

Atmospheric Analysis & Consulting, Inc.

CLIENT : SWAPE
PROJECT NAME : Bridgeton Sanitary Landfill Quality Assessment
AAC PROJECT NO. : 130986
REPORT DATE : 07/31/2013

On July 29, 2013, Atmospheric Analysis & Consulting, Inc. received four (4) 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 K Canister	130986-64986	550.9
D-1 W8 Canister	130986-64987	548.8
D-2 W6E Canister	130986-64988	577.9
D-3 W6 Canister	130986-64989	576.1

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.

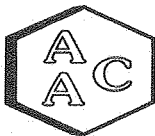
I certify that this data is technically accurate, complete, and in compliance with the terms and conditions of the contract. The Laboratory Director or his designee, as verified by the following signature, has authorized release of the data contained in this hardcopy data package.

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


Marcus Hueppe
Laboratory Director

This report consists of 34 pages.





SAMPLE RECEIPT / LOG-IN REPORT

AAC Project 130986

Received By: J. Zachman

<u>Sample Receipt Date</u>	<u>Project Desc</u>	<u>Clients ID</u>	<u>Matrix</u>	<u>Sampling Date/Time</u>	<u>Sampled By</u>	<u>Sample #</u>	<u>Analysis Requested</u>
7/29/2013 1115	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	U-1 K Canister	Summa Canister	7/24/2013	Client	64986	TO15 ASTM D5504
7/29/2013 1115	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-1 W8 Canister	Summa Canister	7/24/2013	Client	64987	TO15 ASTM D5504
7/29/2013 1115	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-2 W6E Canister	Summa Canister	7/24/2013	Client	64988	TO15 ASTM D5504
7/29/2013 1115	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-3 W6 Canister	Summa Canister	7/24/2013	Client	64989	TO15 ASTM D5504

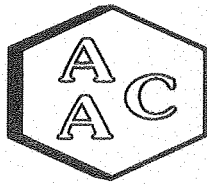
TURN AROUND TIME: Normal (10days)

Lab Due Date: 8/5/2013

Total Samples: 4

REMARKS:

Client returned 4 x Summa Canisters + 4 x Flows. "Standard TAT for all analyses. If possible deliver report within 2 weeks. Provide Level IV QC package for all analyses."



CANISTER PRESSURE LOG

Client: Soil Water Air Protection Ent Project No.: 130986
Date: 7/29/2013

Canister #	Sample #	Initial Pressure	Final Pressure
577	64986	550.9	1026.4
697	64987	548.8	1025.2
730	64988	577.9	1021.2
788	64989	576.1	1015.1

AC# 130986

CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

Bridgeton Sanitary Landfill Air Quality Assessment

Client Name: SOIL / WATER AIR PROTECTION ENTERPRISE
 Project Manager: PAUL ROSENFELD, PH.D.
 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: *[Signature]*

REQUESTED TESTS / ANALYSES

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Carbonyls - EPA TO-11A	Carboxylic 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	Canister #	Flow Control #	
104986	U-1 K	Canister	July 24th	4 HR	X	X												Canister #	577	813
104987	D-1 W8	Canister	July 24th	4 HR	X	X												Canister #	697	718
104988	D-2 W6E	Canister	July 24th	4 HR	X	X												Canister #	730	803
104989	D-3 W6	Canister	July 24th	4 HR	X	X												Canister #	788	804

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: **July 24th, 2013** Time: 12 Noon
 Received By: *[Signature]* Date: **7/29/13** Time: 11:05
 Relinquished By: Date: Time:
 Received By: *[Signature]* Date: Time:

Atmospheric Analysis and Consulting Inc.
Canister Sampling Field Data Sheet

GENERAL INFORMATION

Project Name and/or ID No.: **Bridgeton Sanitary Landfill**

Site Address and/or ID No: **13570 St Charles Rock Rd, Bridgeton, MO 63044**

Sample Name and/or ID No.: **U-1 K** **Canister # 577** **Flow Control # 813**

AAC Batch ID: 130986 AAC Sample ID: 64986

SAMPLING INFORMATION

Start Date/Time: **July 24th, 2013 / 11:15** Stop Date/Time: **July 24th, 2013 / 15:15**

Start Temp/Pressure*: **23C / 30.03 psi** Stop Temp/Pressure*: **26C / 30.03 psi**

Initial Can Pressure***: **-30** Final Can Pressure***: **- 8**

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

Comments: _____

John Blank

John Blank
Sampler Name (Print)

July 24th 2013

Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6 - Liter

Sampling Period: 4 - Hour

Canister Serial No.: # 577

Flow Controller Serial No: # 813

Initial Pressure: 3.4

Certified Flow Rate: 18.0

Return Pressure: 550.9

Certified By/Date: 20.6 JJ 7/10/13

Final Pressure: 1026.4

Flow Rate upon Return: 20.6

Date Shipped From Lab: 7/10/13

Shipped By: JJ

Date Returned to Lab: 7/29/13

Received By: JJ

Flow Controller Certification File ID: 1503/07081311

Canister Certification File ID: 1503/06121320

Certification Type: SIM _____ SCAN NJLL _____ PAMS _____ Other _____

John Blank 7/21/13
Chemist Signature/Date

MW 5/1/13
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.: **Bridgeton Sanitary Landfill**

Site Address and/or ID No.: **13570 St Charles Rock Rd, Bridgeton, MO 63044**

Sample Name and/or ID No.: **D-1 W8** **Canister # 697** **Flow Control # 718**

AAC Batch ID: 130896 AAC Sample ID: 64987

SAMPLING INFORMATION

Start Date/Time: **July 24th, 2013 / 11:35** Stop Date/Time: **July 24th, 2013 / 15:35**

Start Temp/Pressure*: **23C / 30.03 psi** Stop Temp/Pressure*: **26C / 30.03 psi**

Initial Can Pressure***: **- 30** Final Can Pressure***: **- 9**

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

Comments: _____

John Blank

John Blank
Sampler Name (Print)

July 24th 2013

John Blank
Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6 - Liter

Sampling Period: 4 - Hour

Canister Serial No.: # **697**

Flow Controller Serial No: # **718**

Initial Pressure: 3.9

Certified Flow Rate: 18.0

Return Pressure: 512.8

Certified By/Date: JJ 7/10/13

Final Pressure: 1025.2

Flow Rate upon Return: 21.0

Date Shipped From Lab: 7/10/13

Shipped By: JJ

Date Returned to Lab: 7/24/13

Received By: JJ

Flow Controller Certification File ID: MS03/07081311

Canister Certification File ID: MS03/06271304

Certification Type: SIM _____ SCAN NJLL _____ PAMS _____ Other _____

John Blank
Chemist Signature/Date

MV
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.: **Bridgeton Sanitary Landfill**

