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ENVIRONMENTAL TEST REPORT

VOLUME 2 - PART 1

AIR KINETICS, INC.

REPORT ON COMPLIANCE TESTING - REPORT NO. 2414

August 6, 1999

PREPARED FOR: Ogden Martin Systems of Lee, Inc.
10500 Buckingham Road
Suite 400
Ft. Meyers, FL 33905

REGULATORY AGENCY: Florida Department of Environmental Protection
Permit No. PSD-FL-151A.

PURPOSE: Determination of Compliance with Permitted Emission
Limits and DEP Rule 62-296.416(3)(a)1.

TEST DATES: June 21-26, 1999

ASSOCIATED REPORT: OEG Report No. 2331

PSD-FL-151A

9/28/07
714 ✓

COMPLIANCE TEST REPORT

UNIT NOS. 1 AND 2

VOLUME I

Source Location:

**Ogden Martin Systems of Lee, Inc.
10500 Buckingham Road
Fort Myers, Florida 33905**

Test Date: June 21 through 26, 1999

Issue Date: August 5, 1999

Revision: 1

Prepared for:

**Ogden Energy Group, Inc.
40 Lane Road
Fairfield, New Jersey 07007**

Prepared by:

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Tony Wong
Project Manager



EMISSIONS CHARACTERIZATION
AND TESTING SERVICES

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1.0 SUMMARY

1.1 Source Information

Plant Name and Address: Ogden Martin Systems Of Lee, Inc.
10500 Buckingham Road
Fort Myers, Florida 33905

Source Tested: Unit Nos. 1 and 2

Permit ID #: PSD-FL-151

Plant Contact: Tom Eriksen, Facility Manager

Phone Number: (941) 337-2200

1.2 Testing Firm Information

Firm Name and Address: AirKinetics, Inc.
5932 Bolsa Avenue, Suite 105
Huntington Beach, CA 92649

Firm Contact: Tony Wong, Project Manager

Phone Number: (714) 373-0998 Ext. 18

Subcontractors: Alta Analytical Laboratory, Inc., El Dorado Hills, California
Quanterra Incorporated, West Sacramento, California

1.3 Test Information

Test Requested By: Ogden Energy Group, Inc.

Firm Contact: Joe Aldina, Sr. Vice President, Environmental Testing/CEM

Phone Number: (973) 882-4136

Test Objective: Demonstration of compliance with Florida Department of
Environmental Protection Permit No. PSD-FL-151 and with 40
CFR 60, Appendix F.

Test Methods:

EPA 1	Sampling Point Determination
EPA 2	Velocity and Flow Rate
EPA 3	Molecular Weight
EPA 4	Flue Gas Moisture Content
EPA 5	Particulate
EPA 3A & 6C	CO ₂ & SO ₂
EPA 8	Sulfuric Acid Mist
EPA 9	Opacity
EPA 7E & 10	NO _x & CO
EPA 23	Dioxins/Furans
EPA 25A	Total Hydrocarbons

Test Methods:
(continued)

EPA 26
EPA 29

Hydrogen Chloride
Arsenic, Beryllium, Cadmium, Lead, and
Mercury

Test Dates:

June 21 through 26, 1999

1.4 Test Personnel

Test Coordinator:

Daryl Fickling, Ogden Energy Group, Inc.

Test Observers:

Earl F. Baker, Florida EPA
Scott C. Shannon, Malcolm Pirnie
Becky Bigari, Ogden Martin Systems of Lee, Inc.

AirKinetics Test Personnel:

Tony Wong, Project Manager
Shawn Graham, Project Supervisor
Gary Mata, Laboratory Supervisor
Hung Duong, CEM Project Supervisor
Alfred Gusman, Team Leader
Chris Wrenn, Team Leader
Mike Chavez, Team Leader
Nick Pham, Team Leader
Donnie Leeper, Visible Emissions

2.0 TEST RESULTS AND DATA PRESENTATION

The results of the testing are summarized in Tables 2-1 through 2-4. Results tabulations are presented in Appendix A. Example calculations are given in Appendix B. Field data are given in Appendix C. Analytical data are provided in Appendix D. Calibration data are presented in Appendix E. Sampling train schematics are presented in Appendix F. AirKinetics system performance test results are presented in Appendix G. Complete raw data packages including chromatograms for particulate, sulfuric acid, fluorides, dioxin/furans, hydrogen chloride, ammonia, arsenic, and beryllium cadmium, lead, and mercury are in Appendices H, I, J, K, L, and M, respectively.

TABLE 2-1
UNIT NO. 1 TEST RESULTS

	Run 1	Run 2	Run 3	Average	Permit Limit
INLET					
Concentration, ppmvd @ 7% O₂					
Sulfur Dioxide	77.6	94.9	83.5	85.3	
Carbon Monoxide	21.6	27.7	34.6	28.0	
Hydrogen Chloride	652	696	638	662	
Emission Rate, lb/hr					
Mercury	0.0145	0.0257	0.0172	0.0192	
STACK					
Concentration, ppmvd @ 7% O₂					
Sulfur Dioxide	2.7	0.0	1.4	1.4	30
Nitrogen Oxides (as NO ₂)	161.2	154.5	158.7	158.1	180
Carbon Monoxide	20.4	23.8	29.9	24.7	100
Fluoride	< 0.110	< 0.102	< 0.0808	< 0.0976	5.0
Total Hydrocarbons as (CH ₄)	1.7	1.0	0.7	1.1	37
Hydrogen Chloride	16.6	20.0	15.1	17.2	25
Concentration, ug/dscm @ 7% O₂					
Mercury	30.8	42.7	< 33.1	< 35.5	70
Concentration, gr/DSCF @ 7% O₂					
Particulate, Normal Operation	0.00280	0.00235	0.00163	0.00226	0.010
Particulate, Soot Blow	0.00135	0.00375	0.00274	0.00261	0.010
Particulate Less Than 10 Microns	0.00141	0.000462	0.00075	0.000874	0.010
Concentration, ppmvd					
Ammonia	0.477	0.389	1.33	0.732	50
Concentration, ng/DSCM @ 7% O₂					
PCDD/PCDF	29.6	30.6	27.9	29.4	30

TABLE 2-1 (CONTINUED)

UNIT NO. 1 TEST RESULTS

	Run 1	Run 2	Run 3	Average	Permit Limit
Emission Rate, lb/hr					
Particulate, Normal Operation	1.55	1.24	0.903	1.23	5.34
Particulate, Soot Blow	0.721	2.17	1.43	1.44	5.34
Particulate Less Than 10 Microns	0.831	0.261	0.406	0.499	5.34
Sulfuric Acid Mist	4.56	3.77	4.42	4.25	9.85
Sulfur Dioxide	1.72	0.00	0.95	0.89	41
Nitrogen Oxides (as NO ₂)	74.88	74.23	75.58	74.90	80
Carbon Monoxide	5.76	6.96	8.66	7.13	27.2
Fluoride	< 0.0197	< 0.0193	< 0.0158	< 0.0182	0.96
Total Hydrocarbons as (CH ₄)	0.21	0.13	0.08	0.14	5.80
PCDD/PCDF	7.37E-06	7.53E-06	6.87E-06	7.26E-06	7.00E-06
Hydrogen Chloride	5.87	7.09	5.35	6.10	17.7
Mercury	7.39E-03	9.98E-03	< 7.44E-03	< 8.27E-03	3.79E-02
Arsenic	< 8.64E-05	1.79E-04	1.09E-04	< 1.25E-04	2.50E-03
Beryllium	< 4.74E-06	< 4.68E-06	< 4.60E-06	< 4.67E-06	3.70E-05
Cadmium	1.53E-04	2.20E-04	2.03E-04	1.92E-04	
Lead	1.68E-03	8.86E-03	2.66E-03	4.40E-03	1.65E-01

TABLE 2-1 (CONTINUED)
UNIT NO. 1 TEST RESULTS

	Run 1	Run 2	Run 3	Average	Permit Limit
Emission Rate, lb/MMBtu					
Sulfuric Acid Mist	0.0170	0.0140	0.0162	0.0157	0.036
Sulfur Dioxide	0.006	0.0	0.003	0.003	0.15
Nitrogen Oxides (as NO ₂)	0.277	0.265	0.273	0.272	0.29
Carbon Monoxide	0.021	0.025	0.031	0.026	0.1
Fluoride	< 7.81E-05	< 7.22E-05	< 5.74E-05	< 6.92E-05	0.0035
Total Hydrocarbons as (CH ₄)	0.0008	0.0005	0.0003	0.0005	0.021
PCDD/PCDF	2.66E-08	2.75E-08	2.51E-08	2.64E-08	2.54E-08
Hydrogen Chloride	0.0226	0.0273	0.0206	0.0235	0.064
Mercury	2.77E-05	3.84E-05	< 2.97E-05	< 3.19E-05	1.38E-04
Arsenic	< 3.24E-07	6.87E-07	4.37E-07	< 4.83E-07	9.10E-06
Beryllium	< 1.78E-08	< 1.80E-08	< 1.84E-08	< 1.80E-08	1.35E-07
Cadmium	5.75E-07	8.46E-07	8.10E-07	7.44E-07	
Lead	6.31E-06	3.41E-05	1.06E-05	1.70E-05	6.00E-04

TABLE 2-2

UNIT NO. 2 TEST RESULTS

	Run 1	Run 2	Run 3	Average	Permit Limit
INLET					
Concentration, ppmvd @ 7% O₂					
Sulfur Dioxide	105.1	99.3	112.0	105.5	
Carbon Monoxide	28.6	27.1	27.3	27.7	
Hydrogen Chloride	771	957	917	882	
Emission Rate lb/hr					
Mercury	0.00900	< 0.0116	< 0.0145	< 0.0117	
STACK					
Concentration, ppmvd @ 7% O₂					
Sulfur Dioxide	27.3	13.3	13.4	18.0	30
Nitrogen Oxides (as NO ₂)	164.4	165.5	170.9	166.9	180
Carbon Monoxide	27.8	26.4	24.6	26.3	100
Fluoride	< 0.0887	< 0.104	< 0.0899	< 0.0941	5.0
Total Hydrocarbons as (CH ₄)	6.8	3.1	2.1	4.0	37
Hydrogen Chloride	28.5	31.3	28.8	29.5	25
Concentration, ug/dscm @ 7% O₂					
Mercury	< 24.8	< 32.3	< 26.6	< 27.9	70
Concentration, gr/DSCF @ 7% O₂					
Particulate, Normal Operation	0.00162	0.00120	0.00253	0.00178	0.010
Particulate, Soot Blow	0.00221	0.00294	0.00216	0.00244	0.010
Particulate Less Than 10 Microns	0.000823	0.00143	0.00127	0.00364	0.010
Concentration, ppmvd					
Ammonia	1.17	0.753	0.441	0.787	50
Concentration, ng/DSCM @ 7% O₂					
PCDD/PCDF	17.5	18.9	18.0	18.1	30

TABLE 2-2 (CONTINUED)
UNIT NO. 2 TEST RESULTS

	Run 1	Run 2	Run 3	Average	Permit Limit
Emission Rate, lb/hr					
Particulate, Normal Operation	0.819	0.607	1.31	0.911	5.34
Particulate, Soot Blow	1.18	1.59	1.20	1.32	5.34
Particulate Less Than 10 Microns	0.425	0.751	0.718	0.631	5.34
Sulfuric Acid Mist	2.37	3.64	4.17	3.39	9.85
Sulfur Dioxide	17.39	8.63	8.68	11.57	41
Nitrogen Oxides (as NO ₂)	75.22	77.04	79.65	77.30	80
Carbon Monoxide	7.74	7.47	6.98	7.40	27.2
Fluoride	< 0.0164	< 0.0193	< 0.0178	< 0.0179	0.96
Total Hydrocarbons as (CH ₄)	0.83	0.38	0.25	0.49	5.80
PCDD/PCDF	4.17E-06	4.51E-06	4.48E-06	4.39E-06	7.00E-06
Hydrogen Chloride	10.3	11.2	10.5	10.7	17.7
Mercury	< 5.89E-03	< 7.66E-03	6.41E-03	< 6.65E-03	0.0379
Arsenic	1.07E-04	1.02E-04	< 8.39E-05	< 9.76E-05	2.50E-03
Beryllium	< 4.59E-06	< 4.65E-06	< 4.60E-06	< 4.61E-06	3.70E-05
Cadmium	2.97E-04	1.50E-04	9.34E-05	1.80E-04	
Lead	2.43E-03	1.28E-03	1.05E-03	1.59E-03	1.65E-01

TABLE 2-2 (CONTINUED)
UNIT NO. 2 TEST RESULTS

	Run 1	Run 2	Run 3	Average	Permit Limit
Emission Rate, lb/MMBtu					
Sulfuric Acid Mist	0.00875	0.0134	0.0149	0.0124	0.036
Sulfur Dioxide	0.065	0.032	0.032	0.043	0.15
Nitrogen Oxides (as NO ₂)	0.282	0.284	0.294	0.287	0.29
Carbon Monoxide	0.029	0.028	0.026	0.028	0.1
Fluoride	< 6.30E-05	< 7.36E-05	< 6.38E-05	< 6.68E-05	3.50E-03
Total Hydrocarbons as (CH ₄)	0.0031	0.0014	0.0009	.0018	0.02
PCDD/PCDF	1.57E-08	1.70E-08	1.61E-08	1.63E-08	2.54E-08
Hydrogen Chloride	0.0389	0.0425	0.0393	0.0403	0.064
Mercury	< 2.23E-05	< 2.90E-05	2.39E-05	< 2.51E-05	1.38E-04
Arsenic	4.04E-07	3.88E-07	< 3.13E-07	< 3.68E-07	9.10E-06
Beryllium	< 1.74E-08	< 1.76E-08	< 1.71E-08	< 1.74E-08	1.35E-07
Cadmium	1.13E-06	5.69E-07	3.48E-07	6.81E-07	
Lead	9.21E-06	4.86E-06	3.93E-06	6.00E-06	6.00E-04

TABLE 2-3
ASH BUILDING PARTICULATE TEST RESULTS

	Run 1	Run 2	Run 3	Average	Permit Limit
Concentration, gr/DSCF	7.47E-04	3.12E-03	2.77E-04	1.38E-03	0.01
Emission Rate, lb/hr	0.113	0.462	0.0388	0.205	

TABLE 2-4
OPACITY TEST RESULTS (%)

Location	Condition (if applicable)	Run 1	Run 2	Run 3	Average	Permit Limit
Unit 1	Normal Operation	0	0	0	0	10
	Soot Blow	0	0	0	0	10
Unit 2	Normal Operation	0	0	0	0	10
	Soot Blow	0	0	0	0	10
Ash Handling System		0	0	0	0	
Ash Building		0	0	0	0	5
Lime Silo		0				5

3.0 INTRODUCTION

On June 21 through 26, 1999 AirKinetics, Inc. conducted source emissions testing for Ogden Energy Group, Inc. at Ogden Martin Systems of Lee, Inc. in Fort Myers, Florida. The objective of the test program was to perform the yearly compliance test as outlined in the Permit-To-Operate (PTO). The testing was conducted on both Unit Nos. 1 and 2. The methods used during this test program were EPA Method 1 for sampling point determination, EPA Method 2 for velocity and flow rate, EPA Method 3 for molecular weight, EPA Method 4 for flue gas moisture content, EPA Method 5 for particulate, EPA Methods 3A and 6C for O₂, CO₂, and SO₂, EPA Methods 7E and 10 for NO_x and CO, EPA Method 8 for sulfuric acid mist, EPA Method 9 for opacity, EPA Method 13B for fluorides, EPA Method 23 for dioxin/furans, EPA Method 25A for total hydrocarbons, EPA Method 26 for hydrogen chloride (HCl) and ammonia (separate train) and EPA Method 29 for arsenic, beryllium, cadmium, lead, and mercury (As, Be, Cd, Pb and Hg, respectively).

Following is a test log is presented in Table 3-1 which lists the test locations, sampling objectives, sampling methods, test dates, and run numbers for the test program.

