

3R - 194

REPORTS

DATE:

1/12/2000



Industrial Services Group
Central Region

RECEIVED

JAN 18 2000

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

January 12, 2000

Project # 62800089

Mr. William C. Olson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

RE: RECENT SOIL INVESTIGATION RESULTS and AMENDED WORK PLAN
FOR THE JAQUEZ COM E #1 AND C #1.

Dear Mr. Olson:

Philip Environmental Services Corp. (Philip) has prepared this letter report at the request of El Paso Field Services (EPFS). This report describes recent soil investigation activities and proposed future activities at the EPFS Jaquez Com E #1 and C #1 gas production site.

BACKGROUND

On June 25, 1999 Mr. John Jaquez informed EPFS that he had encountered "blackened smelly soil at a depth of 8-12 inches". This soil was located in the southern part of the location that is known as the garden area. (Figure 1). EPFS agreed to investigate Mr. Jaquez complaint and on June 30, 1999 EPFS laboratory personnel met Mr. Denny Foust of the New Mexico Oil Conservation Division (OCD) at the location and collected soil samples from the areas in question with a hand auger.

On August 13, 1999 EPFS submitted a letter to the OCD with the results of the June 30 investigation and included a proposed work plan for further investigation of potential hydrocarbon impacts of soil and groundwater at the location. On September 22, 1999 OCD approved the work plan with modifications.

Due to continued concerns raised by Mr. Jaquez, Philip performed additional exploratory excavations for EPFS on November 24, 1999, to investigate soils that Mr. Jaquez thought were impacted by hydrocarbons. On December 17, 1999 Scott Pope and Sandra Miller of EPFS, Denny Foust and Bill Olson of the OCD and Cecil Irby of Philip met with Mr. Jaquez to discuss the results of the November 24th investigation and to address additional concerns raised by Mr. Jaquez. As a result of this meeting, the Scope of Work for the August 13th Work Plan was significantly changed. The Work Plan included in this document therefore supercedes the Work Plan submitted by EPFS in the August 13th correspondence.

Combining the Strengths of Philip Services Corp., Allwaste and Serv-Tech



ACTIVITIES

On November 24, 1999 Philip personnel excavated a trench across the garden area south of Citizens Ditch as shown in figure 1. Scott Pope of EPFS and Don Fernald of Philip were present to direct excavation activities performed by Philip operators.

The trench was excavated with a backhoe and measured approximately 100 feet long by three feet wide by three and one half to six feet below ground surface (bgs). Six soil samples were collected from the trench just above the groundwater. The soil samples were field screened using a photo-ionization detector (PID) and were also submitted to Pinnacle Laboratories in Albuquerque New Mexico for laboratory analysis of benzene, toluene, ethyl-benzene and xylenes (BTEX) and total petroleum hydrocarbons (TPH). Analytical results for soil samples submitted to the laboratory are tabulated in Table 1 and the laboratory reports are included in Appendix A.

On December 22, 1999 Philip personnel extended the trench that was dug on November 24th in the garden area towards the west, and installed four exploratory trenches in the meter house area north of Citizens Ditch (figure 1). The trenches in the meter house area were installed because Mr. Jaquez was concerned that in the past, an old pit had been located outside of the previously remediated area. Scott Pope of EPFS, Denny Foust of the OCD and two equipment operators from Philip were present to direct and conduct excavation activities.

The trench in the garden area was extended west to approximately 26 feet west of the fence that surrounds the garden area (figure 1). The trenches in the meter house area were located as shown in figure 1 and include the following approximate dimensions: trench TP-01 was 21 feet long by 3 feet wide by 10 feet deep; trench TP-02 was 24 feet long by 3 feet wide by 10 feet deep; trench TP-03 was 53 feet long by 3 feet wide by 9.5 feet deep; and, Trench TP-04 was 42 feet long by 3 feet wide by 9.5 feet deep.

Four soil samples were collected from the garden area trench and six soil samples were collected from the meter house trenches. The soil samples were field screened using a PID and were also submitted to Pinnacle Laboratories in Albuquerque New Mexico for laboratory analysis. Analytical results for soil samples submitted to the laboratory are included in Appendix A and are tabulated in Table 1.

RESULTS

All laboratory analysis included EPA approved methods and collection techniques for the following parameters: BTEX-by EPA method 8021 Modified, and TPH-by EPA method 8015 Modified. EPA chain of custody procedures were followed and all samples were preserved on ice. No holding times for the listed analytes were exceeded.

Garden Area South of Citizens Ditch

Laboratory analysis of soils collected during the November 24th sampling event indicate that test parameters (BTEX and TPH) in all of the soil samples were below analytical detection limits.

Sample collection locations are included on figure 1. Two very low PID readings were observed from samples TT-05 at 0.4 parts per million (ppm) and TT-06 at 0.1 ppm. One PID reading of 423 ppm was observed from sample TT-03, located on the western end of the trench, in an area that was never remediated because of a nearby leach field line.

Laboratory analysis of soils collected during the December 22nd sampling event indicated that BTEX and TPH were all below detection limits with the exception of TPH concentrations in sample TT03-02. Sample TT03-02 was collected to duplicate sample TT03 from the November 24th sampling event. The initial sample TT03 was negative for all parameters. However, since TT03 had visual staining and a PID concentration of 423 ppm, EPFS resampled the area to insure that the initial results were valid. Sample TT03-02 had the following concentrations: TPH concentration of 2180 ppm; a benzene concentration below detection limits; a toluene concentration of 0.45 ppm; an ethylbenzene concentration of 0.41 ppm; and a total xylene concentration of 2.9 ppm.

Based on visual observations and soil samples collected during trenching and soil sampling activities, the contaminated soil appears to end at the termination of the November 24th trench, which is approximately 17 feet from the western fence in the garden area. Since impacted soils appeared to diminish significantly at approximately 27-30 feet east of the western fence, a ten foot strip of hydrocarbon impacted soil appears to remain in north west corner of the garden area.

Meter House Area North of Citizens Ditch

All of the exploratory trenches dug in this area were installed during the December 22nd investigation. The trenches were left open so that John Jaquez could observe the soils over the Christmas holidays. The trenches were backfilled with the excavated soil on December 27th.

All laboratory analysis of soils collected from the meter house area during the December 22nd investigation indicate that BTEX and TPH were below analytical detection limits.

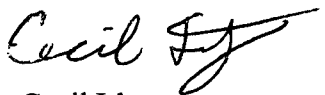
Sample collection locations are included on figure 1. PID field headspace analysis were observed at the following nominal concentrations: three ppm from the sample collected at TP03-01; one ppm from samples collected at TP01, TP03-02, TP03-03; and , two ppm from the sample collected at TP02. There was no visible geologic or chemical evidence observed that indicated a pit had ever existed at the location investigated in the meter house area during the December 22nd investigation.

AMENDED WORK PLAN

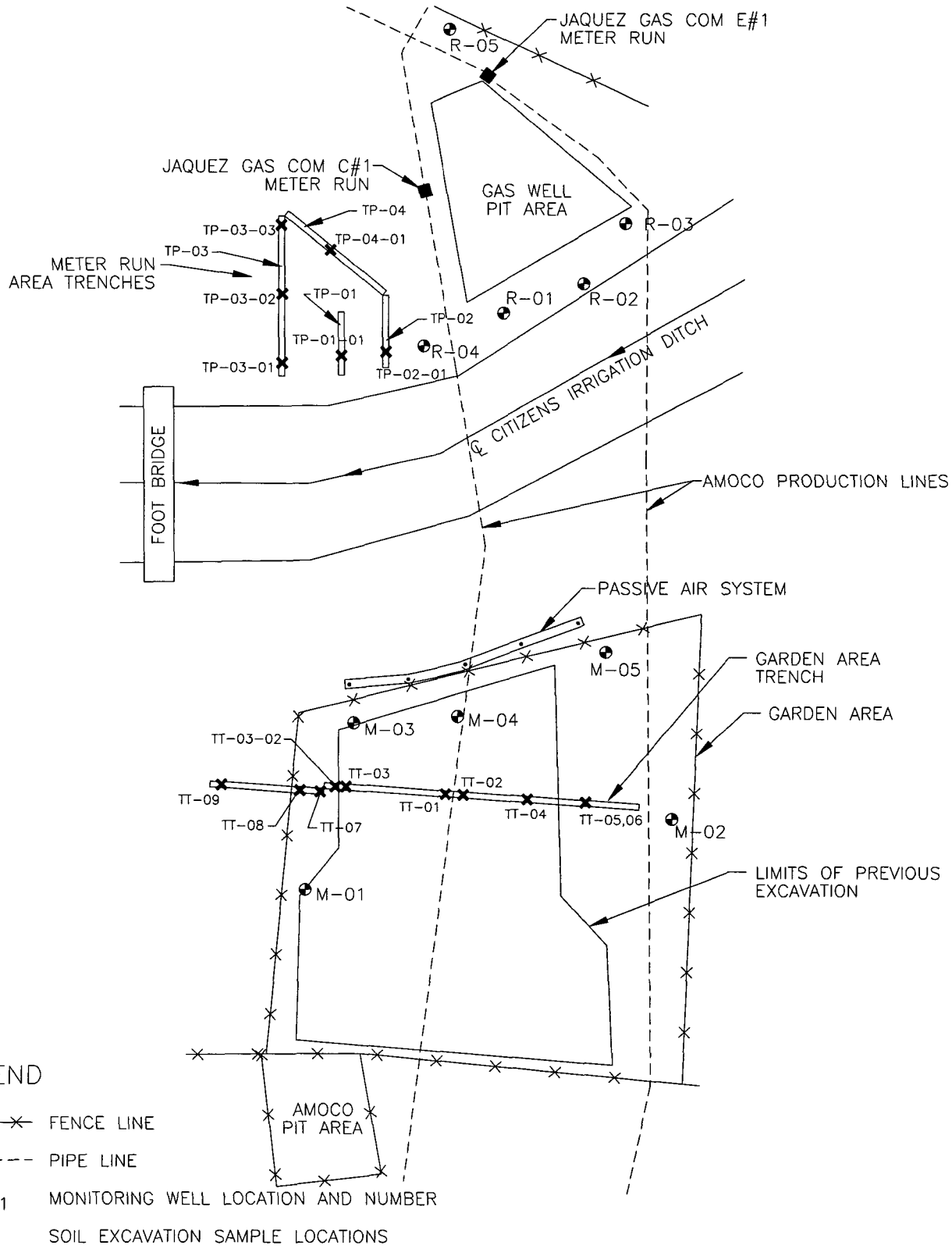
The following recommendations are the result of findings to date and meetings that have been conducted by all interested parties. Based on these results EPFS proposes to change the work plan as follows:

- Change the location of two proposed four inch diameter monitor wells as agreed during the December 17th meeting (figure 2).
- Dig and dispose of hydrocarbon impacted soils found on the western boundary of the Garden area (figure 2). Collect and analyze soil samples along the western boundary of the garden area and at the soil groundwater interface during soil disposal operations in order to document that all hydrocarbon impacted soils have been removed from that area.
- Sample the existing irrigation well that was observed during the December 17th meeting.
- Remove the following soil boring and groundwater locations from the work plan because trenching performed to date has mitigated the need for that data (includes SB-11 through SB-18 and TMW-11 through TMW-17). Replace the soil boring and groundwater locations with two temporary monitor wells installed by hand as shown on figure 2. These monitor wells are located to observe potential impacts to groundwater that might be the result of hydrocarbon impacted soil left in place under the Amoco pipeline.
- EPFS has contacted Amoco regarding pressure testing the Amoco lines and will report on this pressure test after the results have been submitted to EPFS.
- Submit a report to the OCD including the results of the work conducted in conformance with this work plan.

Sincerely,
PHILIP ENVIRONMENTAL SERVICES CORPORATION



Cecil Irby
Geologist



LEGEND

- x-x FENCE LINE
- PIPE LINE
- M-01 MONITORING WELL LOCATION AND NUMBER
- x TT-01 SOIL EXCAVATION SAMPLE LOCATIONS

0 50
FEET



COL. 17444B-006

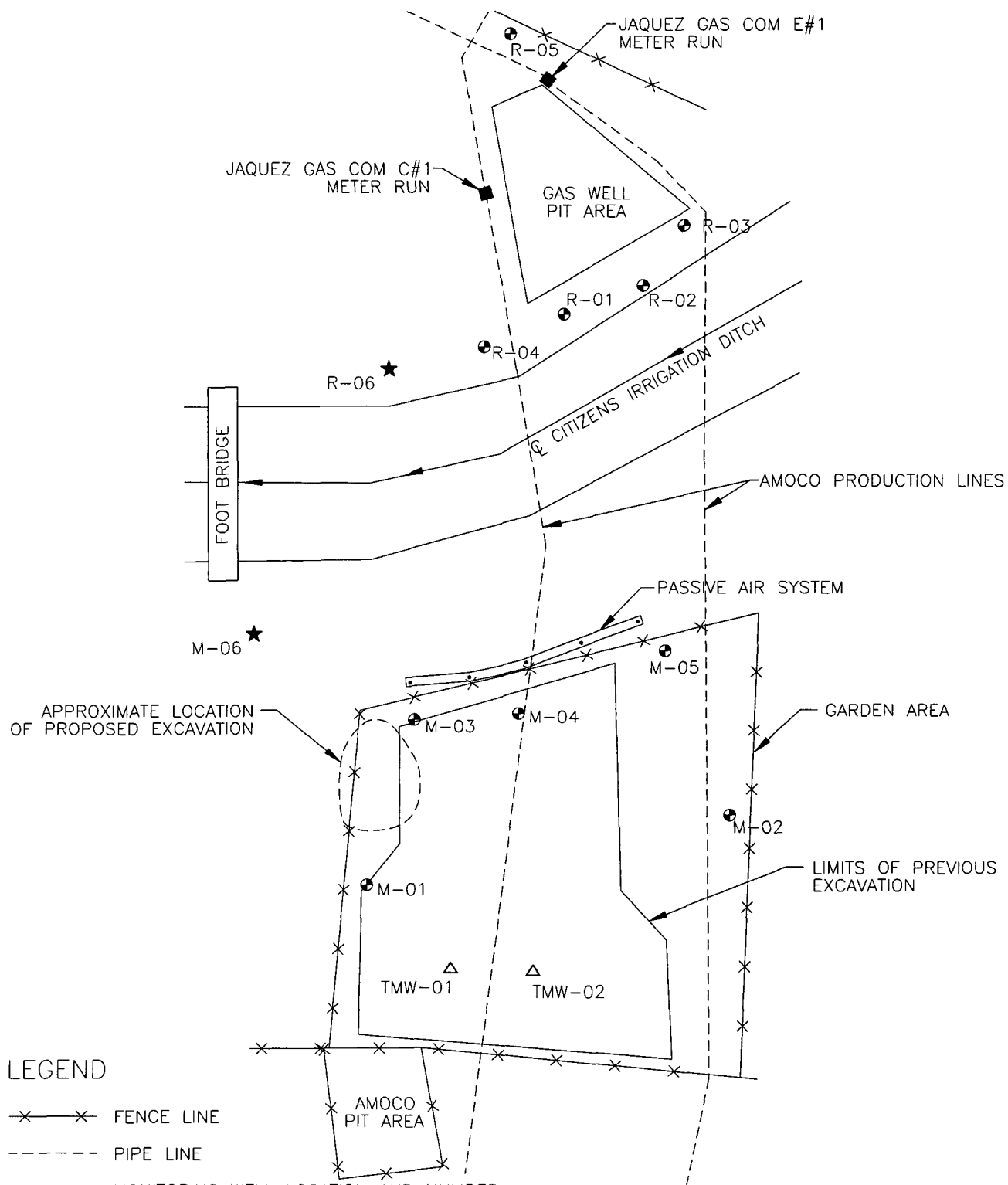


TITLE:
RECENT SOIL INVESTIGATION/
SOIL SAMPLE LOCATIONS

DWN: TMM	DES.: CI
CHKD: SP	APPD:
DATE: 1/11/00	REV.: 2

PROJECT NO.: 17444
EL PASO FIELD SERVICE COMPANY

FIGURE 1



COL. 17444B-004



TITLE:

LOCATION OF PROPOSED WELLS
AND EXCAVATION FOR AMENDED
WORK PLAN

DWN:

TMM

CHKD:
SP

DATE:
1/11/00

DES.:

CI

APPD:

REV.:
2

PROJECT NO.:

17444

EL PASO FIELD
SERVICE COMPANY

FIGURE 2

Scott Pope
January 12, 2000

TABLE 1

Sample #	Sample Location	Sample Date	TPH C6 C10 (PPM)	TPH C10-C22 (PPM)	TPH C22-C36 (PPM)	Benzene (PPM)	Toluene (PPM)	Ethyl Benzene (PPM)	Total Xylenes (PPM)	Total BTEX (PPM)
990461	TT-01	11/24/99	< 10	< 5	< 5	< 0.025	< 0.025	< 0.025	< 0.025	< 0.1
990462	TT-02	11/24/99	< 10	< 5	< 5	< 0.025	< 0.025	< 0.025	< 0.025	< 0.1
990463	TT-03	11/24/99	< 10	< 5	< 5	< 0.025	< 0.025	< 0.025	< 0.025	< 0.1
990464	TT-04	11/24/99	< 10	< 5	< 5	< 0.025	< 0.025	< 0.025	< 0.025	< 0.1
990465	TT-05	11/24/99	< 10	< 5	< 5	< 0.025	< 0.025	< 0.025	< 0.025	< 0.1
990466	TT-06	11/24/99	< 10	< 5	< 5	< 0.025	< 0.025	< 0.025	< 0.025	< 0.1
TP-01	TP-01-01	12/22/99	< 10	< 5	< 5	< 0.025	< 0.025	< 0.025	< 0.025	< 0.1
TP-02	TP-02-01	12/22/99	< 10	< 5	< 5	< 0.025	< 0.025	< 0.025	< 0.025	< 0.1
TP03	TP-03-01	12/22/99	< 10	< 5	< 5	< 0.025	< 0.025	< 0.025	< 0.025	< 0.1
TP03-01	TP-03-02	12/22/99	< 10	< 5	< 5	< 0.025	< 0.025	< 0.025	< 0.025	< 0.1
TP03-02	TP-03-03	12/22/99	< 10	< 5	< 5	< 0.025	< 0.025	< 0.025	< 0.025	< 0.1
970841	TP-04-01	12/22/99	< 10	< 5	< 5	< 0.025	< 0.025	< 0.025	< 0.025	< 0.1
TT03-02	TT-03-02	12/22/99	= 1000	= 920	= 260	< 0.025	= 0.45	= 0.41	= 2.9	= 3.76
TT-07	TT-07	12/22/99	< 10	< 5	< 5	< 0.025	< 0.025	< 0.025	< 0.025	< 0.1
TT-08	TT-08	12/22/99	< 10	< 5	< 5	< 0.025	< 0.025	< 0.025	< 0.025	< 0.1
TT-09	TT-09	12/22/99	< 10	< 5	< 5	< 0.025	< 0.025	< 0.025	< 0.025	< 0.1

PINNACLE
LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

Pinnacle Lab ID number 911084
December 03, 1999

EL PASO FIELD SERVICES
770 WEST NAVAJO
FARMINGTON, NM 87401



Project Name JACQUEZ CF
Project Number (none)

Attention: JOHN LAMB DIN

On 11/30/99 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592 pending), received a request to analyze **non-aq** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

Enclosure

ON 12/6/99 a request was made
to re-analyze 990463 for M8015.
J. Funder 12/7/99

Reviewed & Accepted
J. Funder 12/7/99

PROJECT NUMBER # 24324		PROJECT NAME Pit Closure Project				TOTAL NUMBER OF CONTAINERS		SAMPLE TYPE		REQUESTED ANALYSIS				CONTRACT LABORATORY P. O. NUMBER	
SAMPLES: (Signature) <i>Con Fernald</i>		DATE: 11/24/99													
LAB ID	DATE	TIME	MATRIX	FIELD ID			TPH 805 EPA 410-1	BTEX EPA 8020	LAB PID				SEQUENCE #	REMARKS	
990461	11/24/99	12:50	Soil	TT-01	1		✓	✓						Field PID 0.3 ppm /	
990462	11/24/99	13:15	Soil	TT-02	1		✓	✓						PID /	
990463	11/24/99	13:25	Soil	TT-03	1		✓	✓						PID 423 ppm / 3.5' Deep 35' W. of Pipe	
990464	11/24/99	13:45	Soil	TT-04	1		✓	✓						PID / 2.4' Deep 30' E. of Pipe 31.5' W. of Trench	
990465	11/24/99	14:00	Soil	TT-05	1		✓	✓						PID 0.4 ppm / 3' Deep 48' E. of Pipe 13.4 W. of Trench	
990466	11/24/99	14:10	Soil	TT-06	1		✓	✓						PID 0.1 ppm / 11' Deep 48' E. of Pipe 13.4 W. of Trench end	
↑ tested by <i>J. Fernald</i> 12/6/99															
RELINQUISHED BY: (Signature) <i>Con Fernald</i>		DATE/TIME 11/24 1600		RECEIVED BY: (Signature) <i>Refrigerator</i>		RELINQUISHED BY: (Signature) <i>Refrigerator</i>		DATE/TIME 11-29-99 0952		RECEIVED BY: (Signature) <i>Servicio Bina</i>					
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		RELINQUISHED BY: (Signature)		DATE/TIME 11-29-99 1010		RECEIVED OF LABORATORY BY: (Signature) <i>John Fernald</i>					
REQUESTED TURNAROUND TIME: ☒ ROUTINE ☐ RUSH				SAMPLE RECEIPT REMARKS (30L & INTACT)				RESULTS & INVOICES TO: FIELD SERVICES LABORATORY EL PASO NATURAL GAS COMPANY P. O. BOX 4990 FARMINGTON, NEW MEXICO 87499							
CARRIER CO.				CHARGE CODE				505-599-2144							
BILL NO.:								FAX: 505-599-2261							

PINNACLE
LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

CLIENT	: EL PASO FIELD SERVICES	PINNACLE ID	: 911084
PROJECT #	: (none)	DATE RECEIVED	: 11/30/99
PROJECT NAME	: JACQUEZ CF	REPORT DATE	: 12/3/99

PIN #	CLIENT DESCRIPTION	Field ID's	MATRIX	DATE COLLECTED
01	990461 - TT-01		NON-AQ	11/24/99
02	990462 - TT-02		NON-AQ	11/24/99
	990463 - TT-03		NON-AQ	11/24/99
	990464 - TT-04		NON-AQ	11/24/99
05	990465 - TT-05		NON-AQ	11/24/99
	990466 - TT-06		NON-AQ	11/24/99



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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : EL PASO FIELD SERVICES
PROJECT # : (none)
PROJECT NAME : JACQUEZ CF

PINNACLE I.D.: 911084

SAMPLE		MATRIX	DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.		SAMPLED	EXTRACTED	ANALYZED	FACTOR
1	990461	NON-AQ	11/24/99	11/30/99	11/30/99	1
2	990462	NON-AQ	11/24/99	11/30/99	11/30/99	1
03	990463	NON-AQ	11/24/99	11/30/99	11/30/99	1

PARAMETER	DET. LIMIT	UNITS	990461	990462	990463
BENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOLUENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
ETHYLBENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOTAL XYLENES	0.025	MG/KG	< 0.025	< 0.025	< 0.025

SURROGATE:
BROMOFLUOROBENZENE (%) 92 93 88
SURROGATE LIMITS (65 - 120)

FIELD ID → TT-01 TT-02 TT-03

CHEMIST NOTES:
/A

PINNACLE
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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : EL PASO FIELD SERVICES
PROJECT # : (none)
PROJECT NAME : JACQUEZ CF

PINNACLE I.D.: 911084

SAMPLE		MATRIX	DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.		SAMPLED	EXTRACTED	ANALYZED	FACTOR
4	990464	NON-AQ	11/24/99	11/30/99	11/30/99	1
5	990465	NON-AQ	11/24/99	11/30/99	12/1/99	1
06	990466	NON-AQ	11/24/99	11/30/99	12/1/99	1

PARAMETER	DET. LIMIT	UNITS	990464	990465	990466
BENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOLUENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
ETHYLBENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOTAL XYLENES	0.025	MG/KG	< 0.025	< 0.025	< 0.025

SURROGATE:
BROMOFLUOROBENZENE (%) 99 88 88
SURROGATE LIMITS (65 - 120)
FIELD ID → TT-04 TT-05 TT-06

CHEMIST NOTES:
N/A



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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 911084
BLANK I. D.	: 113099	DATE EXTRACTED	: 11/30/99
CLIENT	: EL PASO FIELD SERVICES	DATE ANALYZED	: 11/30/99
PROJECT #	: (none)	SAMPLE MATRIX	: NON-AQ
PROJECT NAME	: JACQUEZ CF		

PARAMETER	UNITS	
BENZENE	MG/KG	<0.025
TOLUENE	MG/KG	<0.025
ETHYLBENZENE	MG/KG	<0.025
TOTAL XYLENES	MG/KG	<0.025

SURROGATE:
BROMOFLUOROBENZENE (%) 98
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A

PINNACLE
LABORATORIES

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GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 911084-05
CLIENT : EL PASO FIELD SERVICES
PROJECT # : (none)
PROJECT NAME : JACQUEZ CF

PINNACLE I.D. : 911084
DATE EXTRACTED : 11/30/99
DATE ANALYZED : 12/1/99
SAMPLE MATRIX : NON-AQ
UNITS : MG/KG

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.025	1	0.81	81	0.83	83	2	(68 - 120)	20
TOLUENE	<0.025	1	0.82	82	0.83	83	1	(64 - 120)	20
ETHYLBENZENE	<0.025	1	0.82	82	0.85	85	4	(49 - 127)	20
TOTAL XYLENES	<0.025	3	2.50	83	2.60	87	4	(58 - 120)	20

CHEMIST NOTES:

N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PINNACLE
LABORATORIES

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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : EL PASO FIELD SERVICES
PROJECT # : (none)
PROJECT NAME : JACQUEZ CF
PINNACLE I.D.: 911084

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	990461	NON-AQ	11/24/99	12/1/99	12/2/99	1
02	990462	NON-AQ	11/24/99	12/1/99	12/1/99	1
03	990463	NON-AQ	11/24/99	12/1/99	12/1/99	1

PARAMETER	DET. LIMIT	UNITS	990461	990462	990463
FUEL HYDROCARBONS, C6-C10	10	MG/KG	< 10	< 10	< 10
FUEL HYDROCARBONS, C10-C22	5.0	MG/KG	< 5.0	< 5.0	< 5.0
FUEL HYDROCARBONS, C22-C36	5.0	MG/KG	< 5.0	< 5.0	< 5.0

CALCULATED SUM:

SURROGATE:

D-TERPHENYL (%) 116 112 112
SURROGATE LIMITS (66 - 151)

Field ID's — > TT-01 TT-02 TT-03

CHEMIST NOTES:

N/A

PINNACLE
LABORATORIES

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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : EL PASO FIELD SERVICES
PROJECT # : (none)
PROJECT NAME : JACQUEZ CF

PINNACLE I.D.: 911084

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
04	990464	NON-AQ	11/24/99	12/1/99	12/1/99	1
05	990465	NON-AQ	11/24/99	12/1/99	12/1/99	1
06	990466	NON-AQ	11/24/99	12/1/99	12/1/99	1

PARAMETER	DET. LIMIT	UNITS	990464	990465	990466
FUEL HYDROCARBONS, C6-C10	10	MG/KG	< 10	< 10	< 10
FUEL HYDROCARBONS, C10-C22	5.0	MG/KG	< 5.0	< 5.0	< 5.0
FUEL HYDROCARBONS, C22-C36	5.0	MG/KG	< 5.0	< 5.0	< 5.0

CALCULATED SUM:

SURROGATE:

O-TERPHENYL (%)

111

91

88

SURROGATE LIMITS

(66 - 151)

Field ID's -> TT-04

TT-05

TT-06

CHEMIST NOTES:

N/A

PINNACLE
LABORATORIES

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Albuquerque, New Mexico 87107
Phone (505) 344-3777
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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK ✓

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)		
BLANK I.D.	: 120199	PINNACLE I.D.	: 911084
CLIENT	: EL PASO FIELD SERVICES	DATE EXTRACTED	: 12/1/99
PROJECT #	: (none)	DATE ANALYZED	: 12/1/99
PROJECT NAME	: JACQUEZ CF	SAMPLE MATRIX	: NON-AQ

PARAMETER	UNITS	
FUEL HYDROCARBONS, C6-C10	MG/KG	< 10
FUEL HYDROCARBONS, C10-C22	MG/KG	< 5.0
FUEL HYDROCARBONS, C22-C36	MG/KG	< 5.0

SURROGATE:

1,2,4-TERPHENYL (%)		101
SURROGATE LIMITS	(80 - 151)	

CHEMIST NOTES:

/A



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Albuquerque, New Mexico 87107
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GAS CHROMATOGRAPHY QUALITY CONTROL

MSMSD

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
MSMSD # : 911084-06
CLIENT : EL PASO FIELD SERVICES
PROJECT # : (none)
PROJECT NAME : JACQUEZ CF

PINNACLE I.D. : 911084
DATE EXTRACTED : 12/1/99
DATE ANALYZED : 12/1/99
SAMPLE MATRIX : NON-AQ
UNITS : MG/KG

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	<5.0	200	207	104	203	102	2	(56 - 148)	20

CHEMIST NOTES:

/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$



Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 11/29/99 PAGE: 1 OF 1

PLI Accession #:

911084

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: John Lambdin
COMPANY: EL PASO Field Services
ADDRESS: 770 West NAVAJO
FARMINGTON, NM 87401
PHONE: (505) 599-2144
FAX: (505) 599-2261
BILL TO: (same as above)
COMPANY:
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
990461	11/24/99	1250	Soil	01
990462		1315		02
990463		1325		03
990464		1345		04
990465		1400		05
990466	11/24/99	1410	Soil	06

Petroleum Hydrocarbons (418.1) TRPH (MOD.8015) Diesel/Direct Inject																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS		RELINQUISHED BY:	RELINQUISHED BY:
PROJ. NO.: NA	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒	CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		Signature: John Lambdin 1345	Signature: _____
PROJ. NAME: JACQUEZ CE	METHANOL PRESERVATION ☐	COMMENTS: FIXED FEE ☐		Printed Name: John Lambdin 11/29/99	Printed Name: _____
P.O. NO.: NA				Company: El Paso Field Services	Company: _____
SHIPPED VIA: Fed-X				See reverse side (Force Majeure)	
SAMPLE RECEIPT				RECEIVED BY:	RECEIVED BY: (LAB)
NO. CONTAINERS: 6				Signature: _____	Signature: _____
CUSTODY SEALS: Y/N (NA)				Time: _____	Time: _____
RECEIVED INTACT: YES				Printed Name: _____	Printed Name: _____
BLUE ICE (CE): 3°C				Date: _____	Date: _____
				Company: _____	Company: _____

Quantitation Report

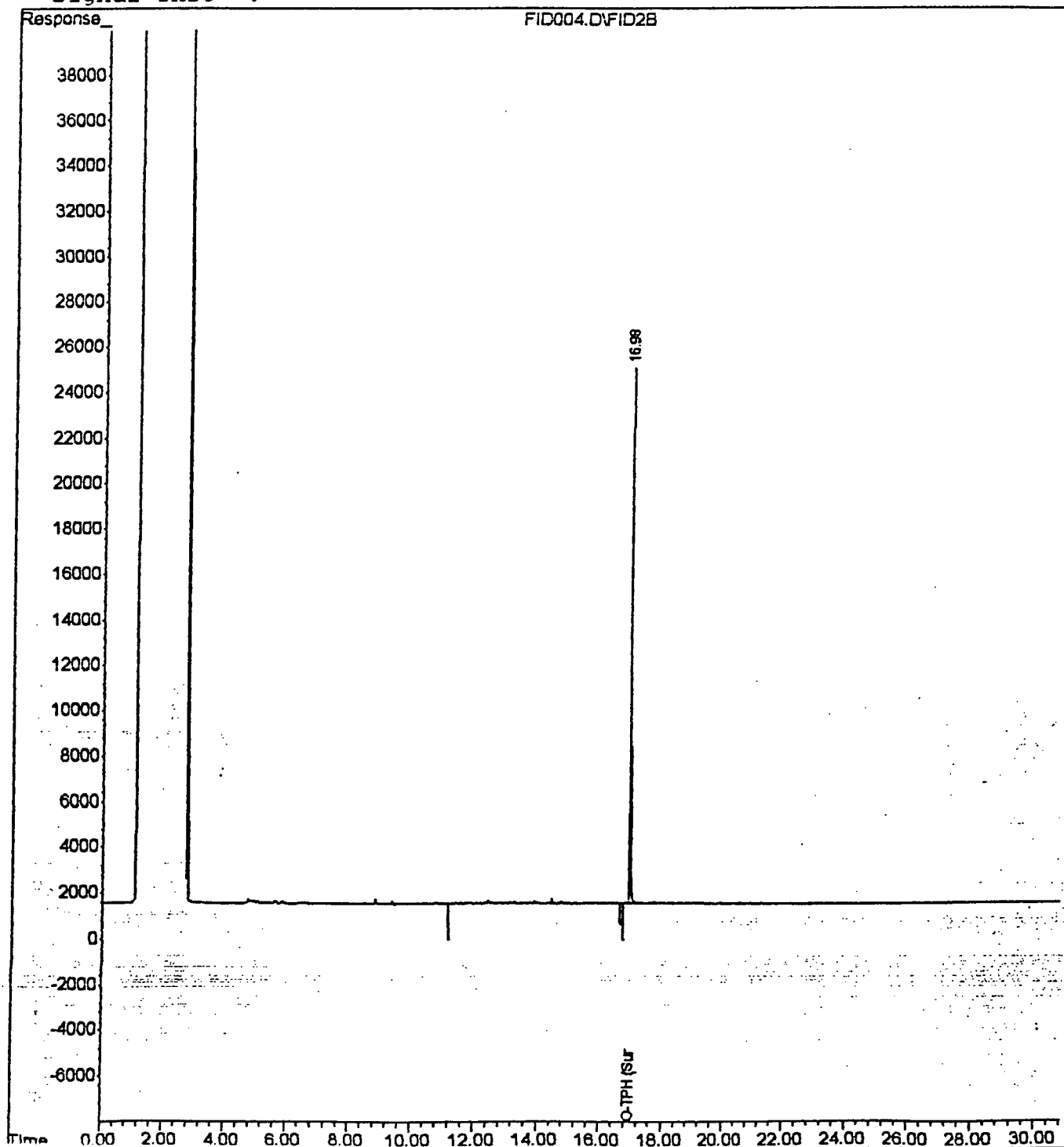
Data File : C:\HPCHEM\2\DATA\120299\FID004.D
Acq On : 2 Dec 1999 13:01
Sample : 911084-01
Misc :
IntFile : EVENTS.E

