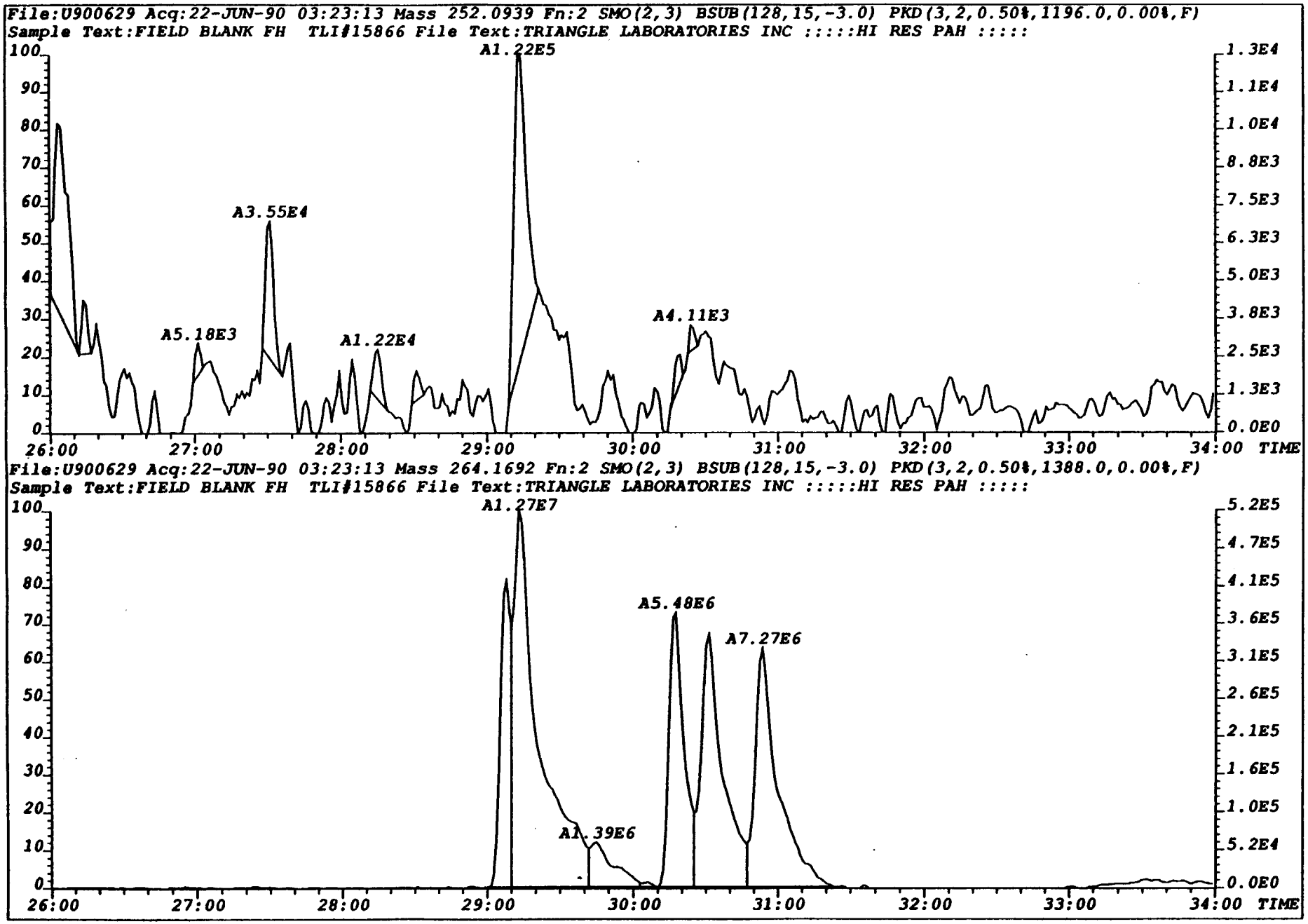

File:U900629 Acq:22-JUN-90 03:23:13 Mass 128.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,27092.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.16E7
A1.82E6
3.0E6
2.4E6
1.8E6
1.2E6
5.9E5
0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 136.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,4196.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.07E7
2.9E6
2.3E6
1.7E6
1.2E6
5.8E5
0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 142.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,8692.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.11E7
A5.34E6
A4.97E5
1.2E6
9.2E5
6.9E5
4.6E5
2.3E5
0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 152.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1868.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.78E7
2.9E6
2.3E6
1.7E6
1.1E6
5.7E5
0.0E0
8:00 9:00 10:00 11:00 12:00 13:00 14:00 TIME

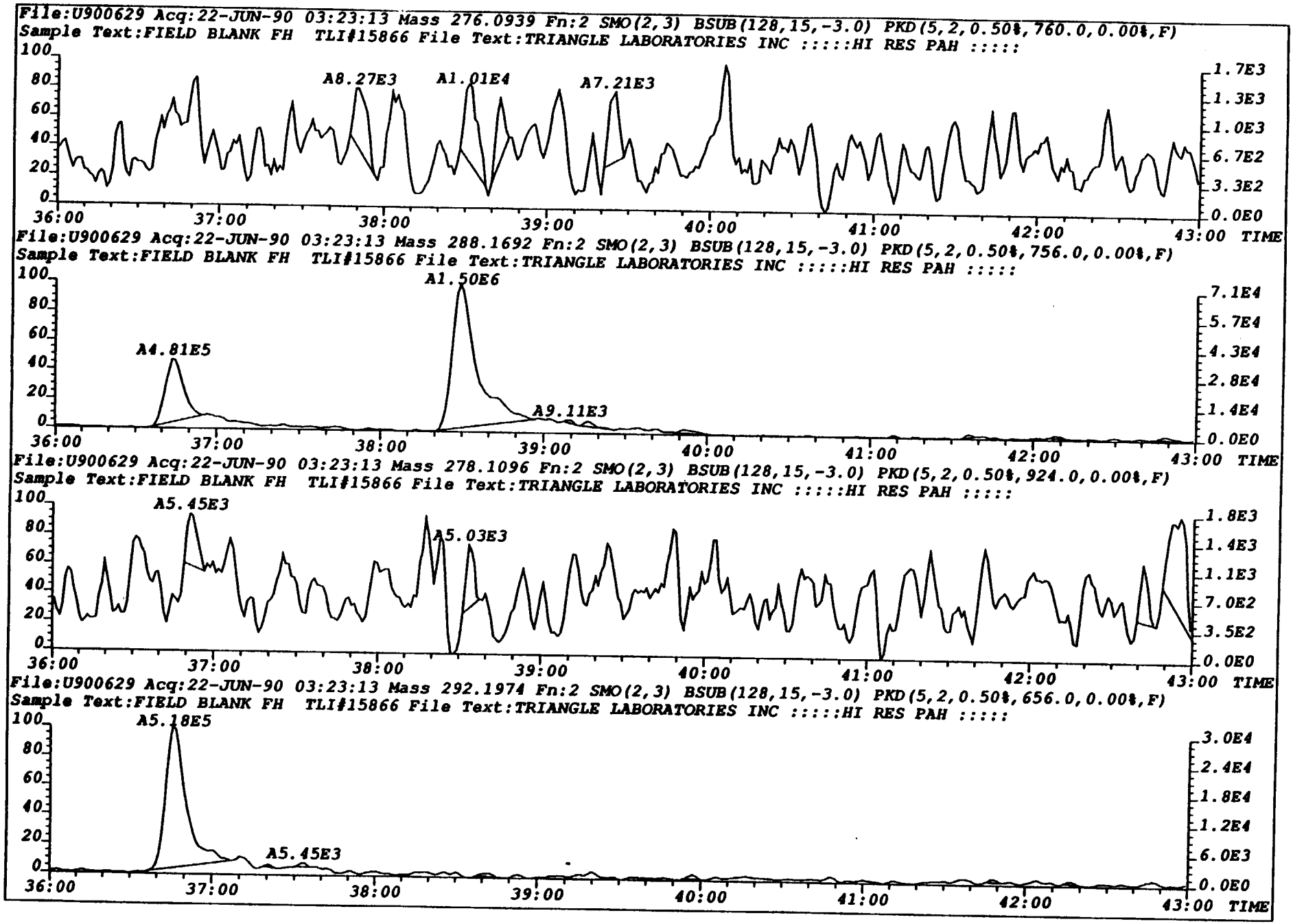

File:U900629 Acq:22-JUN-90 03:23:13 Mass 154.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7528.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.09E7
A1.16E6
File:U900629 Acq:22-JUN-90 03:23:13 Mass 164.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1656.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.82E7
File:U900629 Acq:22-JUN-90 03:23:13 Mass 152.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7020.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A9.28E6
A6.67E6
A6.04E6
A3.05E6
A2.11E6
A2.50E6
File:U900629 Acq:22-JUN-90 03:23:13 Mass 160.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1716.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.57E7
A7.83E6
10:00
11:00
12:00
13:00
14:00
15:00
16:00
TIME


File:U900629 Acq:22-JUN-90 03:23:13 Mass 202.0782 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,8252.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.07E6
A7.97E5
A1.38E5
File:U900629 Acq:22-JUN-90 03:23:13 Mass 212.1410 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7968.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.53E7
A5.35E7
File:U900629 Acq:22-JUN-90 03:23:13 Mass 228.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2620.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A9.18E6
A7.46E5
File:U900629 Acq:22-JUN-90 03:23:13 Mass 240.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,7296.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.92E7
File:U900629 Acq:22-JUN-90 03:23:13 Mass 244.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2028.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A9.40E4
A1.09E5
A1.72E4
100
50
0
18:00
19:00
20:00
21:00
22:00
23:00
24:00
25:00
26:00
27:00
28:00
TIME
1.2E5
5.9E4
0.0E0
6.0E6
3.0E6
6.4E5
3.2E5
2.0E6
1.0E6
1.4E4
7.2E3


File:U900629 Acq:22-JUN-90 03:23:13 Mass 166.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3048.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A7.24E6
A3.24E6
A3.96E6
A7.56E5
A3.97E6
A4.55E6
A8.63E5
A5.66E5
File:U900629 Acq:22-JUN-90 03:23:13 Mass 176.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,516.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.57E7
File:U900629 Acq:22-JUN-90 03:23:13 Mass 178.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2624.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.96E5
A1.36E6
A6.21E6
A6.59E6
A7.87E5
A5.46E6
File:U900629 Acq:22-JUN-90 03:23:13 Mass 188.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,560.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.88E7
14:00
15:00
16:00
17:00
18:00
19:00
20:00
TIME


File:U900629 Acq:22-JUN-90 03:23:13 Mass 162.0236 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1436.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.27E4
A1.94E4
A4.13E4
A1.11E4
10:00
11:00
12:00
13:00
14:00
15:00 TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 164.0207 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2752.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.20E4
File:U900629 Acq:22-JUN-90 03:23:13 Mass 169.0646 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1760.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.20E7
File:U900629 Acq:22-JUN-90 03:23:13 Mass 171.0616 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,684.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.38E6


