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Electronic Comprehensive Validation Package (eCVP)

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COMPREHENSIVE VALIDATION PACKAGE

Modified ASTM D-1946

INVENTORY SHEET

Work Order #: 1606028B

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Comments:

Completed by:

Vera Belitsky	Vera Belitsky / Document Control	6/22/16
(Signature)	(Print Name & Title)	(Date)

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WORK ORDER #: 1606028B

Work Order Summary

CLIENT:	Mr. Terry Taylor Anderson Mulholland & Associates, Inc. 2700 Westchester Avenue Suite 417 Purchase, NY 10577	**BILL TO:**	Accounts Payable Anderson Mulholland & Associates, Inc. 2700 Westchester Avenue Suite 417 Purchase, NY 10577
PHONE:	(914) 251-0400	**P.O. #**	
FAX:		**PROJECT #**	Building 30 VI
DATE RECEIVED:	06/01/2016	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	06/14/2016		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	B30AA (052816)	Modified ASTM D-1946	6.5 "Hg	5.2 psi
02A	B30IA-1 (052816)	Modified ASTM D-1946	4.3 "Hg	5 psi
03A	B30IA-1D (052816)	Modified ASTM D-1946	4.3 "Hg	5 psi
04A	B30IA-2 (052816)	Modified ASTM D-1946	0.2 psi	4.9 psi
05A	B30IA-3 (052816)	Modified ASTM D-1946	3.5 "Hg	5 psi
06A	B30IA-4 (052816)	Modified ASTM D-1946	7.1 "Hg	5 psi
07A	B30IA-5 (052816)	Modified ASTM D-1946	3.3 "Hg	5.3 psi
08A	Lab Blank	Modified ASTM D-1946	NA	NA
09A	LCS	Modified ASTM D-1946	NA	NA
09AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 06/14/16

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified ASTM D-1946
Anderson Mulholland & Associates, Inc.
Workorder# 1606028B

Seven 6 Liter Summa Canister (100% Certified) samples were received on June 01, 2016. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane in air using GC/FID. The method involves direct injection of 1.0 mL of sample.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	***ASTM D-1946***	***ATL Modifications***
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A minimum of 5-point calibration curve is performed. Quantitation is based on average Response Factor.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a >/= 95% accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

Receiving Notes

The Summa canister for sample B30IA-2 (052816) was leaking upon arrival. The client was notified and the analysis proceeded. Reported analyte concentrations are considered to be estimated.

Analytical Notes

As per project specific client request the laboratory has reported estimated values for target compound

hits that are below the Reporting Limit but greater than the Method Detection Limit.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Table 1

Client Sample ID	Lab Sample ID	Date Collected	Date Received	Date Extracted	Sample Holding Time (Days)	Sample Extract Date Analyzed	Sample Extract Holding Time (Days)	Sample Condition
B30AA (052816)	1606028B-01A	5/29/2016	6/ 1/2016	NA	11	6/ 9/2016	NA	Good
B30IA-1 (052816)	1606028B-02A	5/29/2016	6/ 1/2016	NA	11	6/ 9/2016	NA	Good
B30IA-1D (052816)	1606028B-03A	5/29/2016	6/ 1/2016	NA	11	6/ 9/2016	NA	Good
B30IA-2 (052816)	1606028B-04A	5/29/2016	6/ 1/2016	NA	11	6/ 9/2016	NA	Good
B30IA-3 (052816)	1606028B-05A	5/29/2016	6/ 1/2016	NA	11	6/ 9/2016	NA	Good
B30IA-4 (052816)	1606028B-06A	5/29/2016	6/ 1/2016	NA	11	6/ 9/2016	NA	Good
B30IA-5 (052816)	1606028B-07A	5/29/2016	6/ 1/2016	NA	11	6/ 9/2016	NA	Good
Lab Blank	1606028B-08A	NA	NA	NA	NA	6/ 9/2016	NA	Good
LCS	1606028B-09A	NA	NA	NA	NA	6/ 9/2016	NA	Good
LCSD	1606028B-09AA	NA	NA	NA	NA	6/ 9/2016	NA	Good

Sample Results and Raw Data

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Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: B30AA (052816)

Lab ID#: 1606028B-01A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00023	0.00024

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Client Sample ID: B30AA (052816)

Lab ID#: 1606028B-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060915**	**Date of Collection:**	**5/29/16 6:24:00 PM**
Dil. Factor:	**2.31**	**Date of Analysis:**	**6/9/16 04:21 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00023	0.00024

Container Type: 6 Liter Summa Canister (100% Certified)

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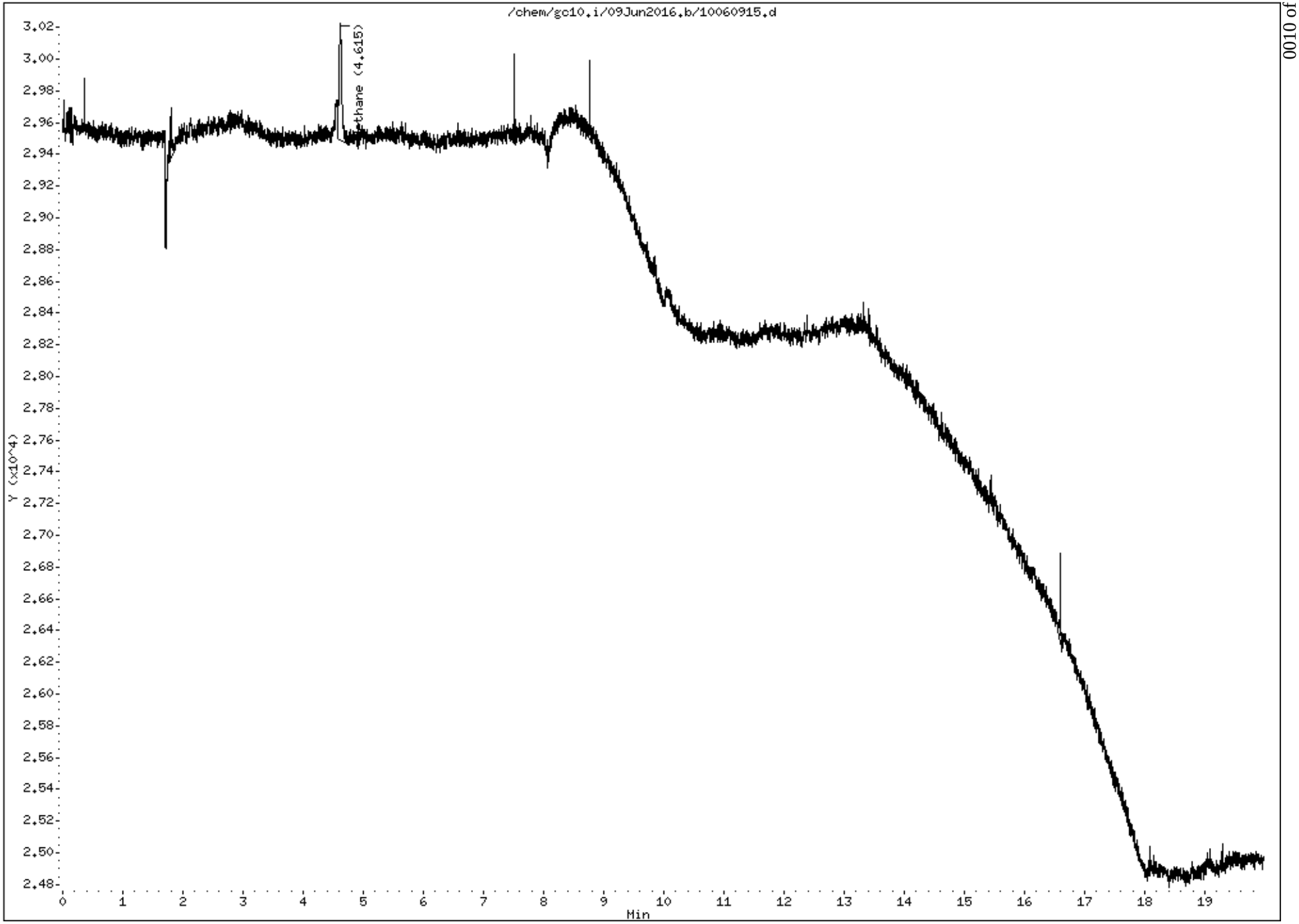
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/09Jun2016.b/10060915.d
Lab Smp Id: 1606028B-01A
Inj Date : 09-JUN-2016 16:21
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0ml,33321
Misc Info : 6.5"Hg>5.2psi>0.0"Hg>5.0psi
Comment : GC/FID
Method : /chem/gc10.i/09Jun2016.b/106n0115.m
Meth Date : 09-Jun-2016 09:20 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 2.31000
Integrator: HP Genie Compound Sublist: ch4.sub
Target Version: 3.50
Processing Host: eeyore

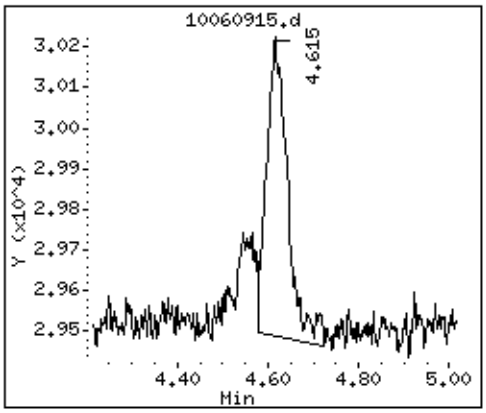
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.615	4.615	0.000	23623	0.000104	0.000241


/chem/gc10.i/09Jun2016.b/10060915.d
Ethane (4.615)
Y (x10^4)
3.02
3.00
2.98
2.96
2.94
2.92
2.90
2.88
2.86
2.84
2.82
2.80
2.78
2.76
2.74
2.72
2.70
2.68
2.66
2.64
2.62
2.60
2.58
2.56
2.54
2.52
2.50
2.48
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
Min

2 Methane


10060915.d
4.615
3.02
3.01
3.00
2.99
2.98
2.97
2.96
2.95
Y (x10^4)
4.40
4.60
4.80
5.00
Min

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Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: B30IA-1 (052816)

Lab ID#: 1606028B-02A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00016	0.00035

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Client Sample ID: B30IA-1 (052816)

Lab ID#: 1606028B-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060916**	**Date of Collection:**	**5/29/16 5:39:00 PM**
Dil. Factor:	**1.56**	**Date of Analysis:**	**6/9/16 04:45 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00016	0.00035

Container Type: 6 Liter Summa Canister (100% Certified)

Eurofins Air Toxics Inc.

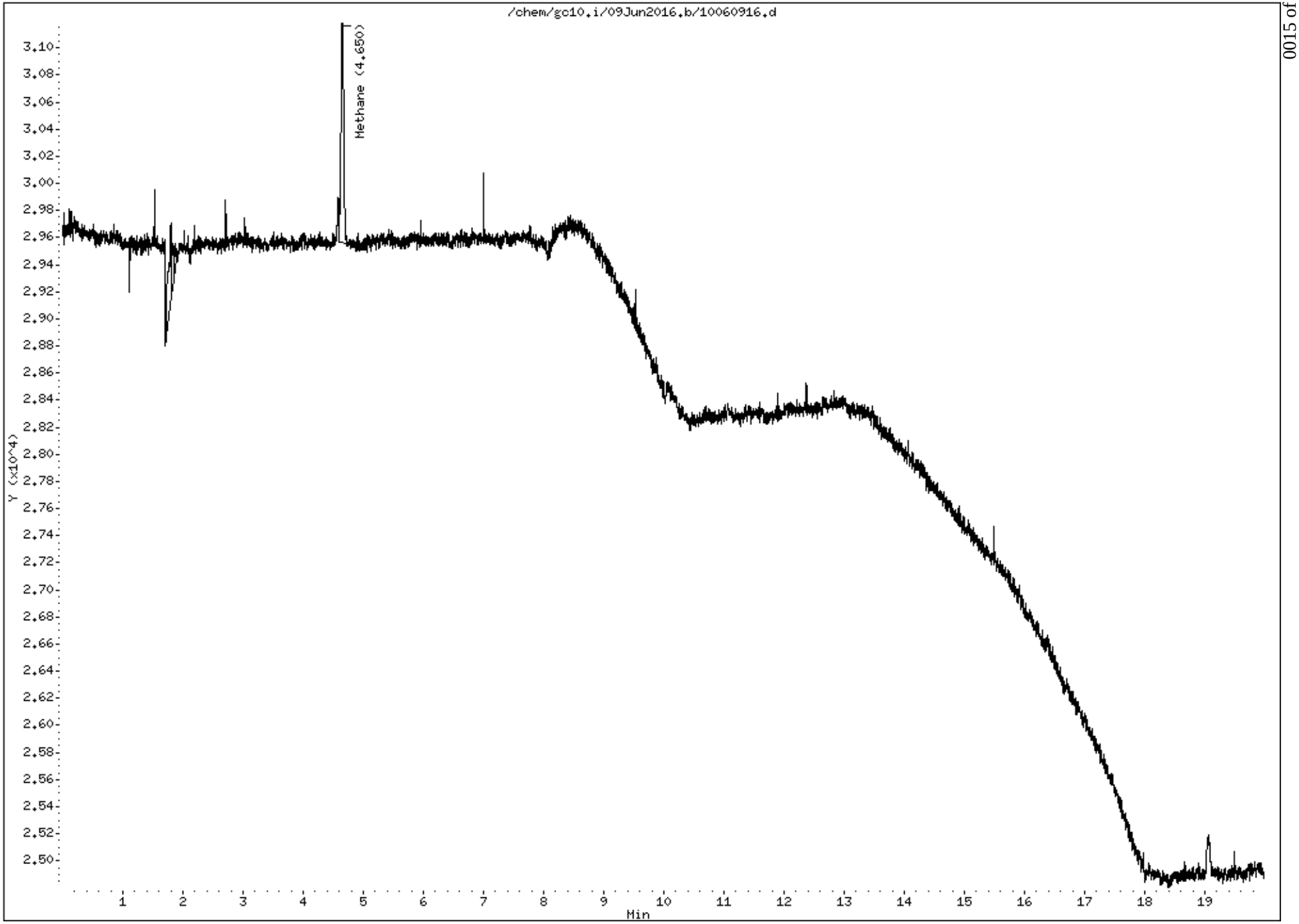
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/09Jun2016.b/10060916.d
Lab Smp Id: 1606028B-02A
Inj Date : 09-JUN-2016 16:45
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0ml,35258
Misc Info : 4.3"Hg>5.0psi
Comment : GC/FID
Method : /chem/gc10.i/09Jun2016.b/106n0115.m
Meth Date : 09-Jun-2016 09:20 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 1.56000
Integrator: HP Genie Compound Sublist: ch4.sub
Target Version: 3.50
Processing Host: eeyore

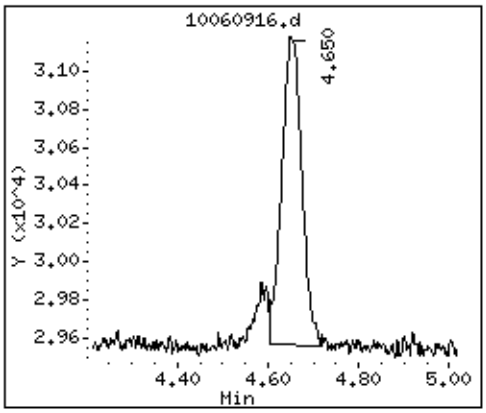
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.650	4.615	0.035	50212	0.000222	0.000346


/chem/gc10.i/09Jun2016.b/10060916.d
Methane (4.650)
Y (x10^4)
3.10
3.08
3.06
3.04
3.02
3.00
2.98
2.96
2.94
2.92
2.90
2.88
2.86
2.84
2.82
2.80
2.78
2.76
2.74
2.72
2.70
2.68
2.66
2.64
2.62
2.60
2.58
2.56
2.54
2.52
2.50
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
Min

2 Methane


10060916.d
4.650
3.10
3.08
3.06
3.04
3.02
3.00
2.98
2.96
Y (x10^4)
4.40
4.60
4.80
5.00
Min

Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: B30IA-1D (052816)

Lab ID#: 1606028B-03A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00016	0.00030

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Client Sample ID: B30IA-1D (052816)

Lab ID#: 1606028B-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060917**	**Date of Collection:**	**5/29/16 5:39:00 PM**
Dil. Factor:	**1.56**	**Date of Analysis:**	**6/9/16 05:10 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00016	0.00030

Container Type: 6 Liter Summa Canister (100% Certified)

Eurofins Air Toxics Inc.

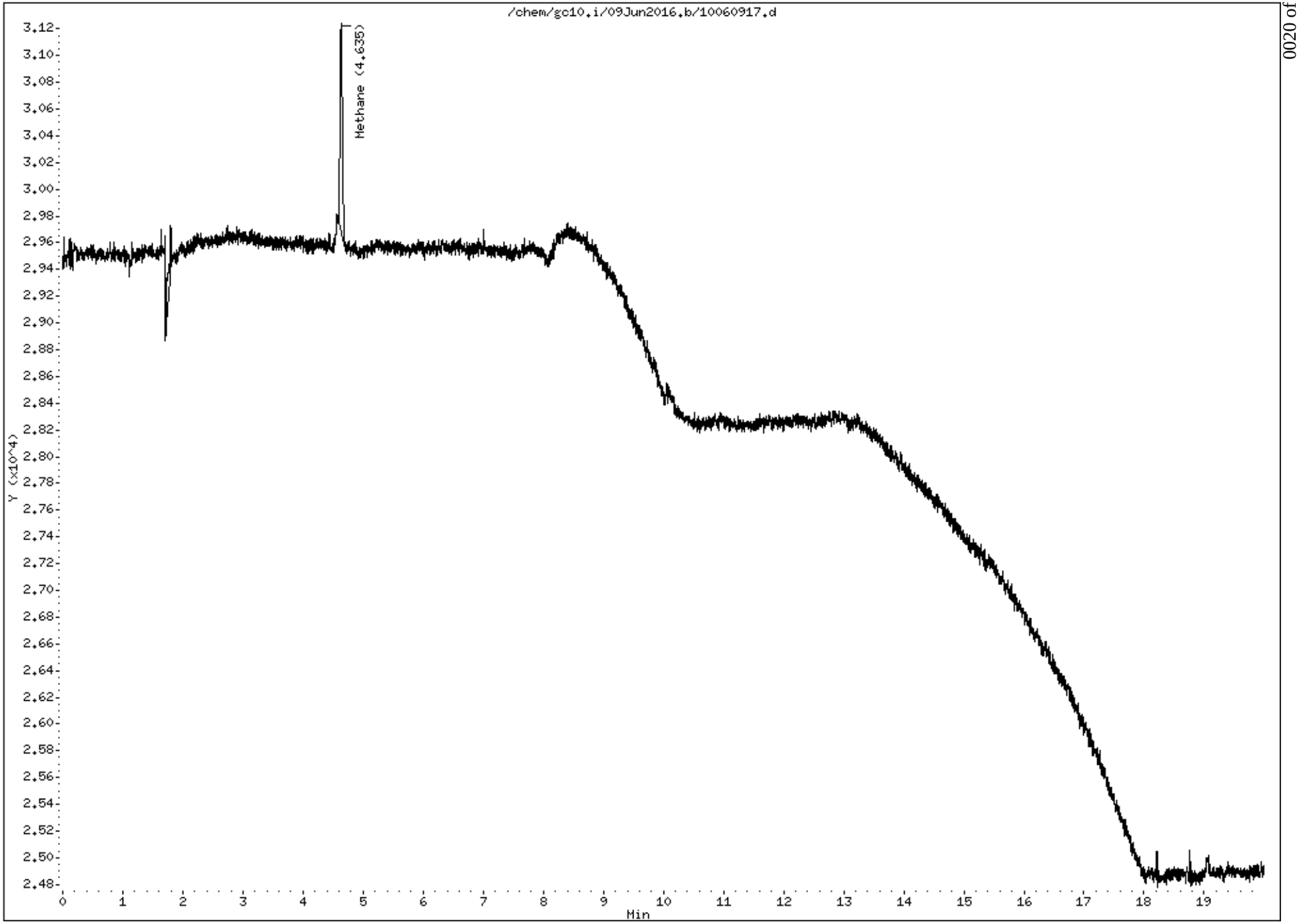
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/09Jun2016.b/10060917.d
Lab Smp Id: 1606028B-03A
Inj Date : 09-JUN-2016 17:10
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0ml,14038
Misc Info : 4.3"Hg>5.0psi
Comment : GC/FID
Method : /chem/gc10.i/09Jun2016.b/106n0115.m
Meth Date : 09-Jun-2016 09:20 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 1.56000
Integrator: HP Genie Compound Sublist: ch4.sub
Target Version: 3.50
Processing Host: eeyore

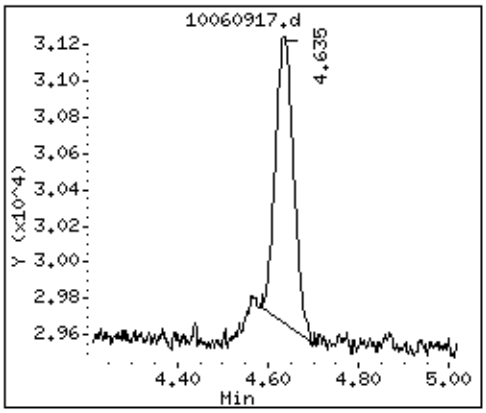
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.635	4.615	0.020	44180	0.000195	0.000304


/chem/gc10.i/09Jun2016.b/10060917.d
Methane (4.635)
Y (x10^4)
Min

2 Methane


10060917.d
4.635
3.12
3.10
3.08
3.06
3.04
3.02
3.00
2.98
2.96
Y (x10^4)
4.40
4.60
4.80
5.00
Min

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Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: B30IA-2 (052816)

Lab ID#: 1606028B-04A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00013	0.00021

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Client Sample ID: B30IA-2 (052816)

Lab ID#: 1606028B-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060918**	**Date of Collection:**	**5/29/16 10:45:00 AM**
Dil. Factor:	**1.32**	**Date of Analysis:**	**6/9/16 05:42 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00013	0.00021

Container Type: 6 Liter Summa Canister (100% Certified)

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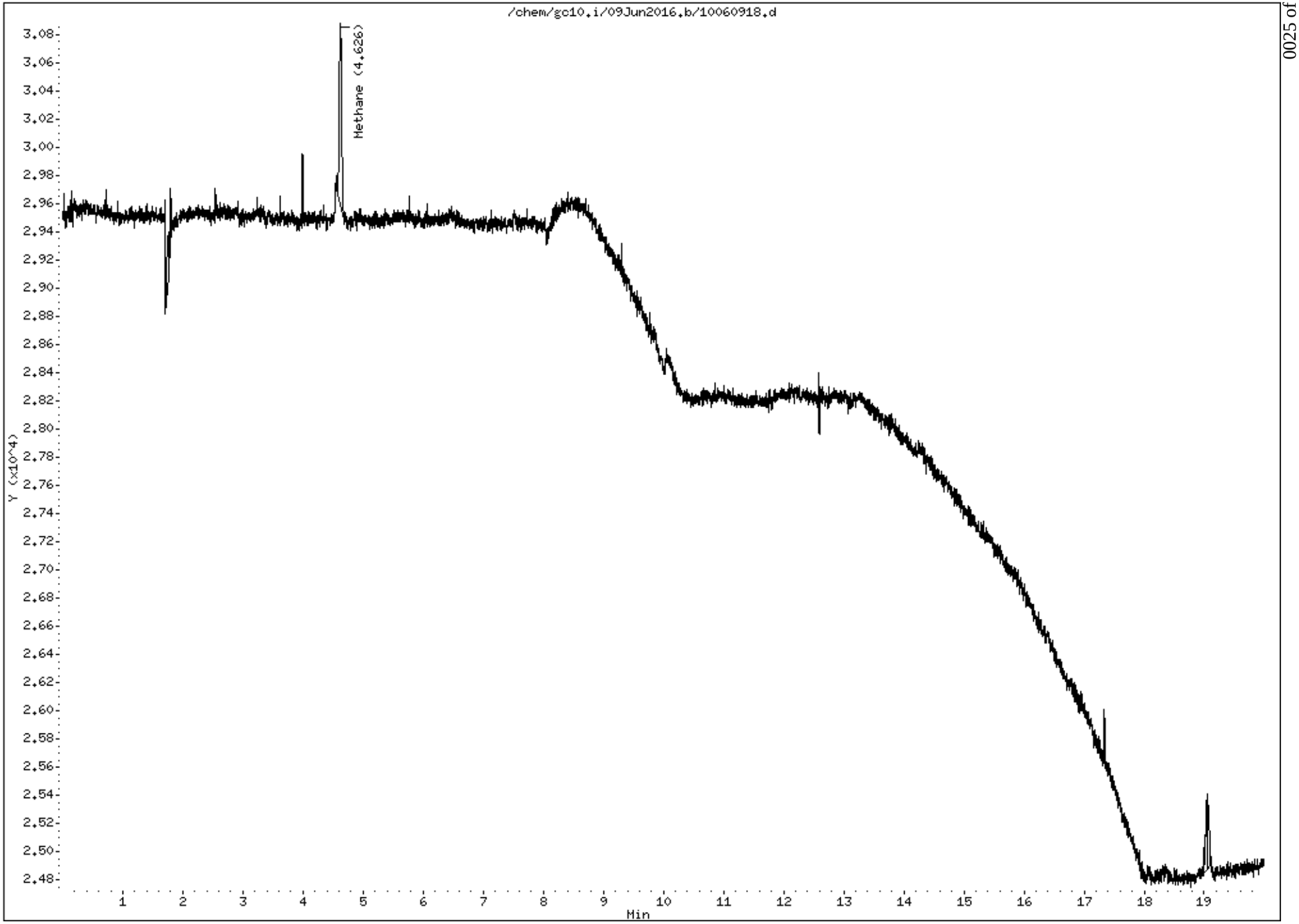
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/09Jun2016.b/10060918.d
Lab Smp Id: 1606028B-04A
Inj Date : 09-JUN-2016 17:42
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0ml,33586
Misc Info : 0.2psi>4.9psi
Comment : GC/FID
Method : /chem/gc10.i/09Jun2016.b/106n0115.m
Meth Date : 09-Jun-2016 09:20 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 1.32000
Integrator: HP Genie Compound Sublist: ch4.sub
Target Version: 3.50
Processing Host: eeyore

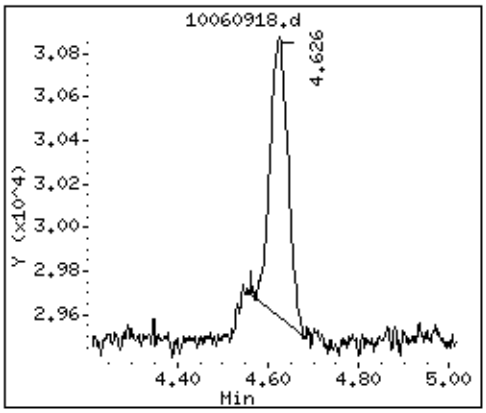
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.626	4.615	0.011	35560	0.000157	0.000207


/chem/gc10.i/09Jun2016.b/10060918.d
Methane (4.626)
Y (x10^4)
Min

2 Methane


10060918.d
4.626
3.08
3.06
3.04
3.02
3.00
2.98
2.96
Y (x10^4)
4.40
4.60
4.80
5.00
Min

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Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: B30IA-3 (052816)

Lab ID#: 1606028B-05A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00015	0.00034

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Client Sample ID: B30IA-3 (052816)

Lab ID#: 1606028B-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060919**	**Date of Collection:**	**5/29/16 6:00:00 PM**
Dil. Factor:	**1.52**	**Date of Analysis:**	**6/9/16 06:05 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00015	0.00034

Container Type: 6 Liter Summa Canister (100% Certified)

Eurofins Air Toxics Inc.

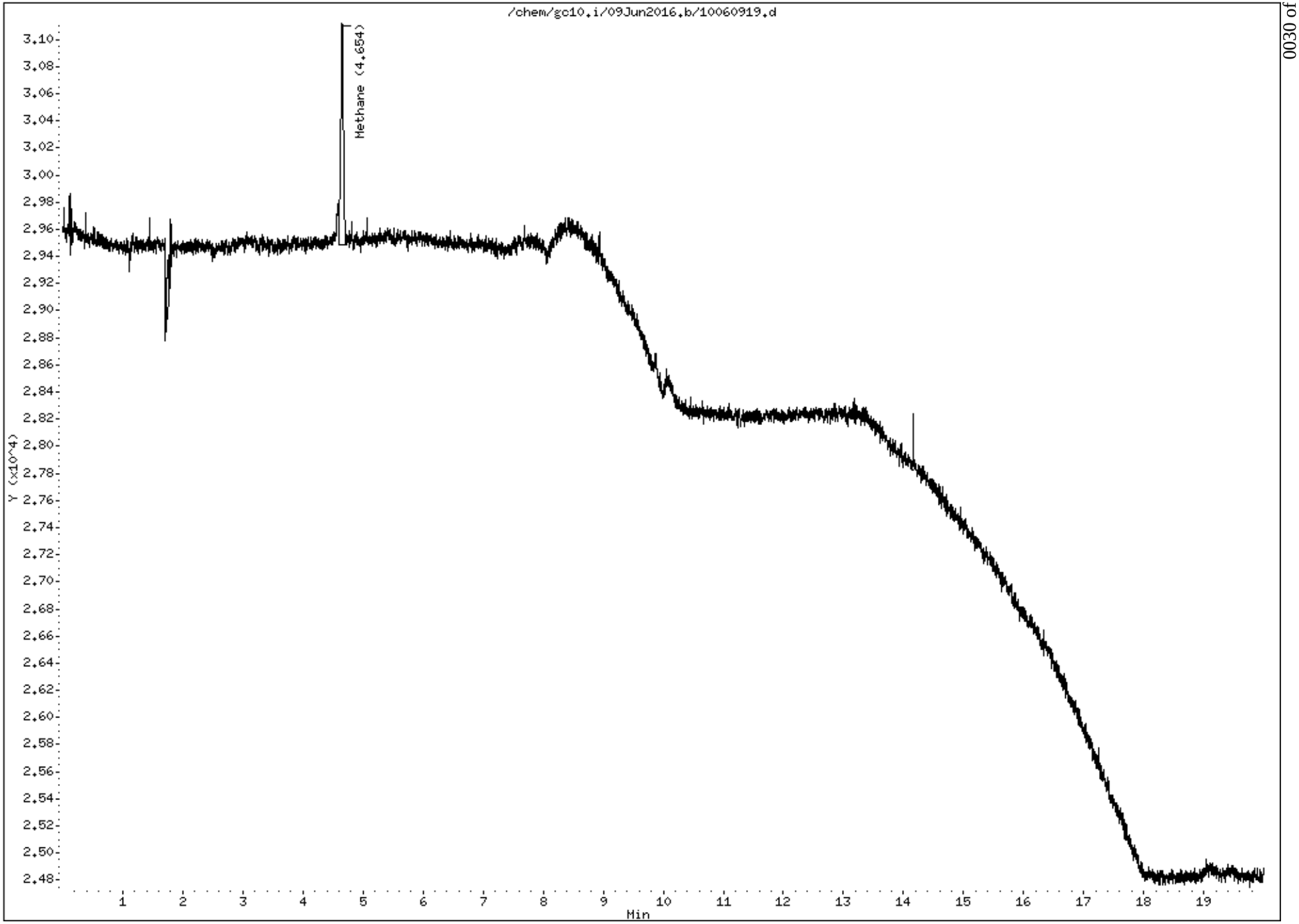
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/09Jun2016.b/10060919.d
Lab Smp Id: 1606028B-05A
Inj Date : 09-JUN-2016 18:05
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0ml,33926
Misc Info : 3.5"Hg>5.0psi
Comment : GC/FID
Method : /chem/gc10.i/09Jun2016.b/106n0115.m
Meth Date : 09-Jun-2016 09:20 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 1.52000
Integrator: HP Genie Compound Sublist: ch4.sub
Target Version: 3.50
Processing Host: eeyore

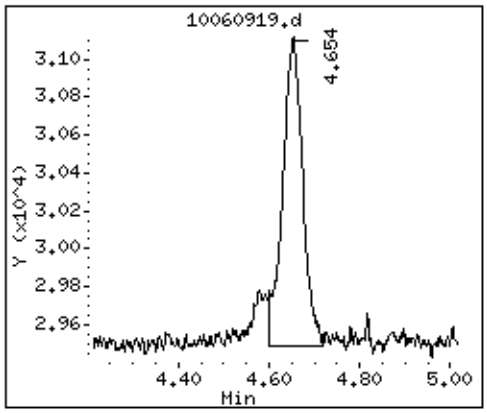
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.654	4.615	0.039	50457	0.000223	0.000339


/chem/gc10.i/09Jun2016.b/10060919.d
Methane (4.654)
Y (x10^4)
3.10
3.08
3.06
3.04
3.02
3.00
2.98
2.96
2.94
2.92
2.90
2.88
2.86
2.84
2.82
2.80
2.78
2.76
2.74
2.72
2.70
2.68
2.66
2.64
2.62
2.60
2.58
2.56
2.54
2.52
2.50
2.48
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
Min

2 Methane


10060919.d
4.654
3.10
3.08
3.06
3.04
3.02
3.00
2.98
2.96
Y (x10^4)
4.40
4.60
4.80
5.00
Min

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Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: B30IA-4 (052816)

Lab ID#: 1606028B-06A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00018	0.00030

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Client Sample ID: B30IA-4 (052816)

Lab ID#: 1606028B-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060920**	**Date of Collection:**	**5/29/16 6:04:00 PM**
Dil. Factor:	**1.76**	**Date of Analysis:**	**6/9/16 06:35 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00018	0.00030

Container Type: 6 Liter Summa Canister (100% Certified)

Eurofins Air Toxics Inc.

