

Atmospheric Analysis & Consulting, Inc.

CLIENT : SWAPE
PROJECT NAME : Bridgeton Sanitary Landfill Quality Assessment
AAC PROJECT NO. : 130597
REPORT DATE : 05/20/2013

On May 17, 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 W8 Canister	130597-63048	507.6
U-2 W6 Canister	130597-63049	316.6
D-1 W4 Canister	130597-63050	614.5
D-2 K Canister	130597-63051	174.8

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 33 pages.





SAMPLE RECEIPT / LOG-IN REPORT

AAC Project 130597

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>
5/17/2013 1045	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	U-1 W8 Canister	Summa Canister	5/14/2013	Client	63048	TO15 ASTM D5504
5/17/2013 1045	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	U-2 W6 Canister	Summa Canister	5/14/2013	Client	63049	TO15 ASTM D5504
5/17/2013 1045	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-1 W4 Canister	Summa Canister	5/14/2013	Client	63050	TO15 ASTM D5504
5/17/2013 1045	Soil Water Air Protection Enterprise (SWAPE) Bridgeton Sanitary Landfill Air Quality Assessment	D-2 K Canister	Summa Canister	5/14/2013	Client	63051	TO15 ASTM D5504

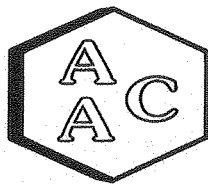
TURN AROUND TIME: Normal (10days)

Lab Due Date: 5/24/2013

Total Samples: 4

REMARKS:

Client returned 4 x Summa canisters + 4 x Flows.



CANISTER PRESSURE LOG

Client: Soil Water Air Protection Ent Project No.: 130597
Date: 5/17/2013

Canister #	Sample #	Initial Pressure	Final Pressure
577	63048	507.6	1019.7
578	63049	316.6	1020.5
703	63050	614.5	1017.8
700	63051	174.8	1028.3

ANAL # 130597

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.
 Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401
 Date: May 14 2013
 Page 1 of 1

Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT
 Requested Tests / Analyses: 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

Sampled By: John Blank
 Sampler Signature: *John Blank*
 Special Instructions / Conditions of Receipt

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 #
63048	U-1 W8	Canister	5/14/13	4 HR	X	X												Canister # 577
63049	U-2 W6	Canister	5/14/13	4 HR	X	X												Canister # 578
63050	D-1 W4	Canister	5/14/13	4 HR	X	X												Canister # 703
63051	D-2 K	Canister	5/14/13	4 HR	X	X												Canister # 2155

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:	12 Noon	Received By:	Date:
Relinquished By:	Date:	Time:	Received By:	Date:
Relinquished By:	Date:	Time:	Received By:	Date:

- Fed Dr

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.: **U1-W3/577 Canister**

AAC Batch ID: **130597** AAC Sample ID: **63048**

SAMPLING INFORMATION

Start Date/Time: May **14 / 10:53 AM**

Stop Date/Time: May **14 / 14:53**

Start Temp/Pressure*: **27°C 14.7 psi**

Stop Temp/Pressure*: **33°C 14.67 psi**

Initial Can Pressure**: **- 29**

Final Can Pressure**: **- 9**

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

Comments: _____

John Blank

Sampler Name (Print)

Jeff Miller

LABORATORY INFORMATION

Canister Size: 6 - Liter

Sampling Period: 4 - Hour

Canister Serial No.: 577

Flow Controller Serial No.: 694

Initial Pressure: 1.4

Certified Flow Rate: 18.0

Return Pressure: 507.6

Certified By/Date: JZ 4/10/2013

Final Pressure: 1019.7

Flow Rate upon Return: 19.3

Date Shipped From Lab: 4/25/2013

Shipped By: JZ

Date Returned to Lab: 5/17/2013

Received By: JZ

Flow Controller Certification File ID: MS03/03281321

Canister Certification File ID: MS03/04051315

Certification Type: SIM SCAN NJLL PAMS Other

Jeff Miller 5/20/13
Chemist Signature/Date

NA 5/20/13
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.: ~~U2-W/578~~ **Canister**

AAC Batch ID: 130597 AAC Sample ID: 63049

SAMPLING INFORMATION

Start Date/Time: May 14 / 11:09

Stop Date/Time: May 14 / 15:09

Start Temp/Pressure*: 27°C 14.7 psi

Stop Temp/Pressure*: 33°C 14.67 psi

Initial Can Pressure**: - 30

Final Can Pressure**: - 17

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

Comments: _____

John Blank

Sampler Name (Print)