TABLE 3-1
TEST LOG

Test Location	Sampling Objective	Sampling Method	Run Numbers Date		
Unit No. 1 Inlet	O ₂ , CO ₂ , SO ₂ and CO	EPA 3A, 6C & 10	1-I-COMP-1 (6/21/99)	1-I-COMP-2 (6/22/99)	1-I-COMP-3 (6/22/99)
	HCl	EPA 26	1-I-M26-1 (6/21/99)	1-I-M26-2 (6/21/99)	1-I-M26-3 (6/22/99)
	Hg	EPA 29	1-I-M29-1 (6/21/99)	1-I-M29-2 (6/21/99)	1-I-M29-4 (6/25/99)
Unit No. 1 Stack	Particulate	EPA 5	1-S-M5-1 (6/22/99)	1-S-M5-2 (6/24/99)	1-S-M5-3 (6/25/99)
	Sulfuric Acid Mist	EPA 8	1-S-M8-1 (6/25/99)	1-S-M8-2 (6/26/99)	1-S-M8-3 (6/26/99)
	Opacity	EPA 9	1-S-M9-1 (6/22/99)	1-S-M9-2 (6/24/99)	1-S-M9-3 (6/25/99)
	O ₂ , CO ₂ , SO ₂ , NO _x , & CO	EPA 3A, 6C, 7E, & 10	1-S-COMP-1 (6/21/99)	1-S-COMP-2 (6/22/99)	1-S-COMP-3 (6/22/99)
	HF	EPA 13B	1-S-M13B-1 (6/23/99)	1-S-M13B-2 (6/26/99)	1-S-M13B-3 (6/26/99)
	Dioxin/Furans	EPA 23	1-S-M23-1 (6/23/99)	1-S-M23-2 (6/24/99)	1-S-M23-3 (6/25/99)
	Total Hydrocarbons	EPA 25A	1-S-M25A-1 (6/24/99)	1-S-M25A-2 (6/24/99)	1-S-M25A-3 (6/24/99)
	HCl	EPA 26	1-S-M26-1 (6/21/99)	1-S-M26-2 (6/21/99)	1-S-M26-3 (6/22/99)
	Ammonia		1-S-NH3-2 (6/21/99)	1-S-NH3-3 (6/23/99)	1-S-NH3-4 (6/24/99)
	Hg	EPA 29	1-S-M29-1 (6/21/99)	1-S-M29-2 (6/21/99)	1-S-M29-4 (6/25/99)
	PM10	EPA 201A	1-S-M201A-1 (6/24/99)	1-S-M201A-2 (6/25/99)	1-S-M201A-3 (6/26/99)
Unit No. 1 Soot Blow	Particulate	EPA 5	1-S-M5-1SB (6/22/99)	1-S-M5-2SB (6/23/99)	1-S-M5-3SB (6/24/99)
	Opacity	EPA 9	1-S-M9-1SB (6/22/99)	1-S-M9-2SB (6/23/99)	1-S-M9-3SB (6/24/99)

TABLE 3-1 (CONTINUED)

TEST LOG (CONTINUED)

Test Location	Sampling Objective	Sampling Method	Run Numbers		
			Date		
Unit No. 2 Inlet	O ₂ , CO ₂ , SO ₂ and CO	EPA 3A, 6C & 10	2-I-COMP-1 (6/23/99)	2-I-COMP-2 (6/23/99)	2-I-COMP-3 (6/23/99)
	HCl	EPA 26	2-I-M26-1 (6/22/99)	2-I-M26-2 (6/23/99)	2-I-M26-3 (6/23/99)
	Hg	EPA 29	2-I-M29-1 (6/22/99)	2-I-M29-2 (6/23/99)	2-I-M29-3 (6/23/99)
Unit No. 2 Stack	Particulate	EPA 5	2-S-M5-1 (6/21/99)	2-S-M5-2 (6/21/99)	2-S-M5-3 (6/25/99)
	Sulfuric Acid Mist	EPA 8	2-S-M8-1 (6/24/99)	2-S-M8-2 (6/24/99)	2-S-M8-3 (6/26/99)
	Opacity	EPA 9	2-S-M9-1 (6/21/99)	2-S-M9-2 (6/21/99)	2-S-M9-3 (6/25/99)
	O ₂ , CO ₂ , SO ₂ , NO _x , & CO	EPA 3A, 6C, 7E, & 10	2-S-COMP-1 (6/23/99)	2-S-COMP-2 (6/23/99)	2-S-COMP-3 (6/23/99)
	HF	EPA 13B	2-S-M13B-1 (6/22/99)	2-S-M13B-2 (6/23/99)	2-S-M13B-3 (6/26/99)
	Dioxin/Furans	EPA 23	2-S-M23-1 (6/22/99)	2-S-M23-2 (6/24/99)	2-S-M23-3 (6/25/99)
	Total Hydrocarbons	EPA 25A	2-S-M25A-1 (6/23/99)	2-S-M25A-2 (6/23/99)	2-S-M25A-3 (6/23/99)
	HCl	EPA 26	2-S-M26-1 (6/22/99)	2-S-M26-2 (6/23/99)	2-S-M26-3 (6/23/99)
	Ammonia		2-S-NH3-1 (6/22/99)	2-S-NH3-2 (6/22/99)	2-S-NH3-3 (6/23/99)
	Hg	EPA 29	2-S-M29-1 (6/22/99)	2-S-M29-2 (6/23/99)	2-S-M29-3 (6/23/99)
	PM10	EPA 201A	2-S-M201A-1 (6/24/99)	2-S-M201A-2 (6/24/99)	2-S-M201A-3 (6/26/99)
Unit No. 2 Soot Blow	Particulate	EPA 5	2-S-M5-1SB (6/21/99)	2-S-M5-2SB (6/23/99)	2-S-M5-3SB (6/25/99)
	Opacity	EPA 9	2-S-M9-1SB (6/21/99)	2-S-M9-2SB (6/23/99)	2-S-M9-3SB (6/25/99)
Ash Building	Particulate	EPA 5	Ash-M5-1 (6/21/99)	Ash-M5-2 (6/21/99)	Ash-M5-3 (6/21/99)
	Opacity	EPA 9	Ash-M9-1 (6/21/99)	Ash-M9-2 (6/21/99)	Ash-M9-3 (6/21/99)
Lime Silo	Opacity	EPA 9	LS-M9-1 (6/25/99)		

4.0 SOURCE PROCESS AND EQUIPMENT DESCRIPTION

4.1 Process Description

The facility consists of two identical municipal solid waste-fired boilers of Martin GmbH Stoker Combustion System design. The facility is rated at 600 tons of municipal solid waste per day (600 TPD/boiler) and generates approximately 39.7 megawatts of electricity.

4.2 Location Description

The sampling locations for Unit Nos. 1 and 2 stacks are identical. The stack location ducts are 78 inches in diameter. The upstream and downstream distances to the nearest flow disturbance are 54 feet (8.3 equivalent diameters) and 236 feet (363 equivalent diameters), respectively. Two six inch test ports were available for sampling. Six traverse points were sampled per port.

The inlet location ducts are 62 inches in diameter. The upstream and downstream distances to the nearest flow disturbance are 120 inches (1.47 equivalent diameters) and 12 inches (0.15 equivalent diameters).

5.0 SAMPLING AND ANALYTICAL PROCEDURES

Following are brief descriptions of the sampling and analytical procedures employed during this test program.

5.1 EPA Method 1 - Sampling Point Determination

The number and locations of the sampling and/or traverse points were determined according to the procedures outlined in EPA Method 1.

5.2 EPA Method 2 - Flue Gas Velocity and Flow Rate

The flue gas velocity and volumetric flow rate were determined according to the procedures outlined in EPA Method 2. Velocity measurements were made using Type S Pitot tubes conforming to the geometric specifications in the test method. Accordingly, each has been assigned a coefficient of 0.84. Differential pressures were measured with Magnehelic gauges of appropriate range or with fluid manometers. Effluent gas temperatures were measured with Type K (chromel-alumel) thermocouples equipped with hand-held digital readouts.

5.3 EPA Method 3 - Flue Gas Molecular Weight

Sample Collection. Flue gas analyses for carbon dioxide, oxygen and the calculation of percent excess air and flue gas dry molecular weight were performed in accordance with EPA Method 3. Multi-point, integrated sampling was used to obtain a flue gas sample concurrent with isokinetic testing. A stainless steel probe was affixed to the isokinetic sampling probe for this purpose. A peristaltic pump delivering 500 to 750 ml/min of flue gas was used to fill a Tedlar bag. Moisture was removed from the sample gas by means of a knockout jar located prior to the pump. Sampling was of the same duration (except purges following port changes) as the test runs.

Sample Analysis. Analyses were performed by Orsat apparatus. Prior to each series of analyses, the Orsat was leak checked to confirm that there is less than 0.2 ml change in five minutes. Analyses for a given sample must agree within 0.3% by volume.

5.4 EPA Method 4 - Flue Gas Moisture Content

The flue gas moisture content was determined in conjunction with each isokinetic type train and according to the sampling and analytical procedures outlined in EPA Method 4. The impingers were connected in series and contained DI water. The impingers were contained in an ice bath to assure condensation of the flue gas stream moisture. Any moisture that was not condensed in the impingers was captured in the silica gel; therefore, all moisture was weighed and entered into moisture content calculations.

5.5 EPA Method 5 - Particulate

The concentration of particulate was determined using the procedures and equipment described in EPA Method 5, in combination with Methods 1 through 4 described above.

Sampling Train Description. The sampling train consisted of a glass nozzle, a heated glass-lined probe with a Type S Pitot tube and thermocouple attached, a heated glass fiber filter, four chilled impingers in series, a pump, a dry gas meter and a calibrated orifice. The filter was housed in a glass filter holder and supported on a glass frit. The first and second impingers each contained 100 mL of deionized (DI) water, the third was empty, and the fourth contained preweighed silica gel. All glassware was precleaned using soap, tap water and deionized (DI) water.

Sample Train Operation. The sample train was operated according to EPA Method 5. The entire sample train was leak tested to ensure that leakage did not exceed the lesser of a) 4 percent of the average sampling rate, or b) 0.02 cfm. The probe exit temperature was maintained above 248°F, and the filter compartment was maintained at 248°F $\pm$ 25°F during sampling. Sampling was maintained within $\pm$ 10 percent of isokinetics.

Sample Recovery. The filter was removed and placed in a jar. The contents of the impingers were returned to the original jar, weighed, the weight recorded and the liquid level marked. The silica gel was returned to the original tared jar, weighed and the weight recorded.

Sample Analysis. The particulate mass, which included any material that condensed at or above the filtration temperature, was determined gravimetrically after removal of uncombined water according to EPA Method 5 procedures. AirKinetics conducted these analyses.

5.6 EPA Method 8 - Sulfuric Acid Mist

The concentration of sulfuric acid mist was determined using the procedures and equipment described in EPA Method 8, in combination with Methods 1 through 4 described above.

Sampling Train Description. The sampling train consisted of a glass nozzle, a heated glass-lined probe with a Type S Pitot tube and thermocouple attached, four chilled impingers in series, a heated glass fiber filter, a pump, a dry gas meter and a calibrated orifice. The filter was housed in a glass filter holder and supported on a glass frit. The first two impingers each contained, 100 ml of 5% hydrogen peroxide the third was empty, and the fourth contained preweighed silica gel. All glassware was precleaned using soap, tap water and deionized (DI) water.

Sample Train Operation. The sample train was operated according to EPA Method 8. The entire sample train was leak tested to ensure that leakage did not exceed the lesser of a) 4 percent of the average sampling rate, or b) 0.02 cfm. The probe exit temperature was maintained above 248°F, and the filter compartment was maintained at 248°F $\pm$ 25°F during sampling. Sampling was maintained within $\pm$ 10 percent of isokinetics.

Sample Recovery. The filter was removed and placed in a jar. The contents of the impingers were returned to the original jar, weighed, the weight recorded and the liquid level marked. The silica gel was returned to the original tared jar, weighed and the weight recorded. The impingers were rinsed with DI into the jar containing the impingers' reagent.

Sample Analysis. The sulfuric acid mist was determined by titration.

5.7 EPA Method 9 - Opacity

The procedures outlined in EPA Method 9 were used for the determination of the stack plume opacity. AirKinetics placed a certified, experienced visible emissions observer on site to record plume opacity for the duration of each particulate run.

5.8 EPA Methods 3A, 6C, 7E and 10 - CO₂, O₂, SO₂, NO_x and CO Concentrations

A heated stainless-steel probe was used to draw sample from the duct. A calibration valve was attached at the probe outlet to allow injection of calibration gas through the sample handling system. Approximately 8 feet of heat traced Teflon sample line was used to transport the sample to the conditioning system. The conditioning system consisted of four impingers immersed in a 50/50 mix of ethylene glycol/water and dry ice. The

temperature of the gas exiting the outlet impinger was maintained at approximately 37 °F temperature. The dried sample was filtered and passed through a Thermo-electric cooler to ensure a sample dew point of 37 °F. The sample was then pumped to the sample manifold. All sampling system components were constructed of Teflon or 316 stainless-steel. The sampling system was configured to allow the introduction of calibration gases either directly to the analyzers or through the sampling system.

All calibrations were performed using NIST traceable Protocol 1 calibration gases. All calibration gas dilutions met the requirements of EPA Method 205. The test results for EPA Method 205 verification test are presented in Appendix C.

A three-point (zero, mid-, and high-range) analyzer calibration error check was conducted on each reference analyzer before initiating the relative accuracy testing each day. This check was conducted (after final calibration adjustments were made) by injecting the calibration gases directly into each gas analyzer and recording the responses.

Zero and upscale calibration checks were conducted both before and after each test run in order to quantify measurement system calibration drift and sampling system bias. Upscale was either the mid- or high-range gas, whichever most closely approximated the flue gas level. During these checks, the calibration gases were introduced into the sampling system at the probe outlet so that the calibration gases were analyzed in the same manner as the flue gas samples.

The DAS consisted of a Toshiba Model 3200SX portable computer, Data Translation, Inc. interface hardware and software. The DAS read analyzer signals once each second and printed one-minute and other selected averages. All instrument calibrations were also recorded by the DAS.

The RM gas analyzer performance tests included an SO₂ interference test and a NO₂-to-NO converter efficiency test for the NO_x analyzer. The converter efficiency test was conducted according to the procedures in EPA Method 20, Section 5.6.1. Interference tests for the NO_x analyzer was conducted at AirKinetics' laboratory. Results of the performance tests are presented in Appendix F.

All calibration gases used for the RM were analyzed according to EPA Protocol 1 procedures. A description of the analyzers used for the test program is presented in Table 5-1.

TABLE 5 - 1
ANALYZERS USED FOR EPA METHODS 3A, 6C, 7E and 10

Analyzer Type	Manufacturer	Model Number	Detection Principle	Range
CO ₂	ACS (Fuji)	3300	Non-Dispersive Infra-Red	0-11%
O ₂	Teledyne	320P-4	Fuel Cell	0-20%
NO _x	Thermo Environmental	42H	Chemiluminescence	0-500 ppm
SO ₂	Western Research	721 AT	Non-Dispersive Ultraviolet	0-100 ppm
	BOVAR	721 M	Non-Dispersive Ultraviolet	0-1000 ppm
CO	Thermo Environmental	48	Gas Filter Correlation	0-100 ppm

5.9 EPA Method 13B - Fluorides

The concentration and emission rate of fluoride was determined using the procedures and equipment described in EPA Method 13B, in combination with Methods 1 through 4 described above.

Sampling Train Description. The sampling train consisted of a glass nozzle, a heated glass-lined probe with a Type S Pitot tube and thermocouple attached, four chilled impingers in series, a heated glass fiber filter, a pump, a dry gas meter and a calibrated orifice. The first two impingers each contained 100 milliliters of 0.1 N sodium hydroxide (NaOH), the third was empty, and the fourth contained preweighed silica gel. The filter was housed in a glass filter holder and supported on a glass frit. The filter was a Whatman 541 paper filter supported with a Teflon frit. All glassware was precleaned using soap, tap water and deionized (DI) water.

Sample Train Operation. The sample train was operated according to EPA Method 5. The entire sample train was leak tested to ensure that leakage did not exceed the lesser of a) 4 percent of the average sampling rate, or b) 0.02 cfm. The probe exit temperature was maintained above 248°F. Sampling was maintained within ± 10 percent of isokinetics.

Sample Recovery. The filter was removed and placed in a jar. The contents of the impingers were returned to the original jar, weighed, the weight recorded and the liquid level marked. The silica gel was returned to the original tared jar, weighed and the weight recorded.

Sample Analysis. For analysis, the filter was washed with deionized, distilled water to dissolve particulate fluorides. Aliquots of the filter and of the impinger solution were analyzed for fluoride content by ion specific electrode.

