Atmospheric Analysis & Consulting, Inc.

CLIENT : SWAPE
PROJECT NAME : Bridgeton Sanitary Landfill Quality Assessment
AAC PROJECT NO. : 130647
REPORT DATE : 05/31/2013

On May 30, 2013, Atmospheric Analysis & Consulting, Inc. received eight (8) Six-Liter Summa Canisters for Total Reduced Sulfur analysis by ASTM D-5504. Upon receipt, the samples were assigned unique Laboratory ID numbers as follows:

Client ID	Lab No.	Return Pressure (mmHgA)
U-1 W7N Canister	130647-63190	517.8
U-2 W7S Canister	130647-63191	588.7
D-1 JWest Canister	130647-63192	580.1
D-2 W4 Canister	130647-63193	390.1
U-1 W7E Canister	130647-63194	699.5
U-2 W7W Canister	130647-63195	609.0
D-1 W5 Canister	130647-63196	641.1
D-2 I Canister	130647-63197	380.1

ASTM D-5504 Analysis - Up to a 1 mL aliquot of sample is injected into the GC/SCD for analysis following ASTM D-5504 as specified in the SOW.

No problems were encountered during receiving, preparation, and/ or analysis of these samples. The test results included in this report meet all requirements of the NELAC Standards and/or AAC SOP# AACI-ASTM D-5504.

I certify that this data is technically accurate, complete, and in compliance with the terms and conditions of the contract. The Laboratory Director or his designee, as verified by the following signature, has authorized release of the data contained in this hardcopy data package.

If you have any questions or require further explanation of data results, please contact the undersigned.

Marcus Hueppe
Laboratory Director

This report consists of 59 pages.

ACCREDITED IN ACCORDANCE WITH nelac Certificate #E87837

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

CANISTER PRESSURE LOG

Client: Soil Water Air Protection Ent Project No.: 130647

Date: 5/30/2013

Canister #	Sample #	Initial Pressure	Final Pressure
687	63190	517.8	1015.2
705	63191	588.7	1018.5
704	63192	580.1	1021.6
706	63193	390.1	1025.8
701	63194	699.5	1019.9
723	63195	609.0	1023.6
669	63196	641.1	1016.6
734	63197	380.1	1030.3

1

AAC#130647

CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

Bridgeton Sanitary Landfill Air Quality Assessment

Client Name: SOIL / WATER AIR PROTECTION ENTERPRISE	Telephone No. / Fax No.: (310) 434-0110 / (310) 434-0011
Project Manager: PAUL ROSENFELD, PH.D.	Date: **may 22nd, 2013**
Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401	Page 1 of 1
Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT	
Sampled By: John Blank	Sampler Signature: John Blank

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Carbonyls - EPA TO-11A	Carboxlyic Acids - Tube GC-MS	HCL - NIOSH 7903	Ammonia - OSHA ID-188	SO2 - OSHA ID-200	HCN - NIOSH 6010	Amines - NIOSH 2010M	Fixed Gases - EPA 3C	PAHs / Dioxins EPA TO-13A / 9A	Mercury - NIOSH 6009	Odor Evaluation
63190	U-1 W7N	Canister		22-May	4 Hr	X	X										
63191	U-2 W7S ✓	Canister		22-May	4 Hr	X	X										
63192	D-1 JWest	Canister		22-May	4 Hr	X	X										
63193	D-2 W4	Canister		22-May	4 Hr	X	X										

REQUESTED TESTS / ANALYSES

Special Instructions / Conditions of Receipt

Canister #	**687**	(805)
Canister #	**705**	(803)
Canister #	**704**	(804)
Canister #	**706**	(709)

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.	QC Requirements: Provide Level IV QC Package for all Analyses.

Relinquished By: **John Blank**	Date: **may 22nd,**	12 Noon	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date: 5/30/13	Time: 1100

AA C# 130647

CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

Bridgeton Sanitary Landfill Air Quality Assessment

Client Name: SOIL / WATER AIR PROTECTION ENTERPRISE	Telephone No. / Fax No.: (310) 434-0110 / (310) 434-0011	Date: May 23
Project Manager: PAUL ROSENFELD, PH.D.		Page 1 of 1
Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401		
Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT		
Sampled By: John Blank	Sampler Signature: John Blank	

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Carbonyls - EPA TO-11A	Carboxlylic Acids - Tube GC-MS	HCL - NIOSH 7903	Ammonia - OSHA ID-188	SO2 - OSHA ID-200	HCN - NIOSH 6010	Amines - NIOSH 2010M	Fixed Gases - EPA 3C	PAHs / Dioxins EPA TO-13A / 9A	Mercury - NIOSH 6009	Odor Evaluation
603194	U-1 W7E	Canister	may 23	4 Hr	X	X											
603195	U-2 W7W	Canister	"	4 Hr	X	X											
603196	D-1 . W5	Canister ✓	"	4 Hr	X	X											
603197	D-2 - I	Canister	"	4 Hr	X	X											

Special Instructions / Conditions of Receipt

Canister # 701
Canister # ~~674~~ 723
Canister # ~~736~~ 669
Canister # 734

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.		QC Requirements: Provide Level IV QC Package for all Analyses.	
Relinquished By: John Blank	Date: 23 — 12 Noon	Received By:	Date: — Time:
Relinquished By:	Date: — Time:	Received By:	Date: — Time:
Relinquished By:	Date: — Time:	Received By:	Date: 5/30/13 — Time: 1100

Atmospheric Analysis and Consulting Inc.
Canister Sampling Field Data Sheet

GENERAL INFORMATION

Project Name and/or ID No.: SWAPE Project: 601 Bridgeton Landfill

Site Address and/or ID No: Bridgeton Sanitary Landfill, Bridgeton, Missouri

Sample Name and/or ID No.: U-1 WTN Canister

AAC Batch ID: 130647 AAC Sample ID: 63190

SAMPLING INFORMATION

Start Date/Time: 5/22/13 10:07 Stop Date/Time: 5/22/13 14:07

Start Temp/Pressure*: 18C / 29.7 Stop Temp/Pressure*: 19C / 29.7

Initial Can Pressure**: -29 Final Can Pressure**: -9.5

** Ambient Barometric Reading where sample is being taken (C / inHg) ** Flow Controller Gauge Reading (inHg)*

Comments:

John Blank
Sampler Name (Print)

Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6-Liter Sampling Period: 4-Hour

Canister Serial No.: 687 Flow Controller Serial No: 805

Initial Pressure: 4.0 Certified Flow Rate: 18.0

Return Pressure: 517.8 Certified By/Date: JJ 5/23/2013

Final Pressure: 1015.2 Flow Rate upon Return: 22.1

Date Shipped From Lab: 5/13/2013 Shipped By: JJ

Date Returned to Lab: 5/30/2013 Received By: JJ

Flow Controller Certification File ID: M503/05061305

Canister Certification File ID: M503/05101320

Certification Type: SIM ____ SCAN ✓ NJLL ____ PAMS ____ Other ____

06/03/13
Chemist Signature/Date

MK 6/3/13
Lab Manager Signature/Date

Sampler is required to fill out all highlighted sections during sampling.
All remaining sections will be completed upon return by the laboratory.

Atmospheric Analysis and Consulting Inc.
Canister Sampling Field Data Sheet

GENERAL INFORMATION

Project Name and/or ID No.: SWAPE Project: 601 Bridgeton Landfill

Site Address and/or ID No: Bridgeton Sanitary Landfill, Bridgeton, Missouri

Sample Name and/or ID No.: U-2 WTS Canister

AAC Batch ID: 130647 AAC Sample ID: 63191

SAMPLING INFORMATION

Start Date/Time: 5/22/13 10:14 Stop Date/Time: 5/22/13 14:14

Start Temp/Pressure*: 18°C / 29.7 Stop Temp/Pressure*: 19°C / 29.7

Initial Can Pressure**: -30 Final Can Pressure**: -5

**Ambient Barometric Reading where sample is being taken (C / inHg) ** Flow Controller Gauge Reading (inHg)*

Comments:

John Blank
Sampler Name (Print)

Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6-Liter Sampling Period: 4-Hour

Canister Serial No.: 705 Flow Controller Serial No: 803

Initial Pressure: 4.2 Certified Flow Rate: 18.0

Return Pressure: 588.7 Certified By/Date: 5/23/2013

Final Pressure: 1018.5 Flow Rate upon Return: 21.5

Date Shipped From Lab: 5/13/2013 Shipped By:

Date Returned to Lab: 5/30/2013 Received By:

Flow Controller Certification File ID: M503/05061305

Canister Certification File ID: M503/05101317

Certification Type: SIM ____ SCAN ✓ NJLL ____ PAMS ____ Other ____

6/6/13
Chemist Signature/Date

6/5/13
Lab Manager Signature/Date

Sampler is required to fill out all highlighted sections during sampling. All remaining sections will be completed upon return by the laboratory.

Atmospheric Analysis and Consulting Inc.
Canister Sampling Field Data Sheet

GENERAL INFORMATION

Project Name and/or ID No.: SWAPE Project: 601 Bridgeton Landfill

Site Address and/or ID No: Bridgeton Sanitary Landfill, Bridgeton, Missouri

Sample Name and/or ID No.: D-1 INLET CANISTER

AAC Batch ID: 130647 AAC Sample ID: 63192

SAMPLING INFORMATION

Start Date/Time: 5/22/13 9:23 Stop Date/Time: 5/22/13 13:23

Start Temp/Pressure*: 18°C / 29.7 Stop Temp/Pressure*: 19°C / 29.7

Initial Can Pressure**: -29 Final Can Pressure**: -7.5

** Ambient Barometric Reading where sample is being taken (C / inHg) ** Flow Controller Gauge Reading (inHg)*

Comments:

John Blunk
Sampler Name (Print)

Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6-Liter Sampling Period: 4-Hour

Canister Serial No.: 704 Flow Controller Serial No: 804

Initial Pressure: 4.0 Certified Flow Rate: 18.0

Return Pressure: 580.1 Certified By/Date: [illegible] 5/23/2013

Final Pressure: 1021.6 Flow Rate upon Return: 20.2

Date Shipped From Lab: 5/13/2013 Shipped By: [illegible]

Date Returned to Lab: 5/30/2013 Received By: [illegible]

Flow Controller Certification File ID: MS03/05061305

Canister Certification File ID: MS03/05101316

Certification Type: SIM ___ SCAN ✓ NJLL ___ PAMS ___ Other ___

[illegible] 06/03/13
Chemist Signature/Date

[illegible] 6/5/2013
Lab Manager Signature/Date

Sampler is required to fill out all highlighted sections during sampling. All remaining sections will be completed upon return by the laboratory.

Atmospheric Analysis and Consulting Inc.
Canister Sampling Field Data Sheet

GENERAL INFORMATION

Project Name and/or ID No.: SWAPE Project: 601 Bridgeton Landfill

Site Address and/or ID No: Bridgeton Sanitary Landfill, Bridgeton, Missouri

Sample Name and/or ID No.: D-2 WY Canister

AAC Batch ID: 130647 AAC Sample ID: 63193

SAMPLING INFORMATION

Start Date/Time: 5/22/13 9:28 Stop Date/Time: 5/22/13 13:28

Start Temp/Pressure*: 18°C / 29.7 Stop Temp/Pressure*: 19°C / 29.7

Initial Can Pressure**: -3 Final Can Pressure**: -15

**Ambient Barometric Reading where sample is being taken (C / inHg) ** Flow Controller Gauge Reading (inHg)*

Comments:

John Blank
Sampler Name (Print)

Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6-Liter Sampling Period: 4-Hour

Canister Serial No.: 706 Flow Controller Serial No: 709

Initial Pressure: 4.0 Certified Flow Rate: 18.0

Return Pressure: 390.1 Certified By/Date: 5/23/2013

Final Pressure: 1025.8 Flow Rate upon Return: 21.8

Date Shipped From Lab: 5/13/2013 Shipped By:

Date Returned to Lab: 5/30/2013 Received By:

Flow Controller Certification File ID: MS03/0506305

Canister Certification File ID: MS03/05101316

Certification Type: SIM ____ SCAN ✓ NJLL ____ PAMS ____ Other ____

06/03/0
Chemist Signature/Date

MK 6/5/13
Lab Manager Signature/Date

Sampler is required to fill out all highlighted sections during sampling. All remaining sections will be completed upon return by the laboratory.

Atmospheric Analysis and Consulting Inc.
Canister Sampling Field Data Sheet

GENERAL INFORMATION

Project Name and/or ID No.: SWAPE Project: 601 Bridgeton Landfill

Site Address and/or ID No: Bridgeton Sanitary Landfill, Bridgeton, Missouri

Sample Name and/or ID No.: U-1 WTE Canister

AAC Batch ID: 130647 AAC Sample ID: 63194

SAMPLING INFORMATION

Start Date/Time: 5/22/13 8:45 Stop Date/Time: 5/23/13 12:45

Start Temp/Pressure*: 16°C / 29.9 Stop Temp/Pressure*: 17°C / 30.03

Initial Can Pressure**: -26.5 Final Can Pressure**: -0.5

** Ambient Barometric Reading where sample is being taken (C / inHg) ** Flow Controller Gauge Reading (inHg)*

Comments:

JOHN BLANT
Sampler Name (Print)

John U Blant
Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6-Liter Sampling Period: 4-Hour

Canister Serial No.: 701 Flow Controller Serial No: 715

Initial Pressure: 0.3 Certified Flow Rate: 18.0

Return Pressure: 699.5 Certified By/Date: JJ 5/20/2013

Final Pressure: 1019.9 Flow Rate upon Return: 18.4

Date Shipped From Lab: 5/8/2013 Shipped By: JJ

Date Returned to Lab: 5/30/2013 Received By: JJ

Flow Controller Certification File ID: MS03/05201310

Canister Certification File ID: MS03/05071313

Certification Type: SIM ____ SCAN ✓ NILL ____ PAMS ____ Other ____

Jessica Rodd 6/3/13
Chemist Signature/Date

MM 6/5/13
Lab Manager Signature/Date

Sampler is required to fill out all highlighted sections during sampling.
All remaining sections will be completed upon return by the laboratory.

