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Electronic Comprehensive Validation Package (eCVP)

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COMPREHENSIVE VALIDATION PACKAGE

Modified ASTM D-1946

INVENTORY SHEET

Work Order #: 1701428D

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Comments:

Completed by:

Vera Belitsky	Vera Belitsky / Document Control	2/20/17
(Signature)	(Print Name & Title)	(Date)

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WORK ORDER #: 1701428D

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 #**	BMS VI
DATE RECEIVED:	01/30/2017	**CONTACT:**	Brian Whittaker
DATE COMPLETED:	02/10/2017		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	B30IA-1-012117	Modified ASTM D-1946	5.0 "Hg	5 psi
02A	B30IA-2-012117	Modified ASTM D-1946	5.5 "Hg	5 psi
03A	B30IA-3-012117	Modified ASTM D-1946	9.0 "Hg	5 psi
04A	B30IA-4-012117	Modified ASTM D-1946	5.0 "Hg	5 psi
05A	B30IA-4D-012117	Modified ASTM D-1946	6.0 "Hg	5 psi
06A	B30IA-5-012117	Modified ASTM D-1946	5.5 "Hg	5 psi
07A	B1830AA-012117	Modified ASTM D-1946	5.5 "Hg	5 psi
08A	B18IA-1-012117	Modified ASTM D-1946	7.5 "Hg	5 psi
09A	B18IA-1D-012117	Modified ASTM D-1946	6.0 "Hg	5 psi
10A	B18IA-2-012117	Modified ASTM D-1946	7.0 "Hg	5 psi
11A	B18IA-3-012117	Modified ASTM D-1946	4.5 "Hg	5 psi
12A	B18IA-4-012117	Modified ASTM D-1946	1.5 "Hg	5 psi
13A	B8IA-2-012317	Modified ASTM D-1946	7.0 "Hg	5 psi
14A	B8IA-2D-012317	Modified ASTM D-1946	8.5 "Hg	5 psi
15A	B8AA-012317	Modified ASTM D-1946	2.5 "Hg	5 psi
16A	B8SS-2-012417	Modified ASTM D-1946	5.7 "Hg	14.9 psi
17A	B8SS-2D-012417	Modified ASTM D-1946	4.9 "Hg	15.1 psi
18A	B18SS-1-012617	Modified ASTM D-1946	5.5 "Hg	15.3 psi
19A	B18SS-1Dup-012617	Modified ASTM D-1946	5.5 "Hg	14.8 psi
20A	Lab Blank	Modified ASTM D-1946	NA	NA
21A	LCS	Modified ASTM D-1946	NA	NA
21AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 02/10/17

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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LABORATORY NARRATIVE
Modified ASTM D-1946
Anderson Mulholland & Associates, Inc.
Workorder# 1701428D

Fifteen 6 Liter Summa Canister (100% Certified) and four 1 Liter Summa Canister (100% Certified) samples were received on January 30, 2017. 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

There were no receiving discrepancies.

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)	Date Analyzed	Sample Extract Holding Time (Days)	Sample Condition
B30IA-1-012117	1701428D-01A	1/21/2017	1/30/2017	NA	12	2/ 2/2017	NA	Good
B30IA-2-012117	1701428D-02A	1/21/2017	1/30/2017	NA	12	2/ 2/2017	NA	Good
B30IA-3-012117	1701428D-03A	1/21/2017	1/30/2017	NA	12	2/ 2/2017	NA	Good
B30IA-4-012117	1701428D-04A	1/21/2017	1/30/2017	NA	12	2/ 2/2017	NA	Good
B30IA-4D-012117	1701428D-05A	1/21/2017	1/30/2017	NA	12	2/ 2/2017	NA	Good
B30IA-5-012117	1701428D-06A	1/21/2017	1/30/2017	NA	12	2/ 2/2017	NA	Good
B1830AA-012117	1701428D-07A	1/21/2017	1/30/2017	NA	12	2/ 2/2017	NA	Good
B18IA-1-012117	1701428D-08A	1/21/2017	1/30/2017	NA	12	2/ 2/2017	NA	Good
B18IA-1D-012117	1701428D-09A	1/21/2017	1/30/2017	NA	12	2/ 2/2017	NA	Good
B18IA-2-012117	1701428D-10A	1/21/2017	1/30/2017	NA	12	2/ 2/2017	NA	Good
B18IA-3-012117	1701428D-11A	1/21/2017	1/30/2017	NA	12	2/ 2/2017	NA	Good
B18IA-4-012117	1701428D-12A	1/21/2017	1/30/2017	NA	12	2/ 2/2017	NA	Good
B8IA-2-012317	1701428D-13A	1/23/2017	1/30/2017	NA	10	2/ 2/2017	NA	Good
B8IA-2D-012317	1701428D-14A	1/23/2017	1/30/2017	NA	10	2/ 2/2017	NA	Good
B8AA-012317	1701428D-15A	1/23/2017	1/30/2017	NA	10	2/ 2/2017	NA	Good
B8SS-2-012417	1701428D-16A	1/24/2017	1/30/2017	NA	9	2/ 2/2017	NA	Good
B8SS-2D-012417	1701428D-17A	1/24/2017	1/30/2017	NA	9	2/ 2/2017	NA	Good
B18SS-1-012617	1701428D-18A	1/26/2017	1/30/2017	NA	7	2/ 2/2017	NA	Good
B18SS-1Dup-012617	1701428D-19A	1/26/2017	1/30/2017	NA	7	2/ 2/2017	NA	Good
Lab Blank	1701428D-20A	NA	NA	NA	NA	2/ 2/2017	NA	Good
LCS	1701428D-21A	NA	NA	NA	NA	2/ 2/2017	NA	Good
LCSD	1701428D-21AA	NA	NA	NA	NA	2/ 2/2017	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: B30IA-1-012117

Lab ID#: 1701428D-01A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00016	0.0011

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Client Sample ID: B30IA-1-012117

Lab ID#: 1701428D-01A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020205**	**Date of Collection:**	**1/21/17 6:17:00 PM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**2/2/17 09:57 AM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00016	0.0011

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

Eurofins Air Toxics Inc.

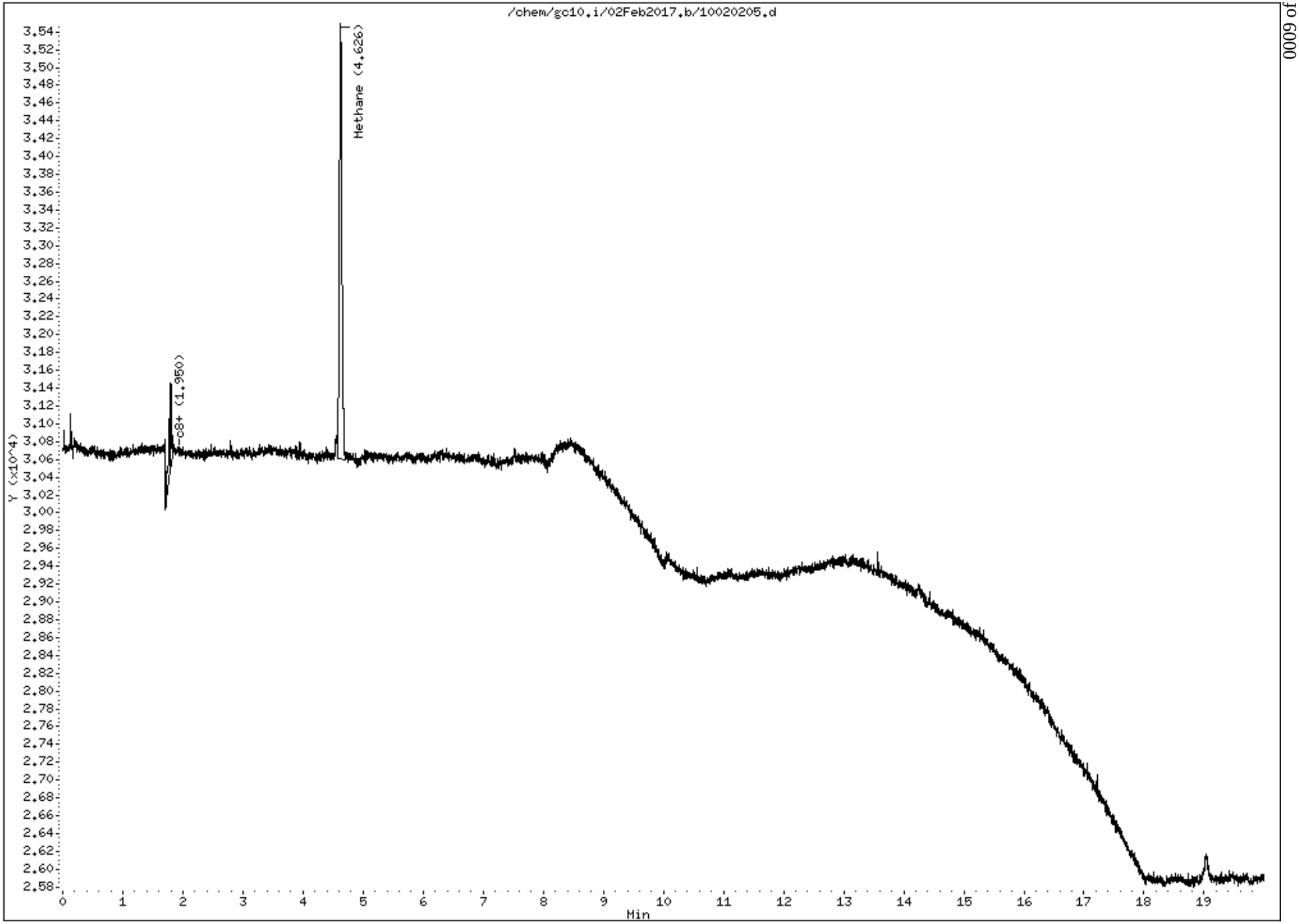
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020205.d
Lab Smp Id: 1701428D-01A Client Smp ID: 1701428D-01A
Inj Date : 02-FEB-2017 09:57
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,25236
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 1.61000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

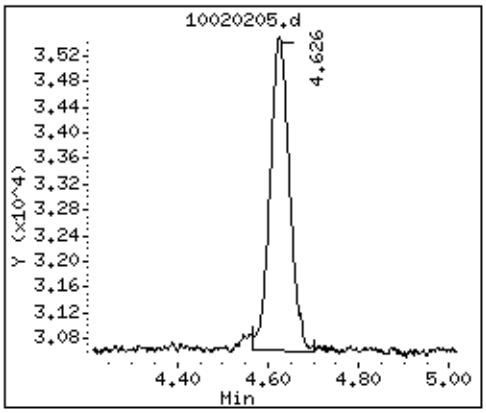
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.626	4.615	0.011	145628	0.000669	0.00108


/chem/gc10.i/02Feb2017.b/10020205.d
Methane (4.626)
-c8+ (1.950)
Y (x10^4)
Min

2 Methane


10020205.d
4.626
3.52
3.48
3.44
3.40
3.36
3.32
3.28
3.24
3.20
3.16
3.12
3.08
Y (x10^4)
4.40
4.60
4.80
5.00
Min

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

Client Sample ID: B30IA-2-012117

Lab ID#: 1701428D-02A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00016	0.00044

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Client Sample ID: B30IA-2-012117

Lab ID#: 1701428D-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020206**	**Date of Collection:**	**1/21/17 6:20:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**2/2/17 10:22 AM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00016	0.00044

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

Eurofins Air Toxics Inc.

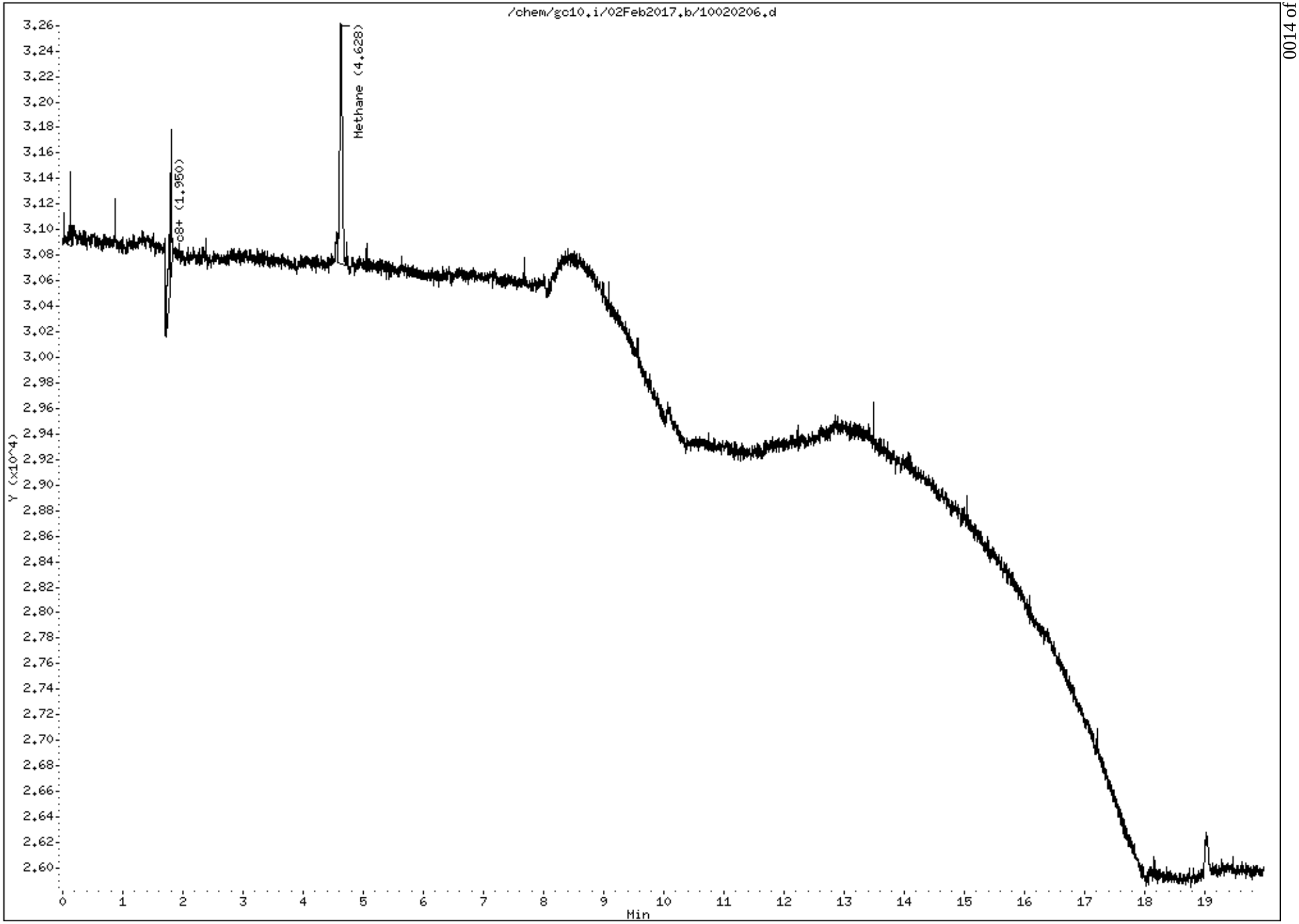
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020206.d
Lab Smp Id: 1701428D-02A
Inj Date : 02-FEB-2017 10:22
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,N1755
Misc Info : 5.5"Hg>5psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 1.64000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

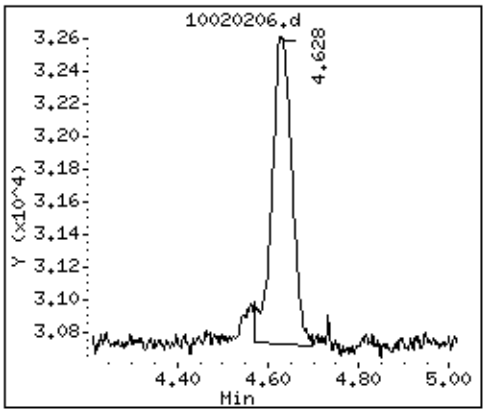
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.628	4.615	0.013	57778	0.000265	0.000435


/chem/gc10.i/02Feb2017.b/10020206.d
Methane (4.628)
c8+ (1.950)
Y (x10^4)
Min

2 Methane


10020206.d
4.628
3.26
3.24
3.22
3.20
3.18
3.16
3.14
3.12
3.10
3.08
Y (x10^4)
4.40
4.60
4.80
5.00
Min

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

Client Sample ID: B30IA-3-012117

Lab ID#: 1701428D-03A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00019	0.00071

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Client Sample ID: B30IA-3-012117

Lab ID#: 1701428D-03A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020207**	**Date of Collection:**	**1/21/17 6:21:00 PM**
Dil. Factor:	**1.91**	**Date of Analysis:**	**2/2/17 10:59 AM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00019	0.00071

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

Eurofins Air Toxics Inc.

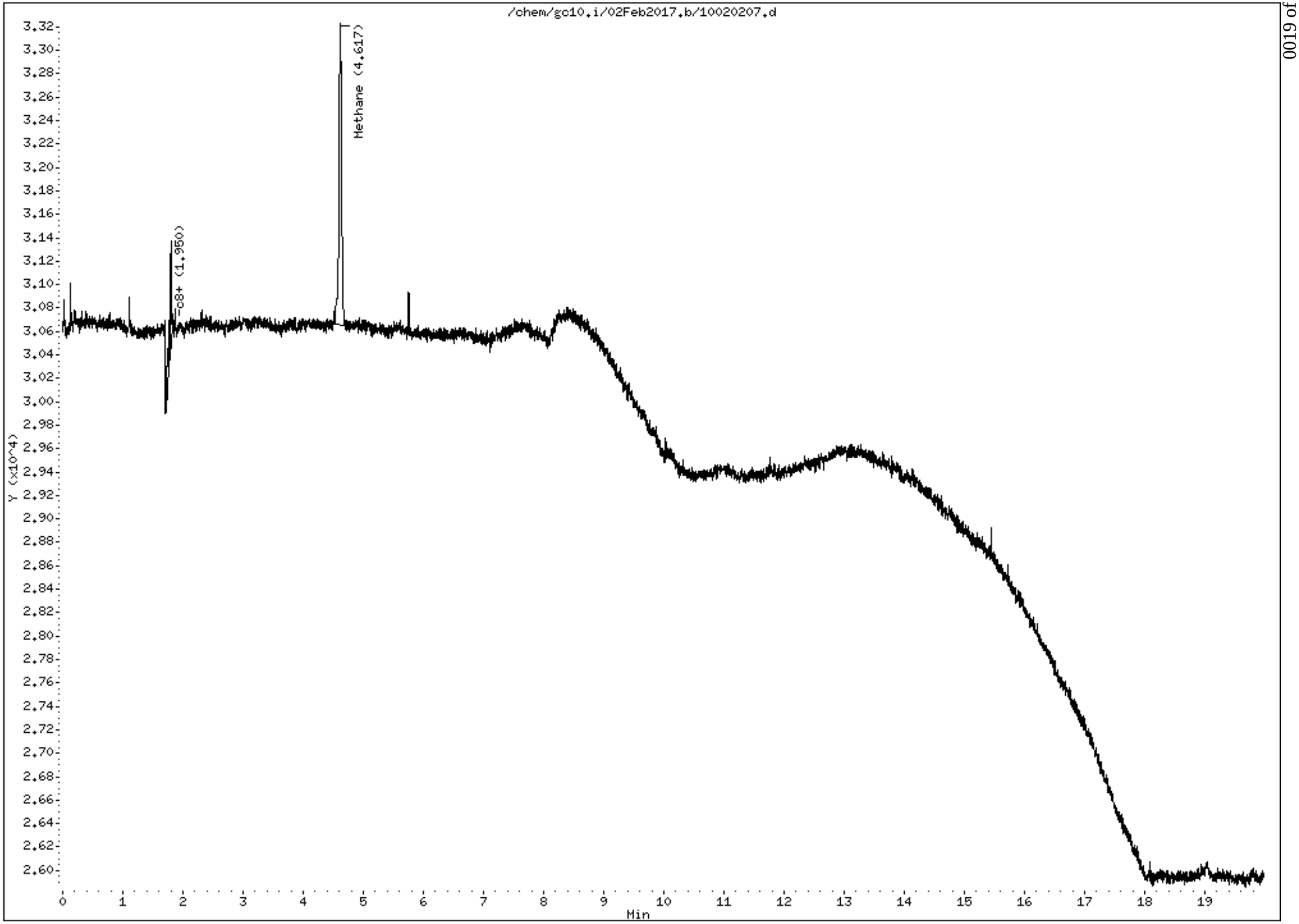
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020207.d
Lab Smp Id: 1701428D-03A
Inj Date : 02-FEB-2017 10:59
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,9551
Misc Info : 9.0"Hg>5psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 1.91000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

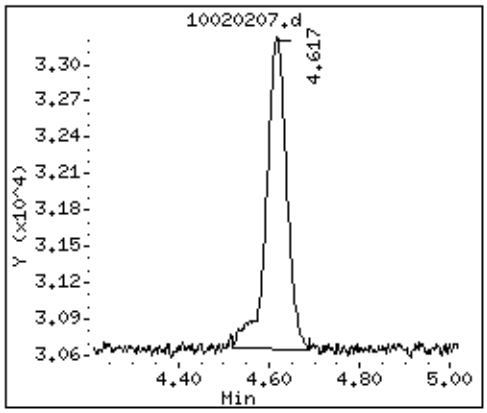
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.617	4.615	0.002	80630	0.00037	0.000707


/chem/gc10.i/02Feb2017.b/10020207.d
Methane (4.617)
c8+ (1.950)
Y (x10^4)
Min

2 Methane


10020207.d
4.617
3.30
3.27
3.24
3.21
3.18
3.15
3.12
3.09
3.06
Y (x10^4)
4.40
4.60
4.80
5.00
Min

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

Client Sample ID: B30IA-4-012117

Lab ID#: 1701428D-04A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00016	0.00056

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Client Sample ID: B30IA-4-012117

Lab ID#: 1701428D-04A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020208**	**Date of Collection:**	**1/21/17 6:22:00 PM**
Dil. Factor:	**1.61**	**Date of Analysis:**	**2/2/17 11:23 AM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00016	0.00056

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

Eurofins Air Toxics Inc.

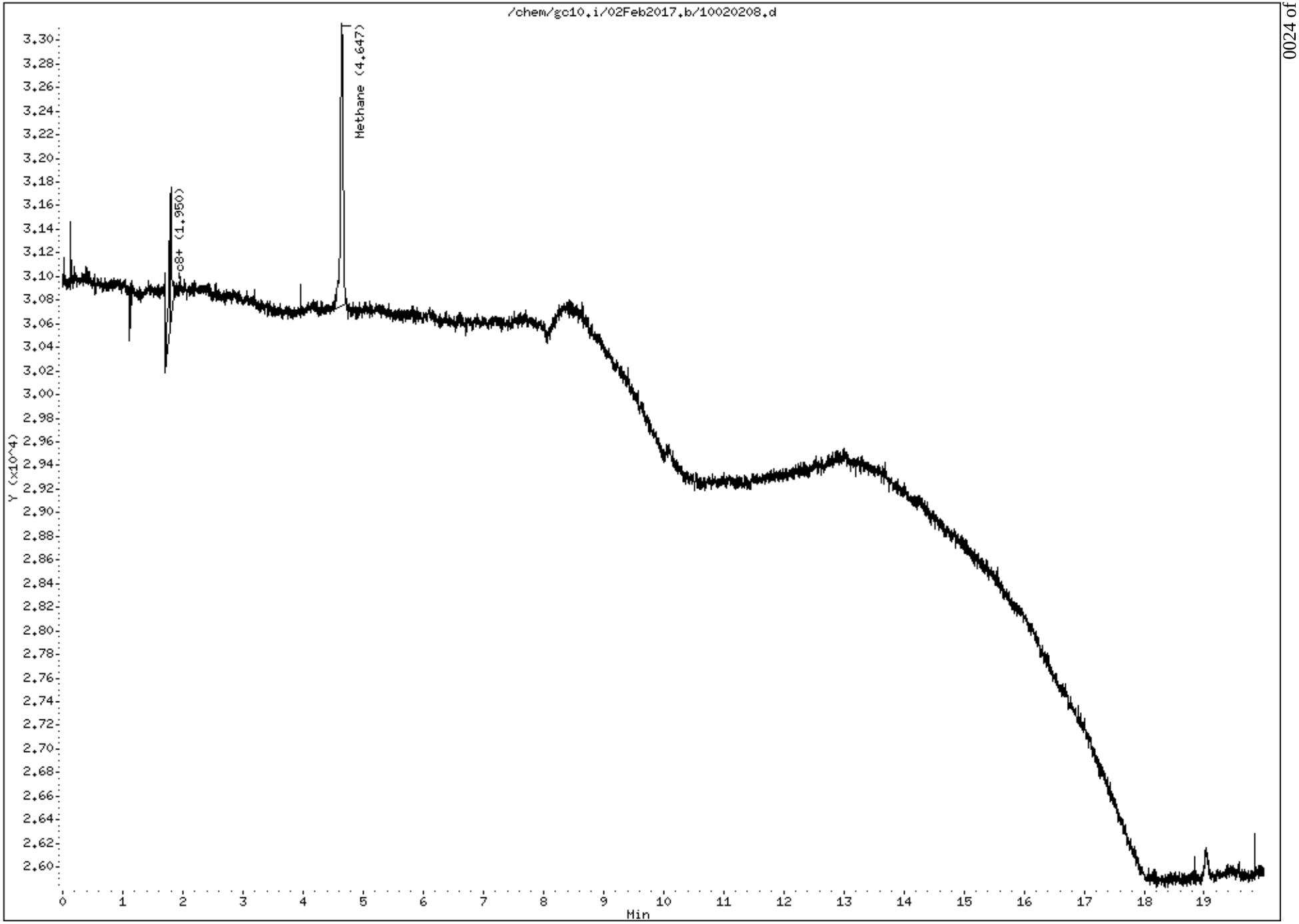
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020208.d
Lab Smp Id: 1701428D-04A
Inj Date : 02-FEB-2017 11:23
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,00895
Misc Info : 5.0"Hg>5psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 1.61000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

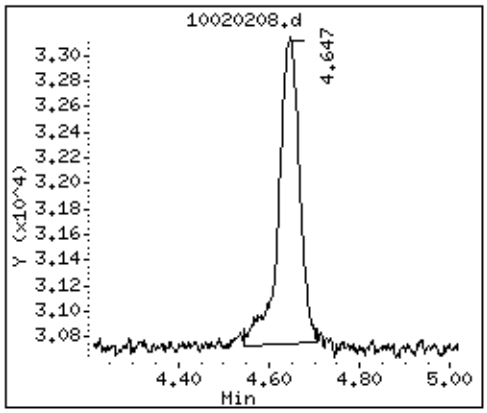
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.647	4.615	0.032	76327	0.000351	0.000564


/chem/gc10.i/02Feb2017.b/10020208.d
Methane (4.647)
-c8+ (1.950)
Y (x10^4)
Min

2 Methane


10020208.d
4.647
3.30
3.28
3.26
3.24
3.22
3.20
3.18
3.16
3.14
3.12
3.10
3.08
Y (x10^4)
4.40
4.60
4.80
5.00
Min

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

Client Sample ID: B30IA-4D-012117

Lab ID#: 1701428D-05A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00054

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Client Sample ID: B30IA-4D-012117

Lab ID#: 1701428D-05A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020209**	**Date of Collection:**	**1/21/17 6:22:00 PM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**2/2/17 11:53 AM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00017	0.00054

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

Eurofins Air Toxics Inc.

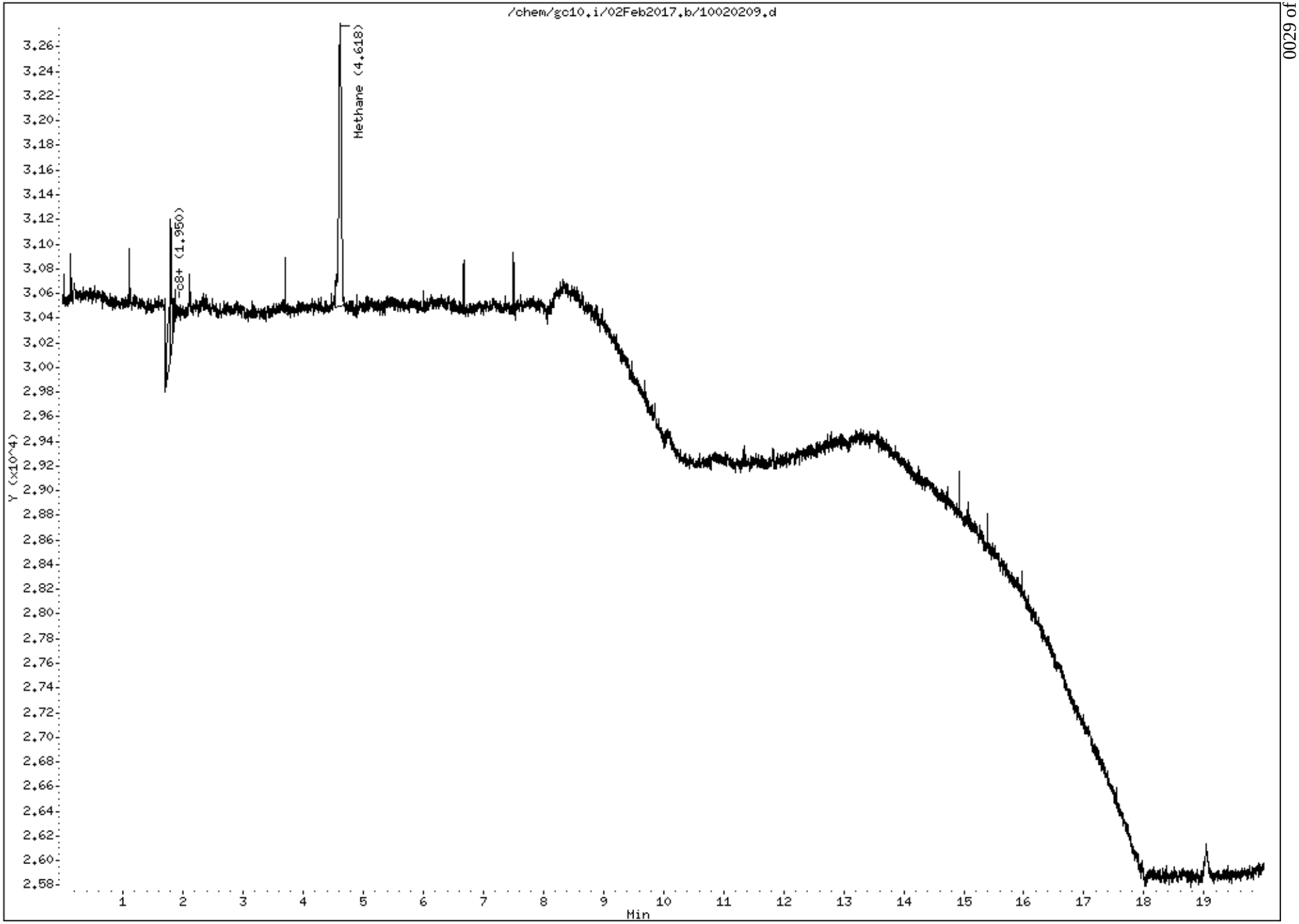
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020209.d
Lab Smp Id: 1701428D-05A
Inj Date : 02-FEB-2017 11:53
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,00898
Misc Info : 6.0"Hg>5psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 1.68000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

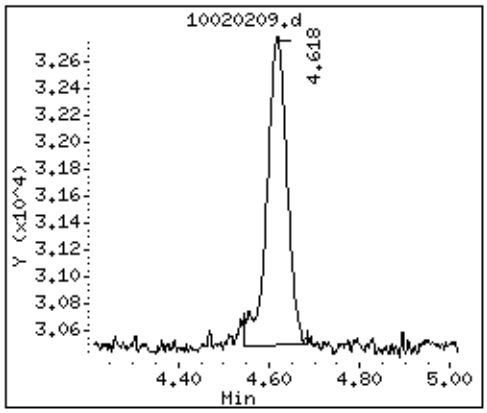
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.618	4.615	0.003	70451	0.000324	0.000544


/chem/gc10.i/02Feb2017.b/10020209.d
Methane (4.618)
-c8+ (1.950)
Y (x10^4)
Min

2 Methane


10020209.d
4.618
3.26
3.24
3.22
3.20
3.18
3.16
3.14
3.12
3.10
3.08
3.06
Y (x10^4)
4.40
4.60
4.80
5.00
Min

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

Client Sample ID: B30IA-5-012117

Lab ID#: 1701428D-06A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00016	0.00040

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Client Sample ID: B30IA-5-012117

Lab ID#: 1701428D-06A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020210**	**Date of Collection:**	**1/21/17 6:25:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**2/2/17 12:19 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00016	0.00040

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

Eurofins Air Toxics Inc.