5.10 EPA Method 23 - Dioxin/Furans

The sampling and analytical procedures outlined in EPA Method 23 were used to determine the dioxin/furans.

Sampling Train Description. The sampling train consisted of a glass nozzle, a heated glass probe, a heated Teflon-coated glass fiber filter, a water-cooled condenser, a XAD sorbent trap, four chilled impingers in series, a pump, a dry gas meter and a calibrated orifice. The filter was housed in glass filter holder and supported on a Teflon frit. The condenser was placed above the XAD sorbent trap allowing the condensate to drain vertically through the sorbent for removal of the organic constituents in the gas. The sorbent trap was charged with the precleaned resin. The first impinger was empty, the second contained distilled, DI water, the third was empty and the fourth contained preweighed silica gel.

Care was taken to ensure that the XAD resin was stored on ice before and after sample collection to prevent resin decomposition.

All glassware including the sorbent trap glassware was precleaned prior to sampling according to the procedure listed below.

1. Soak in hot soapy water
2. Rinse three times with tap water
3. Rinse three times with DI water
4. Rinse three times with acetone rinse
5. Rinse three times with hexane
6. Rinse three times with methylene chloride
7. Cap glassware with methylene chloride-rinsed aluminum foil.

Sampling Train Operation. The sample train was operated according to EPA Method 23. All testing was conducted for four (4) hours. The entire sample train was leak tested to ensure that leakage did not exceed the lesser of a) 4 percent of the average sampling rate, or b) 0.02 cfm. The probe exit temperature was maintained above 248°F, and the filter compartment was maintained at 248°F $\pm$ 25°F during sampling. Sampling was maintained within $\pm$ 10 percent of isokinetics. The temperature of the gas entering the sorbent trap was maintained at or below 60 °F. Sealing greases were not used on the sample train.

Sample Recovery. The XAD trap was removed and capped. The filter was removed and placed in a petri dish and sealed with Teflon tape and stored on ice. The contents of the first three impingers were returned to the original jar, weighed, the weight recorded and the liquid level marked. The silica gel was returned to the original jar, weighed and the weight recorded.

The front half of the train including the nozzle, probe and front half of the filter holder was rinsed three times each with acetone and methylene chloride into a glass jar. The back half of the filter holder and the condenser and connectors were rinsed three times each with acetone and methylene chloride and placed into a glass jar. The front half and back half fractions were then rinsed three times with toluene. The samples were maintained at 0-4 °C from the time of collection to extraction using ice and cold packs. Recovery of the samples and assembly of the sample trains were conducted in an environment free from uncontrolled dust. A blank train was assembled, leak checked, recovered and analyzed in the same manner as a test run.

Sample Analyses. Analyses for dioxin/furans was performed by Alta Analytical Laboratory. The XAD trap, filter and rinses were analyzed for dioxin/furans according to EPA Method 23. The analytical method entails the addition of internal standards in known quantities, matrix-specific extraction of the sample, preliminary fractionating and cleanup of extracts (if necessary) and analysis of the processed extract for dioxin/furans. The analyses were conducted using high resolution capillary column gas chromatography coupled with high resolution mass spectrometry (HRGC/HRMS).

5.11 EPA Method 25A – Total Hydrocarbons

The total gaseous hydrocarbon concentration (THC) was determined in accordance with the procedures outlined in EPA Method 25A. A continuous sample of the flue gas was directed into a Thermal Environmental Model 51 hydrocarbon analyzer. The THC analyzer was operated in the 0-50 ppm THC range.

The instrument is calibrated using concentrations of propane in nitrogen (N₂). These calibration gases were certified according to the procedures outlined in EPA Protocol 1. The wet-basis concentration of THC is then reported in ppmv as propane.

Calibration and linearity checks were performed through the entire sampling system before and after each test period. "Zero drift" checks were made after each run to adjust the concentration bias due to drift. All parts of the sampling train were heated to a temperature of at least 250°F.

5.12 EPA Method 26 - Hydrogen Chloride and Ammonia

The sampling and analytical procedures outlined in the EPA Method 26 were followed to determine hydrogen chloride emissions. The midjet impingers described in the method were replaced with standard size impingers. A separate sampling train using the same sampling procedures and equipment was used to determine ammonia emissions.

Sampling Train Description. The sampling train consisted of a glass probe, four chilled impingers in series, a pump, a dry gas meter and a calibrated orifice. A quartz fiber filter was placed between the probe and the first impinger. The filter was housed in a glass filter holder and supported on a Teflon filter support. The first and second impingers each contained 100 ml of 0.1N H₂SO₄. The third impinger was initially empty and the fourth impinger contained preweighed silica gel.

All glassware was precleaned by washing with soap, tap water, and DI water. All components of the sampling train contacting the sample were constructed of glass or Teflon.

Sampling Train Operation. The sample train was operated isokinetically. The entire sample train was leak tested to ensure that leakage did not exceed the lesser of a) 4 percent of the average sampling rate, or b) 0.02 cfm. The probe exit temperature was maintained above 248°F, and the filter compartment was maintained at 248°F ± 25°F during sampling. Sampling was maintained within ± 10 percent of isokinetics.

Sample Recovery. The contents of the first and second impingers were poured into their original glass jar, weighed, the weight recorded and the liquid level marked. The impingers were then rinsed three times with DI water and the rinse poured on top of the reagent. The silica gel was returned to the original tared jar, weighed, and the weight recorded.

Sample Analyses. Analyses were performed by Quanterra Environmental Services, Inc. The sulfuric acid solution was analyzed for hydrogen chloride using ion chromatography coupled with a conductivity detection. Analyses for ammonia were performed by ion selective electrode.

5.13 EPA Method 29 - Arsenic, Beryllium, Cadmium, Lead, and Mercury

The EPA Method 29 sampling train was used to determine arsenic, beryllium, cadmium, lead and mercury emissions.

Sample Train Description. This train was operated in the same manner as a regular EPA Method 5 sampling train. Pretest preparations, preliminary determinations, and leak check procedures were those outlined in EPA Method 5. The average sampling rate for each run was within $\pm 10\%$ of 100% isokinetic conditions. Each test run was a minimum of two (2) hours in duration and sampled a minimum of 60 dry standard cubic feet. Borosilicate glass or quartz probe liners and nozzles were used to avoid possible contamination.

Sample Train Operation. The reagents placed in the impingers were as follows: 100 ml of 5% HNO_3 /10% H_2O_2 in each of the first two impingers, the third remained empty, 4% KMNO_4 /10% H_2SO_4 in the fourth and fifth impingers and 200 grams of silica gel in the sixth impinger. In addition, a low metals quartz filter, Pallflex 2500QAT-UP, was used instead of the normal EPA Method 5 filter. The filter was placed between the probe exit and the first impinger.

Sample Recovery. After sampling, recovery begins by transferring the contents of the first three impingers into a 1000 mL glass sample bottle. The probe nozzle, probe line, and front half of the filter holder recovery was performed as follows: the components were rinsed with a total of 250 to 400 mL of fresh 4% potassium permanganate solution; washings were added to the 1000 mL precleaned glass sample bottle containing reagents; any residual brown deposits on the glassware behind the filter were removed by rinsing with DI water then followed by an 8 N HCl rinse and placed in a container.

Sample Analysis. Analyses for As, Be, Cd and Pb were performed by ICP/MS according to EPA Method 6020. Analyses for Hg were performed by cold vapor atomic absorption (CVAA) analysis. Samples, standards, QA/QC materials, and blanks were prepared in the same matrix prior to measurement. These analyses were conducted by Quanterra Environmental Services.

Duplicate analyses were performed on 10% of all MMTL samples. In addition a MMTL field blank was analyzed. Reagent and filter blanks were archived. Spikes were also be added to determine metals recovery efficiencies.

5.14 EPA Method 201A - Particulate <10 Microns

The concentration and emission rate of particulate with an aerodynamic size of <10 microns was determined using the procedures and equipment described in EPA Method 201A.

Sample Train Description. The sampling train consisted of a stainless steel nozzle, a heated stainless steel -lined probe, an in stack Anderson 280 Series cyclone followed by a 6.35 cm glass fiber filter, four chilled impingers in series, a pump, a dry gas meter and a calibrated orifice. The filter was housed in a glass filter holder and

supported on a glass frit. The first and second impingers each contained 100 ml of deionized (DI) water, the third was empty, and the fourth contained preweighed silica gel. All glassware was precleaned using soap, tap water and deionized (DI) water.

Sample Train Operation. The sampling time at each point was adjusted to be proportional to the velocity at that point to provide a velocity weighted sample. To determine which points were sampled and for how long, a preliminary velocity traverse was performed as per EPA Method 5 at a minimum of 12 sampling points indicated by EPA Method 1. From this data, the average velocity in the stack was calculated. Based on the stack gas parameters, the appropriate ACFM into the nozzle was selected for the PM10 cut from a series of calculations. The desired nozzle size was calculated. Using the closest nozzle diameter to the desired size available, the desired velocity into the nozzle was calculated. By comparing the velocity into the nozzle and the stack velocity at each point, the points with a ratio between 0.80 and 1.20 are selected. The sampling rate remained constant for the duration of the test.

Sample Recovery. The nozzle and cyclone were rinsed with acetone into a sample jar. The particulate catch from the filter was placed into a sample jar and the filter holder rinse was placed into a separate sample jar. The results were presented as particulate matter with an aerodynamic diameter equal to or less than 10 microns. Nozzles, probe liners, and filter holders were rinsed thoroughly prior to testing.

Sample Analysis. The filter particulate matter catch (front half) was determined according to Method 5, 40 CFR Part 60, Appendix A.

6.0 TEST CRITIQUE

6.1 EPA Method 5 - Particulate

No sampling train leaks were observed during testing. The average sampling rate for each test run was within 10% of isokinetic. A minimum sample volume of 60 standard cubic feet was collected for all test runs. Acetone was analyzed with 0.2 mg.

6.2 EPA Method 8 - Sulfuric Acid Mist

No sampling train leaks were observed during testing. A sample reagent blank was analyzed with no H₂SO₄ detected. An internal audit sample was analyzed with a 1.46% deviation.

6.3 EPA Method 9 - Opacity

Testing was performed according to EPA Method 9 with no variations.

6.4 EPA Methods 3A, 6C, 7E and 10 - O₂, CO₂, SO₂, NO_x, and CO Concentrations

All reference measurement system calibration bias and drift checks for each test run were within the specifications of EPA. The calibration error for each gas was less than 2 percent of span. The sampling system bias before and after each test run was less than 5 percent of span. The calibration drift during each run was less than 3 percent of span. All pre- and post-test measurement system performance checks were also within specifications. No sampling system leaks were observed during testing.

6.5 EPA Method 13B - Fluorides

No sampling train leaks were observed during testing. The average sampling rate for each test run was within 10% of isokinetic. A minimum sample volume of 30 standard cubic feet was collected for all test runs. A sample reagent blank was analyzed with no fluorides detected. Matrix spike and matrix spike duplicate analyses were conducted with a percent recovery average of 106 % and a relative percent difference (RPD) of 3.

6.6 EPA Method 23 - Dioxin/Furans

A method blank was conducted with no dioxin/furans detected. All internal standard recoveries and duplicate analyses were within acceptable limits. Field blanks were analyzed with the following dioxin/furans detected.

Unit	Compound	Amount (ng)
1	1,2,3,4,6,7,8, - HpCDD	15
	Total HpCDD	28
	OCDD	100
2	1,2,3,4,6,7,8, - HpCDD	19
	Total HpCDD	36
	OCDD	91
	Total TCDF	6.3
	1,2,3,4,6,7,8, - HpCDF	5.9
	Total HpCDF	5.9

6.7 EPA Method 25A - Total Hydrocarbons

All reference measurement system calibration drift checks for each valid test run were within the specifications of EPA. The calibration error for each gas was less than 5 percent of calibration gas value. The calibration drift during each run was less than 3 percent of span. All pre- and post-test measurement system performance checks were also within specifications. No sampling system leaks were observed during testing.

6.8 EPA Method 26 - Hydrogen Chloride

No sampling train leaks were observed during testing. A sample reagent blank was analyzed with no HCl detected. A method blank was analyzed with no HCl detected. Laboratory control and matrix spike sample results were within acceptable limits.

6.9 EPA Method 26 - Ammonia

Unit 1 run number 1-S-NH3-1 was aborted due to a post test leak. No other sampling train leaks were observed during testing. A reagent blank was analyzed with 2.3 mg of ammonia detected. A matrix spike was performed on run number 1-S-NH3-3 with a 102.1% recovery.

6.10 EPA Method 29 - Arsenic, Beryllium, Cadmium, Lead, and Mercury

No sampling train leaks were observed during testing. The average sampling rate for each test run was within 10% of isokinetic. A minimum sample volume of 60 standard cubic feet was collected for each run. Unit 1 Run 3 was aborted due to a plug in the carbon injection system.

A reagent blank was analyzed with 0.79 ug of Pb detected. A method blank was performed with no metals detected. Matrix duplicate and duplicate control sample results were within acceptable limits.

A Unit 1 field blank was analyzed with 0.53 ug of Cd and 1.2 ug of Pb detected. A Unit 2 field blank was analyzed with 2.5 ug of Pb detected.

6.11 EPA Method 201A - Particulate less than 10 microns

No sampling train leaks were observed during testing. The average sampling rate for each test run was within 20% of isokinetic. All particulate cut sizes were within 9 and 11. Acetone was analyzed with 0.2 mg.

6.12 NO₂-to-NO Converter Efficiency Check

Prior to the RATA, AirKinetics performed an NO₂-to-NO conversion efficiency check on the NO_x Chemiluminescent analyzer. The conversion efficiency determined was 99.46% which met the criteria of $\geq 98\%$.

6.13 Analyzer Interference Tests

Prior to the RATA, AirKinetics performed an interference response test on the NO_x and SO₂ analyzers used for this test program. The NO_x interference response for the analyzer was 0% of span, which met the criteria of $< 2\%$. The SO₂ interference responses for the analyzers were 0% and 1.0% of span which met the criteria of $< 2\%$.