Vial: 4
Operator: CFF/DHH
Inst : FID-1
Multiplr: 1.00

Quant Time: Dec 2 13:35 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



Quantitation Report

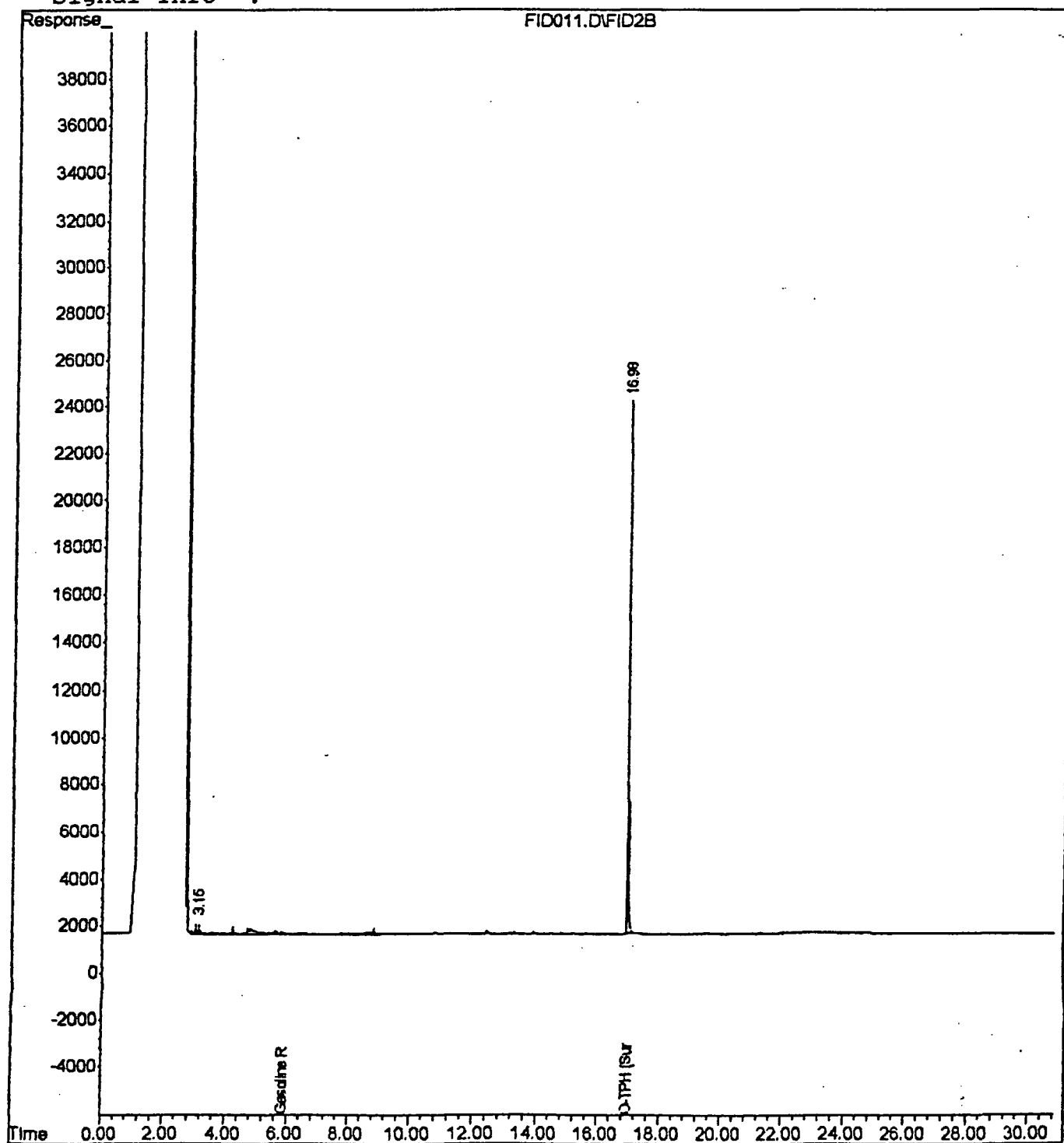
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 Acq On : 1 Dec 1999 16:38
 Sample : 911084-02
 Misc :
 IntFile : EVENTS.E

Vial: 11
 Operator: CFF
 Inst : FID-1
 Multiplr: 1.00

Quant Time: Dec 2 8:45 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
 Title : NM 8015
 Last Update : Wed Nov 10 11:29:39 1999
 Response via : Multiple Level Calibration
 DataAcq Meth : NM102799.M

Volume Inj. : 2ul
 Signal Phase :
 Signal Info :



Quantitation Report

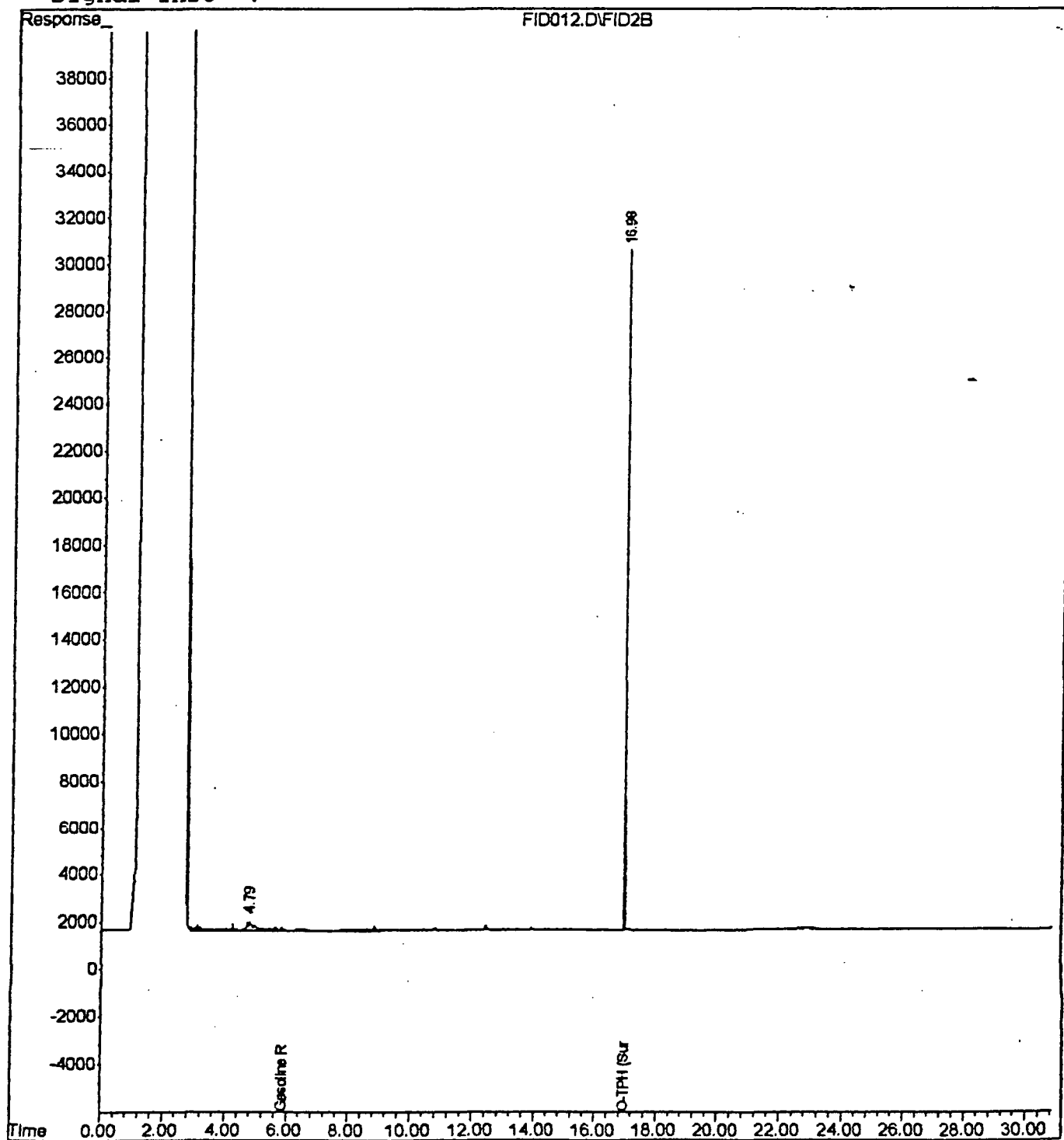
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 Acq On : 1 Dec 1999 17:27
 Sample : 911084-03
 Misc :
 IntFile : EVENTS.E

Vial: 12
 Operator: CFF
 Inst : FID-1
 Multiplr: 1.00

Quant Time: Dec 2 8:46 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
 Title : NM 8015
 Last Update : Wed Nov 10 11:29:39 1999
 Response via : Multiple Level Calibration
 DataAcq Meth : NM102799.M

Volume Inj. : 2ul
 Signal Phase :
 Signal Info :



Quantitation Report

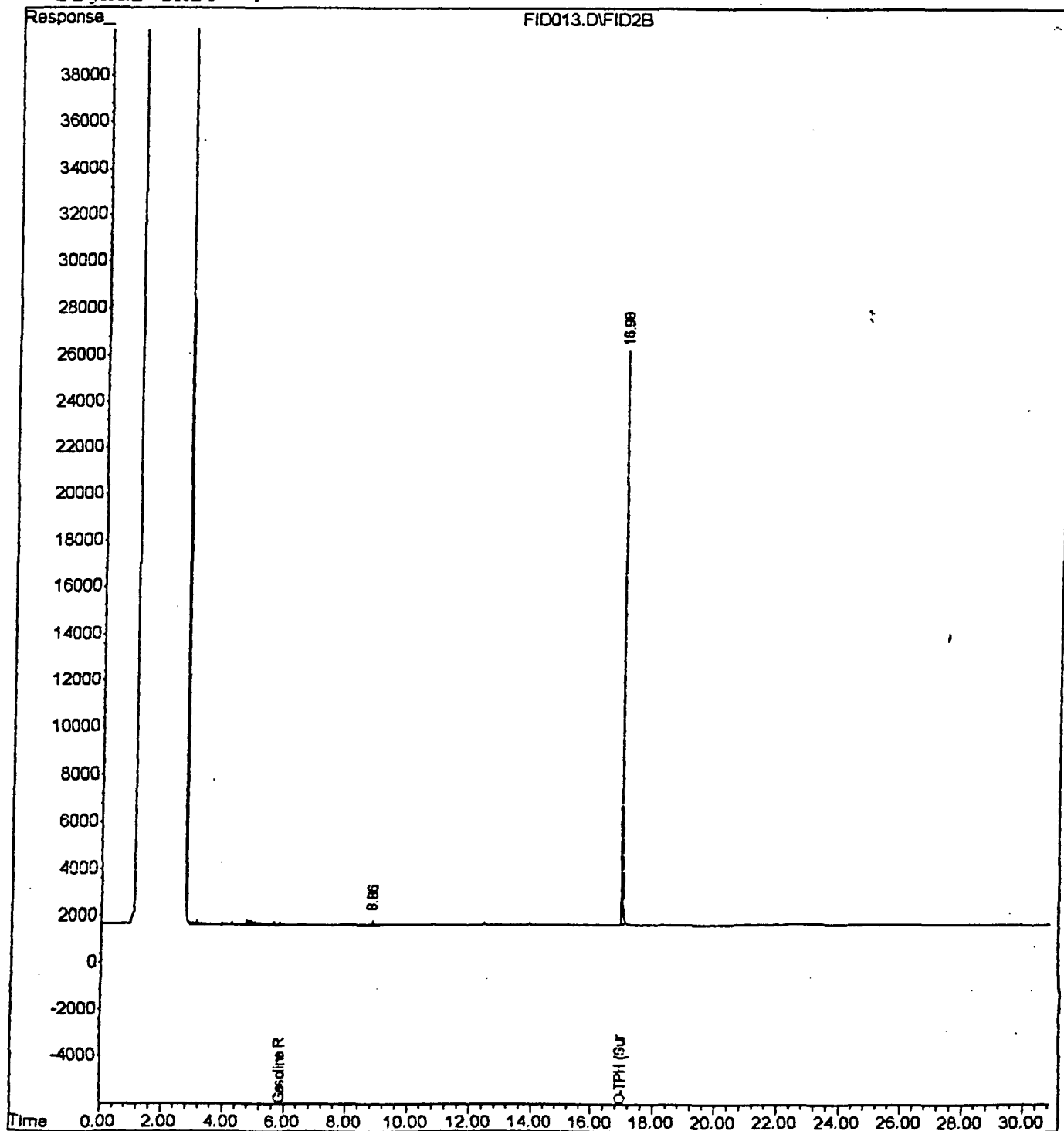
Data File : C:\HPCHEM\2\DATA\120199\FID013.D
Acq On : 1 Dec 1999 18:15
Sample : 911084-04
Misc :
IntFile : EVENTS.E