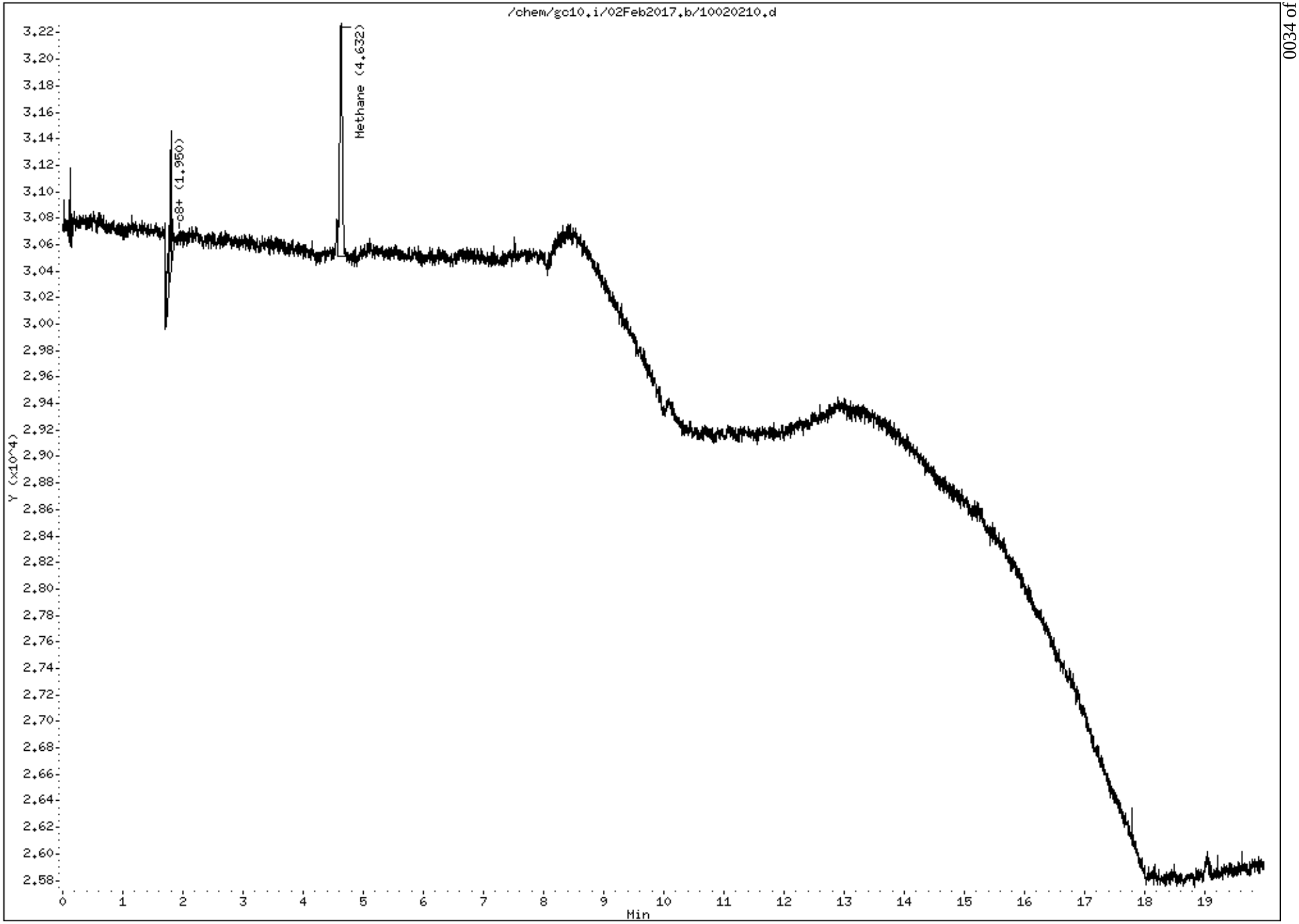
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020210.d
Lab Smp Id: 1701428D-06A
Inj Date : 02-FEB-2017 12:19
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,33787
Misc Info : 5.5"Hg>5psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 1.64000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

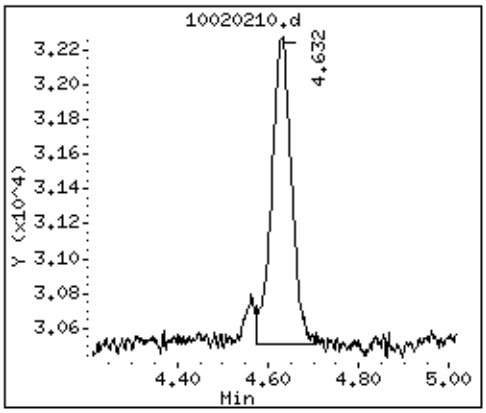
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.632	4.615	0.017	52964	0.000243	0.000399


/chem/gc10.i/02Feb2017.b/10020210.d
Methane (4.632)
c8+ (1.950)
Y (x10^4)
Min

2 Methane


10020210.d
4.632
3.22
3.20
3.18
3.16
3.14
3.12
3.10
3.08
3.06
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: B1830AA-012117

Lab ID#: 1701428D-07A

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

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Client Sample ID: B1830AA-012117

Lab ID#: 1701428D-07A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020211**	**Date of Collection:**	**1/21/17 6:42:00 PM**
Dil. Factor:	**1.64**	**Date of Analysis:**	**2/2/17 12:42 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/02Feb2017.b/10020211.d
Lab Smp Id: 1701428D-07A
Inj Date : 02-FEB-2017 12:42
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,33585
Misc Info : 5.5"Hg>5psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 1.64000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

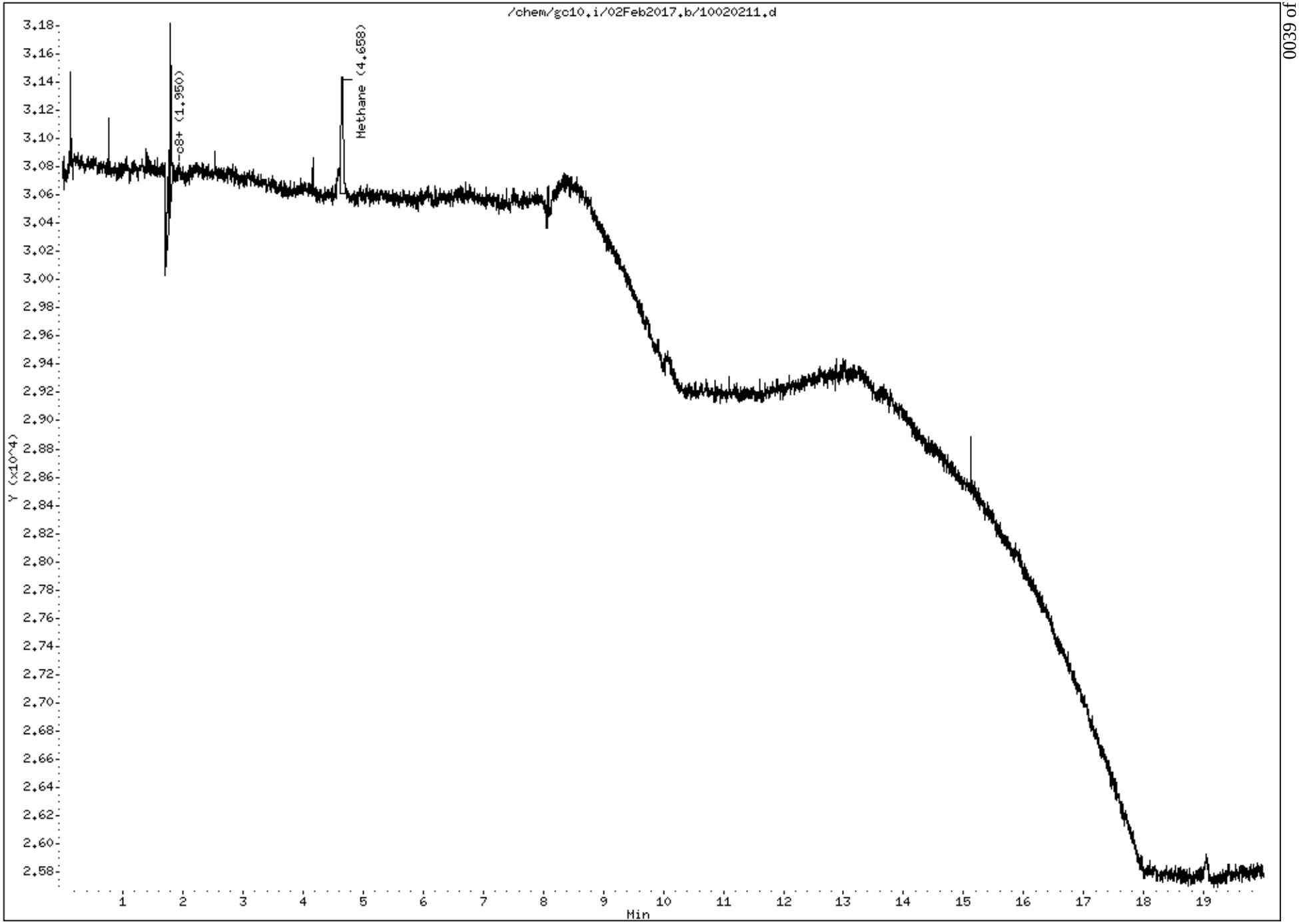
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

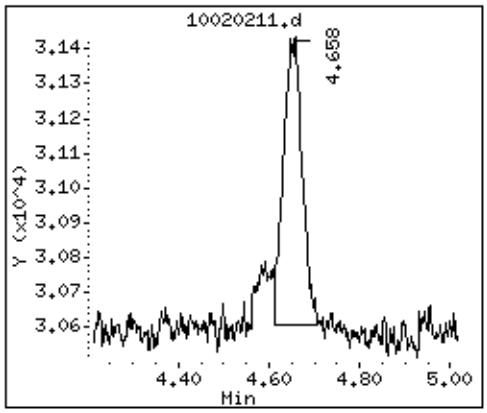
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.658	4.615	0.043	23923	0.00011	0.000180(M)

QC Flag Legend

M - Compound response manually integrated.


/chem/gc10.i/02Feb2017.b/10020211.d
c8+ (1.950)
Methane (4.658)
Y (x10^4)
3.18
3.16
3.14
3.12
3.10
3.08
3.06
3.04
3.02
3.00
2.98
2.96
2.94
2.92
2.90
2.88
2.86
2.84
2.82
2.80
2.78
2.76
2.74
2.72
2.70
2.68
2.66
2.64
2.62
2.60
2.58
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Min

2 Methane


10020211.d
4.658
3.14
3.13
3.12
3.11
3.10
3.09
3.08
3.07
3.06
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-1-012117

Lab ID#: 1701428D-08A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00018	0.00020

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Client Sample ID: B18IA-1-012117

Lab ID#: 1701428D-08A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020212**	**Date of Collection:**	**1/21/17 6:07:00 PM**
Dil. Factor:	**1.79**	**Date of Analysis:**	**2/2/17 01:23 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00018	0.00020

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

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020212.d
Lab Smp Id: 1701428D-08A
Inj Date : 02-FEB-2017 13:23
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,N1735
Misc Info : 7.5"Hg>5psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 1.79000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

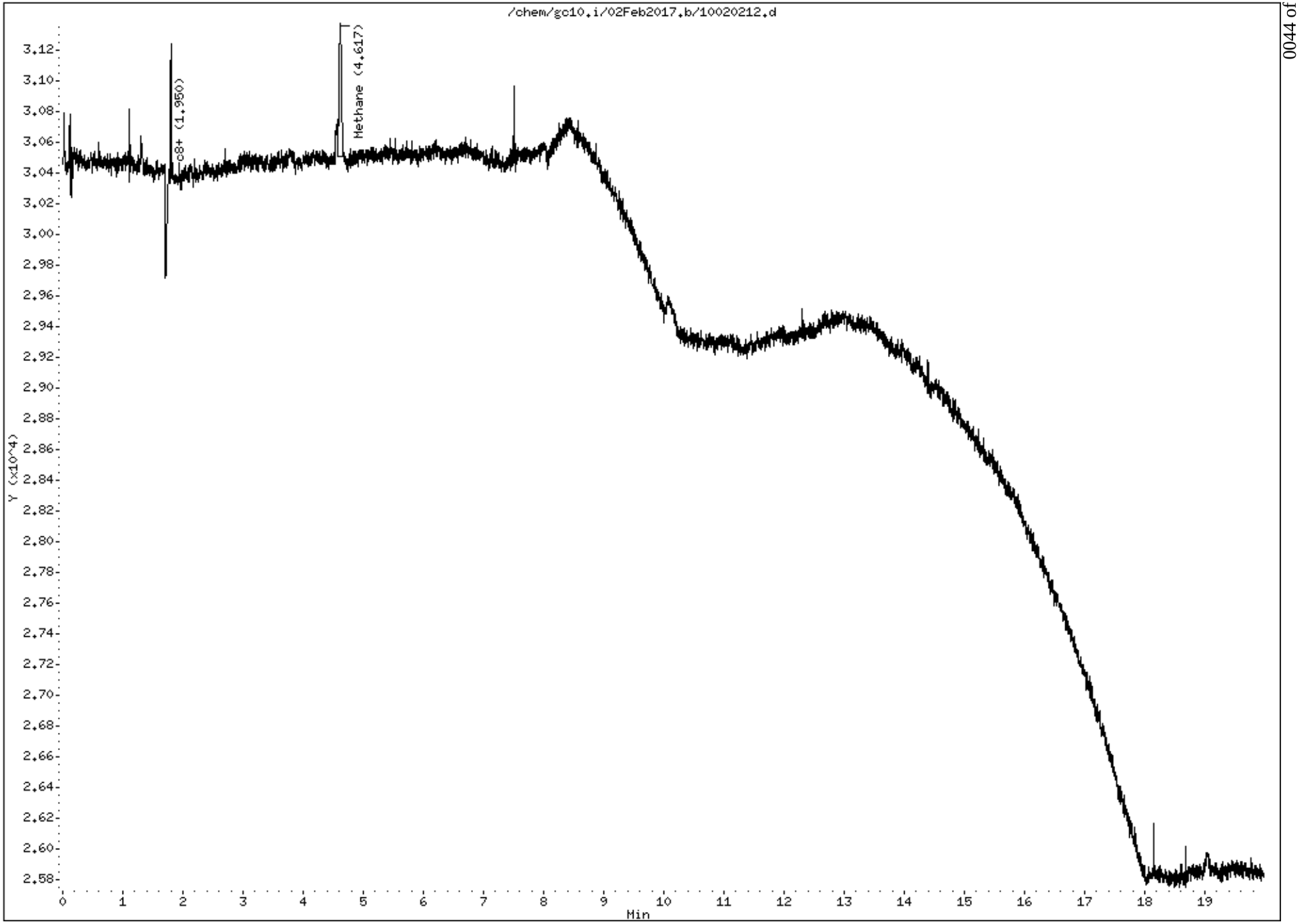
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

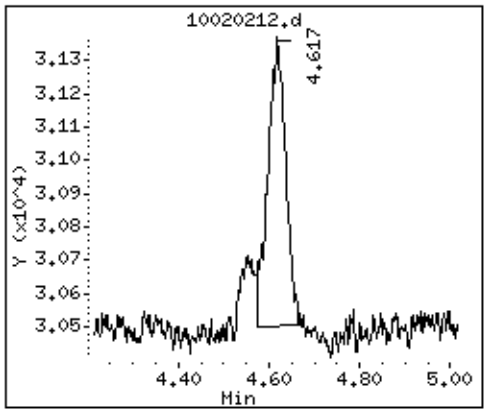
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.617	4.615	0.002	23686	0.000109	0.000195(M)

QC Flag Legend

M - Compound response manually integrated.


/chem/gc10.i/02Feb2017.b/10020212.d
c8+ (1.950)
Methane (4.617)
Y (x10^4)
Min

2 Methane


10020212.d
4.617
3.13
3.12
3.11
3.10
3.09
3.08
3.07
3.06
3.05
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-1D-012117

Lab ID#: 1701428D-09A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00017	0.00021

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Client Sample ID: B18IA-1D-012117

Lab ID#: 1701428D-09A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020213**	**Date of Collection:**	**1/21/17 6:07:00 PM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**2/2/17 01:53 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00017	0.00021

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

Eurofins Air Toxics Inc.

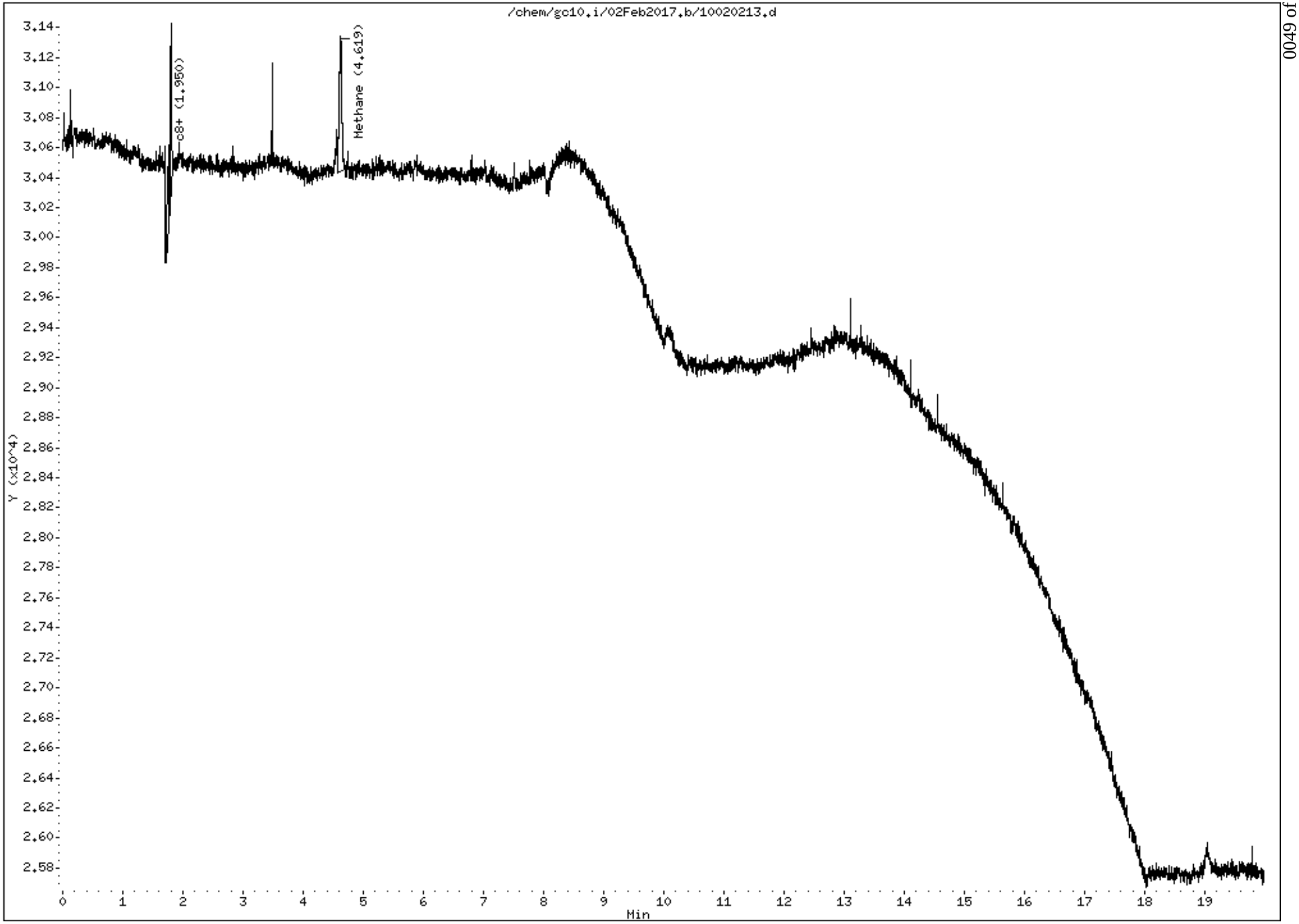
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020213.d
Lab Smp Id: 1701428D-09A
Inj Date : 02-FEB-2017 13:53
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,00138
Misc Info : 6.0"Hg>5psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 1.68000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

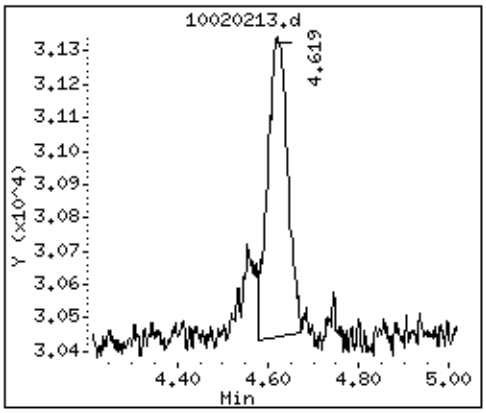
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	CONCENTRATIONS FINAL (%)
2 Methane	4.619	4.615	0.004	27459	0.000126	0.000212


/chem/gc10.i/02Feb2017.b/10020213.d
c8+ (1.950)
Methane (4.619)
Y (x10^4)
Min

2 Methane


10020213.d
4.619
3.13
3.12
3.11
3.10
3.09
3.08
3.07
3.06
3.05
3.04
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-2-012117

Lab ID#: 1701428D-10A

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

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Client Sample ID: B18IA-2-012117

Lab ID#: 1701428D-10A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020214**	**Date of Collection:**	**1/21/17 6:00:00 PM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**2/2/17 02:20 PM**

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

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

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020214.d
Lab Smp Id: 1701428D-10A
Inj Date : 02-FEB-2017 14:20
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0ml,6L1216
Misc Info : 7.0"Hg>5psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 1.75000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

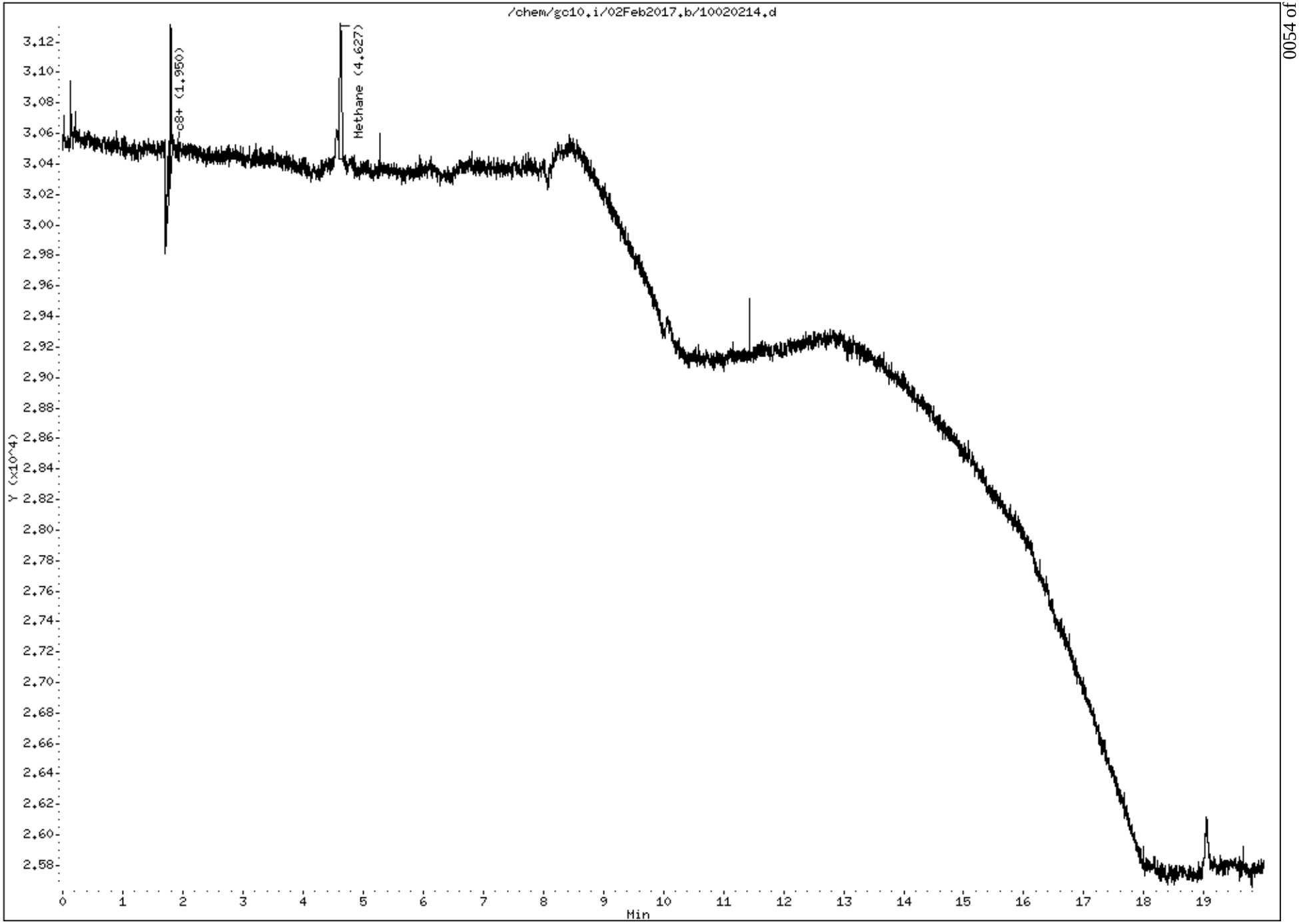
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

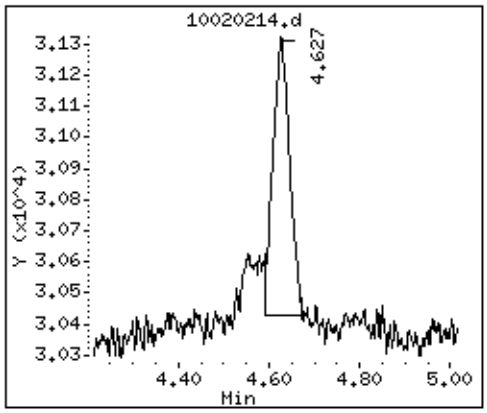
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.627	4.615	0.012	22807	0.000105	0.000183(M)

QC Flag Legend

M - Compound response manually integrated.


/chem/gc10.i/02Feb2017.b/10020214.d
-c8+ (1.950)
Methane (4.627)
Y (x10^4)
3.12
3.10
3.08
3.06
3.04
3.02
3.00
2.98
2.96
2.94
2.92
2.90
2.88
2.86
2.84
2.82
2.80
2.78
2.76
2.74
2.72
2.70
2.68
2.66
2.64
2.62
2.60
2.58
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Min

2 Methane


10020214.d
4.627
3.13
3.12
3.11
3.10
3.09
3.08
3.07
3.06
3.05
3.04
3.03
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-3-012117

Lab ID#: 1701428D-11A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00016	0.00022

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Client Sample ID: B18IA-3-012117

Lab ID#: 1701428D-11A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020215**	**Date of Collection:**	**1/21/17 6:10:00 PM**
Dil. Factor:	**1.58**	**Date of Analysis:**	**2/2/17 03:14 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00016	0.00022

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

Eurofins Air Toxics Inc.

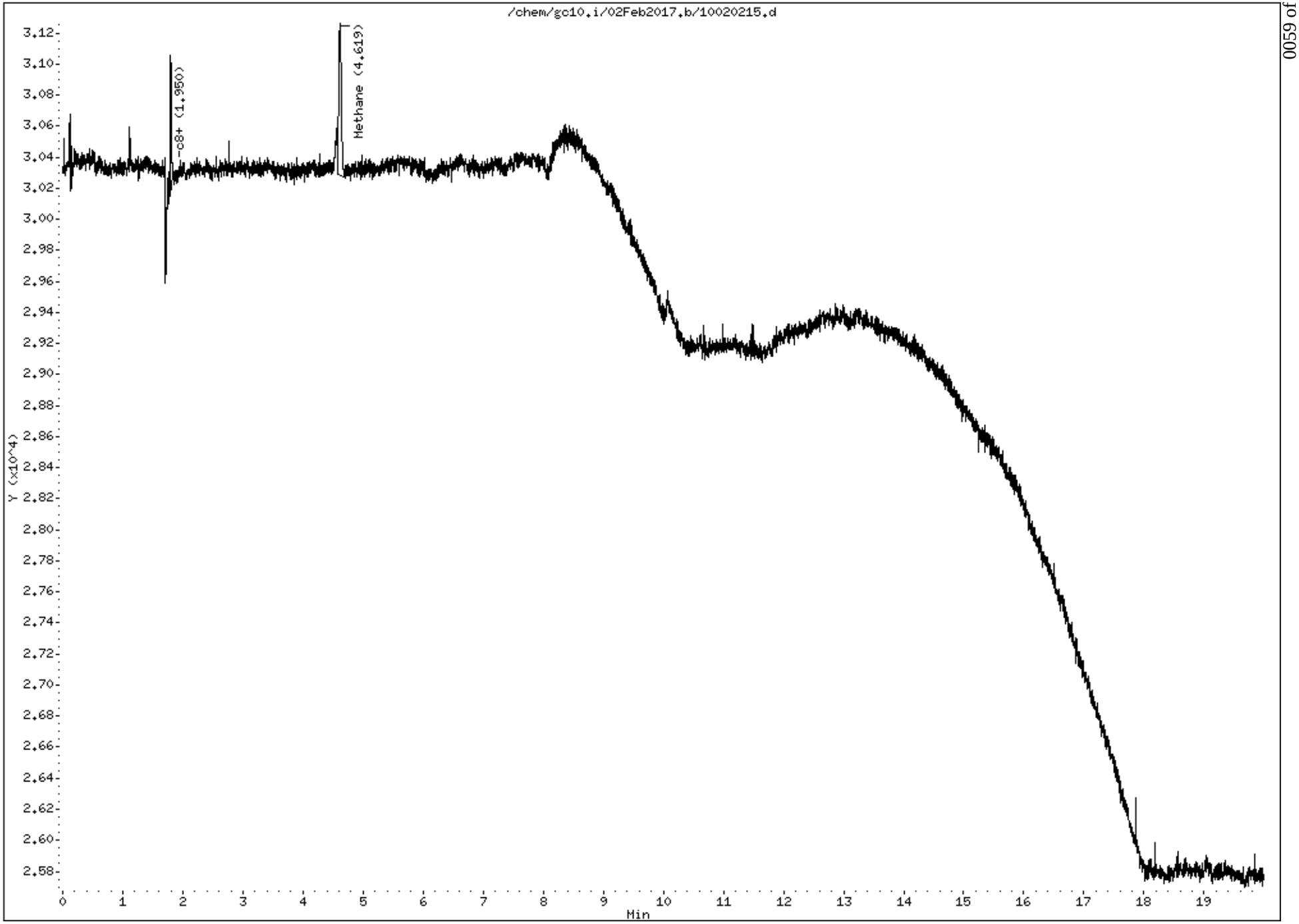
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020215.d
Lab Smp Id: 1701428D-11A
Inj Date : 02-FEB-2017 15:14
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,34320
Misc Info : 4.5"Hg>5psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 1.58000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

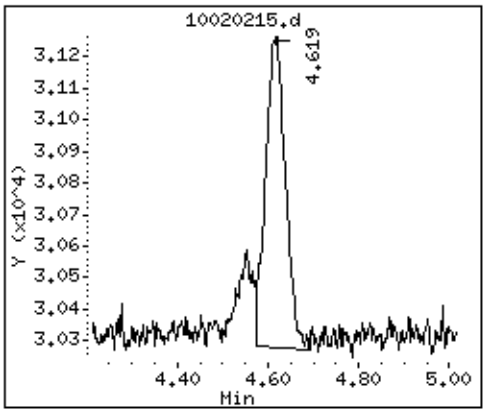
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	CONCENTRATIONS FINAL (%)
2 Methane	4.619	4.615	0.004	29814	0.000137	0.000216


/chem/gc10.i/02Feb2017.b/10020215.d
-c8+ (1.950)
Methane (4.619)
Y (x10^4)
Min

2 Methane


10020215.d
4.619
3.12
3.11
3.10
3.09
3.08
3.07
3.06
3.05
3.04
3.03
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-4-012117

Lab ID#: 1701428D-12A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00014	0.00021

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Client Sample ID: B18IA-4-012117

Lab ID#: 1701428D-12A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020216**	**Date of Collection:**	**1/21/17 6:12:00 PM**
Dil. Factor:	**1.41**	**Date of Analysis:**	**2/2/17 03:39 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00014	0.00021

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

Eurofins Air Toxics Inc.

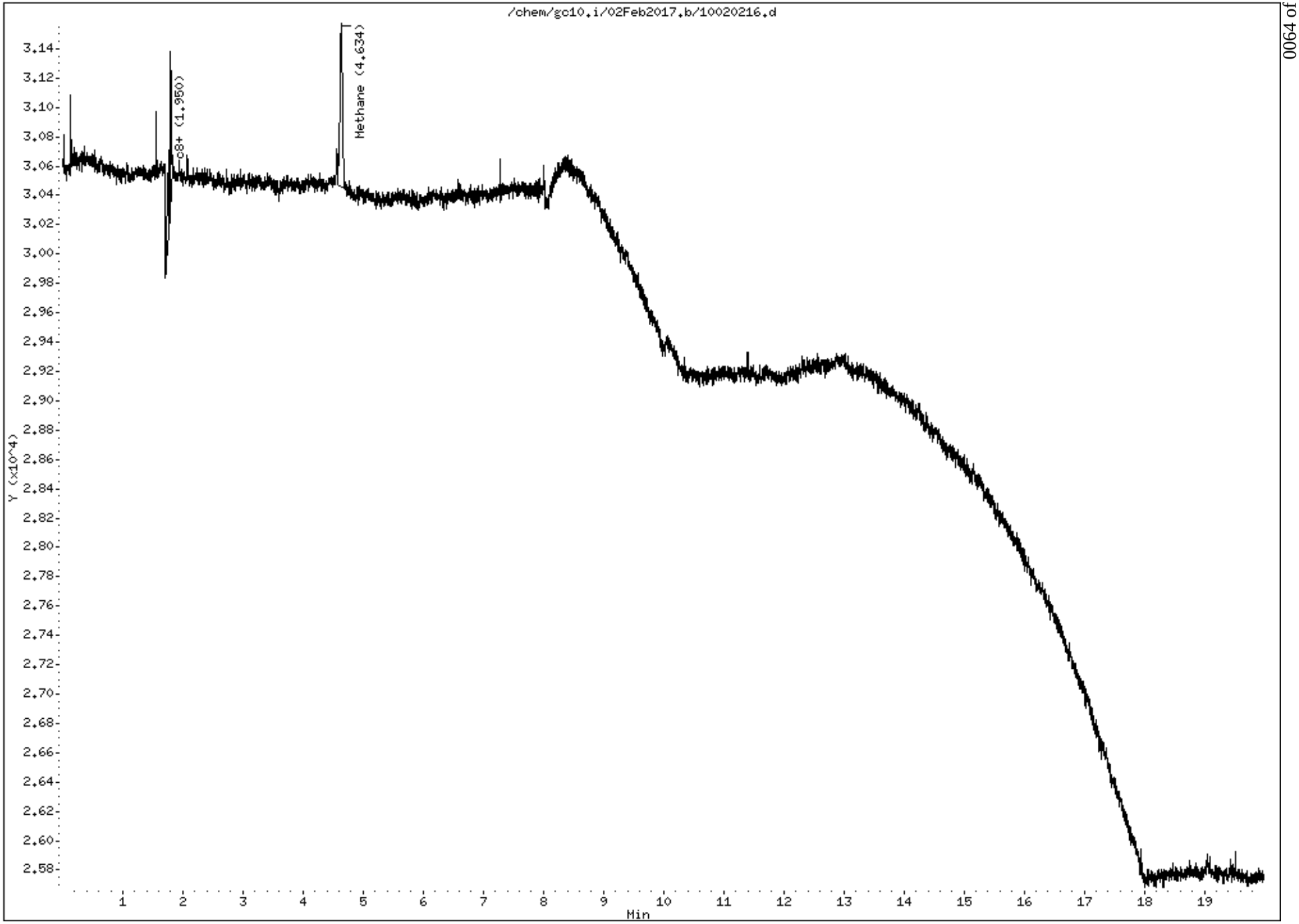
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020216.d
Lab Smp Id: 1701428D-12A
Inj Date : 02-FEB-2017 15:39
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,N1591
Misc Info : 1.5"Hg>5psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 1.41000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

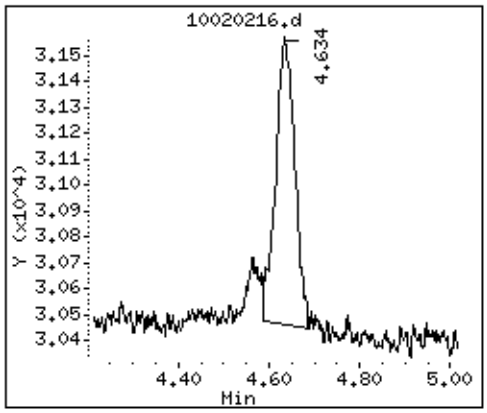
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	CONCENTRATIONS FINAL (%)
2 Methane	4.634	4.615	0.019	32407	0.000149	0.000210


/chem/gc10.i/02Feb2017.b/10020216.d
Methane (4.634)
68+ (1.950)
Y (x10^4)
Min

2 Methane


10020216.d
4.634
3.15
3.14
3.13
3.12
3.11
3.10
3.09
3.08
3.07
3.06
3.05
3.04
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: B8IA-2-012317

Lab ID#: 1701428D-13A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00018	0.00028

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Client Sample ID: B8IA-2-012317

Lab ID#: 1701428D-13A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020217**	**Date of Collection:**	**1/23/17 12:23:00 PM**
Dil. Factor:	**1.75**	**Date of Analysis:**	**2/2/17 04:05 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00018	0.00028

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

Eurofins Air Toxics Inc.

