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Electronic Comprehensive Validation Package (eCVP)

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COMPREHENSIVE VALIDATION PACKAGE

Modified ASTM D-1946

INVENTORY SHEET

Work Order #: 1607235G

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Comments:

Completed by:

Vera Belitsky	Vera Belitsky / Document Control	8/4/16
(Signature)	(Print Name & Title)	(Date)

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WORK ORDER #: 1607235G

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 18 VI
DATE RECEIVED:	07/14/2016	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	07/27/2016		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	B18IA-1	Modified ASTM D-1946	5.5 "Hg	5.1 psi
02A	B18IA-2	Modified ASTM D-1946	6.7 "Hg	4.8 psi
03A	B18IA-3	Modified ASTM D-1946	5.1 "Hg	5 psi
04A	B18IA-4	Modified ASTM D-1946	4.7 "Hg	5.2 psi
05A	B18IA-5	Modified ASTM D-1946	5.9 "Hg	5 psi
06A	B18IA-1D	Modified ASTM D-1946	5.5 "Hg	5.2 psi
08A	B18SS-1	Modified ASTM D-1946	4.7 "Hg	15.1 psi
09A	B18SS-2	Modified ASTM D-1946	4.7 "Hg	14.8 psi
10A	B18SS-3	Modified ASTM D-1946	4.7 "Hg	15.1 psi
11A	B18SS-4	Modified ASTM D-1946	5.5 "Hg	15 psi
12A	B18SS-5	Modified ASTM D-1946	4.3 "Hg	14.8 psi
13A	B18SS-1D	Modified ASTM D-1946	4.5 "Hg	15.1 psi
14A	B18AA-071216	Modified ASTM D-1946	4.7 "Hg	5 psi
15A	Lab Blank	Modified ASTM D-1946	NA	NA
16A	LCS	Modified ASTM D-1946	NA	NA
16AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 07/27/16

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

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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# 1607235G

Seven 6 Liter Summa Canister (100% Certified) and six 1 Liter Summa Canister (100% Certified) samples were received on July 14, 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 Chain of Custody (COC) information for sample B18AA-071216 did not match the entry on the sample tag with regard to sample identification. The information on the COC was used to process and report the sample.

The Chain of Custody was missing method information. EATL proceeded with the analysis as per the original contract or verbal agreement.

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
B18IA-1	1607235G-01A	7/ 9/2016	7/14/2016	NA	10	7/19/2016	NA	Good
B18IA-2	1607235G-02A	7/ 9/2016	7/14/2016	NA	10	7/19/2016	NA	Good
B18IA-3	1607235G-03A	7/ 9/2016	7/14/2016	NA	10	7/19/2016	NA	Good
B18IA-4	1607235G-04A	7/ 9/2016	7/14/2016	NA	10	7/19/2016	NA	Good
B18IA-5	1607235G-05A	7/ 9/2016	7/14/2016	NA	10	7/19/2016	NA	Good
B18IA-1D	1607235G-06A	7/ 9/2016	7/14/2016	NA	10	7/19/2016	NA	Good
B18SS-1	1607235G-08A	7/11/2016	7/14/2016	NA	8	7/19/2016	NA	Good
B18SS-2	1607235G-09A	7/12/2016	7/14/2016	NA	7	7/19/2016	NA	Good
B18SS-3	1607235G-10A	7/11/2016	7/14/2016	NA	8	7/19/2016	NA	Good
B18SS-4	1607235G-11A	7/12/2016	7/14/2016	NA	7	7/19/2016	NA	Good
B18SS-5	1607235G-12A	7/12/2016	7/14/2016	NA	7	7/19/2016	NA	Good
B18SS-1D	1607235G-13A	7/11/2016	7/14/2016	NA	8	7/19/2016	NA	Good
B18AA-071216	1607235G-14A	7/12/2016	7/14/2016	NA	7	7/19/2016	NA	Good
Lab Blank	1607235G-15A	NA	NA	NA	NA	7/19/2016	NA	Good
LCS	1607235G-16A	NA	NA	NA	NA	7/19/2016	NA	Good
LCSD	1607235G-16AA	NA	NA	NA	NA	7/19/2016	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: B18IA-1

Lab ID#: 1607235G-01A

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

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Client Sample ID: B18IA-1

Lab ID#: 1607235G-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10071906**	**Date of Collection:**	**7/9/16 7:02:00 PM**
Dil. Factor:	**1.65**	**Date of Analysis:**	**7/19/16 11:07 AM**

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

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

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Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Jul2016.b/10071906.d
Lab Smp Id: 1607235G-01A
Inj Date : 19-JUL-2016 11:07
Operator : ly Inst ID: gc10.i
Smp Info : 1.0mL,33531
Misc Info : 5.5"Hg>5.1psi
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 27-Jul-2016 14:14 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 1.65000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

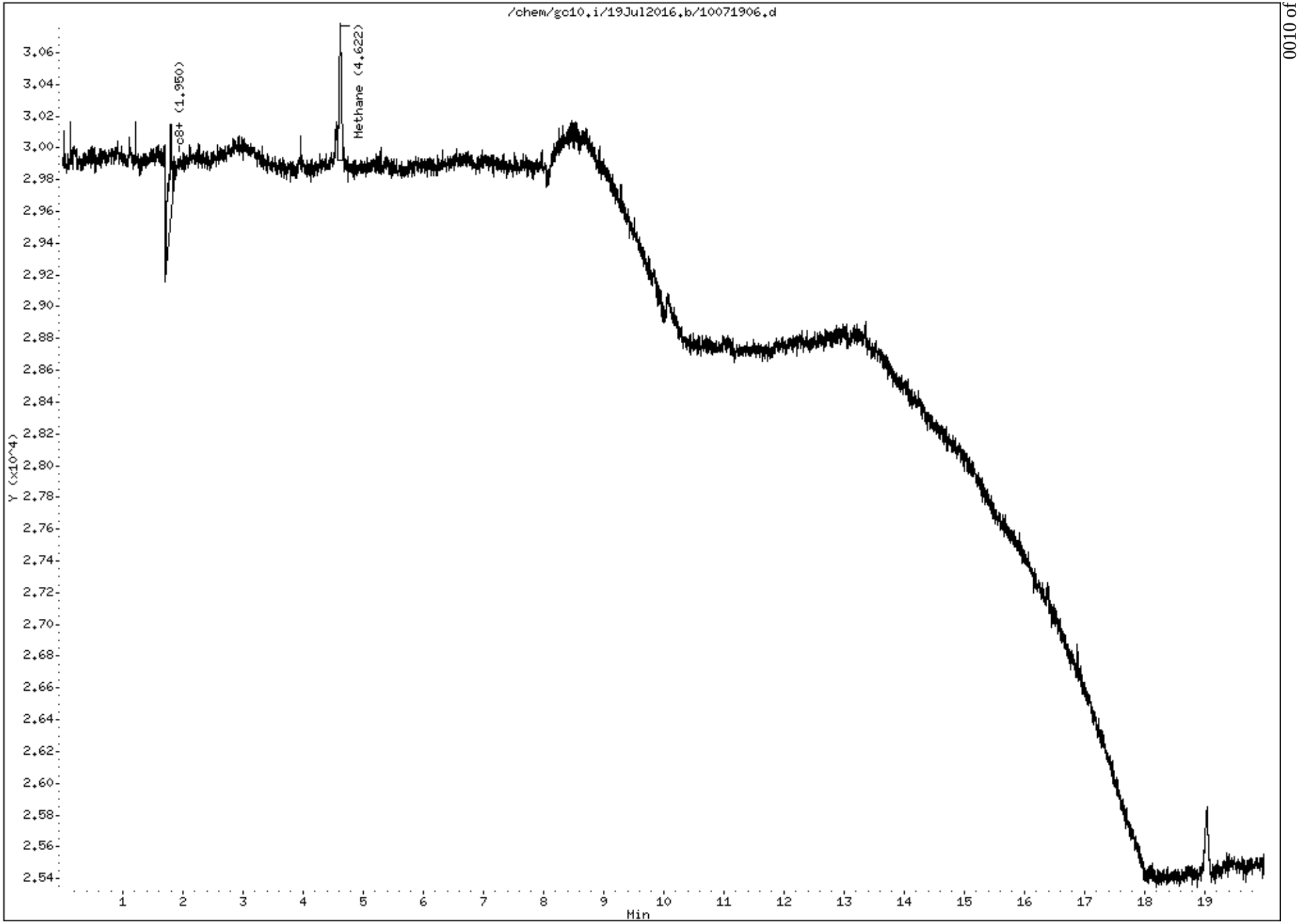
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

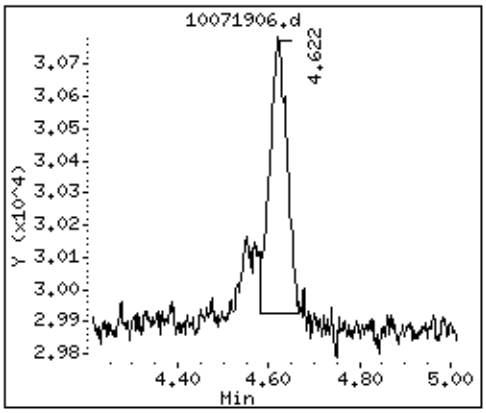
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.622	4.615	0.007	22655	0.00010	0.000165(M)

QC Flag Legend

M - Compound response manually integrated.


/chem/gc10.i/19Jul2016.b/10071906.d
c8+ (1.950)
Methane (4.622)
Y (x10^4)
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
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Min

2 Methane


10071906.d
4.622
3.07
3.06
3.05
3.04
3.03
3.02
3.01
3.00
2.99
2.98
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: B18IA-2

Lab ID#: 1607235G-02A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00018

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Client Sample ID: B18IA-2

Lab ID#: 1607235G-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10071907**	**Date of Collection:**	**7/9/16 6:49:00 PM**
Dil. Factor:	**1.71**	**Date of Analysis:**	**7/19/16 11:39 AM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00017	0.00018

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

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Jul2016.b/10071907.d
Lab Smp Id: 1607235G-02A
Inj Date : 19-JUL-2016 11:39
Operator : ly Inst ID: gc10.i
Smp Info : 1.0mL,6L0015
Misc Info : 6.7"Hg>4.8psi
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 27-Jul-2016 14:14 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 1.71000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

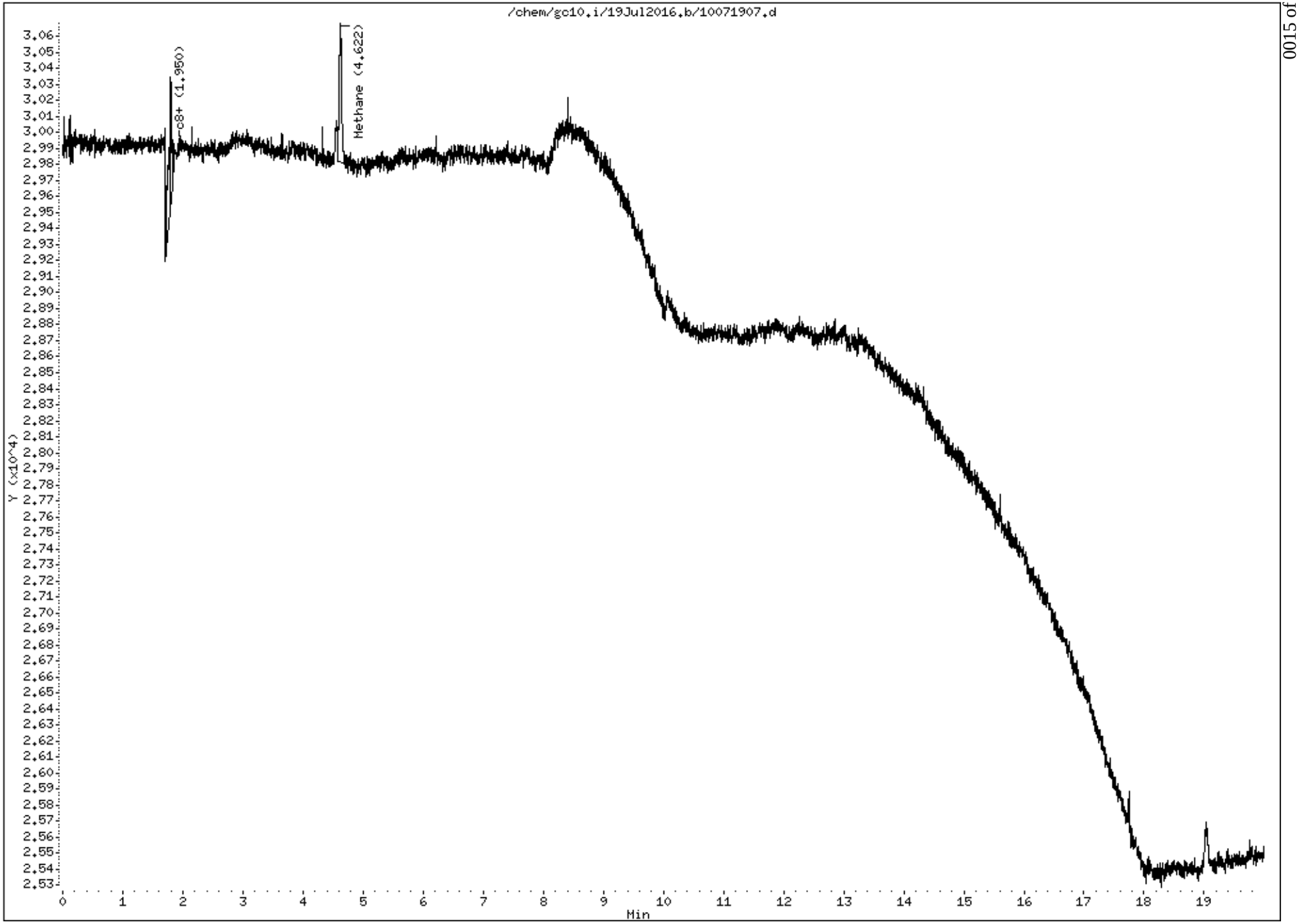
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

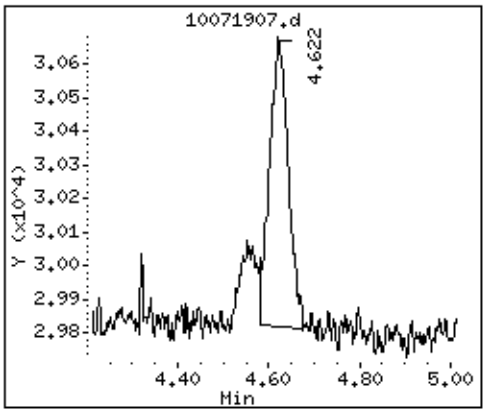
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.622	4.615	0.007	24395	0.000108	0.000184(M)

QC Flag Legend

M - Compound response manually integrated.


/chem/gc10.i/19Jul2016.b/10071907.d
c8+ (1.950)
Methane (4.622)
Y (x10^4)
Min

2 Methane


10071907.d
4.622
3.06
3.05
3.04
3.03
3.02
3.01
3.00
2.99
2.98
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: B18IA-3

Lab ID#: 1607235G-03A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00016	0.00018

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Client Sample ID: B18IA-3

Lab ID#: 1607235G-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10071908**	**Date of Collection:**	**7/9/16 6:27:00 PM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**7/19/16 12:07 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00016	0.00018

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

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Jul2016.b/10071908.d
Lab Smp Id: 1607235G-03A
Inj Date : 19-JUL-2016 12:07
Operator : ly Inst ID: gc10.i
Smp Info : 1.0mL,O0174
Misc Info : 5.1"Hg>5psi
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 27-Jul-2016 14:14 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 1.61000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

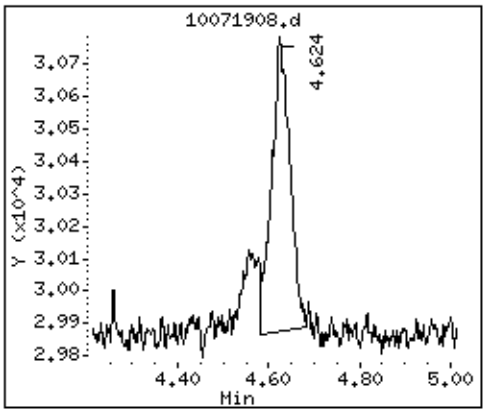
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	CONCENTRATIONS FINAL (%)
2 Methane	4.624	4.615	0.009	25181	0.000111	0.000179

/chem/gc10.i/19Jul2016.b/10071908.d
c8+ (1.950)
Methane (4.624)
Y (x10^4)
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
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Min

2 Methane


10071908.d
4.624
3.07
3.06
3.05
3.04
3.03
3.02
3.01
3.00
2.99
2.98
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: B18IA-4

Lab ID#: 1607235G-04A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00016	0.00020

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Client Sample ID: B18IA-4

Lab ID#: 1607235G-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10071909**	**Date of Collection:**	**7/9/16 6:35:00 PM**
Dil. Factor:	**1.60**	**Date of Analysis:**	**7/19/16 12:35 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00016	0.00020

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

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Jul2016.b/10071909.d
Lab Smp Id: 1607235G-04A
Inj Date : 19-JUL-2016 12:35
Operator : ly Inst ID: gc10.i
Smp Info : 1.0mL,12082
Misc Info : 4.7"Hg>5.2psi
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 27-Jul-2016 14:14 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 1.60000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

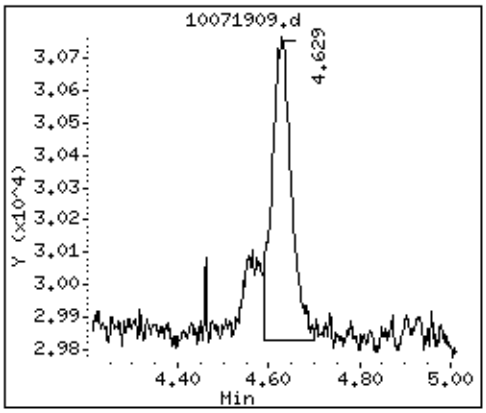
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	CONCENTRATIONS FINAL (%)
2 Methane	4.629	4.615	0.014	27902	0.000123	0.000197

/chem/gc10.i/19Jul2016.b/10071909.d
-c8+ (1.950)
Methane (4.629)
Y (x10^4)
Min

2 Methane


10071909.d
4.629
3.07
3.06
3.05
3.04
3.03
3.02
3.01
3.00
2.99
2.98
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: B18IA-5

Lab ID#: 1607235G-05A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00019

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Client Sample ID: B18IA-5

Lab ID#: 1607235G-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10071910**	**Date of Collection:**	**7/9/16 6:44:00 PM**
Dil. Factor:	**1.67**	**Date of Analysis:**	**7/19/16 12:59 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00017	0.00019

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

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Jul2016.b/10071910.d
Lab Smp Id: 1607235G-05A
Inj Date : 19-JUL-2016 12:59
Operator : ly Inst ID: gc10.i
Smp Info : 1.0mL,31146
Misc Info : 5.9"Hg>5psi
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 27-Jul-2016 14:14 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 1.67000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

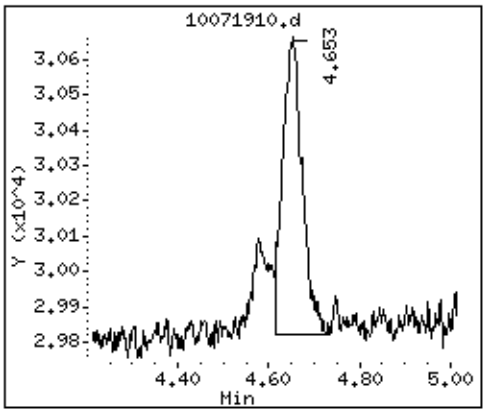
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.653	4.615	0.038	25458	0.000112	0.000188

/chem/gc10.i/19Jul2016.b/10071910.d
c8+ (1.950)
Methane (4.653)
Y (x10^4)
Min

2 Methane


10071910.d
4.653
3.06
3.05
3.04
3.03
3.02
3.01
3.00
2.99
2.98
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: B18IA-1D

Lab ID#: 1607235G-06A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00020

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Client Sample ID: B18IA-1D

Lab ID#: 1607235G-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10071911**	**Date of Collection:**	**7/9/16 7:02:00 PM**
Dil. Factor:	**1.66**	**Date of Analysis:**	**7/19/16 02:21 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00017	0.00020

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

Eurofins Air Toxics Inc.

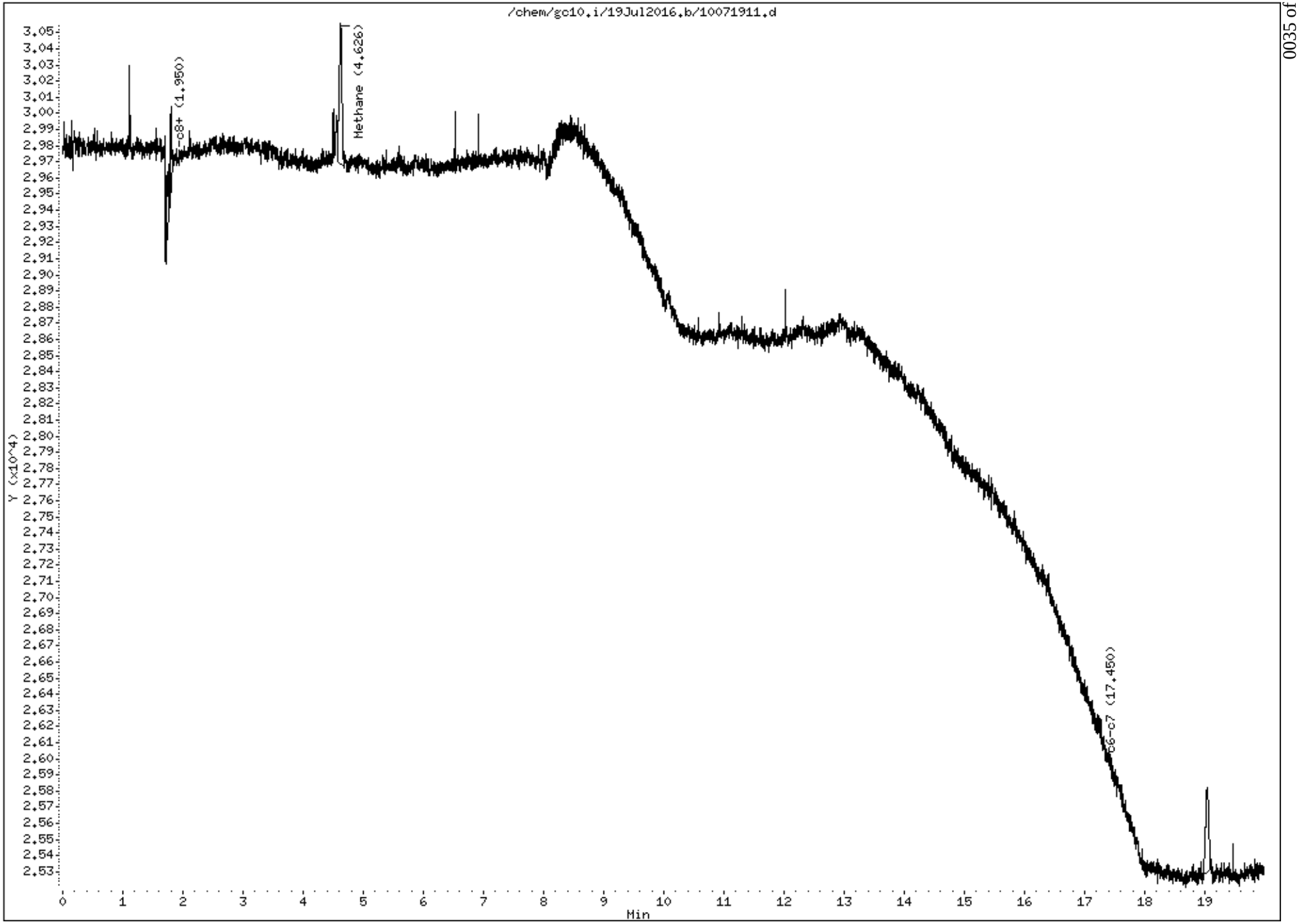
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Jul2016.b/10071911.d
Lab Smp Id: 1607235G-06A
Inj Date : 19-JUL-2016 14:21
Operator : ly Inst ID: gc10.i
Smp Info : 1.0mL,21011
Misc Info : 5.5"Hg>5.2psi
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 27-Jul-2016 14:14 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 1.66000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

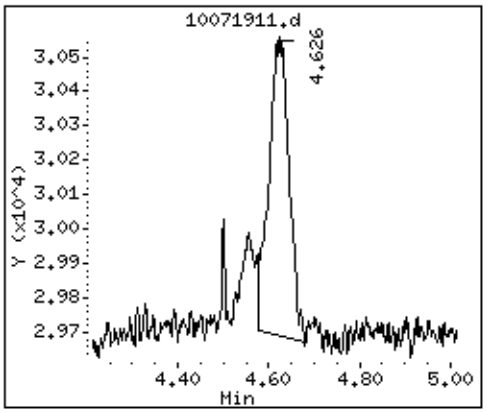
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.626	4.615	0.011	26664	0.000118	0.000196


/chem/gc10.i/19Jul2016.b/10071911.d
-c8+ (1.950)
Methane (4.626)
c6-c7 (17.450)
Y (x10^4)
Min

2 Methane


10071911.d
4.626
3.05
3.04
3.03
3.02
3.01
3.00
2.99
2.98
2.97
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: B18SS-1

Lab ID#: 1607235G-08A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00024	0.000096 J

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Client Sample ID: B18SS-1

Lab ID#: 1607235G-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10071912**	**Date of Collection:**	**7/11/16 6:00:00 PM**
Dil. Factor:	**2.40**	**Date of Analysis:**	**7/19/16 03:01 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00024	0.000096 J

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Jul2016.b/10071912.d
Lab Smp Id: 1607235G-08A
Inj Date : 19-JUL-2016 15:01
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,36376
Misc Info : 4.7"Hg>15.1psi
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 27-Jul-2016 14:54 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 2.40000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

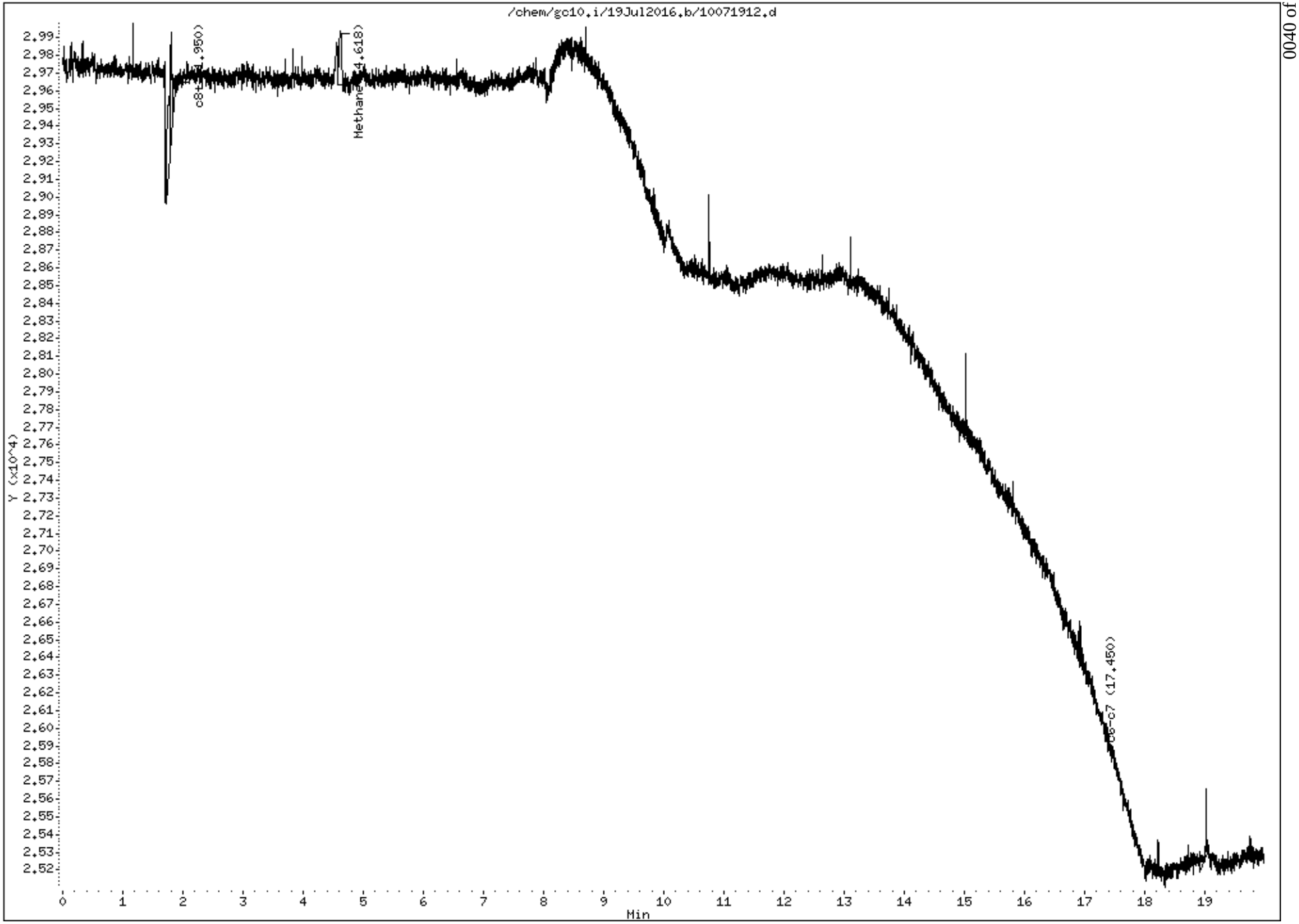
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

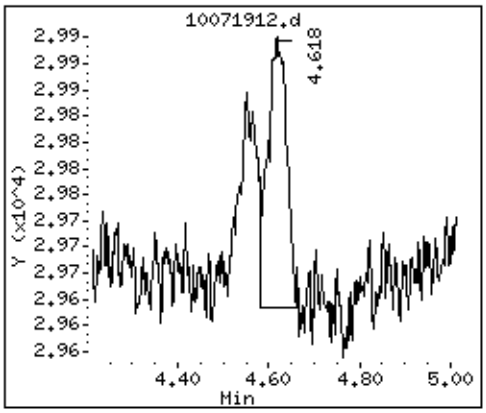
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	CONCENTRATIONS FINAL (%)
2 Methane	4.618	4.615	0.003	9041	<0.0	0.0000958(aM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.


/chem/gc10.i/19Jul2016.b/10071912.d
c8+ (1.950)
Methane (4.618)
c8-c7 (17.450)
Y (x10^4)
Min

2 Methane


10071912.d
4.618
2.99
2.99
2.99
2.98
2.98
2.98
2.98
2.97
2.97
2.97
2.96
2.96
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: B18SS-2

Lab ID#: 1607235G-09A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00024	0.00020 J

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Client Sample ID: B18SS-2

Lab ID#: 1607235G-09A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10071913**	**Date of Collection:**	**7/12/16 7:37:00 PM**
Dil. Factor:	**2.38**	**Date of Analysis:**	**7/19/16 03:27 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00024	0.00020 J

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Jul2016.b/10071913.d
Lab Smp Id: 1607235G-09A
Inj Date : 19-JUL-2016 15:27
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,3043
Misc Info : 4.7"Hg>14.8psi
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 27-Jul-2016 14:54 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 2.38000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

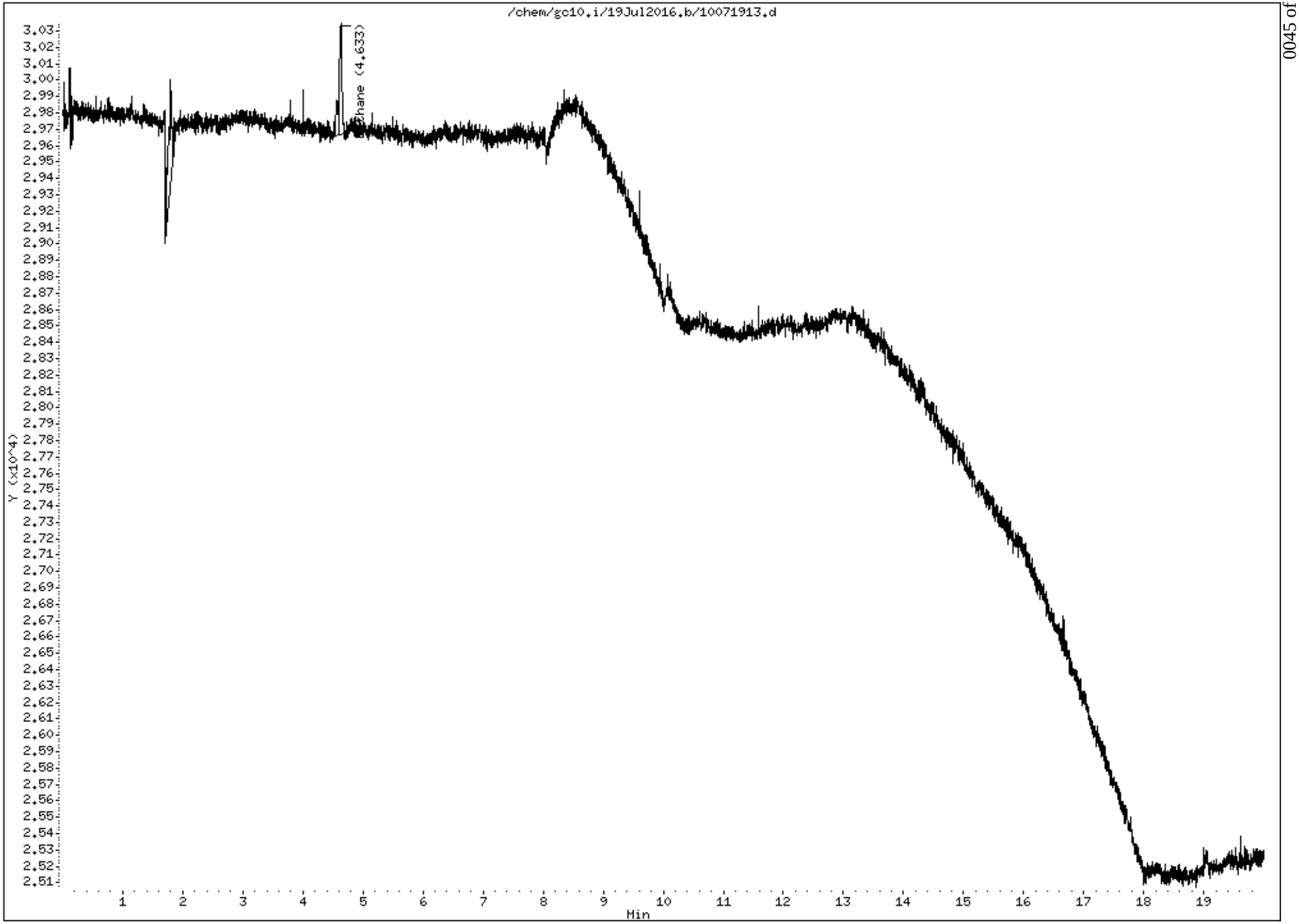
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

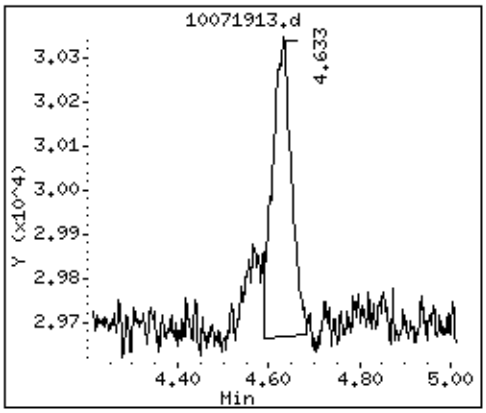
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.633	4.615	0.018	19332	<0.0	0.000203(aM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.