File:U900629 Acq:22-JUN-90 03:23:13 Mass 252.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,1196.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.22E5
A3.55E4
A5.18E3
A1.22E4
A4.11E3
TIME
File:U900629 Acq:22-JUN-90 03:23:13 Mass 264.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(3,2,0.50%,1388.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.27E7
A5.48E6
A7.27E6
A1.39E6
TIME


File:U900629 Acq:22-JUN-90 03:23:13 Mass 276.0939 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,760.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A8.27E3
A1.01E4
A7.21E3
File:U900629 Acq:22-JUN-90 03:23:13 Mass 288.1692 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,756.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.50E6
A4.81E5
A9.11E3
File:U900629 Acq:22-JUN-90 03:23:13 Mass 278.1096 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,924.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A5.45E3
A5.03E3
File:U900629 Acq:22-JUN-90 03:23:13 Mass 292.1974 Fn:2 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,656.0,0.00%,F)
Sample Text:FIELD BLANK FH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A5.18E5
A5.45E3
36:00
37:00
38:00
39:00
40:00
41:00
42:00
43:00
TIME

29

Matched GC Peaks / Ratio / Ret. Time

M_Z	Omit	Ratio	RT.	Area	Match Rat	Match RT	REL_RT	Who/ Why
276		0.00	36:43	0.68	T	F	0.954	
		0.00	38:28	0.59	T	F	1.000	
		0.00	41:06	0.79	T	F	1.068	
276		*** Total ***		2.06	# of Peaks:		3	
278		0.00	37:19	0.93	T	F	1.015	
278		*** Total ***		0.93	# of Peaks:		1	
288		0.00	36:09	1.01	T	F	1.171	
		0.00	36:43	90.25	T	T	1.189	✓
		0.00	37:02	5.87	T	F	1.199	
		0.00	37:31	1.12	T	F	1.215	
		0.00	37:46	2.15	T	F	1.223	
		0.00	38:29	192.37	T	T	1.246	✓
		0.00	39:39	1.77	T	F	1.284	
288		*** Total ***		294.54	# of Peaks:		7	
292		0.00	36:46	72.32	T	T	1.191	✓
		0.00	37:15	2.31	T	F	1.206	
292		*** Total ***		74.63	# of Peaks:		2	

*** End of Report ***

06/27/90

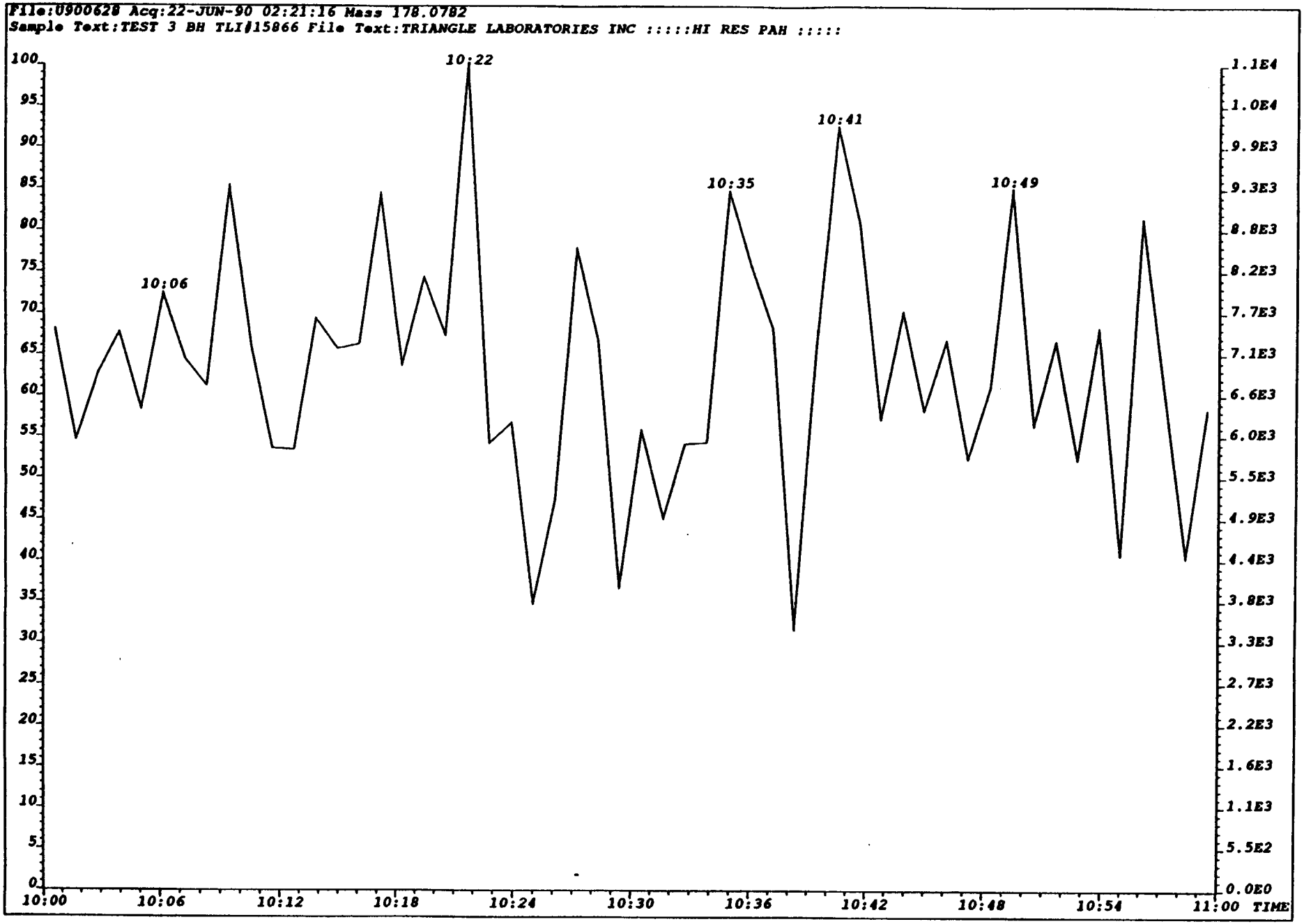
Listing of U9006281.dbf File
Raw Mass, Retention Time and Data Area

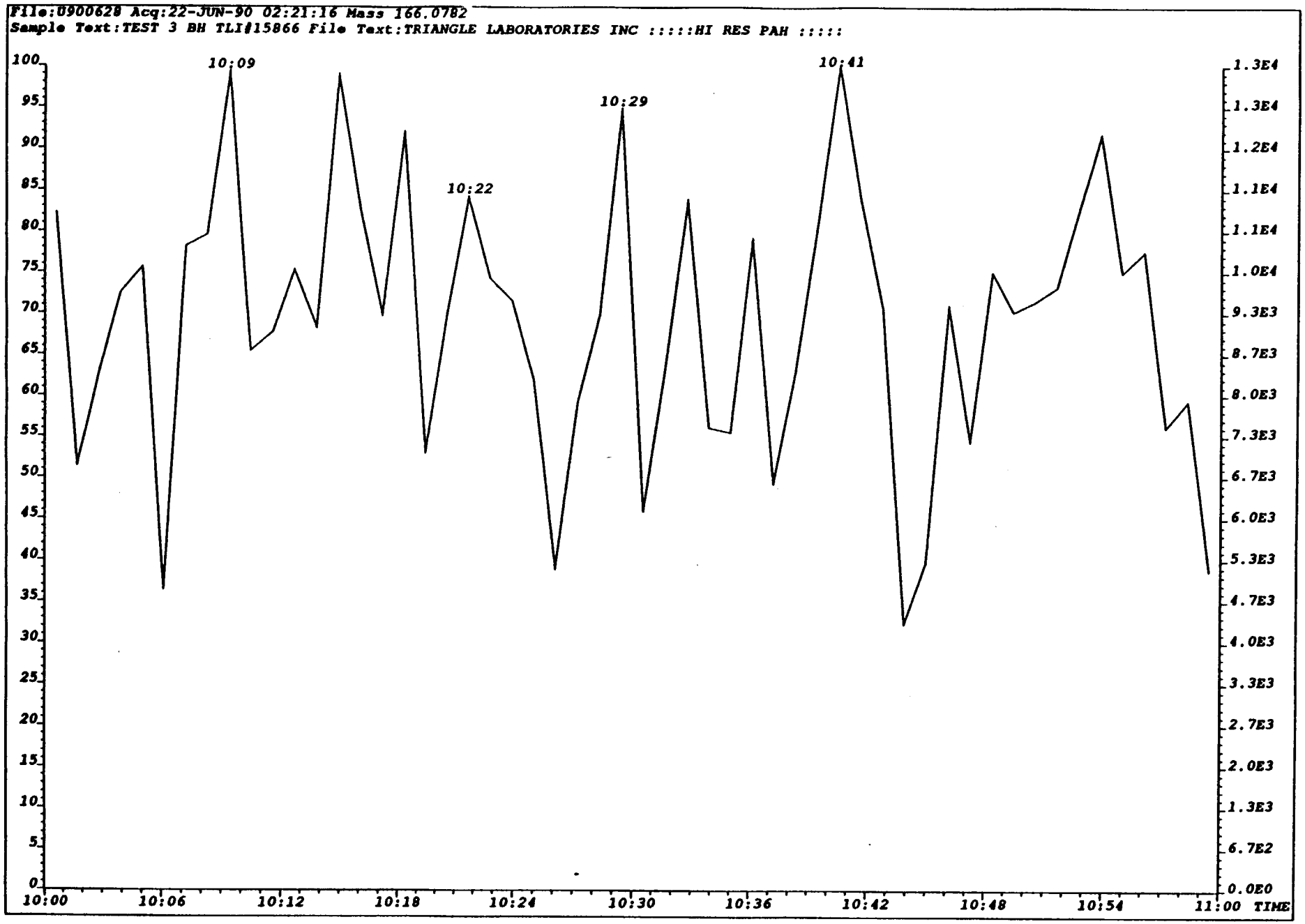
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
128	8:25	6692.77	9:59	68.43	10:21	17.32		
136	8:22	8437.64	13:57	34.04				
142	10:36	2008.48	10:57	913.27	12:29	90.31		
152	8:58	18.25	10:29	5745.29	11:41	25.45		
	9:54	24.25	10:49	41.35				
154	12:07	1064.83	13:27	3.92	14:39	672.83	15:39	366.58
	12:28	26.62	13:35	6.51	14:59	19.51	15:47	177.52
	12:37	11.43	14:02	1207.47	15:15	41.28	15:58	4.01
	12:53	690.20	14:15	1195.75	15:29	244.85		
164	13:57	4430.76	14:15	19.23				
152	12:07	173.83	14:02	20222.20	14:39	10818.57	15:47	3081.89
	12:27	210.29	14:15	15342.60	15:29	5909.96		
	12:53	12978.74	14:33	2505.74	15:40	8003.39		
160	13:26	6110.71	13:57	1745.68				
162	12:09	0.28	12:53	2.90	14:00	3.65	14:38	0.61
	12:16	2.53	13:15	4.44	14:15	3.45		
164	12:53	17.84	14:15	28.17	14:39	16.22		
	14:02	30.62	14:33	4.66				
169	12:06	4623.78	12:29	23.57	14:24	61.11		
171	12:06	1388.91						
166	14:02	22745.23	14:39	13871.30	15:47	3902.77		
	14:15	18468.74	15:29	8088.93	16:45	633.40		
	14:33	3628.14	15:39	10833.79	17:07	773.15		
176	15:28	3935.78						
178	14:00	4777.39	15:47	1073.56	17:19	28.92	18:41	21.68
	14:14	4266.76	16:16	40.99	17:31	42.35	18:50	47.53
	14:32	790.56	16:27	247.64	17:40	42.42	19:17	34.27
	14:38	3782.22	16:44	1043.60	17:49	69.76	19:42	28.88
	15:29	1499.61	16:53	189.35	18:02	473.37		
	15:39	2474.82	17:06	1257.74	18:17	596.82		
188	18:14	3929.95	18:21	3775.84	19:15	28.92		

