

Atmospheric Analysis & Consulting, Inc.

CLIENT : SWAPE
PROJECT NAME : Bridgeton Sanitary Landfill Quality Assessment
AAC PROJECT NO. : 130537
REPORT DATE : 05/07/2013

On May 3, 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 W5	130537-62774	554.9
U-2 W8	130537-62775	470.4
D-1 W9	130537-62776	576.3
D-2 W2	130537-62777	687.5

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 other 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.

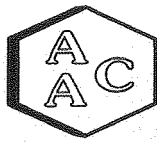
I certify that this data is technically accurate, complete, and in compliance with the terms and conditions of the contract. The Laboratory Director or his designee, as verified by the following signature, has authorized release of the data contained in this hardcopy data package.

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


Marcus Hueppe
Laboratory Director

This report consists of 35 pages.





SAMPLE RECEIPT / LOG-IN REPORT

AAC Project 130537

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>
5/3/2013 1055	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	U-1 W5	Summa Canister	5/1/2013 0830-1230	Client	62774	TO15 ASTM D5504
5/3/2013 1055	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	U-2 W8	Summa Canister	5/1/2013 0950-1350	Client	62775	TO15 ASTM D5504
5/3/2013 1055	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-1 W9	Summa Canister	5/1/2013 0930-1330	Client	62776	TO15 ASTM D5504
5/3/2013 1055	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-2 W2	Summa Canister	5/1/2013 0948-1348	Client	62777	TO15 ASTM D5504

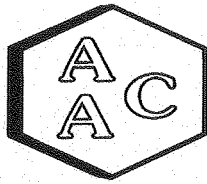
TURN AROUND TIME: Normal (10days)

Lab Due Date: 5/10/2013

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.: 130537
Date: 5/3/2013

Canister #	Sample #	Initial Pressure	Final Pressure
705	62774	554.9	1028.9
704	62775	470.4	1017.4
716	62776	576.3	1017.0
706	62777	687.5	1016.7

AAC# 130537

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.		REQUESTED TESTS / ANALYSES	
Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401			
Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT		Date: 01-May-13	
Sampled By: John Blank		Sampler Signature: 	

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	Special Instructions / Conditions of Receipt
102774	U-1 W5	Canister	01-May	4 Hr	X	X												Canister # 1605
102775	U-2 W8	Canister	01-May	4 Hr	X	X												Canister # 2178
102776	D-1 W9	Canister	01-May	4 Hr	X	X												Canister # 716
102777	D-2 W2	Canister	01-May	4 Hr	X	X												Canister # 1609

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

Relinquished By: John Blank	Date: 05/01/2013	Received By:	Date:
Relinquished By:	Date:	Received By:	Date:
Relinquished By:	Date:	Received By:	Date:

Time: 12 Noon

Time: 5/13/2013

Time: 1055

- FEA

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 W5 Canister**

AAC Batch ID: 130537 AAC Sample ID: 02774

SAMPLING INFORMATION

Start Date/Time: **May 1st, 2013** - 8:30 Stop Date/Time: **May 1st, 2013** 12:30


Start Temp/Pressure*: 18.8 C / 30.01 Stop Temp/Pressure*: 27.2 C / 30.07

Initial Can Pressure**: -30 Final Can Pressure**: -10

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

Comments: _____

John Blank
Sampler Name (Print)


- May 1st, 2013
Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6 - Liter

Sampling Period: 4 - Hour

Canister Serial No.: 705

Flow Controller Serial No: 803

Initial Pressure: 0.4

Certified Flow Rate: 17.9 ml/min

Return Pressure: 554.9

Certified By/Date: Wesley Horn / 4/10/13

Final Pressure: 1028.9

Flow Rate upon Return: NA


Date Shipped From Lab: 4/5/2013 Shipped By: JZ


Date Returned to Lab: 5/3/2013 Received By: JZ

Flow Controller Certification File ID: MS03/04091306

Canister Certification File ID: MS03/03271315

Certification Type: SIM SCAN NJLL PAMS Other


Chemist Signature/Date


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.: **U-2 W8 Canister**

AAC Batch ID: 130537

AAC Sample ID: 62775

SAMPLING INFORMATION

Start Date/Time: **May 1st, 2013** - 8:50 Stop Date/Time: **May 1st, 2013** 12:50


Start Temp/Pressure*: 18.8 C / 30.01 Stop Temp/Pressure*: 27.2 C / 30.07

Initial Can Pressure**: -30 Final Can Pressure**: -10

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

Comments: _____

John Blank
Sampler Name (Print)


- May 1st, 2013
Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6 - Liter

Sampling Period: 4 - Hour

Canister Serial No.: 704

Flow Controller Serial No: 805

Initial Pressure: 0.6

Certified Flow Rate: 18.1 mL/min

Return Pressure: 470.4

Certified By/Date: WESLEY HORN / 4/10/13

Final Pressure: 1017.4

Flow Rate upon Return: NA

Date Shipped From Lab: 4/5/2013 Shipped By: J2

Date Returned to Lab: 5/3/2013 Received By: J2

Flow Controller Certification File ID: 4903/04091306

Canister Certification File ID: 4903/04091308

Certification Type: SIM SCAN NJLL PAMS Other


Chemist Signature/Date 05/07/13


Lab Manager Signature/Date 5/18/13

*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 W9 Canister**

AAC Batch ID: 130537 AAC Sample ID: 62776

SAMPLING INFORMATION

Start Date/Time: **May 1st, 2013 - 9:30** Stop Date/Time: **May 1st, 2013 13:30**


Start Temp/Pressure*: 18.8 C / 30.01 Stop Temp/Pressure*: 27.2 C / 30.07

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
Sampler Name (Print)


- May 1st, 2013
Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6 - Liter

Sampling Period: 4 - Hour

Canister Serial No.: 716

Flow Controller Serial No: 804

Initial Pressure: 0.5

Certified Flow Rate: 18.0 ml/min

Return Pressure: 576.3

Certified By/Date: WESLEY HORN / 4/10/13

Final Pressure: 1017.0

Flow Rate upon Return: NA

Date Shipped From Lab: 4/5/2013 Shipped By: J2

Date Returned to Lab: 5/3/2013 Received By: J2

Flow Controller Certification File ID: 1203/04091306

Canister Certification File ID: 1203/0401309

Certification Type: SIM SCAN NJLL PAMS Other


Chemist Signature/Date

MM 5/8/13
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-2 W2 Canister**

AAC Batch ID: 130537 AAC Sample ID: 62777

SAMPLING INFORMATION

Start Date/Time: **May 1st, 2013 - 9:48** Stop Date/Time: **May 1st, 2013 13:48**

