

Atmospheric Analysis & Consulting, Inc.

CLIENT : Eurofins
PROJECT NAME : MO DNR – Bridgeton Landfill
AAC PROJECT NO. : 170319
REPORT DATE : 3/15/2017

On March 13, 2017, Atmospheric Analysis & Consulting, Inc. received two (2) Six-Liter Silonite Canisters for TRS analysis by ASTM D-5504. Upon receipt, the sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab No.	Initial Pressure (mmHg)
D1 (170805)	170319-97451	621.1
U1 (170806)	170319-97452	626.0

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.aacclab.com.

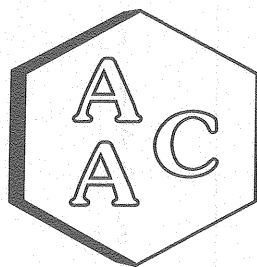
I certify that this data is technically accurate, complete, and in compliance with the terms and conditions of the contract. No problems were encountered during receiving, preparation, and/or analysis of these samples. The Laboratory Director or his/her designee, as verified by the following signature, 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. : 170319
MATRIX : AIR
UNITS : ppmV

SAMPLING DATE : 03/09/2017
RECEIVING DATE : 03/13/2017
ANALYSIS DATE : 03/14/2017
REPORT DATE : 03/15/2017

Total Reduced Sulfur Compounds Analysis by ASTM D-5504

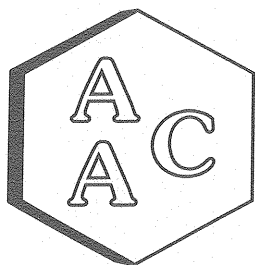
Client ID	D1 (170805)	U1 (170806)
AAC ID	170319-97451	170319-97452
Canister Dil. Fac.	1.5	1.5
Analyte	Result	Result
Hydrogen Sulfide	< 0.015	< 0.015
Carbonyl Sulfide	< 0.015	< 0.015
Sulfur Dioxide	< 0.015	< 0.015
Methyl Mercaptan	< 0.015	< 0.015
Ethyl Mercaptan	< 0.015	< 0.015
Dimethyl Sulfide	< 0.015	< 0.015
Carbon Disulfide	< 0.015	< 0.015
Isopropyl Mercaptan	< 0.015	< 0.015
tert-Butyl Mercaptan	< 0.015	< 0.015
n-Propyl Mercaptan	< 0.015	< 0.015
Methylethylsulfide	< 0.015	< 0.015
sec-Butyl Mercaptan	< 0.015	< 0.015
Thiophene	< 0.015	< 0.015
iso-Butyl Mercaptan	< 0.015	< 0.015
Diethyl Sulfide	< 0.015	< 0.015
n-Butyl Mercaptan	< 0.015	< 0.015
Dimethyl Disulfide	< 0.015	< 0.015
2-Methylthiophene	< 0.015	< 0.015
3-Methylthiophene	< 0.015	< 0.015
Tetrahydrothiophene	< 0.015	< 0.015
Bromothiophene	< 0.015	< 0.015
Thiophenol	< 0.015	< 0.015
Diethyl Disulfide	< 0.015	< 0.015
Total Unidentified Sulfur	< 0.015	< 0.015
Total Reduced Sulfurs	< 0.015	< 0.015

All unidentified compound's concentrations expressed in terms of H₂S (TRS does not include COS and SO₂)

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: 3/14/2017
Analyst: ZB
Units: ppbV

Instrument ID: SCD#10
Calb. Date: 1/30/2017

Opening Calibration Verification Standard

525.5 ppbV H₂S (SS0971)

H ₂ S	Resp. (area)	Result	% Rec *	% RPD ****
Initial	14033	524	99.7	1.0
Duplicate	14387	537	102.3	1.5
Triplicate	14104	527	100.2	0.5

549 ppbV MeSH (SS0988)

MeSH	Resp. (area)	Result	% Rec *	% RPD ****
Initial	13296	533	97.2	0.3
Duplicate	13308	534	97.3	0.4
Triplicate	13168	528	96.2	0.7

488.8 ppbV CS₂ (SS0972)

CS ₂	Resp. (area)	Result	% Rec *	% RPD ****
Initial	30366	505	103.3	0.0
Duplicate	30360	505	103.3	0.1
Triplicate	30406	506	103.5	0.1

Method Blank

Analyte	Result
H ₂ S	<PQL
MeSH	<PQL
CS ₂	<PQL

Duplicate Analysis

Sample ID 170316-97438

Analyte	Sample Result	Duplicate Result	Mean	% RPD ***
H ₂ S	1250.3	1327.2	1288.7	6.0
MeSH	<PQL	<PQL	0.0	0.0
CS ₂	<PQL	<PQL	0.0	0.0

Matrix Spike & Duplicate

Sample ID 170316-97438 x10

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H ₂ S	128.9	262.8	394.9	396.0	100.8	101.1	0.3
MeSH	<PQL	274.5	269.6	266.9	98.2	97.2	1.0
CS ₂	<PQL	244.4	255.7	258.1	104.6	105.6	0.9

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	% Rec **
H ₂ S	525.5	535.0	101.8
MeSH	549.0	540.4	98.4
CS ₂	488.8	517.2	105.8

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

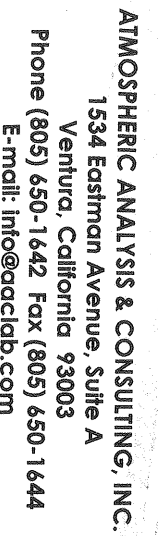
H₂S: PQL = 10.0 ppbV, MDL = 1.51 ppbV

MeSH: PQL = 10.0 ppbV, MDL = 1.48 ppbV

CS₂: PQL = 10.0 ppbV, MDL = 1.44 ppbV


Marcus Hueppe
Laboratory Director





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[illegible]
$$2x \sin 3 + 2x + 20 \sin 5$$