202	21:09	12.52	21:32	188.66	22:09	174.46	22:58	9.66	
212	21:30	13476.25	22:07	11280.96	25:30	40.98			
228	22:11	12.63	22:42	16.68	25:32	206.56			
	22:31	0.69	23:50	3.41					

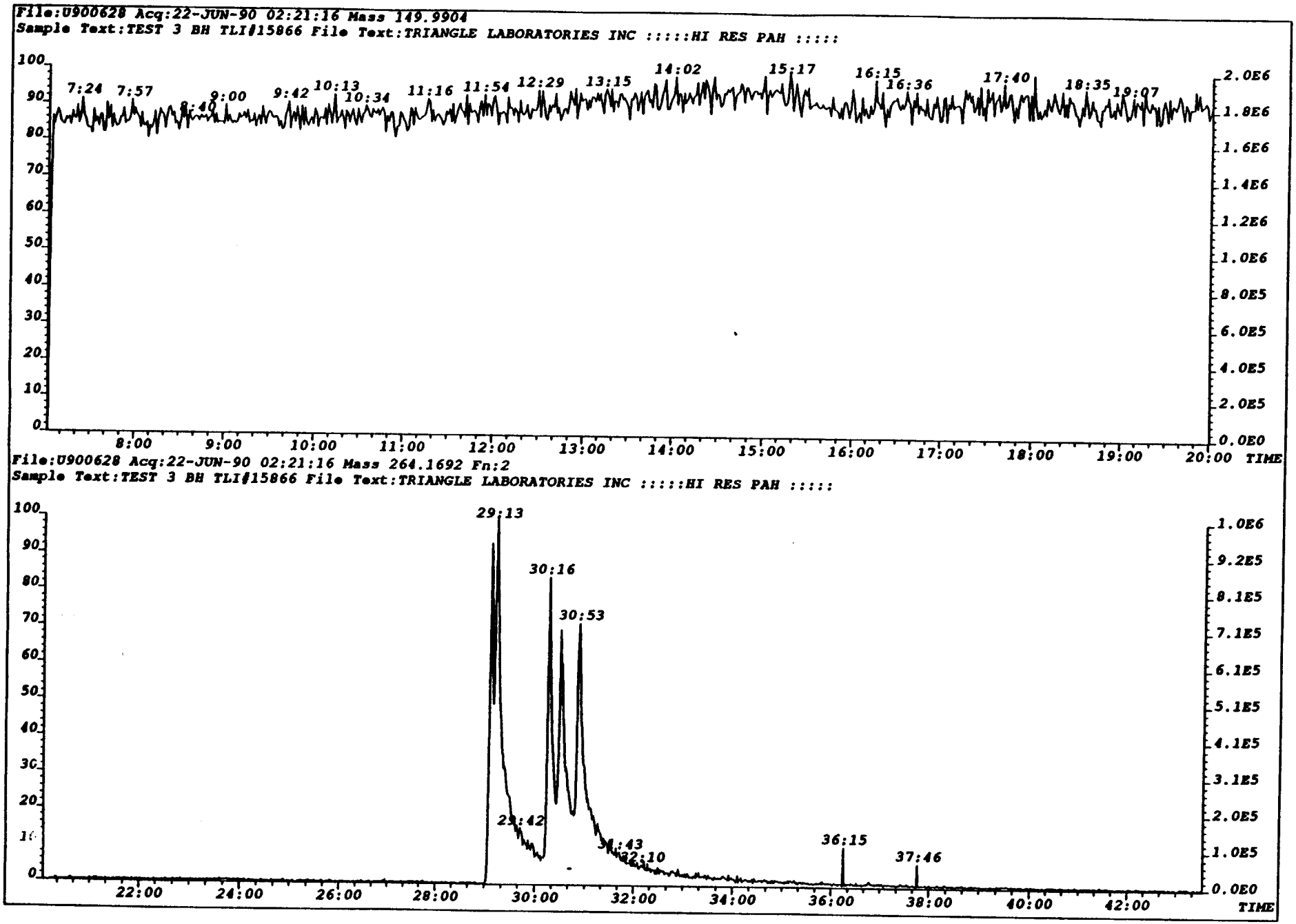
M_Z	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....	mm:ss	Data.Area.....
240	22:33	48.98	25:23	1876.62	25:29	9688.85		
244	20:36	7.46	20:53	3.17	21:08	4.37	22:33	1150.37
252	26:04	6.86	27:19	1.64	30:23	1.39		
	26:18	0.85	29:13	2.30	33:06	1.47		
264	29:08	784.77	29:56	60.86	30:31	1101.55	31:16	5.98
	29:13	2413.41	30:16	905.89	30:53	1077.01		
276	36:43	0.68	38:28	0.59	41:06	0.79		
288	36:09	1.01	37:02	5.87	37:46	2.15	39:39	1.77
	36:43	90.25	37:31	1.12	38:29	192.37		
278	37:19	0.93						
292	36:46	72.32	37:15	2.31				

*** End of Report ***

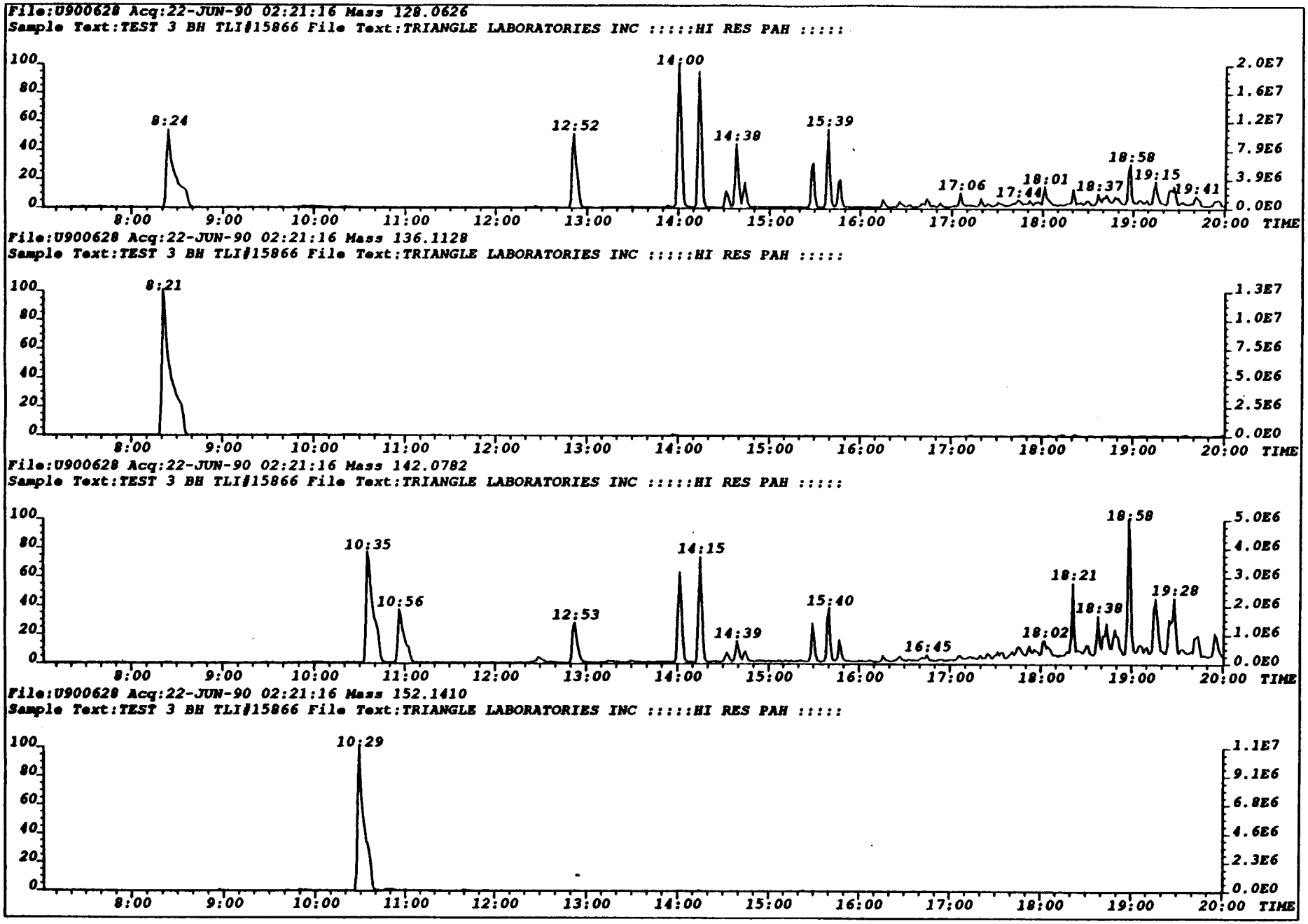

File:U900628 Acq:22-JUN-90 02:21:16 Mass 178.0782
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:06
10:22
10:35
10:41
10:49
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1.1E4
1.0E4
9.9E3
9.3E3
8.8E3
8.2E3
7.7E3
7.1E3
6.6E3
6.0E3
5.5E3
4.9E3
4.4E3
3.8E3
3.3E3
2.7E3
2.2E3
1.6E3
1.1E3
5.5E2
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