Start Temp/Pressure*: 18.8 C / 30.01 Stop Temp/Pressure*: 27.2 C / 30.07

Initial Can Pressure**: -30 Final Can Pressure**: -4

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

Comments: _____

John Blank

Sampler Name (Print)



- May 1st, 2013

Sampler Signature/Date

LABORATORY INFORMATION

Canister Size: 6 - Liter

Sampling Period: 4 - Hour

Canister Serial No.: 706

Flow Controller Serial No.: 709

Initial Pressure: 0.7

Certified Flow Rate: 18.0 ml/min

Return Pressure: 687.5

Certified By/Date: WESLEY HORN / 4/10/13

Final Pressure: 1016.7

Flow Rate upon Return: NA

Date Shipped From Lab: 4/5/2013 Shipped By: JZ

Date Returned to Lab: 5/3/2013 Received By: JZ

Flow Controller Certification File ID: MS03/09101305

Canister Certification File ID: MS03/03071321

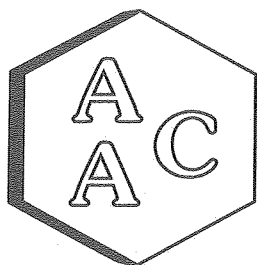
Certification Type: SIM _____ SCAN NJLL _____ PAMS _____ Other _____


Chemist Signature/Date


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



Atmospheric Analysis & Consulting, Inc.

LABORATORY ANALYSIS REPORT

CLIENT : SWAPE
PROJECT NO. : 130537
MATRIX : AIR
UNITS : ppbV

SAMPLING DATE : 05/01/2013
RECEIVING DATE : 05/03/2013
ANALYSIS DATE : 05/07/2013
REPORT DATE : 05/07/2013

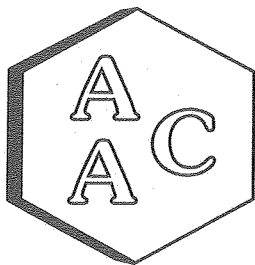
Sulfur Compounds by ASTM D-5504

Client ID	U-1 W5	U-2 W8	D-1 W9	D-2 W2
AAC ID	130502-62624	130502-62625	130502-62626	130502-62627
Canister Dil. Fac.	1.85	2.16	1.76	1.48
Analyte	Result	Result	Result	Result
Hydrogen Sulfide	< 46.4	< 54.1	< 44.1	< 37.0
Carbonyl Sulfide	< 46.4	< 54.1	< 44.1	< 37.0
Sulfur Dioxide	< 46.4	< 54.1	< 44.1	< 37.0
Methyl Mercaptan	< 46.4	< 54.1	< 44.1	< 37.0
Ethyl Mercaptan	< 46.4	< 54.1	< 44.1	< 37.0
Dimethyl Sulfide	< 46.4	< 54.1	< 44.1	< 37.0
Carbon Disulfide	< 23.2	< 27.0	< 22.1	< 18.5
Isopropyl Mercaptan	< 46.4	< 54.1	< 44.1	< 37.0
tert-Butyl Mercaptan	< 46.4	< 54.1	< 44.1	< 37.0
n-Propyl Mercaptan	< 46.4	< 54.1	< 44.1	< 37.0
Methylethylsulfide	< 46.4	< 54.1	< 44.1	< 37.0
sec-Butyl Mercaptan	< 46.4	< 54.1	< 44.1	< 37.0
Thiophene	< 46.4	< 54.1	< 44.1	< 37.0
iso-Butyl Mercaptan	< 46.4	< 54.1	< 44.1	< 37.0
Diethyl Sulfide	< 46.4	< 54.1	< 44.1	< 37.0
n-Butyl Mercaptan	< 46.4	< 54.1	< 44.1	< 37.0
Dimethyl Disulfide	< 23.2	< 27.0	< 22.1	< 18.5
2-Methylthiophene	< 46.4	< 54.1	< 44.1	< 37.0
3-Methylthiophene	< 46.4	< 54.1	< 44.1	< 37.0
Tetrahydrothiophene	< 46.4	< 54.1	< 44.1	< 37.0
Bromothiophene	< 46.4	< 54.1	< 44.1	< 37.0
Thiophenol	< 46.4	< 54.1	< 44.1	< 37.0
Diethyl disulfide	< 23.2	< 27.0	< 22.1	< 18.5
Total Unidentified Sulfur	< 46.4	< 54.1	< 44.1	< 37.0

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


Marcus Hueppe
Laboratory Director





Atmospheric Analysis & Consulting, Inc.

LABORATORY ANALYSIS REPORT


CLIENT : SWAPE
PROJECT NO. : 130537
MATRIX : AIR
UNITS : $\mu\text{g}/\text{m}^3$

SAMPLING DATE : 05/01/2013
RECEIVING DATE : 05/03/2013
ANALYSIS DATE : 05/07/2013
REPORT DATE : 05/07/2013

Sulfur Compounds by ASTM D-5504

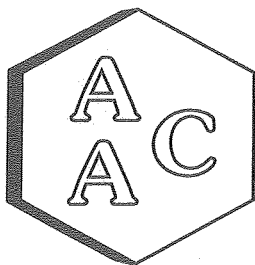
Client ID	U-1 W5	U-2 W8	D-1 W9	D-2 W2
AAC ID	130502-62624	130502-62625	130502-62626	130502-62627
Canister Dil. Fac.	1.85	2.16	1.76	1.48
Analyte	Result	Result	Result	Result
Hydrogen Sulfide	< 64.6	< 75.4	< 61.5	< 51.5
Carbonyl Sulfide	< 114	< 133	< 108	< 90.8
Sulfur Dioxide	< 121	< 142	< 116	< 96.9
Methyl Mercaptan	< 91.2	< 106.4	< 86.8	< 72.7
Ethyl Mercaptan	< 118	< 137	< 112	< 94.0
Dimethyl Sulfide	< 118	< 137	< 112	< 93.9
Carbon Disulfide	< 72.2	< 84.2	< 68.7	< 57.6
Isopropyl Mercaptan	< 144	< 168	< 137	< 115
tert-Butyl Mercaptan	< 171	< 199	< 163	< 136
n-Propyl Mercaptan	< 144	< 168	< 137	< 115
Methylethylsulfide	< 144	< 168	< 137	< 115
sec-Butyl Mercaptan	< 171	< 199	< 163	< 136
Thiophene	< 160	< 186	< 152	< 127
iso-Butyl Mercaptan	< 171	< 199	< 163	< 136
Diethyl Sulfide	< 171	< 199	< 163	< 136
n-Butyl Mercaptan	< 171	< 199	< 163	< 136
Dimethyl Disulfide	< 89.3	< 104.2	< 85.0	< 71.2
2-Methylthiophene	< 186	< 217	< 177	< 148
3-Methylthiophene	< 186	< 217	< 177	< 148
Tetrahydrothiophene	< 167	< 195	< 159	< 133
Bromothiophene	< 309	< 361	< 294	< 247
Thiophenol	< 209	< 244	< 199	< 167
Diethyl disulfide	< 116	< 135	< 110	< 92.4
Total Unidentified Sulfur	< 64.6	< 75.4	< 61.5	< 51.5