APPENDIX A

RESULTS TABULATION

1.0 UNIT NO. 1

a. INLET

1.0 OXYGEN, CARBON DIOXIDE, SULFUR DIOXIDE AND CARBON MONOXIDE

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
 SOURCE: UNIT 1
 LOCATION: INLET

RUN NO.: RATA-1
 TEST DATE: 6/21/99
 RUN TIME: 1508-1607

(1-I-Comp-1)

Standard Temperature °F, Tstd: 68.0

STEP	DESCRIPTION	VAR	SO2	CO	O2	CO2
1	RANGE (ppm or %)	A	500	100	22	20
2	CAL. GAS USED					
	ZERO	B	0.0	0.0	0.00	0.00
	LOW	B'		30.0		
	MID	C	300.0	60.0	8.99	8.82
	HIGH	D	450.0	91.5	19.94	17.64
3	INITIAL CAL. ERROR CHECK					
	ZERO (ppm or %)	E	0.5	0.5	0.16	0.01
	LOW (ppm or %)	E'		30.5		
	MID (ppm or %)	F	303.8	59.9	9.27	8.89
	HIGH (ppm or %)	G	450.3	91.0	20.03	17.65
	ZERO, % ERROR	H	0.10	0.50	0.73	0.05
	LOW, % ERROR	H'		0.50		
	MID, % ERROR	I	0.76	-0.10	1.27	0.35
	HIGH, % ERROR	J	0.06	-0.50	0.41	0.05
4	INITIAL LINEARITY (%)	K	0.69	0.06	0.69	0.30
5	INITIAL SYS. CAL.. RESP.					
	ZERO (ppm or %)	L	1.5	-0.1	0.26	0.10
	UPSCALE (ppm or %)	M	292.8	90.5	9.11	8.67
	ZERO, % CAL. BIAS	N	0.20	-0.60	0.45	0.45
	UPSCALE, % CAL. BIAS	O	-2.20	-0.50	-0.73	-1.10
6	FINAL SYS. CAL.. RESP.					
	ZERO (ppm or %)	P	0.6	0.3	0.24	0.17
	UPSCALE (ppm or %)	Q	300.4	91.3	9.07	8.72
	ZERO, % CAL. BIAS	R	0.02	-0.20	0.36	0.80
	UPSCALE, % CAL. BIAS	S	-0.68	0.30	-0.91	-0.85
9	ZERO % DRIFT	AA	-0.18	0.40	-0.09	0.35
	UPSCALE % DRIFT	BB	1.52	0.80	-0.18	0.25
10	AVE. SYS. BIAS RESP.					
	ZERO (ppm or %)	CC	1.05	0.10	0.25	0.14
	UPSCALE (ppm or %)	DD	296.60	90.90	9.09	8.70
11	SAMPLE VALUE (ave)	EE	58.2	16.1	10.58	9.23
12	CORRECTED CONC.	FF	58.0	16.1	10.51	9.37
13	DATA REDUCTION:					
	% O2 Correction	GG	7.0	7.0		
	ppm @ 7 % O2	HH	77.6	21.6		
	Flow Rate, Qsd (dscfm)	II	85663.0	(1-I-M29-2)		
	lb/hr	JJ	49.53	6.02		
	lb/MMBtu	JJ'	0.185	0.023		
	Conversion Factor, lb/dscfm-ppm	KK	1.661E-07	7.267E-08		
	Fd Factor,dscf/MMBtu	LL	9570.0			

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
 SOURCE: UNIT 1
 LOCATION: INLET

RUN NO.: RATA 5
 TEST DATE: 6/22/99
 RUN TIME: 0845-0944

(1-I-Comp-2)

Standard Temperature °F, Tstd: 68.0

STEP	DESCRIPTION	VAR	SO2	CO	O2	CO2
1	RANGE (ppm or %)	A	500	100	22	20
2	CAL. GAS USED					
	ZERO	B	0.0	0.0	0.00	0.00
	LOW	B'		30.0		
	MID	C	300.0	60.0	8.99	8.82
	HIGH	D	450.0	91.5	19.94	17.64
3	INITIAL CAL. ERROR CHECK					
	ZERO (ppm or %)	E	0.4	0.6	0.16	0.04
	LOW (ppm or %)	E'		30.0		
	MID (ppm or %)	F	300.4	59.8	9.19	8.93
	HIGH (ppm or %)	G	449.8	91.7	19.89	17.66
	ZERO, % ERROR	H	0.08	0.60	0.73	0.20
	LOW, % ERROR	H'		0.00		
	MID, % ERROR	I	0.08	-0.20	0.91	0.55
	HIGH, % ERROR	J	-0.04	0.20	-0.23	0.10
4	INITIAL LINEARITY (%)	K	0.08	-0.54	0.61	0.40
5	INITIAL SYS. CAL.. RESP.					
	ZERO (ppm or %)	L	1.5	-0.1	0.23	0.17
	UPSCALE (ppm or %)	M	294.4	89.8	8.97	8.87
	ZERO, % CAL. BIAS	N	0.22	-0.70	0.32	0.65
	UPSCALE, % CAL. BIAS	O	-1.20	-1.90	-1.00	-0.30
6	FINAL SYS. CAL.. RESP.					
	ZERO (ppm or %)	P	2.0	0.1	0.27	0.17
	UPSCALE (ppm or %)	Q	288.1	90.4	9.04	8.86
	ZERO, % CAL. BIAS	R	0.32	-0.50	0.50	0.65
	UPSCALE, % CAL. BIAS	S	-2.46	-1.30	-0.68	-0.35
9	ZERO % DRIFT	AA	0.10	0.20	0.18	0.00
	UPSCALE % DRIFT	BB	-1.26	0.60	0.32	-0.05
10	AVE. SYS. BIAS RESP.					
	ZERO (ppm or %)	CC	1.75	0.00	0.25	0.17
	UPSCALE (ppm or %)	DD	291.25	90.10	9.01	8.87
11	SAMPLE VALUE (ave)	EE	72.8	21.2	10.10	9.77
12	CORRECTED CONC.	FF	73.6	21.5	10.11	9.74
13	DATA REDUCTION:					
	% O2 Correction	GG	7.0	7.0		
	ppm @ 7 % O2	HH	94.9	27.7		
	Flow Rate, Qsd (dscfm)	II	86185.0	(1-I-M29-3)		
	lb/hr	JJ	63.24	8.09		
	lb/MMBtu	JJ'	0.227	0.029		
	Conversion Factor, lb/dscf-ppm	KK	1.661E-07	7.267E-08		
	Fd Factor,dscf/MMBtu	LL	9570.0			

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
 SOURCE: UNIT 1
 LOCATION: INLET

RUN NO.: RATA 6
 TEST DATE: 6/22/99
 RUN TIME: 1005-1104

(1-I-Comp-3)

STEP	DESCRIPTION	VAR	Standard Temperature °F, Tstd: 68.0			
			SO2	CO	O2	CO2
1	RANGE (ppm or %)	A	500	100	22	20
2	CAL. GAS USED					
	ZERO	B	0.0	0.0	0.00	0.00
	LOW	B'		30.0		
	MID	C	300.0	60.0	8.99	8.82
	HIGH	D	450.0	91.5	19.94	17.64
3	INITIAL CAL. ERROR CHECK					
	ZERO (ppm or %)	E	0.4	0.6	0.16	0.04
	LOW (ppm or %)	E'		30.0		
	MID (ppm or %)	F	300.4	59.8	9.19	8.93
	HIGH (ppm or %)	G	449.8	91.7	19.89	17.66
	ZERO, % ERROR	H	0.08	0.60	0.73	0.20
	LOW, % ERROR	H'		0.00		
	MID, % ERROR	I	0.08	-0.20	0.91	0.55
	HIGH, % ERROR	J	-0.04	0.20	-0.23	0.10
4	INITIAL LINEARITY (%)	K	0.08	-0.54	0.61	0.40
5	INITIAL SYS. CAL.. RESP.					
	ZERO (ppm or %)	L	2.0	0.1	0.27	0.17
	UPSCALE (ppm or %)	M	288.1	90.4	9.04	8.86
	ZERO, % CAL. BIAS	N	0.32	-0.50	0.50	0.65
	UPSCALE, % CAL. BIAS	O	-2.46	-1.30	-0.68	-0.35
6	FINAL SYS. CAL.. RESP.					
	ZERO (ppm or %)	P	1.5	0.6	0.21	0.22
	UPSCALE (ppm or %)	Q	292.0	90.3	8.98	8.87
	ZERO, % CAL. BIAS	R	0.22	0.00	0.23	0.90
	UPSCALE, % CAL. BIAS	S	-1.68	-1.40	-0.95	-0.30
9	ZERO % DRIFT	AA	-0.10	0.50	-0.27	0.25
	UPSCALE % DRIFT	BB	0.78	-0.10	-0.27	0.05
10	AVE. SYS. BIAS RESP.					
	ZERO (ppm or %)	CC	1.75	0.35	0.24	0.20
	UPSCALE (ppm or %)	DD	290.05	90.35	9.01	8.87
11	SAMPLE VALUE (ave)	EE	62.2	26.0	10.41	9.37
12	CORRECTED CONC.	FF	62.9	26.1	10.43	9.33
13	DATA REDUCTION:					
	% O2 Correction	GG	7.0	7.0		
	ppm @ 7 % O2	HH	83.5	34.6		
	Flow Rate, Qsd (dscfm)	II	86185.0	(1-I-M29-3)		
	lb/hr	JJ	54.03	9.80		
	lb/MMBtu	JJ'	0.200	0.036		
	Conversion Factor, lb/dscf-ppm	KK	1.661E-07	7.267E-08		
	Fd Factor,dscf/MMBtu	LL	9570.0			

APPENDIX A
RESULTS TABULATION

1.0 UNIT NO. 1

a. INLET

2.0 HYDROGEN CHLORIDE

SINGLE POINT SAMPLING RESULTS - METHOD:

M26

Client Name	Ogden Energy Group	Operator		NP
Plant Name	OMS of Lee, Inc.	Project #		10558
Sampling Location	UNIT 1 INLET	Standard Temperature, °F		68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		1-I-M26-1	1-I-M26-2	1-I-M26-3	
Run Date		06/21/99	06/21/99	06/22/99	
Run Start Time	hh:mm	1408	1617	1005	
Run Stop Time	hh:mm	1520	1717	1105	
Meter Calibration Factor	Y	1.0056	1.0056	1.0056	
Sample Volume	ft ³	33.706	33.730	33.750	33.729
Total Sampling Time	min	60	60	60	60
Average Meter Temperature	°F	110.4	109.7	102.3	107.4
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	NA	NA	NA	#DIV/0!
Absolute Stack/Duct Pressure	in Hg	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Average Delta H	in H ₂ O	1.00	1.00	1.00	1.00
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Total Water Volume Collected	mL	114.5	115.1	133.3	121.0
Volume of Water vapor @ STP	SCF	5.390	5.418	6.274	5.694
Volume Metered @ STP	DSCF	31.418	31.482	31.916	31.605
Calculated Stack Moisture	% H ₂ O	14.6	14.7	16.4	15.3
Carbon Dioxide Percentage	% CO ₂	9.0	9.0	9.3	9.1
Oxygen Percentage	% O ₂	10.3	10.3	10.0	10.2
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.7	80.7	80.7	80.7
Dry Mole Fraction	decimal	0.854	0.853	0.836	0.847
Dry Gas Molecular Weight	lb/lb-mole	29.85	29.85	29.89	29.86
Wet Stack Gas Molecular Weight	lb/lb-mole	28.12	28.11	27.93	28.05
Flue Gas Density	lb/ft ³	0.0730	0.0730	0.0725	0.0728
Calculated Fuel Factor	F _o	1.18	1.18	1.17	1.18
Percent Excess Air	% EA	93.6	93.6	88.5	91.9

Air Flow Rate Results

Concurrent Stack Flow	Run #	1-I-M29-2	1-I-M29-2	1-I-M29-3	NA
Heat Input Rate	MMBtu/hr	272	272	282	275
Dry Standard Stack Flow/Minute	DSCFM	85,663	85,663	86,185	85,837

Concentration and Emission Rate Data Summary

Hydrogen Chloride					
Molecular Weight	gm/g-mole	36.50	36.50	36.50	NA
Catch Weight	mg	671.00	718.00	686.00	6.92E+02
Concentration, ppm	ppm	4.97E+02	5.31E+02	5.00E+02	5.09E+02
Concentration, ppm @ 7% O ₂	ppm @ 7% O ₂	6.52E+02	6.96E+02	6.38E+02	6.62E+02
Concentration, ppm @ 12% CO ₂	ppm @ 12% CO ₂	6.63E+02	7.08E+02	6.45E+02	6.72E+02
Emission Rate, lbs/hr	lbs/hr	2.42E+02	2.58E+02	2.45E+02	2.48E+02
Emission Rate, gms/sec	gms/sec	3.05E+01	3.26E+01	3.09E+01	3.13E+01
Emission Rate, lbs/MMBtu	lbs/MMBtu	8.90E-01	9.50E-01	8.69E-01	9.03E-01

A

6

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: EPA 29

Client Name	Ogden Energy Group	Operator	CMW,NP
Plant Name	OMS of Lee, Inc.	Project #	10558
Sampling Location	UNIT 1 INLET	Standard Temperature, °F	68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		1-I-M29-3	0	0	
Run Date		06/22/99	01/00/00	01/00/00	
Run Start Time	hh:mm	855	0	0	
Run Stop Time	hh:mm	1137	0	0	
Meter Calibration Factor	Y	1.0090	0.0000	0.0000	
Pitot Tube Coefficient	C _p	0.84	0	0	
Actual Nozzle Diameter	in	0.222	0.000	0.000	
Sample Volume	ft ³	60.566	0.000	736.988	265.851
Total Sampling Time	min	125	0	125	83
Average Meter Temperature	°F	100.2			100.2
Average Stack Temperature	°F	458.8			458.8
Barometric Pressure	in Hg	29.9	0.0	0.0	10.0
Stack/Duct Static Pressure	in H ₂ O	-2.60	0.00	0.00	-0.87
Absolute Stack/Duct Pressure	in Hg	29.7	0.0	0.0	9.9
Average Delta H	in H ₂ O	0.82			0.82
Absolute Meter Pressure	in Hg	30.0	#VALUE!	#VALUE!	#VALUE!
Avg Differential Pressure (Delta P)	in H ₂ O	0.597			0.597
Total Water Volume Collected	mL	243.9	0.0	0.0	81.3
Volume of Water vapor @ STP	SCF	11.480	0.000	0.000	3.827
Volume Metered @ STP	DSCF	57.653	#VALUE!	#VALUE!	#VALUE!
Calculated Stack Moisture	% H ₂ O	16.6	#VALUE!	#VALUE!	#VALUE!
Saturated Stack Moisture	% H ₂ O	100.0	#VALUE!	#VALUE!	#VALUE!
Reported Stack Moisture Content	% H ₂ O	16.6	#VALUE!	#VALUE!	#VALUE!
Carbon Dioxide Percentage	% CO ₂	9.3	0.0	0.0	3.1
Oxygen Percentage	% O ₂	10.0	0.0	0.0	3.3
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.7	100.0	100.0	93.6
Dry Mole Fraction	decimal	0.834	#VALUE!	#VALUE!	#VALUE!
Dry Gas Molecular Weight	lb/lb-mole	29.89	28.00	28.00	28.63
Wet Stack Gas Molecular Weight	lb/lb-mole	27.91	#VALUE!	#VALUE!	#VALUE!
Flue Gas Density	lb/ft ³	0.0724	#VALUE!	#VALUE!	#VALUE!
Calculated Fuel Factor	F _o	1.17	#DIV/0!	#DIV/0!	#DIV/0!
F-Factor	DSCF/MM	9570	9570	9570	9570
Heat Input Rate	MMBtu/hr	282	#VALUE!	#VALUE!	#VALUE!
Percent Excess Air	% EA	88.5	0.0	0.0	29.5
Stack Cross-Sectional Area	in ²	7440.0	7440.0	7440.0	7440.0
Stack Cross-Sectional Area	ft ²	51.67	51.67	51.67	51.67
Percent of Isokinetic Rate	% ISO	102.9	#VALUE!	#VALUE!	#VALUE!

Air Flow Rate Results

Average Stack Gas Velocity	ft/sec	58.43	#VALUE!	#VALUE!	#VALUE!
Actual Stack Flow/Minute	ACFM	181,118	#VALUE!	#VALUE!	#VALUE!
Dry Standard Stack Flow/Minute	DSCFM	86,185	#VALUE!	#VALUE!	#VALUE!