Site Address and/or ID No: **13570 St Charles Rock Rd, Bridgeton, MO 63044**

Sample Name and/or ID No.: **D-2 W6E** **Canister # 730** **Flow Control # 803**

AAC Batch ID: 130986 AAC Sample ID: 64988

SAMPLING INFORMATION

Start Date/Time: **July 24th, 2013 / 11:55** Stop Date/Time: **July 24th, 2013 / 15:55**

Start Temp/Pressure*: **23C / 30.03 psi** Stop Temp/Pressure*: **26C / 30.03 psi**

Initial Can Pressure**: **- 30** Final Can Pressure**: **- 8**

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

Comments: _____

John Blank

John Blank
Sampler Name (Print)

July 24th 2013
Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6 - Liter

Sampling Period: 4 - Hour

Canister Serial No.: # **730**

Flow Controller Serial No: # **803**

Initial Pressure: 3.7

Certified Flow Rate: 18.0

Return Pressure: 577.9

Certified By/Date: JJ 7/10/13

Final Pressure: 1021.2

Flow Rate upon Return: 20.7

Date Shipped From Lab: 7/10/13

Shipped By: JJ

Date Returned to Lab: 7/29/13

Received By: JJ

Flow Controller Certification File ID: 11503/0708311

Canister Certification File ID: 11503/0705126

Certification Type: SIM _____ SCAN NJLL _____ PAMS _____ Other _____

John Blank 07/31/13
Chemist Signature/Date

Mike 5/1/13
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.: **Bridgeton Sanitary Landfill**

Site Address and/or ID No.: **13570 St Charles Rock Rd, Bridgeton, MO 63044**

Sample Name and/or ID No.: **D-3 W6** Canister # **788** Flow Control # **804**

AAC Batch ID: 130986 AAC Sample ID: 6989

SAMPLING INFORMATION

Start Date/Time: **July 24th, 2013 / 12:05** Stop Date/Time: **July 24th, 2013 / 16:05**

Start Temp/Pressure*: **23C / 30.03 psi** Stop Temp/Pressure*: **26C / 30.03 psi**

Initial Can Pressure***: **-30** Final Can Pressure***: **- 7**

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

Comments: _____

John Blank

John Blank
Sampler Name (Print)

July 24th 2013

Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6 – Liter

Sampling Period: 4 – Hour

Canister Serial No.: # **788**

Flow Controller Serial No: # **804**

Initial Pressure: 3.4

Certified Flow Rate: 18.0

Return Pressure: 576.1

Certified By/Date: JJ 7/10/13

Final Pressure: 1015.1

Flow Rate upon Return: 21.3

Date Shipped From Lab: 7/10/13

Shipped By: JJ

Date Returned to Lab: 7/24/13

Received By: JJ

Flow Controller Certification File ID: 11203/07081311

Canister Certification File ID: 11203/00071309

Certification Type: SIM _____ SCAN NJLL _____ PAMS _____ Other _____

John Blank 7/24/13
Chemist Signature/Date

mu 5/1/13
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.***



American Environmental Laboratories

ISO 9001:2000 Certification #A1836US

MDNR **Bridgeton Landfill**
Chain of Custody Weekly Sampling Event

Date: July 24th, 2013

Air Sampler calibrated for 1 Liter per Minute Flow Rate
Flow Rate calibrated with BIOS - Defender 510M - S/N 131756
SUMMA Canister with a 4 hour flow valve

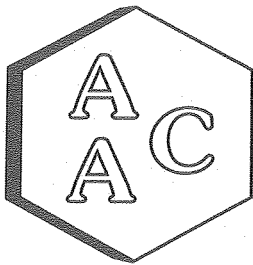
Temperature	23C	Humidity	43%	Barametric Pressure	30.03		
Stop	26 C		42%		30.03		
Sample Point ID U-1 K				Start	End	Time	Start
Canister Serial #	577	Vacuum	-30		-8		11:15
Flow Control #	813	Flow Rate	1.029		1.035		15:15
Sample Pump #	71526	Sampe Tube #	4440601056	Sample Volume L			247.68
Sample Tube Type	226-20						
Sample Point ID D-1 W8				Start	End	Time	Start
Canister Serial #	697	Vacuum	-30		-9		11:35
Flow Control #	718	Flow Rate	1.018		1.021		15:35
Sample Pump #	67385	Sampe Tube #	4440601048	Sample Volume L			244.68
Sample Tube Type	226-20						
Sample Point ID D-2 W6E				Start	End	Time	Start
Canister Serial #	730	Vacuum	-30		-8		11:55
Flow Control #	803	Flow Rate	1.029		1.058		15:55
Sample Pump #	67992	Sampe Tube #	4440601368	Sample Volume L			250.44
Sample Tube Type	226-20						
Sample Point ID D-3 W6				Start	End	Time	Start
Canister Serial #	788	Vacuum	-30		-7		12:05
Flow Control #	804	Flow Rate	1.02		1.028		16:05
Sample Pump #	67835	Sampe Tube #	4440601049	Sample Volume L			245.76
Sample Tube Type	226-20						

Possible Sample Point ID W1 - W2 - W3 - W4 - W5 - W6 - W7 - W8

Prepared by:

3441 Morgan Ford Rd. St. Louis, MO 63116 Tel: 314-664-2800 Fax: 314-664-2442

Results



Atmospheric Analysis & Consulting, Inc.