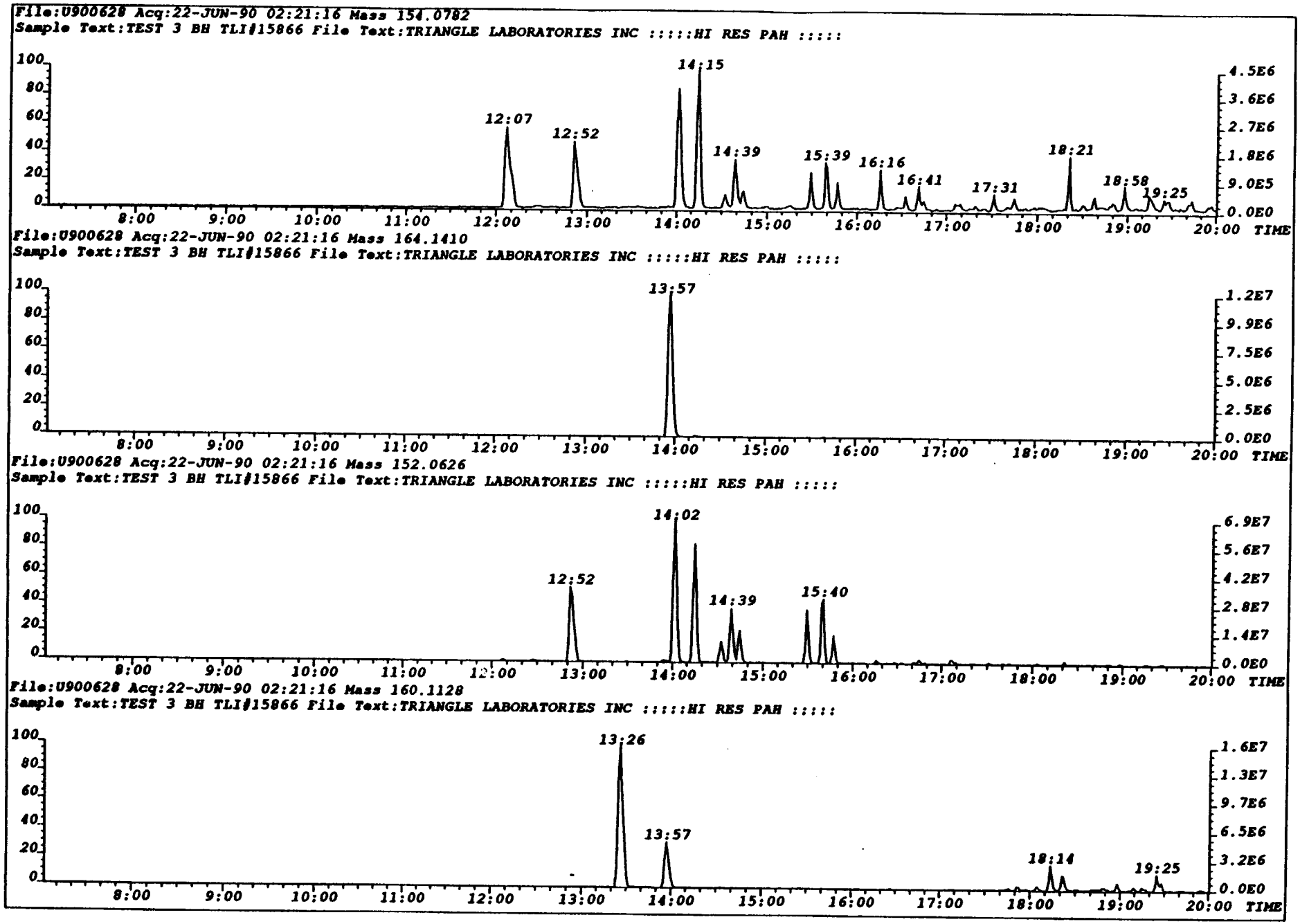

File:U900628 Acq:22-JUN-90 02:21:16 Mass 166.0782
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:09
10:22
10:29
10:41
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
1.3E4
1.3E4
1.2E4
1.1E4
1.1E4
1.0E4
9.3E3
8.7E3
8.0E3
7.3E3
6.7E3
6.0E3
5.3E3
4.7E3
4.0E3
3.3E3
2.7E3
2.0E3
1.3E3
6.7E2
0.0E0
10:00
10:06
10:12
10:18
10:24
10:30
10:36
10:42
10:48
10:54
11:00
TIME

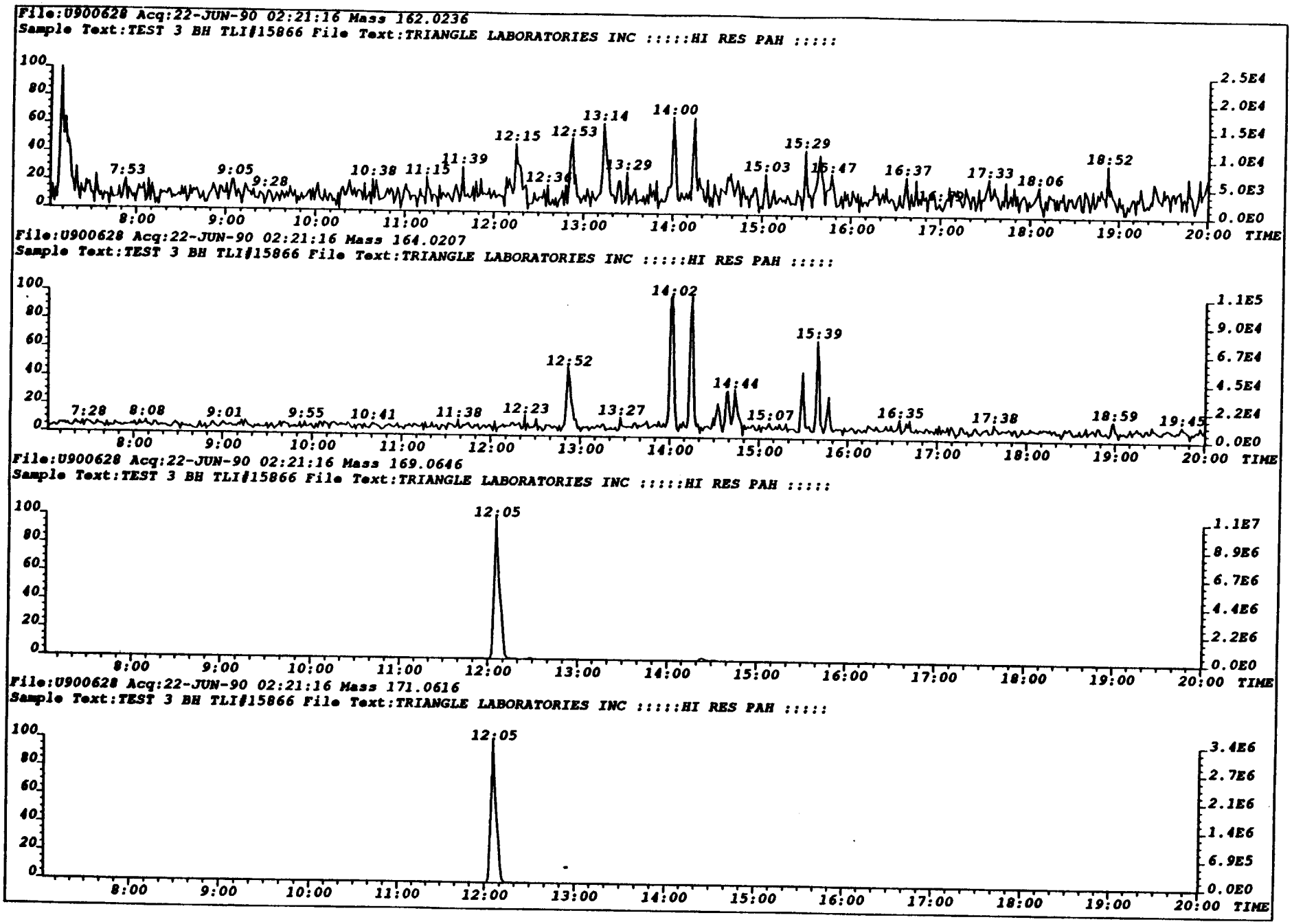
12

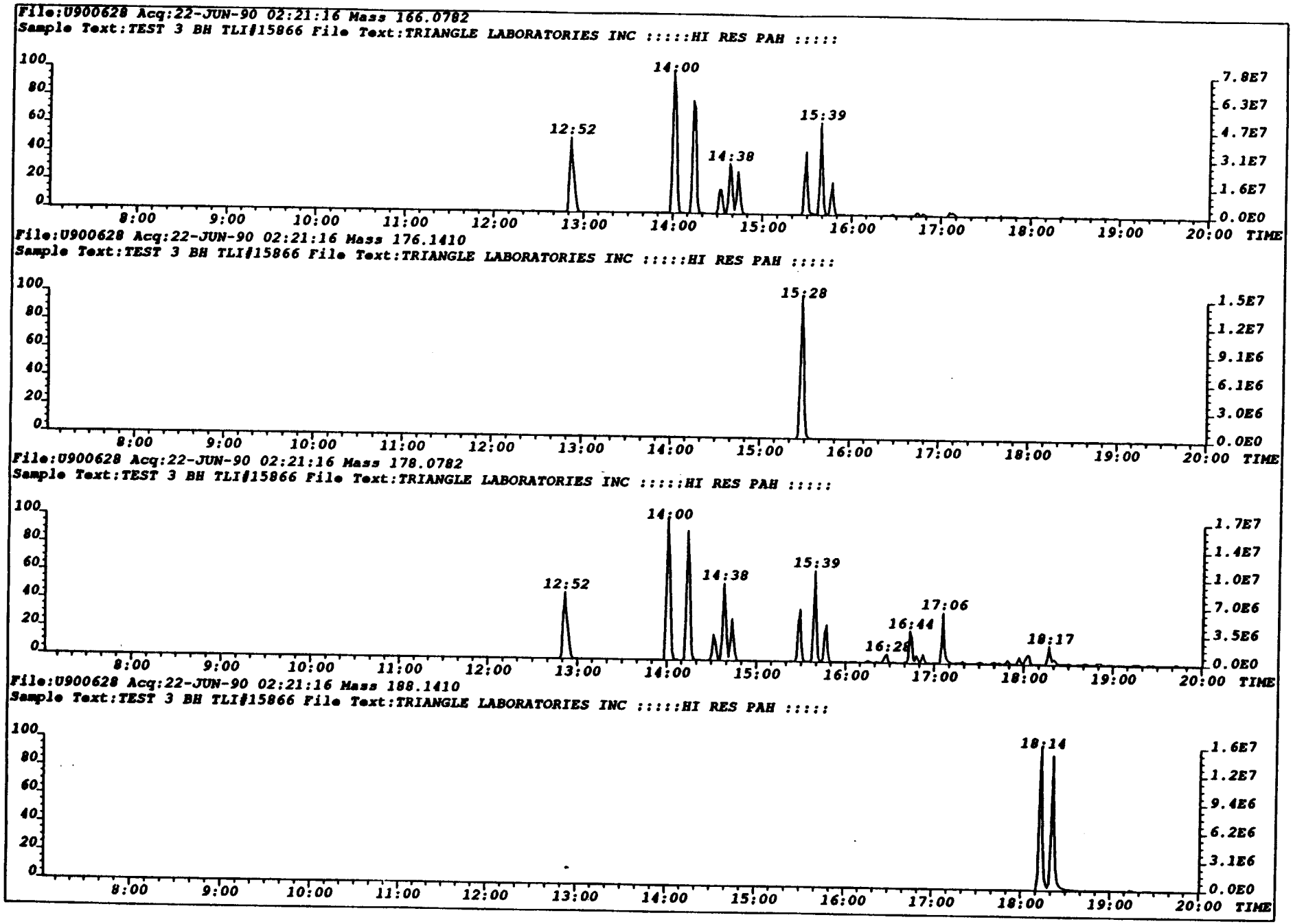

File:U900628 Acq:22-JUN-90 02:21:16 Mass 149.9904
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
7:24
7:57
9:00
9:42
10:13
10:34
11:16
11:54
12:29
13:15
14:02
15:17
16:15
16:36
17:40
18:35
19:07
TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 264.1692 Fn:2
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
29:13
30:16
30:53
29:42
36:15
37:46
TIME