Atmospheric Analysis and Consulting Inc.
Canister Sampling Field Data Sheet

GENERAL INFORMATION

Project Name and/or ID No.: SWAPE Project: 601 Bridgeton Landfill

Site Address and/or ID No: Bridgeton Sanitary Landfill, Bridgeton, Missouri

Sample Name and/or ID No.: U-2 W7W Canister

AAC Batch ID: 130697 AAC Sample ID: 03195

SAMPLING INFORMATION

Start Date/Time: 5/23/13 8:50 Stop Date/Time: 5/23/13 12:50

Start Temp/Pressure*: 16°C/29.9 Stop Temp/Pressure*: 17°C/30.03

Initial Can Pressure**: -30 Final Can Pressure**: -5

** Ambient Barometric Reading where sample is being taken (C / inHg) ** Flow Controller Gauge Reading (inHg)*

Comments:

JOHN BLANK
Sampler Name (Print)

Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6-Liter Sampling Period: 4-Hour

Canister Serial No.: 723 Flow Controller Serial No: 694

Initial Pressure: 0.3 Certified Flow Rate: 18.0

Return Pressure: 6090 Certified By/Date: 5/20/2013

Final Pressure: 10236 Flow Rate upon Return: 18.8

Date Shipped From Lab: 5/8/2013 Shipped By:

Date Returned to Lab: 5/30/2013 Received By:

Flow Controller Certification File ID: M503/052013/10

Canister Certification File ID: M503/050713/15

Certification Type: SIM ___ SCAN ✓ NJLL ___ PAMS ___ Other ___

5/31/13
Chemist Signature/Date

MM 6/5/13
Lab Manager Signature/Date

Sampler is required to fill out all highlighted sections during sampling. All remaining sections will be completed upon return by the laboratory.

Atmospheric Analysis and Consulting Inc.
Canister Sampling Field Data Sheet

GENERAL INFORMATION

Project Name and/or ID No.: SWAPE Project: 601 Bridgeton Landfill

Site Address and/or ID No: Bridgeton Sanitary Landfill, Bridgeton, Missouri

Sample Name and/or ID No.: D-1 1115 Canister

AAC Batch ID: 130647 AAC Sample ID: 63196

SAMPLING INFORMATION

Start Date/Time: 5/23/13 9:30 Stop Date/Time: 5/23/13 13:30

Start Temp/Pressure*: 16°C / 29.9 Stop Temp/Pressure*: 17°C / 30.03

Initial Can Pressure**: -30 Final Can Pressure**: -11

** Ambient Barometric Reading where sample is being taken (C / inHg) ** Flow Controller Gauge Reading (inHg)*

Comments:

Jonah Blank
Sampler Name (Print)

Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6-Liter Sampling Period: 4-Hour

Canister Serial No.: 669 Flow Controller Serial No: 698

Initial Pressure: 0.3 Certified Flow Rate: 18.0

Return Pressure: 641.1 Certified By/Date: JJ 5/17/2013

Final Pressure: 1016.6 Flow Rate upon Return:

Date Shipped From Lab: 5/8/2013 Shipped By: JJ

Date Returned to Lab: 5/30/2013 Received By: JJ

Flow Controller Certification File ID: M503/5141322

Canister Certification File ID: M503/050713R7

Certification Type: SIM ___ SCAN J NJLL ___ PAMS ___ Other ___

Chemist Signature/Date

MM 6/5/13
Lab Manager Signature/Date

Sampler is required to fill out all highlighted sections during sampling. All remaining sections will be completed upon return by the laboratory.

Atmospheric Analysis and Consulting Inc.
Canister Sampling Field Data Sheet

GENERAL INFORMATION

Project Name and/or ID No.: SWAPE Project: 601 Bridgeton Landfill

Site Address and/or ID No: Bridgeton Sanitary Landfill, Bridgeton, Missouri

Sample Name and/or ID No.: D-2 I Canister

AAC Batch ID: 130697 AAC Sample ID: 63197

SAMPLING INFORMATION

Start Date/Time: 5/23/13 10:10 Stop Date/Time: 5/23/13 14:10

Start Temp/Pressure*: 16°C / 29.9 Stop Temp/Pressure*: 17°C / 30.03

Initial Can Pressure**: -30 Final Can Pressure**: -12

** Ambient Barometric Reading where sample is being taken (C / inHg) ** Flow Controller Gauge Reading (inHg)*

Comments:

John Blank
Sampler Name (Print)

Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6-Liter Sampling Period: 4-Hour

Canister Serial No.: 734 Flow Controller Serial No: 718

Initial Pressure: 0.3 Certified Flow Rate: 18.0

Return Pressure: 380.1 Certified By/Date: JJ 5/17/2013

Final Pressure: 1050.3 Flow Rate upon Return:

Date Shipped From Lab: 5/8/2013 Shipped By: JJ

Date Returned to Lab: 5/30/2013 Received By: JJ

Flow Controller Certification File ID: M503/05141322

Canister Certification File ID: M503/05071316

Certification Type: SIM ___ SCAN ✓ NILL ___ PAMS ___ Other ___

Chemist Signature/Date

MW 6/5/13
Lab Manager Signature/Date

Sampler is required to fill out all highlighted sections during sampling.
All remaining sections will be completed upon return by the laboratory.

Results

LABORATORY ANALYSIS REPORT

CLIENT	**: SWAPE**	**SAMPLING DATE**	**: 05/22/2013**
PROJECT NO.	**: 130647**	**RECEIVING DATE**	**: 05/30/2013**
MATRIX	**: AIR**	**ANALYSIS DATE**	**: 05/30-31/2013**
UNITS	**: ppbV**	**REPORT DATE**	**: 05/31/2013**

Sulfur Compounds by ASTM D-5504

Client ID	U-1 W7N Canister	U-2 W7S Canister	D-1 JWest Canister	D-2 W4 Canister
AAC ID	130647-63190	130647-63191	130647-63192	130647-63193
Canister Dil. Fac.	1.96	1.73	1.76	2.63
Analyte	Result	Result	Result	Result
Hydrogen Sulfide	< 19.6	< 17.3	< 17.6	< 26.3
Carbonyl Sulfide	< 19.6	< 17.3	< 17.6	< 26.3
Sulfur Dioxide	< 19.6	< 17.3	< 17.6	< 26.3
Methyl Mercaptan	< 19.6	< 17.3	< 17.6	< 26.3
Ethyl Mercaptan	< 19.6	< 17.3	< 17.6	< 26.3
Dimethyl Sulfide	< 19.6	< 17.3	< 17.6	< 26.3
Carbon Disulfide	< 9.8	< 8.7	< 8.8	< 13.1
Isopropyl Mercaptan	< 19.6	< 17.3	< 17.6	< 26.3
tert-Butyl Mercaptan	< 19.6	< 17.3	< 17.6	< 26.3
n-Propyl Mercaptan	< 19.6	< 17.3	< 17.6	< 26.3
Methylethylsulfide	< 19.6	< 17.3	< 17.6	< 26.3
sec-Butyl Mercaptan	< 19.6	< 17.3	< 17.6	< 26.3
Thiophene	< 19.6	< 17.3	< 17.6	< 26.3
iso-Butyl Mercaptan	< 19.6	< 17.3	< 17.6	< 26.3
Diethyl Sulfide	< 19.6	< 17.3	< 17.6	< 26.3
n-Butyl Mercaptan	< 19.6	< 17.3	< 17.6	< 26.3
Dimethyl Disulfide	< 9.8	< 8.7	< 8.8	< 13.1
2-Methylthiophene	< 19.6	< 17.3	< 17.6	< 26.3
3-Methylthiophene	< 19.6	< 17.3	< 17.6	< 26.3
Tetrahydrothiophene	< 19.6	< 17.3	< 17.6	< 26.3
Bromothiophene	< 19.6	< 17.3	< 17.6	< 26.3
Thiophenol	< 19.6	< 17.3	< 17.6	< 26.3
Diethyl disulfide	< 9.8	< 8.7	< 8.8	< 13.1
Total Unidentified Sulfur	< 19.6	< 17.3	< 17.6	< 26.3

All unidentified sulfur compound's concentrations expressed in terms of H_2S
Sample Quantitation Limit (SQL) is equal to the Quantitation Limit x Canister Dil. Fac. x Analysis Dil. Fac.

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

LABORATORY ANALYSIS REPORT

CLIENT	**: SWAPE**	**SAMPLING DATE**	**: 05/22/2013**
PROJECT NO.	**: 130647**	**RECEIVING DATE**	**: 05/30/2013**
MATRIX	**: AIR**	**ANALYSIS DATE**	**: 05/30-31/2013**
UNITS	**: ug/m^3**	**REPORT DATE**	**: 05/31/2013**

Sulfur Compounds by ASTM D-5504

Client ID	U-1 W7N Canister	U-2 W7S Canister	D-1 JWest Canister	D-2 W4 Canister
AAC ID	130647-63190	130647-63191	130647-63192	130647-63193
Canister Dil. Fac.	1.96	1.73	1.76	2.63
Analyte	Result	Result	Result	Result
Hydrogen Sulfide	< 27.3	< 24.1	< 24.5	< 36.7
Carbonyl Sulfide	< 48.2	< 42.5	< 43.3	< 64.6
Sulfur Dioxide	< 51.4	< 45.3	< 46.1	< 68.9
Methyl Mercaptan	< 38.6	< 34.0	< 34.7	< 51.7
Ethyl Mercaptan	< 49.8	< 44.0	< 44.8	< 66.8
Dimethyl Sulfide	< 49.8	< 44.0	< 44.8	< 66.8
Carbon Disulfide	< 30.5	< 26.9	< 27.4	< 40.9
Isopropyl Mercaptan	< 61.1	< 53.9	< 54.9	< 81.9
tert-Butyl Mercaptan	< 72.3	< 63.8	< 65.0	< 97.0
n-Propyl Mercaptan	< 61.1	< 53.9	< 54.9	< 81.9
Methylethylsulfide	< 61.1	< 53.9	< 54.9	< 81.9
sec-Butyl Mercaptan	< 72.3	< 63.8	< 65.0	< 97.0
Thiophene	< 67.5	< 59.5	< 60.6	< 90.5
iso-Butyl Mercaptan	< 72.3	< 63.8	< 65.0	< 97.0
Diethyl Sulfide	< 72.3	< 63.8	< 65.0	< 97.0
n-Butyl Mercaptan	< 72.3	< 63.8	< 65.0	< 97.0
Dimethyl Disulfide	< 37.8	< 33.3	< 33.9	< 50.7
2-Methylthiophene	< 78.7	< 69.5	< 70.7	< 105.6
3-Methylthiophene	< 78.7	< 69.5	< 70.7	< 105.6
Tetrahydrothiophene	< 70.7	< 62.4	< 63.5	< 94.8
Bromothiophene	< 130.7	< 115.4	< 117.4	< 175.3
Thiophenol	< 88.4	< 78.0	< 79.4	< 118.5
Diethyl disulfide	< 49.0	< 43.2	< 44.0	< 65.7
Total Unidentified Sulfur	< 27.3	< 24.1	< 24.5	< 36.7

All unidentified sulfur compound's concentrations expressed in terms of H_2S
Sample Quantitation Limit (SQL) is equal to the Quantitation Limit x Canister Dil. Fac. x Analysis Dil. Fac.

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

LABORATORY ANALYSIS REPORT

CLIENT : SWAPE
PROJECT NO. : 130647
MATRIX : AIR
UNITS : ppbV

SAMPLING DATE : 05/23/2013
RECEIVING DATE : 05/30/2013
ANALYSIS DATE
REPORT DATE

Sulfur Compounds by ASTM D-5504

Client ID	U-1 W7E Canister	U-2 W7W Canister	D-1 W5 Canister	D-2 I Canister
AAC ID	130647-63194	130647-63195	130647-63196	130647-63197
Canister Dil. Fac.	1.46	1.68	1.59	2.71
Analyte	Result	Result	Result	Result
Hydrogen Sulfide	< 14.6	< 16.8	< 15.9	< 27.1
Carbonyl Sulfide	< 14.6	< 16.8	< 15.9	< 27.1
Sulfur Dioxide	< 14.6	< 16.8	< 15.9	< 27.1
Methyl Mercaptan	< 14.6	< 16.8	< 15.9	< 27.1
Ethyl Mercaptan	< 14.6	< 16.8	< 15.9	< 27.1
Dimethyl Sulfide	< 14.6	< 16.8	< 15.9	< 27.1
Carbon Disulfide	< 7.3	< 8.4	< 7.9	< 13.6
Isopropyl Mercaptan	< 14.6	< 16.8	< 15.9	< 27.1
tert-Butyl Mercaptan	< 14.6	< 16.8	< 15.9	< 27.1
n-Propyl Mercaptan	< 14.6	< 16.8	< 15.9	< 27.1
Methylethylsulfide	< 14.6	< 16.8	< 15.9	< 27.1
sec-Butyl Mercaptan	< 14.6	< 16.8	< 15.9	< 27.1
Thiophene	< 14.6	< 16.8	< 15.9	< 27.1
iso-Butyl Mercaptan	< 14.6	< 16.8	< 15.9	< 27.1
Diethyl Sulfide	< 14.6	< 16.8	< 15.9	< 27.1
n-Butyl Mercaptan	< 14.6	< 16.8	< 15.9	< 27.1
Dimethyl Disulfide	< 7.3	< 8.4	< 7.9	< 13.6
2-Methylthiophene	< 14.6	< 16.8	< 15.9	< 27.1
3-Methylthiophene	< 14.6	< 16.8	< 15.9	< 27.1
Tetrahydrothiophene	< 14.6	< 16.8	< 15.9	< 27.1
Bromothiophene	< 14.6	< 16.8	< 15.9	< 27.1
Thiophenol	< 14.6	< 16.8	< 15.9	< 27.1
Diethyl disulfide	< 7.3	< 8.4	< 7.9	< 13.6
Total Unidentified Sulfur	< 14.6	< 16.8	< 15.9	< 27.1

All unidentified sulfur compound's concentrations expressed in terms of H_2S
Sample Quantitation Limit (SQL) is equal to the Quantitation Limit x Canister Dil. Fac. x Analysis Dil. Fac.