/chem/gc10.i/19Jul2016.b/10071913.d
Ethane (4.633)
Y (x10^4)
Min

2 Methane


10071913.d
4.633
3.03
3.02
3.01
3.00
2.99
2.98
2.97
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: B18SS-3

Lab ID#: 1607235G-10A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00024	0.00016 J

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Client Sample ID: B18SS-3

Lab ID#: 1607235G-10A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10071914**	**Date of Collection:**	**7/11/16 6:49:00 PM**
Dil. Factor:	**2.40**	**Date of Analysis:**	**7/19/16 03:53 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00024	0.00016 J

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Jul2016.b/10071914.d
Lab Smp Id: 1607235G-10A
Inj Date : 19-JUL-2016 15:53
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,8031
Misc Info : 4.7"Hg>15.1psi
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 27-Jul-2016 14:54 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 2.40000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

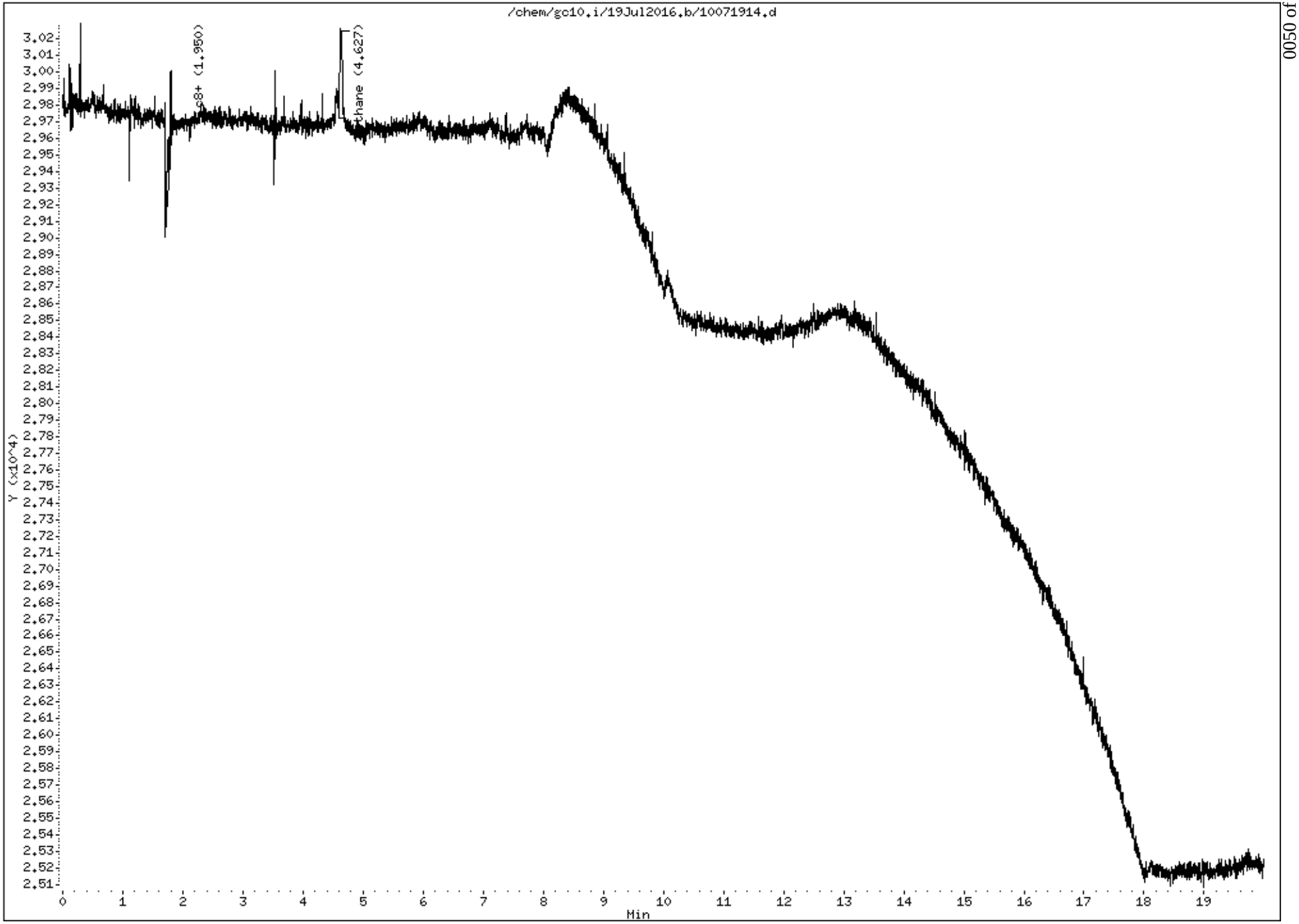
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

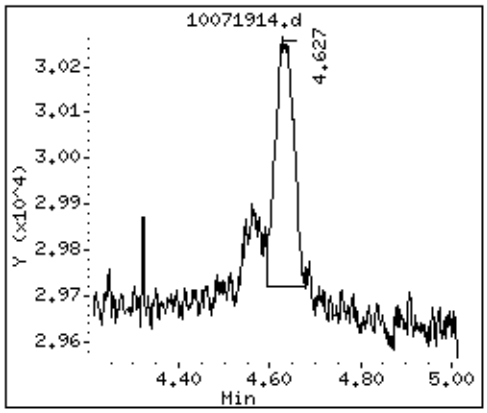
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.627	4.615	0.012	15475	<0.0	0.000164(aM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.


/chem/gc10.i/19Jul2016.b/10071914.d
c8+ (1.950)
thane (4.627)
Y (x10^4)
Min

2 Methane


10071914.d
4.627
3.02
3.01
3.00
2.99
2.98
2.97
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: B18SS-4

Lab ID#: 1607235G-11A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00025	0.00016 J

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Client Sample ID: B18SS-4

Lab ID#: 1607235G-11A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10071915**	**Date of Collection:**	**7/12/16 6:50:00 PM**
Dil. Factor:	**2.48**	**Date of Analysis:**	**7/19/16 04:21 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00025	0.00016 J

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Jul2016.b/10071915.d
Lab Smp Id: 1607235G-11A
Inj Date : 19-JUL-2016 16:21
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,1025
Misc Info : 5.5"Hg>15psi
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 27-Jul-2016 14:54 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 2.48000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

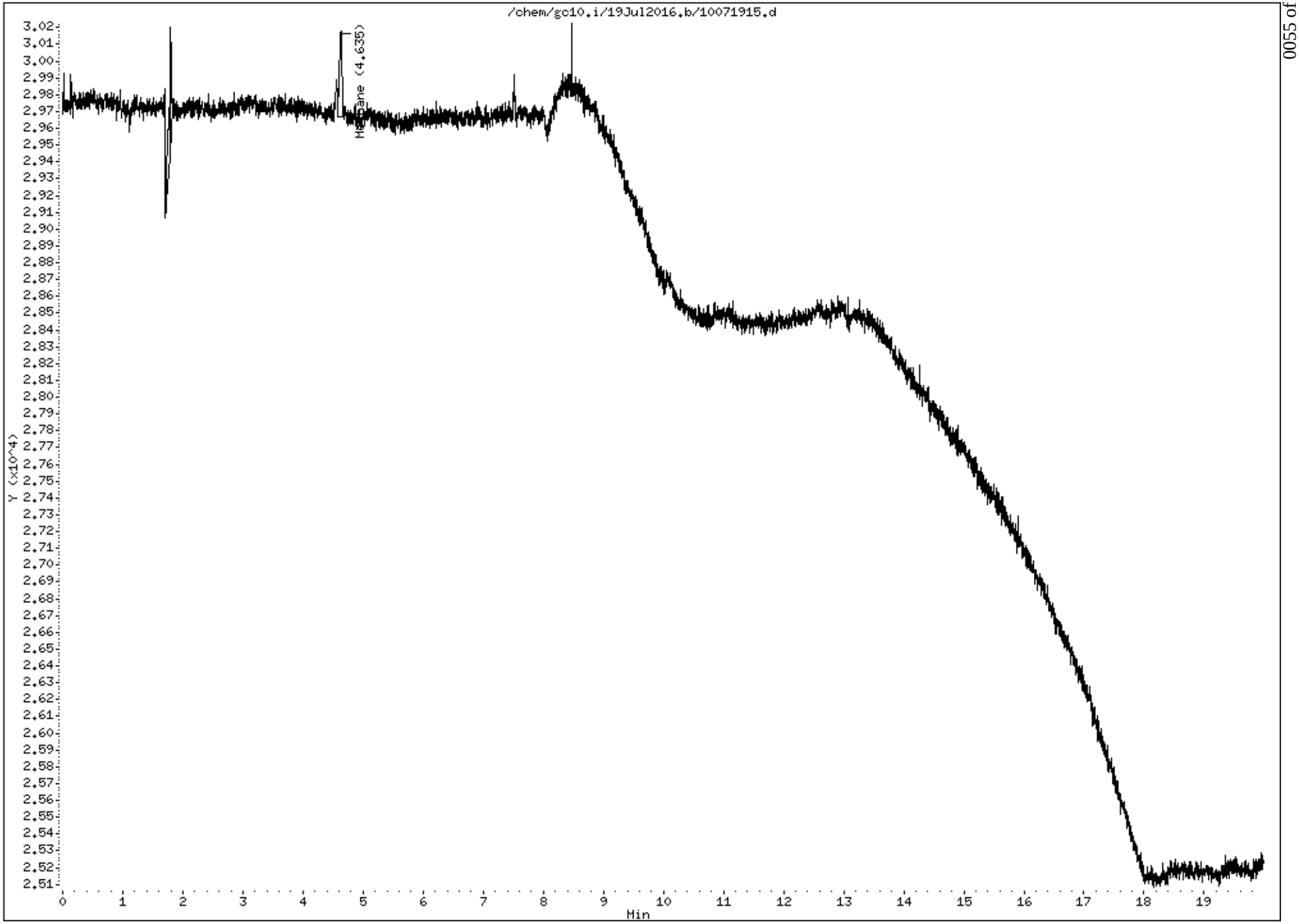
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

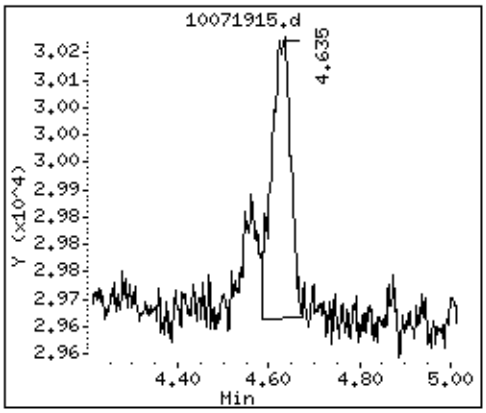
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.635	4.615	0.020	14932	<0.0	0.000164(a)

QC Flag Legend

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


/chem/gc10.i/19Jul2016.b/10071915.d
Methane (4.635)
Y (x10^4)
Min

2 Methane


10071915.d
4.635
3.02
3.01
3.00
3.00
3.00
2.99
2.98
2.98
2.98
2.97
2.96
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: B18SS-5

Lab ID#: 1607235G-12A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00023	0.00010 J

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Client Sample ID: B18SS-5

Lab ID#: 1607235G-12A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10071916**	**Date of Collection:**	**7/12/16 6:01:00 PM**
Dil. Factor:	**2.34**	**Date of Analysis:**	**7/19/16 04:52 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00023	0.00010 J

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Jul2016.b/10071916.d
Lab Smp Id: 1607235G-12A
Inj Date : 19-JUL-2016 16:52
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,36525
Misc Info : 4.3"Hg>14.8psi
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 27-Jul-2016 14:54 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 2.34000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

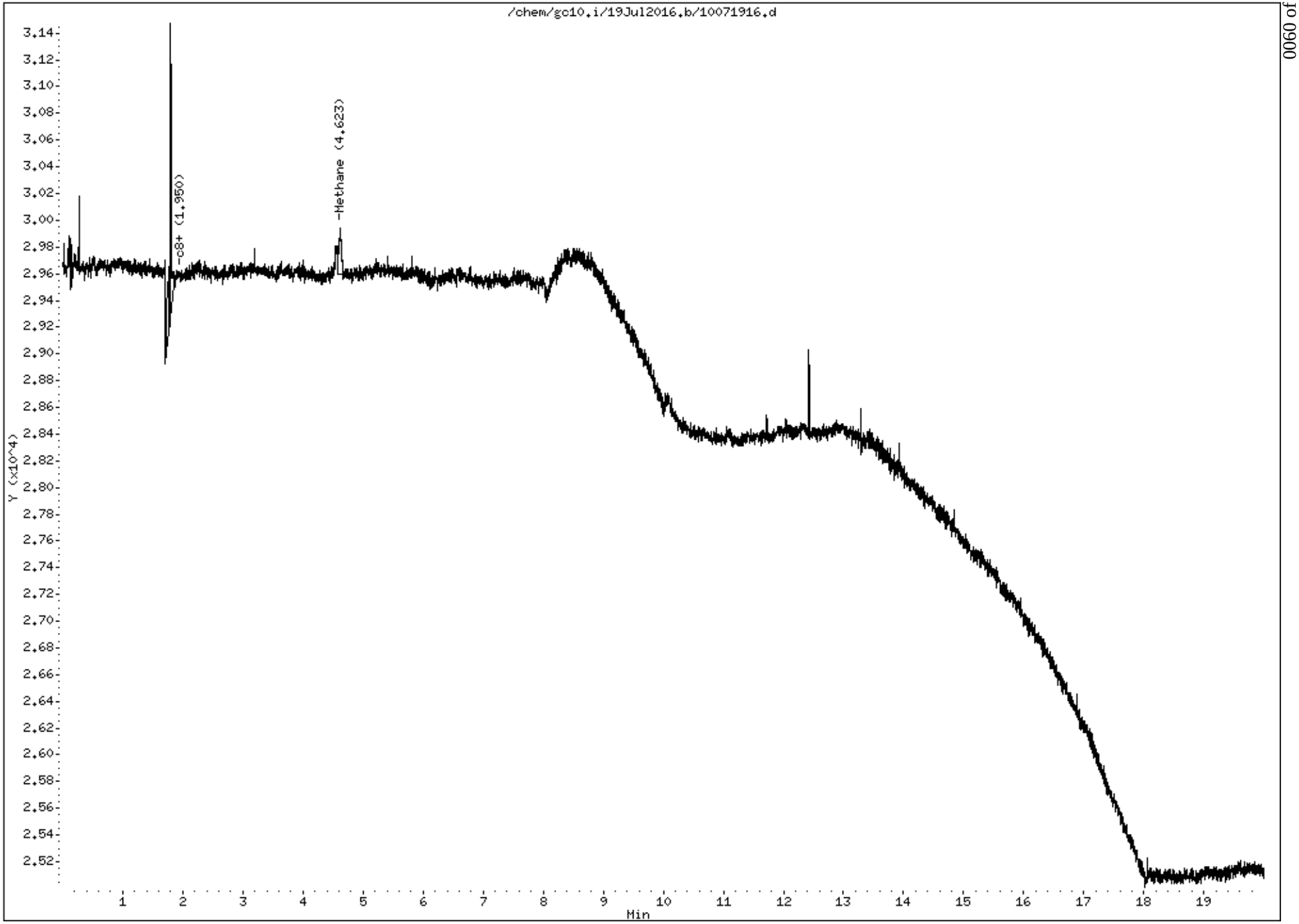
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

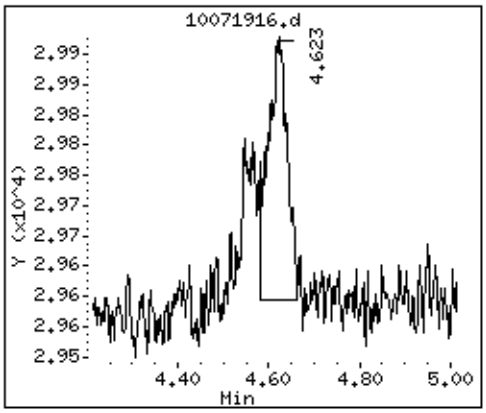
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.623	4.615	0.008	10093	<0.0	0.000104(aM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.


/chem/gc10.i/19Jul2016.b/10071916.d
-c8+ (1.950)
-Methane (4.623)
Y (x10^4)
Min

2 Methane


10071916.d
4.623
Y (x10^4)
2.99
2.99
2.98
2.98
2.98
2.97
2.97
2.96
2.96
2.96
2.95
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: B18SS-1D

Lab ID#: 1607235G-13A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00024	0.00016 J

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Client Sample ID: B18SS-1D

Lab ID#: 1607235G-13A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10071917**	**Date of Collection:**	**7/11/16 5:59:00 PM**
Dil. Factor:	**2.38**	**Date of Analysis:**	**7/19/16 05:17 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00024	0.00016 J

J = Estimated value.

Container Type: 1 Liter Summa Canister (100% Certified)

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Jul2016.b/10071917.d
Lab Smp Id: 1607235G-13A
Inj Date : 19-JUL-2016 17:17
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,30832
Misc Info : 4.5"Hg>15.1psi
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 27-Jul-2016 14:54 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 2.38000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

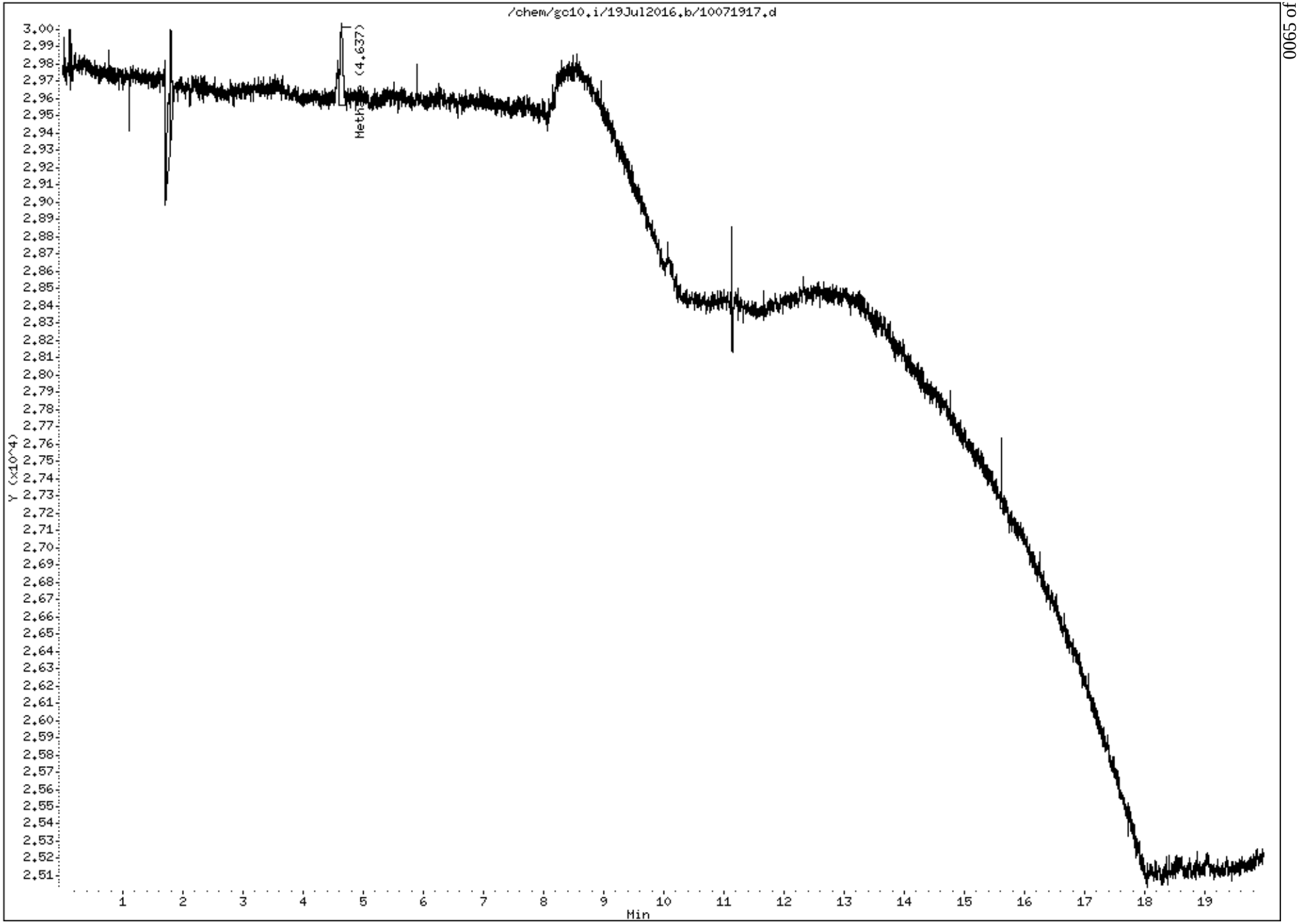
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

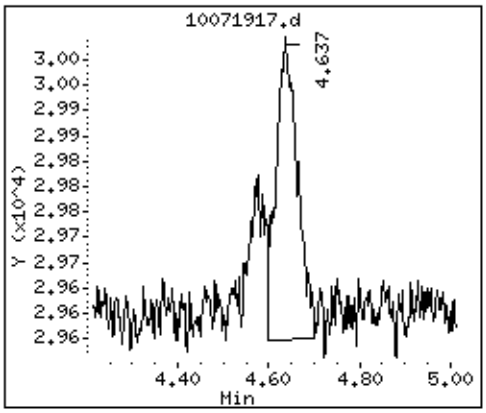
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.637	4.615	0.022	15333	<0.0	0.000161(a)

QC Flag Legend

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


/chem/gc10.i/19Jul2016.b/10071917.d
Meth (4.637)
Y (x10^4)
Min

2 Methane


10071917.d
4.637
3.00
3.00
2.99
2.99
2.98
2.98
2.98
2.97
2.97
2.96
2.96
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: B18AA-071216

Lab ID#: 1607235G-14A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00016	0.00018

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Client Sample ID: B18AA-071216

Lab ID#: 1607235G-14A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10071918**	**Date of Collection:**	**7/12/16 2:08:00 PM**
Dil. Factor:	**1.59**	**Date of Analysis:**	**7/19/16 05:40 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00016	0.00018

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

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Jul2016.b/10071918.d
Lab Smp Id: 1607235G-14A
Inj Date : 19-JUL-2016 17:40
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,12947
Misc Info : 4.7"Hg>5.0psi
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 27-Jul-2016 14:14 lyohanne Quant Type: ESTD
Cal Date : 15-JAN-2016 14:29 Cal File: 10011513.d
Als bottle: 1
Dil Factor: 1.59000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

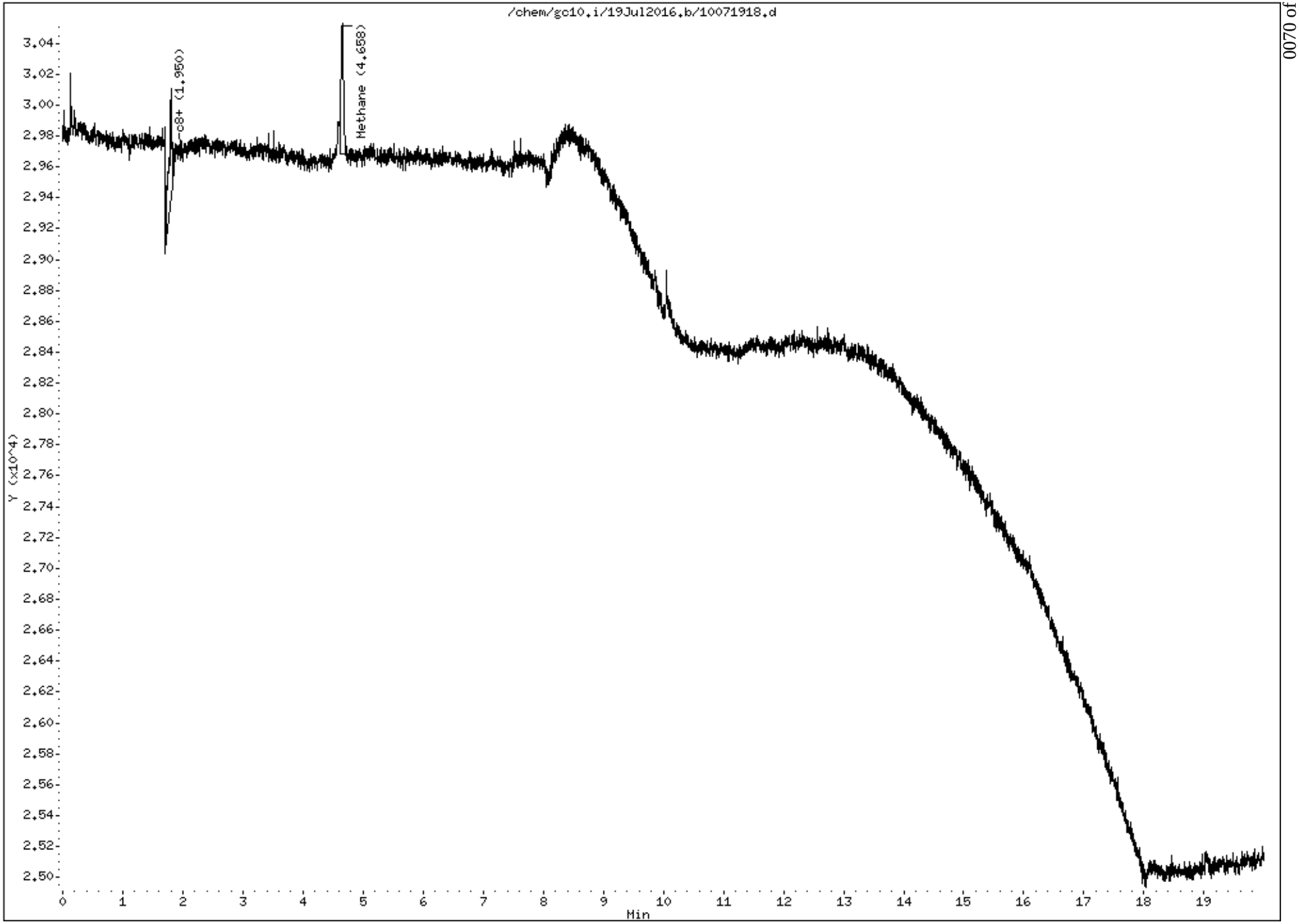
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

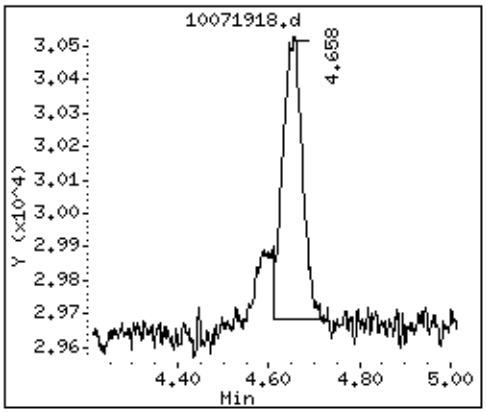
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.658	4.615	0.043	25562	0.000113	0.000180(M)

QC Flag Legend

M - Compound response manually integrated.


/chem/gc10.i/19Jul2016.b/10071918.d
c8+ (1.950)
Methane (4.658)
Y (x10^4)
Min

2 Methane


10071918.d
4.658
3.05
3.04
3.03
3.02
3.01
3.00
2.99
2.98
2.97
2.96
Y (x10^4)
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#: 1607235G-15A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10071905**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/19/16 10:28 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 : /var/chem/gc10.i/19Jul2016.b/10071905.d
Lab Smp Id: Lab Blank
Inj Date : 19-JUL-2016 10:28
Operator : ly Inst ID: gc10.i
Smp Info : 1.0mL,34008
Misc Info : Lab Blank
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 19-Jul-2016 08:54 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

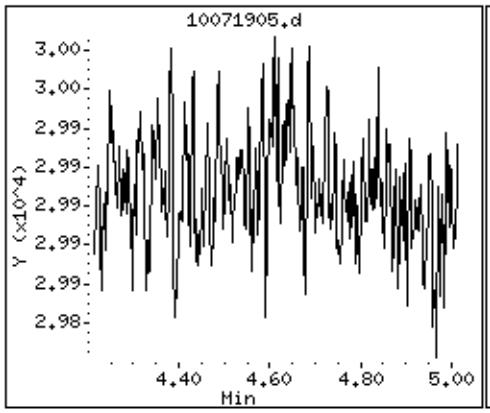
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

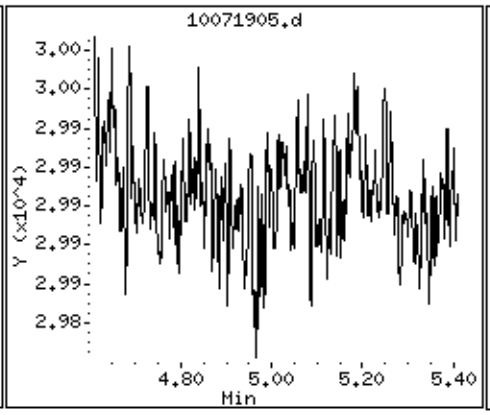
					CONCENTRATIONS ON-COLUMN (%)	CONCENTRATIONS FINAL (%)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
2 Methane	Compound Not Detected.					
3 ethane	Compound Not Detected.					
4 ethene	Compound Not Detected.					
5 propane	Compound Not Detected.					
7 acetylene	Compound Not Detected.					
8 iso-butane	Compound 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/19Jul2016.b/10071905.d
cBB (1.950)
Y (x10^4)
Min

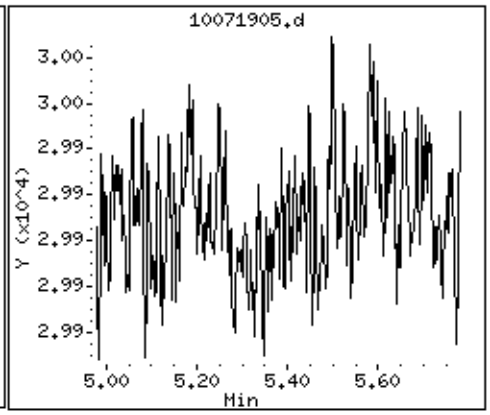
2 Methane (Undetected)



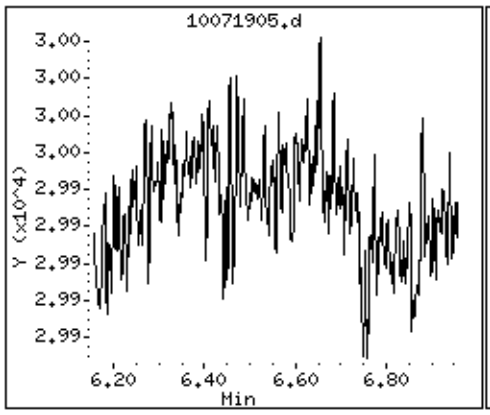
3 ethane (Undetected)



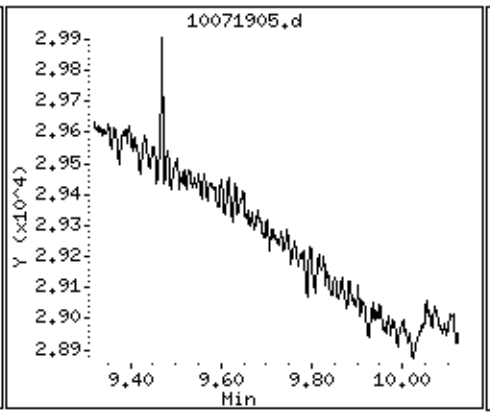
4 ethene (Undetected)



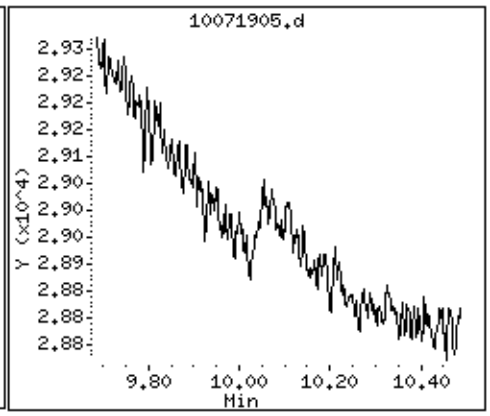
5 propane (Undetected)



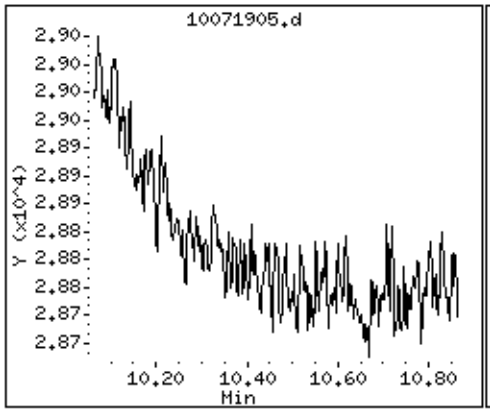
7 acetylene (Undetected)



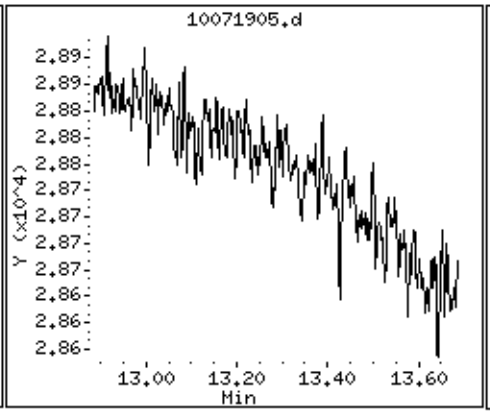
8 iso-butane (Undetected)



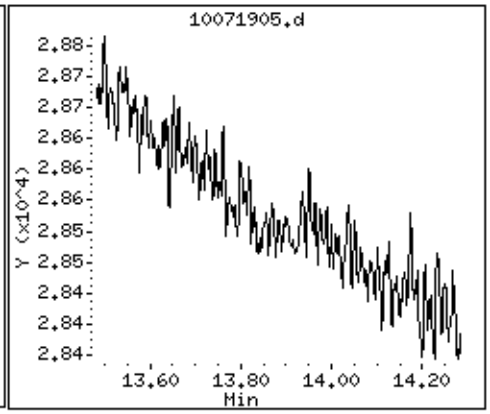
10 n-butane (Undetected)



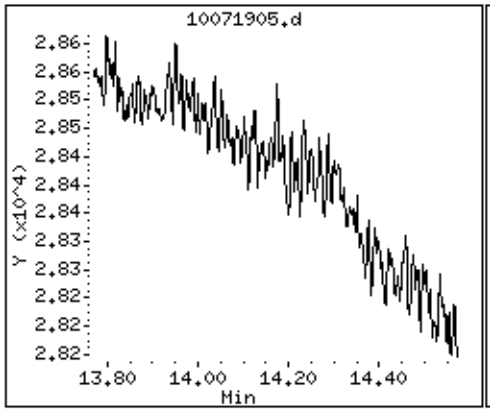
15 neo-pentane (Undetected



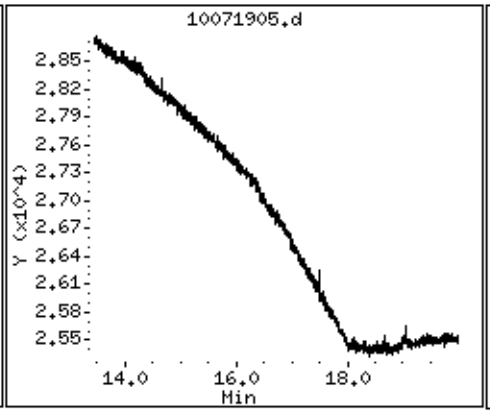
16 isopentane (Undetected)



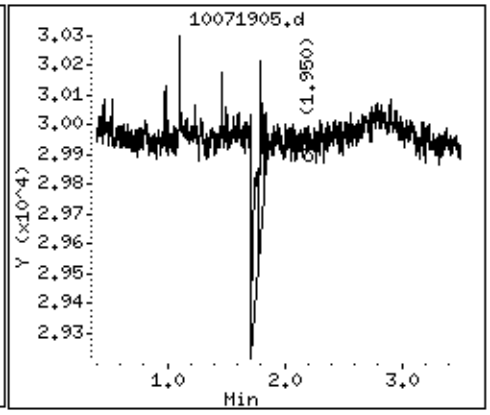
17 pentane (Undetected)



S 22 c6-c7 (Undetected)



S 36 c8+ (Undetected)



SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab Name: Air Toxics Ltd.