All unidentified sulfur compound's concentrations expressed in terms of μS
Sample Reporting Limit (SRL) is equal to Reporting 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: 05/07/13

Analyst: DH

Instrument ID: SCD#10

Calb. Date: 5/7/2013

Opening Calibration Verification Standard

	Resp. (area)	Result (ppbV)	% Rec *	% RPD ****
Initial	9027	480	96.0	NA
Duplicate	9050	481	96.2	0.3
Triplicate	9055	481	96.3	0.3

Method Blank

Analyte	Result
H2S	ND

Matrix Spike & Duplicate

Sample ID 130537-62774 x2

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H2S	0	250	236	240	94.6	96.1	1.6

Duplicate Analysis

Sample ID 130537-62774

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

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	%Recovery **
H2S	500	460.9	92.2

* Must be 95-105%

** Must be 90-110%

*** Must be < 10%

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

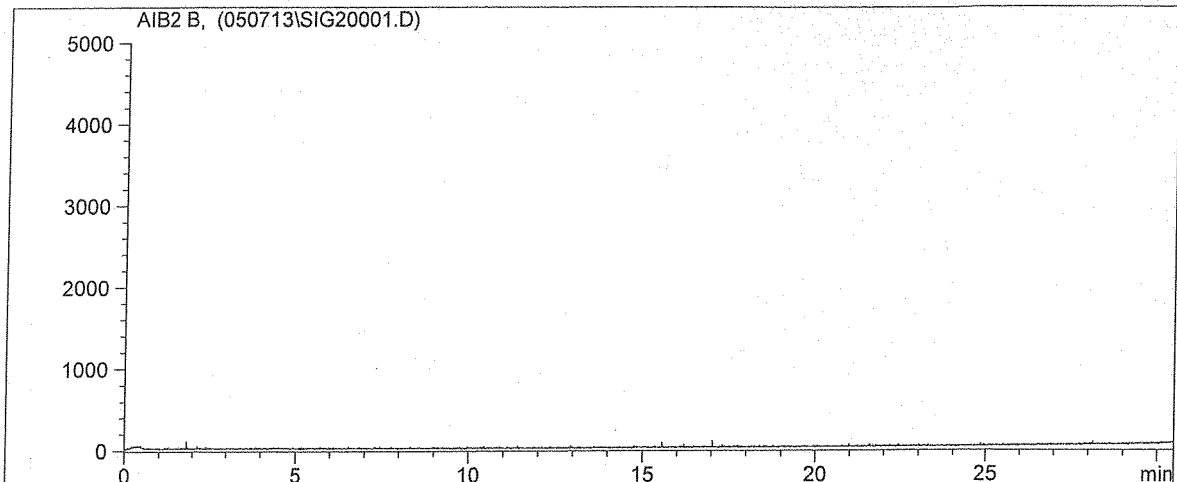
Marcus Hueppe
Laboratory Director



Raw Data

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 Customized Report: D5504

Injection Date : 5/7/2013 6:12:09 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\D042313.M



Uncalibrated Peaks : using compound H2S

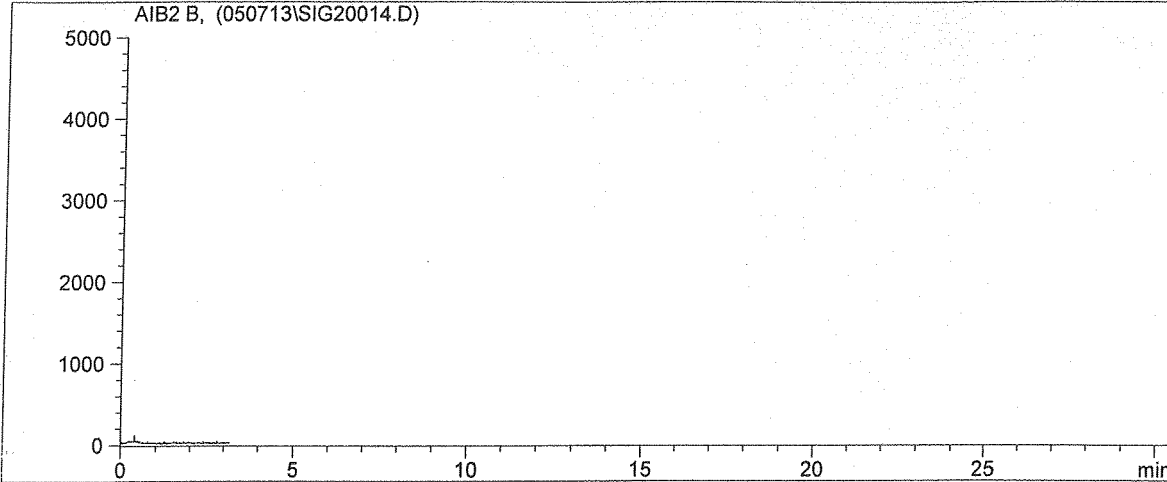
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan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

Customized Report: D5504

Injection Date : 5/7/2013 8:58:14 AM Seq. Line : 14
 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\D050713.M



Uncalibrated Peaks : using compound H2S

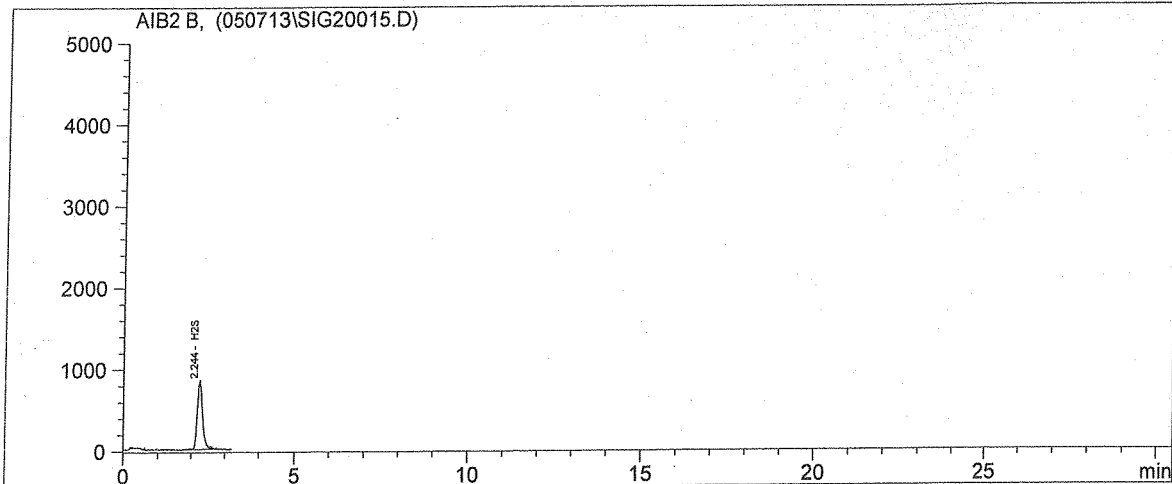
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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	n-Hexyl Mercaptan
0.000	0	0.000	Diethyl Disulfide
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 : 5/7/2013 9:02:00 AM Seq. Line : 15
 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\D050713.M