LABORATORY ANALYSIS REPORT


CLIENT : SWAPE
PROJECT NO. : 130986
MATRIX : AIR
UNITS : ppbV

SAMPLING DATE : 07/24/2013
RECEIVING DATE : 07/29/2013
ANALYSIS DATE : 07/31/2013
REPORT DATE : 07/31/2013

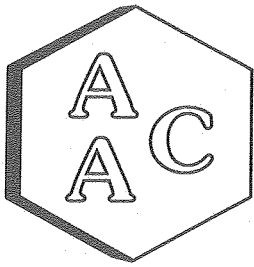
Sulfur Compounds by ASTM D-5504

Client ID	U-1 K Canister	D-1 W8 Canister	D-2 W6E Canister	D-3 W6 Canister
AAC ID	130986-64986	130986-64987	130986-64988	130986-64989
Canister Dil. Fac.	1.86	1.87	1.77	1.76
Analyte	Result	Result	Result	Result
Hydrogen Sulfide	< 18.6	< 18.7	< 17.7	< 17.6
Carbonyl Sulfide	< 18.6	< 18.7	< 17.7	< 17.6
Sulfur Dioxide	< 18.6	< 18.7	< 17.7	< 17.6
Methyl Mercaptan	< 18.6	< 18.7	< 17.7	< 17.6
Ethyl Mercaptan	< 18.6	< 18.7	< 17.7	< 17.6
Dimethyl Sulfide	< 18.6	< 18.7	< 17.7	< 17.6
Carbon Disulfide	< 9.3	< 9.3	< 8.8	< 8.8
Isopropyl Mercaptan	< 18.6	< 18.7	< 17.7	< 17.6
tert-Butyl Mercaptan	< 18.6	< 18.7	< 17.7	< 17.6
n-Propyl Mercaptan	< 18.6	< 18.7	< 17.7	< 17.6
Methylethylsulfide	< 18.6	< 18.7	< 17.7	< 17.6
sec-Butyl Mercaptan	< 18.6	< 18.7	< 17.7	< 17.6
Thiophene	< 18.6	< 18.7	< 17.7	< 17.6
iso-Butyl Mercaptan	< 18.6	< 18.7	< 17.7	< 17.6
Diethyl Sulfide	< 18.6	< 18.7	< 17.7	< 17.6
n-Butyl Mercaptan	< 18.6	< 18.7	< 17.7	< 17.6
Dimethyl Disulfide	< 9.3	< 9.3	< 8.8	< 8.8
2-Methylthiophene	< 18.6	< 18.7	< 17.7	< 17.6
3-Methylthiophene	< 18.6	< 18.7	< 17.7	< 17.6
Tetrahydrothiophene	< 18.6	< 18.7	< 17.7	< 17.6
Bromothiophene	< 18.6	< 18.7	< 17.7	< 17.6
Thiophenol	< 18.6	< 18.7	< 17.7	< 17.6
Diethyl disulfide	< 9.3	< 9.3	< 8.8	< 8.8
Total Unidentified Sulfur	< 18.6	< 18.7	< 17.7	< 17.6

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


Marcus Hueppe
Laboratory Director





Atmospheric Analysis & Consulting, Inc.

LABORATORY ANALYSIS REPORT

CLIENT : SWAPE
PROJECT NO. : 130986
MATRIX : AIR
UNITS : ug/m³

SAMPLING DATE : 07/24/2013
RECEIVING DATE : 07/29/2013
ANALYSIS DATE : 07/31/2013
REPORT DATE : 07/31/2013

Sulfur Compounds by ASTM D-5504

Client ID	U-1 K Canister	D-1 W8 Canister	D-2 W6E Canister	D-3 W6 Canister
AAC ID	130986-64986	130986-64987	130986-64988	130986-64989
Canister Dil. Fac.	1.86	1.87	1.77	1.76
Analyte	Result	Result	Result	Result
Hydrogen Sulfide	< 26.0	< 26.0	< 24.6	< 24.6
Carbonyl Sulfide	< 45.8	< 45.9	< 43.4	< 43.3
Sulfur Dioxide	< 48.8	< 48.9	< 46.3	< 46.2
Methyl Mercaptan	< 36.7	< 36.8	< 34.8	< 34.7
Ethyl Mercaptan	< 47.3	< 47.5	< 44.9	< 44.8
Dimethyl Sulfide	< 47.3	< 47.5	< 44.9	< 44.8
Carbon Disulfide	< 29.0	< 29.1	< 27.5	< 27.4
Isopropyl Mercaptan	< 58.0	< 58.2	< 55.0	< 54.9
tert-Butyl Mercaptan	< 68.7	< 68.9	< 65.2	< 65.0
n-Propyl Mercaptan	< 58.0	< 58.2	< 55.0	< 54.9
Methylethylsulfide	< 58.0	< 58.2	< 55.0	< 54.9
sec-Butyl Mercaptan	< 68.7	< 68.9	< 65.2	< 65.0
Thiophene	< 64.1	< 64.3	< 60.8	< 60.6
iso-Butyl Mercaptan	< 68.7	< 68.9	< 65.2	< 65.0
Diethyl Sulfide	< 68.7	< 68.9	< 65.2	< 65.0
n-Butyl Mercaptan	< 68.7	< 68.9	< 65.2	< 65.0
Dimethyl Disulfide	< 35.9	< 36.0	< 34.0	< 33.9
2-Methylthiophene	< 74.8	< 75.0	< 70.9	< 70.7
3-Methylthiophene	< 74.8	< 75.0	< 70.9	< 70.7
Tetrahydrothiophene	< 67.2	< 67.4	< 63.7	< 63.5
Bromothiophene	< 124	< 125	< 118	< 117
Thiophenol	< 84.0	< 84.2	< 79.6	< 79.4
Diethyl disulfide	< 46.6	< 46.7	< 44.2	< 44.0
Total Unidentified Sulfur	< 26.0	< 26.0	< 24.6	< 24.6

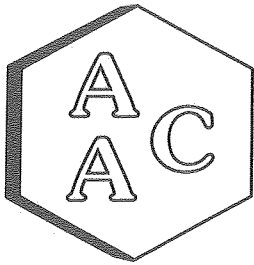
All unidentified sulfur compound's concentrations expressed in terms of μS
Sample Quantitation Limit (SQL) is equal to the Quantitation Limit x Canister Dil. Fac. x Analysis Dil. Fac.



Marcus Hueppe
Laboratory Director



QA/QC Summary



Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report ASTM D-5504

Date Analyzed: 07/31/13
Analyst: DH

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

Opening Calibration Verification Standard

	Resp. (area)	Result (ppbV)	% Rec *	% RPD ****
Initial	16340	485	96.9	NA
Duplicate	16293	483	96.6	0.3
Triplicate	16407	487	97.3	0.4

Method Blank

Analyte	Result
H2S	ND

Matrix Spike & Duplicate

Sample ID 130986-64986

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H2S	0.0	250.0	246.5	248.8	98.6	99.5	1.0

Duplicate Analysis

Sample ID 130986-64986

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

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	%Recovery **
H2S	500	512.8	102.6