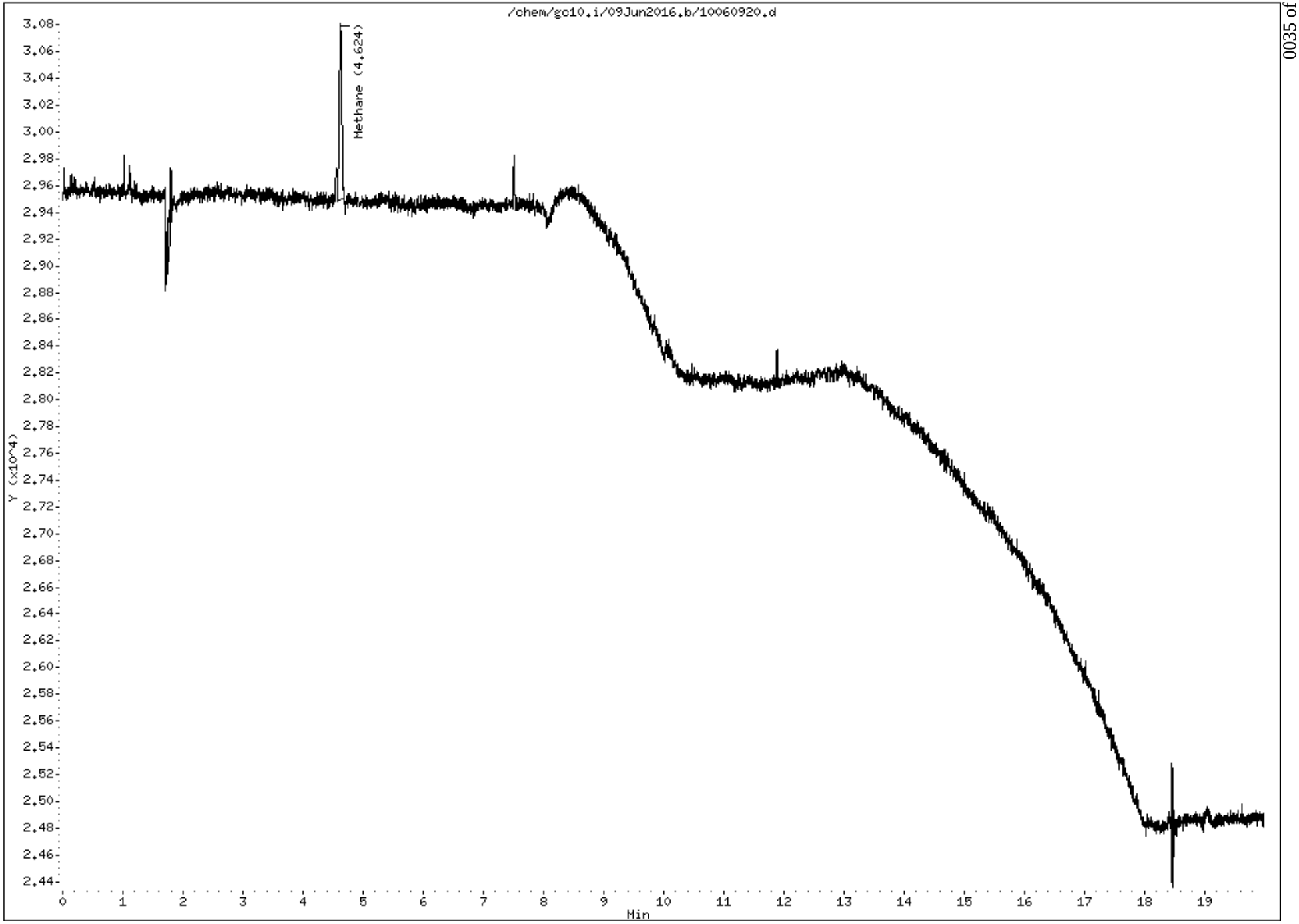
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/09Jun2016.b/10060920.d
Lab Smp Id: 1606028B-06A
Inj Date : 09-JUN-2016 18:35
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0ml,6L0704
Misc Info : 4.1"Hg>5.0psi
Comment : GC/FID
Method : /chem/gc10.i/09Jun2016.b/106n0115.m
Meth Date : 09-Jun-2016 09:20 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 1.76000
Integrator: HP Genie Compound Sublist: ch4.sub
Target Version: 3.50
Processing Host: eeyore

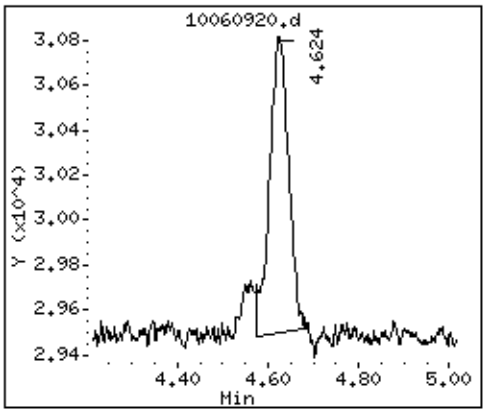
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.624	4.615	0.009	38112	0.000168	0.000296


/chem/gc10.i/09Jun2016.b/10060920.d
Methane (4.624)
Y (x10^4)
Min

2 Methane


10060920.d
4.624
3.08
3.06
3.04
3.02
3.00
2.98
2.96
2.94
Y (x10^4)
4.40
4.60
4.80
5.00
Min

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Summary of Detected Compounds
NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

Client Sample ID: B30IA-5 (052816)

Lab ID#: 1606028B-07A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00015	0.00025

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Client Sample ID: B30IA-5 (052816)

Lab ID#: 1606028B-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060921**	**Date of Collection:**	**5/29/16 5:36:00 PM**
Dil. Factor:	**1.53**	**Date of Analysis:**	**6/9/16 06:59 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00015	0.00025

Container Type: 6 Liter Summa Canister (100% Certified)

Eurofins Air Toxics Inc.

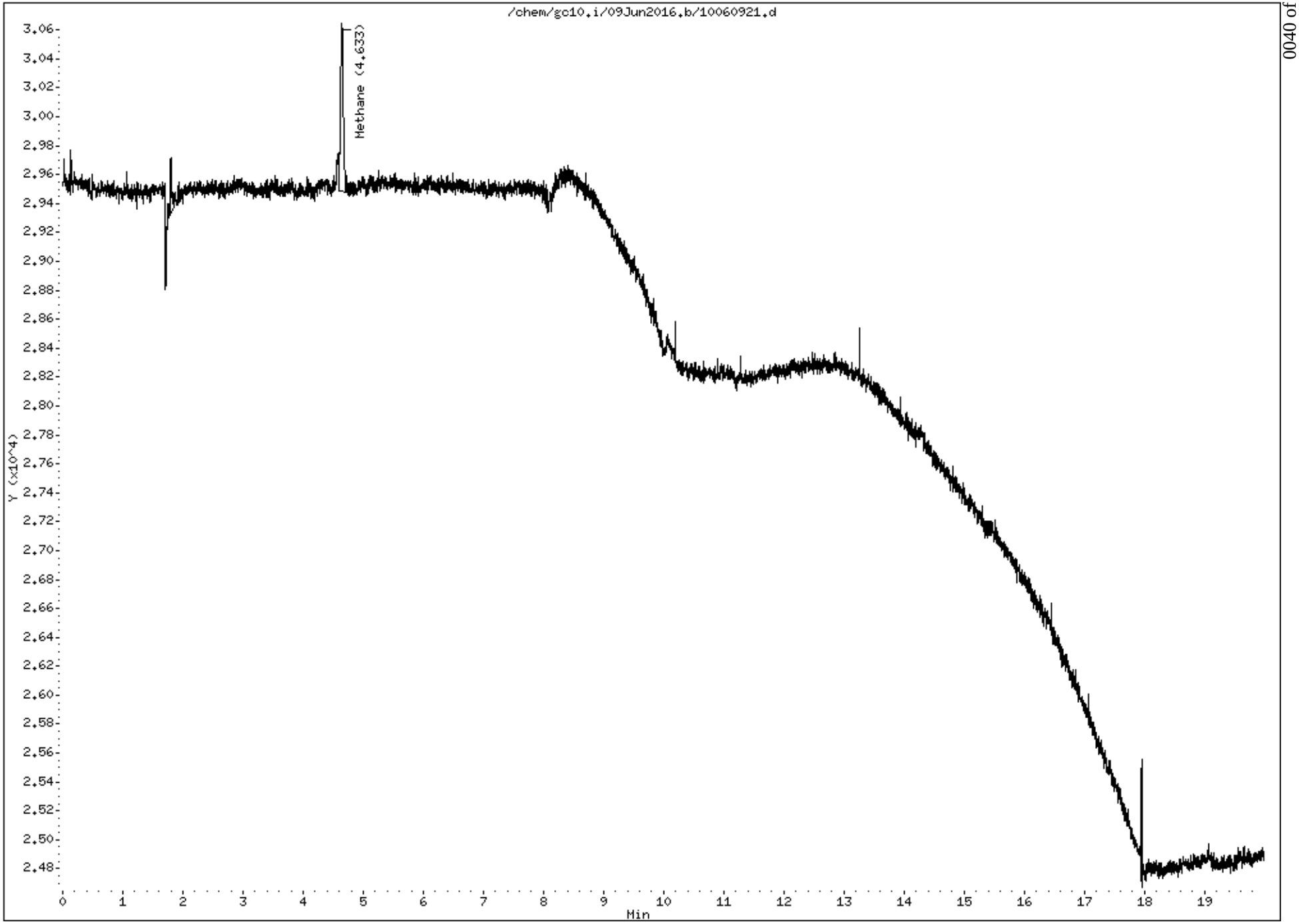
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/09Jun2016.b/10060921.d
Lab Smp Id: 1606028B-07A
Inj Date : 09-JUN-2016 18:59
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0ml,6L1279
Misc Info : 3.3"Hg>5.3psi
Comment : GC/FID
Method : /chem/gc10.i/09Jun2016.b/106n0115.m
Meth Date : 09-Jun-2016 09:20 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 1.53000
Integrator: HP Genie Compound Sublist: ch4.sub
Target Version: 3.50
Processing Host: eeyore

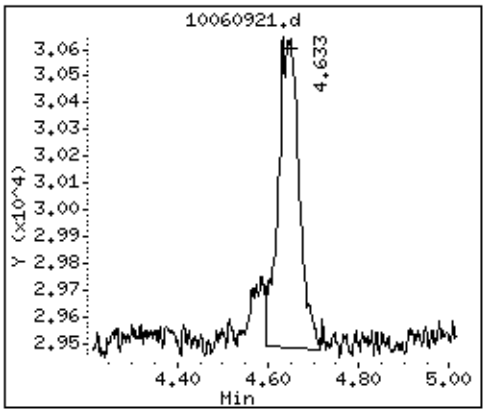
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.633	4.615	0.018	37273	0.000165	0.000252


/chem/gc10.i/09Jun2016.b/10060921.d
Methane (4.633)
Y (x10^4)
Min

2 Methane


10060921.d
4.633
Y (x10^4)
3.06
3.05
3.04
3.03
3.02
3.01
3.00
2.99
2.98
2.97
2.96
2.95
4.40
4.60
4.80
5.00
Min

QC Results and Raw Data

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Client Sample ID: Lab Blank

Lab ID#: 1606028B-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060904**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/16 10:19 AM**	

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00010	Not Detected

Container Type: NA - Not Applicable

Eurofins Air Toxics Inc.

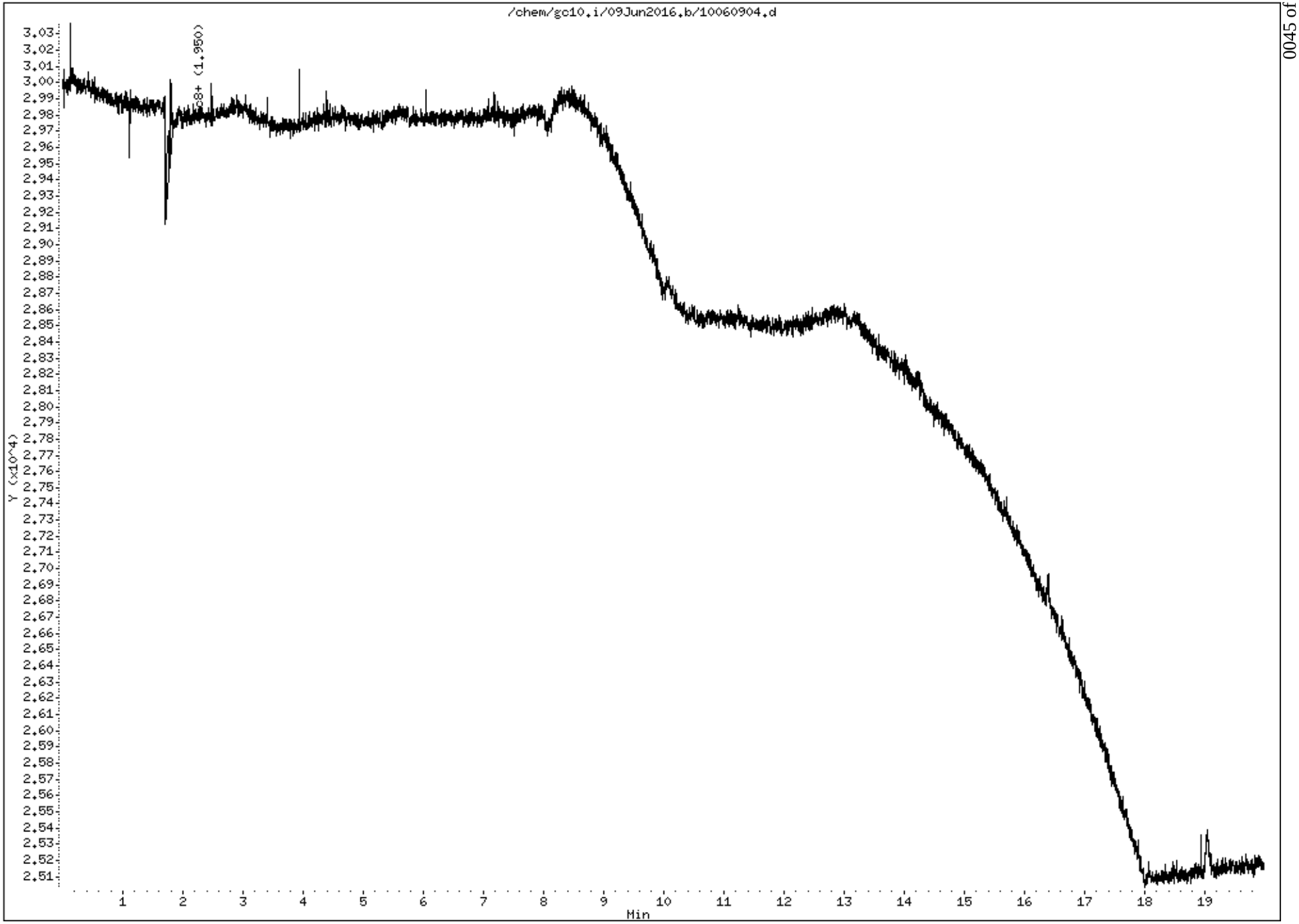
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/09Jun2016.b/10060904.d
Lab Smp Id: Lab blank Client Smp ID: Lab blank
Inj Date : 09-JUN-2016 10:19
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,24491
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/09Jun2016.b/106n0115.m
Meth Date : 09-Jun-2016 09:20 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

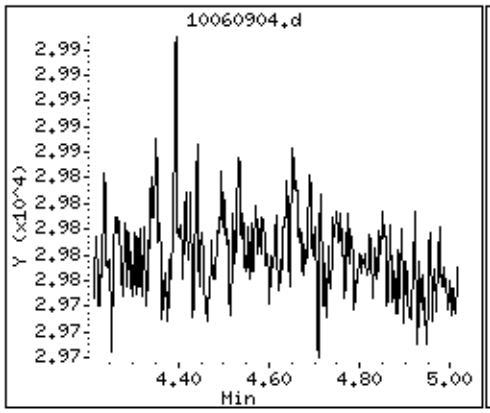
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

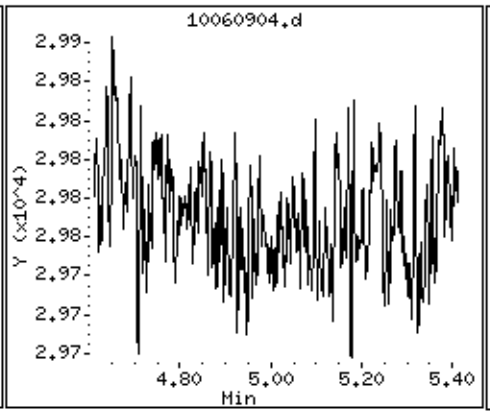
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	CONCENTRATIONS FINAL (%)
2 Methane	Compound Not Detected.					
3 ethane	Compound Not Detected.					
4 ethene	Compound Not Detected.					
5 propane	Compound Not Detected.					
7 acetylene	Compound Not Detected.					
8 iso-butane	Compound Not Detected.					
10 n-butane	Compound Not Detected.					
15 neo-pentane	Compound Not Detected.					
16 isopentane	Compound Not Detected.					
17 pentane	Compound Not Detected.					
M 37 C6+ Hydrocarbons	Compound Not Detected.					
S 22 c6-c7	Compound Not Detected.					
S 36 c8+	Compound Not Detected.					


/chem/gc10.i/09Jun2016.b/10060904.d
Y (x10^4)
3.03
3.02
3.01
3.00
2.99
2.98
2.97
2.96
2.95
2.94
2.93
2.92
2.91
2.90
2.89
2.88
2.87
2.86
2.85
2.84
2.83
2.82
2.81
2.80
2.79
2.78
2.77
2.76
2.75
2.74
2.73
2.72
2.71
2.70
2.69
2.68
2.67
2.66
2.65
2.64
2.63
2.62
2.61
2.60
2.59
2.58
2.57
2.56
2.55
2.54
2.53
2.52
2.51
C8+ (1.950)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Min

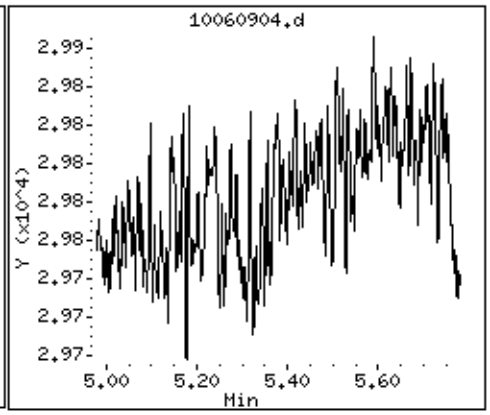
2 Methane (Undetected)



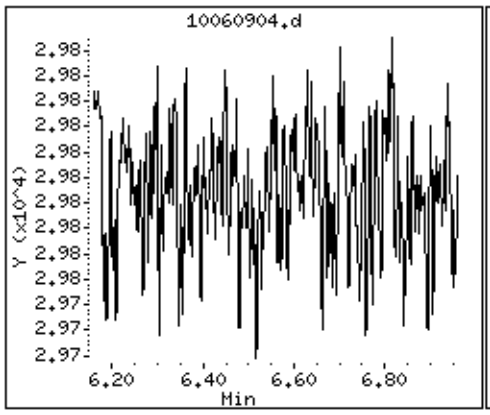
3 ethane (Undetected)



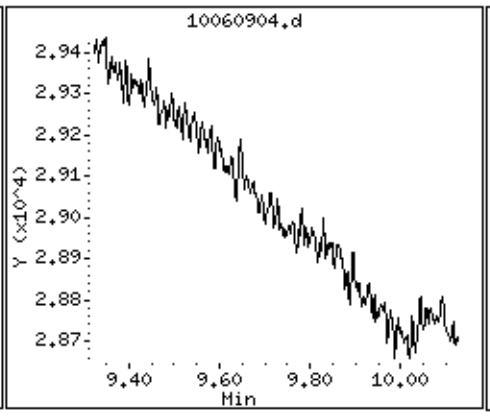
4 ethene (Undetected)



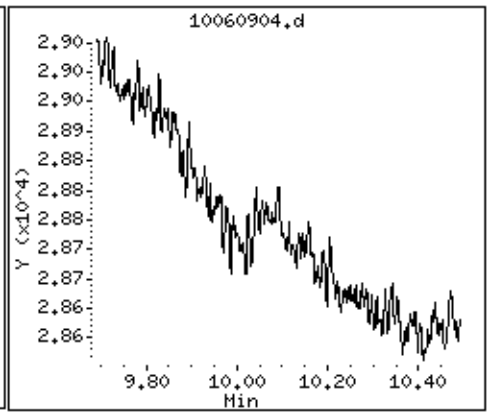
5 propane (Undetected)



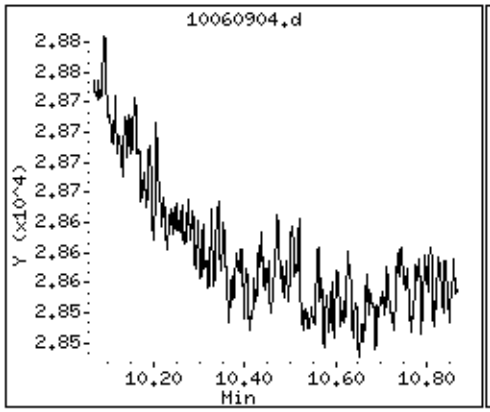
7 acetylene (Undetected)



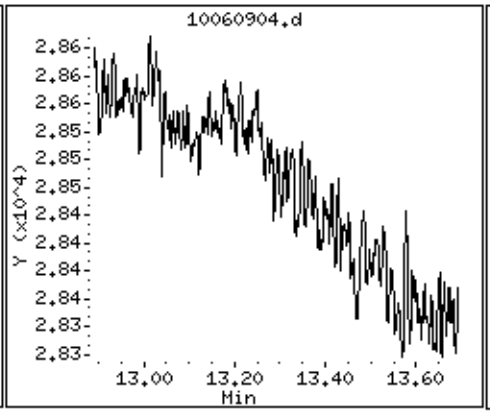
8 iso-butane (Undetected)



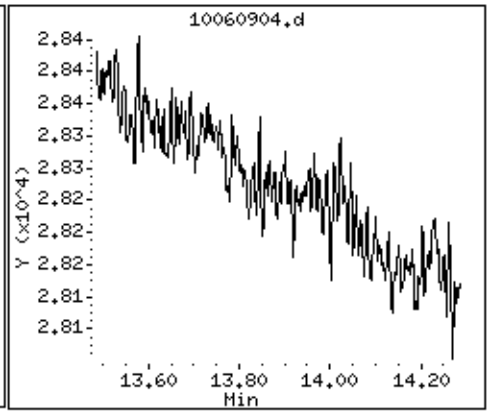
10 n-butane (Undetected)



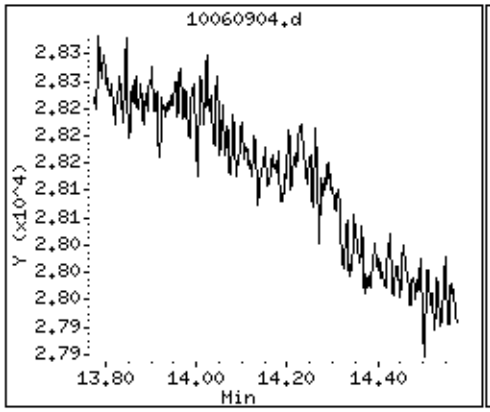
15 neo-pentane (Undetected



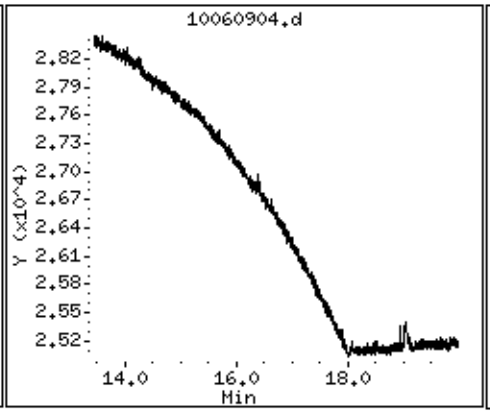
16 isopentane (Undetected)



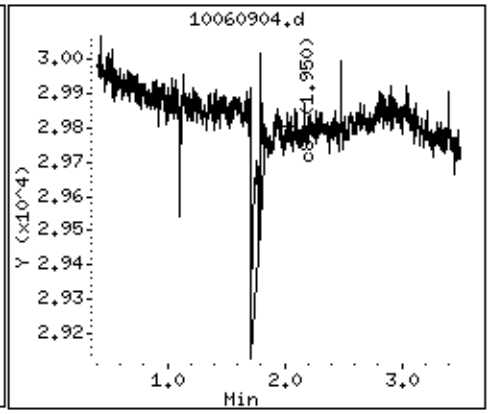
17 pentane (Undetected)



S 22 c6-c7 (Undetected)



S 36 c8+ (Undetected)



SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab Name: Air Toxics Ltd.

Lab File ID: 10060926.d & 10060902.d

Lab Sample ID: &

Dilution: 1.00 & 1.00

Client Sample ID: LCS & LCSD

Date Analyzed: 6/9/16 & 6/9/16

CAS Number	Compound	Original Amount	Original Flags	Duplicate Amount	Duplicate Flags	RPD	Result Less Than 5X RL
74-82-8	Methane	101		100		1.0	

Note: The results appearing in the Amount columns are the raw, unrounded numbers acquired from the instrument.

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-JAN-2016 09:21
End Cal Date : 15-JAN-2016 14:29
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem/gc10.i/15Jan2016.b/106n0115.m
Cal Date : 16-Jan-2016 09:48 lyohanne
Curve Type : Average

Calibration File Names:
Level 1: /chem/gc10.i/15Jan2016.b/10011502.d
Level 2: /chem/gc10.i/15Jan2016.b/10011503.d
Level 3: /chem/gc10.i/15Jan2016.b/10011504.d
Level 4: /chem/gc10.i/15Jan2016.b/10011505.d
Level 5: /chem/gc10.i/15Jan2016.b/10011506.d
Level 6: /chem/gc10.i/15Jan2016.b/10011507.d
Level 7: /chem/gc10.i/15Jan2016.b/10011513.d

Compound	0.000e+00 Level 1	0.000e+00 Level 2	0.000e+00 Level 3	0.000e+00 Level 4	0.000e+00 Level 5	0.000e+00 Level 6	0.000e+00 Level 7	RRF	% RSD
2 Methane	253720000	218099950	220566680	220768228	219522192	227460810	224521096	226379851	5.508
3 ethane	+++++	425021000	427720850	428843913	425163652	443753875	442659279	432193762	2.004
4 ethene	+++++	411332000	425928049	424586351	421023590	439205643	442854806	427488407	2.742
5 propane	+++++	629768000	638217000	648679427	642184095	666323427	663696546	648144749	2.230
7 acetylene	+++++	465120588	486657258	484770155	482246680	504266880	+++++	484612312	2.874
8 iso-butane	+++++	768070297	788826721	793937426	781671348	812501678	+++++	789001494	2.071
10 n-butane	+++++	766676000	782338776	792681545	779431992	812923261	850997483	797508176	3.815

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-JAN-2016 09:21
End Cal Date : 15-JAN-2016 14:29
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem/gc10.i/15Jan2016.b/106n0115.m
Cal Date : 16-Jan-2016 09:48 lyohanne
Curve Type : Average

Compound	0.000e+00 Level 1	0.000e+00 Level 2	0.000e+00 Level 3	0.000e+00 Level 4	0.000e+00 Level 5	0.000e+00 Level 6	0.000e+00 Level 7	___ RRF	% RSD
15 neo-pentane	+++++	961167619	995571790	1.001e+09	983202927	1.026e+09			
	+++++							993221843	2.380
16 isopentane	+++++	936101923	970385375	970002510	946972144	992871966			
	936410556							958790746	2.368
17 pentane	+++++	937662500	964738614	974091013	947085308	998466553			
	+++++							964408798	2.470
39 Hexane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++							+++++	+++++
40 Heptane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++							+++++	+++++
S 22 c6-c7	+++++	1.128e+09	1.129e+09	1.243e+09	1.134e+09	1.229e+09			
	+++++							1.172e+09	4.962
M 37 C6+ Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++							1.172e+09	+++++
S 36 c8+	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++							1.172e+09	+++++

Calibration History

Method : /chem/gc10.i/15Jan2016.b/106n0115.m
Start Cal Date: 15-JAN-2016 09:21
End Cal Date : 15-JAN-2016 14:29

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 0.00000		
15-JAN-2016 09:21	ch4	/chem/gc10.i/15Jan2016.b/10011502.d
Cal Level: 2 , Cal Amount: 0.00000		
15-JAN-2016 09:46	ngas	/chem/gc10.i/15Jan2016.b/10011503.d
Cal Level: 3 , Cal Amount: 0.00000		
15-JAN-2016 10:11	ngas	/chem/gc10.i/15Jan2016.b/10011504.d
Cal Level: 4 , Cal Amount: 0.00000		
15-JAN-2016 10:43	ngas	/chem/gc10.i/15Jan2016.b/10011505.d
Cal Level: 5 , Cal Amount: 0.00000		
15-JAN-2016 11:10	ngas	/chem/gc10.i/15Jan2016.b/10011506.d
Cal Level: 6 , Cal Amount: 0.00000		
15-JAN-2016 11:36	ngas	/chem/gc10.i/15Jan2016.b/10011507.d
Cal Level: 7 , Cal Amount: 0.00000		
15-JAN-2016 14:29	ch4	/chem/gc10.i/15Jan2016.b/10011513.d
15-JAN-2016 14:03	isopentane	/chem/gc10.i/15Jan2016.b/10011512.d
15-JAN-2016 13:34	propane	/chem/gc10.i/15Jan2016.b/10011511.d
15-JAN-2016 13:07	Butane	/chem/gc10.i/15Jan2016.b/10011510.d
15-JAN-2016 12:42	Ethene	/chem/gc10.i/15Jan2016.b/10011509.d
15-JAN-2016 12:18	Ethane	/chem/gc10.i/15Jan2016.b/10011508.d

+----------+----------+----------+

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 15-JAN-2016 09:21
End Cal Date : 15-JAN-2016 14:29
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem/gc10.i/15Jan2016.b/106n0115.m
Cal Date : 16-Jan-2016 09:37 lyohanne
Curve Type : Average

Calibration File Names:
Level 1: /chem/gc10.i/15Jan2016.b/10011502.d
Level 2: /chem/gc10.i/15Jan2016.b/10011503.d
Level 3: /chem/gc10.i/15Jan2016.b/10011504.d
Level 4: /chem/gc10.i/15Jan2016.b/10011505.d
Level 5: /chem/gc10.i/15Jan2016.b/10011506.d
Level 6: /chem/gc10.i/15Jan2016.b/10011507.d
Level 7: /chem/gc10.i/15Jan2016.b/10011513.d

Please see Calibration History page(s) for all the calibration files.