Lab File ID: 10071920.d & 10071902.d

Lab Sample ID: &

Dilution: 1.00 & 1.00

Client Sample ID: LCS & LCSD

Date Analyzed: 7/19/16 & 7/19/16

CAS Number	Compound	Original Amount	Original Flags	Duplicate Amount	Duplicate Flags	RPD	Result Less Than 5X RL
74-82-8	Methane	102		100.6		1.4	

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~~ 2299-1160							1530		LCS

Calculation check : 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.

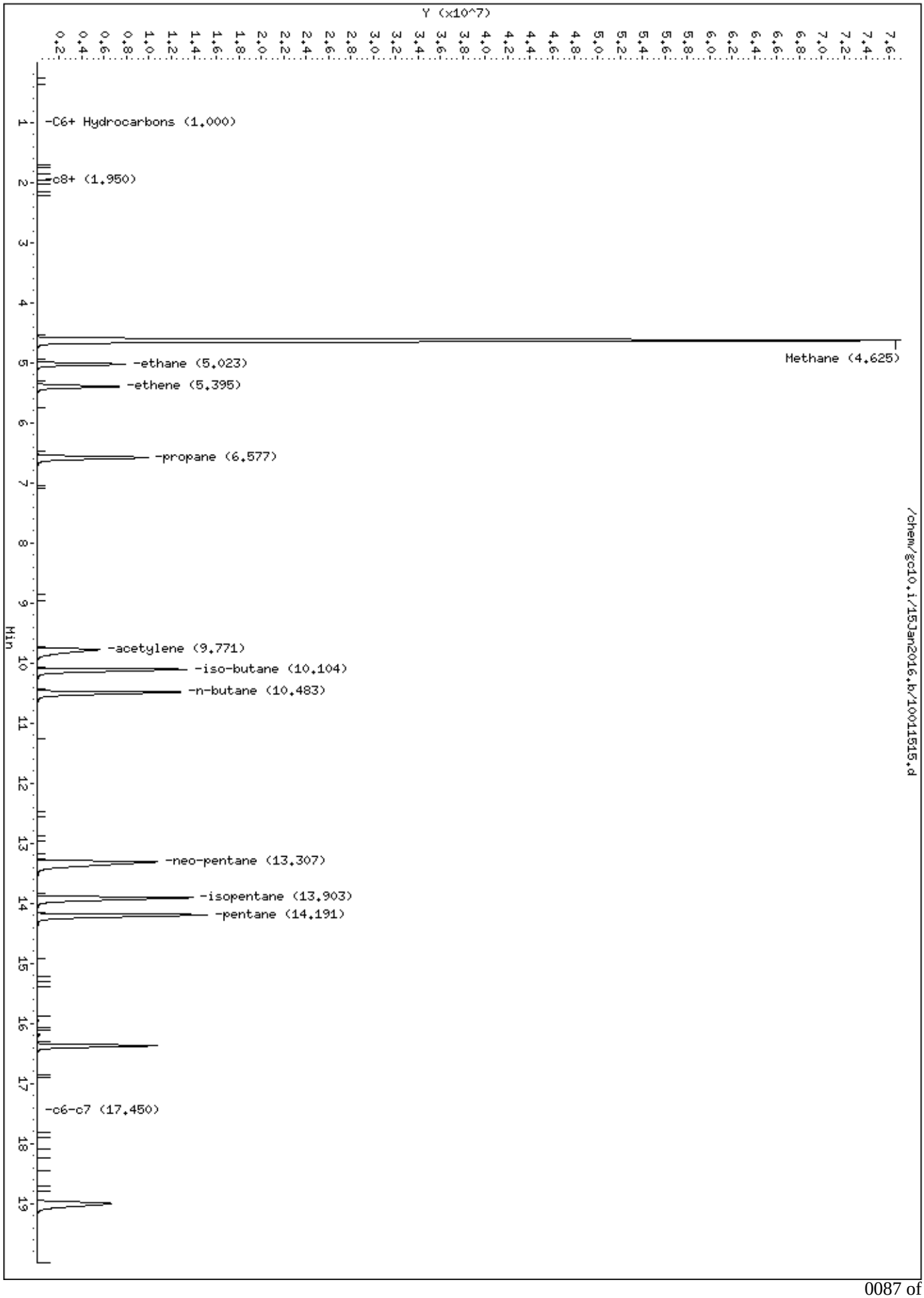
Report Date: 20-Jan-2016 15:06

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

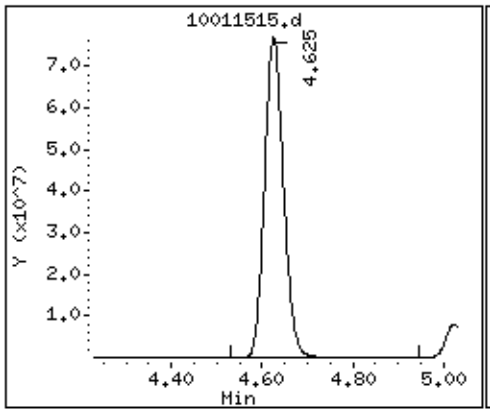


Data File: /chem/gc10.i/15Jan2016.b/10011515.d

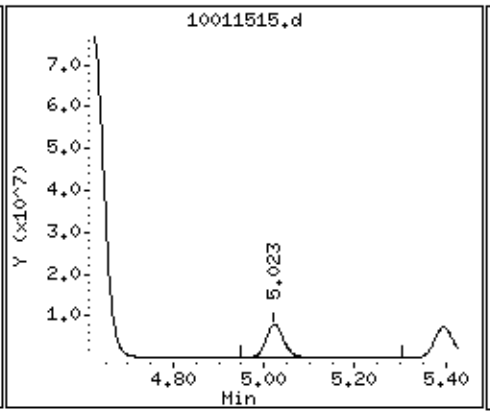
/chem/gc10.i/15Jan2016.b/10011515.d

Page 1

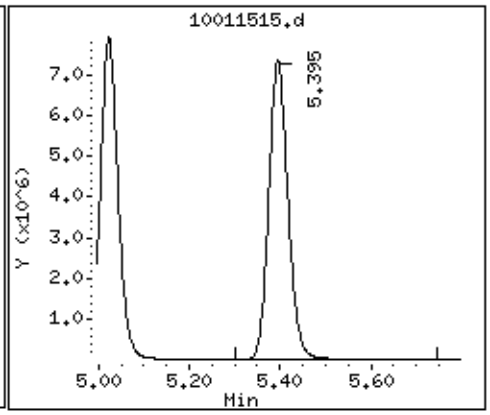
2 Methane



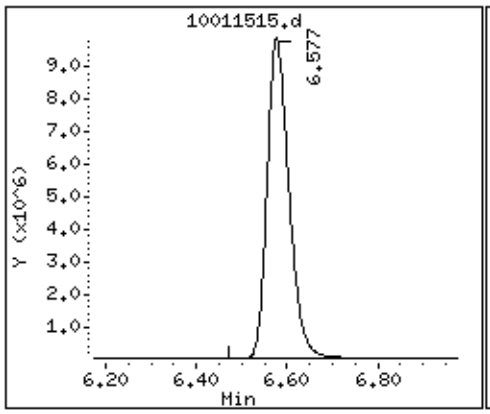
3 ethane



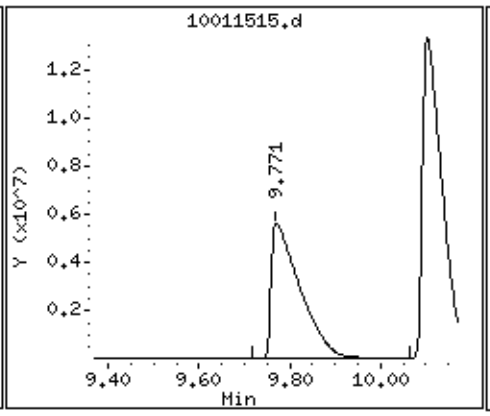
4 ethene



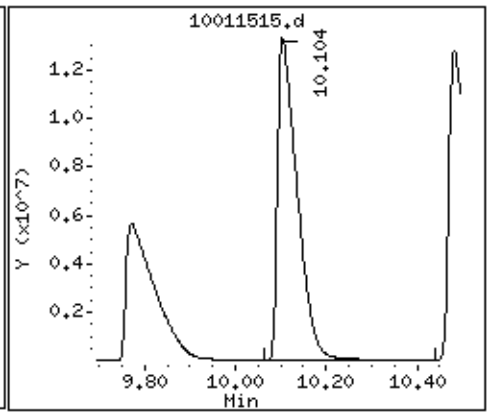
5 propane



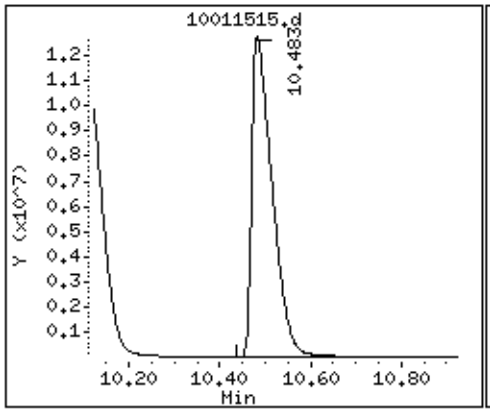
7 acetylene



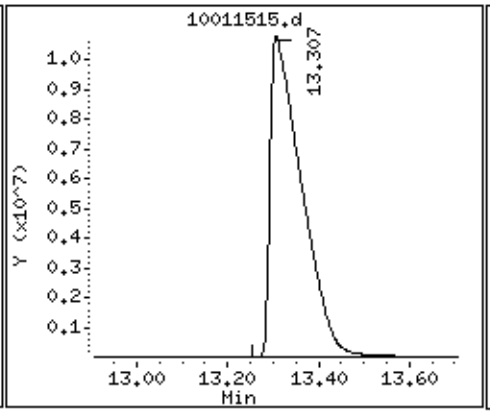
8 iso-butane



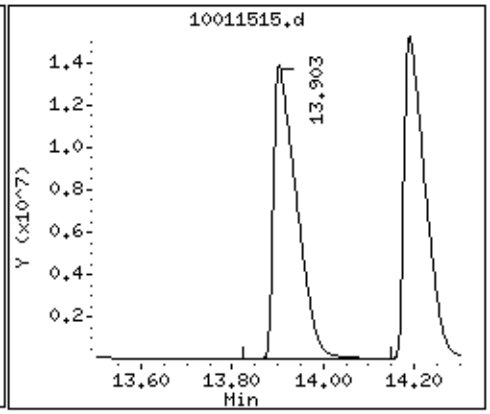
10 n-butane



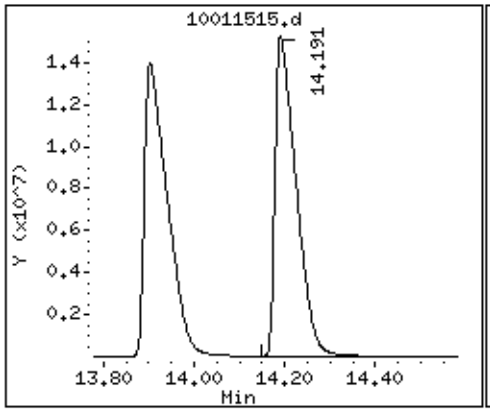
15 neo-pentane



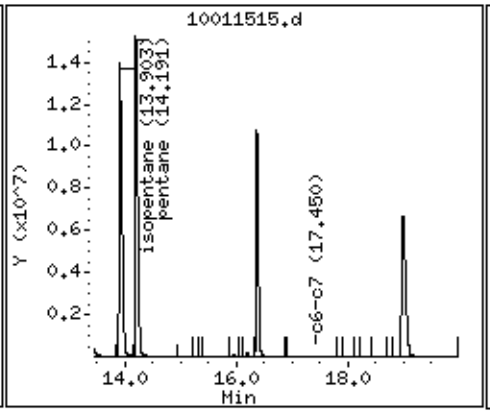
16 isopentane



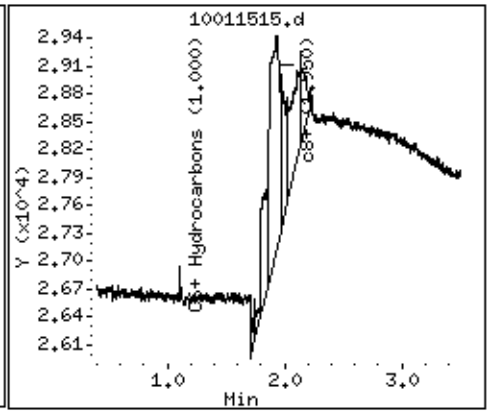
17 pentane



S 22 c6-c7



S 36 c8+ (Undetected)



Eurofins Air Toxics Inc.

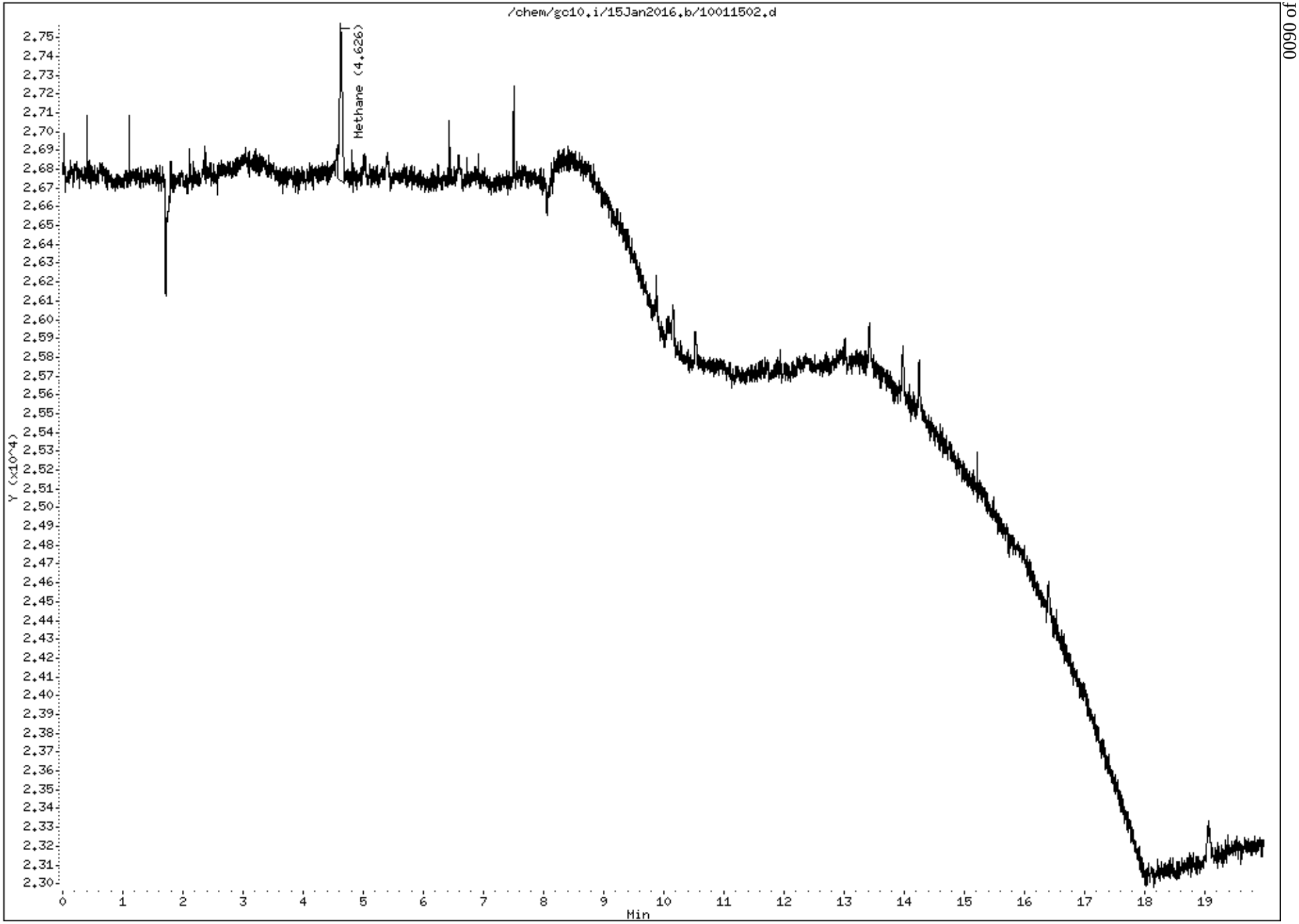
Modified ASTM D-1945/1946

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

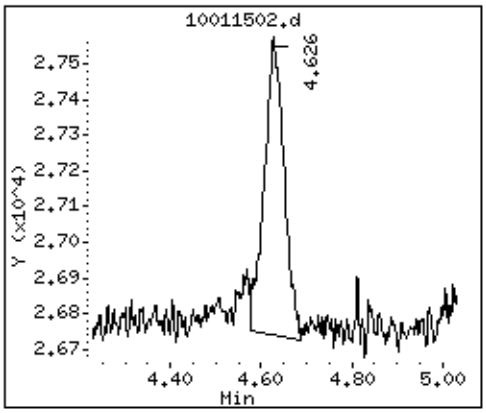
Concentration Formula: Amt * DF * CpndVariable

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

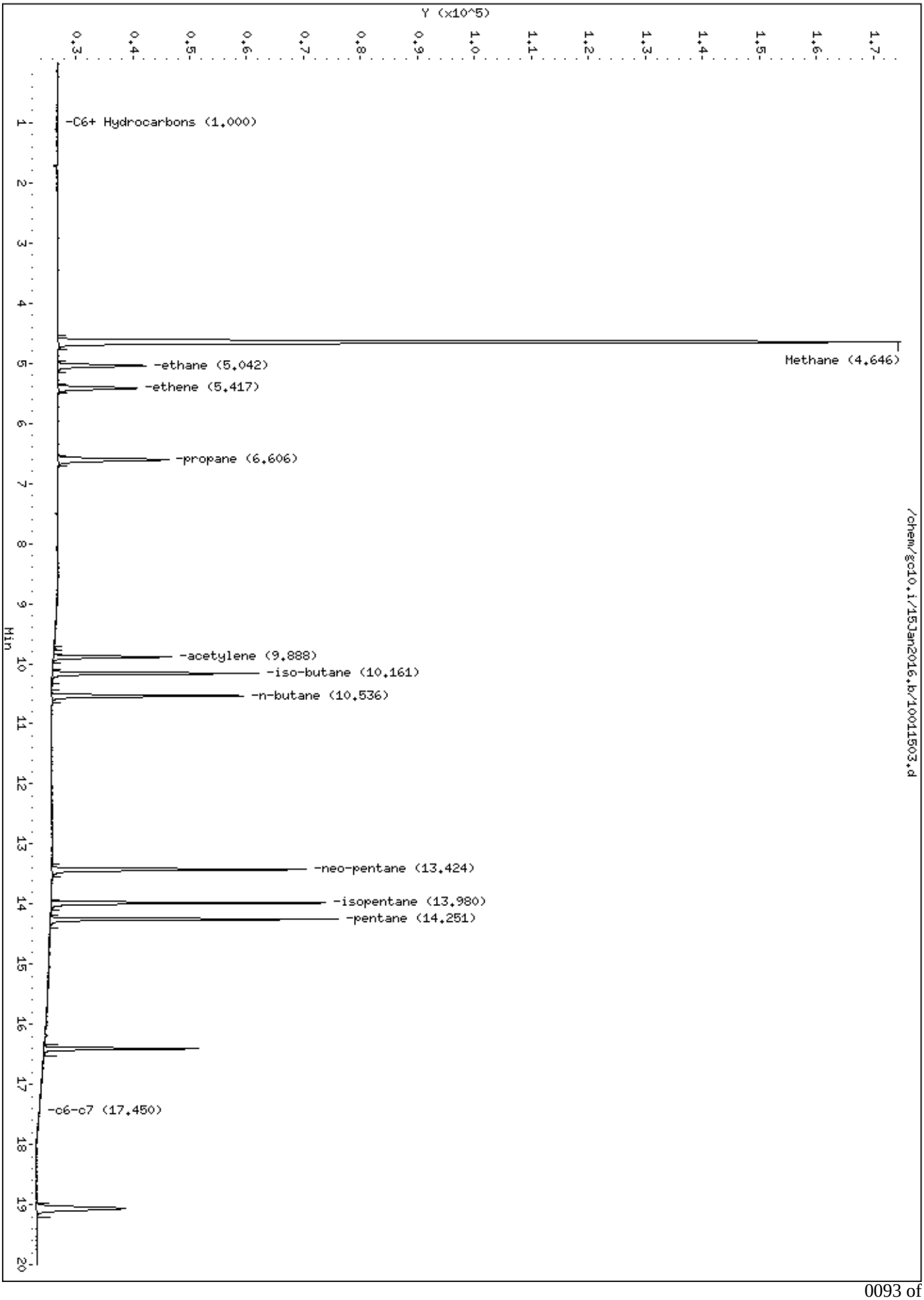
Concentration Formula: Amt * DF * CpndVariable

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).

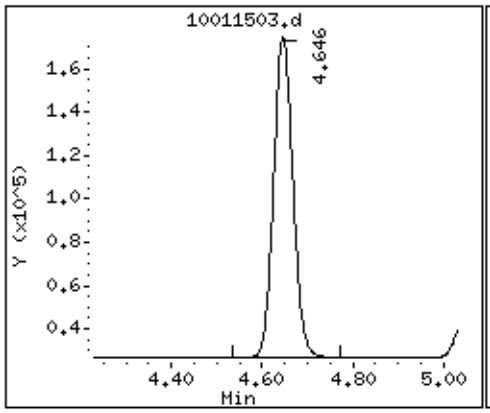


Data File: /chem/gc10.i/15Jan2016.b/10011503.d

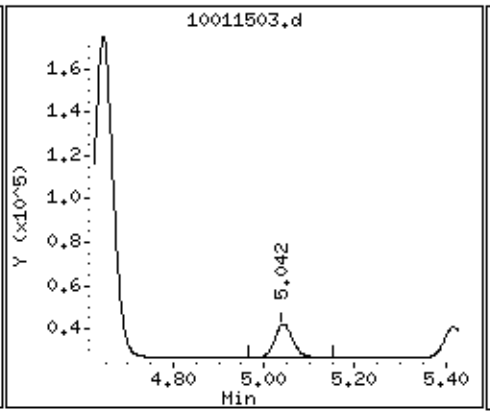
/chem/gc10.i/15Jan2016.b/10011503.d

Page 1

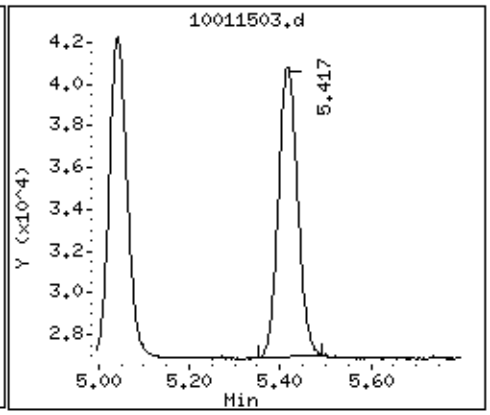
2 Methane



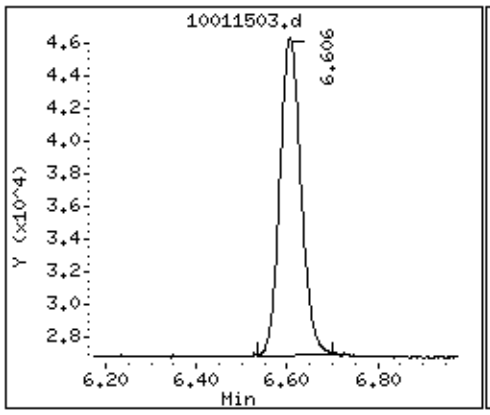
3 ethane



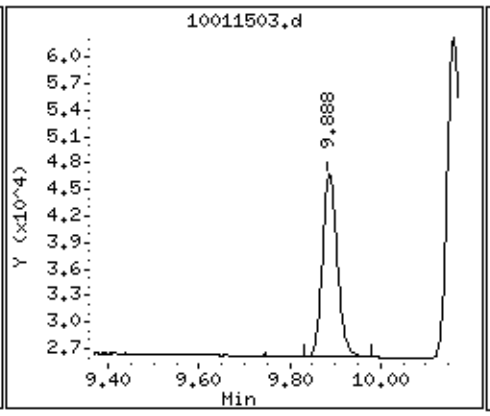
4 ethene



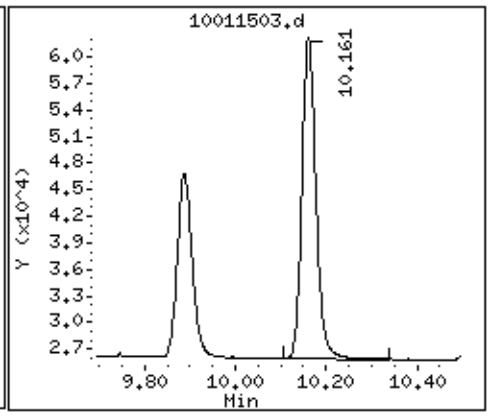
5 propane



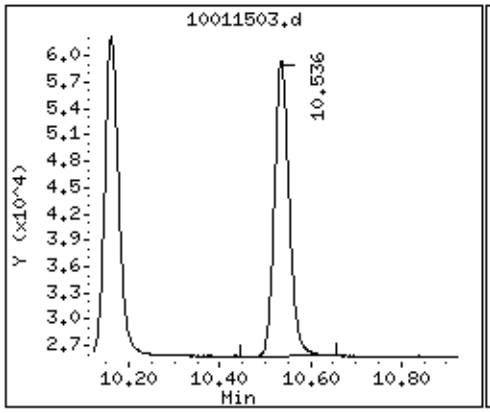
7 acetylene



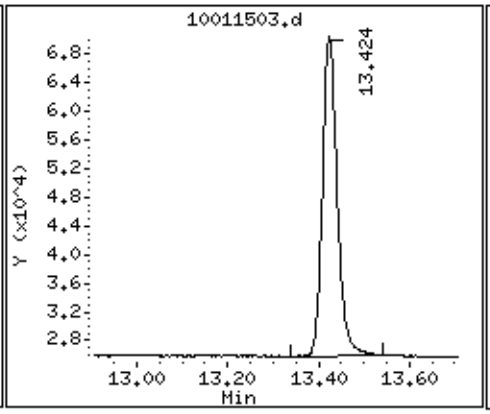
8 iso-butane



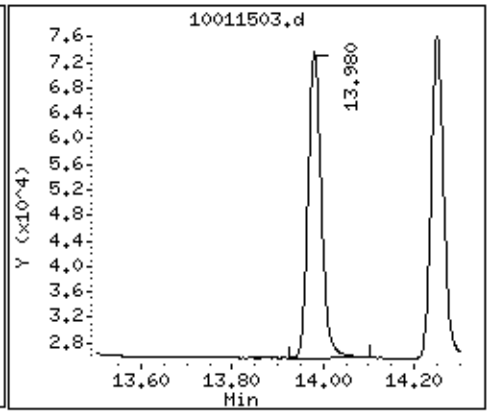
10 n-butane



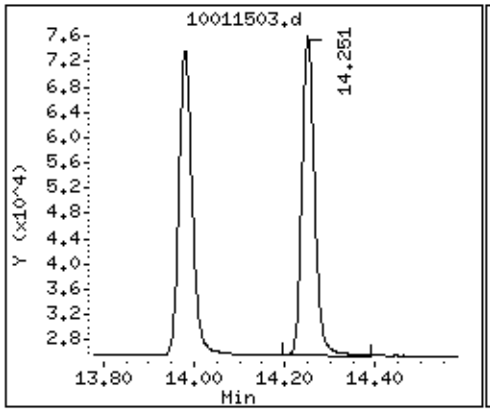
15 neo-pentane



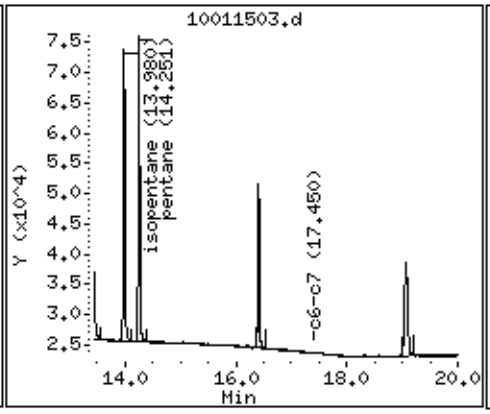
16 isopentane



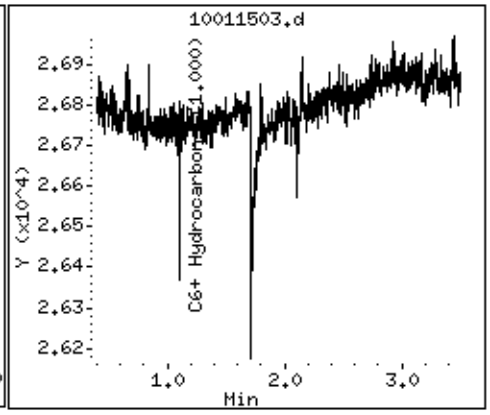
17 pentane



S 22 c6-c7



S 36 c8+ (Undetected)



Eurofins Air Toxics Inc.