Uncalibrated Peaks : using compound H2S

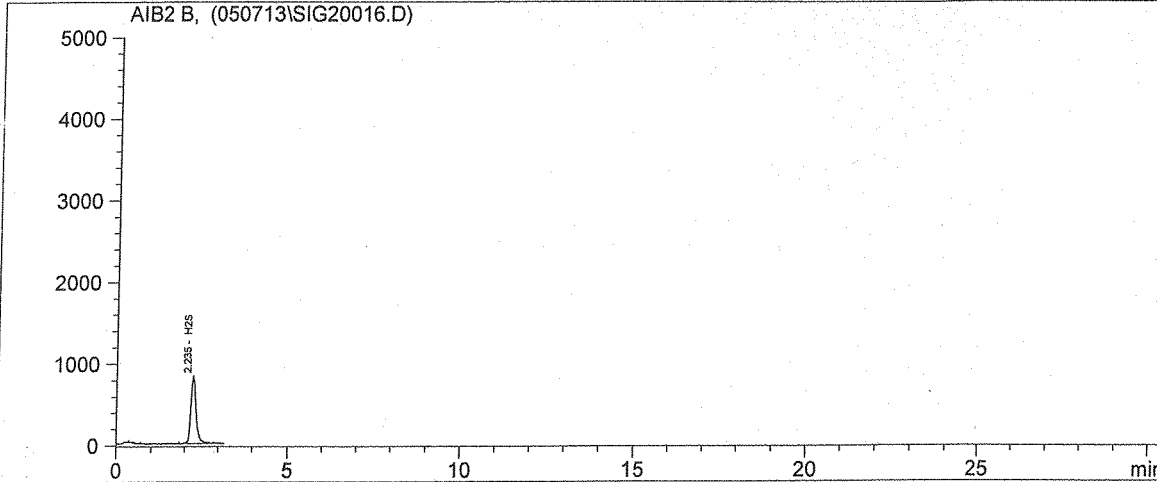
Ret Time [min]	Area	Amount [ppbV]	Name
2.244	9027	479.797	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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	n-Hexyl Mercaptan
0.000	0	0.000	Diethyl Disulfide
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: 479.797

*** End of Report ***

Customized Report: D5504

Injection Date : 5/7/2013 9:09:39 AM Seq. Line : 16
 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\D050713.M



Uncalibrated Peaks : using compound H2S

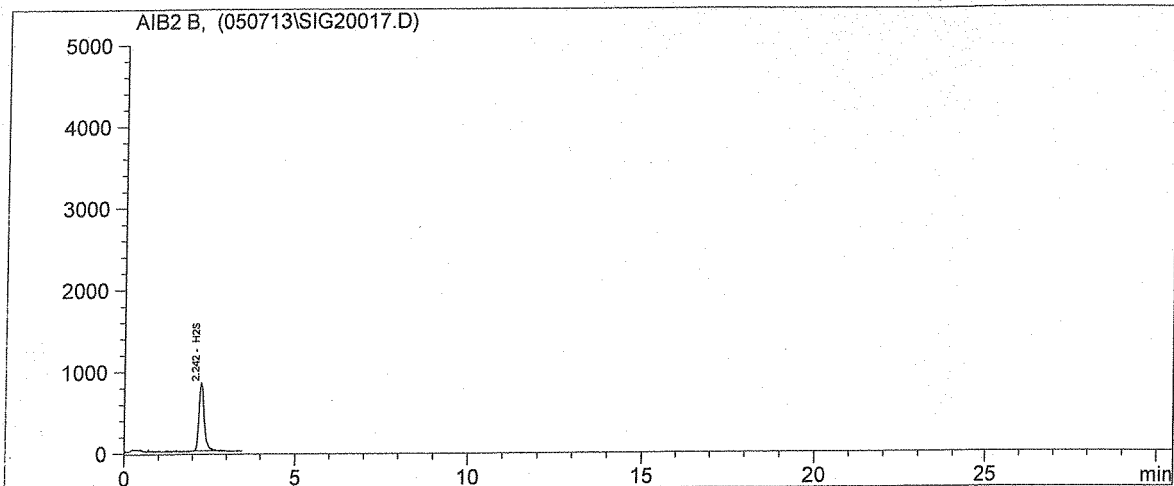
Ret Time [min]	Area	Amount [ppbV]	Name
2.235	9049	480.997	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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	n-Hexyl Mercaptan
0.000	0	0.000	Diethyl Disulfide
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: 480.997

*** End of Report ***

Customized Report: D5504

Injection Date : 5/7/2013 9:14:34 AM Seq. Line : 17
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\D050713.M



Uncalibrated Peaks : using compound H2S

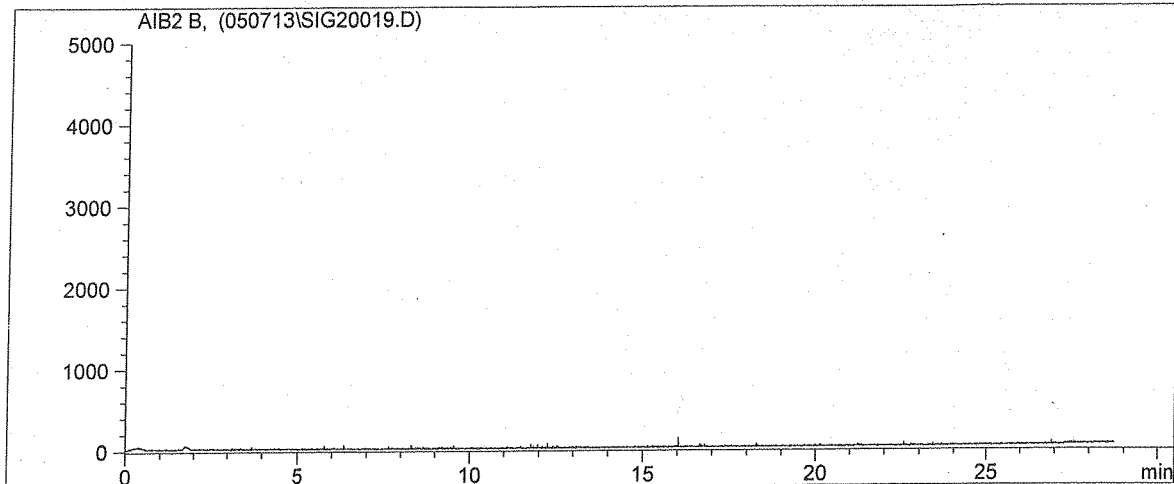
Ret Time [min]	Area	Amount [ppbV]	Name
2.242	9055	481.266	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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	n-Hexyl Mercaptan
0.000	0	0.000	Diethyl Disulfide
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: 481.266