* Must be 95-105%

** Must be 90-110%

*** Must be < 10%

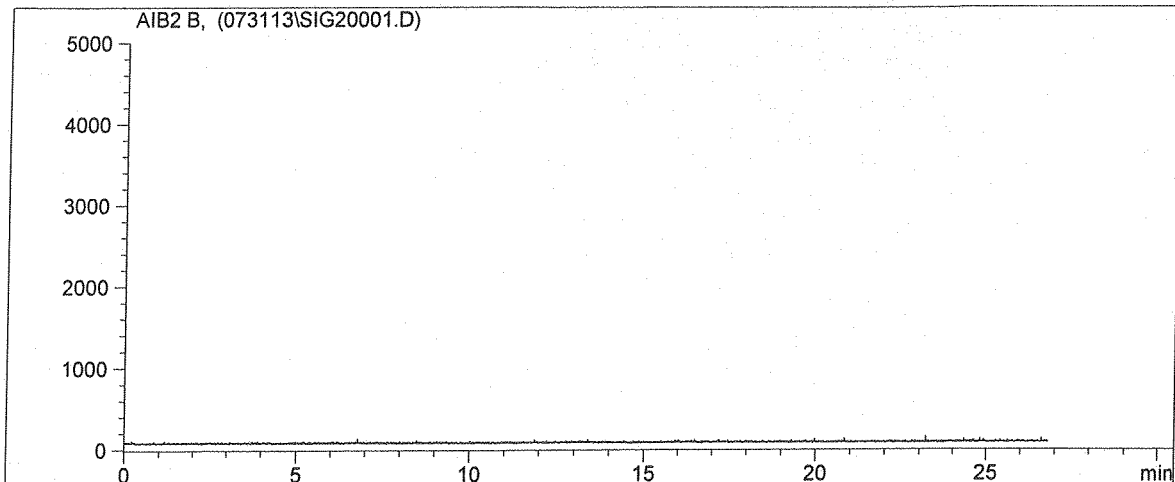
**** must be < 5% RPD from Initial result.

Marcus Hueppe
Laboratory Director



Raw Data

Injection Date : 7/31/2013 5:40:49 AM Seq. Line : 1
Sample Name : System Blank 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

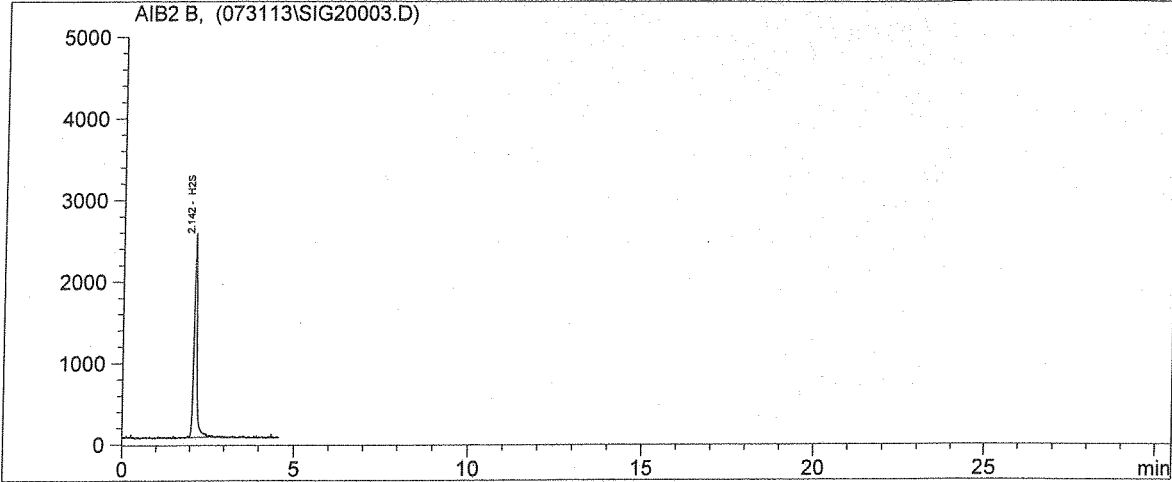
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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 ***

MH
7/31/13

Injection Date : 7/31/2013 6:24:33 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

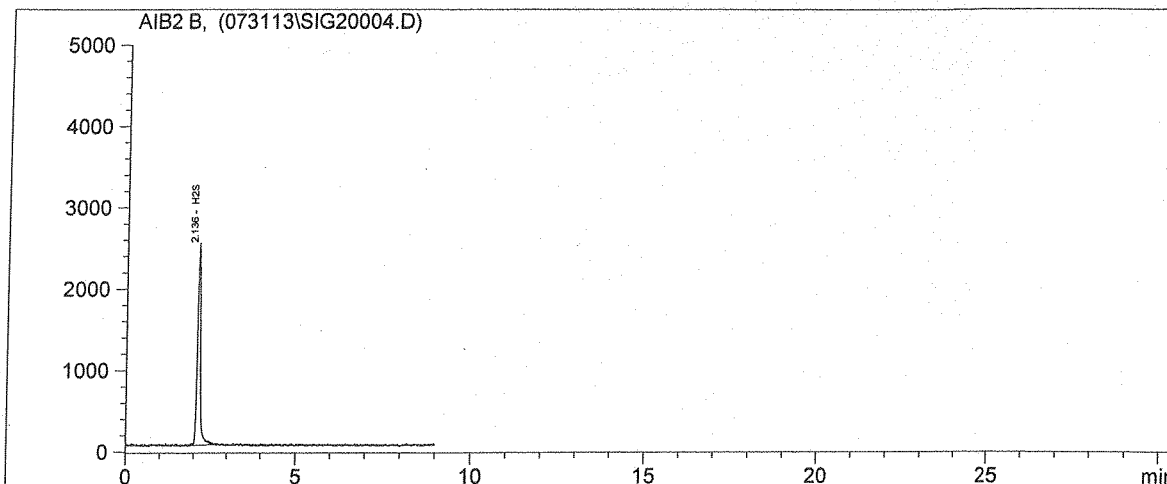
Ret Time [min]	Area	Amount [ppbV]	Name
2.142	16293	483.217	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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: 483.217

*** End of Report ***

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7/31/13

Injection Date : 7/31/2013 6:29:58 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