Jeff Miller

LABORATORY INFORMATION

John Blank

May 14, 2013

Sampler Signature/Date

Jeff Miller

5/14/13

Canister Size: 6 - Liter

Sampling Period: 4 - Hour

Canister Serial No.: 578

Flow Controller Serial No.: 710

Initial Pressure: 1.3

Certified Flow Rate: 18.1

Return Pressure: 3/4.6

Certified By/Date: JZ 4/5/2013

Final Pressure: 1020.5

Flow Rate upon Return: 13.6

Date Shipped From Lab: 4/25/2013

Shipped By: JZ

Date Returned to Lab: 5/17/2013

Received By: JZ

Flow Controller Certification File ID: 11503/0328321

Canister Certification File ID: 11503/04021344

Certification Type: SIM SCAN NJLL PAMS Other

Quana Reed
Chemist Signature/Date 05/20/13

Mike
Lab Manager Signature/Date 5/20/13

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.: **W/D 1-W4/703 Canister**

AAC Batch ID: 130597 AAC Sample ID: 63050

SAMPLING INFORMATION

Start Date/Time: May 14 / 10:13

Stop Date/Time: May 14 / 14:13

Start Temp/Pressure*: 26 C 14.7 psi

Stop Temp/Pressure*: 33 C 14.67 psi

Initial Can Pressure**: - 29

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)

Jeff Miller

LABORATORY INFORMATION

Jahill Blaul

May 14, 2013

Sampler Signature/Date

Jeff Miller 15/14/13

Canister Size: 6 - Liter

Sampling Period: 4 - Hour

Canister Serial No.: 703

Flow Controller Serial No.: 715

Initial Pressure: 1.5

Certified Flow Rate: 18.0

Return Pressure: 614.5

Certified By/Date: J2 4/24/2013

Final Pressure: 1017.8

Flow Rate upon Return: 21.8

Date Shipped From Lab: 4/25/2013

Shipped By: J2

Date Returned to Lab: 5/17/2013

Received By: J2

Flow Controller Certification File ID: MS03/04261305

Canister Certification File ID: MS02/0411321

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

Michael R. Ostedt
Chemist Signature/Date

MW 5/20/13
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.: **D2-K / 2155 Canister**

AAC Batch ID: **130597** AAC Sample ID: **63051**

SAMPLING INFORMATION

Start Date/Time: May **14 / 10:36**

Stop Date/Time: May **14 / 14:36**

Start Temp/Pressure*: **26 C 14.7 psi**

Stop Temp/Pressure*: **33 C 14.67 psi**

Initial Can Pressure**: **- 30**

Final Can Pressure**: **- 22.5**

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

Comments: _____

John Blank

Sampler Name (Print)

Jeff Miller

LABORATORY INFORMATION

John Blank

May 14, 2013

Sampler Signature/Date

Jeff Miller 5/14/13

Canister Size: **6 - Liter**

Sampling Period: **4 - Hour**

Canister Serial No.: **2155 700**

Flow Controller Serial No.: **717**

Initial Pressure: **2.3**

Certified Flow Rate: **18.0**

Return Pressure: **174.8**

Certified By/Date: **J2 4/5/2013**

Final Pressure: **1028.3**

Flow Rate upon Return: **11.0**

Date Shipped From Lab: **4/25/2013**

Shipped By: **J2**

Date Returned to Lab: **5/17/2013**

Received By: **J2**

Flow Controller Certification File ID: **1403/03261320**

Canister Certification File ID: **1403/03071316**

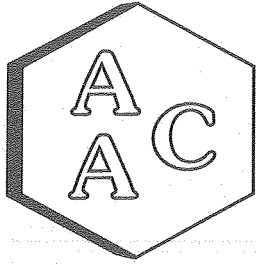
Certification Type: SIM _____ SCAN NJLL _____ PAMS _____ Other _____

Quane Rene Postals
Chemist Signature/Date

MM 5/20/13
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



Atmospheric Analysis & Consulting, Inc.