Compound	0.000e+00 Level 1	0.000e+00 Level 2	0.000e+00 Level 3	0.000e+00 Level 4	0.000e+00 Level 5	0.000e+00 Level 6	RRF	% RSD
	0.000e+00 Level 7							
2 Methane	253720000	218099950	220566680	220768228	219522192	227460810		
	224521096						226379851	5.508
3 ethane	+++++	425021000	427720850	428843913	425163652	443753875		
	442659279						432193762	2.004
4 ethene	+++++	411332000	425928049	424586351	421023590	439205643		
	442854806						427488407	2.742
5 propane	+++++	629768000	638217000	648679427	642184095	666323427		
	663696546						648144749	2.230
7 acetylene	+++++	465120588	486657258	484770155	482246680	504266880		
	+++++						484612312	2.874
8 iso-butane	+++++	768070297	788826721	793937426	781671348	812501678		
	+++++						789001494	2.071
10 n-butane	+++++	766676000	782338776	792681545	779431992	812923261		
	850997483						797508176	3.815

Initial Calibration Narrative

A seven point calibration curve was analyzed on January 15, 2016, on instrument GC-10. The calibration curve features the following:

1.) ICAL name: 106n0115.m
2.) Units: %
3.) The ICAL is based on 1.0 mL load.
4.) The second source file number is 10011515.
5.) Following are the levels for the ICAL:

Compound	Level-1	Level-2	Level-3	Level-4	Level-5	Level-6	Level-7
Methane	0.00010	0.02010	0.10000	1.0150	2.53750	10.150	99.000
Ethane	NA	0.00100	0.00494	0.0506	0.12650	0.506	24.975
Ethene	NA	0.00100	0.00492	0.0507	0.12675	0.507	24.875
Propane	NA	0.00100	0.00500	0.0506	0.12625	0.506	19.900
Acetylene	NA	0.00102	0.00496	0.0515	0.12875	0.515	NA
iso-Butane	NA	0.00101	0.00494	0.0509	0.12725	0.509	NA
n-Butane	NA	0.00100	0.00490	0.0505	0.12625	0.505	9.990
neo-pentane	NA	0.00105	0.00514	0.0533	0.13325	0.533	NA
iso-Pentane	NA	0.00104	0.00506	0.0526	0.13150	0.526	4.950
n-Pentane	NA	0.00104	0.00505	0.0523	0.13075	0.523	NA
C6-C7	NA	0.00106	0.00529	0.0538	0.1345	0.538	NA

Eurofins Air Toxics, Inc.
Method: **ASTM D-1945/1946**

GC-10

Logbook # 2751
Leak Test Ly

	USE	File #	Sample Name/Client ID	Can #	Verified Pressure >2psi	Pressure	Amt	DF	Date	Time	Review Init.	Comments
1	✓	10011501	He System Blank	11882	NA	NA	1.0mL	1.00	1/15/16	0844	Ly	
2	✓	02	2516-196	23882		0.0001% CH4		(200x) 1.00		0921		Level-1
3	✓	03	2516-196			C1-C7		1.00		0946		-2
4	✓	04	2576-214	5580						1011		-3
5	✓	05	2299-1048A	NA				(5:50) 1.00		1043		-4
6	✓	06						(15:60) 1.00		1110		-5
7	✓	07						1.00		1136		-6
8	✓	08	1476-438			Ethane		(15:60) 1.00		1218		-7
9	✓	09	1476-437			Ethene				1242		-7
10	✓	10	1476-897			Butane		(5:50) 1.00		1307	↓	-7
11	✓	11	843-471			Propane		(10:50) 1.00		1334	Ly	-7
12	✓	12	1476-898			Isopentane		(5:100) 1.0mL		1403		-7
13	✓	13	1476-2859			Methane		1.0mL		1429	↓	↓-7
14	✓	14	System Blank			NA				1453	gd	Helium
15	✓	15	2299-1160							1530	↓	LCS

Calculation check : (2299)

File ID: 10011515 Compound: CH4 Initials: Ly

Sample Amt= Area Count Sample x / RF Dilution Factor = (2237350537) x / (226379851) (1.00)= 9.88

Reported Result= 9.88

Reviewed by/Date Ly 1/16/16

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/15Jan2016.b/10011515.d
Lab Smp Id: 2299-1160 ngas Client Smp ID: LCS
Inj Date : 15-JAN-2016 15:30
Operator : gd Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/15Jan2016.b/106n0115.m
Meth Date : 16-Jan-2016 09:48 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1 QC Sample: ICV
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.625	4.630	-0.005	2237350537	9.88317	9.88
3 ethane	5.023	5.027	-0.004	214282415	0.49580	0.496
4 ethene	5.395	5.397	-0.002	216087370	0.50548	0.505
5 propane	6.577	6.577	0.000	331476722	0.51142	0.511
7 acetylene	9.771	9.771	0.000	248052287	0.51186	0.512
8 iso-butane	10.104	10.096	0.008	404515196	0.51269	0.513(A)
10 n-butane	10.483	10.524	-0.041	401714638	0.50371	0.504
15 neo-pentane	13.307	13.307	0.000	522965016	0.52653	0.526
16 isopentane	13.903	13.903	0.000	491760843	0.51290	0.513
17 pentane	14.191	14.181	0.010	496629756	0.51496	0.515
M 37 C6+ Hydrocarbons				634473884	0.54123	0.541
S 22 c6-c7	15.000-19.900			634473884	0.54123	0.541
S 36 c8+	Compound Not Detected.					

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

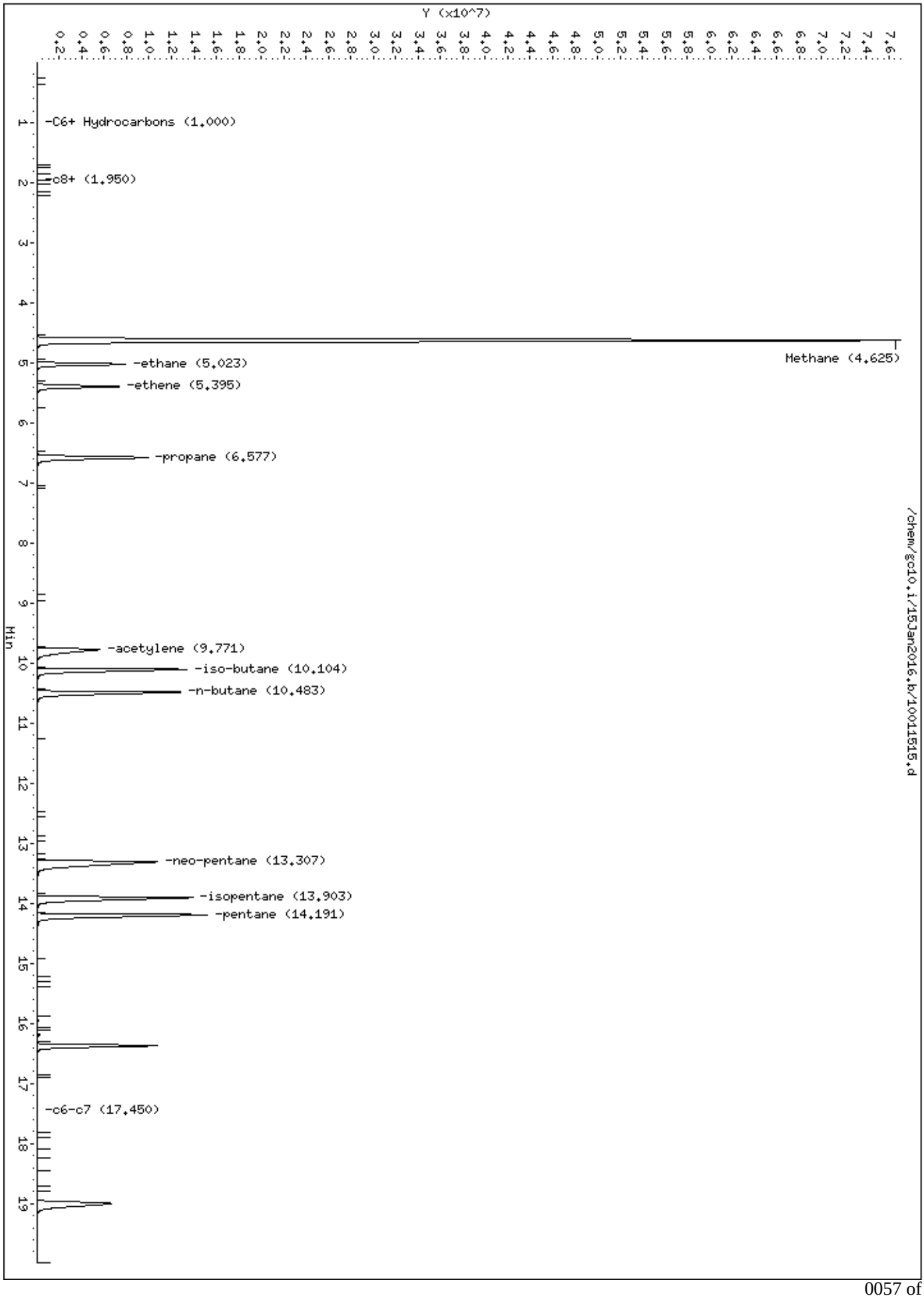
Report Date: 20-Jan-2016 15:06

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 15Jan2016
Sample Matrix: GAS
Fraction: Atm Gas
Lab Smp Id: 2299-1160 ngas
Client Smp ID: LCS
Level: LOW
Operator: gd
Data Type: GC DATA
SampleType: ICV
SpikeList File: 2299-1160.spk
Quant Type: ESTD
Sublist File: ngas.sub
Method File: /chem/gc10.i/15Jan2016.b/106n0115.m
Misc Info:

SPIKE COMPOUND	CONC ADDED %	CONC RECOVERED %	% RECOVERED	LIMITS
2 Methane	9.96	9.88	99.23	85-115
3 ethane	0.501	0.496	98.96	85-115
4 ethene	0.507	0.505	99.70	85-115
5 propane	0.500	0.511	102.28	85-115
7 acetylene	0.501	0.512	102.17	85-115
8 iso-butane	0.501	0.513	102.33	85-115
10 n-butane	0.495	0.504	101.76	85-115
15 neo-pentane	0.512	0.526	102.84	85-115
16 isopentane	0.505	0.513	101.56	85-115
17 pentane	0.507	0.515	101.57	85-115
M 37 C6+ Hydrocarbons	0.524	0.541	103.29	85-115

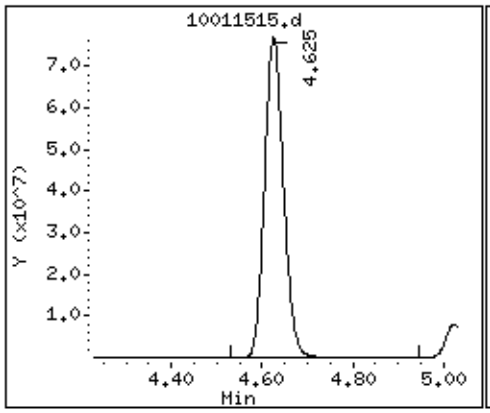


Data File: /chem/gc10.i/15Jan2016.b/10011515.d

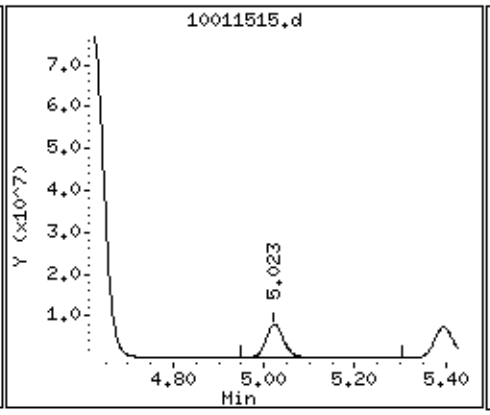
/chem/gc10.i/15Jan2016.b/10011515.d

Page 1

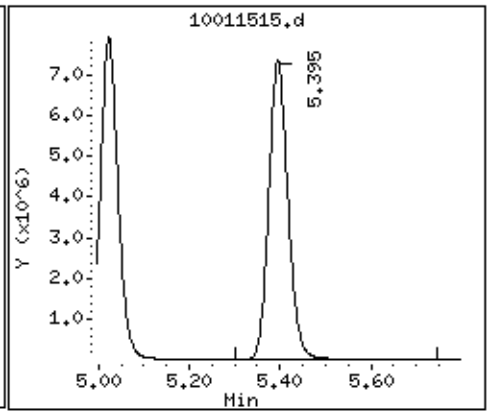
2 Methane



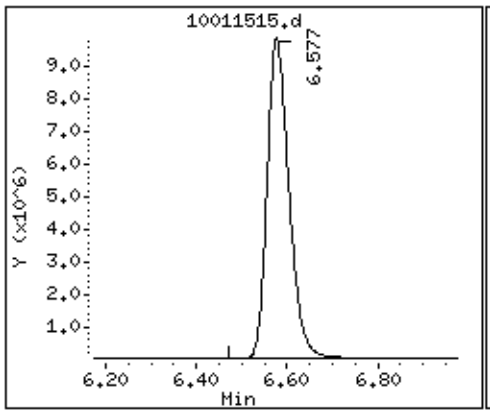
3 ethane



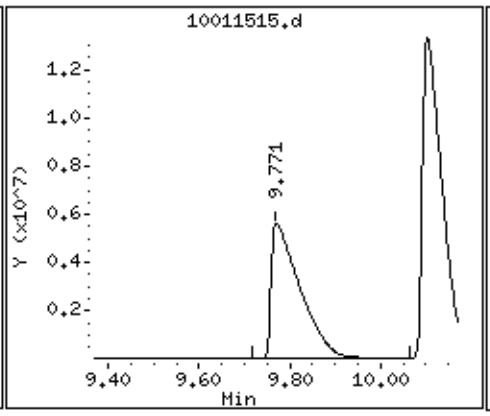
4 ethene



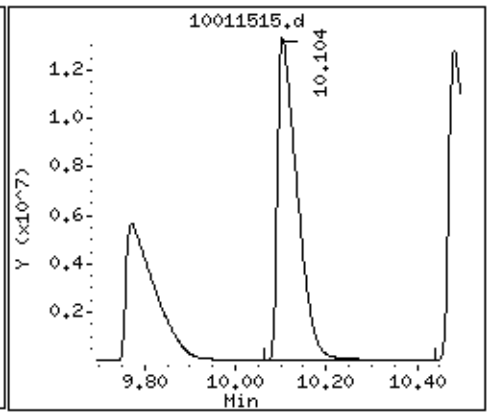
5 propane



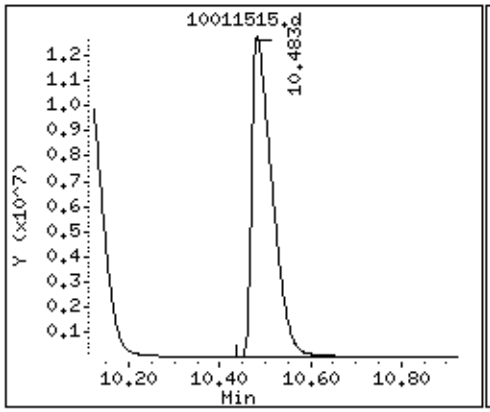
7 acetylene



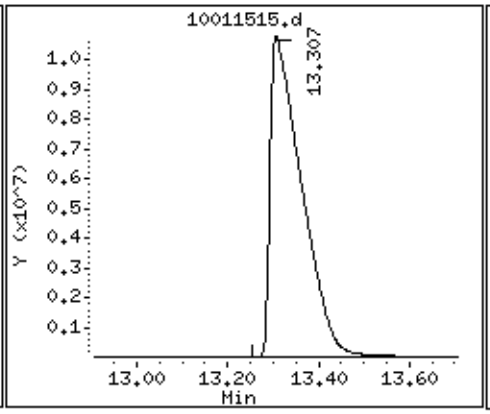
8 iso-butane



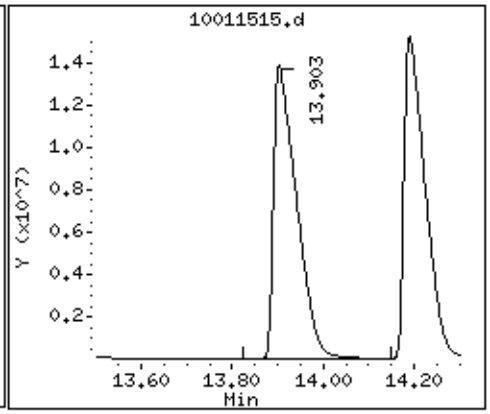
10 n-butane



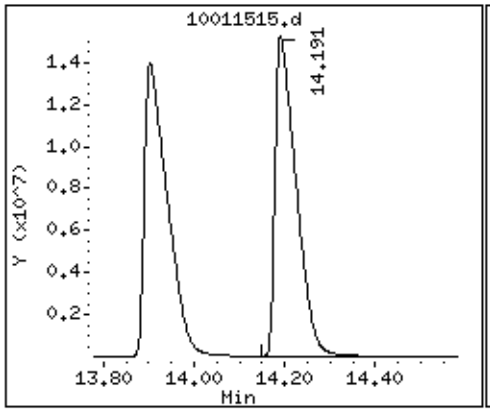
15 neo-pentane



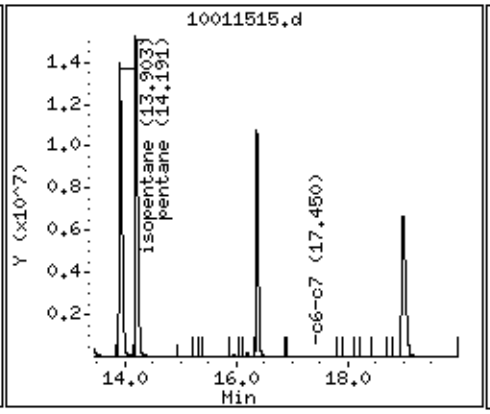
16 isopentane



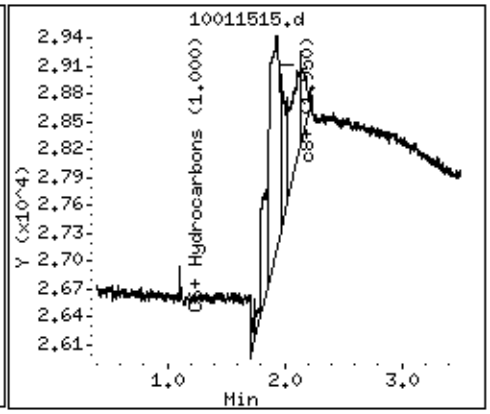
17 pentane



S 22 c6-c7



S 36 c8+ (Undetected)



Eurofins Air Toxics Inc.

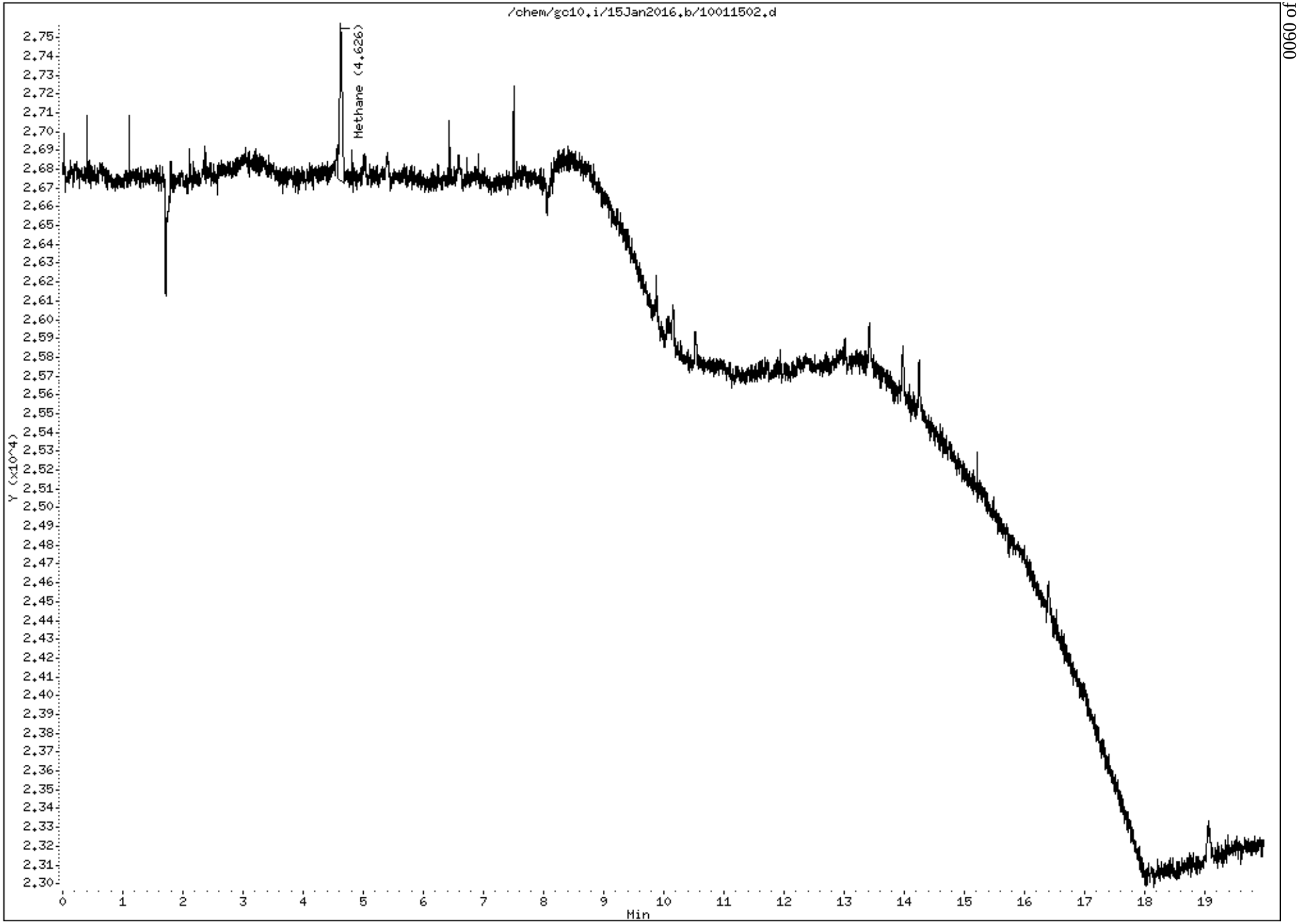
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/15Jan2016.b/10011502.d
Lab Smp Id: 2516-196 CH4 Client Smp ID: Level-1
Inj Date : 15-JAN-2016 09:21
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,23882
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/15Jan2016.b/106n0115.m
Meth Date : 16-Jan-2016 09:46 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 09:21 Cal File: 10011502.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ch4.sub
Target Version: 3.50
Processing Host: eeyore

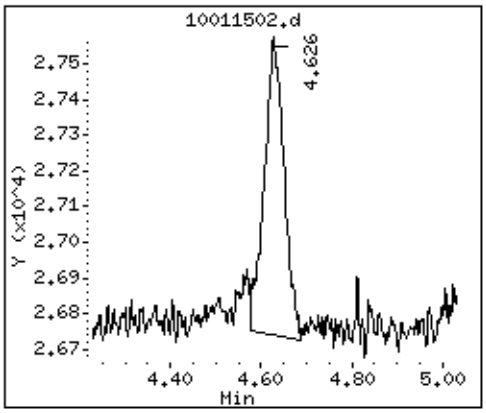
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
2 Methane	4.626	4.630	-0.004	25372	0.00010	0.000112


/chem/gc10.i/15Jan2016.b/10011502.d
Methane (4.626)
Y (x10^4)
Min

2 Methane


10011502.d
4.626
2.75
2.74
2.73
2.72
2.71
2.70
2.69
2.68
2.67
Y (x10^4)
4.40
4.60
4.80
5.00
Min

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/15Jan2016.b/10011503.d
Lab Smp Id: 2516-196 C1-C7 Client Smp ID: Level-2
Inj Date : 15-JAN-2016 09:46
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,23882
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/15Jan2016.b/106n0115.m
Meth Date : 16-Jan-2016 09:46 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 09:46 Cal File: 10011503.d
Als bottle: 1 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

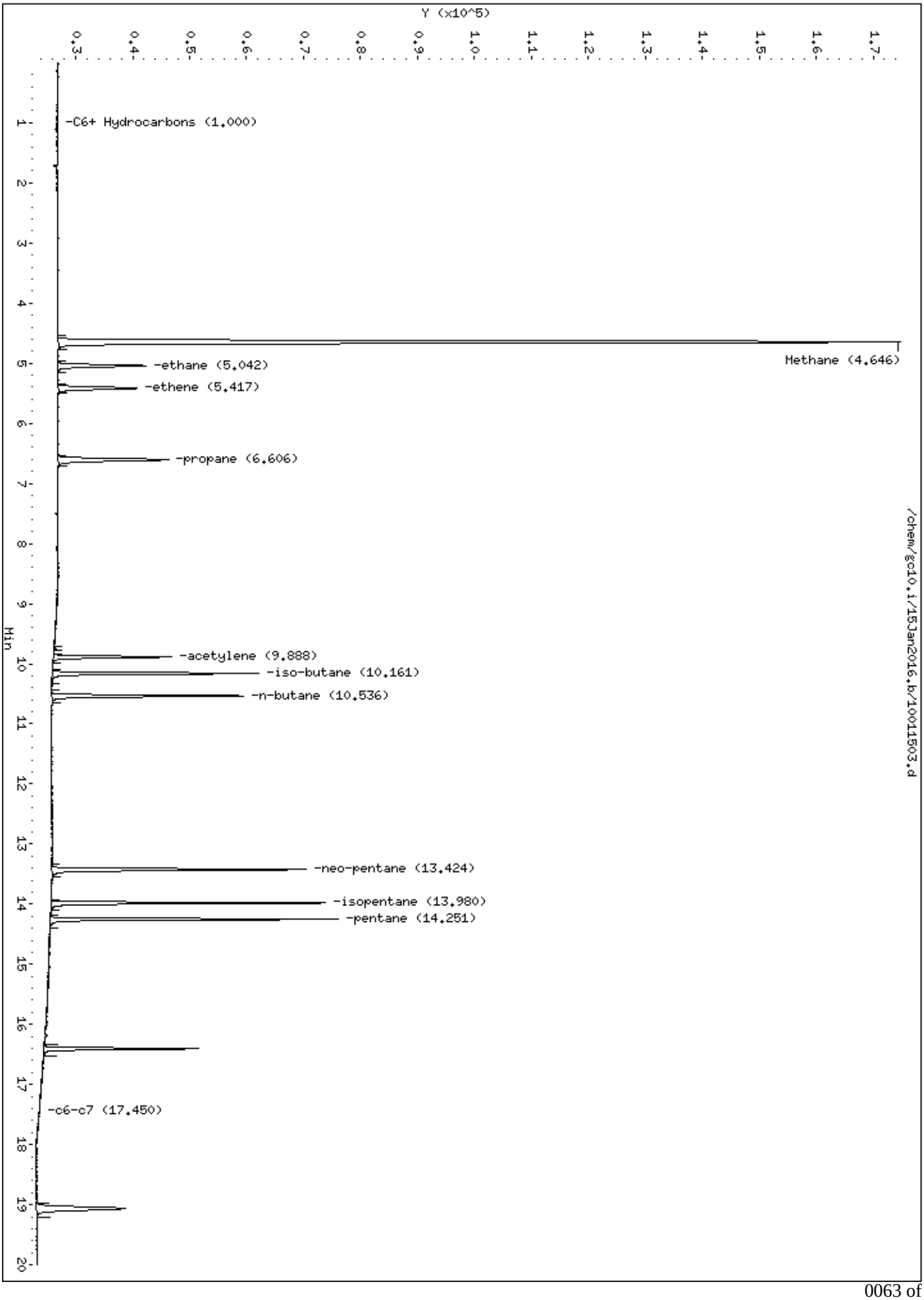
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
2 Methane	4.646	4.630	0.016	4383809	0.02010	0.0194
3 ethane	5.042	5.027	0.015	425021	0.00100	0.000983(a)
4 ethene	5.417	5.397	0.020	411332	0.00100	0.000962(a)
15 neo-pentane	13.424	13.307	0.117	1009226	0.00105	0.00102
16 isopentane	13.980	13.903	0.077	973546	0.00104	0.00102
17 pentane	14.251	14.181	0.070	975169	0.00104	0.00101
S 22 c6-c7	15.000-19.900			1195408	0.00106	0.00102
S 36 c8+	Compound Not Detected.					