Vial: 13
Operator: CFF
Inst : FID-1
Multiplr: 1.00

Quant Time: Dec 2 8:47 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



Quantitation Report

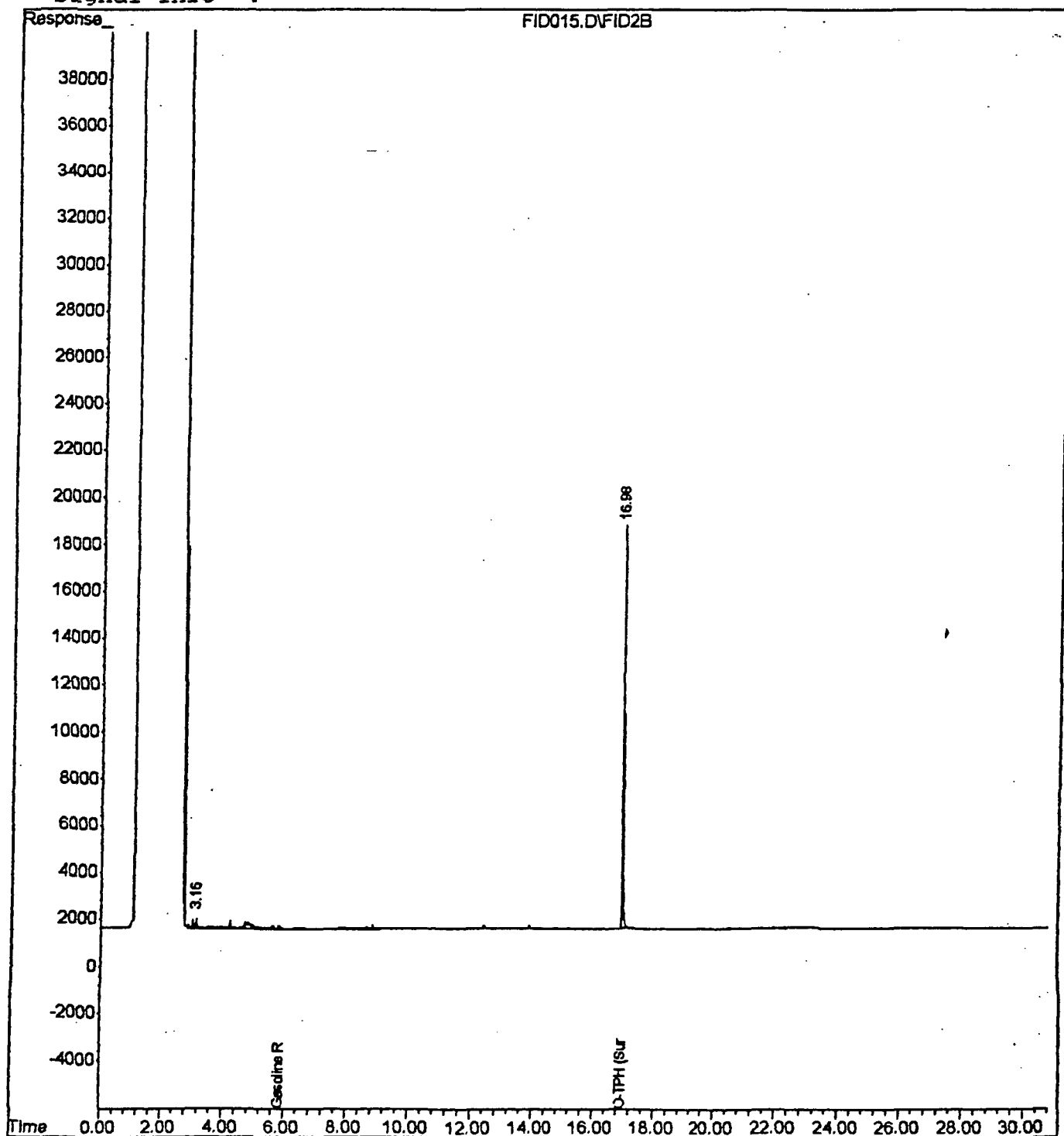
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 Acq On : 1 Dec 1999 19:53
 Sample : 911084-05
 Misc :
 IntFile : EVENTS.E

Vial: 15
 Operator: CFF
 Inst : FID-1
 Multiplr: 1.00

Quant Time: Dec 2 8:49 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
 Title : NM 8015
 Last Update : Wed Nov 10 11:29:39 1999
 Response via : Multiple Level Calibration
 DataAcq Meth : NM102799.M

Volume Inj. : 2ul
 Signal Phase :
 Signal Info :



Quantitation Report

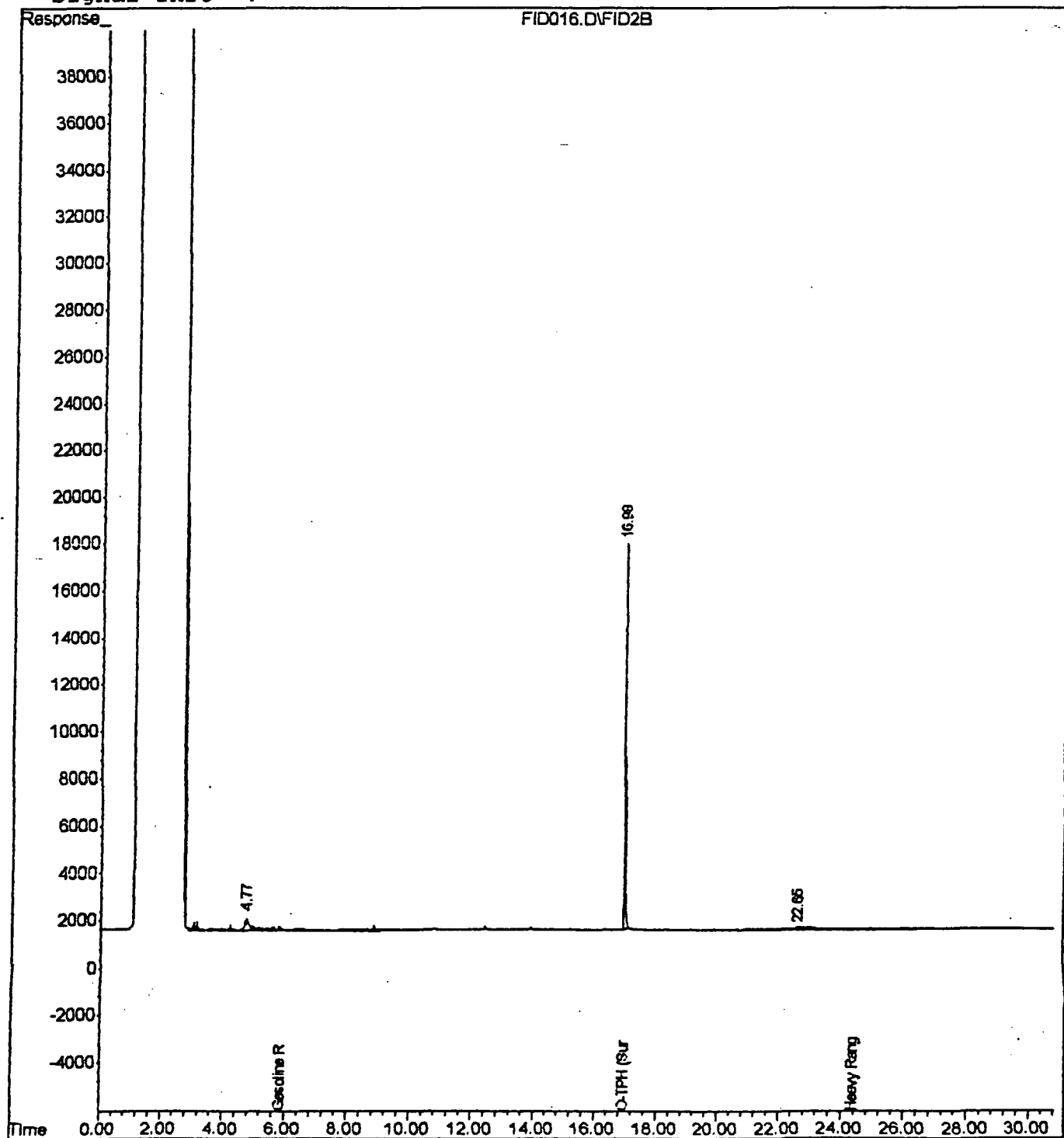
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 Acq On : 1 Dec 1999 20:42
 Sample : 911084-06
 Misc :
 IntFile : EVENTS.E

Vial: 16
 Operator: CFF
 Inst : FID-1
 Multiplr: 1.00

Quant Time: Dec 2 8:50 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
 Title : NM 8015
 Last Update : Wed Nov 10 11:29:39 1999
 Response via : Multiple Level Calibration
 DataAcq Meth : NM102799.M

Volume Inj. : 2ul
 Signal Phase :
 Signal Info :



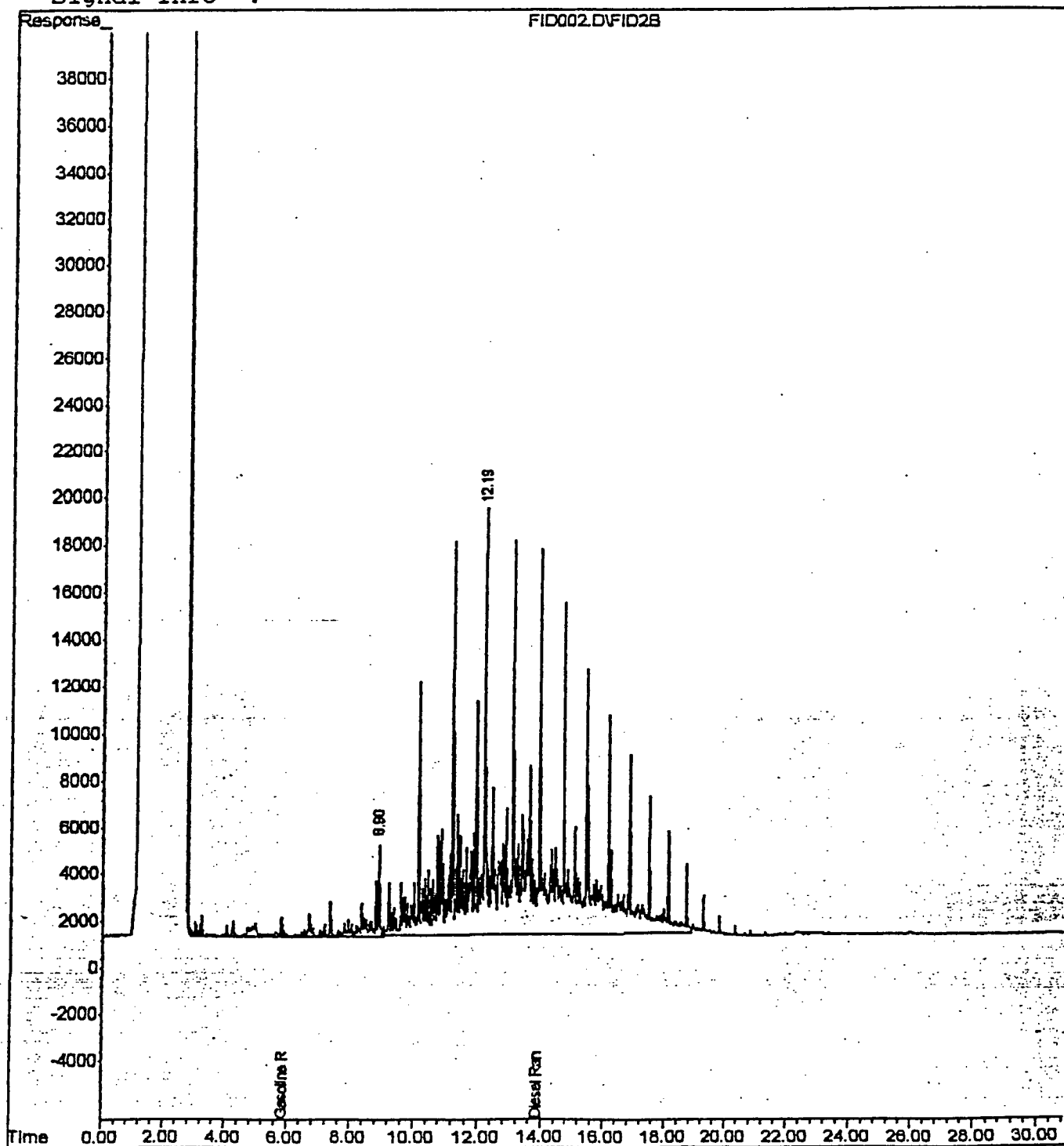
Data File : C:\HPCHEM\2\DATA\111299\FID002.D
 Acq On : 12 Nov 1999 10:32
 Sample : diesel
 Misc : at 200ug/mL
 IntFile : EVENTS.E

Vial: 2
 Operator: CFF
 Inst : FID-1
 Multiplr: 1.00

Quant Time: Nov 12 11:42 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
 Title : NM 8015
 Last Update : Wed Nov 10 11:29:39 1999
 Response via : Multiple Level Calibration
 DataAcq Meth : NM102799.M

Volume Inj. : 2ul
 Signal Phase :
 Signal Info :



Quantitation Report

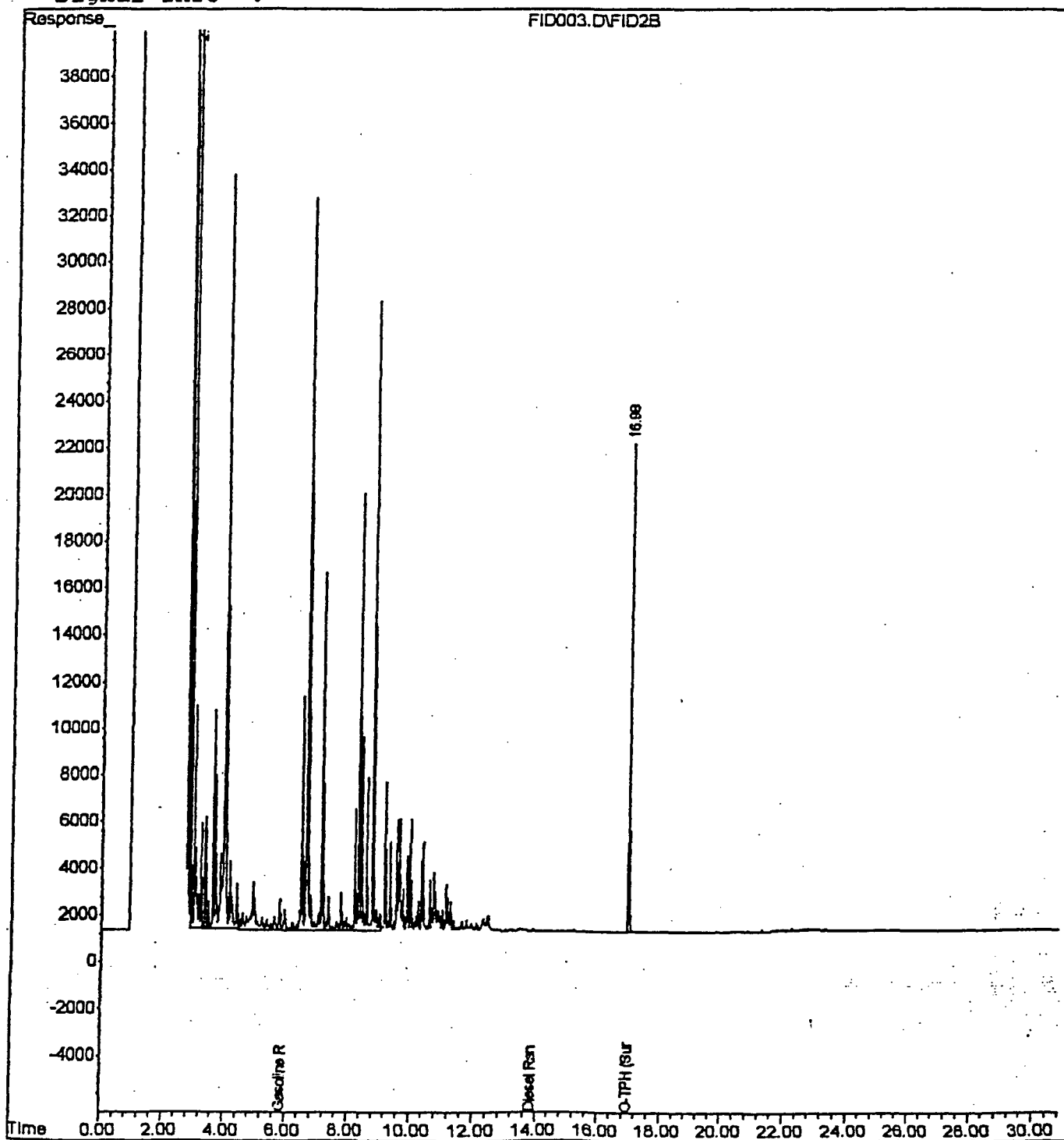
Data File : C:\HPCHEM\2\DATA\111299\FID003.D
 Acq On : 12 Nov 1999 11:21
 Sample : gasoline
 Misc : at 200ug/mL
 IntFile : EVENTS.E

Vial: 3
 Operator: CFF
 Inst : FID-1
 Multiplr: 1.00

Quant Time: Nov 12 13:07 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
 Title : NM 8015
 Last Update : Wed Nov 10 11:29:39 1999
 Response via : Multiple Level Calibration
 DataAcq Meth : NM102799.M

Volume Inj. : 2ul
 Signal Phase :
 Signal Info :



