2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

LABORATORY REPORT

February 3, 2017

Paul Sadler
Focus Environmental, Inc.
4700 Papermill Dr.
Knoxville, TN 37909

RE: Kuwahee Biogas Sampling / P-001208

Dear Paul:

Enclosed are the results of the sample submitted to our laboratory on February 1, 2017. For your reference, this analysis has been assigned our service request number P1700445.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Samantha Henningsen

By Samantha Henningsen at 3:18 pm, Feb 03, 2017

Samantha Henningsen
Project Manager

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

Client: Focus Environmental, Inc. Service Request No: P1700445
Project: Kuwahee Biogas Sampling / P-001208

CASE NARRATIVE

The sample was received intact under chain of custody on February 1, 2017 and was stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the sample at the time of sample receipt.

Sulfur Analysis

The sample was analyzed for twenty sulfur compounds per ASTM D 5504-12 using a gas chromatograph equipped with a sulfur chemiluminescence detector (SCD). All compounds with the exception of hydrogen sulfide and carbonyl sulfide are quantitated against the initial calibration curve for methyl mercaptan. This method is included on the laboratory's NELAP scope of accreditation, however it is not part of the DoD-ELAP accreditation.

2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T: +1 805 526 7161
F: +1 805 526 7270
www.alsglobal.com

ALS Environmental – Simi Valley

CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Louisiana DEQ (NELAP)	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2016036
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	1177034
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068-003
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-16-7
Utah DOH (NELAP)	http://health.utah.gov/lab/environmental-lab-certification/	CA016272016-6
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: Focus Environmental, Inc. Service Request: P1700445

Project ID: Kuwahee Biogas Sampling / P-001208

Date Received: 2/1/2017

Time Received: 09:30

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	ASTM D 5504-12 - Sulfur Bag
TB-013117-ALS	P1700445-001	Air	1/31/2017	10:05	X

Air - Chain of Custody Record & Analytical Service Request

Page _____ of _____

2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10-Day-Standard

ALS Project No: P1700445

Company Name & Address (Reporting Information)
~~Paul Sadler~~ Focus Environmental, Inc.
4700 Papermill Drive
Knoxville, TN 37909

Project Name: Kuwahee Biogas Sampling

Project Number: P-001208

Project Manager: Paul Sadler

P.O. # / Billing Information: Email invoice to Project Manager
Reference PO 0040

Phone: (865) 692-8664

Fax: (865) 531-8854

Email Address for Result Reporting: pasadler@focusenv.com

Sampler (Print & Sign): Paul Sadler Paul Sadler

ALS Contact:

Analysis Method

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	Reduced Sulfur H_2S D5504		Comments e.g. Actual Preservative or specific instructions
~~TB-2-013117~~		~~01/31/17~~		—	—	—	—		X		PRS 01/31/17
TB-013117-ALS		01/31/17	10:05	—	—	—	—		X		

5 of 9

Report Tier Levels - please select

Tier I - Results (Default in not specified) ____
Tier II (Results + QC Summaries ✓
Tier III (Results + QC & Calibration Summaries) ____
Tier IV (Date Validation Package) 10% Surcharge ____

EDD required YES / No
Type: _____ Units: _____

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Paul Sadler	01/31/17	10:42 AM		1-31-17	10:42
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	1-31-17	16:00		2/1/17	0930

Cooler / Blank Temperature ____°C

ALS Environmental

Sample Acceptance Check Form

Client: Focus Environmental, Inc. Work order: P1700445

Project: Kuwahee Biogas Sampling / P-001208

Sample(s) received on: 2/1/17 Date opened: 2/1/17 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☒	☐	☐
	Location of seal(s)? Box sealing. Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1700445-001.01	1 L Zefon Bag					

Explain any discrepancies: (include lab sample ID numbers):

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Focus Environmental, Inc.**
Client Sample ID: **TB-013117-ALS**
Client Project ID: **Kuwahee Biogas Sampling / P-001208**

ALS Project ID: P1700445
ALS Sample ID: P1700445-001

Test Code: ASTM D 5504-12
Instrument ID: Agilent 6890A/GC13/SCD
Analyst: Mike Conejo
Sample Type: 1 L Zefon Bag
Test Notes:

Date Collected: 1/31/17
Time Collected: 10:05
Date Received: 2/1/17
Date Analyzed: 2/1/17
Time Analyzed: 10:01
Volume(s) Analyzed: 1.0 ml(s)

CAS #	Compound	Result µg/m³		MRL µg/m³	Result ppbV		MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	**64,000**		7.0	**46,000**		5.0	
463-58-1	Carbonyl Sulfide	ND		12	ND		5.0	
74-93-1	Methyl Mercaptan	**30**		9.8	**15**		5.0	
75-08-1	Ethyl Mercaptan	**130**		13	**52**		5.0	
75-18-3	Dimethyl Sulfide	ND		13	ND		5.0	
75-15-0	Carbon Disulfide	ND		7.8	ND		2.5	
75-33-2	Isopropyl Mercaptan	**170**		16	**53**		5.0	
75-66-1	tert-Butyl Mercaptan	**160**		18	**43**		5.0	
107-03-9	n-Propyl Mercaptan	**380**		16	**120**		5.0	
624-89-5	Ethyl Methyl Sulfide	ND		16	ND		5.0	
110-02-1	Thiophene	**31**		17	**9.1**		5.0	
513-44-0	Isobutyl Mercaptan	ND		18	ND		5.0	
352-93-2	Diethyl Sulfide	ND		18	ND		5.0	
109-79-5	n-Butyl Mercaptan	**23**		18	**6.2**		5.0	
624-92-0	Dimethyl Disulfide	ND		9.6	ND		2.5	
616-44-4	3-Methylthiophene	ND		20	ND		5.0	
110-01-0	Tetrahydrothiophene	ND		18	ND		5.0	
638-02-8	2,5-Dimethylthiophene	ND		23	ND		5.0	
872-55-9	2-Ethylthiophene	ND		23	ND		5.0	
110-81-6	Diethyl Disulfide	ND		12	ND		2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **Focus Environmental, Inc.**
Client Sample ID: **Method Blank** ALS Project ID: P1700445
Client Project ID: **Kuwahee Biogas Sampling / P-001208** ALS Sample ID: P170201-MB

Test Code: ASTM D 5504-12 Date Collected: NA
Instrument ID: Agilent 6890A/GC13/SCD Time Collected: NA
Analyst: Mike Conejo Date Received: NA
Sample Type: 1 L Zefon Bag Date Analyzed: 2/01/17
Test Notes: Time Analyzed: 08:14
Volume(s) Analyzed: 1.0 ml(s)

CAS #	Compound	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
7783-06-4	Hydrogen Sulfide	ND	7.0	ND	5.0	
463-58-1	Carbonyl Sulfide	ND	12	ND	5.0	
74-93-1	Methyl Mercaptan	ND	9.8	ND	5.0	
75-08-1	Ethyl Mercaptan	ND	13	ND	5.0	
75-18-3	Dimethyl Sulfide	ND	13	ND	5.0	
75-15-0	Carbon Disulfide	ND	7.8	ND	2.5	
75-33-2	Isopropyl Mercaptan	ND	16	ND	5.0	
75-66-1	tert-Butyl Mercaptan	ND	18	ND	5.0	
107-03-9	n-Propyl Mercaptan	ND	16	ND	5.0	
624-89-5	Ethyl Methyl Sulfide	ND	16	ND	5.0	
110-02-1	Thiophene	ND	17	ND	5.0	
513-44-0	Isobutyl Mercaptan	ND	18	ND	5.0	
352-93-2	Diethyl Sulfide	ND	18	ND	5.0	
109-79-5	n-Butyl Mercaptan	ND	18	ND	5.0	
624-92-0	Dimethyl Disulfide	ND	9.6	ND	2.5	
616-44-4	3-Methylthiophene	ND	20	ND	5.0	
110-01-0	Tetrahydrothiophene	ND	18	ND	5.0	
638-02-8	2,5-Dimethylthiophene	ND	23	ND	5.0	
872-55-9	2-Ethylthiophene	ND	23	ND	5.0	
110-81-6	Diethyl Disulfide	ND	12	ND	2.5	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Focus Environmental, Inc.**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1700445
Client Project ID: **Kuwahee Biogas Sampling / P-001208** ALS Sample ID: P170201-LCS

Test Code: ASTM D 5504-12 Date Collected: NA
Instrument ID: Agilent 6890A/GC13/SCD Date Received: NA
Analyst: Mike Conejo Date Analyzed: 2/01/17
Sample Type: 1 L Zefon Bag Volume(s) Analyzed: NA ml(s)
Test Notes:

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS Acceptance Limits	Data Qualifier
7783-06-4	Hydrogen Sulfide	1,000	**1,060**	**106**	75-148	
463-58-1	Carbonyl Sulfide	1,000	**1,060**	**106**	70-137	
74-93-1	Methyl Mercaptan	1,000	**1,030**	**103**	72-139	

Atmospheric Analysis & Consulting, Inc.

CLIENT	: Focus Environmental
PROJECT NAME	: Kuwahee Biogas Sampling
PROJECT NUMBER	: PO 001208
AAC PROJECT NO.	: 170138
REPORT DATE	: 2/2/2017

On February 1, 2017, Atmospheric Analysis & Consulting, Inc. received one (1) Tedlar Bag for Total Reduced Sulfur analysis by ASTM D-5504. Upon receipt, the sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab No.
TB-013117-AAC	170138-96578

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. Sample was received past the suggested holding time of 24 hours for the analysis of sulfur from a Tedlar Bag. The client provided one backup sample. An unusually high amount of liquid was present in the backup Tedlar Bag. No other 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.

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

LABORATORY ANALYSIS REPORT

CLIENT	**: Focus Environmental**	**SAMPLING DATE**	**: 01/31/2017**
PROJECT NO.	**: 170138**	**RECEIVING DATE**	**: 02/01/2017**
MATRIX	**: AIR**	**ANALYSIS DATE**	**: 02/01/2017**
UNITS	**: ppmV**	**REPORT DATE**	**: 02/02/2017**

Total Reduced Sulfur Compounds Analysis by ASTM D-5504

Client ID	TB-013117-AAC
AAC ID	170138-96578
Analyte	**Result**
Hydrogen Sulfide	**39.0**
Carbonyl Sulfide	< 0.050
Sulfur Dioxide	< 0.050
Methyl Mercaptan	< 0.050
Ethyl Mercaptan	**0.059**
Dimethyl Sulfide	< 0.050
Carbon Disulfide	< 0.050
Isopropyl Mercaptan	**0.057**
tert-Butyl Mercaptan	< 0.050
n-Propyl Mercaptan	**0.123**
Methylethylsulfide	< 0.050
sec-Butyl Mercaptan	< 0.050
Thiophene	< 0.050
iso-Butyl Mercaptan	< 0.050
Diethyl Sulfide	< 0.050
n-Butyl Mercaptan	< 0.050
Dimethyl Disulfide	< 0.050
2-Methylthiophene	< 0.050
3-Methylthiophene	< 0.050
Tetrahydrothiophene	< 0.050
Bromothiophene	< 0.050
Thiophenol	< 0.050
Diethyl Disulfide	< 0.050
Total Unidentified Sulfur	< 0.050
Total Reduced Sulfurs	**39.2**

All unidentified compound's concentrations expressed in terms of H_2S (TRS does not include COS and SO_2)
Sample Reporting Limit (SRL) is equal to Reporting Limit x Canister Dil. Fac. x Analysis Dil. Fac.

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Quality Control/Quality Assurance Report
ASTM D-5504

Date Analyzed: 2/1/2017
Analyst: ZB
Units: ppbV

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

Opening Calibration Verification Standard

525.5 ppbV H2S (SS0971)

H_2S	Resp. (area)	Result	% Rec *	% RPD ****
Initial	14146	528	100.5	0.8
Duplicate	13928	520	99.0	0.7
Triplicate	14017	524	99.6	0.1

549 ppbV MeSH (SS0988)

MeSH	Resp. (area)	Result	% Rec *	% RPD ****
Initial	14167	568	103.5	1.7
Duplicate	13888	557	101.5	0.3
Triplicate	13744	551	100.4	1.4

488.8 ppbV CS2 (SS0972)

CS_2	Resp. (area)	Result	% Rec *	% RPD ****
Initial	30803	512	104.8	0.7
Duplicate	30752	511	104.6	0.6
Triplicate	30182	502	102.7	1.3

Method Blank

Analyte	Result
H_2S	<PQL
MeSH	<PQL
CS_2	<PQL

Duplicate Analysis **Sample ID** 170132-96547

Analyte	Sample Result	Duplicate Result	Mean	% RPD ***
H_2S	50077.8	49815.7	49946.8	0.5
MeSH	301.8	297.5	299.7	1.4
CS_2	<PQL	<PQL	0.0	0.0

Matrix Spike & Duplicate **Sample ID** 170132-96547 x100

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H_2S	499.5	262.8	788.9	768.0	103.5	100.8	2.7
MeSH	3.0	274.5	282.2	271.0	101.7	97.7	4.0
CS_2	<PQL	244.4	255.7	252.6	104.6	103.4	1.2

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	% Rec **
H_2S	525.5	509.4	96.9
MeSH	549.0	540.4	98.4
CS_2	488.8	510.3	104.4

** 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

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

ATMOSPHERIC ANALYSIS & CONSULTING, INC.
1534 Eastman Avenue, Suite A
Ventura, California 93003
Phone (805) 650-1642 Fax (805) 650-1644
E-mail: info@aaclab.com

AAC Project No. 170138 Page ____ of ____

CHAIN OF CUSTODY/ ANALYSIS REQUEST FORM

Client Name: Focus Environmental
Project Name: Kuwahee Biogas Sampling
Project Mgr (Print Name): Paul Sadler
Project Number: PO 001208
Sampler's Name (Print Name): Paul Sadler
Sampler's Signature: Paul Sadler

AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Containers	Full Bio D3588	Fixed Gas D1946	Reduced S/Nat D5504	Siloxanes TO-15			Analysis Requested
96578	01/31/17	~~9:53~~	Grab Gas	TB-013117-AAC	Bag 2			X				
		9:56										

Send report:
Attn: Paul Sadler
pasadler@focusenv.com
Phone#: (805) 492-8664
Fax# (805) 531-8854

Send invoice to:
Attn: Paul Sadler
P.O. # PO 0039

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

Special Instructions/remarks:
Analyze the day sample received

Relinquished by (Signature): Paul Sadler	Print Name: Paul Sadler	Date/Time 01/31/17 10:42	Received by (signature): Bryan Dawson — Print Name: BRYAN DAWSON 1-31-17 10:42
Relinquished by (Signature): Bryan Dawson	Print Name: BRYAN DAWSON	Date/Time 1-31-17 14:45	Received by (signature): — Print Name: 2/1/17 1050

FEDEX

Atmospheric Analysis & Consulting, Inc.

