

MEMORANDUM

TO: Nina Antonio – DTSC
Susan Hugo – ACHCSA

DATE: January 9, 2001

FROM: Ann Holbrow and Susan *Ann*
Gallardo

CC: Kathleen Isaacson
Hugh Murphy

SUBJECT: Additional Laboratory Data Sheets for Sampling at Occupied Lots
Canterbury Residential Development

Enclosed you will find one laboratory data package containing the analytical results for sampling conducted at the occupied lots in the Canterbury Residential Development. This data package was inadvertently left out of the previous transmittal and corresponds to samples that were collected on September 21, 2000.

\\sf3\deptdata\Project\6000s\6262\Occupied Lots\Data Memo3.doc

ENVIRONMENTAL
PROTECTION
00 JAN 11 PM 3:13

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Jensen, M.S.
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October 5, 2000

Ann Holbrow, Project Manager
Geomatrix Consultants, Inc.
2101 Webster Street, 12th Floor
Oakland, CA 94612

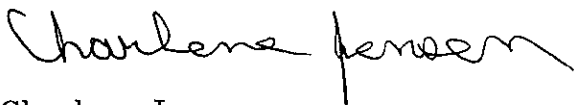
Dear Ms. Holbrow:

Included are the results from the testing of material submitted on September 25, 2000 from your 6262 project. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Charlene Jensen
Chemist

Enclosures
GMC1005R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 25, 2000 by Friedman & Bruya, Inc. from the Geomatrix Consultants, Inc. 6262 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Geomatrix Consultants, Inc.</u>
009102-01	GMX-TRN-31A-1.0
009102-02	GMX-TRN-23A-1.0
009102-03	GMX-TRN-32A-1.0
009102-04	GMX-TRN-43A-1.0
009102-05	GMX-TRN-47A-1.0
009102-06	GMX-TRN-47A-1.5
009102-07	GMX-TRN-41A-1.0
009102-08	GMX-TRN-48A-1.0
009102-09	GMX-TRN-25A-1.0
009102-10	GMX-TRN-18A-1.0
009102-11	GMX-TRN-27A-1.0
009102-12	GMX-TRN-20A-1.0
009102-13	GMX-TRN-17A-1.0
009102-14	GMX-TRN-46A-1.0
009102-15	GMX-TRN-26A-1.0
009102-16	GMX-TRN-30A-1.0
009102-17	GMX-TRN-16A-1.0

All quality control requirements were within acceptable limits.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/05/00
 Date Received: 09/25/00
 Project: 6262
 Date Extracted: 09/27/00
 Date Analyzed: 09/28/00 and 09/29/00

**RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
 FOR TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
 USING EPA METHOD 8015M**
 Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Motor Oil</u>	<u>Surrogate</u> (% Recovery)
GMX-TRN-31A-1.0 009102-01	410 d	92
GMX-TRN-23A-1.0 009102-02	770 d	96
GMX-TRN-32A-1.0 009102-03	120	91
GMX-TRN-43A-1.0 009102-04	620 d	93
GMX-TRN-47A-1.0 009102-05	3,500 d	95
GMX-TRN-41A-1.0 009102-07	1,100 d	104
GMX-TRN-48A-1.0 009102-08	140	113
GMX-TRN-25A-1.0 009102-09	210	95
GMX-TRN-18A-1.0 009102-10	590 d	98
GMX-TRN-27A-1.0 009102-11	190	106
GMX-TRN-20A-1.0 009102-12	860 d	100

d - The sample was diluted. Surrogate recoveries may not be meaningful.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/05/00
Date Received: 09/25/00
Project: 6262
Date Extracted: 09/27/00
Date Analyzed: 09/28/00 and 09/29/00

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
USING EPA METHOD 8015M
Results Reported as $\mu\text{g/g}$ (ppm)

<u>Sample ID</u> Laboratory ID	<u>Motor Oil</u>	<u>Surrogate</u> (% Recovery)
GMX-TRN-17A-1.0 009102-13	1,500 d	107
GMX-TRN-46A-1.0 009102-14	380	101
GMX-TRN-26A-1.0 009102-15	<50	110
GMX-TRN-30A-1.0 009102-16	1,500 d	124
GMX-TRN-16A-1.0 009102-17	1,800 d	97
Method Blank	<50	91

d - The sample was diluted. Surrogate recoveries may not be meaningful.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	GMX-TRN-31A-1.0	Client:	Geomatrix Consultants, Inc.
Date Received:	09/25/00	Project:	6262
Date Extracted:	09/27/00	Lab ID:	009102-01
Date Analyzed:	09/29/00	Data File:	092907.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	64	31	123
Benzo(a)anthracene-d12	88	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<5
Acenaphthylene	<5
Acenaphthene	<5
Fluorene	<5
Phenanthrene	18
Anthracene	<5
Fluoranthene	39
Pyrene	34
Benz(a)anthracene	16
Chrysene	23
Benzo(b)fluoranthene	22
Benzo(k)fluoranthene	15
Benzo(a)pyrene	20
Indeno(1,2,3-cd)pyrene	19
Dibenzo(a,h)anthracene	8
Benzo(g,h,i)perylene	18

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	GMX-TRN-23A-1.0	Client:	Geomatrix Consultants, Inc.
Date Received:	09/25/00	Project:	6262
Date Extracted:	09/27/00	Lab ID:	009102-02 1/10
Date Analyzed:	09/28/00	Data File:	092812.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	87	31	123
Benzo(a)anthracene-d12	105	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<50
Acenaphthylene	<50
Acenaphthene	<50
Fluorene	<50
Phenanthrene	110
Anthracene	<50
Fluoranthene	110
Pyrene	96
Benz(a)anthracene	<50
Chrysene	63
Benzo(b)fluoranthene	50
Benzo(k)fluoranthene	<50
Benzo(a)pyrene	<50
Indeno(1,2,3-cd)pyrene	<50
Dibenzo(a,h)anthracene	<50
Benzo(g,h,i)perylene	64

Note: The sample was diluted due to high levels of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	GMX-TRN-32A-1.0	Client:	Geomatrix Consultants, Inc.
Date Received:	09/25/00	Project:	6262
Date Extracted:	09/27/00	Lab ID:	009102-03
Date Analyzed:	09/29/00	Data File:	092908.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	73	31	123
Benzo(a)anthracene-d12	105	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<5
Acenaphthylene	<5
Acenaphthene	<5
Fluorene	<5
Phenanthrene	16
Anthracene	<5
Fluoranthene	39
Pyrene	39
Benz(a)anthracene	20
Chrysene	31
Benzo(b)fluoranthene	29
Benzo(k)fluoranthene	17
Benzo(a)pyrene	26
Indeno(1,2,3-cd)pyrene	22
Dibenzo(a,h)anthracene	11
Benzo(g,h,i)perylene	25

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ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	GMX-TRN-43A-1.0	Client:	Geomatrix Consultants, Inc.
Date Received:	09/25/00	Project:	6262
Date Extracted:	09/27/00	Lab ID:	009102-04
Date Analyzed:	09/29/00	Data File:	092909.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	55	31	123
Benzo(a)anthracene-d12	76	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<5
Acenaphthylene	<5
Acenaphthene	<5
Fluorene	<5
Phenanthrene	<5
Anthracene	<5
Fluoranthene	8
Pyrene	11
Benz(a)anthracene	7
Chrysene	15
Benzo(b)fluoranthene	12
Benzo(k)fluoranthene	7
Benzo(a)pyrene	10
Indeno(1,2,3-cd)pyrene	8
Dibenzo(a,h)anthracene	<5
Benzo(g,h,i)perylene	14

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ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	GMX-TRN-47A-1.0	Client:	Geomatrix Consultants, Inc.
Date Received:	09/25/00	Project:	6262
Date Extracted:	09/27/00	Lab ID:	009102-05
Date Analyzed:	09/28/00	Data File:	092823.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	57	31	123
Benzo(a)anthracene-d12	79	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<5
Acenaphthylene	<5
Acenaphthene	<5
Fluorene	<5
Phenanthrene	<5
Anthracene	<5
Fluoranthene	6
Pyrene	16
Benz(a)anthracene	10
Chrysene	43
Benzo(b)fluoranthene	<5
Benzo(k)fluoranthene	<5
Benzo(a)pyrene	<5
Indeno(1,2,3-cd)pyrene	<5
Dibenzo(a,h)anthracene	<5
Benzo(g,h,i)perylene	21

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ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	GMX-TRN-41A-1.0	Client:	Geomatrix Consultants, Inc.
Date Received:	09/25/00	Project:	6262
Date Extracted:	09/27/00	Lab ID:	009102-07
Date Analyzed:	09/29/00	Data File:	092910.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	60	31	123
Benzo(a)anthracene-d12	85	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<5
Acenaphthylene	<5
Acenaphthene	<5
Fluorene	<5
Phenanthrene	<5
Anthracene	<5
Fluoranthene	<5
Pyrene	6
Benz(a)anthracene	<5
Chrysene	<5
Benzo(b)fluoranthene	<5
Benzo(k)fluoranthene	<5
Benzo(a)pyrene	<5
Indeno(1,2,3-cd)pyrene	<5
Dibenzo(a,h)anthracene	<5
Benzo(g,h,i)perylene	8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	GMX-TRN-48A-1.0	Client:	Geomatrix Consultants, Inc.
Date Received:	09/25/00	Project:	6262
Date Extracted:	09/27/00	Lab ID:	009102-08
Date Analyzed:	09/28/00	Data File:	092822.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	68	31	123
Benzo(a)anthracene-d12	93	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<5
Acenaphthylene	<5
Acenaphthene	<5
Fluorene	<5
Phenanthrene	14
Anthracene	<5
Fluoranthene	16
Pyrene	16
Benz(a)anthracene	6
Chrysene	11
Benzo(b)fluoranthene	8
Benzo(k)fluoranthene	5
Benzo(a)pyrene	7
Indeno(1,2,3-cd)pyrene	6
Dibenzo(a,h)anthracene	<5
Benzo(g,h,i)perylene	7

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID: GMX-TRN-25A-1.0	Client: Geomatrix Consultants, Inc.
Date Received: 09/25/00	Project: 6262
Date Extracted: 09/27/00	Lab ID: 009102-09
Date Analyzed: 09/28/00	Data File: 092824.D
Matrix: Soil	Instrument: GCMS3
Units: ug/kg (ppb)	Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	72	31	123
Benzo(a)anthracene-d12	96	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<5
Acenaphthylene	<5
Acenaphthene	<5
Fluorene	<5
Phenanthrene	14
Anthracene	<5
Fluoranthene	33
Pyrene	33
Benz(a)anthracene	20
Chrysene	25
Benzo(b)fluoranthene	18
Benzo(k)fluoranthene	13
Benzo(a)pyrene	20
Indeno(1,2,3-cd)pyrene	11
Dibenzo(a,h)anthracene	<5
Benzo(g,h,i)perylene	10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	GMX-TRN-18A-1.0	Client:	Geomatrix Consultants, Inc.
Date Received:	09/25/00	Project:	6262
Date Extracted:	09/27/00	Lab ID:	009102-10 1/10
Date Analyzed:	09/28/00	Data File:	092817.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	80	31	123
Benzo(a)anthracene-d12	109	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<50
Acenaphthylene	<50
Acenaphthene	<50
Fluorene	<50
Phenanthrene	<50
Anthracene	<50
Fluoranthene	<50
Pyrene	74
Benz(a)anthracene	<50
Chrysene	<50
Benzo(b)fluoranthene	<50
Benzo(k)fluoranthene	<50
Benzo(a)pyrene	<50
Indeno(1,2,3-cd)pyrene	<50
Dibenzo(a,h)anthracene	<50
Benzo(g,h,i)perylene	<50

Note: The sample was diluted due to high levels of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	GMX-TRN-27A-1.0	Client:	Geomatrix Consultants, Inc.
Date Received:	09/25/00	Project:	6262
Date Extracted:	09/27/00	Lab ID:	009102-11
Date Analyzed:	09/28/00	Data File:	092825.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	71	31	123
Benzo(a)anthracene-d12	102	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<5
Acenaphthylene	<5
Acenaphthene	<5
Fluorene	<5
Phenanthrene	47
Anthracene	7
Fluoranthene	120
Pyrene	110
Benz(a)anthracene	54
Chrysene	74
Benzo(b)fluoranthene	79
Benzo(k)fluoranthene	48
Benzo(a)pyrene	72
Indeno(1,2,3-cd)pyrene	43
Dibenzo(a,h)anthracene	19
Benzo(g,h,i)perylene	33