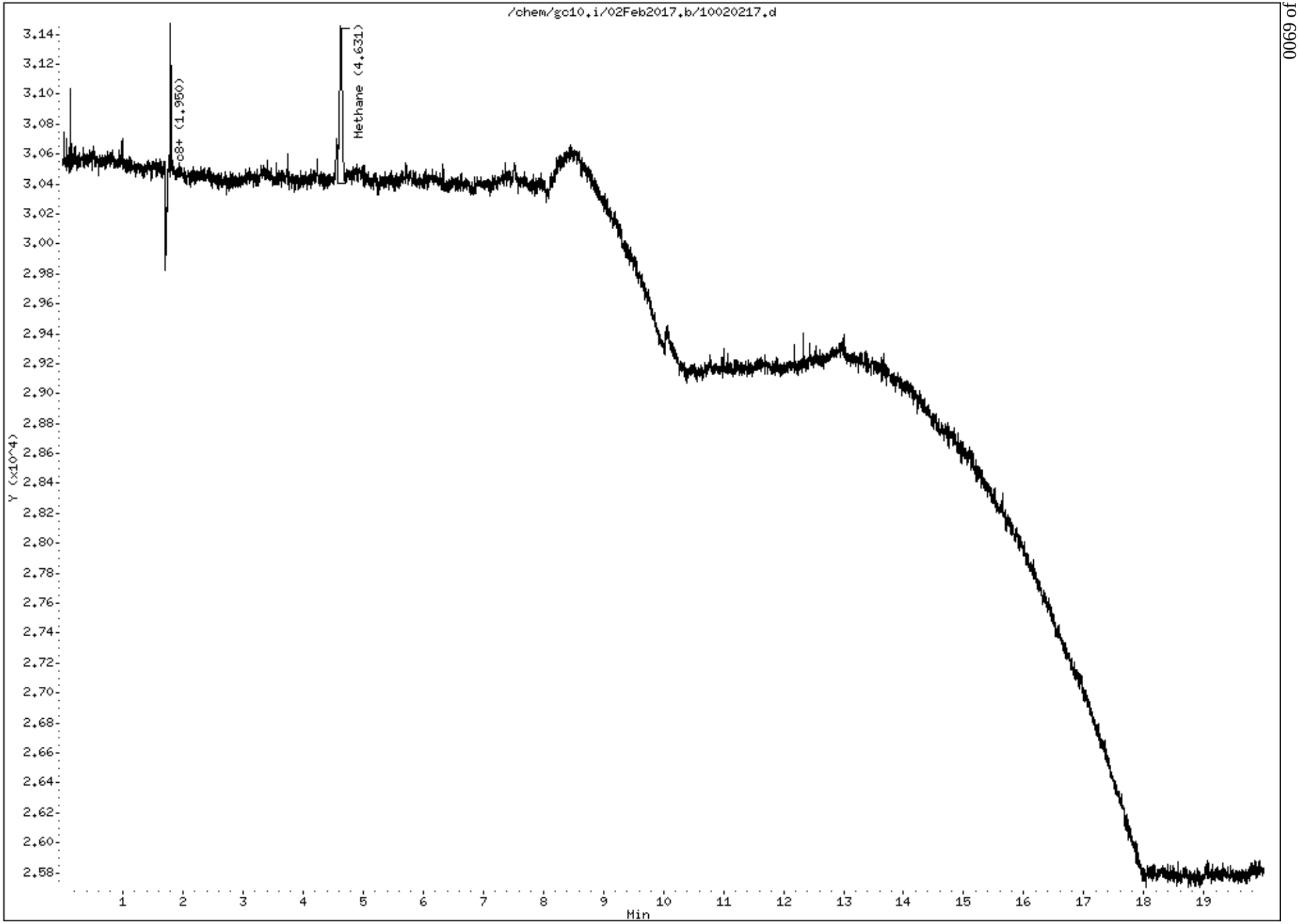
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020217.d
Lab Smp Id: 1701428D-13A
Inj Date : 02-FEB-2017 16:05
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,N1726
Misc Info : 7.0"Hg>5psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 1.75000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

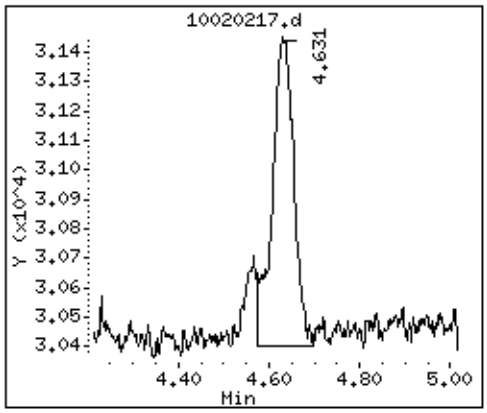
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	CONCENTRATIONS FINAL (%)
2 Methane	4.631	4.615	0.016	34379	0.000158	0.000276


/chem/gc10.i/02Feb2017.b/10020217.d
c8+ (1.950)
Methane (4.631)
Y (x10^4)
3.14
3.12
3.10
3.08
3.06
3.04
3.02
3.00
2.98
2.96
2.94
2.92
2.90
2.88
2.86
2.84
2.82
2.80
2.78
2.76
2.74
2.72
2.70
2.68
2.66
2.64
2.62
2.60
2.58
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
Min

2 Methane


10020217.d
4.631
3.14
3.13
3.12
3.11
3.10
3.09
3.08
3.07
3.06
3.05
3.04
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: B8IA-2D-012317

Lab ID#: 1701428D-14A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00019	0.00024

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Client Sample ID: B8IA-2D-012317

Lab ID#: 1701428D-14A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020218**	**Date of Collection:**	**1/23/17 12:23:00 PM**
Dil. Factor:	**1.87**	**Date of Analysis:**	**2/2/17 04:32 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00019	0.00024

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

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

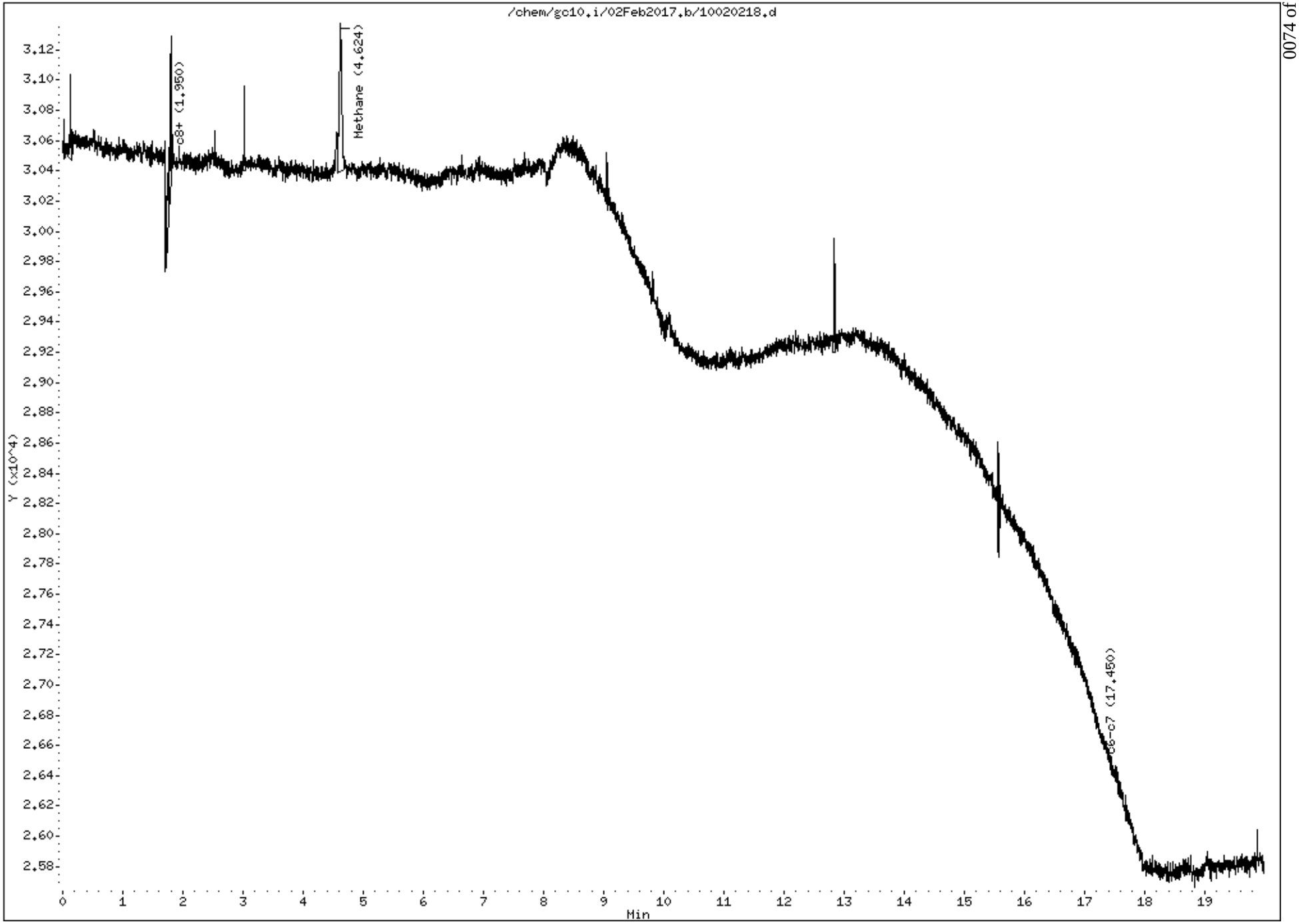
Data file : /chem/gc10.i/02Feb2017.b/10020218.d
Lab Smp Id: 1701428D-14A
Inj Date : 02-FEB-2017 16:32
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,N0416
Misc Info : 8.5"Hg>5psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 1.87000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

Concentration Formula: Amt * DF * CpndVariable

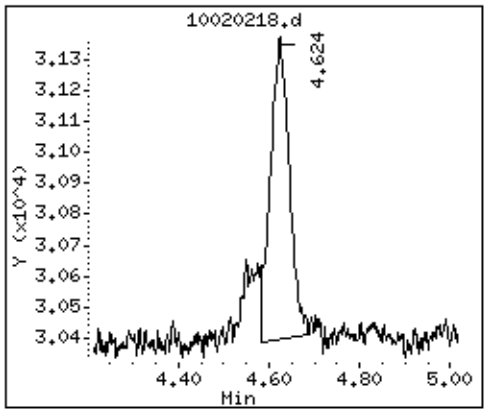
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.624	4.615	0.009	28497	0.000131	0.000245

Data File: /chem/gc10.i/02Feb2017.b/10020218.d



2 Methane


10020218.d
4.624
3.13
3.12
3.11
3.10
3.09
3.08
3.07
3.06
3.05
3.04
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: B8AA-012317

Lab ID#: 1701428D-15A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00015	0.00024

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Client Sample ID: B8AA-012317

Lab ID#: 1701428D-15A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020219**	**Date of Collection:**	**1/23/17 9:20:00 AM**
Dil. Factor:	**1.46**	**Date of Analysis:**	**2/2/17 04:55 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00015	0.00024

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

Eurofins Air Toxics Inc.

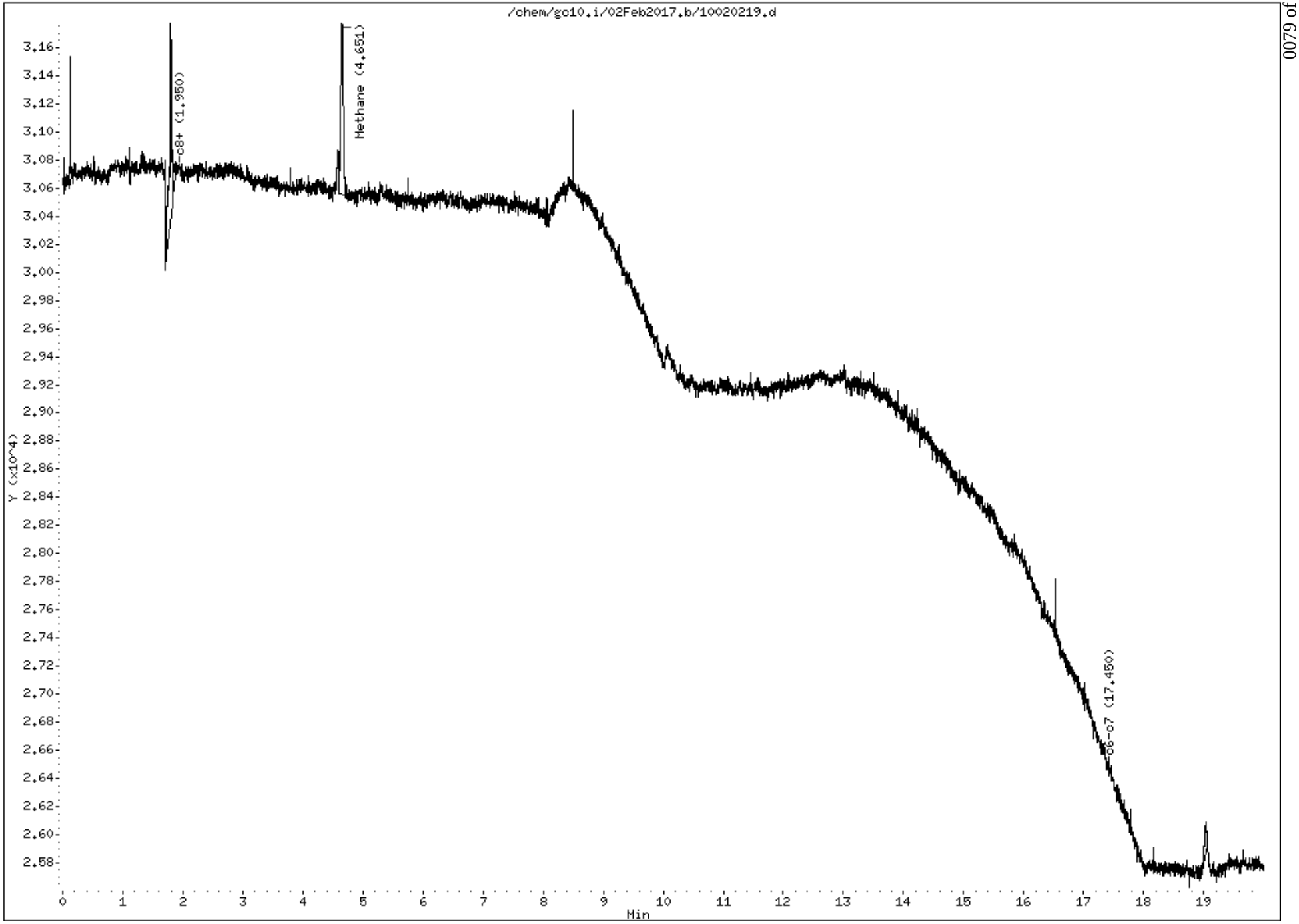
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020219.d
Lab Smp Id: 1701428D-15A
Inj Date : 02-FEB-2017 16:55
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0ml,O0316
Misc Info : 2.5"Hg>5psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 1.46000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

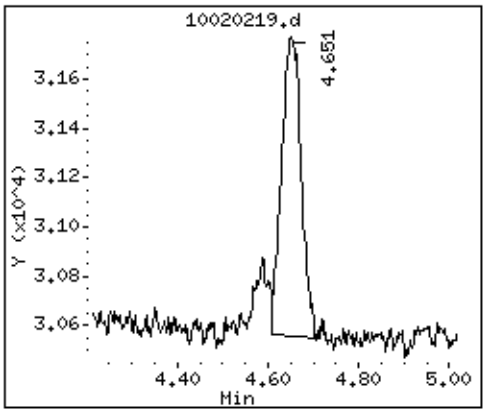
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.651	4.615	0.036	36542	0.000168	0.000245


/chem/gc10.i/02Feb2017.b/10020219.d
c8+ (1.950)
Methane (4.651)
c6-c7 (17.450)
Y (x10^4)
Min

2 Methane


10020219.d
4.651
3.16
3.14
3.12
3.10
3.08
3.06
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: B8SS-2-012417

Lab ID#: 1701428D-16A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00025	34

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Client Sample ID: B8SS-2-012417

Lab ID#: 1701428D-16A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020220**	**Date of Collection:**	**1/24/17 3:35:00 PM**
Dil. Factor:	**2.49**	**Date of Analysis:**	**2/2/17 05:40 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00025	34

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

Eurofins Air Toxics Inc.

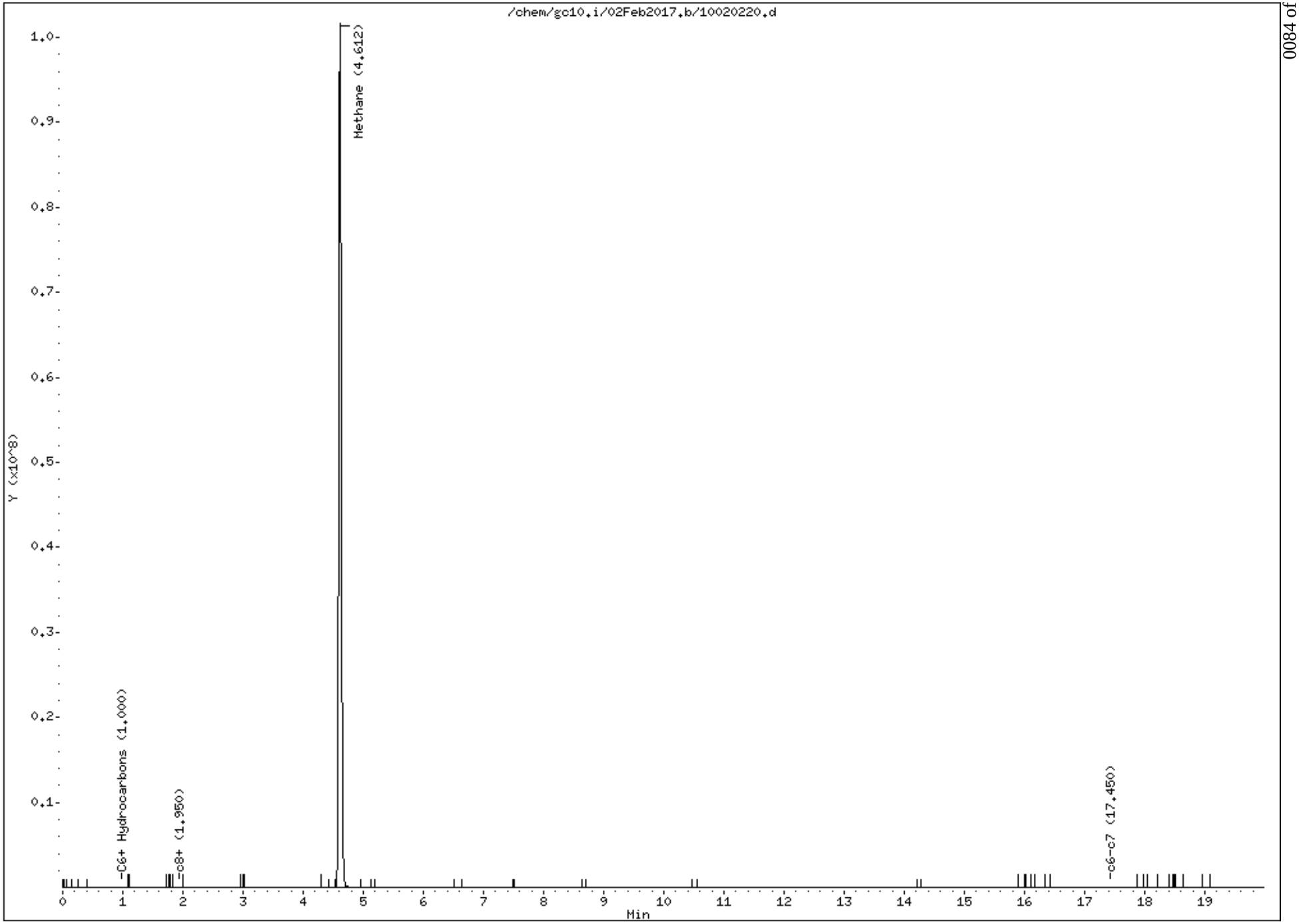
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020220.d
Lab Smp Id: 1701428D-16A
Inj Date : 02-FEB-2017 17:40
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0ml,1L1603
Misc Info : 5.7"Hg>14.9psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 2.49000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

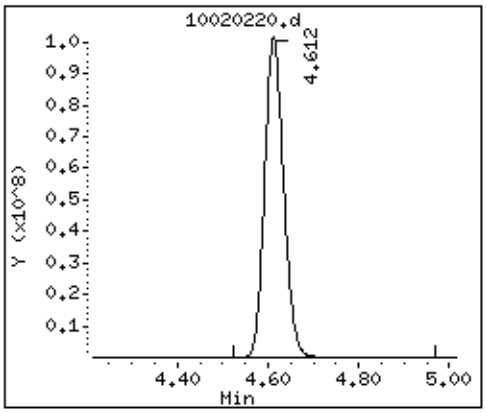
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	CONCENTRATIONS FINAL (%)
2 Methane	4.612	4.615	-0.003	2972686485	13.6562	34.0


/chem/gc10.i/02Feb2017.b/10020220.d
Methane (4.612)
-C6+ Hydrocarbons (1.000)
-c8+ (1.950)
-c6-c7 (17.450)
Y (x10^8)
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

2 Methane


10020220.d
4.612
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
Y (x10^8)
4.40
4.60
4.80
5.00
Min

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

Client Sample ID: B8SS-2D-012417

Lab ID#: 1701428D-17A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00024	33

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Client Sample ID: B8SS-2D-012417

Lab ID#: 1701428D-17A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020221**	**Date of Collection:**	**1/24/17 3:35:00 PM**
Dil. Factor:	**2.42**	**Date of Analysis:**	**2/2/17 06:49 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00024	33

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

Eurofins Air Toxics Inc.

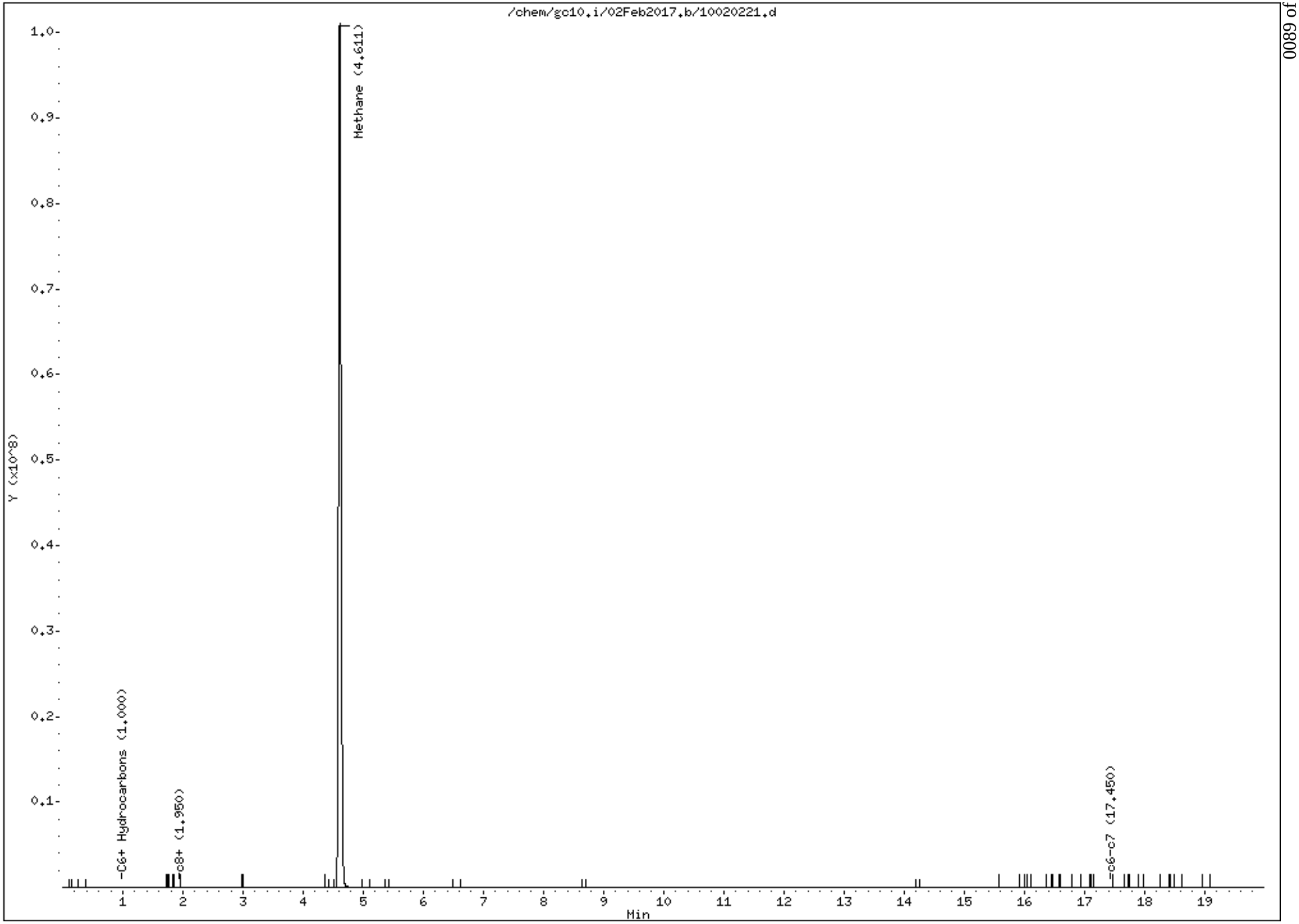
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020221.d
Lab Smp Id: 1701428D-17A
Inj Date : 02-FEB-2017 18:49
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0ml,12373
Misc Info : 4.9"Hg>15.1psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:28 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 2.42000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

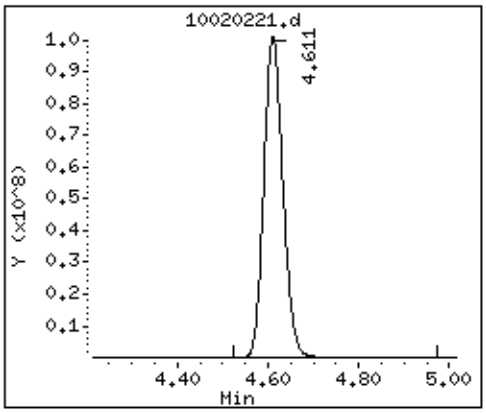
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	CONCENTRATIONS FINAL (%)
2 Methane	4.611	4.615	-0.004	2955299906	13.5763	32.8


/chem/gc10.i/02Feb2017.b/10020221.d
Methane (4.611)
-C6+ Hydrocarbons (1.000)
c8+ (1.950)
c6-c7 (17.450)
Y (x10^8)
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
Min

2 Methane


10020221.d
4.611
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
Y (x10^8)
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-1-012617

Lab ID#: 1701428D-18A

Compound	Rpt. Limit (%)	Amount (%)
Methane	0.00025	0.00021 J

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Client Sample ID: B18SS-1-012617

Lab ID#: 1701428D-18A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020222**	**Date of Collection:**	**1/26/17 5:30:00 PM**
Dil. Factor:	**2.50**	**Date of Analysis:**	**2/2/17 07:13 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00025	0.00021 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/02Feb2017.b/10020222.d
Lab Smp Id: 1701428D-18A
Inj Date : 02-FEB-2017 19:13
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0ml,1L1720
Misc Info : 5.5"Hg>15.3psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:36 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 2.50000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

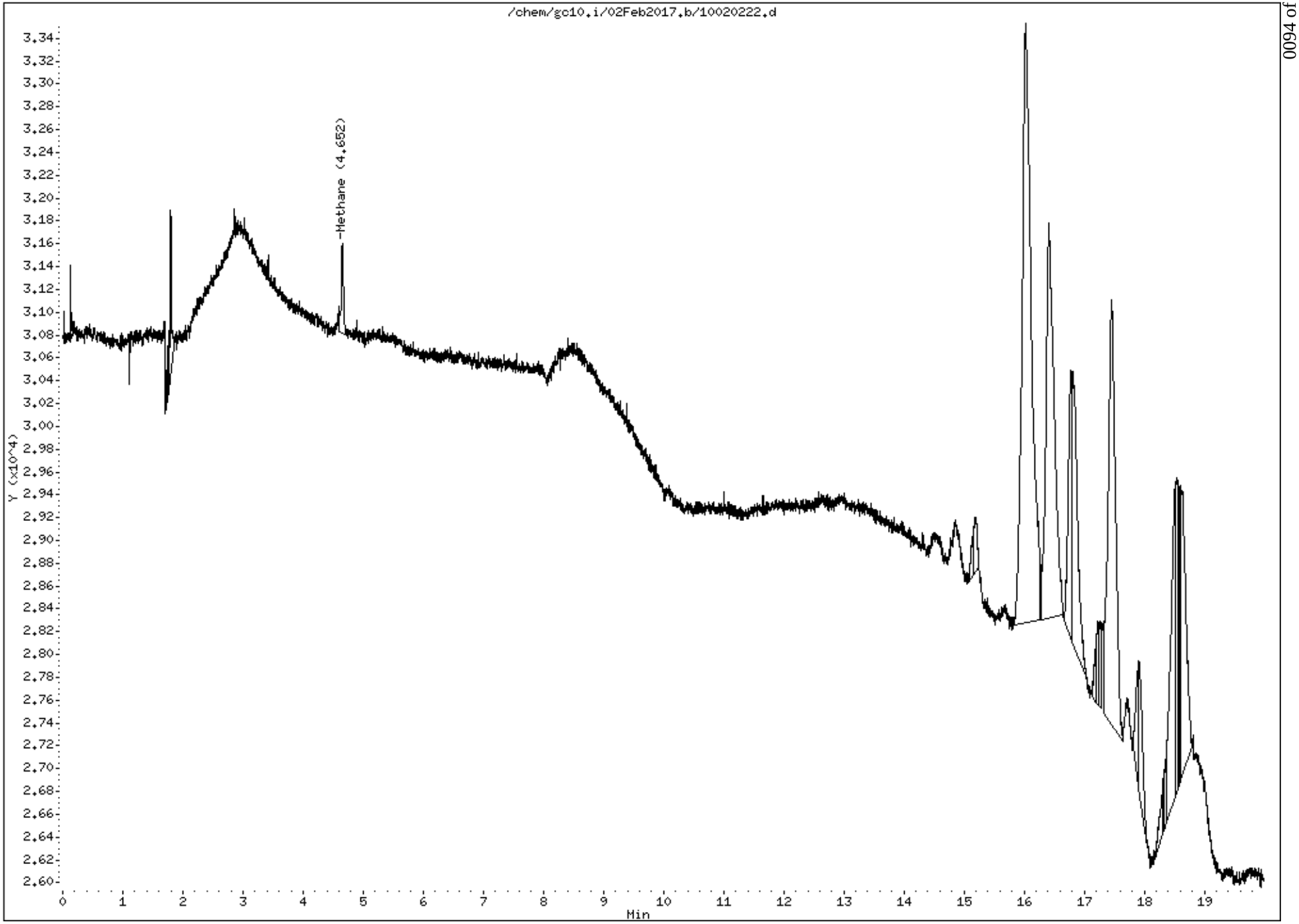
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

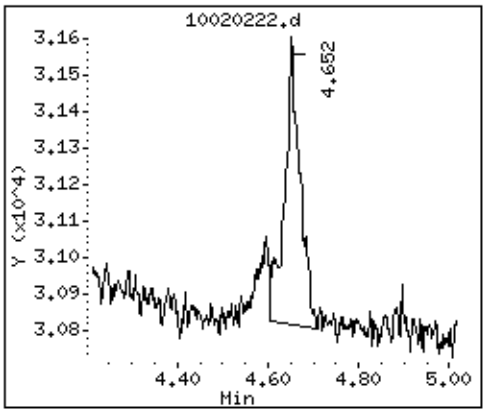
Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
2 Methane	4.652	4.615	0.037	18303	<0.0	0.000210(a)

QC Flag Legend

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


/chem/gc10.i/02Feb2017.b/10020222.d
Methane (4.652)
Y (x10^4)
Min

2 Methane


10020222.d
4.652
3.16
3.15
3.14
3.13
3.12
3.11
3.10
3.09
3.08
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-1Dup-012617

Lab ID#: 1701428D-19A

No Detections Were Found.

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Client Sample ID: B18SS-1Dup-012617

Lab ID#: 1701428D-19A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020223**	**Date of Collection:**	**1/26/17 5:30:00 PM**
Dil. Factor:	**2.46**	**Date of Analysis:**	**2/2/17 07:38 PM**

Compound	**Rpt. Limit (%)**	**Amount (%)**
Methane	0.00025	Not Detected

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

Eurofins Air Toxics Inc.

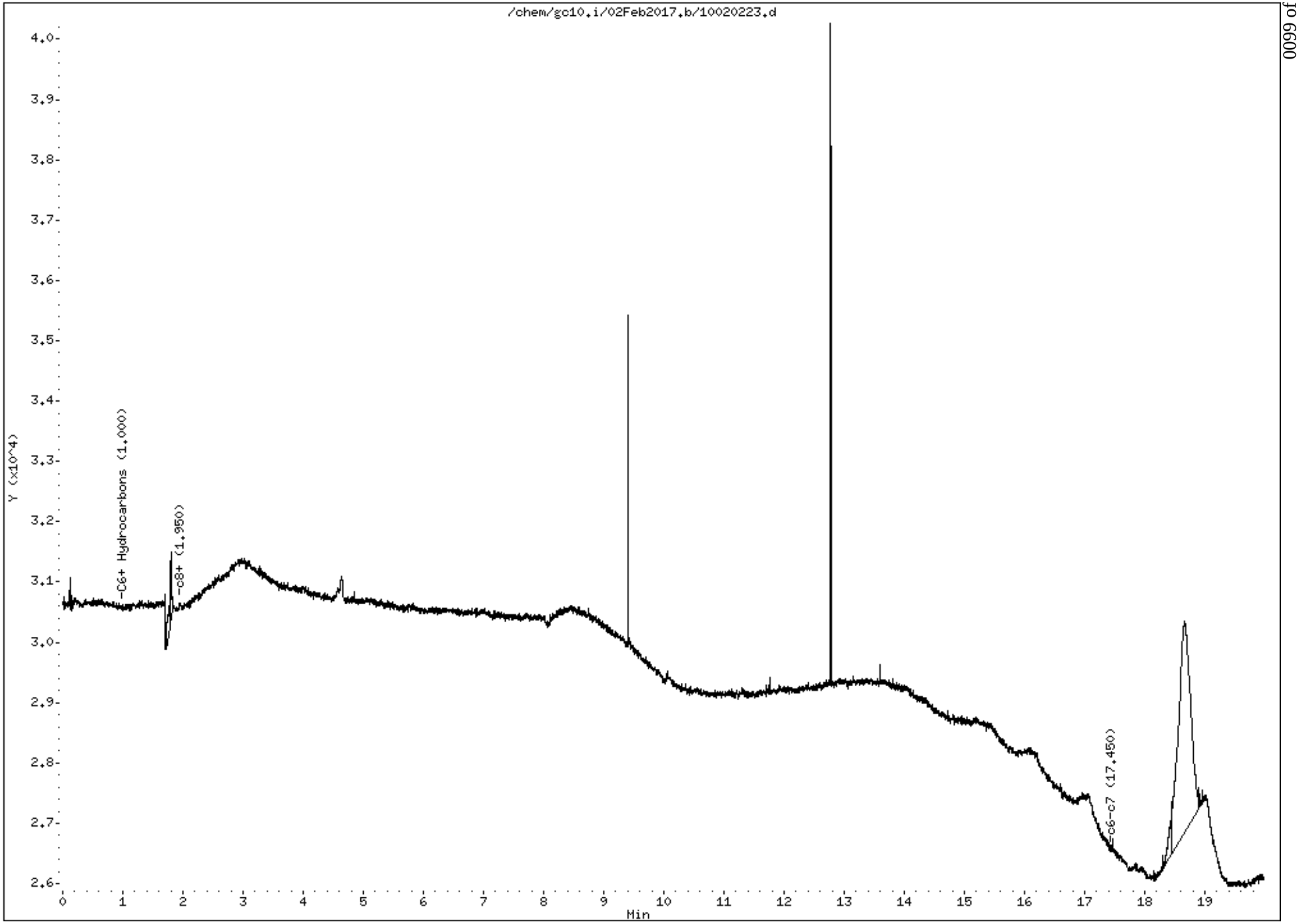
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020223.d
Lab Smp Id: 1701428D-19A
Inj Date : 02-FEB-2017 19:38
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0ml,N1929
Misc Info : 5.5"Hg>14.8psi
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 10-Feb-2017 14:36 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 2.46000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

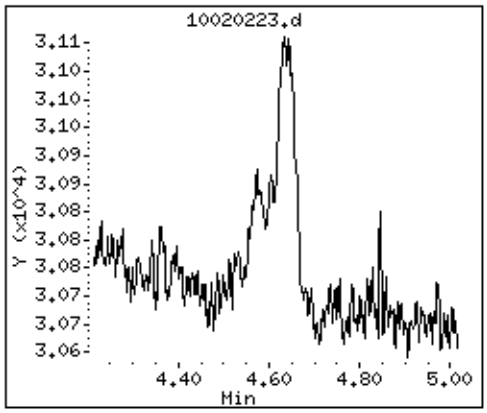
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (%)	CONCENTRATIONS FINAL (%)
2 Methane	Compound Not Detected.					


/chem/gc10.i/02Feb2017.b/10020223.d
Y (x10^4)
4.0
3.9
3.8
3.7
3.6
3.5
3.4
3.3
3.2
3.1
3.0
2.9
2.8
2.7
2.6
-C6+ Hydrocarbons (1.000)
-c8+ (1.950)
-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

2 Methane (Undetected)



QC Results and Raw Data

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Client Sample ID: Lab Blank

Lab ID#: 1701428D-20A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/2/17 09:30 AM**	

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

Container Type: NA - Not Applicable

Eurofins Air Toxics Inc.