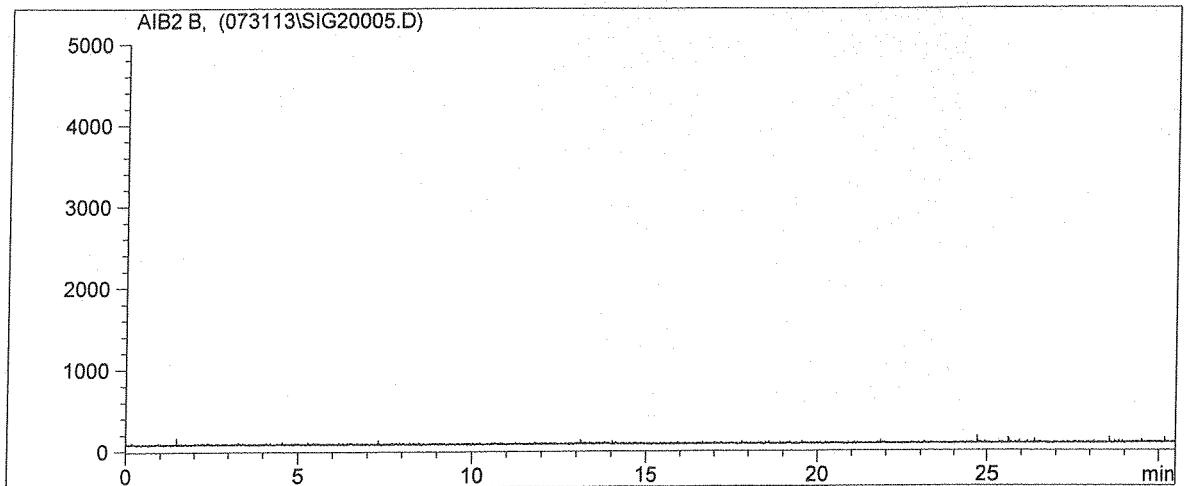
Ret Time [min]	Area	Amount [ppbV]	Name
2.136	16407	486.615	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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: 486.615

*** End of Report ***

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7/31/13

Injection Date : 7/31/2013 6:39:45 AM Seq. Line : 5
Sample Name : Method Blank 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

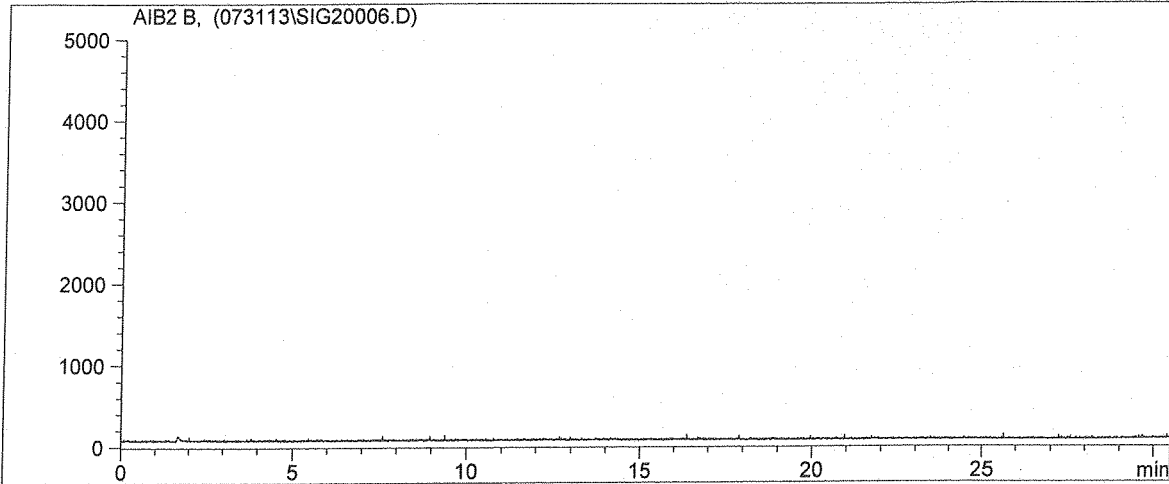
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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 ***

NH
7/31/13

Injection Date : 7/31/2013 7:18:10 AM Seq. Line : 6
Sample Name : 130986-64986 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

Table with 4 columns: Ret Time [min], Area, Amount [ppbV], Name. Lists various sulfur compounds with zero values for area and amount.

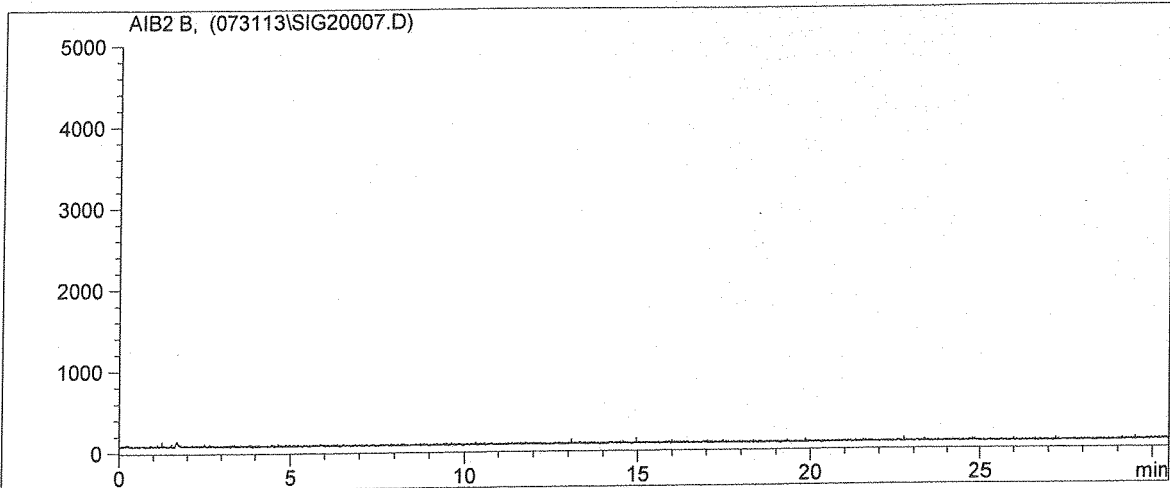
Totals: 0.000

*** End of Report ***

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Injection Date   : 7/31/2013 7:52:32 AM          Seq. Line   : 7
Sample Name     : 130986-64986             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
    
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Uncalibrated Peaks : using compound H2S