APPENDIX A
RESULTS TABULATION

1.0 UNIT NO. 1

a. INLET

3.0 MERCURY

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 29**

Client Name	Ogden Energy Group	Operator		CMW,NP	
Plant Name	OMS of Lee, Inc.	Project #		10558	
Sampling Location	UNIT 1 INLET	Standard Temperature, °F		68	
USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		1-I-M29-1	1-I-M29-2	1-I-M29-4	
Run Date		06/21/99	06/21/99	06/25/99	
Run Start Time	hh:mm	910	1400	1654	
Run Stop Time	hh:mm	1158	1658	1916	
Meter Calibration Factor	Y	1.0090	1.0090	1.0090	
Pitot Tube Coefficient	C _p	0.84	0.84	0.84	
Actual Nozzle Diameter	in	0.254	0.225	0.222	
Sample Volume	ft ³	78.751	60.971	59.626	66.449
Total Sampling Time	min	125	125	125	125
Average Meter Temperature	°F	102.4	109.4	96.3	102.7
Average Stack Temperature	°F	456.0	460.6	458.9	458.5
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	-1.90	-2.80	-2.70	-2.47
Absolute Stack/Duct Pressure	in Hg	29.8	29.7	29.7	29.7
Average Delta H	in H ₂ O	1.47	0.86	0.79	1.04
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Avg Differential Pressure (Delta P)	in H ₂ O	0.619	0.592	0.574	0.595
Total Water Volume Collected	mL	292.8	242.6	253.0	262.8
Volume of Water vapor @ STP	SCF	13.782	11.419	11.909	12.370
Volume Metered @ STP	DSCF	74.795	57.104	57.150	63.016
Calculated Stack Moisture	% H ₂ O	15.6	16.7	17.2	16.5
Saturated Stack Moisture	% H ₂ O	100.0	100.0	100.0	100.0
Reported Stack Moisture Content	% H ₂ O	15.6	16.7	17.2	16.5
Carbon Dioxide Percentage	% CO ₂	9.1	9.0	9.1	9.1
Oxygen Percentage	% O ₂	10.1	10.3	10.7	10.4
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.8	80.7	80.2	80.6
Dry Mole Fraction	decimal	0.844	0.833	0.828	0.835
Dry Gas Molecular Weight	lb/lb-mole	29.86	29.85	29.88	29.87
Wet Stack Gas Molecular Weight	lb/lb-mole	28.01	27.88	27.83	27.91
Flue Gas Density	lb/ft ³	0.0727	0.0724	0.0722	0.0724
Calculated Fuel Factor	F _o	1.19	1.18	1.12	1.16
F-Factor	DSCF/MM	9570	9570	9570	9570
Heat Input Rate	MMBtu/hr	288	272	257	272
Percent Excess Air	% EA	89.9	93.6	102.2	95.2
Stack Cross-Sectional Area	in ²	7440.0	7440.0	7440.0	7440.0
Stack Cross-Sectional Area	ft ²	51.67	51.67	51.67	51.67
Percent of Isokinetic Rate	% ISO	98.9	99.8	104.7	101.1
Air Flow Rate Results					
Average Stack Gas Velocity	ft/sec	59.22	58.25	57.37	58.28
Actual Stack Flow/Minute	ACFM	183,585	180,590	177,852	180,676
Dry Standard Stack Flow/Minute	DSCFM	88,876	85,663	83,955	86,165

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD:

EPA 29

REAGENT BLANK CORRECTED DATA*			1-I-M29-1		1-I-M29-2		1-I-M29-4	
	Compound	Unit	Pre	Amt	Pre	Amt	Pre	Amt
14	Mercury	ug		92.390		129.700		88.750

ANALYTICAL DATA			1-I-M29-1		1-I-M29-2		1-I-M29-4	
	Compound	Unit	Pre	Amt	Pre	Amt	Pre	Amt
14	Mercury	ug		92.390		129.700		88.750
15	KMNO4	ug		0.590		2.300		0.200
16	Empty	ug		2.300		3.900		1.100
17	HNO3	ug		58.800		92.100		64.000
18	Front Half	ug		29.900		29.300		23.100
19	HCl	ug		0.800		2.100		0.350

REAGENT BLANK			1-I-M29-1		1-I-M29-2		1-I-M29-4	
14	Mercury	ug		0.000		0.000		0.000
15	KMNO4	ug		0.000		0.000		0.000
16	Empty	ug		0.000		0.000		0.000
17	HNO3	ug		0.000		0.000		0.000
18	Front Half	ug		0.000		0.000		0.000
19	HCl	ug		0.000		0.000		0.000

* The lessor of the reagent blank result or 5% of the catch weight is used to correct all catch weights. Non-detected values are not blank corrected.

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: EPA 29

Concentration and Emission Rate Data Summary					
Run Number		1-I-M29-1	1-I-M29-2	1-I-M29-4	AVERAGE
Mercury	ug	92.390	129.700	88.750	103.613
Concentration ug/DSCM	ug/DSCM	4.36E+01	8.02E+01	5.48E+01	5.96E+01
Concentration ug/dscm @ 12% CO ₂	ug@12%	5.75E+01	1.07E+02	7.23E+01	7.89E+01
Concentration ug/dscm @ 7% O ₂	ug@7%	5.61E+01	1.05E+02	7.47E+01	7.87E+01
Emission Rate, lb/hr	lb/hr	1.45E-02	2.57E-02	1.72E-02	1.92E-02
Emission Rate, gms/sec	gms/sec	1.83E-03	3.24E-03	2.17E-03	2.42E-03
Emission Rate, lb/MMBtu	lb/MMBtu	5.04E-05	9.45E-05	6.71E-05	7.07E-05

APPENDIX A
RESULTS TABULATION

1.0 UNIT NO. 1

b. STACK

1.0 PARTICULATE

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 5**

Client Name	Ogden Energy Group	Operator		AG
Plant Name	OMS of Lee, Inc.	Project #		10558
Sampling Location	UNIT 1	Standard Temperature, °F		68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		1-S-M5-1	1-S-M5-2	1-S-M5-3	
Run Date		06/22/99	06/24/99	06/25/99	
Run Start Time	hh:mm	1227	1238	1313	
Run Stop Time	hh:mm	1445	1450	1526	
Meter Calibration Factor	Y	0.9982	0.9982	0.9982	
Pitot Tube Coefficient	C _p	0.84	0.84	0.84	
Actual Nozzle Diameter	in	0.217	0.218	0.219	
Sample Volume	ft ³	89.724	90.778	93.740	91.414
Total Sampling Time	min	120	120	120	120
Average Meter Temperature	°F	104.9	111.5	109.1	108.5
Average Stack Temperature	°F	290.5	292.2	290.7	291.2
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	-1.10	-1.10	-1.10	-1.10
Absolute Stack/Duct Pressure	in Hg	29.8	29.8	29.8	29.8
Average Delta H	in H ₂ O	1.76	1.83	1.90	1.83
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Avg Differential Pressure (Delta P)	in H ₂ O	1.328	1.354	1.354	1.345
Total Water Volume Collected	mL	466.3	496.0	479.2	480.5
Volume of Water vapor @ STP	SCF	21.949	23.347	22.556	22.617
Volume Metered @ STP	DSCF	83.989	84.007	87.122	85.039
Calculated Stack Moisture	% H ₂ O	20.7	21.7	20.6	21.0
Saturated Stack Moisture	% H ₂ O	100.0	100.0	100.0	100.0
Reported Stack Moisture Content	% H ₂ O	20.7	21.7	20.6	21.0
Carbon Dioxide Percentage	% CO ₂	8.7	8.5	9.0	8.7
Oxygen Percentage	% O ₂	10.7	11.1	10.8	10.9
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.6	80.4	80.2	80.4
Dry Mole Fraction	decimal	0.793	0.783	0.794	0.790
Dry Gas Molecular Weight	lb/lb-mole	29.82	29.80	29.87	29.83
Wet Stack Gas Molecular Weight	lb/lb-mole	27.37	27.24	27.43	27.35
Flue Gas Density	lb/ft ³	0.0710	0.0707	0.0712	0.0710
Calculated Fuel Factor	F _o	1.17	1.15	1.12	1.15
F-Factor	DSCF/MM	9570	9570	9570	9570
Heat Input Rate	MMBtu/hr	269	258	269	265
Percent Excess Air	% EA	101.1	109.6	104.1	105.0
Stack Cross-Sectional Area	in ²	4778	4778	4778	4778
Stack Cross-Sectional Area	ft ²	33.18	33.18	33.18	33.18
Percent of Isokinetic Rate	% ISO	103.0	102.3	103.8	103.1

Air Flow Rate Results

Average Stack Gas Velocity	ft/sec	79.36	80.40	80.04	79.93
Actual Stack Flow/Minute	ACFM	157,985	160,067	159,343	159,132
Dry Standard Stack Flow/Minute	DSCFM	87,817	87,626	88,723	88,055

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 5**

Concentration and Emission Rate Data Summary					
Run Number		1-S-M5-1	1-S-M5-2	1-S-M5-3	AVERAGE
Filterable Particulate	mg	11.2	9.0	6.7	9.0
Concentration, grams/DSCF	gms/DSCF	1.33E-04	1.07E-04	7.69E-05	1.06E-04
Concentration, Gr/DSCF	gr/DSCF	2.06E-03	1.65E-03	1.19E-03	1.63E-03
Concentration @ 12% CO2	Gr@12%	2.84E-03	2.33E-03	1.58E-03	2.25E-03
Concentration @ 7% O2	Gr@7%	2.80E-03	2.35E-03	1.63E-03	2.26E-03
Emission Rate, lb/hr	lb/hr	1.55E+00	1.24E+00	9.03E-01	1.23E+00
Emission Rate, gms/sec	gms/sec	1.95E-01	1.56E-01	1.14E-01	1.55E-01
Emission Rate, lb/MMBtu	lb/MMBtu	5.76E-03	4.82E-03	3.36E-03	4.65E-03

APPENDIX A
RESULTS TABULATION

1.0 UNIT NO. 1

b. STACK

2.0 SULFURIC ACID MIST

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 8**

Client Name	Ogden Energy Group	Operator		AG
Plant Name	OMS of Lee, Inc.	Project #		10558
Sampling Location	UNIT 1	Standard Temperature, °F		68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		1-S-M8-1	1-S-M8-2	1-S-M8-3	
Run Date		06/25/99	06/26/99	06/26/99	
Run Start Time	hh:mm	1345	805	1320	
Run Stop Time	hh:mm	1515	912	1430	
Meter Calibration Factor	Y	0.9982	0.9982	0.9982	
Pitot Tube Coefficient	C _p	0.84	0.84	0.84	
Actual Nozzle Diameter	in	0.217	0.223	0.223	
Sample Volume	ft ³	45.245	46.620	47.219	46.361
Total Sampling Time	min	60	60	60	60
Average Meter Temperature	°F	111.2	96.0	101.1	102.8
Average Stack Temperature	°F	290.8	292.8	290.9	291.5
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	-1.10	-1.10	-1.10	-1.10
Absolute Stack/Duct Pressure	in Hg	29.8	29.8	29.8	29.8
Average Delta H	in H ₂ O	1.72	1.97	1.96	1.88
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Avg Differential Pressure (Delta P)	in H ₂ O	1.277	1.306	1.299	1.294
Total Water Volume Collected	mL	191.1	245.4	258.9	231.8
Volume of Water vapor @ STP	SCF	8.995	11.551	12.186	10.911
Volume Metered @ STP	DSCF	41.882	44.359	44.517	43.586
Calculated Stack Moisture	% H ₂ O	17.7	20.7	21.5	19.9
Saturated Stack Moisture	% H ₂ O	100.0	100.0	100.0	100.0
Reported Stack Moisture Content	% H ₂ O	17.7	20.7	21.5	19.9
Carbon Dioxide Percentage	% CO ₂	9.0	9.0	9.3	9.1
Oxygen Percentage	% O ₂	10.8	10.6	10.3	10.6
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.2	80.4	80.4	80.3
Dry Mole Fraction	decimal	0.823	0.793	0.785	0.801
Dry Gas Molecular Weight	lb/lb-mole	29.87	29.86	29.90	29.88
Wet Stack Gas Molecular Weight	lb/lb-mole	27.77	27.41	27.34	27.51
Flue Gas Density	lb/ft ³	0.0721	0.0711	0.0710	0.0714
Calculated Fuel Factor	F _o	1.12	1.14	1.14	1.14
F-Factor	DSCF/MM	9570	9570	9570	9570
Heat Input Rate	MMBtu/hr	269	269	274	270
Percent Excess Air	% EA	104.1	99.8	94.3	99.4
Stack Cross-Sectional Area	in ²	4778	4778	4778	4778
Stack Cross-Sectional Area	ft ²	33.18	33.18	33.18	33.18
Percent of Isokinetic Rate	% ISO	101.7	104.1	105.6	103.8

Air Flow Rate Results

Average Stack Gas Velocity	ft/sec	77.26	78.75	78.54	78.18
Actual Stack Flow/Minute	ACFM	153,813	156,780	156,362	155,652
Dry Standard Stack Flow/Minute	DSCFM	88,741	86,956	86,025	87,240

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: EPA 8

Concentration and Emission Rate Data Summary					
Run Number		1-S-M8-1	1-S-M8-2	1-S-M8-3	AVERAGE
Sulfuric Acid Mist	mg	16.286	14.547	17.308	16.047
Concentration, grams/DSCF	gms/DSCF	3.89E-04	3.28E-04	3.89E-04	3.69E-04
Concentration, Gr/DSCF	gr/DSCF	6.00E-03	5.06E-03	6.00E-03	5.69E-03
Concentration @ 12% CO2	Gr@12%	8.00E-03	6.75E-03	7.74E-03	7.50E-03
Concentration @ 7% O2	Gr@7%	8.26E-03	6.83E-03	7.87E-03	7.65E-03
Emission Rate, lb/hr	lb/hr	4.56E+00	3.77E+00	4.42E+00	4.25E+00
Emission Rate, gms/sec	gms/sec	5.75E-01	4.75E-01	5.57E-01	5.36E-01
Emission Rate, lb/MMBtu	lb/MMBtu	1.70E-02	1.40E-02	1.62E-02	1.57E-02

APPENDIX A
RESULTS TABULATION

1.0 UNIT NO. 1

b. STACK

**3.0 OXYGEN, CARBON DIOXIDE, SULFUR DIOXIDE, NITROGEN OXIDES,
CARBON MONOXIDE AND TOTAL HYDROCARBONS**

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
 SOURCE: UNIT 1
 LOCATION: STACK

RUN NO.: RATA 8 (1-S-Comp-1)
 TEST DATE: 6/21/99
 RUN TIME: 1508-1607

Standard Temperature °F, Tstd: 68.0

STEP	DESCRIPTION	VAR	NOx	SO2	CO	O2	CO2
1	RANGE (ppm or %)	A	500	100	100	22	20
2	CAL. GAS USED						
	ZERO	B	0.0	0.0	0.0	0.00	0.00
	LOW	B'			30.0		
	MID	C	228.0	45.1	60.0	8.99	9.08
	HIGH	D	456.0	91.1	91.5	19.94	17.64
3	INITIAL CAL. ERROR CHECK						
	ZERO (ppm or %)	E	0.2	-0.1	0.3	0.05	0.00
	LOW (ppm or %)	E'			29.9		
	MID (ppm or %)	F	229.3	45.0	60.0	9.19	9.10
	HIGH (ppm or %)	G	456.3	91.1	91.1	19.98	17.60
	ZERO, % ERROR	H	0.04	-0.10	0.30	0.23	0.00
	LOW, % ERROR	H'			-0.10		
	MID, % ERROR	I	0.26	-0.10	0.00	0.91	0.10
	HIGH, % ERROR	J	0.06	0.00	-0.40	0.18	-0.20
4	INITIAL LINEARITY (%)	K	0.21	-0.05	0.16	0.70	0.20
5	INITIAL SYS. CAL.. RESP.						
	ZERO (ppm or %)	L	0.6	0.4	0.3	0.09	0.10
	UPSCALE (ppm or %)	M	225.3	45.0	91.3	8.92	9.10
	ZERO, % CAL. BIAS	N	0.08	0.50	0.00	0.18	0.50
	UPSCALE, % CAL. BIAS	O	-0.80	0.00	0.20	-1.23	0.00
6	FINAL SYS. CAL.. RESP.						
	ZERO (ppm or %)	P	0.5	1.6	0.4	0.07	0.10
	UPSCALE (ppm or %)	Q	222.1	44.7	91.3	8.92	9.10
	ZERO, % CAL. BIAS	R	0.06	1.70	0.10	0.09	0.50
	UPSCALE, % CAL. BIAS	S	-1.44	-0.30	0.20	-1.23	0.00
9	ZERO % DRIFT	AA	-0.02	1.20	0.10	-0.09	0.00
	UPSCALE % DRIFT	BB	-0.64	-0.30	0.00	0.00	0.00
10	AVE. SYS. BIAS RESP.						
	ZERO (ppm or %)	CC	0.55	1.00	0.35	0.08	0.10
	UPSCALE (ppm or %)	DD	223.70	44.85	91.30	8.92	9.10
11	SAMPLE VALUE (ave)	EE	116.2	2.9	15.2	10.61	8.90
12	CORRECTED CONC.	FF	118.2	2.0	14.9	10.71	8.88
13	DATA REDUCTION:						
	% O2 Correction	GG	7	7.0	7.0		
	ppm @ 7 % O2	HH	161.2	2.7	20.4		
	Flow Rate, Qsd (dscfm)	II	88461	I-S-M29-2)			
	lb/hr	JJ	74.88	1.72	5.76		
	lb/MMBtu	JJ'	0.277	0.006	0.021		
	Conversion Factor, lb/dscf-ppm	KK	1.194E-07	1.661E-07	7.267E-08		
	Fd Factor, dscf/MMBtu	LL	9570				

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
SOURCE: UNIT I
LOCATION: STACK