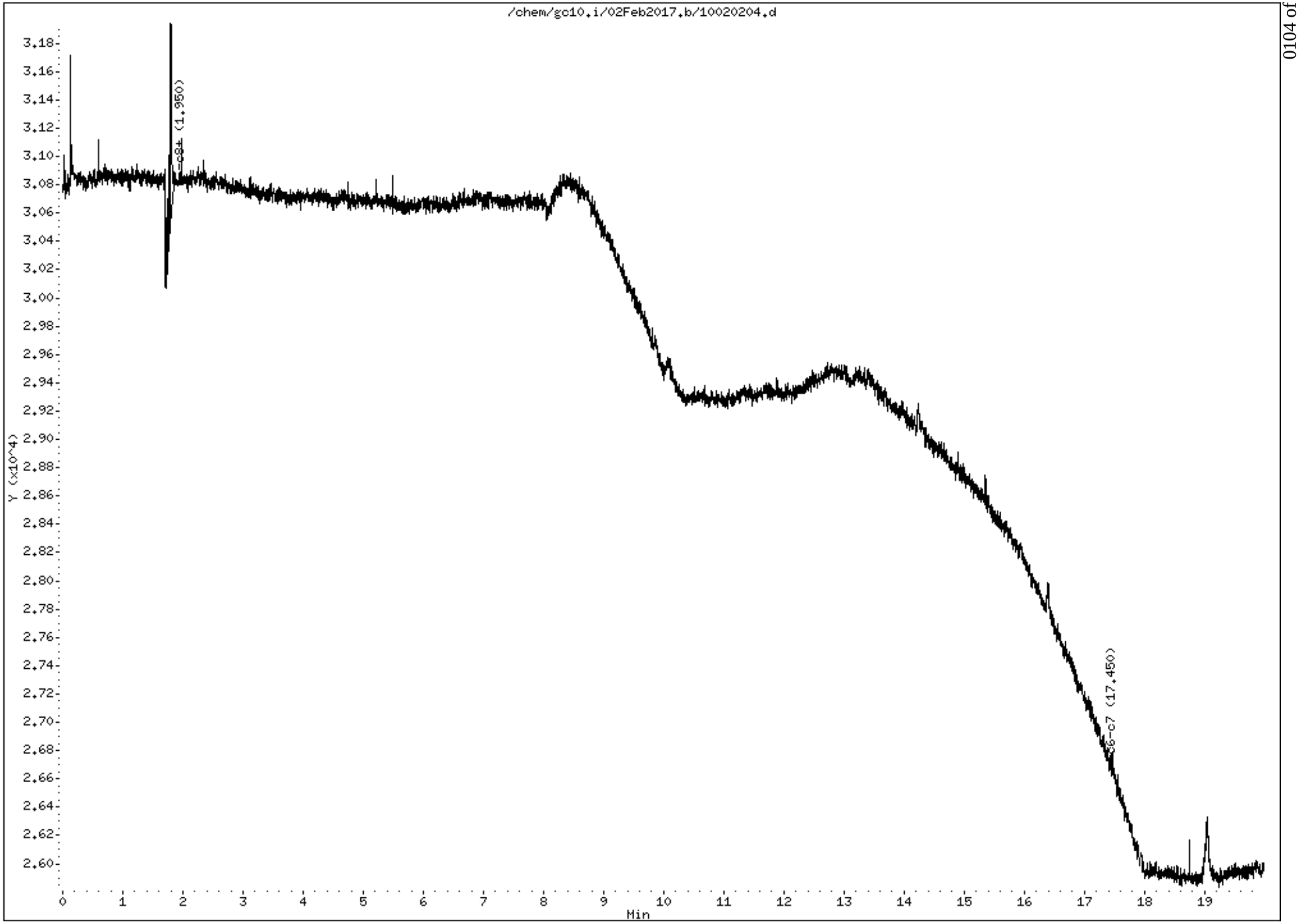
Modified ASTM D-1945/1946

Data file : /var/chem/gc10.i/02Feb2017.b/10020204.d
Lab Smp Id: Lab Blank Client Smp ID: Lab Blank
Inj Date : 02-FEB-2017 09:30
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,6L0015
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 02-Feb-2017 08:44 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.d
Als bottle: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ngas.sub
Target Version: 3.50
Processing Host: eeyore

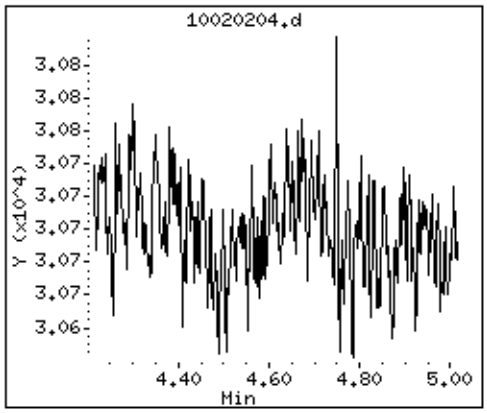
Concentration Formula: Amt * DF * CpndVariable

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/02Feb2017.b/10020204.d
c8+ (1.950)
c6-c7 (17.450)
Y (x10^4)
Min

2 Methane (Undetected)



SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab Name: Air Toxics Ltd.

Lab File ID: 10020224.d & 10020202.d

Lab Sample ID: &

Dilution: 1.00 & 1.00

Client Sample ID: LCS & LCSD

Date Analyzed: 2/2/17 & 2/2/17

CAS Number	Compound	Original Amount	Original Flags	Duplicate Amount	Duplicate Flags	RPD	Result Less Than 5X RL
74-82-8	Methane	105		102		2.9	

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 : 12-JAN-2017 09:04
End Cal Date : 12-JAN-2017 15:33
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem/gc10.i/12Jan2017.b/107n0112.m
Cal Date : 14-Jan-2017 11:53 lyohanne
Curve Type : Average

Calibration File Names:
Level 1: /chem/gc10.i/12Jan2017.b/10011202.d
Level 2: /chem/gc10.i/12Jan2017.b/10011203.d
Level 3: /chem/gc10.i/12Jan2017.b/10011204.d
Level 4: /chem/gc10.i/12Jan2017.b/10011205.d
Level 5: /chem/gc10.i/12Jan2017.b/10011206.d
Level 6: /chem/gc10.i/12Jan2017.b/10011207.d
Level 7: /chem/gc10.i/12Jan2017.b/10011213.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	RRF	% RSD
	0.000e+00 Level 7							
2 Methane	237950000	222820000	212848140	220150142	213068500	218859672		
	198063892					217680049		5.545
3 ethane	+++++	428787000	412394130	424154071	413070166	424534435		
	404613439					417925540		2.224
4 ethene	+++++	424117000	409113211	419900099	409287945	420655724		
	411585190					415776528		1.575
5 propane	+++++	641846000	611739600	639374664	622736182	637719348		
	593536692					624492081		3.056
7 acetylene	+++++	484280392	477226210	485836893	472523534	486756105		
	+++++					481324627		1.284
8 iso-butane	+++++	795258416	763931781	779478566	756187976	777287285		
	+++++					774428805		1.948
10 n-butane	+++++	774621000	759614082	775612911	752718535	776870642		
	820910683					776724642		3.061

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-JAN-2017 09:04
End Cal Date : 12-JAN-2017 15:33
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem/gc10.i/12Jan2017.b/107n0112.m
Cal Date : 14-Jan-2017 11:53 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	+++++	980744762	969292607	983481876	952605914	980993231			
	+++++						973423678		1.322
16 isopentane	+++++	946780769	938783992	944296407	911716190	945711103			
	818139823						917571381		5.499
17 pentane	+++++	939531731	936986733	942258394	908911526	948669809			
	+++++						935271638		1.643
39 Hexane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++						+++++	+++++	
40 Heptane	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++						+++++	+++++	
S 22 c6-c7	+++++	1.137e+09	1.101e+09	1.114e+09	1.044e+09	1.135e+09			
	+++++						1.106e+09		3.415
M 37 C6+ Hydrocarbons	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++						1.106e+09	+++++	
S 36 c8+	+++++	+++++	+++++	+++++	+++++	+++++			
	+++++						1.106e+09	+++++	

Calibration History

Method : /chem/gc10.i/12Jan2017.b/107n0112.m
Start Cal Date: 12-JAN-2017 09:04
End Cal Date : 12-JAN-2017 15:33

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 0.00000		
12-JAN-2017 09:04	ch4	/chem/gc10.i/12Jan2017.b/10011202.d
Cal Level: 2 , Cal Amount: 0.00000		
12-JAN-2017 09:28	ngas	/chem/gc10.i/12Jan2017.b/10011203.d
Cal Level: 3 , Cal Amount: 0.00000		
12-JAN-2017 09:59	ngas	/chem/gc10.i/12Jan2017.b/10011204.d
Cal Level: 4 , Cal Amount: 0.00000		
12-JAN-2017 10:35	ngas	/chem/gc10.i/12Jan2017.b/10011205.d
Cal Level: 5 , Cal Amount: 0.00000		
12-JAN-2017 11:18	ngas	/chem/gc10.i/12Jan2017.b/10011206.d
Cal Level: 6 , Cal Amount: 0.00000		
12-JAN-2017 12:08	ngas	/chem/gc10.i/12Jan2017.b/10011207.d
Cal Level: 7 , Cal Amount: 0.00000		
12-JAN-2017 15:33	ch4	/chem/gc10.i/12Jan2017.b/10011213.d
12-JAN-2017 15:06	isopentane	/chem/gc10.i/12Jan2017.b/10011212.d
12-JAN-2017 14:37	propane	/chem/gc10.i/12Jan2017.b/10011211.d
12-JAN-2017 14:03	Butane	/chem/gc10.i/12Jan2017.b/10011210.d
12-JAN-2017 13:34	Ethene	/chem/gc10.i/12Jan2017.b/10011209.d
12-JAN-2017 12:46	Ethane	/chem/gc10.i/12Jan2017.b/10011208.d

```
+------------------+-----------------+----------------------------------------+


Continuing Calibration
Ccal Level Mode: GLOBAL LEVEL 8
+------------------+-----------------+----------------------------------------+
| Ccal Level: 8 , Ccal Amount: 0.00                                            |
+==============================================================================+
|12-JAN-2017 12:08 |ngas             |/chem/gc10.i/12Jan2017.b/10011207a.d    |
+------------------+-----------------+----------------------------------------+
```

Eurofins Air Toxics Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-JAN-2017 09:04
End Cal Date : 12-JAN-2017 15:33
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem/gc10.i/12Jan2017.b/107n0112.m
Cal Date : 14-Jan-2017 11:53 lyohanne
Curve Type : Average

Calibration File Names:
Level 1: /chem/gc10.i/12Jan2017.b/10011202.d
Level 2: /chem/gc10.i/12Jan2017.b/10011203.d
Level 3: /chem/gc10.i/12Jan2017.b/10011204.d
Level 4: /chem/gc10.i/12Jan2017.b/10011205.d
Level 5: /chem/gc10.i/12Jan2017.b/10011206.d
Level 6: /chem/gc10.i/12Jan2017.b/10011207.d
Level 7: /chem/gc10.i/12Jan2017.b/10011213.d

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

LY 1/14/17

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	237950000	222820000	212848140	220150142	213068500	218859672		
	198063892						217680049	5.545
3 ethane	+++++	428787000	412394130	424154071	413070166	424534435		
	404613439						417925540	2.224
4 ethene	+++++	424117000	409113211	419900099	409287945	420655724		
	411585190						415776528	1.575
5 propane	+++++	641846000	611739600	639374664	622736182	637719348		
	593536692						624492081	3.056
7 acetylene	+++++	484280392	477226210	485836893	472523534	486756105		
	+++++						481324627	1.284
8 iso-butane	+++++	795258416	763931781	779478566	756187976	777287285		
	+++++						774428805	1.948
10 n-butane	+++++	774621000	759614082	775612911	752718535	776870642		
	820910683						776724642	3.061

Initial Calibration Narrative

A seven point calibration curve was analyzed on January 12, 2017, on instrument GC-10. The calibration curve features the following:

1.) ICAL name: 107n0112.m
2.) Units: %
3.) The ICAL is based on 1.0 mL load.
4.) The second source file number is 10011215.
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	5.075	99.000
Ethane	NA	0.00100	0.00494	0.0506	0.12650	0.2530	24.975
Ethene	NA	0.00100	0.00492	0.0507	0.12675	0.2535	24.875
Propane	NA	0.00100	0.00500	0.0506	0.12625	0.2530	19.900
Acetylene	NA	0.00102	0.00496	0.0515	0.12875	0.2575	NA
iso-Butane	NA	0.00101	0.00494	0.0509	0.12725	0.2545	NA
n-Butane	NA	0.00100	0.00490	0.0505	0.12625	0.2525	9.990
neo-pentane	NA	0.00105	0.00514	0.0533	0.13325	0.2665	NA
iso-Pentane	NA	0.00104	0.00506	0.0526	0.13150	0.2630	4.950
n-Pentane	NA	0.00104	0.00505	0.0523	0.13075	0.2615	NA
C6-C7	NA	0.00106	0.00529	0.0538	0.1345	0.2690	NA

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

GC-10

Logbook # 2815
Leak Test Ly

	USE	File #	Sample Name/Client ID	Can #	Ver. Pressure >2psi	Pressure	Amt	DF	Date	Time	Review Init.	Comments
1	/	10011201	System Blank	6L0015	NA	NA	1.0mL	1.00	1/12/17	0833	Ly	
2	/	02	2787-56	13670		Methane				0904		Level-1
3	/	03	2787-43	23882		C1-C7				0928		-2
4	/	04	2787-59	35629						0959		-3
5	/	05	2299-1048B	NA				(10:50) 1.00		1035		-4
6	/	06						(25:50) 1.00		1118		-5
7	/	07						1.00		1208		-6
8	/	08	1476-438			Ethane		15:60 1.00		1246		-7
9	/	09	1476-437			Ethene				1334		-7
10	/	10	1476-897			Butane		(5:50) 1.00		1403		-7
11	/	11	843-471			Propane		(10:50) 1.00		1437		-7
12	/	12	1476-898			Isopentane		(5:100) 1.00		1506		-7
13	/	13	1476-2859			Methane		1.00		1533		-7
14	/	14	System Blank	6L0015		NA				1559		
15	/	15	2299-1160A	NA				1.00		1623		ICV

Calculation check : File ID: 10011215 Compound: CH4 Initials: Ly

Sample Amt= Area Count Sample x / RF Dilution Factor = (111375096) x / (21768 0049) (1.00)= 5.10

Reported Result= 5.10

Reviewed by/Date Ly 1/12/17

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/12Jan2017.b/10011215.d
Lab Smp Id: 2299-1160 Ngas Client Smp ID: ICV
Inj Date : 12-JAN-2017 16:23
Operator : LY Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/12Jan2017.b/107n0112.m
Meth Date : 12-Jan-2017 16:12 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.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	4.646	4.616	0.030	1111375096	5.10554	5.10
3 ethane	5.041	5.011	0.030	105055211	0.25137	0.251
4 ethene	5.411	5.380	0.031	106181551	0.25538	0.255
5 propane	6.587	6.557	0.030	161449492	0.25853	0.258
7 acetylene	9.774	9.751	0.023	122677349	0.25487	0.255
8 iso-butane	10.107	10.096	0.011	196158091	0.25329	0.253
10 n-butane	10.480	10.470	0.010	194543969	0.25047	0.250
15 neo-pentane	13.315	13.310	0.005	252724769	0.25962	0.260
16 isopentane	13.901	13.896	0.005	236850404	0.25813	0.258
17 pentane	14.182	14.178	0.004	238716315	0.25524	0.255
M 37 C6+ Hydrocarbons				296920442	0.26827	0.268
S 22 c6-c7	15.000-19.900			296786042	0.26827	0.268

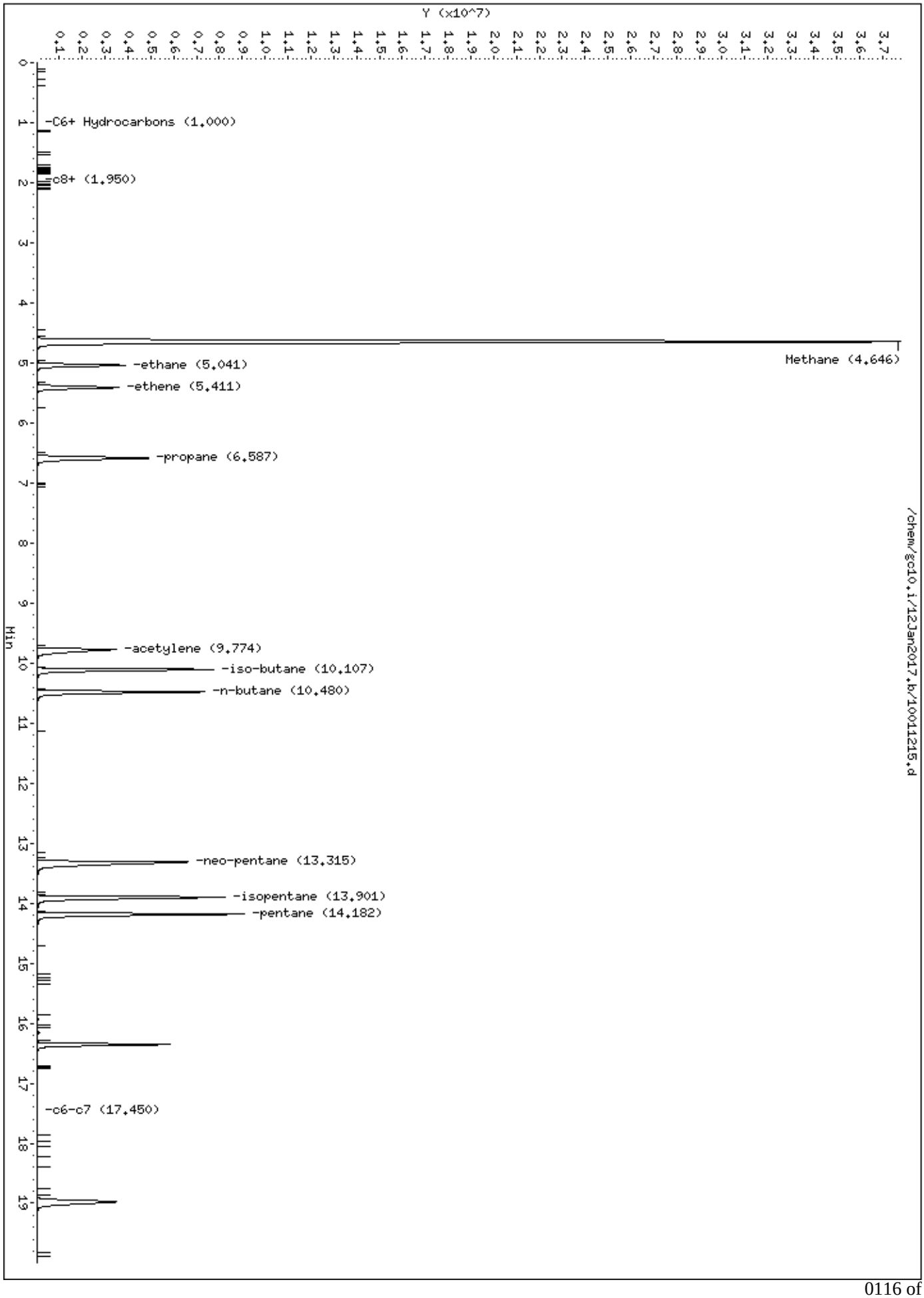
Report Date: 12-Jan-2017 16:52

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 12Jan2017
Sample Matrix: GAS
Fraction: Atm Gas
Lab Smp Id: 2299-1160 Ngas
Client Smp ID: ICV
Level: LOW
Operator: LY
Data Type: GC DATA
SampleType: ICV
SpikeList File: 2299-1160.spk
Quant Type: ESTD
Sublist File: ngas.sub
Method File: /chem/gc10.i/12Jan2017.b/107n0112.m
Misc Info:

SPIKE COMPOUND	CONC ADDED %	CONC RECOVERED %	% RECOVERED	LIMITS
2 Methane	4.98	5.10	102.52	85-115
3 ethane	0.250	0.251	100.35	85-115
4 ethene	0.254	0.255	100.74	85-115
5 propane	0.250	0.258	103.41	85-115
7 acetylene	0.250	0.255	101.75	85-115
8 iso-butane	0.250	0.253	101.12	85-115
10 n-butane	0.248	0.250	101.20	85-115
15 neo-pentane	0.256	0.260	101.42	85-115
16 isopentane	0.252	0.258	102.23	85-115
17 pentane	0.254	0.255	100.69	85-115
M 37 C6+ Hydrocarbons	0.262	0.268	102.39	85-115

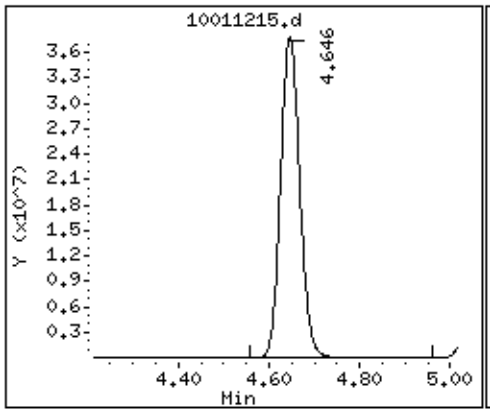


Data File: /chem/gc10.i/12Jan2017.b/10011215.d

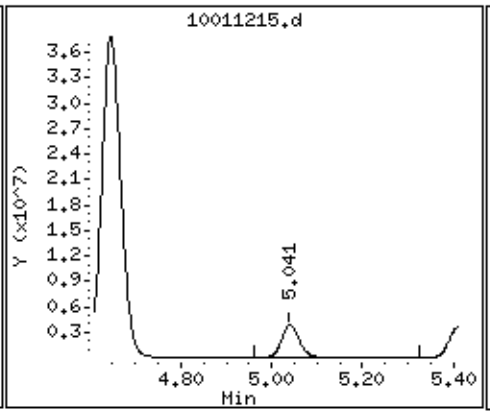
/chem/gc10.i/12Jan2017.b/10011215.d

Page 1

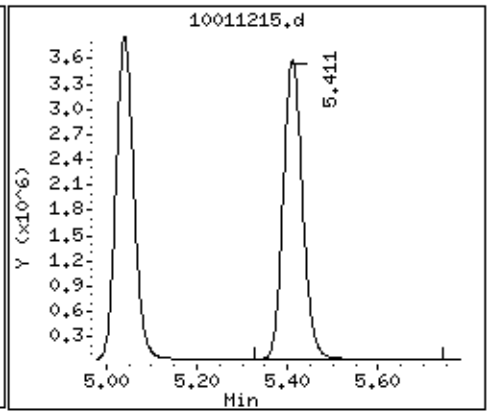
2 Methane



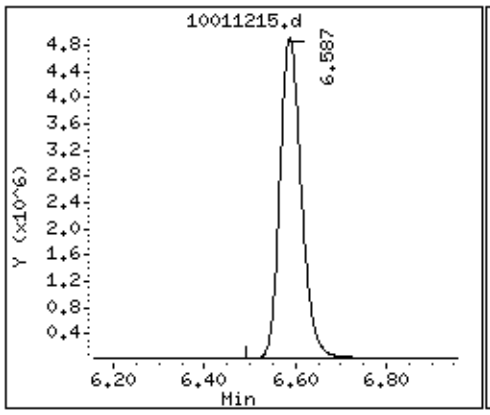
3 ethane



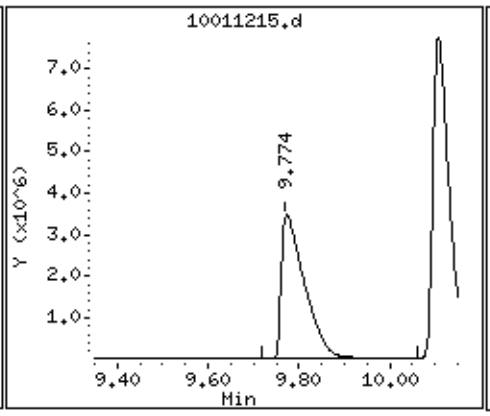
4 ethene



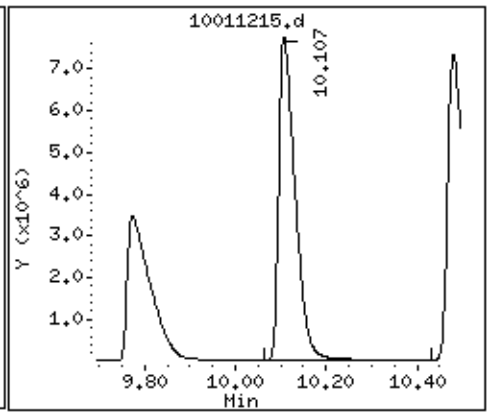
5 propane



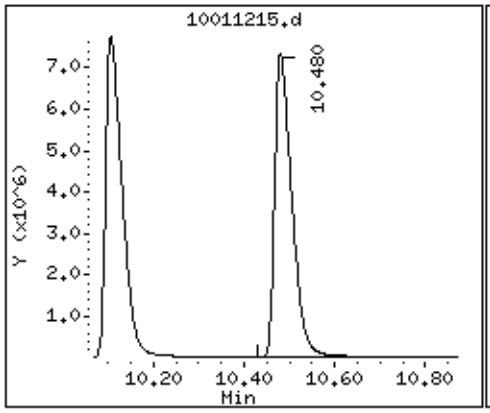
7 acetylene



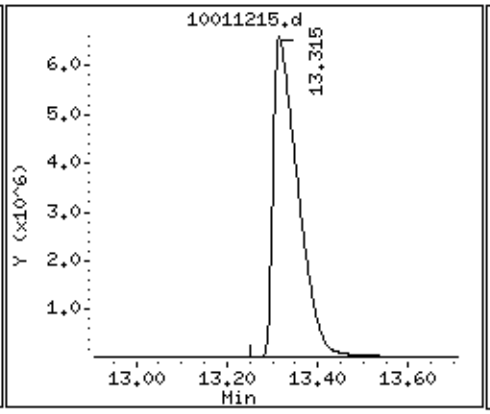
8 iso-butane



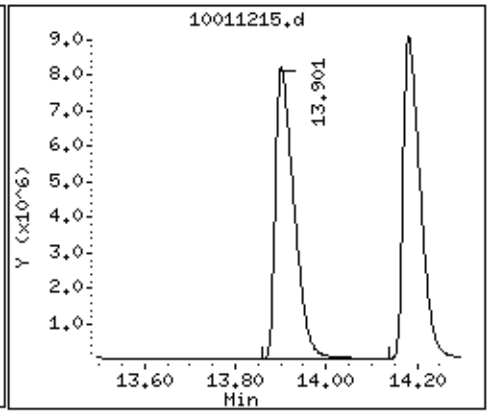
10 n-butane



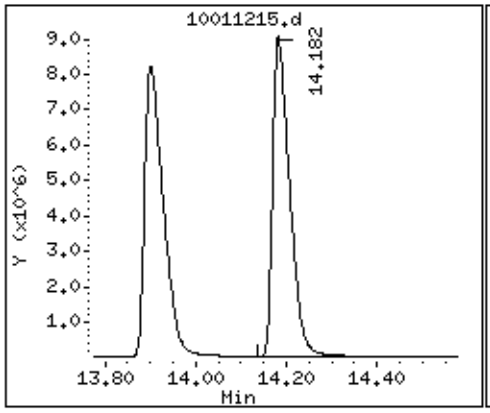
15 neo-pentane



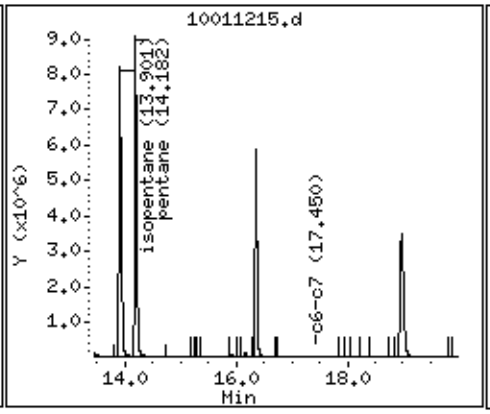
16 isopentane



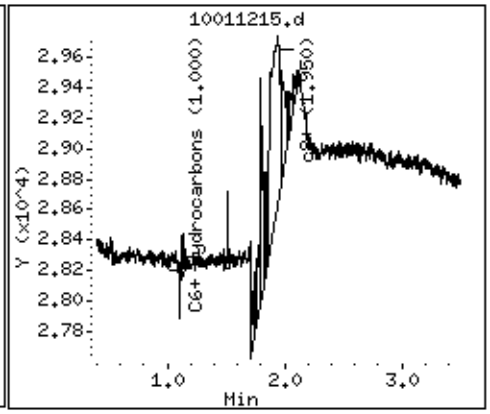
17 pentane



S 22 c6-c7



S 36 c8+



Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/12Jan2017.b/10011202.d
Lab Smp Id: 2787-56 CH4 Client Smp ID: Level-1
Inj Date : 12-JAN-2017 09:04
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,13670
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/12Jan2017.b/107n0112.m
Meth Date : 12-Jan-2017 16:11 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 09:04 Cal File: 10011202.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

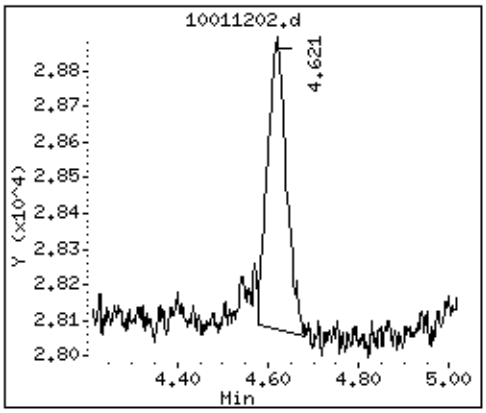
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
2 Methane	4.621	4.616	0.005	23795	0.00010	0.000100

/chem/gc10.i/12Jan2017.b/10011202.d
c8+ (1.950)
Methane (4.621)
c8-c7 (17.450)
Y (x10^4)
Min

2 Methane


10011202.d
4.621
2.88
2.87
2.86
2.85
2.84
2.83
2.82
2.81
2.80
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/12Jan2017.b/10011203.d
Lab Smp Id: 2787-43 C2-C7 Client Smp ID: Level-2
Inj Date : 12-JAN-2017 09:28
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,23882
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/12Jan2017.b/107n0112.m
Meth Date : 12-Jan-2017 16:11 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 09:28 Cal File: 10011203.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

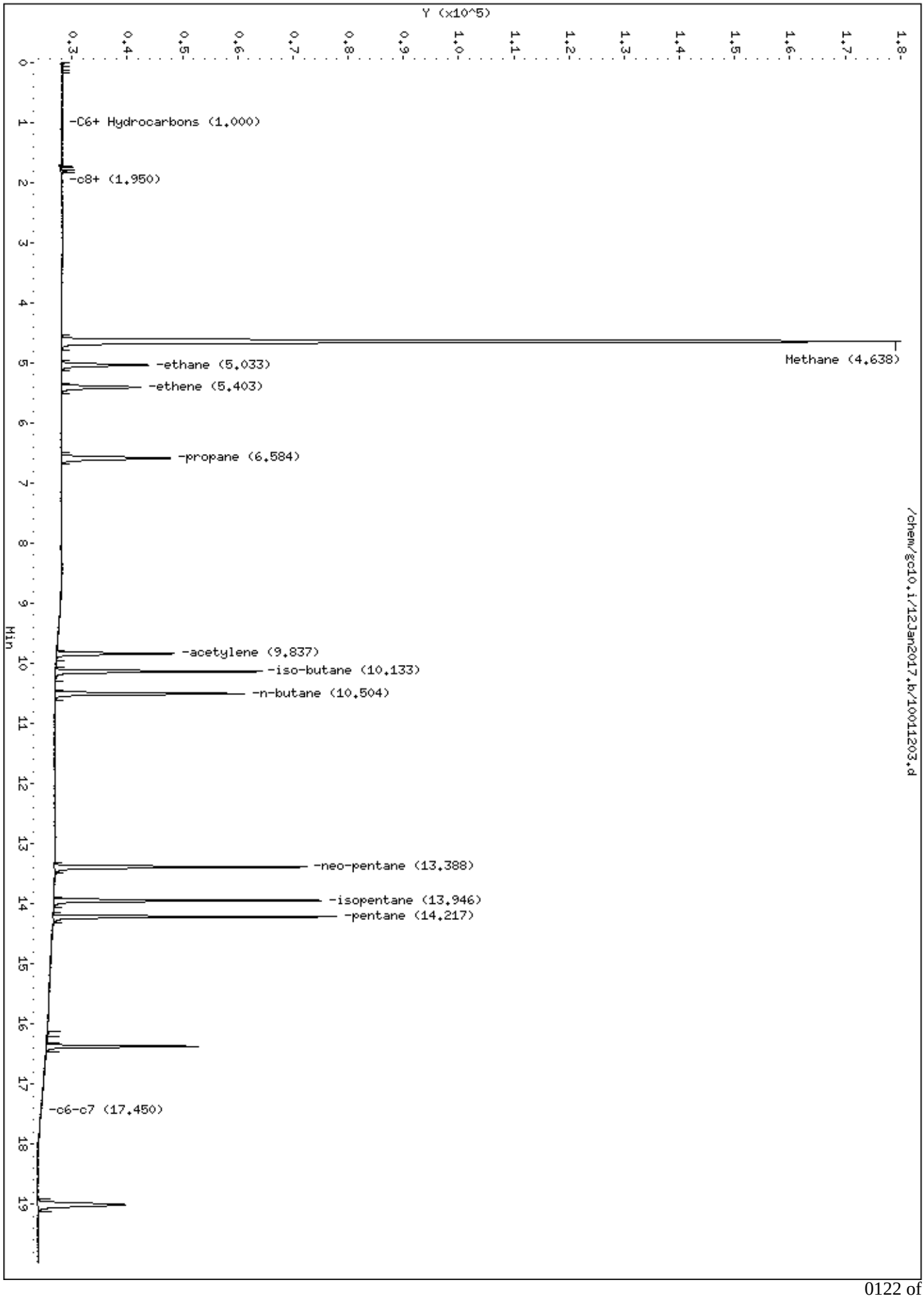
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

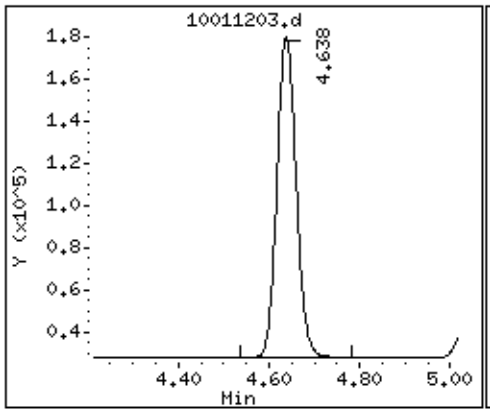
					AMOUNTS	
					CAL-AMT	ON-COL
Compounds	RT	EXP RT	DLT RT	RESPONSE	(%)	(%)
==========	==	======	======	========	=======	=======
2 Methane	4.638	4.616	0.022	4478682	0.02010	0.0194
3 ethane	5.033	5.011	0.022	428787	0.00100	0.00100
4 ethene	5.403	5.380	0.023	424117	0.00100	0.00100
5 propane	6.584	6.557	0.027	641846	0.00100	0.00100
7 acetylene	9.837	9.751	0.086	493966	0.00102	0.00102
8 iso-butane	10.133	10.096	0.037	803211	0.00101	0.00101
10 n-butane	10.504	10.470	0.034	774621	0.00100	0.00100
15 neo-pentane	13.388	13.310	0.078	1029782	0.00105	0.00105
16 isopentane	13.946	13.896	0.050	984652	0.00104	0.00104
17 pentane	14.217	14.178	0.039	977113	0.00104	0.00104
M 37 C6+ Hydrocarbons				1223132	0.00000	0.00106(a)
S 22 c6-c7	15.000-19.900			1205127	0.00106	0.00106

QC Flag Legend

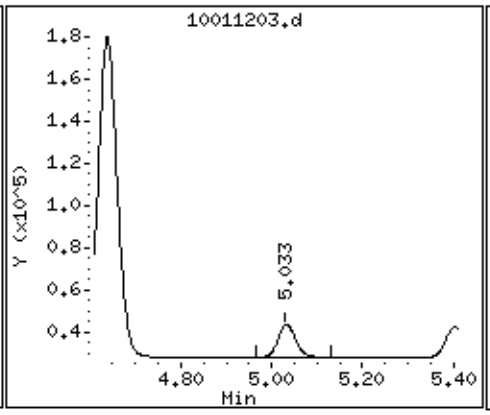
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: /chem/gc10.i/12Jan2017.b/10011203.d
Page 1
/chem/gc10.i/12Jan2017.b/10011203.d
Y (x10^5)
Min
-C6+ Hydrocarbons (1.000)
-c8+ (1.950)
Methane (4.638)
-ethane (5.033)
-ethene (5.403)
-propane (6.584)
-acetylene (9.837)
-iso-butane (10.133)
-n-butane (10.504)
-neo-pentane (13.388)
-isopentane (13.946)
-pentane (14.217)
-c6-c7 (17.450)