3

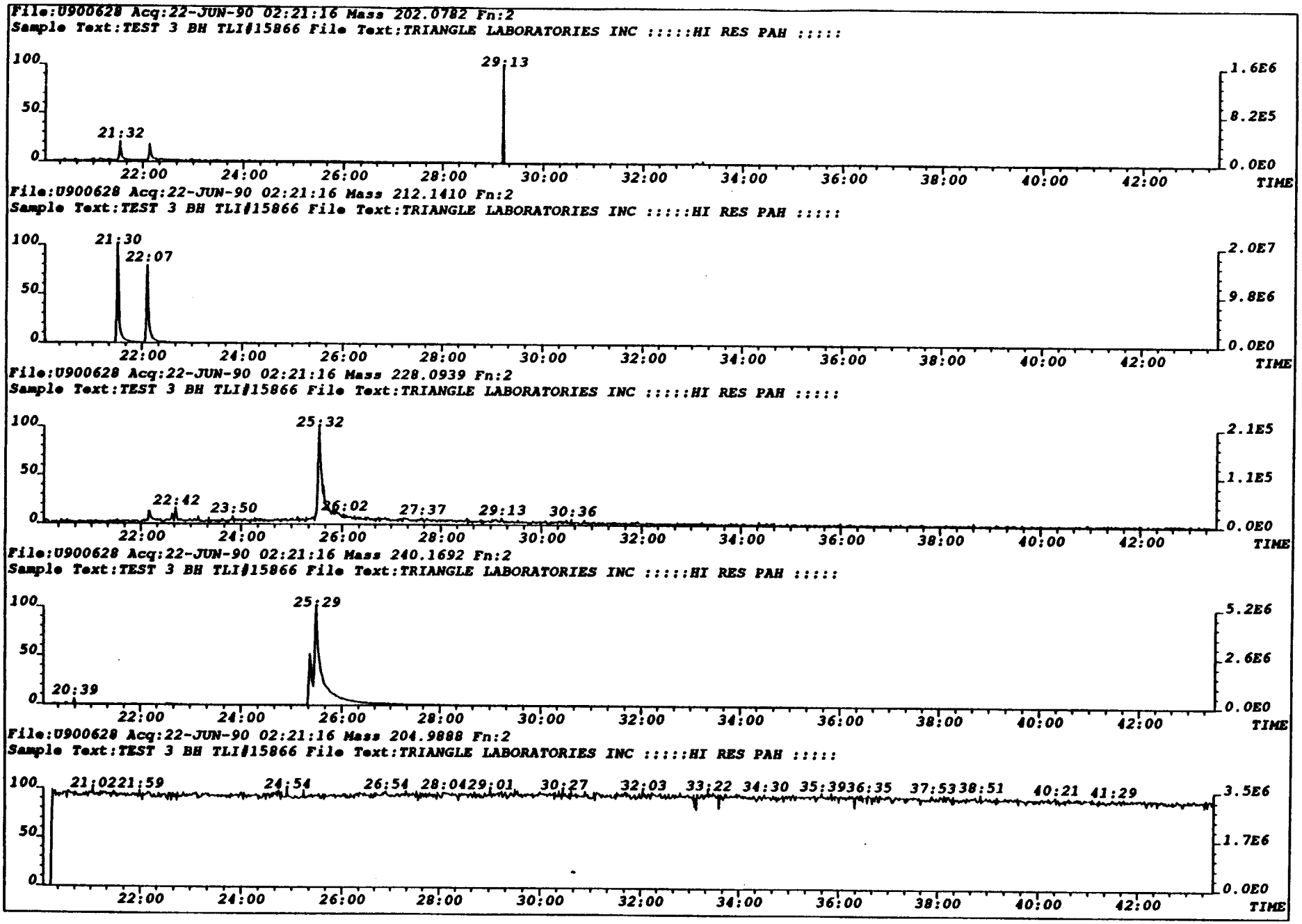

File:U900628 Acq:22-JUN-90 02:21:16 Mass 128.0626
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:24
12:52
14:00
14:38
15:39
17:06
17:44
18:01
18:37
18:58
19:15
19:41
File:U900628 Acq:22-JUN-90 02:21:16 Mass 136.1128
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
8:21
File:U900628 Acq:22-JUN-90 02:21:16 Mass 142.0782
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:35
10:56
12:53
14:15
14:39
15:40
16:45
18:02
18:21
18:38
18:58
19:28
File:U900628 Acq:22-JUN-90 02:21:16 Mass 152.1410
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
10:29
TIME


File:U900628 Acq:22-JUN-90 02:21:16 Mass 154.0782
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:07
12:52
14:15
14:39
15:39
16:16
16:41
17:31
18:21
18:58
19:25
File:U900628 Acq:22-JUN-90 02:21:16 Mass 164.1410
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:57
File:U900628 Acq:22-JUN-90 02:21:16 Mass 152.0626
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:52
14:02
14:39
15:40
File:U900628 Acq:22-JUN-90 02:21:16 Mass 160.1128
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
13:26
13:57
18:14
19:25
TIME

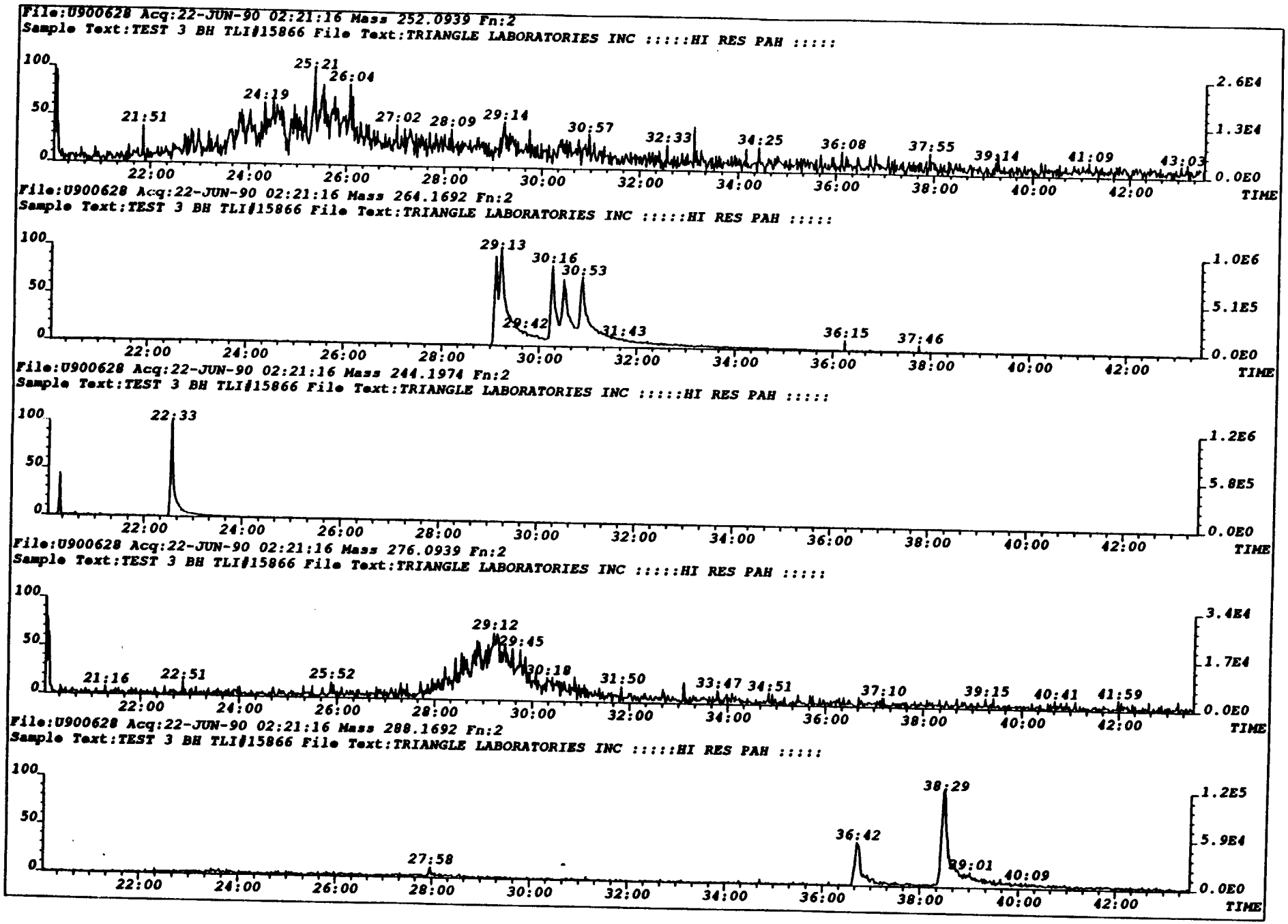

File:U900628 Acq:22-JUN-90 02:21:16 Mass 162.0236
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
7:53
9:05
9:28
10:38
11:15
11:39
12:15
12:36
12:53
13:14
13:29
14:00
15:03
15:29
15:47
16:37
17:33
18:06
18:52
File:U900628 Acq:22-JUN-90 02:21:16 Mass 164.0207
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
7:28
8:08
9:01
9:55
10:41
11:38
12:23
12:52
13:27
14:02
14:44
15:07
15:39
16:35
17:38
18:59
19:45
File:U900628 Acq:22-JUN-90 02:21:16 Mass 169.0646
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:05
File:U900628 Acq:22-JUN-90 02:21:16 Mass 171.0616
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:05
TIME