Marcus Hueppe
Laboratory Director

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LABORATORY ANALYSIS REPORT

CLIENT	**: SWAPE**	**SAMPLING DATE**	**: 05/23/2013**
PROJECT NO.	**: 130647**	**RECEIVING DATE**	**: 05/30/2013**
MATRIX	**: AIR**	**ANALYSIS DATE**	**: 01/00/1900**
UNITS	**: ug/m^3**	**REPORT DATE**	**: 01/00/1900**

Sulfur Compounds by ASTM D-5504

Client ID	U-1 W7E Canister	U-2 W7W Canister	D-1 W5 Canister	D-2 I Canister
AAC ID	130647-63194	130647-63195	130647-63196	130647-63197
Canister Dil. Fac.	1.46	1.68	1.59	2.71
Analyte	Result	Result	Result	Result
Hydrogen Sulfide	< 20.3	< 23.4	< 22.1	< 37.8
Carbonyl Sulfide	< 35.8	< 41.3	< 39.0	< 66.6
Sulfur Dioxide	< 38.2	< 44.0	< 41.6	< 71.0
Methyl Mercaptan	< 28.7	< 33.1	< 31.2	< 53.3
Ethyl Mercaptan	< 37.1	< 42.7	< 40.3	< 68.9
Dimethyl Sulfide	< 37.1	< 42.7	< 40.3	< 68.9
Carbon Disulfide	< 22.7	< 26.2	< 24.7	< 42.2
Isopropyl Mercaptan	< 45.4	< 52.4	< 49.4	< 84.4
tert-Butyl Mercaptan	< 53.8	< 62.0	< 58.5	< 100.0
n-Propyl Mercaptan	< 45.4	< 52.4	< 49.4	< 84.4
Methylethylsulfide	< 45.4	< 52.4	< 49.4	< 84.4
sec-Butyl Mercaptan	< 53.8	< 62.0	< 58.5	< 100.0
Thiophene	< 50.2	< 57.8	< 54.6	< 93.3
iso-Butyl Mercaptan	< 53.8	< 62.0	< 58.5	< 100.0
Diethyl Sulfide	< 53.8	< 62.0	< 58.5	< 100.0
n-Butyl Mercaptan	< 53.8	< 62.0	< 58.5	< 100.0
Dimethyl Disulfide	< 28.1	< 32.4	< 30.5	< 52.2
2-Methylthiophene	< 58.5	< 67.5	< 63.7	< 108.8
3-Methylthiophene	< 58.5	< 67.5	< 63.7	< 108.8
Tetrahydrothiophene	< 52.6	< 60.6	< 57.2	< 97.7
Bromothiophene	< 97.2	< 112.1	< 105.7	< 180.7
Thiophenol	< 65.7	< 75.7	< 71.5	< 122.1
Diethyl disulfide	< 36.4	< 42.0	< 39.6	< 67.8
Total Unidentified Sulfur	< 20.3	< 23.4	< 22.1	< 37.8

All unidentified sulfur compound's concentrations expressed in terms of H_2S
Sample Quantitation Limit (SQL) is equal to the Quantitation Limit x Canister Dil. Fac. x Analysis Dil. Fac.

Marcus Hueppe
Laboratory Director

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QA/QC Summary

Quality Control/Quality Assurance Report
ASTM D-5504

Date Analyzed: 05/30/13
Analyst: DH

Instrument ID: SCD#10
Calb. Date: 5/14/2013

Opening Calibration Verification Standard

	Resp. (area)	Result (ppbV)	% Rec *	% RPD ****
Initial	16463	488	97.7	NA
Duplicate	16902	501	100.3	2.6
Triplicate	16746	497	99.3	1.7

Method Blank

Analyte	Result
H2S	ND

Matrix Spike & Duplicate **Sample ID 130643-63182 x2**

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H2S	0	250	256	249	102.5	99.8	2.7

Duplicate Analysis **Sample ID 130643-63182**

Analyte	Sample Result	Duplicate Result	Mean	% RPD ***
H2S	0	0	0	0.0

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	%Recovery **
H2S	500	481.4	96.3

** Must be 95-105%*

*** Must be 90-110%*

**** Must be < 10%*

***** must be < 5% RPD from Initial result.*

Marcus Hueppe
Laboratory Director

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Quality Control/Quality Assurance Report
ASTM D-5504

Date Analyzed: 05/31/13
Analyst: DH

Instrument ID: SCD#10
Calb. Date: 5/14/2013

Opening Calibration Verification Standard

	Resp. (area)	Result (ppbV)	% Rec *	% RPD ****
Initial	16653	494	98.8	NA
Duplicate	16848	500	99.9	1.2
Triplicate	16645	494	98.7	0.0

Method Blank

Analyte	Result
H2S	ND

Matrix Spike & Duplicate **Sample ID 130647-63193 x2**

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H2S	0	250	242	247	96.7	98.6	2.0

Duplicate Analysis **Sample ID 130647-63193**

Analyte	Sample Result	Duplicate Result	Mean	% RPD ***
H2S	0	0	0	0.0

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	%Recovery **
H2S	500	461.3	100.8

** Must be 95-105%*

*** Must be 90-110%*

**** Must be < 10%*

***** must be < 5% RPD from Initial result.*

Marcus Hueppe
Laboratory Director

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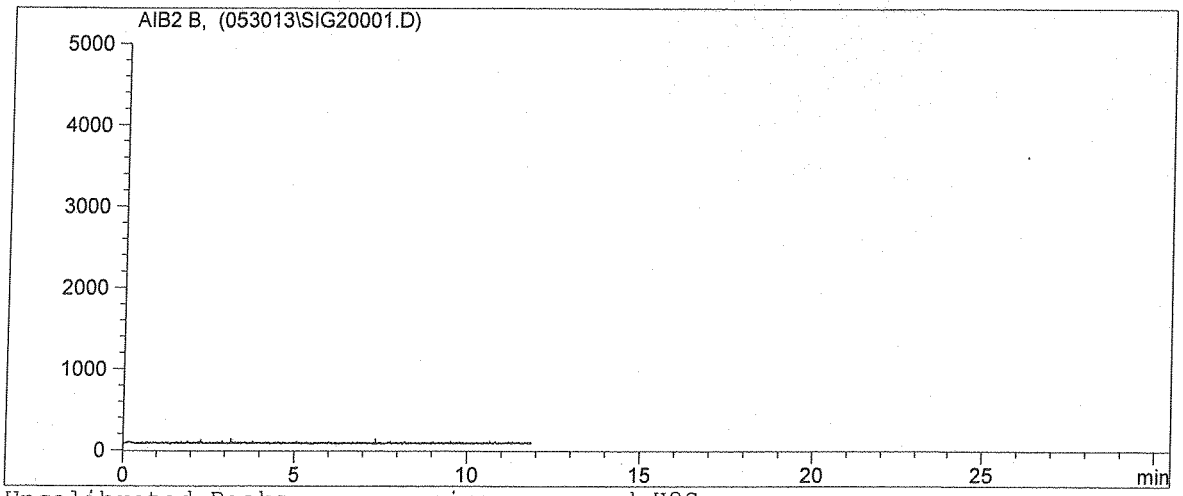
Raw Data

Customized Report: D5504

Injection Date : 5/30/2013 5:53:04 AM
Sample Name : System Blank
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M

Seq. Line : 1
Inj. Vol. :Manually



Uncalibrated Peaks : using compound H2S

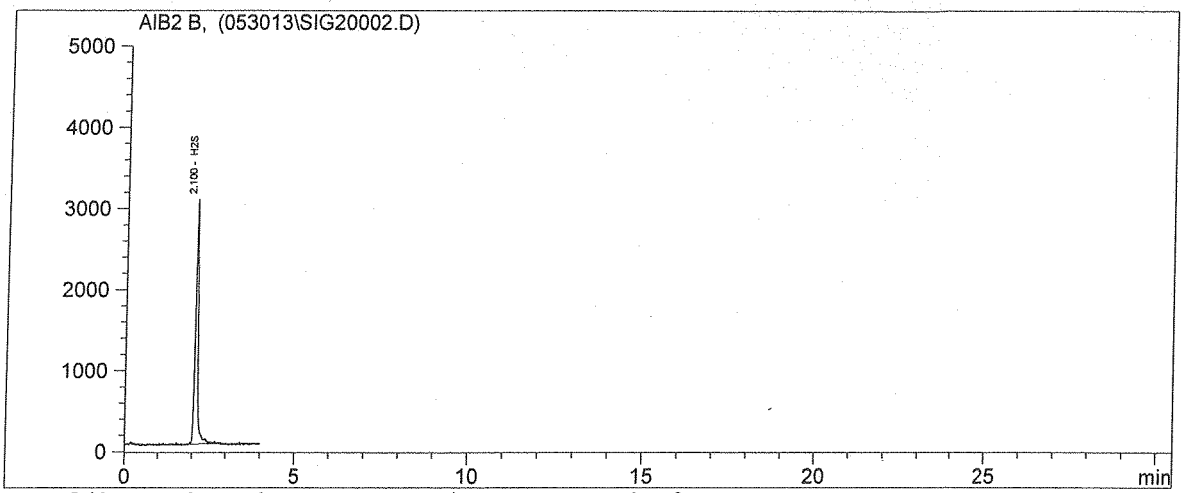
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

5/30/13

Customized Report: D5504

Injection Date : 5/30/2013 6:05:28 AM Seq. Line : 2
Sample Name : CCV 500ppbV SS0677 ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

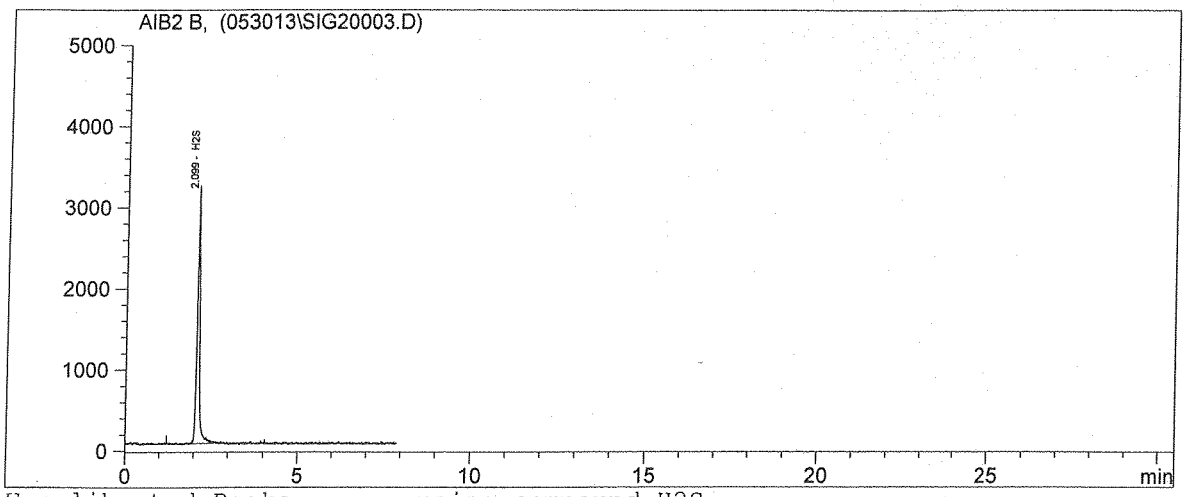
Ret Time [min]	Area	Amount [ppbV]	Name
2.100	16463	488.261	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		488.261	

*** End of Report ***

5/30/13

Customized Report: D5504

Injection Date : 5/30/2013 6:10:32 AM Seq. Line : 3
Sample Name : CCV 500ppbV dp SS0677 ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

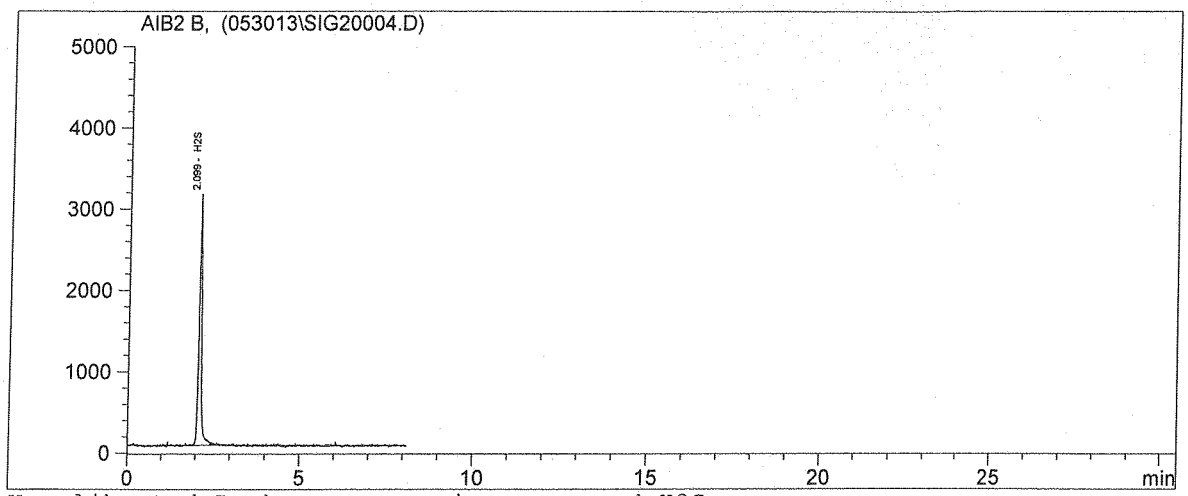
Ret Time [min]	Area	Amount [ppbV]	Name
2.099	16902	501.285	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		501.285	

*** End of Report ***

5/31/13

Customized Report: D5504

Injection Date : 5/30/2013 6:19:06 AM Seq. Line : 4
Sample Name : CCV 500ppbV tp SS0677 ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

Ret Time [min]	Area	Amount [ppbV]	Name
2.099	16746	496.666	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		496.666	