Quantitation Report

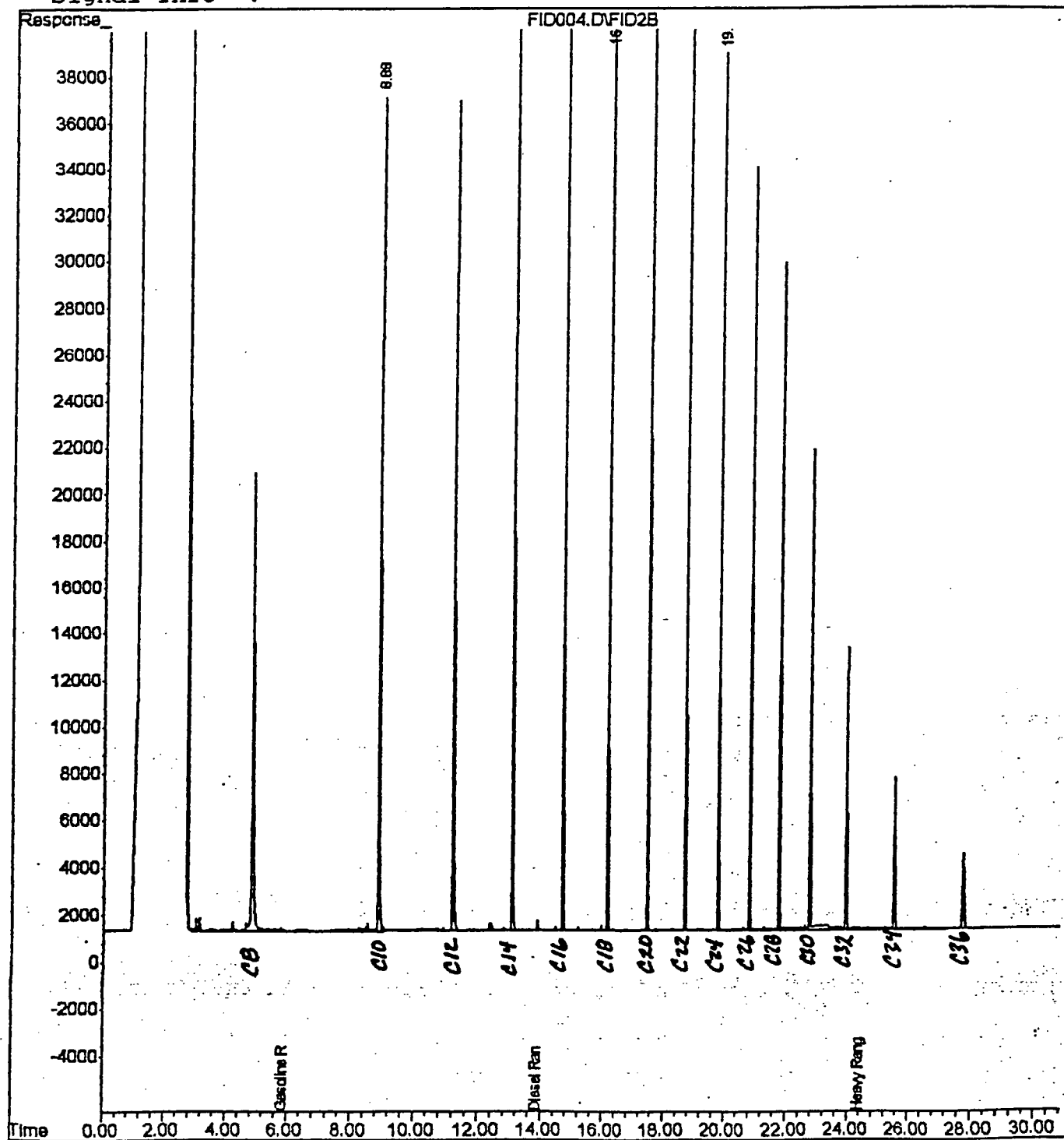
Data File : C:\HPCHEM\2\DATA\110899\FID004.D
 Acq On : 8 Nov 1999 13:29
 Sample : rt std gc4-14-06
 Misc :
 IntFile : EVENTS.E

Vial: 4
 Operator: CFF
 Inst : FID-1
 Multiplr: 1.00

Quant Time: Nov 12 13:54 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
 Title : NM 8015
 Last Update : Wed Nov 10 11:29:39 1999
 Response via : Multiple Level Calibration
 DataAcq Meth : NM102799.M

Volume Inj. : 2ul
 Signal Phase :
 Signal Info :



PINNACLE
LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

Pinnacle Lab ID number 912072
December 31, 1999

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

Project Name EL PASO JAQUEZ
Project Number (none)

Attention: CECIL IRBY

On 12/27/99 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592 pending), received a request to analyze **non-aq** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.



Kimberly D. McNeill
Project Manager



H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

Enclosure



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

CLIENT	: PHILIP ENVIRONMENTAL	PINNACLE ID	: 912072
PROJECT #	: (none)	DATE RECEIVED	: 12/27/99
PROJECT NAME	: EL PASO JAQUEZ	REPORT DATE	: 12/31/99

PIN	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
. #			
	TP-01	NON-AQ	12/22/99
02	TP-02	NON-AQ	12/22/99
03	TP03	NON-AQ	12/22/99
	TP03-01	NON-AQ	12/22/99
05	TP03-02	NON-AQ	12/22/99
06	TP04	NON-AQ	12/22/99
	TT03-02	NON-AQ	12/22/99
08	TT-07	NON-AQ	12/22/99
09	TT-08	NON-AQ	12/22/99
10	TT-09	NON-AQ	12/22/99



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : EL PASO JAQUEZ

PINNACLE I.D.: 912072

SAMPLE		MATRIX	DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.		SAMPLED	EXTRACTED	ANALYZED	FACTOR
1	TP-01	NON-AQ	12/22/99	12/28/99	12/28/99	1
2	TP-02	NON-AQ	12/22/99	12/28/99	12/28/99	1
03	TP03	NON-AQ	12/22/99	12/28/99	12/28/99	1

PARAMETER	DET. LIMIT	UNITS	TP-01	TP-02	TP03
BENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOLUENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
ETHYLBENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOTAL XYLENES	0.025	MG/KG	< 0.025	< 0.025	< 0.025

SURROGATE:
BROMOFLUOROBENZENE (%) 95 95 95
SURROGATE LIMITS (65 - 120)

CHEMIST NOTES:
N/A



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : EL PASO JAQUEZ

PINNACLE I.D.: 912072

SAMPLE		MATRIX	DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.		SAMPLED	EXTRACTED	ANALYZED	FACTOR
04	TP03-01	NON-AQ	12/22/99	12/28/99	12/28/99	1
05	TP03-02	NON-AQ	12/22/99	12/28/99	12/28/99	1
06	TP04	NON-AQ	12/22/99	12/28/99	12/28/99	1

PARAMETER	DET. LIMIT	UNITS	TP03-01	TP03-02	TP04
BENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOLUENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
ETHYLBENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOTAL XYLENES	0.025	MG/KG	< 0.025	< 0.025	< 0.025

SURROGATE:

BROMOFLUOROBENZENE (%)	93	88	92
SURROGATE LIMITS (65 - 120)			

CHEMIST NOTES:
N/A



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : EL PASO JAQUEZ

PINNACLE I.D.: 912072

SAMPLE		MATRIX	DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.		SAMPLED	EXTRACTED	ANALYZED	FACTOR
7	TT03-02	NON-AQ	12/22/99	12/28/99	12/28/99	1
8	TT-07	NON-AQ	12/22/99	12/28/99	12/28/99	1
09	TT-08	NON-AQ	12/22/99	12/28/99	12/28/99	1

PARAMETER	DET. LIMIT	UNITS	TT03-02	TT-07	TT-08
BENZENE	0.025	MG/KG	< 0.025	< 0.025	< 0.025
TOLUENE	0.025	MG/KG	0.45	< 0.025	< 0.025
ETHYLBENZENE	0.025	MG/KG	0.41	< 0.025	< 0.025
TOTAL XYLENES	0.025	MG/KG	2.9	< 0.025	< 0.025

SURROGATE:
BROMOFLUOROBENZENE (%) 99 90 95
SURROGATE LIMITS (65 - 120)

CHEMIST NOTES:
N/A

PINNACLE
LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : EL PASO JAQUEZ

PINNACLE I.D.: 912072

SAMPLE		DATE	DATE	DATE	DIL.	
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
10	TT-09	NON-AQ	12/22/99	12/28/99	12/28/99	1
PARAMETER		DET. LIMIT	UNITS	TT-09		
BENZENE		0.025	MG/KG	< 0.025		
TOLUENE		0.025	MG/KG	< 0.025		
ETHYLBENZENE		0.025	MG/KG	< 0.025		
TOTAL XYLENES		0.025	MG/KG	< 0.025		

SURROGATE:
BROMOFLUOROBENZENE (%) 95
SURROGATE LIMITS (65 - 120)

CHEMIST NOTES:
N/A



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 912072
BLANK I. D.	: 122899	DATE EXTRACTED	: 12/28/99
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 12/28/99
PROJECT #	: (none)	SAMPLE MATRIX	: NON-AQ
PROJECT NAME	: EL PASO JAQUEZ		

PARAMETER	UNITS	
BENZENE	MG/KG	<0.025
TOLUENE	MG/KG	<0.025
ETHYLBENZENE	MG/KG	<0.025
TOTAL XYLENES	MG/KG	<0.025

SURROGATE:
BROMOFLUOROBENZENE (%) 97
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A



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GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 912071-10
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : EL PASO JAQUEZ
PINNACLE I.D. : 912072
DATE EXTRACTED : 12/28/99
DATE ANALYZED : 12/28/99
SAMPLE MATRIX : NON-AQ
UNITS : MG/KG

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	0.028	1.00	1.11	108	1.14	111	3	(68 - 120)	20
TOLUENE	0.085	1.00	1.11	103	1.14	106	3	(64 - 120)	20
ETHYLBENZENE	0.10	1.00	1.10	100	1.09	99	1	(49 - 127)	20
TOTAL XYLENES	0.27	3.00	3.24	99	3.17	97	2	(58 - 120)	20

CHEMIST NOTES:

/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PINNACLE
LABORATORIES

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Albuquerque, New Mexico 87107
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Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : EL PASO JAQUEZ

PINNACLE I.D.: 912072

AMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	TP-01	NON-AQ	12/22/99	12/28/99	12/29/99	1
2	TP-02	NON-AQ	12/22/99	12/28/99	12/29/99	1
3	TP03	NON-AQ	12/22/99	12/28/99	12/29/99	1

PARAMETER	DET. LIMIT	UNITS	TP-01	TP-02	TP03
FUEL HYDROCARBONS, C6-C10	10	MG/KG	< 10	< 10	< 10
FUEL HYDROCARBONS, C10-C22	5.0	MG/KG	< 5.0	< 5.0	< 5.0
FUEL HYDROCARBONS, C22-C36	5.0	MG/KG	< 5.0	< 5.0	< 5.0

CALCULATED SUM:

SURROGATE:

9-TERPHENYL (%)

103

108

107

SURROGATE LIMITS

(66 - 151)

CHEMIST NOTES:

N/A

PINNACLE
LABORATORIES

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Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : EL PASO JAQUEZ

PINNACLE I.D.: 912072

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	TP03-01	NON-AQ	12/22/99	12/28/99	12/29/99	1
05	TP03-02	NON-AQ	12/22/99	12/28/99	12/29/99	1
06	TP04	NON-AQ	12/22/99	12/28/99	12/29/99	1

PARAMETER	DET. LIMIT	UNITS	TP03-01	TP03-02	TP04
FUEL HYDROCARBONS, C6-C10	10	MG/KG	< 10	< 10	< 10
FUEL HYDROCARBONS, C10-C22	5.0	MG/KG	< 5.0	< 5.0	< 5.0
FUEL HYDROCARBONS, C22-C36	5.0	MG/KG	< 5.0	< 5.0	< 5.0

CALCULATED SUM:

SURROGATE:

D-TERPHENYL (%) 106 99 103

SURROGATE LIMITS (66 - 151)

CHEMIST NOTES:

N/A



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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : EL PASO JAQUEZ

PINNACLE I.D.: 912072

SAMPLE			DATE	DATE	DATE	DIL.
D. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
07	TT03-02	NON-AQ	12/22/99	12/28/99	12/30/99	5
08	TT-07	NON-AQ	12/22/99	12/28/99	12/29/99	1
09	TT-08	NON-AQ	12/22/99	12/28/99	12/29/99	1

PARAMETER	DET. LIMIT	UNITS	TT03-02	TT-07	TT-08
FUEL HYDROCARBONS, C6-C10	10	MG/KG	1000	< 10	< 10
FUEL HYDROCARBONS, C10-C22	5.0	MG/KG	920	< 5.0	< 5.0
FUEL HYDROCARBONS, C22-C36	5.0	MG/KG	260	< 5.0	< 5.0
CALCULATED SUM:			2180		

SURROGATE:
O-TERPHENYL (%) 94 108 108
SURROGATE LIMITS (66 - 151)

CHEMIST NOTES:

PINNACLE
LABORATORIES

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Albuquerque, New Mexico 87107
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Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : (none)
PROJECT NAME : EL PASO JAQUEZ

PINNACLE I.D.: 912072

SAMPLE	DATE	DATE	DATE	DIL.		
D. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
10	TT-09	NON-AQ	12/22/99	12/28/99	12/29/99	1

PARAMETER	DET. LIMIT	UNITS	TT-09
FUEL HYDROCARBONS, C6-C10	10	MG/KG	< 10
FUEL HYDROCARBONS, C10-C22	5.0	MG/KG	< 5.0
FUEL HYDROCARBONS, C22-C36	5.0	MG/KG	< 5.0

CALCULATED SUM:

SURROGATE:

O-TERPHENYL (%)

112

SURROGATE LIMITS

(66 - 151)

CHEMIST NOTES:



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GAS CHROMATOGRAPHY RESULTS

REAGENT BLANK

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)		
BLANK I.D.	: 122899	PINNACLE I.D.	: 912072
CLIENT	: PHILIP ENVIRONMENTAL	DATE EXTRACTED	: 12/28/99
PROJECT #	: (none)	DATE ANALYZED	: 12/29/99
PROJECT NAME	: EL PASO JAQUEZ	SAMPLE MATRIX	: NON-AQ

PARAMETER	UNITS	
FUEL HYDROCARBONS, C6-C10	MG/KG	< 10
FUEL HYDROCARBONS, C10-C22	MG/KG	< 5.0
FUEL HYDROCARBONS, C22-C36	MG/KG	< 5.0

SURROGATE:

D-TERPHENYL (%)		110
SURROGATE LIMITS	(80 - 151)	

CHEMIST NOTES:

N/A

PINNACLE
LABORATORIES

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Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)	PINNACLE I.D.	: 912072
MSMSD #	: 122899	DATE EXTRACTED	: 12/28/99
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 12/29/99
PROJECT #	: (none)	SAMPLE MATRIX	: NON-AQ
PROJECT NAME	: EL PASO JAQUEZ	UNITS	: MG/KG

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	<5.0	200	209	105	210	105	0	(56 - 148)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

1990-1991

4000 Monroe Road
Farmington, NM 87401

(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 2448

[illegible]

Received By:

Signature	Date	Time	Signature	Date	Time
<i>[Signature]</i>	12/22/99	-	<i>[Signature]</i>	12/27/99	15:30

Samples Iced: ☒ Yes ☐ No Preservatives (ONLY for Water Samples) ☐ Cyanide Sodium hydroxide (NaOH) ☐ Volatile Organic Analysis Hydrochloric acid (HCl) ☐ Metals Nitric acid (HNO ₃) ☐ TPH (418.1) Sulfuric acid (H ₂ SO ₄) ☐ Other (Specify) _____ ☐ Other (Specify) _____	Carrier: _____ Airbill No. _____ Shipping and Lab Notes: Forward Results to Cecil Irby w/ Philip. Please Bill El Paso directly (Attn. Scott Pope) ON/CE Temp = 3.4
--	--