CLIENT	: Focus Environmental
PROJECT NAME	: Kuwahee Biogas Sampling
PROJECT NUMBER	: PO 001208
AAC PROJECT NO.	: 170158
REPORT DATE	: 2/7/2017

On February 6, 2017, Atmospheric Analysis & Consulting, Inc. received one (1) Six-Liter Silonite Canister for BTU analysis by ASTM D-3588. Upon receipt, the sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab No.	Initial Pressure (mmHg)
SC-013117-AAC	170158-96655	342.9

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 this sample. 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 7 pages.

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report
ASTM-D3588 (BTU and F-Factor)

CLIENT	**Focus Environmental**	**SAMPLING DATE**	**1/31/2017**
PROJECT NO.	**170158**	**ANALYSIS DATE**	**2/6/2017**

	Client ID:	SC-013117-AAC	
	AAC ID:	170158-96655	
	Component	Mole %	Weight %
FIXED GASES	H_2	0.00	0.00
	O_2	0.26	0.31
	N_2	1.35	1.42
	CO	0.00	0.00
	CO_2	36.92	61.15
	CH_4	61.47	37.11
	He	NM	NM
	Ar	NM	NM
HYDROCARBONS	C_2 (as Ethane)	0.0005	0.0005
	C_3 (as Propane)	0.0004	0.0006
	C_4 (as Butane)	0.0000	0.0001
	C_5 (as Pentane)	0.0000	0.0000
	C_6 (as Hexane)	0.0000	0.0000
	C_{6+} (as Hexane)	0.0004	0.0012
TRS	TRS as H2S	0.0021	0.0026
H2O	Moisture content	NM	NM

All results have been normalized to 100% on a dry weight basis.

Fuel Gas Specifications				
Atomic Breakdown - (scf/lb) / %			*HHV Btu/lb*	8867
Carbon (C)	44.5		*LHV Btu/lb*	7984
Hydrogen (H)	9.3		*HHV Btu/dscf*	621
Oxygen (O)	44.8		*LHV Btu/dscf*	559
Nitrogen (N)	1.4		*F-Factor*	9202
Helium (He)	0.00		*Relative Denisty*	0.9176
Argon (Ar)	0.00		*C2-C6+ Weight %*	0.0024
Sulfur (S)	0.00		*MW lb/lb-mole*	26.572
Motor Octane Number	94.41		*Methane Number*	34.22

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

LABORATORY ANALYSIS REPORT

CLIENT	**Focus Environmental**	**SAMPLING DATE**	**01/31/17**
PROJECT NO.	**170158**	**ANALYSIS DATE**	**02/06/17**
MATRIX	**AIR**		
UNITS	**ppmV**		

Total Reduced Sulfur Compounds Analysis by ASTM D-5504

Client ID	**SC-013117-AAC**
AAC ID	**170158-96655**
Canister Dil. Fac.	**3.0**
Analyte	**Result**
Hydrogen Sulfide	**18.7**
Carbonyl Sulfide	< 0.150
Sulfur Dioxide	< 0.150
Methyl Mercaptan	< 0.150
Ethyl Mercaptan	< 0.150
Dimethyl Sulfide	< 0.150
Carbon Disulfide	< 0.150
Isopropyl Mercaptan	< 0.150
tert-Butyl Mercaptan	< 0.150
n-Propyl Mercaptan	< 0.150
Methylethylsulfide	< 0.150
sec-Butyl Mercaptan	< 0.150
Thiophene	< 0.150
iso-Butyl Mercaptan	< 0.150
Diethyl Sulfide	< 0.150
n-Butyl Mercaptan	< 0.150
Dimethyl Disulfide	< 0.150
2-Methylthiophene	< 0.150
3-Methylthiophene	< 0.150
Tetrahydrothiophene	< 0.150
Bromothiophene	< 0.150
Thiophenol	< 0.150
Diethyl Disulfide	< 0.150
Total Unidentified Sulfur	< 0.150
Total Reduced Sulfurs	**18.7**

All unidentified compound's concentrations expressed in terms of H_2S (TRS does not include COS and SO_2)
Sample Reporting Limit (SRL) is equal to Reporting Limit x Canister Dil. Fac. x Analysis Dil. Fac.

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed : 02/06/2017
Analyst : CNG
Units : %

Instrument ID : TCD#1
Calb Date : 01/03/17
Reporting Limit : 0.1%

I - Opening Continuing Calibration Verification - ASTM D-1945/1946

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
CCV	Spike Conc	10.0	10.0	20.2	10.1	10.0	10.2
	Result	9.7	10.1	19.2	8.8	8.5	8.7
	% Rec *	97.3	101.0	95.0	87.6	85.1	85.0

II - Method Blank - ASTM D-1945/1946

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
MB	Concentration	ND	ND	ND	ND	ND	ND

III - Laboratory Control Spike & Duplicate - ASTM D-1945/1946

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
Lab Control Standards	Sample Conc	0.0	0.0	0.0	0.0	0.0	0.0
	Spike Conc	10.0	10.0	20.2	10.1	10.0	10.2
	LCS Result	9.6	10.9	20.7	9.4	9.2	9.3
	LCSD Result	9.8	11.3	21.4	9.8	9.5	9.6
	LCS % Rec *	96.2	109.0	102.3	93.6	91.8	91.7
	LCSD % Rec *	97.7	113.0	105.7	97.2	94.8	94.5
	% RPD ***	1.5	3.6	3.2	3.7	3.2	3.1

IV - Sample & Sample Duplicate - ASTM D-1945/1946

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
170154-96642	Sample	0.0	5.4	30.2	1.6	0.0	0.0
	Sample Dup	0.0	5.9	32.8	1.7	0.0	0.0
	Mean	0.0	5.7	31.5	1.7	0.0	0.0
	% RPD ***	0.0	7.8	8.4	9.8	0.0	0.0

V - Matrix Spike & Duplicate - ASTM D-1945/1946

AAC ID	Analyte	H_2	N_2	CO_2	CH_4	CO
170154-96642	Sample Conc	0.0	15.7	0.8	0.0	0.0
	Spike Conc	10.0	9.8	10.1	10.0	10.2
	MS Result	10.0	26.5	11.5	10.5	10.7
	MSD Result	10.0	24.6	10.6	9.6	9.8
	MS % Rec **	99.8	110.0	105.8	104.7	104.7
	MSD % Rec **	100.4	91.3	96.8	96.5	96.1
	% RPD ***	0.5	18.5	8.9	8.1	8.6

VI - Closing Continuing Calibration Verification - ASTM D-1945/1946

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
CCV	Spike Conc	10.0	10.0	20.2	10.1	10.0	10.2
	Result	9.4	10.6	20.0	9.1	8.7	8.9
	% Rec *	94.2	105.3	98.6	89.8	87.6	87.4

** Must be 85-115%*
*** Must be 75-125%*
**** Must be < 25%*
ND = Not Detected
<RL = less than Reporting Limit

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed : 02/06/2017
Analyst : CNG
Units : ppmv

Instrument ID : FID #3
Calb Date : 01/19/17
Reporting Limit : 0.5 ppmv

I - Opening Continuing Calibration Verification - ASTM D-1945/1946

AAC ID	Analyte	Methane	Ethane	Propane	Butane	Pentane	Hexane
CCV	Spike Conc	99.5	99.9	99.7	99.6	99.8	99.9
	Result	93.7	95.3	95.1	94.1	93.7	96.1
	% Rec *	94.2	95.3	95.3	94.4	93.9	96.2

II - Method Blank - ASTM D-1945/1946

AAC ID	Analyte	Methane	Ethane	Propane	Butane	Pentane	Hexane
MB	Concentration	ND	ND	ND	ND	ND	ND

III - Laboratory Control Spike & Duplicate - ASTM D-1945/1946

AAC ID	Analyte	Methane	Ethane	Propane	Butane	Pentane	Hexane
Lab Control Standards	Sample Conc	0.0	0.0	0.0	0.0	0.0	0.0
	Spike Conc	99.5	99.9	99.7	99.6	99.8	99.9
	LCS Result	93.4	95.1	95.2	93.8	93.3	95.6
	LCSD Result	94.4	96.3	95.9	94.6	94.2	96.8
	LCS % Rec *	93.9	95.1	95.5	94.2	93.6	95.7
	LCSD % Rec *	94.9	96.4	96.2	95.0	94.4	96.9
	% RPD ***	1.0	1.3	0.7	0.8	0.9	1.2

IV - Sample & Sample Duplicate - ASTM D-1945/1946

AAC ID	Analyte	Methane	Ethane	Propane	Butane	Pentane	Hexane
170155-96646	Sample	21.6	1.3	0.0	0.0	0.0	1.4
	Sample Dup	21.3	1.2	0.0	0.0	0.0	1.4
	Mean	21.4	1.2	0.0	0.0	0.0	1.4
	% RPD ***	1.6	7.2	0.0	0.0	0.0	0.0

V - Matrix Spike & Duplicate - ASTM D-1945/1946

AAC ID	Analyte	Methane	Ethane	Propane	Butane	Pentane	Hexane
170155-96646	Sample Conc	10.7	0.6	0.0	0.0	0.0	0.7
	Spike Conc	49.7	50.0	49.9	49.8	49.9	50.0
	MS Result	59.2	50.8	50.0	49.3	49.2	50.9
	MSD Result	61.5	52.8	52.5	51.4	51.3	53.5
	MS % Rec **	97.5	100.4	100.3	99.1	98.6	100.4
	MSD % Rec **	102.1	104.4	105.4	103.3	102.9	105.6
	% RPD ***	4.6	4.0	5.0	4.1	4.3	5.1

VI - Closing Continuing Calibration Verification - ASTM D-1945/1946

AAC ID	Analyte	Methane	Ethane	Propane	Butane	Pentane	Hexane
CCV	Spike Conc	99.5	99.9	99.7	99.6	99.8	99.9
	Result	92.9	94.4	93.6	92.4	92.0	94.3
	% Rec *	93.4	94.4	93.8	92.7	92.2	94.4

** Must be 85-115%*

*** Must be 75-125%*

**** Must be < 25%*

ND = Not Detected

<RL = less than Reporting Limit

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Quality Control/Quality Assurance Report
ASTM D-5504

Date Analyzed: 2/6/2017
Analyst: ZB
Units: ppbV

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

Opening Calibration Verification Standard

525.5 ppbV H2S (SS0971)

H_2S	Resp. (area)	Result	% Rec *	% RPD ****
Initial	13727	513	97.6	0.3
Duplicate	13577	507	96.5	0.8
Triplicate	13758	514	97.8	0.5

549 ppbV MeSH (SS0988)

MeSH	Resp. (area)	Result	% Rec *	% RPD ****
Initial	13548	544	99.0	0.5
Duplicate	13411	538	98.0	0.6
Triplicate	13500	542	98.7	0.1

488.8 ppbV CS2 (SS0972)

CS_2	Resp. (area)	Result	% Rec *	% RPD ****
Initial	29826	496	101.5	0.0
Duplicate	29734	495	101.2	0.3
Triplicate	29909	497	101.8	0.3

Method Blank

Analyte	Result
H_2S	<PQL
MeSH	<PQL
CS_2	<PQL

Duplicate Analysis **Sample ID** 170151-96610

Analyte	Sample Result	Duplicate Result	Mean	% RPD ***
H_2S	45361.3	46448.9	45905.1	2.4
MeSH	1756.7	1717.8	1737.3	2.2
CS_2	<PQL	<PQL	0.0	0.0

Matrix Spike & Duplicate **Sample ID** 170151-96610 x100

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H_2S	459.1	262.8	719.1	753.7	99.6	104.4	4.7
MeSH	17.4	274.5	292.1	291.1	100.1	99.7	0.3
CS_2	<PQL	244.4	251.3	243.4	102.8	99.6	3.2

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	% Rec **
H_2S	525.5	484.0	92.1
MeSH	549.0	505.3	92.0
CS_2	488.8	461.1	94.3

** 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

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

ATMOSPHERIC ANALYSIS & CONSULTING, INC.
1534 Eastman Avenue, Suite A
Ventura, California 93003
Phone (805) 650-1642 Fax (805) 650-1644
E-mail: info@aaclab.com

AAC Project No. 170158 Page ___ of ___

CHAIN OF CUSTODY/ ANALYSIS REQUEST FORM

Client Name: Focus Environmental
Project Name: Kuwahee Biogas Sampling
Project Mgr (Print Name): Paul Sadler
Project Number: PO 001208
Sampler's Name (Print Name): Paul Sadler
Sampler's Signature: Paul Sadler

AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Containers	Full Btu D3588	Fixed Gas D1946	Reduced S/Hg D5504	Siloxanes TO-15		
96685	01/31/17	9:20	Grab Gas	SC-013117-AAC	SC / 1	X		X	X		
		18	inHg	Starting Canister Pressure							
		4	inHg	Ending Canister Pressure							
	Canister		SN:	12968							

Send report:
Attn: Paul Sadler
pasadler@focusenv.com
Phone#: (865) 692-8664
Fax# (865) 531-8854

Send invoice to:
Attn: Paul Sadler
P.O. # PO 0039

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

Special Instructions/remarks:

Relinquished by (Signature):	Print Name:	Date/Time	Received by (signature):	Print Name
Paul Sadler	Paul Sadler	01/31/17 10:40 AM	[signature]	Bryan Damerin 1-31-17 10:40
[signature]	Bryan Damerin	1-31-17 14:15	[signature]	Via Josi 02/06/17 1025

1x can f(x)manifold

Red x

Atmospheric Analysis & Consulting, Inc.

CLIENT	: Focus Environmental
PROJECT NAME	: Kuwahee Biogas Sampling
PROJECT NUMBER	: PO 001208
AAC PROJECT NO.	: 170162
REPORT DATE	: 2/8/2017

On February 7, 2017, Atmospheric Analysis & Consulting, Inc. received one (1) Tedlar Bag for Total Reduced Sulfur analysis by ASTM D-5504. Upon receipt, the sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab No.
TB-020617-AAC	170162-96663

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. Sample was received past the suggested holding time of 24 hours for the analysis of sulfur from a Tedlar Bag. The client provided one backup sample. No other 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.