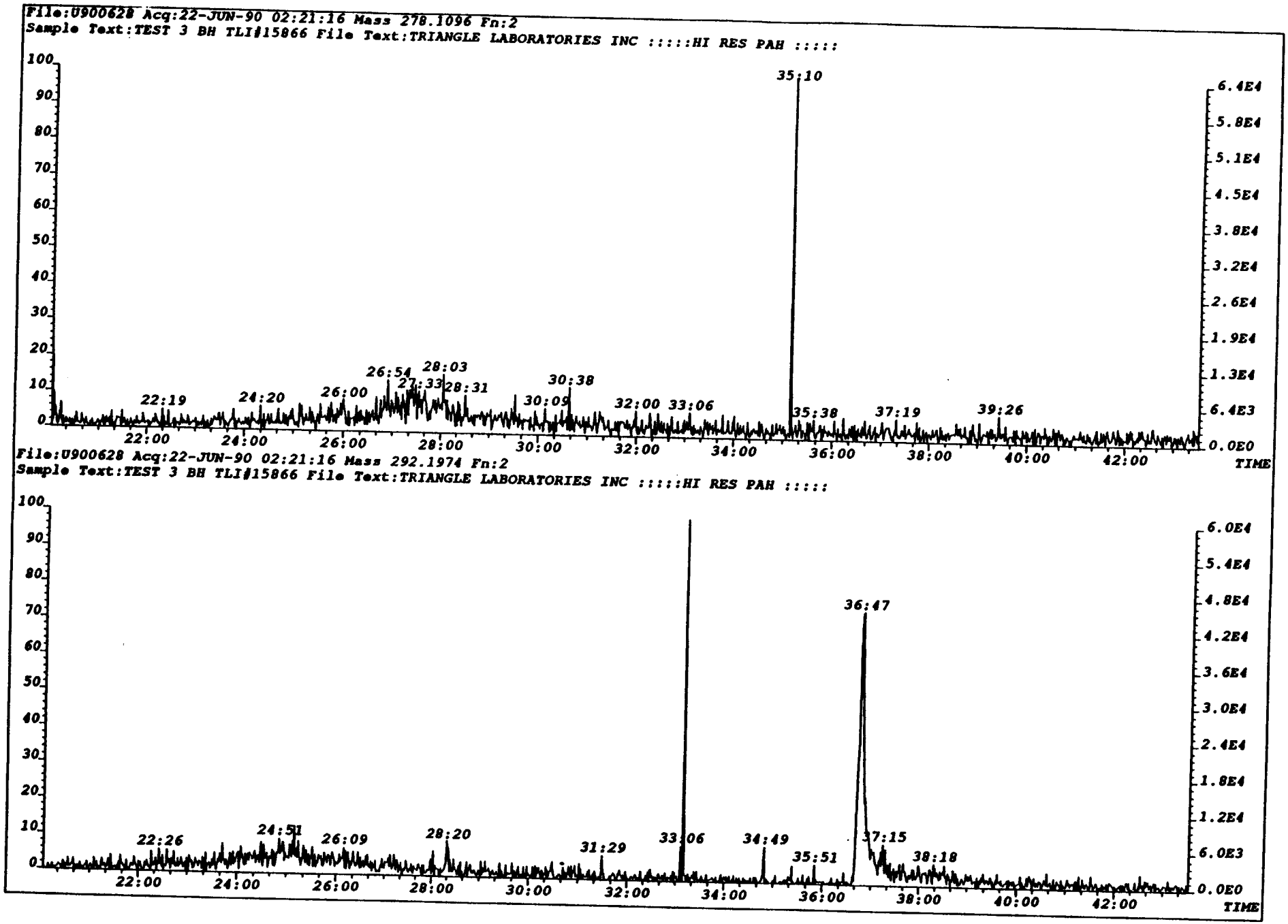

File:U900628 Acq:22-JUN-90 02:21:16 Mass 166.0782
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:52
14:00
14:38
15:39
File:U900628 Acq:22-JUN-90 02:21:16 Mass 176.1410
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
15:28
File:U900628 Acq:22-JUN-90 02:21:16 Mass 178.0782
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
12:52
14:00
14:38
15:39
16:28
16:44
17:06
18:17
File:U900628 Acq:22-JUN-90 02:21:16 Mass 188.1410
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
18:14
TIME

12

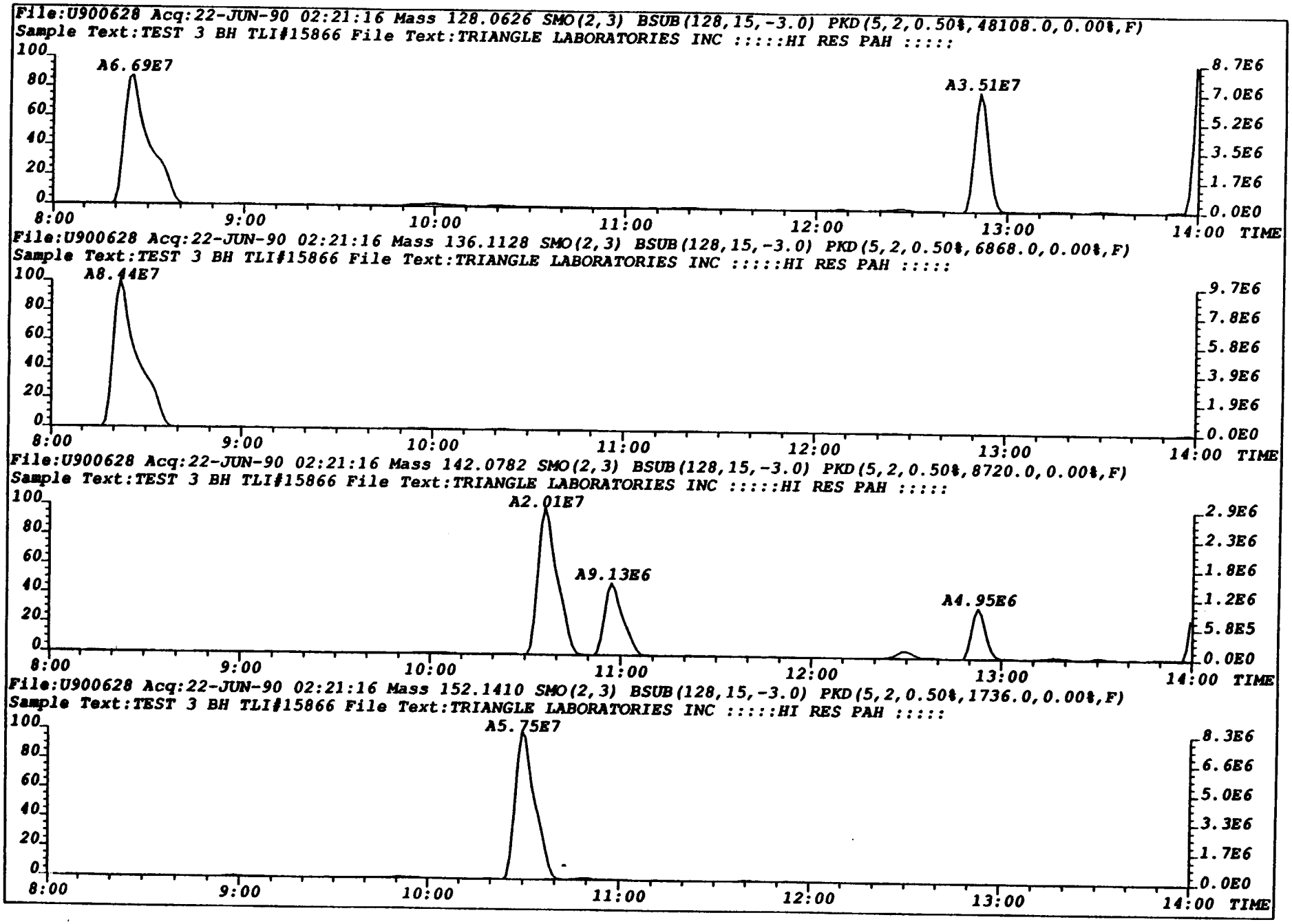

File:U900628 Acq:22-JUN-90 02:21:16 Mass 202.0782 Fn:2
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
100
50
0
29:13
21:32
1.6E6
8.2E5
0.0E0
22:00 24:00 26:00 28:00 30:00 32:00 34:00 36:00 38:00 40:00 42:00
TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 212.1410 Fn:2
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
100
50
0
21:30
22:07
2.0E7
9.8E6
0.0E0
22:00 24:00 26:00 28:00 30:00 32:00 34:00 36:00 38:00 40:00 42:00
TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 228.0939 Fn:2
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
100
50
0
25:32
22:42
23:50
26:02
27:37
29:13
30:36
2.1E5
1.1E5
0.0E0
22:00 24:00 26:00 28:00 30:00 32:00 34:00 36:00 38:00 40:00 42:00
TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 240.1692 Fn:2
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
100
50
0
25:29
20:39
5.2E6
2.6E6
0.0E0
22:00 24:00 26:00 28:00 30:00 32:00 34:00 36:00 38:00 40:00 42:00
TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 204.9888 Fn:2
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
100
50
0
21:02 21:59 24:54 26:54 28:04 29:01 30:27 32:03 33:22 34:30 35:39 36:35 37:53 38:51 40:21 41:29
3.5E6
1.7E6
0.0E0
22:00 24:00 26:00 28:00 30:00 32:00 34:00 36:00 38:00 40:00 42:00
TIME

