

## Atmospheric Analysis & Consulting, Inc.

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CLIENT : Eurofins  
PROJECT NAME : MO DNR – Bridgeton Landfill  
AAC PROJECT NO. : 171592  
REPORT DATE : 10/17/2017


On October 16, 2017, 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 (172981)	171592-103961	630.3
U1 (172982)	171592-103962	632.5

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.aacalab.com](http://www.aacalab.com).

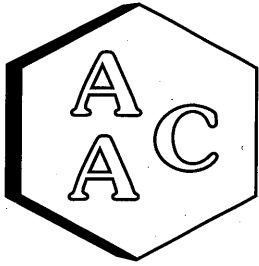
I certify that this data is technically accurate, complete, and in compliance with the terms and conditions of the contract. No problems were encountered during receiving, preparation, and/or analysis of these samples. The Laboratory Director or his/her designee, as verified by the following signature,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





# Atmospheric Analysis & Consulting, Inc.

## LABORATORY ANALYSIS REPORT

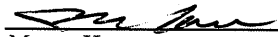
CLIENT : Eurofins  
PROJECT NO. : 171592  
MATRIX : AIR  
UNITS : ppmV

SAMPLING DATE : 10/12/2017  
RECEIVING DATE : 10/16/2017  
ANALYSIS DATE : 10/16/2017  
REPORT DATE : 10/17/2017

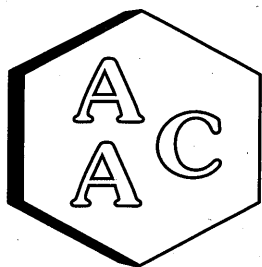
### Total Reduced Sulfur Compounds Analysis by ASTM D-5504

Client ID	D1 (172981)	U1 (172982)
AAC ID	171592-103961	171592-103962
Canister Dil. Fac.	1.4	1.4
Analyte	Result	Result
Hydrogen Sulfide	< 0.014	< 0.014
Carbonyl Sulfide	< 0.014	< 0.014
Sulfur Dioxide	< 0.014	< 0.014
Methyl Mercaptan	< 0.014	< 0.014
Ethyl Mercaptan	< 0.014	< 0.014
Dimethyl Sulfide	< 0.014	< 0.014
Carbon Disulfide	< 0.014	< 0.014
Isopropyl Mercaptan	< 0.014	< 0.014
tert-Butyl Mercaptan	< 0.014	< 0.014
n-Propyl Mercaptan	< 0.014	< 0.014
Methylethylsulfide	< 0.014	< 0.014
sec-Butyl Mercaptan	< 0.014	< 0.014
Thiophene	< 0.014	< 0.014
iso-Butyl Mercaptan	< 0.014	< 0.014
Diethyl Sulfide	< 0.014	< 0.014
n-Butyl Mercaptan	< 0.014	< 0.014
Dimethyl Disulfide	< 0.014	< 0.014
2-Methylthiophene	< 0.014	< 0.014
3-Methylthiophene	< 0.014	< 0.014
Tetrahydrothiophene	< 0.014	< 0.014
Bromothiophene	< 0.014	< 0.014
Thiophenol	< 0.014	< 0.014
Diethyl Disulfide	< 0.014	< 0.014
Total Unidentified Sulfur	< 0.014	< 0.014
Total Reduced Sulfurs	< 0.014	< 0.014

All unidentified compound's concentrations expressed in terms of H<sub>2</sub>S (TRS does not include COS and SO<sub>2</sub>)  
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.

## Quality Control/Quality Assurance Report ASTM D-5504

Date Analyzed: 10/16/2017  
 Analyst: ZB  
 Units: ppbV

Instrument ID: SCD#10  
 Calb. Date: 8/11/2017

### Opening Calibration Verification Standard

528.25 ppbV H<sub>2</sub>S (SS1032)

H <sub>2</sub> S	Resp. (area)	Result	% Rec *	% RPD ****
Initial	6318	528	99.9	0.1
Duplicate	6426	537	101.6	1.6
Triplicate	6238	521	98.7	1.4

491 ppbV MeSH (SS1032)

MeSH	Resp. (area)	Result	% Rec *	% RPD ****
Initial	5947	507	103.2	2.4
Duplicate	5794	494	100.6	0.2
Triplicate	5681	484	98.6	2.2

523 ppbV DMS (SS1032)

DMS	Resp. (area)	Result	% Rec *	% RPD ****
Initial	7465	540	103.2	0.4
Duplicate	7554	546	104.5	0.8
Triplicate	7470	540	103.3	0.4

### Method Blank

Analyte	Result
H <sub>2</sub> S	<PQL
MeSH	<PQL
DMS	<PQL

### Duplicate Analysis

Sample ID 171587-103936

Analyte	Sample Result	Duplicate Result	Mean	% RPD ***
H <sub>2</sub> S	<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 171587-103936 x10

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H <sub>2</sub> S	<PQL	264.1	270.1	269.0	102.3	101.9	0.4
MeSH	<PQL	245.5	253.4	243.3	103.2	99.1	4.1
DMS	<PQL	261.5	283.9	258.9	108.6	99.0	9.2

### Closing Calibration Verification Standard


Analyte	Std. Conc.	Result	% Rec **
H <sub>2</sub> S	528.3	528.2	100.0
MeSH	491.0	478.8	97.5
DMS	523.0	527.8	100.9

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

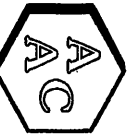
H<sub>2</sub>S: PQL = 10.0 ppbV, MDL = 1.09 ppbV

MeSH: PQL = 10.0 ppbV, MDL = 1.13 ppbV

DMS: PQL = 10.0 ppbV, MDL = 1.39 ppbV

  
 Marcus Hueppe  
 Laboratory Director





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AAC Project No. 171592

171592

Page 1 of 1

**CHAIN OF CUSTODY / ANALYSIS REQUEST FORM**

Client Name <b>MO DNE</b>		Project Name <b>Budgets Landfill</b>		Analysis Requested		Send report:	
Project Mgr (Print Name) <b>Michael Paris</b>		Project Number				Attn: _____	
Sampler's Name (Print Name) <b>Teresa Trevany</b>		Sampler's Signature <i>[Signature]</i>				Phone#: _____ Fax#: _____	
AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Sites Contaminated/Lead Pressure	Send invoice to:	
Com # 155	10/12/17	1050	Summ-Timed	D1 (172981)	-30 -6	Attn: _____	
Com # 824	10/12/17	1055	Summ-Timed	V1 (172982)	-30 -5	P.O. # _____	
						Turnaround Time	
						24 - 48 Hr _____ 72 Hr _____	
						5 Day <input checked="" type="checkbox"/> Normal _____	
						Other (Specify) _____	
						Special Instructions/remarks: Shipped via UPS. Tracking # 1ZE040W60295228808	
Relinquished by (Signature): <i>[Signature]</i>		Print Name: <b>Teresa Trevany</b>		Received by (signature): <i>[Signature]</i>		Print Name: <b>John Zachman</b>	
Relinquished by (Signature):		Print Name:		Received by (signature):		Print Name:	

2x Signs + 2x Flours

- UPS