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

LABORATORY ANALYSIS REPORT

CLIENT	**: Focus Environmental**	**SAMPLING DATE**	**: 02/06/2017**
PROJECT NO.	**: 170162**	**RECEIVING DATE**	**: 02/07/2017**
MATRIX	**: AIR**	**ANALYSIS DATE**	**: 02/07/2017**
UNITS	**: ppmV**	**REPORT DATE**	**: 02/08/2017**

Total Reduced Sulfur Compounds Analysis by ASTM D-5504

Client ID	TB-020617-AAC
AAC ID	170162-96663
Analyte	**Result**
Hydrogen Sulfide	**35.2**
Carbonyl Sulfide	< 0.050
Sulfur Dioxide	< 0.050
Methyl Mercaptan	< 0.050
Ethyl Mercaptan	**0.073**
Dimethyl Sulfide	< 0.050
Carbon Disulfide	< 0.050
Isopropyl Mercaptan	< 0.050
tert-Butyl Mercaptan	< 0.050
n-Propyl Mercaptan	**0.152**
Methylethylsulfide	< 0.050
sec-Butyl Mercaptan	< 0.050
Thiophene	< 0.050
iso-Butyl Mercaptan	< 0.050
Diethyl Sulfide	< 0.050
n-Butyl Mercaptan	< 0.050
Dimethyl Disulfide	< 0.050
2-Methylthiophene	< 0.050
3-Methylthiophene	< 0.050
Tetrahydrothiophene	< 0.050
Bromothiophene	< 0.050
Thiophenol	< 0.050
Diethyl Disulfide	< 0.050
Total Unidentified Sulfur	< 0.050
Total Reduced Sulfurs	**35.4**

All unidentified compound's concentrations expressed in terms of H_2S (TRS does not include COS and SO_2)
Sample Reporting Limit (SRL) is equal to Reporting Limit x Canister Dil. Fac. x Analysis Dil. Fac.

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Quality Control/Quality Assurance Report
ASTM D-5504

Date Analyzed: 2/7/2017
Analyst: ZB
Units: ppbV

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

Opening Calibration Verification Standard

525.5 ppbV H2S (SS0971)

H_2S	Resp. (area)	Result	% Rec *	% RPD ****
Initial	13728	513	97.6	0.1
Duplicate	13775	515	97.9	0.2
Triplicate	13736	513	97.6	0.1

549 ppbV MeSH (SS0988)

MeSH	Resp. (area)	Result	% Rec *	% RPD ****
Initial	13611	546	99.5	0.9
Duplicate	13521	542	98.8	0.2
Triplicate	13340	535	97.5	1.1

488.8 ppbV CS2 (SS0972)

CS_2	Resp. (area)	Result	% Rec *	% RPD ****
Initial	30028	499	102.2	0.7
Duplicate	30115	501	102.5	0.9
Triplicate	29359	488	99.9	1.6

Method Blank

Analyte	Result
H_2S	<PQL
MeSH	<PQL
CS_2	<PQL

Duplicate Analysis **Sample ID** 170159-96657

Analyte	Sample Result	Duplicate Result	Mean	% RPD ***
H_2S	123.3	116.1	119.7	6.0
MeSH	<PQL	<PQL	0.0	0.0
CS_2	<PQL	<PQL	0.0	0.0

Matrix Spike & Duplicate **Sample ID** 170159-96657 x10

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H_2S	12.0	262.8	268.9	270.2	97.9	98.3	0.5
MeSH	<PQL	274.5	274.6	272.9	100.0	99.4	0.6
CS_2	<PQL	244.4	251.5	251.4	102.9	102.8	0.1

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	% Rec **
H_2S	525.5	517.7	98.5
MeSH	549.0	547.2	99.7
CS_2	488.8	497.7	101.8

** 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

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

ATMOSPHERIC ANALYSIS & CONSULTING, INC.
1534 Eastman Avenue, Suite A
Ventura, California 93003
Phone (805) 650-1642 Fax (805) 650-1644
E-mail: info@aaclab.com

AAC Project No. 170162 Page ____ of ____

CHAIN OF CUSTODY/ ANALYSIS REQUEST FORM

Client Name: Focus Environmental
Project Mgr (Print Name): Paul Sadler
Sampler's Name (Print Name):
Project Name: Kinvahee Biogas Sampling
Project Number: PO 001208
Sampler's Signature:

AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Containers	Full Bkg D3588	Fixed Gas D1946	Reduced S/N D5504	Siloxanes TO-15		
96663	02/06/17	8:34	Grab Gas	TB-020617-AAC	Bag 2			✓			

Send report:
Attn: Paul Sadler
pasadler@focusenv.com
Phone#: (845) 692-8664
Fax#: (845) 531-8854

Send invoice to:
Attn: Paul Sadler
P.O. # PO 0039

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

Special Instructions/remarks:

Relinquished by (signature)	Print Name	Date/Time	Received by (signature)	Print Name
Paul Sadler	Paul Sadler	02/06/17 9:45		2-6-17 BRYAN DAMERON 09:45
Relinquished by (Signature):	Print Name:	Date/Time	Received by (signature):	Print Name
	BRYAN DAMERON	2-6-17 17:30		2/7/17 0953

FEDEX

Atmospheric Analysis & Consulting, Inc.

CLIENT : Focus Environmental
PROJECT NAME : Kuwahee Biogas Sampling
PROJECT NUMBER : PO 001208
AAC PROJECT NO. : 170158
REPORT DATE : 02/09/2017

On February 6, 2017, Atmospheric Analysis & Consulting, Inc. received one (1) Six-Liter Summa Canister for Siloxanes per EPA method TO-15. Upon receipt each sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab ID	Return Pressure (mmHga)
SC-013117-AAC	170158-96655	342.9

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 10 pages.

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Laboratory Analysis Report

CLIENT	**: Focus Environmental**	**DATE RECEIVED**	**: 02/06/2017**
PROJECT NO	**: 170158**	**DATE REPORTED**	**: 02/09/2017**
MATRIX	**: AIR**		
UNITS	**: PPB (v/v)**		

Client ID	SC-013117-AAC	
AAC ID	170158-96655	
Date Sampled	01/31/2017	
Date Analyzed	02/08/2017	
Can Dilution Factor	3.01	
SILOXANES		
Compound	*PPB(V/V)*	*Sample Reporting Limit*
Hexamethyldisiloxane (L2)	<SRL	30.1
Hexamethylcyclotrisiloxane (D3)	<SRL	30.1
Octamethyltrisiloxane (L3)	<SRL	30.1
Octamethylcyclotetrasiloxane (D4)	273	30.1
Decamethyltetrasiloxane (L4)	<SRL	30.1
Decamethylcyclopentasiloxane (D5)	194	30.1
Dodecamethylpentasiloxane (L5)	<SRL	30.1
BFB-Surrogate Std. % Recovery	100%	

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

ANALYSIS DATE : 02/08/2017 **INSTRUMENT ID** : GC/MS-03
ANALYST : JJG **CALIBRATION STD ID** : PS113016-03

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15

Continuing Calibration Verification of the 01/16/2017 Calibration

Compounds	*Conc*	*Daily Conc*	*%REC**
4-BFB (surrogate standard)	10.00	10.04	100
Chlorodifluoromethane	10.40	10.20	98
Propene	10.90	10.53	97
Dichlorodifluoromethane	10.60	10.67	101
Chloromethane	10.30	9.01	87
Dichlorotetrafluoroethane	10.00	9.91	99
Vinyl Chloride	10.10	10.15	100
Methanol	19.00	20.05	106
1,3-Butadiene	10.50	9.75	93
Bromomethane	10.00	8.51	85
Chloroethane	9.70	9.57	99
Dichlorofluoromethane	10.60	10.37	98
Ethanol	9.10	9.16	101
Vinyl Bromide	10.10	9.86	98
Acetone	10.60	8.39	79
Trichlorofluoromethane	10.40	9.21	89
2-Propanol (IPA)	10.80	8.48	79
Acrylonitrile	11.50	10.75	93
1,1-Dichloroethene	10.80	10.21	95
Methylene Chloride (DCM)	10.50	9.96	95
Allyl Chloride	11.00	9.74	89
Carbon Disulfide	10.00	10.31	103
Trichlorotrifluoroethane	10.70	10.17	95
trans-1,2-Dichloroethene	10.10	10.13	100
1,1-Dichloroethane	10.50	10.19	97
Methyl Tert Butyl Ether (MTBE)	10.60	10.21	96
Vinyl Acetate	10.80	11.08	103
2-Butanone (MEK)	10.60	10.37	98
cis-1,2-Dichloroethene	10.60	10.26	97
Hexane	10.50	10.11	96
Chloroform	10.90	10.68	98
Ethyl Acetate	10.90	11.18	103
Tetrahydrofuran	10.50	10.14	97
1,2-Dichloroethane	10.60	10.36	98
1,1,1-Trichloroethane	10.60	10.24	97

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

ANALYSIS DATE : 02/08/2017 **INSTRUMENT ID** : GC/MS-03
ANALYST : JJG **CALIBRATION STD ID** : PS113016-03

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15

Continuing Calibration Verification of the 01/16/2017 Calibration

Compounds	*Conc*	*Daily Conc*	*%REC**
Benzene	10.40	9.83	95
Carbon Tetrachloride	10.80	10.46	97
Cyclohexane	10.50	9.52	91
1,2-Dichloropropane	10.50	10.09	96
Bromodichloromethane	10.40	9.86	95
1,4-Dioxane	10.40	9.61	92
Trichloroethene (TCE)	10.40	9.84	95
2,2,4-Trimethylpentane	10.30	9.27	90
Heptane	10.40	9.70	93
cis-1,3-Dichloropropene	10.70	10.42	97
4-Methyl-2-pentanone (MiBK)	10.00	9.56	96
trans-1,3-Dichloropropene	10.00	9.67	97
1,1,2-Trichloroethane	10.40	9.89	95
Toluene	10.60	10.53	99
2-Hexanone (MBK)	10.80	10.73	99
Dibromochloromethane	9.90	9.84	99
1,2-Dibromoethane	10.40	10.07	97
Tetrachloroethene (PCE)	10.30	9.88	96
Chlorobenzene	10.50	10.07	96
Ethylbenzene	10.50	9.56	91
m & p-Xylenes	20.00	19.29	96
Bromoform	10.40	10.64	102
Styrene	10.30	9.95	97
1,1,2,2-Tetrachloroethane	10.40	10.36	100
o-Xylene	10.40	9.34	90
4-Ethyltoluene	10.00	9.63	96
1,3,5-Trimethylbenzene	10.00	9.56	96
1,2,4-Trimethylbenzene	9.90	9.48	96
Benzyl Chloride (a-Chlorotoluene)	9.60	9.57	100
1,3-Dichlorobenzene	9.60	9.04	94
1,4-Dichlorobenzene	9.80	9.27	95
1,2-Dichlorobenzene	9.70	9.19	95
1,2,4-Trichlorobenzene	8.80	8.51	97
Hexachlorobutadiene	9.30	9.03	97

* - %REC should be 70-130%

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Quality Control/Quality Assurance Report

CLIENT ID	**: Laboratory Control Spike**	**DATE ANALYZED**	**: 02/08/2017**
AAC ID	**: LCS/LCSD**	**DATE REPORTED**	**: 02/08/2017**
MEDIA	**: Air**	**UNITS**	**: ppbv**

TO-15 Laboratory Control Spike Recovery

Compound	Sample Conc.	Spike Added	Spike Res	Dup Spike Res	Spike % Rec *	Spike Dup % Rec *	RPD** %
1,1-Dichloroethene	0.0	10.80	10.21	10.11	95	94	1.0
Methylene Chloride (DCM)	0.0	10.50	9.96	10.30	95	98	3.4
Benzene	0.0	10.40	9.83	9.74	95	94	0.9
Trichloroethene (TCE)	0.0	10.40	9.84	9.88	95	95	0.4
Toluene	0.0	10.60	10.53	10.53	99	99	0.0
Tetrachloroethene (PCE)	0.0	10.30	9.88	9.95	96	97	0.7
Chlorobenzene	0.0	10.50	10.07	10.09	96	96	0.2
Ethylbenzene	0.0	10.50	9.56	9.69	91	92	1.4
m & p-Xylenes	0.0	20.00	19.29	19.45	96	97	0.8
o-Xylene	0.0	10.40	9.34	9.51	90	91	1.8

* Must be 70-130%

** Must be < 25%

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Method Blank Analysis Report

MATRIX : AIR **ANALYSIS DATE** : 02/08/2017
UNITS : ppbv **REPORT DATE** : 02/08/2017

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID / *AAC ID*	Method Blank MB 020817	RL
Chlorodifluoromethane	<RL	0.5
Propene	<RL	1.0
Dichlorodifluoromethane	<RL	0.5
Chloromethane	<RL	0.5
Dichlorotetrafluoroethane	<RL	0.5
Vinyl Chloride	<RL	0.5
Methanol	<RL	5.0
1,3-Butadiene	<RL	0.5
Bromomethane	<RL	0.5
Chloroethane	<RL	0.5
Dichlorofluoromethane	<RL	0.5
Ethanol	<RL	2.0
Vinyl Bromide	<RL	0.5
Acetone	<RL	2.0
Trichlorofluoromethane	<RL	0.5
2-Propanol (IPA)	<RL	2.0
Acrylonitrile	<RL	1.0
1,1-Dichloroethene	<RL	0.5
Methylene Chloride (DCM)	<RL	1.0
Allyl Chloride	<RL	0.5
Carbon Disulfide	<RL	0.5
Trichlorotrifluoroethane	<RL	0.5
trans-1,2-Dichloroethene	<RL	0.5
1,1-Dichloroethane	<RL	0.5
Methyl Tert Butyl Ether (MTBE)	<RL	0.5
Vinyl Acetate	<RL	1.0
2-Butanone (MEK)	<RL	1.0
cis-1,2-Dichloroethene	<RL	0.5
Hexane	<RL	0.5
Chloroform	<RL	0.5
Ethyl Acetate	<RL	0.5
Tetrahydrofuran	<RL	0.5
1,2-Dichloroethane	<RL	0.5
1,1,1-Trichloroethane	<RL	0.5
Benzene	<RL	0.5
Carbon Tetrachloride	<RL	0.5
Cyclohexane	<RL	0.5
1,2-Dichloropropane	<RL	0.5
Bromodichloromethane	<RL	0.5
1,4-Dioxane	<RL	0.5
Trichloroethene (TCE)	<RL	0.5
2,2,4-Trimethylpentane	<RL	0.5
Heptane	<RL	0.5

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Method Blank Analysis Report

