Atmospheric Analysis & Consulting, Inc.

CLIENT : Eurofins
PROJECT NAME : MO DNR – Bridgeton Landfill
AAC PROJECT NO. : 180169
REPORT DATE : 2/7/2018

On February 5, 2018, Atmospheric Analysis & Consulting, Inc. received two (2) Six-Liter Silonite Canisters for TRS analysis by ASTM D-5504. Upon receipt, each sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab No.	Initial Pressure (mmHg)
D1 (180981)	180169-106392	679.5
U1 (180982)	180169-106393	685.9

All of the analyses mentioned above were performed in accordance with AAC's ISO/IEC 17025:2005 and NELAP approved Quality Assurance Plan. For detailed information pertaining to specific EPA, NCASI, ASTM and SCAQMD accreditations (Methods & Analytes), please visit our website at www.aaclab.com.

I certify that this data is technically accurate, complete, and in compliance with the terms and conditions of the contract. No problems were encountered during receiving, preparation, and/or analysis of these samples. The Laboratory Director or his/her designee, as verified by the following signature, has authorized release of the data contained in this hardcopy report.

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

Marcus Hueppe
Laboratory Director

This report consists of 4 pages.

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Atmospheric Analysis & Consulting, Inc.

LABORATORY ANALYSIS REPORT

CLIENT : **Eurofins**
PROJECT NO. : **180169**
MATRIX : **AIR**
UNITS : **ppmV**

SAMPLING DATE : **02/01/2018**
RECEIVING DATE : **02/05/2018**
ANALYSIS DATE : **02/06/2018**
REPORT DATE : **02/07/2018**

Total Reduced Sulfur Compounds Analysis by ASTM D-5504

Client ID	D1 (180981)	U1 (180982)
AAC ID	180169-106392	180169-106393
Canister Dil. Fac.	1.4	1.3
Analyte	Result	Result
Hydrogen Sulfide	< 0.014	< 0.013
Carbonyl Sulfide	< 0.014	< 0.013
Sulfur Dioxide	< 0.014	< 0.013
Methyl Mercaptan	< 0.014	< 0.013
Ethyl Mercaptan	< 0.014	< 0.013
Dimethyl Sulfide	< 0.014	< 0.013
Carbon Disulfide	< 0.014	< 0.013
Isopropyl Mercaptan	< 0.014	< 0.013
tert-Butyl Mercaptan	< 0.014	< 0.013
n-Propyl Mercaptan	< 0.014	< 0.013
Methylethylsulfide	< 0.014	< 0.013
sec-Butyl Mercaptan	< 0.014	< 0.013
Thiophene	< 0.014	< 0.013
iso-Butyl Mercaptan	< 0.014	< 0.013
Diethyl Sulfide	< 0.014	< 0.013
n-Butyl Mercaptan	< 0.014	< 0.013
Dimethyl Disulfide	< 0.014	< 0.013
2-Methylthiophene	< 0.014	< 0.013
3-Methylthiophene	< 0.014	< 0.013
Tetrahydrothiophene	< 0.014	< 0.013
Bromothiophene	< 0.014	< 0.013
Thiophenol	< 0.014	< 0.013
Diethyl Disulfide	< 0.014	< 0.013
Total Unidentified Sulfur	< 0.014	< 0.013
Total Reduced Sulfurs	< 0.014	< 0.013

All unidentified compound's concentrations expressed in terms of H_2S (TRS does not include COS and SO_2)
Sample Reporting Limit (SRL) is equal to Reporting Limit x Canister Dil. Fac. x Analysis Dil. Fac.

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Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report
ASTM D-5504

Date Analyzed: 2/6/2018
Analyst: ZB
Units: ppbV

Instrument ID: SCD#10
Calb. Date: 1/10/2018

Opening Calibration Verification Standard

510.75 ppbV H2S (SS1041)

H_2S	Resp. (area)	Result	% Rec *	% RPD ****
Initial	2911	516	101.0	0.5
Duplicate	2850	505	98.9	1.6
Triplicate	2932	520	101.8	1.2

511.75 ppbV MeSH (SS1041)

MeSH	Resp. (area)	Result	% Rec *	% RPD ****
Initial	2875	498	97.2	0.7
Duplicate	2842	492	96.1	0.5
Triplicate	2851	493	96.4	0.2

522.75 ppbV DMS (SS1041)

DMS	Resp. (area)	Result	% Rec *	% RPD ****
Initial	3372	526	100.6	0.6
Duplicate	3363	524	100.3	0.3
Triplicate	3322	518	99.1	0.9

Method Blank

Analyte	Result
H_2S	<PQL
MeSH	<PQL
DMS	<PQL

Duplicate Analysis Sample ID 180169-106393

Analyte	Sample Result	Duplicate Result	Mean	% RPD ***
H_2S	<PQL	<PQL	0.0	0.0
MeSH	<PQL	<PQL	0.0	0.0
DMS	<PQL	<PQL	0.0	0.0

Matrix Spike & Duplicate Sample ID 180169-106393 x2

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H_2S	<PQL	255.4	255.8	252.7	100.1	99.0	1.2
MeSH	<PQL	255.9	256.7	253.6	100.3	99.1	1.2
DMS	<PQL	261.4	247.3	247.4	94.6	94.6	0.0

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	% Rec **
H_2S	510.8	499.7	97.8
MeSH	511.8	482.2	94.2
DMS	522.8	477.7	91.4

** Must be 95-105%, ** Must be 90-110%, *** Must be < 10%, **** Must be < 5% RPD from Mean result.*

H2S: PQL = 10.0 ppbV, MDL = 1.09 ppbV
MeSH: PQL = 10.0 ppbV, MDL = 1.13 ppbV
DMS: PQL = 10.0 ppbV, MDL = 1.39 ppbV

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AAC Project No. 180169

CHAIN OF CUSTODY/ ANALYSIS REQUEST FORM

Client Name: MO DNR
Project Name: Bridgeton Landfill
Project Mgr (Print Name): Michael Parris
Project Number:
Sampler's Name (Print Name): Teresa Thevary
Sampler's Signature: [signature]

AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Containers (Start pressure / End pressure)			D-5504			
Can #815	2/1/18	1155-1240	Summa-Timed	D1 (180981)	-30 / -6			X	106392		
Can #823	2/1/18	1210-1305	Summa-Timed	U1 (180982)	-30 / -6			X	106393		

Send report:
Attn: ______
Phone#: ______
Fax# ______

Send invoice to:
Attn: ______
P.O. # ______

Turnaround Time
24 - 48 Hr ___ 72 Hr ___
5 Day ✓ Normal ___
Other (Specify) ___

Special Instructions/remarks:
Shipped via UPS.
Tracking #
1ZR040A60290089745

Relinquished by (Signature):	Print Name:	Date/Time	Received by (signature):	Print Name
[signature]	Teresa Thevary	2/1/18 1500		
Relinquished by (Signature):	Print Name:	Date/Time	Received by (signature): [signature] 2/5/18 1219	Print Name

2c CANS + 2c FLOWS UPS