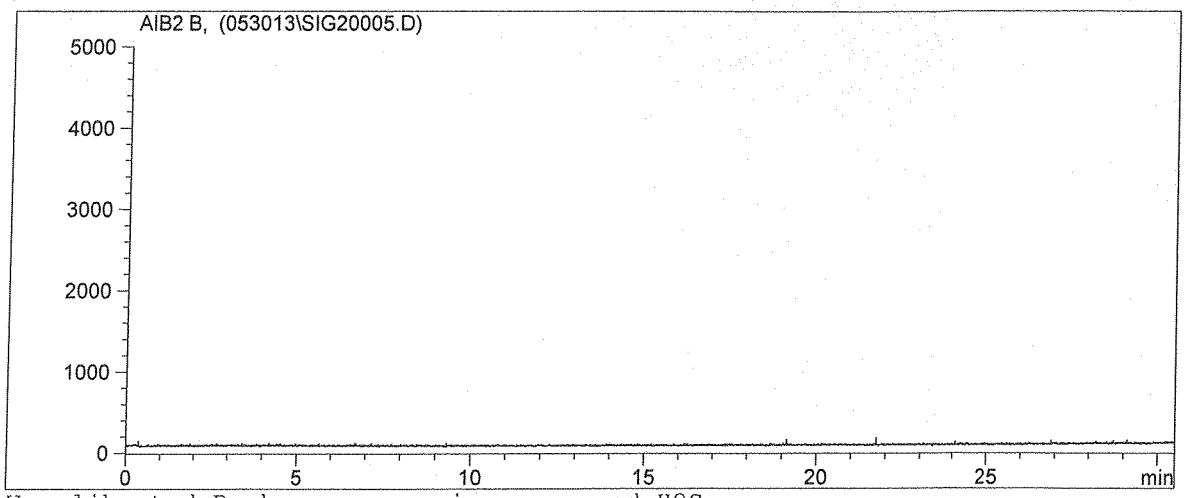
*** End of Report ***

5/31/13

Customized Report: D5504

Injection Date : 5/30/2013 6:28:09 AM
Sample Name : Method Blank
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M

Seq. Line : 5
Inj. Vol. :Manually



Uncalibrated Peaks : using compound H2S

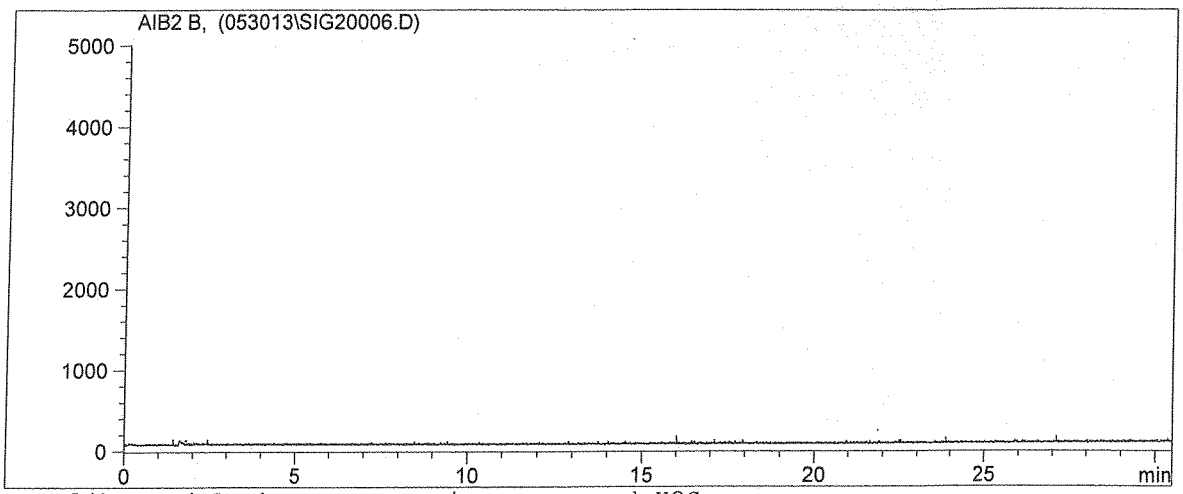
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

Customized Report: D5504

Injection Date : 5/30/2013 7:03:18 AM
Sample Name : 130643-63182
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M

Seq. Line : 6
Inj. Vol. :Manually



Uncalibrated Peaks : using compound H2S

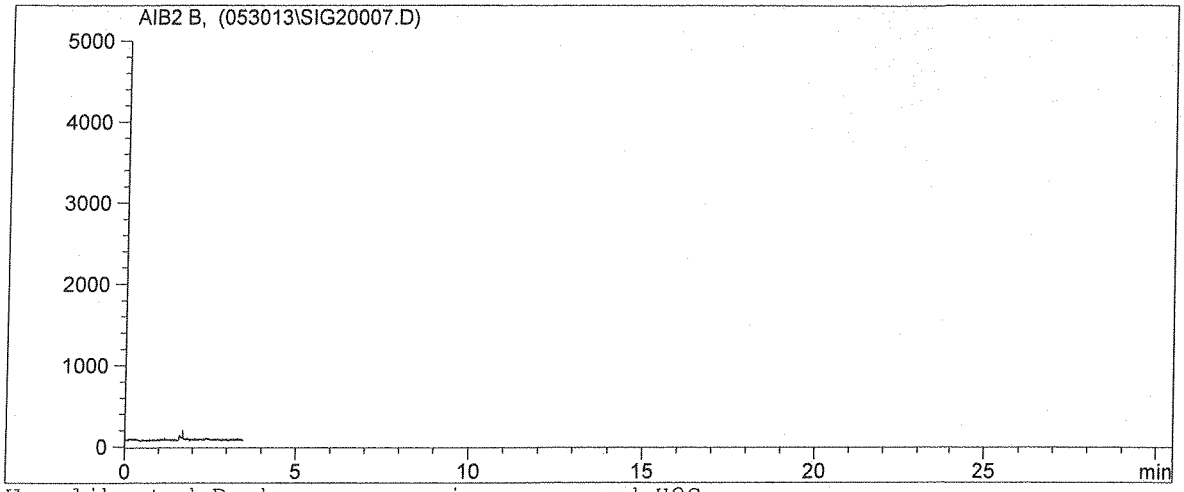
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

DH 5/30/13

Customized Report: D5504

Injection Date : 5/30/2013 7:37:51 AM Seq. Line : 7
Sample Name : 130643-63182 dp ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

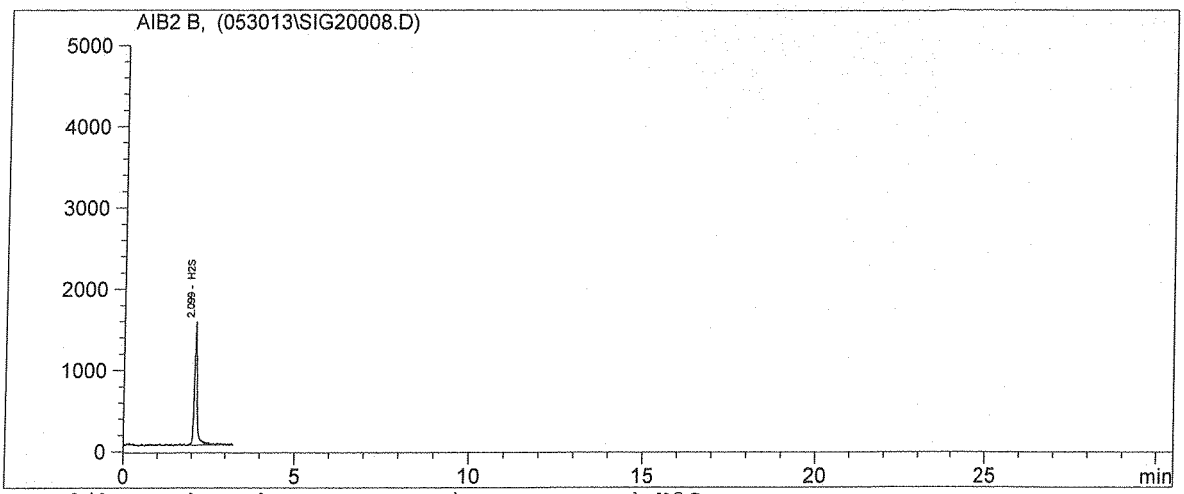
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

DH 5/30/13

Customized Report: D5504

Injection Date : 5/30/2013 7:42:15 AM Seq. Line : 8
Sample Name : MS 63182 SS0677 ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

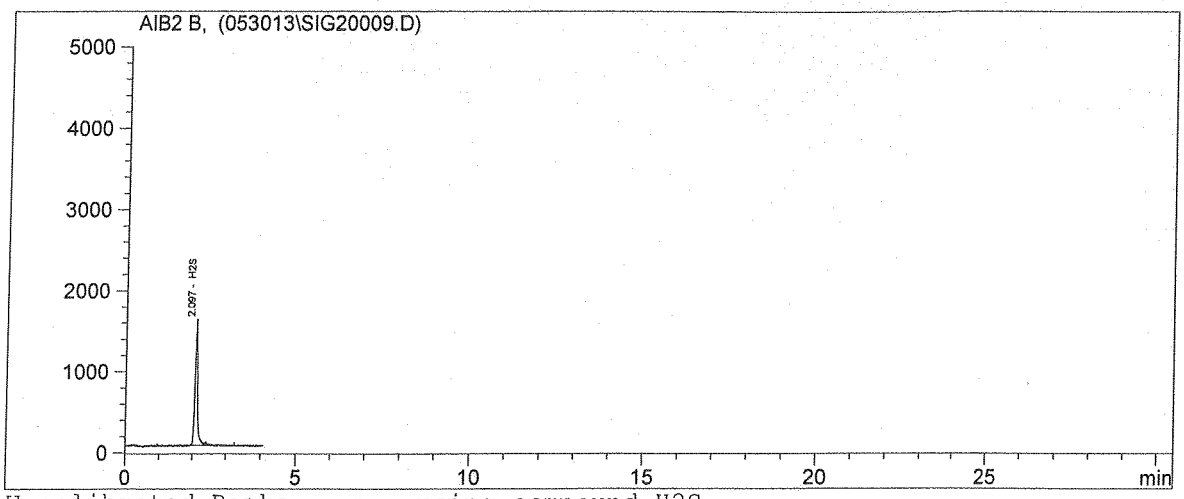
Ret Time [min]	Area	Amount [ppbV]	Name
2.099	8638	256.197	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		256.197	

*** End of Report ***

DH 5/30/13

Customized Report: D5504

Injection Date : 5/30/2013 7:46:08 AM Seq. Line : 9
Sample Name : MSD 63182 SS0677 ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



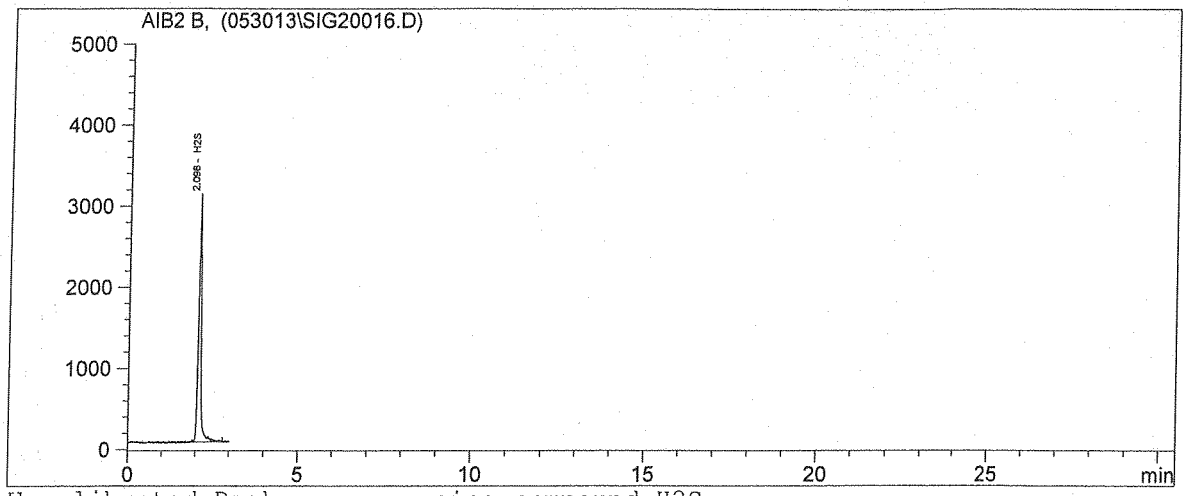
Uncalibrated Peaks : using compound H2S

Ret Time [min]	Area	Amount [ppbV]	Name
2.097	8411	249.464	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		249.464	

*** End of Report ***

Customized Report: D5504

Injection Date : 5/30/2013 9:48:34 AM Seq. Line : 16
Sample Name : CCV 500ppbV SS0677 ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



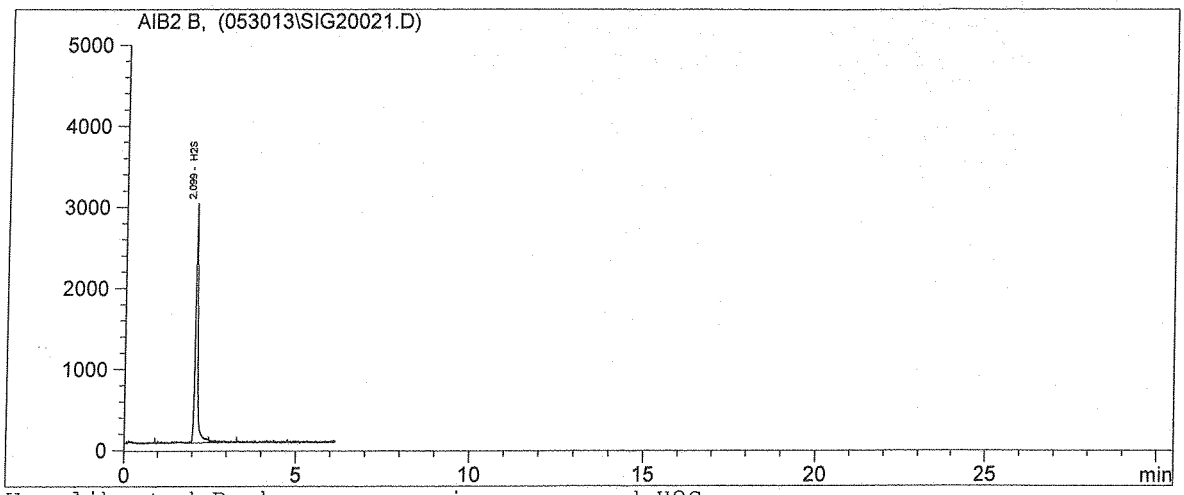
Uncalibrated Peaks : using compound H2S

Ret Time [min]	Area	Amount [ppbV]	Name
2.098	16768	497.308	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		497.308	