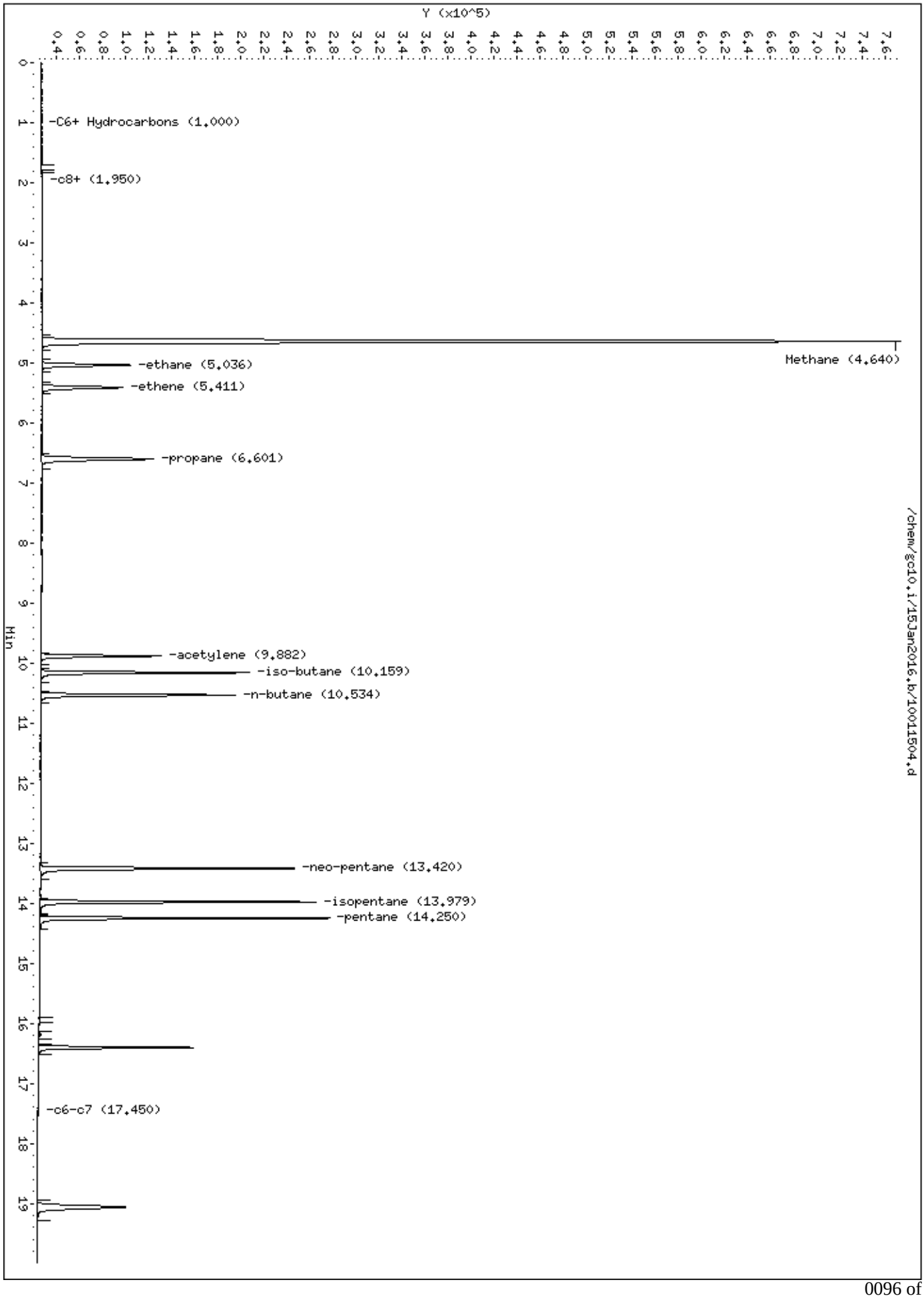
Modified ASTM D-1945/1946

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

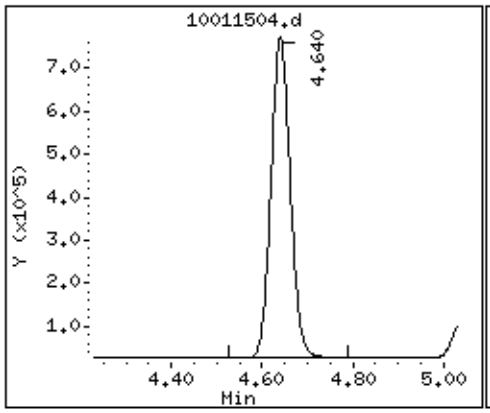


Data File: /chem/gc10.i/15Jan2016.b/10011504.d

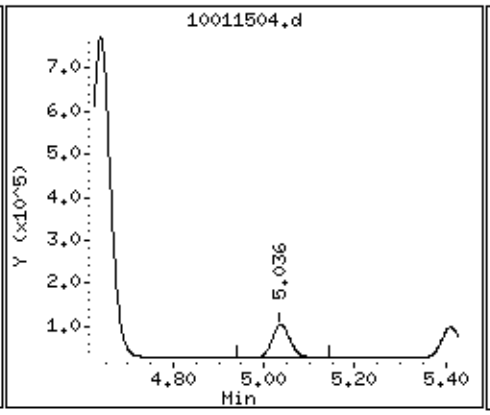
/chem/gc10.i/15Jan2016.b/10011504.d

Page 1

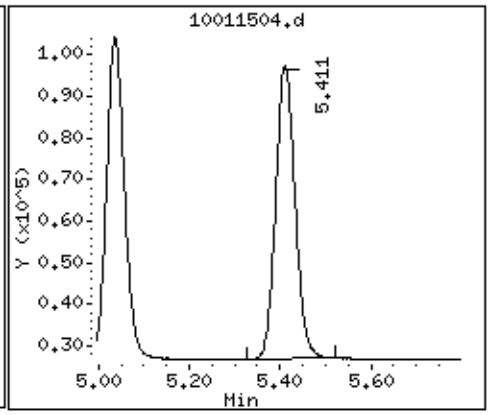
2 Methane



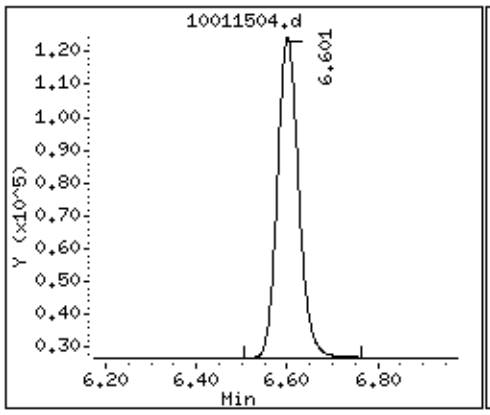
3 ethane



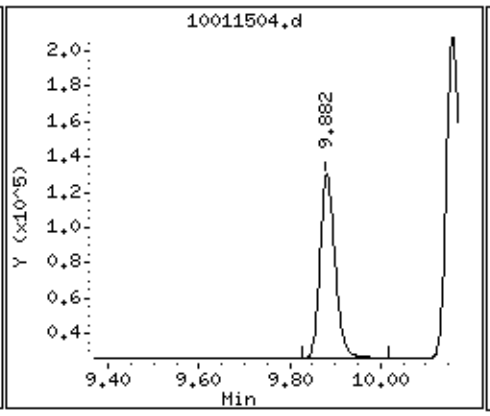
4 ethene



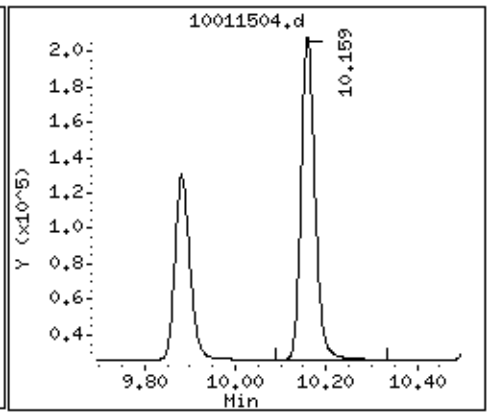
5 propane



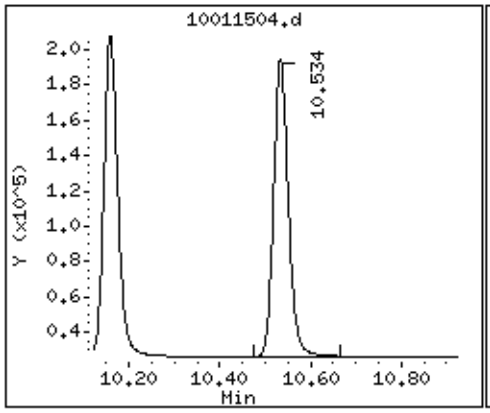
7 acetylene



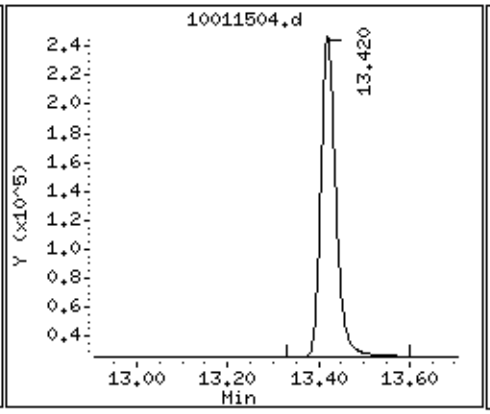
8 iso-butane



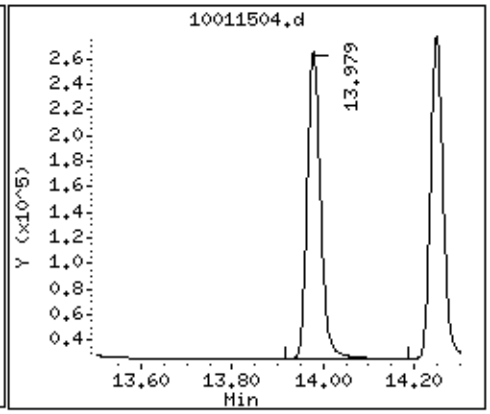
10 n-butane



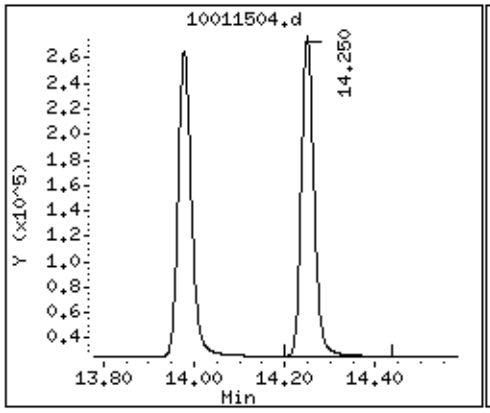
15 neo-pentane



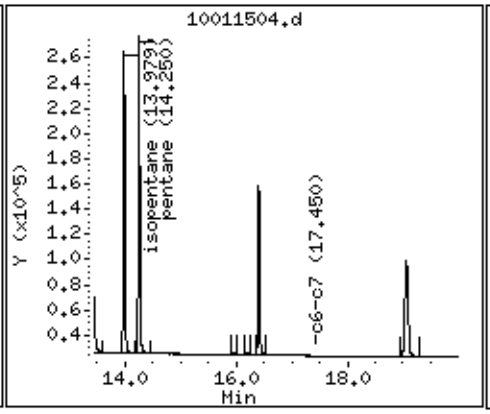
16 isopentane



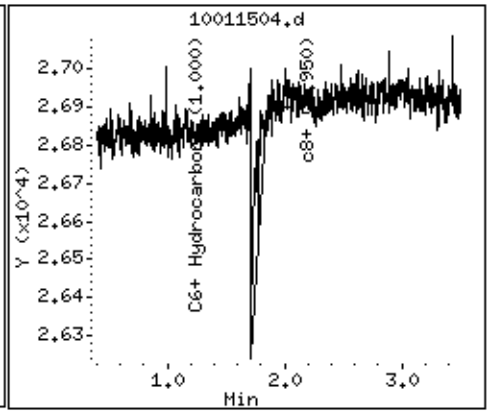
17 pentane



S 22 c6-c7



S 36 c8+



Eurofins Air Toxics Inc.

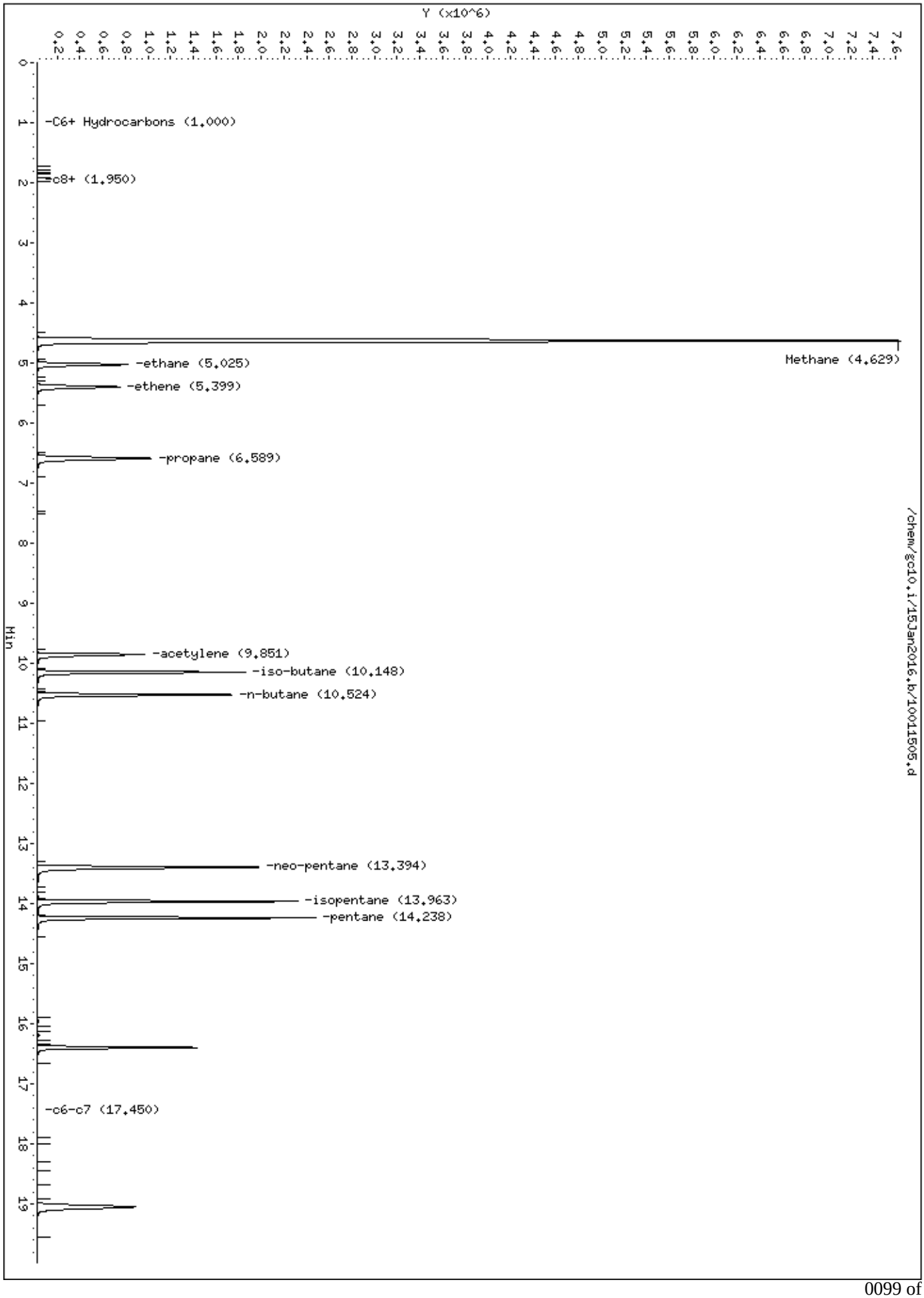
Modified ASTM D-1945/1946

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

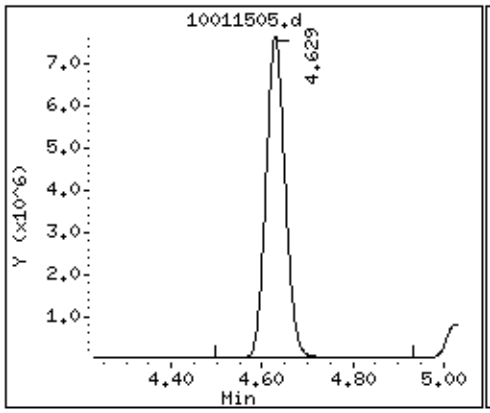


Data File: /chem/gc10.i/15Jan2016.b/10011505.d

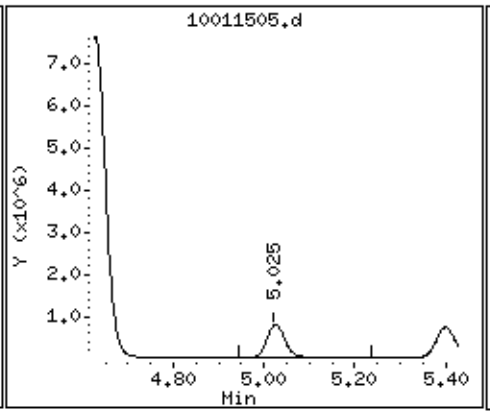
/chem/gc10.i/15Jan2016.b/10011505.d

Page 1

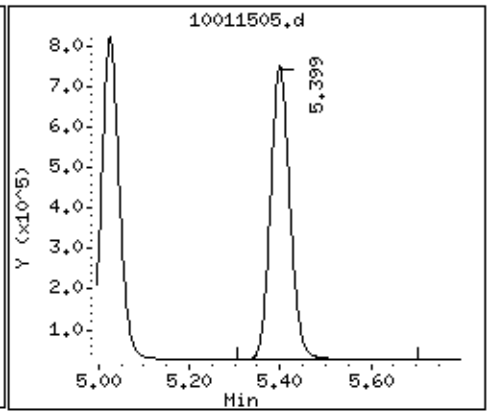
2 Methane



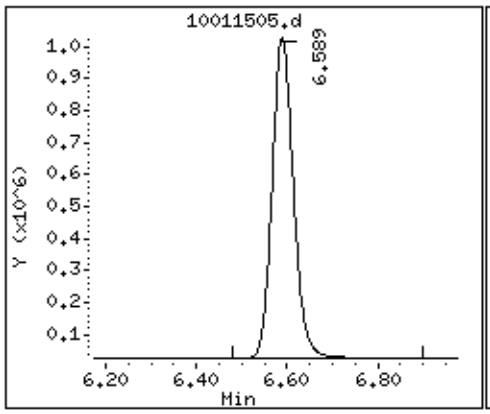
3 ethane



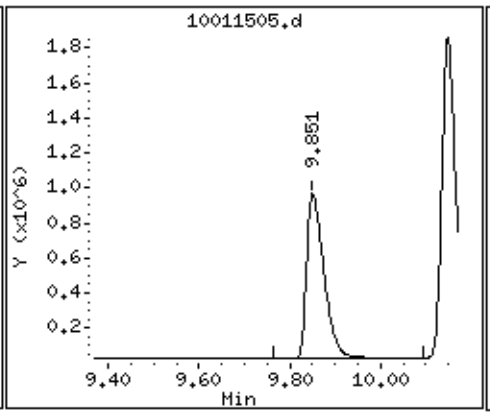
4 ethene



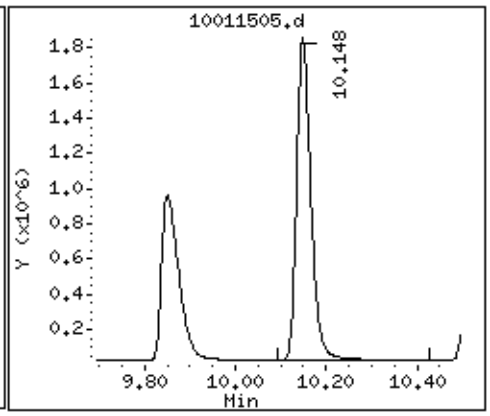
5 propane



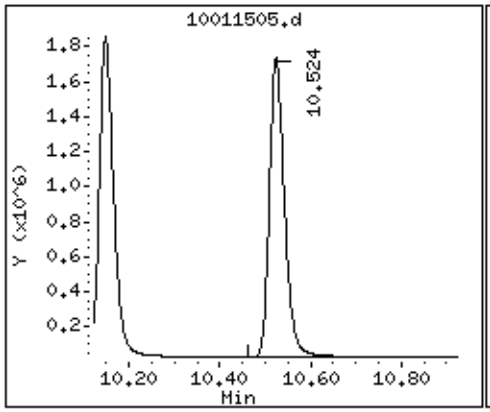
7 acetylene



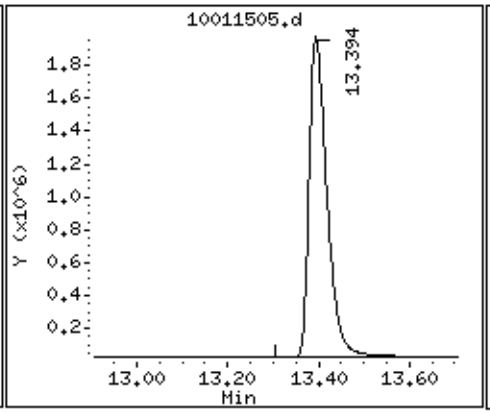
8 iso-butane



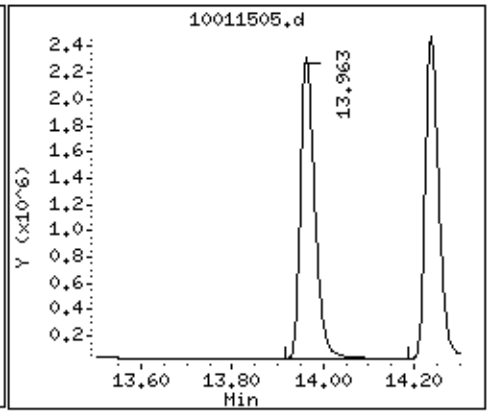
10 n-butane



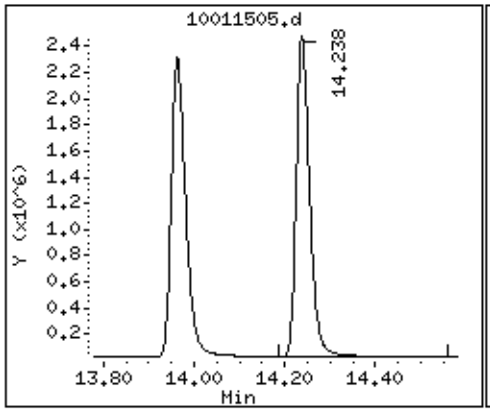
15 neo-pentane



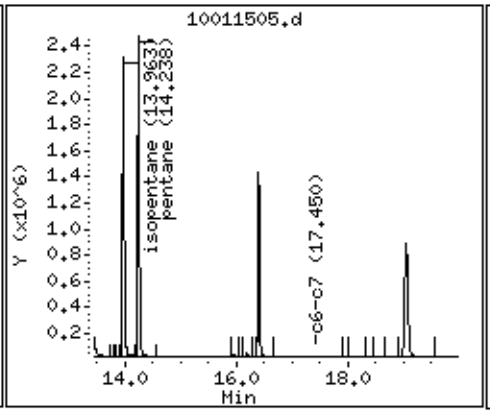
16 isopentane



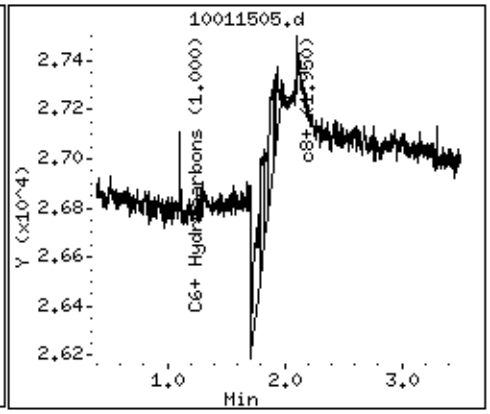
17 pentane



S 22 c6-c7



S 36 c8+



Eurofins Air Toxics Inc.

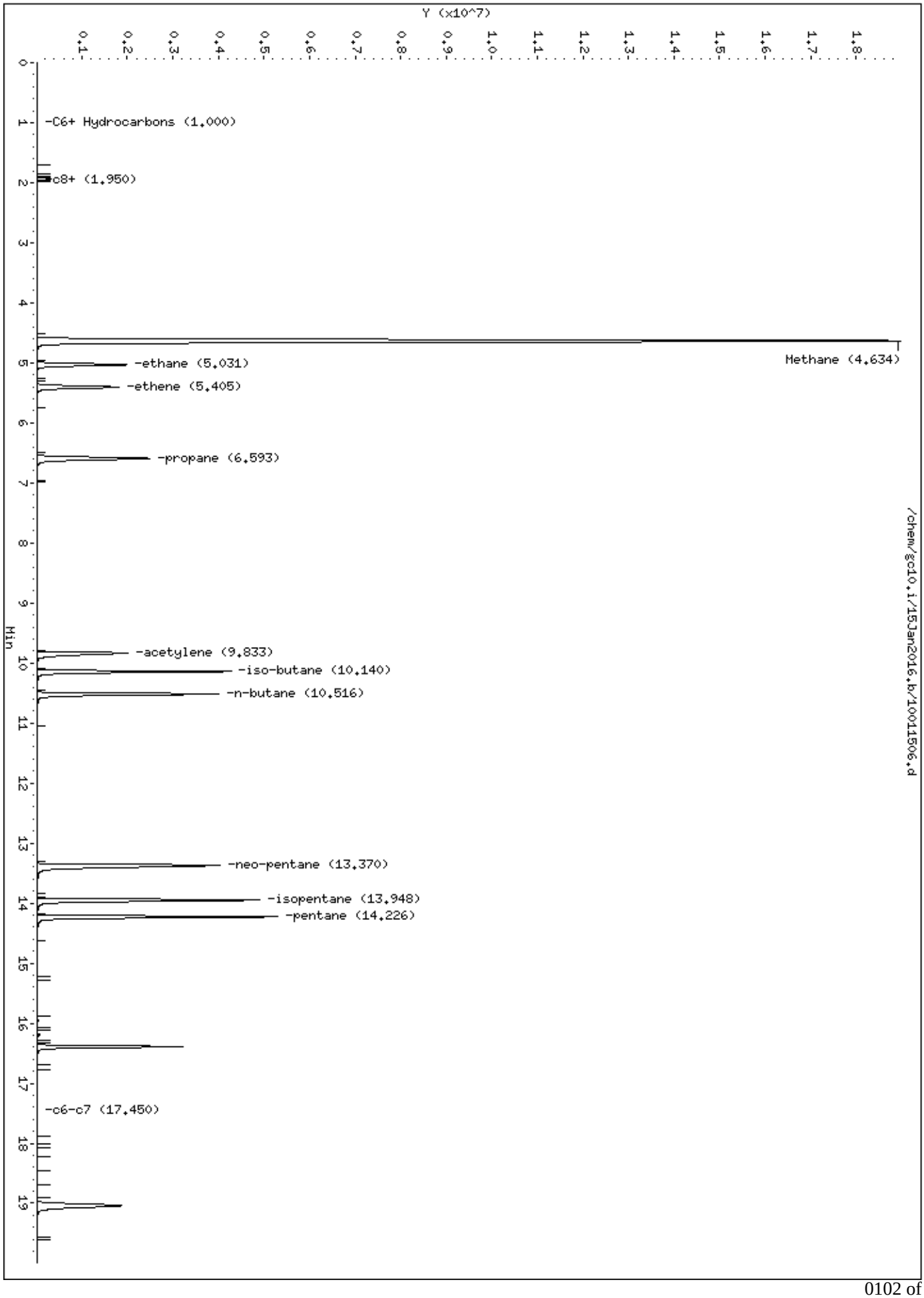
Modified ASTM D-1945/1946

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

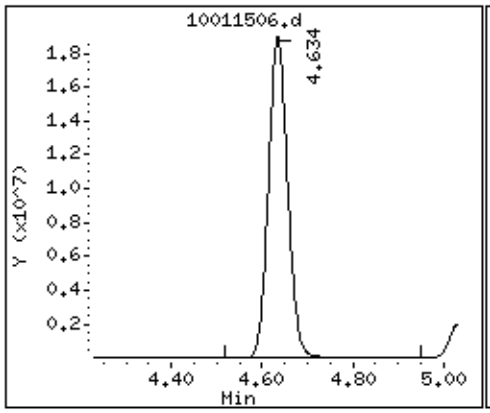


Data File: /chem/gc10.i/15Jan2016.b/10011506.d

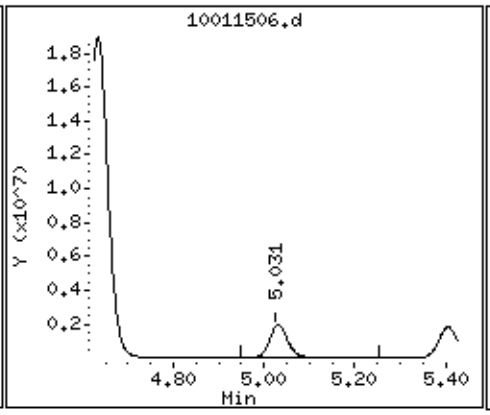
/chem/gc10.i/15Jan2016.b/10011506.d

Page 1

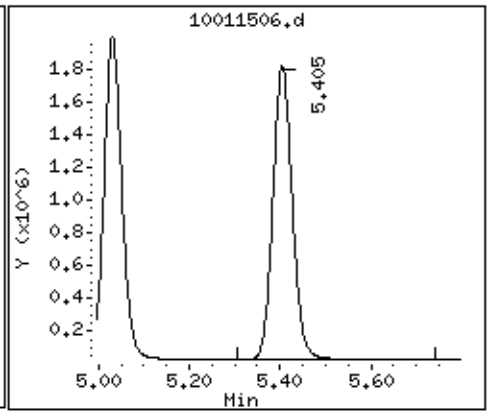
2 Methane



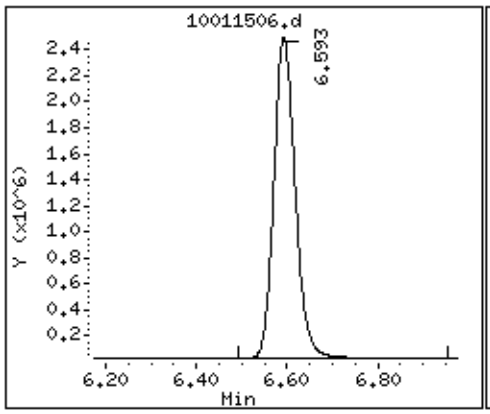
3 ethane



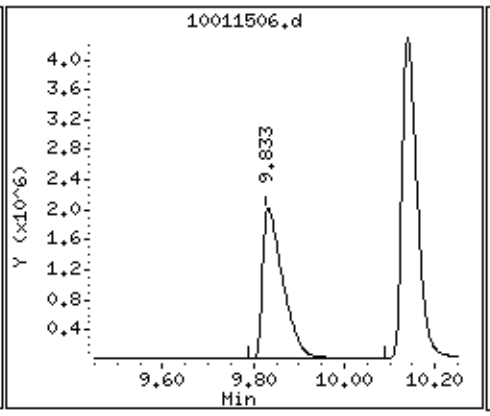
4 ethene



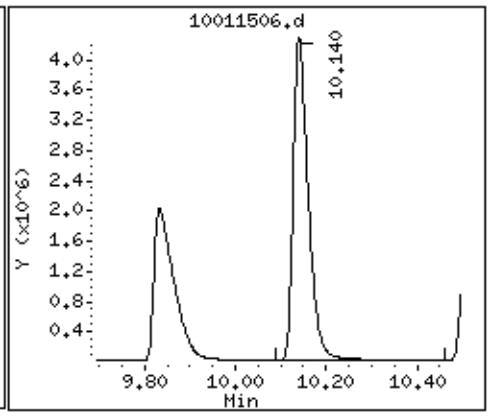
5 propane



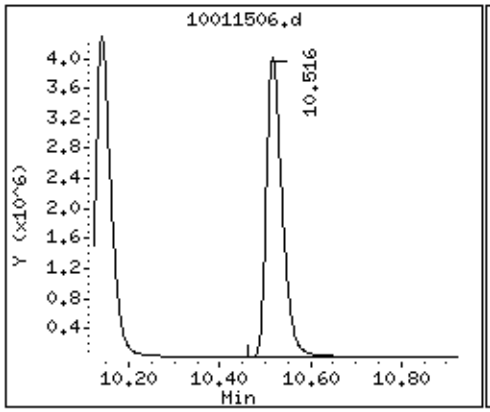
7 acetylene



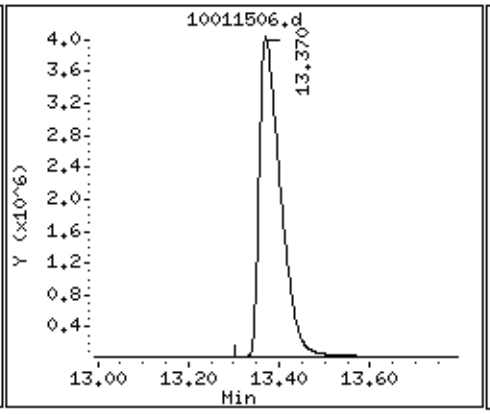
8 iso-butane



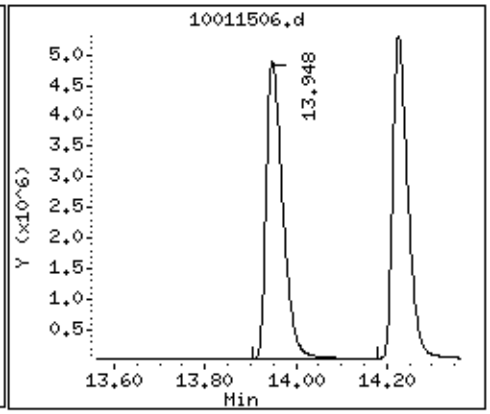
10 n-butane



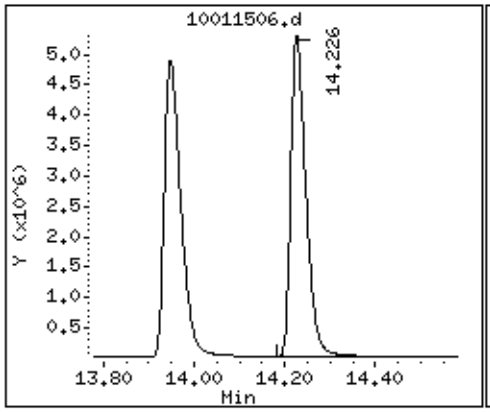
15 neo-pentane



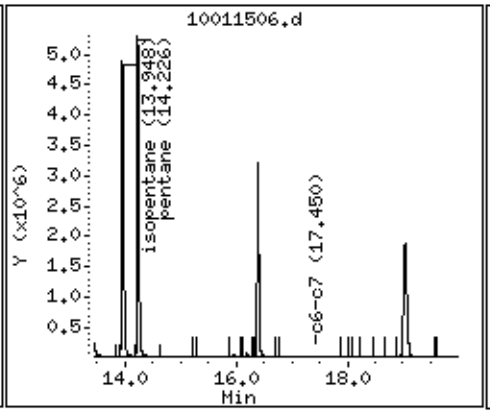
16 isopentane



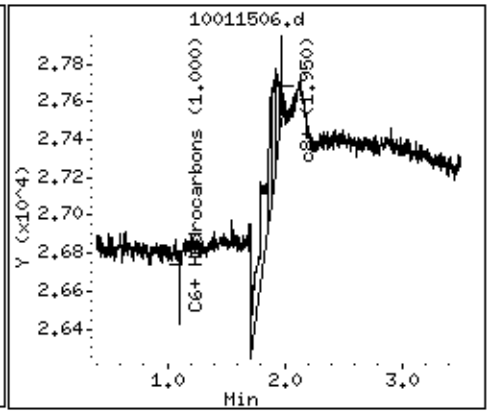
17 pentane



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

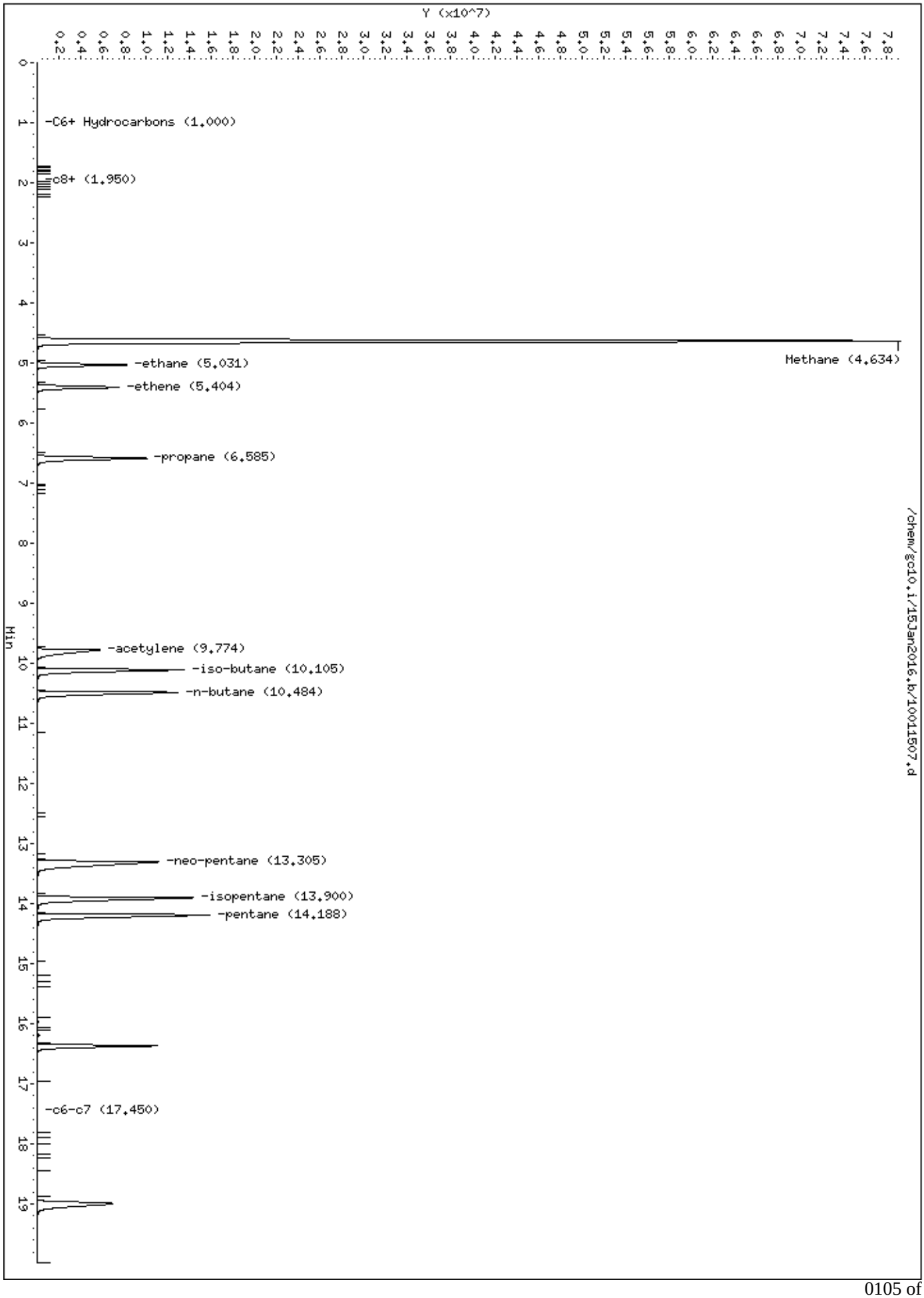
Concentration Formula: Amt * DF * CpndVariable

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.

