

Atmospheric Analysis & Consulting, Inc.

CLIENT : Eurofins Air Toxics, Inc.
PROJECT NAME : MO DNR – Bridgeton LF
AAC PROJECT NO. : 161683
REPORT DATE : 11/7/2016

On November 3, 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 (163914)	161683-94997	640.1
U1 (163915)	161683-94998	661.7

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.

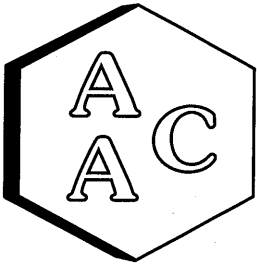
I certify that this data is technically accurate, complete and in compliance with the terms and conditions of the contract. The Laboratory Director or his designee, as verified by the following signature, has authorized release of the data contained in this hardcopy data package.

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


Marcus Hueppe
Laboratory Director

This report consists of 4 pages.





Atmospheric Analysis & Consulting, Inc.

LABORATORY ANALYSIS REPORT


CLIENT : Eurofins Air Toxics, Inc.
PROJECT NO. : 161683
MATRIX : AIR
UNITS : ppmV

SAMPLING DATE : 11/01/2016
RECEIVING DATE : 11/03/2016
ANALYSIS DATE : 11/04/2016
REPORT DATE : 11/07/2016

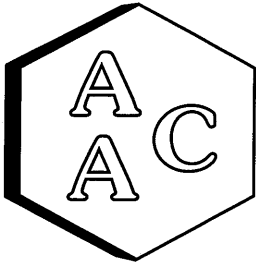
Total Reduced Sulfur Compounds Analysis by ASTM D-5504

Client ID	D1 (163914)	U1 (163915)
AAC ID	161683-94997	161683-94998
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 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: 11/4/2016
 Analyst: ZB
 Units: ppbV

Instrument ID: SCD#10
 Calb. Date: 10/18/2016

Opening Calibration Verification Standard

525.5 ppbV H₂S (SS0971)

H ₂ S	Resp. (area)	Result	% Rec *	% RPD ****
Initial	14653	545	103.8	0.3
Duplicate	14743	549	104.4	0.9
Triplicate	14422	537	102.1	1.3

549 ppbV MeSH (SS0988)

MeSH	Resp. (area)	Result	% Rec *	% RPD ****
Initial	14596	568	103.5	1.3
Duplicate	14449	562	102.4	0.3
Triplicate	14164	551	100.4	1.7

488.8 ppbV CS₂ (SS0972)

CS ₂	Resp. (area)	Result	% Rec *	% RPD ****
Initial	31963	509	104.1	0.2
Duplicate	31873	507	103.8	0.1
Triplicate	31875	507	103.8	0.1

Method Blank

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

Duplicate Analysis

Sample ID 161683-94997

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

Matrix Spike & Duplicate

Sample ID 161683-94997

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H ₂ S	<PQL	262.8	268.4	260.8	102.2	99.2	2.9
MeSH	<PQL	274.5	272.3	269.3	99.2	98.1	1.1
CS ₂	<PQL	244.4	249.1	243.8	101.9	99.8	2.1

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	% Rec **
H ₂ S	525.5	516.7	98.3
MeSH	549.0	528.1	96.2
CS ₂	488.8	483.0	98.8

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

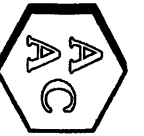
H₂S: PQL = 10.0 ppbV, MDL = 1.51 ppbV

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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AAC Project No. 161683

Page 1 of 1

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client Name MO DNE		Project Name Redoxin LF		Analysis Requested		Send report:	
Project Mgr (Print Name) Michael Parris		Project Number				Attn: _____	
Sampler's Name (Print Name) Teresa Trevany		Sampler's Signature <i>Teresa Trevany</i>				Phone#: _____	
AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Syringes used/Pressure	Fax#: _____	
Can #716	11/1/16	1015-1050	SUMMA-Timed	D1 (163914)	-30-6	Send invoice to: _____	
Can #960	11/1/16	1015-1106	SUMMA-Timed	V1 (163915)	-30-6	Attn: _____	
						P.O. # <u>38SP170266</u>	
						Turnaround Time	
						24 - 48 Hr _____ 72 Hr _____	
						5 Day _____ Normal _____	
						Other (Specify) _____	
						Special Instructions/Remarks: Shipped via UPS. Tracking # <u>1ZK0Y0W80293215270</u>	
Relinquished by (Signature): <i>Teresa Trevany</i>		Print Name: Teresa Trevany		Date/Time 11/1/16 1430		Received by (signature): <i>[Signature]</i>	
Relinquished by (Signature):		Print Name:		Date/Time		Received by (signature):	
						Print Name 11/3/16 1240 FE02x	