*** End of Report ***

Customized Report: D5504

Injection Date : 5/30/2013 12:11:11 PM Seq. Line : 21
Sample Name : CCV 500ppbV SS0677 ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



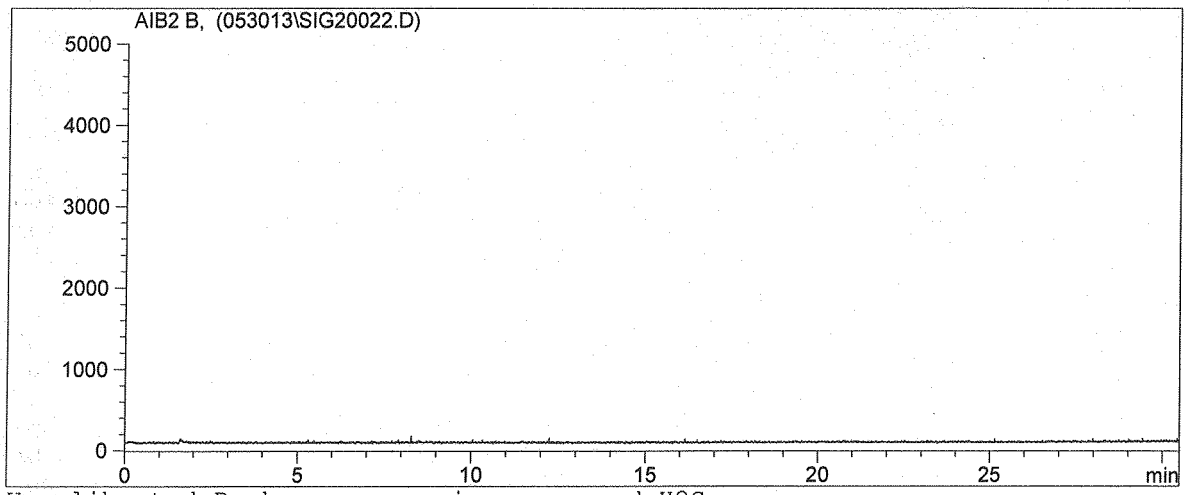
Uncalibrated Peaks : using compound H2S

Ret Time [min]	Area	Amount [ppbV]	Name
2.099	16231	481.375	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		481.375	

*** End of Report ***

Customized Report: D5504

Injection Date : 5/30/2013 12:18:20 PM Seq. Line : 22
Sample Name : 130647-63190 Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

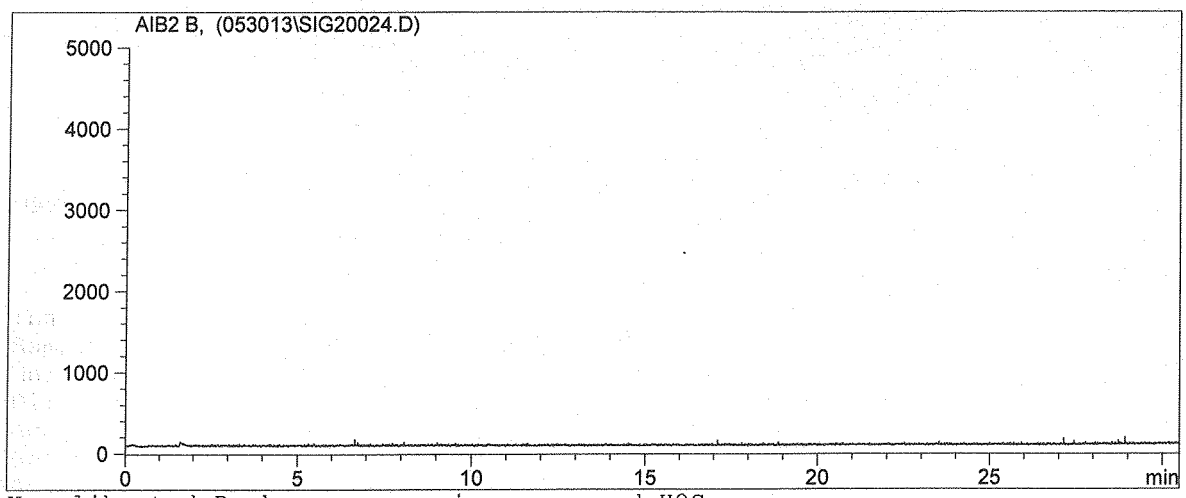
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

Page BB 5/30/13

Customized Report: D5504

Injection Date : 5/30/2013 1:27:39 PM Seq. Line : 24
Sample Name : 130647-63191 Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

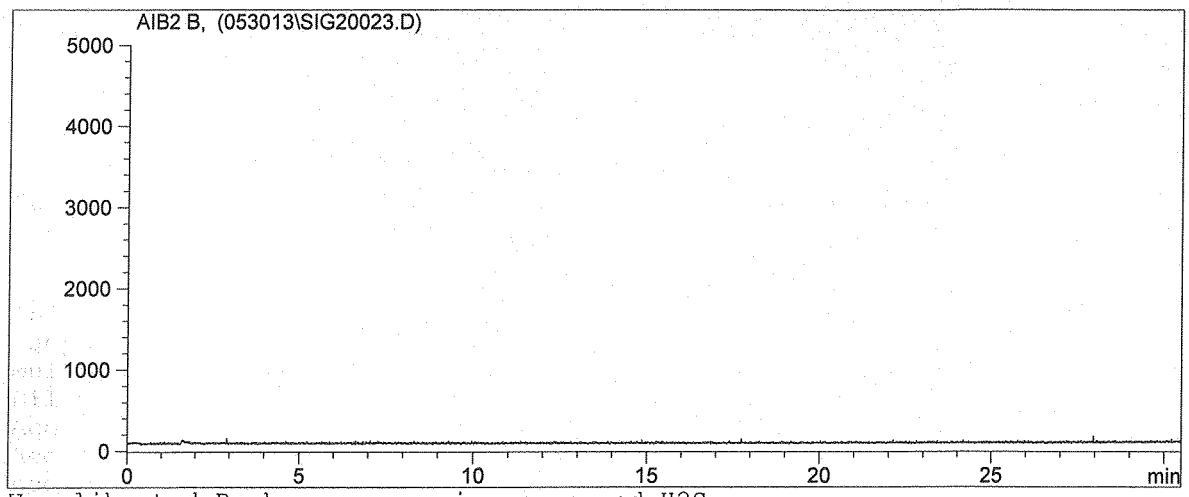
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

DA 5/30/13

Customized Report: D5504

Injection Date : 5/30/2013 12:52:43 PM Seq. Line : 23
Sample Name : 130647-63190 dp ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

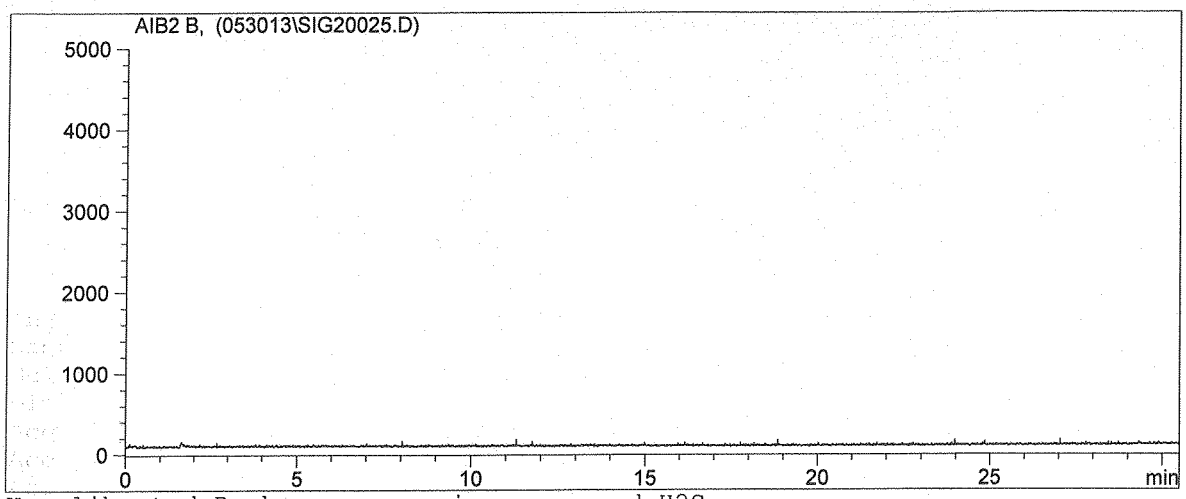
*** End of Report ***

DA 5/30/13

Data File : C:\HPCHEM\1\DATA\053013\SIG20025.D 1

Customized Report: D5504

Injection Date : 5/30/2013 2:01:59 PM Seq. Line : 25
Sample Name : 130647-63191 dp ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

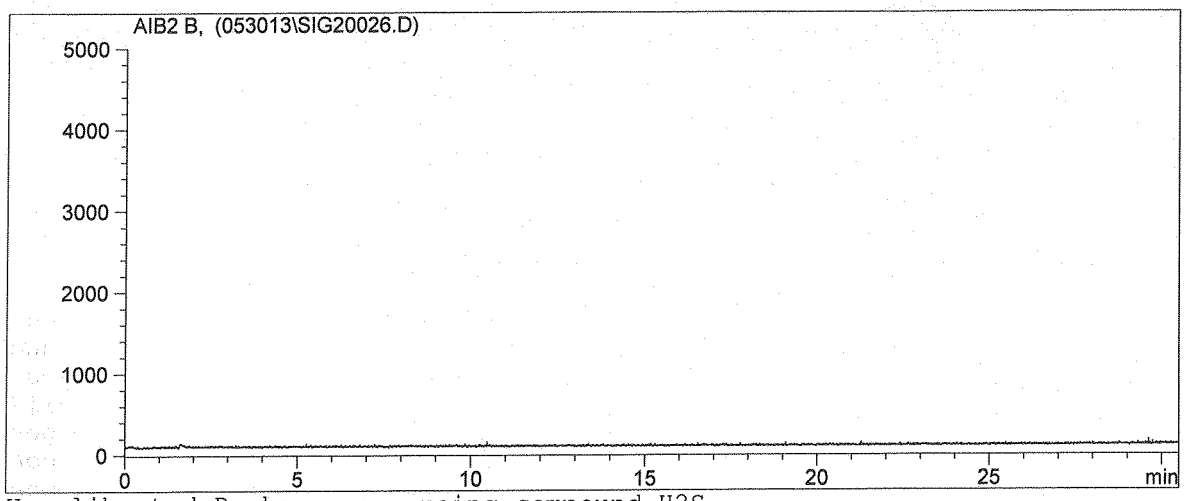
*** End of Report ***

DH 5/30/13

Customized Report: D5504

Injection Date : 5/30/2013 2:36:48 PM
Sample Name : 130647-63192
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M

Seq. Line : 26
Inj. Vol. :Manually



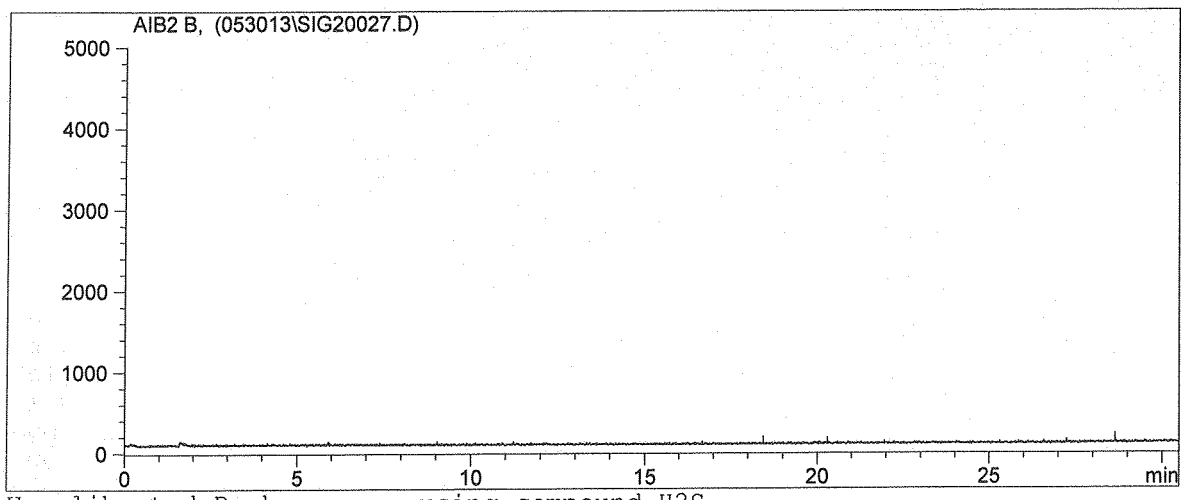
Uncalibrated Peaks : using compound H2S

Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

Customized Report: D5504

Injection Date : 5/30/2013 3:11:23 PM Seq. Line : 27
Sample Name : 130647-63192 dp ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