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

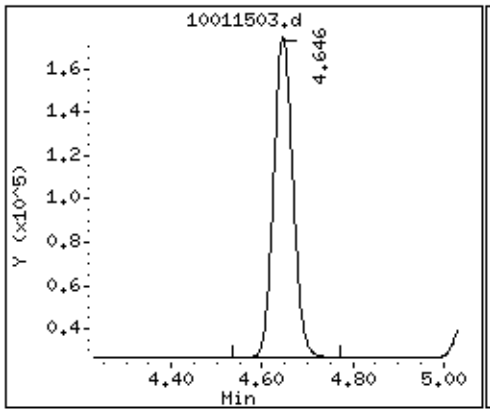


Data File: /chem/gc10.i/15Jan2016.b/10011503.d

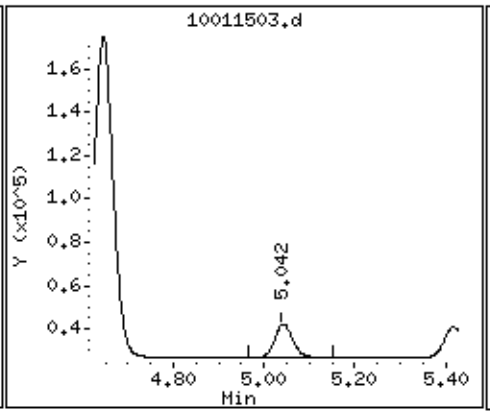
/chem/gc10.i/15Jan2016.b/10011503.d

Page 1

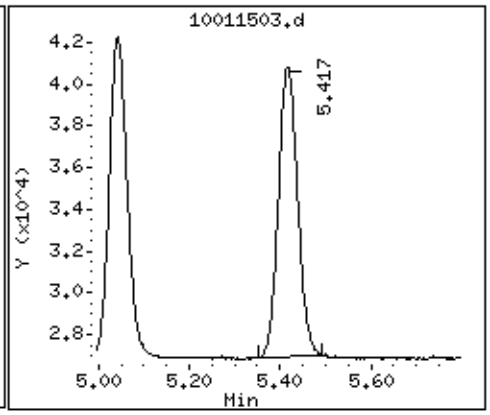
2 Methane



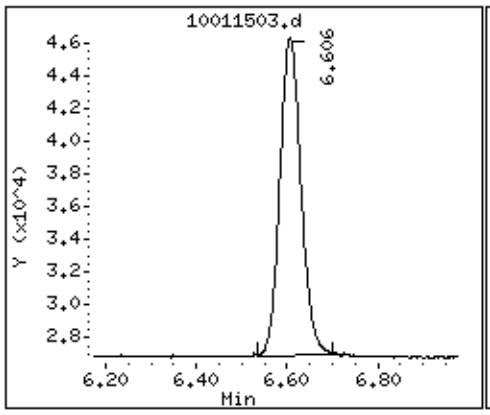
3 ethane



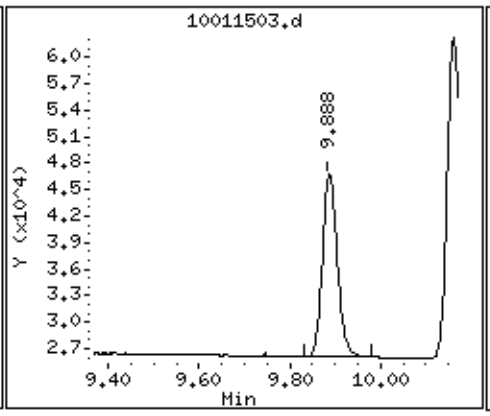
4 ethene



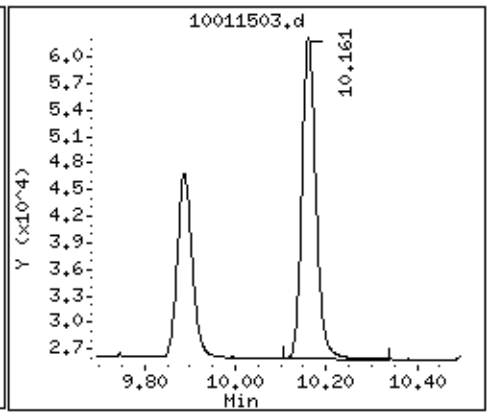
5 propane



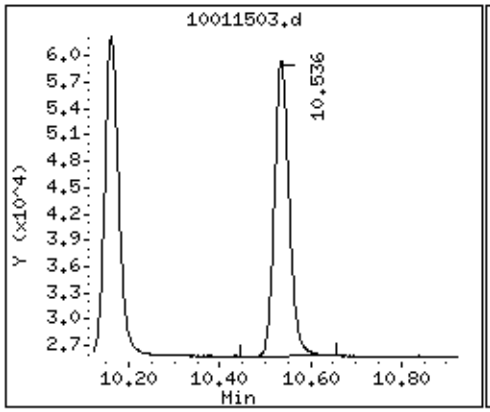
7 acetylene



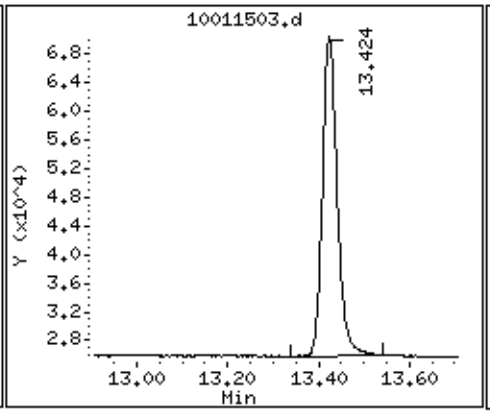
8 iso-butane



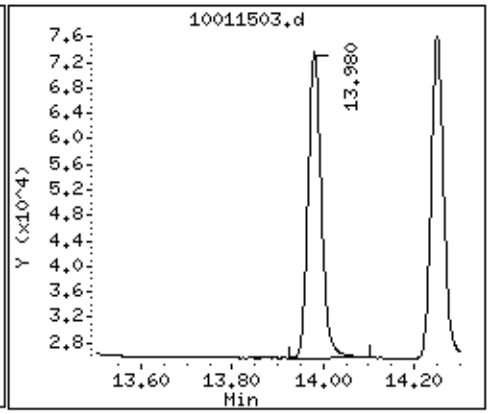
10 n-butane



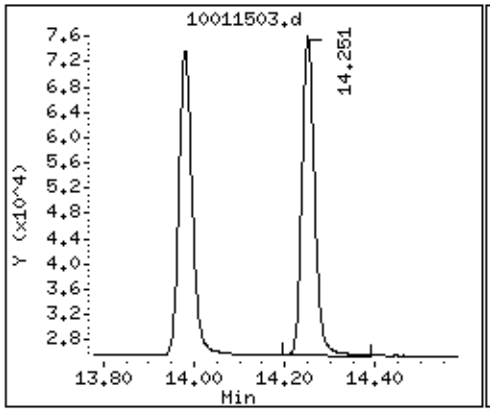
15 neo-pentane



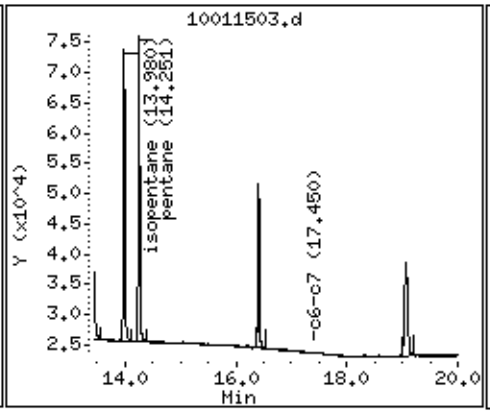
16 isopentane



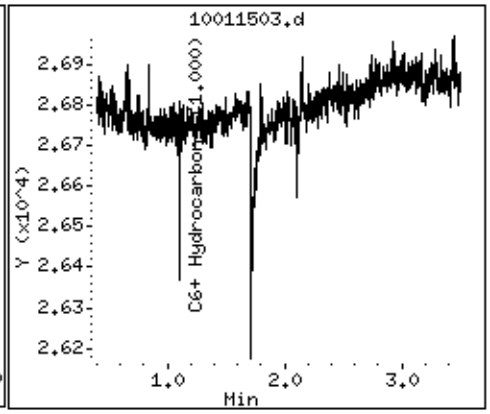
17 pentane



S 22 c6-c7



S 36 c8+ (Undetected)



Eurofins Air Toxics Inc.

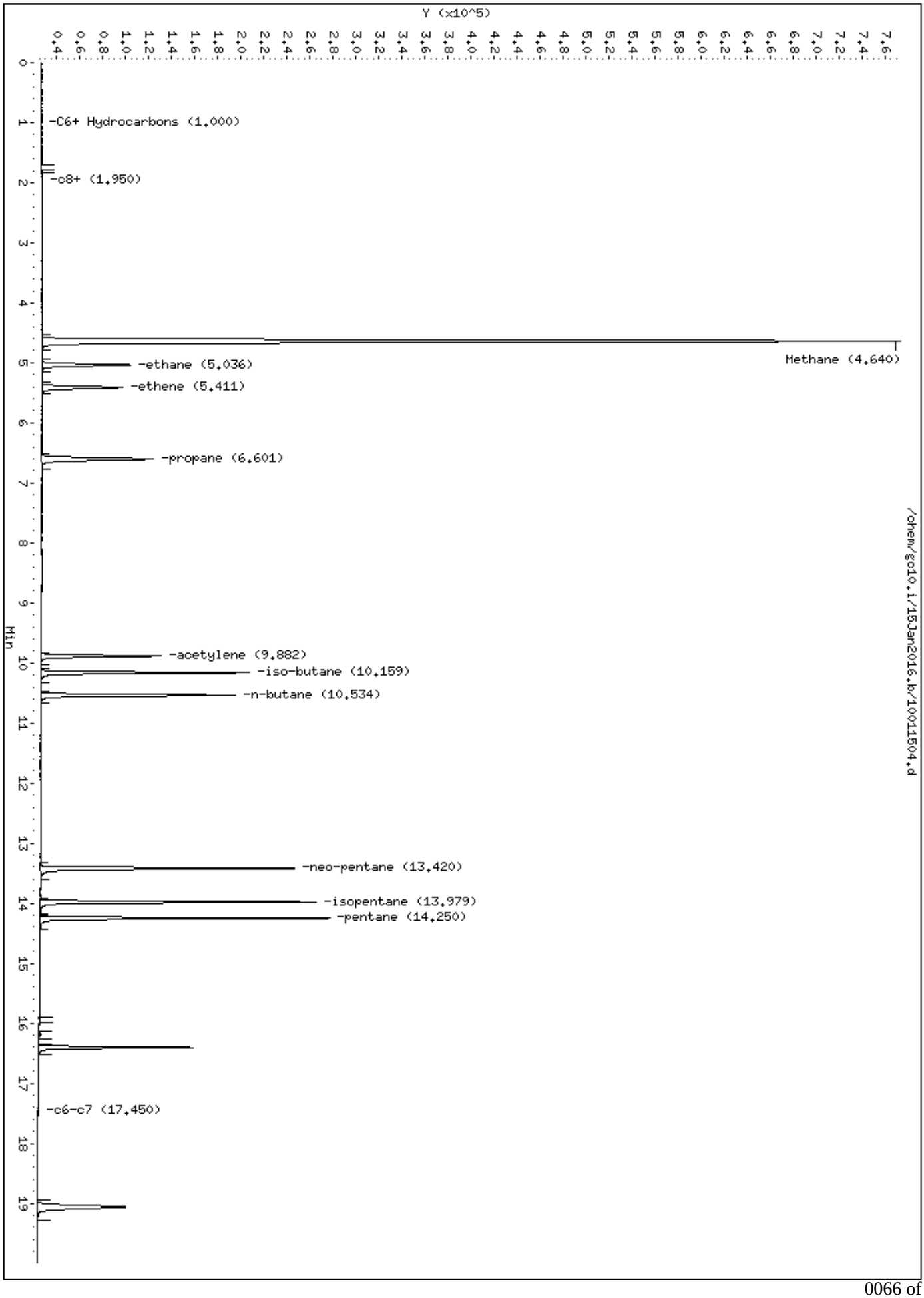
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/15Jan2016.b/10011504.d
Lab Smp Id: 2516-196 C1-C7 Client Smp ID: Level-3
Inj Date : 15-JAN-2016 10:11
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,5580
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/15Jan2016.b/106n0115.m
Meth Date : 16-Jan-2016 09:46 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 10:11 Cal File: 10011504.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
2 Methane	4.640	4.630	0.010	22056668	0.10000	0.0974
3 ethane	5.036	5.027	0.009	2112941	0.00494	0.00489
4 ethene	5.411	5.397	0.014	2095566	0.00492	0.00490
5 propane	6.601	6.577	0.024	3191085	0.00500	0.00492
7 acetylene	9.882	9.771	0.111	2413820	0.00496	0.00498
8 iso-butane	10.159	10.096	0.063	3896804	0.00494	0.00494
10 n-butane	10.534	10.524	0.010	3833460	0.00490	0.00481
15 neo-pentane	13.420	13.307	0.113	5117239	0.00514	0.00515
16 isopentane	13.979	13.903	0.076	4910150	0.00506	0.00512
17 pentane	14.250	14.181	0.069	4871930	0.00505	0.00505
S 22 c6-c7	15.000	-19.900		5970656	0.00529	0.00509

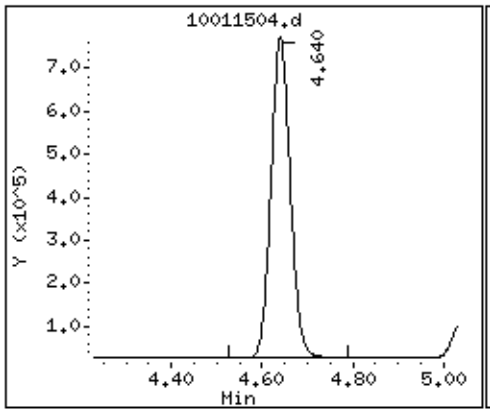


Data File: /chem/gc10.i/15Jan2016.b/10011504.d

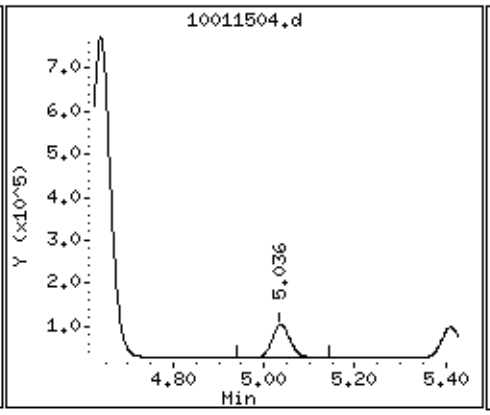
/chem/gc10.i/15Jan2016.b/10011504.d

Page 1

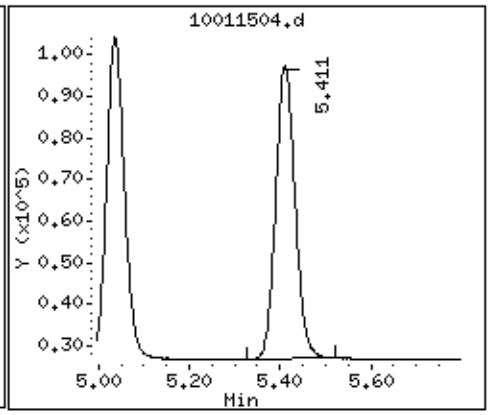
2 Methane



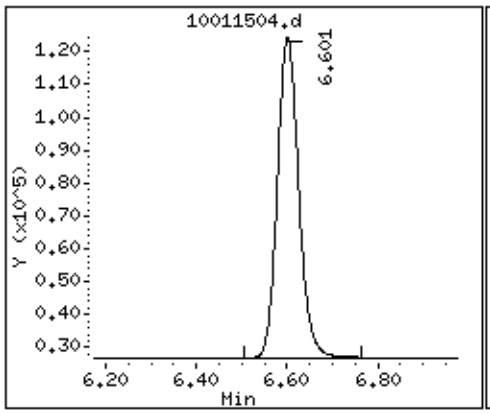
3 ethane



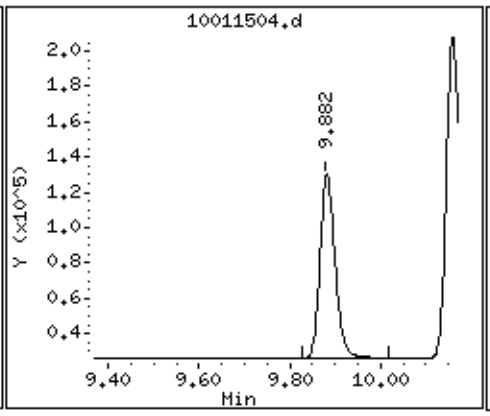
4 ethene



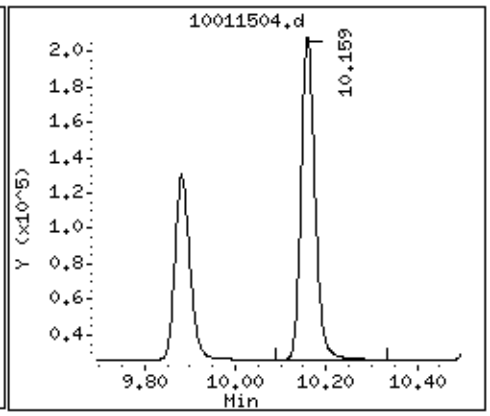
5 propane



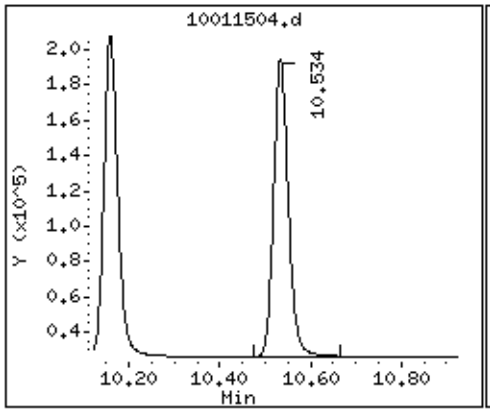
7 acetylene



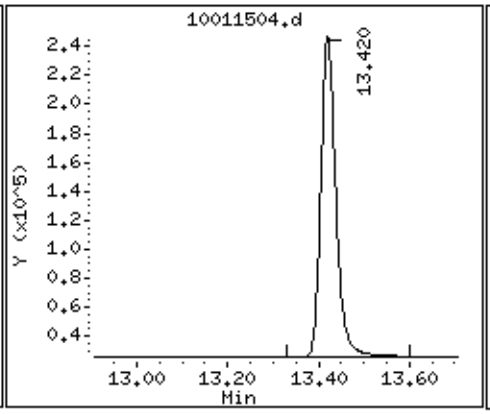
8 iso-butane



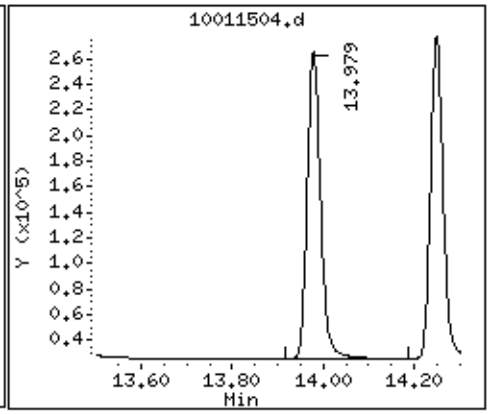
10 n-butane



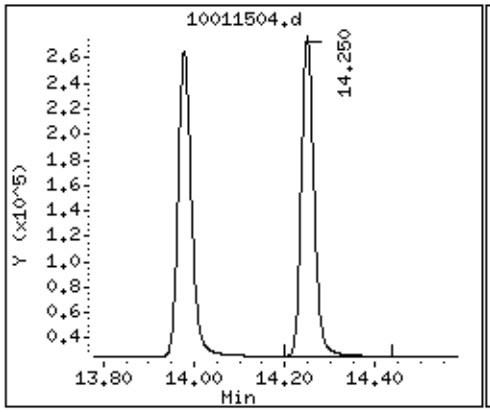
15 neo-pentane



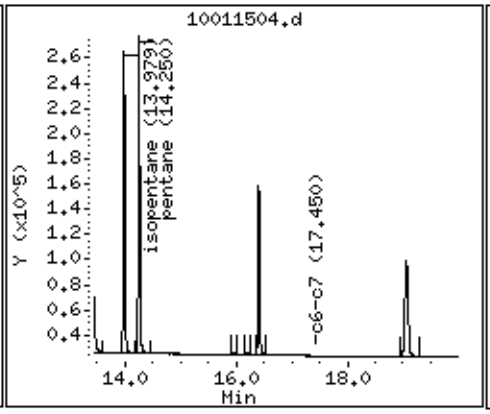
16 isopentane



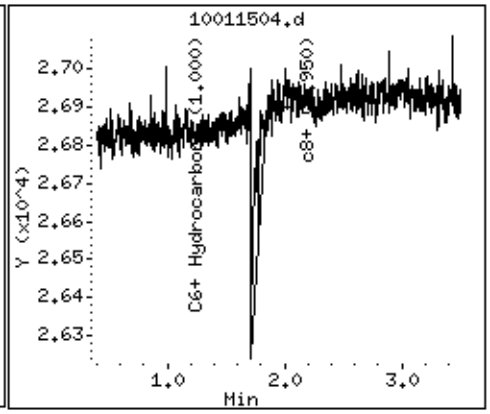
17 pentane



S 22 c6-c7



S 36 c8+



Eurofins Air Toxics Inc.

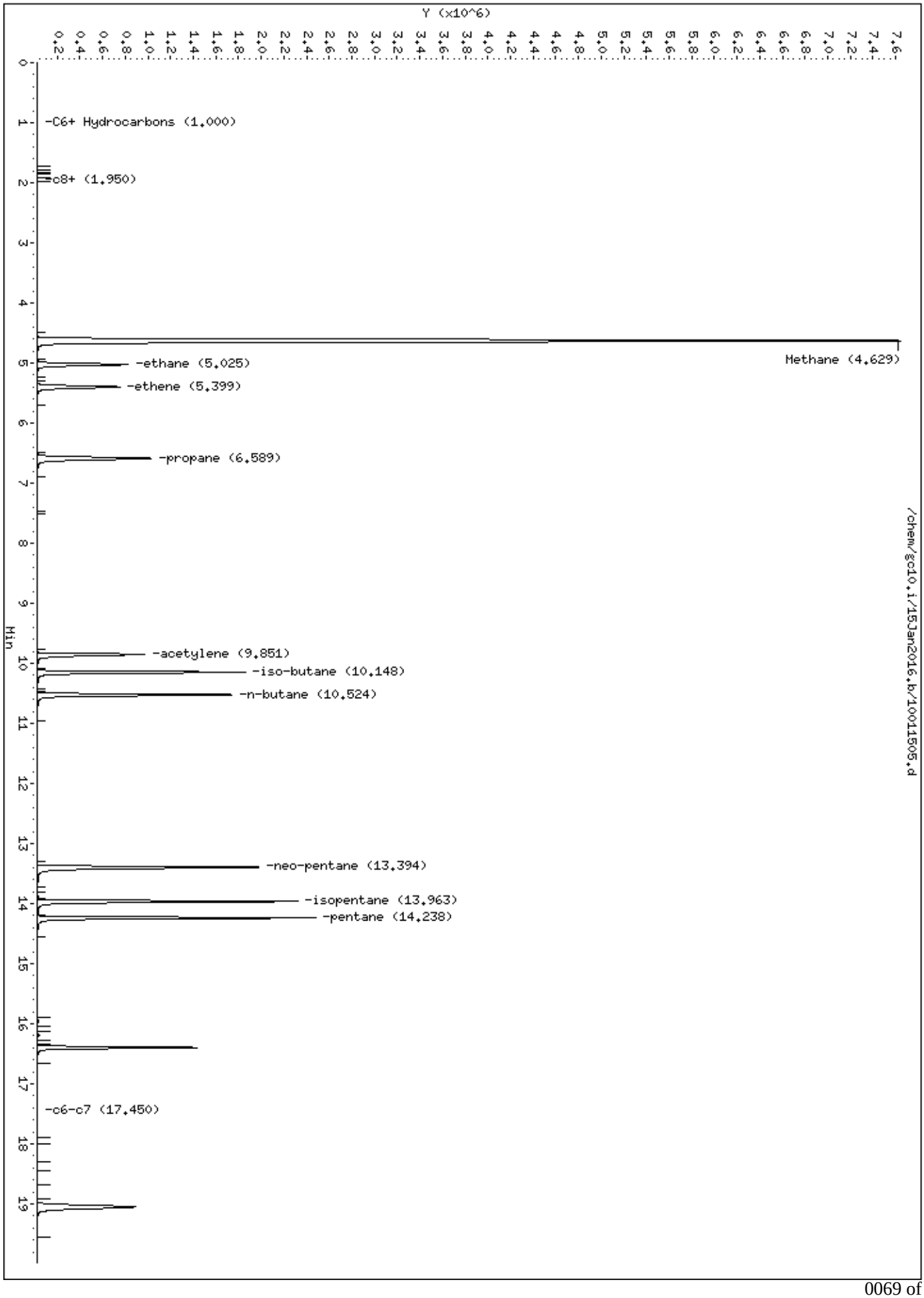
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/15Jan2016.b/10011505.d
Lab Smp Id: 2299-1048A C1-C7 Client Smp ID: Level-4
Inj Date : 15-JAN-2016 10:43
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/15Jan2016.b/106n0115.m
Meth Date : 16-Jan-2016 09:46 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 10:43 Cal File: 10011505.d
Als bottle: 1 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

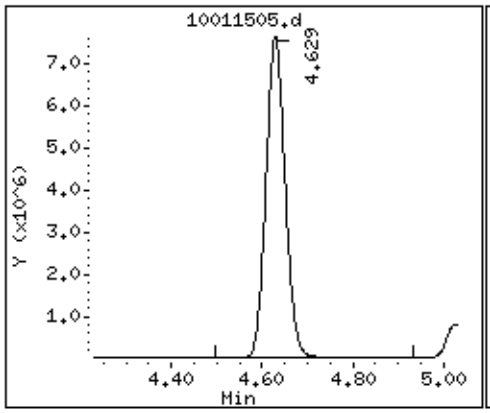
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(%)	(%)
==========	==	======	======	========	=======	=======
2 Methane	4.629	4.630	-0.001	224079751	1.01500	0.990
3 ethane	5.025	5.027	-0.002	21699502	0.05060	0.0502
4 ethene	5.399	5.397	0.002	21526528	0.05070	0.0504
5 propane	6.589	6.577	0.012	32823179	0.05060	0.0506
7 acetylene	9.851	9.771	0.080	24965663	0.05150	0.0515
8 iso-butane	10.148	10.096	0.052	40411415	0.05090	0.0512
10 n-butane	10.524	10.524	0.000	40030418	0.05050	0.0502
15 neo-pentane	13.394	13.307	0.087	53331391	0.05330	0.0537
16 isopentane	13.963	13.903	0.060	51022132	0.05260	0.0532
17 pentane	14.238	14.181	0.057	50944960	0.05230	0.0528
M 37 C6+ Hydrocarbons				66904236	0.50700	0.0570
S 22 c6-c7	15.000-19.900			66862596	0.05380	0.0570



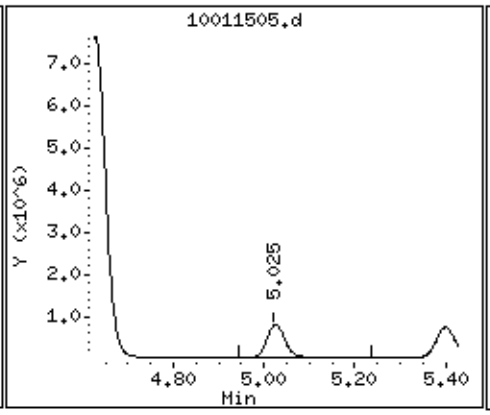
Data File: /chem/gc10.i/15Jan2016.b/10011505.d

Page 1

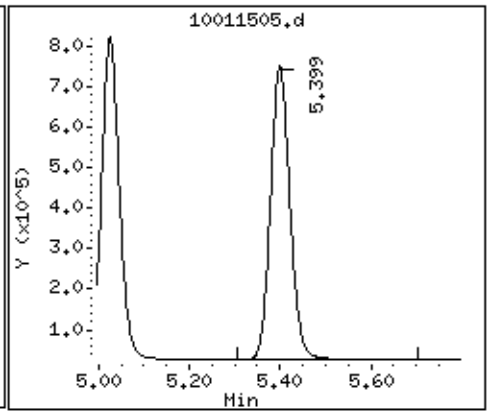
2 Methane



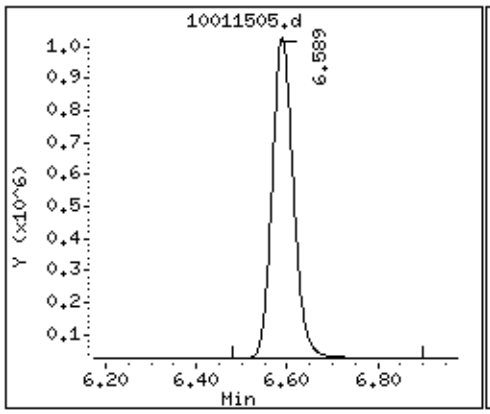
3 ethane



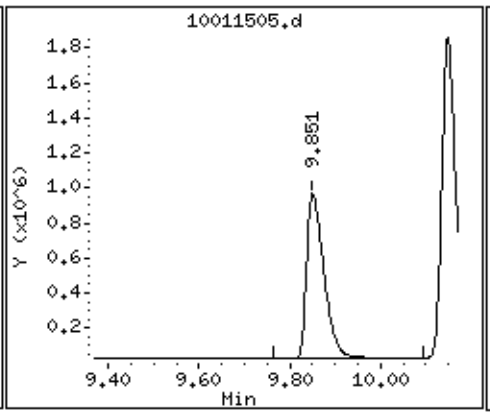
4 ethene



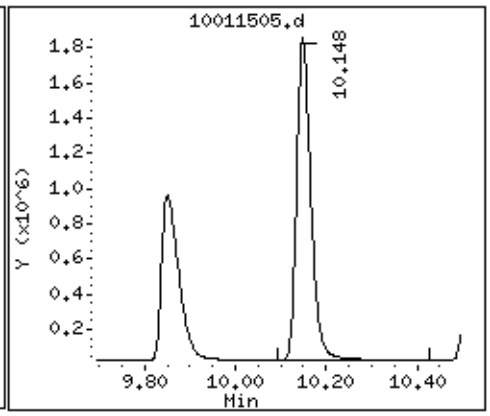
5 propane



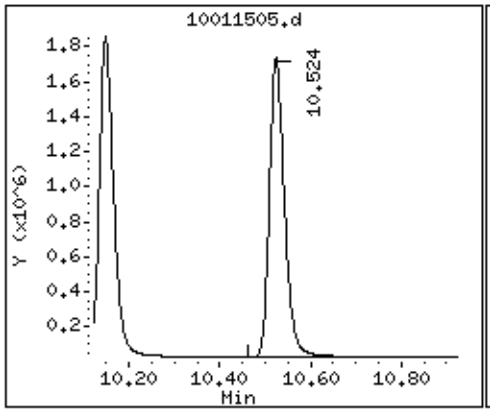
7 acetylene



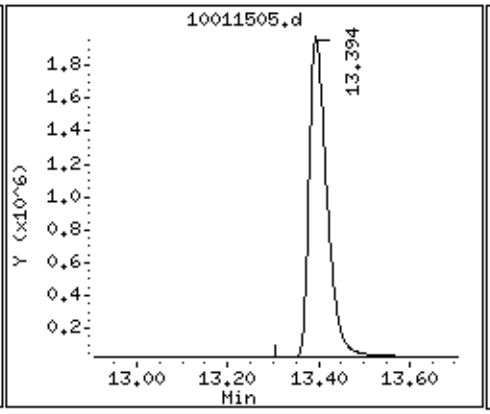
8 iso-butane



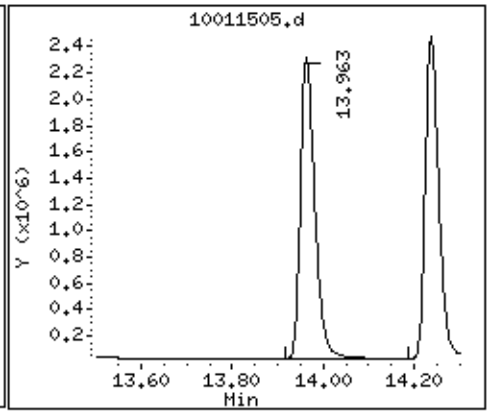
10 n-butane



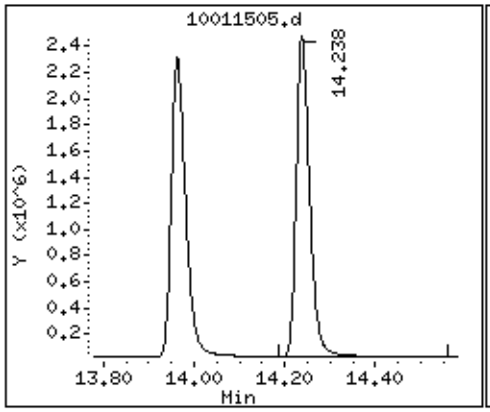
15 neo-pentane



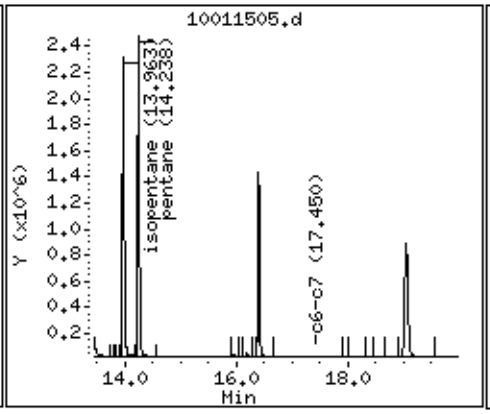
16 isopentane



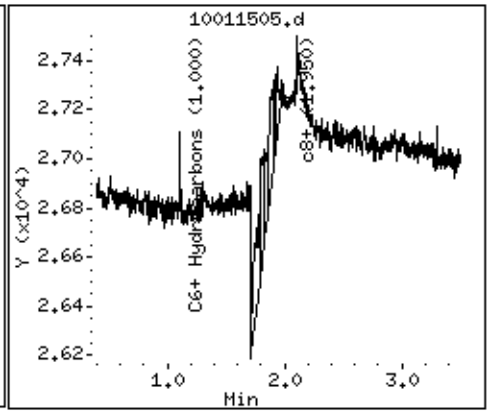
17 pentane



S 22 c6-c7



S 36 c8+



Eurofins Air Toxics Inc.