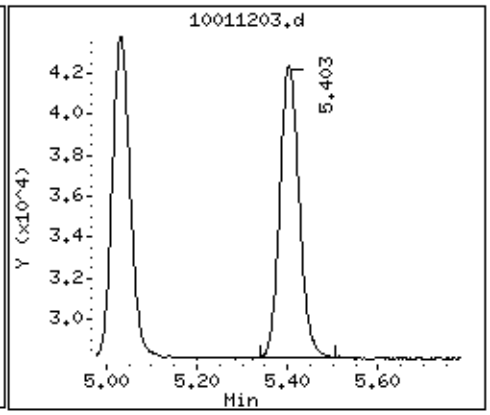
2 Methane



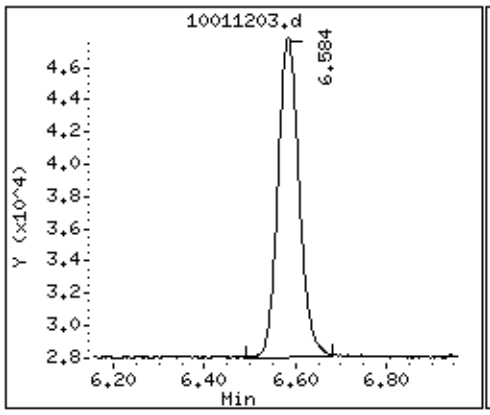
3 ethane



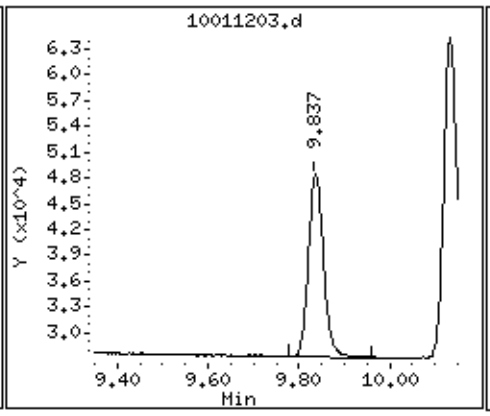
4 ethene



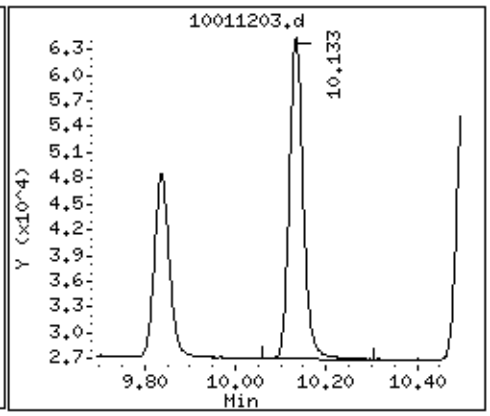
5 propane



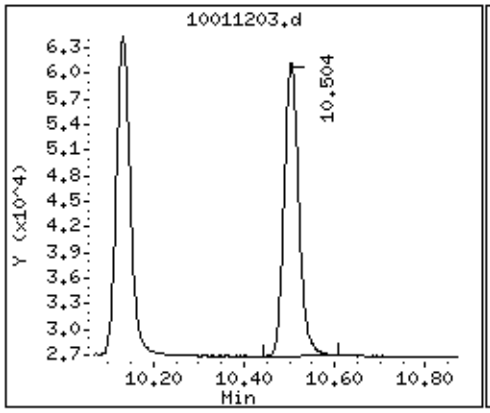
7 acetylene



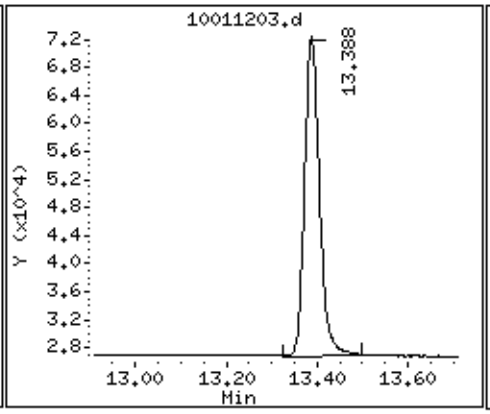
8 iso-butane



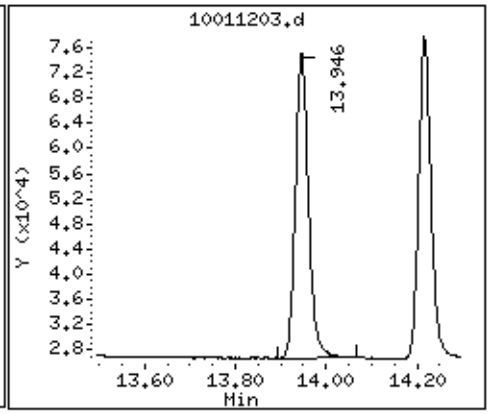
10 n-butane



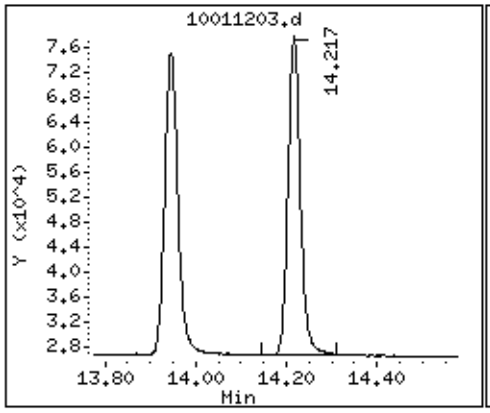
15 neo-pentane



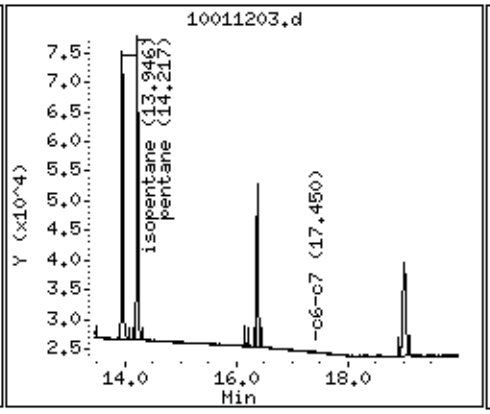
16 isopentane



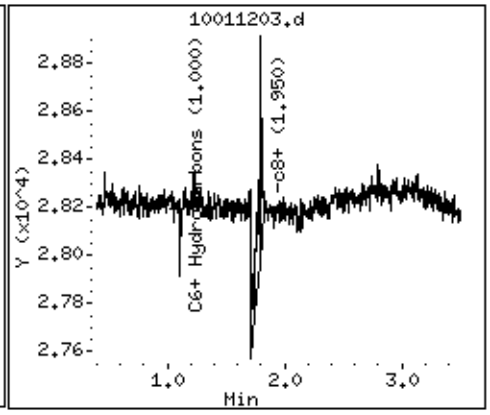
17 pentane



S 22 c6-c7



S 36 c8+



Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/12Jan2017.b/10011204.d
Lab Smp Id: 2787-43 C1-C7 Client Smp ID: Level-3
Inj Date : 12-JAN-2017 09:59
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,35629
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/12Jan2017.b/107n0112.m
Meth Date : 12-Jan-2017 16:11 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 09:59 Cal File: 10011204.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

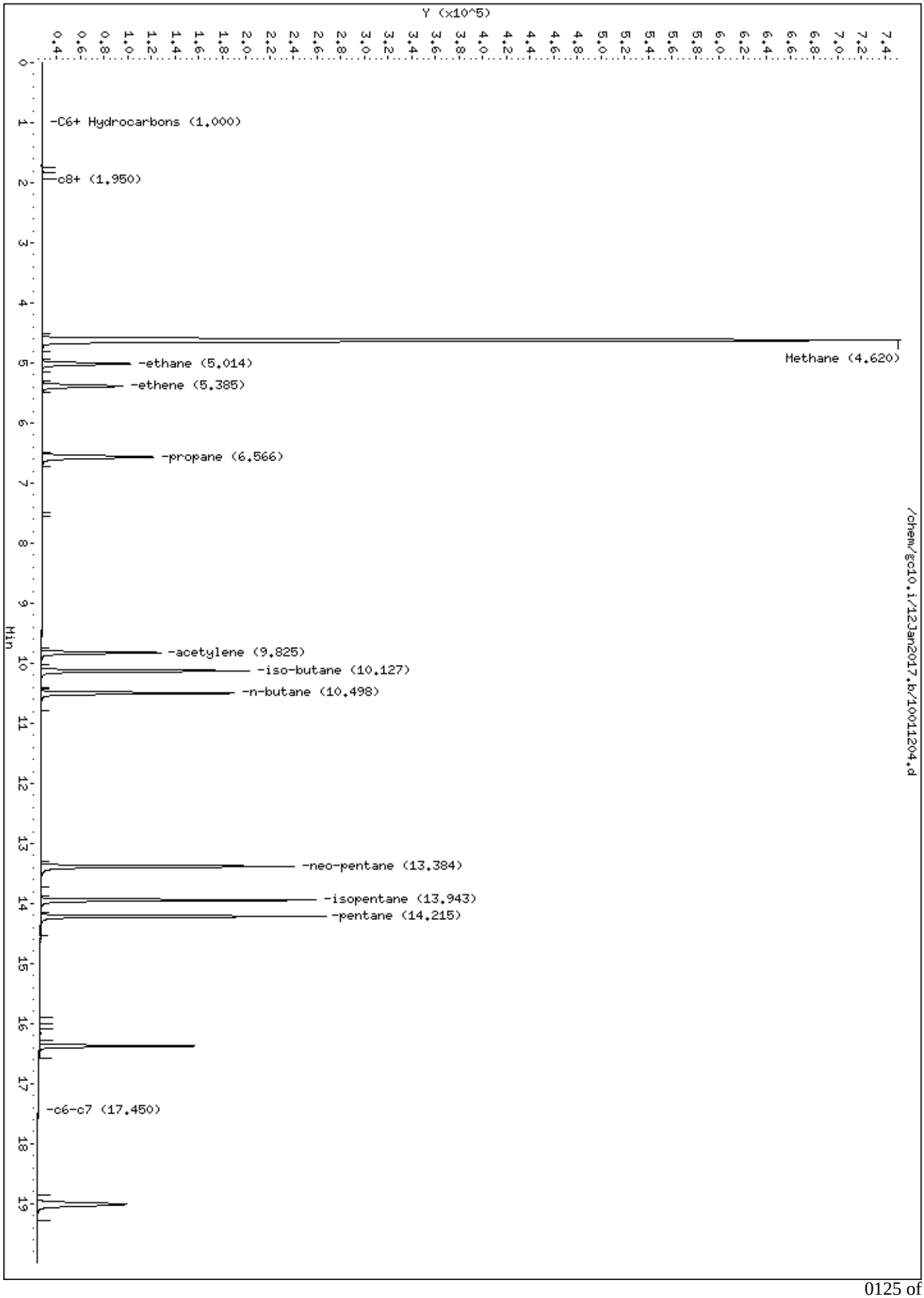
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
2 Methane	4.620	4.616	0.004	21284814	0.10000	0.0948
3 ethane	5.014	5.011	0.003	2037227	0.00494	0.00484
4 ethene	5.385	5.380	0.005	2012837	0.00492	0.00483
5 propane	6.566	6.557	0.009	3058698	0.00500	0.00488
7 acetylene	9.825	9.751	0.074	2367042	0.00496	0.00492
8 iso-butane	10.127	10.096	0.031	3773823	0.00494	0.00484
10 n-butane	10.498	10.470	0.028	3722109	0.00490	0.00485
15 neo-pentane	13.384	13.310	0.074	4982164	0.00514	0.00511
16 isopentane	13.943	13.896	0.047	4750247	0.00506	0.00504
17 pentane	14.215	14.178	0.037	4731783	0.00505	0.00504
M 37 C6+ Hydrocarbons				5825941	0.00507	0.00520(a)
S 22 c6-c7	15.000-19.900			5825941	0.00529	0.00520
S 36 c8+	Compound Not Detected.					

QC Flag Legend

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

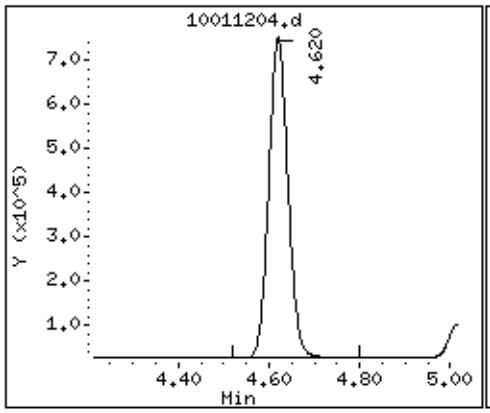


Data File: /chem/gc10.i/12Jan2017.b/10011204.d

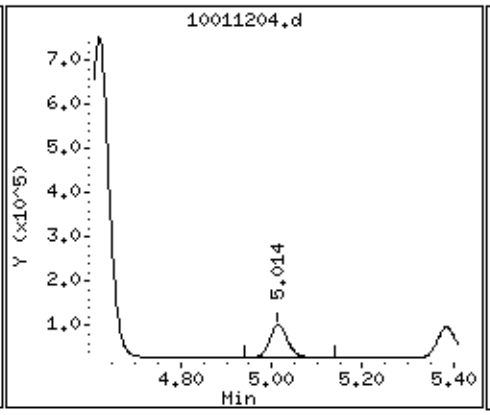
/chem/gc10.i/12Jan2017.b/10011204.d

Page 1

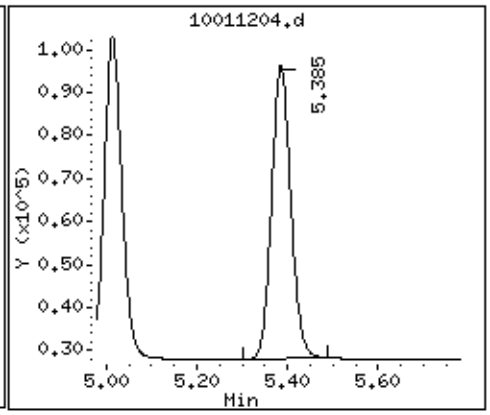
2 Methane



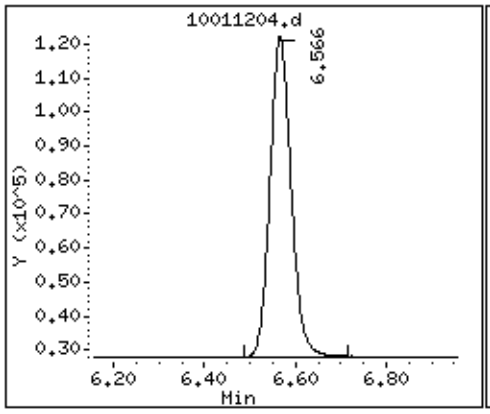
3 ethane



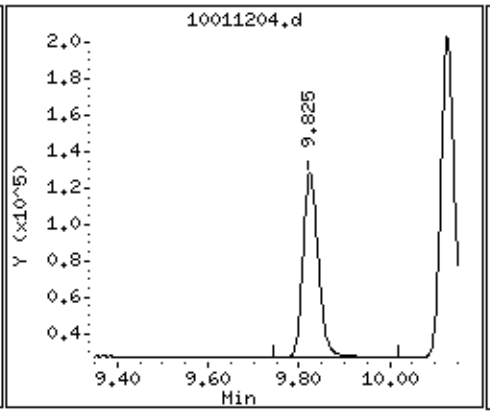
4 ethene



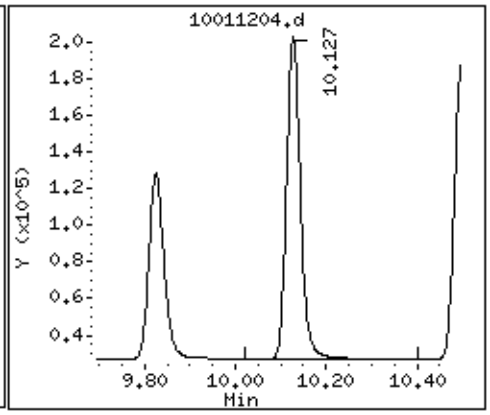
5 propane



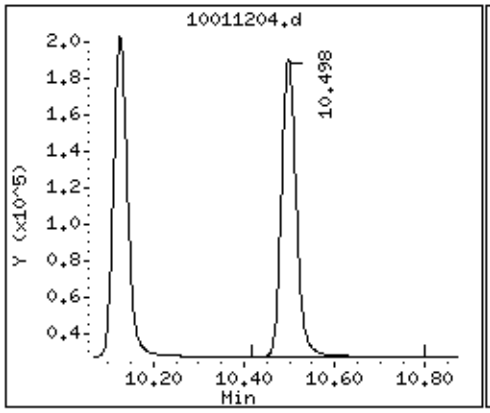
7 acetylene



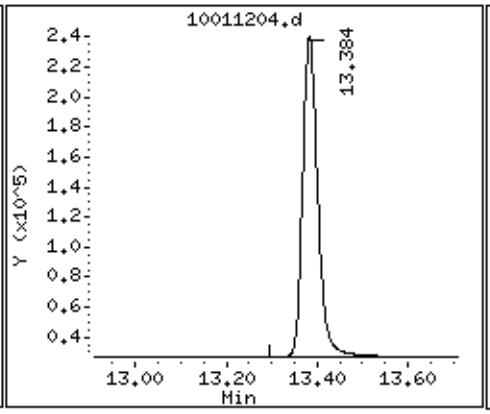
8 iso-butane



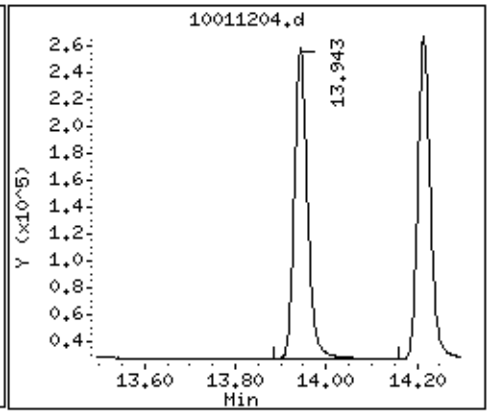
10 n-butane



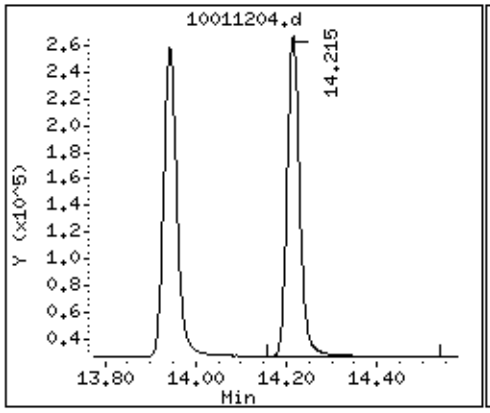
15 neo-pentane



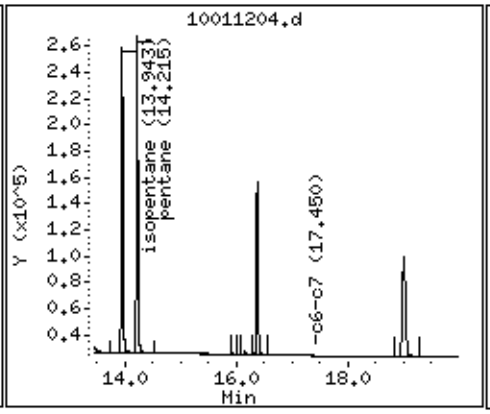
16 isopentane



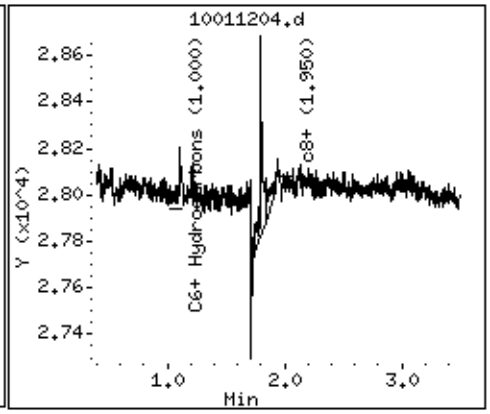
17 pentane



S 22 c6-c7



S 36 c8+ (Undetected)



Eurofins Air Toxics Inc.

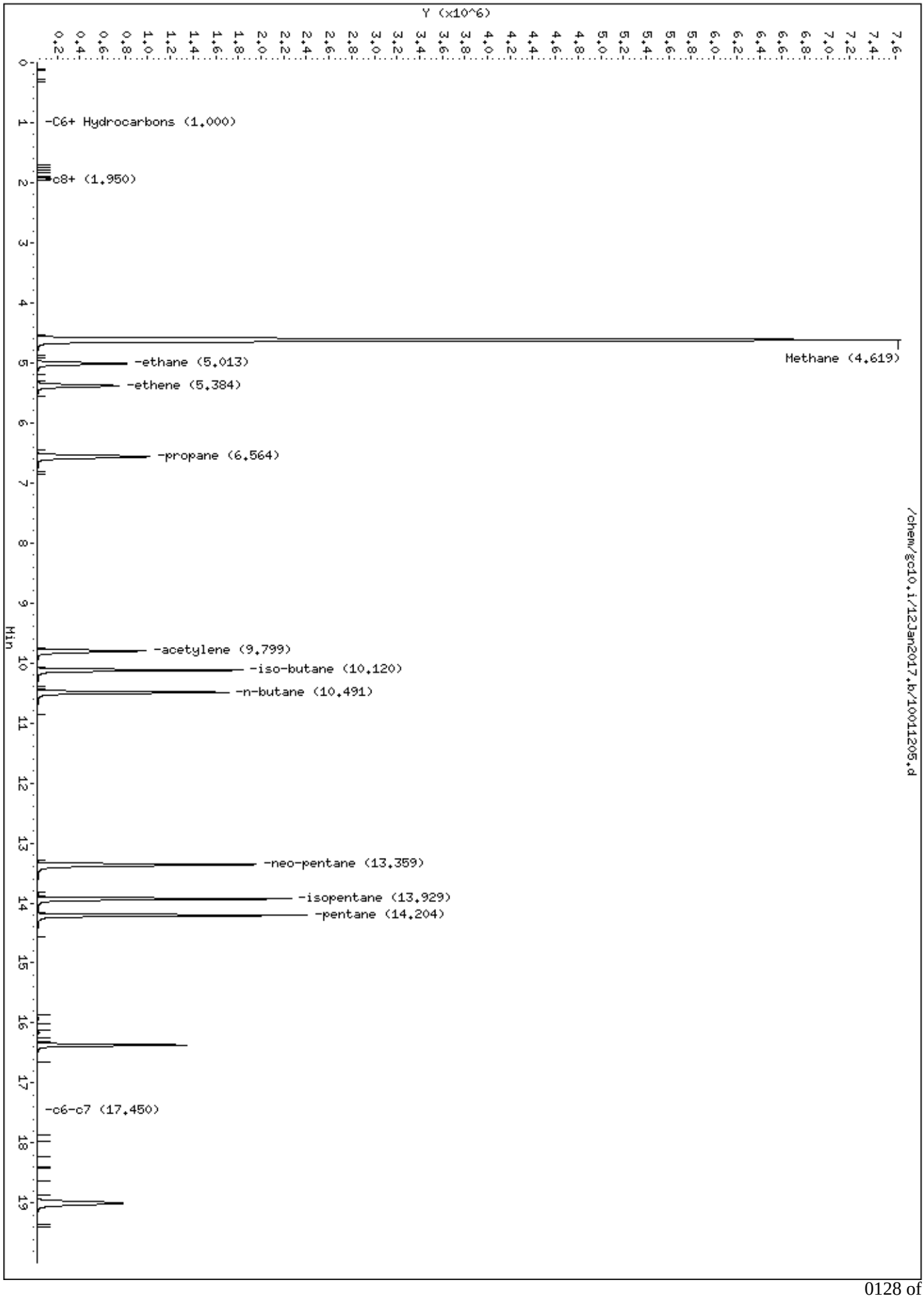
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/12Jan2017.b/10011205.d
Lab Smp Id: 2299-1048B C1-C7 Client Smp ID: Level-4
Inj Date : 12-JAN-2017 10:35
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/12Jan2017.b/107n0112.m
Meth Date : 12-Jan-2017 16:11 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 10:35 Cal File: 10011205.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	4.619	4.616	0.003	223452394	1.01500	1.00
3 ethane	5.013	5.011	0.002	21462196	0.05060	0.0509
4 ethene	5.384	5.380	0.004	21288935	0.05070	0.0510
5 propane	6.564	6.557	0.007	32352358	0.05060	0.0513
7 acetylene	9.799	9.751	0.048	25020600	0.05150	0.0519
8 iso-butane	10.120	10.096	0.024	39675459	0.05090	0.0509
10 n-butane	10.491	10.470	0.021	39168452	0.05050	0.0509
15 neo-pentane	13.359	13.310	0.049	52419584	0.05330	0.0536
16 isopentane	13.929	13.896	0.033	49669991	0.05260	0.0526
17 pentane	14.204	14.178	0.026	49280114	0.05230	0.0524
M 37 C6+ Hydrocarbons				59914693	0.50700	0.0536
S 22 c6-c7	15.000-19.900			59914693	0.05380	0.0536
S 36 c8+	Compound Not Detected.					

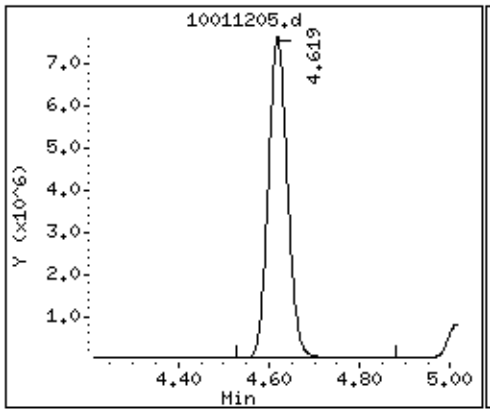


Data File: /chem/gc10.i/12Jan2017.b/10011205.d

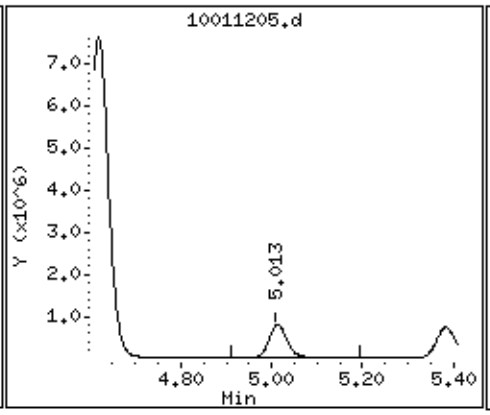
/chem/gc10.i/12Jan2017.b/10011205.d

Page 1

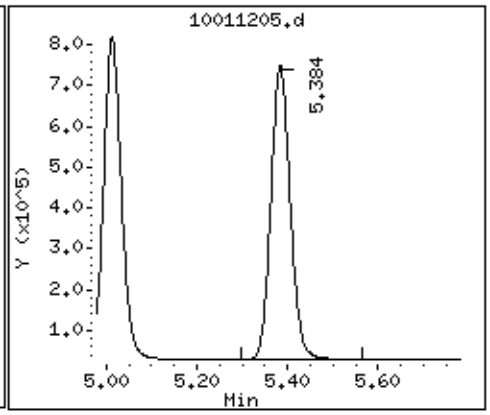
2 Methane



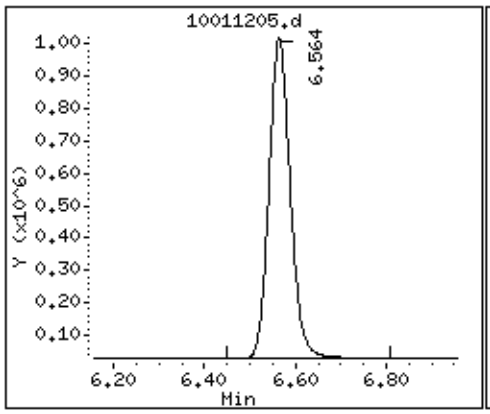
3 ethane



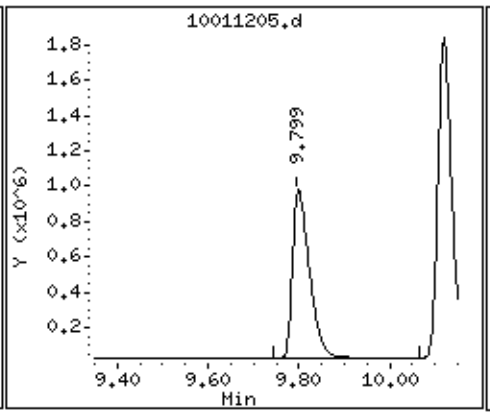
4 ethene



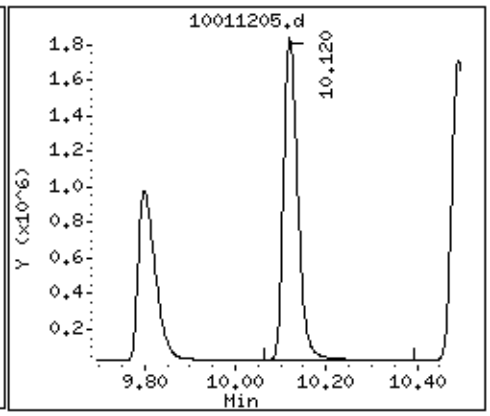
5 propane



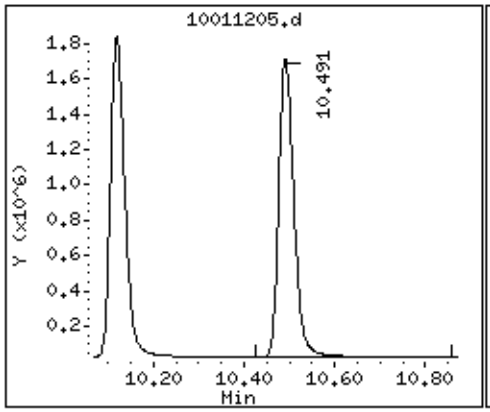
7 acetylene



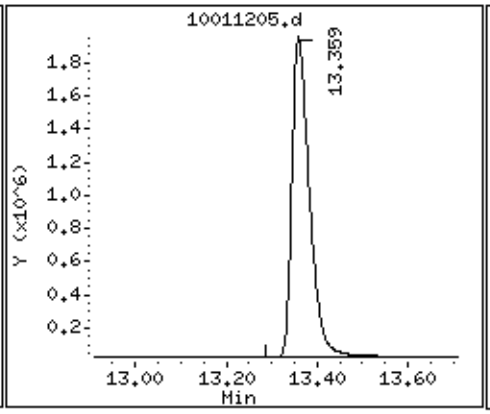
8 iso-butane



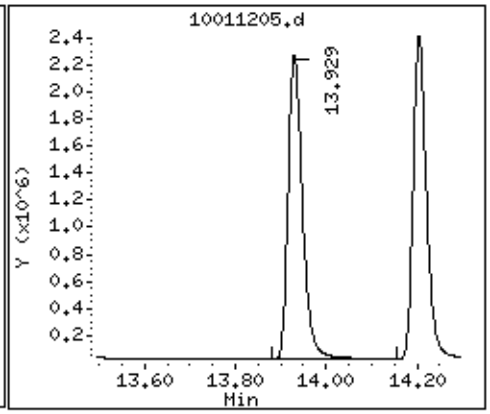
10 n-butane



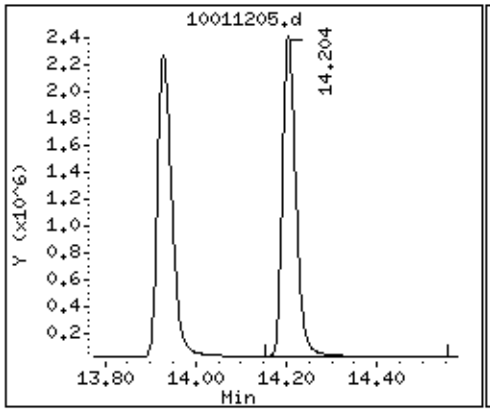
15 neo-pentane



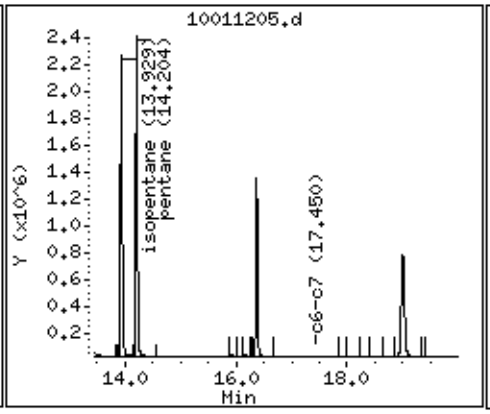
16 isopentane



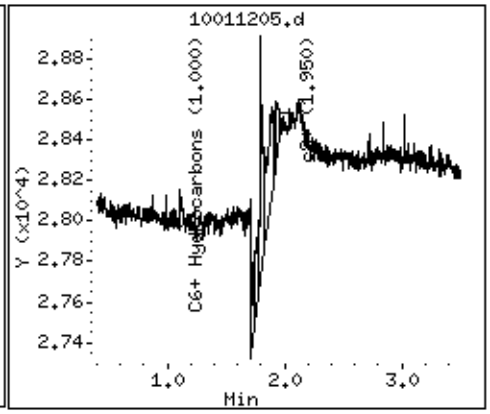
17 pentane



S 22 c6-c7



S 36 c8+ (Undetected)



Eurofins Air Toxics Inc.