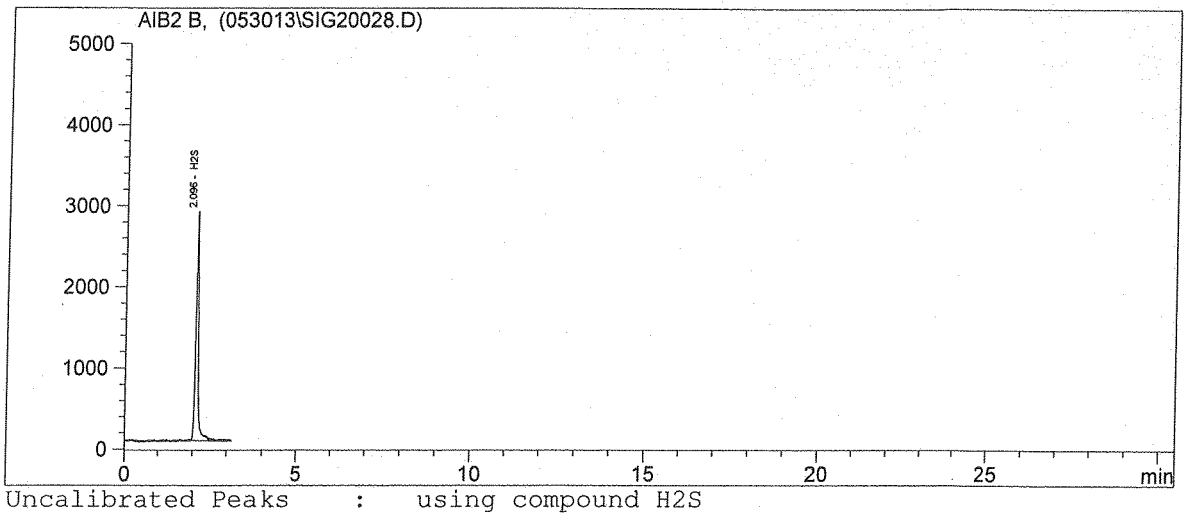
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

DH 5/30/13

Customized Report: D5504

Injection Date : 5/30/2013 3:46:16 PM Seq. Line : 28
Sample Name : CCV 500ppbV SS0677 ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

Ret Time [min]	Area	Amount [ppbV]	Name
2.096	15554	461.297	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		461.297	

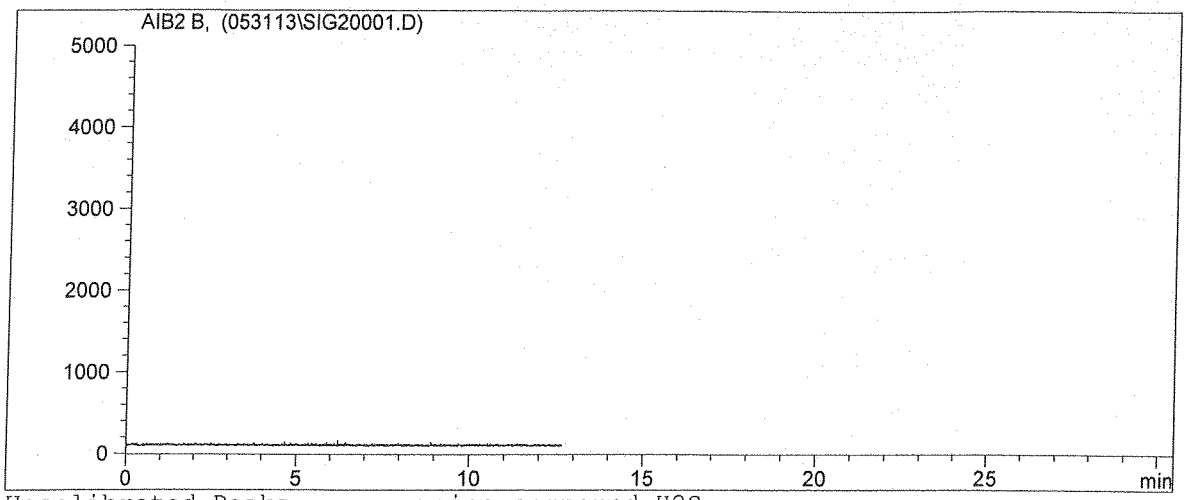
*** End of Report ***

5/30/13

Customized Report: D5504

Injection Date : 5/31/2013 5:41:41 AM
Sample Name : System Blank
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M

Seq. Line : 1
Inj. Vol. :Manually



Uncalibrated Peaks : using compound H2S

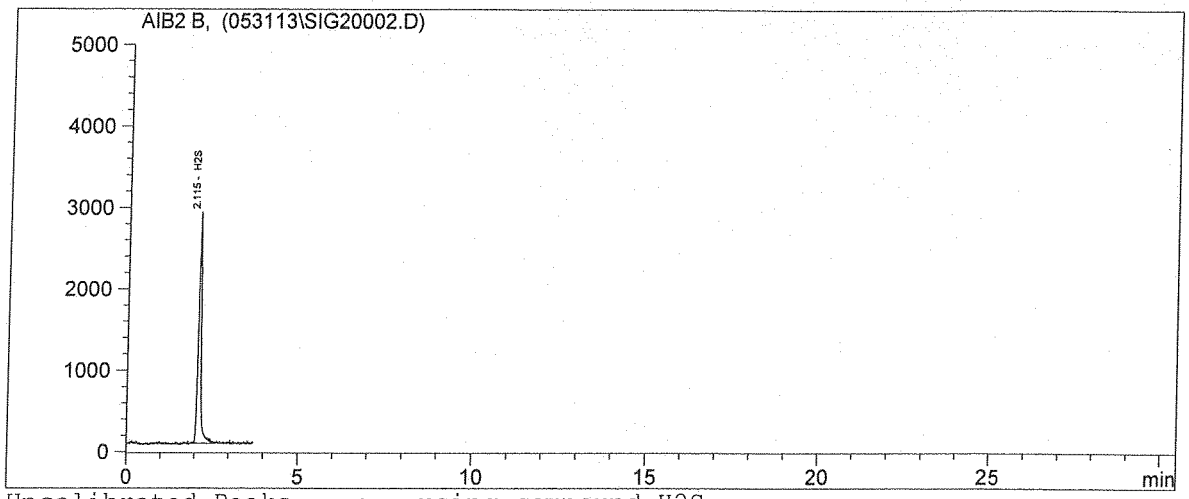
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

5/31/13

Customized Report: D5504

Injection Date : 5/31/2013 6:21:57 AM Seq. Line : 2
Sample Name : CCV 500ppbV SS0677 ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

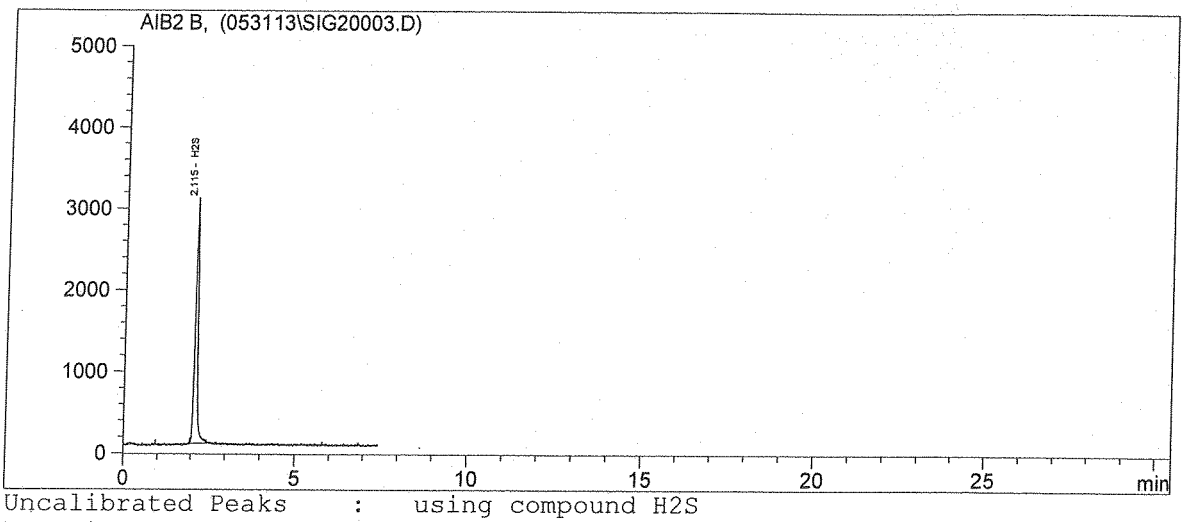
Ret Time [min]	Area	Amount [ppbV]	Name
2.115	16653	493.898	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		493.898	

*** End of Report ***

MP 5/31/13

Customized Report: D5504

Injection Date : 5/31/2013 6:26:18 AM Seq. Line : 3
Sample Name : CCV 500ppbV dp SS0677 ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

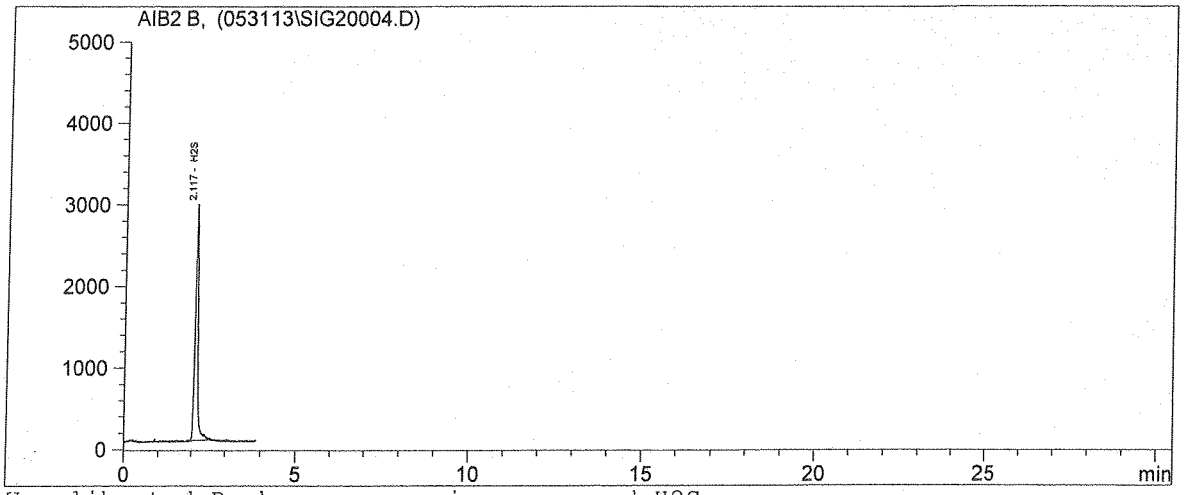
Ret Time [min]	Area	Amount [ppbV]	Name
2.115	16848	499.671	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		499.671	

*** End of Report ***

5/31/13

Customized Report: D5504

Injection Date : 5/31/2013 6:35:07 AM Seq. Line : 4
Sample Name : CCV 500ppbV tp SS0677 ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

Ret Time [min]	Area	Amount [ppbV]	Name
2.117	16645	493.670	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		493.670	

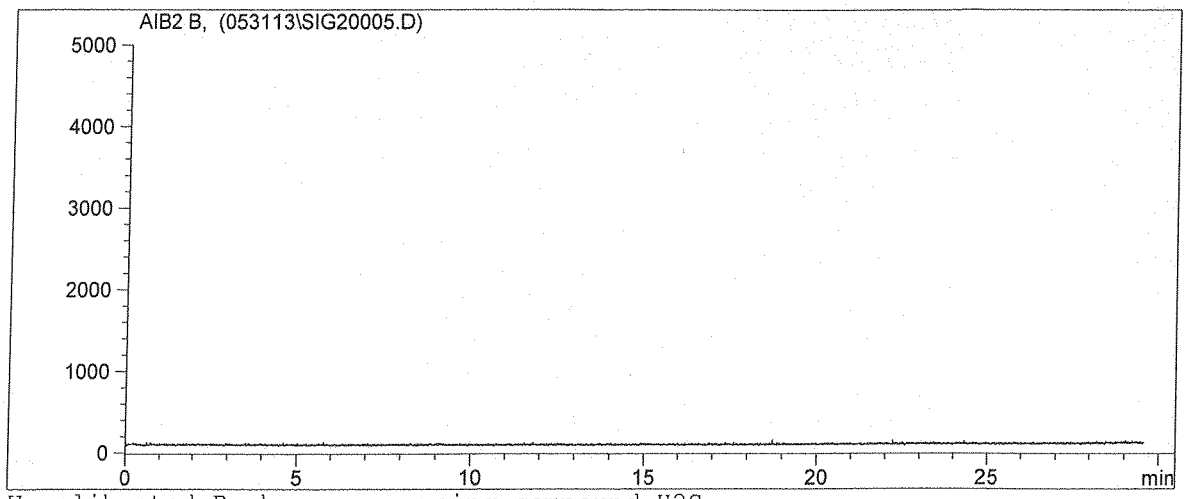
*** End of Report ***

5/31/13

Customized Report: D5504

Injection Date : 5/31/2013 6:40:34 AM
Sample Name : Method Blank
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M

Seq. Line : 5
Inj. Vol. :Manually



Uncalibrated Peaks : using compound H2S

Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

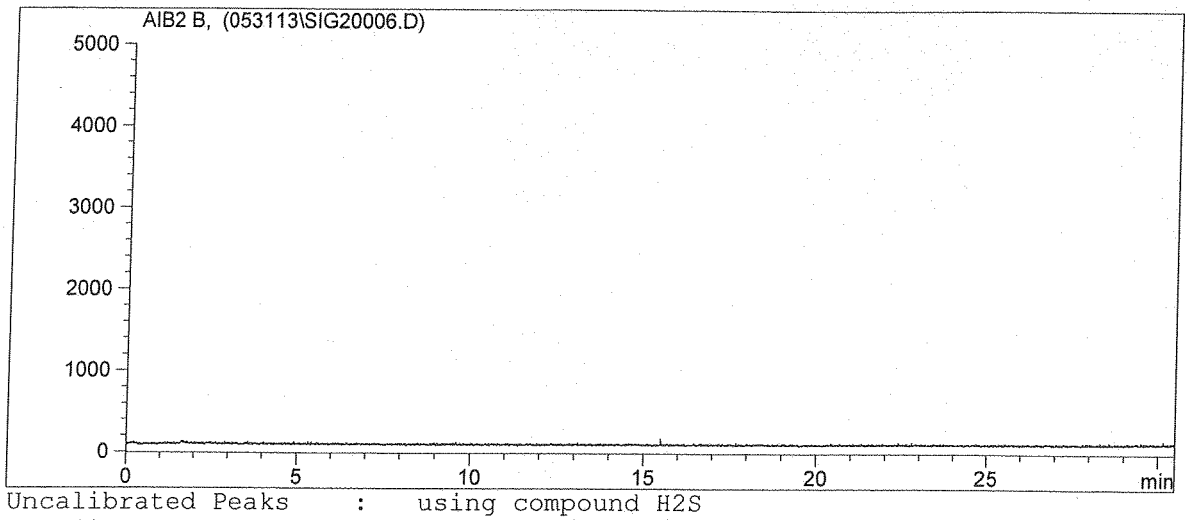
*** End of Report ***

5/31/13

Customized Report: D5504

Injection Date : 5/31/2013 7:14:09 AM
Sample Name : 130647-63193
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M