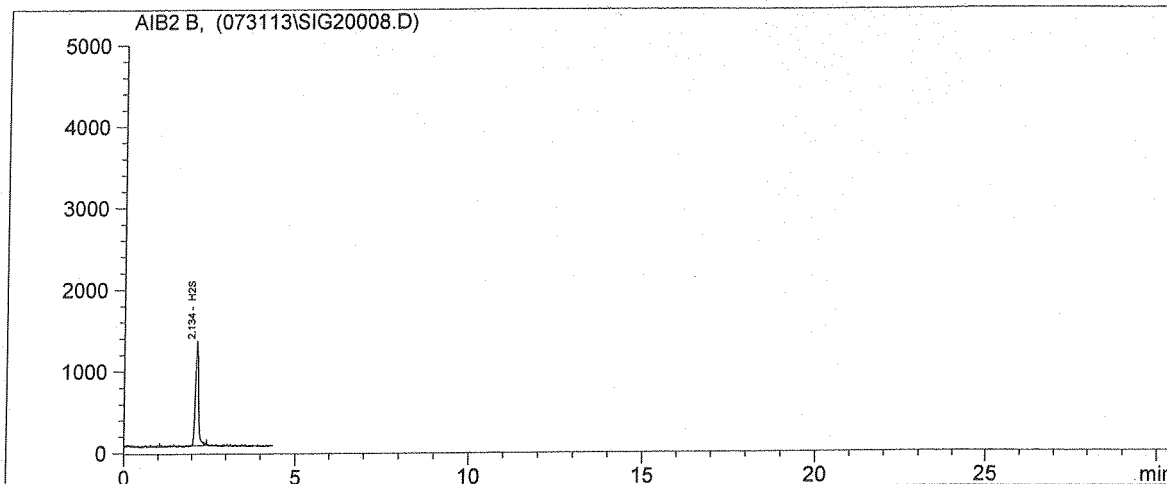
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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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7/31/13

Injection Date : 7/31/2013 8:37:35 AM Seq. Line : 8
 Sample Name : MS 64986 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

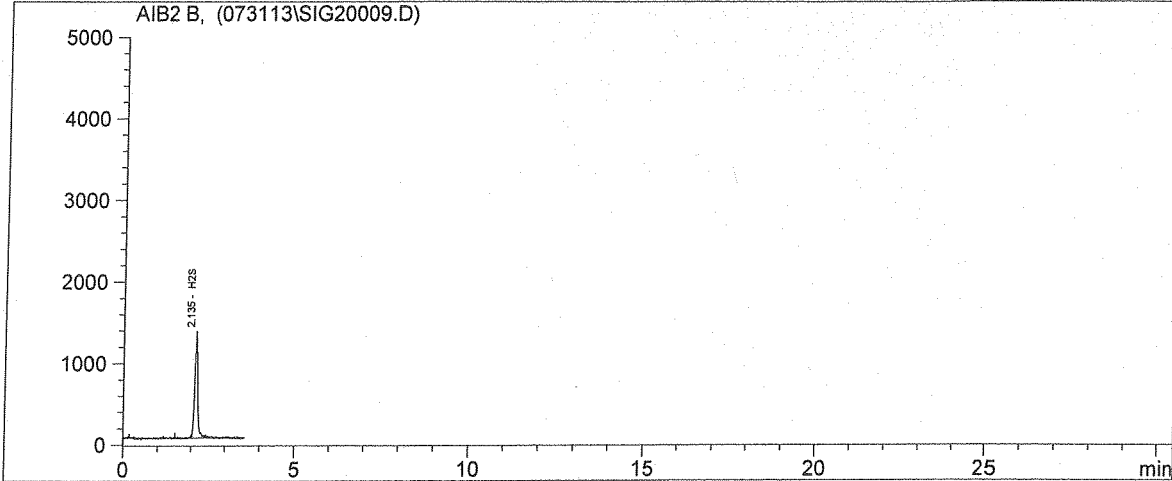
Ret Time [min]	Area	Amount [ppbV]	Name
2.134	8310	246.459	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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: 246.459

*** End of Report ***

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7/31/13

Injection Date : 7/31/2013 8:53:51 AM Seq. Line : 9
Sample Name : MSD 64986 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

Table with 4 columns: Ret Time [min], Area, Amount [ppbV], Name. The first row shows a peak at 2.135 min with area 8390 and amount 248.828, identified as H2S. All other listed compounds have zero values.

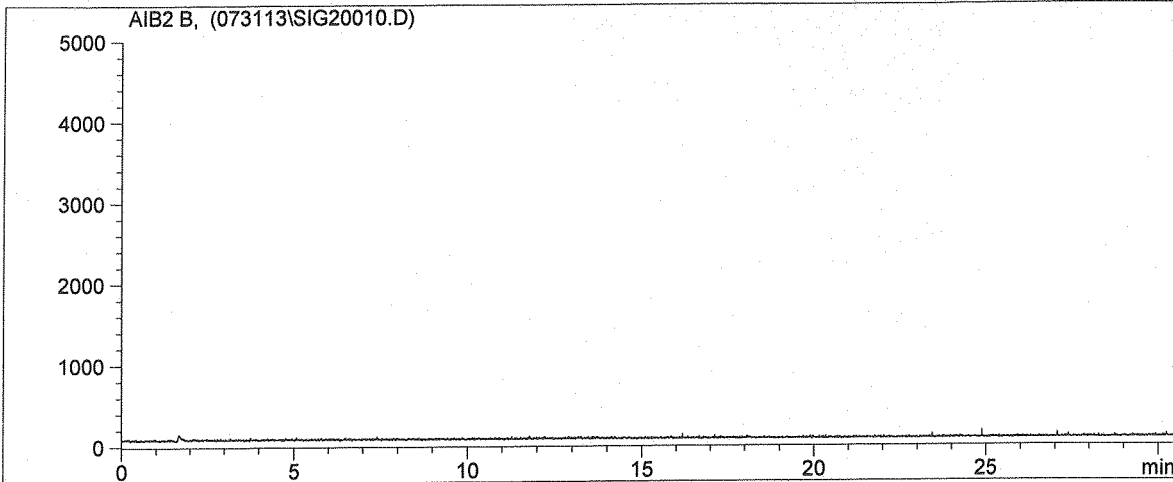
Totals: 248.828

*** End of Report ***

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 Customized Report: D5504

Injection Date : 7/31/2013 8:58:46 AM Seq. Line : 10
 Sample Name : 130986-64987 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