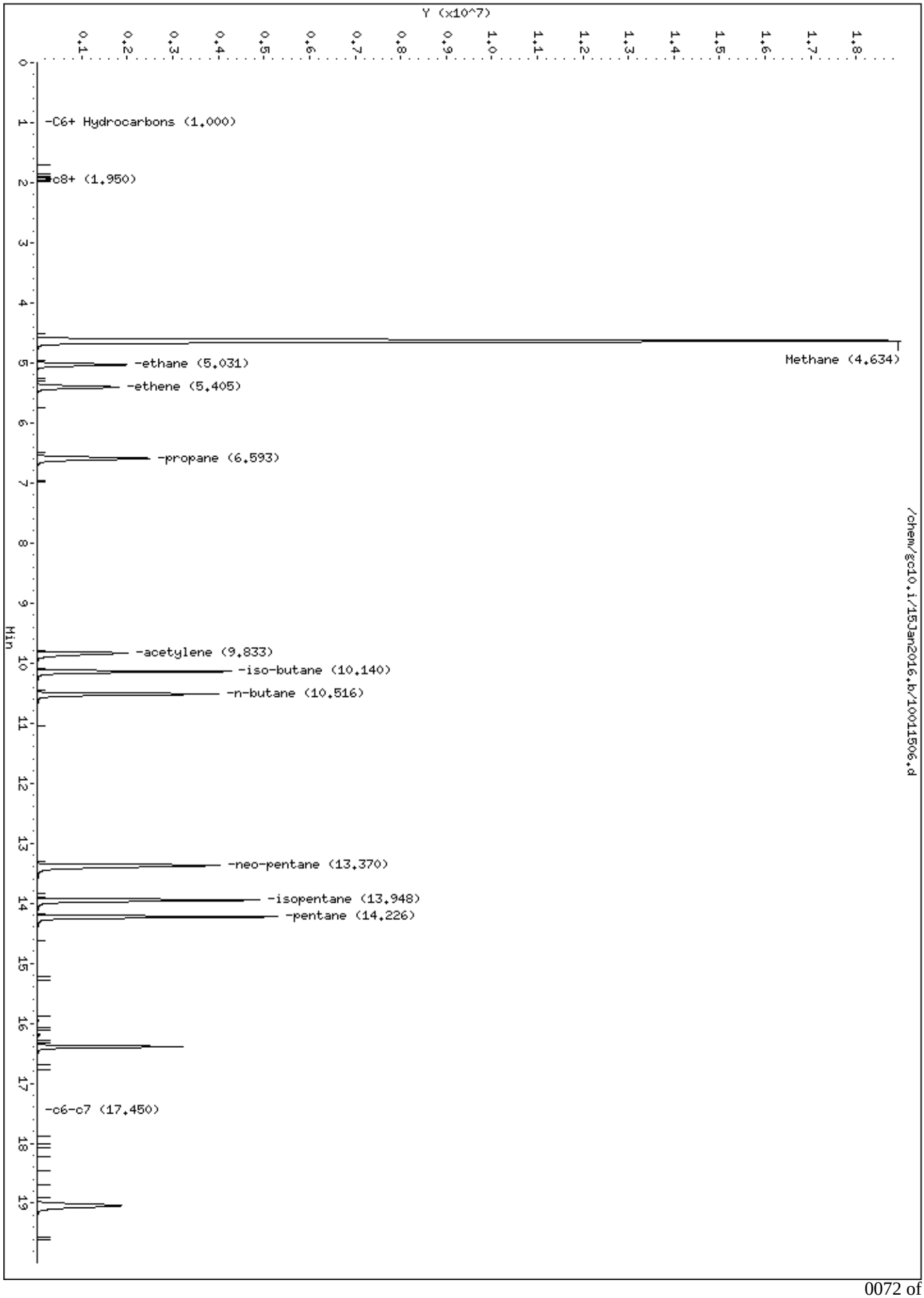
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/15Jan2016.b/10011506.d
Lab Smp Id: 2299-1048A C1-C7 Client Smp ID: Level-5
Inj Date : 15-JAN-2016 11:10
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/15Jan2016.b/106n0115.m
Meth Date : 15-Jan-2016 12:17 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 11:10 Cal File: 10011506.d
Als bottle: 1 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(%)	(%)
==========	==	======	======	========	=======	=======
2 Methane	4.634	4.630	0.004	557037561	2.53750	2.46
3 ethane	5.031	5.027	0.004	53783202	0.12650	0.126
4 ethene	5.405	5.397	0.008	53364740	0.12675	0.127
5 propane	6.593	6.576	0.017	81075742	0.12625	0.127
7 acetylene	9.833	9.851	-0.018	62089260	0.12875	0.129
8 iso-butane	10.140	10.096	0.044	99467679	0.12725	0.127
10 n-butane	10.516	10.524	-0.008	98403289	0.12625	0.126
15 neo-pentane	13.370	13.394	-0.024	131011790	0.13325	0.133
16 isopentane	13.948	13.963	-0.015	124526837	0.13150	0.130
17 pentane	14.226	14.181	0.045	123831404	0.13075	0.130
M 37 C6+ Hydrocarbons				152517863	0.50000	0.132
S 22 c6-c7	15.000-19.900			152466067	0.13450	0.132

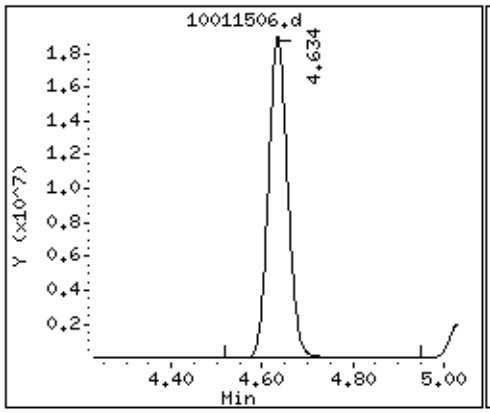


Data File: /chem/gc10.i/15Jan2016.b/10011506.d

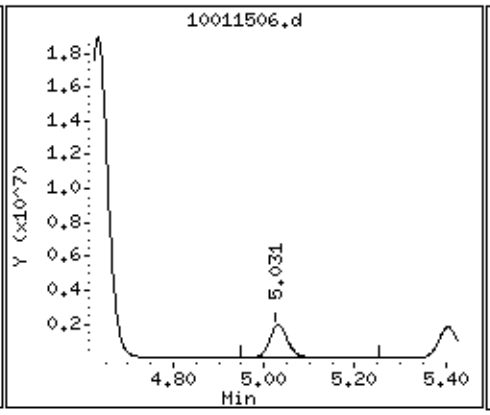
/chem/gc10.i/15Jan2016.b/10011506.d

Page 1

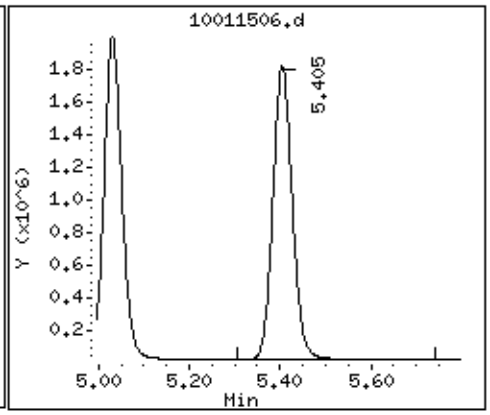
2 Methane



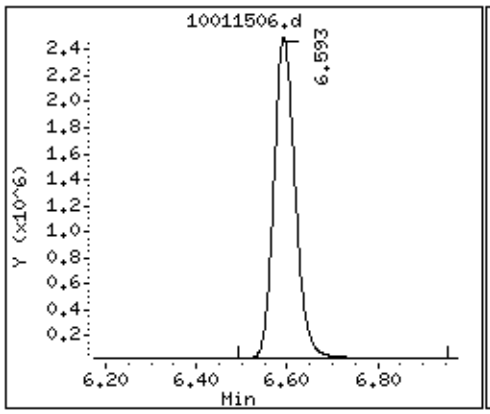
3 ethane



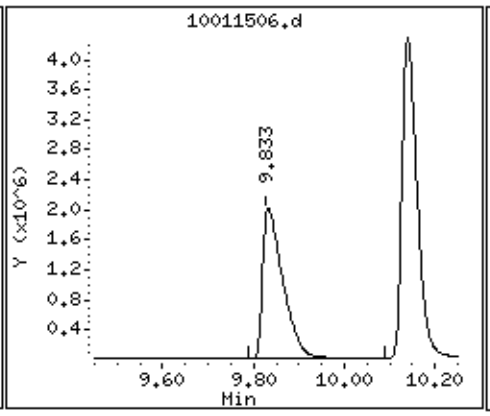
4 ethene



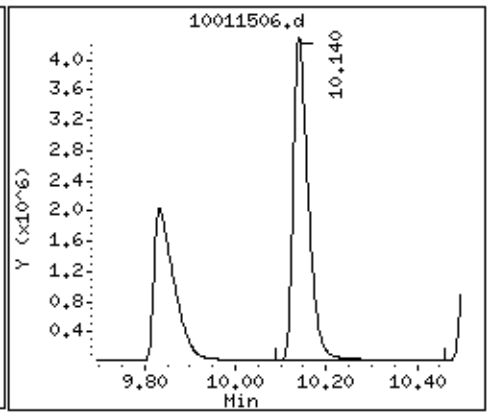
5 propane



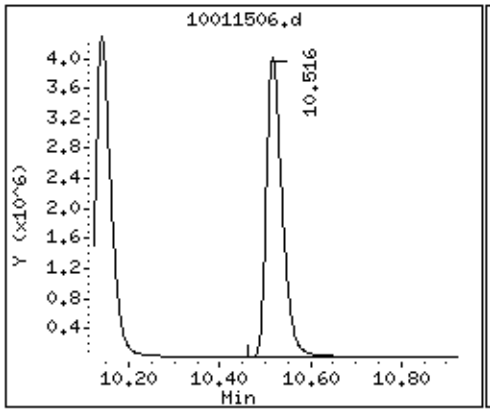
7 acetylene



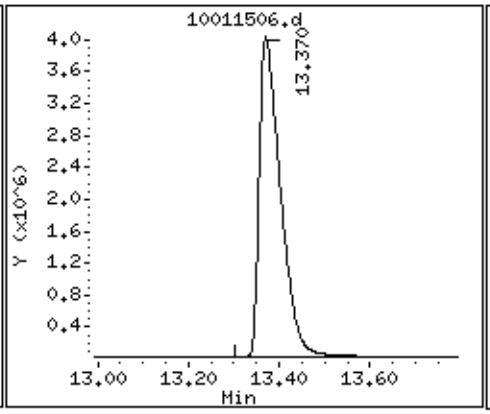
8 iso-butane



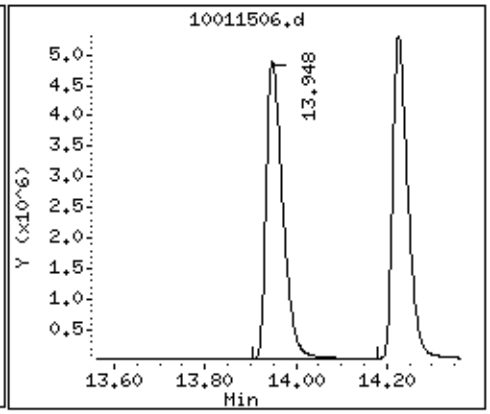
10 n-butane



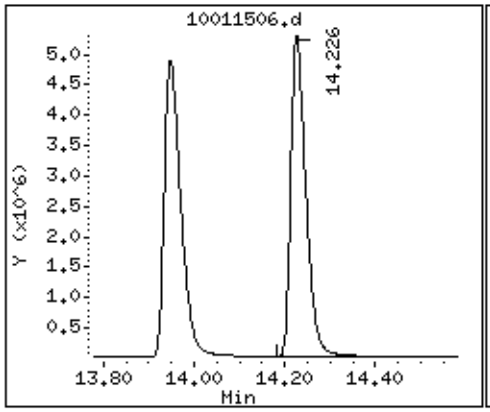
15 neo-pentane



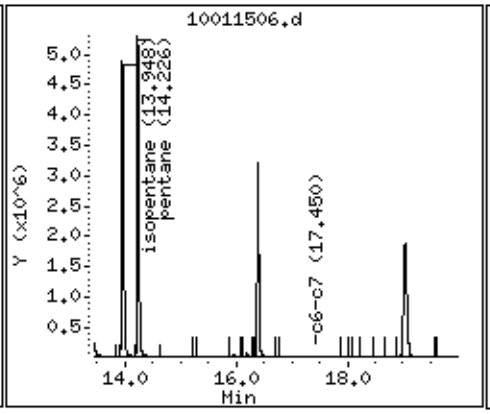
16 isopentane



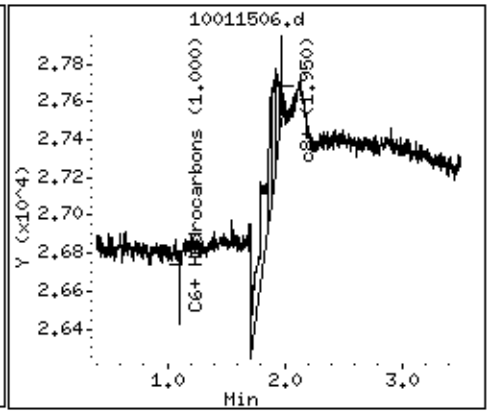
17 pentane



S 22 c6-c7



S 36 c8+



Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/15Jan2016.b/10011507.d
Lab Smp Id: 2299-1048A C1-C7 Client Smp ID: Level-6
Inj Date : 15-JAN-2016 11:36
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/15Jan2016.b/106n0115.m
Meth Date : 16-Jan-2016 09:46 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 11:36 Cal File: 10011507.d
Als bottle: 1 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

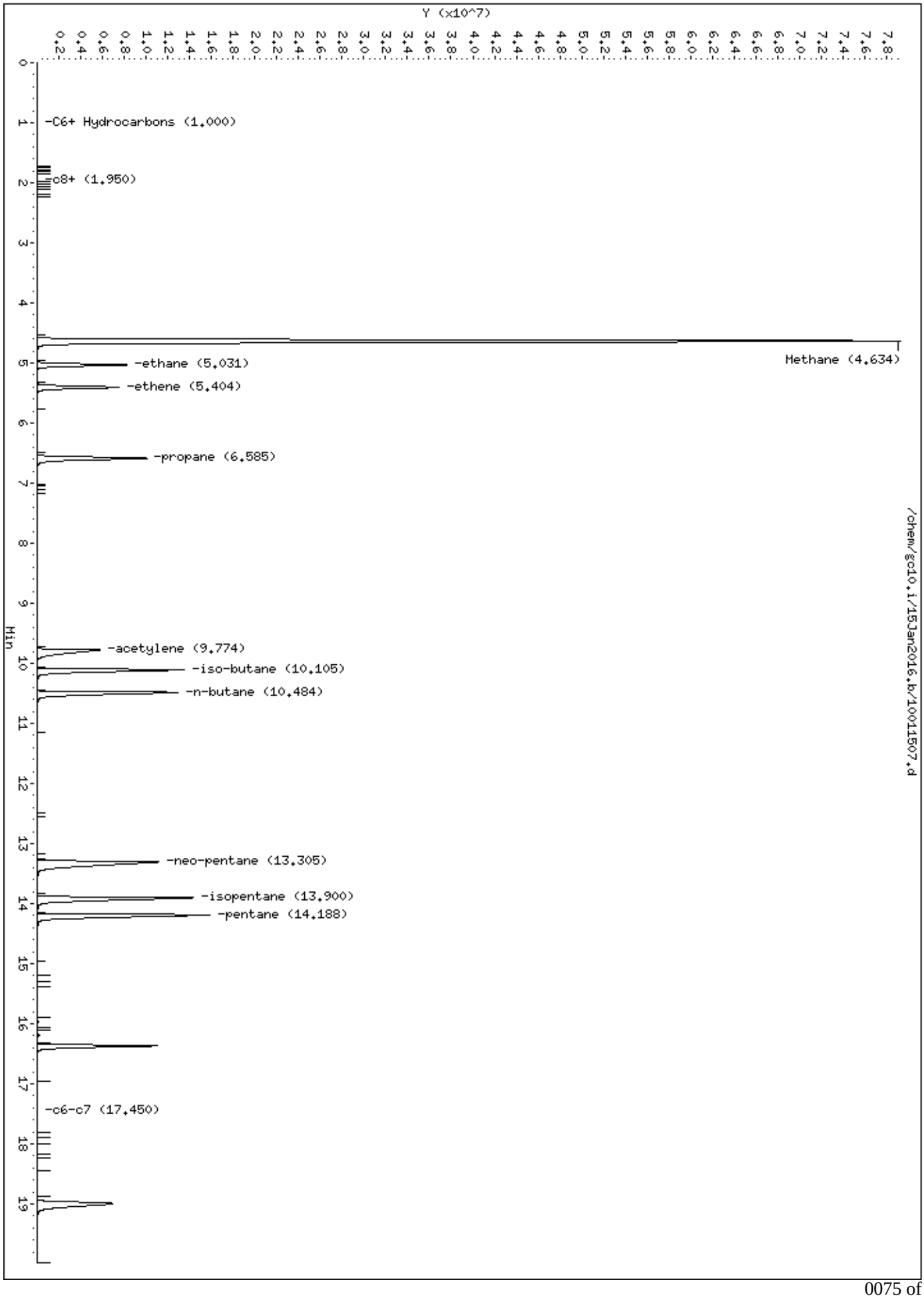
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
2 Methane	4.634	4.630	0.004	2308727222	10.1500	10.2
3 ethane	5.031	5.027	0.004	224539461	0.50600	0.520
4 ethene	5.404	5.397	0.007	222677261	0.50700	0.521
5 propane	6.585	6.577	0.008	337159654	0.50600	0.520
7 acetylene	9.774	9.771	0.003	259697443	0.51500	0.536(A)
8 iso-butane	10.105	10.096	0.009	413563354	0.50900	0.524(A)
10 n-butane	10.484	10.524	-0.040	410526247	0.50500	0.515
15 neo-pentane	13.305	13.307	-0.002	546633037	0.53300	0.550(A)
16 isopentane	13.900	13.903	-0.003	522250654	0.52600	0.545
17 pentane	14.188	14.181	0.007	522198007	0.52300	0.541(A)
M 37 C6+ Hydrocarbons				661280120	0.00000	0.564
S 22 c6-c7	15.000-19.900			661014877	0.53800	0.564

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

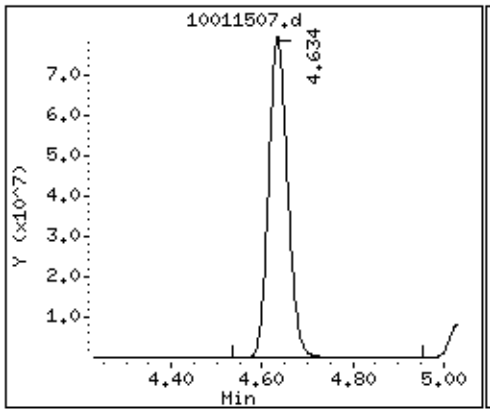


Data File: /chem/gc10.i/15Jan2016.b/10011507.d

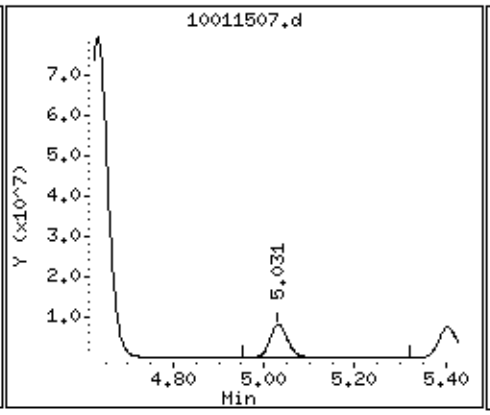
/chem/gc10.i/15Jan2016.b/10011507.d

Page 1

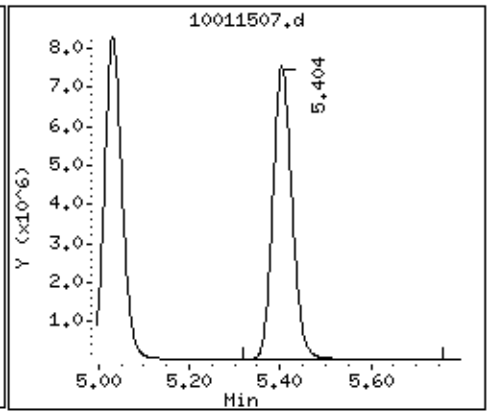
2 Methane



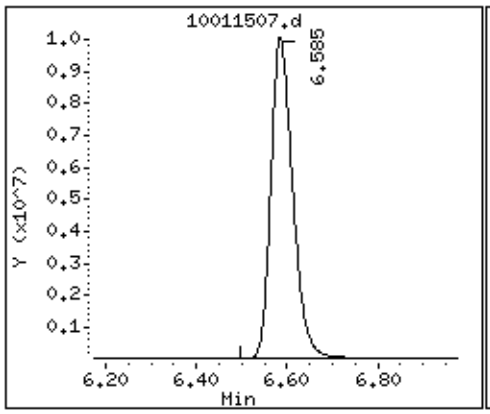
3 ethane



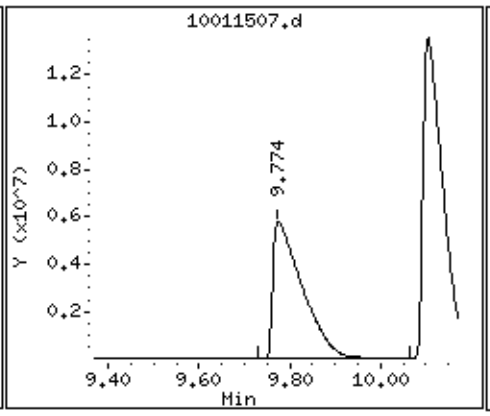
4 ethene



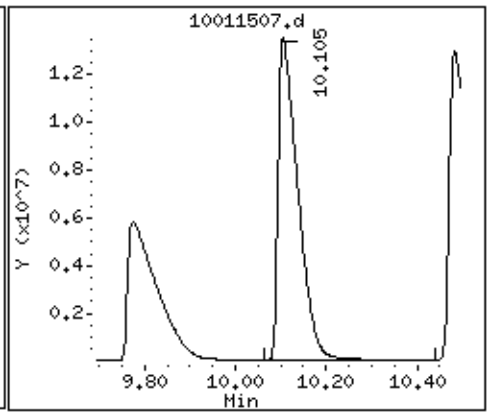
5 propane



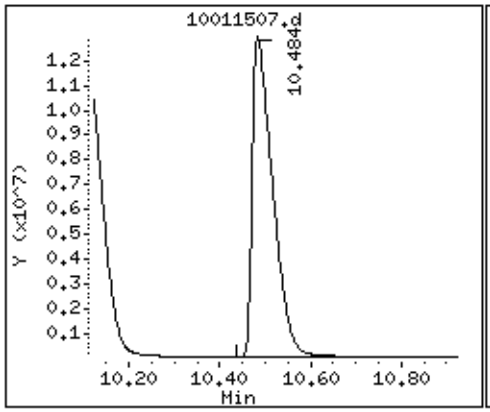
7 acetylene



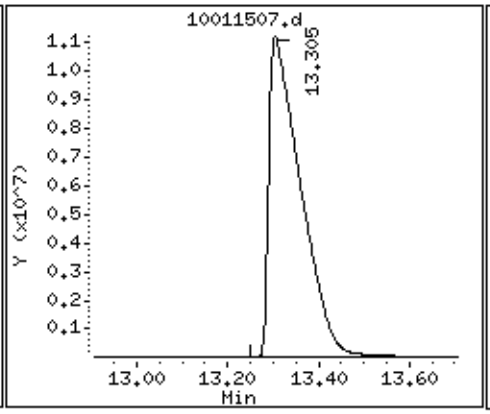
8 iso-butane



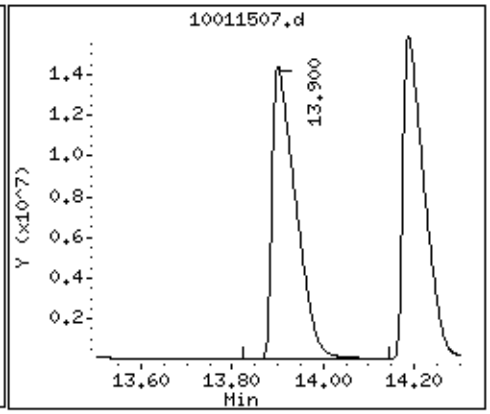
10 n-butane



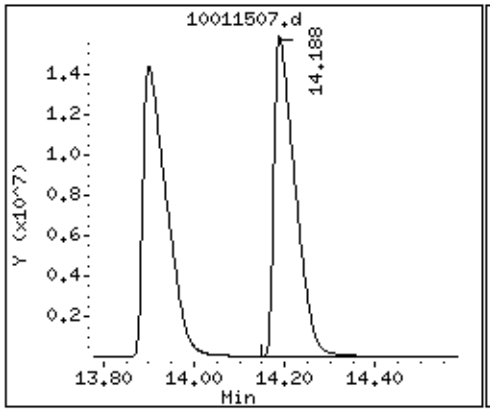
15 neo-pentane



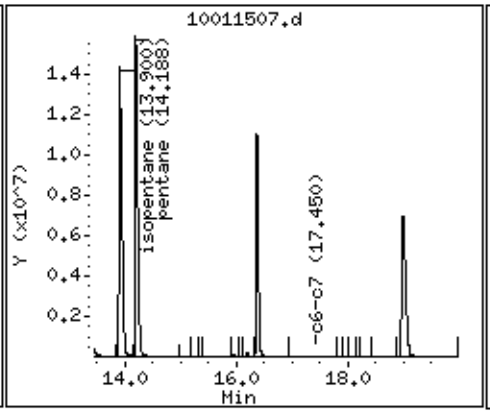
16 isopentane



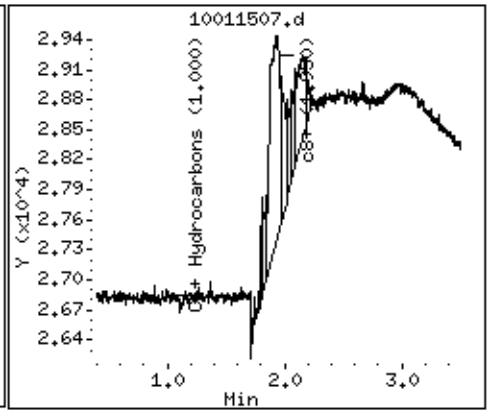
17 pentane



S 22 c6-c7



S 36 c8+



Eurofins Air Toxics Inc.

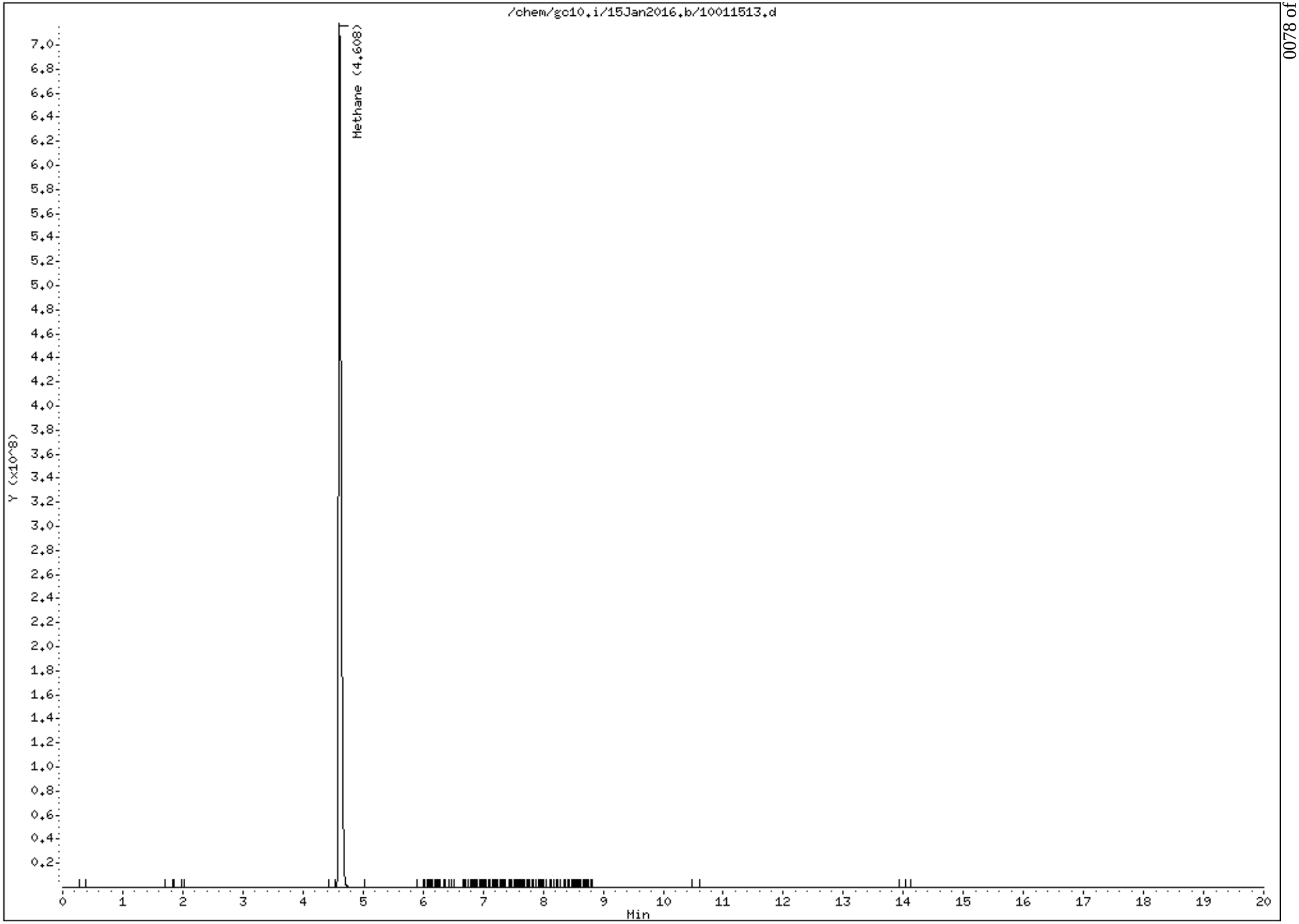
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/15Jan2016.b/10011513.d
Lab Smp Id: 1476-2859 Methane Client Smp ID: Level-7
Inj Date : 15-JAN-2016 14:29
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/15Jan2016.b/106n0115.m
Meth Date : 16-Jan-2016 09:46 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ch4.sub
Target Version: 3.50
Processing Host: eeyore

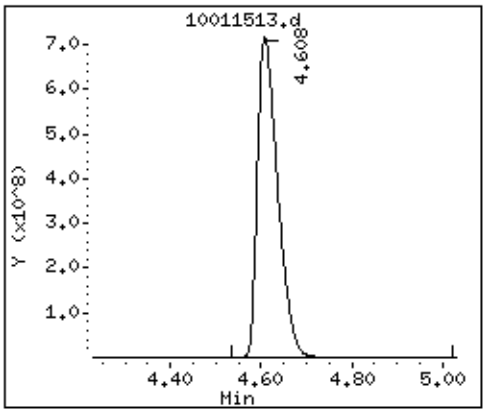
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
2 Methane	4.608	4.630	-0.022	22227588479	99.0000	98.2


/chem/gc10.i/15Jan2016.b/10011513.d
Methane (4.608)
Y (x10^8)
7.0
6.8
6.6
6.4
6.2
6.0
5.8
5.6
5.4
5.2
5.0
4.8
4.6
4.4
4.2
4.0
3.8
3.6
3.4
3.2
3.0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Min

2 Methane



Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/15Jan2016.b/10011512.d
Lab Smp Id: 1476-898 Isopentane Client Smp ID: Level-7
Inj Date : 15-JAN-2016 14:03
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/15Jan2016.b/106n0115.m
Meth Date : 16-Jan-2016 09:46 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: isopentane.sub
Target Version: 3.50
Processing Host: eeyore

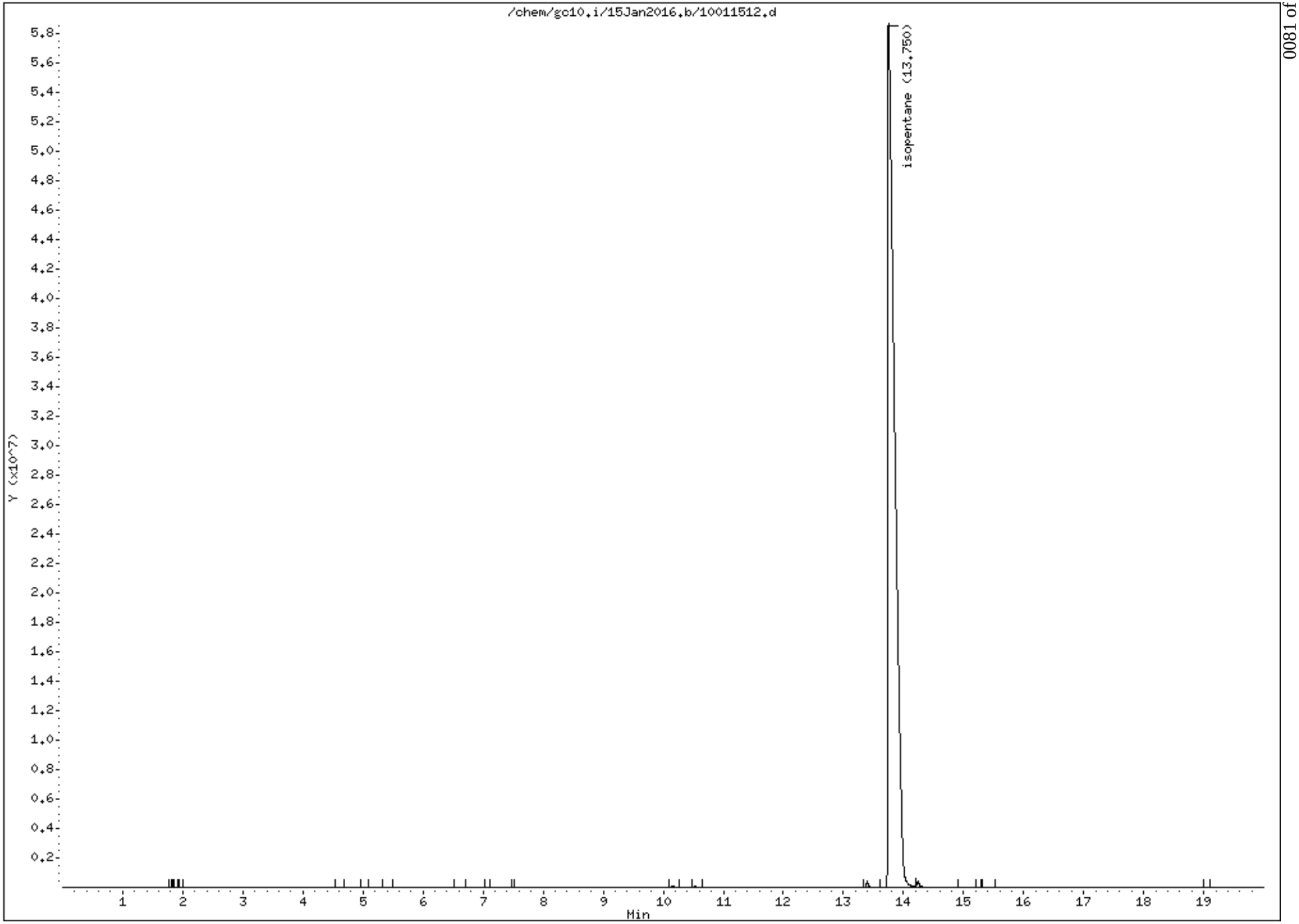
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

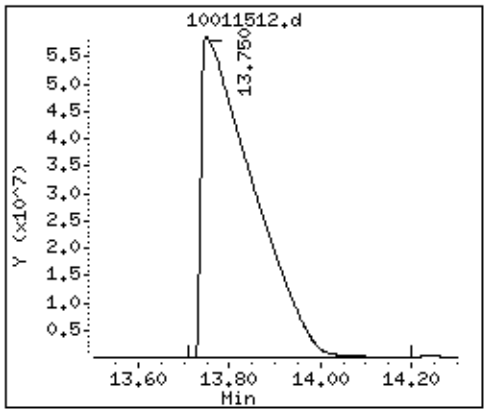
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
16 isopentane	13.750	13.903	-0.153	4635232252	4.95000	4.83(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.