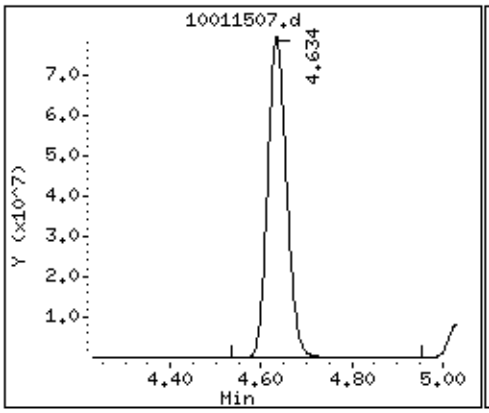


Data File: /chem/gc10.i/15Jan2016.b/10011507.d

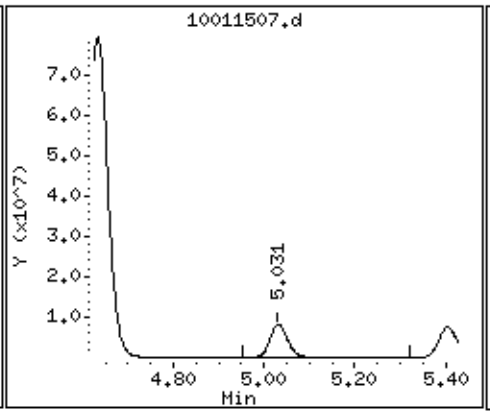
/chem/gc10.i/15Jan2016.b/10011507.d

Page 1

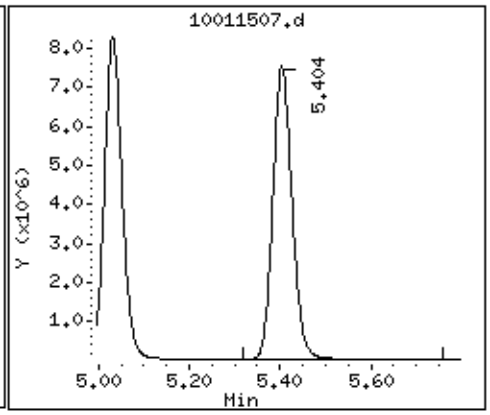
2 Methane



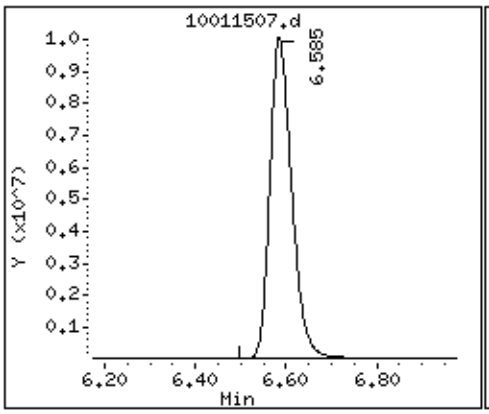
3 ethane



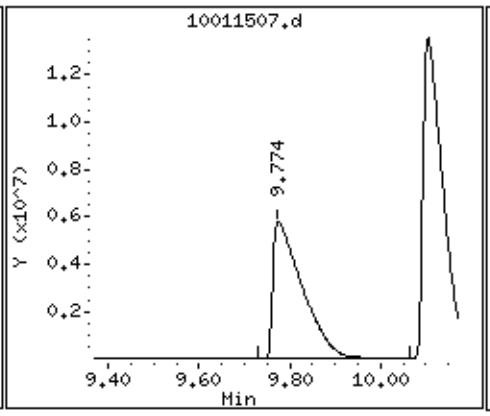
4 ethene



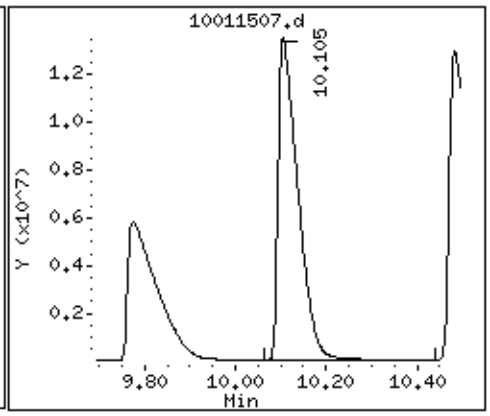
5 propane



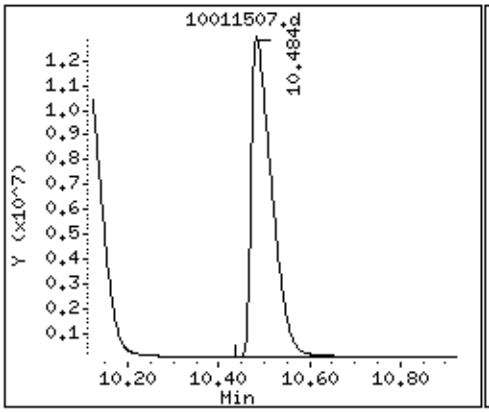
7 acetylene



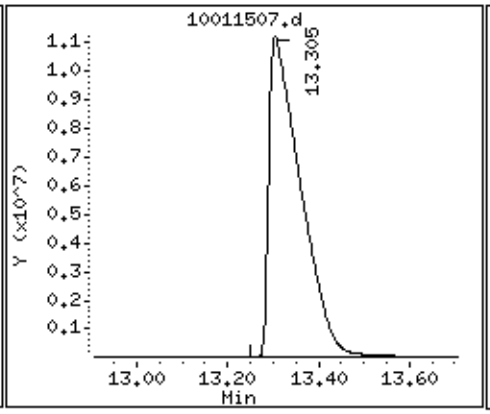
8 iso-butane



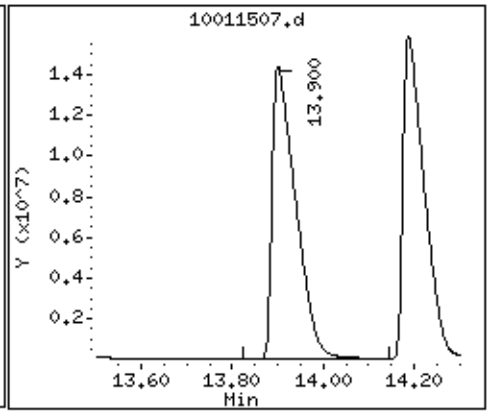
10 n-butane



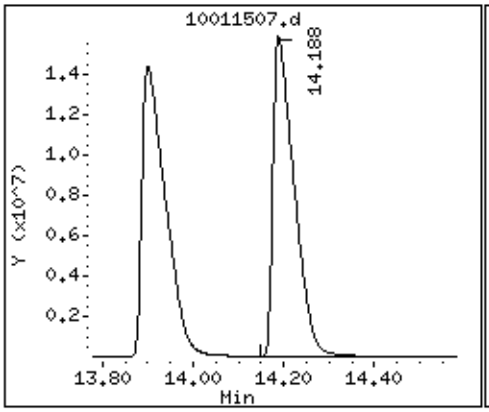
15 neo-pentane



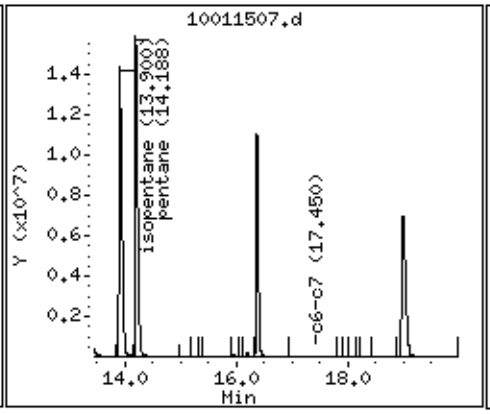
16 isopentane



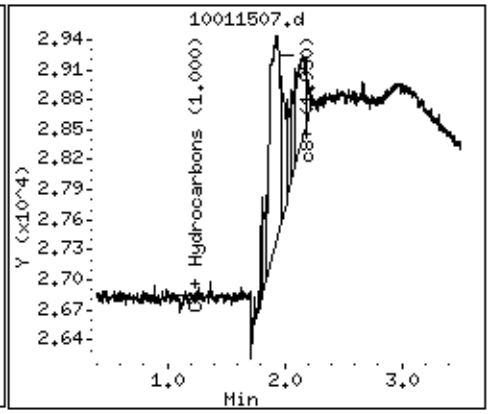
17 pentane



S 22 c6-c7



S 36 c8+



Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

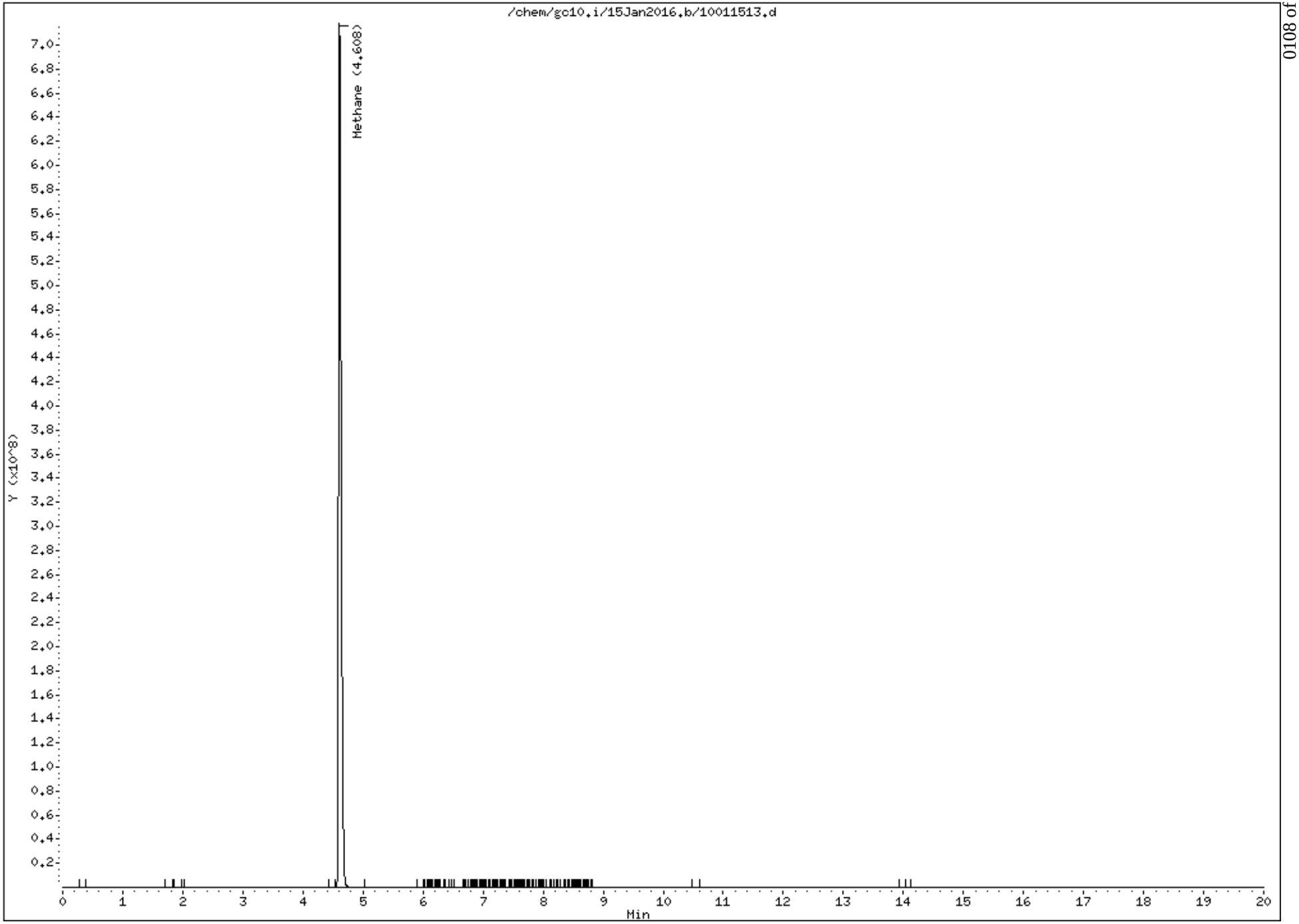
Data file : /chem/gc10.i/15Jan2016.b/10011513.d
Lab Smp Id: 1476-2859 Methane Client Smp ID: Level-7
Inj Date : 15-JAN-2016 14:29
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/15Jan2016.b/106n0115.m
Meth Date : 16-Jan-2016 09:46 lyohanne Quant Type: 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

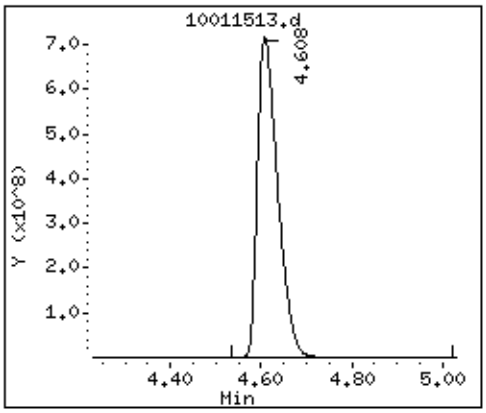
Cpnd Variable Local Compound Variable

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

Data File: /chem/gc10.i/15Jan2016.b/10011513.d



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

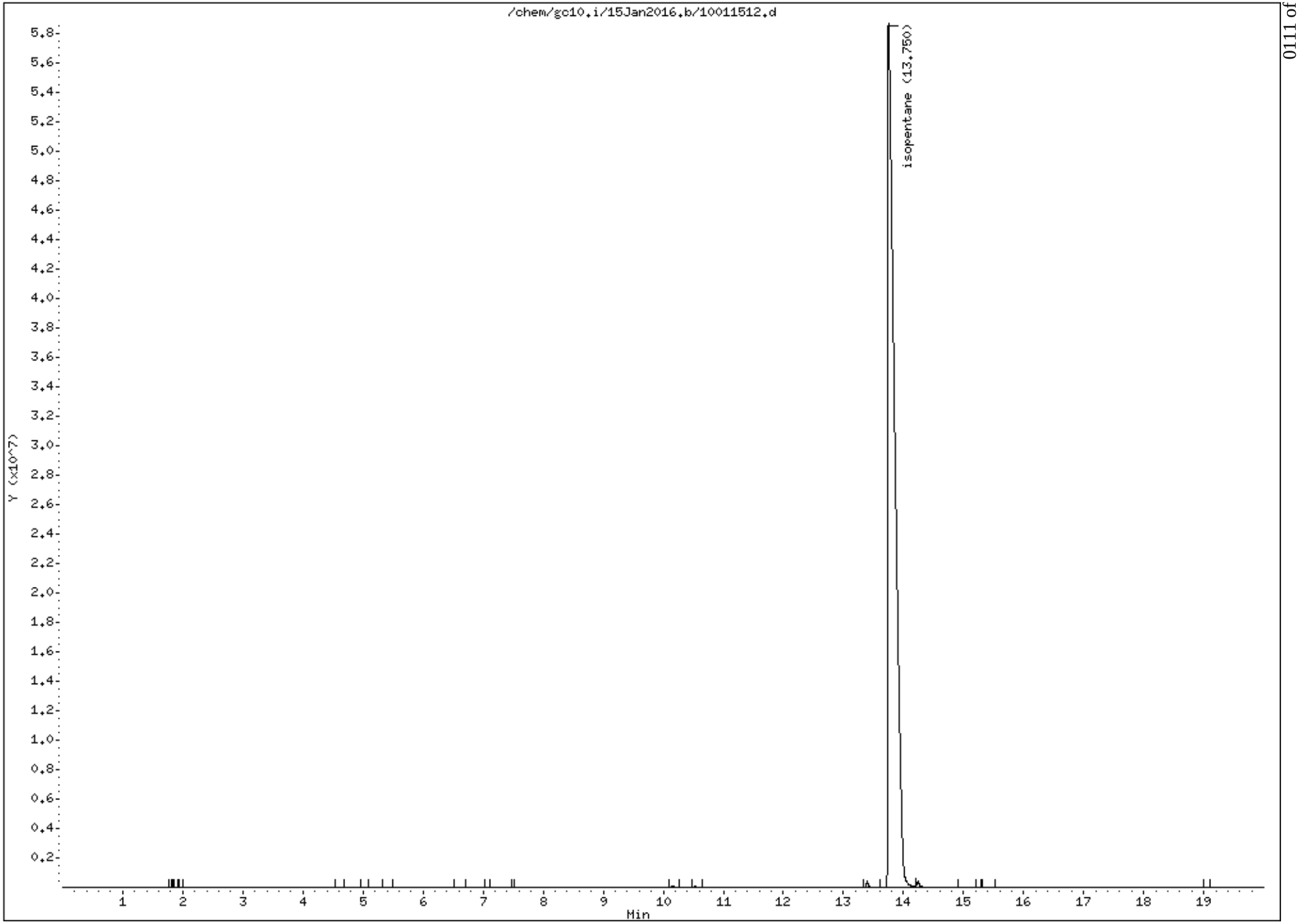
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

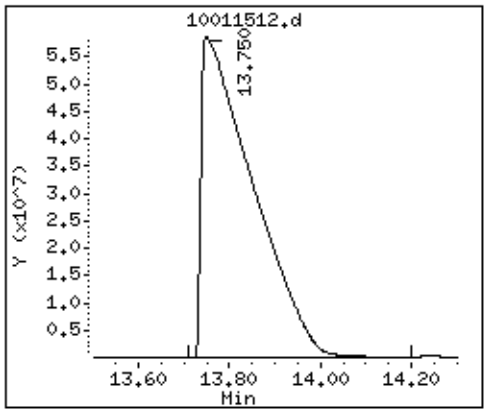
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
16 isopentane	13.750	13.903	-0.153	4635232252	4.95000	4.83(A)

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

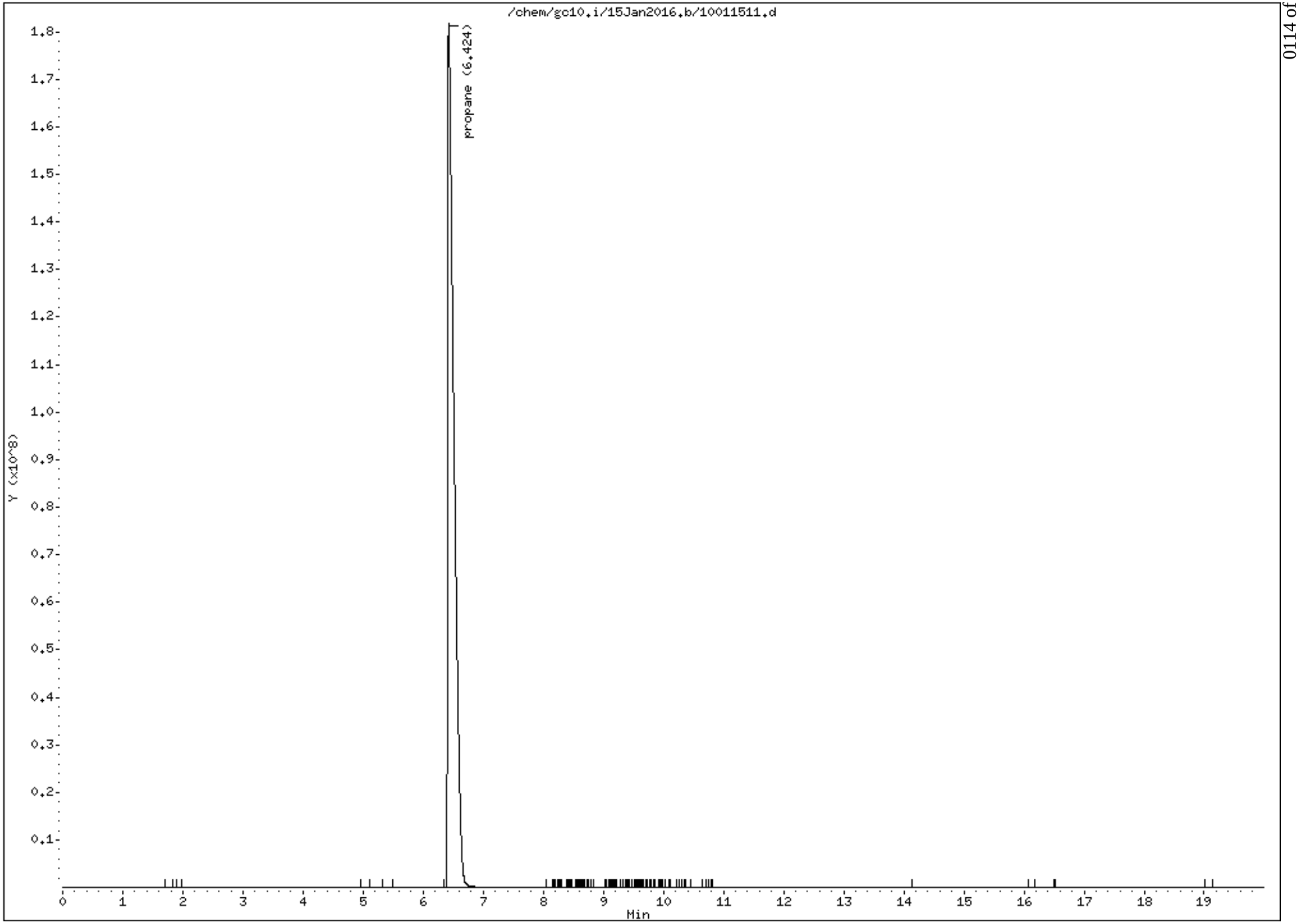
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

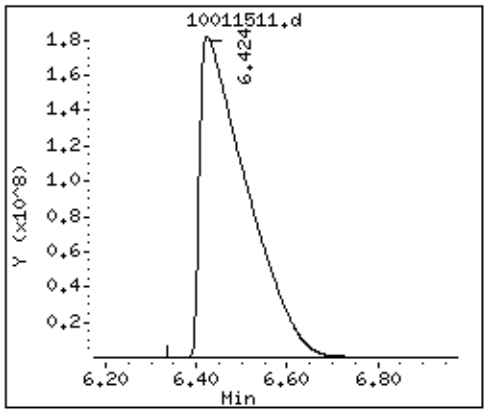
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
5 propane	6.424	6.577	-0.153	13207561258	19.9000	20.4(A)

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

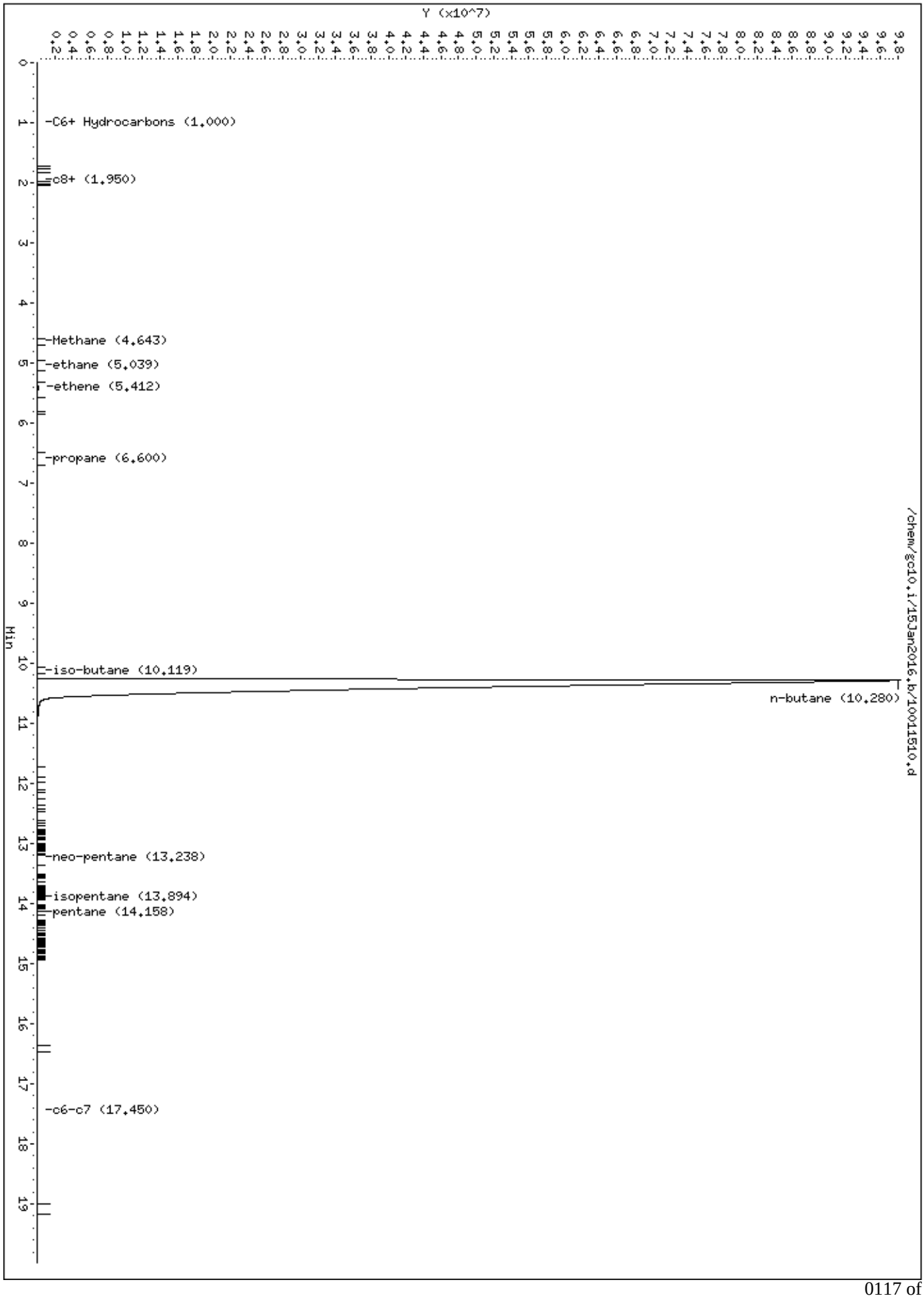
Concentration Formula: Amt * DF * CpndVariable

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

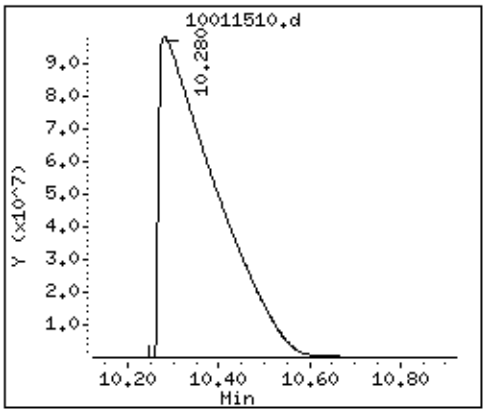
A - Target compound detected but, quantitated amount exceeded maximum amount.



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

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

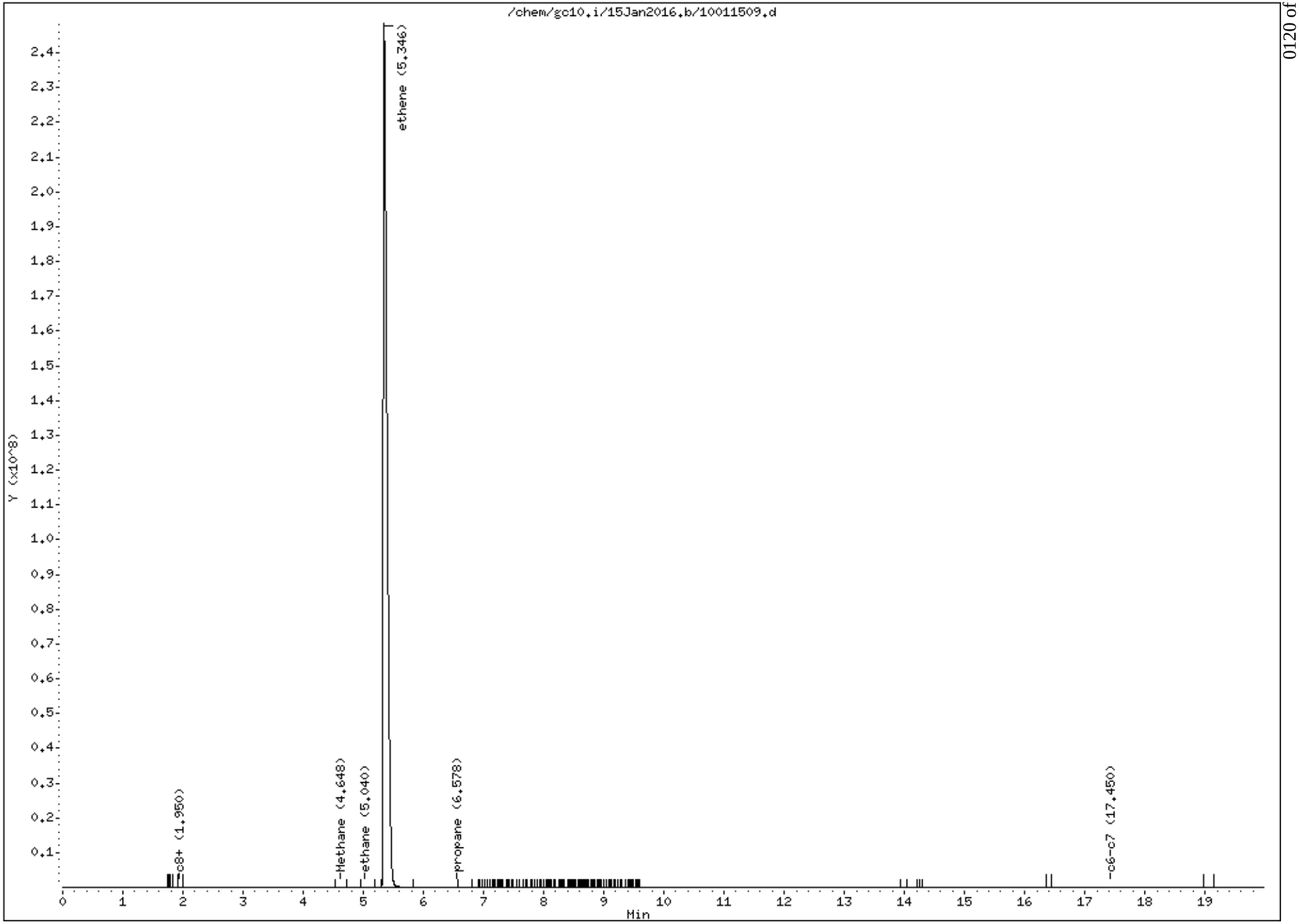
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

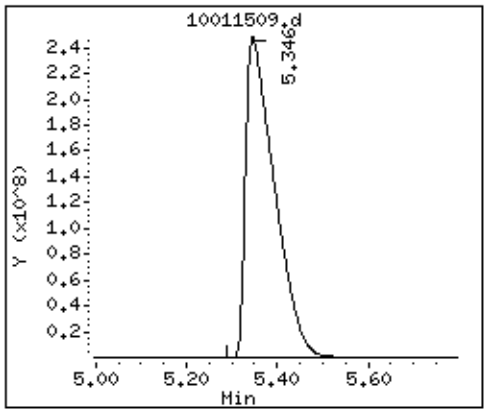
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
4 ethene	5.346	5.397	-0.051	11016013311	24.8750	25.8(A)

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

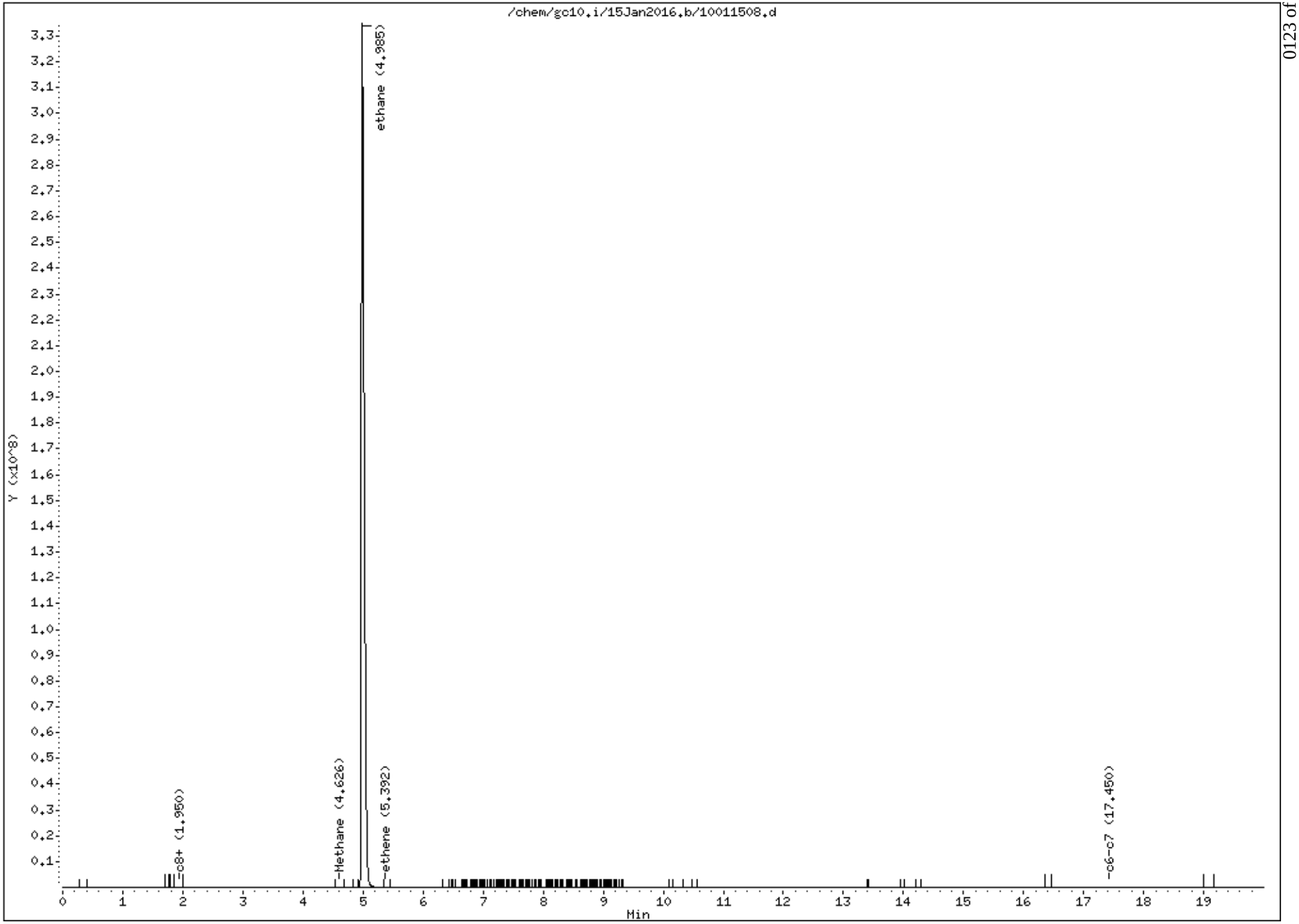
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

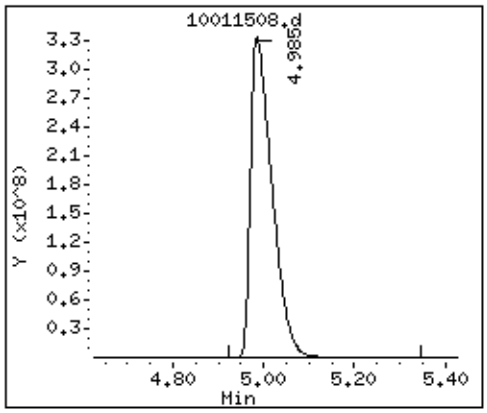
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
3 ethane	4.985	5.027	-0.042	11055415485	24.9750	25.6(A)

QC Flag Legend

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


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

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

$C_2 - C_7$ MDL

Report Date : 21-Jan-2016 12:23 ASTM D-1945/1946 GC-10 FID

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

1.0 ml of Std #1 2516-196 was spiked, resulting in a concentration of 0.001% for $C_2 - C_7$.