MATRIX	**: AIR**	**ANALYSIS DATE**	**: 02/08/2017**
UNITS	**: ppbv**	**REPORT DATE**	**: 02/08/2017**

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID / *AAC ID*	Method Blank MB 020817	RL
cis-1,3-Dichloropropene	<RL	0.5
4-Methyl-2-pentanone (MiBK)	<RL	0.5
trans-1,3-Dichloropropene	<RL	0.5
1,1,2-Trichloroethane	<RL	0.5
Toluene	<RL	0.5
2-Hexanone (MBK)	<RL	0.5
Dibromochloromethane	<RL	0.5
1,2-Dibromoethane	<RL	0.5
Tetrachloroethene (PCE)	<RL	0.5
Chlorobenzene	<RL	0.5
Ethylbenzene	<RL	0.5
m & p-Xylenes	<RL	1.0
Bromoform	<RL	0.5
Styrene	<RL	0.5
1,1,2,2-Tetrachloroethane	<RL	0.5
o-Xylene	<RL	0.5
4-Ethyltoluene	<RL	0.5
1,3,5-Trimethylbenzene	<RL	0.5
1,2,4-Trimethylbenzene	<RL	0.5
Benzyl Chloride (a-Chlorotoluene)	<RL	0.5
1,3-Dichlorobenzene	<RL	0.5
1,4-Dichlorobenzene	<RL	0.5
1,2-Dichlorobenzene	<RL	0.5
1,2,4-Trichlorobenzene	<RL	0.5
Hexachlorobutadiene	<RL	0.5
System Monitoring Compounds		
BFB-Surrogate Std. % Recovery	98%	--

RL - Reporting Limit

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Quality Control/Quality Assurance Report

AAC ID	**: 170169-96691**	**DATE ANALYZED**	**: 02/08/2017**
MATRIX	**: Air**	**DATE REPORTED**	**: 02/08/2017**
		UNITS	**: ppbv**

TO-15 Duplicate Analysis

Compound	Sample Conc	Duplicate Conc	% RPD
Chlorodifluoromethane	1470	1470	0.0
Propene	5200	5270	1.3
Dichlorodifluoromethane	1690	1670	1.2
Chloromethane	<SRL	<SRL	0.0
Dichlorotetrafluoroethane	235	235	0.0
Vinyl Chloride	3980	3950	0.8
Methanol	<SRL	<SRL	0.0
1,3-Butadiene	<SRL	<SRL	0.0
Bromomethane	<SRL	<SRL	0.0
Chloroethane	774	781	0.9
Dichlorofluoromethane	298	296	0.7
Ethanol	6780	6740	0.6
Vinyl Bromide	<SRL	<SRL	0.0
Acetone	1470	1440	2.1
Trichlorofluoromethane	<SRL	<SRL	0.0
2-Propanol (IPA)	2160	2190	1.4
Acrylonitrile	<SRL	<SRL	0.0
1,1-Dichloroethene	<SRL	<SRL	0.0
Methylene Chloride (DCM)	2190	2190	0.0
Allyl Chloride	<SRL	<SRL	0.0
Carbon Disulfide	<SRL	<SRL	0.0
Trichlorotrifluoroethane	<SRL	<SRL	0.0
trans-1,2-Dichloroethene	137	138	0.7
1,1-Dichloroethane	2090	2110	1.0
Methyl Tert Butyl Ether (MTBE)	<SRL	<SRL	0.0
Vinyl Acetate	<SRL	<SRL	0.0
2-Butanone (MEK)	604	590	2.3
cis-1,2-Dichloroethene	1490	1470	1.4
Hexane	1300	1260	3.1
Chloroform	<SRL	<SRL	0.0
Ethyl Acetate	179	181	1.1
Tetrahydrofuran	<SRL	<SRL	0.0
1,2-Dichloroethane	<SRL	<SRL	0.0
1,1,1-Trichloroethane	<SRL	<SRL	0.0
Benzene	240	240	0.0
Carbon Tetrachloride	<SRL	<SRL	0.0

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Quality Control/Quality Assurance Report

AAC ID	**: 170169-96691**	**DATE ANALYZED**	**: 02/08/2017**
MATRIX	**: Air**	**DATE REPORTED**	**: 02/08/2017**
		UNITS	**: ppbv**

TO-15 Duplicate Analysis

Compound	Sample Conc	Duplicate Conc	% RPD
Cyclohexane	590	588	0.3
1,2-Dichloropropane	<SRL	<SRL	0.0
Bromodichloromethane	<SRL	<SRL	0.0
1,4-Dioxane	<SRL	<SRL	0.0
Trichloroethene (TCE)	268	269	0.4
2,2,4-Trimethylpentane	180	178	1.1
Heptane	345	348	0.9
cis-1,3-Dichloropropene	<SRL	<SRL	0.0
4-Methyl-2-pentanone (MiBK)	<SRL	<SRL	0.0
trans-1,3-Dichloropropene	<SRL	<SRL	0.0
1,1,2-Trichloroethane	<SRL	<SRL	0.0
Toluene	1040	1040	0.0
2-Hexanone (MBK)	<SRL	<SRL	0.0
Dibromochloromethane	<SRL	<SRL	0.0
1,2-Dibromoethane	<SRL	<SRL	0.0
Tetrachloroethene (PCE)	<SRL	<SRL	0.0
Chlorobenzene	<SRL	<SRL	0.0
Ethylbenzene	<SRL	<SRL	0.0
m & p-Xylenes	<SRL	<SRL	0.0
Bromoform	<SRL	<SRL	0.0
Styrene	<SRL	<SRL	0.0
1,1,2,2-Tetrachloroethane	<SRL	<SRL	0.0
o-Xylene	<SRL	<SRL	0.0
4-Ethyltoluene	<SRL	<SRL	0.0
1,3,5-Trimethylbenzene	<SRL	<SRL	0.0
1,2,4-Trimethylbenzene	<SRL	<SRL	0.0
Benzyl Chloride (a-Chlorotoluene)	<SRL	<SRL	0.0
1,3-Dichlorobenzene	<SRL	<SRL	0.0
1,4-Dichlorobenzene	<SRL	<SRL	0.0
1,2-Dichlorobenzene	<SRL	<SRL	0.0
1,2,4-Trichlorobenzene	<SRL	<SRL	0.0
Hexachlorobutadiene	<SRL	<SRL	0.0
System Monitoring Compounds			
BFB-Surrogate Std. % Recovery	96%	97%	0.3

SRL - Sample Reporting Limit

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

ATMOSPHERIC ANALYSIS & CONSULTING, INC.
1534 Eastman Avenue, Suite A
Ventura, California 93003
Phone (805) 650-1642 Fax (805) 650-1644
E-mail: info@aaclab.com

AAC Project No. 170158 Page ___ of ___

CHAIN OF CUSTODY/ ANALYSIS REQUEST FORM

Client Name: Focus Environmental
Project Name: Kuwahee Biogas Sampling
Project Mgr (Print Name): Paul Sadler
Project Number: PO 001208
Sampler's Name (Print Name): Paul Sadler
Sampler's Signature: Paul Sadler

AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Containers	Full Btu D3588	Fixed Gas D1946	Reduced S/Hg D5504	Siloxanes TO-15		
96085 55	01/31/17	9:20	Grab Gas	SC-013117-AAC	SC 1	X		X	X		
WJ											
		18	inHg	Starting Canister Pressure							
		4	in Hg	Ending Canister Pressure							
		Canister	SN:	12968							

Send report:
Attn: Paul Sadler
pasadler@focusenv.com
Phone#: (865) 692-8664
Fax#: (865) 531-8854

Send invoice to:
Attn: Paul Sadler
P.O. # PO 0039

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

Special Instructions/remarks:

Relinquished by (Signature)	Print Name	Date/Time	Received by (signature)	Print Name
Paul Sadler	Paul Sadler	01/31/17 10:40 AM	[signature]	BRYAN DAMERON 1-31-17 10:40
[signature]	BRYAN DAMERON	1-31-17 14:15	[signature]	[illegible] Josh 02/06/17 0925

1x can fixmanfold

Redx

Atmospheric Analysis & Consulting, Inc.

CLIENT	: Focus Environmental
PROJECT NAME	: Kuwahee Biogas Sampling
PROJECT NO.	: PO 001208
AAC PROJECT NO.	: 170179
REPORT DATE	: 2/10/2017

On February 9, 2017, Atmospheric Analysis & Consulting, Inc. received one (1) Six-Liter Silonite Canister for Fixed Gases analysis by ASTM D-1946 and Total Reduced Sulfur analysis by ASTM D-5504. Upon receipt, the sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab No.	Return Pressure (mmHg)
SC-020617-AAC	170179-96753	384.5

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 this sample. 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 6 pages.

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT : **Focus Environmental**
PROJECT NO. : **170179**
MATRIX : **AIR**

SAMPLING DATE : **02/06/2017**
RECEIVING DATE : **02/09/2017**
ANALYSIS DATE : **02/09/2017**
REPORT DATE : **02/10/2017**

ASTM D-1946

Client ID	**SC-020617-AAC**
AAC ID	**170179-96753**
Can Dilution Factor	**2.67**
Analyte	**Result**
H_2	< 2.7 %
O_2	< 0.3 %
N_2	**0.9 %**
CO	< 0.3 %
CO_2	**36.6 %**
CH_4	**62.3 %**

All fixed gases have been normalized to 100% on a dry weight basis
Sample Reporting Limit (SRL) is equal to Reporting Limit x Analysis Dil. Fac x Canister Dil. Fac

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Atmospheric Analysis & Consulting, Inc.

LABORATORY ANALYSIS REPORT

CLIENT	**: Focus Environmental**	**SAMPLING DATE**	**: 02/06/2017**
PROJECT NO.	**: 170179**	**RECEIVING DATE**	**: 02/09/2017**
MATRIX	**: AIR**	**ANALYSIS DATE**	**: 02/09/2017**
UNITS	**: ppmV**	**REPORT DATE**	**: 02/10/2017**

Total Reduced Sulfur Compounds Analysis by ASTM D-5504

Client ID	**SC-020617-AAC**
AAC ID	**170179-96753**
Canister Dil. Fac.	**2.7**
Analyte	**Result**
Hydrogen Sulfide	**25.0**
Carbonyl Sulfide	< 0.133
Sulfur Dioxide	< 0.133
Methyl Mercaptan	< 0.133
Ethyl Mercaptan	< 0.133
Dimethyl Sulfide	< 0.133
Carbon Disulfide	< 0.133
Isopropyl Mercaptan	< 0.133
tert-Butyl Mercaptan	< 0.133
n-Propyl Mercaptan	< 0.133
Methylethylsulfide	< 0.133
sec-Butyl Mercaptan	< 0.133
Thiophene	< 0.133
iso-Butyl Mercaptan	< 0.133
Diethyl Sulfide	< 0.133
n-Butyl Mercaptan	< 0.133
Dimethyl Disulfide	< 0.133
2-Methylthiophene	< 0.133
3-Methylthiophene	< 0.133
Tetrahydrothiophene	< 0.133
Bromothiophene	< 0.133
Thiophenol	< 0.133
Diethyl Disulfide	< 0.133
Total Unidentified Sulfur	< 0.133
Total Reduced Sulfurs	**22.7**

All unidentified compound's concentrations expressed in terms of H_2S (TRS does not include COS and SO_2)
Sample Reporting Limit (SRL) is equal to Reporting Limit x Canister Dil. Fac. x Analysis Dil. Fac.

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed : 02/09/2017
Analyst : CNG
Units : %

Instrument ID : TCD#1
Calb Date : 01/03/17
Reporting Limit : 0.1%

I - Opening Continuing Calibration Verification - EPA 3C

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
CCV	Spike Conc	10.0	10.0	20.2	10.1	10.0	10.2
	Result	10.2	11.5	23.3	10.7	10.3	10.4
	% Rec *	102.6	114.3	115.0	106.0	103.0	102.1

II - Method Blank - EPA 3C

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
MB	Concentration	ND	ND	ND	ND	ND	ND

III - Laboratory Control Spike & Duplicate - EPA 3C

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
Lab Control Standards	Sample Conc	0.0	0.0	0.0	0.0	0.0	0.0
	Spike Conc	10.0	10.0	20.2	10.1	10.0	10.2
	LCS Result	9.6	11.3	21.4	9.7	9.4	9.6
	LCSD Result	9.9	11.4	21.8	9.7	9.6	9.7
	LCS % Rec *	95.8	112.9	105.9	96.4	94.4	94.1
	LCSD % Rec *	98.7	113.4	107.6	96.5	95.6	95.0
	% RPD ***	3.0	0.5	1.6	0.2	1.3	0.9

IV - Sample & Sample Duplicate - EPA 3C

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
170169-96691	Sample	0.0	0.0	4.3	20.7	30.2	0.0
	Sample Dup	0.0	0.0	4.0	19.7	28.7	0.0
	Mean	0.0	0.0	4.2	20.2	29.5	0.0
	% RPD ***	0.0	0.0	4.9	4.9	5.2	0.0

V - Matrix Spike & Duplicate - EPA 3C

AAC ID	Analyte	H_2	N_2	CO_2	CH_4	CO
170169-96691	Sample Conc	0.0	2.1	10.1	14.7	0.0
	Spike Conc	10.0	9.8	10.1	10.0	10.2
	MS Result	10.0	12.7	20.5	26.0	10.4
	MSD Result	9.8	11.4	18.6	24.0	9.3
	MS % Rec **	100.1	109.0	102.8	112.9	101.9
	MSD % Rec **	98.2	95.2	83.8	93.1	91.0
	% RPD ***	1.9	13.5	20.4	19.2	11.3

VI - Closing Continuing Calibration Verification - EPA 3C

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
CCV	Spike Conc	10.0	10.0	20.2	10.1	10.0	10.2
	Result	9.7	11.2	21.6	9.7	9.5	9.6
	% Rec *	97.0	111.6	106.7	96.6	94.7	94.3

** Must be 85-115%*
*** Must be 75-125%*
**** Must be < 25%*
ND = Not Detected
<RL = less than Reporting Limit

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Quality Control/Quality Assurance Report
ASTM D-5504

Date Analyzed: 2/9/2017
Analyst: ZB
Units: ppbV

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

Opening Calibration Verification Standard

525.5 ppbV H2S (SS0971)

H_2S	Resp. (area)	Result	% Rec *	% RPD ****
Initial	13775	515	97.9	0.8
Duplicate	13924	520	99.0	0.3
Triplicate	13959	521	99.2	0.5

549 ppbV MeSH (SS0988)