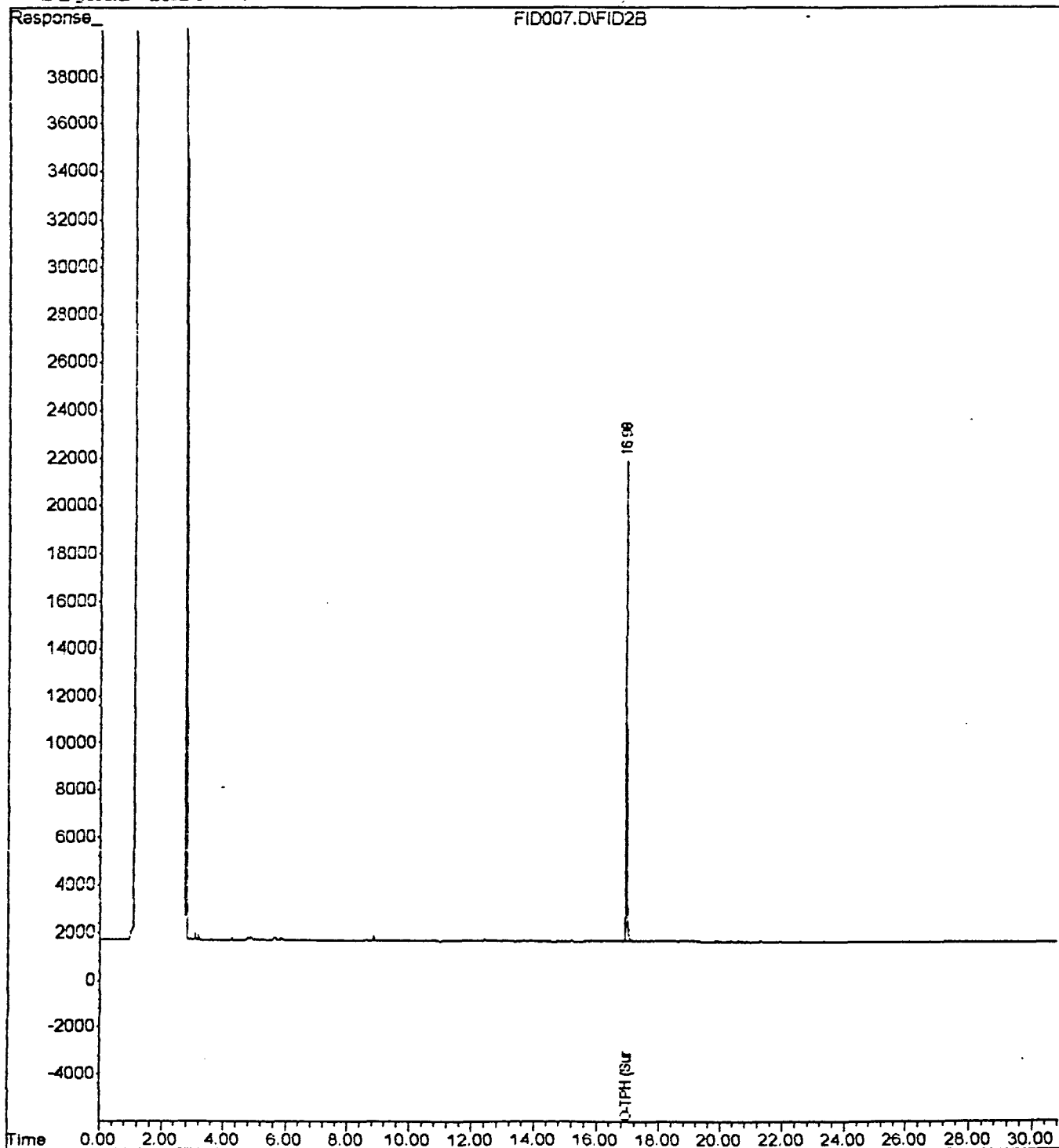
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 Acq On : 29 Dec 1999 13:59
 Sample : 912072-01
 Misc :
 IntFile : EVENTS.E

Vial: 7
 Operator: DHH
 Inst : FID-1
 Multiplr: 1.00

Quant Time: Dec 29 14:31 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
 Title : NM 8015
 Last Update : Wed Nov 10 11:29:39 1999
 Response via : Multiple Level Calibration
 DataAcq Meth : NM102799.M

Volume Inj. : 2ul
 Signal Phase :
 Signal Info :



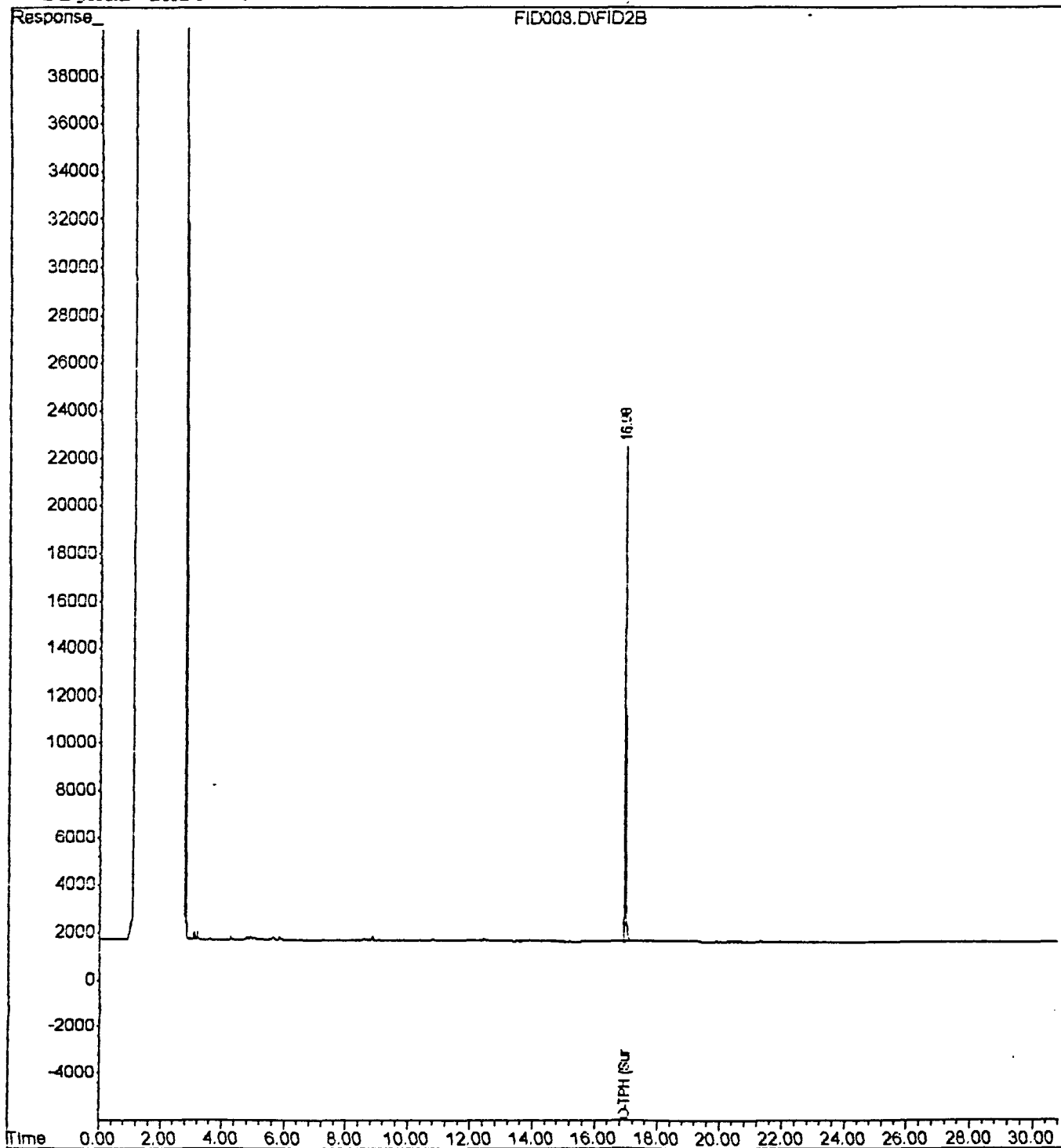
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Sample : 912072-02
Misc :
IntFile : EVENTS.E

Vial: 8
Operator: DHH
Inst : FID-1
Multiplr: 1.00

Quant Time: Dec 29 15:27 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



Quantitation Report

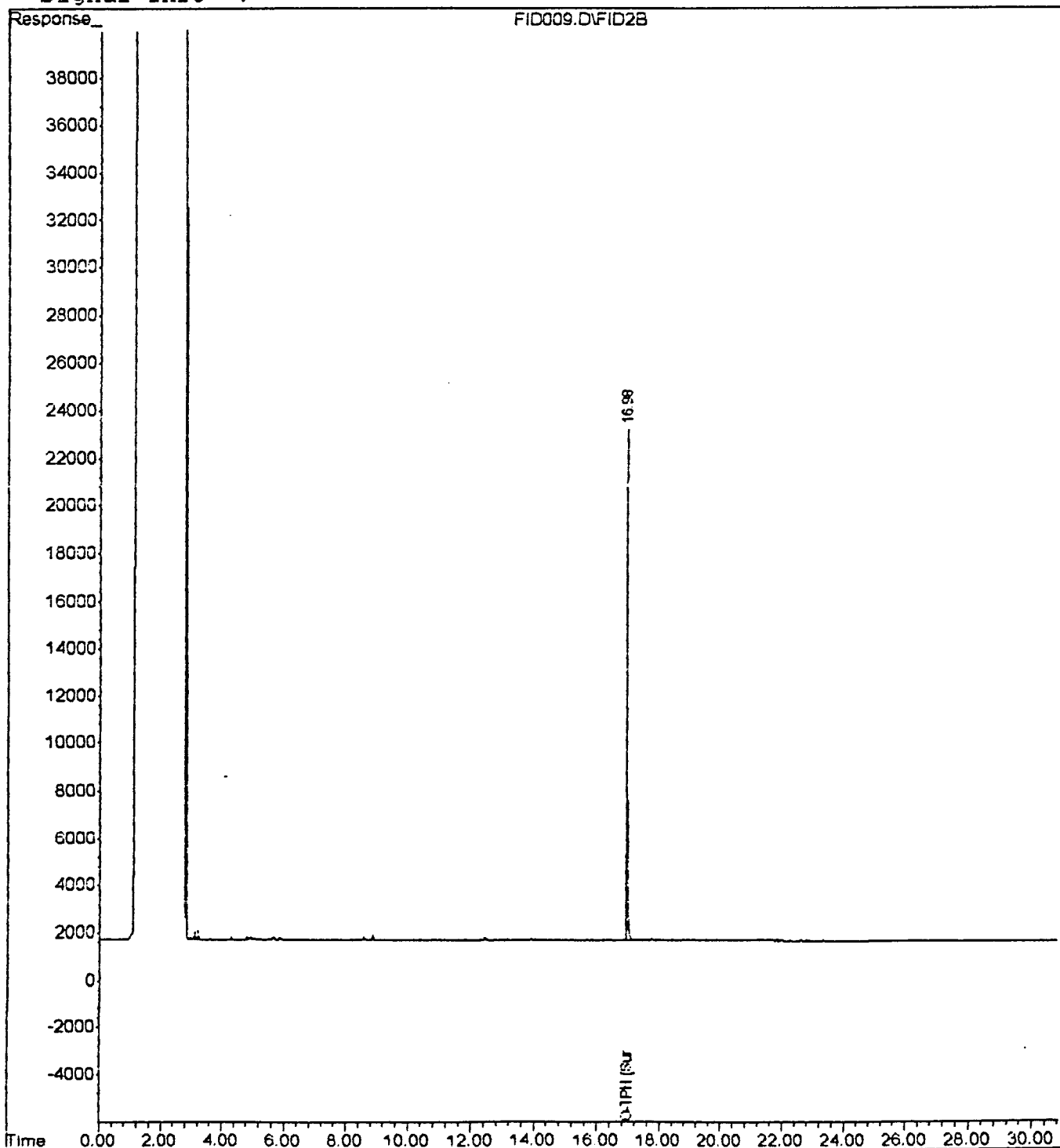
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 Acq On : 29 Dec 1999 15:36
 Sample : 912072-03
 Misc :
 IntFile : EVENTS.E

Vial: 9
 Operator: DHH
 Inst : FID-1
 Multiplr: 1.00

Quant Time: Dec 29 16:08 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
 Title : NM 8015
 Last Update : Wed Nov 10 11:29:39 1999
 Response via : Multiple Level Calibration
 DataAcq Meth : NM102799.M

Volume Inj. : 2ul
 Signal Phase :
 Signal Info :



Quantitation Report

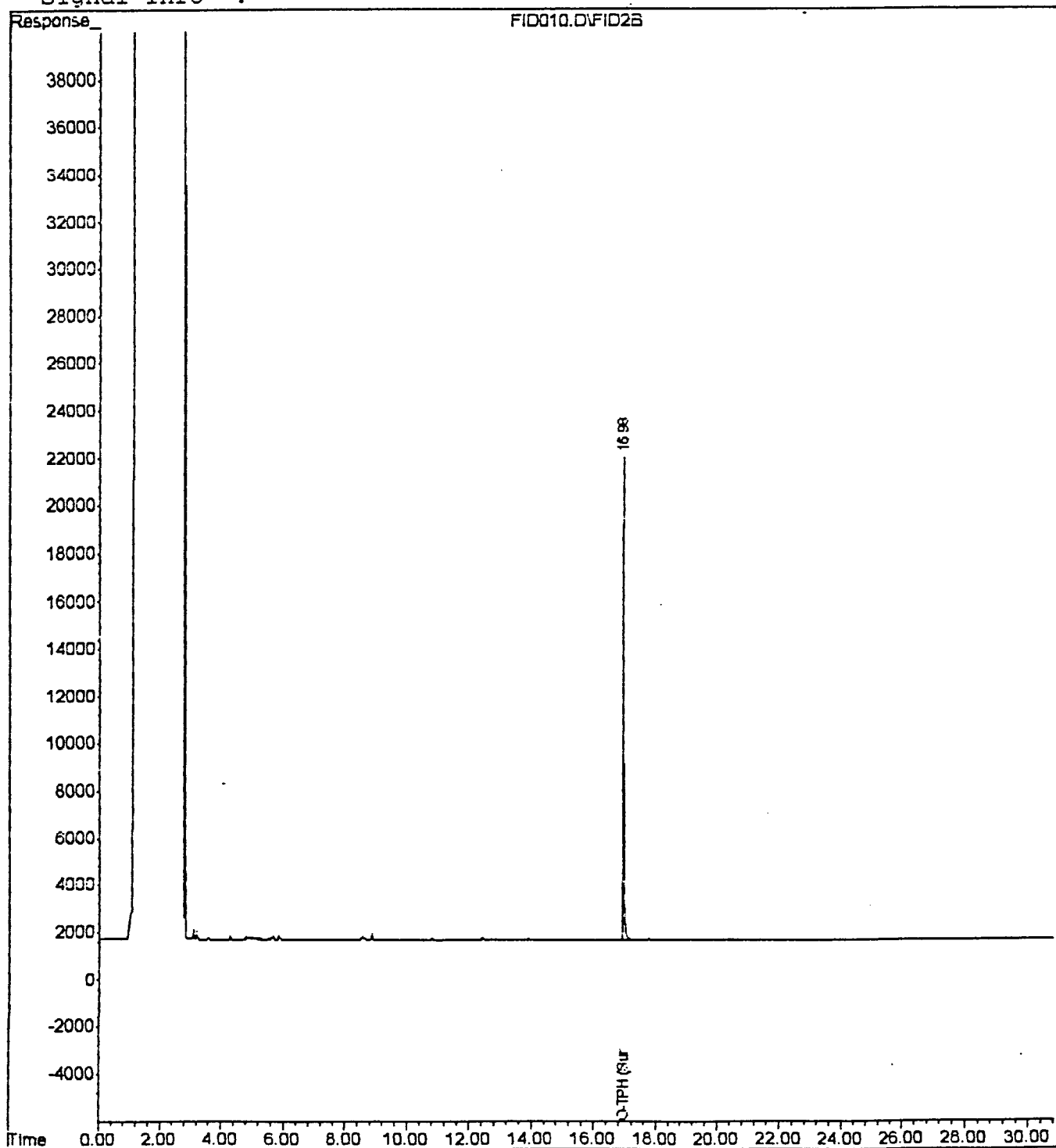
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Acq On : 29 Dec 1999 16:25
Sample : 912072-04
Misc :
IntFile : EVENTS.E