LABORATORY ANALYSIS REPORT

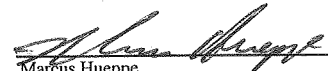
CLIENT : SWAPE
 PROJECT NO. : 130597
 MATRIX : AIR
 UNITS : ppbV

SAMPLING DATE : 05/14/2013
 RECEIVING DATE : 05/17/2013
 ANALYSIS DATE : 05/20/2013
 REPORT DATE : 05/20/2013

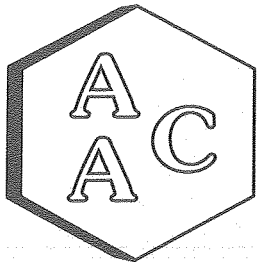
Sulfur Compounds by ASTM D-5504

Client ID	U-1 W8 Canister	U-2 W6 Canister	D-1 W4 Canister	D-2 K Canister
AAC ID	130597-63048	130597-63049	130597-63050	130597-63051
Canister Dil. Fac.	2.01	3.22	1.66	5.88
Analyte	Result	Result	Result	Result
Hydrogen Sulfide	< 50.2	< 80.6	< 41.4	< 147
Carbonyl Sulfide	< 50.2	< 80.6	< 41.4	< 147
Sulfur Dioxide	< 50.2	< 80.6	< 41.4	< 147
Methyl Mercaptan	< 50.2	< 80.6	< 41.4	< 147
Ethyl Mercaptan	< 50.2	< 80.6	< 41.4	< 147
Dimethyl Sulfide	< 50.2	< 80.6	< 41.4	< 147
Carbon Disulfide	< 25.1	< 40.3	< 20.7	< 73.5
Isopropyl Mercaptan	< 50.2	< 80.6	< 41.4	< 147
tert-Butyl Mercaptan	< 50.2	< 80.6	< 41.4	< 147
n-Propyl Mercaptan	< 50.2	< 80.6	< 41.4	< 147
Methylethylsulfide	< 50.2	< 80.6	< 41.4	< 147
sec-Butyl Mercaptan	< 50.2	< 80.6	< 41.4	< 147
Thiophene	< 50.2	< 80.6	< 41.4	< 147
iso-Butyl Mercaptan	< 50.2	< 80.6	< 41.4	< 147
Diethyl Sulfide	< 50.2	< 80.6	< 41.4	< 147
n-Butyl Mercaptan	< 50.2	< 80.6	< 41.4	< 147
Dimethyl Disulfide	< 25.1	< 40.3	< 20.7	< 73.5
2-Methylthiophene	< 50.2	< 80.6	< 41.4	< 147
3-Methylthiophene	< 50.2	< 80.6	< 41.4	< 147
Tetrahydrothiophene	< 50.2	< 80.6	< 41.4	< 147
Bromothiophene	< 50.2	< 80.6	< 41.4	< 147
Thiophenol	< 50.2	< 80.6	< 41.4	< 147
Diethyl disulfide	< 25.1	< 40.3	< 20.7	< 73.5
Total Unidentified Sulfur	< 50.2	< 80.6	< 41.4	< 147

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. : 130597
MATRIX : AIR
UNITS : ug/m³

SAMPLING DATE : 05/14/2013
RECEIVING DATE : 05/17/2013
ANALYSIS DATE : 05/20/2013
REPORT DATE : 05/20/2013

Sulfur Compounds by ASTM D-5504

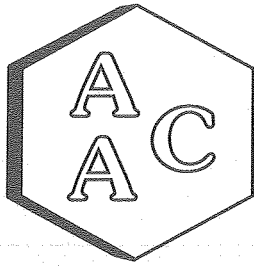
Client ID	U-1 W8 Canister	U-2 W6 Canister	D-1 W4 Canister	D-2 K Canister
AAC ID	130597-63048	130597-63049	130597-63050	130597-63051
Canister Dil. Fac.	2.01	3.22	1.66	5.88
Analyte	Result	Result	Result	Result
Hydrogen Sulfide	< 70.0	< 112	< 57.7	< 205
Carbonyl Sulfide	< 123	< 198	< 102	< 361
Sulfur Dioxide	< 132	< 211	< 109	< 385
Methyl Mercaptan	< 98.8	< 159	< 81.5	< 289
Ethyl Mercaptan	< 128	< 205	< 105	< 374
Dimethyl Sulfide	< 128	< 205	< 105	< 374
Carbon Disulfide	< 78.2	< 125	< 64.5	< 229
Isopropyl Mercaptan	< 156	< 251	< 129	< 458
tert-Butyl Mercaptan	< 185	< 297	< 153	< 542
n-Propyl Mercaptan	< 156	< 251	< 129	< 458
Methylethylsulfide	< 156	< 251	< 129	< 458
sec-Butyl Mercaptan	< 185	< 297	< 153	< 542
Thiophene	< 173	< 277	< 142	< 506
iso-Butyl Mercaptan	< 185	< 297	< 153	< 542
Diethyl Sulfide	< 185	< 297	< 153	< 542
n-Butyl Mercaptan	< 185	< 297	< 153	< 542
Dimethyl Disulfide	< 96.7	< 155	< 79.8	< 283
2-Methylthiophene	< 202	< 324	< 166	< 590
3-Methylthiophene	< 202	< 324	< 166	< 590
Tetrahydrothiophene	< 181	< 291	< 149	< 530
Bromothiophene	< 335	< 537	< 276	< 981
Thiophenol	< 226	< 363	< 187	< 663
Diethyl disulfide	< 126	< 201	< 104	< 368
Total Unidentified Sulfur	< 70.0	< 112	< 57.7	< 205