MeSH	Resp. (area)	Result	% Rec *	% RPD ****
Initial	13603	546	99.4	0.8
Duplicate	13872	557	101.4	1.2
Triplicate	13649	548	99.7	0.4

488.8 ppbV CS2 (SS0972)

CS_2	Resp. (area)	Result	% Rec *	% RPD ****
Initial	30378	505	103.4	0.6
Duplicate	30770	512	104.7	0.7
Triplicate	30531	508	103.9	0.1

Method Blank

Analyte	Result
H_2S	<PQL
MeSH	<PQL
CS_2	<PQL

Duplicate Analysis **Sample ID** 170169-96691

Analyte	Sample Result	Duplicate Result	Mean	% RPD ***
H_2S	7844.3	8187.6	8015.9	4.3
MeSH	160.2	158.1	159.2	1.4
CS_2	<PQL	<PQL	0.0	0.0

Matrix Spike & Duplicate **Sample ID** 170169-96691 x10

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H_2S	801.6	262.8	1021.1	1014.8	95.9	95.3	0.6
MeSH	15.9	274.5	299.1	290.9	103.0	100.2	2.8
CS_2	<PQL	244.4	254.5	254.8	104.1	104.3	0.1

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	% Rec **
H_2S	525.5	518.1	98.6
MeSH	549.0	549.2	100.0
CS_2	488.8	497.6	101.8

** 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

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

ATMOSPHERIC ANALYSIS & CONSULTING, INC.
1534 Eastman Avenue, Suite A
Ventura, California 93003
Phone (805) 650-1642 Fax (805) 650-1644
E-mail: info@aaclab.com

AAC Project No. 170179 Page ____ of ____

CHAIN OF CUSTODY/ ANALYSIS REQUEST FORM

Client Name: Focus Environmental
Project Mgr (Print Name): Paul Sadler
Sampler's Name (Print Name):
Project Name: Kuwahee Biogas Sampling
Project Number: PO 001208
Sampler's Signature:

AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Containers	Full Bbl D3588	Fixed Gas D1946	Reduced S/Hs D5504	Siloxanes TO-15
96753	02/06/17	8:24	Grab Gas	SC-020617-AAC	SC 1		✓	✓	✓
		20	in Hg	Starting Can Press.					
		4	in Hg	Ending Can Press.					
	Canister 13093								

Relinquished by (Signature): Paul Sadler
Print Name: Paul Sadler
Date/Time: 02/06/17 9:45
Received by (signature):
Print Name: BRYAN DAMRON 2-6-17 09:45

Relinquished by (Signature):
Print Name: BRYAN DAMRON
Date/Time: 2-6-17 13:56
Received by (signature): JOSE H
Print Name: 02/09/17 1300

FedEx

Send report:
Attn: Paul Sadler
pasadler@focusenv.com
Phone#: (865) 692-8664
Fax#: (865) 531-8854

Send invoice to:
Attn: Paul Sadler
P.O. # PO 0039

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

Special Instructions/remarks:

Atmospheric Analysis & Consulting, Inc.

CLIENT : Focus Environmental
PROJECT NAME : Kuwahee Biogas Sampling
PROJECT NUMBER : PO 001208
AAC PROJECT NO. : 170179
REPORT DATE : 02/13/2017

On February 9, 2017, Atmospheric Analysis & Consulting, Inc. received one (1) Six-Liter Summa Canister for Siloxanes per EPA method TO-15. Upon receipt the sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab ID	Return Pressure (mmHga)
SC-020617-AAC	170179-96753	384.5

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 10 pages.

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Laboratory Analysis Report

CLIENT	**: Focus Environmental**	**DATE RECEIVED**	**: 02/09/2017**
PROJECT NO	**: 170179**	**DATE REPORTED**	**: 02/13/2017**
MATRIX	**: AIR**		
UNITS	**: PPB (v/v)**		

Client ID	SC-020617-AAC	
AAC ID	170179-96753	
Date Sampled	02/06/2017	
Date Analyzed	02/13/2017	
Can Dilution Factor	2.67	
SILOXANES		
Compound	*PPB(V/V)*	*Sample Reporting Limit*
Hexamethyldisiloxane (L2)	<SRL	26.7
Hexamethylcyclotrisiloxane (D3)	<SRL	26.7
Octamethyltrisiloxane (L3)	<SRL	26.7
Octamethylcyclotetrasiloxane (D4)	239	26.7
Decamethyltetrasiloxane (L4)	<SRL	26.7
Decamethylcyclopentasiloxane (D5)	378	26.7
Dodecamethylpentasiloxane (L5)	<SRL	26.7
BFB-Surrogate Std. % Recovery	99%	

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

ANALYSIS DATE : 02/13/2017 **INSTRUMENT ID : GC/MS-03**
ANALYST : JJG **CALIBRATION STD ID : PS113016-03**

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15
Continuing Calibration Verification of the 01/16/2017 Calibration

Compounds	*Conc*	*Daily Conc*	*%REC**
4-BFB (surrogate standard)	10.00	10.03	100
Chlorodifluoromethane	10.40	10.58	102
Propene	10.90	10.66	98
Dichlorodifluoromethane	10.60	10.94	103
Chloromethane	10.30	9.75	95
Dichlorotetrafluoroethane	10.00	10.19	102
Vinyl Chloride	10.10	10.38	103
Methanol	19.00	20.46	108
1,3-Butadiene	10.50	9.82	94
Bromomethane	10.00	8.37	84
Chloroethane	9.70	9.81	101
Dichlorofluoromethane	10.60	10.73	101
Ethanol	9.10	9.13	100
Vinyl Bromide	10.10	10.11	100
Acetone	10.60	9.41	89
Trichlorofluoromethane	10.40	9.75	94
2-Propanol (IPA)	10.80	10.28	95
Acrylonitrile	11.50	11.07	96
1,1-Dichloroethene	10.80	10.40	96
Methylene Chloride (DCM)	10.50	10.15	97
Allyl Chloride	11.00	10.08	92
Carbon Disulfide	10.00	10.05	101
Trichlorotrifluoroethane	10.70	10.35	97
trans-1,2-Dichloroethene	10.10	9.79	97
1,1-Dichloroethane	10.50	10.27	98
Methyl Tert Butyl Ether (MTBE)	10.60	10.46	99
Vinyl Acetate	10.80	11.42	106
2-Butanone (MEK)	10.60	10.17	96
cis-1,2-Dichloroethene	10.60	10.25	97
Hexane	10.50	10.08	96
Chloroform	10.90	10.89	100
Ethyl Acetate	10.90	11.57	106
Tetrahydrofuran	10.50	10.07	96
1,2-Dichloroethane	10.60	10.70	101
1,1,1-Trichloroethane	10.60	10.47	99

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

ANALYSIS DATE : 02/13/2017 **INSTRUMENT ID : GC/MS-03**
ANALYST : JJG **CALIBRATION STD ID : PS113016-03**

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15
Continuing Calibration Verification of the 01/16/2017 Calibration

Compounds	Conc	Daily Conc	%REC*
Benzene	10.40	9.90	95
Carbon Tetrachloride	10.80	10.73	99
Cyclohexane	10.50	9.47	90
1,2-Dichloropropane	10.50	10.26	98
Bromodichloromethane	10.40	10.10	97
1,4-Dioxane	10.40	9.70	93
Trichloroethene (TCE)	10.40	10.10	97
2,2,4-Trimethylpentane	10.30	9.42	91
Heptane	10.40	9.76	94
cis-1,3-Dichloropropene	10.70	10.53	98
4-Methyl-2-pentanone (MiBK)	10.00	9.47	95
trans-1,3-Dichloropropene	10.00	10.27	103
1,1,2-Trichloroethane	10.40	10.07	97
Toluene	10.60	10.58	100
2-Hexanone (MBK)	10.80	10.84	100
Dibromochloromethane	9.90	9.95	101
1,2-Dibromoethane	10.40	10.09	97
Tetrachloroethene (PCE)	10.30	9.97	97
Chlorobenzene	10.50	9.95	95
Ethylbenzene	10.50	9.78	93
m & p-Xylenes	20.00	19.33	97
Bromoform	10.40	10.71	103
Styrene	10.30	10.07	98
1,1,2,2-Tetrachloroethane	10.40	10.47	101
o-Xylene	10.40	9.50	91
4-Ethyltoluene	10.00	9.65	97
1,3,5-Trimethylbenzene	10.00	9.66	97
1,2,4-Trimethylbenzene	9.90	9.56	97
Benzyl Chloride (a-Chlorotoluene)	9.60	9.72	101
1,3-Dichlorobenzene	9.60	9.24	96
1,4-Dichlorobenzene	9.80	9.43	96
1,2-Dichlorobenzene	9.70	9.51	98
1,2,4-Trichlorobenzene	8.80	8.54	97
Hexachlorobutadiene	9.30	9.13	98

* - %REC should be 70-130%

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Quality Control/Quality Assurance Report

CLIENT ID	**: Laboratory Control Spike**	**DATE ANALYZED**	**: 02/13/2017**
AAC ID	**: LCS/LCSD**	**DATE REPORTED**	**: 02/13/2017**
MEDIA	**: Air**	**UNITS**	**: ppbv**

TO-15 Laboratory Control Spike Recovery

Compound	Sample Conc.	Spike Added	Spike Res	Dup Spike Res	Spike % Rec *	Spike Dup % Rec *	RPD** %
1,1-Dichloroethene	0.0	10.80	10.40	10.44	96	97	0.4
Methylene Chloride (DCM)	0.0	10.50	10.15	10.16	97	97	0.1
Benzene	0.0	10.40	9.90	9.82	95	94	0.8
Trichloroethene (TCE)	0.0	10.40	10.10	9.80	97	94	3.0
Toluene	0.0	10.60	10.58	10.49	100	99	0.9
Tetrachloroethene (PCE)	0.0	10.30	9.97	9.84	97	96	1.3
Chlorobenzene	0.0	10.50	9.95	9.91	95	94	0.4
Ethylbenzene	0.0	10.50	9.78	9.65	93	92	1.3
m & p-Xylenes	0.0	20.00	19.33	19.08	97	95	1.3
o-Xylene	0.0	10.40	9.50	9.43	91	91	0.7

* Must be 70-130%

** Must be < 25%

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Method Blank Analysis Report

MATRIX : AIR **ANALYSIS DATE** : 02/13/2017
UNITS : ppbv **REPORT DATE** : 02/13/2017

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID / *AAC ID*	Method Blank MB 021317	RL
Chlorodifluoromethane	<RL	0.5
Propene	<RL	1.0
Dichlorodifluoromethane	<RL	0.5
Chloromethane	<RL	0.5
Dichlorotetrafluoroethane	<RL	0.5
Vinyl Chloride	<RL	0.5
Methanol	<RL	5.0
1,3-Butadiene	<RL	0.5
Bromomethane	<RL	0.5
Chloroethane	<RL	0.5
Dichlorofluoromethane	<RL	0.5
Ethanol	<RL	2.0
Vinyl Bromide	<RL	0.5
Acetone	<RL	2.0
Trichlorofluoromethane	<RL	0.5
2-Propanol (IPA)	<RL	2.0
Acrylonitrile	<RL	1.0
1,1-Dichloroethene	<RL	0.5
Methylene Chloride (DCM)	<RL	1.0
Allyl Chloride	<RL	0.5
Carbon Disulfide	<RL	0.5
Trichlorotrifluoroethane	<RL	0.5
trans-1,2-Dichloroethene	<RL	0.5
1,1-Dichloroethane	<RL	0.5
Methyl Tert Butyl Ether (MTBE)	<RL	0.5
Vinyl Acetate	<RL	1.0
2-Butanone (MEK)	<RL	1.0
cis-1,2-Dichloroethene	<RL	0.5
Hexane	<RL	0.5
Chloroform	<RL	0.5
Ethyl Acetate	<RL	0.5
Tetrahydrofuran	<RL	0.5
1,2-Dichloroethane	<RL	0.5
1,1,1-Trichloroethane	<RL	0.5
Benzene	<RL	0.5
Carbon Tetrachloride	<RL	0.5
Cyclohexane	<RL	0.5
1,2-Dichloropropane	<RL	0.5
Bromodichloromethane	<RL	0.5
1,4-Dioxane	<RL	0.5
Trichloroethene (TCE)	<RL	0.5
2,2,4-Trimethylpentane	<RL	0.5
Heptane	<RL	0.5

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Method Blank Analysis Report

MATRIX	**: AIR**	**ANALYSIS DATE**	**: 02/13/2017**
UNITS	**: ppbv**	**REPORT DATE**	**: 02/13/2017**

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID / *AAC ID*	Method Blank MB 021317	RL
cis-1,3-Dichloropropene	<RL	0.5
4-Methyl-2-pentanone (MiBK)	<RL	0.5
trans-1,3-Dichloropropene	<RL	0.5
1,1,2-Trichloroethane	<RL	0.5
Toluene	<RL	0.5
2-Hexanone (MBK)	<RL	0.5
Dibromochloromethane	<RL	0.5
1,2-Dibromoethane	<RL	0.5
Tetrachloroethene (PCE)	<RL	0.5
Chlorobenzene	<RL	0.5
Ethylbenzene	<RL	0.5
m & p-Xylenes	<RL	1.0
Bromoform	<RL	0.5
Styrene	<RL	0.5
1,1,2,2-Tetrachloroethane	<RL	0.5
o-Xylene	<RL	0.5
4-Ethyltoluene	<RL	0.5
1,3,5-Trimethylbenzene	<RL	0.5
1,2,4-Trimethylbenzene	<RL	0.5
Benzyl Chloride (a-Chlorotoluene)	<RL	0.5
1,3-Dichlorobenzene	<RL	0.5
1,4-Dichlorobenzene	<RL	0.5
1,2-Dichlorobenzene	<RL	0.5
1,2,4-Trichlorobenzene	<RL	0.5
Hexachlorobutadiene	<RL	0.5
System Monitoring Compounds		
BFB-Surrogate Std. % Recovery	96%	--

RL - Reporting Limit

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Quality Control/Quality Assurance Report

AAC ID	**: 170188-96820**	**DATE ANALYZED**	**: 02/13/2017**
MATRIX	**: Air**	**DATE REPORTED**	**: 02/13/2017**
		UNITS	**: ppbv**