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:	10011610	10011611	10011612	10011613	10011614	10011615	10011616
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:	10:29	10:54	11:17	11:39	12:02	12:24	12:47

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL PPMV	% MDL	RL%	Amount Spiked
2 Methane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			
3 ethane	10.03	9.68	9.57	9.68	9.69	9.76	9.79	9.74	0.15	0.46	0.000046	0.001	0.001
4 ethene	10.13	9.76	9.49	9.79	9.64	9.66	9.88	9.77	0.20	0.64	0.000064		
5 propane	10.22	9.81	9.53	9.74	9.73	9.57	9.83	9.78	0.23	0.71	0.000071		
7 acetylene	10.13	9.81	9.68	9.78	9.77	9.70	9.81	9.81	0.15	0.46	0.000046		
8 iso-butane	10.18	9.75	9.65	9.73	9.82	9.73	9.78	9.81	0.18	0.55	0.000055		
10 n-butane	9.96	9.66	9.45	9.54	9.55	9.52	9.62	9.61	0.17	0.53	0.000053		
15 neo-pentane	10.62	10.10	10.18	10.13	10.28	9.98	10.25	10.22	0.20	0.64	0.000064		
16 isopentane	10.56	10.11	10.07	10.15	10.14	10.05	10.21	10.19	0.18	0.55	0.000055		
17 pentane	10.44	10.03	9.86	9.96	10.01	9.97	10.10	10.05	0.19	0.58	0.000058		
39 Hexane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			
40 Heptane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			
S 22 c6-c7	10.74	10.25	10.18	10.23	10.32	10.14	10.20	10.29	0.20	0.64	0.000064	0.01	
M 37 C6+ Hydrocarbons	10.74	10.25	10.18	10.23	10.32	10.14	10.20	10.29	0.20	0.64	0.000064	0.01	
S 36 c8+	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			

Reviewer 1 [signature] Date: 1/22/16
Reviewer 2 Date:

The ratio of the mean recovered concentration and the MDL value is greater than 20 for Ethane and Acetylene.

GC-10 ASTMD-1945/1946
MDL N2 TCD

Report Date : 17-Feb-2016 12:23

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/gc10.i/17Feb2016.b/106n0115.m/105C0413.m
Batch File: /chem/gc10.i/17Feb2016.b
Inst ID: gc10.i

ID:	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07
FILENAME:	10021704b	10021705b	10021706b	10021707b	10021708b	10021709b	10021710b
INJ.DATE:	17-FEB-2016	17-FEB-2016	17-FEB-2016	17-FEB-2016	17-FEB-2016	17-FEB-2016	17-FEB-2016
INJ.TIME:	09:14	09:37	10:01	10:26	10:56	11:20	11:44

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL ppmv
3 Carbon Dioxide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
9 Oxygen	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
10 Nitrogen	1213.02	1187.71	1176.90	1179.16	1164.55	1166.14	1167.87	1179.34	17.00	53.44 0.005344
12 Carbon Monoxide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Reviewer 1 [signature] Date: 2/18/16
Reviewer 2 [signature] Date: 2/19/16

1.0 ml of Std 2516-211 was spiked, resulting in a conc of N_2 at 0.1%

The ratio of the mean recovered concentration and the MDL value is greater than 20 for Nitrogen.

GC-10 ASTMD-1945/1946
TCD MDL
CO2 O2 CO

Report Date : 17-Feb-2016 15:25

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/gc10.i/17Feb2016.b/106n0115.m/105C0413.m
Batch File: /chem/gc10.i/17Feb2016.b
Inst ID: gc10.i

ID:	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07
FILENAME:	10021711b	10021712b	10021713b	10021714b	10021715b	10021716b	10021717b
INJ.DATE:	17-FEB-2016	17-FEB-2016	17-FEB-2016	17-FEB-2016	17-FEB-2016	17-FEB-2016	17-FEB-2016
INJ.TIME:	12:21	12:44	13:07	13:46	14:10	14:32	14:55

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL ppmv	% MDL	% RL
3 Carbon Dioxide	111.51	110.95	113.61	110.86	111.73	110.43	114.95	112.01	1.66	5.21	0.000521	0.010%
5 Oxygen	1416.23	1417.34	1422.44	1411.10	1424.30	1428.04	1399.43	1416.99	9.57	30.07	0.003007	0.10%
10 Nitrogen	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		
12 Carbon Monoxide	92.56	93.15	91.89	90.87	100.15	91.54	98.34	94.07	3.65	11.46	0.001146	0.010%

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

1.0 ml of Std 2516-213 was spiked, resulting in a conc. of CO2 & CO at 0.010% and O2 at 0.10%.

The ratio of the mean recovered concentration and the MDL value is greater than 20 for Carbon Dioxide and Oxygen.

GC-10 ASTMD-1945/1946
He/H_2 MDL
TCD

Report Date : 16-Feb-2016 12:55

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/gc10.i/16Feb2016.b/106n0115.m/105C0413.m/106C0215.m
Batch File: /chem/gc10.i/16Feb2016.b
Inst ID: gc10.i

ID:	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07
FILENAME:	10021604c	10021605c	10021606c	10021607c	10021608c	10021609c	10021610c
INJ.DATE:	16-FEB-2016	16-FEB-2016	16-FEB-2016	16-FEB-2016	16-FEB-2016	16-FEB-2016	16-FEB-2016
INJ.TIME:	09:47	10:11	10:34	11:07	11:31	11:54	12:20

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	AVG CONC	STD DEV	MDL	% MDL
1 Helium	436.26	432.79	438.71	430.94	426.96	442.05	424.89	433.23	6.21	19.51	0.001951
2 Hydrogen	104.86	101.39	108.34	100.93	106.07	110.51	100.01	104.59	4.00	12.58	0.001258

Reviewer 1 [signature] Date: 2/18/16
Reviewer 2 Date:

1.0 ml of Std 2516-226 was spiked, resulting in a concentration of Helium at 0.0495% and H_2 at 0.010%.
Reporting limit:
He: 0.050%
H_2: 0.010%.

The ratio of the mean recovered concentration and the MDL value is greater than 20 for Helium.

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 _____ Date: 1/19/16
Reviewer 2 _____ Date: 1/25/16

Eurofins Air Toxics Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gc10.i Injection Date: 19-JUL-2016 08:19
Lab File ID: 10071901.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/19Jul2016.b/106n0115.m

	COMPOUND	RRF / AMOUNT	RF0.000	MIN RRF	%D / %DRIFT	%D / %DRIFT	CURVE TYPE
	2 Methane	226379851	230988817	0.010	-2.03594	15.00000	Averaged
	3 ethane	432193762	449086439	0.010	-3.90859	15.00000	Averaged
	4 ethene	427488407	445376688	0.010	-4.18451	15.00000	Averaged
	5 propane	648144749	674757447	0.010	-4.10598	15.00000	Averaged
	7 acetylene	484612312	516153717	0.010	-6.50859	15.00000	Averaged
	8 iso-butane	789001494	821467077	0.010	-4.11477	15.00000	Averaged
	10 n-butane	797508176	821160293	0.010	-2.96575	15.00000	Averaged
	15 neo-pentane	993221843	1.037e+09	0.010	-4.43582	15.00000	Averaged
	16 isopentane	958790746	1.000e+09	0.010	-4.33527	15.00000	Averaged
	17 pentane	964408798	1.003e+09	0.010	-3.96555	15.00000	Averaged
M	37 C6+ Hydrocarbons	1.172e+09	1.211e+09	0.010	-3.31633	15.00000	Averaged
S	22 c6-c7	1.172e+09	1.202e+09	0.010	-2.54818	15.00000	Averaged

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Jul2016.b/10071901.d
Lab Smp Id: 2299-1048A Ngas Client Smp ID: CCV
Inj Date : 19-JUL-2016 08:19
Operator : ly Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 19-Jul-2016 08:54 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

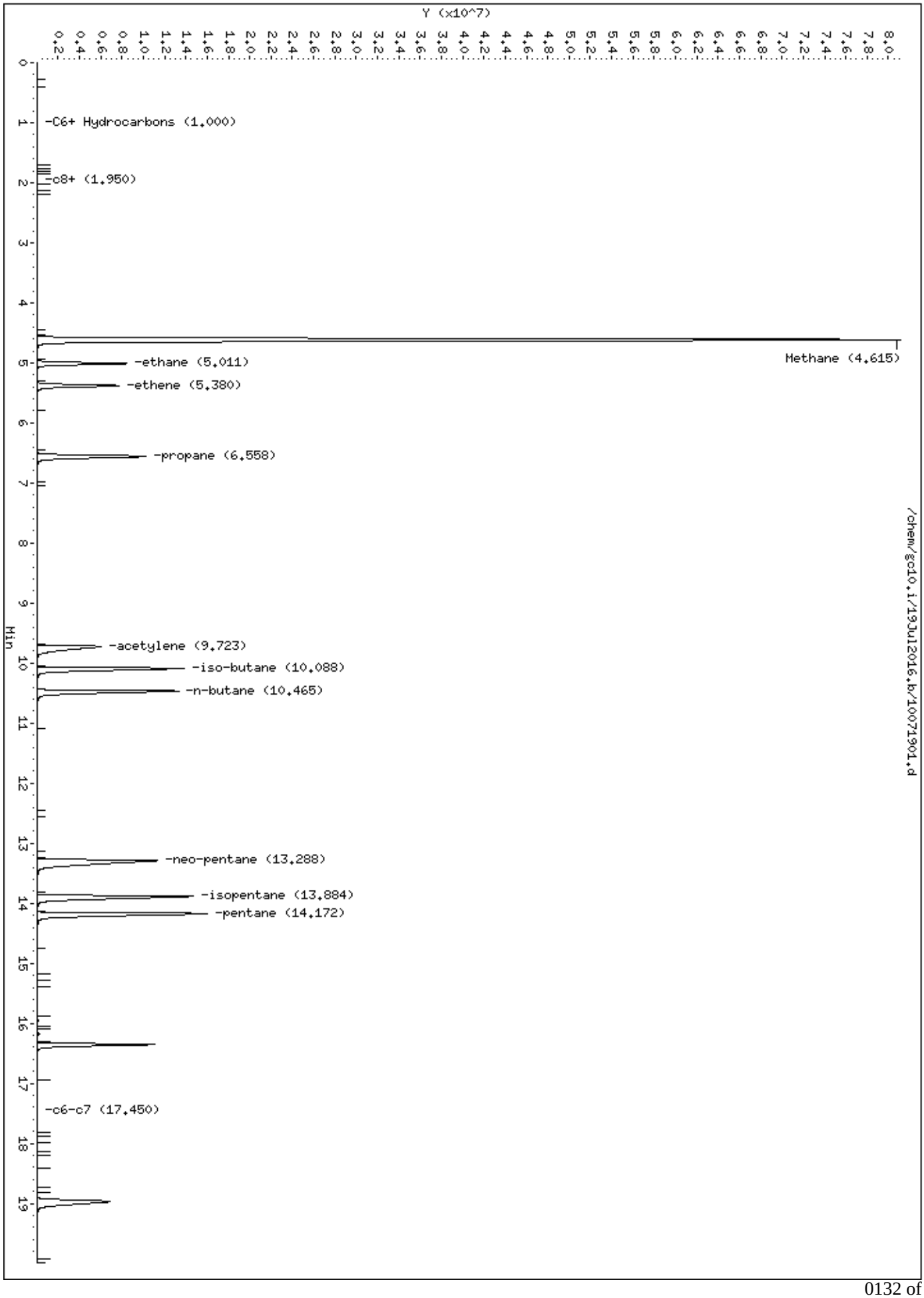
Concentration Formula: Amt * DF * CpndVariable

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	2344536492	10.1500	10.4
3 ethane	5.011	5.011	0.000	227237738	0.50600	0.526
4 ethene	5.380	5.380	0.000	225805981	0.50700	0.528
5 propane	6.558	6.558	0.000	341427268	0.50600	0.527
7 acetylene	9.723	9.723	0.000	265819164	0.51500	0.548(A)
8 iso-butane	10.088	10.088	0.000	418126742	0.50900	0.530(A)
10 n-butane	10.465	10.465	0.000	414685948	0.50500	0.520
15 neo-pentane	13.288	13.288	0.000	552869914	0.53300	0.557(A)
16 isopentane	13.884	13.884	0.000	526187742	0.52600	0.549
17 pentane	14.172	14.172	0.000	524387478	0.52300	0.544(A)
M 37 C6+ Hydrocarbons				646762094	0.53400	0.552
S 22 c6-c7	15.000-19.900			646762094	0.53800	0.552
S 36 c8+	Compound Not Detected.					

QC Flag Legend

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

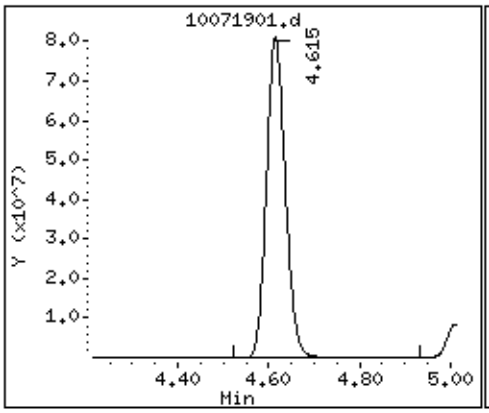


Data File: /chem/gc10.i/19Jul2016.b/10071901.d

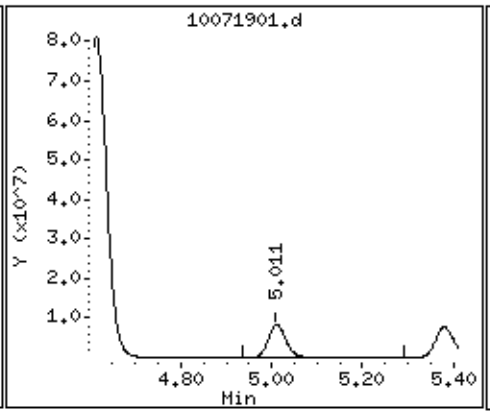
/chem/gc10.i/19Jul2016.b/10071901.d

Page 1

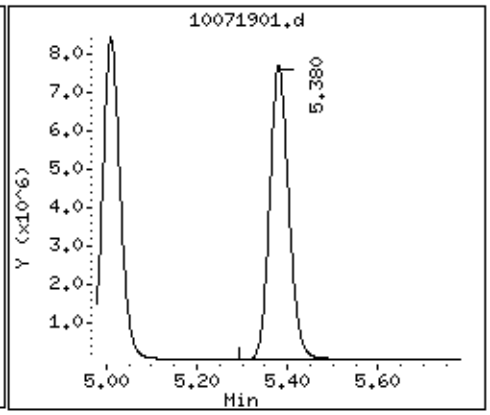
2 Methane



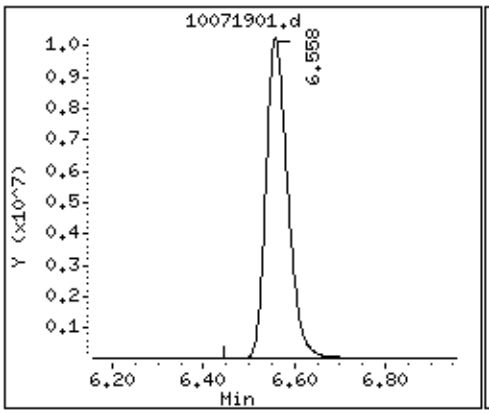
3 ethane



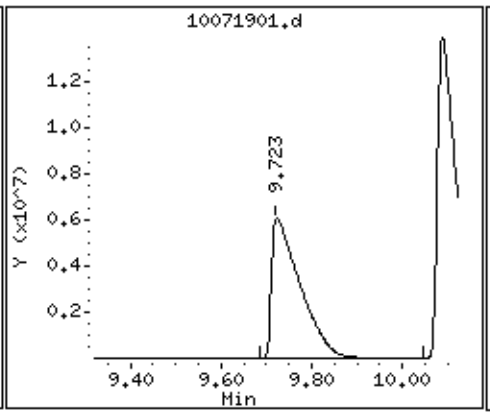
4 ethene



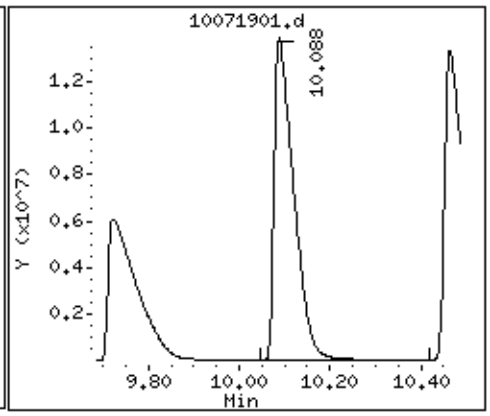
5 propane



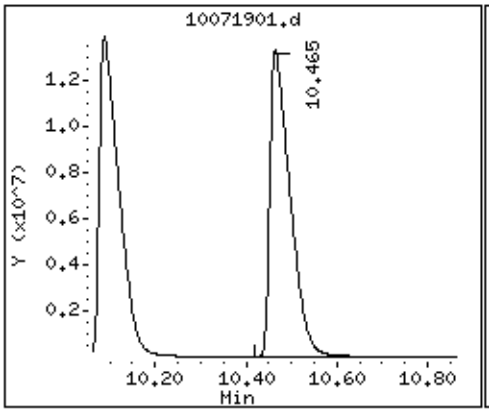
7 acetylene



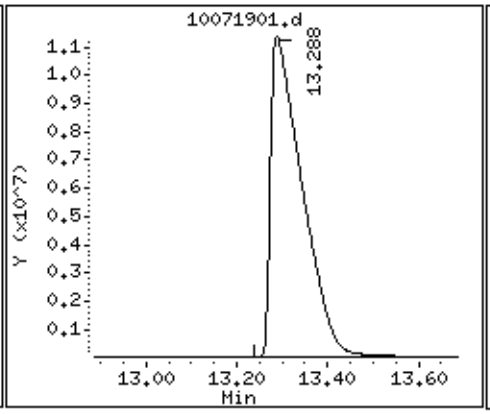
8 iso-butane



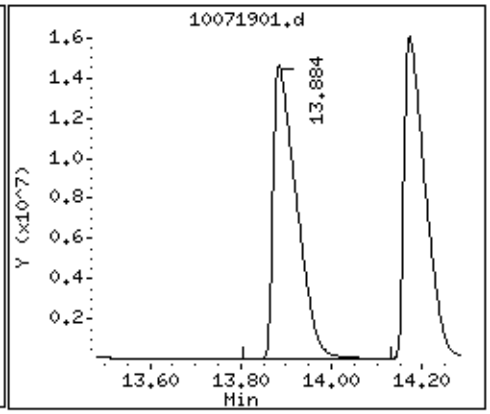
10 n-butane



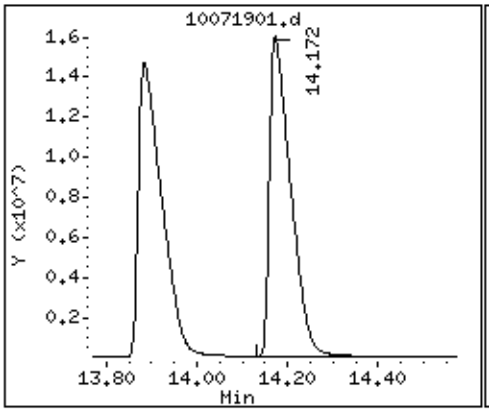
15 neo-pentane



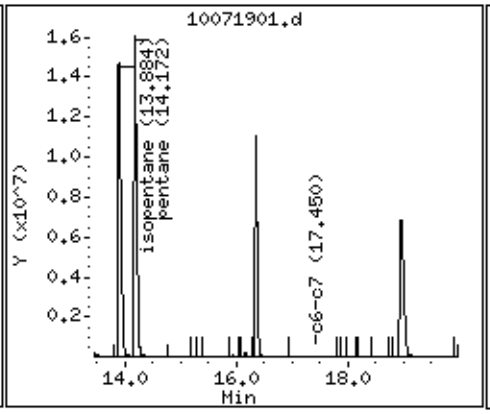
16 isopentane



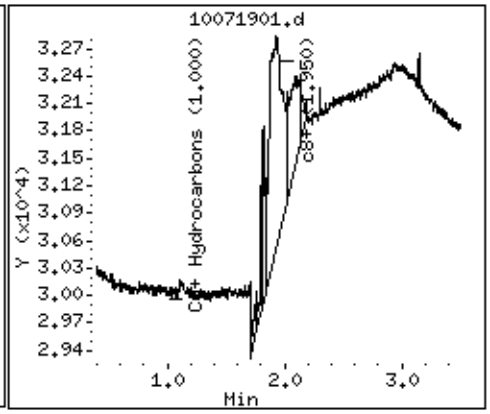
17 pentane



S 22 c6-c7



S 36 c8+ (Undetected)



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Client Sample ID: LCS

Lab ID#: 1607235G-16A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10071902**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/19/16 08:50 AM**	

Compound	**%Recovery**	**Method Limits**
Methane	102	85-115

Container Type: NA - Not Applicable

Report Date: 19-Jul-2016 09:26

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 19Jul2016
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/19Jul2016.b/106n0115.m
Misc Info:

SPIKE COMPOUND	CONC ADDED %	CONC RECOVERED %	% RECOVERED	LIMITS
2 Methane	9.96	10.2	102.53	85-115
3 ethane	0.501	0.511	101.94	85-115
4 ethene	0.507	0.521	102.83	85-115
5 propane	0.500	0.527	105.43	85-115
7 acetylene	0.501	0.532	106.22	85-115
8 iso-butane	0.501	0.527	105.23	85-115
10 n-butane	0.495	0.517	104.48	85-115
15 neo-pentane	0.512	0.542	105.81	85-115
16 isopentane	0.505	0.526	104.12	85-115
17 pentane	0.507	0.527	103.93	85-115
M 37 C6+ Hydrocarbons	0.524	0.537	102.48	85-115

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Jul2016.b/10071902.d
Lab Smp Id: 2299-1160 Ngas Client Smp ID: LCS
Inj Date : 19-JUL-2016 08:50
Operator : ly Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 19-Jul-2016 08:54 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

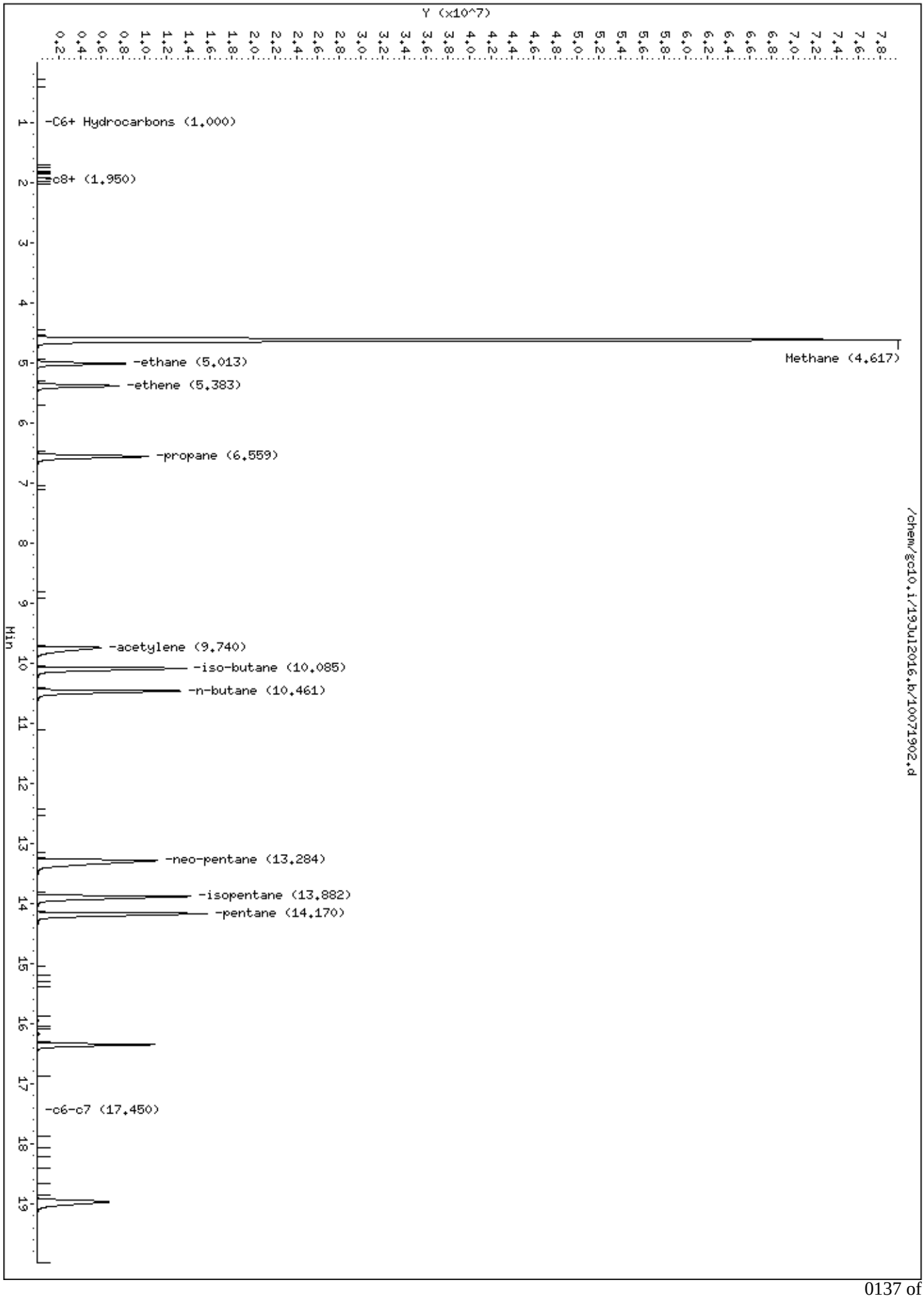
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	CONCENTRATIONS FINAL (%)
2 Methane	4.617	4.615	0.002	2311842354	10.2122	10.2
3 ethane	5.013	5.011	0.002	220724829	0.51071	0.511
4 ethene	5.383	5.380	0.003	222875145	0.52136	0.521
5 propane	6.559	6.558	0.001	341683107	0.52717	0.527
7 acetylene	9.740	9.723	0.017	257889984	0.53216	0.532(A)
8 iso-butane	10.085	10.088	-0.003	415964720	0.52720	0.527(A)
10 n-butane	10.461	10.465	-0.004	412459807	0.51719	0.517
15 neo-pentane	13.284	13.288	-0.004	538081310	0.54175	0.542(A)
16 isopentane	13.882	13.884	-0.002	504144793	0.52581	0.526
17 pentane	14.170	14.172	-0.002	508186456	0.52694	0.527
M 37 C6+ Hydrocarbons				629527940	0.53701	0.537
S 22 c6-c7	15.000-19.900			629527940	0.53701	0.537
S 36 c8+	Compound Not Detected.					

QC Flag Legend

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

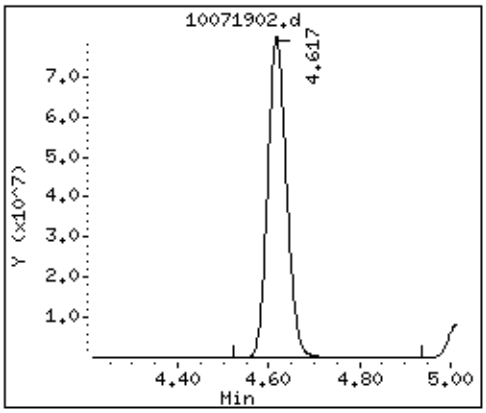


Data File: /chem/gc10.i/19Jul2016.b/10071902.d

/chem/gc10.i/19Jul2016.b/10071902.d

Page 1

2 Methane



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Client Sample ID: LCSD

Lab ID#: 1607235G-16AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10071920**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 7/19/16 08:05 PM**	

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

Container Type: NA - Not Applicable

Report Date: 19-Jul-2016 20:42

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 19Jul2016
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/19Jul2016.b/106n0115.m
Misc Info:

SPIKE COMPOUND	CONC ADDED %	CONC RECOVERED %	% RECOVERED	LIMITS
2 Methane	9.96	10.0	100.66	85-115
3 ethane	0.501	0.502	100.10	85-115
4 ethene	0.507	0.512	101.02	85-115
5 propane	0.500	0.518	103.50	85-115
7 acetylene	0.501	0.523	104.40	85-115
8 iso-butane	0.501	0.518	103.41	85-115
10 n-butane	0.495	0.508	102.74	85-115
15 neo-pentane	0.512	0.532	103.96	85-115
16 isopentane	0.505	0.516	102.27	85-115
17 pentane	0.507	0.517	101.98	85-115
M 37 C6+ Hydrocarbons	0.524	0.528	100.70	85-115

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/19Jul2016.b/10071920.d
Lab Smp Id: 2299-1160 Ngas Client Smp ID: LCSD
Inj Date : 19-JUL-2016 20:05
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0mL,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/19Jul2016.b/106n0115.m
Meth Date : 19-Jul-2016 08:54 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

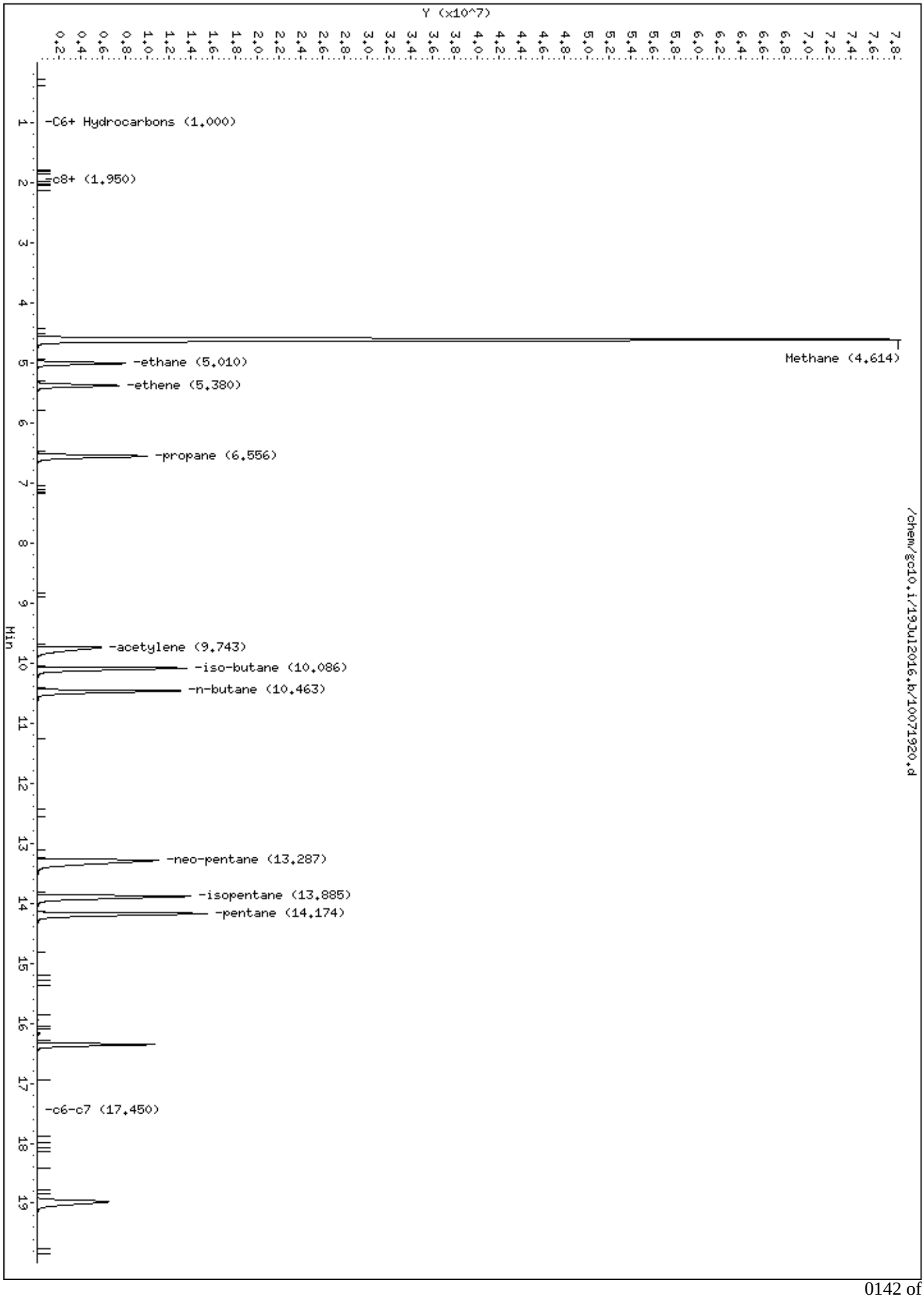
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.614	4.615	-0.001	2269643074	10.0258	10.0
3 ethane	5.010	5.011	-0.001	216745519	0.50150	0.502
4 ethene	5.380	5.380	0.000	218948825	0.51217	0.512
5 propane	6.556	6.558	-0.002	335428783	0.51752	0.518
7 acetylene	9.743	9.723	0.020	253462292	0.52302	0.523(A)
8 iso-butane	10.086	10.088	-0.002	408769468	0.51808	0.518(A)
10 n-butane	10.463	10.465	-0.002	405584688	0.50856	0.508
15 neo-pentane	13.287	13.288	-0.001	528654709	0.53226	0.532
16 isopentane	13.885	13.884	0.001	495164599	0.51645	0.516
17 pentane	14.174	14.172	0.002	498649236	0.51705	0.517
M 37 C6+ Hydrocarbons				618607161	0.52769	0.528
S 22 c6-c7	15.000-19.900			618607161	0.52769	0.528
S 36 c8+	Compound Not Detected.					