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: 05/20/13
Analyst: DH

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

Opening Calibration Verification Standard

	Resp. (area)	Result (ppbV)	% Rec *	% RPD ****
Initial	16226	481	96.2	NA
Duplicate	16472	489	97.7	1.5
Triplicate	16619	493	98.6	2.4

Method Blank

Analyte	Result
H2S	ND

Matrix Spike & Duplicate

Sample ID 130597-63048 x2

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H2S	0	250	258	251	103.4	100.4	2.9

Duplicate Analysis

Sample ID 130597-63048

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

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	%Recovery **
H2S	500	492.5	98.5

* Must be 95-105%

** Must be 90-110%

*** Must be < 10%

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

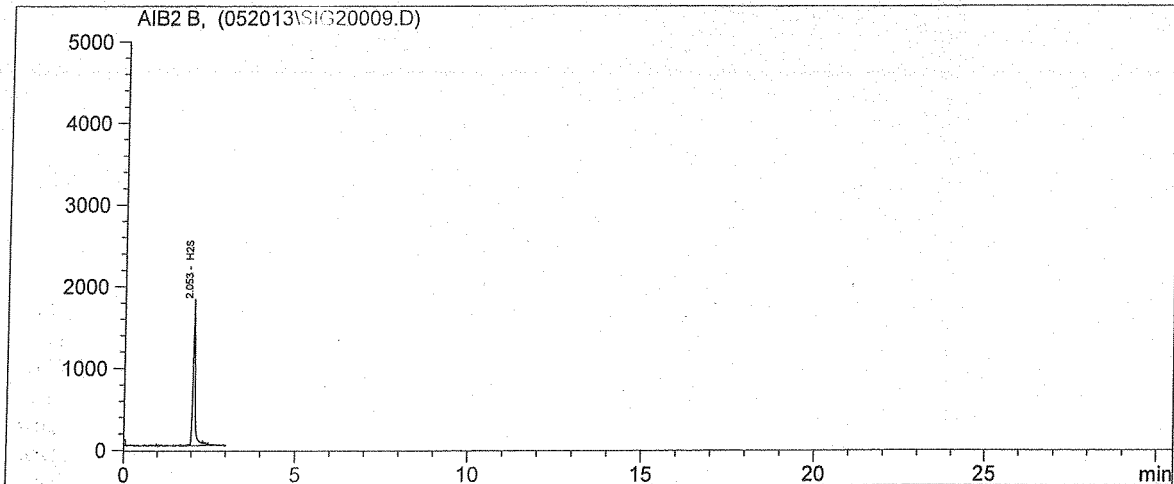
Marcus Hueppe
Laboratory Director



Raw Data

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 Customized Report: D5504

Injection Date : 5/20/2013 9:00:23 AM Seq. Line : 9
 Sample Name : MSD 63048 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
2.053	8461	250.935	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