Vial: 10
Operator: DHH
Inst : FID-1
Multiplr: 1.00

Quant Time: Dec 29 16:59 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



Quantitation Report

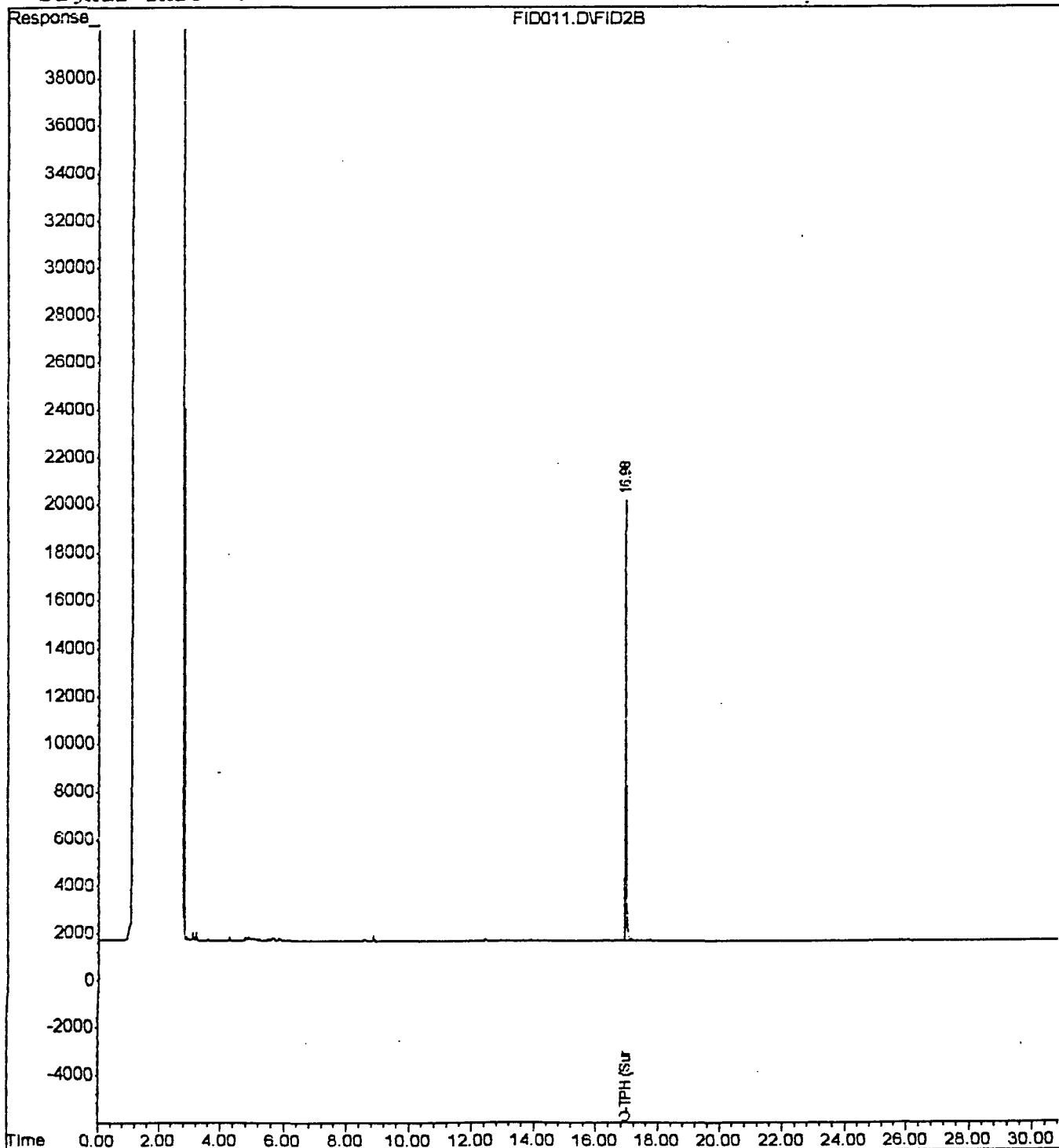
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 Sample : 912072-05
 Misc :
 IntFile : EVENTS.E

Vial: 11
 Operator: DHH
 Inst : FID-1
 Multiplr: 1.00

Quant Time: Dec 30 8:33 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
 Title : NM 8015
 Last Update : Wed Nov 10 11:29:39 1999
 Response via : Multiple Level Calibration
 DataAcq Meth : NM102799.M

Volume Inj. : 2ul
 Signal Phase :
 Signal Info :



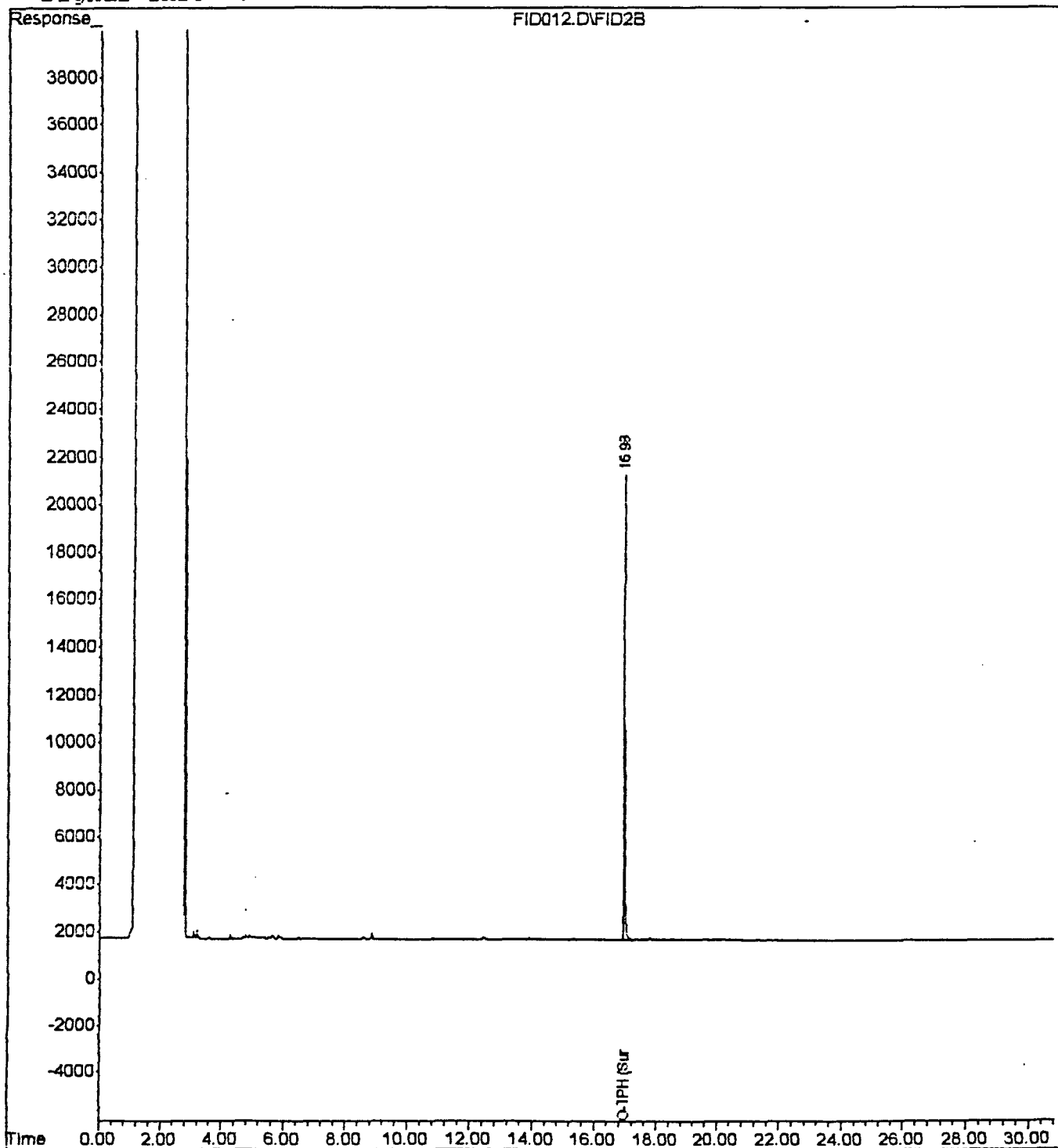
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Sample : 912072-06
Misc :
IntFile : EVENTS.E

Vial: 12
Operator: DHH
Inst : FID-1
Multiplr: 1.00

Quant Time: Dec 30 8:34 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



Quantitation Report

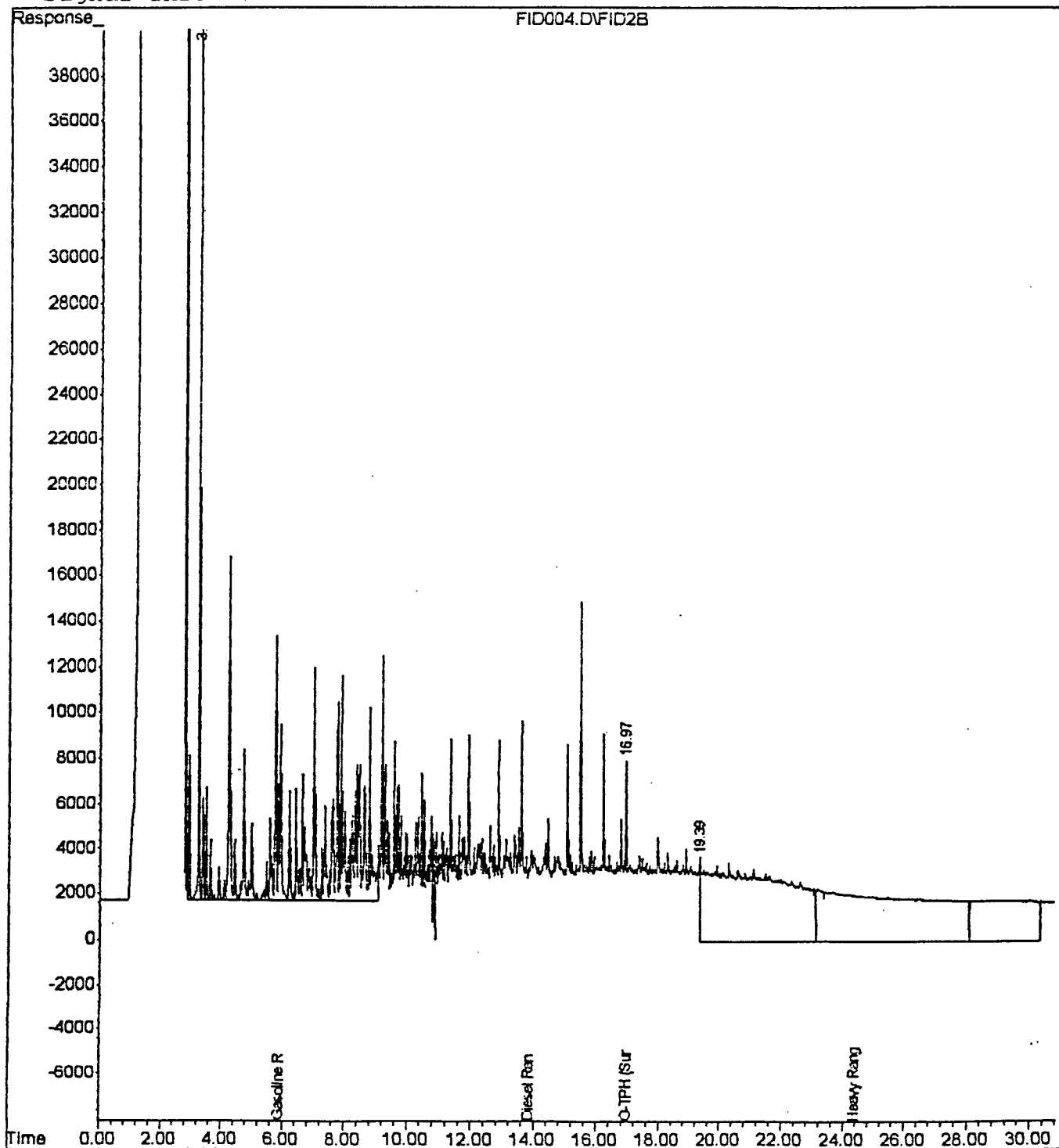
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 Acq On : 30 Dec 1999 11:33
 Sample : 912072-07 x5
 Misc :
 IntFile : EVENTS.E

Vial: 4
 Operator: DHH
 Inst : FID-1
 Multiplr: 1.00

Quant Time: Dec 30 12:34 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
 Title : NM 8015
 Last Update : Wed Nov 10 11:29:39 1999
 Response via : Multiple Level Calibration
 DataAcq Meth : NM102799.M

Volume Inj. : 2ul
 Signal Phase :
 Signal Info :



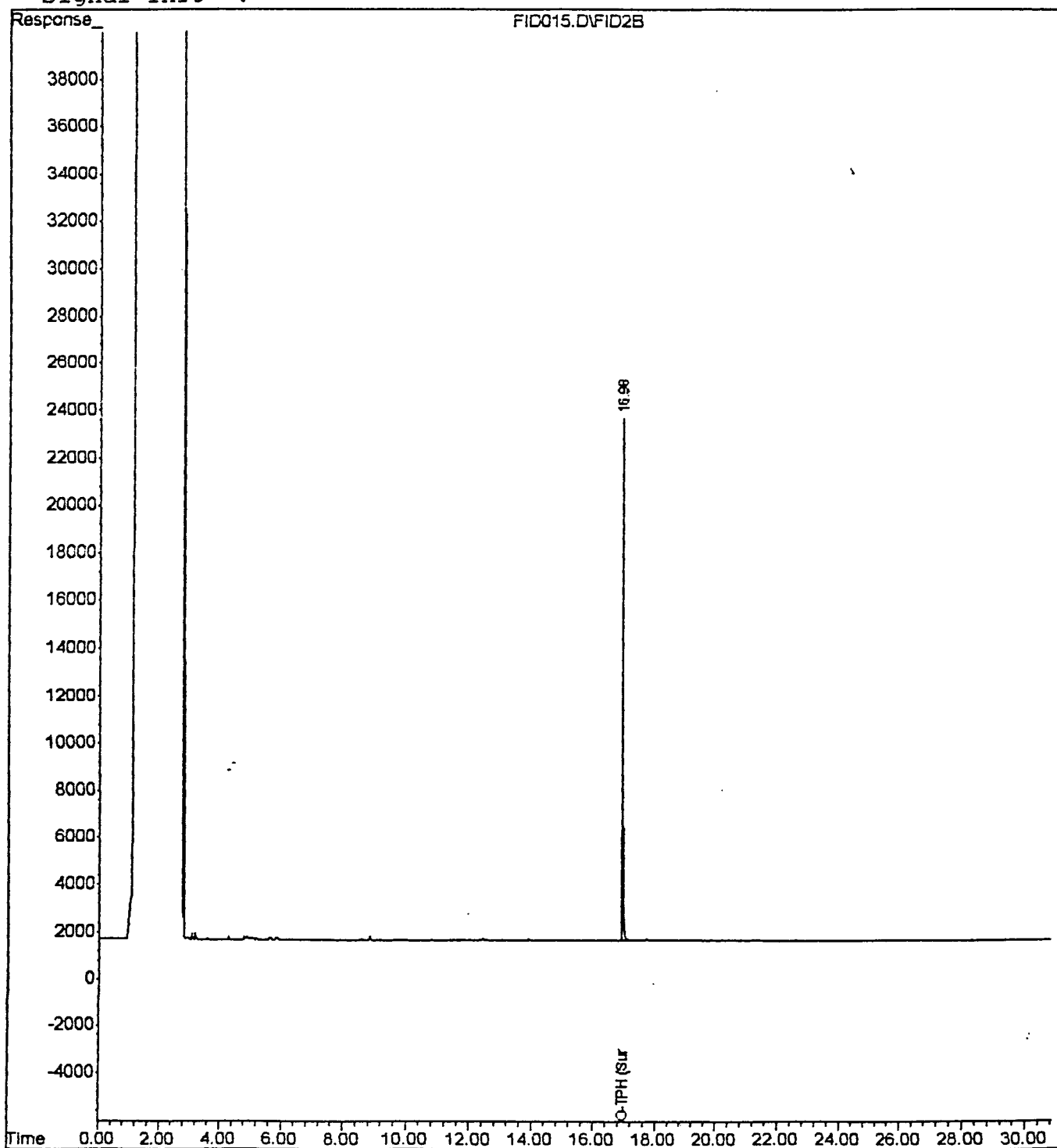
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 Acq On : 29 Dec 1999 20:27
 Sample : 912072-08
 Misc :
 IntFile : EVENTS.E

Vial: 15
 Operator: DHH
 Inst : FID-1
 Multiplr: 1.00

Quant Time: Dec 30 8:36 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
 Title : NM 8015
 Last Update : Wed Nov 10 11:29:39 1999
 Response via : Multiple Level Calibration
 DataAcq Meth : NM102799.M

Volume Inj. : 2ul
 Signal Phase :
 Signal Info :