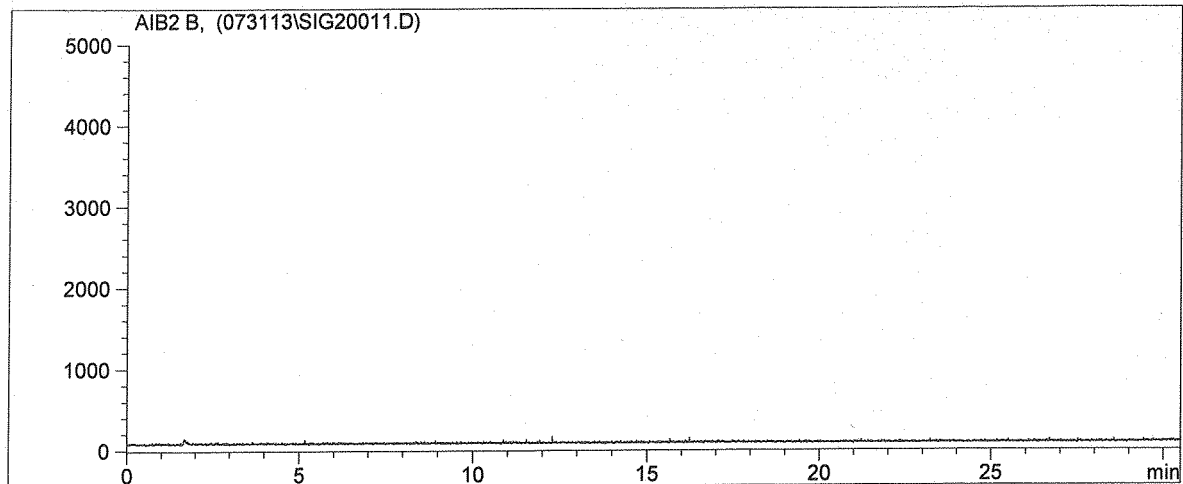
Totals: 0.000

*** End of Report ***

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 7/31/13

Customized Report: D5504

Injection Date : 7/31/2013 9:34:10 AM Seq. Line : 11
Sample Name : 130986-64987 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\0051413.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

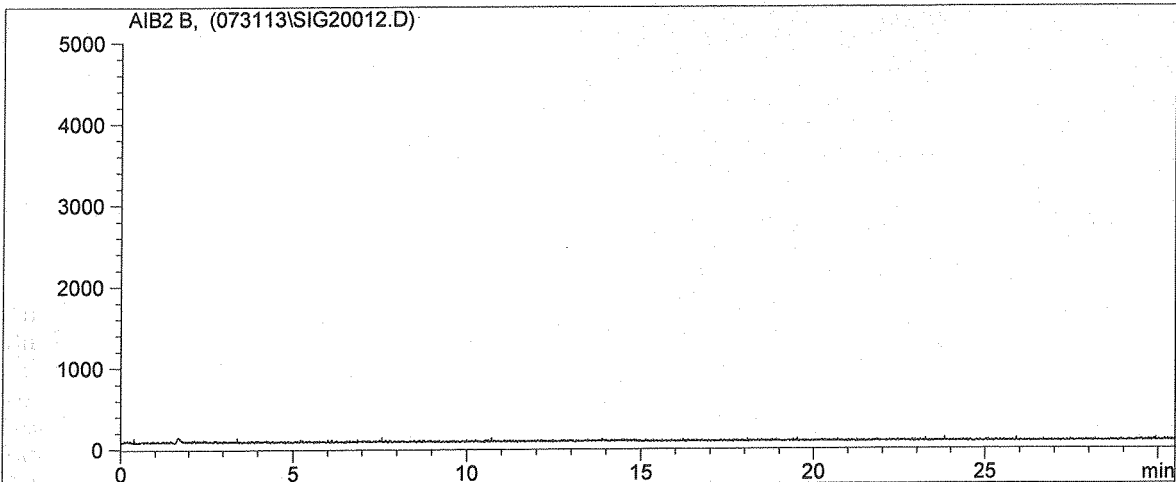
Totals: 0.000

*** End of Report ***

DH
7/31/13

Customized Report: D5504

Injection Date : 7/31/2013 10:21:54 AM Seq. Line : 12
 Sample Name : 130986-64988 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

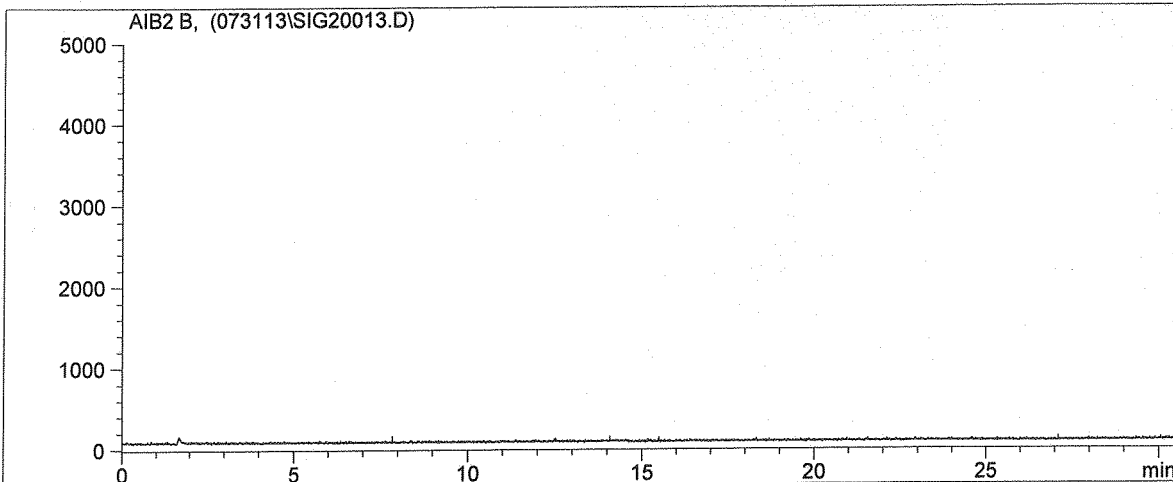
Totals: 0.000

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7/31/13

Customized Report: D5504

Injection Date : 7/31/2013 11:01:26 AM
Sample Name : 130986-64988 dp
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

Table with 5 columns: Ret Time [min], Area, Amount [ppbV], Name, and an unlabeled column. It lists various sulfur compounds with zero values for area and amount.