8

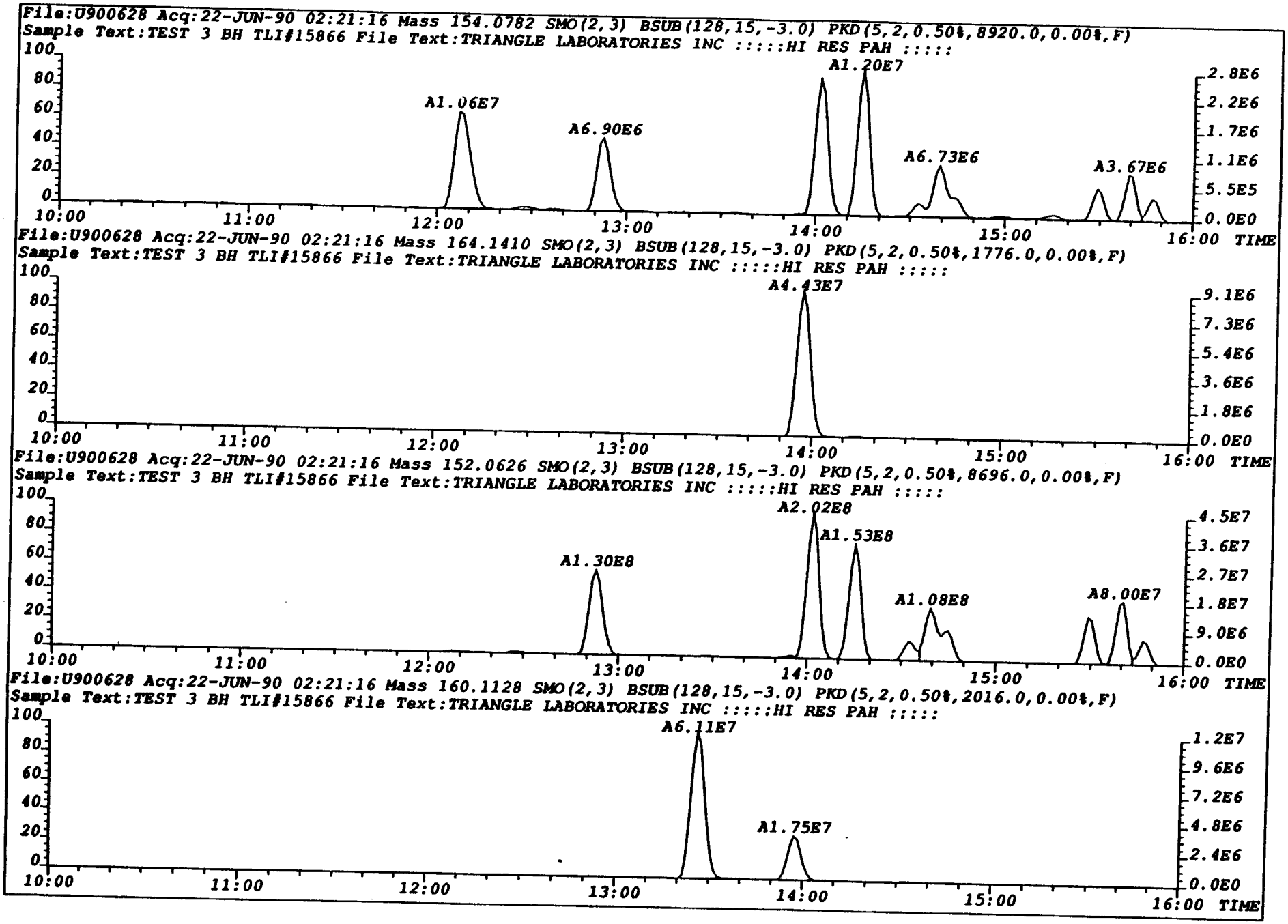

File:U900628 Acq:22-JUN-90 02:21:16 Mass 252.0939 Fn:2
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
25:21
26:04
24:19
21:51
27:02
28:09
29:14
30:57
32:33
34:25
36:08
37:55
39:14
41:09
43:03
2.6E4
1.3E4
0.0E0
TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 264.1692 Fn:2
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
29:13
30:16
30:53
29:42
31:43
36:15
37:46
1.0E6
5.1E5
0.0E0
TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 244.1974 Fn:2
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
22:33
1.2E6
5.8E5
0.0E0
TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 276.0939 Fn:2
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
29:12
29:45
30:18
21:16
22:51
25:52
31:50
33:47
34:51
37:10
39:15
40:41
41:59
3.4E4
1.7E4
0.0E0
TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 288.1692 Fn:2
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
38:29
36:42
27:58
39:01
40:09
1.2E5
5.9E4
0.0E0
TIME

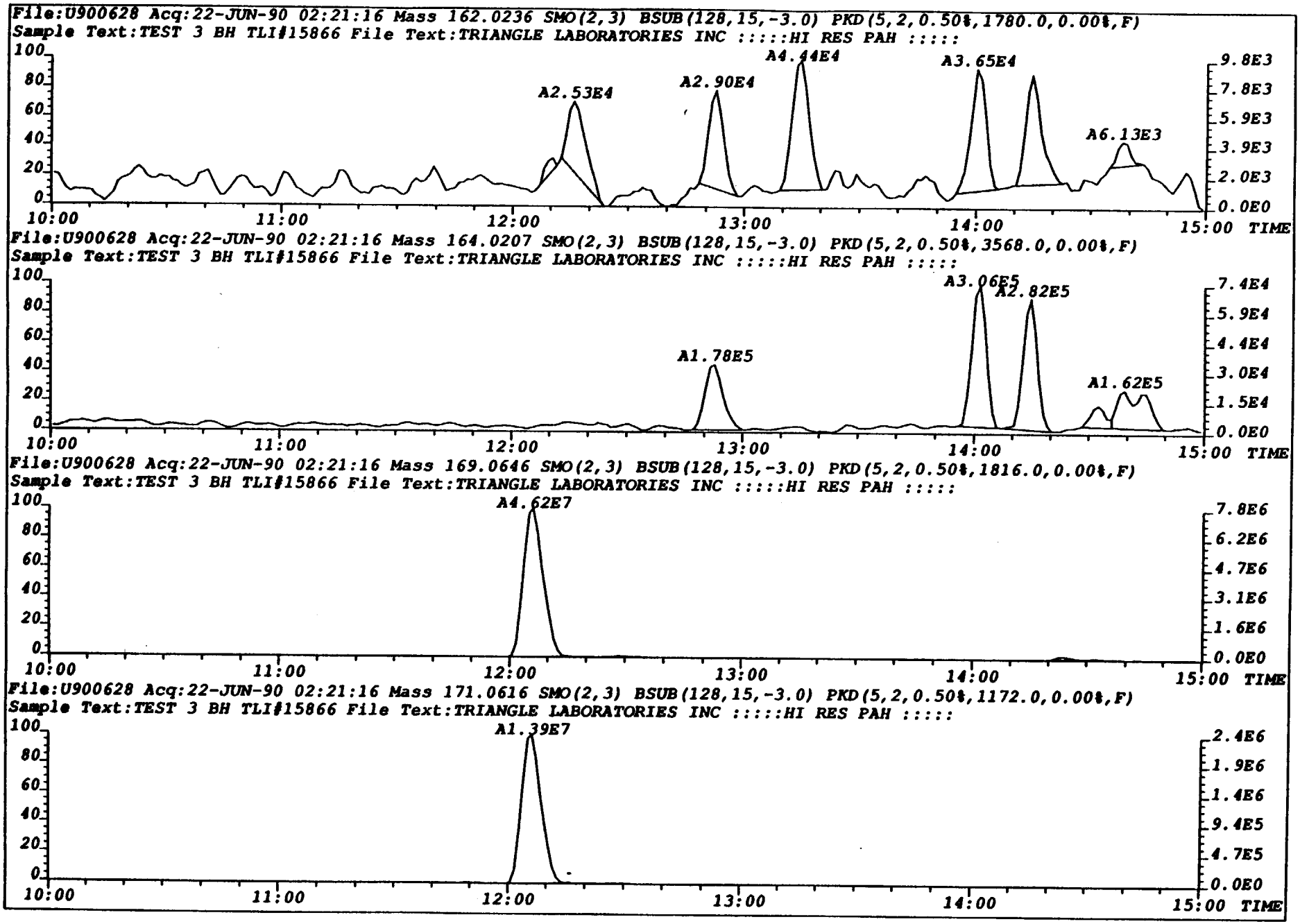

File:U900628 Acq:22-JUN-90 02:21:16 Mass 278.1096 Fn:2
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
35:10
26:54
28:03
27:33
28:31
30:38
30:09
22:19
24:20
26:00
32:00 33:06
35:38
37:19
39:26
TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 292.1974 Fn:2
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
36:47
22:26
24:51
26:09
28:20
31:29
33:06
34:49
35:51
37:15
38:18
TIME

20


File:U900628 Acq:22-JUN-90 02:21:16 Mass 128.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,48108.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.69E7
A3.51E7
8.7E6
7.0E6
5.2E6
3.5E6
1.7E6
0.0E0
8:00
9:00
10:00
11:00
12:00
13:00
14:00 TIME
File:U900628 Acq:22-JUN-90 02:21:16 Mass 136.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,6868.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A8.44E7
9.7E6
7.8E6
5.8E6
3.9E6
1.9E6
0.0E0
File:U900628 Acq:22-JUN-90 02:21:16 Mass 142.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,8720.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.01E7
A9.13E6
A4.95E6
2.9E6
2.3E6
1.8E6
1.2E6
5.8E5
0.0E0
File:U900628 Acq:22-JUN-90 02:21:16 Mass 152.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1736.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A5.75E7
8.3E6
6.6E6
5.0E6
3.3E6
1.7E6
0.0E0

12


File:U900628 Acq:22-JUN-90 02:21:16 Mass 154.0782 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,8920.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.06E7
A6.90E6
A1.20E7
A6.73E6
A3.67E6
File:U900628 Acq:22-JUN-90 02:21:16 Mass 164.1410 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1776.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.43E7
File:U900628 Acq:22-JUN-90 02:21:16 Mass 152.0626 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,8696.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.30E8
A2.02E8
A1.53E8
A1.08E8
A8.00E7
File:U900628 Acq:22-JUN-90 02:21:16 Mass 160.1128 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,2016.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A6.11E7
A1.75E7
TIME


File:U900628 Acq:22-JUN-90 02:21:16 Mass 162.0236 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1780.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A2.53E4
A2.90E4
A4.44E4
A3.65E4
A6.13E3
File:U900628 Acq:22-JUN-90 02:21:16 Mass 164.0207 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,3568.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.78E5
A3.06E5
A2.82E5
A1.62E5
File:U900628 Acq:22-JUN-90 02:21:16 Mass 169.0646 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1816.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A4.62E7
File:U900628 Acq:22-JUN-90 02:21:16 Mass 171.0616 SMO(2,3) BSUB(128,15,-3.0) PKD(5,2,0.50%,1172.0,0.00%,F)
Sample Text:TEST 3 BH TLI#15866 File Text:TRIANGLE LABORATORIES INC :::::HI RES PAH :::::
A1.39E7
10:00
11:00
12:00
13:00
14:00
15:00 TIME

TRIANGLE LABORATORY, INC.

