

Atmospheric Analysis & Consulting, Inc.

CLIENT : Yorke Engineering
PROJECT NAME : Ninyo & Moore
PROJECT NUMBER : 0357-007-01
AAC PROJECT NO. : 210070
REPORT DATE : 01/18/2021

On January 12, 2021, Atmospheric Analysis & Consulting, Inc. received two (2) Six-Liter Silionite Canisters for Total Reduced Sulfur analysis by SCAQMD 307.91. Upon receipt, the samples were assigned unique Laboratory ID numbers as follows:

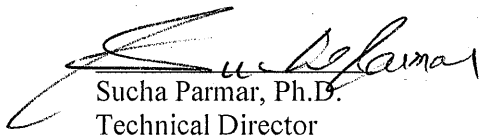
Client ID	Lab No.	Return Pressure (mmHg)
FS 55	210070-15955	761.8
Rattlesnake	210070-15957	725.7

This analysis is performed in accordance with AAC's Quality Manual. Test results apply to the sample(s) as received. 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.

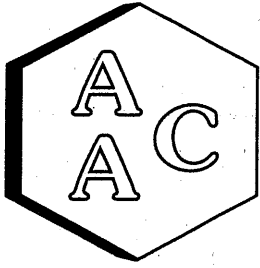
The Technical Director or his/her designee, as verified by the following signature, has authorized release of the data.

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


Sucha Parmar, Ph.D.
Technical Director

This report consists of 4 pages.





Atmospheric Analysis & Consulting, Inc.

LABORATORY ANALYSIS REPORT

CLIENT : Yorke Engineering
PROJECT NO. : 210070
MATRIX : AIR
UNITS : ppmV

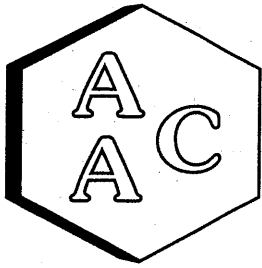
SAMPLING DATE : 01/06-07/2021
RECEIVING DATE : 01/12/2021
ANALYSIS DATE : 01/12/2021
REPORT DATE : 01/18/2021

Total Reduced Sulfur Compounds Analysis by SCAQMD 307.91

Client ID	FS 55	Rattlesnake
AAC ID	210070-15955	210070-15957
Canister Dil. Fac.	1.3	1.4
Analyte	Result	Result
Hydrogen Sulfide	< 0.013	< 0.014
COS / SO ₂	0.030	0.033
Methyl Mercaptan	< 0.013	< 0.014
Ethyl Mercaptan	< 0.013	< 0.014
Dimethyl Sulfide	< 0.013	< 0.014
Carbon Disulfide	< 0.013	< 0.014
Isopropyl Mercaptan	< 0.013	< 0.014
tert-Butyl Mercaptan	< 0.013	< 0.014
n-Propyl Mercaptan	< 0.013	< 0.014
Methylethylsulfide	< 0.013	< 0.014
sec-Butyl Mercaptan / Thiophene	< 0.013	< 0.014
iso-Butyl Mercaptan	< 0.013	< 0.014
Diethyl Sulfide	< 0.013	< 0.014
n-Butyl Mercaptan	< 0.013	< 0.014
Dimethyl Disulfide	< 0.013	< 0.014
2-Methylthiophene	< 0.013	< 0.014
3-Methylthiophene	< 0.013	< 0.014
Tetrahydrothiophene	< 0.013	< 0.014
Bromothiophene	< 0.013	< 0.014
Thiophenol	< 0.013	< 0.014
Diethyl Disulfide	< 0.013	< 0.014
Total Unidentified Sulfur	< 0.013	< 0.014
Total Reduced Sulfurs	< 0.013	< 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.





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Quality Control/Quality Assurance Report SCAQMD 307.91

Date Analyzed: 1/12/2021
 Analyst: DL
 Units: ppbV

Instrument ID: SCD#10
 Calb. Date: 1/4/2021

Opening Calibration Verification Standard

576.8 ppbV H₂S (SSI 227)

H ₂ S	Resp. (area)	Result	% Rec *	% RPD ****
Initial	3826	573	99.3	1.6
Duplicate	3879	581	100.7	0.2
Triplicate	3958	593	102.7	1.8

573.3 ppbV H₂S (SSI 227)

MeSH	Resp. (area)	Result	% Rec *	% RPD ****
Initial	4832	572	99.7	0.7
Duplicate	4860	575	100.3	0.2
Triplicate	4912	581	101.4	0.9

509.8 ppbV H₂S (SSI 227)

DMS	Resp. (area)	Result	% Rec *	% RPD ****
Initial	5222	505	99.1	0.1
Duplicate	5189	502	98.5	0.5
Triplicate	5232	506	99.3	0.3

Method Blank

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

Duplicate Analysis

Sample ID 202168-14947

Analyte	Sample Result	Duplicate Result	Mean	% RPD ***
H ₂ 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 202168-14947 x10

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H ₂ S	<PQL	288.4	285.7	279.2	99.1	96.8	2.3
MeSH	<PQL	286.6	271.8	274.5	94.8	95.8	1.0
DMS	<PQL	254.9	257.8	251.9	101.1	98.8	2.3

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	% Rec **
H ₂ S	576.8	624.8	108.3
MeSH	573.3	567.8	99.1
DMS	509.8	502.5	98.6

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

H₂S: PQL = 10.0 ppbV, MDL = 1.60 ppbV

MeSH: PQL = 10.0 ppbV, MDL = 1.60 ppbV

DMS: PQL = 10.0 ppbV, MDL = 1.60 ppbV





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CHAIN OF CUSTODY/ ANALYSIS REQUEST FORM

Client Name Ninyo & Moore			Project Name Odor Sampling & Analysis			Analysis Requested			Send report: Attn: Bipul Saraf E-Mail - Bsaraf@YorkeEngr.com Phone#: 949-444-8063 Fax# _____
Project Mgr. (Print Name) Keith Gilbert			Project Number 0357-007-01			EPA TO-15	SCAQMD 307-91	EPA TO-11A	
Sampler's Name (Print Name) Bipul K. Saraf			Sampler's Signature <i>Bipul K. Saraf</i>						
AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Containers				
15955	1/6	1303-1303	Canister	FS 55	1	X	X		
15956	1/6	1312-1312	CARTRIDGE	FS 55	1			X	
15957	1/7	1303-1303	Canister	Rattlesnake	1	X	X		
15958	1/7	1312-1312	CARTRIDGE	Rattlesnake	1			X	
Relinquished by (Signature): <i>Bipul K. Saraf</i>			Print Name: Bipul K. Saraf	Date/Time: 1/8/2021 15:30 PM	Received by (signature): <i>[Signature]</i>	Print Name: General Rumber	Special Instructions/remarks: Please report all compounds including aldehyde per TO-15. Include all compounds per SCAQMD 307-91.		
Relinquished by (Signature):			Print Name:	Date/Time:	Received by (signature):	Print Name:			

FOX: 3x can (1d unred) + 3x Enriches 5.9°C T₂?