*** End of Report ***

Customized Report: D5504

Injection Date : 5/7/2013 9:28:18 AM Seq. Line : 19
Sample Name : 130537-62774 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\D050713.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	n-Hexyl Mercaptan
0.000	0	0.000	Diethyl Disulfide
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

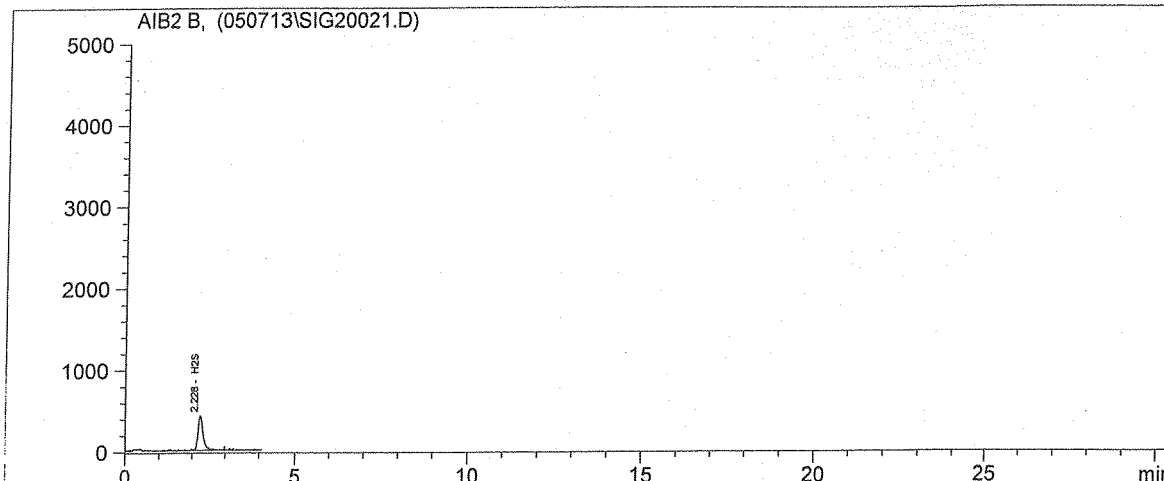
Totals: 0.000

*** End of Report ***

100/5/13

Customized Report: D5504

Injection Date : 5/7/2013 10:11:49 AM Seq. Line : 21
 Sample Name : MS 62744 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\D050713.M



Uncalibrated Peaks : using compound H2S

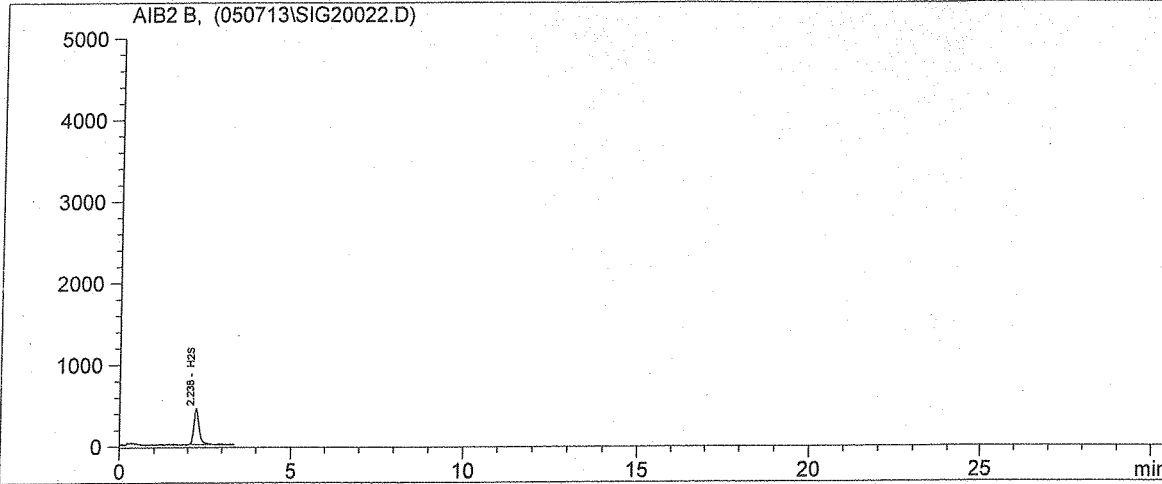
Ret Time [min]	Area	Amount [ppbV]	Name
2.228	4447	236.381	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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	n-Hexyl Mercaptan
0.000	0	0.000	Diethyl Disulfide
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: 236.381

*** End of Report ***

DH
5/7/13

Injection Date : 5/7/2013 10:28:05 AM Seq. Line : 22
 Sample Name : MSD 62744 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\D050713.M



Uncalibrated Peaks : using compound H2S
 Ret Time Area Amount Name
 [min] [ppbV]

Ret Time [min]	Area	Amount [ppbV]	Name
2.238	4518	240.137	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	n-Hexyl Mercaptan
0.000	0	0.000	Diethyl Disulfide
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