/chem/gc10.i/15Jan2016.b/10011512.d
isopentane (13.750)
Y (x10^7)
5.8
5.6
5.4
5.2
5.0
4.8
4.6
4.4
4.2
4.0
3.8
3.6
3.4
3.2
3.0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
Min

16 isopentane



Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/15Jan2016.b/10011511.d
Lab Smp Id: 843-471 Propane Client Smp ID: Level-7
Inj Date : 15-JAN-2016 13:34
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/15Jan2016.b/106n0115.m
Meth Date : 16-Jan-2016 09:46 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: propane.sub
Target Version: 3.50
Processing Host: eeyore

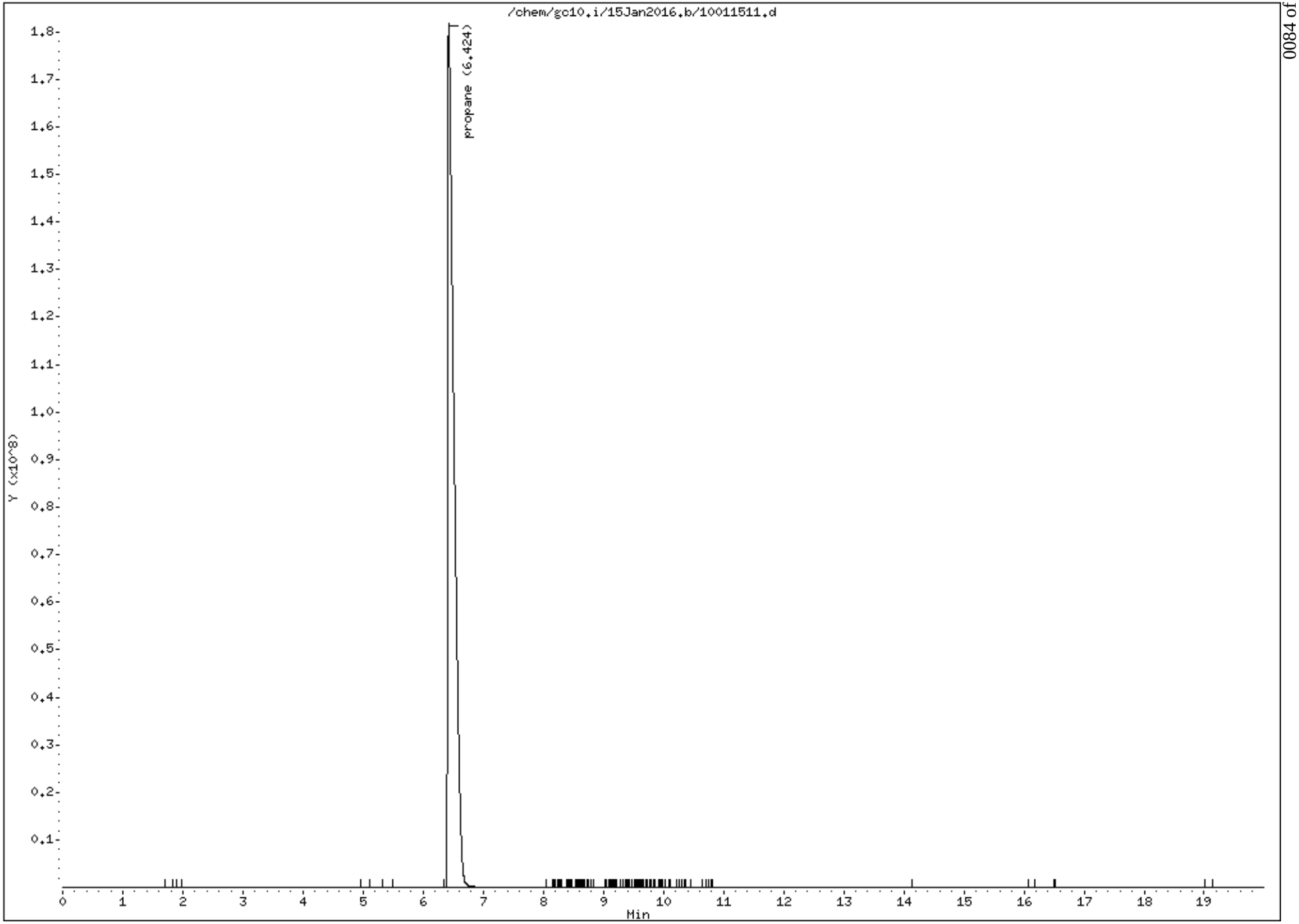
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

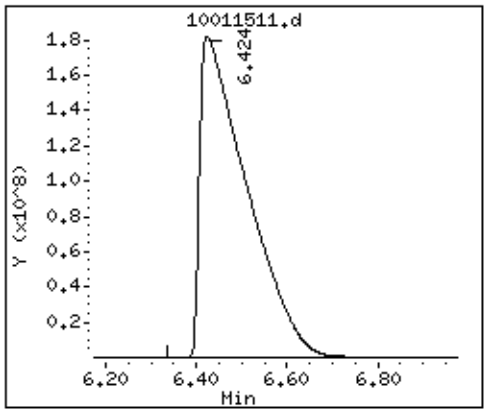
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
5 propane	6.424	6.577	-0.153	13207561258	19.9000	20.4(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.


/chem/gc10.i/15Jan2016.b/10011511.d
propane (6.424)
Y (x10^8)
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
Min

5 propane


10011511.d
6.424
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
Y (x10^8)
6.20
6.40
6.60
6.80
Min

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/15Jan2016.b/10011510.d
Lab Smp Id: 1476-897 Butane Client Smp ID: Level-7
Inj Date : 15-JAN-2016 13:07
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/15Jan2016.b/106n0115.m
Meth Date : 16-Jan-2016 09:46 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: Butane.sub
Target Version: 3.50
Processing Host: eeyore

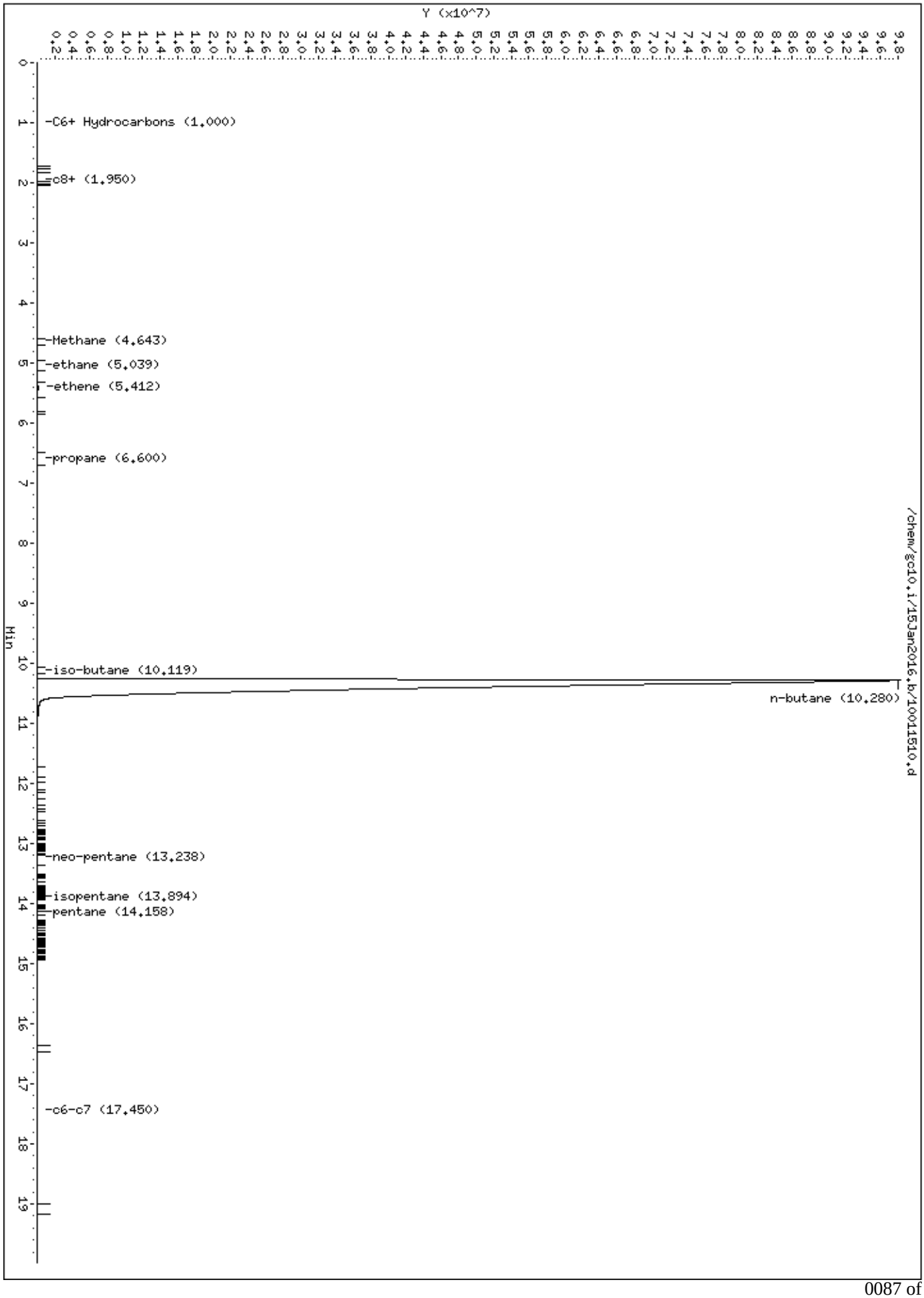
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
10 n-butane	10.280	10.524	-0.244	8501464851	9.99000	10.7(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

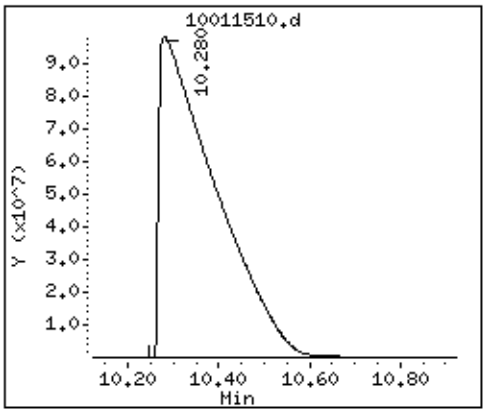


Data File: /chem/gc10.i/15Jan2016.b/10011510.d

/chem/gc10.i/15Jan2016.b/10011510.d

Page 1

10 n-butane


10011510.d
10.280
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
Y (x10^7)
10.20
10.40
10.60
10.80
Min

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/15Jan2016.b/10011509.d
Lab Smp Id: 1476-437 Ethene Client Smp ID: Level-7
Inj Date : 15-JAN-2016 12:42
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/15Jan2016.b/106n0115.m
Meth Date : 16-Jan-2016 09:46 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: Ethene.sub
Target Version: 3.50
Processing Host: eeyore

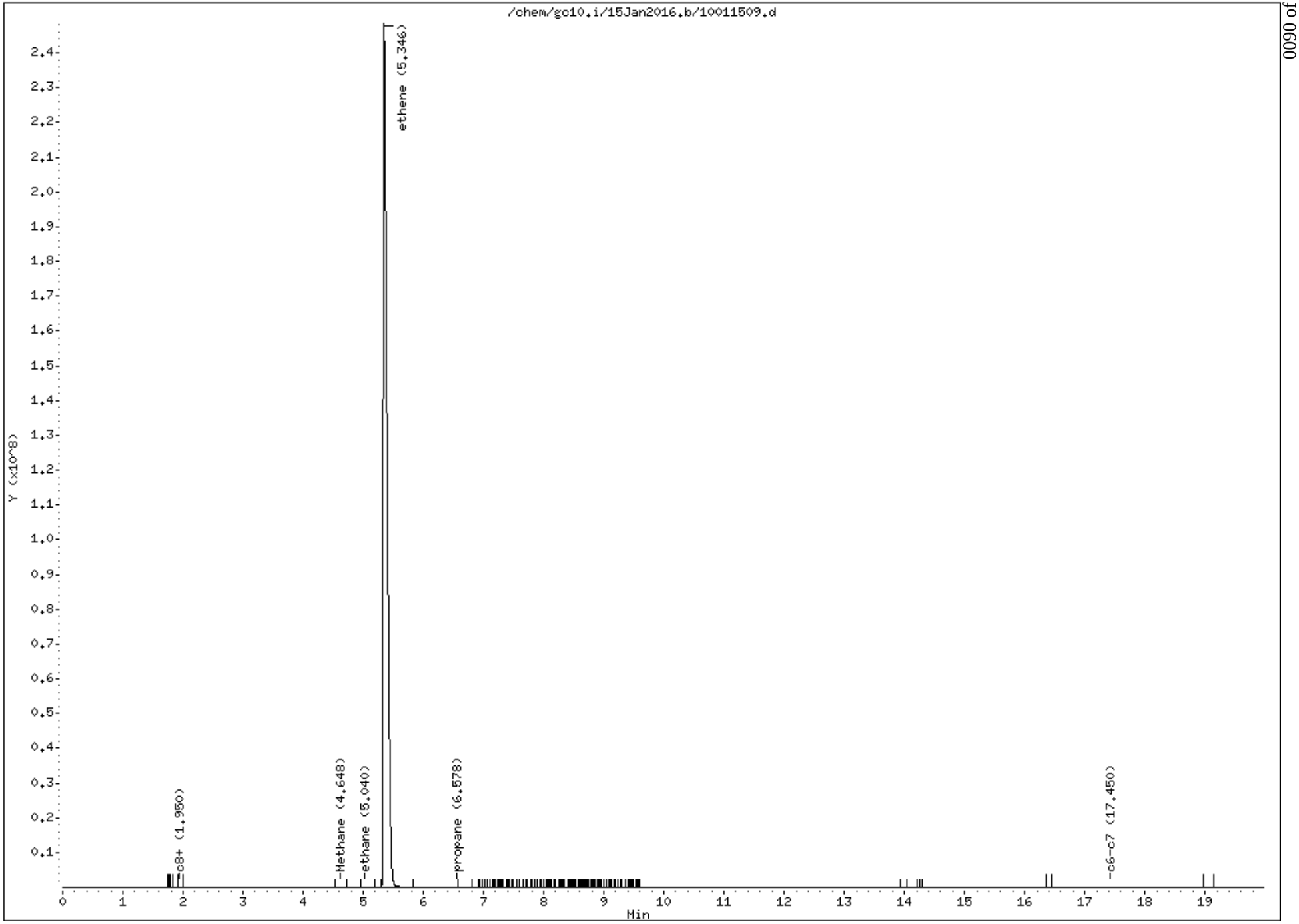
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

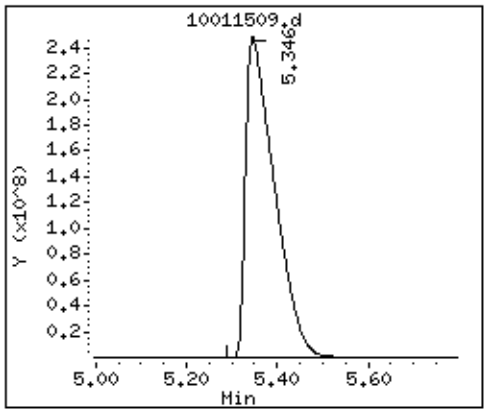
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
4 ethene	5.346	5.397	-0.051	11016013311	24.8750	25.8(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.


/chem/gc10.i/15Jan2016.b/10011509.d
Y (x10^8)
2.4
2.3
2.2
2.1
2.0
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
ethene (5.346)
c8+ (1.950)
Methane (4.648)
ethane (5.040)
propane (6.578)
c6-c7 (17.450)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Min

4 ethene


10011509.d
5.346
Y (x10^8)
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
5.00
5.20
5.40
5.60
Min

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/15Jan2016.b/10011508.d
Lab Smp Id: 1476-438 Ethane Client Smp ID: Level-7
Inj Date : 15-JAN-2016 12:18
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/15Jan2016.b/106n0115.m
Meth Date : 16-Jan-2016 09:46 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: Ethane.sub
Target Version: 3.50
Processing Host: eeyore

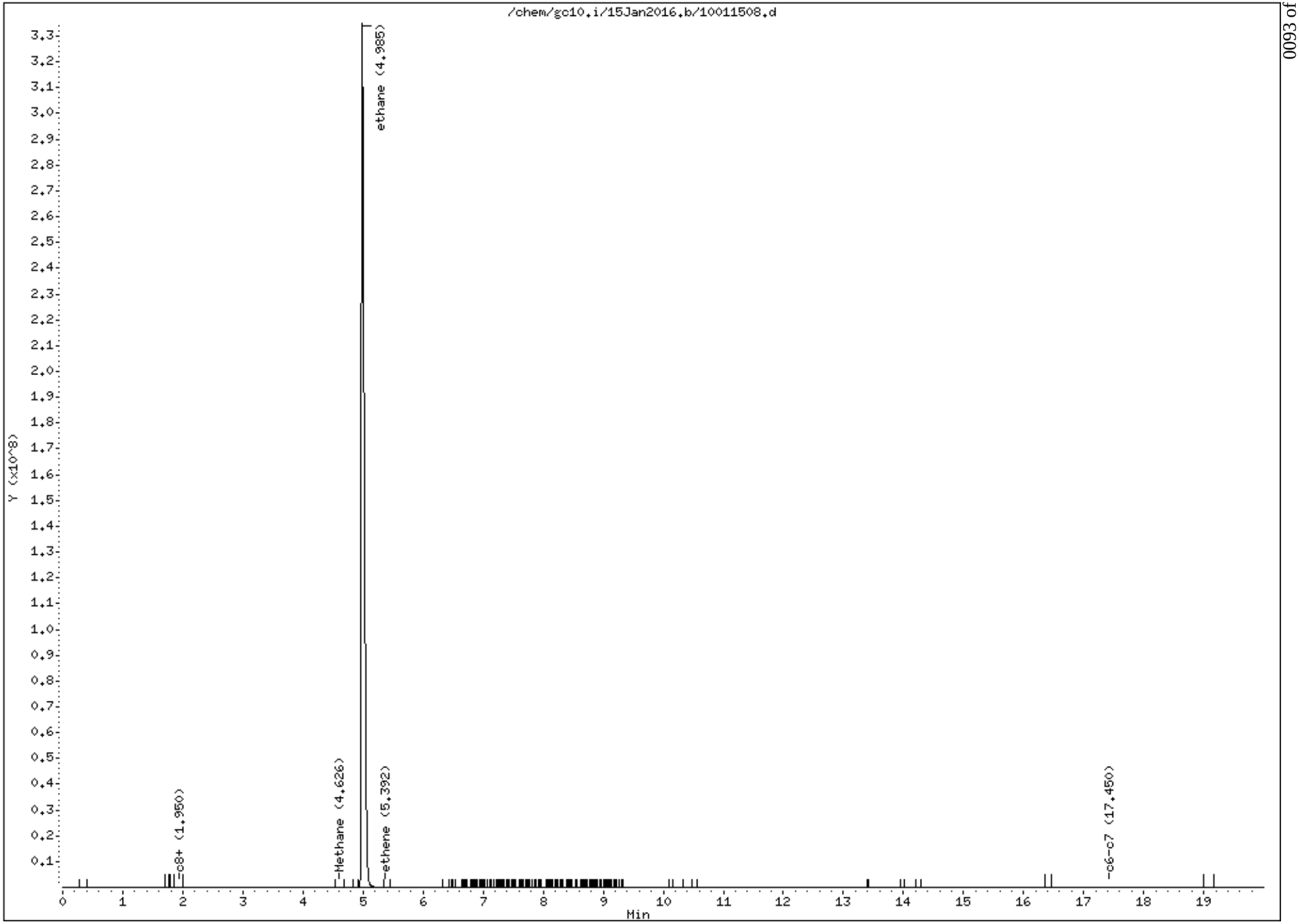
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

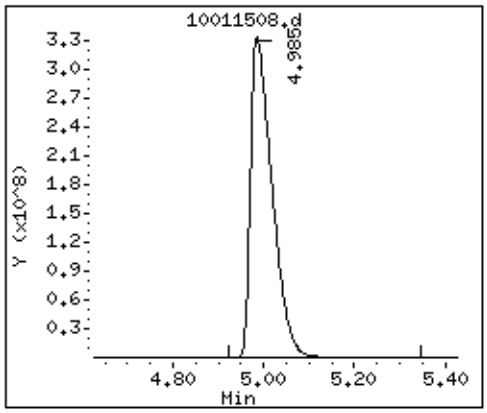
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
3 ethane	4.985	5.027	-0.042	11055415485	24.9750	25.6(A)

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.


/chem/gc10.i/15Jan2016.b/10011508.d
Y (x10^8)
ethane (4.985)
c8+ (1.950)
Methane (4.626)
ethene (5.392)
c6-c7 (17.450)
Min

3 ethane


10011508.d
4.985
Y (x10^8)
3.3
3.0
2.7
2.4
2.1
1.8
1.5
1.2
0.9
0.6
0.3
4.80
5.00
5.20
5.40
Min

CH4 MDL
ASTM D-1945 / 1946
GC-10 FID

Report Date : 16-Jan-2016 10:36

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/gc10.i/16Jan2016.b/106n0115.m
Batch File: /chem/gc10.i/16Jan2016.b
Inst ID: gc10.i

ID:	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07
FILENAME:	10011603	10011604	10011605	10011606	10011607	10011608	10011609
INJ.DATE:	16-JAN-2016	16-JAN-2016	16-JAN-2016	16-JAN-2016	16-JAN-2016	16-JAN-2016	16-JAN-2016
INJ.TIME:	07:26	07:50	08:13	08:41	09:14	09:36	10:01

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL PPMV	%	RL%	conc spiked
2 Methane	1.23	1.19	0.99	0.99	1.07	1.07	1.09	1.09	0.09	0.29	0.000029	0.0001	0.00001%
3 ethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			
4 ethene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			
5 propane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			
7 acetylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			
8 iso-butane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			
10 n-butane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			
15 neo-pentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			
16 isopentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			
17 pentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			
39 Hexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			
40 Heptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			
S 22 c6-c7	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			
M 37 C6+ Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			
S 36 c8+	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			

1.0 ml of std 2516-196 (200x) was spiked, resulting in a concentration of 0.0001% for CH4.

Reviewer 1 [signature] Date: 1/19/16
Reviewer 2 [signature] Date: 1/25/16

Eurofins Air Toxics Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gc10.i Injection Date: 09-JUN-2016 08:48
Lab File ID: 10060901.d Init. Cal. Date(s): 15-JAN-2016 15-JAN-2016
Analysis Type: AIR Init. Cal. Times: 09:21 14:29
Lab Sample ID: 2299-1048A Ngas Quant Type: ESTD
Method: /chem/gc10.i/09Jun2016.b/106n0115.m

	COMPOUND	RRF / AMOUNT	RF0.000	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
	2 Methane	226379851	227518431	0.010	-0.50295	15.00000	Averaged
	3 ethane	432193762	442356140	0.010	-2.35135	15.00000	Averaged
	4 ethene	427488407	438726191	0.010	-2.62879	15.00000	Averaged
	5 propane	648144749	664565534	0.010	-2.53351	15.00000	Averaged
	7 acetylene	484612312	509709445	0.010	-5.17881	15.00000	Averaged
	8 iso-butane	789001494	809923024	0.010	-2.65165	15.00000	Averaged
	10 n-butane	797508176	810145861	0.010	-1.58465	15.00000	Averaged
	15 neo-pentane	993221843	1.023e+09	0.010	-3.04699	15.00000	Averaged
	16 isopentane	958790746	987740236	0.010	-3.01938	15.00000	Averaged
	17 pentane	964408798	991243874	0.010	-2.78254	15.00000	Averaged
M	37 C6+ Hydrocarbons	1.172e+09	1.204e+09	0.010	-2.69850	15.00000	Averaged
S	22 c6-c7	1.172e+09	1.195e+09	0.010	-1.93494	15.00000	Averaged

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/09Jun2016.b/10060901.d
Lab Smp Id: 2299-1048A Ngas Client Smp ID: CCV
Inj Date : 09-JUN-2016 08:48
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/09Jun2016.b/106n0115.m
Meth Date : 09-Jun-2016 09:20 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

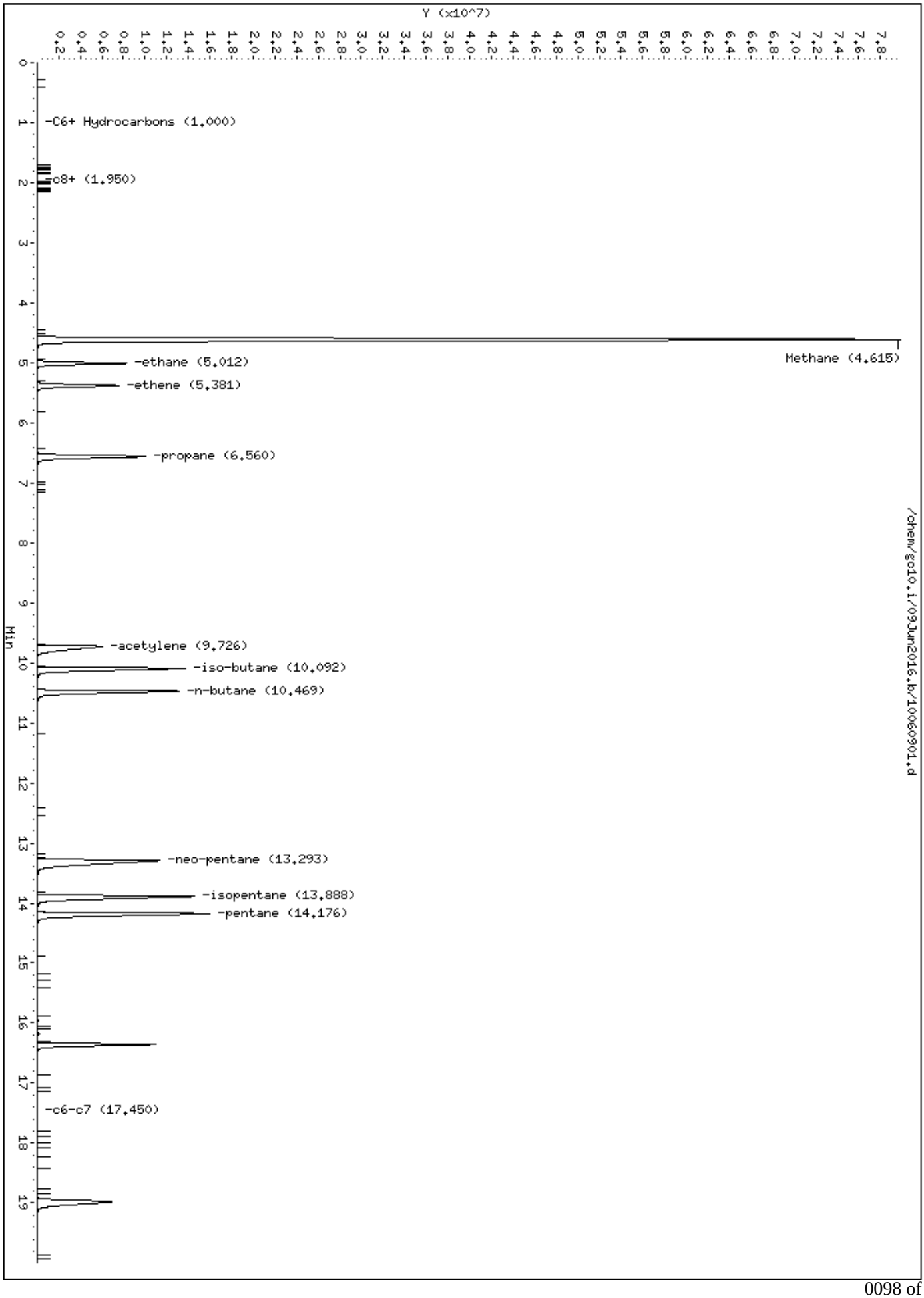
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
2 Methane	4.615	4.615	0.000	2309312075	10.1500	10.2
3 ethane	5.012	5.012	0.000	223832207	0.50600	0.518
4 ethene	5.381	5.381	0.000	222434179	0.50700	0.520
5 propane	6.560	6.560	0.000	336270160	0.50600	0.519
7 acetylene	9.726	9.726	0.000	262500364	0.51500	0.542(A)
8 iso-butane	10.092	10.092	0.000	412250819	0.50900	0.522(A)
10 n-butane	10.469	10.469	0.000	409123660	0.50500	0.513
15 neo-pentane	13.293	13.293	0.000	545517618	0.53300	0.549(A)
16 isopentane	13.888	13.888	0.000	519551364	0.52600	0.542
17 pentane	14.176	14.176	0.000	518420546	0.52300	0.538(A)
M 37 C6+ Hydrocarbons				642894410	0.53400	0.548
S 22 c6-c7	15.000-19.900			642894410	0.53800	0.548
S 36 c8+	Compound Not Detected.					

