Atmospheric Analysis & Consulting, Inc.

CLIENT	: Eurofins
PROJECT NAME	: MO DNR – Bridgeton LF
AAC PROJECT NO.	: 170791
REPORT DATE	: 6/19/2017

On June 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 (172340)	170791-99533	684.3
U1 (172341)	170791-99534	632.7

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**	**: 06/14/2017**
PROJECT NO.	**: 170791**	**RECEIVING DATE**	**: 06/16/2017**
MATRIX	**: AIR**	**ANALYSIS DATE**	**: 06/16/2017**
UNITS	**: ppmV**	**REPORT DATE**	**: 06/19/2017**

Total Reduced Sulfur Compounds Analysis by ASTM D-5504

Client ID	D1 (172340)	U1 (172341)
AAC ID	170791-99533	170791-99534
Canister Dil. Fac.	1.4	1.5
Analyte	Result	Result
Hydrogen Sulfide	< 0.014	< 0.015
Carbonyl Sulfide	< 0.014	< 0.015
Sulfur Dioxide	< 0.014	< 0.015
Methyl Mercaptan	< 0.014	< 0.015
Ethyl Mercaptan	< 0.014	< 0.015
Dimethyl Sulfide	< 0.014	< 0.015
Carbon Disulfide	< 0.014	< 0.015
Isopropyl Mercaptan	< 0.014	< 0.015
tert-Butyl Mercaptan	< 0.014	< 0.015
n-Propyl Mercaptan	< 0.014	< 0.015
Methylethylsulfide	< 0.014	< 0.015
sec-Butyl Mercaptan	< 0.014	< 0.015
Thiophene	< 0.014	< 0.015
iso-Butyl Mercaptan	< 0.014	< 0.015
Diethyl Sulfide	< 0.014	< 0.015
n-Butyl Mercaptan	< 0.014	< 0.015
Dimethyl Disulfide	< 0.014	< 0.015
2-Methylthiophene	< 0.014	< 0.015
3-Methylthiophene	< 0.014	< 0.015
Tetrahydrothiophene	< 0.014	< 0.015
Bromothiophene	< 0.014	< 0.015
Thiophenol	< 0.014	< 0.015
Diethyl Disulfide	< 0.014	< 0.015
Total Unidentified Sulfur	< 0.014	< 0.015
Total Reduced Sulfurs	< 0.014	< 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.

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Quality Control/Quality Assurance Report
ASTM D-5504

Date Analyzed: 6/16/2017
Analyst: ZB
Units: ppbV

Instrument ID: SCD#10
Calb. Date: 6/12/2017

Opening Calibration Verification Standard

528.25 ppbV H2S (SS1032)

H_2S	Resp. (area)	Result	% Rec *	% RPD ****
Initial	7276	518	98.0	0.8
Duplicate	7241	515	97.5	0.4
Triplicate	7129	507	96.0	1.2

491 ppbV MeSH (SS1032)

MeSH	Resp. (area)	Result	% Rec *	% RPD ****
Initial	6009	477	97.2	1.2
Duplicate	6148	488	99.5	1.1
Triplicate	6084	483	98.4	0.1

523 ppbV DMS (SS1032)

DMS	Resp. (area)	Result	% Rec *	% RPD ****
Initial	7370	547	104.5	2.3
Duplicate	7178	532	101.8	0.4
Triplicate	7069	524	100.3	1.9

Method Blank

Analyte	Result
H_2S	<PQL
MeSH	<PQL
DMS	<PQL

Duplicate Analysis **Sample ID** 170781-99451

Analyte	Sample Result	Duplicate Result	Mean	% RPD ***
H_2S	914.5	925.0	919.7	1.1
MeSH	84.1	83.9	84.0	0.2
DMS	1085.6	1081.1	1083.4	0.4

Matrix Spike & Duplicate **Sample ID** 170781-99451 x10

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H_2S	92.0	264.1	328.3	328.9	92.2	92.3	0.2
MeSH	8.4	245.5	232.3	231.8	91.5	91.3	0.2
DMS	108.3	261.5	346.4	352.7	93.7	95.4	1.8

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	% Rec **
H_2S	528.3	479.7	90.8
MeSH	491.0	454.0	92.5
DMS	523.0	493.8	94.4

** 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

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AAC Project No. 170791

CHAIN OF CUSTODY/ ANALYSIS REQUEST FORM

Client Name: MO DNR
Project Name: Bridgeton LF
Project Mgr (Print Name): Michael Parris
Project Number:
Sampler's Name (Print Name): Teresa Thewary
Sampler's Signature: [signature]

AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	~~Type/No. of Containers~~ start pressure/end pressure	Analysis Requested		D-5504			
Can #955	6/14/17	1050-1135	Summa-Timed	DI (172340)	-30 / -6			X		995	33
Can #956	6/14/17	1055-1140	Summa-Timed	UI (172341)	-30 / -6			X		995	34

Send report:
Attn:
Phone#:
Fax#
Send invoice to:
Attn:
P.O. #

Turnaround Time
24 - 48 Hr ___ 72 Hr ___
5 Day ✓ Normal ___
Other (Specify) ___

Special Instructions/remarks:
Shipped via UPS
Tracking #
1ZRY4AW60295583559

Relinquished by (Signature):	Print Name:	Date/Time	Received by (signature):	Print Name
[signature]	Teresa Thewary	6/14/17 1430		
Relinquished by (Signature):	Print Name:	Date/Time	Received by (signature): [signature]	Print Name 6/16/17 1025 UPS

2x CANS + 2x FLOWS