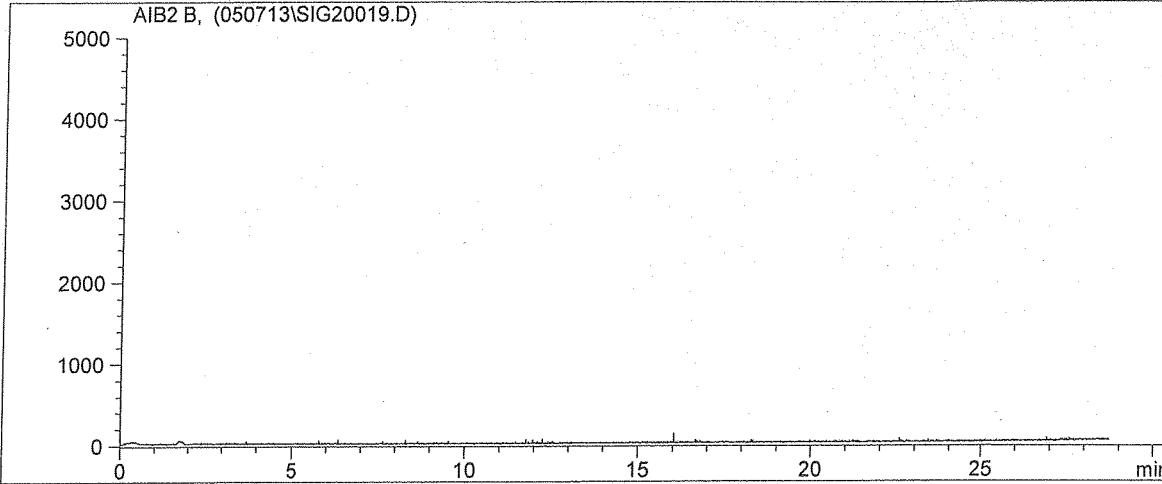
Totals: 240.137

*** End of Report ***

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5/7/13

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 Customized Report: D5504
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Injection Date : 5/7/2013 9:28:18 AM Seq. Line : 19
 Sample Name : 130537-62774 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\D050713.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	n-Hexyl Mercaptan
0.000	0	0.000	Diethyl Disulfide
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

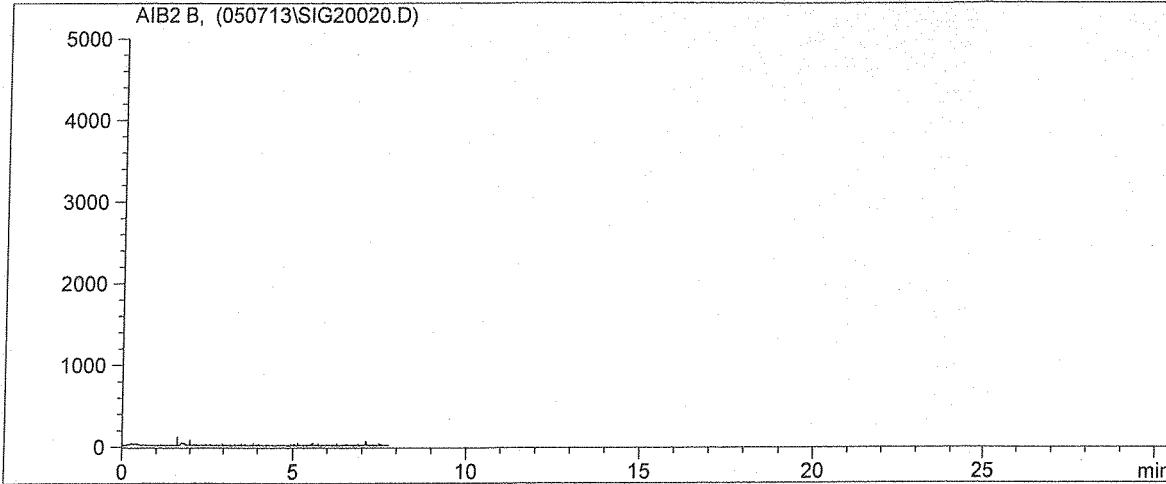
Totals: 0.000

*** End of Report ***

Page 2A
 5/7/13


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Injection Date   : 5/7/2013 10:02:45 AM
Sample Name     : 130537-62774      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\D050713.M
    
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Uncalibrated Peaks : using compound H2S

Ret Time [min]	Area	Amount [ppbV]	Name
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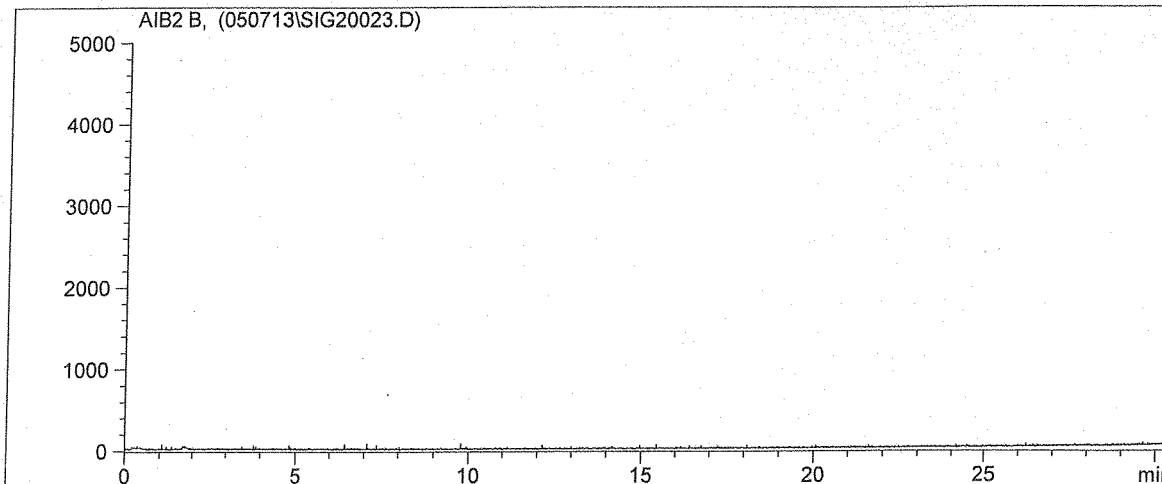
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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	n-Hexyl Mercaptan
0.000	0	0.000	Diethyl Disulfide
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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 Customized Report: D5504

Injection Date : 5/7/2013 10:34:57 AM Seq. Line : 23
 Sample Name : 130537-62775 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\D050713.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	n-Hexyl Mercaptan
0.000	0	0.000	Diethyl Disulfide
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

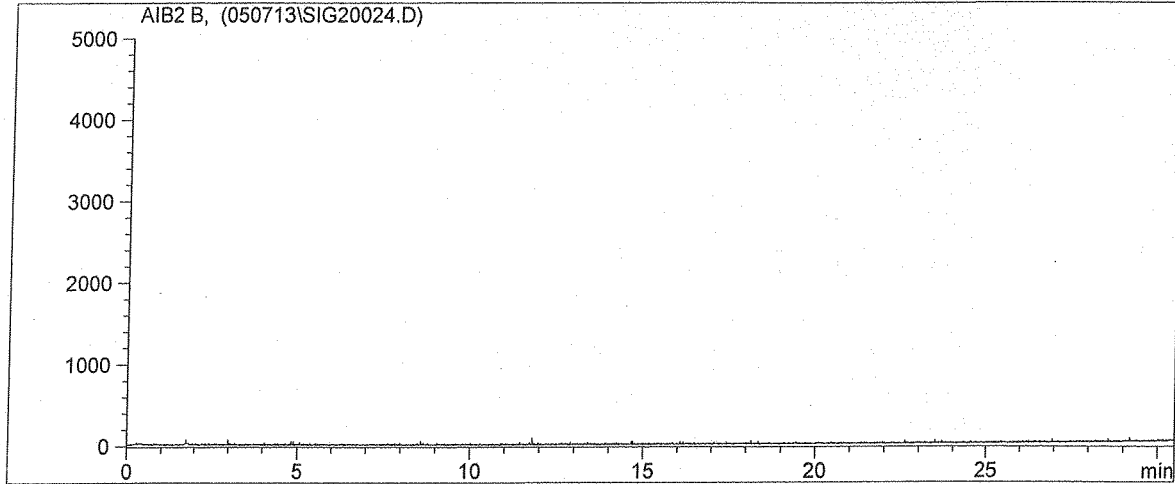
Totals: 0.000

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 *** End of Report ***

DH 5/7/13

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Customized Report: D5504

Injection Date : 5/7/2013 11:11:34 AM Seq. Line : 24
Sample Name : 130537-62775 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\D050713.M



