Atmospheric Analysis & Consulting, Inc.

CLIENT : Eurofins
PROJECT NAME : MO DNR – Bridgeton Landfill
AAC PROJECT NO. : 180041
REPORT DATE : 1/11/2018

On January 10, 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 (180971)	180041-105752	774.7
U1 (180972)	180041-105753	775.7

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**	**SAMPLING DATE**	**: 01/08/2018**
PROJECT NO.	**: 180041**	**RECEIVING DATE**	**: 01/10/2018**
MATRIX	**: AIR**	**ANALYSIS DATE**	**: 01/10/2018**
UNITS	**: ppmV**	**REPORT DATE**	**: 01/11/2018**

Total Reduced Sulfur Compounds Analysis by ASTM D-5504

Client ID	D1 (180971)	U1 (180972)
AAC ID	180041-105752	180041-105753
Canister Dil. Fac.	1.2	1.2
Analyte	Result	Result
Hydrogen Sulfide	< 0.012	< 0.012
Carbonyl Sulfide	< 0.012	< 0.012
Sulfur Dioxide	< 0.012	< 0.012
Methyl Mercaptan	< 0.012	< 0.012
Ethyl Mercaptan	< 0.012	< 0.012
Dimethyl Sulfide	< 0.012	< 0.012
Carbon Disulfide	< 0.012	< 0.012
Isopropyl Mercaptan	< 0.012	< 0.012
tert-Butyl Mercaptan	< 0.012	< 0.012
n-Propyl Mercaptan	< 0.012	< 0.012
Methylethylsulfide	< 0.012	< 0.012
sec-Butyl Mercaptan	< 0.012	< 0.012
Thiophene	< 0.012	< 0.012
iso-Butyl Mercaptan	< 0.012	< 0.012
Diethyl Sulfide	< 0.012	< 0.012
n-Butyl Mercaptan	< 0.012	< 0.012
Dimethyl Disulfide	< 0.012	< 0.012
2-Methylthiophene	< 0.012	< 0.012
3-Methylthiophene	< 0.012	< 0.012
Tetrahydrothiophene	< 0.012	< 0.012
Bromothiophene	< 0.012	< 0.012
Thiophenol	< 0.012	< 0.012
Diethyl Disulfide	< 0.012	< 0.012
Total Unidentified Sulfur	< 0.012	< 0.012
Total Reduced Sulfurs	< 0.012	< 0.012

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: 1/10/2018
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	2875	510	99.8	0.0
Duplicate	2877	510	99.9	0.1
Triplicate	2874	509	99.7	0.0

511.75 ppbV MeSH (SS1041)

MeSH	Resp. (area)	Result	% Rec *	% RPD ****
Initial	2960	512	100.1	0.3
Duplicate	2944	509	99.6	0.2
Triplicate	2948	510	99.7	0.1

522.75 ppbV DMS (SS1041)

DMS	Resp. (area)	Result	% Rec *	% RPD ****
Initial	3345	522	99.8	0.2
Duplicate	3360	524	100.2	0.7
Triplicate	3309	516	98.7	0.9

Method Blank

Analyte	Result
H_2S	<PQL
MeSH	<PQL
DMS	<PQL

Duplicate Analysis **Sample ID** 180041-105752

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** 180041-105752

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H_2S	<PQL	255.4	235.0	241.5	92.0	94.6	2.7
MeSH	<PQL	255.9	237.3	242.1	92.7	94.6	2.0
DMS	<PQL	261.4	238.0	247.4	91.1	94.7	3.9

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	% Rec **
H_2S	510.8	512.9	100.4
MeSH	511.8	518.7	101.4
DMS	522.8	530.6	101.5

** 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. 180041 Page 1 of 1

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 Thevaraj
Sampler's Signature:

AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Containers start pressure/ end pressure	Analysis Requested: Tedlar				
Can #921	1/8/18	1140-1235	Summa-Timed	DI (180971)	-30 / -6			X		105752
Can #943	1/8/18	1150-1245	Summa-Timed	UI (180972)	-30 / -5			X		105753

Send report:
Attn:
Phone#:
Fax#:

Send invoice to:
Attn:
P.O. #

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

Special Instructions/remarks:
Shipped via UPS.
Tracking #
1ZR040W60294339306

Relinquished by (Signature):	Print Name:	Date/Time	Received by (signature):	Print Name
	Teresa Thevaraj	1/8/18 1430		
Relinquished by (Signature):	Print Name:	Date/Time	Received by (signature):	Print Name
				1/10/18 1205

2x CANS + 2x FLOWS UPS