RUN NO.: RATA 11 (1-S-comp-2)
TEST DATE: 6/22/99
RUN TIME: 0845-0944

STEP	DESCRIPTION	VAR	NOx	Standard Temperature °F, Tstd: 68.0			
				SO2	CO	O2	CO2
1	RANGE (ppm or %)	A	500	100	100	22	20
2	CAL. GAS USED						
	ZERO	B	0.0	0.0	0.0	0.00	0.00
	LOW	B'			30.0		
	MID	C	228.0	45.1	60.0	8.99	9.08
	HIGH	D	456.0	91.1	91.5	19.94	17.64
3	INITIAL CAL. ERROR CHECK						
	ZERO (ppm or %)	E	0.2	-0.1	0.2	0.07	0.00
	LOW (ppm or %)	E'			30.6		
	MID (ppm or %)	F	230.8	44.9	60.0	9.08	9.10
	HIGH (ppm or %)	G	455.5	90.9	91.4	19.96	17.60
	ZERO, % ERROR	H	0.04	-0.10	0.20	0.32	0.00
	LOW, % ERROR	H'			0.60		
	MID, % ERROR	I	0.56	-0.20	0.00	0.41	0.10
	HIGH, % ERROR	J	-0.10	-0.20	-0.10	0.09	-0.20
4	INITIAL LINEARITY (%)	K	0.59	-0.05	0.00	0.19	0.20
5	INITIAL SYS. CAL.. RESP.						
	ZERO (ppm or %)	L	0.4	2.1	0.0	0.04	0.00
	UPSCALE (ppm or %)	M	225.5	44.5	91.6	9.02	9.10
	ZERO, % CAL. BIAS	N	0.04	2.20	-0.20	-0.14	0.00
	UPSCALE, % CAL. BIAS	O	-1.06	-0.40	0.20	-0.27	0.00
6	FINAL SYS. CAL.. RESP.						
	ZERO (ppm or %)	P	0.5	-0.1	0.0	0.10	0.10
	UPSCALE (ppm or %)	Q	221.4	43.3	91.5	8.94	9.10
	ZERO, % CAL. BIAS	R	0.06	0.00	-0.20	0.14	0.50
	UPSCALE, % CAL. BIAS	S	-1.88	-1.60	0.10	-0.64	0.00
8	FINAL LINEARITY (%)	Z	0.21	-0.40	0.16	0.70	0.20
9	ZERO % DRIFT	AA	0.02	-2.20	0.00	0.27	0.50
	UPSCALE % DRIFT	BB	-0.82	-1.20	-0.10	-0.36	0.00
10	AVE. SYS. BIAS RESP.						
	ZERO (ppm or %)	CC	0.45	1.00	0.00	0.07	0.05
	UPSCALE (ppm or %)	DD	223.45	43.90	91.55	8.98	9.10
11	SAMPLE VALUE (ave)	EE	116.0	-0.9	19.6	10.25	9.30
12	CORRECTED CONC.	FF	118.1	-2.0	19.6	10.27	9.28
13	DATA REDUCTION:						
	% O2 Correction	GG	7	7.0	7.0		
	ppm @ 7 % O2	HH	154.5	-2.6	25.6		
	Flow Rate, Qsd (dscfm)	II	87716	1-S-M29-3)			
	lb/hr	JJ	74.23	-1.75	7.49		
	lb/MMBtu	JJ'	0.265	-0.006	0.027		
	Conversion Factor, lb/dscf-ppm	KK	1.194E-07	1.661E-07	7.267E-08		
	Fd Factor,dscf/MMBtu	LL	9570				

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
 SOURCE: UNIT 1
 LOCATION: STACK

RUN NO.: RATA 12 (1-S-Comp-3)
 TEST DATE: 6/22/99
 RUN TIME: 1005-1104

		Standard Temperature °F, Tstd: 68.0					
STEP	DESCRIPTION	VAR	NOx	SO2	CO	O2	CO2
1	RANGE (ppm or %)	A	500	100	100	22	20
2	CAL. GAS USED						
	ZERO	B	0.0	0.0	0.0	0.00	0.00
	LOW	B'			30.0		
	MID	C	228.0	45.1	60.0	8.99	9.08
	HIGH	D	456.0	91.1	91.5	19.94	17.64
3	INITIAL CAL. ERROR CHECK						
	ZERO (ppm or %)	E	0.2	-0.1	0.2	0.07	0.00
	LOW (ppm or %)	E'			30.6		
	MID (ppm or %)	F	230.8	44.9	60.0	9.08	9.10
	HIGH (ppm or %)	G	455.5	90.9	91.4	19.96	17.60
	ZERO, % ERROR	H	0.04	-0.10	0.20	0.32	0.00
	LOW, % ERROR	H'			0.60		
	MID, % ERROR	I	0.56	-0.20	0.00	0.41	0.10
	HIGH, % ERROR	J	-0.10	-0.20	-0.10	0.09	-0.20
4	INITIAL LINEARITY (%)	K	0.59	-0.05	0.00	0.19	0.20
5	INITIAL SYS. CAL.. RESP.						
	ZERO (ppm or %)	L	0.5	-0.1	0.0	0.10	0.10
	UPSCALE (ppm or %)	M	221.4	43.3	91.5	8.94	9.10
	ZERO, % CAL. BIAS	N	0.06	0.00	-0.20	0.14	0.50
	UPSCALE, % CAL. BIAS	O	-1.88	-1.60	0.10	-0.64	0.00
6	FINAL SYS. CAL.. RESP.						
	ZERO (ppm or %)	P	0.5	-0.4	0.0	0.07	0.10
	UPSCALE (ppm or %)	Q	219.7	43.8	91.1	8.92	9.10
	ZERO, % CAL. BIAS	R	0.06	-0.30	-0.20	0.00	0.50
	UPSCALE, % CAL. BIAS	S	-2.22	-1.10	-0.30	-0.73	0.00
8	FINAL LINEARITY (%)	Z	0.21	-0.40	0.16	0.70	0.20
9	ZERO % DRIFT	AA	0.00	-0.30	0.00	-0.14	0.00
	UPSCALE % DRIFT	BB	-0.34	0.50	-0.40	-0.09	0.00
10	AVE. SYS. BIAS RESP.						
	ZERO (ppm or %)	CC	0.50	-0.25	0.00	0.09	0.10
	UPSCALE (ppm or %)	DD	220.55	43.55	91.30	8.93	9.10
11	SAMPLE VALUE (ave)	EE	116.6	0.8	22.6	10.28	9.20
12	CORRECTED CONC.	FF	120.3	1.1	22.6	10.36	9.18
13	DATA REDUCTION:						
	% O2 Correction	GG	7	7.0	7.0		
	ppm @ 7 % O2	HH	158.7	1.4	29.9		
	Flow Rate, Qsd (dscfm)	II	87716	1-S-M29-3)			
	lb/hr	JJ	75.58	0.95	8.66		
	lb/MMBtu	JJ'	0.273	0.003	0.031		
	Conversion Factor, lb/dscf-ppm	KK	1.194E-07	1.661E-07	7.267E-08		
	Fd Factor,dscf/MMBtu	LL	9570				

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
 SOURCE: UNIT 1
 LOCATION: STACK

RUN NO.: 1-M25A-1
 TEST DATE: 6/24/99
 RUN TIME: 0806-0918

		Standard Temperature °F, Tstd: 68.0			
STEP	DESCRIPTION	VAR	THC	O2	CO2
1	RANGE (ppm or %)	A	50	22	20
2	CAL. GAS USED				
	ZERO	B	0.0	0.00	0.00
	LOW	B'	15.0		
	MID	C	25.0	8.99	9.08
	HIGH	D	45.3	19.94	17.64
3	INITIAL CAL. ERROR CHECK				
	ZERO (ppm or %)	E	0.1	0.06	0.00
	LOW (ppm or %)	E'	14.3		
	MID (ppm or %)	F	24.2	9.28	8.80
	HIGH (ppm or %)	G	45.3	20.01	17.60
	ZERO, % ERROR	H	0.20	0.27	0.00
	LOW, % ERROR	H'	-1.40		
	MID, % ERROR	I	-1.60	1.32	-1.40
	HIGH, % ERROR	J	0.00	0.32	-0.20
4	INITIAL LINEARITY (%)	K	-1.69	1.02	-1.30
5	INITIAL SYS. CAL.. RESP.				
	ZERO (ppm or %)	L	0.1	0.10	0.10
	UPSCALE (ppm or %)	M	24.2	9.13	8.90
	ZERO, % CAL. BIAS	N	#N/A	0.18	0.50
	UPSCALE, % CAL. BIAS	O	#N/A	-0.68	0.50
6	FINAL SYS. CAL.. RESP.				
	ZERO (ppm or %)	P	0.0	0.11	0.10
	UPSCALE (ppm or %)	Q	24.5	9.10	8.90
	ZERO, % CAL. BIAS	R	#N/A	0.23	0.50
	UPSCALE, % CAL. BIAS	S	#N/A	-0.82	0.50
9	ZERO % DRIFT	AA	-0.20	0.05	0.00
	UPSCALE % DRIFT	BB	0.60	-0.14	0.00
10	AVE. SYS. BIAS RESP.				
	ZERO (ppm or %)	CC	0.05	0.11	0.10
	UPSCALE (ppm or %)	DD	24.35	9.12	8.90
11	SAMPLE VALUE (ave)	EE	1.1	10.67	9.09
			(wet basis)		
12	CORRECTED CONC.	FF	1.3	10.54	9.28
			(dry basis)		
13	DATA REDUCTION:				
	% O2 Correction	GG	7.0		
	ppm @ 7 % O2	HH	1.7		
	Flow Rate, Qsd (dscfm)	II	87025.0	(1-S-M23-2)	
	lb/hr	JJ	0.21		
	lb/MMBtu	JJ'	0.0008		
	Conversion Factor, lb/dscf-ppm	KK	3.114E-08		
	Fd Factor,dscf/MMBtu	LL	9570		
	Moisture Content, %		20.6		

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
 SOURCE: UNIT 1
 LOCATION: STACK

RUN NO.: 1-M25A-2
 TEST DATE: 6/24/99
 RUN TIME: 0930-1029

		Standard Temperature °F, Tstd: 68.0			
STEP	DESCRIPTION	VAR	THC	O2	CO2
1	RANGE (ppm or %)	A	50	22	20
2	CAL. GAS USED				
	ZERO	B	0.0	0.00	0.00
	LOW	B'	15.0		
	MID	C	25.0	8.99	9.08
	HIGH	D	45.3	19.94	17.64
3	INITIAL CAL. ERROR CHECK				
	ZERO (ppm or %)	E	0.1	0.06	0.00
	LOW (ppm or %)	E'	14.3		
	MID (ppm or %)	F	24.2	9.28	8.80
	HIGH (ppm or %)	G	45.3	20.01	17.60
	ZERO, % ERROR	H	0.20	0.27	0.00
	LOW, % ERROR	H'	-1.40		
	MID, % ERROR	I	-1.60	1.32	-1.40
	HIGH, % ERROR	J	0.00	0.32	-0.20
4	INITIAL LINEARITY (%)	K	-1.69	1.02	-1.30
5	INITIAL SYS. CAL.. RESP.				
	ZERO (ppm or %)	L	0.0	0.11	0.10
	UPSCALE (ppm or %)	M	24.5	9.10	8.90
	ZERO, % CAL. BIAS	N	#N/A	0.23	0.50
	UPSCALE, % CAL. BIAS	O	#N/A	-0.82	0.50
6	FINAL SYS. CAL.. RESP.				
	ZERO (ppm or %)	P	0.0	0.11	0.10
	UPSCALE (ppm or %)	Q	24.2	9.12	8.90
	ZERO, % CAL. BIAS	R	#N/A	0.23	0.50
	UPSCALE, % CAL. BIAS	S	#N/A	-0.73	0.50
9	ZERO % DRIFT	AA	0.00	0.00	0.00
	UPSCALE % DRIFT	BB	-0.60	0.09	0.00
10	AVE. SYS. BIAS RESP.				
	ZERO (ppm or %)	CC	0.00	0.11	0.10
	UPSCALE (ppm or %)	DD	24.35	9.11	8.90
11	SAMPLE VALUE (ave)	EE	0.6	10.49	9.20
			(wet basis)		
12	CORRECTED CONC.	FF	0.8	10.37	9.39
			(dry basis)		
13	DATA REDUCTION:				
	% O2 Correction	GG	7.0		
	ppm @ 7 % O2	HH	1.0		
	Flow Rate, Qsd (dscfm)	II	87025.0	(1-S-M23-2)	
	lb/hr	JJ	0.13		
	lb/MMBtu	JJ'	0.0005		
	Conversion Factor, lb/dscf-ppm	KK	3.114E-08		
	Fd Factor,dscf/MMBtu	LL	9570		
	Moisture Content, %		20.6		

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
 SOURCE: UNIT 1
 LOCATION: STACK

RUN NO.: 1-M25A-3
 TEST DATE: 6/24/99
 RUN TIME: 1050-1149

		Standard Temperature °F, Tstd: 68.0			
STEP	DESCRIPTION	VAR	THC	O2	CO2
1	RANGE (ppm or %)	A	50	22	20
2	CAL. GAS USED				
	ZERO	B	0.0	0.00	0.00
	LOW	B'	15.0		
	MID	C	25.0	8.99	9.08
	HIGH	D	45.3	19.94	17.64
3	INITIAL CAL. ERROR CHECK				
	ZERO (ppm or %)	E	0.1	0.06	0.00
	LOW (ppm or %)	E'	14.3		
	MID (ppm or %)	F	24.2	9.28	8.80
	HIGH (ppm or %)	G	45.3	20.01	17.60
	ZERO, % ERROR	H	0.20	0.27	0.00
	LOW, % ERROR	H'	-1.40		
	MID, % ERROR	I	-1.60	1.32	-1.40
	HIGH, % ERROR	J	0.00	0.32	-0.20
4	INITIAL LINEARITY (%)	K	-1.69	1.02	-1.30
5	INITIAL SYS. CAL.. RESP.				
	ZERO (ppm or %)	L	0.0	0.11	0.10
	UPSCALE (ppm or %)	M	24.2	9.12	8.90
	ZERO, % CAL. BIAS	N	#N/A	0.23	0.50
	UPSCALE, % CAL. BIAS	O	#N/A	-0.73	0.50
6	FINAL SYS. CAL.. RESP.				
	ZERO (ppm or %)	P	-0.2	0.06	0.10
	UPSCALE (ppm or %)	Q	24.3	9.09	8.90
	ZERO, % CAL. BIAS	R	#N/A	0.00	0.50
	UPSCALE, % CAL. BIAS	S	#N/A	-0.86	0.50
9	ZERO % DRIFT	AA	-0.40	-0.23	0.00
	UPSCALE % DRIFT	BB	0.20	-0.14	0.00
10	AVE. SYS. BIAS RESP.				
	ZERO (ppm or %)	CC	-0.10	0.09	0.10
	UPSCALE (ppm or %)	DD	24.25	9.11	8.90
11	SAMPLE VALUE (ave)	EE	0.3	10.50	9.20
			(wet basis)		
12	CORRECTED CONC.	FF	0.5	10.38	9.39
			(dry basis)		
13	DATA REDUCTION:				
	% O2 Correction	GG	7.0		
	ppm @ 7 % O2	HH	0.7		
	Flow Rate, Qsd (dscfm)	II	87025.0	(1-S-M23-2)	
	lb/hr	JJ	0.08		
	lb/MMBtu	JJ'	0.0003		
	Conversion Factor, lb/dscf-ppm	KK	3.114E-08		
	Fd Factor,dscf/MMBtu	LL	9570		
	Moisture Content, %		20.6		