Uncalibrated Peaks : using compound H2S

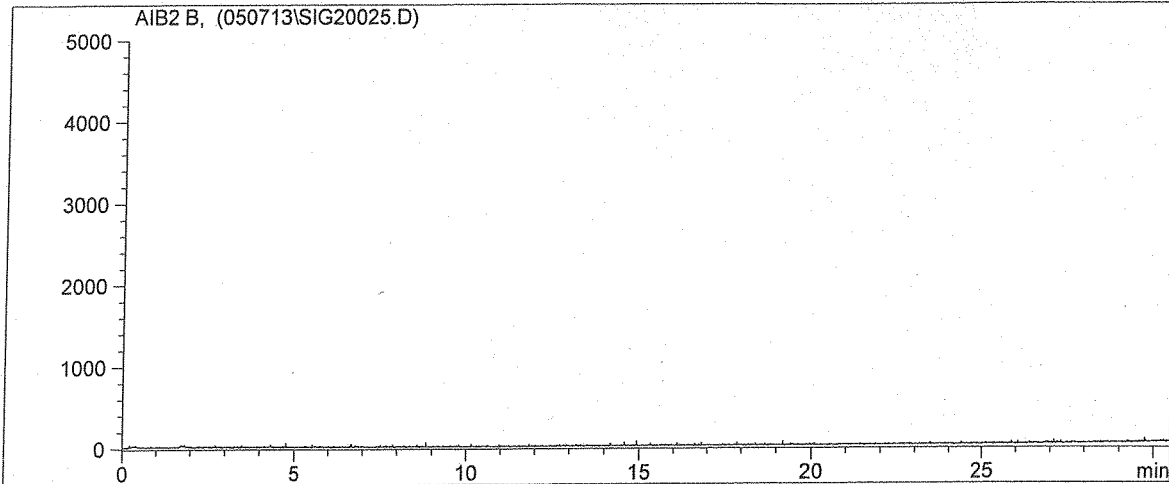
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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	n-Hexyl Mercaptan
0.000	0	0.000	Diethyl Disulfide
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 : 5/7/2013 11:54:30 AM Seq. Line : 25
Sample Name : 130537-62776 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\D050713.M



Uncalibrated Peaks : using compound H2S

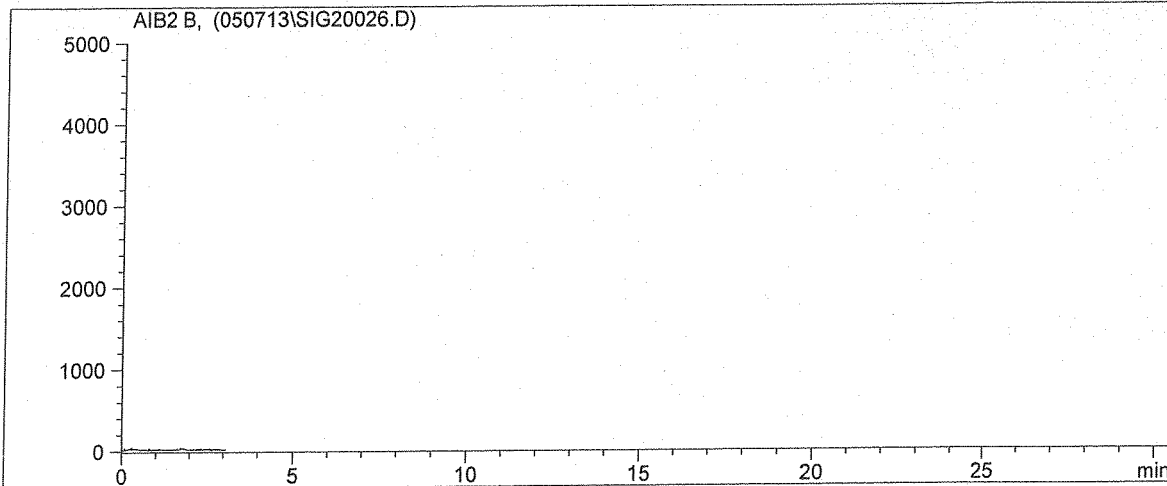
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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	n-Hexyl Mercaptan
0.000	0	0.000	Diethyl Disulfide
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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Customized Report: D5504

Injection Date : 5/7/2013 12:30:17 PM Seq. Line : 26
Sample Name : 130537-62776 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\D050713.M



Uncalibrated Peaks : using compound H2S

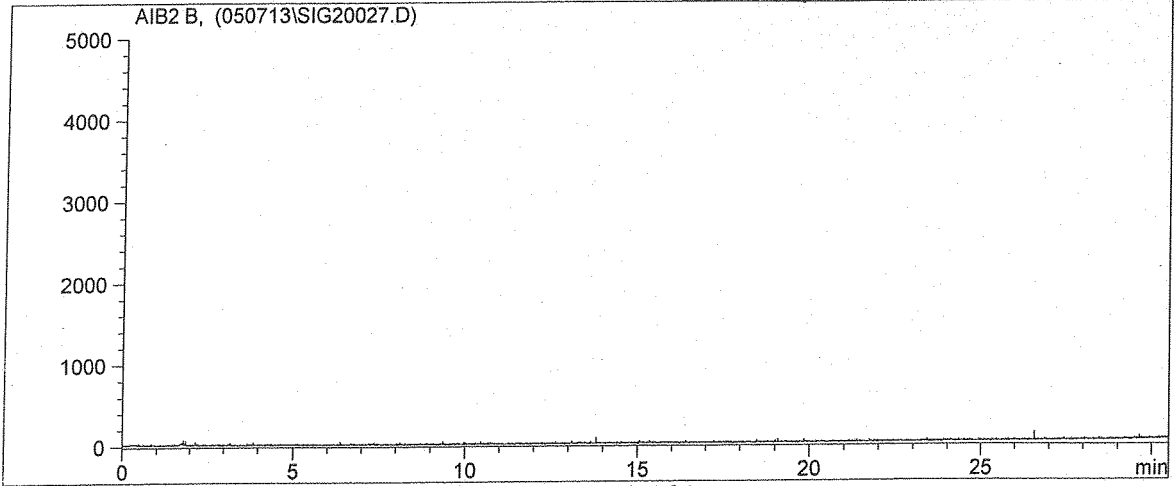
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan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