Seq. Line : 6
Inj. Vol. :Manually



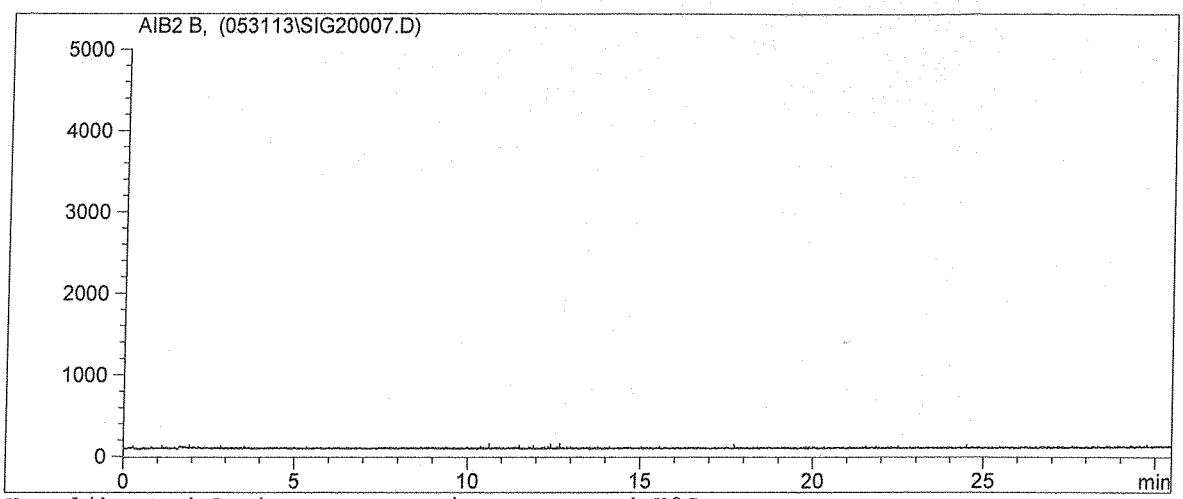
Uncalibrated Peaks : using compound H2S

Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

Customized Report: D5504

Injection Date : 5/31/2013 7:52:25 AM Seq. Line : 7
Sample Name : 130647-63193 dp ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

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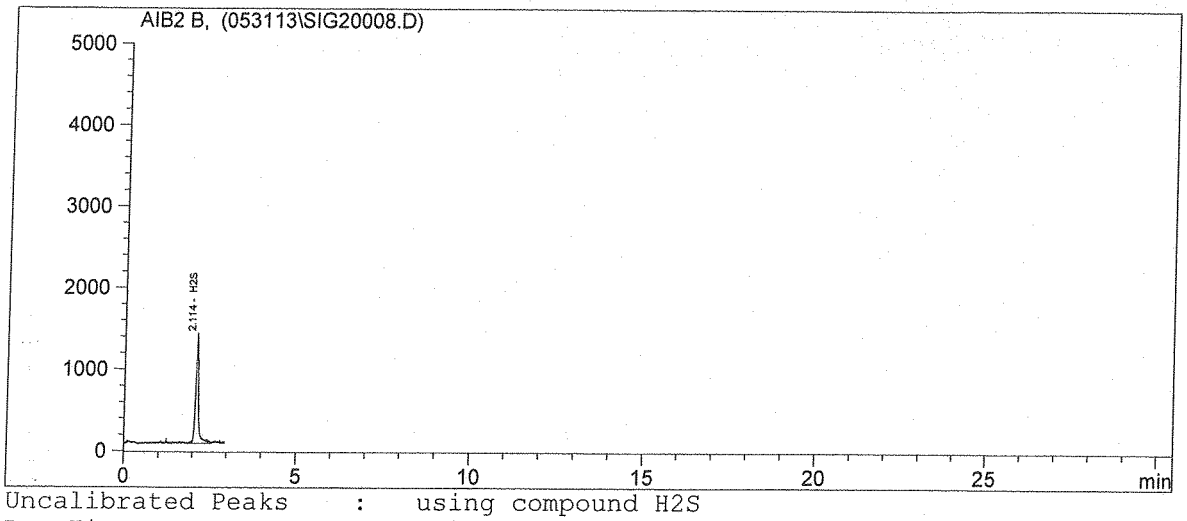
DH 5/31/13

Customized Report: D5504

Injection Date : 5/31/2013 8:27:32 AM Seq. Line : 8
Sample Name : MS 63193 SS0677 ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

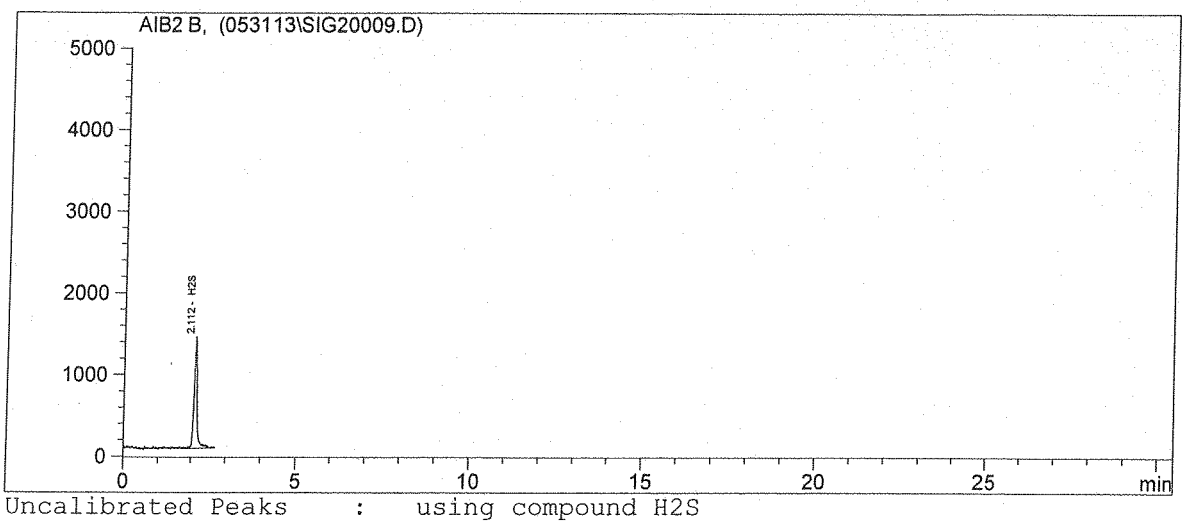
Ret Time [min]	Area	Amount [ppbV]	Name
2.114	8151	241.741	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		241.741	

*** End of Report ***

DH 5/31/13

Customized Report: D5504

Injection Date : 5/31/2013 8:31:10 AM Seq. Line : 9
Sample Name : MSD 63193 SS0677 ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

Ret Time [min]	Area	Amount [ppbV]	Name
2.112	8315	246.597	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		246.597	

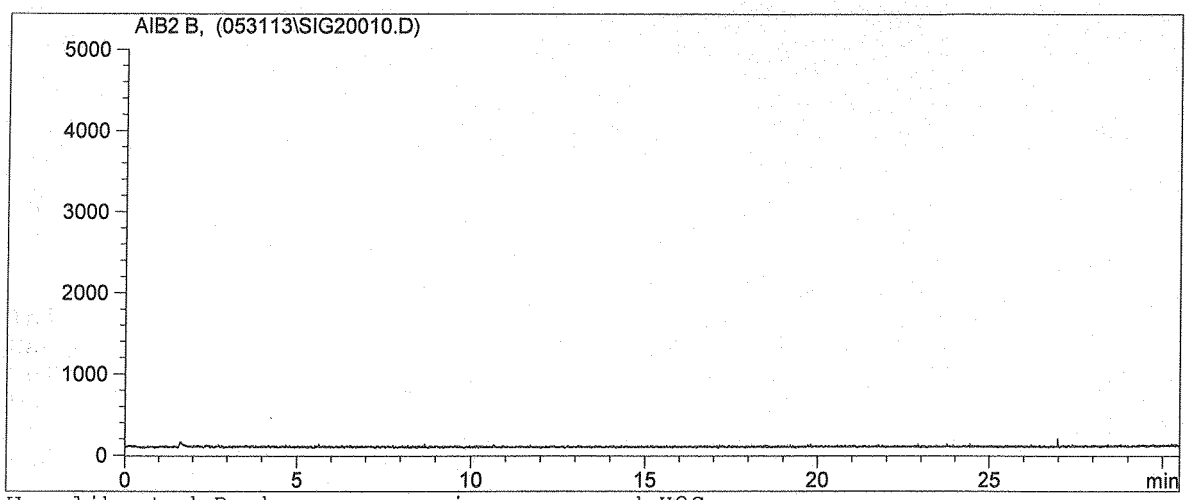
*** End of Report ***

6/5/13

Customized Report: D5504

Injection Date : 5/31/2013 8:34:43 AM
Sample Name : 130647-63194
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M

Seq. Line : 10
Inj. Vol. :Manually



Uncalibrated Peaks : using compound H2S

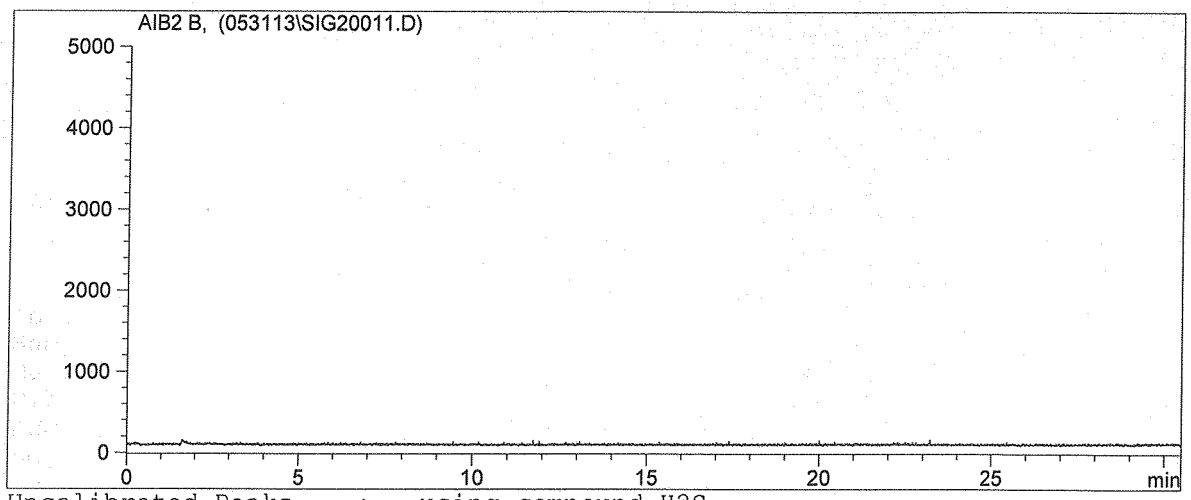
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

DH 5/30 DH 5/31/13

Customized Report: D5504

Injection Date : 5/31/2013 9:09:04 AM Seq. Line : 11
Sample Name : 130647-63194 dp ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

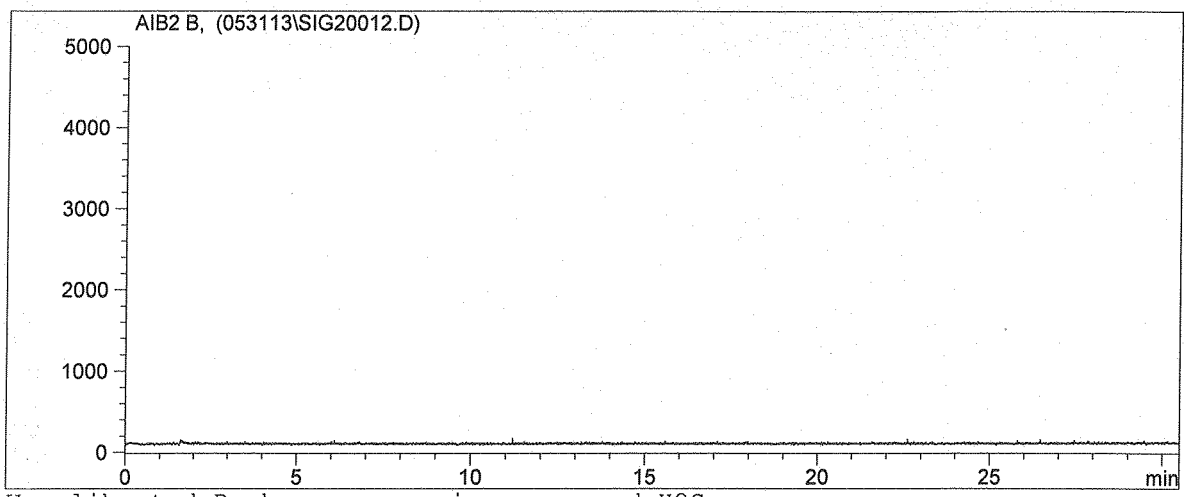
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

DH 5/31/13

Customized Report: D5504

Injection Date : 5/31/2013 9:45:11 AM Seq. Line : 12
Sample Name : 130647-63195 Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