TO-15 Duplicate Analysis

Compound	Sample Conc	Duplicate Conc	% RPD
Chlorodifluoromethane	245	233	5.0
Propene	1710	1590	7.3
Dichlorodifluoromethane	295	294	0.3
Chloromethane	<SRL	<SRL	0.0
Dichlorotetrafluoroethane	<SRL	<SRL	0.0
Vinyl Chloride	139	136	2.2
Methanol	2790	2800	0.4
1,3-Butadiene	<SRL	<SRL	0.0
Bromomethane	<SRL	<SRL	0.0
Chloroethane	116	116	0.0
Dichlorofluoromethane	<SRL	<SRL	0.0
Ethanol	7510	7320	2.6
Vinyl Bromide	<SRL	<SRL	0.0
Acetone	2430	2610	7.1
Trichlorofluoromethane	<SRL	<SRL	0.0
2-Propanol (IPA)	2050	2030	1.0
Acrylonitrile	<SRL	<SRL	0.0
1,1-Dichloroethene	<SRL	<SRL	0.0
Methylene Chloride (DCM)	<SRL	<SRL	0.0
Allyl Chloride	<SRL	<SRL	0.0
Carbon Disulfide	1230	1300	5.5
Trichlorotrifluoroethane	<SRL	<SRL	0.0
trans-1,2-Dichloroethene	<SRL	<SRL	0.0
1,1-Dichloroethane	<SRL	<SRL	0.0
Methyl Tert Butyl Ether (MTBE)	<SRL	<SRL	0.0
Vinyl Acetate	<SRL	<SRL	0.0
2-Butanone (MEK)	4030	4050	0.5
cis-1,2-Dichloroethene	178	185	3.9
Hexane	460	460	0.0
Chloroform	<SRL	<SRL	0.0
Ethyl Acetate	662	658	0.6
Tetrahydrofuran	2130	2180	2.3
1,2-Dichloroethane	102	99.0	3.0
1,1,1-Trichloroethane	<SRL	<SRL	0.0
Benzene	574	600	4.4
Carbon Tetrachloride	<SRL	<SRL	0.0

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Quality Control/Quality Assurance Report

AAC ID	**: 170188-96820**	**DATE ANALYZED**	**: 02/13/2017**
MATRIX	**: Air**	**DATE REPORTED**	**: 02/13/2017**
		UNITS	**: ppbv**

TO-15 Duplicate Analysis

Compound	Sample Conc	Duplicate Conc	% RPD
Cyclohexane	437	458	4.7
1,2-Dichloropropane	<SRL	<SRL	0.0
Bromodichloromethane	<SRL	<SRL	0.0
1,4-Dioxane	<SRL	<SRL	0.0
Trichloroethene (TCE)	79.1	79.9	1.0
2,2,4-Trimethylpentane	194	188	3.1
Heptane	1020	1010	1.0
cis-1,3-Dichloropropene	<SRL	<SRL	0.0
4-Methyl-2-pentanone (MiBK)	149	147	1.4
trans-1,3-Dichloropropene	<SRL	<SRL	0.0
1,1,2-Trichloroethane	<SRL	<SRL	0.0
Toluene	4070	3950	3.0
2-Hexanone (MBK)	<SRL	<SRL	0.0
Dibromochloromethane	<SRL	<SRL	0.0
1,2-Dibromoethane	<SRL	<SRL	0.0
Tetrachloroethene (PCE)	101	97.9	3.1
Chlorobenzene	<SRL	<SRL	0.0
Ethylbenzene	2250	2180	3.2
m & p-Xylenes	3380	3370	0.3
Bromoform	<SRL	<SRL	0.0
Styrene	134	136	1.5
1,1,2,2-Tetrachloroethane	<SRL	<SRL	0.0
o-Xylene	1170	1170	0.0
4-Ethyltoluene	189	186	1.6
1,3,5-Trimethylbenzene	264	255	3.5
1,2,4-Trimethylbenzene	567	562	0.9
Benzyl Chloride (a-Chlorotoluene)	<SRL	<SRL	0.0
1,3-Dichlorobenzene	<SRL	<SRL	0.0
1,4-Dichlorobenzene	171	170	0.6
1,2-Dichlorobenzene	<SRL	<SRL	0.0
1,2,4-Trichlorobenzene	<SRL	<SRL	0.0
Hexachlorobutadiene	<SRL	<SRL	0.0
System Monitoring Compounds			
BFB-Surrogate Std. % Recovery	101%	101%	0.2

SRL - Sample Reporting Limit

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

ATMOSPHERIC ANALYSIS & CONSULTING, INC.
1534 Eastman Avenue, Suite A
Ventura, California 93003
Phone (805) 650-1642 Fax (805) 650-1644
E-mail: info@aaclab.com

AAC Project No. 170179 Page ____ of ____

CHAIN OF CUSTODY/ ANALYSIS REQUEST FORM

Client Name: Focus Environmental
Project Name: Kuwahee Biogas Sampling
Project Mgr (Print Name): Paul Sadler
Project Number: PO 001208
Sampler's Name (Print Name):
Sampler's Signature:

AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Containers	Full Bkt D3588	Fixed Gas D1946	Reduced S/Hs D5504	Siloxanes TO-15		
96753	02/06/17	8:24	Grab Gas	SC-020617-AAC	SC 1		✓	✓	✓		
		20	in Hg	Starting Can Press.							
		4	in Hg	Ending Can Press.							
	Canister 13093										

Analysis Requested

Send report:
Attn: Paul Sadler
pasadler@focusenv.com
Phone#: (865) 692-8664
Fax# (865) 531-8854

Send invoice to:
Attn: Paul Sadler
P.O. # PO 0039

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

Special Instructions/remarks:

Relinquished by (Signature): Paul Sadler
Print Name: Paul Sadler
Date/Time: 02/06/17 9:45
Received by (signature): [signature] Print Name: BRYAN DAMRON 2-6-17 09:45

Relinquished by (Signature): [signature]
Print Name: BRYAN DAMRON
Date/Time: 2-6-17 13:56
Received by (signature): [signature] 02/09/17 1300 Print Name: [signature]

FedEx

Atmospheric Analysis & Consulting, Inc.

CLIENT	: Focus Environmental
PROJECT NAME	: Kuwahee Biogas Sampling
PROJECT NO.	: PO 001208
AAC PROJECT NO.	: 170276
REPORT DATE	: 3/3/2017

On March 2, 2017, Atmospheric Analysis & Consulting, Inc. received three (3) Tedlar Bags for Fixed Gases analysis by ASTM D-1946. Also received was one (1) Tedlar Bag for Total Reduced Sulfur analysis by ASTM D-5504. Upon receipt, the samples were assigned unique Laboratory ID numbers as follows:

Client ID	Lab No.
TB-030117-D6	170276-97243
TB-030117-D4	170276-97244
TB-030117-D2	170276-97245
TB-030117-AAC	170276-97246

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 9 pages.

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT : **Focus Environmental**
PROJECT NO. : **170276**
MATRIX : **AIR**

SAMPLING DATE : **03/01/2017**
RECEIVING DATE : **03/02/2017**
ANALYSIS DATE : **03/02/2017**
REPORT DATE : **03/03/2017**

ASTM D-1946

Client ID	TB-030117-D6	TB-030117-D4	TB-030117-D2
AAC ID	170276-97243	170276-97244	170276-97245
Analyte	Result	Result	Result
H_2	< 1.0 %	< 1.0 %	< 1.0 %
O_2	**7.3 %**	**0.5 %**	**1.6 %**
N_2	**26.7 %**	**2.1 %**	**5.6 %**
CO	< 0.1 %	< 0.1 %	< 0.1 %
CO_2	**23.1 %**	**32.5 %**	**31.3 %**
CH_4	**43.0 %**	**64.8 %**	**61.4 %**

All fixed gases have been normalized to 100% on a dry weight basis

Sample Reporting Limit (SRL) is equal to Reporting Limit x Analysis Dil. Fac x Canister Dil. Fac

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

LABORATORY ANALYSIS REPORT

CLIENT	**: Focus Environmental**	**SAMPLING DATE**	**: 03/01/2017**
PROJECT NO.	**: 170276**	**RECEIVING DATE**	**: 03/02/2017**
MATRIX	**: AIR**	**ANALYSIS DATE**	**: 03/02/2017**
UNITS	**: ppmV**	**REPORT DATE**	**: 03/03/2017**

Total Reduced Sulfur Compounds Analysis by ASTM D-5504

Client ID	**TB-030117-AAC**
AAC ID	**170276-97246**
Analyte	**Result**
Hydrogen Sulfide	**21.0**
Carbonyl Sulfide	< 0.050
Sulfur Dioxide	< 0.050
Methyl Mercaptan	< 0.050
Ethyl Mercaptan	**0.051**
Dimethyl Sulfide	< 0.050
Carbon Disulfide	< 0.050
Isopropyl Mercaptan	< 0.050
tert-Butyl Mercaptan	< 0.050
n-Propyl Mercaptan	**0.125**
Methylethylsulfide	< 0.050
sec-Butyl Mercaptan	< 0.050
Thiophene	< 0.050
iso-Butyl Mercaptan	< 0.050
Diethyl Sulfide	< 0.050
n-Butyl Mercaptan	< 0.050
Dimethyl Disulfide	< 0.050
2-Methylthiophene	< 0.050
3-Methylthiophene	< 0.050
Tetrahydrothiophene	< 0.050
Bromothiophene	< 0.050
Thiophenol	< 0.050
Diethyl Disulfide	< 0.050
Total Unidentified Sulfur	< 0.050
Total Reduced Sulfurs	**21.2**

All unidentified compound's concentrations expressed in terms of H_2S (TRS does not include COS and SO_2)
Sample Reporting Limit (SRL) is equal to Reporting Limit x Canister Dil. Fac. x Analysis Dil. Fac.

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed : 03/02/2017
Analyst : CNG
Units : %

Instrument ID : TCD#1
Calb Date : 01/03/17
Reporting Limit : 0.1%

I - Opening Continuing Calibration Verification - ASTM D-1945/1946

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
CCV	Spike Conc	10.0	10.0	20.2	10.1	10.0	10.2
	Result	10.6	10.3	21.2	10.1	10.0	10.2
	% Rec *	105.9	102.2	104.8	100.5	100.2	100.4

II - Method Blank - ASTM D-1945/1946

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
MB	Concentration	ND	ND	ND	ND	ND	ND

III - Laboratory Control Spike & Duplicate - ASTM D-1945/1946

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
Lab Control Standards	Sample Conc	0.0	0.0	0.0	0.0	0.0	0.0
	Spike Conc	10.0	10.0	20.2	10.1	10.0	10.2
	LCS Result	9.8	10.3	21.0	10.3	10.0	10.2
	LCSD Result	10.2	9.6	19.6	9.5	9.2	9.3
	LCS % Rec *	98.1	102.4	103.9	101.9	100.2	99.6
	LCSD % Rec *	101.9	96.0	96.8	94.4	91.9	91.6
	% RPD ***	3.8	6.5	7.0	7.7	8.6	8.4

IV - Sample & Sample Duplicate - ASTM D-1945/1946

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
170276-97243	Sample	0.0	7.8	28.4	24.4	45.7	0.0
	Sample Dup	0.0	7.2	26.5	23.2	42.9	0.0
	Mean	0.0	7.5	27.5	23.8	44.3	0.0
	% RPD ***	0.0	7.2	6.8	5.2	6.2	0.0

V - Matrix Spike & Duplicate - ASTM D-1945/1946

AAC ID	Analyte	H_2	N_2	CO_2	CH_4	CO
170276-97243	Sample Conc	0.0	13.7	11.9	22.1	0.0
	Spike Conc	10.0	9.8	10.1	10.0	10.2
	MS Result	10.3	25.1	21.8	32.9	11.0
	MSD Result	10.0	24.7	21.5	32.2	10.8
	MS % Rec **	103.0	116.6	98.2	108.0	107.9
	MSD % Rec **	100.2	112.0	94.9	101.2	106.2
	% RPD ***	2.8	4.0	3.4	6.5	1.6

VI - Closing Continuing Calibration Verification - ASTM D-1945/1946

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
CCV	Spike Conc	10.0	10.0	20.2	10.1	10.0	10.2
	Result	10.3	10.4	21.9	10.8	10.6	10.8
	% Rec *	103.4	103.3	108.0	107.0	106.2	106.4

** Must be 85-115%*
*** Must be 75-125%*
**** Must be < 25%*
ND = Not Detected
<RL = less than Reporting Limit

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Quality Control/Quality Assurance Report
ASTM D-5504

Date Analyzed: 3/2/2017
Analyst: ZB
Units: ppbV

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

Opening Calibration Verification Standard

525.5 ppbV H2S (SS0971)

H_2S	Resp. (area)	Result	% Rec *	% RPD ****
Initial	14028	524	99.7	0.1
Duplicate	13985	522	99.4	0.2
Triplicate	14011	523	99.6	0.0

549 ppbV MeSH (SS0988)

MeSH	Resp. (area)	Result	% Rec *	% RPD ****
Initial	13780	553	100.7	0.8
Duplicate	13581	545	99.3	0.6
Triplicate	13646	547	99.7	0.2

488.8 ppbV CS2 (SS0972)

CS_2	Resp. (area)	Result	% Rec *	% RPD ****
Initial	30772	512	104.7	0.7
Duplicate	30651	510	104.3	0.3
Triplicate	30219	503	102.8	1.1

Method Blank

Analyte	Result
H_2S	<PQL
MeSH	<PQL
CS_2	<PQL

Duplicate Analysis **Sample ID** 170263-97183

Analyte	Sample Result	Duplicate Result	Mean	% RPD ***
H_2S	171945.4	164544.7	168245.1	4.4
MeSH	2636.0	2598.8	2617.4	1.4
CS_2	<PQL	<PQL	0.0	0.0

Matrix Spike & Duplicate **Sample ID** 170263-97183 x200

Analyte	Sample Conc.	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD ***
H_2S	841.2	262.8	1035.9	1136.3	93.8	102.9	9.2
MeSH	13.1	274.5	281.9	291.7	98.0	101.4	3.4
CS_2	<PQL	244.4	249.5	253.2	102.1	103.6	1.5

Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	% Rec **
H_2S	525.5	493.8	94.0
MeSH	549.0	521.7	95.0
CS_2	488.8	487.5	99.7

** 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

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

ATMOSPHERIC ANALYSIS & CONSULTING, INC.
1534 Eastman Avenue, Suite A
Ventura, California 93003
Phone (805) 650-1642 Fax (805) 650-1644
E-mail: info@aaclab.com

AAC Project No. 170276 Page ____ of ____

CHAIN OF CUSTODY/ ANALYSIS REQUEST FORM

Client Name: Focus Environmental
Project Name: Kuwahee Biogas Sampling
Project Mgr (Print Name): Paul Sadler
Project Number: PO 001208
Sampler's Name (Print Name): PAS
Sampler's Signature: PAS

AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Containers	Full Blu D3588	Fixed Gas D1946	Reduced S/Hg D5504	Siloxanes TO-15		
97243	03/01/17	8:45	Grab	~~FB-030117-D6~~ TB-030117-D6	TB 2		X				
				TB-030117-D6							
				PAS 03/01/17							

Analysis Requested

Send report:
Attn: Paul Sadler
pasadler@focusenv.com
Phone#: (865) 692-8664
Fax# (865) 531-8854

Send invoice to:
Attn: Paul Sadler
P.O. # PO 0039

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

Special Instructions/remarks:

Relinquished by (Signature):	Print Name:	Date/Time	Received by (signature):	Print Name
Paul Sadler	Paul Sadler	03/01/17 10:30	[signature]	Ken Wilson 3/1/17 1030
Relinquished by (Signature):	Print Name:	Date/Time	Received by (signature):	Print Name
[signature]	BRYAN DAMRON	3-1-17 13:30	[signature]	3/2/17 1007

FEDEX

ATMOSPHERIC ANALYSIS & CONSULTING, INC.
1534 Eastman Avenue, Suite A
Ventura, California 93003
Phone (805) 650-1642 Fax (805) 650-1644
E-mail: info@aaclab.com

AAC Project No. 170276 Page ____ of ____

CHAIN OF CUSTODY/ ANALYSIS REQUEST FORM

Client Name: Focus Environmental
Project Mgr (Print Name): Paul Sadler
Sampler's Name (Print Name): PAS
Project Name: Kuwahee Biogas Sampling
Project Number: PO 001208
Sampler's Signature: PAS

AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Containers	Full Blk D3588	Fixed Gas D1946	Reduced S/Mer D5504	Siloxanes TO-15			Analysis Requested
97244	03/01/17	0855	Grab	~~TB-030117-D4~~ TB-030117-D4	TB 2		X					
				PAS 03/01/17								

Send report:
Attn: Paul Sadler
pasadler@focusenv.com
Phone#: (865) 692-8664
Fax# (865) 531-8854

Send invoice to:
Attn: Paul Sadler
P.O. # PO 0039

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

Special Instructions/remarks:

Relinquished by (Signature): Paul Sadler	Print Name: Paul Sadler	Date/Time 03/01/17 10:30	Received by (signature): [signature] Print Name Ken Wilson 3/1/17 1030
Relinquished by (Signature): [signature]	Print Name: BRIAN DAMERON	Date/Time 3-1-17 13:31	Received by (signature): [signature] Print Name 3/2/17 1007 FedEx

ATMOSPHERIC ANALYSIS & CONSULTING, INC.
1534 Eastman Avenue, Suite A
Ventura, California 93003
Phone (805) 650-1642 Fax (805) 650-1644
E-mail: info@aaclab.com

AAC Project No. 170276 Page ____ of ____

CHAIN OF CUSTODY/ ANALYSIS REQUEST FORM

Client Name: Focus Environmental
Project Name: Kuwahee Biogas Sampling
Project Mgr (Print Name): Paul Sadler
Project Number: PO 001208
Sampler's Name (Print Name): PAS
Sampler's Signature: PAS

AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Containers	Full Blu D3588	Fixed Gas D1946	Reduced S/Hs D5504	Siloxanes TO-15		
97245	03/01/17	09:10	Grab	TB-030117-D2	TB 2		X				

Send report:
Attn: Paul Sadler
pasadler@focusenv.com
Phone#: (865) 692-8664
Fax# (865) 531-8854

Send invoice to:
Attn: Paul Sadler
P.O. # PO 0039

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

Special Instructions/remarks:

Relinquished by (Signature):	Print Name:	Date/Time	Received by (signature):	Print Name
Paul Sadler	Paul Sadler	03/01/17 10:30		Ken Wilson 3/1/17 1030
Relinquished by (Signature):	Print Name:	Date/Time	Received by (signature):	Print Name
	BRYAN DAMERON	3-1-17 13:31		3/2/17 1007

ATMOSPHERIC ANALYSIS & CONSULTING, INC.
1534 Eastman Avenue, Suite A
Ventura, California 93003
Phone (805) 650-1642 Fax (805) 650-1644
E-mail: info@aaclab.com

AAC Project No. 170276

Page ___ of ___

CHAIN OF CUSTODY/ ANALYSIS REQUEST FORM

Client Name: Focus Environmental

Project Name: Kiwahee Biogas Sampling

Project Mgr (Print Name): Paul Sadler

Project Number: PO 001208

Sampler's Name (Print Name): PAS

Sampler's Signature: PAS

AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Containers	Full Btu D3588	Fixed Gas D1946	Reduced S/H₂ D5504	Siloxanes TO-15		
97246	03/01/17	9:30	Grab	TB-030117-AAC	TB / 2			X			

Send report:
Attn: Paul Sadler
pasadler@focusenv.com
Phone#: (865) 692-8664
Fax# (865) 531-8854

Send invoice to:
Attn: Paul Sadler
P.O. # PO 0039

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

Special Instructions/remarks:

Relinquished by (Signature)	Print Name	Date/Time	Received by (signature)	Print Name
Paul Sadler	Paul Sadler	03/01/17 10:30	[signature]	Ken Wilson 3/1/17 1030
[signature]	RYAN DAMERON	3-1-17 13:30	[signature]	3/2/17 1007

Atmospheric Analysis & Consulting, Inc.

CLIENT	: Focus Environmental
PROJECT NAME	: Kuwahee Biogas Sampling
PROJECT NO.	: PO 001208
AAC PROJECT NO.	: 170289
REPORT DATE	: 3/7/2017

On March 6, 2017, Atmospheric Analysis & Consulting, Inc. received one (1) Six-Liter Silonite Canister for Fixed Gases analysis by ASTM D-1946. Upon receipt, the sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab No.	Return Pressure (mmHg)
SC-030117-AAC	170289-97304	335.9

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 this sample. 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.

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT : **Focus Environmental**
PROJECT NO. : **170289**
MATRIX : **AIR**

SAMPLING DATE : **03/01/2017**
RECEIVING DATE : **03/06/2017**
ANALYSIS DATE : **03/07/2017**
REPORT DATE : **03/07/2017**

ASTM D-1946

Client ID	SC-030117-AAC
AAC ID	170289-97304
Can Dilution Factor	3.11
Analyte	**Result**
H_2	< 3.1 %
O_2	< 0.3 %
N_2	**1.6 %**
CO	< 0.3 %
CO_2	**37.1 %**
CH_4	**61.0 %**

All fixed gases have been normalized to 100% on a dry weight basis
Sample Reporting Limit (SRL) is equal to Reporting Limit x Analysis Dil. Fac x Canister Dil. Fac

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed : 03/07/2017
Analyst : CNG
Units : %

Instrument ID : TCD#1
Calb Date : 01/03/17
Reporting Limit : 0.1%

I - Opening Continuing Calibration Verification - ASTM D-1946

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
CCV	Spike Conc	10.0	10.4	19.7	10.1	10.0	10.2
	Result	9.6	9.7	19.0	9.4	9.2	9.6
	% Rec *	96.6	94.0	96.1	93.3	92.6	94.1

II - Method Blank - ASTM D-1946

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
MB	Concentration	ND	ND	ND	ND	ND	ND

III - Laboratory Control Spike & Duplicate - ASTM D-1946

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
Lab Control Standards	Sample Conc	0.0	0.0	0.0	0.0	0.0	0.0
	Spike Conc	10.0	10.4	19.7	10.1	10.0	10.2
	LCS Result	10.0	10.0	19.3	9.8	9.4	9.6
	LCSD Result	10.1	9.5	18.5	9.3	9.0	9.2
	LCS % Rec *	100.5	96.0	97.5	96.7	94.0	94.3
	LCSD % Rec *	100.9	91.8	93.7	92.6	90.3	90.4
	% RPD ***	0.3	4.5	4.0	4.3	4.0	4.3

IV - Sample & Sample Duplicate - ASTM D-1946

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
170289-97304	Sample	0.0	0.0	0.0	11.6	19.0	0.0
	Sample Dup	0.0	0.0	0.0	11.1	18.3	0.0
	Mean	0.0	0.0	0.0	11.3	18.6	0.0
	% RPD ***	0.0	0.0	0.0	3.9	3.8	0.0

V - Matrix Spike & Duplicate - ASTM D-1946

AAC ID	Analyte	H_2	N_2	CO_2	CH_4	CO
170289-97304	Sample Conc	0.0	0.0	5.7	9.3	0.0
	Spike Conc	10.0	9.8	10.1	10.0	10.2
	MS Result	9.9	10.1	15.3	18.7	9.9
	MSD Result	10.0	10.4	15.7	19.2	10.1
	MS % Rec **	99.1	104.0	95.6	93.7	96.9
	MSD % Rec **	99.7	106.4	99.7	99.0	99.0
	% RPD ***	0.6	2.3	4.2	5.6	2.2

VI - Closing Continuing Calibration Verification - ASTM D-1946

AAC ID	Analyte	H_2	O_2	N_2	CO_2	CH_4	CO
CCV	Spike Conc	10.0	10.4	19.7	10.1	10.0	10.2
	Result	10.2	9.8	18.9	9.7	9.3	9.4
	% Rec *	101.9	94.6	96.0	96.2	92.8	92.5

** Must be 85-115%*
*** Must be 75-125%*
**** Must be < 25%*
ND = Not Detected
<RL = less than Reporting Limit

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

ATMOSPHERIC ANALYSIS & CONSULTING, INC.
1534 Eastman Avenue, Suite A
Ventura, California 93003
Phone (805) 650-1642 Fax (805) 650-1644
E-mail: info@aaclab.com

AAC Project No. 170289

Page ____ of ____

CHAIN OF CUSTODY/ ANALYSIS REQUEST FORM

Client Name: Focus Environmental
Project Mgr (Print Name): Paul Sadler
Sampler's Name (Print Name): PAS
Project Name: Kuwahee Biogas Sampling
Project Number: PO 001208
Sampler's Signature: PAS

AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Containers	Full Blk D3588	Fixed Gas D1946	Reduced S/Hc D5504	Siloxanes TO-15	Analysis Requested
97304	03/04/17	9:30	Grab	SC-030117-AAC	SC 1		X		X	
	19.5	in Hg	Starting Press							
	4.0	in Hg	Ending Press							
		SN	12975							

Send report:
Attn: Paul Sadler
pasadler@focusenv.com
Phone#: (805) 692-8664
Fax#: (805) 531-8854

Send invoice to:
Attn: Paul Sadler
P.O. # PO 0039

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

Special Instructions/remarks:

Relinquished by (Signature): Paul Sadler	Print Name: Paul Sadler	Date/Time 03/06/17 10:30	Received by (signature): Print Name: Ken Wilson 3/1/17 1930
Relinquished by (Signature):	Print Name: BRYAN DAMERON	Date/Time 3-1-17 13:30	Received by (signature): 3/6/17 Print Name: Jose H 0900

1x can
1x manifold

Atmospheric Analysis & Consulting, Inc.

CLIENT : Focus Environmental
PROJECT NAME : Kuwahee Biogas Sampling
PROJECT NUMBER : PO 001208
AAC PROJECT NO. : 170289
REPORT DATE : 03/08/2017

On March 6, 2017, Atmospheric Analysis & Consulting, Inc. received one (1) Six-Liter Summa Canister for Siloxanes per EPA method TO-15. Upon receipt the sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab ID	Return Pressure (mmHga)
SC-030117-AAC	170289-97304	335.9

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 10 pages.

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Laboratory Analysis Report

CLIENT	**: Focus Environmental**	**DATE RECEIVED**	**: 03/06/2017**
PROJECT NO	**: 170289**	**DATE REPORTED**	**: 03/08/2017**
MATRIX	**: AIR**		
UNITS	**: PPB (v/v)**		

Client ID	SC-030117-AAC	
AAC ID	170289-97304	
Date Sampled	03/01/2017	
Date Analyzed	03/08/2017	
Can Dilution Factor	3.11	
SILOXANES		
Compound	*PPB(V/V)*	*Sample Reporting Limit*
Hexamethyldisiloxane (L2)	<SRL	31.1
Hexamethylcyclotrisiloxane (D3)	61.4	31.1
Octamethyltrisiloxane (L3)	<SRL	31.1
Octamethylcyclotetrasiloxane (D4)	360	31.1
Decamethyltetrasiloxane (L4)	<SRL	31.1
Decamethylcyclopentasiloxane (D5)	335	31.1
Dodecamethylpentasiloxane (L5)	<SRL	31.1
BFB-Surrogate Std. % Recovery	99%	

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

ANALYSIS DATE : 03/08/2017
ANALYST : JJG
INSTRUMENT ID : GC/MS-03
CALIBRATION STD ID : PS011817-01

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15

Continuing Calibration Verification of the 01/16/2017 Calibration

Compounds	Conc	Daily Conc	%REC*
4-BFB (surrogate standard)	10.00	10.29	103
Chlorodifluoromethane	10.40	10.33	99
Propene	10.90	10.82	99
Dichlorodifluoromethane	10.60	10.56	100
Chloromethane	10.30	9.70	94
Dichlorotetrafluoroethane	10.00	9.57	96
Vinyl Chloride	10.10	9.83	97
Methanol	19.00	19.57	103
1,3-Butadiene	10.50	9.78	93
Bromomethane	10.00	9.85	99
Chloroethane	9.70	9.71	100
Dichlorofluoromethane	10.60	10.46	99
Ethanol	9.10	9.26	102
Vinyl Bromide	10.10	10.08	100
Acetone	10.60	8.91	84
Trichlorofluoromethane	10.40	9.48	91
2-Propanol (IPA)	10.80	10.78	100
Acrylonitrile	11.50	10.87	95
1,1-Dichloroethene	10.80	10.14	94
Methylene Chloride (DCM)	10.50	10.00	95
Allyl Chloride	11.00	10.70	97
Carbon Disulfide	10.00	10.24	102
Trichlorotrifluoroethane	10.70	10.29	96
trans-1,2-Dichloroethene	10.10	10.01	99
1,1-Dichloroethane	10.50	10.19	97
Methyl Tert Butyl Ether (MTBE)	10.60	10.13	96
Vinyl Acetate	10.80	11.16	103
2-Butanone (MEK)	10.60	10.45	99
cis-1,2-Dichloroethene	10.60	10.38	98
Hexane	10.50	10.31	98
Chloroform	10.90	10.66	98
Ethyl Acetate	10.90	11.15	102
Tetrahydrofuran	10.50	10.27	98
1,2-Dichloroethane	10.60	10.35	98
1,1,1-Trichloroethane	10.60	10.15	96