Quantitation Report

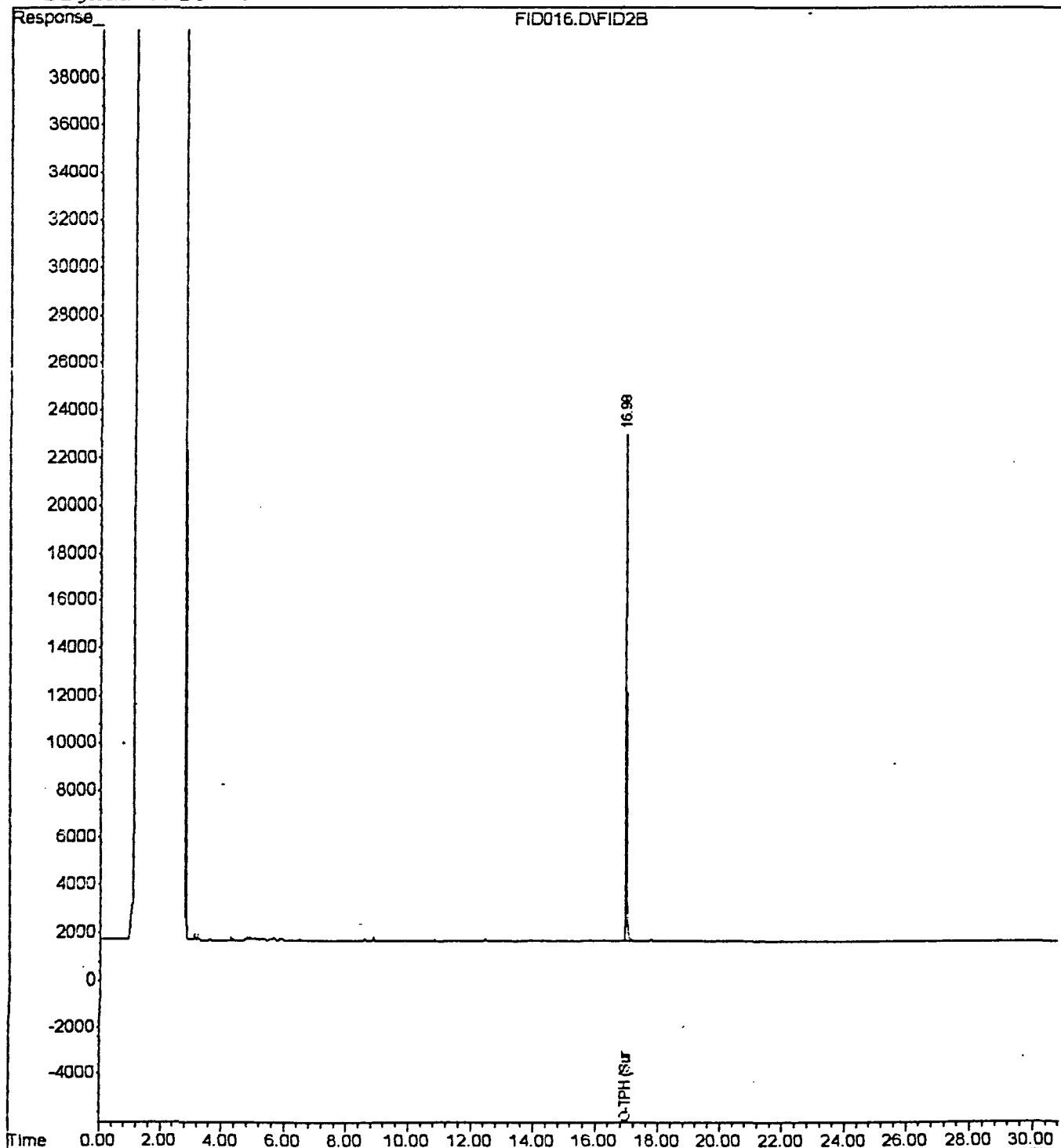
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 Sample : 912072-09
 Misc :
 IntFile : EVENTS.E

Vial: 16
 Operator: DHH
 Inst : FID-1
 Multiplr: 1.00

Quant Time: Dec 30 8:37 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
 Title : NM 8015
 Last Update : Wed Nov 10 11:29:39 1999
 Response via : Multiple Level Calibration
 DataAcq Meth : NM102799.M

Volume Inj. : 2ul
 Signal Phase :
 Signal Info :



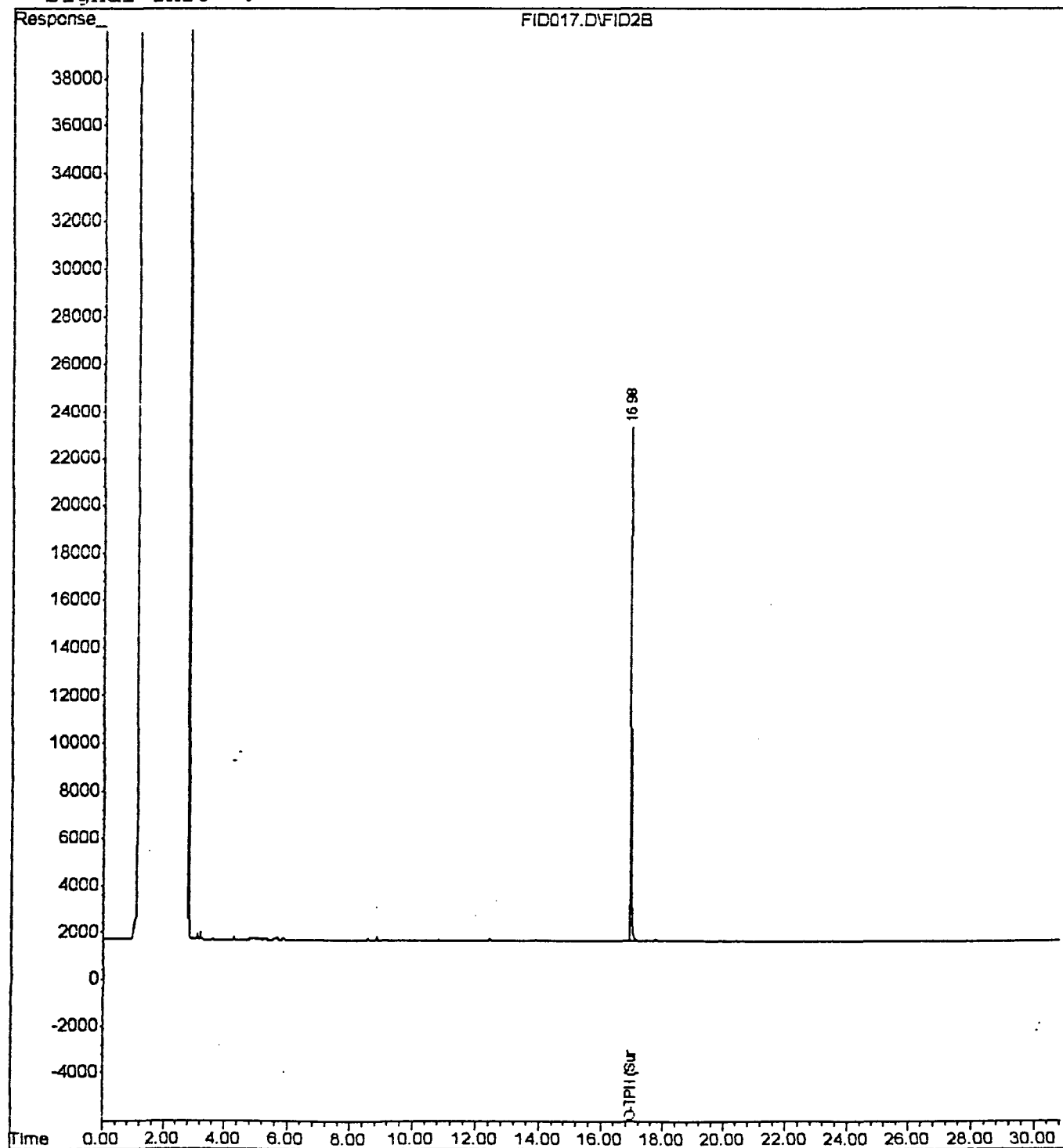
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 Sample : 912072-010
 Misc :
 IntFile : EVENTS.E

Vial: 17
 Operator: DHH
 Inst : FID-1
 Multiplr: 1.00

Quant Time: Dec 30 8:38 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
 Title : NM 8015
 Last Update : Wed Nov 10 11:29:39 1999
 Response via : Multiple Level Calibration
 DataAcq Meth : NM102799.M

Volume Inj. : 2ul
 Signal Phase :
 Signal Info :



Quantitation Report

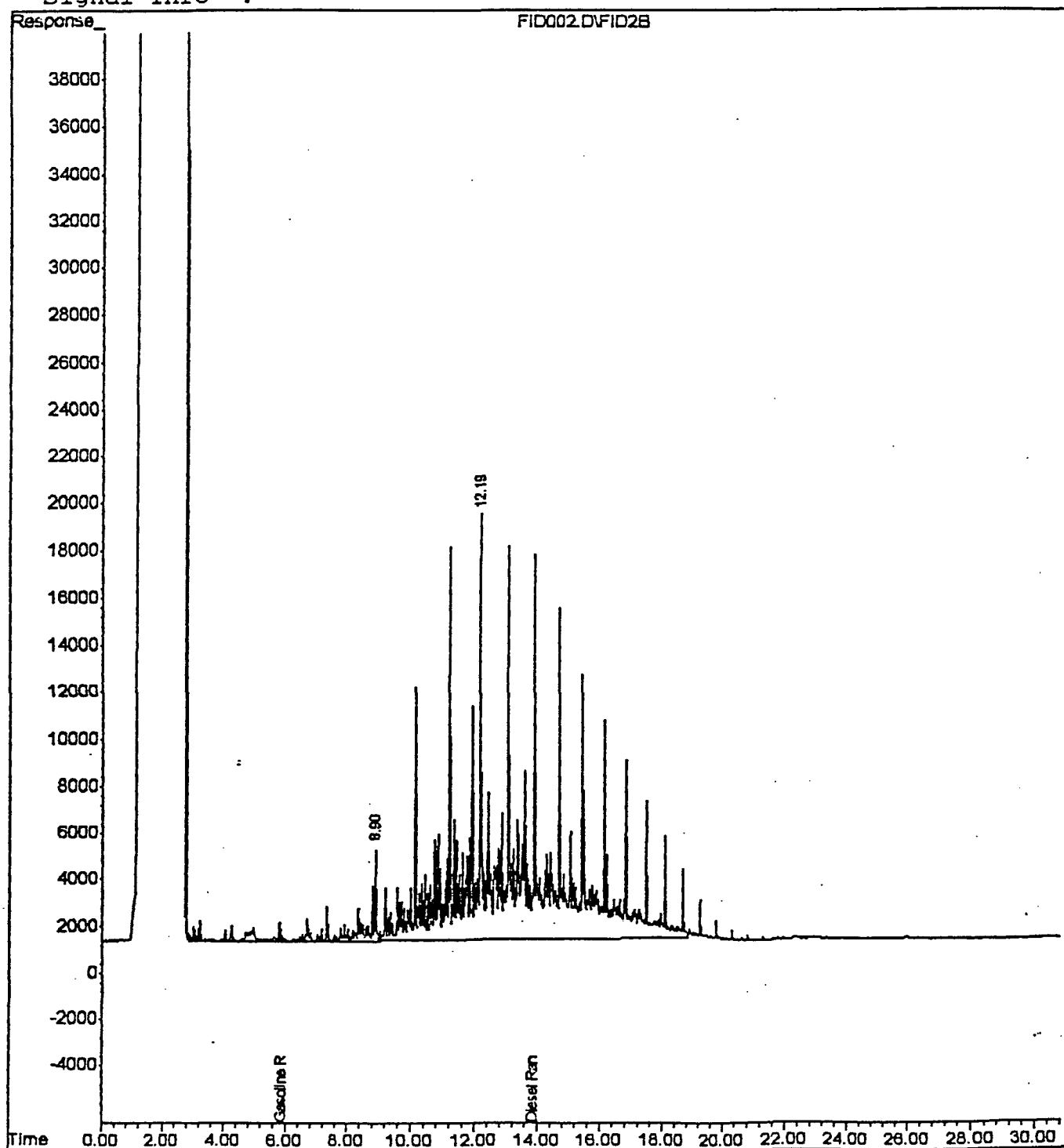
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Acq On : 12 Nov 1999 10:32
Sample : diesel
Misc : at 200ug/mL
IntFile : EVENTS.E

Vial: 2
Operator: CFF
Inst : FID-1
Multiplr: 1.00

Quant Time: Nov 12 11:42 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :



Quantitation Report

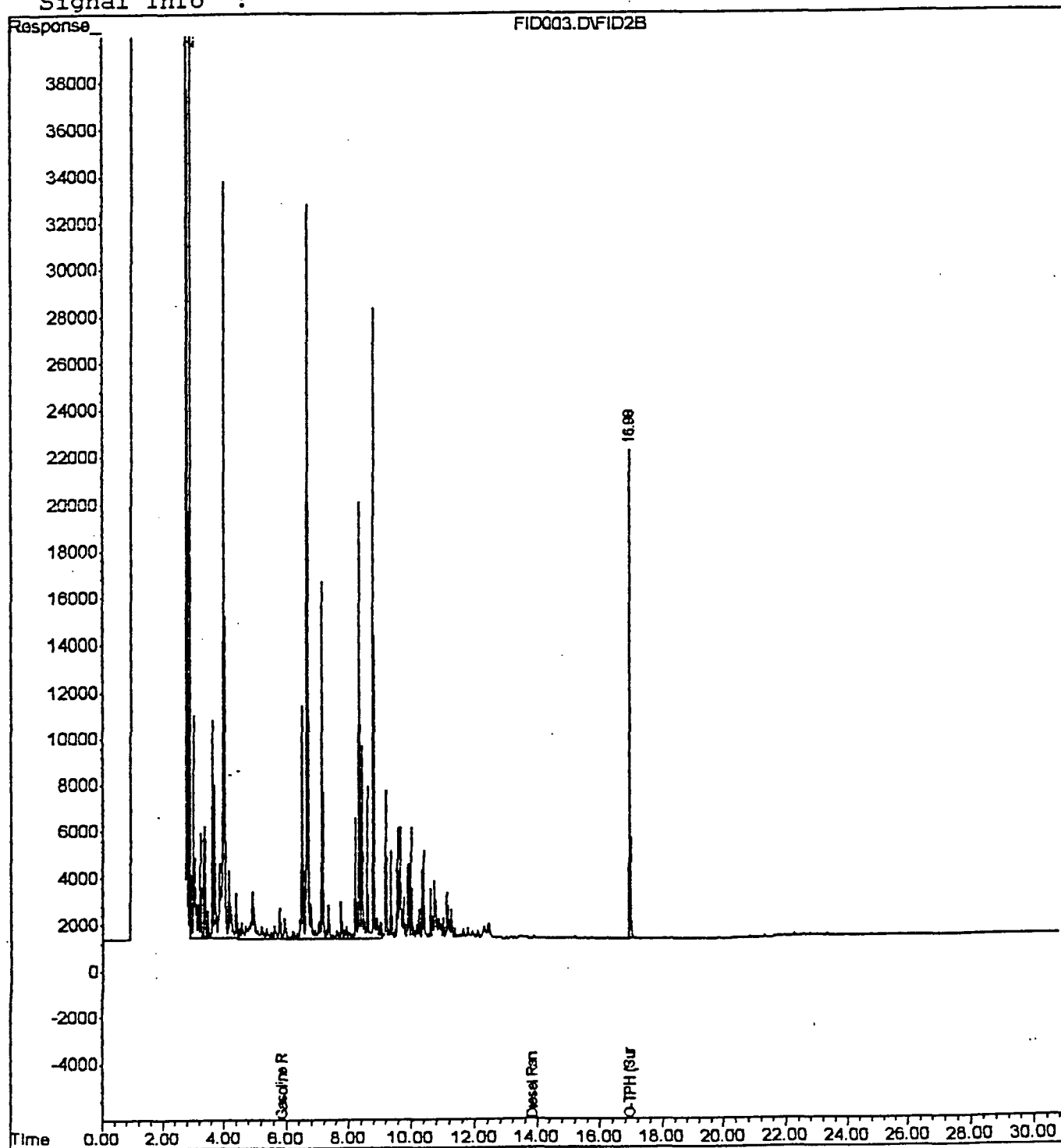
Data File : C:\HPCHEM\2\DATA\111299\FID003.D
 Acq On : 12 Nov 1999 11:21
 Sample : gasoline
 Misc : at 200ug/mL
 IntFile : EVENTS.E

Vial: 3
 Operator: CFF
 Inst : FID-1
 Multiplr: 1.00

Quant Time: Nov 12 13:07 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
 Title : NM 8015
 Last Update : Wed Nov 10 11:29:39 1999
 Response via : Multiple Level Calibration
 DataAcq Meth : NM102799.M

Volume Inj. : 2ul
 Signal Phase :
 Signal Info :



Quantitation Report

Data File : C:\HPCHEM\2\DATA\110899\FID004.D
Acq On : 8 Nov 1999 13:29
Sample : rt std gc4-14-06
Misc :
IntFile : EVENTS.E

Vial: 4
Operator: CFF
Inst : FID-1
Multiplr: 1.00

Quant Time: Nov 12 13:54 1999 Quant Results File: NM102799.RES

Quant Method : C:\HPCHEM\2\METHODS\NM102799.M (Chemstation Integrator)
Title : NM 8015
Last Update : Wed Nov 10 11:29:39 1999
Response via : Multiple Level Calibration
DataAcq Meth : NM102799.M

Volume Inj. : 2ul
Signal Phase :
Signal Info :