Customized Report: D5504

Injection Date : 5/7/2013 12:34:18 PM Seq. Line : 27
Sample Name : 130537-62777 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\D050713.M



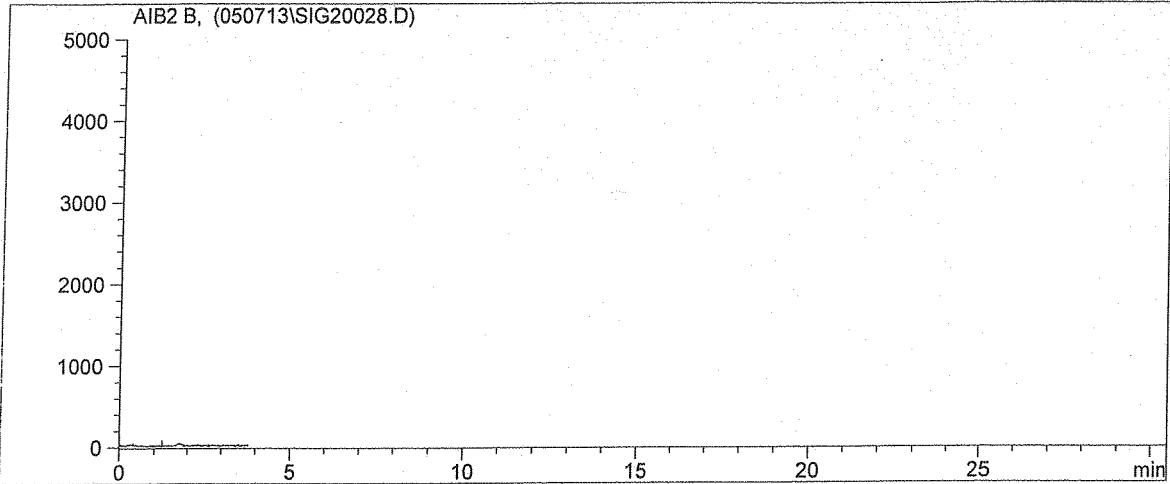
Uncalibrated Peaks : using compound H2S

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	n-Hexyl Mercaptan
0.000	0	0.000	Diethyl Disulfide
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 : 5/7/2013 1:22:14 PM Seq. Line : 28
Sample Name : 130537-62777 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\D050713.M



Uncalibrated Peaks : using compound H2S

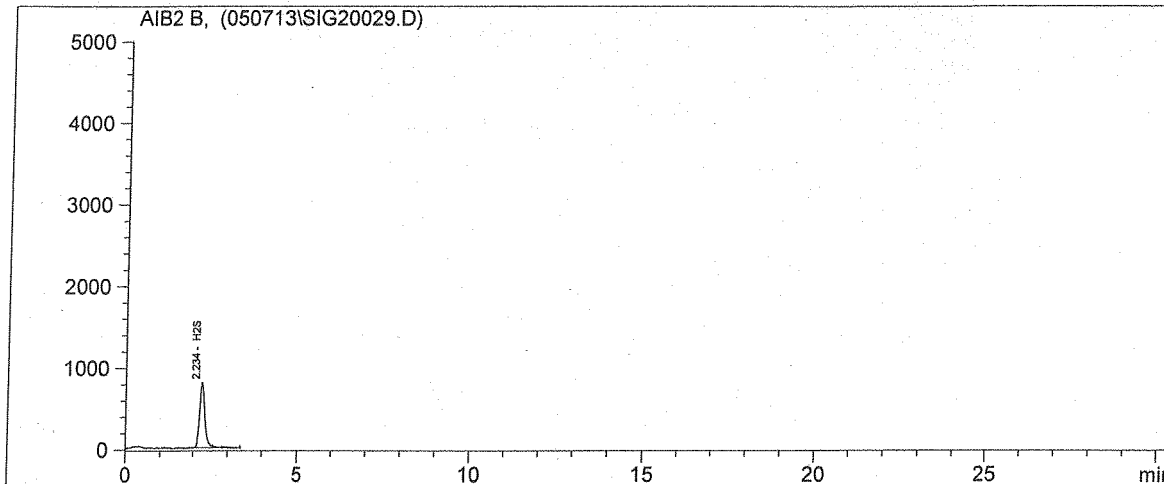
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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	n-Hexyl Mercaptan
0.000	0	0.000	Diethyl Disulfide
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 : 5/7/2013 2:22:46 PM Seq. Line : 29
Sample Name : CCV 500ppbV 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\D050713.M



Uncalibrated Peaks : using compound H2S

Table with 4 columns: Ret Time [min], Area, Amount [ppbV], and Name. It lists various sulfur compounds and their measured values, with the peak at 2.234 min identified as H2S.

Totals: 460.851

*** End of Report ***

Handwritten signature and date '5/7/13'.

Calibration Summary

Analysis Date: 5/7/2013

SCAQMD 307.91 / ASTM D-5504 INITIAL CALIBRATION SUMMARY

Analyst: DH

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	2.239	462	0.0					
25.0	2.231	471	1.9	6	25.0	464	24.7	98.6
25.0	2.193	459	0.7					
100.0	2.244	1801						
100.0	2.246	1857	3.1	28	100.0	1829	97.2	97.2
100.0	2.242	1828	1.5					
500.0	2.243	9232						
500.0	2.248	9041	2.1	96	500.0	9131	485.3	97.1
500.0	2.238	9119	1.2					
2500.0	2.236	47128						
2500.0	2.240	47015	0.2	67	2500.0	47092	2503.0	100.1
2500.0	2.240	47134	0.0					
Avg. Ret		2.237						

Calibration Verification Check Standards:

Check Standard Concentration: 500 ppbv

	Resp. (area)	Result (ppbv)	% Rec *	% RPD
Initial	9027	479.8	96.0	NA
Duplicate	9050	481.0	96.2	0.3
Triplicate	9055	481.3	96.3	0.3

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

Linear Slope: X = Y/ 18.814
 R2 value: 0.9999 Must be > 0.990


 Laboratory Director (signature/date) 5/7/13

SCAQMD 307.91/ASTM D-5504 INITIAL CALIBRATION SUMMARY

Area (mean) vs. Conc. (theor)

$y = 18.8140x$
 $R^2 = 0.9999$