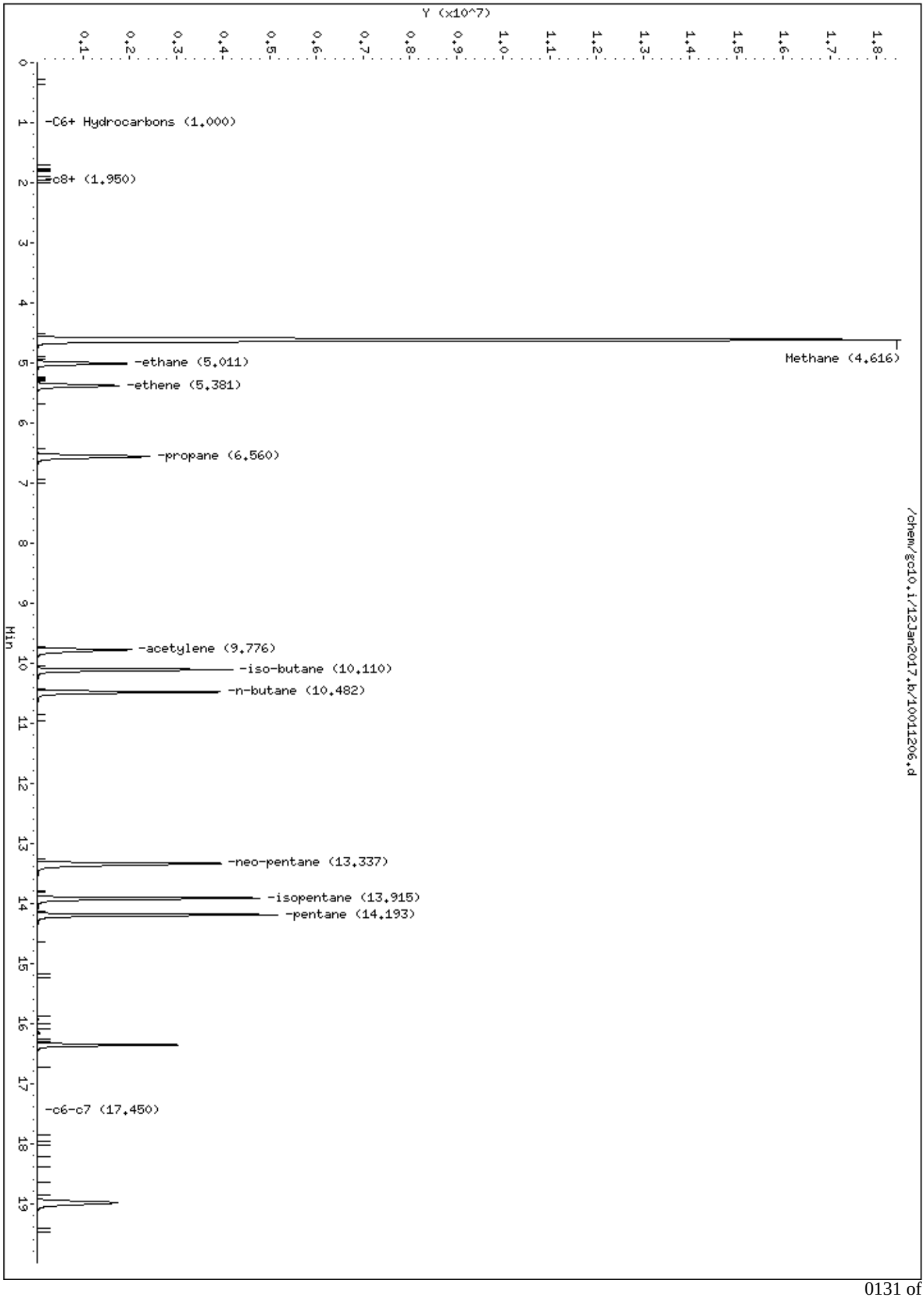
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/12Jan2017.b/10011206.d
Lab Smp Id: 2299-1048B C1-C7 Client Smp ID: Level-5
Inj Date : 12-JAN-2017 11:18
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml(25:50),
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/12Jan2017.b/107n0112.m
Meth Date : 12-Jan-2017 16:11 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 11:18 Cal File: 10011206.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 (%)	AMOUNTS ON-COL (%)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
2 Methane	4.616	4.616	0.000	540661318	2.53750	2.44
3 ethane	5.011	5.011	0.000	52253376	0.12650	0.124
4 ethene	5.381	5.380	0.001	51877247	0.12675	0.125
5 propane	6.560	6.557	0.003	78620443	0.12625	0.125
7 acetylene	9.776	9.751	0.025	60837405	0.12875	0.127
8 iso-butane	10.110	10.096	0.014	96224920	0.12725	0.124
10 n-butane	10.482	10.470	0.012	95030715	0.12625	0.124
15 neo-pentane	13.337	13.310	0.027	126934738	0.13325	0.131
16 isopentane	13.915	13.896	0.019	119890679	0.13150	0.128
17 pentane	14.193	14.178	0.015	118840182	0.13075	0.128
M 37 C6+ Hydrocarbons				140527952	0.50000	0.128
S 22 c6-c7	15.000-19.900			140450907	0.13450	0.128

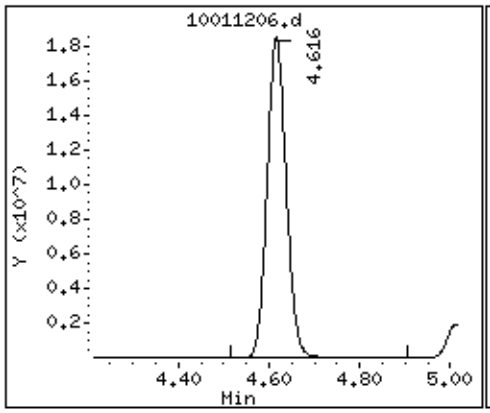


Data File: /chem/gc10.i/12Jan2017.b/10011206.d

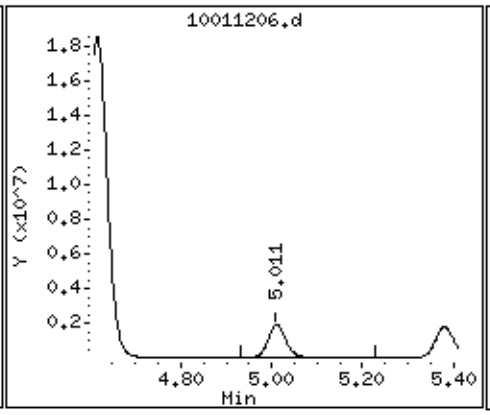
/chem/gc10.i/12Jan2017.b/10011206.d

Page 1

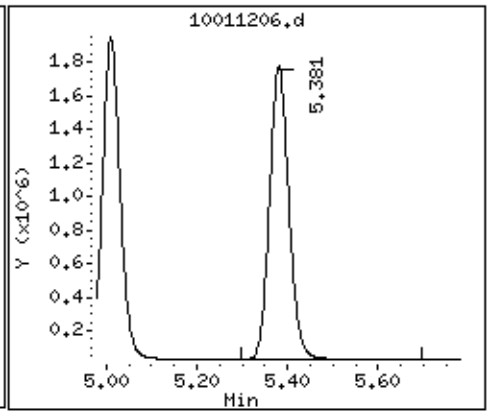
2 Methane



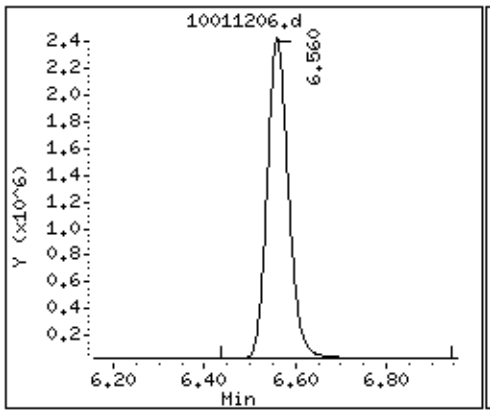
3 ethane



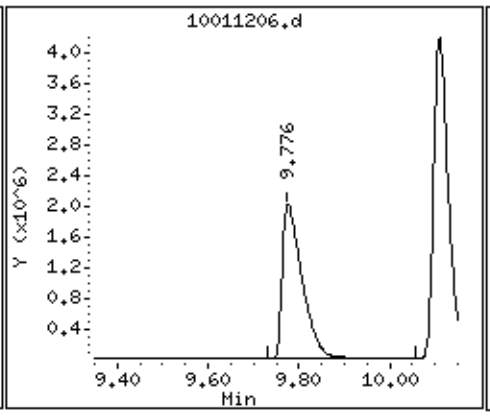
4 ethene



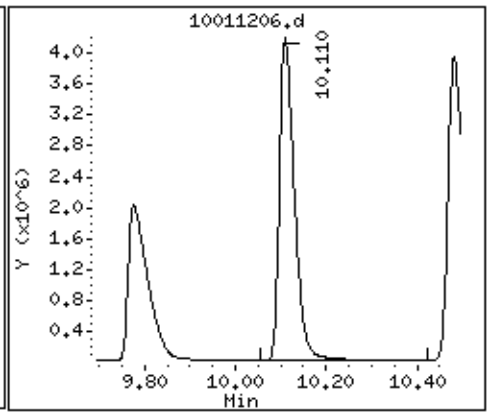
5 propane



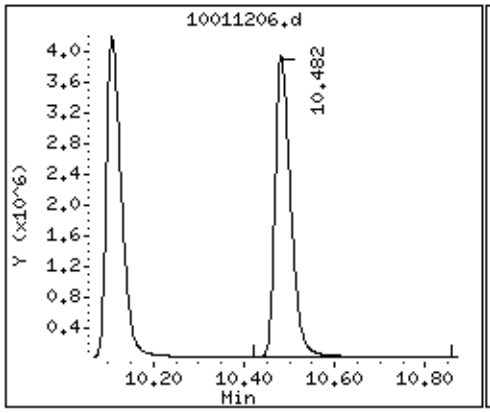
7 acetylene



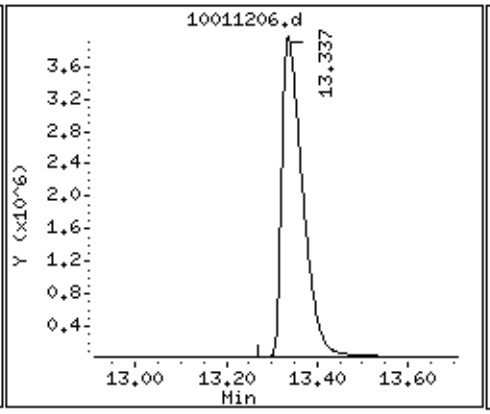
8 iso-butane



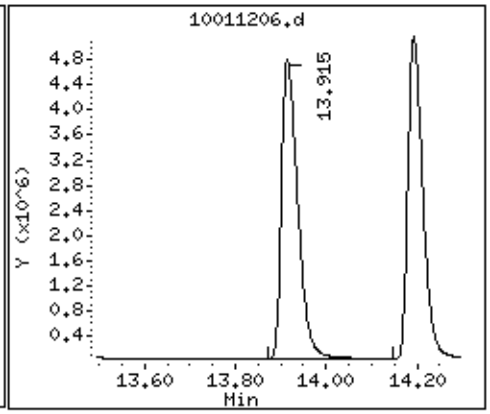
10 n-butane



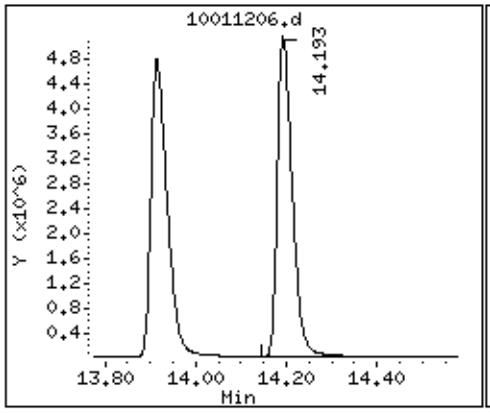
15 neo-pentane



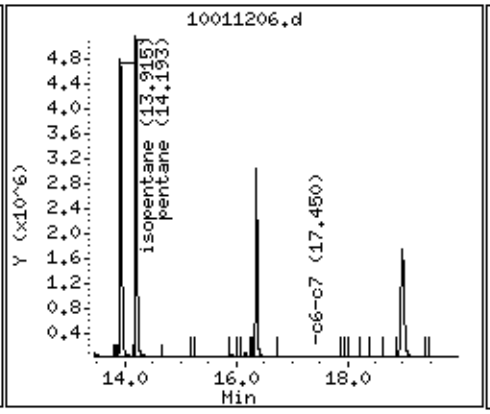
16 isopentane



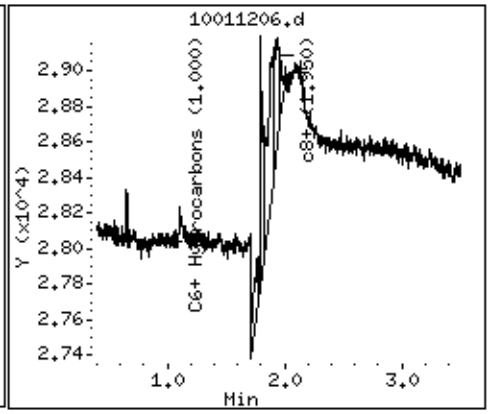
17 pentane



S 22 c6-c7



S 36 c8+



Eurofins Air Toxics Inc.

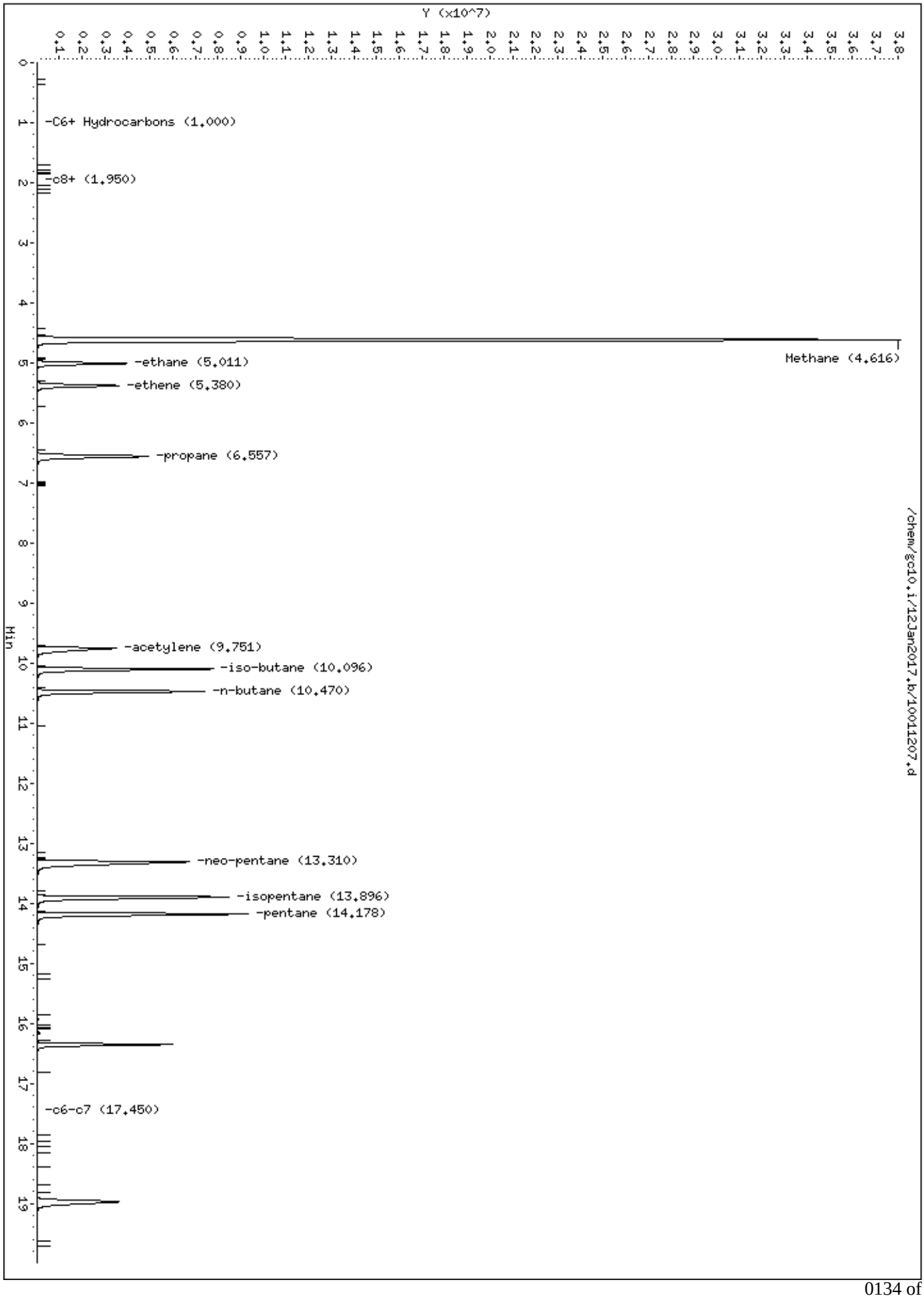
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/12Jan2017.b/10011207.d
Lab Smp Id: 2299-1048B C1-C7 Client Smp ID: Level-6
Inj Date : 12-JAN-2017 12:08
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/12Jan2017.b/107n0112.m
Meth Date : 12-Jan-2017 16:11 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 12:08 Cal File: 10011207.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

					AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
2 Methane	4.616	4.616	0.000	1110712833	5.07500	5.03
3 ethane	5.011	5.011	0.000	107407212	0.25300	0.255
4 ethene	5.380	5.380	0.000	106636226	0.25350	0.256
5 propane	6.557	6.557	0.000	161342995	0.25300	0.256
7 acetylene	9.751	9.751	0.000	125339697	0.25750	0.260
8 iso-butane	10.096	10.096	0.000	197819614	0.25450	0.255
10 n-butane	10.470	10.470	0.000	196159837	0.25250	0.255
15 neo-pentane	13.310	13.310	0.000	261434696	0.26650	0.268
16 isopentane	13.896	13.896	0.000	248722020	0.26300	0.265
17 pentane	14.178	14.178	0.000	248077155	0.26150	0.265
M 37 C6+ Hydrocarbons				305640141	0.00000	0.276
S 22 c6-c7	15.000-19.900			305401242	0.26900	0.276

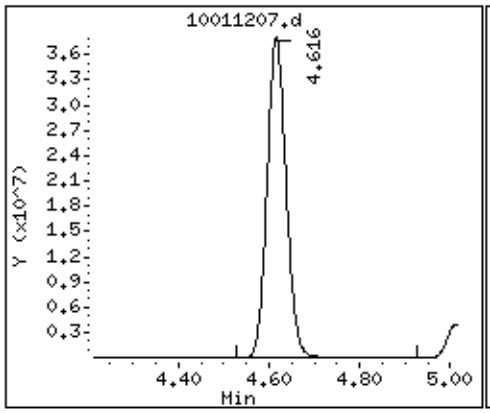


Data File: /chem/gc10.i/12Jan2017.b/10011207.d

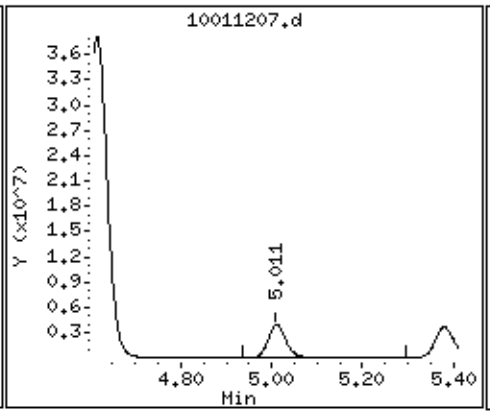
/chem/gc10.i/12Jan2017.b/10011207.d

Page 1

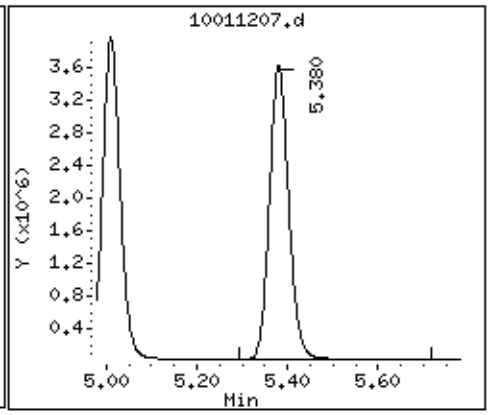
2 Methane



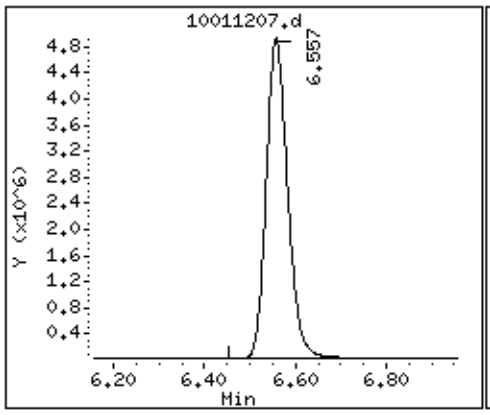
3 ethane



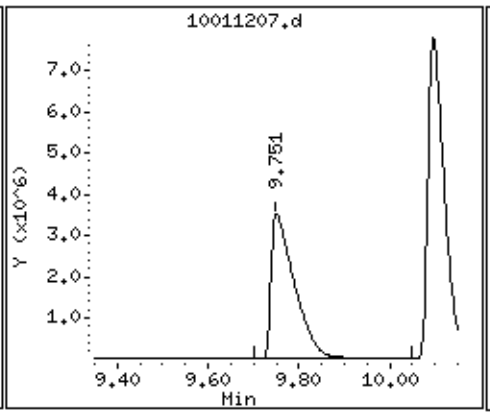
4 ethene



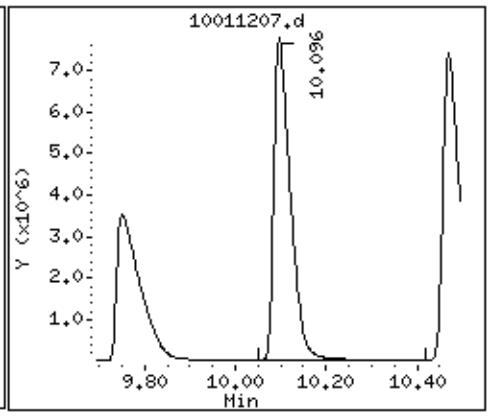
5 propane



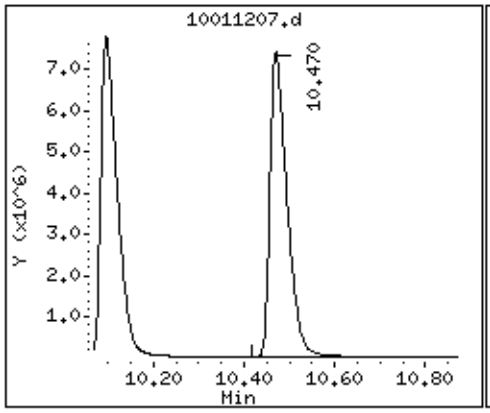
7 acetylene



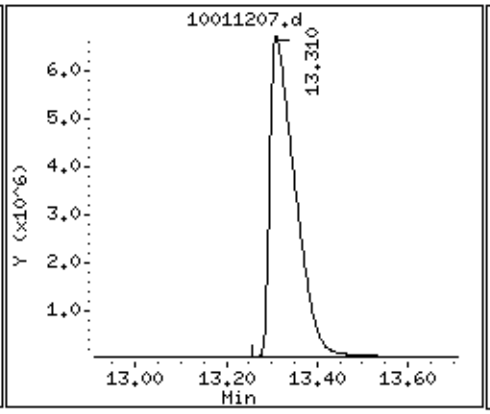
8 iso-butane



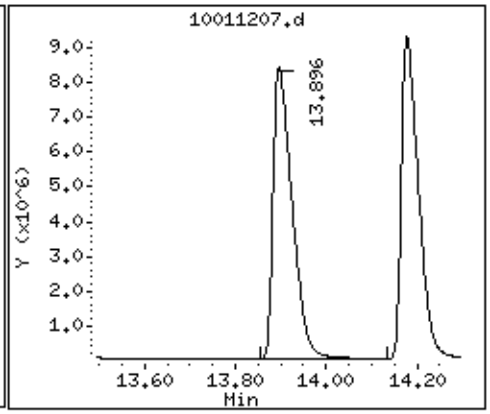
10 n-butane



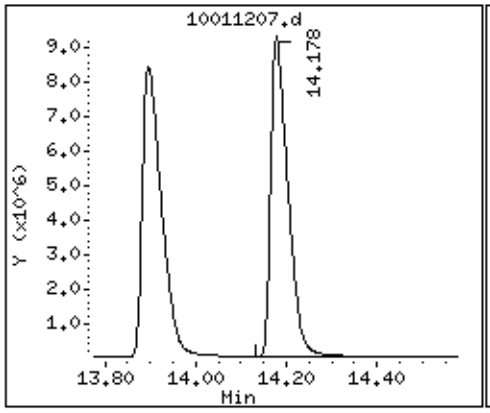
15 neo-pentane



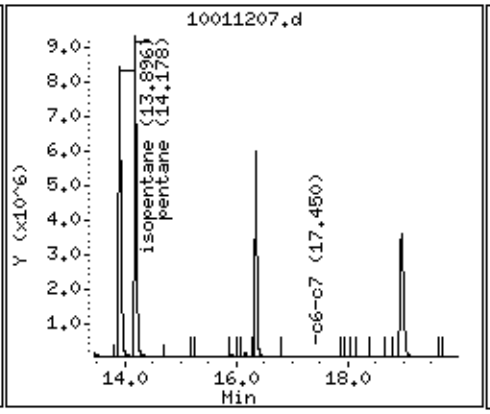
16 isopentane



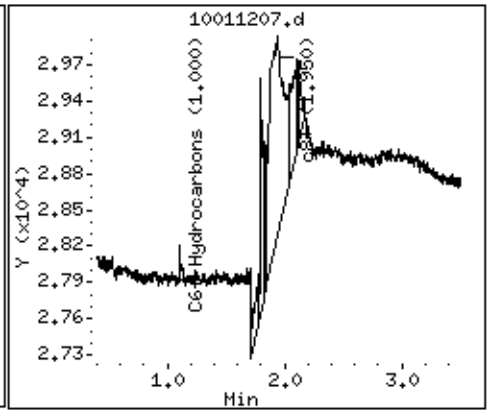
17 pentane



S 22 c6-c7



S 36 c8+



Eurofins Air Toxics Inc.

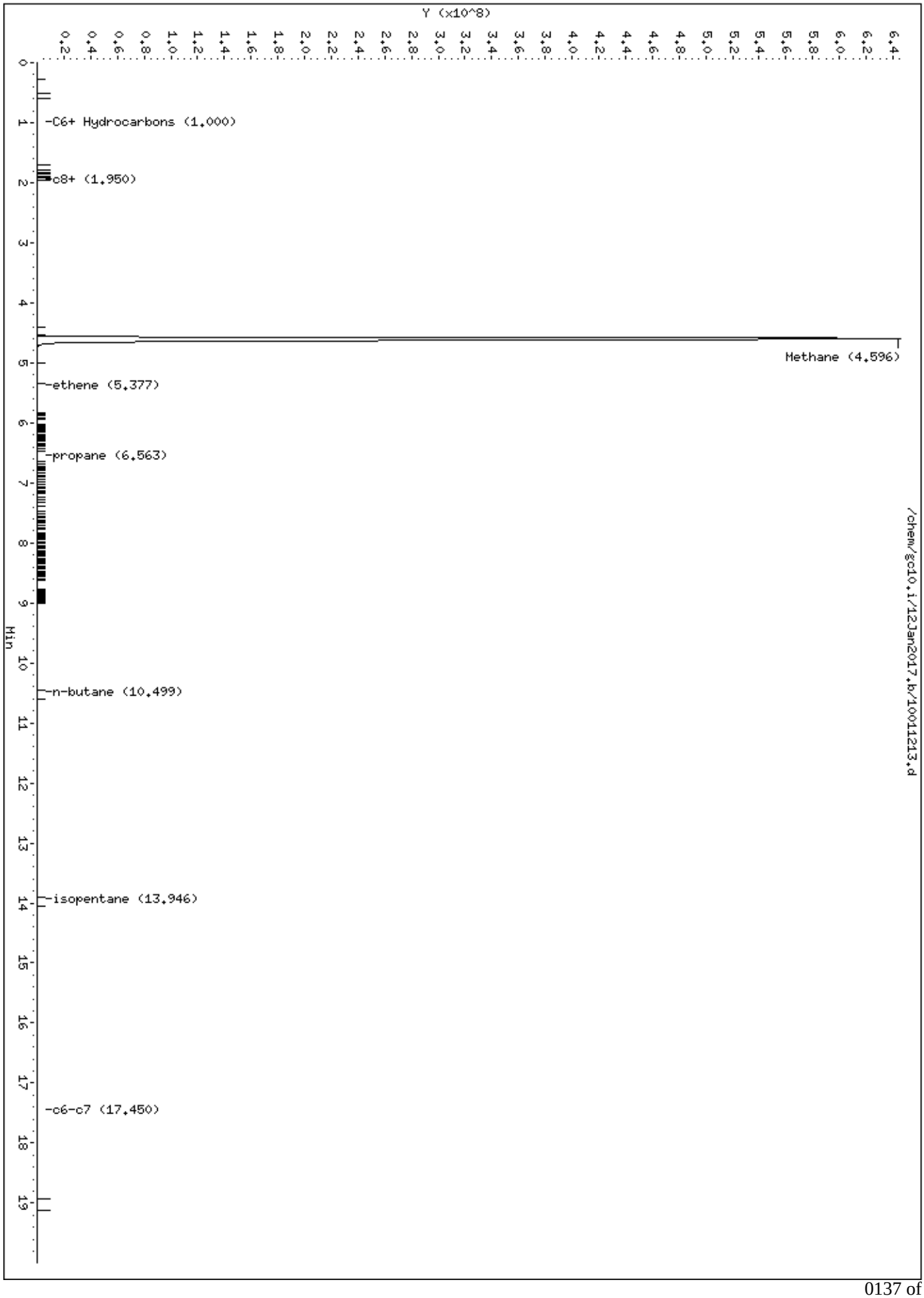
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/12Jan2017.b/10011213.d
Lab Smp Id: 1476-898 Methane Client Smp ID: Level-7
Inj Date : 12-JAN-2017 15:33
Operator : LY Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/12Jan2017.b/107n0112.m
Meth Date : 12-Jan-2017 16:11 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.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

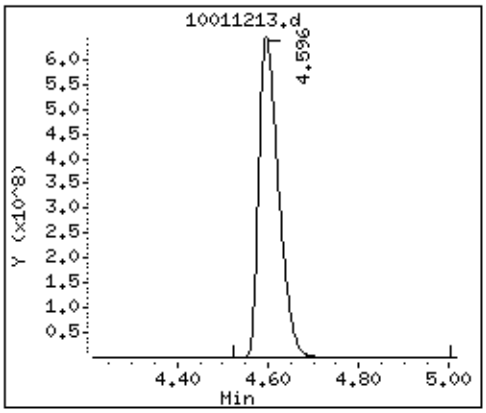
Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
2 Methane	4.596	4.616	-0.020	19608325283	99.0000	90.1



Data File: /chem/gc10.i/12Jan2017.b/10011213.d

Page 1

2 Methane


10011213.d
4.596
Y (x10^8)
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
4.40
4.60
4.80
5.00
Min

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/12Jan2017.b/10011212.d
Lab Smp Id: 1476-898 Isopentane Client Smp ID: Level-7
Inj Date : 12-JAN-2017 15:06
Operator : LY Inst ID: gc10.i
Smp Info : 1.0ml(5:100),
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/12Jan2017.b/107n0112.m
Meth Date : 12-Jan-2017 16:11 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:06 Cal File: 10011212.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

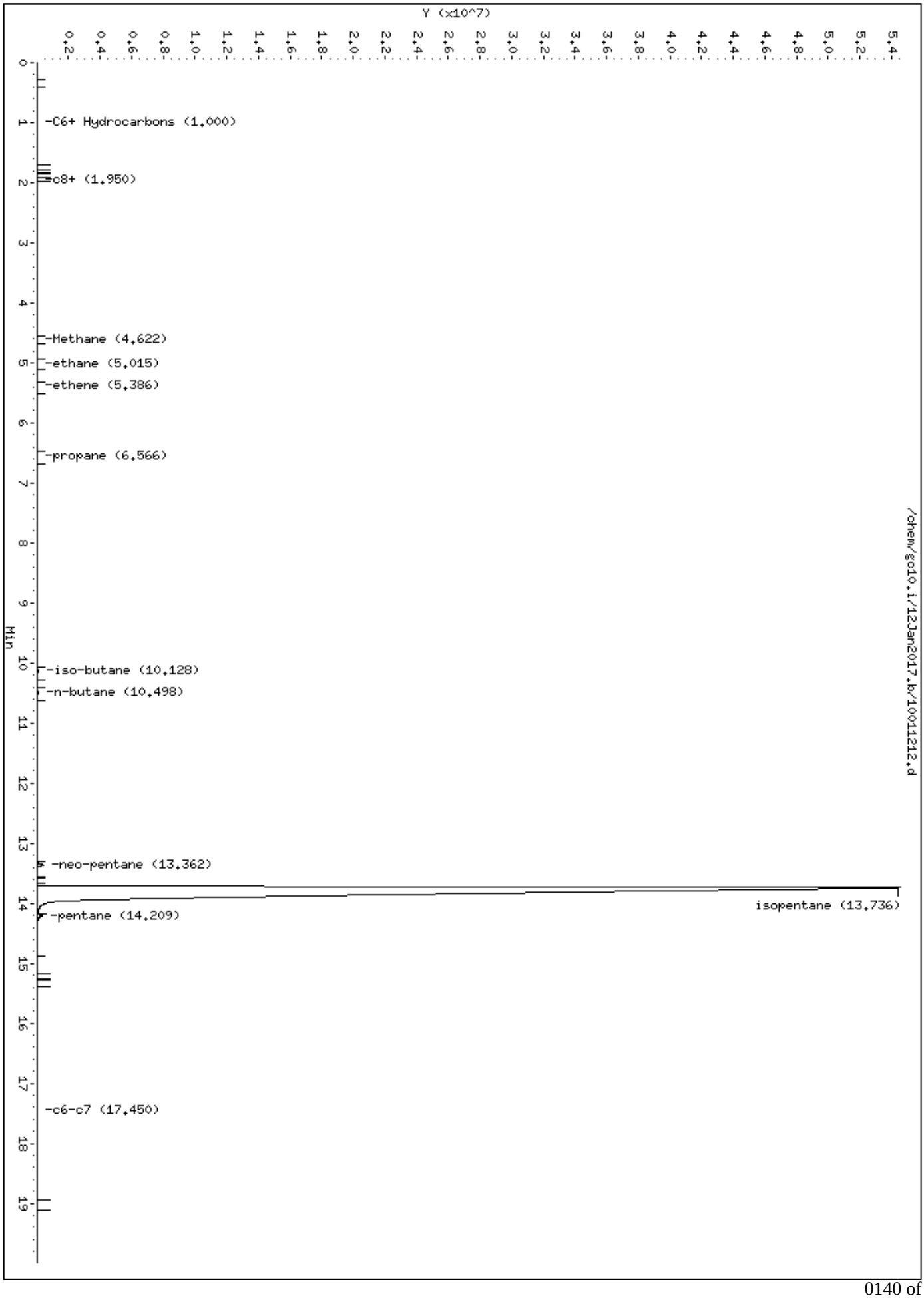
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
16 isopentane	13.736	13.896	-0.160	4049792125	4.95000	4.41(A)

QC Flag Legend

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

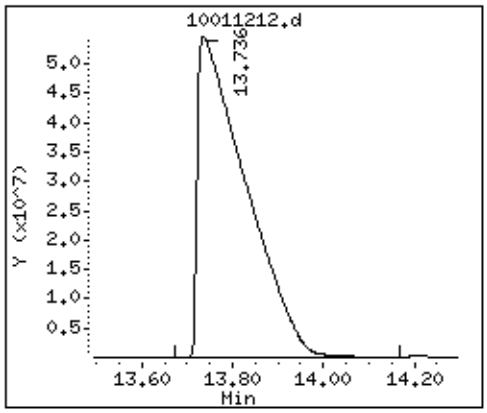


Data File: /chem/gc10.i/12Jan2017.b/10011212.d

/chem/gc10.i/12Jan2017.b/10011212.d

Page 1

16 isopentane



Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

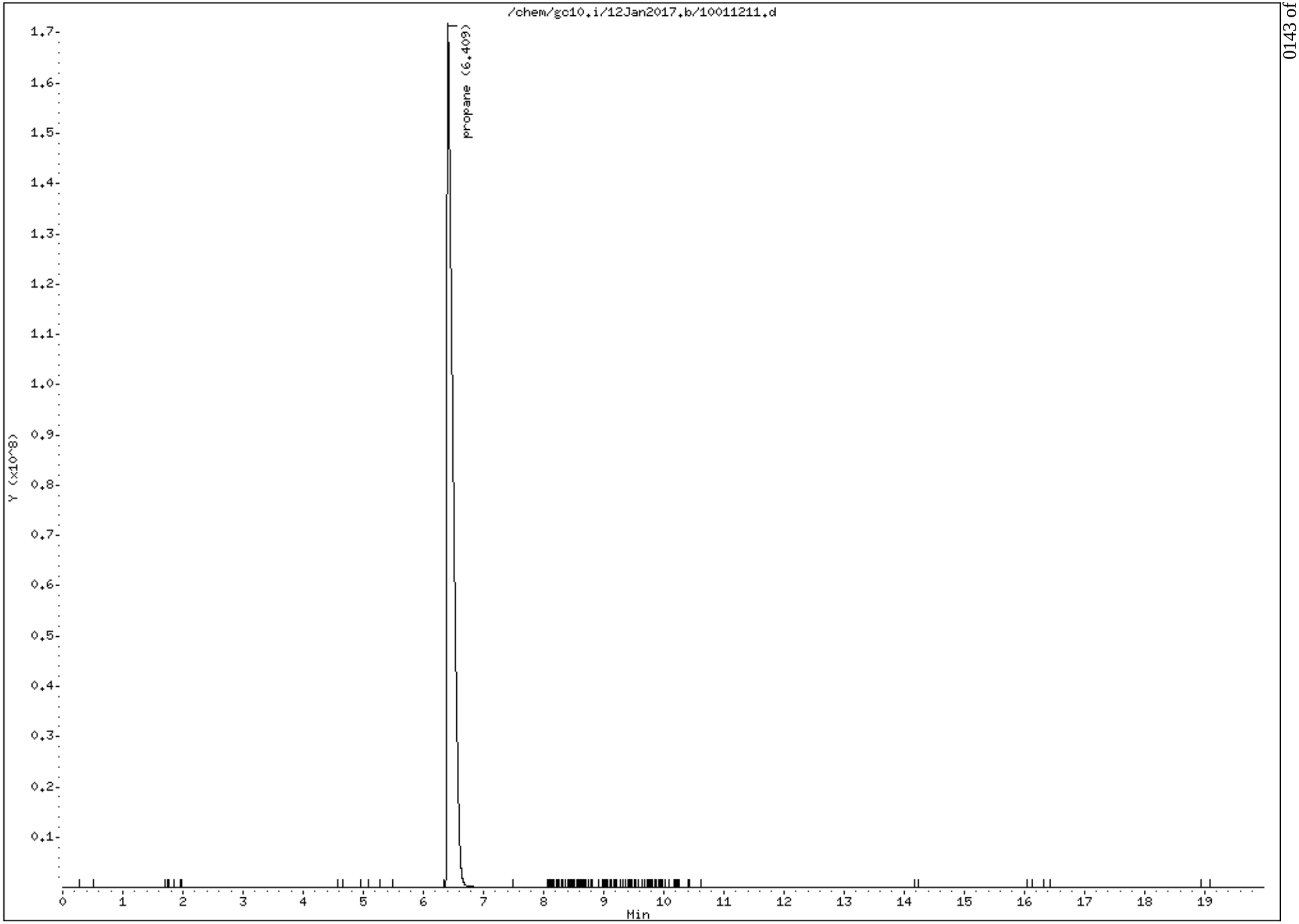
Data file : /chem/gc10.i/12Jan2017.b/10011211.d
Lab Smp Id: 843-471 Propane Client Smp ID: Level-7
Inj Date : 12-JAN-2017 14:37
Operator : LY Inst ID: gc10.i
Smp Info : 1.0ml(10:50),
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/12Jan2017.b/107n0112.m
Meth Date : 12-Jan-2017 16:11 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 14:37 Cal File: 10011211.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