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	GMX-TRN-20A-1.0	Client:	Geomatrix Consultants, Inc.
Date Received:	09/25/00	Project:	6262
Date Extracted:	09/27/00	Lab ID:	009102-12
Date Analyzed:	09/29/00	Data File:	092911.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	59	31	123
Benzo(a)anthracene-d12	85	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<5
Acenaphthylene	<5
Acenaphthene	<5
Fluorene	<5
Phenanthrene	7
Anthracene	<5
Fluoranthene	<5
Pyrene	8
Benz(a)anthracene	7
Chrysene	18
Benzo(b)fluoranthene	<5
Benzo(k)fluoranthene	<5
Benzo(a)pyrene	11
Indeno(1,2,3-cd)pyrene	<5
Dibenzo(a,h)anthracene	<5
Benzo(g,h,i)perylene	19

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	GMX-TRN-17A-1.0	Client:	Geomatrix Consultants, Inc.
Date Received:	09/25/00	Project:	6262
Date Extracted:	09/27/00	Lab ID:	009102-13 1/10
Date Analyzed:	09/28/00	Data File:	092819.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	86	31	123
Benzo(a)anthracene-d12	105	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<50
Acenaphthylene	<50
Acenaphthene	<50
Fluorene	<50
Phenanthrene	<50
Anthracene	<50
Fluoranthene	58
Pyrene	63
Benz(a)anthracene	<50
Chrysene	63
Benzo(b)fluoranthene	<50
Benzo(k)fluoranthene	<50
Benzo(a)pyrene	<50
Indeno(1,2,3-cd)pyrene	<50
Dibenzo(a,h)anthracene	<50
Benzo(g,h,i)perylene	63

Note: The sample was diluted due to high levels of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	GMX-TRN-46A-1.0	Client:	Geomatrix Consultants, Inc.
Date Received:	09/25/00	Project:	6262
Date Extracted:	09/27/00	Lab ID:	009102-14
Date Analyzed:	09/28/00	Data File:	092826.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	75	31	123
Benzo(a)anthracene-d12	104	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<5
Acenaphthylene	<5
Acenaphthene	<5
Fluorene	<5
Phenanthrene	<5
Anthracene	<5
Fluoranthene	<5
Pyrene	5
Benz(a)anthracene	<5
Chrysene	8
Benzo(b)fluoranthene	8
Benzo(k)fluoranthene	<5
Benzo(a)pyrene	6
Indeno(1,2,3-cd)pyrene	<5
Dibenzo(a,h)anthracene	<5
Benzo(g,h,i)perylene	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	GMX-TRN-26A-1.0	Client:	Geomatrix Consultants, Inc.
Date Received:	09/25/00	Project:	6262
Date Extracted:	09/27/00	Lab ID:	009102-15
Date Analyzed:	09/28/00	Data File:	092821.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	71	31	123
Benzo(a)anthracene-d12	101	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<5
Acenaphthylene	<5
Acenaphthene	<5
Fluorene	<5
Phenanthrene	13
Anthracene	<5
Fluoranthene	29
Pyrene	27
Benz(a)anthracene	12
Chrysene	16
Benzo(b)fluoranthene	15
Benzo(k)fluoranthene	12
Benzo(a)pyrene	15
Indeno(1,2,3-cd)pyrene	12
Dibenzo(a,h)anthracene	<5
Benzo(g,h,i)perylene	11

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	GMX-TRN-30A-1.0	Client:	Geomatrix Consultants, Inc.
Date Received:	09/25/00	Project:	6262
Date Extracted:	09/27/00	Lab ID:	009102-16 1/10
Date Analyzed:	09/28/00	Data File:	092815.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	79	31	123
Benzo(a)anthracene-d12	130	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	84
Acenaphthylene	<50
Acenaphthene	370
Fluorene	490
Phenanthrene	2,300
Anthracene	500
Fluoranthene	180
Pyrene	1,300
Benz(a)anthracene	660
Chrysene	1,200
Benzo(b)fluoranthene	220
Benzo(k)fluoranthene	<50
Benzo(a)pyrene	420
Indeno(1,2,3-cd)pyrene	130
Dibenzo(a,h)anthracene	<50
Benzo(g,h,i)perylene	270

Note: The sample was diluted due to high levels of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID:	GMX-TRN-16A-1.0	Client:	Geomatrix Consultants, Inc.
Date Received:	09/25/00	Project:	6262
Date Extracted:	09/27/00	Lab ID:	009102-17 1/10
Date Analyzed:	09/28/00	Data File:	092820.D
Matrix:	Soil	Instrument:	GCMS3
Units:	ug/kg (ppb)	Operator:	YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	85	31	123
Benzo(a)anthracene-d12	110	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<50
Acenaphthylene	<50
Acenaphthene	<50
Fluorene	<50
Phenanthrene	<50
Anthracene	<50
Fluoranthene	<50
Pyrene	<50
Benz(a)anthracene	<50
Chrysene	<50
Benzo(b)fluoranthene	<50
Benzo(k)fluoranthene	<50
Benzo(a)pyrene	<50
Indeno(1,2,3-cd)pyrene	<50
Dibenzo(a,h)anthracene	<50
Benzo(g,h,i)perylene	<50

Note: The sample was diluted due to high levels of interfering compounds. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PNA Compounds By EPA Method 8270C SIM

Client Sample ID: QQQ-62	Client: Geomatrix Consultants, Inc.
Date Received: 09/25/00	Project: 6262
Date Extracted: 09/27/00	Lab ID: mb 2 00-621
Date Analyzed: 09/28/00	Data File: 092810.D
Matrix: Soil	Instrument: GCMS3
Units: ug/kg (ppb)	Operator: YA

Surrogates:	% Recovery	Lower Limit	Upper Limit
Anthracene-d10	52	31	123
Benzo(a)anthracene-d12	73	47	157

Compounds:	Concentration: ug/kg (ppb)
Naphthalene	<5
Acenaphthylene	<5
Acenaphthene	<5
Fluorene	<5
Phenanthrene	<5
Anthracene	<5
Fluoranthene	<5
Pyrene	<5
Benz(a)anthracene	<5
Chrysene	<5
Benzo(b)fluoranthene	<5
Benzo(k)fluoranthene	<5
Banzo(a)pyrene	<5
Indeno(1,2,3-cd)pyrene	<5
Dibenzo(a,h)anthracene	<5
Benzo(g,h,i)perylene	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/05/00

Date Received: 09/25/00

Project: 6262

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
USING EPA METHOD 8015M**

Laboratory Code: 009102-05 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Motor Oil	µg/g (ppm)	3,500	1,300	92 ip	0-20

Laboratory Code: 009102-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Motor Oil	µg/g (ppm)	250	3,500	b	b	60-187	b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	Acceptance Criteria
Motor Oil	µg/g (ppm)	250	73	67-140

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ip - Recovery fell outside of normal control limits due to uneven matrix.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/05/00

Date Received: 09/25/00

Project: 6262

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR PNA'S BY EPA METHOD 8270C SIM

Laboratory Code: 009038-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD	Acceptance Criteria
Napthalene	µg/kg (ppb)	<5	<5	nm	0-20
Acenaphthylene	µg/kg (ppb)	<5	<5	nm	0-20
Acenaphthene	µg/kg (ppb)	<5	<5	nm	0-20
Fluorene	µg/kg (ppb)	29	32	10	0-20
Phenanthrene	µg/kg (ppb)	18	21	15	0-20
Anthracene	µg/kg (ppb)	<5	<5	nm	0-20
Fluoranthene	µg/kg (ppb)	<5	<5	nm	0-20
Pyrene	µg/kg (ppb)	<5	<5	nm	0-20
Benz(a)anthracene	µg/kg (ppb)	<5	<5	nm	0-20
Chrysene	µg/kg (ppb)	<5	<5	nm	0-20
Benzo(b)fluoranthene	µg/kg (ppb)	<5	<5	nm	0-20
Benzo(k)fluoranthene	µg/kg (ppb)	<5	<5	nm	0-20
Benzo(a)pyrene	µg/kg (ppb)	<5	<5	nm	0-20
Indeno(1,2,3-cd)pyrene	µg/kg (ppb)	<5	<5	nm	0-20
Dibenzo(a,h)anthracene	µg/kg (ppb)	<5	<5	nm	0-20
Benzo(g,h,i)perylene	µg/kg (ppb)	<5	<5	nm	0-20

Laboratory Code: 009038-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	RPD
Napthalene	µg/kg (ppb)	170	<5	84	87	56-117	3
Acenaphthylene	µg/kg (ppb)	170	<5	90	93	59-115	3
Acenaphthene	µg/kg (ppb)	170	<5	94	97	59-114	3
Fluorene	µg/kg (ppb)	170	29	90	92	61-113	3
Phenanthrene	µg/kg (ppb)	170	18	90	94	51-122	3
Anthracene	µg/kg (ppb)	170	<5	68	71	50-116	5
Fluoranthene	µg/kg (ppb)	170	<5	90	94	52-124	4
Pyrene	µg/kg (ppb)	170	<5	88	91	49-124	4
Benz(a)anthracene	µg/kg (ppb)	170	<5	96	97	50-122	1
Chrysene	µg/kg (ppb)	170	<5	91	91	48-121	1
Benzo(b)fluoranthene	µg/kg (ppb)	170	<5	107	112	52-144	5
Benzo(k)fluoranthene	µg/kg (ppb)	170	<5	87	92	55-135	6
Benzo(a)pyrene	µg/kg (ppb)	170	<5	102	106	49-128	4
Indeno(1,2,3-cd)pyrene	µg/kg (ppb)	170	<5	107	111	37-132	4
Dibenzo(a,h)anthracene	µg/kg (ppb)	170	<5	103	107	37-136	4
Benzo(g,h,i)perylene	µg/kg (ppb)	170	<5	96	100	28-132	4

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/05/00

Date Received: 09/25/00

Project: 6262

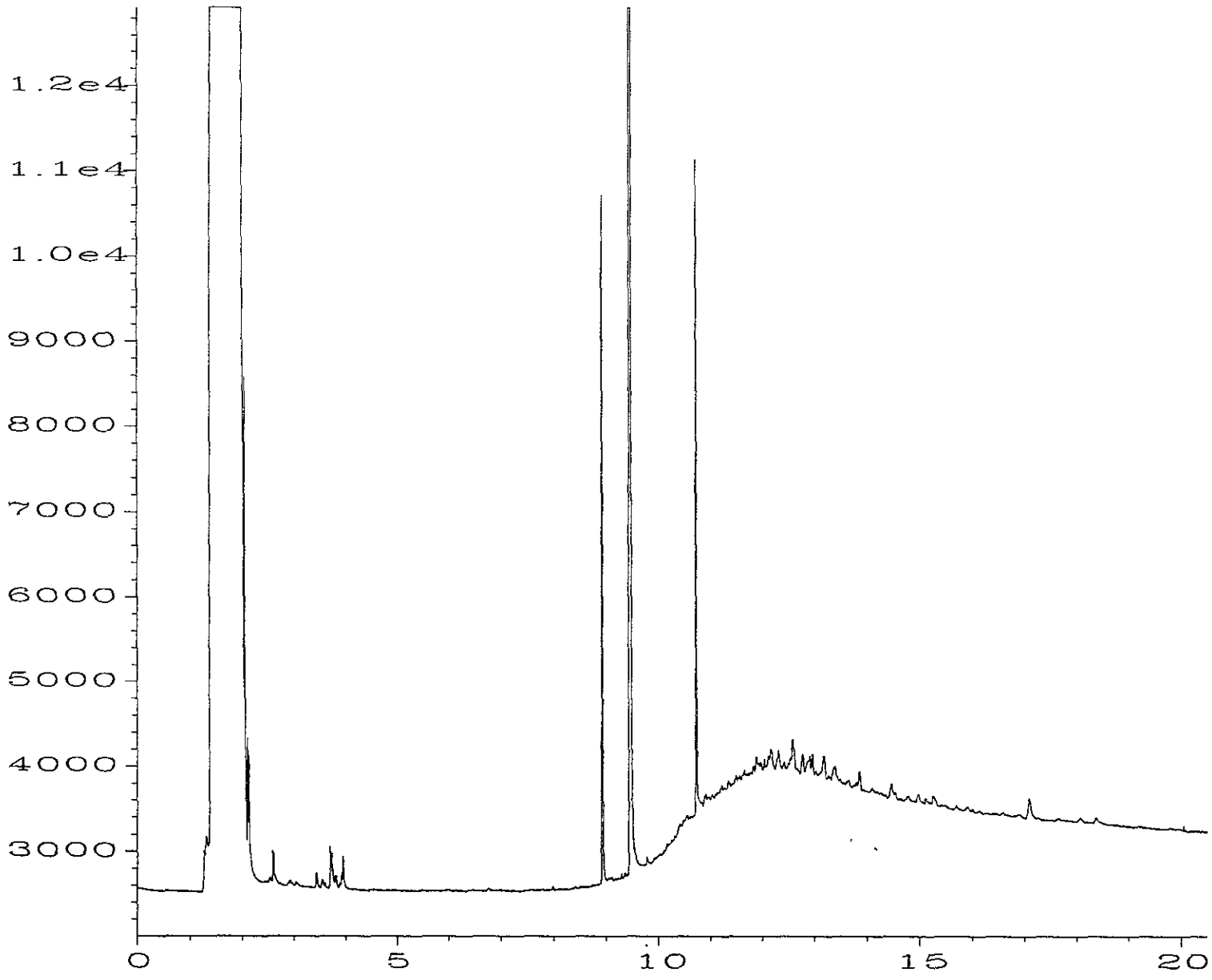
**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES
FOR PNA'S BY EPA METHOD 8270C SIM**