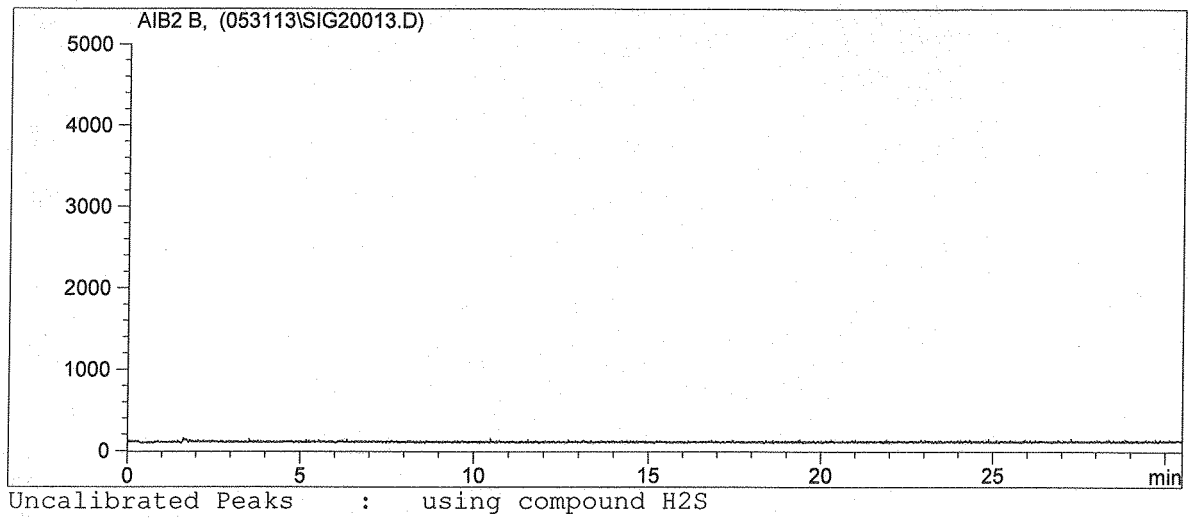
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

DH 5/31/13

Customized Report: D5504

Injection Date : 5/31/2013 10:20:06 AM Seq. Line : 13
Sample Name : 130647-63195 dp ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



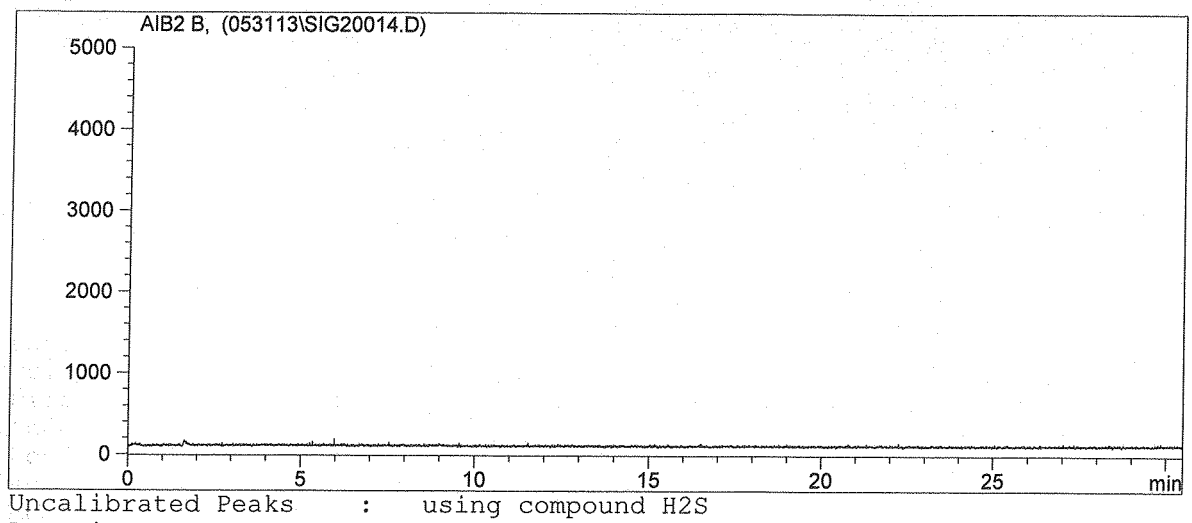
Uncalibrated Peaks : using compound H2S

Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

Customized Report: D5504

Injection Date : 5/31/2013 10:54:24 AM Seq. Line : 14
Sample Name : 130647-63196 Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

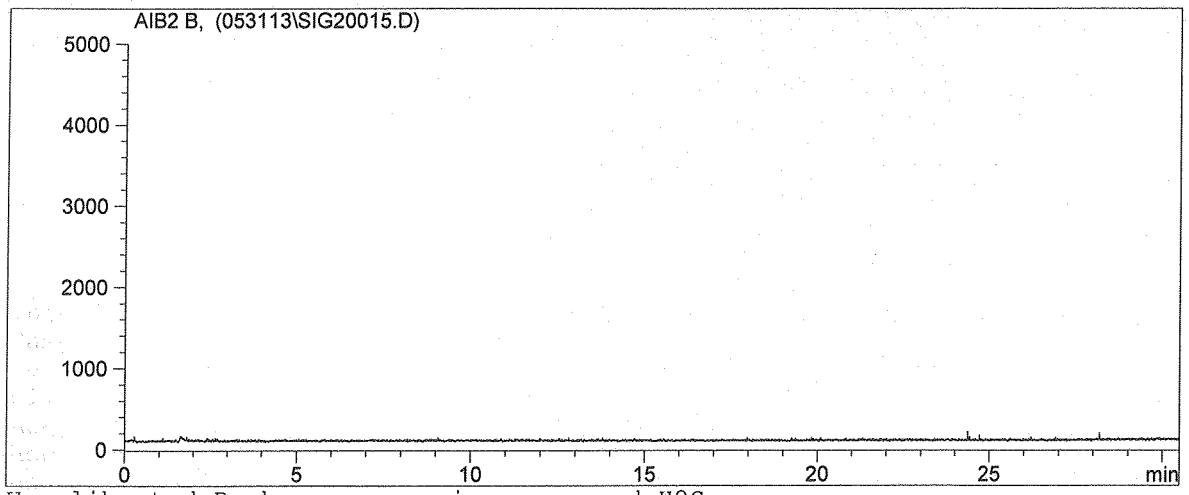
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

DA 5/31/13

Customized Report: D5504

Injection Date : 5/31/2013 11:51:30 AM Seq. Line : 15
Sample Name : 130647-63196 dp ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

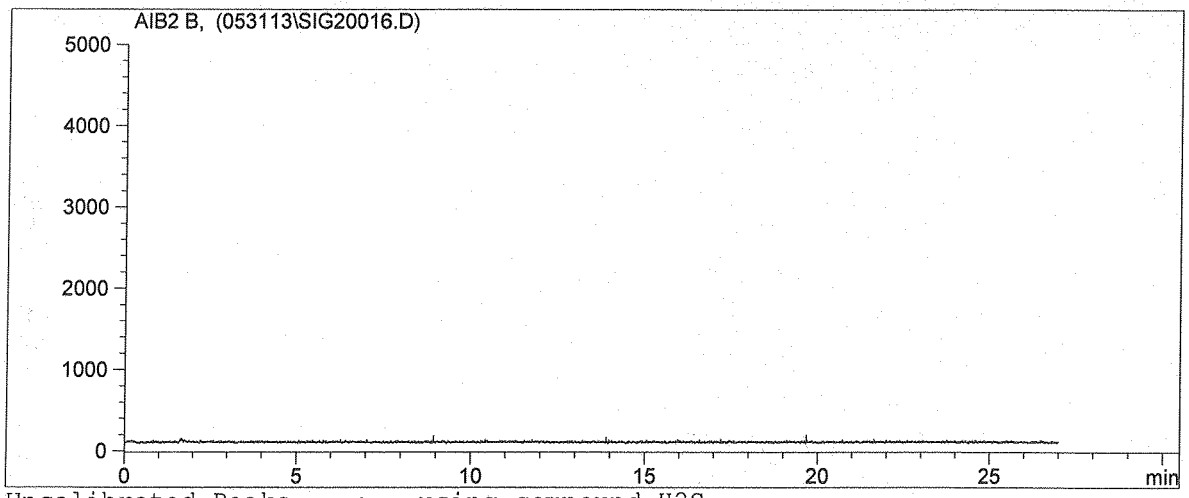
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

5/31/13

Customized Report: D5504

Injection Date : 5/31/2013 12:25:56 PM Seq. Line : 16
Sample Name : 130647-63197 Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

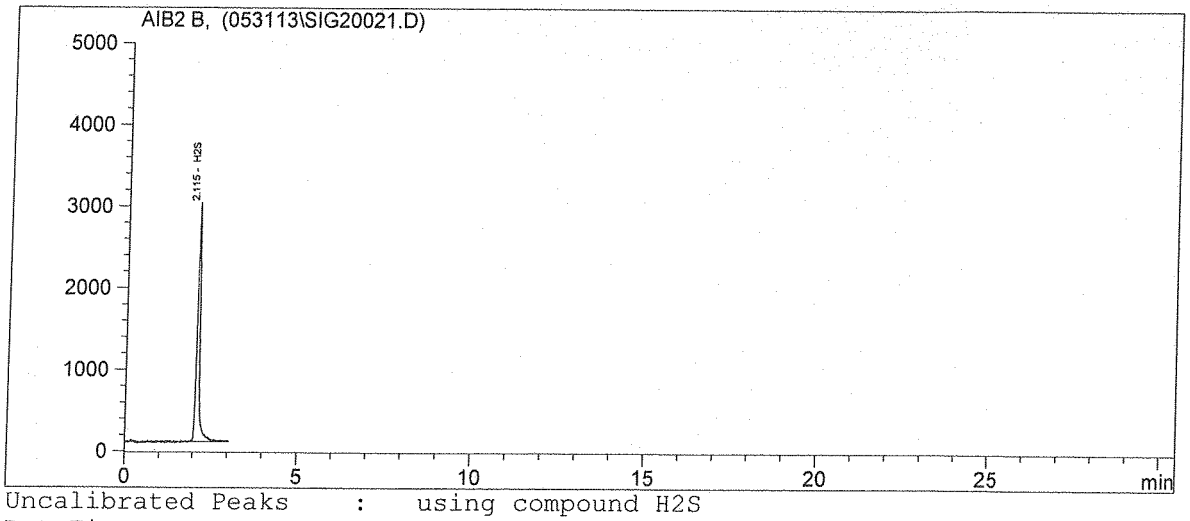
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		0.000	

*** End of Report ***

DH 5/31/13

Customized Report: D5504

Injection Date : 5/31/2013 3:21:59 PM Seq. Line : 21
Sample Name : CCV 500ppbV SS0677 ->Inj. Vol. :Manually
Multiplier : 1.00
Dilution : 1.00
Acq Operator : DH
Acq. Instrument : GC/SCD #10
Acq. Method : ASTM5504.M
Analysis Method : C:\HPCHEM\1\METHODS\D051413.M



Uncalibrated Peaks : using compound H2S

Ret Time [min]	Area	Amount [ppbV]	Name
2.115	17001	504.209	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
0.000	0	0.000	Ethyl Methyl Sulfide
0.000	0	0.000	Sec-butyl Mercaptan
0.000	0	0.000	Thiophene
0.000	0	0.000	Iso-butyl Mercaptan
0.000	0	0.000	Diethyl Sulfide
0.000	0	0.000	N-butyl Mercaptan
0.000	0	0.000	Dimethyl Disulfide
0.000	0	0.000	2-Methylthiophene
0.000	0	0.000	3-Methylthiophene
0.000	0	0.000	Tetrahydrothiophene
0.000	0	0.000	n-Pentyl Mercaptan
0.000	0	0.000	2-Ethylthiophene
0.000	0	0.000	2,5-Dimethylthiophene
0.000	0	0.000	Diethyl Disulfide
0.000	0	0.000	n-Hexyl Mercaptan
0.000	0	0.000	2-Propylthiophene
0.000	0	0.000	Dimethyl Trisulfide
0.000	0	0.000	n-Heptyl Mercaptan
0.000	0	0.000	2-Butylthiophene
0.000	0	0.000	Dipropyl Disulfide
0.000	0	0.000	n-Octyl Mercaptan
0.000	0	0.000	Dipropyl Trisulfide
Totals:		504.209	

*** End of Report ***

DH 5/31/13

Calibration Summary

SCAQMD 307.91 / ASTM D-5504 INITIAL CALIBRATION SUMMARY

Analysis Date: 5/14/2013 **Analyst:** DH/MH **Units:** ppbV

CALIBRATION CURVE RAW DATA:

Standard Concentration (ppbV)	Retention time (min)	Response (Area)	RPD from initial result (< 5%)	Std Deviation	Standard Concentration	Mean Response (Area)	Calculated Concentration (From Mean)	Mean % Recovery (+/- 5 %)
0.0	0.00	0						
0.0	0.00	0	0.0	0	0.0	0	0.0	0.0
0.0	0.00	0	0.0					
25.0	2.096	836						
25.0	2.094	855	2.2	12	25.0	842	25.0	99.9
25.0	2.093	834	0.2					
100.0	2.091	3222						
100.0	2.090	3374	4.6	82	100.0	3316	98.4	98.4
100.0	2.091	3353	4.0					
500.0	2.091	17233						
500.0	2.090	17453	1.3	272	500.0	17486	518.6	103.7
500.0	2.089	17773	3.1					
2500.0	2.087	85533						
2500.0	2.088	83551	2.3	1182	2500.0	84170	2496.3	99.9
2500.0	2.087	83425	2.5					
Avg. Ret.	2.091							

Calibration Verification Check Standards:

Check Standard Concentration: 500 ppbV

	Resp. (area)	Result (ppbV)	% Rec *	% RPD
Initial	17273	512.3	102.5	NA
Duplicate	17117	507.7	101.5	0.9
Triplicate	17378	515.4	103.1	0.6

** All CV's must have +/- 5 % Recovery and < 5% RPD from Initial result.*

Linear Slope: X = Y/ 33.7172

R2 value: 0.9999 *Must be > 0.990*

5/14/17

Laboratory Director (signature/date)

SCAQMD 307.91/ASTM D-5504 INITIAL CALIBRATION SUMMARY