APPENDIX A
RESULTS TABULATION

1.0 UNIT NO. 1

b. STACK

4.0 FLUORIDES

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: EPA 13B

Client Name	Ogden Energy Group	Operator	AG
Plant Name	OMS of Lee, Inc.	Project #	10558
Sampling Location	UNIT 1	Standard Temperature,	68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET
Run Number		1-S-M13B-1	-S-M13B-2	-S-M13B-3	AVERAGE
Run Date		6/23/99	6/26/99	6/26/99	NA
Run Start Time	hh:mm	1253	800	1320	NA
Run Stop Time	hh:mm	1408	912	1430	NA
Meter Calibration Factor	Y	0.9982	1.0038	1.0038	NA
Pitot Tube Coefficient	C _p	0.84	0.84	0.84	NA
Actual Nozzle Diameter	in	0.216	0.222	0.222	NA
Sample Volume	ft ³	44.392	45.379	46.080	45.284
Total Sampling Time	min	60	60	60	60
Average Meter Temperature	°F	110.3	90.0	93.9	98.1
Average Stack Temperature	°F	291	290	290	291
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	-1.10	-1.10	-1.10	-1.10
Absolute Stack/Duct Pressure	in Hg	29.8	29.8	29.8	29.8
Average Delta H	in H ₂ O	1.71	1.75	1.79	1.75
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Avg Differential Pressure (Delta P)	in H ₂ O	1.289	1.281	1.302	1.291
Total Water Volume Collected	mL	214.9	240.7	253.3	236.3
Standard Water Vapor Volume	SCF	10.115	11.330	11.923	11.123
Standard Meter Volume	DSCF	41.158	43.868	44.237	43.088
Calculated Stack Moisture	% H ₂ O	19.7	20.5	21.2	20.5
Saturated Stack Moisture	% H ₂ O	100.0	100.0	100.0	100.0
Reported Stack Moisture Content	% H ₂ O	19.7	20.5	21.2	20.5
Carbon Dioxide Percentage	% CO ₂	8.4	9.0	9.3	8.9
Oxygen Percentage	% O ₂	11.3	10.6	10.3	10.7
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.3	80.4	80.4	80.4
Dry Mole Fraction	decimal	0.803	0.795	0.788	0.795
Dry Gas Molecular Weight	lb/lb-mole	29.80	29.86	29.90	29.85
Wet Stack Gas Molecular Weight	lb/lb-mole	27.47	27.43	27.37	27.42
Flue Gas Density	lb/ft ³	0.071	0.071	0.071	0.071
Calculated Fuel Factor	F _o	1.14	1.14	1.14	1.14
F-Factor	DSCF/MM	9570	9570	9570	9570
Heat Input Rate	MMBtu/hr	252	267	275	264
Percent Excess Air	% EA	114.2	99.8	94.3	102.7
Stack Cross-Sectional Area	in ²	4778.0	4778.0	4778.0	4778.0
Stack Cross-Sectional Area	ft ²	33.18	33.18	33.18	33.18
Percent of Isokinetic Rate	% ISO	102.4	104.5	105.4	104.1

Volumetric Flow Rate Data					
Average Stack Gas Velocity	ft/sec	78.09	77.83	78.55	78.15
Actual Stack Flow/Minute	ACFM	155,462	154,938	156,380	155,593
Dry Standard Stack Flow/Minute	DSCFM	87,392	86,424	86,388	86,735

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD:

EPA 13B

Concentration and Emission Rate Data Summary					
Run Number		1-S-M13B-1	1-S-M13B-2	1-S-M13B-3	AVERAGE
Fluorides	mg	< 0.070	< 0.074	< 0.061	< 0.1
Molecular Weight	MW	19.00	19.00	19.00	
Concentration, ppm	ppm	< 7.60E-02	< 7.54E-02	< 6.16E-02	< 7.10E-02
Concentration, ppm @ 12% CO ₂	ppm@12%	< 1.09E-01	< 1.01E-01	< 7.95E-02	< 9.62E-02
Concentration, ppm @ 7% O ₂	ppm@7%	< 1.10E-01	< 1.02E-01	< 8.08E-02	< 9.76E-02
Emission Rate, lb/hr	lb/hr	< 1.97E-02	< 1.93E-02	< 1.58E-02	< 1.82E-02
Emission Rate, gms/sec	gms/sec	< 2.48E-03	< 2.43E-03	< 1.99E-03	< 2.30E-03
Emission Rate, lb/MMBtu	lb/MMBtu	< 7.81E-05	< 7.22E-05	< 5.74E-05	< 6.92E-05

APPENDIX A
RESULTS TABULATION

1.0 UNIT NO. 1

b. STACK

5.0 DIOXIN/FURANS

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: EPA 23

Client Name	Ogden Energy Group	Operator	AJG,MC
Plant Name	OMS of Lee, Inc.	Project #	10558
Sampling Location	UNIT 1	Standard Temperature,	68

USE IN AVERAGE OF RUN SET? 1 or 0 =		1	1	1	SET
Run Number		1-S-M23-1	1-S-M23-2	1-S-M23-3	AVERAGE
Run Date		6/23/99	6/24/99	6/25/99	NA
Run Start Time	hh:mm	753	802	802	NA
Run Stop Time	hh:mm	1216	1214	1215	NA
Meter Calibration Factor	Y	0.9982	0.9982	0.9982	NA
Pitot Tube Coefficient	C _p	0.818	0.824	0.824	NA
Actual Nozzle Diameter	in	0.216	0.216	0.216	NA
Sample Volume	ft ³	182.575	176.779	178.640	179.331
Total Sampling Time	min	240	240	240	240
Average Meter Temperature	°F	104.2	111.9	103.0	106.4
Average Stack Temperature	°F	291	293	291	292
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	-1.15	-1.15	-1.15	-1.15
Absolute Stack/Duct Pressure	in Hg	29.8	29.8	29.8	29.8
Average Delta H	in H ₂ O	1.71	1.77	1.67	1.72
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Avg Differential Pressure (Delta P)	in H ₂ O	1.358	1.304	1.312	1.325
Total Water Volume Collected	mL	997.3	898.8	988.5	961.5
Standard Water Vapor Volume	SCF	46.943	42.307	46.529	45.259
Standard Meter Volume	DSCF	171.090	163.458	167.733	167.427
Calculated Stack Moisture	% H ₂ O	21.5	20.6	21.7	21.3
Saturated Stack Moisture	% H ₂ O	100.0	100.0	100.0	100.0
Reported Stack Moisture Content	% H ₂ O	21.5	20.6	21.7	21.3
Carbon Dioxide Percentage	% CO ₂	9.4	9.2	9.6	9.4
Oxygen Percentage	% O ₂	10.1	10.2	10.1	10.1
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.5	80.6	80.3	80.5
Dry Mole Fraction	decimal	0.785	0.794	0.783	0.787
Dry Gas Molecular Weight	lb/lb-mole	29.91	29.88	29.94	29.91
Wet Stack Gas Molecular Weight	lb/lb-mole	27.34	27.44	27.35	27.38
Flue Gas Density	lb/ft ³	0.071	0.071	0.071	0.071
Calculated Fuel Factor	F _o	1.15	1.16	1.13	1.15
F-Factor	DSCF/MM	9570	9570	9570	9570
Heat Input Rate	MMBtu/hr	277	274	274	275
Percent Excess Air	% EA	90.6	92.1	91.0	91.2
Stack Cross-Sectional Area	in ²	4778	4778	4778	4778
Stack Cross-Sectional Area	ft ²	33.2	33.2	33.2	33.2
Percent of Isokinetic Rate	% ISO	108.7	104.1	107.8	106.9

Volumetric Flow Rate Data				
Average Stack Gas Velocity	ft/sec	78.24	77.18	77.46
Actual Stack Flow/Minute	ACFM	155,757	153,659	154,207
Dry Standard Stack Flow/Minute	DSCFM	85,589	85,310	84,542

Plant Name: OMS of Lee, Inc.

Sampling Location: UNIT 1

Run Number: 1-S-M23-1

Run Date: 6/23/99

Totals

Parameter	Catch Weight (pg)	Concentrations			Emission Rate		
		ng/DSCM (12% CO ₂ (@ 7% O ₂			(gms/sec)	(lbs/hr)	(lbs/MMBtu)
PCDDs							
Total TCDD	4500	9.29E-01	1.19E+00	1.20E+00	3.75E-08	2.98E-07	1.07E-09
Total PeCDD	6200	1.28E+00	1.63E+00	1.65E+00	5.17E-08	4.10E-07	1.48E-09
Total HxCDD	8700	1.80E+00	2.29E+00	2.31E+00	7.25E-08	5.76E-07	2.08E-09
Total-HpCDD	6500	1.34E+00	1.71E+00	1.73E+00	5.42E-08	4.30E-07	1.55E-09
OCDD	8300	1.71E+00	2.19E+00	2.20E+00	6.92E-08	5.49E-07	1.98E-09
PCDFs							
Total TCDF	34000	7.02E+00	8.96E+00	9.03E+00	2.83E-07	2.25E-06	8.11E-09
Total PeCDF	25000	5.16E+00	6.59E+00	6.64E+00	2.08E-07	1.65E-06	5.97E-09
Total HxCDF	12000	2.48E+00	3.16E+00	3.19E+00	1.00E-07	7.94E-07	2.86E-09
Total HpCDF	5500	1.14E+00	1.45E+00	1.46E+00	4.59E-08	3.64E-07	1.31E-09
OCDF	630	1.30E-01	1.66E-01	1.67E-01	5.25E-09	4.17E-08	1.50E-10
Total PCDDs and PCDFs	111330	2.30E+01	2.93E+01	2.96E+01	9.28E-07	7.37E-06	2.66E-08

Plant Name: OMS of Lee, Inc.

Sampling Location: UNIT 1

Run Number: 1-S-M23-2

Run Date: 6/24/99

Totals

Parameter	Catch Weight (pg)	Concentrations			Emission Rate		
		ng/DSCM (12% CO ₂ (@ 7% O ₂	(gms/sec)	(lbs/hr)	(lbs/MMBtu)		
PCDDs							
Total TCDD	4200	9.07E-01	1.18E+00	1.18E+00	3.65E-08	2.90E-07	1.06E-09
Total PeCDD	5700	1.23E+00	1.61E+00	1.60E+00	4.96E-08	3.94E-07	1.44E-09
Total HxCDD	7800	1.68E+00	2.20E+00	2.19E+00	6.78E-08	5.38E-07	1.97E-09
Total-HpCDD	6000	1.30E+00	1.69E+00	1.68E+00	5.22E-08	4.14E-07	1.51E-09
OCDD	7700	1.66E+00	2.17E+00	2.16E+00	6.70E-08	5.32E-07	1.94E-09
PCDFs							
Total TCDF	35000	7.56E+00	9.86E+00	9.82E+00	3.04E-07	2.42E-06	8.82E-09
Total PeCDF	25000	5.40E+00	7.04E+00	7.02E+00	2.17E-07	1.73E-06	6.30E-09
Total HxCDF	12000	2.59E+00	3.38E+00	3.37E+00	1.04E-07	8.28E-07	3.03E-09
Total HpCDF	5100	1.10E+00	1.44E+00	1.43E+00	4.44E-08	3.52E-07	1.29E-09
OCDF	580	1.25E-01	1.63E-01	1.63E-01	5.05E-09	4.00E-08	1.46E-10
Total PCDDs and PCDFs	109080	2.36E+01	3.07E+01	3.06E+01	9.49E-07	7.53E-06	2.75E-08

Plant Name: OMS of Lee, Inc.

Sampling Location: UNIT 1

Run Number: 1-S-M23-3

Run Date: 6/25/99

Totals

Parameter	Catch Weight	Concentrations			Emission Rate		
	(pg)	ng/DSCM (12% CO ₂ (@ 7% O ₂			(gms/sec)	(lbs/hr)	(lbs/MMBtu)
PCDDs							
Total TCDD	4200	8.84E-01	1.11E+00	1.14E+00	3.53E-08	2.80E-07	1.02E-09
Total PeCDD	5900	1.24E+00	1.55E+00	1.60E+00	4.96E-08	3.93E-07	1.44E-09
Total HxCDD	8400	1.77E+00	2.21E+00	2.28E+00	7.06E-08	5.60E-07	2.04E-09
Total-HpCDD	6500	1.37E+00	1.71E+00	1.76E+00	5.46E-08	4.33E-07	1.58E-09
OCDD	8400	1.77E+00	2.21E+00	2.28E+00	7.06E-08	5.60E-07	2.04E-09
PCDFs							
Total TCDF	30000	6.32E+00	7.89E+00	8.13E+00	2.52E-07	2.00E-06	7.30E-09
Total PeCDF	23000	4.84E+00	6.05E+00	6.23E+00	1.93E-07	1.53E-06	5.60E-09
Total HxCDF	11000	2.32E+00	2.89E+00	2.98E+00	9.24E-08	7.33E-07	2.68E-09
Total HpCDF	5100	1.07E+00	1.34E+00	1.38E+00	4.28E-08	3.40E-07	1.24E-09
OCDF	600	1.26E-01	1.58E-01	1.63E-01	5.04E-09	4.00E-08	1.46E-10
Total PCDDs and PCDFs	103100	2.17E+01	2.71E+01	2.79E+01	8.66E-07	6.87E-06	2.51E-08

APPENDIX A
RESULTS TABULATION

1.0 UNIT NO. 1

b. STACK

6.0 HYDROGEN CHLORIDE

SINGLE POINT SAMPLING RESULTS - METHOD:

EPA 26

Client Name	Ogden Energy Group	Operator		AG
Plant Name	OMS of Lee, Inc.	Project #		10558
Sampling Location	UNIT 1	Standard Temperature, °F		68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		1-S-M26-1	1-S-M26-2	1-S-M26-3	
Run Date		06/21/99	06/21/99	06/22/99	
Run Start Time	hh:mm	1408	1615	1005	
Run Stop Time	hh:mm	1512	1715	1105	
Meter Calibration Factor	Y	1.0707	1.0707	1.0707	
Sample Volume	ft ³	42.028	40.998	42.248	41.758
Total Sampling Time	min	60	60	60	60
Average Meter Temperature	°F	109.8	107.9	100.6	106.1
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	NA	NA	NA	#DIV/0!
Absolute Stack/Duct Pressure	in Hg	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Average Delta H	in H ₂ O	1.80	1.80	1.80	1.80
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Total Water Volume Collected	mL	211.1	232.2	239.8	227.7
Volume of Water vapor @ STP	SCF	9.936	10.930	11.287	10.718
Volume Metered @ STP	DSCF	41.842	40.948	42.749	41.846
Calculated Stack Moisture	% H ₂ O	19.2	21.1	20.9	20.4
Carbon Dioxide Percentage	% CO ₂	8.7	8.7	8.5	8.6
Oxygen Percentage	% O ₂	11.1	11.1	11.0	11.1
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.2	80.2	80.5	80.3
Dry Mole Fraction	decimal	0.808	0.789	0.791	0.796
Dry Gas Molecular Weight	lb/lb-mole	29.84	29.84	29.80	29.82
Wet Stack Gas Molecular Weight	lb/lb-mole	27.56	27.34	27.34	27.41
Flue Gas Density	lb/ft ³	0.0715	0.0710	0.0709	0.0711
Calculated Fuel Factor	F _o	1.13	1.13	1.16	1.14
Percent Excess Air	% EA	110.2	110.2	107.3	109.2

Air Flow Rate Results

Concurrent Stack Flow	Run #	1-S-M29-2	1-S-M29-2	1-S-M29-3	NA
Heat Input Rate	MMBtu/hr	260	260	260	260
Dry Standard Stack Flow/Minute	DSCFM	88,461	88,461	87,716	88,213

Concentration and Emission Rate Data Summary

Hydrogen Chloride					
Molecular Weight	gm/g-mole	36.50	36.50	36.50	NA
Catch Weight	mg	21.00	24.80	19.70	2.18E+01
Concentration, ppm	ppm	1.17E+01	1.41E+01	1.07E+01	1.22E+01
Concentration, ppm @ 7% O ₂	ppm @ 7% O ₂	1.66E+01	2.00E+01	1.51E+01	1.72E+01
Concentration, ppm @ 12% CO ₂	ppm @ 12% CO ₂	1.61E+01	1.94E+01	1.51E+01	1.69E+01
Emission Rate, lbs/hr	lbs/hr	5.87E+00	7.09E+00	5.35E+00	6.10E+00
Emission Rate, gms/sec	gms/sec	7.40E-01	8.93E-01	6.74E-01	7.69E-01
Emission Rate, lbs/MMBtu	lbs/MMBtu	2.26E-02	2.73E-02	2.06E-02	2.35E-02

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 29**

Client Name	Ogden Energy Group	Operator		AG
Plant Name	OMS of Lee, Inc.	Project #		10558
Sampling Location	UNIT 1	Standard Temperature, °F		68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		1-S-M29-3	0	0	
Run Date		06/22/99	01/00/00	01/00/00	
Run Start Time	hh:mm	855	0	0	
Run Stop Time	hh:mm	1113	0	0	
Meter Calibration Factor	Y	0.9982	0.0000	0.0000	
Pitot Tube Coefficient	C _p	0.84	0	0	
Actual Nozzle Diameter	in	0.217	0.000	0.000	
Sample Volume	ft ³	90.128	0.000	736.988	275.705
Total Sampling Time	min	120	0	125	82
Average Meter Temperature	°F	105.7			105.7
Average Stack Temperature	°F	291.8			291.8
Barometric Pressure	in Hg	29.9	0.0	0.0	10.0
Stack/Duct Static Pressure	in H ₂ O	-1.05	0.00	0.00	-0.35
Absolute Stack/Duct Pressure	in Hg	29.8	0.0	0.0	9.9
Average Delta H	in H ₂ O	1.78			1.78
Absolute Meter Pressure	in Hg	30.0	#VALUE!	#VALUE!	#VALUE!
Avg Differential Pressure (Delta P)	in H ₂ O	1.319			1.319
Total Water Volume Collected	mL	460.9	0.0	0.0	153.6
Volume of Water vapor @ STP	SCF	21.695	0.000	0.000	7.232
Volume Metered @ STP	DSCF	84.247	#VALUE!	#VALUE!	#VALUE!
Calculated Stack Moisture	% H ₂ O	20.5	#VALUE!	#VALUE!	#VALUE!
Saturated Stack Moisture	% H ₂ O	100.0	#VALUE!	#VALUE!	#VALUE!
Reported Stack Moisture Content	% H ₂ O	20.5	#VALUE!	#VALUE!	#VALUE!
Carbon Dioxide Percentage	% CO ₂	8.5	0.0	0.0	2.8
Oxygen Percentage	% O ₂	11.0	0.0	0.0	3.7
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.5	100.0	100.0	93.5
Dry Mole Fraction	decimal	0.795	#VALUE!	#VALUE!	#VALUE!
Dry Gas Molecular Weight	lb/lb-mole	29.80	28.00	28.00	28.60
Wet Stack Gas Molecular Weight	lb/lb-mole	27.38	#VALUE!	#VALUE!	#VALUE!
Flue Gas Density	lb/ft ³	0.0711	#VALUE!	#VALUE!	#VALUE!
Calculated Fuel Factor	F _o	1.16	#DIV/0!	#DIV/0!	#DIV/0!
F-Factor	DSCF/MM	9570	9570	9570	9570
Heat Input Rate	MMBtu/hr	260	#VALUE!	#VALUE!	#VALUE!
Percent Excess Air	% EA	107.3	0.0	0.0	35.8
Stack Cross-Sectional Area	in ²	4778.0	4778.0	4778.0	4778.0
Stack Cross-Sectional Area	ft ²	33.18	33.18	33.18	33.18
Percent of Isokinetic Rate	% ISO	103.4	#VALUE!	#VALUE!	#VALUE!