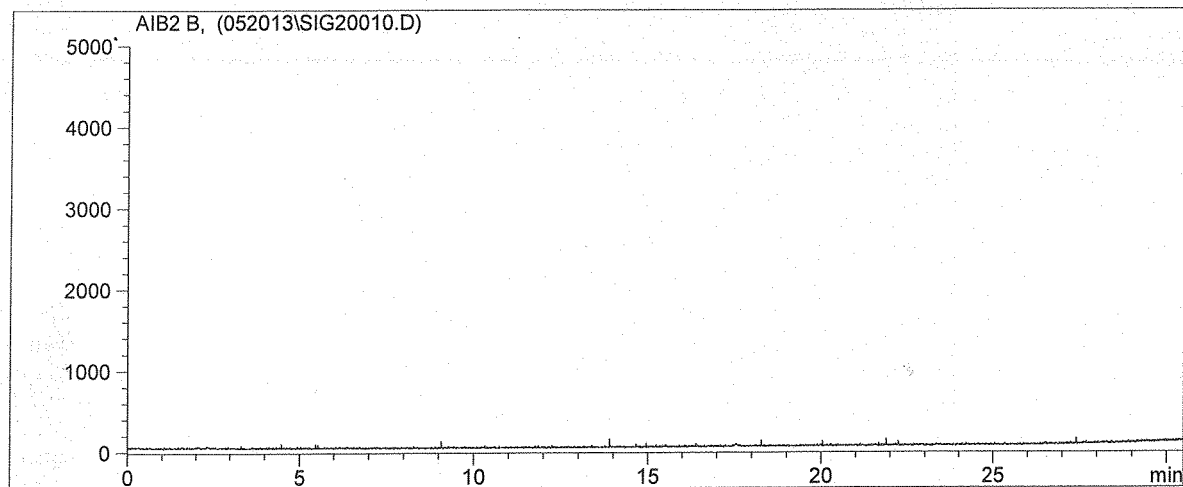
Totals: 250.935

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 *** End of Report ***

DH 5/20/13

Customized Report: D5504

Injection Date : 5/20/2013 9:04:31 AM Seq. Line : 10
 Sample Name : 130597-63049 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

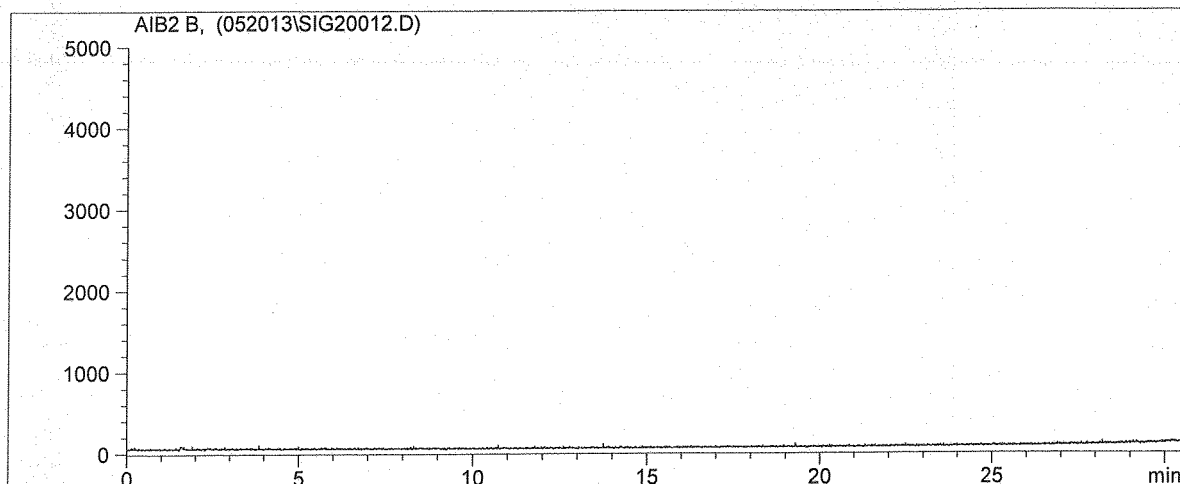
*** End of Report ***

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5/20/13

Customized Report: D5504

Injection Date : 5/20/2013 10:17:55 AM Seq. Line : 12
 Sample Name : 130597-63050 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