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

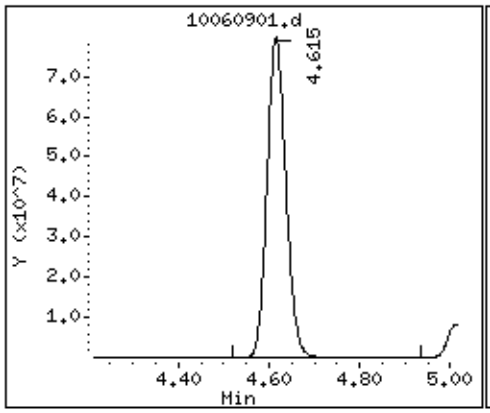


Data File: /chem/gc10.i/09Jun2016.b/10060901.d

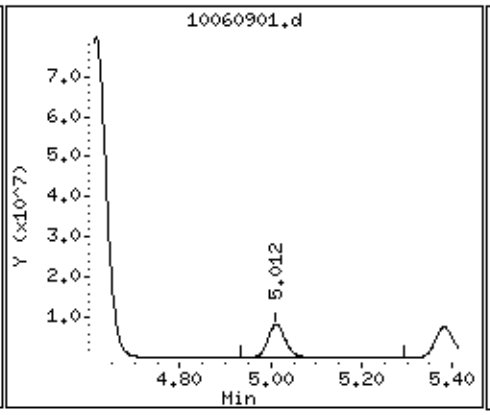
/chem/gc10.i/09Jun2016.b/10060901.d

Page 1

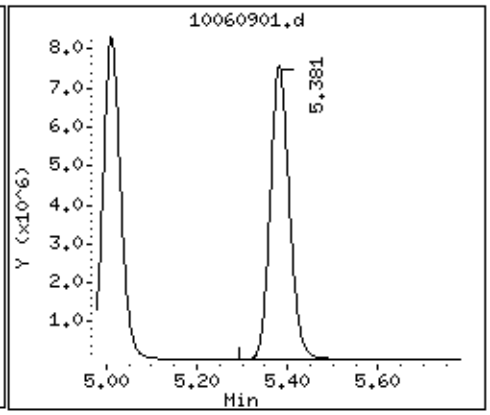
2 Methane



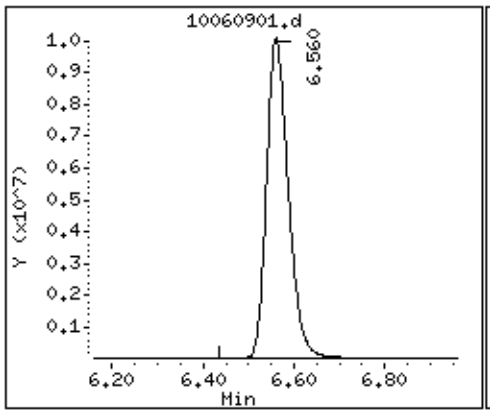
3 ethane



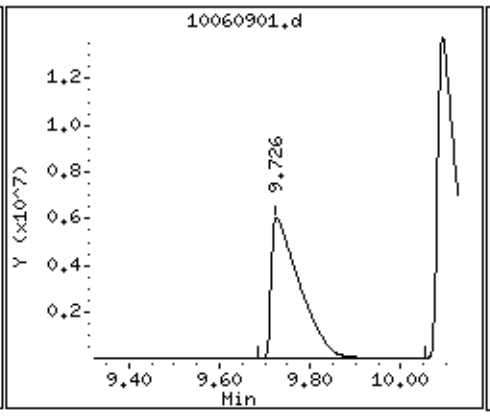
4 ethene



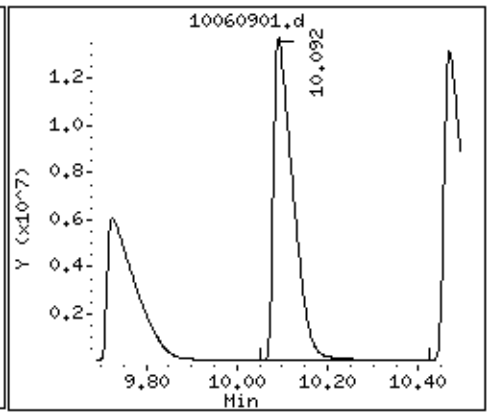
5 propane



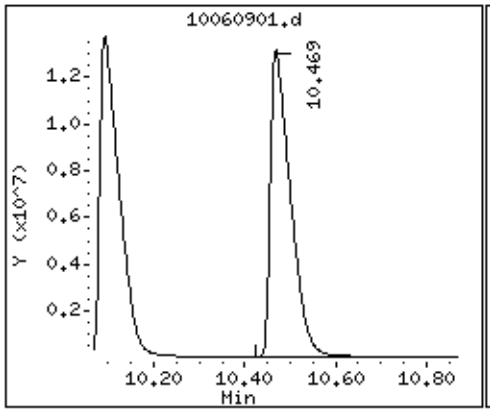
7 acetylene



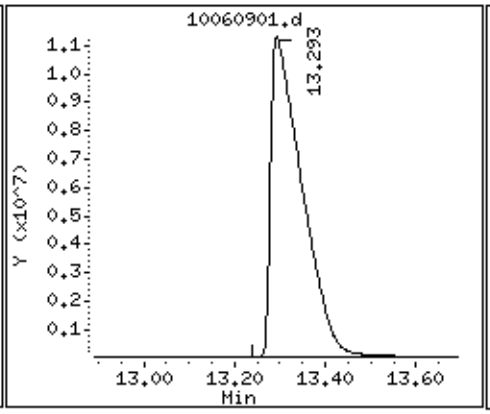
8 iso-butane



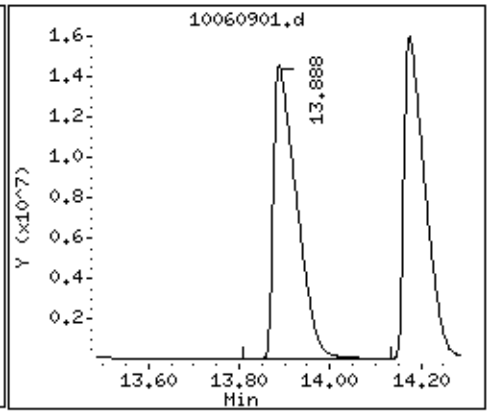
10 n-butane



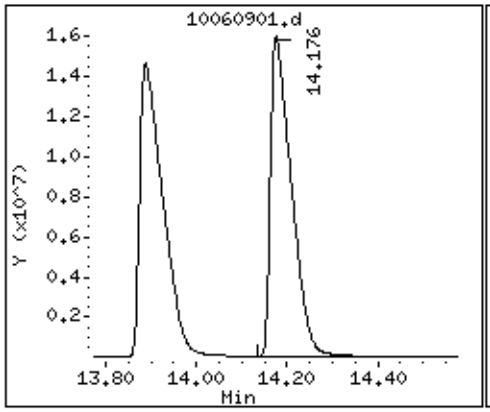
15 neo-pentane



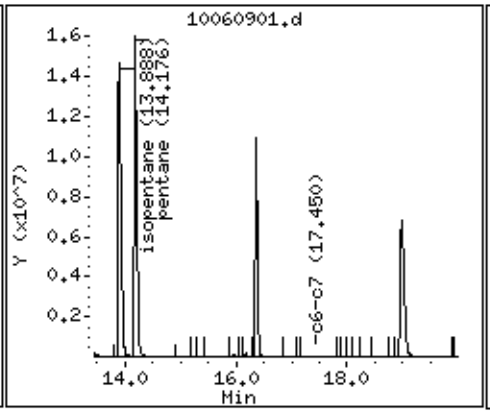
16 isopentane



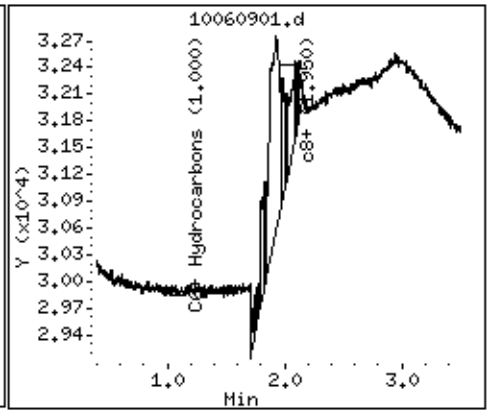
17 pentane



S 22 c6-c7



S 36 c8+ (Undetected)



eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 1606028B-09A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/16 09:17 AM**	

Compound	**%Recovery**	**Method Limits**
Methane	101	85-115

Container Type: NA - Not Applicable

Report Date: 09-Jun-2016 10:52

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 09Jun2016
Sample Matrix: GAS
Fraction: Atm Gas
Lab Smp Id: 2299-1160 Ngas
Client Smp ID: LCS
Level: LOW
Operator: ly
Data Type: GC DATA
SampleType: LCS
SpikeList File: 2299-1160.spk
Quant Type: ESTD
Sublist File: ngas.sub
Method File: /chem/gc10.i/09Jun2016.b/106n0115.m
Misc Info:

SPIKE COMPOUND	CONC ADDED %	CONC RECOVERED %	% RECOVERED	LIMITS
2 Methane	9.96	10.1	101.06	85-115
3 ethane	0.501	0.503	100.46	85-115
4 ethene	0.507	0.514	101.37	85-115
5 propane	0.500	0.519	103.83	85-115
7 acetylene	0.501	0.526	104.90	85-115
8 iso-butane	0.501	0.520	103.77	85-115
10 n-butane	0.495	0.510	103.04	85-115
15 neo-pentane	0.512	0.534	104.36	85-115
16 isopentane	0.505	0.519	102.71	85-115
17 pentane	0.507	0.520	102.54	85-115
M 37 C6+ Hydrocarbons	0.524	0.531	101.37	85-115

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/09Jun2016.b/10060902.d
Lab Smp Id: 2299-1160 Ngas Client Smp ID: LCS
Inj Date : 09-JUN-2016 09:17
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/09Jun2016.b/106n0115.m
Meth Date : 09-Jun-2016 09:20 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

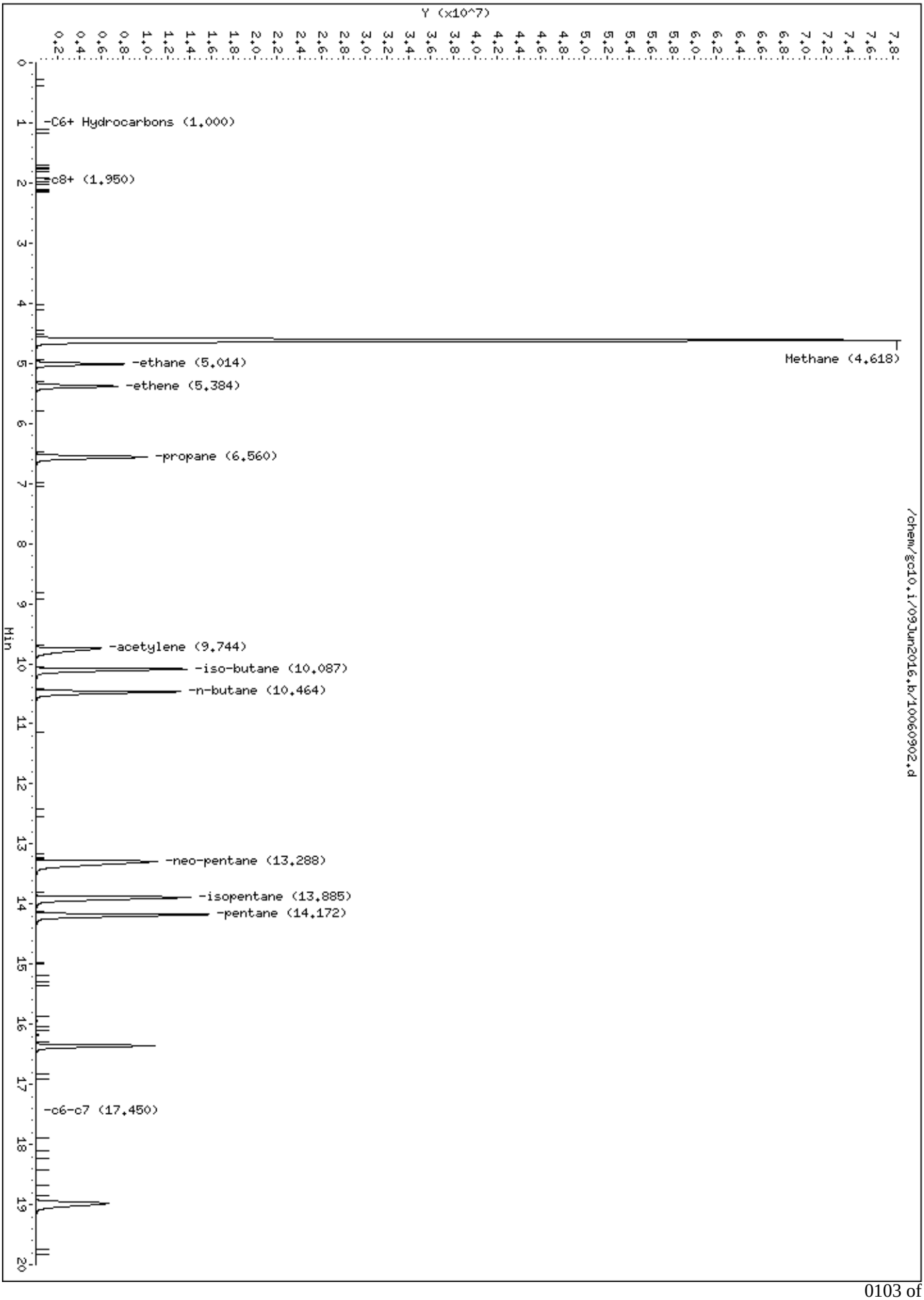
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.618	4.615	0.003	2278633524	10.0655	10.1
3 ethane	5.014	5.012	0.002	217523348	0.50330	0.503
4 ethene	5.384	5.381	0.003	219702609	0.51394	0.514
5 propane	6.560	6.560	0.000	336483057	0.51915	0.519
7 acetylene	9.744	9.726	0.018	254697604	0.52557	0.526(A)
8 iso-butane	10.087	10.092	-0.005	410190200	0.51989	0.520(A)
10 n-butane	10.464	10.469	-0.005	406785279	0.51007	0.510
15 neo-pentane	13.288	13.293	-0.005	530716728	0.53434	0.534(A)
16 isopentane	13.885	13.888	-0.003	497325515	0.51870	0.519
17 pentane	14.172	14.176	-0.004	501354091	0.51986	0.520
M 37 C6+ Hydrocarbons				622711986	0.53119	0.531
S 22 c6-c7	15.000-19.900			622711986	0.53119	0.531
S 36 c8+	Compound Not Detected.					

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

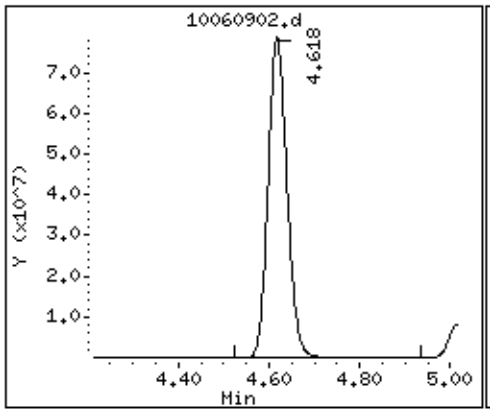


Data File: /chem/gc10.i/09Jun2016.b/10060902.d

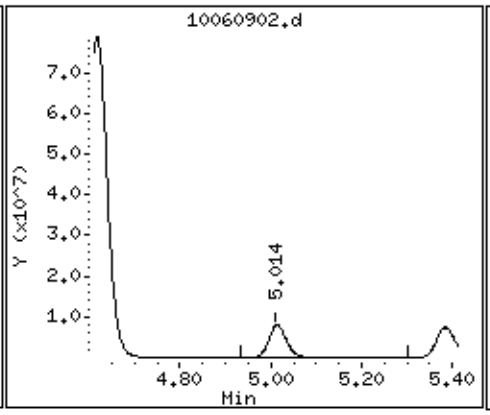
/chem/gc10.i/09Jun2016.b/10060902.d

Page 1

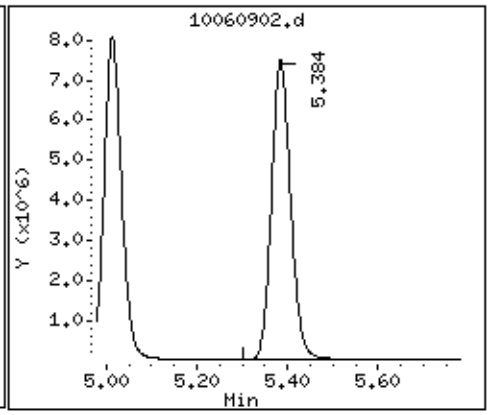
2 Methane



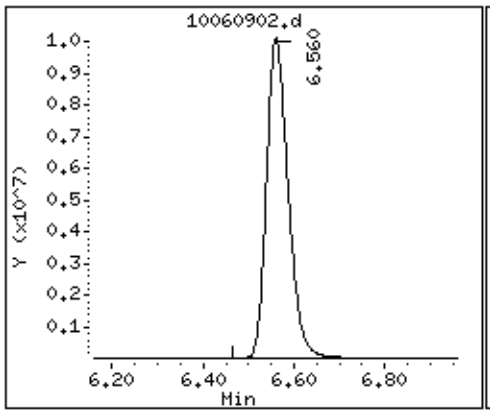
3 ethane



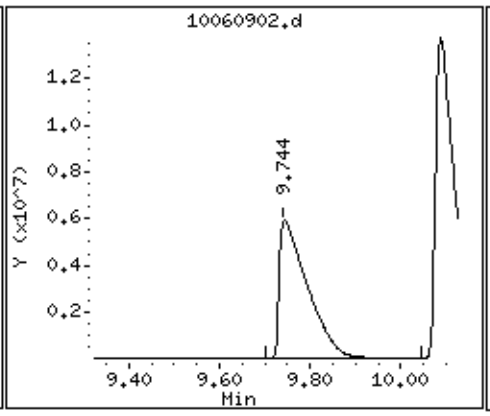
4 ethene



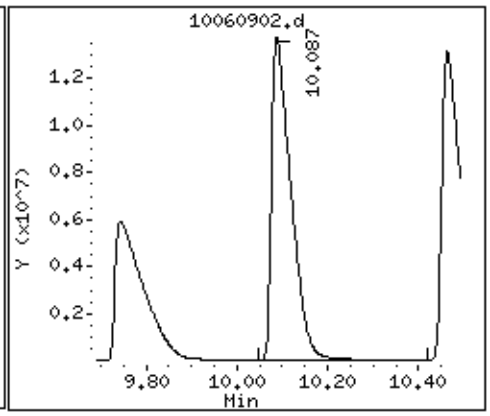
5 propane



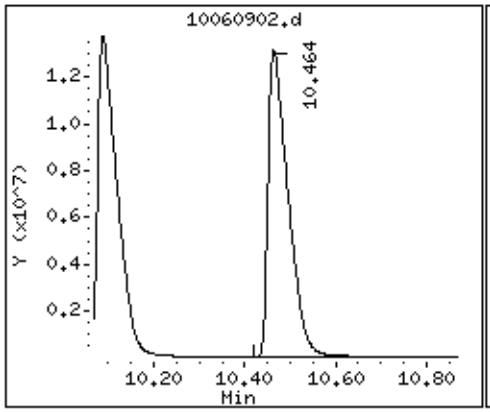
7 acetylene



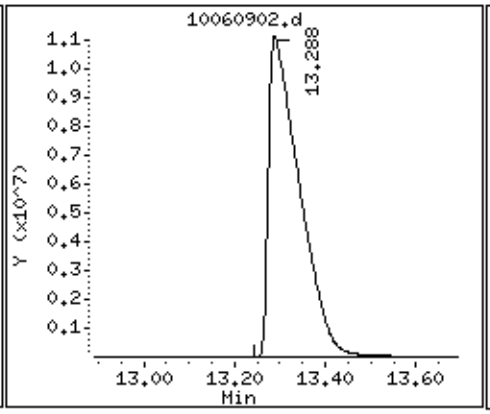
8 iso-butane



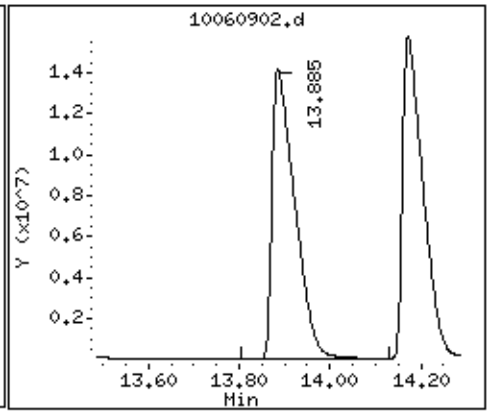
10 n-butane



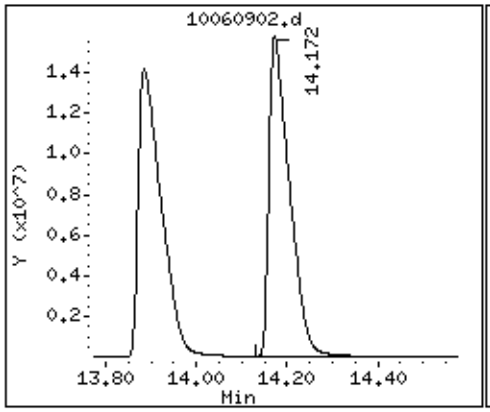
15 neo-pentane



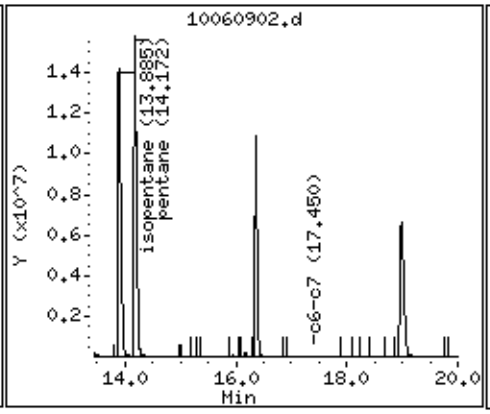
16 isopentane



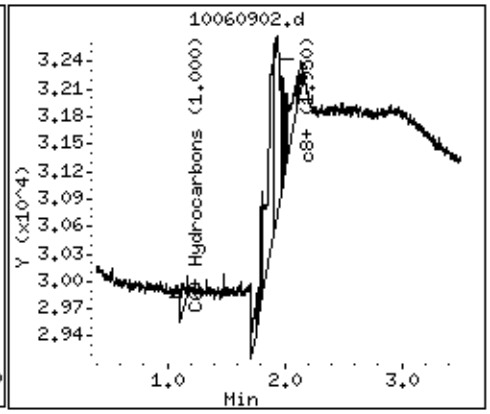
17 pentane



S 22 c6-c7



S 36 c8+ (Undetected)



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Client Sample ID: LCSD

Lab ID#: 1606028B-09AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10060926**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/9/16 09:05 PM**	

Compound	**%Recovery**	**Method Limits**
Methane	100	85-115

Container Type: NA - Not Applicable

Report Date: 10-Jun-2016 14:51

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 09Jun2016
Sample Matrix: GAS
Fraction: Atm Gas
Lab Smp Id: 2299-1160 Ngas
Client Smp ID: LCSD
Level: LOW
Operator: mjs
Data Type: GC DATA
SampleType: LCSD
SpikeList File: 2299-1160.spk
Quant Type: ESTD
Sublist File: ngas.sub
Method File: /chem/gc10.i/09Jun2016.b/106n0115.m
Misc Info:

SPIKE COMPOUND	CONC ADDED %	CONC RECOVERED %	% RECOVERED	LIMITS
2 Methane	9.96	9.95	99.89	85-115
3 ethane	0.501	0.497	99.26	85-115
4 ethene	0.507	0.508	100.18	85-115
5 propane	0.500	0.513	102.65	85-115
7 acetylene	0.501	0.520	103.71	85-115
8 iso-butane	0.501	0.514	102.59	85-115
10 n-butane	0.495	0.504	101.89	85-115
15 neo-pentane	0.512	0.528	103.16	85-115
16 isopentane	0.505	0.512	101.50	85-115
17 pentane	0.507	0.514	101.34	85-115
M 37 C6+ Hydrocarbons	0.524	0.524	99.99	85-115

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/09Jun2016.b/10060926.d
Lab Smp Id: 2299-1160 Ngas Client Smp ID: LCSD
Inj Date : 09-JUN-2016 21:05
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/09Jun2016.b/106n0115.m
Meth Date : 09-Jun-2016 09:20 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

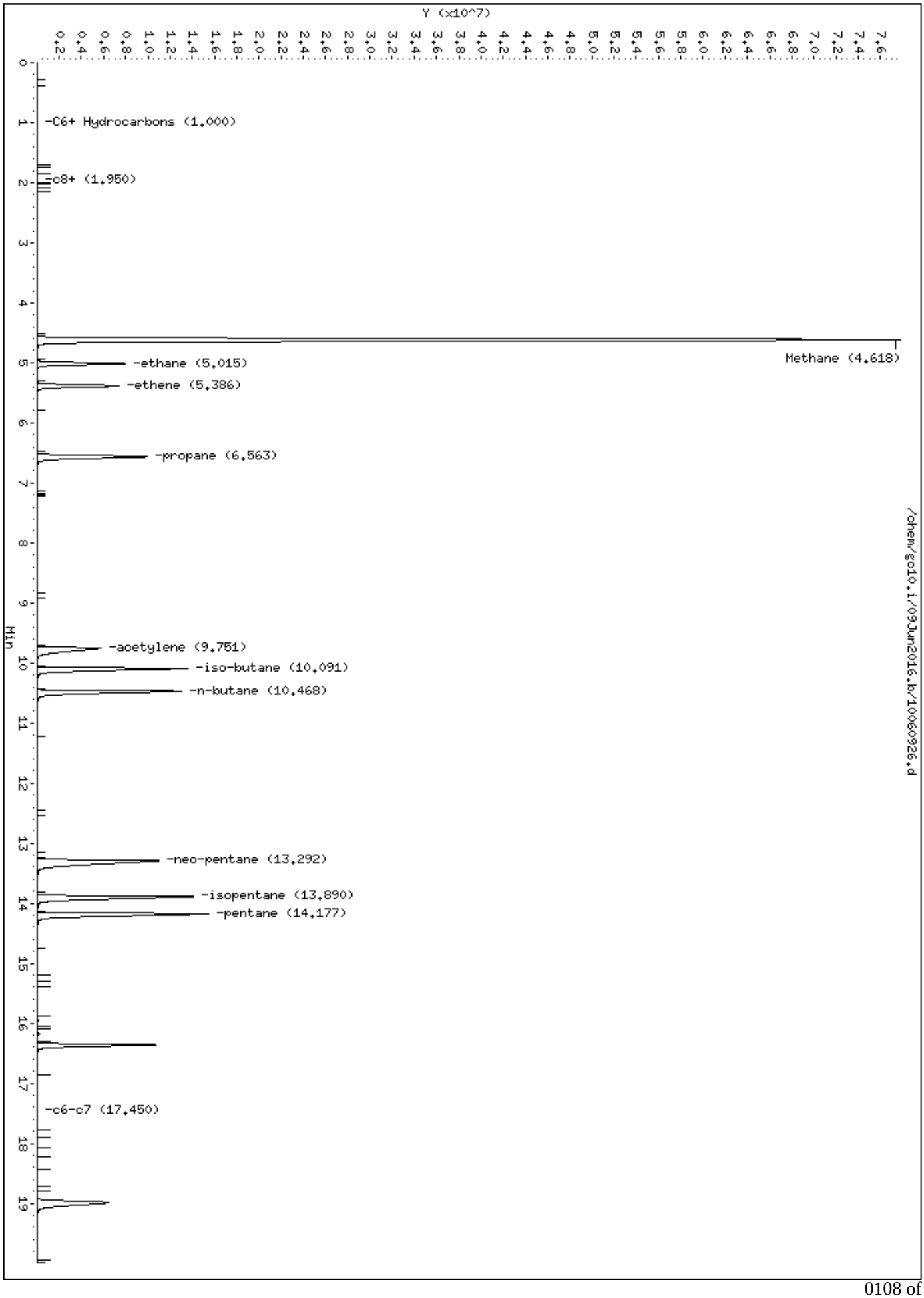
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.618	4.615	0.003	2252198064	9.94876	9.95
3 ethane	5.015	5.012	0.003	214923720	0.49729	0.497
4 ethene	5.386	5.381	0.005	217125813	0.50791	0.508
5 propane	6.563	6.560	0.003	332648584	0.51323	0.513
7 acetylene	9.751	9.726	0.025	251802771	0.51960	0.520(A)
8 iso-butane	10.091	10.092	-0.001	405513326	0.51396	0.514(A)
10 n-butane	10.468	10.469	-0.001	402214053	0.50434	0.504
15 neo-pentane	13.292	13.293	-0.001	524598324	0.52818	0.528
16 isopentane	13.890	13.888	0.002	491461014	0.51258	0.512
17 pentane	14.177	14.176	0.001	495531377	0.51382	0.514
M 37 C6+ Hydrocarbons				614207085	0.52394	0.524
S 22 c6-c7	15.000-19.900			614207085	0.52394	0.524
S 36 c8+	Compound Not Detected.					