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

ANALYSIS DATE : 03/08/2017 **INSTRUMENT ID : GC/MS-03**
ANALYST : JJG **CALIBRATION STD ID : PS011817-01**

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15
Continuing Calibration Verification of the 01/16/2017 Calibration

Compounds	*Conc*	*Daily Conc*	*%REC**
Benzene	10.40	10.35	100
Carbon Tetrachloride	10.80	11.13	103
Cyclohexane	10.50	10.03	96
1,2-Dichloropropane	10.50	10.62	101
Bromodichloromethane	10.40	10.64	102
1,4-Dioxane	10.40	10.09	97
Trichloroethene (TCE)	10.40	10.46	101
2,2,4-Trimethylpentane	10.30	9.47	92
Heptane	10.40	10.31	99
cis-1,3-Dichloropropene	10.70	10.96	102
4-Methyl-2-pentanone (MiBK)	10.00	9.92	99
trans-1,3-Dichloropropene	10.00	10.57	106
1,1,2-Trichloroethane	10.40	10.46	101
Toluene	10.60	10.80	102
2-Hexanone (MBK)	10.80	11.04	102
Dibromochloromethane	9.90	10.50	106
1,2-Dibromoethane	10.40	10.49	101
Tetrachloroethene (PCE)	10.30	10.38	101
Chlorobenzene	10.50	10.30	98
Ethylbenzene	10.50	9.64	92
m & p-Xylenes	20.00	19.83	99
Bromoform	10.40	11.37	109
Styrene	10.30	10.08	98
1,1,2,2-Tetrachloroethane	10.40	10.66	103
o-Xylene	10.40	9.44	91
4-Ethyltoluene	10.00	9.93	99
1,3,5-Trimethylbenzene	10.00	9.84	98
1,2,4-Trimethylbenzene	9.90	9.87	100
Benzyl Chloride (a-Chlorotoluene)	9.60	9.34	97
1,3-Dichlorobenzene	9.60	9.10	95
1,4-Dichlorobenzene	9.80	9.32	95
1,2-Dichlorobenzene	9.70	9.39	97
1,2,4-Trichlorobenzene	8.80	8.13	92
Hexachlorobutadiene	9.30	8.90	96

* - %REC should be 70-130%

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Quality Control/Quality Assurance Report

CLIENT ID	**: Laboratory Control Spike**	**DATE ANALYZED**	**: 03/08/2017**
AAC ID	**: LCS/LCSD**	**DATE REPORTED**	**: 03/08/2017**
MEDIA	**: Air**	**UNITS**	**: ppbv**

TO-15 Laboratory Control Spike Recovery

Compound	Sample Conc.	Spike Added	Spike Res	Dup Spike Res	Spike % Rec *	Spike Dup % Rec *	RPD** %
1,1-Dichloroethene	0.0	10.80	10.14	10.34	94	96	2.0
Methylene Chloride (DCM)	0.0	10.50	10.00	10.26	95	98	2.6
Benzene	0.0	10.40	10.35	10.39	100	100	0.4
Trichloroethene (TCE)	0.0	10.40	10.46	10.34	101	99	1.2
Toluene	0.0	10.60	10.80	10.85	102	102	0.5
Tetrachloroethene (PCE)	0.0	10.30	10.38	10.45	101	101	0.7
Chlorobenzene	0.0	10.50	10.30	10.64	98	101	3.2
Ethylbenzene	0.0	10.50	9.64	9.70	92	92	0.6
m & p-Xylenes	0.0	20.00	19.83	20.11	99	101	1.4
o-Xylene	0.0	10.40	9.44	9.57	91	92	1.4

* Must be 70-130%

** Must be < 25%

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Method Blank Analysis Report

MATRIX	**: AIR**	**ANALYSIS DATE**	**: 03/08/2017**
UNITS	**: ppbv**	**REPORT DATE**	**: 03/08/2017**

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID / *AAC ID*	Method Blank MB 030817	RL
Chlorodifluoromethane	<RL	0.5
Propene	<RL	1.0
Dichlorodifluoromethane	<RL	0.5
Chloromethane	<RL	0.5
Dichlorotetrafluoroethane	<RL	0.5
Vinyl Chloride	<RL	0.5
Methanol	<RL	5.0
1,3-Butadiene	<RL	0.5
Bromomethane	<RL	0.5
Chloroethane	<RL	0.5
Dichlorofluoromethane	<RL	0.5
Ethanol	<RL	2.0
Vinyl Bromide	<RL	0.5
Acetone	<RL	2.0
Trichlorofluoromethane	<RL	0.5
2-Propanol (IPA)	<RL	2.0
Acrylonitrile	<RL	1.0
1,1-Dichloroethene	<RL	0.5
Methylene Chloride (DCM)	<RL	1.0
Allyl Chloride	<RL	0.5
Carbon Disulfide	<RL	0.5
Trichlorotrifluoroethane	<RL	0.5
trans-1,2-Dichloroethene	<RL	0.5
1,1-Dichloroethane	<RL	0.5
Methyl Tert Butyl Ether (MTBE)	<RL	0.5
Vinyl Acetate	<RL	1.0
2-Butanone (MEK)	<RL	1.0
cis-1,2-Dichloroethene	<RL	0.5
Hexane	<RL	0.5
Chloroform	<RL	0.5
Ethyl Acetate	<RL	0.5
Tetrahydrofuran	<RL	0.5
1,2-Dichloroethane	<RL	0.5
1,1,1-Trichloroethane	<RL	0.5
Benzene	<RL	0.5
Carbon Tetrachloride	<RL	0.5
Cyclohexane	<RL	0.5
1,2-Dichloropropane	<RL	0.5
Bromodichloromethane	<RL	0.5
1,4-Dioxane	<RL	0.5
Trichloroethene (TCE)	<RL	0.5
2,2,4-Trimethylpentane	<RL	0.5
Heptane	<RL	0.5

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Method Blank Analysis Report

MATRIX	**: AIR**	**ANALYSIS DATE**	**: 03/08/2017**
UNITS	**: ppbv**	**REPORT DATE**	**: 03/08/2017**

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID / *AAC ID*	Method Blank MB 030817	RL
cis-1,3-Dichloropropene	<RL	0.5
4-Methyl-2-pentanone (MiBK)	<RL	0.5
trans-1,3-Dichloropropene	<RL	0.5
1,1,2-Trichloroethane	<RL	0.5
Toluene	<RL	0.5
2-Hexanone (MBK)	<RL	0.5
Dibromochloromethane	<RL	0.5
1,2-Dibromoethane	<RL	0.5
Tetrachloroethene (PCE)	<RL	0.5
Chlorobenzene	<RL	0.5
Ethylbenzene	<RL	0.5
m & p-Xylenes	<RL	1.0
Bromoform	<RL	0.5
Styrene	<RL	0.5
1,1,2,2-Tetrachloroethane	<RL	0.5
o-Xylene	<RL	0.5
4-Ethyltoluene	<RL	0.5
1,3,5-Trimethylbenzene	<RL	0.5
1,2,4-Trimethylbenzene	<RL	0.5
Benzyl Chloride (a-Chlorotoluene)	<RL	0.5
1,3-Dichlorobenzene	<RL	0.5
1,4-Dichlorobenzene	<RL	0.5
1,2-Dichlorobenzene	<RL	0.5
1,2,4-Trichlorobenzene	<RL	0.5
Hexachlorobutadiene	<RL	0.5
System Monitoring Compounds		
BFB-Surrogate Std. % Recovery	97%	--

RL - Reporting Limit

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Quality Control/Quality Assurance Report

AAC ID	**: 170293-97353**	**DATE ANALYZED**	**: 03/08/2017**
MATRIX	**: Air**	**DATE REPORTED**	**: 03/08/2017**
		UNITS	**: ppbv**

TO-15 Duplicate Analysis

Compound	Sample Conc	Duplicate Conc	% RPD
Chlorodifluoromethane	<SRL	<SRL	0.0
Propene	<SRL	<SRL	0.0
Dichlorodifluoromethane	0.63	0.62	1.6
Chloromethane	0.70	0.70	0.0
Dichlorotetrafluoroethane	<SRL	<SRL	0.0
Vinyl Chloride	<SRL	<SRL	0.0
Methanol	5.41	5.43	0.4
1,3-Butadiene	<SRL	<SRL	0.0
Bromomethane	<SRL	<SRL	0.0
Chloroethane	<SRL	<SRL	0.0
Dichlorofluoromethane	<SRL	<SRL	0.0
Ethanol	<SRL	<SRL	0.0
Vinyl Bromide	<SRL	<SRL	0.0
Acetone	<SRL	<SRL	0.0
Trichlorofluoromethane	<SRL	<SRL	0.0
2-Propanol (IPA)	<SRL	<SRL	0.0
Acrylonitrile	<SRL	<SRL	0.0
1,1-Dichloroethene	<SRL	<SRL	0.0
Methylene Chloride (DCM)	<SRL	<SRL	0.0
Allyl Chloride	<SRL	<SRL	0.0
Carbon Disulfide	<SRL	<SRL	0.0
Trichlorotrifluoroethane	<SRL	<SRL	0.0
trans-1,2-Dichloroethene	<SRL	<SRL	0.0
1,1-Dichloroethane	<SRL	<SRL	0.0
Methyl Tert Butyl Ether (MTBE)	<SRL	<SRL	0.0
Vinyl Acetate	<SRL	<SRL	0.0
2-Butanone (MEK)	<SRL	<SRL	0.0
cis-1,2-Dichloroethene	<SRL	<SRL	0.0
Hexane	<SRL	<SRL	0.0
Chloroform	<SRL	<SRL	0.0
Ethyl Acetate	<SRL	<SRL	0.0
Tetrahydrofuran	<SRL	<SRL	0.0
1,2-Dichloroethane	<SRL	<SRL	0.0
1,1,1-Trichloroethane	<SRL	<SRL	0.0
Benzene	<SRL	<SRL	0.0
Carbon Tetrachloride	<SRL	<SRL	0.0

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

Quality Control/Quality Assurance Report

AAC ID	**: 170293-97353**	**DATE ANALYZED**	**: 03/08/2017**
MATRIX	**: Air**	**DATE REPORTED**	**: 03/08/2017**
		UNITS	**: ppbv**

TO-15 Duplicate Analysis

Compound	Sample Conc	Duplicate Conc	% RPD
Cyclohexane	<SRL	<SRL	0.0
1,2-Dichloropropane	<SRL	<SRL	0.0
Bromodichloromethane	<SRL	<SRL	0.0
1,4-Dioxane	<SRL	<SRL	0.0
Trichloroethene (TCE)	<SRL	<SRL	0.0
2,2,4-Trimethylpentane	<SRL	<SRL	0.0
Heptane	<SRL	<SRL	0.0
cis-1,3-Dichloropropene	<SRL	<SRL	0.0
4-Methyl-2-pentanone (MiBK)	<SRL	<SRL	0.0
trans-1,3-Dichloropropene	<SRL	<SRL	0.0
1,1,2-Trichloroethane	<SRL	<SRL	0.0
Toluene	<SRL	<SRL	0.0
2-Hexanone (MBK)	<SRL	<SRL	0.0
Dibromochloromethane	<SRL	<SRL	0.0
1,2-Dibromoethane	<SRL	<SRL	0.0
Tetrachloroethene (PCE)	<SRL	<SRL	0.0
Chlorobenzene	<SRL	<SRL	0.0
Ethylbenzene	<SRL	<SRL	0.0
m & p-Xylenes	<SRL	<SRL	0.0
Bromoform	<SRL	<SRL	0.0
Styrene	<SRL	<SRL	0.0
1,1,2,2-Tetrachloroethane	<SRL	<SRL	0.0
o-Xylene	<SRL	<SRL	0.0
4-Ethyltoluene	<SRL	<SRL	0.0
1,3,5-Trimethylbenzene	<SRL	<SRL	0.0
1,2,4-Trimethylbenzene	<SRL	<SRL	0.0
Benzyl Chloride (a-Chlorotoluene)	<SRL	<SRL	0.0
1,3-Dichlorobenzene	<SRL	<SRL	0.0
1,4-Dichlorobenzene	<SRL	<SRL	0.0
1,2-Dichlorobenzene	<SRL	<SRL	0.0
1,2,4-Trichlorobenzene	<SRL	<SRL	0.0
Hexachlorobutadiene	<SRL	<SRL	0.0
System Monitoring Compounds			
BFB-Surrogate Std. % Recovery	97%	96%	0.9

SRL - Sample Reporting Limit

Marcus Hueppe
Laboratory Director

1534 Eastman Ave., Ste. A • Ventura, • CA 93003 www.aaclab.com • (805) 650-1642 • FAX (805) 650-1644

ATMOSPHERIC ANALYSIS & CONSULTING, INC.
1534 Eastman Avenue, Suite A
Ventura, California 93003
Phone (805) 650-1642 Fax (805) 650-1644
E-mail: info@aaclab.com

AAC Project No. 170289 Page ____ of ____

CHAIN OF CUSTODY/ ANALYSIS REQUEST FORM

Client Name: Focus Environmental
Project Name: Kinsahee Biogas Sampling
Project Mgr (Print Name): Paul Sadler
Project Number: PO 001208
Sampler's Name (Print Name): PAS
Sampler's Signature: PAS

AAC Sample No.	Date Sampled	Time Sampled	Sample Type	Client Sample ID/Description	Type/No. of Containers	Full Btu D3588	Fixed Gas D1946	Reduced S/Hs D5504	Siloxanes TO-15		
97304	03/01/17	9:30	Grab	SC-030117-AAC	SC 1		X		X		
	19.5	inHg	Starting Press								
	4.0	inHg	Ending Press								
		SN 12975									

Analysis Requested

Send report:
Attn: Paul Sadler
pasadler@focusenv.com
Phone#: (865) 692-8664
Fax# (865) 531-8854

Send invoice to:
Attn: Paul Sadler
P.O. # PO 0039

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

Special Instructions/remarks:

Relinquished by (Signature):	Print Name:	Date/Time	Received by (signature):	Print Name
Paul Sadler	Paul Sadler	03/01/17 10:30	[signature]	Ken Wilson 3/1/17 1930
Relinquished by (Signature):	Print Name:	Date/Time	Received by (signature):	Print Name
[signature]	BRYAN DAMERON	3-1-17 13:30	3/6/17 [signature]	Jose H 0900

1x can
1x manifold