

## Atmospheric Analysis & Consulting, Inc.

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CLIENT : Eurofins Air Toxics, Inc.  
PROJECT NAME : MO DNR – Bridgeton LF  
AAC PROJECT NO. : 160967  
REPORT DATE : 7/13/2016

On July 11, 2016, 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 (162508)	160967-91242	660.0
U1 (162509)	160967-91243	672.1

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.

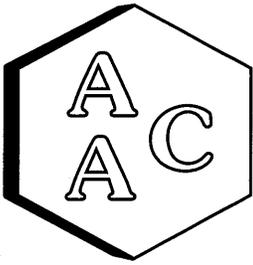
I certify that this data is technically accurate, complete and in compliance with the terms and conditions of the contract. The Laboratory Director or his designee, as verified by the following signature, has authorized release of the data contained in this hardcopy data package.

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

  
Marcus Hueppe  
Laboratory Director

This report consists of 5 pages.





# Atmospheric Analysis & Consulting, Inc.

## LABORATORY ANALYSIS REPORT

CLIENT : Eurofins Air Toxics, Inc.  
PROJECT NO. : 160967  
MATRIX : AIR  
UNITS : ppmV

SAMPLING DATE : 07/07/2016  
RECEIVING DATE : 07/11/2016  
ANALYSIS DATE : 07/11-12/2016  
REPORT DATE : 07/13/2016

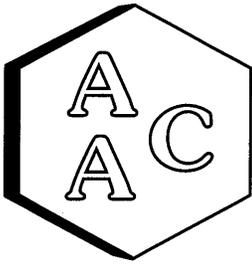
### Total Reduced Sulfur Compounds Analysis by ASTM D-5504

Client ID	D1 (162508)	U1 (162509)
AAC ID	160967-91242	160967-91243
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 as H <sub>2</sub> S	< 0.014	< 0.014

All 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.

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

Date Analyzed: 7/11/2016  
 Analyst: ZB  
 Units: ppbV

Instrument ID: SCD#10  
 Calb. Date: 3/14/2016

### Opening Calibration Verification Standard

	Resp. (area)	Result	% Rec *	% RPD ****
Initial (H <sub>2</sub> S)	6003	485	97.1	0.1
Duplicate (H <sub>2</sub> S)	5927	479	95.8	1.1
Triplicate (H <sub>2</sub> S)	6055	490	97.9	1.0

### Method Blank

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

### Duplicate Analysis

Sample ID 160959-91202

Analyte	Sample Result	Duplicate Result	Mean	% RPD ***
H <sub>2</sub> S	14584.9	15046.8	14815.8	3.1

### Matrix Spike & Duplicate

Sample ID 160959-91202 x20

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H <sub>2</sub> S	740.8	250.0	960.4	978.3	96.9	98.7	1.9

### Closing Calibration Verification Standard

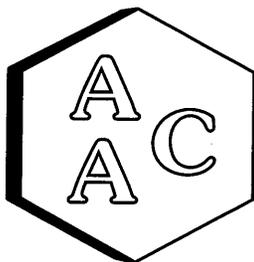
Analyte	Std. Conc.	Result	% Rec **
H <sub>2</sub> S	500.0	527.2	105.4

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

PQL = 10.0 ppbV as H<sub>2</sub>S, MDL = 1.55 ppbV as H<sub>2</sub>S

  
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 Marcus Hueppe  
 Laboratory Director





# Atmospheric Analysis & Consulting, Inc.

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

Date Analyzed: 7/12/2016  
Analyst: ZB  
Units: ppbV

Instrument ID: SCD#10  
Calb. Date: 3/14/2016

### Opening Calibration Verification Standard

	Resp. (area)	Result	% Rec *	% RPD ****
Initial (H <sub>2</sub> S)	6441	521	104.2	0.9
Duplicate (H <sub>2</sub> S)	6384	516	103.2	0.0
Triplicate (H <sub>2</sub> S)	6333	512	102.4	0.8

### Method Blank

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

### Duplicate Analysis

Sample ID 160967-91243

Analyte	Sample Result	Duplicate Result	Mean	% RPD ***
H <sub>2</sub> S	<PQL	<PQL	0.0	0.0

### Matrix Spike & Duplicate

Sample ID 160967-91243

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H <sub>2</sub> S	<PQL	250.0	244.6	257.9	97.8	103.2	5.3

### Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	% Rec **
H <sub>2</sub> S	500.0	484.5	96.9

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

PQL = 10.0 ppbV as H<sub>2</sub>S, MDL = 1.55 ppbV as H<sub>2</sub>S

  
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Marcus Hueppe  
Laboratory Director