Chain of Custody Forms and Lab Notes

SEMIVOLATILE EXTRACTION TRACKING FORM

TLI #: 15729 CLIENT ID: P&S

SDG #:

SAMP #/EXT DATES: 0-3 / 5/15/90

LEVEL: LOW MED

RECEIPT DATE: 5-9-90

HOLD DATE: 5-23-90

DUE DATE: 6-8-90

WATER ___
SOIL ___
MMS I
PUF ___
ASH ___
FISH ___
OTHER ___

SOLVENT: (CH2CL2) TOLUENE ETHER/HEXANE
CH2CL2:ACETONE 1:1

SOLVENT LOT NUMBER:

EXTRACTION: (SEP) SOH (SOX)

SPIKER INITIALS/DATE: CMR 5/16/90

SPIKE WITNESS INITIALS: SB 5/15/90

MS/MSD: Y (N)

MS/MSD ID:

MS/MSD VOL:

SURR ID: BS4-74-3

SURR VOL: 100 ng/ml 100 µl

BS4-74-2 100 ng/ml 100 µl 5/18 5/18

NUMBER	TLI ID	CLIENT ID	TYPE	WT/VOL	FINAL VOL.	EXT. SOLV.	PH	SPIKE	INIT	WIT
0 FH	TLI BLK	SBLK	mms	30.05g	10 ml	100-oct		CMRSB	CS	MS
1 FH	QAQC	XADtrap	mms		10ml	100-oct		CMRSB	CS	MS
2 BH	TLI Blk	SBlk	H_2O	1000ml	10ml	100-oct		CMRSB	CS	MS
3 BH	QAQC		H_2O	1000ml	10ml	100-oct		CMRSB	CS	MS
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

COMMENTS: Split 50:50 after spiking Anthracene d10

Chain of Custody

1. Relinquished by CMR date 5/19/90 Received by _____ date 5/19/90
   number of samples 4 of 4
2. Relinquished by _____ date _____ Received by _____ date _____
   number of samples _____ of _____
3. Relinquished by _____ date _____ Received by _____ date _____
   number of samples _____ of _____

rev 7 1/24/90

EXTRACTION OBSERVATIONS

TLI # 15729
matrix SAD/H2O
method SOX/Sep

Observer CMR
Date 5/15/90

Observations, problems, resolutions:

① weighed out 30.05gms Supelpak #2 Lot #537 to act as blank. Not prespiked w terphenyl d14

② [redacted]
clean trap, was kept in cooler after preparation until extraction

③ 1000mls HPLC Grade water to act as blank extracted 3×60mls MeCl2

④ 1000mls HPLC Grade water to act as sample impinger. extracted 3×60mls MeCl2

[redacted]
Pape & Steiner Environmental Services
[redacted]

Addtl. Routing

MEMORANDUM

To: [redacted]

From: Linda Walhood

Date: 5/29/90

Job: UTS Location: HRSG Outlet

Test Dates: 5/23-25/90 Our P.O. #: SP-2722

Please analyze method 429 samples as per P.O.# SP-2722.
Would like results by normal turnaround.

ID#	Method	Sample	Test	Reagent	Comments	Approximate Volume (ml)
23139	429	BHW-3	1	MeOH, Tol, $MeCl_2$	—	210 *
23131	429	BHW-3	2		—	200 *
23120	429	BHW-3	3		—	250 *
23145	429	BHW-3	Bl		—	150 *
23143	429	FLT	1	100 mm Filter	—	—
23135	429	FLT	2		—	—
23124	429	FLT	3		—	—
23149	429	FLT	Bl		—	—
—	429	FLT	Unused		—	—
23141	429	XAD-2	1	XAD-2 resin	—	—
23133	429	XAD-2	2		—	—
23122	429	XAD-2	3		—	—
23147	429	XAD-2	Bl		—	—
—	429	XAD-2	Spare		—	—
—	429	XAD-2	Spare		—	—

Pape & Steiner Environmental Services

Addtl. Routing

MEMORANDUM

To:

From: Linda Walhood

Date: 5/29/90

Job: UTS Location: HRSG Outlet

Test Dates: 5/23-25/90 Our P.O. #: SP-2722

Please analyze method 429 samples as per P.O.# SP-2722.
Would like results by normal turnaround.

ID#	Method	Sample	Test	Reagent	Comments	Approximate Volume (ml)
23144	429	FHW	1	MeOH, Tol, $MeCl_2$	—	125
23136	429	FHW	2		—	125 "
23125	429	FHW	3		—	120 "
23150	429	FHW	Bl		—	80 "
23142	429	BHW-1	1	MeOH, Tol, $MeCl_2$	—	40 "
23134	429	BHW-1	2		—	115 "
23123	429	BHW-1	3		—	105 "
23148	429	BHW-1	Bl		—	45 "
23140	429	BHW-2	1	MeOH, Tol, $MeCl_2$	—	370 1
23132	429	BHW-2	2		—	350 1
23121	429	BHW-2	3		—	350 1
23146	429	BHW-2	Bl		—	20 1

SHIPPER

104-90

SHIP TO:
Triangle Labs · Hani Karam
801-10 Capitola Dr.
Research Triangle Park, NC 27713

CUSTOMER'S ORDER NO.	OUR NUMBER	SHIPPED VIA	DATE SHIPPED
SP-2722	UTS/XAD-2	FedExp	5/29/90

QUAN. ORDERED	QUAN. SHIPPED	DESCRIPTION
	3	XAD-2 traps w/ samples } M429
	1	XAD-2 traps blank
	2	spare traps

HOW PACKED: packing bubble [illegible]   RECEIVED BY: [illegible]

Adams BC 3874

SHIPPER [redacted]

83-90

SHIP TO: Hari Karam
Triangle Labs
801-10 Capitola Dr.
Research Triangle Park (919)544-5729

CUSTOMER'S ORDER NO.	OUR NUMBER	SHIPPED VIA	DATE SHIPPED
SP-2722	718 UTS/PetroLewis	Fed Exp	5/1/90

		DESCRIPTION
	6	XAD-2 Resin Traps to be prepared
		along with 1 spare trap from
		Blue Diamond for PAH
		testing at UTS/PetroLewis

RECEIVED BY

Adams BC 3874

Pape & Steiner Environmental Services

Addtl. Routing

MEMORANDUM

To: Cal Analytical: Tim Cleary

From: Linda Walhood

Date: 5/25/90

Job: UTS: Petro Lewis Location: Petro Lewis

Test Dates: 5/23-24/90 Our P.O. #: SP-2724

Please analyze method 430 samples as per P.O.# SP-2724.
Would like results by normal turnaround

ID#	Method	Sample	Test	Reagent	Comments	Approximate Volume (ml)
23138	430	DNPH	1	DNPH → CH_2O		75
23130	430	DNPH	2	DNPH → CH_2O		100
23137	430	DNPH	B1	DNPH → Blank CH_2O		75

Note: Due to plant being down on Tues. 5/22/90 the 3rd sample won't be taken until Fri. 5/25/90. This sample will be shipped on 5/29/90 for delivery on 5/30/90.
Analyze samples for formaldehyde.

SHIPPER

97-90

SHIP TO: Cal Analytical Attn: Tim Cleary
2544 Industrial Blvd.
West Sacramento, Ca.
95691

CUSTOMER'S ORDER NO.	OUR NUMBER	SHIPPED VIA	DATE SHIPPED
SP-2724	UTS/DNPH	Fed Exp. Sat Del.	5/25/90

QUAN. ORDERED	QUAN. SHIPPED	DESCRIPTION
	2	Samples } DNPH M 430 for formaldehyde
	1	Blank } from
		UTS: Petro Lewis
		Please sign sample handling/log-in
		sheet + return w/ results (the sample
		handling/log-in sheet for test 1 + Blank
		will be sent w/ test 3). Thanks - (C).

HOW PACKED: bubble ... can.

Adams BC 3874

Pape & Steiner Environmental Services

Addtl. Routing

MEMORANDUM

To:

From: Linda Walhood

Date: 5/29/90

Job: UTS Location: HRSG Outlet

Test Dates: 5/23-25/90 Our P.O. #: SP-2722

Please analyze method 429 samples as per P.O.# SP-2722.
Would like results by normal turnaround.

ID#	Method	Sample	Test	Reagent	Comments	Approximate Volume (ml)
23144	429	FHW	1	MeOH, Tol, $MeCl_2$	—	125
23136	429	FHW	2		—	125
23125	429	FHW	3		—	120
23150	429	FHW	Bl		—	80
23142	429	BHW-1	1	MeOH, Tol, $MeCl_2$	—	40
23134	429	BHW-1	2		—	115
23123	429	BHW-1	3		—	105
23148	429	BHW-1	Bl		—	45
23140	429	BHW-2	1	MeOH, Tol, $MeCl_2$	—	370
23132	429	BHW-2	2		—	350
23121	429	BHW-2	3		—	350
23146	429	BHW-2	Bl		—	20

SHIPPER [redacted]

102-90

SHIP TO: Triangle Labs
801-10 Capitola Dr.
Research Triangle Park NC 27713
Attn: Hani Karam

CUSTOMER'S ORDER NO.	OUR NUMBER	SHIPPED VIA	DATE SHIPPED
SP-2722	UTS/OraTrain	Fed ExP	5/29/90

QUAN. ORDERED	QUAN. SHIPPED	DESCRIPTION	
		4 FHW's	M 429
		4 BHW-1's	
		4 BHW-2's	
		4 BHW-3's	
		4 FLT's	

HOW BACKED [redacted]

Adams
BC 3874

SHIPPER [redacted]

103-90

SHIP TO: Cal Analytical
2544 Industrial Blvd.
West Sacramento, CA. 95691
Attn: Tim Cleary

CUSTOMER'S ORDER NO.	OUR NUMBER	SHIPPED VIA	DATE SHIPPED
SP-2724	UT3/DNPH	Fed Exp.	5/29/90

QUAN. ORDERED	QUAN. SHIPPED	DESCRIPTION
		1 M430 (DNPH)

[redacted] RECEIVED BY

Adams BC 3674

Pape & Steiner Environmental Services

Addtl. Routing

MEMORANDUM

To: Cal Analytical : Tim Cleary

From: Linda Walhood

Date: 5/29/90

Job: UTS Location: HRSG Outlet

Test Dates: 5/25/90 Our P.O. #: SP-2724

Please analyze method 430 samples as per P.O.# SP 2724.
Would like results by normal turnaround.

ID#	Method	Sample	Test	Reagent	Comments	Approximate Volume (ml)
22292	430	CH_2O	3	DNPH	——	80

Last sample to go with samples sent 5/25/90 (arrived 5/26/90).

Pape & Steiner Environmental Services

Addtl. Routing

MEMORANDUM

To: Enseco ; Attn: Steve Harris

From: Linda Walhood

Date: 5/29/90

Job: UTS Location: Butler

Test Dates: 5/23/90 Our P.O. #: SP-2723

Please analyze method 410 samples as per P.O.# SP-2723.
Would like results by normal turnaround

ID#	Method	Sample	Test	Reagent	Comments	Approximate Volume (ml)
23129	410	A025	1	—	Canister, Run #1	—
23128	410	A028	2	—	Canister, Run #2	—
22291	410	A063	3	—	Canister, Run #3	—

SHIPPER [redacted]

105-90

SHIP TO: Enseco
9537 Telstar Ave., Suite 118
El Monte, CA. 91731
Attn: Steve Harris

CUSTOMER'S ORDER NO.	OUR NUMBER	SHIPPED VIA	DATE SHIPPED
SP-2723	UTS/Canisters	UPS	5/30/90

		DESCRIPTION
		3 M410 Canisters

Adams
BC 3674