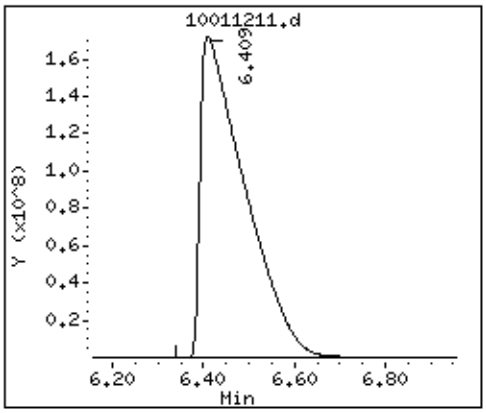
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
5 propane	6.409	6.557	-0.148	11811380164	19.9000	18.9

Data File: /chem/gc10.i/12Jan2017.b/10011211.d



5 propane



Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/12Jan2017.b/10011210.d
Lab Smp Id: 1476-897 Butane Client Smp ID: Level-7
Inj Date : 12-JAN-2017 14:03
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml(5:50),
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/12Jan2017.b/107n0112.m
Meth Date : 12-Jan-2017 16:11 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 14:03 Cal File: 10011210.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

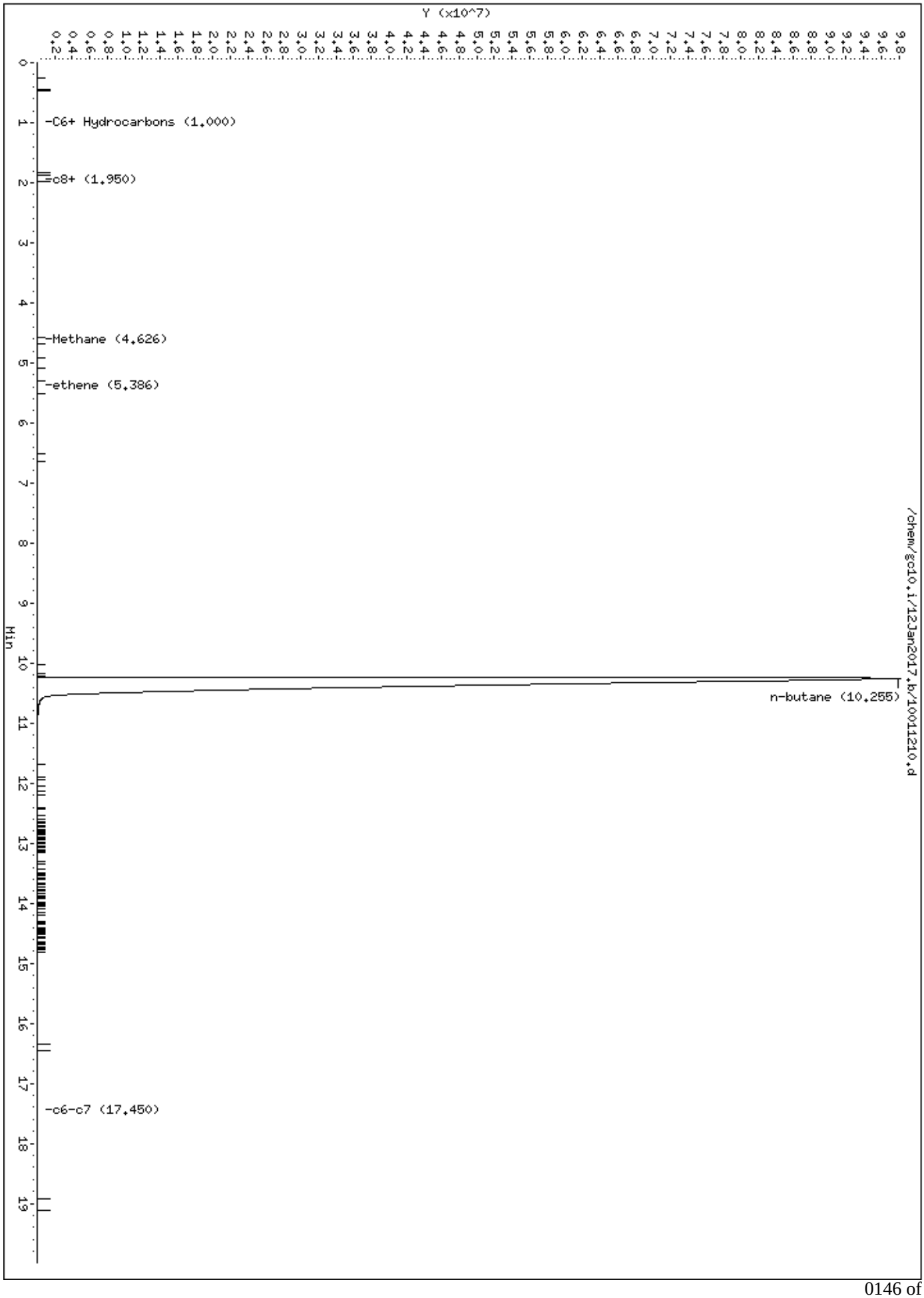
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
10 n-butane	10.255	10.470	-0.215	8200897720	9.99000	10.6(A)

QC Flag Legend

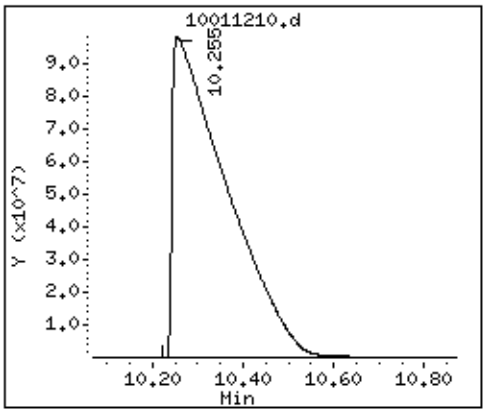
A - Target compound detected but, quantitated amount exceeded maximum amount.



Data File: /chem/gc10.i/12Jan2017.b/10011210.d

Page 1

10 n-butane


10011210.d
10.255
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.

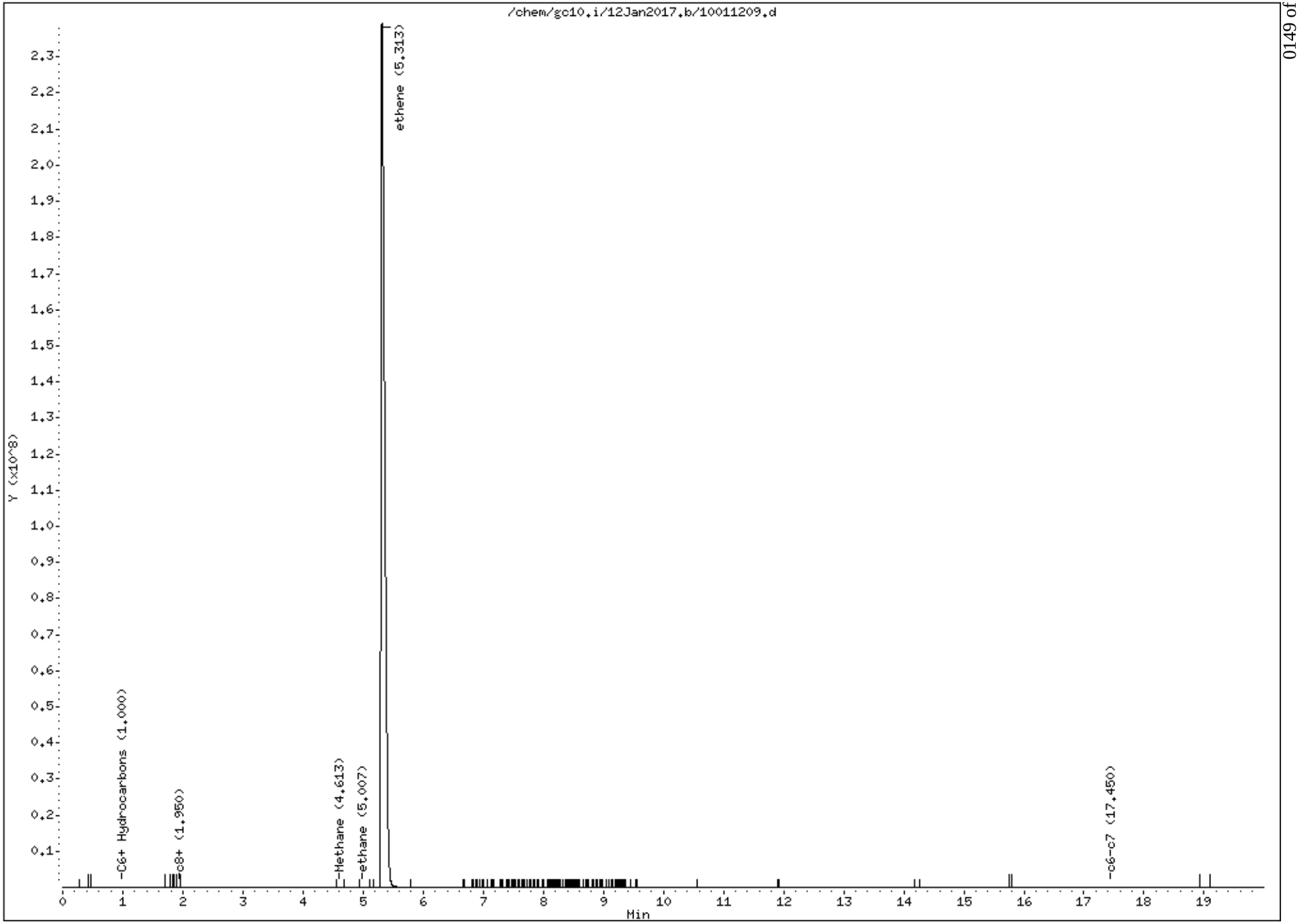
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/12Jan2017.b/10011209.d
Lab Smp Id: 1476-437 Ethene Client Smp ID: Level-7
Inj Date : 12-JAN-2017 13:34
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml(15:60),
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/12Jan2017.b/107n0112.m
Meth Date : 12-Jan-2017 16:11 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 13:34 Cal File: 10011209.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

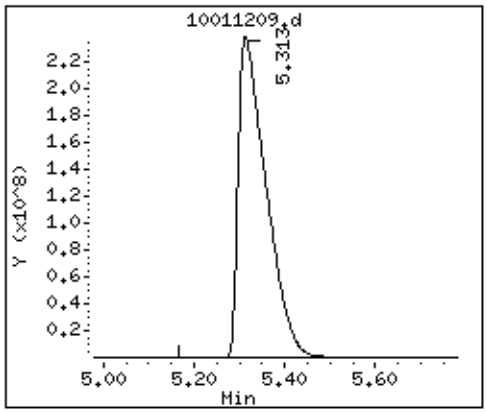
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
4 ethene	5.313	5.380	-0.067	10238181589	24.8750	24.6


/chem/gc10.i/12Jan2017.b/10011209.d
ethene (5.313)
-C6+ Hydrocarbons (1.000)
c8+ (1.950)
-Methane (4.613)
-ethane (5.007)
-c6-c7 (17.450)
Y (x10^8)
Min

4 ethene


10011209.d
5.313
Y (x10^8)
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.

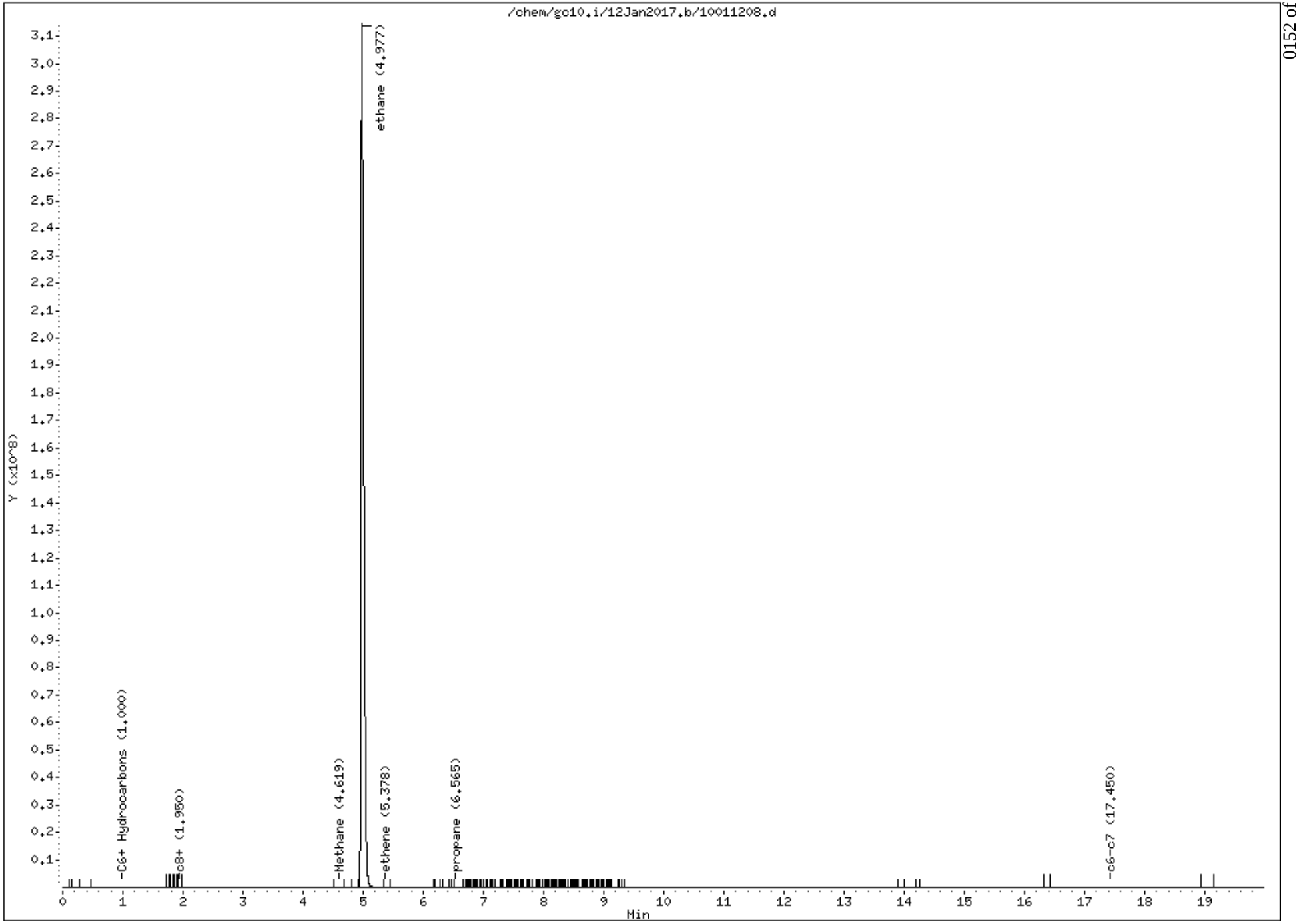
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/12Jan2017.b/10011208.d
Lab Smp Id: 1476-438 Ethane Client Smp ID: Level-7
Inj Date : 12-JAN-2017 12:46
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml(15:60),
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/12Jan2017.b/107n0112.m
Meth Date : 12-Jan-2017 16:11 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 12:46 Cal File: 10011208.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

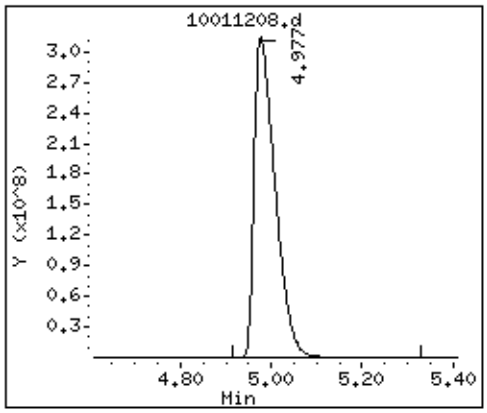
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	AMOUNTS CAL-AMT (%)	AMOUNTS ON-COL (%)
3 ethane	4.977	5.011	-0.034	10105220627	24.9750	24.2


/chem/gc10.i/12Jan2017.b/10011208.d
Y (x10^8)
Min
ethane (4.977)
-C6+ Hydrocarbons (1.000)
c8+ (1.950)
-Methane (4.619)
-ethene (5.378)
-propane (6.565)
-c6-c7 (17.450)

3 ethane


10011208.d
4.977d
3.0
2.7
2.4
2.1
1.8
1.5
1.2
0.9
0.6
0.3
Y (x10^8)
4.80
5.00
5.20
5.40
Min

CH4 MDL
ASTMD-1945/1946
GC-10 FID

Report Date : 07-Jan-2017 13:53

1.0ml of Std 2787-43 (200x) was spiked, resulting in a concentration of 0.0001% for CH4.

Eurofins Air Toxics Inc.
METHOD DETECTION LIMIT SUMMARY REPORT

Method File: /chem/gc10.i/07Jan2017.b/106n0115.m
Batch File: /chem/gc10.i/07Jan2017.b
Inst ID: gc10.i

ID:	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08
FILENAME:	10010707	10010708	10010709	10010710	10010711	10010712	10010713	10010714
INJ.DATE:	07-JAN-2017	07-JAN-2017	07-JAN-2017	07-JAN-2017	07-JAN-2017	07-JAN-2017	07-JAN-2017	07-JAN-2017
INJ.TIME:	10:25	10:56	11:19	11:44	12:06	12:29	12:52	13:20

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	AVG CONC	STD DEV	MDL PPMV	%	RL%	conc spike
2 Methane	0.78	0.91	0.87	0.97	1.05	0.97	1.19	1.22	1.00	0.15	0.46	0.000046	0.0001	0.0001%
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+	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++			

Reviewer 1 [signature] Date: 01/07/17
Reviewer 2 [signature] Date: 1/12/17

Eurofins Air Toxics Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: gc10.i Injection Date: 02-FEB-2017 08:11
Lab File ID: 10020201.d Init. Cal. Date(s): 12-JAN-2017 12-JAN-2017
Analysis Type: AIR Init. Cal. Times: 09:04 15:33
Lab Sample ID: 2299-1048B Ngas Quant Type: ESTD
Method: /chem/gc10.i/02Feb2017.b/107n0112.m

	COMPOUND	RRF / AMOUNT	RF0.000	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
	2 Methane	217680049	226133776	0.010	-3.88356	15.00000	Averaged	
	3 ethane	417925540	438575332	0.010	-4.94102	15.00000	Averaged	
	4 ethene	415776528	434966185	0.010	-4.61538	15.00000	Averaged	
	5 propane	624492081	658694933	0.010	-5.47691	15.00000	Averaged	
	7 acetylene	481324627	503033456	0.010	-4.51023	15.00000	Averaged	
	8 iso-butane	774428805	802303434	0.010	-3.59938	15.00000	Averaged	
	10 n-butane	776724642	801176570	0.010	-3.14808	15.00000	Averaged	
	15 neo-pentane	973423678	1.012e+09	0.010	-4.00746	15.00000	Averaged	
	16 isopentane	917571381	976178608	0.010	-6.38721	15.00000	Averaged	
	17 pentane	935271638	979794853	0.010	-4.76046	15.00000	Averaged	
M	37 C6+ Hydrocarbons	1.106e+09	1.172e+09	0.010	-5.96248	15.00000	Averaged	
S	22 c6-c7	1.106e+09	1.172e+09	0.010	-5.90997	15.00000	Averaged	
S	36 c8+	1.106e+09	++++	0.010	++++	15.00000	Averaged	<-

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020201.d
Lab Smp Id: 2299-1048B Ngas Client Smp ID: CCV
Inj Date : 02-FEB-2017 08:11
Operator : gm Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 02-Feb-2017 08:44 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.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

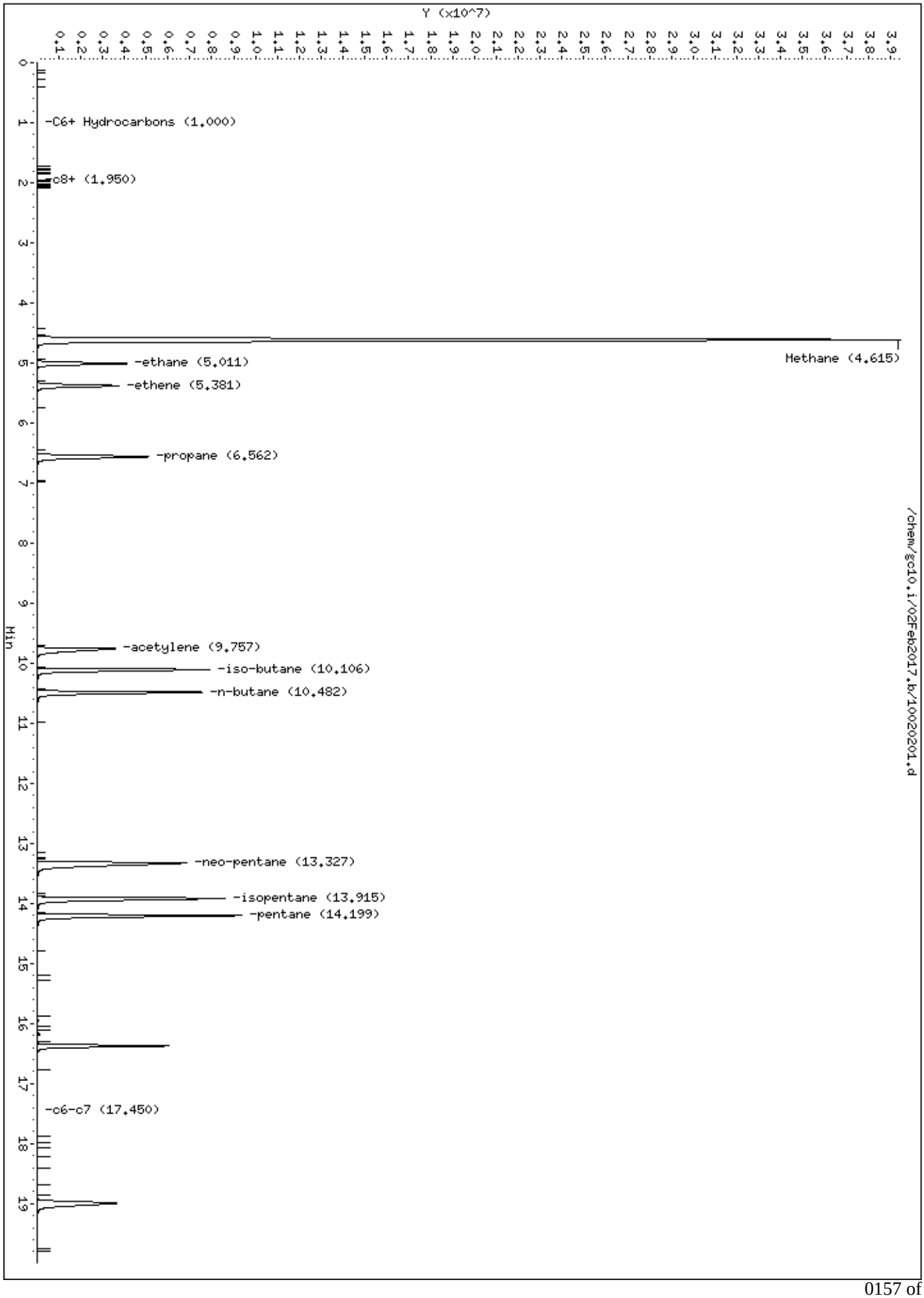
Concentration Formula: Amt * DF * CpndVariable

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	1147628914	5.07500	5.27
3 ethane	5.011	5.011	0.000	110959559	0.25300	0.266
4 ethene	5.381	5.381	0.000	110263928	0.25350	0.265
5 propane	6.562	6.562	0.000	166649818	0.25300	0.267
7 acetylene	9.757	9.757	0.000	129531115	0.25750	0.269
8 iso-butane	10.106	10.106	0.000	204186224	0.25450	0.264
10 n-butane	10.482	10.482	0.000	202297084	0.25250	0.260
15 neo-pentane	13.327	13.327	0.000	269813458	0.26650	0.277
16 isopentane	13.915	13.915	0.000	256734974	0.26300	0.280
17 pentane	14.199	14.199	0.000	256216354	0.26150	0.274
M 37 C6+ Hydrocarbons				315335621	0.26900	0.285
S 22 c6-c7	15.000-19.900			315179347	0.26900	0.285
S 36 c8+	0.400-3.500			156274	0.00000	0.000141(a)

QC Flag Legend

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

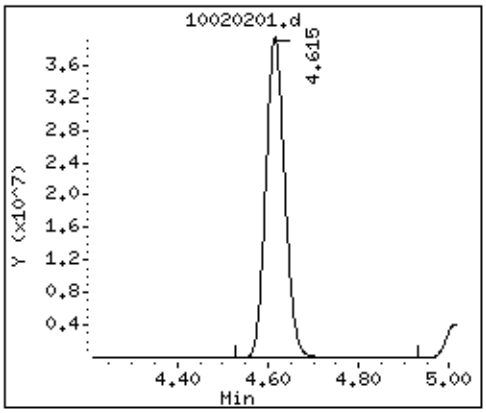


Data File: /chem/gc10.i/02Feb2017.b/10020201.d

/chem/gc10.i/02Feb2017.b/10020201.d

Page 1

2 Methane


10020201.d
4.615
3.6
3.2
2.8
2.4
2.0
1.6
1.2
0.8
0.4
Y (x10^7)
4.40
4.60
4.80
5.00
Min

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Client Sample ID: LCS

Lab ID#: 1701428D-21A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020202**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/2/17 08:37 AM**	

Compound	**%Recovery**	**Method Limits**
Methane	105	85-115

Container Type: NA - Not Applicable

Report Date: 02-Feb-2017 09:36

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 02Feb2017
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/02Feb2017.b/107n0112.m
Misc Info:

SPIKE COMPOUND	CONC ADDED %	CONC RECOVERED %	% RECOVERED	LIMITS
2 Methane	4.98	5.22	104.93	85-115
3 ethane	0.250	0.259	103.73	85-115
4 ethene	0.254	0.263	103.64	85-115
5 propane	0.250	0.269	107.45	85-115
7 acetylene	0.250	0.262	104.95	85-115
8 iso-butane	0.250	0.264	105.64	85-115
10 n-butane	0.248	0.261	105.48	85-115
15 neo-pentane	0.256	0.272	106.08	85-115
16 isopentane	0.252	0.270	107.04	85-115
17 pentane	0.254	0.268	105.60	85-115
M 37 C6+ Hydrocarbons	0.262	0.283	108.02	85-115

Eurofins Air Toxics Inc.

Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020202.d
Lab Smp Id: 2299-1160 Ngas Client Smp ID: LCS
Inj Date : 02-FEB-2017 08:37
Operator : ly Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 02-Feb-2017 08:44 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.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

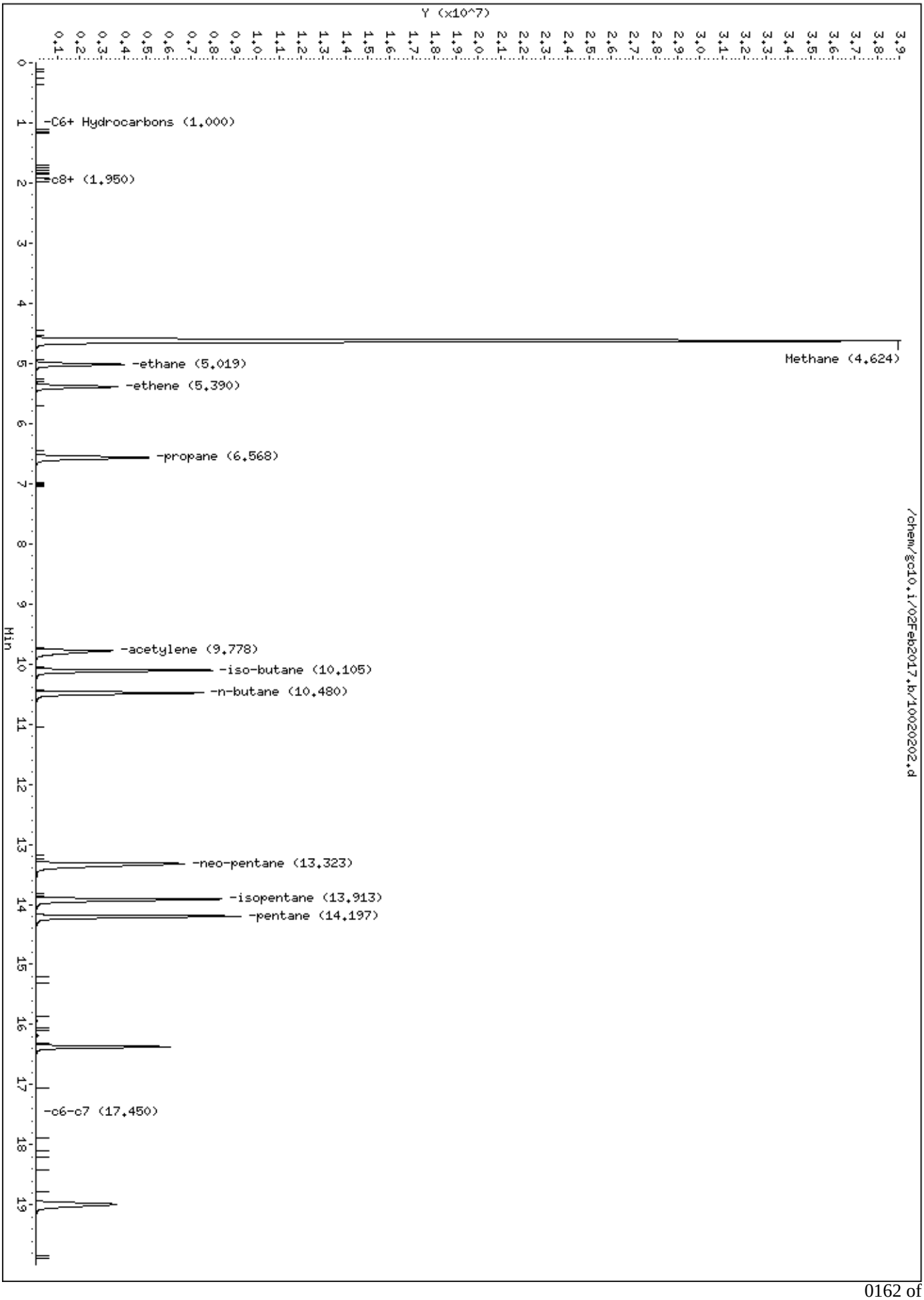
Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

					CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
2 Methane	4.624	4.615	0.009	1137498644	5.22555	5.22
3 ethane	5.019	5.011	0.008	108375191	0.25932	0.259
4 ethene	5.390	5.381	0.009	109450738	0.26324	0.263
5 propane	6.568	6.562	0.006	167758654	0.26863	0.269
7 acetylene	9.778	9.757	0.021	126285144	0.26237	0.262
8 iso-butane	10.105	10.106	-0.001	204518077	0.26409	0.264
10 n-butane	10.480	10.482	-0.002	202769459	0.26106	0.261
15 neo-pentane	13.323	13.327	-0.004	264353637	0.27157	0.272
16 isopentane	13.913	13.915	-0.002	247991819	0.27027	0.270
17 pentane	14.197	14.199	-0.002	250864764	0.26823	0.268
M 37 C6+ Hydrocarbons				313094921	0.28301	0.283
S 22 c6-c7	15.000-19.900			313026366	0.28295	0.283
S 36 c8+	0.400-3.500			68555	<0.0	0.0000620(a)

QC Flag Legend

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

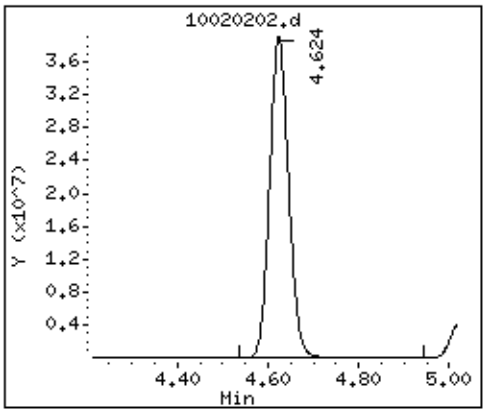


Data File: /chem/gc10.i/02Feb2017.b/10020202.d

/chem/gc10.i/02Feb2017.b/10020202.d

Page 1

2 Methane


10020202.d
4.624
3.6
3.2
2.8
2.4
2.0
1.6
1.2
0.8
0.4
Y (x10^7)
4.40
4.60
4.80
5.00
Min

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 1701428D-21AA

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	**10020224**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/2/17 08:02 PM**	

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

Container Type: NA - Not Applicable

Report Date: 02-Feb-2017 20:48

Eurofins Air Toxics Inc.

RECOVERY REPORT

Client Name:
Client SDG: 02Feb2017
Sample Matrix: GAS
Fraction: Atm Gas
Lab Smp Id: 2299-1160A 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/02Feb2017.b/107n0112.m
Misc Info:

SPIKE COMPOUND	CONC ADDED %	CONC RECOVERED %	% RECOVERED	LIMITS
2 Methane	4.98	5.09	102.27	85-115
3 ethane	0.250	0.253	101.09	85-115
4 ethene	0.254	0.256	101.01	85-115
5 propane	0.250	0.262	104.62	85-115
7 acetylene	0.250	0.256	102.26	85-115
8 iso-butane	0.250	0.257	102.92	85-115
10 n-butane	0.248	0.254	102.69	85-115
15 neo-pentane	0.256	0.264	103.22	85-115
16 isopentane	0.252	0.262	104.00	85-115
17 pentane	0.254	0.260	102.27	85-115
M 37 C6+ Hydrocarbons	0.262	0.272	104.03	85-115

Eurofins Air Toxics Inc.

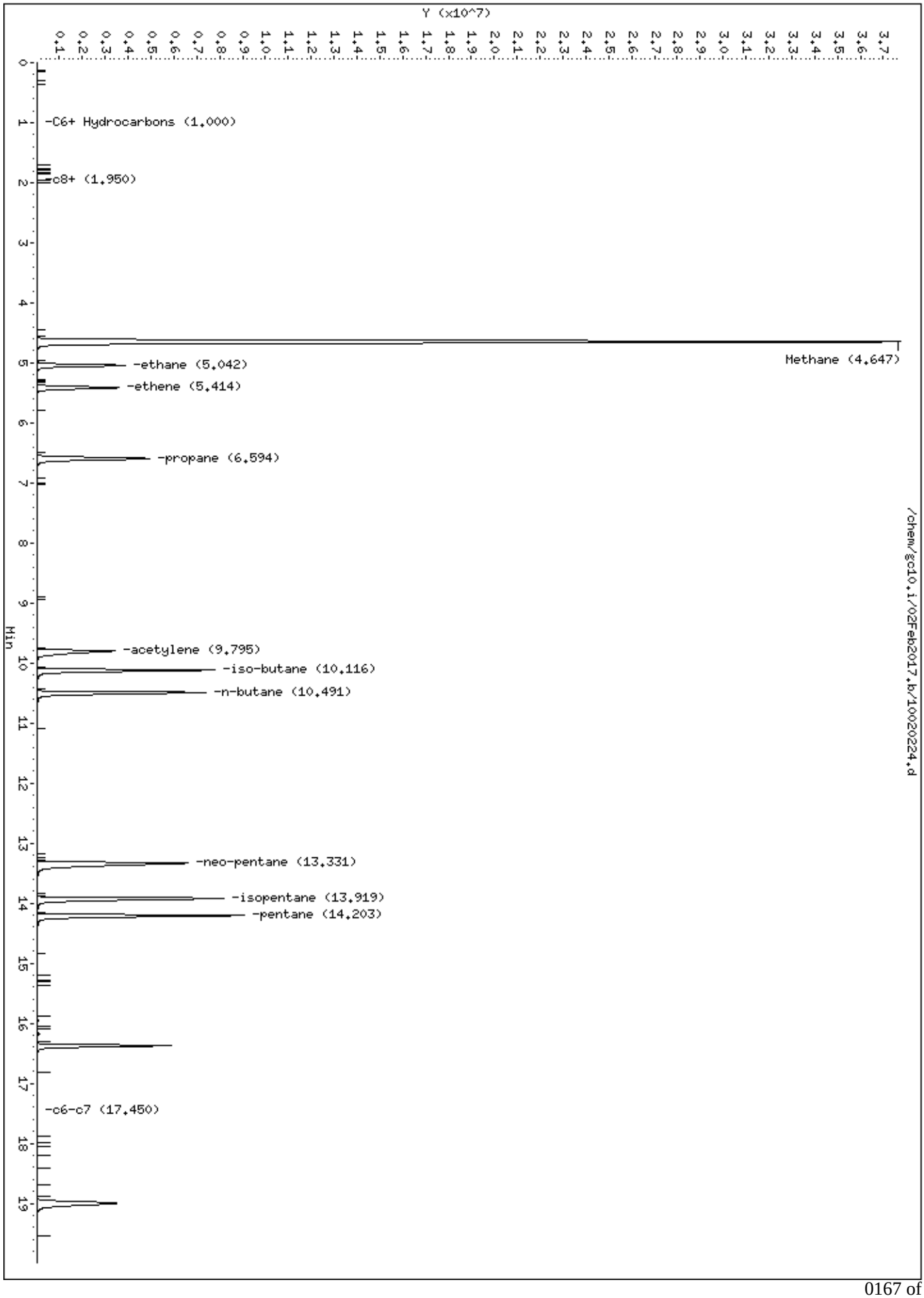
Modified ASTM D-1945/1946

Data file : /chem/gc10.i/02Feb2017.b/10020224.d
Lab Smp Id: 2299-1160A Ngas Client Smp ID: LCSD
Inj Date : 02-FEB-2017 20:02
Operator : mjs Inst ID: gc10.i
Smp Info : 1.0ml,
Misc Info :
Comment : GC/FID
Method : /chem/gc10.i/02Feb2017.b/107n0112.m
Meth Date : 02-Feb-2017 08:44 lyohanne Quant Type: ESTD
Cal Date : 12-JAN-2017 15:33 Cal File: 10011213.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

					CONCENTRATIONS ON-COLUMN (%)	FINAL (%)
Compounds	RT	EXP RT	DLT RT	RESPONSE		
2 Methane	4.647	4.615	0.032	1108615955	5.09287	5.09
3 ethane	5.042	5.011	0.031	105617226	0.25272	0.253
4 ethene	5.414	5.381	0.033	106677148	0.25657	0.256
5 propane	6.594	6.562	0.032	163329094	0.26154	0.262
7 acetylene	9.795	9.757	0.038	123050338	0.25565	0.256
8 iso-butane	10.116	10.106	0.010	199254173	0.25729	0.257
10 n-butane	10.491	10.482	0.009	197408237	0.25415	0.254
15 neo-pentane	13.331	13.327	0.004	257212323	0.26423	0.264
16 isopentane	13.919	13.915	0.004	240943414	0.26259	0.262
17 pentane	14.203	14.199	0.004	242949480	0.25976	0.260
M 37 C6+ Hydrocarbons				301524408	0.27255	0.272
S 22 c6-c7	15.000-19.900			301524408	0.27255	0.272
S 36 c8+	Compound Not Detected.					