Laboratory Code: 009102-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	RPD
Napthalene	µg/kg (ppb)	170	<5	80	87	56-117	8
Acenaphthylene	µg/kg (ppb)	170	<5	87	94	59-115	9
Acenaphthene	µg/kg (ppb)	170	<5	86	93	59-114	8
Fluorene	µg/kg (ppb)	170	<5	91	99	61-113	8
Phenanthrene	µg/kg (ppb)	170	<5	84	89	51-122	6
Anthracene	µg/kg (ppb)	170	<5	75	81	50-116	7
Fluoranthene	µg/kg (ppb)	170	6	111	104	52-124	7
Pyrene	µg/kg (ppb)	170	16	113	103	49-124	9
Benz(a)anthracene	µg/kg (ppb)	170	10	95	86	50-122	10
Chrysene	µg/kg (ppb)	170	43	84	70	48-121	19
Benzo(b)fluoranthene	µg/kg (ppb)	170	<5	141	144	52-144	2
Benzo(k)fluoranthene	µg/kg (ppb)	170	<5	99	98	55-135	2
Benzo(a)pyrene	µg/kg (ppb)	170	<5	123	110	49-128	11
Indeno(1,2,3-cd)pyrene	µg/kg (ppb)	170	<5	72	76	37-132	5
Dibenzo(a,h)anthracene	µg/kg (ppb)	170	<5	64	67	37-136	4
Benzo(g,h,i)perylene	µg/kg (ppb)	170	21	50	50	28-132	1

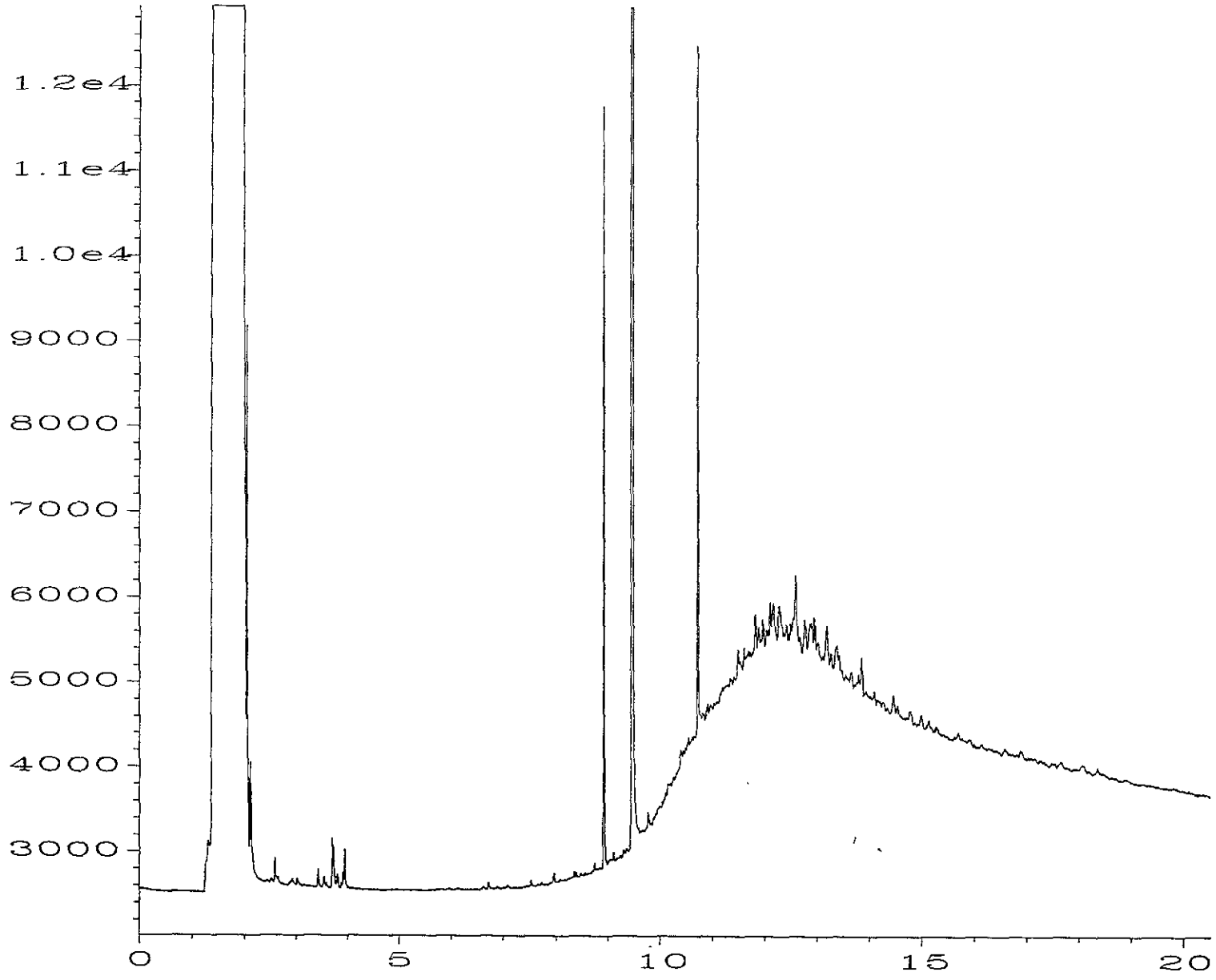
Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	% Recovery LCS	% Recovery LCSD	Acceptance Criteria	RPD
Napthalene	µg/kg (ppb)	170	82	88	58-121	7
Acenaphthylene	µg/kg (ppb)	170	91	98	54-122	7
Acenaphthene	µg/kg (ppb)	170	89	97	58-119	8
Fluorene	µg/kg (ppb)	170	93	100	57-122	7
Phenanthrene	µg/kg (ppb)	170	88	95	57-123	8
Anthracene	µg/kg (ppb)	170	79	85	44-125	7
Fluoranthene	µg/kg (ppb)	170	93	101	54-127	8
Pyrene	µg/kg (ppb)	170	90	97	56-123	7
Benz(a)anthracene	µg/kg (ppb)	170	93	99	50-124	6
Chrysene	µg/kg (ppb)	170	90	94	51-122	5
Benzo(b)fluoranthene	µg/kg (ppb)	170	111	122	44-149	9
Benzo(k)fluoranthene	µg/kg (ppb)	170	93	97	52-140	4
Benzo(a)pyrene	µg/kg (ppb)	170	98	104	42-129	6
Indeno(1,2,3-cd)pyrene	µg/kg (ppb)	170	111	117	48-134	5
Dibenzo(a,h)anthracene	µg/kg (ppb)	170	107	112	49-136	5
Benzo(g,h,i)perylene	µg/kg (ppb)	170	99	105	46-134	6



Data File Name : E:\GC6\09-28-00\015F1301.D
Operator : ME
Instrument : GC #6
Sample Name : 009102-01 1:5
Run Time Bar Code:
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Report Created on: 14 Jan 09 07:44 AM

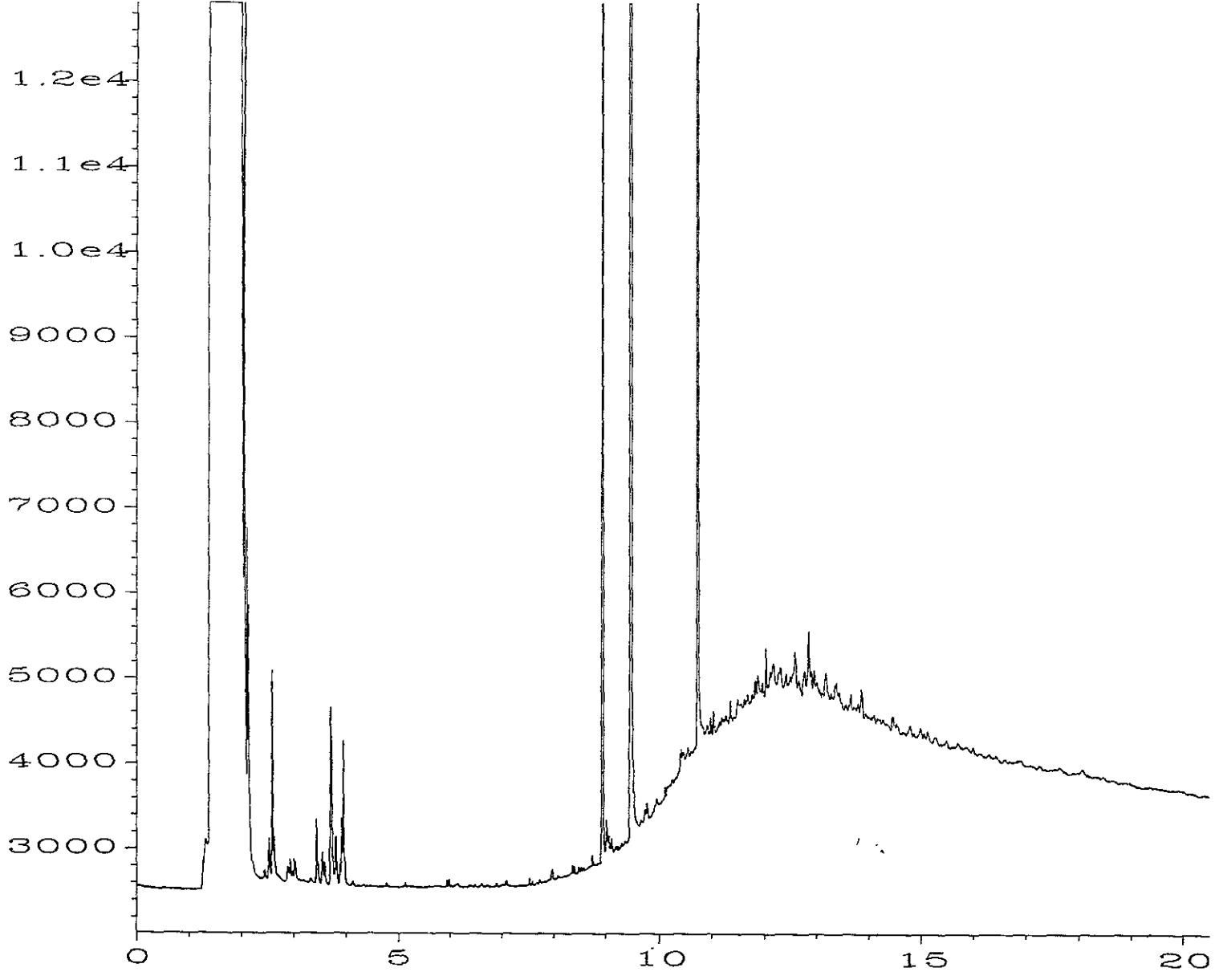
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Instrument Method: TPHDX.MTH
Analysis Method : DEFAULT.MTH