QC Flag Legend

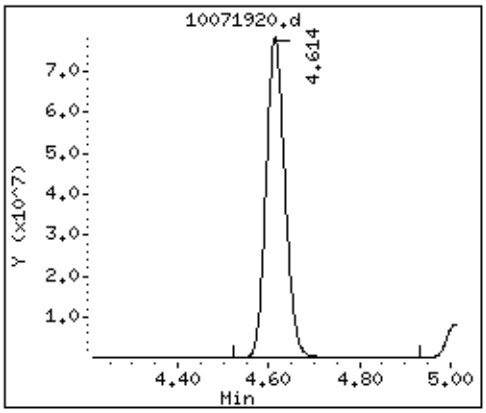
A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: /chem/gc10.i/19Jul2016.b/10071920.d

Page 1

2 Methane



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

GC-10

Logbook # 2791
Leak Test ✓

	USE	File #	Sample Name/Client ID	Can #	Verified Pressure >2psi	Pressure	Amt	DF	Date	Time	Review Init.	Comments
1	✓	10071901	2299-1048A Ngas	NA	NA	NA	1.0 ml	1.00	7/19/16	0819	✓	CCV
2	✓	02	2299-1160 Ngas							0850		LCS
3	X	03	He Lab Blank	24491						0929		
4	✓	04	N_2 Lab Blank	33321						0956		
5	✓	05	He Lab Blank	34008						1028		
6	✓	06	1607235G-01A	33531	✓	5.5"Hg → 5.1 psi		1.65		1107		
7	✓	07	-02A	6L0015	✓	6.7"Hg → 4.8 psi		1.71		1139		
8	✓	08	-03A	00174	✓	5.1"Hg → 5 psi		1.61		1207		
9	✓	09	-04A	12082	✓	4.7"Hg → 5.2 psi		1.60		1237		
10	✓	10	-05A	31146	✓	5.9"Hg → 5 psi		1.67		1259	✓	
11	✓	11	-06A	21011	✓	5.5"Hg → 5.2 psi		1.66		1421	MB	
12	✓	12	-08A	36376	✓	4.7"Hg → 15.1 psi		2.40		1501	MB	
13	✓	13	-09A	3043	✓	4.7"Hg → 14.8 psi		2.38		1527	MB	
14	✓	14	-10A	8031	✓	4.7"Hg → 15.1 psi		2.40		1553	MB	
15	✓	15	-11A	1025	✓	5.5"Hg → 15 psi		2.48		1621	MB	

Calculation check : File ID: 10071902 Compound: CH_4 Initials: MB

Sample Amt= $\frac{\text{Area Count Sample} \times}{\text{RF}}$ Dilution Factor = $\frac{(2311842354) \times}{(226379851)}$ (1.00) = 10.2

Reported Result= 10.2

Reviewed by/Date MB 7/19/16

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	✓	10071916	1607-235G-12A	36525	✓	4.3"Hg → 14.8psi	1.0mL	2.34	7/19/16	1652	MB	
2	✓	17	-13A	30832	✓	4.5"Hg → 15.1psi		2.38		1717	MB	
3	✓	18	-14A	12947	✓	4.7"Hg → 15.0psi		1.59		1740	MB	
4	✓	19	He Lab Blank	GLOSOS	NA	NA		1.00		1927	MB	
5	✓	20	2299-1160 Ngas	NA	NA	NA		1.00		2005	MB	LCSD, exp. 2/7/18
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Calculation check : File ID: _____ Compound: _____ Initials: _____

Sample Amt= $\frac{\text{Area Count Sample} \times}{\text{RF}}$ Dilution Factor = $\frac{(\quad) \times}{(\quad)}$ ( ) = [ ]

Reported Result= [ ]

MB 7/19/16

Reviewed by/Date MB 7/19/16

Shipping/ Receiving Documents

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

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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 2

Project Manager Terry Taylor
Collected by: (Print and Sign) R. O'Reilly, D. Lindstrand, T. Taylor
Company AMAI Email ttaylor@amaiconsult.com
Address 2800 Westchester Ave City Purchase State NY Zip 10577
Phone 914-251-0400 x309 Fax 914-251-1286

Project Info:
P.O. #
Project # Building 18 VI
Project Name

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	B18IA-1 ~~(070816)~~	33531	7/9/16	1902	TO-15	-30"+	-6.5"		
02A	B18IA-2 ~~(070816)~~	6L0015	7/9/16	1849	TO-15	-30"+	-7"		
03A	B18IA-3 ~~(070816)~~	0174	7/9/16	1827	TO-15	-30"+	-5.5"		
04A	B18IA-4 ~~(070816)~~	12082	7/9/16	1835	TO-15	-30"+	-5"		
05A	B18IA-5 ~~(070816)~~	31146	7/9/16	1844	TO-15	-30"+	-6.5"		
06A	B18IA-1D ~~(070816)~~	21011	7/9/16	1902	TO-15	-30"+	-6.5"		
	~~B18AA (070816)~~	~~34546~~	~~7/9/16~~	~~1912~~	~~TO-15~~	~~30"+~~	~~"~~		
7/14 ~~07~~	* B30IA-1 (070816) *	0152	7/9/16	1812	TO-15	-30"+	-6.5"		
08A	B18SS-1 ~~(070816)~~	36376	7/10/16	1800	TO-15	-28"	-5"		
09A	B18SS-2 ~~(070816)~~	3043	7/10/16	1937	TO-15	-30"	-5"		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
[signature] 07-13-16 1?0	Fed EX
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
	[signature] EATL 7/14/16 10:20
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes:
* Sample B30IA-1 (070816) a 24-hour TAT is requested. All other samples are a normal TAT. Report Results to MDL

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		N/A	good	Yes No (None)	1607235

Form 1293 rev.11

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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

Project Manager: Terry Taylor
Collected by: (Print and Sign) Richard O'Reilly, Dave Lindstrand, Terry Taylor
Company: AMAI Email: tTaylor@amaiconsult.com
Address: 2700 Westchester Ave City: Purchase State: NY Zip: 10577
Phone: 914-251-0400 x309 Fax: 914-251-1286

Project Info:
P.O. #
Project # Building 18 V1
Project Name

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)
10A	B18SS-3 ~~(071016)~~	8031	7/12/16	1849	TO-15	-28"	-5"		
11A	B18SS-4 ~~(071016)~~	1025	7/12/16	1850	TO-15	-23"	-5"		
12A	B18SS-5 ~~(071016)~~	36525	7/12/16	1801	TO-15	-30"	-5"		
13A	B18SS-1D ~~(071016)~~ 30832	~~3051~~	7/12/16	1759	TO-15	-21"	-5"		
14A	B18AA-071216	12947	7/12/16	1408	TO-15	-30"	-5"		

Relinquished by: (signature) Date/Time: 07-13-16 2700
Received by: (signature) Date/Time: FedEx
Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time: EATL 7/14/16 10:20
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		N/A	good	Yes No None	1607235

Form 1293 rev.11

eurofins | Air Toxics

SAMPLE RECEIPT SUMMARY

WORKORDER 1607235G

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: 07/27/16
Date Completed: 7/27/16
Date Received: 7/14/16
PO#:
Project#: Building 18 VI

Total $: $ 845.00
Logged By: JCW

Fraction	Sample #	Analysis	Collected	Receipt Vac./Pres.	Amount$
01A	B18IA-1	Modified ASTM D-1946	7/9/2016	5.5 "Hg	$60.00
02A	B18IA-2	Modified ASTM D-1946	7/9/2016	6.7 "Hg	$60.00
03A	B18IA-3	Modified ASTM D-1946	7/9/2016	5.1 "Hg	$60.00
04A	B18IA-4	Modified ASTM D-1946	7/9/2016	4.7 "Hg	$60.00
05A	B18IA-5	Modified ASTM D-1946	7/9/2016	5.9 "Hg	$60.00
06A	B18IA-1D	Modified ASTM D-1946	7/9/2016	5.5 "Hg	$60.00
08A	B18SS-1	Modified ASTM D-1946	7/11/2016	4.7 "Hg	$60.00
09A	B18SS-2	Modified ASTM D-1946	7/12/2016	4.7 "Hg	$60.00
10A	B18SS-3	Modified ASTM D-1946	7/11/2016	4.7 "Hg	$60.00
11A	B18SS-4	Modified ASTM D-1946	7/12/2016	5.5 "Hg	$60.00
12A	B18SS-5	Modified ASTM D-1946	7/12/2016	4.3 "Hg	$60.00
13A	B18SS-1D	Modified ASTM D-1946	7/11/2016	4.5 "Hg	$60.00
14A	B18AA-071216	Modified ASTM D-1946	7/12/2016	4.7 "Hg	$60.00
15A	Lab Blank	Modified ASTM D-1946	NA	NA	$0.00
16A	LCS	Modified ASTM D-1946	NA	NA	$0.00
16AA	LCSD	Modified ASTM D-1946	NA	NA	$0.00

Misc. ChargeseCVP (13) @ $5.00 each. $65.00

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: JCW **Project ID:**19256 **PM**: BSW **Date:** 7/14/2016 **Discrepancy Type:** ☒ **1.** ☒ **2.** ☐ **3.**

Workorder(s) affected:1607235G **Sample(s) affected:** 14A; all

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: 1.7: Sample ID discrepancy, ID on COC used.

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, after fitting replaced.
- ☐ Canister valve was open.
- ☐ Brass nut was loose/not present.
- ☐ Sample can be analyzed.
- ☐ Sample cannot be analyzed.

2.15. ☐ Canister sample received with a vacuum difference >5.0"Hg between the receipt vac. and the final recorded vac. on the COC.

- ☐ Canister passed leak check in lab <2psi, no evidence sample was compromised.
- ☐ Canister failed lab leak check, canister found to be leaking. Canister sample compromised.

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: **JCW** **Date:** **7/15/2016** **Notify Receiving:** ☐ **Notify PM:** ☒

Describe the Discrepancy: 2.2: ASTM analysis not specified on COC, proceed per profile note.

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: BSW Date: 7/25/2016

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

Client Notification:

PM Initials: _____ Person notified: _____ Date: _____

☐ Waiting for Client Reply

Comments: **Narrate and proceed with analysis.**

_____

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

☐ **Additional notifications attached.**

Additional Comments:

_____

Other Records

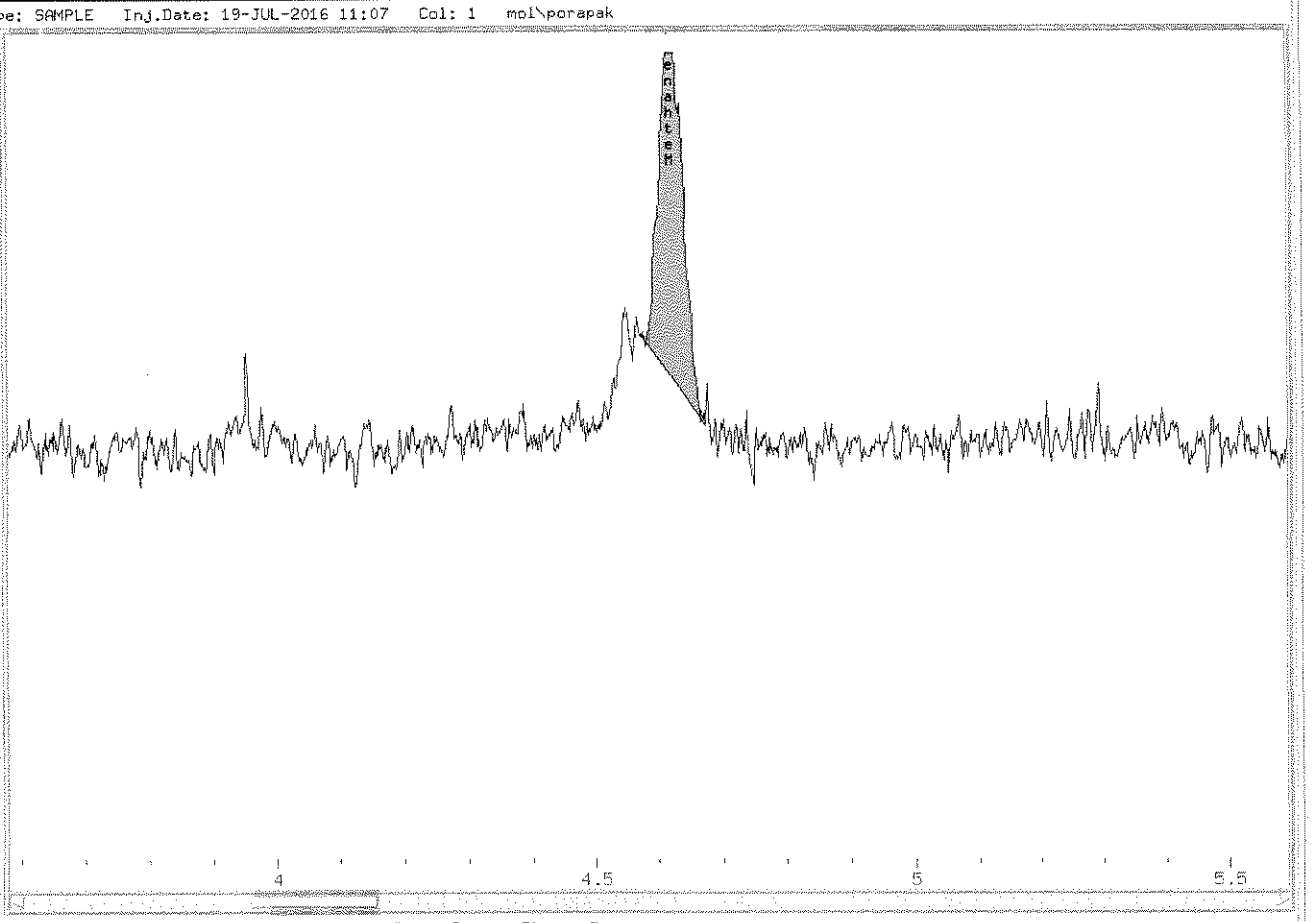
TargetReview: eeyore: 1607235G-01A: /chem/gc10.i/19Jul2016.b/10071906.d

File Security Edit Display Process Help

Sample: 1607235G-01A Type: SAMPLE Inj.Date: 19-JUL-2016 11:07 Col: 1 mol\porapak

*	2	Methane
	3	ethane
	4	ethene
	5	propane
	7	acetylene
	8	iso-butane
	10	n-butane
	15	neo-pentane
	16	isopentane
	17	pentane
M	37	C6+ Hydrocarbo
S	22	c6-c7
S	36	c8+

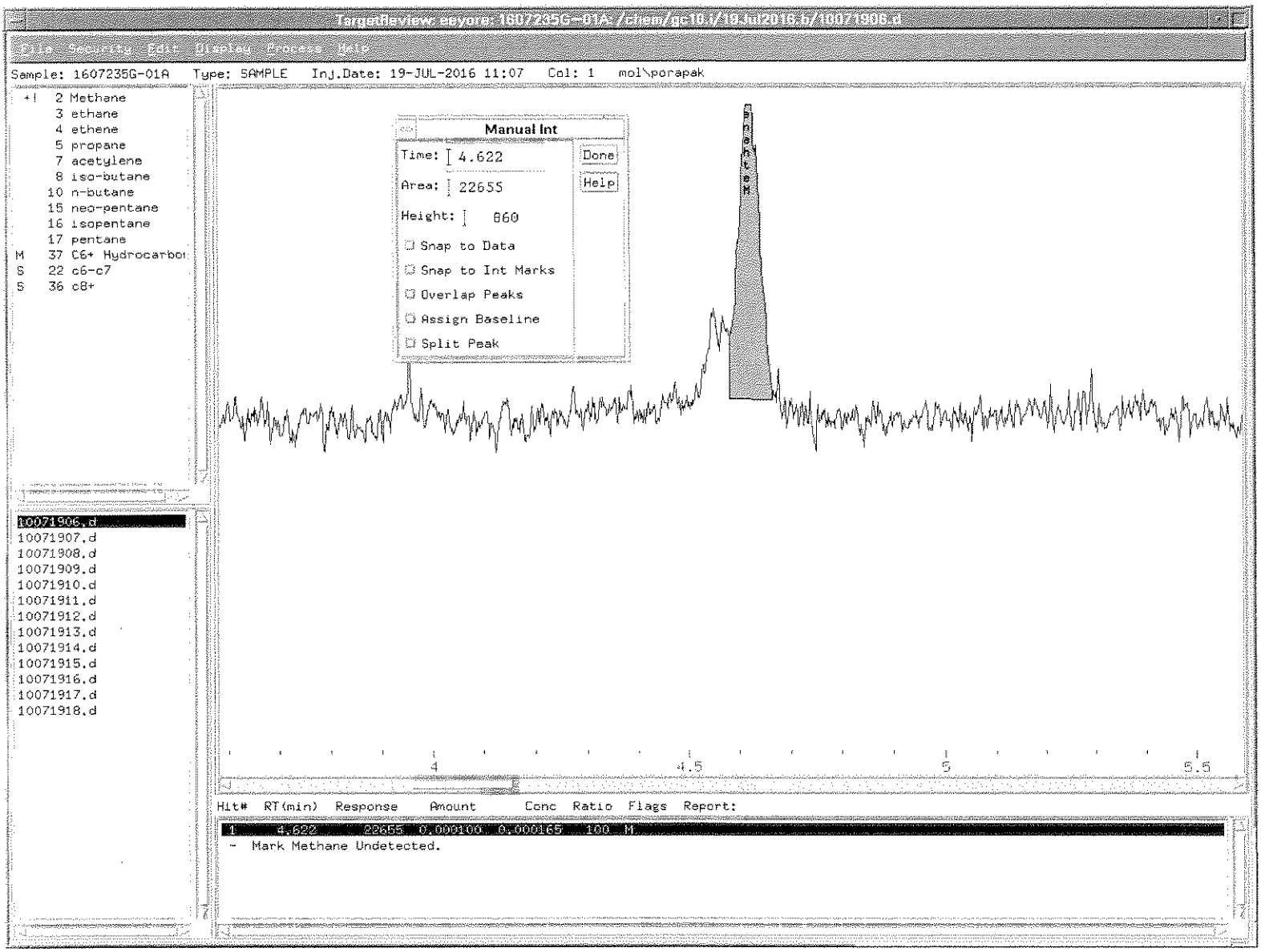
10071906.d
10071907.d
10071908.d
10071909.d
10071910.d
10071911.d
10071912.d
10071913.d
10071914.d
10071915.d
10071916.d
10071917.d
10071918.d



Hit#	RT(min)	Response	Amount	Conc	Ratio	Flags	Report:
1	4.622	18327	0.0000810	0.000134	100	a	

- Mark Methane Undetected.

Before



After

Correct Baseline	✓
Split Peak	NA
Merge Peak	
Zoom In	✓
Change Parameter	NA
System Peak Subtraction	
Peak Misidentified	
Corrected Peak Integration	

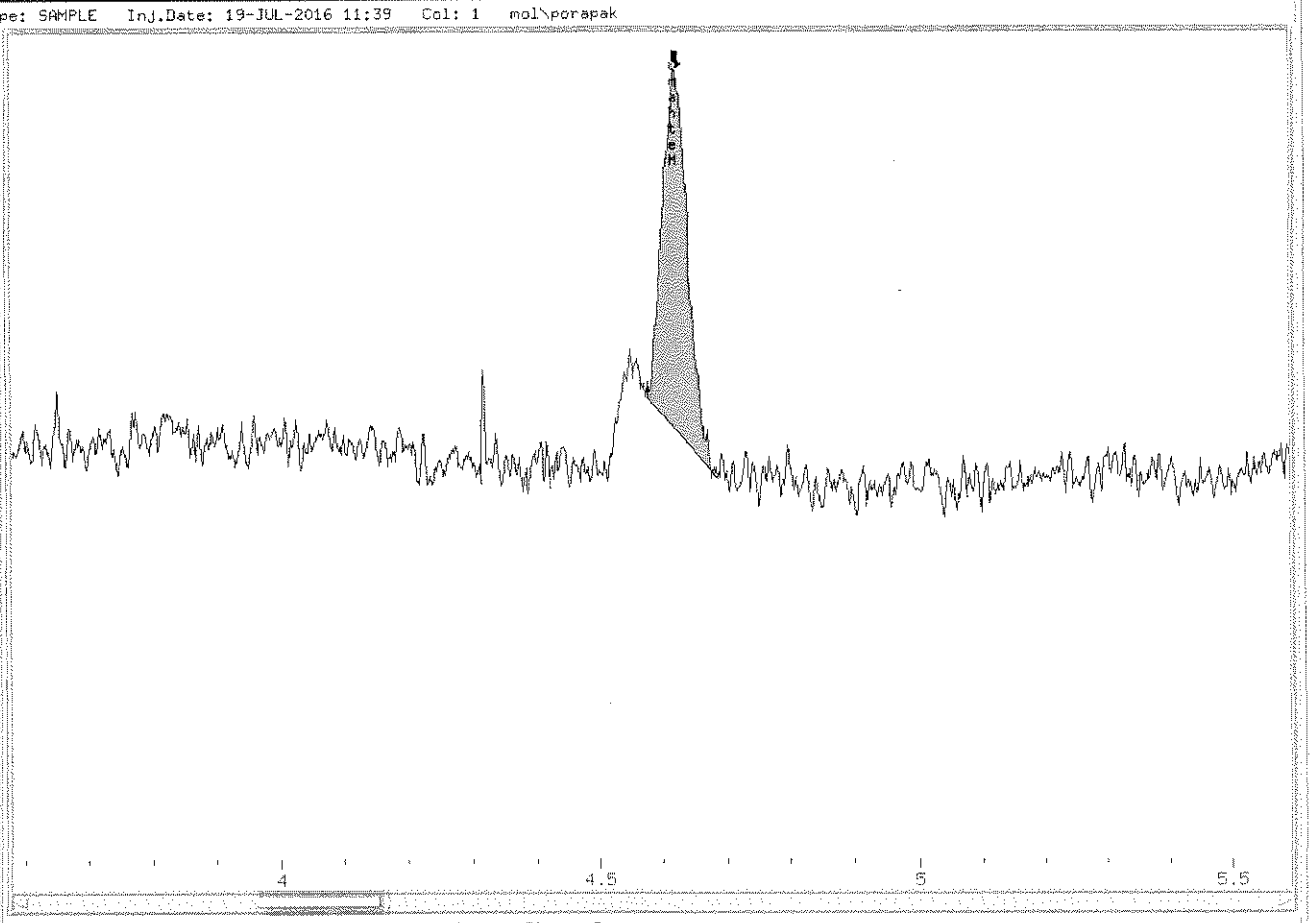
4/27/16

TargetReview: eeyore: 1607235G-02A: /chem/gc10.i/19Jul2016.b/10071907.d

File Security Edit Display Process Help

Sample: 1607235G-02A Type: SAMPLE Inj.Date: 19-JUL-2016 11:39 Col: 1 mol\porapak

*	2	Methane
	3	ethane
	4	ethene
	5	propane
	7	acetylene
	8	iso-butane
	10	n-butane
	15	neo-pentane
	16	isopentane
	17	pentane
M	37	C6+ Hydrocarbo
S	22	c6-c7
S	36	c8+

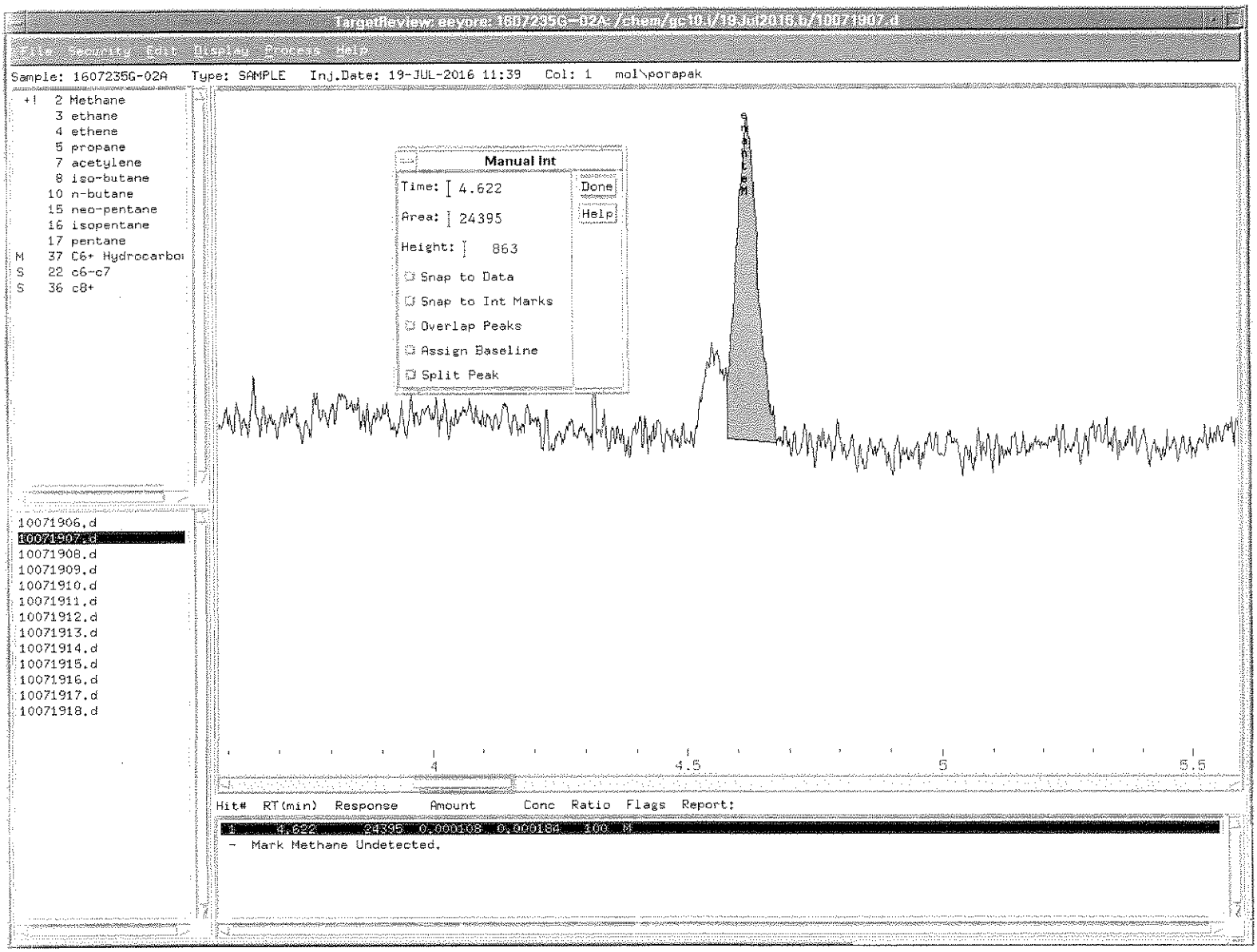


10071906.d
10071907.d
10071908.d
10071909.d
10071910.d
10071911.d
10071912.d
10071913.d
10071914.d
10071915.d
10071916.d
10071917.d
10071918.d

Hit#	RT(min)	Response	Amount	Conc	Ratio	Flags	Report:
1	4.622	20108	0.0000888	0.000152	100	#	

- Mark Methane Undetected.

Before



After

Correct Baseline	✓
Split Peak	
Merge Peak	
Zoom In	✓
Change Parameter	
System Peak Subtraction	
Peak Misidentified	
Corrected Peak Integration	

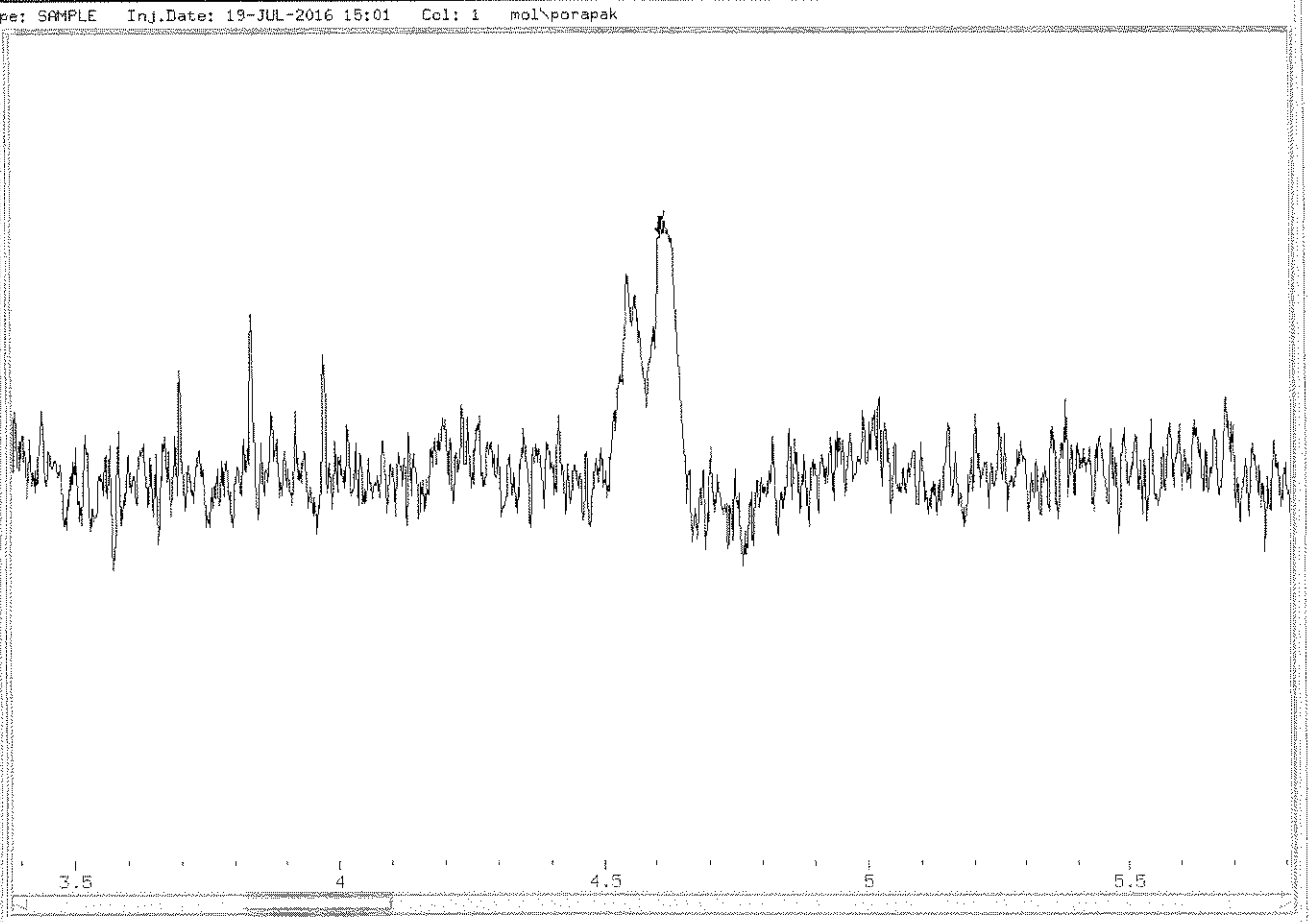
4/27/16

TargetReview: eeyore: 1607235G-08A: /chem/gc10.i/19Jul2016.b/10071912.d

File Security Edit Display Process Help

Sample: 1607235G-08A Type: SAMPLE Inj.Date: 19-JUL-2016 15:01 Col: 1 mol\porapak

2 Methane



10071906.d
10071906b.d
10071906c.d
10071907.d
10071907b.d
10071907c.d
10071908.d
10071908b.d
10071908c.d
10071909.d
10071909b.d
10071909c.d
10071910.d
10071910b.d
10071910c.d
10071911.d
10071911b.d
10071911c.d
10071912.d
10071912b.d
10071912c.d
10071913.d
10071913b.d
10071913c.d
10071914.d

Hit#	RT(min)	Response	Amount	Conc	Ratio	Flags	Report:
*	Methane Undetected (Expected RT: 4.615)						

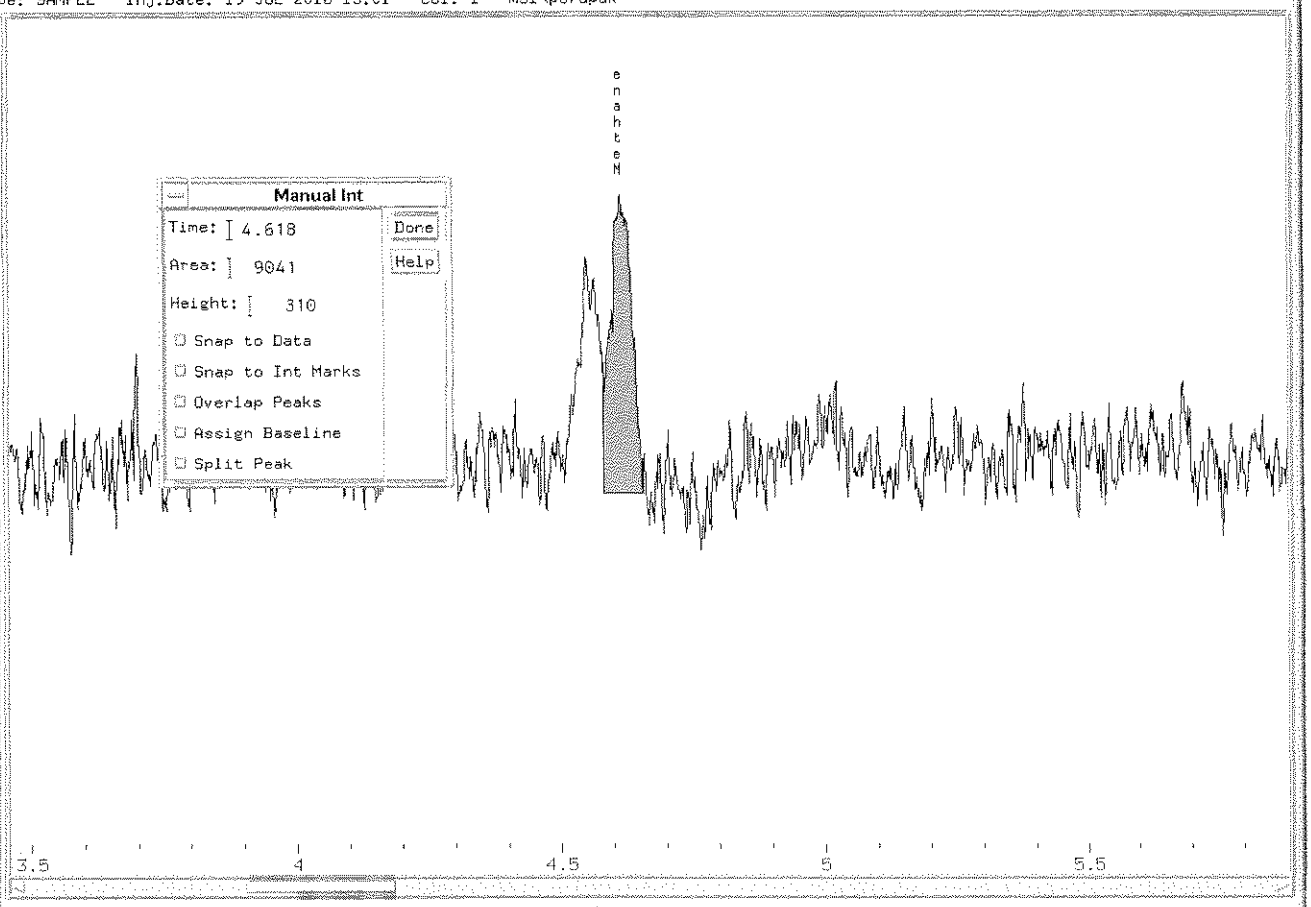
Before

TargetReview: ezvore: 1607235G-08A: /chem/gc10.i/19Jul2016.b/10071912.d

File Security Edit Display Process Help

Sample: 1607235G-08A Type: SAMPLE Inj.Date: 19-JUL-2016 15:01 Col: 1 mol\porapak

*1 2 Methane



10071906.d
10071906b.d
10071906c.d
10071907.d
10071907b.d
10071907c.d
10071908.d
10071908b.d
10071908c.d
10071909.d
10071909b.d
10071909c.d
10071910.d
10071910b.d
10071910c.d
10071911.d
10071911b.d
10071911c.d
10071912.d
10071912b.d
10071912c.d
10071913.d
10071913b.d
10071913c.d
10071914.d

Hit#	RT(min)	Response	Amount	Conc	Ratio	Flags	Report:
1	4.618	9041	0.0000288	0.0000958	100	sM	

- Mark Methane Undetected.