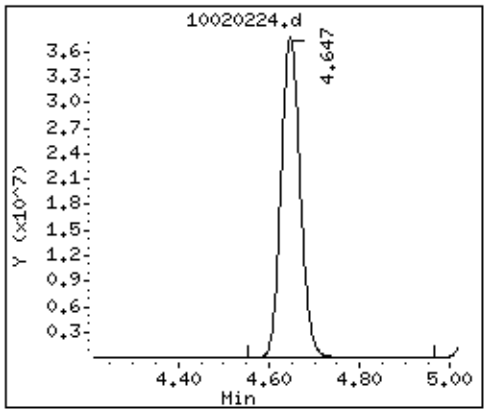


Data File: /chem/gc10.i/02Feb2017.b/10020224.d

/chem/gc10.i/02Feb2017.b/10020224.d

Page 1

2 Methane


10020224.d
4.647
Y (x10^7)
3.6
3.3
3.0
2.7
2.4
2.1
1.8
1.5
1.2
0.9
0.6
0.3
4.40
4.60
4.80
5.00
Min

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

GC-10

Logbook # 2815
Leak Test gmv

	USE	File #	Sample Name/Client ID	Can #	Verified Pressure >2psi	Pressure	Amt	DF	Date	Time	Review Init.	Comments
1	✓	10020201	2299-1048B	NA	NA	NA	1.0mL	1.60	2/2/17	0811	LY	CCV
2	✓	02	2299-1160A	↓						0837		LCS
3	✓	03	N_2 Lab Blank	9553						0908		
4	✓	04	He Lab Blank	6L0015				↓		0930		
5	✓	05	1701428D-01A	25236	✓	5.0"Hg → 5psi		1.61		0957		
6	✓	06	-02A	N1755	✓	5.5"Hg → 5psi		1.64		1022		
7	✓	07	-03A	4551	✓	9.0"Hg → 5psi		1.91		1059		
8	✓	08	-04A	00895	✓	5.0"Hg → 5psi		1.61		1123		
9	✓	09	-05A	00898	✓	6.0"Hg → 5psi		1.68		1153		
10	✓	10	-06A	33787	✓	5.5"Hg → 5psi		1.64		1219		
11	✓	11	-07A	33585	✓					1242		
12	✓	12	-08A	N1735	✓	7.5"Hg → 5psi		1.79		1323	↓	
13	✓	13	-09A	00138	✓	6.0"Hg → 5psi		1.68		1353	MB	
14	✓	14	-10A	6L1216	✓	7.0"Hg → 5.0psi		1.75		1420	LY	
15	✓	15	-11A	34320	✓	4.5"Hg → 5psi		1.58	↓	1514	↓	

Calculation check : File ID: 10020205 Compound: CH_4 Initials: LY

Sample Amt= $\frac{\text{Area Count Sample} \times}{\text{RF}}$ Dilution Factor = $\frac{(145628) \times}{(217680049)}$ (1.61)= 0.00108

Reported Result= 0.00108

Reviewed by/Date LY 2/2/17

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

GC-10

Logbook # 2815
Leak Test y

	USE	File #	Sample Name/Client ID	Can #	Verified Pressure >2psi	Pressure	Amt	DF	Date	Time	Review Init.	Comments
1	/	10020216	17014280-12A	N1591	✓	1.5"Hg → 5psi	1.0ml	1.41	2/2/17	1539	y	
2	/	17	-13A	N1726	✓	2.0"Hg → 5psi		1.75		1605	↓	
3	✓	18	-14A	N0416	✓	8.5"Hg → 5psi		1.87		1632	MB	
4	✓	19	-15A	0Ø316	✓	2.5"Hg → 5.0psi		1.46		1655	MB	
5	✓	20	-16A	1L1603	✓	5.7"Hg → 14.9psi		2.49		1740	MB	
6	✓	21	-17A	12373	✓	4.9"Hg → 15.1psi		2.42		1849	MB	
7	✓	22	-18A	1L1720	✓	5.5"Hg → 15.3psi		2.50		1913	MB	
8	✓	23	-19A	N1924	✓	5.5"Hg → 14.8psi		2.46		1938	MB	
9	✓	24	2299-1160A Nguo	NA	NA	NA		1.00		2002	MB	LCSD, exp. 2/2/18
10												
11												
12												
13												
14												
15											MB	2/2/17

Calculation check : File ID: 10020216 Compound: Oxygen Initials: MB

Sample Amt= Area Count Sample x / RF Dilution Factor = (7103738234) x / (4995378 12) (1.41)= 20.0

Reported Result= 20.0

Reviewed by/Date MB 2/2/17

Shipping/ Receiving Documents

eurofins | Air Toxics

Eurofins Air Toxics, Inc. Sample Receipt Confirmation Cover Page

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

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

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

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

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

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

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

eurofins | Air Toxics

Sample Transportation Notice
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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) RO, TT, DL, [signature]
Company: AMAI Email: ttaylor@amiconsult.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 # BMS V1
Project Name BMS V1

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	B301A-1-012117	25236	01/21/17	1817	TO-15, MeOH, CH_4	30"	5"		
02A	B301A-2-012117	N1755	01/21/17	1820	TO-15, MeOH, CH_4	30"	6.5		
03A	B301A-3-012117	9551	01/21/17	1821	TO-15, MeOH, CH_4	28"	10.5"		
04A	B301A-4-012117	00895	01/21/17	1822	TO-15, MeOH, CH_4	30"	5"		
05A	B301A-4D-012117 00898	~~00907~~	01/21/17	1822	TO-15, MeOH, CH_4	30"	6"		
06A	B301A-5-012117	33787	01/21/17	1825	TO-15, MeOH, CH_4	30"+	6"		
07A	B1830AA-012117	33585	1/21/17	1842	TO-15, MeOH, CH_4	30"	6"		
08A	B181A-1-012117	N1735	1/21/17	1807	TO-15, MeOH, CH_4	30"+	8"		
09A	B181A-1D-012117	00138	1/21/17	1807	TO-15, MeOH, CH_4	30"	7.5"		
10A	B181A-2-012117	GL1216	1/21/17	1800	TO-15, MeOH, CH_4	30"+	5"		

Relinquished by: (signature) Date/Time: [signature] 1-27-17 1400
Received by: (signature) Date/Time: Fed EX Track No. 7782 9053 0772
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time: [signature] 1/30/17 0920
Relinquished by: (signature) Date/Time:
Received by: (signature) Date/Time:

Notes: Tag for canister 00898 indicated it is N0448. That ID is not on the packing slip. The canister has the serial # 00898, and is listed on the packing slip

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		N/A	good	Yes No (None)	1701428

Form 1293 rev.11

Air Toxics LTD.

Chain-of-Custody Record

Contact Person Terry Taylor
Company Anderson Mulholland & Associates, Inc.
Address 2700 Winchester, Suite 417 City Purchase State NY Zip 10577
Phone 914-251-0400, x 309 FAX
Collected By: (Signature)

Project Information:
P.O. #
Project #
Project Name BMS VI Invest.
Buildings 8,13, 5, 18, and 30

Turn Around Time:
[X] Normal
[ ] Rush
Specify

Pressurized by:
Date:
Press. Gas: N2 He

Lab I.D.	Field Sample I.D.	Canister I.D.	Date & Time	Analysis Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
11A	B18IA-3-012117	34320	1/21/17:1810	TO-15, MeOH, CH_4	29 "Hg	6		
12A	B18IA-4-012117	N1591	1/21/17:1812	TO-15, MeOH, CH_4	29.5 "Hg	6		
13A	B8IA-2-012317	N1726	1/23/17:1223	TO-15, MeOH, CH_4	29 "Hg	8		
14A	B8IA-2D-012317	N0416	1/23/17:1223	TO-15, MeOH, CH_4	29 "Hg	9		
15A	B8AA-012317	0Ø316	1/23/17:0920	TO-15, MeOH, CH_4	29 "Hg	3		
16A	B8SS-2-012417	1L1603	1/24/17:1535	TO-15, MeOH, CH_4	30 "Hg	5		
17A	B8SS-2D-012417	12373	1/24/17:1535	TO-15, MeOH, CH_4	29 "Hg	5		
18A	B18SS-1-012617	1L1720	1/26/17:1730	TO-15, MeOH, CH_4	30 "Hg	5		
VV 1/30/17 ~~19A~~	~~B18SS-1DUP-01266~~				~~"Hg~~			
19A ~~20A~~	B18SS-1DUP-012617	N1929	1/26/17:1730	TO-15, MeOH, CH_4	30 "Hg	6		

Relinquished By: (Signature) Date/Time
Received By: (Signature) Date/Time 1-27-17 1400 Fed EX
Relinquished By: (Signature) Date/Time
Received By: (Signature) Date/Time 1/30/17 0920
Relinquished By: (Signature) Date/Time
Received By: (Signature) Date/Time

Notes:
FedEX Tracking No. 7782 9053 0772

Shipper Name	Air Bill #	Opened By	Temp ©	Condition	Custody Seals	Work Order #
Fed Ex		EATL	N/A	Good	Yes No (None)	1701428

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SAMPLE RECEIPT SUMMARY

WORKORDER 1701428D

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: 02/10/17
Date Completed: 2/10/17
Date Received: 1/30/17
PO#:
Project#: BMS VI

Total $: $ 1,235.00
Logged By: JV

Fraction	Sample #	Analysis	Collected	Receipt Vac./Pres.	Amount$
01A	B30IA-1-012117	Modified ASTM D-1946	1/21/2017	5.0 "Hg	$60.00
02A	B30IA-2-012117	Modified ASTM D-1946	1/21/2017	5.5 "Hg	$60.00
03A	B30IA-3-012117	Modified ASTM D-1946	1/21/2017	9.0 "Hg	$60.00
04A	B30IA-4-012117	Modified ASTM D-1946	1/21/2017	5.0 "Hg	$60.00
05A	B30IA-4D-012117	Modified ASTM D-1946	1/21/2017	6.0 "Hg	$60.00
06A	B30IA-5-012117	Modified ASTM D-1946	1/21/2017	5.5 "Hg	$60.00
07A	B1830AA-012117	Modified ASTM D-1946	1/21/2017	5.5 "Hg	$60.00
08A	B18IA-1-012117	Modified ASTM D-1946	1/21/2017	7.5 "Hg	$60.00
09A	B18IA-1D-012117	Modified ASTM D-1946	1/21/2017	6.0 "Hg	$60.00
10A	B18IA-2-012117	Modified ASTM D-1946	1/21/2017	7.0 "Hg	$60.00
11A	B18IA-3-012117	Modified ASTM D-1946	1/21/2017	4.5 "Hg	$60.00
12A	B18IA-4-012117	Modified ASTM D-1946	1/21/2017	1.5 "Hg	$60.00
13A	B8IA-2-012317	Modified ASTM D-1946	1/23/2017	7.0 "Hg	$60.00
14A	B8IA-2D-012317	Modified ASTM D-1946	1/23/2017	8.5 "Hg	$60.00
15A	B8AA-012317	Modified ASTM D-1946	1/23/2017	2.5 "Hg	$60.00
16A	B8SS-2-012417	Modified ASTM D-1946	1/24/2017	5.7 "Hg	$60.00
17A	B8SS-2D-012417	Modified ASTM D-1946	1/24/2017	4.9 "Hg	$60.00
18A	B18SS-1-012617	Modified ASTM D-1946	1/26/2017	5.5 "Hg	$60.00
19A	B18SS-1Dup-012617	Modified ASTM D-1946	1/26/2017	5.5 "Hg	$60.00
20A	Lab Blank	Modified ASTM D-1946	NA	NA	$0.00

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

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SAMPLE RECEIPT SUMMARY Continued

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: 02/10/17
Date Completed: 2/10/17
Date Received: 1/30/17
PO#:
Project#: BMS VI

Total $: $ 1,235.00
Logged By: JV

Fraction	Sample #	Analysis	Collected	Receipt Vac./Pres.	Amount$
21A	LCS	Modified ASTM D-1946	NA	NA	$0.00
21AA	LCSD	Modified ASTM D-1946	NA	NA	$0.00

Misc. ChargeseCVP (19) @ $5.00 each. $95.00

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

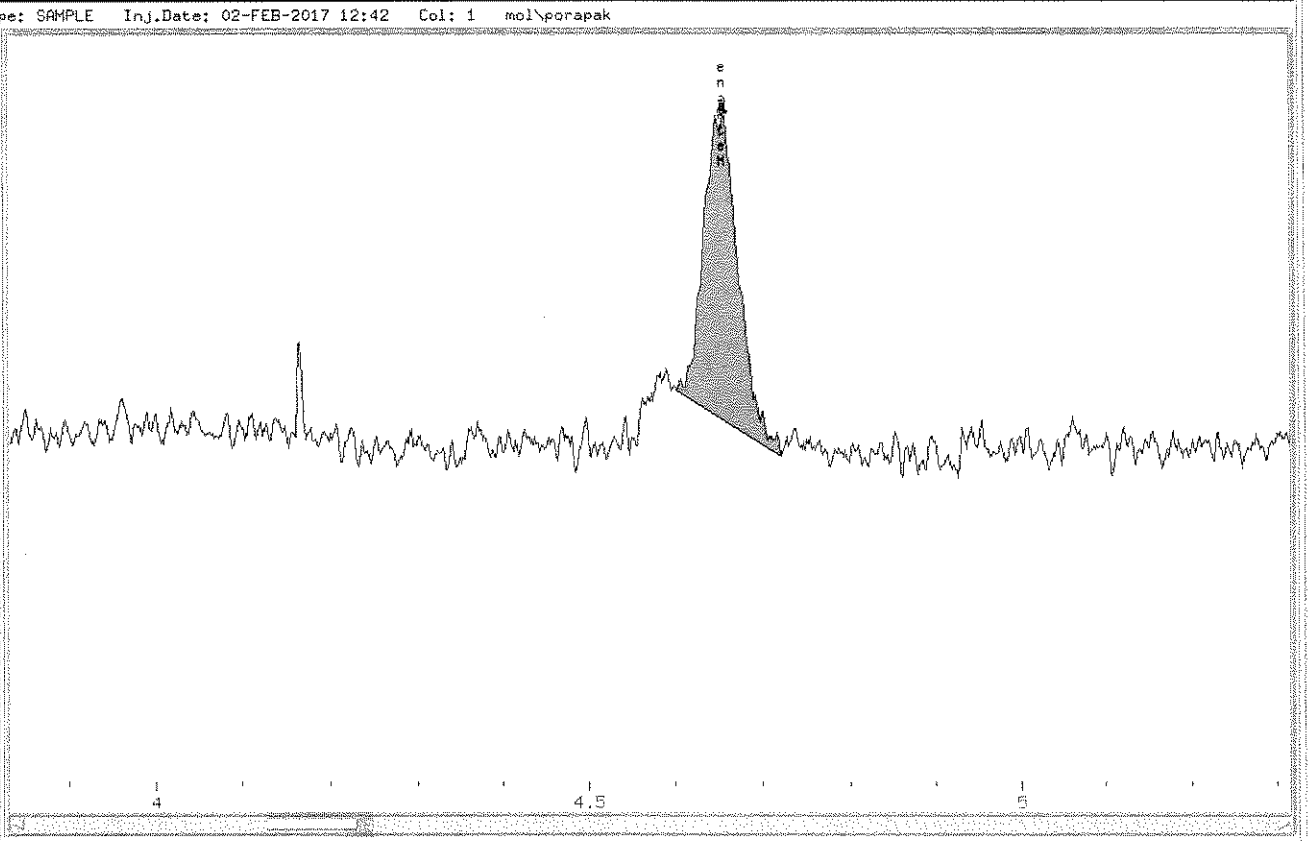
Other Records

TargetReview: eeyore: 1701428D-07A: /chem/gc10.i/02Feb2017.b/10020211.d

File Security Edit Display Process Help

Sample: 1701428D-07A Type: SAMPLE Inj.Date: 02-FEB-2017 12:42 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+



10020204b.d
10020204c.d
10020205.d
10020205b.d
10020205c.d
10020206.d
10020206b.d
10020206c.d
10020207.d
10020207b.d
10020207c.d
10020208.d
10020208b.d
10020208c.d
10020209.d
10020209b.d
10020209c.d
10020210.d
10020210b.d
10020210c.d
10020211.d

Hit#	RT(min)	Response	Amount	Conc	Ratio	Flags	Report:
1	4.657	21492	0.0000987	0.000162	100	a	

- Mark Methane Undetected.

Before

TargetReview: eeyore: 1701428D-07A: /chem/gc10.i/02Feb2017.b/10020211.d

File Security Edit Display Process Help

Sample: 1701428D-07A Type: SAMPLE Inj.Date: 02-FEB-2017 12:42 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+

Manual Int

Time: 4.658 Done

Area: 23923 Help

Height: 827

Snap to Data

Snap to Int Marks

Overlap Peaks

Assign Baseline

Split Peak

10020204b.d
10020204c.d
10020205.d
10020205b.d
10020205c.d
10020206.d
10020206b.d
10020206c.d
10020207.d
10020207b.d
10020207c.d
10020208.d
10020208b.d
10020208c.d
10020209.d
10020209b.d
10020209c.d
10020210.d
10020210b.d
10020210c.d
10020211.d

4 4.5 5

Hit#	RT(min)	Response	Amount	Conc	Ratio	Flags	Report:
1	4.658	23923	0.000110	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	

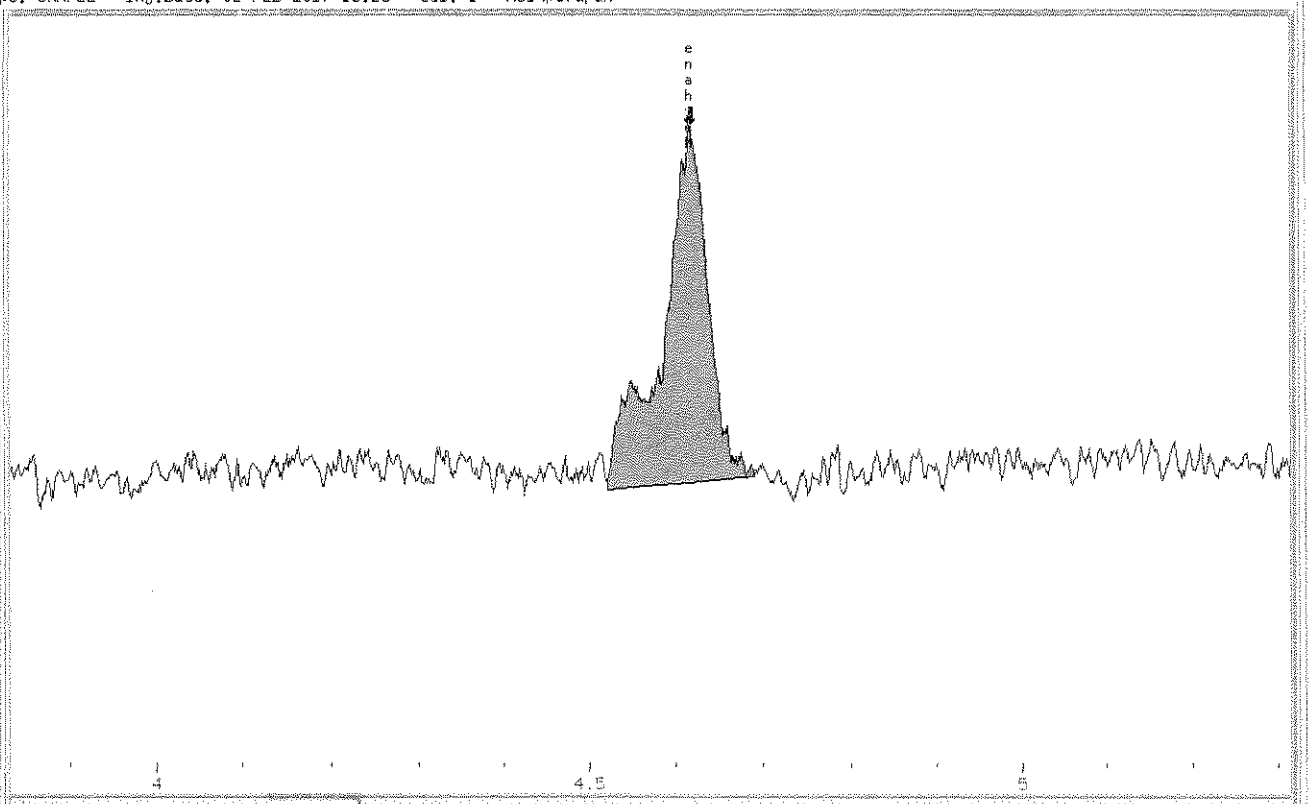
LY 2/10/17

TargetReview: eeyore: 1701428D-08A: /chem/gc10.i/02Feb2017.b/10020212.d

File Security Edit Display Process Help

Sample: 1701428D-08A Type: SAMPLE Inj.Date: 02-FEB-2017 13:23 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+

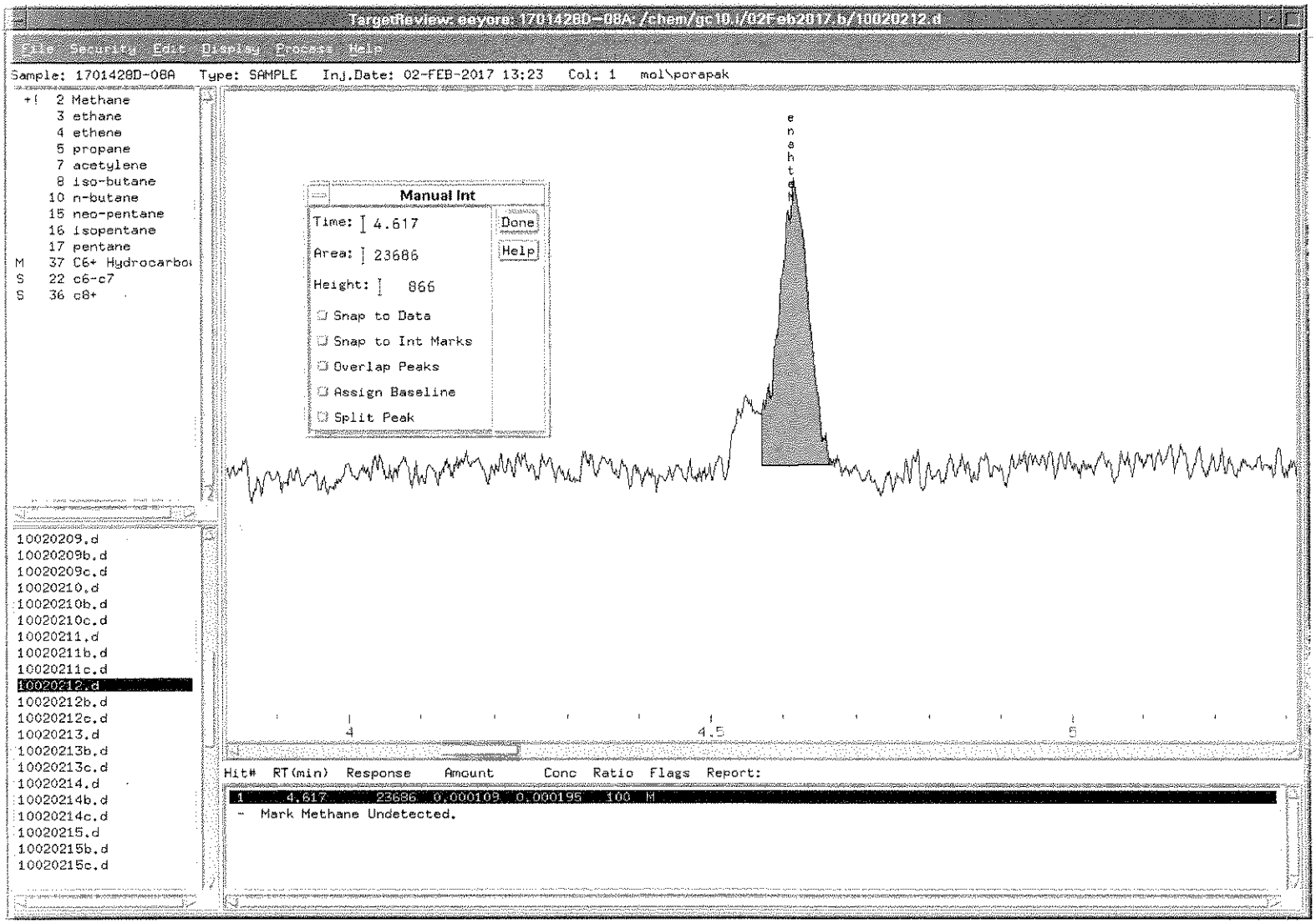


10020209.d
10020209b.d
10020209c.d
10020210.d
10020210b.d
10020210c.d
10020211.d
10020211b.d
10020211c.d
10020212.d
10020212b.d
10020212c.d
10020213.d
10020213b.d
10020213c.d
10020214.d
10020214b.d
10020214c.d
10020215.d
10020215b.d
10020215c.d

Hit#	RT(min)	Response	Amount	Conc	Ratio	Flags	Report:
1	4.618	32614	0.000150	0.000268	100		

- Mark Methane Undetected.

Before



After

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

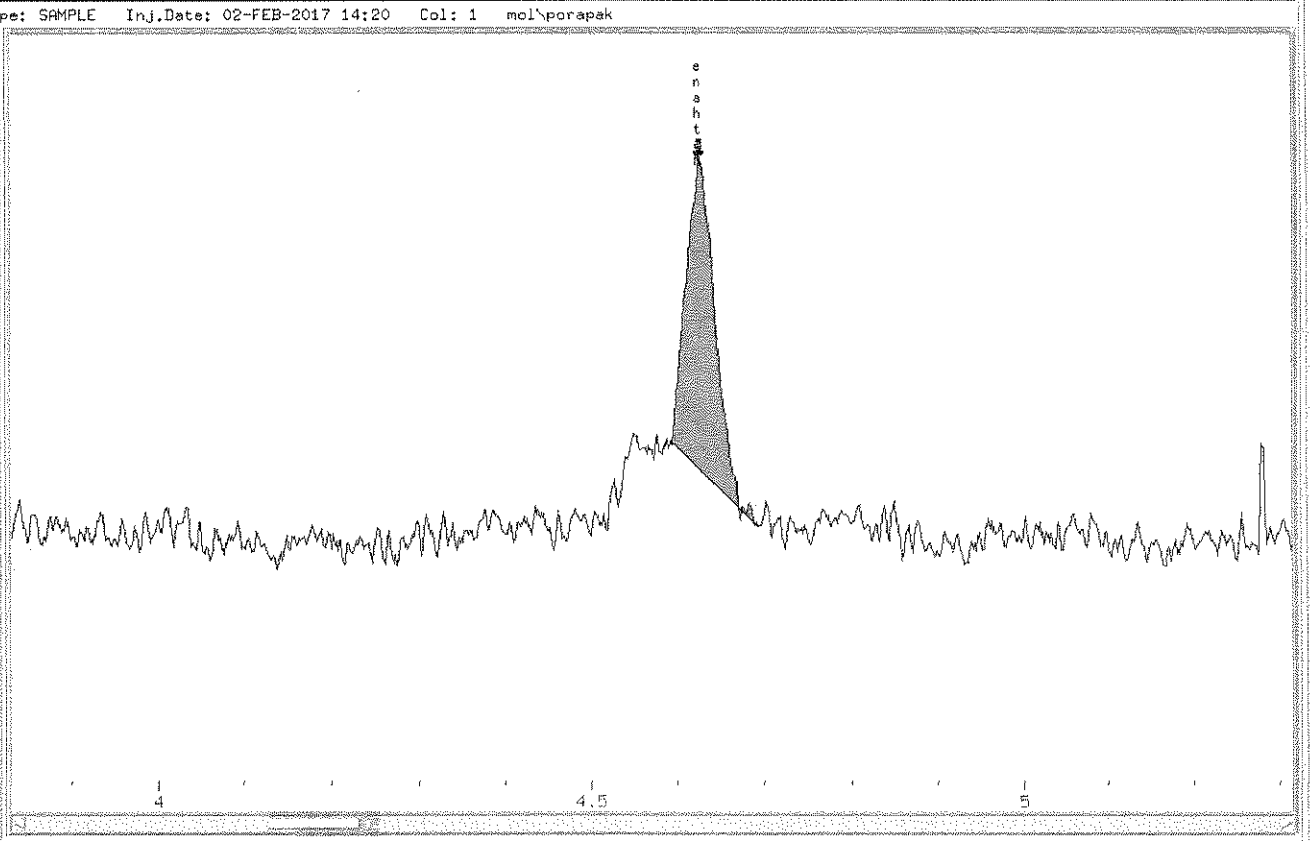
4 2/10/17

TargetReview: eeyore: 1701428D-10A: /chem/gc10.i/02Feb2017.b/10020214.d

File Security Edit Display Process Help

Sample: 1701428D-10A Type: SAMPLE Inj.Date: 02-FEB-2017 14:20 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+

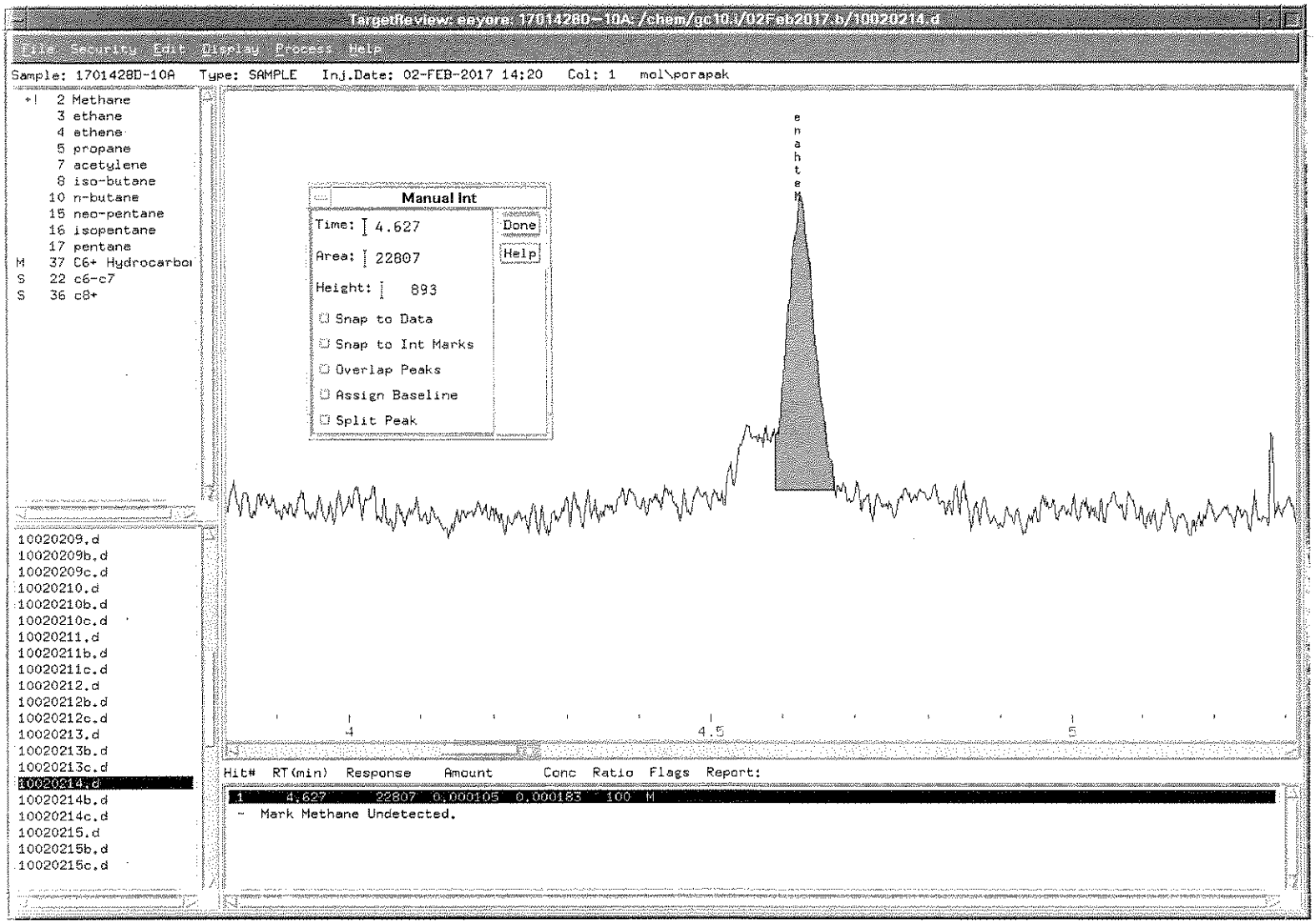


10020209.d
10020209b.d
10020209c.d
10020210.d
10020210b.d
10020210c.d
10020211.d
10020211b.d
10020211c.d
10020212.d
10020212b.d
10020212c.d
10020213.d
10020213b.d
10020213c.d
10020214.d
10020214b.d
10020214c.d
10020215.d
10020215b.d
10020215c.d

Hit#	RT(min)	Response	Amount	Conc	Ratio	Flags	Report:
1	4.627	18185	0.0000835	0.000145	100	a	

- Mark Methane Undetected.

Before



After

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

LY 2/10/17

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

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

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
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S1	S2	S3	S4	D	***Section 1* – Spec Out**				
					Initials/Instrument/Date	**S1:** GC-10 MB 2/2/17	**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 2/2/17	**A2:**	**A3:**	**A4:**
✓				✓	IS/Surr Recoveries, Dilution Factors, Load Volumes, leg(s) of instrument, Initial/Final Pressures, and Canister #s Verified				
NA				NA	**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	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: 18A, 19A field dups OK

D1	D2	D3	D4	T	3T	***Section 3* – Target Data Reduction**	**Technical Review Needed? Circle one: Yes/No**		**T:**	
						Initials/Instrument/ Date GC10	**D1:** 2/10/17	**D2:**	**D3:**	**D4:**
NA						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				
NA						TPH/NMOC calculations complete and included in folder				

Special notes:

A	3T	***Section 4*- Atlas Data Entry**	**Lumen verified and included in folder**	**Circle one: Yes/No**
		Initials/Date: 2/10/17	**3rd Tier:** *(needed only for DOD or per client request)*	
NA		Sample Discrepancy Report (SDR) complete and approved *(if applicable)*		
✓		Manually entered results are checked		
✓		At least one result per sample is verified against Target quant sheets		
NA		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