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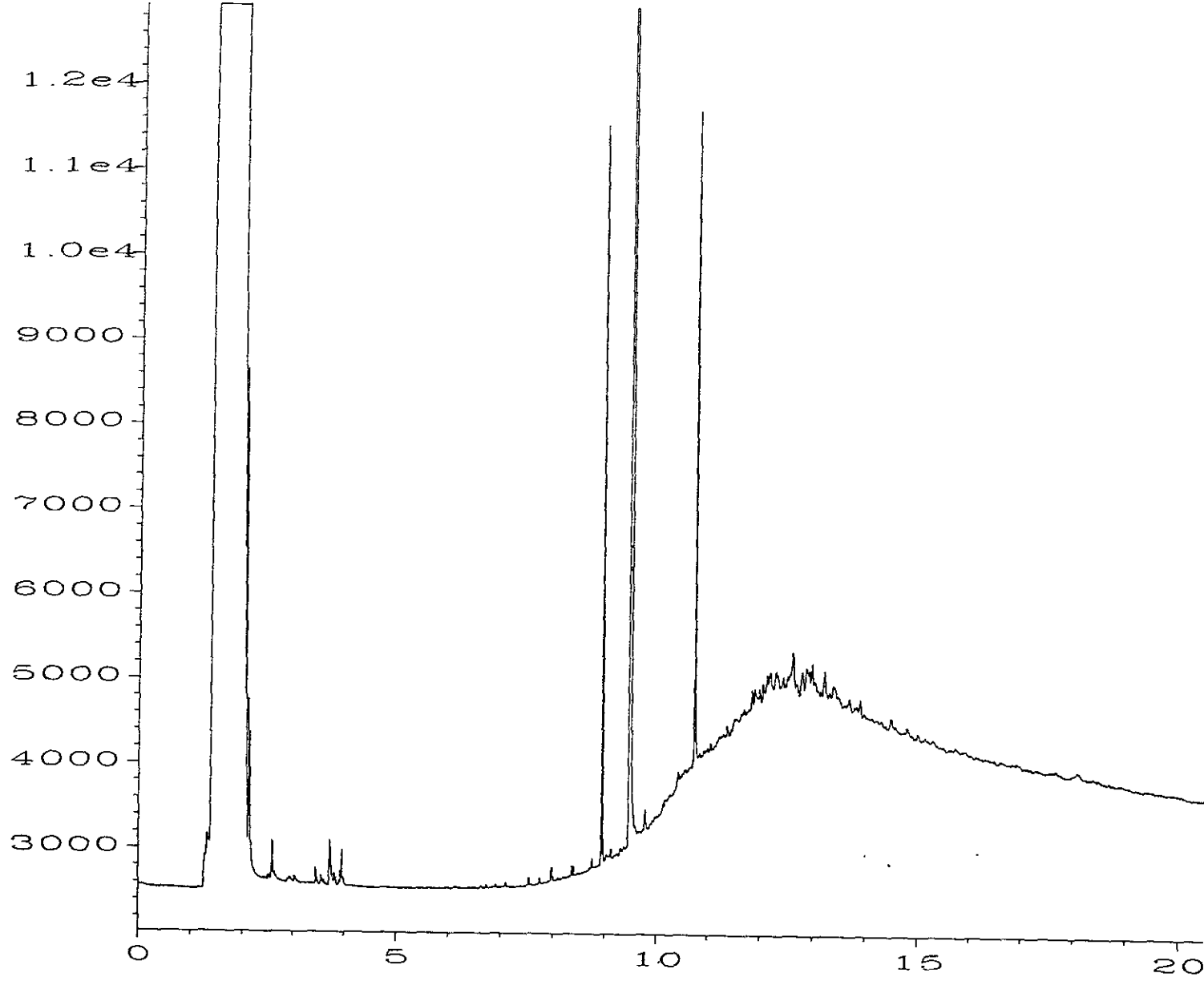
Operator : ME
 Instrument : GC #6
 Sample Name : 009102-02 1:5
 Run Time Bar Code :
 Acquired on : 29 Sep 00 07:12 AM
 Report Created on: 14 Jan 09 07:45 AM

Page Number : 1
 Vial Number : 16
 Injection Number : 1
 Sequence Line : 13
 Instrument Method: TPHDX.MTH
 Analysis Method : DEFAULT.MTH



Data File Name : E:\GC6\09-28-00\017F1301.D
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 Instrument : GC #6
 Sample Name : 009102-03
 Run Time Bar Code :
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 Report Created on: 14 Jan 09 07:45 AM

Page Number : 1
 Vial Number : 17
 Injection Number : 1
 Sequence Line : 13
 Instrument Method: TPHDX.MTH
 Analysis Method : DEFAULT.MTH



Data File Name : E:\GC6\09-28-00\018F1301.D

Operator : ME

Instrument : GC #6

Sample Name : 009102-04 1:5

Run Time Bar Code:

Acquired on : 29 Sep 00 08:05 AM

Report Created on: 14 Jan 09 07:46 AM

Page Number : 1

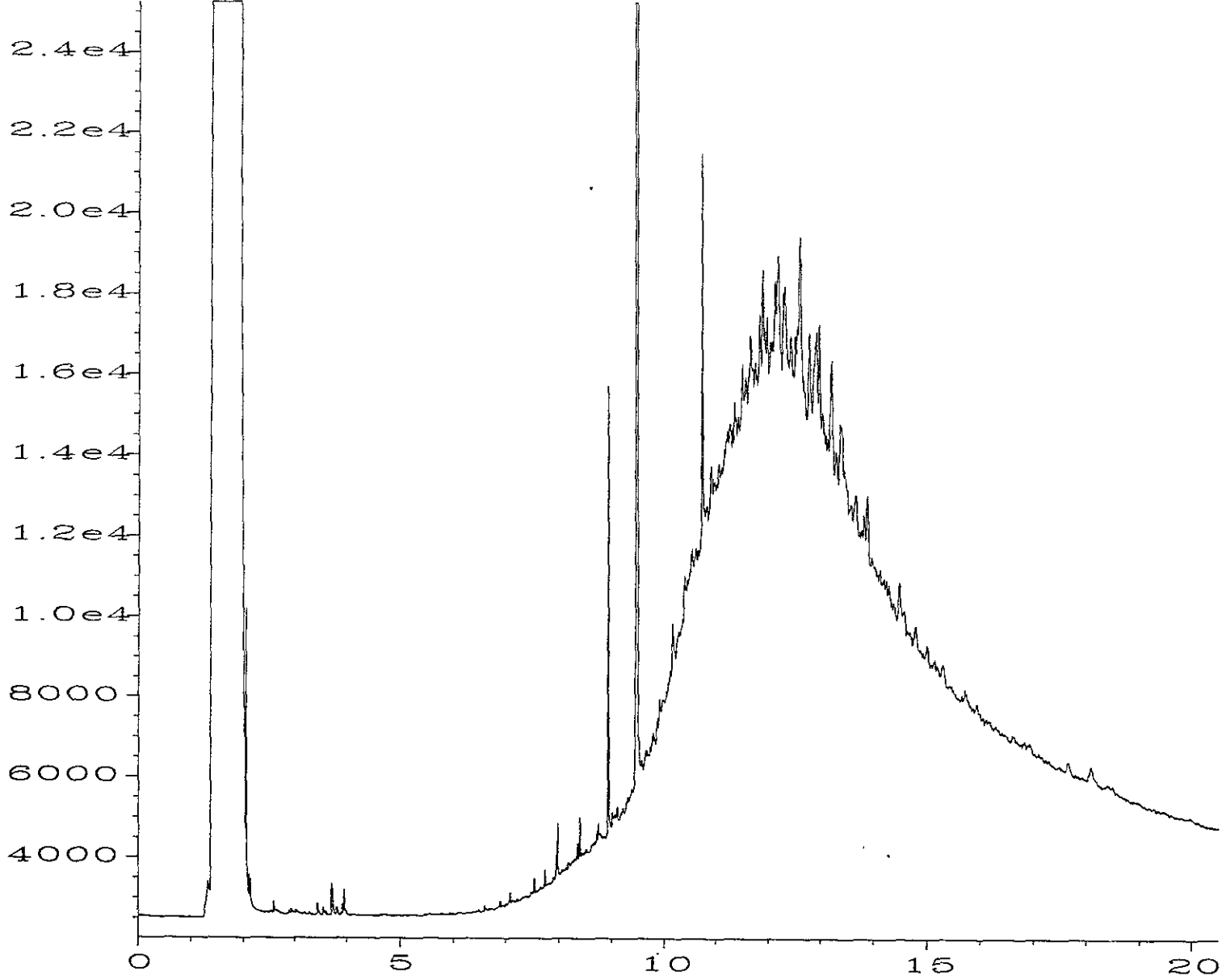
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Sequence Line : 13

Instrument Method: TPHDX.MTH

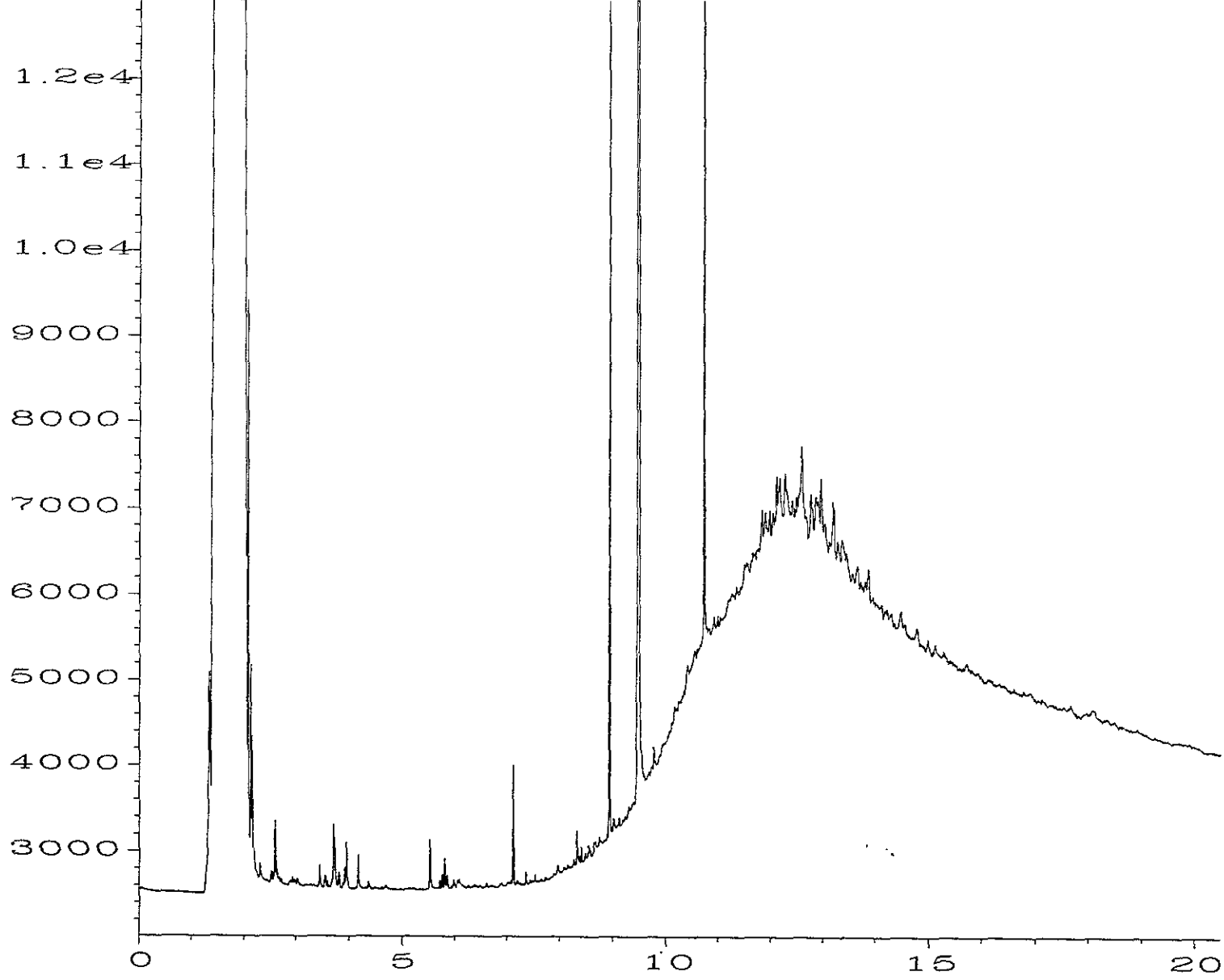
Analysis Method : DEFAULT.MTH



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Operator : ME
 Instrument : GC #6
 Sample Name : 009102-05 dup1:5
 Run Time Bar Code :
 Acquired on : 29 Sep 00 08:58 AM
 Report Created on: 14 Jan 09 07:46 AM

Page Number : 1
 Vial Number : 20
 Injection Number : 1
 Sequence Line : 13
 Instrument Method: TPHDX.MTH
 Analysis Method : DEFAULT.MTH



Data File Name : E:\GC6\09-28-00\023F1301.D

Operator : ME

Instrument : GC #6

Sample Name : 009102-07 1:5

Run Time Bar Code:

Acquired on : 29 Sep 00 10:17 AM

Report Created on: 14 Jan 09 07:46 AM

Page Number : 1

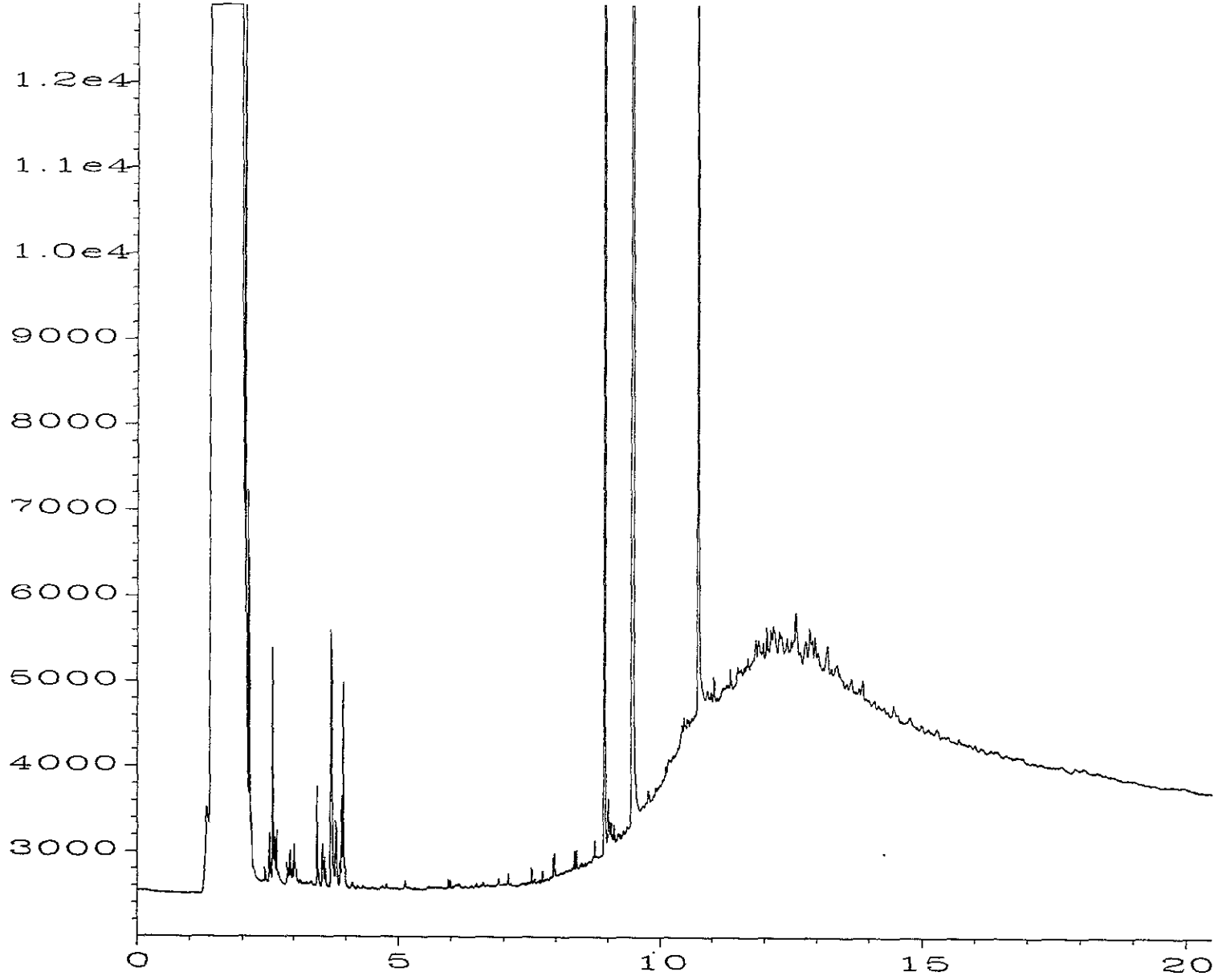
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Injection Number : 1

Sequence Line : 13

Instrument Method: TPHDX.MTH

Analysis Method : DEFAULT.MTH



Data File Name : E:\GC6\09-28-00\024F1301.D

Operator : ME

Instrument : GC #6

Sample Name : 009102-08

Run Time Bar Code:

Acquired on : 29 Sep 00 10:44 AM

Report Created on: 14 Jan 09 07:47 AM

Page Number : 1

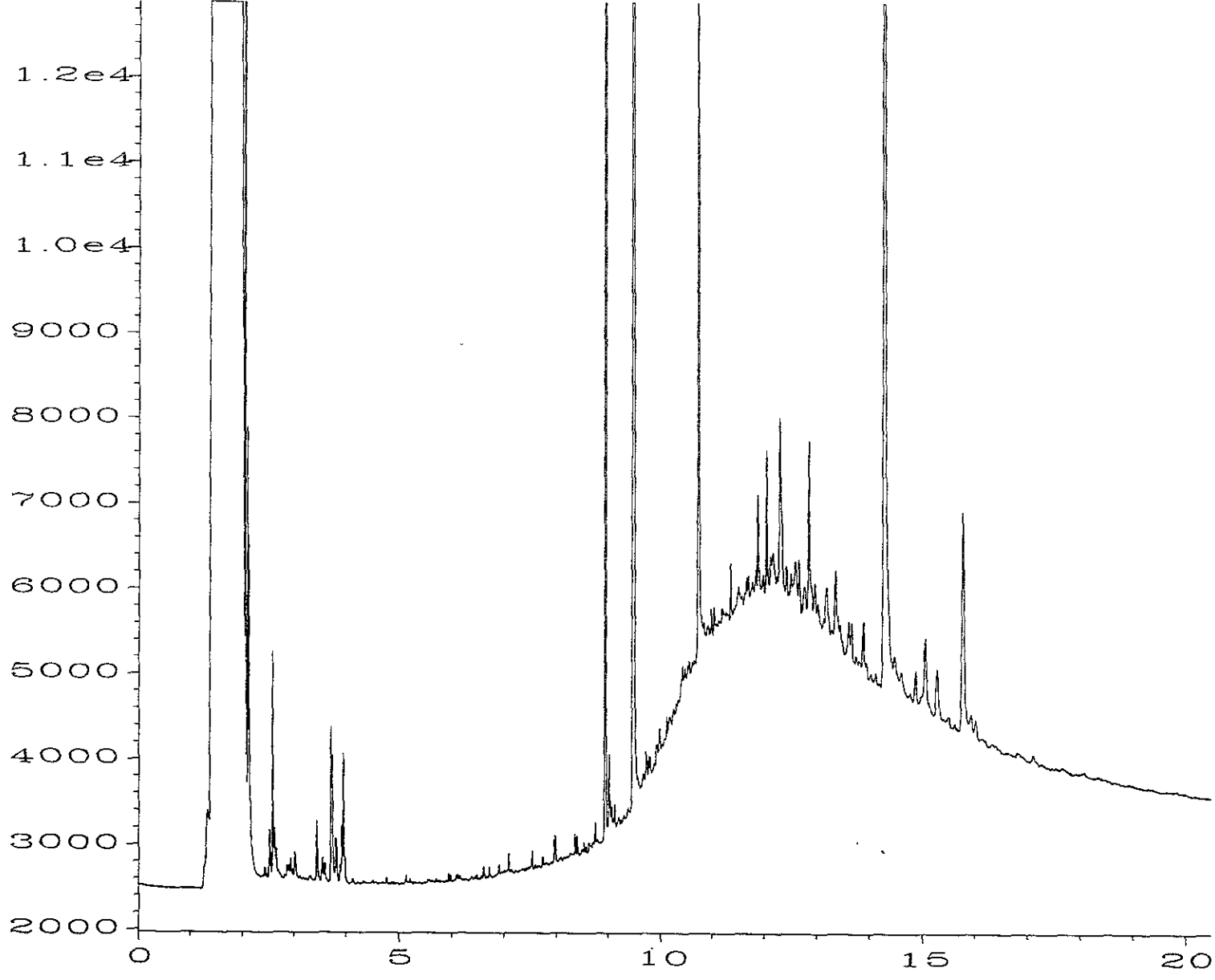
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Injection Number : 1

Sequence Line : 13

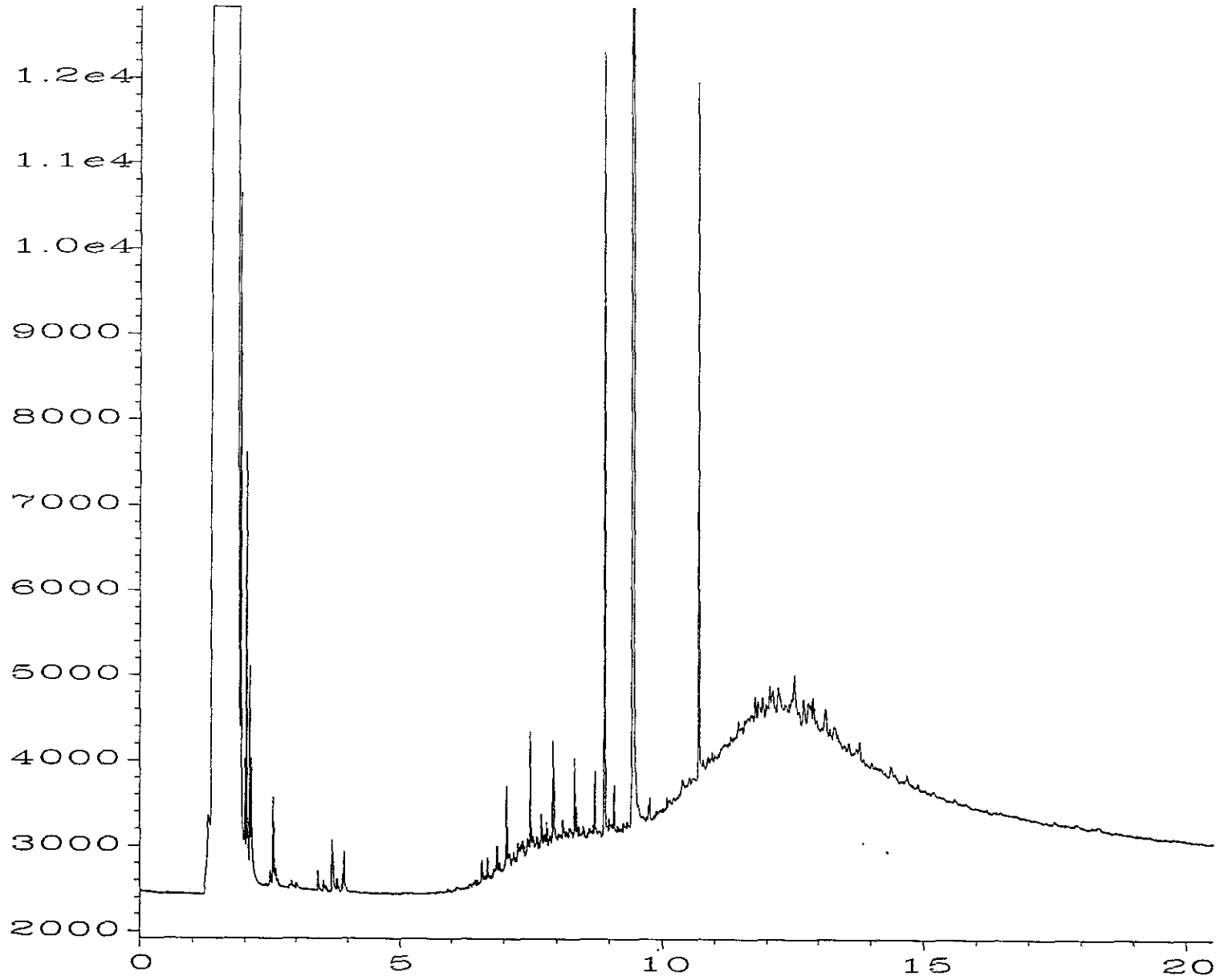
Instrument Method: TPHDX.MTH

Analysis Method : DEFAULT.MTH



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 Operator : ME
 Instrument : GC #6
 Sample Name : 009102-09
 Run Time Bar Code : 29 Sep 00 11:15 AM
 Acquired on : 14 Jan 09 07:47 AM
 Report Created on: 29 Sep 00 11:15 AM