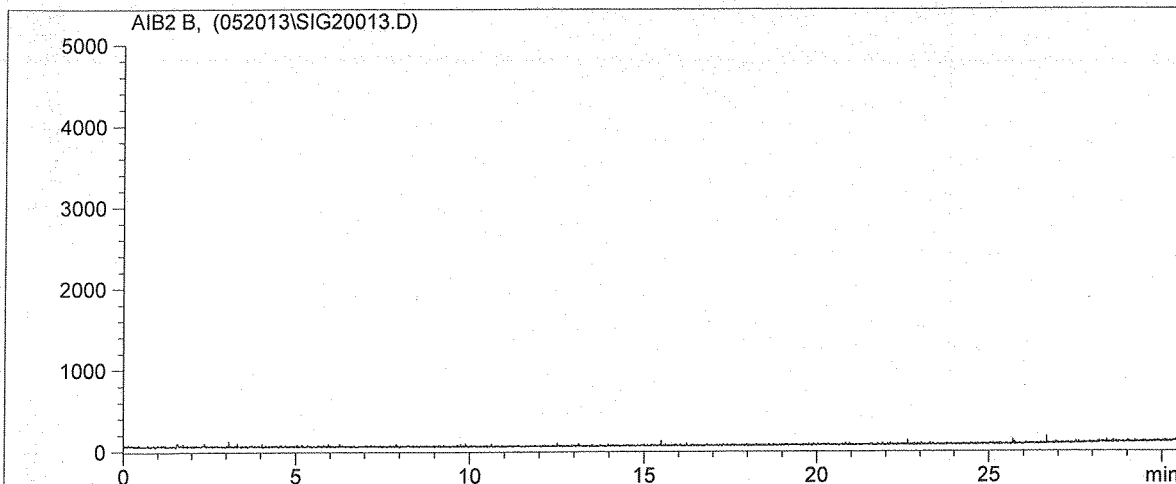
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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 : 5/20/2013 10:52:25 AM Seq. Line : 13
 Sample Name : 130597-63050 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\DO51413.M



Uncalibrated Peaks : using compound H2S

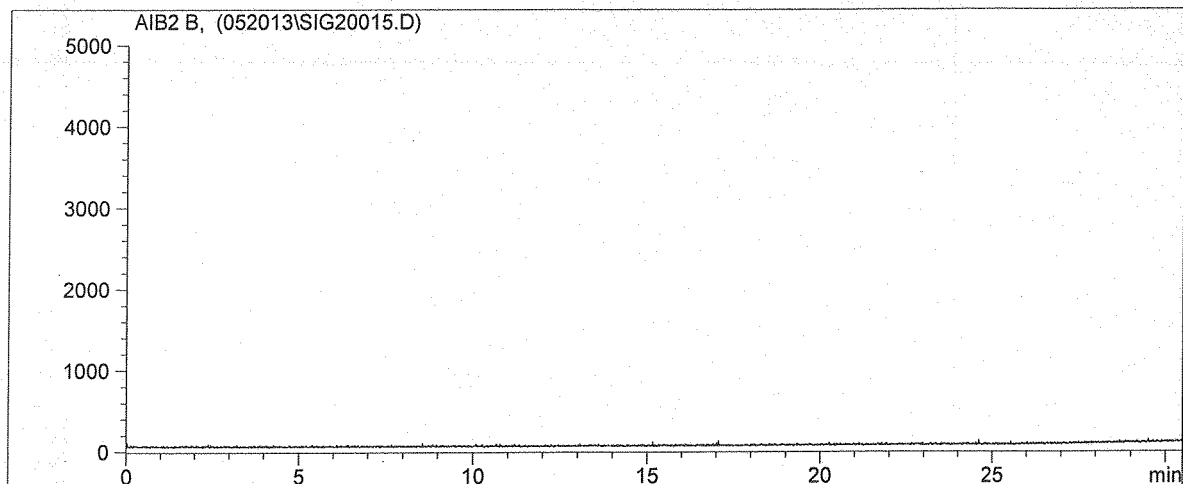
Ret Time [min]	Area	Amount [ppbV]	Name
0.000	0	0.000	H2S
0.000	0	0.000	COS
0.000	0	0.000	Methyl Mercaptan
0.000	0	0.000	Ethyl Mercaptan
0.000	0	0.000	Dimethyl Sulfide
0.000	0	0.000	Carbon Disulfide
0.000	0	0.000	Iso-propyl Mercaptan
0.000	0	0.000	Tert-butyl Mercaptan
0.000	0	0.000	N-propyl Mercaptan
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 : 5/20/2013 12:27:20 PM Seq. Line : 15
 Sample Name : 130597-63051 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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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
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	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 CVs must have +/- 5 % Recovery and < 5% RPD from Initial result.

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

Laboratory Director (signature/date)  5/14/17

SCAQMD 307.91/ASTM D-5504 INITIAL CALIBRATION SUMMARY

Area (mean) vs. Conc. (theor)

$y = 33.7172x$
 $R^2 = 0.9999$