After

Correct Baseline	✓
Split Peak	NA
Merge Peak	
Zoom In	✓
Change Parameter	NA
System Peak Subtraction	
Peak Misidentified	
Corrected Peak Integration	

4/27/16

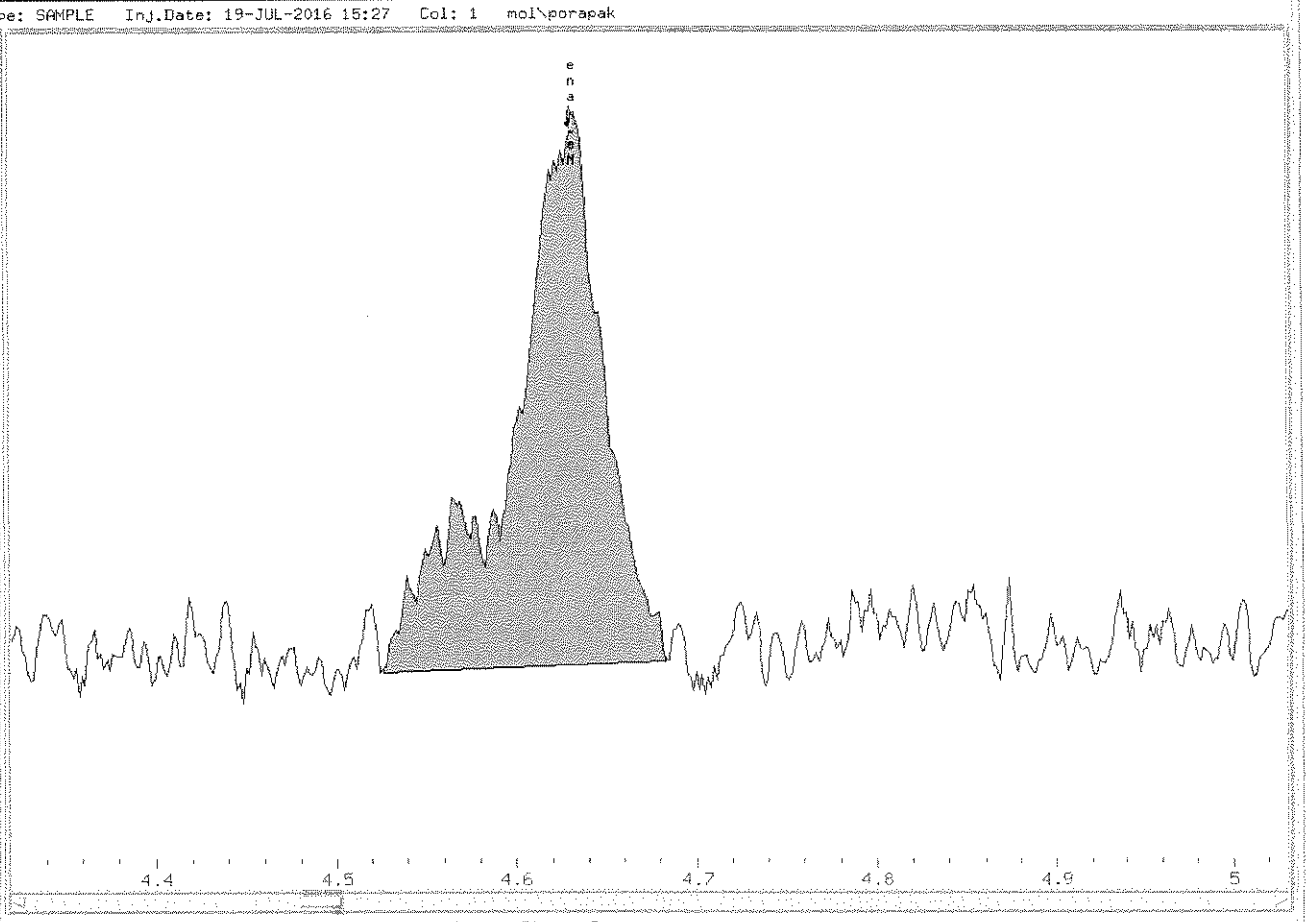
TargetReview: eeyore: 1607235G-09A: /chem/gc10.i/19Jul2016.b/10071913.d

File Security Edit Display Process Help

Sample: 1607235G-09A Type: SAMPLE Inj.Date: 19-JUL-2016 15:27 Col: 1 mol\porapak

*	2	Methane
	3	ethane
	4	ethene
	5	propane
	7	acetylene
	8	iso-butane
	10	n-butane
	15	neo-pentane
	16	isopentane
	17	pentane
M	37	C6+ Hydrocarbo
S	22	c6-c7
S	36	c8+

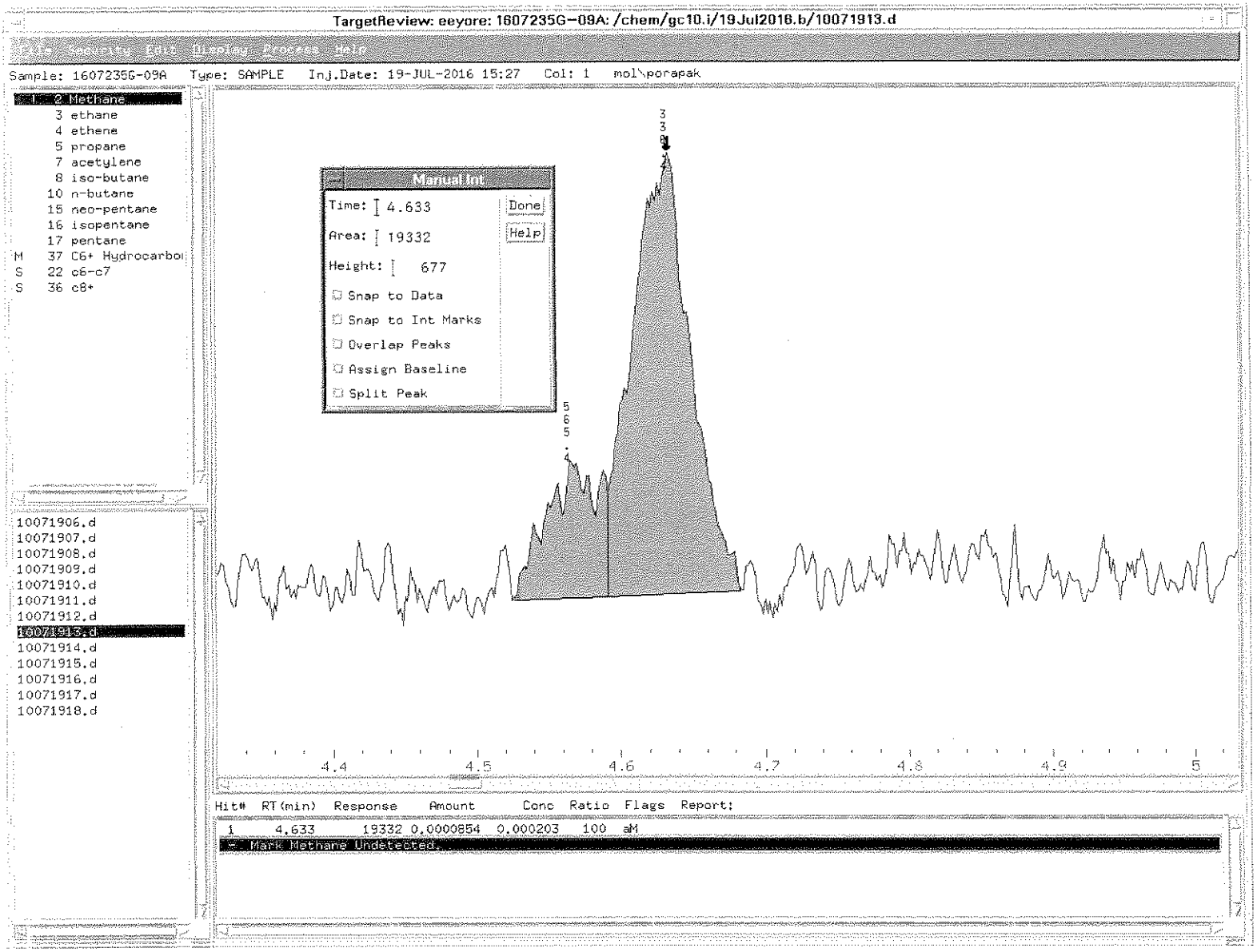
10071906.d
10071907.d
10071908.d
10071909.d
10071910.d
10071911.d
10071912.d
10071913.d
10071914.d
10071915.d
10071916.d
10071917.d
10071918.d



Hit#	RT(min)	Response	Amount	Conc	Ratio	Flags	Report:
1	4.634	24503	0.000108	0.000258	100		

- Mark Methane Undetected.

Before



After

Correct Baseline	NA
Split Peak	
Merge Peak	NA
Zoom In	
Change Parameter	NA
System Peak Subtraction	
Peak Misidentified	
Corrected Peak Integration	

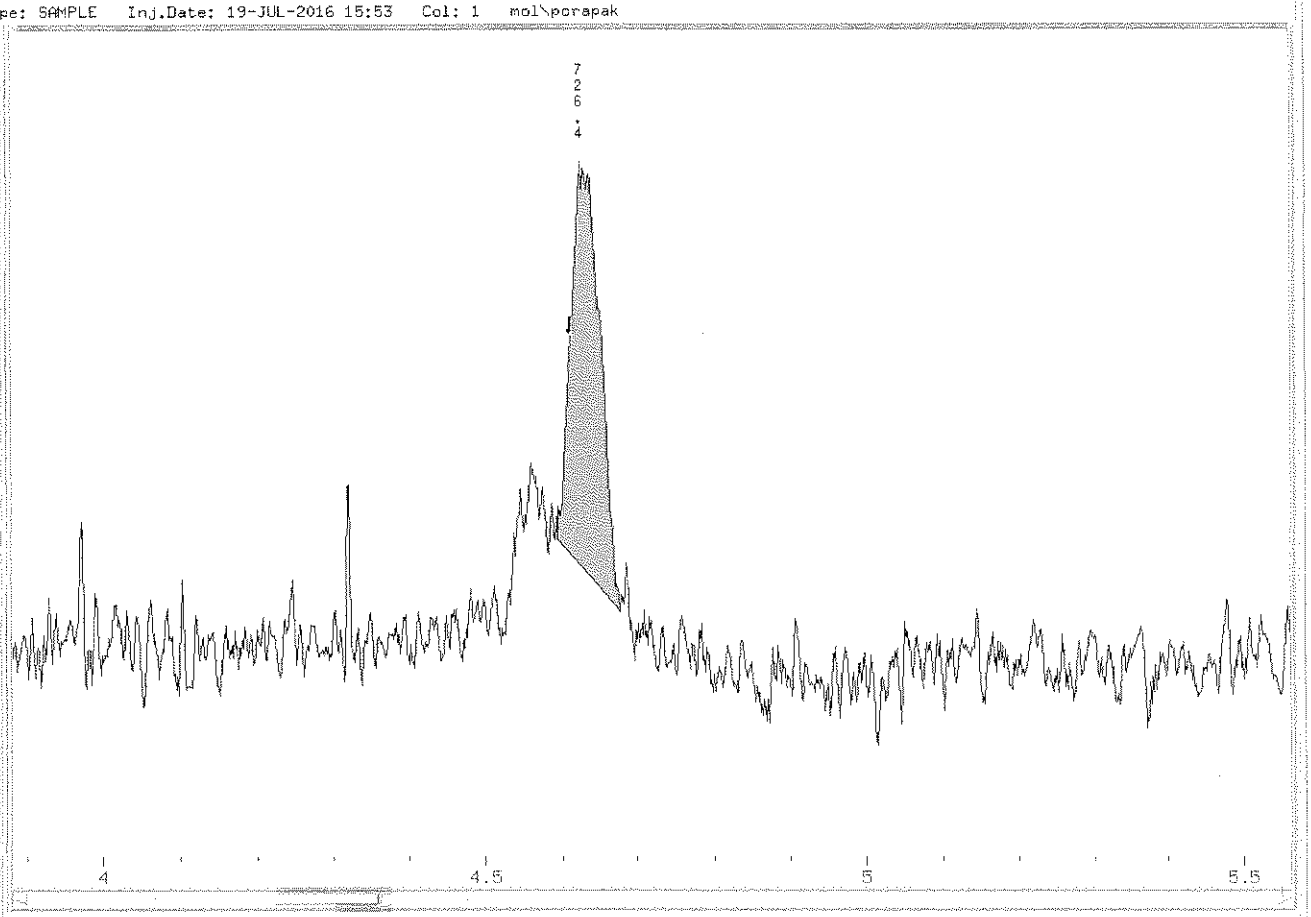
LG 7/27/16

TargetReview: eeyore: 1607235G-10A: /chem/gc10.i/19Jul2016.b/10071914.d

File Security Edit Display Process Help

Sample: 1607235G-10A Type: SAMPLE Inj.Date: 19-JUL-2016 15:53 Col: 1 mol\porapak

2 Methane



10071906.d
10071906b.d
10071906c.d
10071907.d
10071907b.d
10071907c.d
10071908.d
10071908b.d
10071908c.d
10071909.d
10071909b.d
10071909c.d
10071910.d
10071910b.d
10071910c.d
10071911.d
10071911b.d
10071911c.d
10071912.d
10071912b.d
10071912c.d
10071913.d
10071913b.d
10071913c.d
10071914.d

Hit#	RT(min)	Response	Amount	Conc	Ratio	Flags	Report:
*	Methane Undetected (Expected RT: 4.615)						

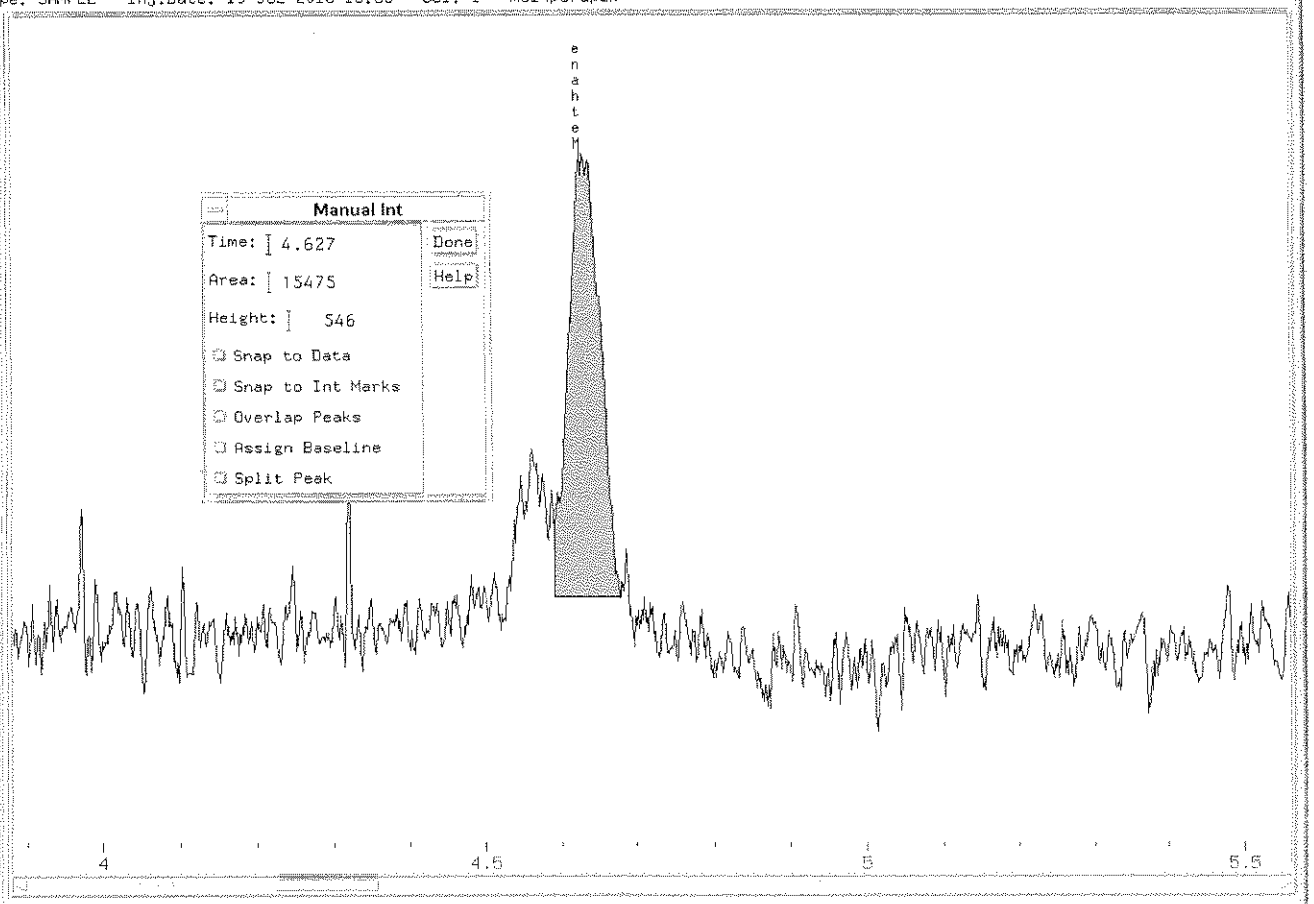
Before

TargetReview: eeyore 1607235G-10A: /Chem/gc10.i/19.Jul2016.b/10071914.d

File Security Edit Display Processes Help

Sample: 1607235G-10A Type: SAMPLE Inj.Date: 19-JUL-2016 15:53 Col: 1 mol\porapak

1 2 Methane



10071906.d
10071906b.d
10071906c.d
10071907.d
10071907b.d
10071907c.d
10071908.d
10071908b.d
10071908c.d
10071909.d
10071909b.d
10071909c.d
10071910.d
10071910b.d
10071910c.d
10071911.d
10071911b.d
10071911c.d
10071912.d
10071912b.d
10071912c.d
10071913.d
10071913b.d
10071913c.d
10071914.d

Hit#	RT(min)	Response	Amount	Conc	Ratio	Flags	Report:
1	4.627	15475	0.0000684	0.000164	100	am	

- Mark Methane Undetected.

After

Correct Baseline	
Split Peak	✓
Merge Peak	
Zoom In	
Change Parameter	✓
System Peak Subtraction	
Peak Misidentified	
Corrected Peak Integration	

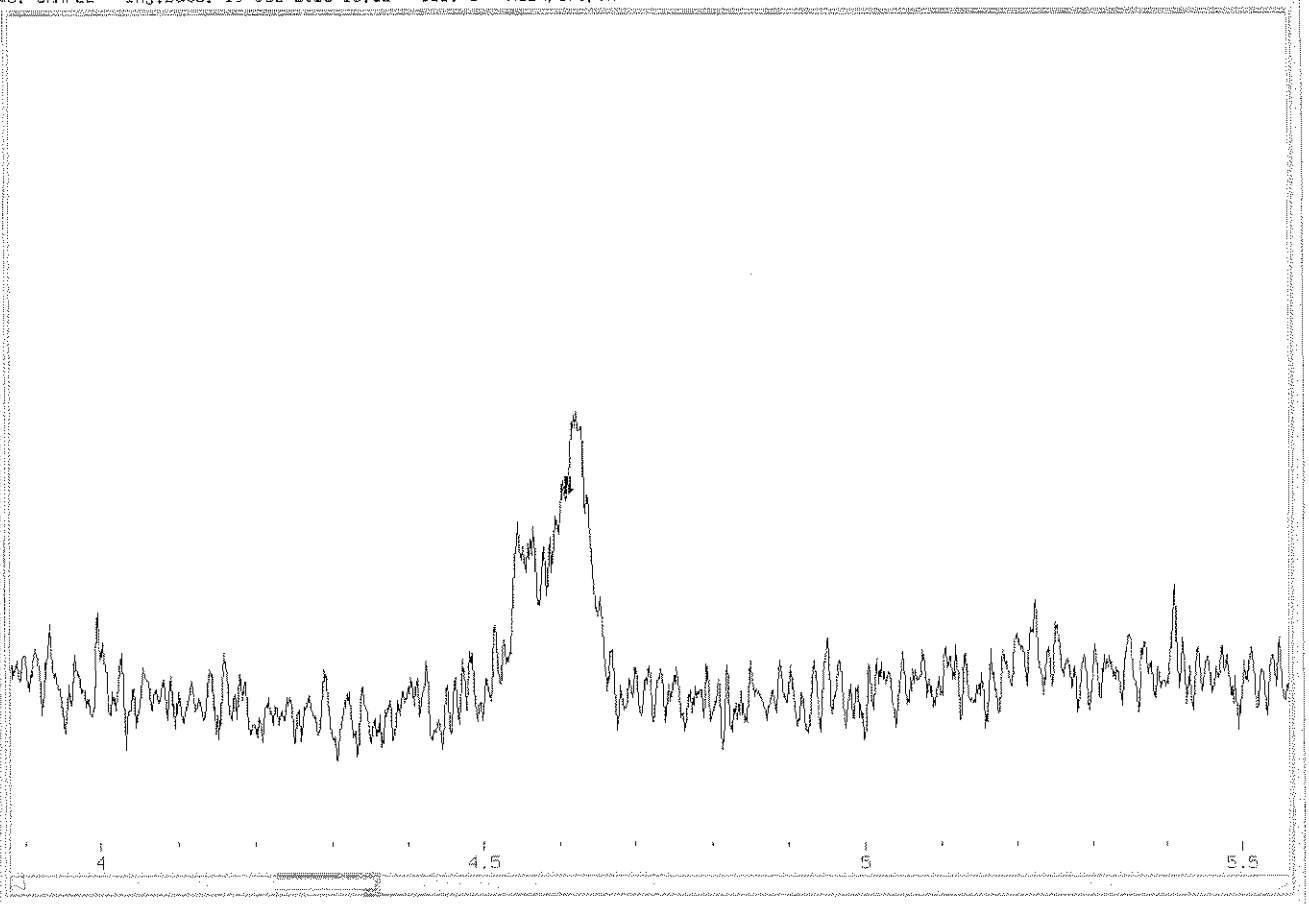
4/27/16

TargetReview: eeyore: 1607235G-12A: /chem/gc10.i/19Jul2016.b/10071916.d

File Security Edit Integrate Process Help

Sample: 1607235G-12A Type: SAMPLE Inj.Date: 19-JUL-2016 16:52 Col: 1 mol\porapak

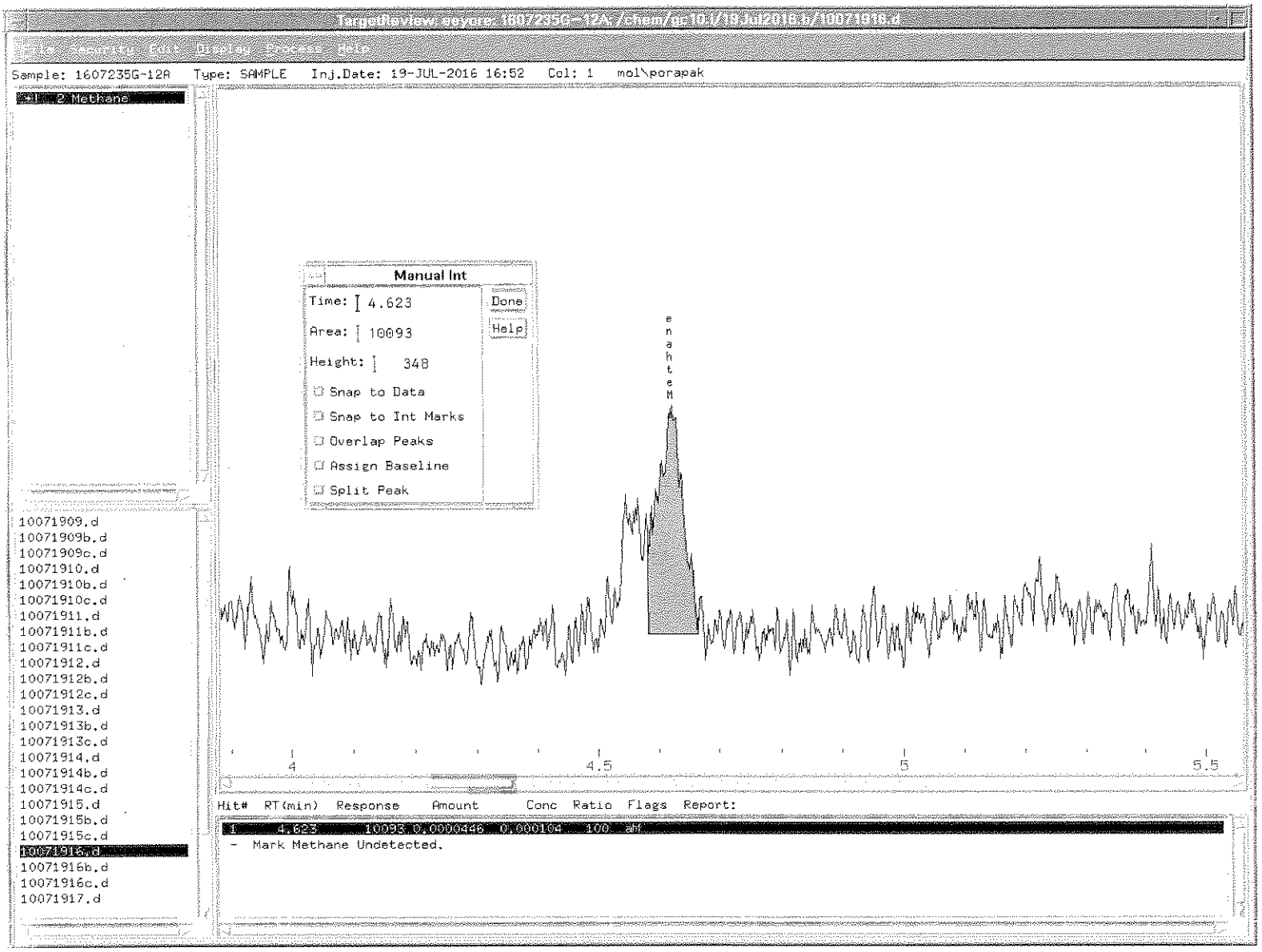
2 Methane



10071909.d
10071909b.d
10071909c.d
10071910.d
10071910b.d
10071910c.d
10071911.d
10071911b.d
10071911c.d
10071912.d
10071912b.d
10071912c.d
10071913.d
10071913b.d
10071913c.d
10071914.d
10071914b.d
10071914c.d
10071915.d
10071915b.d
10071915c.d
10071916.d
10071916b.d
10071916c.d
10071917.d

Hit#	RT(min)	Response	Amount	Conc	Ratio	Flags	Report:
=	Methane Undetected (Expected RT: 4.615)						

Before



After

Correct Baseline	✓
Split Peak	NA
Merge Peak	✓
Zoom In	✓
Change Parameter	NA
System Peak Subtraction	
Peak Misidentified	
Corrected Peak Integration	

4/7/22/16

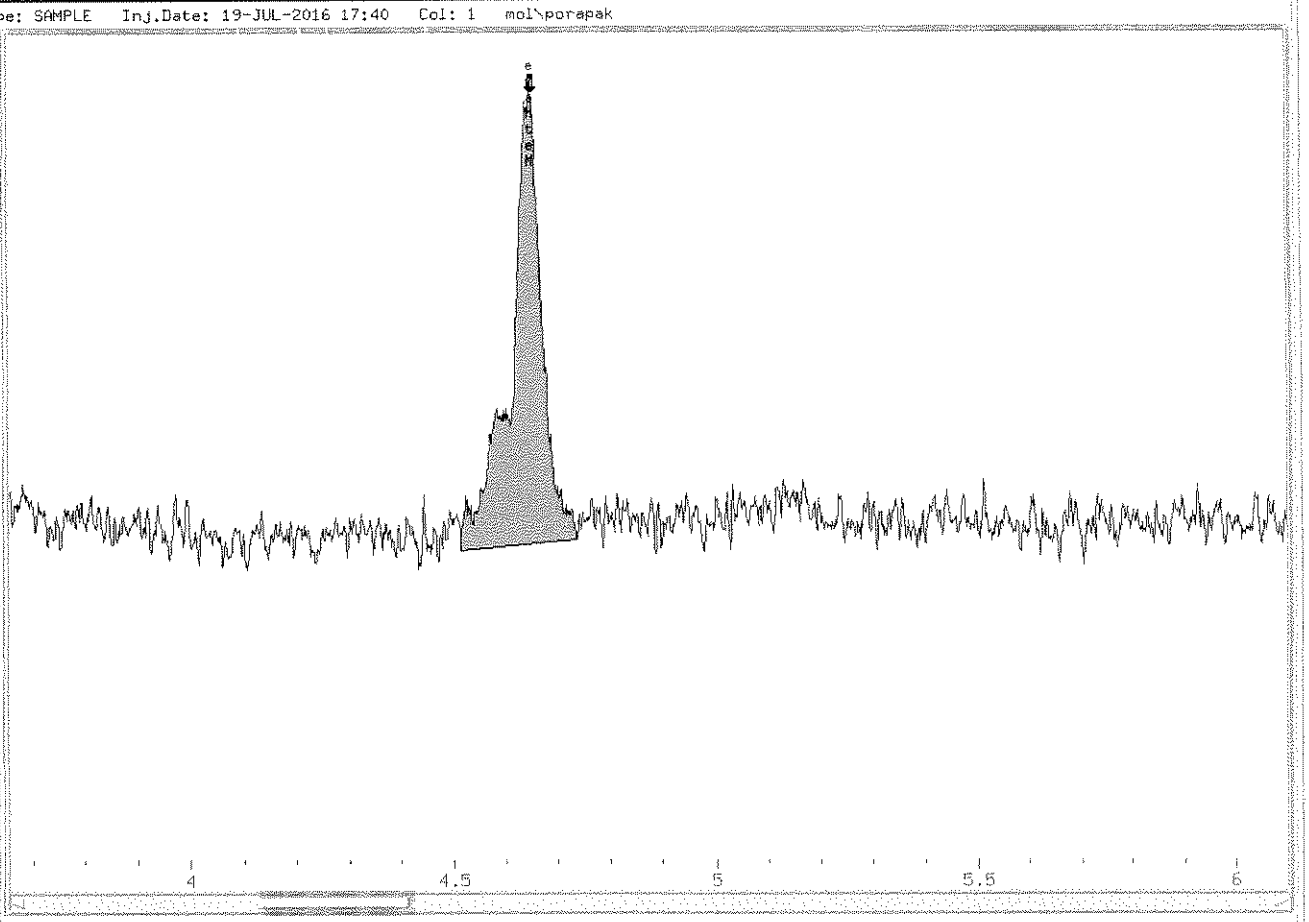
TargetReview: eeyore: 1607235G-14A: /chem/gc10.i/19Jul2016.b/10071918.d

File Security Edit Display Process Help

Sample: 1607235G-14A Type: SAMPLE Inj.Date: 19-JUL-2016 17:40 Col: 1 mol\porapak

*	2	Methane
	3	ethane
	4	ethene
	5	propane
	7	acetylene
	8	iso-butane
	10	n-butane
	15	neo-pentane
	16	isopentane
	17	pentane
M	37	C6+ Hydrocarbo
S	22	c6-c7
S	36	c8+

10071906.d
10071907.d
10071908.d
10071909.d
10071910.d
10071911.d
10071912.d
10071913.d
10071914.d
10071915.d
10071916.d
10071917.d
10071918.d



Hit#	RT(min)	Response	Amount	Conc	Ratio	Flags	Report:
1	4.656	39175	0.000173	0.000275	100		

~ Mark Methane Undetected.

Befor

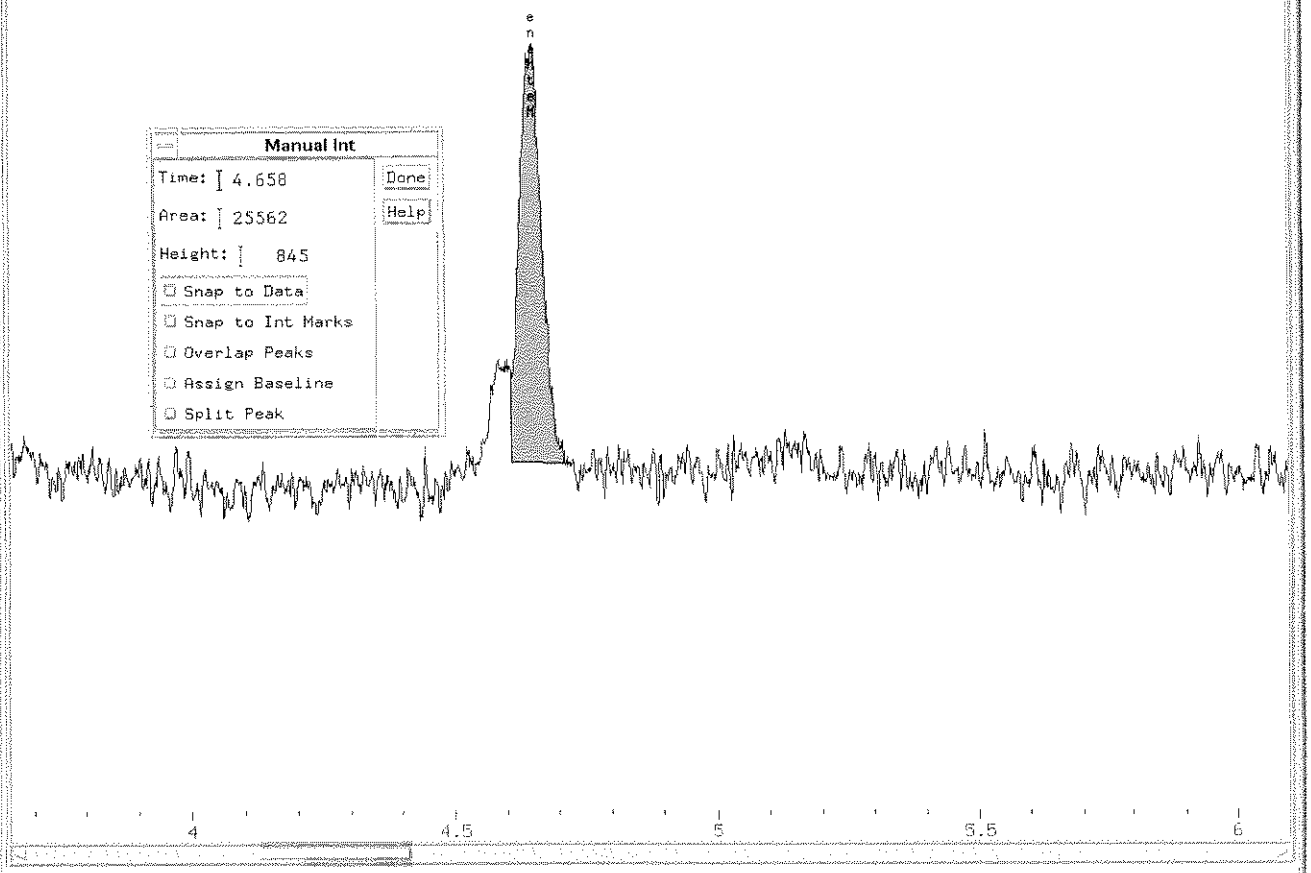
TargetReview.eeyore: 1607235G-14A: /chem/gc10.i/19.jul2016.b/10071918.d

File Security Edit Display Process Help

Sample: 1607235G-14A Type: SAMPLE Inj.Date: 19-JUL-2016 17:40 Col: 1 mol\porapak

+!	2	Methane
	3	ethane
	4	ethene
	5	propane
	7	acetylene
	8	iso-butane
	10	n-butane
	15	neo-pentane
	16	isopentane
	17	pentane
M	37	C6+ Hydrocarbo
S	22	c6-c7
S	36	c8+

10071906.d
10071907.d
10071908.d
10071909.d
10071910.d
10071911.d
10071912.d
10071913.d
10071914.d
10071915.d
10071916.d
10071917.d
10071918.d



Hit#	RT(min)	Response	Amount	Conc	Ratio	Flags	Report:
1	4.658	25562	0.000113	0.000180	100	M	

- Mark Methane Undetected.

After

Correct Baseline	✓
Split Peak	NA
Merge Peak	
Zoom In	✓
Change Parameter	NA
System Peak Subtraction	
Peak Misidentified	
Corrected Peak Integration	

LY 7/27/16

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

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

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 # 1607235G	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 7/19/16	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 7/19/16	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				
NA				✓	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				
NA				MB	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: 01A-06A, 02A-14A OK

D1	D2	D3	D4	T	3T	Section 3 – Target Data Reduction	Technical Review Needed? Circle one: Yes/No		T:	
						Initials/Instrument/Date MB GC10	D1: 7/21/16	D2:	D3:	D4:
MB					■	CAR # (if applicable)				
✓					■	Spectra Verified *(documentation of spectral defense included if applicable)*				
✓					■	TICs resemble reference spectra/ TICs between sample dups. are consistent *(if applicable)*				
✓						Lab Narrative is correct				
MB					■	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:	3rd Tier: *(needed only for DOD or per client request)*	
✓		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		
✓		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