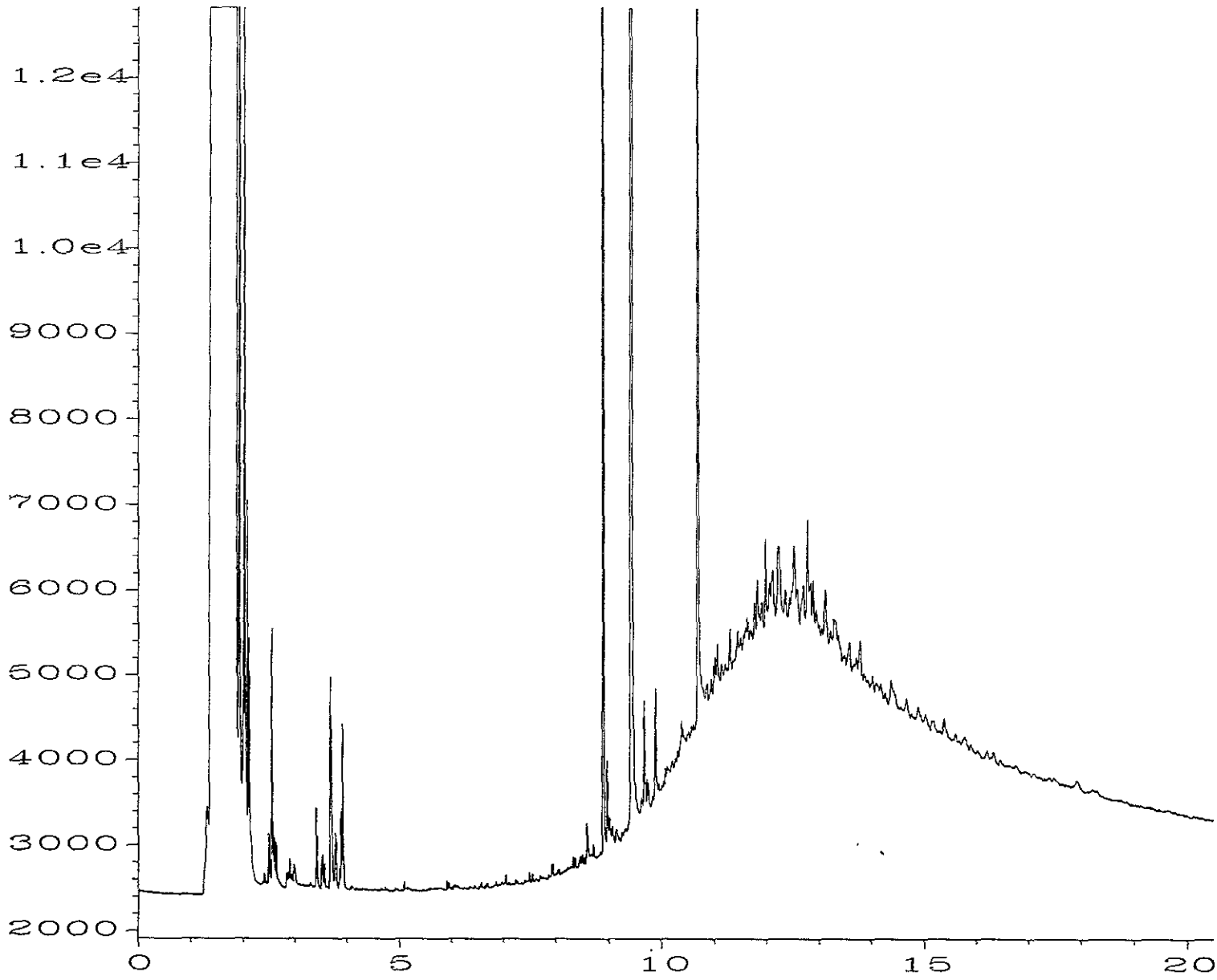
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 Injection Number : 1
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 Instrument Method: TPHDX.MTH
 Analysis Method : DEFAULT.MTH



Data File Name : E:\GC6\09-29-00\006F0801.D

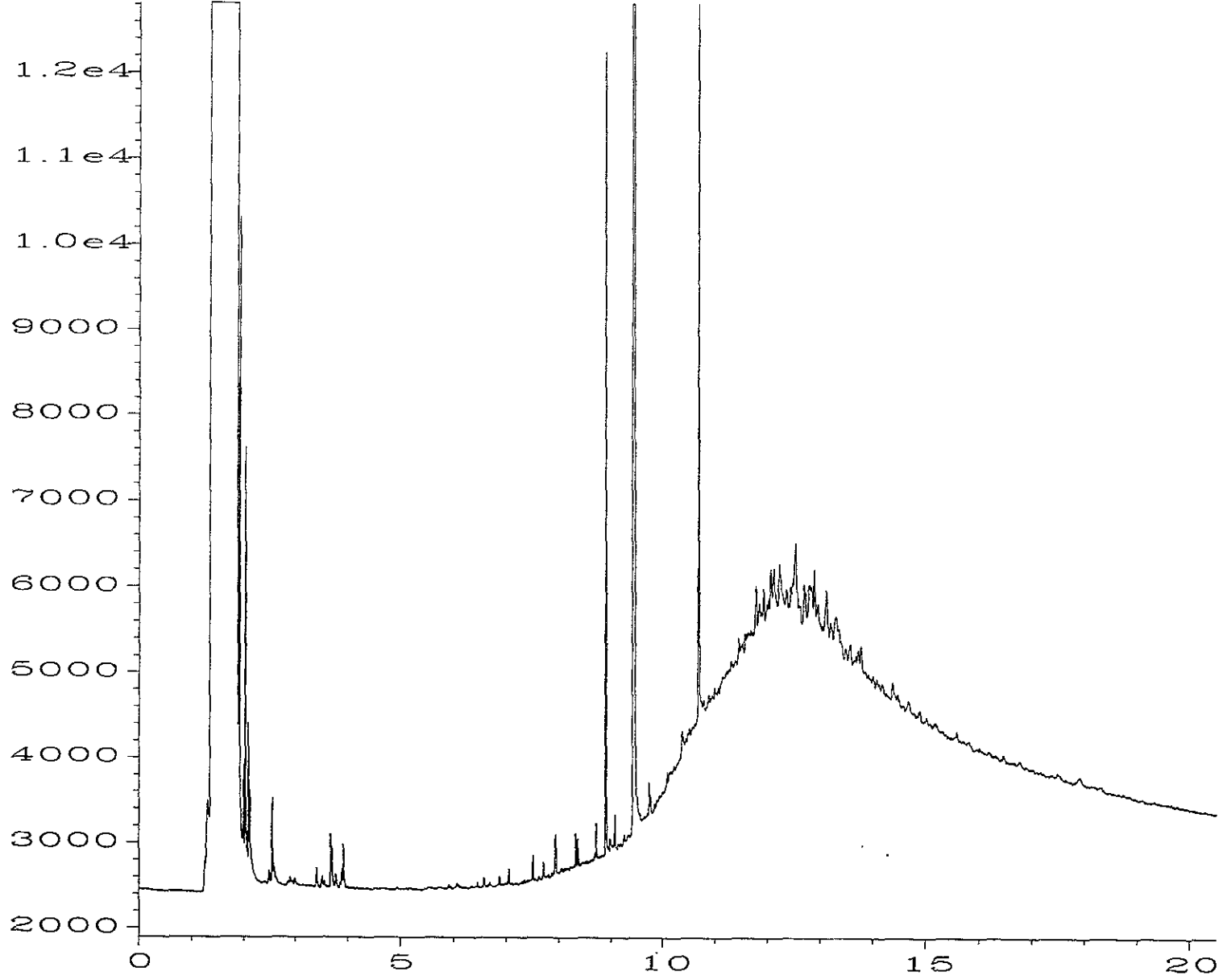
Operator : MC
 Instrument : GC #6
 Sample Name : 009102-10 1:5
 Run Time Bar Code :
 Acquired on : 30 Sep 00 06:35 AM
 Report Created on: 14 Jan 09 06:45 AM

Page Number : 1
 Vial Number : 6
 Injection Number : 1
 Sequence Line : 8
 Instrument Method: TPHDX.MTH
 Analysis Method : DEFAULT.MTH



Data File Name : E:\GC6\09-29-00\007F0801.D
 Operator : MC
 Instrument : GC #6
 Sample Name : 009102-11
 Run Time Bar Code:
 Acquired on : 30 Sep 00 07:03 AM
 Report Created on: 14 Jan 09 06:46 AM

Page Number : 1
 Vial Number : 7
 Injection Number : 1
 Sequence Line : 8
 Instrument Method: TPHDX.MTH
 Analysis Method : DEFAULT.MTH



Data File Name : E:\GC6\09-29-00\008F0801.D

Operator : MC

Instrument : GC #6

Sample Name : 009102-12 1:5

Run Time Bar Code:

Acquired on : 30 Sep 00 07:30 AM

Report Created on: 14 Jan 09 07:48 AM

Page Number : 1

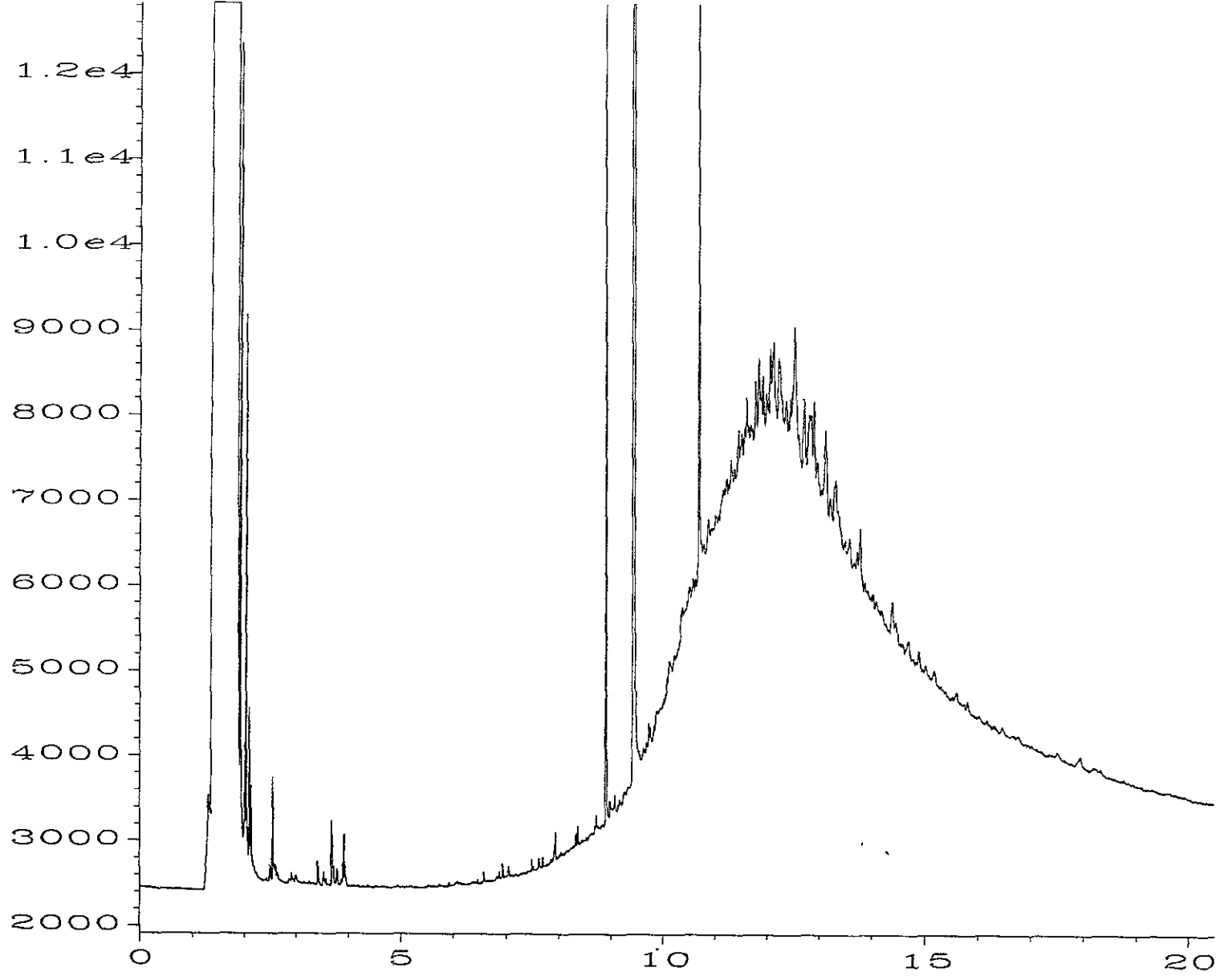
Vial Number : 8

Injection Number : 1

Sequence Line : 8

Instrument Method: TPHDX.MTH

Analysis Method : DEFAULT.MTH



Data File Name : E:\GC6\09-29-00\009F0801.D

Operator : MC

Instrument : GC #6

Sample Name : 009102-13 1:5

Run Time Bar Code:

Acquired on : 30 Sep 00 07:57 AM

Report Created on: 14 Jan 09 07:48 AM

Page Number : 1

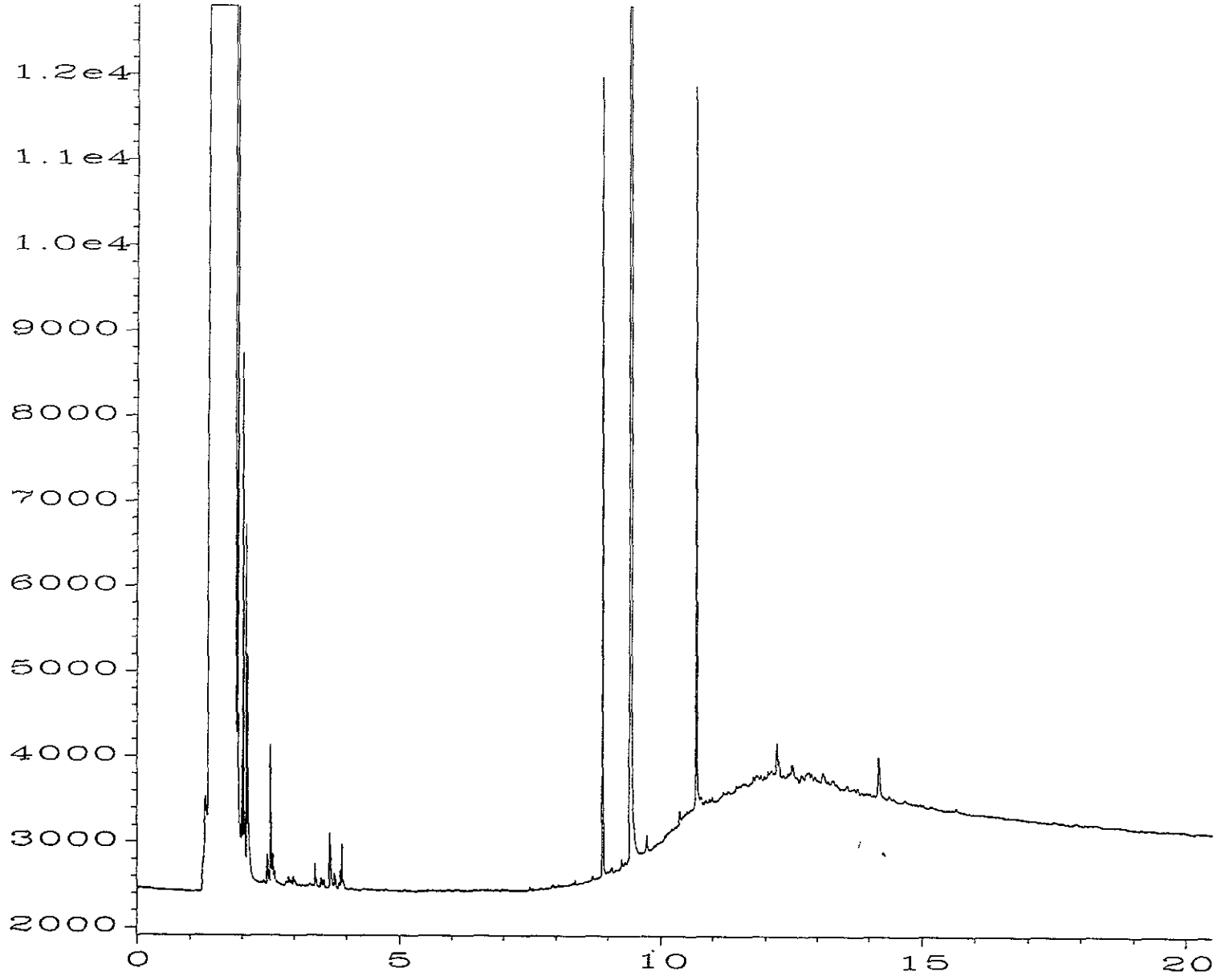
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Sequence Line : 8

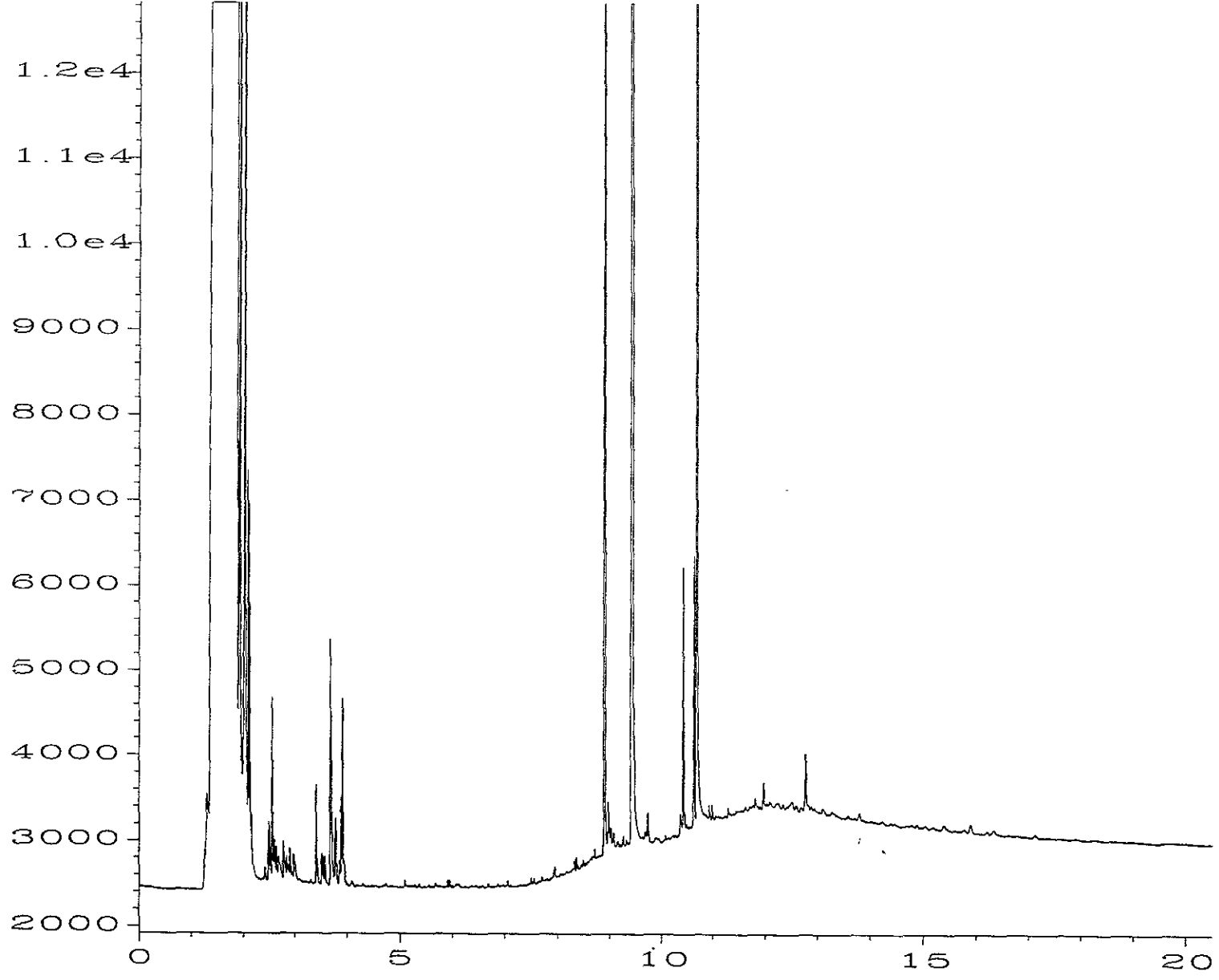
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Analysis Method : DEFAULT.MTH



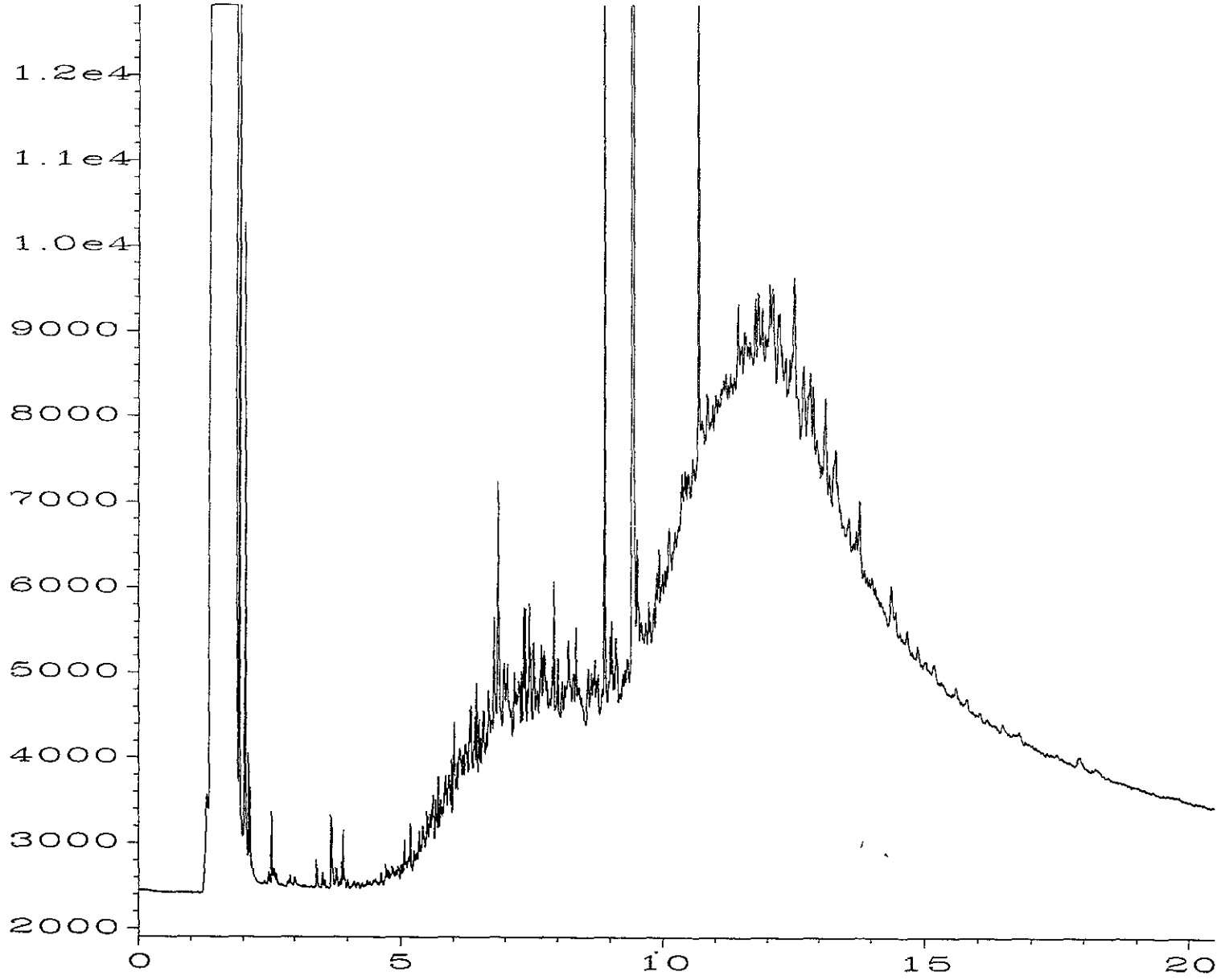
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 Operator : MC
 Instrument : GC #6
 Sample Name : 009102-14 1:5
 Run Time Bar Code:
 Acquired on : 30 Sep 00 08:24 AM
 Report Created on: 14 Jan 09 07:49 AM

Page Number : 1
 Vial Number : 10
 Injection Number : 1
 Sequence Line : 8
 Instrument Method: TPHDX.MTH
 Analysis Method : DEFAULT.MTH



Data File Name : E:\GC6\09-29-00\011F0801.D
 Operator : MC
 Instrument : GC #6
 Sample Name : 009102-15
 Run Time Bar Code :
 Acquired on : 30 Sep 00 08:51 AM
 Report Created on: 14 Jan 09 07:49 AM

Page Number : 1
 Vial Number : 11
 Injection Number : 1
 Sequence Line : 8
 Instrument Method: TPHDX.MTH
 Analysis Method : DEFAULT.MTH



Data File Name : E:\GC6\09-29-00\012F0801.D

Operator : MC

Instrument : GC #6

Sample Name : 009102-16 1:5

Run Time Bar Code:

Acquired on : 30 Sep 00 09:18 AM

Report Created on: 14 Jan 09 07:49 AM

Page Number : 1

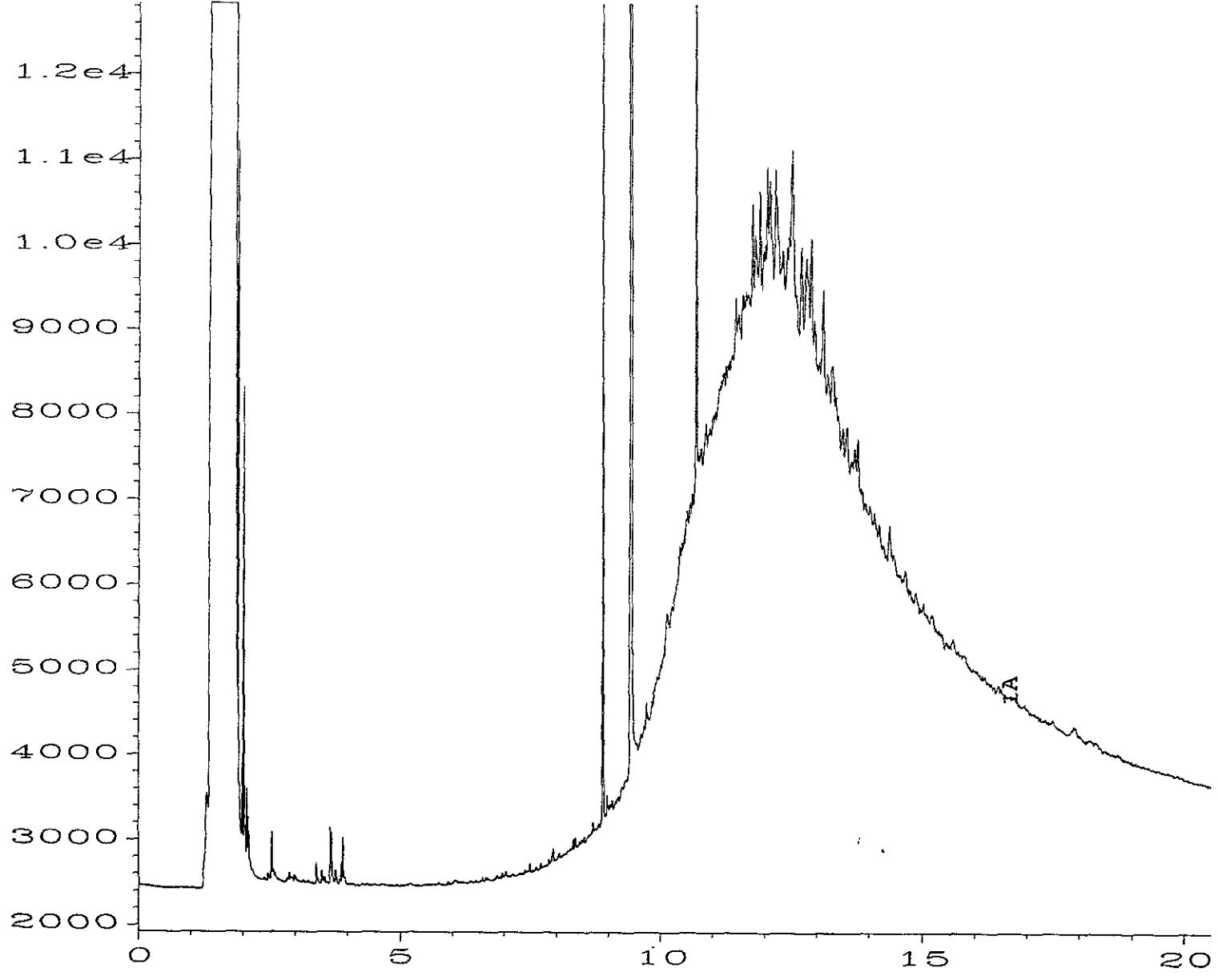
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Injection Number : 1

Sequence Line : 8

Instrument Method: TPHDX.MTH

Analysis Method : DEFAULT.MTH



Data File Name : E:\GC6\09-29-00\013F0801.D

Operator : MC

Instrument : GC #6

Sample Name : 009102-17 1:5

Run Time Bar Code:

Acquired on : 30 Sep 00 09:46 AM

Report Created on: 14 Jan 09 07:49 AM

Page Number : 1

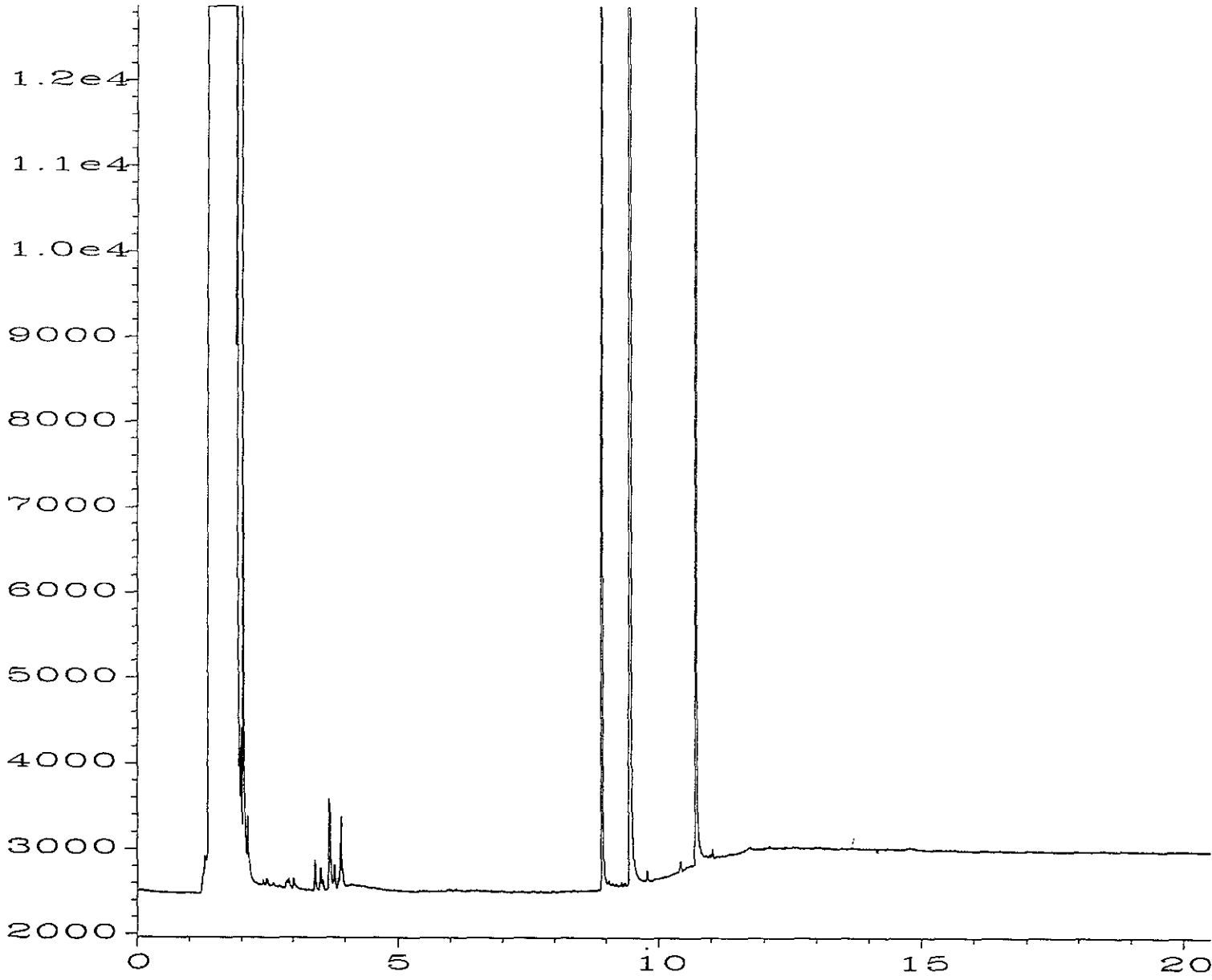
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Injection Number : 1

Sequence Line : 8

Instrument Method: TPHDX.MTH

Analysis Method : DEFAULT.MTH



Data File Name : E:\GC6\09-28-00\013F1101.D

Operator : ME

Instrument : GC #6

Sample Name : 00-641 mb

Run Time Bar Code:

Acquired on : 29 Sep 00 05:27 AM

Report Created on: 14 Jan 09 07:44 AM

Page Number : 1

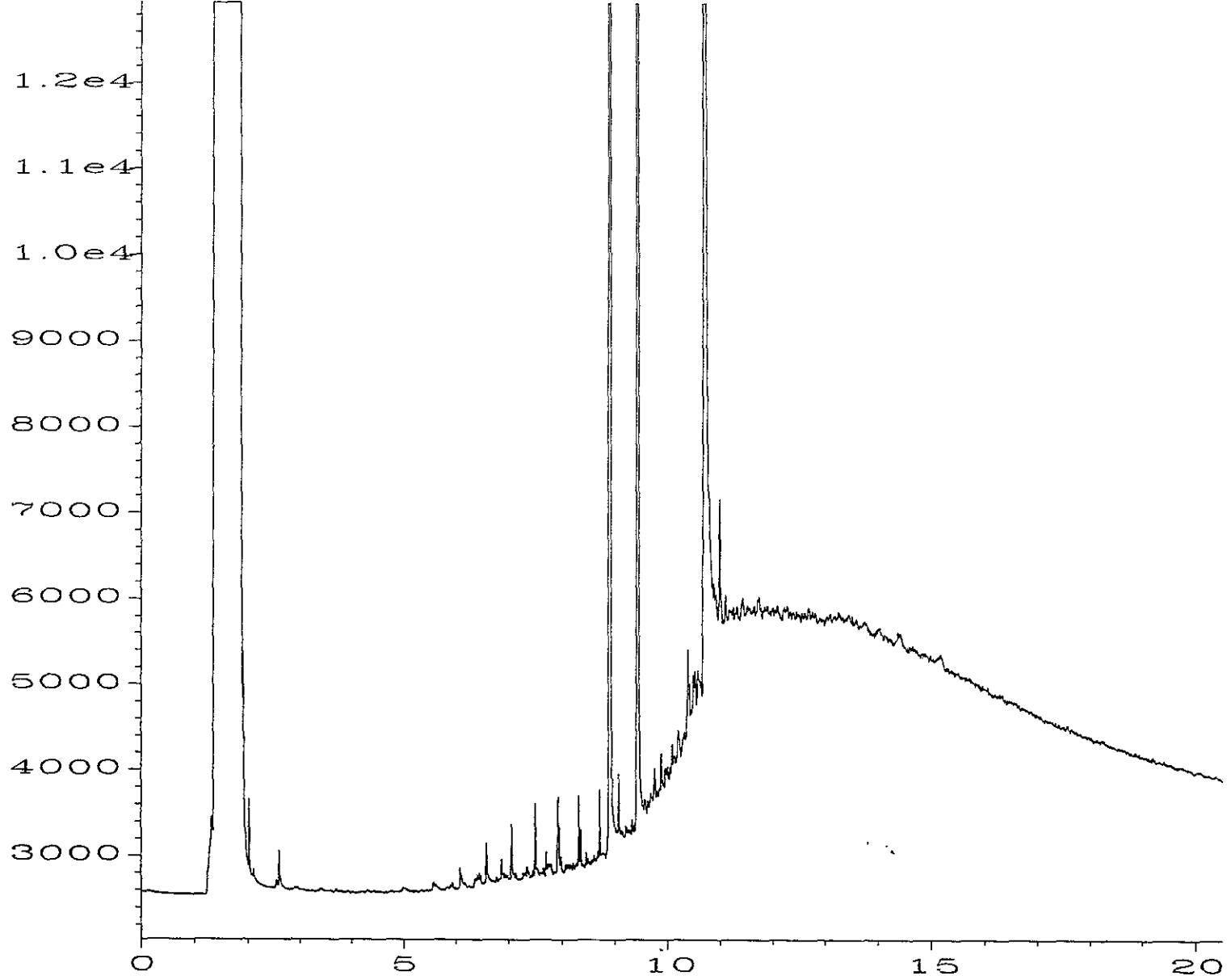
Vial Number : 13

Injection Number : 1

Sequence Line : 11

Instrument Method: TPHDX.MTH

Analysis Method : DEFAULT.MTH



Data File Name : E:\GC6\09-28-00\004F0701.D
 Operator : ME
 Instrument : GC #6
 Sample Name : 500 MO 9-109
 Run Time Bar Code : 29 Sep 00 00:10 AM
 Acquired on : 14 Jan 09 07:44 AM
 Report Created on:

Page Number : 1
 Vial Number : 4
 Injection Number : 1
 Sequence Line : 7
 Instrument Method: TPHDX.MTH
 Analysis Method : DEFAULT.MTH