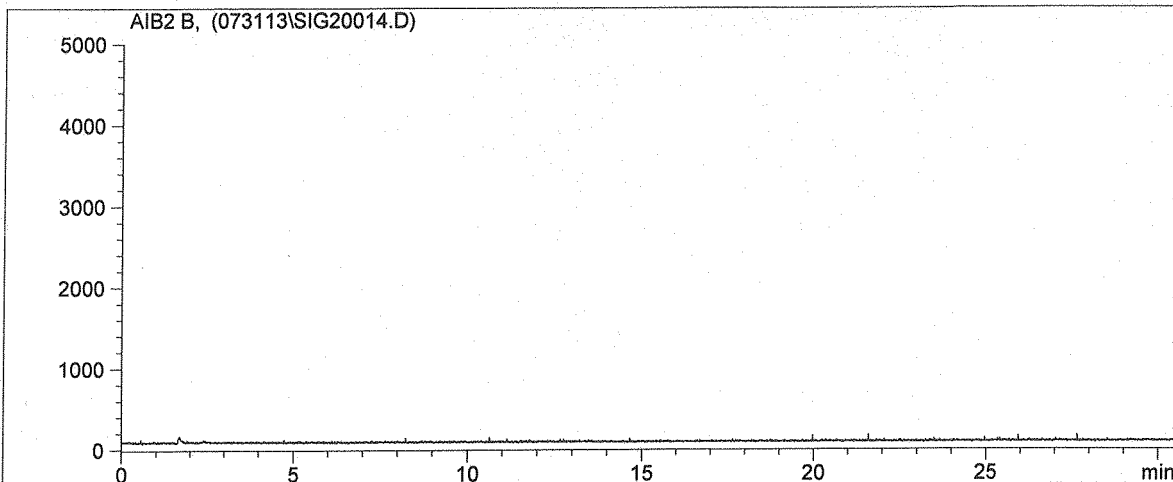
Totals: 0.000

*** End of Report ***

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Customized Report: D5504

Injection Date : 7/31/2013 11:55:19 AM Seq. Line : 14
 Sample Name : 130986-64989 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

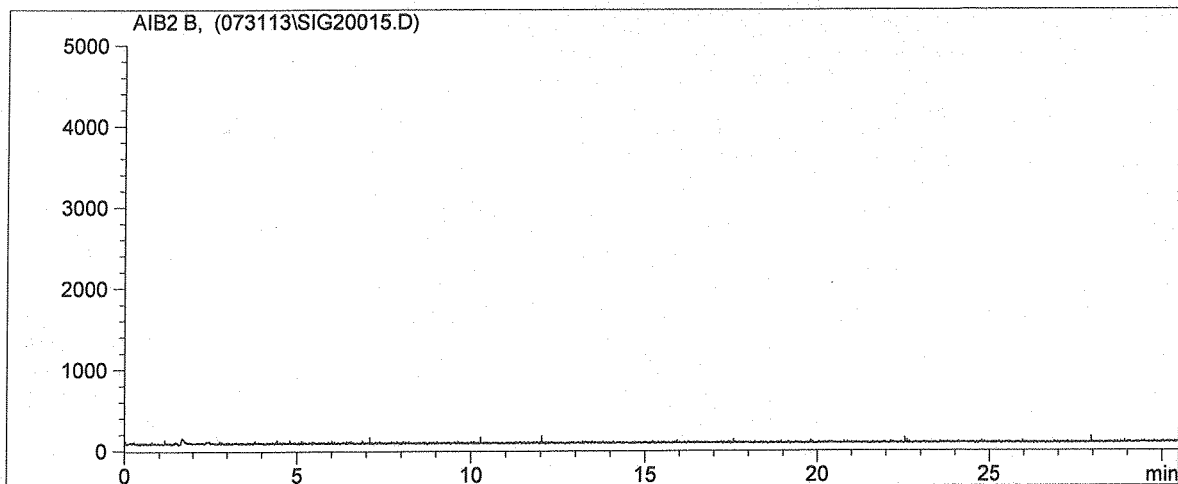
Totals: 0.000

*** End of Report ***

AD
7/31/13

Customized Report: D5504

Injection Date : 7/31/2013 12:29:46 PM Seq. Line : 15
 Sample Name : 130986-64989 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



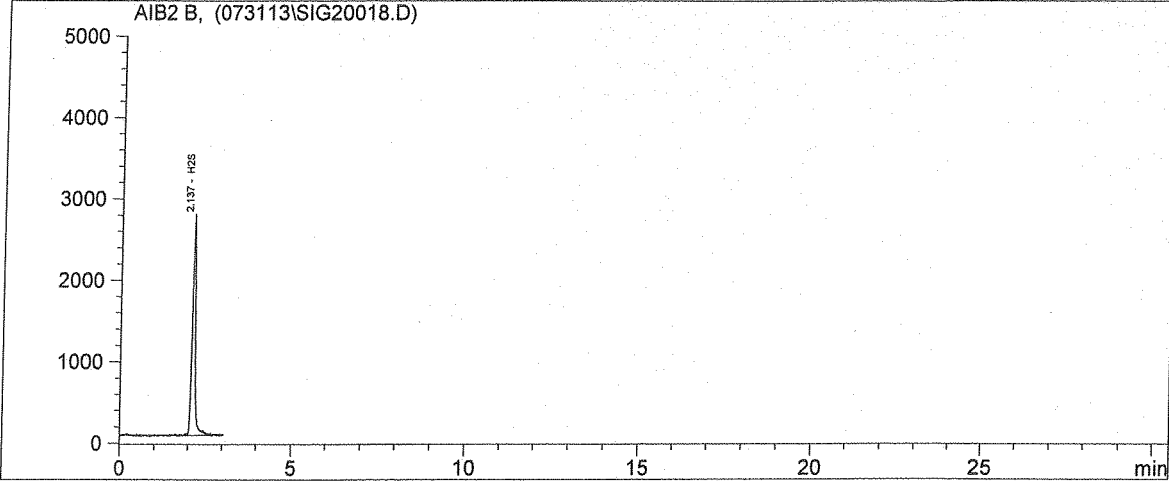
Uncalibrated Peaks : using compound H2S

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 ***

Injection Date : 7/31/2013 1:54:50 PM Seq. Line : 18
 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
2.137	17290	512.804	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: 512.804

*** End of Report ***

DH
 Page ~~1~~ 13
 DH 7/31/13

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	0.0	0	0.0	0.0
0.0	0.00	0	0.0	0	0.0	0	0.0	0.0
0.0	0.00	0	0.0	0	0.0	0	0.0	0.0
25.0	2.096	836	0.0					
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		2500.0	84170	2496.3	99.9
2500.0	2.087	83425	2.5	1182				
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

 5/14/13
 Laboratory Director (signature/date)

SCAQMD 307.91/ASTM D-5504 INITIAL CALIBRATION SUMMARY

Area (mean) vs. Conc. (theor)

$Y = 33.7172X$
 $R^2 = 0.99999$