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

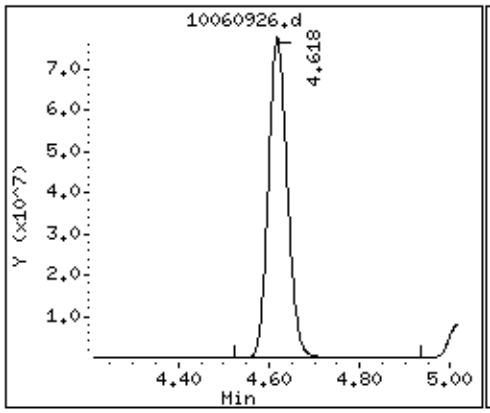


Data File: /chem/gc10.i/09Jun2016.b/10060926.d

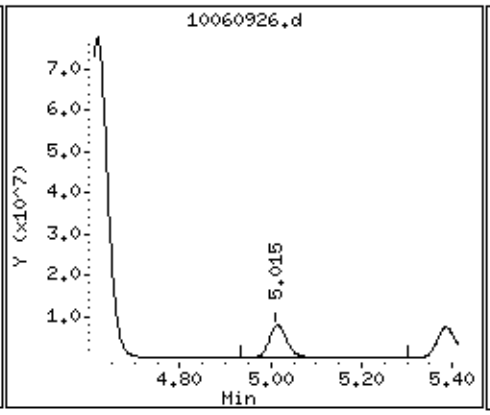
/chem/gc10.i/09Jun2016.b/10060926.d

Page 1

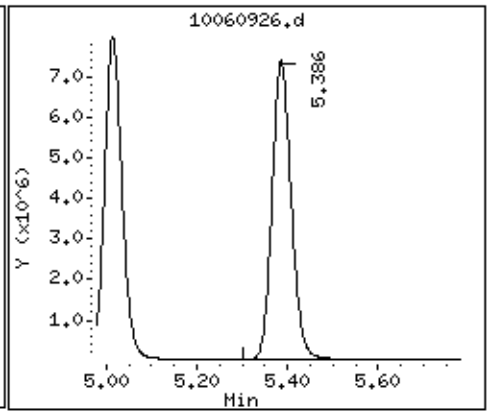
2 Methane



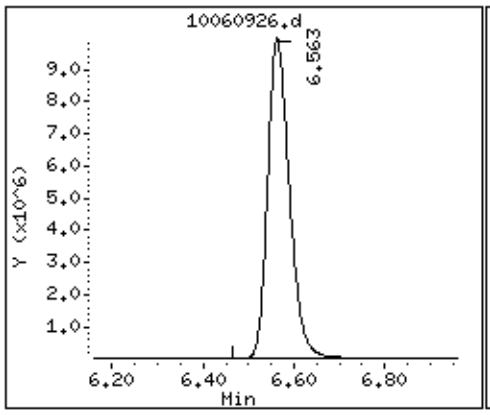
3 ethane



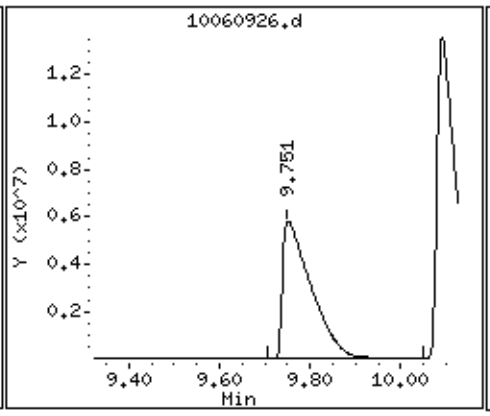
4 ethene



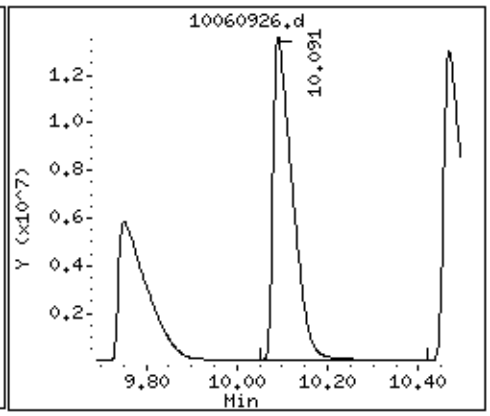
5 propane



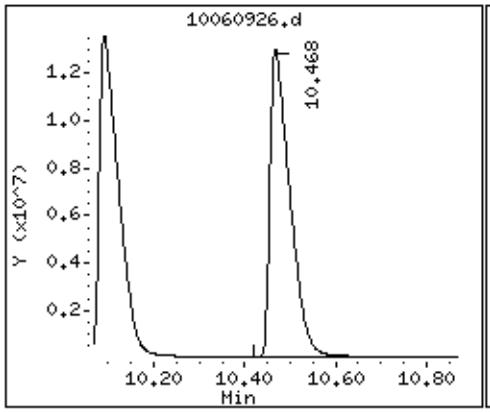
7 acetylene



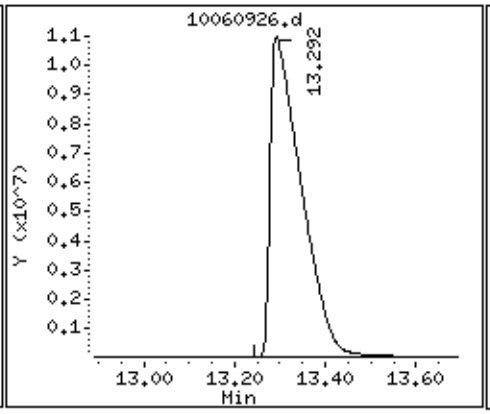
8 iso-butane



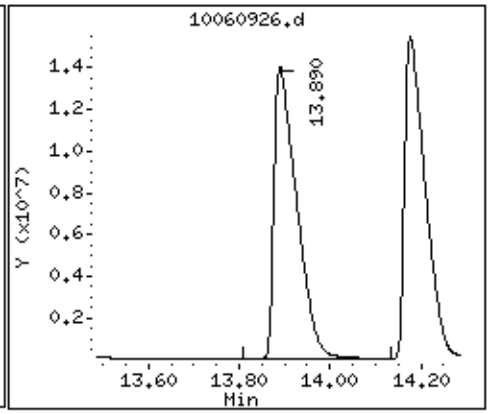
10 n-butane



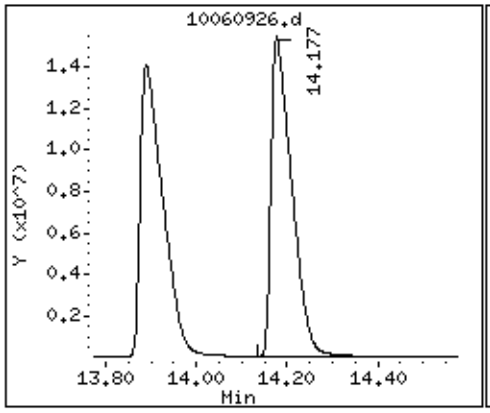
15 neo-pentane



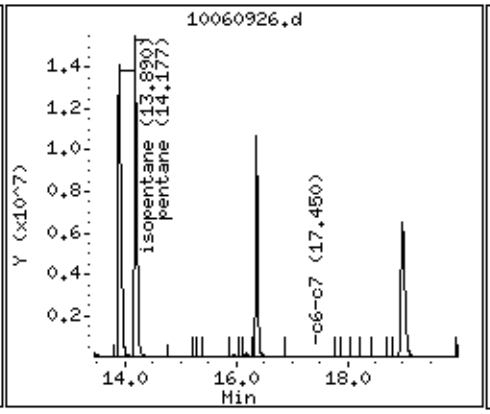
16 isopentane



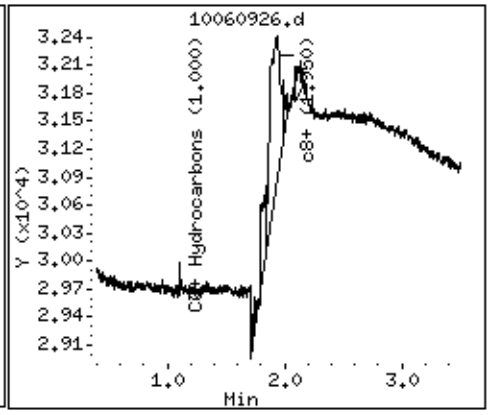
17 pentane



S 22 c6-c7



S 36 c8+ (Undetected)



Eurofins Air Toxics, Inc.
Method: **ASTM D-1945/1946**

GC-10

Logbook # 2791
Leak Test Ug

	USE	File #	Sample Name/Client ID	Can #	Verified Pressure >2psi	Pressure	Amt	DF	Date	Time	Review Init.	Comments
1	✓	10060901	2299-1048A Ngas	NA	NA	NA	1.0mL	1.00	6/9/16	0848	Ug	CCV
2	✓	02	2299-1160 Ngas	↓						0917		LCS
3	✓	03	N_2 Lab Blank	907						0956		
4	✓	04	He Lab Blank	24491				↓		1019		
5	✓	05	1606106B-01A	IL1555	✓	6.5"Hg → 15.4psi		2.62		1101		
6	✓	06	-02A	35672	✓	3.1"Hg → 15psi		2.25		1131		
7	✓	07	-03A	37395	✓	4.5"Hg → 15psi		2.38		1209		
8	✓	08	-04A	12042	✓	5.5"Hg → 15.1psi		2.48		1235		
9	✓	09	-05A	IL1766	✓	6.7"Hg → 15.4psi		2.64		1302		
10	C	10	-05A	↓	✓	↓		↓		1353	↓	
11	✓	11	-06A	36474	✓	0psi → 15.3psi		2.04		1421	MB	
12	✓	12	1606197B-01A	34626	✓	5.0psi → 14.8psi		1.50		1446	MB	
13	✓	13	-02A	12031	✓	6.9"Hg → 15.1psi		2.64		1511	MB	
14	✓	14	-03A	37714	✓	7.6"Hg → 14.8psi		2.68		1542	MB	
15	✓	15	1606028B-01A	33321	✓	0.0"Hg → 3.0psi; 6.5"Hg → 5.2psi		~~2.34~~ ~~1.73~~ 2.31		1621	MB	

9mm 6/14/16

Calculation check : File ID: 10060902 Compound: CH_4 Initials: MB

Sample Amt= $\frac{\text{Area Count Sample} \times}{\text{RF}}$ Dilution Factor = $\frac{(2278633524) \times}{(2263798571)}$ (1.00)= 10.1

Reported Result= 10.1

Reviewed by/Date MB 6/9/16

Eurofins Air Toxics, Inc.
Method: **ASTM D-1945/1946**

GC-10

Logbook # 2791
Leak Test MB

	USE	File #	Sample Name/Client ID	Can #	Verified Pressure >2psi	Pressure	Amt	DF	Date	Time	Review Init.	Comments
1	✓	10060916	1606028B-02A	35258	✓	4.3"Hg → 5.0psi	1.0mL	1.56	6/9/16	~~1621~~ 1645	MB	
2	✓	17	-03A	14038	✓	4.3"Hg → 5.0psi		1.56		~~1645~~ 1710	MB	
3	✓	18	-04A	33586	✓	0.2psi → 4.9psi		1.32		~~1710~~ 1742	MB	
4	✓	19	-05A	33926	✓	3.5"Hg → 5.0psi		1.52		1805	MB	
5	✓	20	-06A	6L0704	✓	7.1"Hg → 5.0psi		1.76		1835	MB	
6	✓	21	-07A	6L1279	✓	3.3"Hg → 5.3psi		1.53		1859	MB	
7	✓	22	1605610C-01A	36480	✓	6.1"Hg → 14.8psi		2.52		1923	MB	
8	✓	23	-02A	2152	✓	3.3"Hg → 15psi		2.27		1947	MB	
9	✓	24	-03A	37826	✓	6.7"Hg → 14.7psi		2.58		2013	MB	
10	✓	25	-04A	37838 ~~37838~~	✓	6.7"Hg → 14.9psi		2.60		2036	MB	can #37838
11	✓	26	2299-1160Nggs	NA	NA	NA		1.00		2105	MB	LCSD, exp. 2/7/18
12												
13												
14												
15												MB 6/9/16

Calculation check : File ID: 10060922 Compound: Oxygen Initials: MB

Sample Amt= Area Count Sample x / RF Dilution Factor = (3865205782) x / (499537812) (2.52)= 19.5

Reported Result= 19.5

Reviewed by/Date MB 6/9/16

Shipping/ Receiving Documents

eurofins | Air Toxics

Eurofins Air Toxics, Inc. Sample Receipt Confirmation Cover Page

Thank you for choosing Eurofins Air Toxics, Inc. (EATL). We have received your samples and have listed any Sample Receipt Descrepancies below.

In order to expedite analysis and reporting, please review the attached information for accuracy.

For corrections call: **Brian Whittaker at 916-985-1000**

EATL will proceed with the analysis as specified on the Chain of Custody (COC) and Sample Receipt Summary page.

Please note : The Sample Receipt Confirmation, including the total workorder charge, is subject to change upon secondary review. Our aim is to provide a confirmation to you in a timely manner. Sample Receipt Discrepancies, if any, may not include discrepancies regarding sample receipt pressure(s). Additionally, the COC will be provided with the final report.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 .FAX (916) 985-1020
Hours 6:30 A.M to 5:30 P.M. PST

eurofins | Air Toxics

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Terry Taylor
Collected by: (Print and Sign) Terry Taylor
Company AMAI Email
Address 2700 Westchester City Purchase State NY Zip
Phone 914-251-0400 Fax

Project Info:
P.O. #
Project #
Project Name Building 30 VI

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	B30 AA(052816)	33321	5/29/16	1824	TO-15	30+	7.5		
02A	B30IA-1(052816)	35258	5/29/16	1739	TO-15	30+	5.5		
03A	B30IA-1D(052816)	14038	5/29/16	1739	TO-15	29	5.0		
04A	B30IA-2(052816)	33586	5/29/16	1045	TO-15	30+	0		
05A	B30IA-3(052816)	33926	5/29/16	1800	TO-15	29	4		
06A	B30IA-4(052816)	0337	5/29/16	1804	TO-15	30	8		
07A	B30IA-5(052816)	6L1279	5/29/16	1736	TO-15	28.5	4		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
[signature] 05/31/15	Fed Ex-track: 7764 0738 2968
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
	[signature] 6-1-16 1000
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEX		NA	Good	Yes No None	1606028

Form 1293 rev.11

Operating Report

Run Information

Machine ID:	10102	Sample ID:	REPRESS;;%1606028-01A;000000
Operator:	su	Date:	2016 06 09
Run Mode:	Running sample dilution	Start Time:	16:13:03
Inlet Position:	Sample	Elapsed Time:	00:00:32
Execute State:	Completed successfully!		

Parameter Information

Sample	Set	Actual
P_ini:	14.7PSI	14.7PSI
P_fin:	19.7PSI	19.6PSI
DF:	1.3	1.3

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SAMPLE RECEIPT SUMMARY

WORKORDER 1606028B

Client

Mr. Terry Taylor
Anderson Mulholland &
Associates, Inc.
2700 Westchester Avenue
Suite 417
Purchase, NY 10577
Sales Rep: N/A

Phone

(914) 251-0400

Fax

Date Promised: 06/14/16
Date Completed: 6/14/16
Date Received: 6/1/16
PO#:
Project#: Building 30 VI

Total $: $ 455.00
Logged By: AA

Fraction	Sample #	Analysis	Collected	Receipt Vac./Pres.	Amount$
01A	B30AA (052816)	Modified ASTM D-1946	5/29/2016	6.5 "Hg	$60.00
02A	B30IA-1 (052816)	Modified ASTM D-1946	5/29/2016	4.3 "Hg	$60.00
03A	B30IA-1D (052816)	Modified ASTM D-1946	5/29/2016	4.3 "Hg	$60.00
04A	B30IA-2 (052816)	Modified ASTM D-1946	5/29/2016	0.2 psi	$60.00
05A	B30IA-3 (052816)	Modified ASTM D-1946	5/29/2016	3.5 "Hg	$60.00
06A	B30IA-4 (052816)	Modified ASTM D-1946	5/29/2016	7.1 "Hg	$60.00
07A	B30IA-5 (052816)	Modified ASTM D-1946	5/29/2016	3.3 "Hg	$60.00
08A	Lab Blank	Modified ASTM D-1946	NA	NA	$0.00
09A	LCS	Modified ASTM D-1946	NA	NA	$0.00
09AA	LCSD	Modified ASTM D-1946	NA	NA	$0.00

Misc. ChargeseCVP (7) @ $5.00 each. $35.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: BMS/19256

BILL TO: Accounts Payable
Anderson Mulholland & Associates, Inc.
2700 Westchester Avenue
Suite 417
Purchase, NY 10577

Analysis Code: ASTM

TERMS:

Reporting Method: Modified ASTM D-1946 (Sh)-CH4 only

Sample Discrepancy Report

Identification

Initiated By: SU **Project ID:**19256 **PM**: BSW **Date:** 6/3/2016 **Discrepancy Type:** ☐ **1.** ☒ **2.** ☐ **3.**

Workorder(s) affected:1606028A **Sample(s) affected:** 04A

1. Sample Receipt Discrepancies

Narration Not Required:

1.1. ☐ Sample container (cartridge/tube/VOA vial) was received broken, however sample was intact.

1.2. ☐ No brass cap on canister.

1.3. ☐ Date of Collection noted on first sample, but no arrow down to indicate all samples.

Notify Lab for further determination:

1.4. ☐ Tedlar bag received with minimal volume.

Initials: _____ Date: _____

Narration Required in Lab Narrative and Sample Confirmation:

1.5. ☐ COC was not filled out in ink.

1.6. ☐ COC improperly relinquished / received.

1.7. ☐ Sample tags / can numbers do not match the COC.

1.8. ☐ Sample date ☐ error / ☐ missing on COC but noted on sample tag (check one).

1.9. ☐ Custody Seal on the outside of the container was ☐ broken / ☐ improperly placed (check one).

1.10. ☐ ID-none on the sample Tag/Blank

1.11. ☐ Other (describe below).

Describe the Discrepancy: _____

2. Sample Receipt/Screening Discrepancies requiring PM notification

Document on Cover Page of Sample Receipt Confirmation and in Receiving Notes of Lab Narrative

If Section II. is filled out PM must be notified within 24 hrs of initiation

2.1. ☐ COC was not received with samples.

2.2. ☐ Analysis method(s) is ☐ not specified / ☐ incorrectly specified (check one) on the COC.

2.3. ☐ Incorrect sampling media / container for analysis requested.

2.4. ☐ Number of samples on the COC does not match the number of samples that were received.

2.5. ☐ Samples were received expired.

2.6. ☐ Sampling date (time for sulfur) is not documented for ☐ *some* / ☐ *any* samples (check one).

2.7. ☐ Sample received with amount of H_2O in the Tedlar Bag.

2.8. ☐ Sample cannot be analyzed. Container was ☐ received broken / ☐ leaking / ☐ flat / ☐ defective.

2.9. ☐ Tedlar bag / canister received emitting a strong odor; Sample ☐ can / ☐ cannot (check one) be analyzed.

2.10. ☐ Tedlar Bag for Sulfur analysis has metal fitting.

2.11. ☐ Environmental Supply Company valves

2.12. ☐ Sorbent samples-sampling volume was not provided

2.13. ☐ Flow controller used – canister samples received at ambient or under pressure.

2.14. ☒ Canister was at ambient pressure at time of pressurization and (check all that apply):

- ☒ Canister failed leak check on two manifolds,
- ☐ Canister valve was open,
- ☐ Brass nut was loose/not present.
- ☐ Sample can be analyzed
- ☐ Cannot be analyzed

2.15. ☐ Canister sample received with a vacuum difference >5.0"Hg between the receipt vac. And the final vac. reported on the COC, indicating loss of vacuum.

2.16. ☐ Canister sample received at >15"Hg (*not* identified as a Trip/Field Blank).

2.17. ☐ Canister Trip Blank received at low vacuum (<25"Hg).

2.18. ☐ Sorbent Sample received outside method required temperature of 2°C to 6°C; ☐ ice / ☐ blue ice (check one) was present. A temp. Blank ☐ was / ☐ was not present (check one).

2.19. ☐ Flow Controller RPD of = 20% was not met.

2.20. ☐ Other (describe below)

Initials: su **Date:** 6/3/2016 **Notify Receiving:** ☐ **Notify PM:** ☒

Describe the Discrepancy: 2.14: Sample 04A was received at ambient pressure at time of pressurization and the sample canister failed leak check on two manifolds. A blue sticker was placed on the

tag to inform the lab of the leaky can. The sample canister was still able to be pressurized.

3. Lab Discrepancies requiring Team Leader/PM notification

Document in Analytical Notes of Lab Narrative

If Section III. is filled out PM must be notified within 24 hrs of initiation

3.1. ☐ Tedlar Bag found to be leaking at the time of analysis; sample ☐ can / ☐ cannot (check one) be analyzed.

3.2. ☐ Tedlar Bag found to be flat/low volume; sample cannot be analyzed.

3.3. ☐ Sulfur samples received with insufficient time to analyze prior to expiration.

3.4. ☐ Canister found to be leaking at the time of analysis.

3.5. ☐ VOST tube saturated; bag dilution necessary.

3.6. ☐ Sample loss due to instrument malfunction / broken glassware.

3.7. ☐ Low/high surrogate recoveries noted in QC/sample(s) for extractable samples.

3.8. ☐ Reporting Limit was raised.

3.9. ☐ Post weight > Pre weight in field/lab Blank for PM10/TSP samples.

3.10. ☐ Other (describe below).

Initials: _____ **Date:** _____ **Notify Receiving:** ☐ **Notify PM:** ☐ _____

Team Lead Initials: _____ **Date:** _____

Describe the Discrepancy: _____

_____

_____

How Does this Affect Client: _____

_____

_____

Project Manager Use Only

Project Manager Notification ☒ **Section 2 Complete** ☐ **Section 3 Complete**

Action:

☐ It is not necessary to notify the client. Narrate the discrepancy in Receiving Notes/Analytical Notes of Lab Narrative.

PM Initials:_____ Date: _____

☒ Client notification required. See attached client contact / email, or comments below:

Client Notification:

PM Initials:BSW Person notified: Terry Taylor and David Lindstrand Date: 6/6/2016

☐ Waiting for Client Reply

Comments: **Narrate and proceed with analysis unless notified otherwise.**

_____

☐ Notify Lab Name: _____ Date: _____ **Notify Receiving:** ☐

☐ **Additional notifications attached.**

Additional Comments:

_____

Other Records

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Vacuum}} = \frac{14.7\text{psi} + \text{Final Pressure (psi)}}{14.7\text{psi} - [\text{Init. Pressure ("Hg)})*(14.7\text{psi}/30\text{"Hg})]}$$

$$\text{Dilution Factor} = \frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{14.7\text{psi} + \text{Final Pressure (psi)}}{14.7\text{psi} + \text{Initial Pressure (psi)}}$$

Initial Vacuum (" of Hg)	5 psi Final Pressure Dilution Factor	15 psi Final Pressure Dilution Factor
0.0	1.34	2.02
0.2	1.35	2.03
0.4	1.36	2.05
0.5	1.36	2.05
0.6	1.37	2.06
0.8	1.38	2.08
1.0	1.39	2.09
1.2	1.40	2.10
1.4	1.40	2.12
1.5	1.41	2.13
1.6	1.42	2.13
1.8	1.42	2.15
2.0	1.44	2.16
2.2	1.45	2.18
2.4	1.46	2.20
2.5	1.46	2.20
2.6	1.47	2.21
2.8	1.48	2.23
3.0	1.49	2.24
3.2	1.50	2.26
3.4	1.51	2.28
3.5	1.52	2.29
3.6	1.52	2.30
3.8	1.53	2.31
4.0	1.55	2.33
4.2	1.56	2.35
4.4	1.57	2.37
4.5	1.58	2.38
4.6	1.58	2.39
4.8	1.60	2.40
5.0	1.61	2.42
5.2	1.62	2.44
5.4	1.63	2.46
5.5	1.64	2.47
5.6	1.65	2.48
5.8	1.66	2.50
6.0	1.68	2.52
6.2	1.69	2.55
6.4	1.70	2.57
6.5	1.71	2.58
6.6	1.72	2.59
6.8	1.73	2.61
7.0	1.75	2.64
7.2	1.76	2.66
7.4	1.78	2.68
7.5	1.79	2.69
7.6	1.79	2.70

Initial Vacuum (" of Hg)	5 psi Final Pressure Dilution Factor	15 psi Final Pressure Dilution Factor
7.7	1.80	2.72
7.8	1.81	2.73
8.0	1.83	2.76
8.2	1.84	2.78
8.4	1.86	2.81
8.5	1.87	2.82
8.6	1.88	2.83
8.8	1.90	2.86
9.0	1.91	2.89
9.2	1.93	2.91
9.4	1.95	2.94
9.5	1.96	2.96
9.6	1.97	2.97
9.8	1.99	3.00
10.0	2.01	3.03
10.2	2.03	3.06
10.4	2.05	3.09
10.5	2.06	3.11
10.6	2.07	3.12
10.8	2.09	3.16
11.0	2.12	3.19
11.2	2.14	3.22
11.4	2.16	3.26
11.5	2.17	3.28
11.6	2.18	3.29
11.8	2.21	3.33
12.0	2.23	3.37
12.2	2.26	3.40
12.4	2.28	3.44
12.5	2.30	3.46
12.6	2.31	3.48
12.8	2.34	3.52
13.0	2.36	3.56
13.2	2.39	3.61
13.4	2.42	3.65
13.5	2.44	3.67
13.6	2.45	3.70
13.8	2.48	3.74
14.0	2.51	3.79
14.2	2.54	3.84
14.4	2.58	3.88
14.5	2.59	3.91
14.6	2.61	3.94
14.8	2.64	3.99
15.0	2.68	4.04
15.2	2.72	4.10
15.4	2.75	4.15

Initial Vacuum (" of Hg)	5 psi Final Pressure Dilution Factor	15 psi Final Pressure Dilution Factor
15.5	2.77	4.18
15.6	2.79	4.21
15.8	2.83	4.27
16.0	2.87	4.33
16.2	2.91	4.39
16.4	2.96	4.46
16.5	2.98	4.49
16.6	3.00	4.52
16.8	3.05	4.59
17.0	3.09	4.66
17.2	3.14	4.74
17.4	3.19	4.81
17.5	3.22	4.85
17.6	3.24	4.89
17.8	3.30	4.97
18.0	3.35	5.05
18.2	3.41	5.14
18.4	3.47	5.22
18.5	3.50	5.27
18.6	3.53	5.32
18.8	3.59	5.41
19.0	3.65	5.51
19.2	3.72	5.61
19.4	3.79	5.72
19.5	3.83	5.77
19.6	3.87	5.83
19.8	3.94	5.94
20.0	4.02	6.06
20.2	4.10	6.18
20.4	4.19	6.31
20.5	4.23	6.38
20.6	4.28	6.45
20.8	4.37	6.59
21.0	4.47	6.73
21.2	4.57	6.89
21.4	4.67	7.05
21.5	4.73	7.13
21.6	4.79	7.22
21.8	4.90	7.39
22.0	5.03	7.58
22.4	5.29	7.98

Initial Vacuum (" of Hg)	5 psi Final Pressure Dilution Factor	15 psi Final Pressure Dilution Factor
22.5	5.36	8.08
22.6	5.43	8.19
22.8	5.58	8.42
23.0	5.74	8.66
23.2	5.91	8.91
23.4	6.09	9.18
23.5	6.19	9.32
23.6	6.28	9.47
23.8	6.48	9.78
24.0	6.70	10.10
24.2	6.93	10.45
24.4	7.18	10.82
24.5	7.31	11.02
24.6	7.45	11.22
24.8	7.73	11.66
25.0	8.04	12.12
25.2	8.38	12.63
25.4	8.74	13.18
25.5	8.93	13.47
25.6	9.14	13.78
25.8	9.57	14.43
26.0	10.05	15.15
26.2	10.58	15.95
26.4	11.17	16.84
26.5	11.49	17.32
26.6	11.82	17.83
26.8	12.56	18.94
27.0	13.40	20.20
27.2	14.36	21.65
27.4	15.46	23.31
27.5	16.08	24.24
27.6	16.75	25.26
27.8	18.27	27.55
28.0	20.10	30.31
28.2	22.34	33.67
28.4	25.13	37.88
28.5	26.80	40.41
28.6	28.72	43.29
28.8	33.50	50.51
29.0	40.20	60.61

Compound List

Modified ASTM D-1946 (Sh)-CH4 only

CAS Number	Compound	Detection Limit %	Type
74-82-8	Methane	0.00010	

Eurofins Air Toxics, Inc.	Data Review Checklist			Release Date: 02/23/16
Workorder # 1606028B	Form F1.27	Revision #13	Revision Date: 02/23/16	Page 1 of 2

S1	S2	S3	S4	D	Section 1 – Spec Out				
					Initials/Instrument/Date	S1: GC-10 MB 6/9/16	S2:	S3:	S4:
✓				■	Project Identification (PID), Project Requirements Table (PRT), Daily QC and ICAL met Criteria				
NA				■	Lumen QC and ICAL evaluation (ref. SOP/Method) report initialed and in folder				
NA				■	Manual Integrations included and approved				
✓				✓	Chain of Custody verified for special comments (add comments below)				
NA				■	Non-standard Target sublist verified (MDL, LOD, RL, control limits, etc.)				

Profile, analyses, reporting, special notes and unusual circumstances:

A1	A2	A3	A4	D	Section 2 – Sample Analysis				
					Initials/Date	A1: MB 6/9/16	A2:	A3:	A4:
✓				✓	IS/Surr Recoveries, Dilution Factors, Load Volumes, leg(s) of instrument, Initial/Final Pressures, and Canister #s Verified				
NA				MB	a) Tedlar Bag IDs verified against COC b) Tedlar Bag ID confirmed with loading sequence/leg(s) of instrument				
✓				✓	Manual Integrations/Bag or Can Dilution Forms/Re-pressurization Forms/Bag-Can Transfer Forms present (circle all that apply)				
✓				■	12/24 Hr clock time & Hold Time met for all samples				
✓				✓	Re-analysis of sample(s) has been evaluated for comparability and/or sample(s) has/have been checked for trends (Inf/Eff), field dups/trip blanks, samples following bad loads on CIAAs have been verified (system blks, confirmation runs).				
✓				✓	All runs have been evaluated for potential carry-over (TPHg/non-Target/over-range compounds/ etc.)				

Analytical and special notes: A1: 01/1-01A OK, 01A = Repress, 02/1, 03/1 Field Dups OK.

D1	D2	D3	D4	T	3T	Section 3 – Target Data Reduction	Technical Review Needed? Circle one: Yes/No		T:	
						Initials/Instrument/ Date	D1: JM 6/14/16	D2:	D3:	D4:
NA					■	CAR # *(if applicable)*				
					■	Spectra Verified *(documentation of spectral defense included if applicable)*				
NA					■	TICs resemble reference spectra/ TICs between sample dups. are consistent *(if applicable)*				
						Lab Narrative is correct				
NA					■	TPH/NMOC calculations complete and included in folder				

Special notes:

	A	3T	Section 4- Atlas Data Entry	Lumen verified and included in folder	Circle one: Yes/No
			Initials/Date: JM 6/14/16	3rd Tier: *(needed only for DOD or per client request)*	
	NA		Sample Discrepancy Report (SDR) complete and approved *(if applicable)*		
	MB		Manually entered results are checked		
		✓	At least one result per sample is verified against Target quant sheets		
	MB		Appropriate data qualifier flags are applied		
		✓	Final Invoice is correct/ Final PDF report, COC and EDD reviewed and correct		

Special Notes:

Note (1) *Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply*
Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects

Workorder # :				**Reason for Reissue:**
W	**T**	**3T**	**Q**	
				Reissue Request form Present
				Client or QA or Lab contact present with reason for reissue
				Review all affected data
				Report header has correct R1, R2 etc
				The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested)
				Date for Reissue in Report Header matches date in Lab Narrative
				Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc)
				Corrective Action issued - #
				The reissued workorder has been approved by QA Manager or a Technical Director

Additional Comments:

Write Up (Initials/Date)	**Tech Review** (Initials/Date)	***3rd Tier Review** ** 3rd Tier Report Review is for DoD & Client Specific projects only* (Initials/Date)	**QA Review** (Initials/Date)

Workorder # :				**Reason for Reissue:**
W	**T**	**3T**	**Q**	
				Reissue Request form Present
				Client or QA or Lab contact present with reason for reissue
				Review all affected data
				Report header has correct R1, R2 etc
				The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested)
				Date for Reissue in Report Header matches date in Lab Narrative
				Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc)
				Corrective Action issued - #
				The reissued workorder has been approved by QA Manager or a Technical Director

Additional Comments:

Write Up (Initials/Date)	**Tech Review** (Initials/Date)	***3rd Tier Review** ** 3rd Tier Report Review is for DoD & Client Specific projects only* (Initials/Date)	**QA Review** (Initials/Date)

Note (1) *Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply*
Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects

Not Applicable