Air Flow Rate Results

Average Stack Gas Velocity	ft/sec	79.14	#VALUE!	#VALUE!	#VALUE!
Actual Stack Flow/Minute	ACFM	157,559	#VALUE!	#VALUE!	#VALUE!
Dry Standard Stack Flow/Minute	DSCFM	87,716	#VALUE!	#VALUE!	#VALUE!

APPENDIX A
RESULTS TABULATION

1.0 UNIT NO. 1

b. STACK

7.0 AMMONIA

SINGLE POINT SAMPLING RESULTS - METHOD:

NH3

Client Name	Ogden Energy Group	Operator		AG
Plant Name	OMS of Lee, Inc.	Project #		10558
Sampling Location	UNIT 1	Standard Temperature, °F		68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		1-S-NH3-2	1-S-NH3-3	1-S-NH3-4	
Run Date		06/21/99	06/23/99	06/23/99	
Run Start Time	hh:mm	1052	1035	1532	
Run Stop Time	hh:mm	1152	1135	1632	
Meter Calibration Factor	Y	1.0707	1.0707	1.0707	
Sample Volume	ft ³	38.018	42.358	41.769	40.715
Total Sampling Time	min	60	60	60	60
Average Meter Temperature	°F	102.3	99.3	108.6	103.4
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	NA	NA	NA	#DIV/0!
Absolute Stack/Duct Pressure	in Hg	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Average Delta H	in H ₂ O	1.80	1.80	1.80	1.80
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Total Water Volume Collected	mL	159.9	231.7	229.3	207.0
Volume of Water vapor @ STP	SCF	7.526	10.906	10.793	9.742
Volume Metered @ STP	DSCF	38.354	42.956	41.669	40.993
Calculated Stack Moisture	% H ₂ O	16.4	20.2	20.6	19.1
Carbon Dioxide Percentage	% CO ₂	9.0	9.4	9.3	9.2
Oxygen Percentage	% O ₂	10.9	10.1	10.2	10.4
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.1	80.5	80.5	80.4
Dry Mole Fraction	decimal	0.836	0.798	0.794	0.809
Dry Gas Molecular Weight	lb/lb-mole	29.88	29.91	29.90	29.89
Wet Stack Gas Molecular Weight	lb/lb-mole	27.93	27.50	27.45	27.62
Flue Gas Density	lb/ft ³	0.0725	0.0714	0.0712	0.0717
Calculated Fuel Factor	F _o	1.11	1.15	1.15	1.14
Percent Excess Air	% EA	106.4	90.6	92.3	96.4

Air Flow Rate Results

Concurrent Stack Flow	Run #	1-S-M29-1	1-S-M23-1	1-S-M5-2SB	NA
Heat Input Rate	MMBtu/hr	267	254	282	268
Dry Standard Stack Flow/Minute	DSCFM	88,884	88,036	87,812	88,244

Concentration and Emission Rate Data Summary

Ammonia					
Molecular Weight	gm/g-mole	17.04	17.04	17.04	NA
Catch Weight	ug	367.00	335.60	1108.20	6.04E+02
Concentration, ppm	ppm	4.77E-01	3.89E-01	1.33E+00	7.31E-01
Concentration, ppm @ 7% O ₂	ppm @ 7% O ₂	6.63E-01	5.01E-01	1.72E+00	9.62E-01
Concentration, ppm @ 12% CO ₂	ppm @ 12% CO ₂	6.36E-01	4.97E-01	1.71E+00	9.48E-01
Emission Rate, lbs/hr	lbs/hr	1.13E-01	9.10E-02	3.09E-01	1.71E-01
Emission Rate, gms/sec	gms/sec	1.42E-02	1.15E-02	3.89E-02	2.15E-02
Emission Rate, lbs/MMBtu	lbs/MMBtu	4.21E-04	3.58E-04	1.10E-03	6.25E-04

APPENDIX A
RESULTS TABULATION

1.0 UNIT NO. 1

b. STACK

8.0 ARSENIC, BERYLLIUM, CADMIUM, LEAD, AND MERCURY

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 29**

Client Name	Ogden Energy Group	Operator		AG
Plant Name	OMS of Lee, Inc.	Project #		10558
Sampling Location	UNIT 1	Standard Temperature, °F		68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		1-S-M29-1	1-S-M29-2	1-S-M29-4	
Run Date		06/21/99	06/21/99	06/25/99	
Run Start Time	hh:mm	910	1421	1654	
Run Stop Time	hh:mm	1151	1716	1907	
Meter Calibration Factor	Y	0.9982	0.9982	0.9982	
Pitot Tube Coefficient	C _p	0.84	0.84	0.84	
Actual Nozzle Diameter	in	0.217	0.218	0.216	
Sample Volume	ft ³	89.477	91.394	88.350	89.740
Total Sampling Time	min	120	120	120	120
Average Meter Temperature	°F	100.9	108.0	100.4	103.1
Average Stack Temperature	°F	291.9	292.8	290.9	291.8
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	-1.05	-1.05	-1.05	-1.05
Absolute Stack/Duct Pressure	in Hg	29.8	29.8	29.8	29.8
Average Delta H	in H ₂ O	1.80	1.85	1.70	1.78
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Avg Differential Pressure (Delta P)	in H ₂ O	1.331	1.347	1.283	1.320
Total Water Volume Collected	mL	434.3	467.5	497.8	466.5
Volume of Water vapor @ STP	SCF	20.443	22.005	23.431	21.960
Volume Metered @ STP	DSCF	84.362	85.100	83.355	84.272
Calculated Stack Moisture	% H ₂ O	19.5	20.5	21.9	20.7
Saturated Stack Moisture	% H ₂ O	100.0	100.0	100.0	100.0
Reported Stack Moisture Content	% H ₂ O	19.5	20.5	21.9	20.7
Carbon Dioxide Percentage	% CO ₂	9.0	8.7	8.7	8.8
Oxygen Percentage	% O ₂	10.9	11.1	11.1	11.0
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.1	80.2	80.2	80.2
Dry Mole Fraction	decimal	0.805	0.795	0.781	0.793
Dry Gas Molecular Weight	lb/lb-mole	29.88	29.84	29.84	29.85
Wet Stack Gas Molecular Weight	lb/lb-mole	27.56	27.40	27.24	27.40
Flue Gas Density	lb/ft ³	0.0715	0.0711	0.0707	0.0711
Calculated Fuel Factor	F _o	1.11	1.13	1.13	1.12
F-Factor	DSCF/MM	9570	9570	9570	9570
Heat Input Rate	MMBtu/hr	267	260	250	259
Percent Excess Air	% EA	106.4	110.2	110.2	108.9
Stack Cross-Sectional Area	in ²	4778.0	4778.0	4778.0	4778.0
Stack Cross-Sectional Area	ft ²	33.18	33.18	33.18	33.18
Percent of Isokinetic Rate	% ISO	102.2	102.7	106.4	103.8

Air Flow Rate Results

Average Stack Gas Velocity	ft/sec	79.24	79.99	78.21	79.15
Actual Stack Flow/Minute	ACFM	157,762	159,244	155,694	157,567
Dry Standard Stack Flow/Minute	DSCFM	88,884	88,461	85,180	87,508

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD:

EPA 29

REAGENT BLANK CORRECTED DATA*			1-S-M29-1		1-S-M29-2		1-S-M29-4	
	Compound	Unit	Pre	Amt	Pre	Amt	Pre	Amt
2	Arsenic	ug	<	0.620		1.300		0.810
3	Beryllium	ug	<	0.034	<	0.034	<	0.034
4	Cadmium	ug		1.100		1.600		1.500
7	Lead	ug		12.065		64.410		19.710
14	Mercury	ug		53.010		72.550	<	55.020

ANALYTICAL DATA			1-S-M29-1		1-S-M29-2		1-S-M29-4	
	Compound	Unit	Pre	Amt	Pre	Amt	Pre	Amt
2	Arsenic	ug	<	0.620		1.300		0.810
3	Beryllium	ug	<	0.034	<	0.034	<	0.034
4	Cadmium	ug		1.100		1.600		1.500
7	Lead	ug		12.700		65.200		20.500
14	Mercury	ug		53.010		72.550	<	55.020
15	KMNO4	ug		1.700		0.950	<	0.100
16	Empty	ug		0.570		4.000		0.440
17	HNO3	ug		47.000		61.800		53.800
18	Front Half	ug		3.300		4.100		0.110
19	HCl	ug		0.440		1.700		0.570

REAGENT BLANK			1-S-M29-1		1-S-M29-2		1-S-M29-4	
2	Arsenic	ug		0.000		0.000		0.000
3	Beryllium	ug		0.000		0.000		0.000
4	Cadmium	ug		0.000		0.000		0.000
7	Lead	ug		0.790		0.790		0.790
14	Mercury	ug		0.000		0.000		0.000
15	KMNO4	ug		0.000		0.000		0.000
16	Empty	ug		0.000		0.000		0.000
17	HNO3	ug		0.000		0.000		0.000
18	Front Half	ug		0.000		0.000		0.000
19	HCl	ug		0.000		0.000		0.000

* The lessor of the reagent blank result or 5% of the catch weight is used to correct all catch weights. Non-detected values are not blank corrected.

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 29**

Concentration and Emission Rate Data Summary					
Run Number		1-S-M29-1	1-S-M29-2	1-S-M29-4	AVERAGE
Arsenic	ug	< 0.620	1.300	0.810	< 0.910
Concentration ug/DSCM	ug/DSCM	< 2.60E-01	5.39E-01	3.43E-01	< 3.81E-01
Concentration ug/dscm @ 12% CO ₂	ug@12%	< 3.46E-01	7.44E-01	4.73E-01	< 5.21E-01
Concentration ug/dscm @ 7% O ₂	ug@7%	< 3.61E-01	7.65E-01	4.87E-01	< 5.37E-01
Emission Rate, lb/hr	lb/hr	< 8.64E-05	1.79E-04	1.09E-04	< 1.25E-04
Emission Rate, gms/sec	gms/sec	< 1.09E-05	2.25E-05	1.38E-05	< 1.57E-05
Emission Rate, lb/MMBtu	lb/MMBtu	< 3.24E-07	6.87E-07	4.37E-07	< 4.83E-07

Beryllium	ug	< 0.034	< 0.034	< 0.034	< 0.034
Concentration ug/DSCM	ug/DSCM	< 1.42E-02	< 1.41E-02	< 1.44E-02	< 1.42E-02
Concentration ug/dscm @ 12% CO ₂	ug@12%	< 1.90E-02	< 1.95E-02	< 1.99E-02	< 1.94E-02
Concentration ug/dscm @ 7% O ₂	ug@7%	< 1.98E-02	< 2.00E-02	< 2.04E-02	< 2.01E-02
Emission Rate, lb/hr	lb/hr	< 4.74E-06	< 4.68E-06	< 4.60E-06	< 4.67E-06
Emission Rate, gms/sec	gms/sec	< 5.97E-07	< 5.89E-07	< 5.79E-07	< 5.88E-07
Emission Rate, lb/MMBtu	lb/MMBtu	< 1.78E-08	< 1.80E-08	< 1.84E-08	< 1.80E-08

Cadmium	ug	1.100	1.600	1.500	1.400
Concentration ug/DSCM	ug/DSCM	4.60E-01	6.64E-01	6.35E-01	5.87E-01
Concentration ug/dscm @ 12% CO ₂	ug@12%	6.14E-01	9.16E-01	8.76E-01	8.02E-01
Concentration ug/dscm @ 7% O ₂	ug@7%	6.40E-01	9.42E-01	9.01E-01	8.28E-01
Emission Rate, lb/hr	lb/hr	1.53E-04	2.20E-04	2.03E-04	1.92E-04
Emission Rate, gms/sec	gms/sec	1.93E-05	2.77E-05	2.55E-05	2.42E-05
Emission Rate, lb/MMBtu	lb/MMBtu	5.75E-07	8.46E-07	8.10E-07	7.44E-07

Lead	ug	12.065	64.410	19.710	32.062
Concentration ug/DSCM	ug/DSCM	5.05E+00	2.67E+01	8.35E+00	1.34E+01
Concentration ug/dscm @ 12% CO ₂	ug@12%	6.73E+00	3.69E+01	1.15E+01	1.84E+01
Concentration ug/dscm @ 7% O ₂	ug@7%	7.02E+00	3.79E+01	1.18E+01	1.89E+01
Emission Rate, lb/hr	lb/hr	1.68E-03	8.86E-03	2.66E-03	4.40E-03
Emission Rate, gms/sec	gms/sec	2.12E-04	1.12E-03	3.36E-04	5.54E-04
Emission Rate, lb/MMBtu	lb/MMBtu	6.31E-06	3.41E-05	1.06E-05	1.70E-05

Mercury	ug	53.010	72.550	< 55.020	< 60.193
Concentration ug/DSCM	ug/DSCM	2.22E+01	3.01E+01	< 2.33E+01	< 2.52E+01
Concentration ug/dscm @ 12% CO ₂	ug@12%	2.96E+01	4.15E+01	< 3.21E+01	< 3.44E+01
Concentration ug/dscm @ 7% O ₂	ug@7%	3.08E+01	4.27E+01	< 3.31E+01	< 3.55E+01
Emission Rate, lb/hr	lb/hr	7.39E-03	9.98E-03	< 7.44E-03	< 8.27E-03
Emission Rate, gms/sec	gms/sec	9.31E-04	1.26E-03	< 9.37E-04	< 1.04E-03
Emission Rate, lb/MMBtu	lb/MMBtu	2.77E-05	3.84E-05	< 2.97E-05	< 3.19E-05

APPENDIX A
RESULTS TABULATION

1.0 UNIT NO. 1

b. STACK

9.0 PARTICULATE LESS THAN 10 MICRONS.

PM10 FIELD DATA ANALYSIS RESULTS TABULATION

PLANT: GORDEN MARTIN SYSTEMS OF LEE, INC. FORT MYERS, FL

SAMPLING LOCATION: UNIT 1 STACK

	1-S-M201A-1	1-S-M201A-2	1-S-M201A-3
Test Date	6/24/99	6/25/99	6/26/99
Run Start Time	906	900	1030
Run Finish Time	1130	1111	1306
Net Traversing Points	12	12	12
Theta Net Run Time, Minutes	118	119	118
Dia Nozzle Diameter, Inches	0.1460	0.1580	0.1460
Cp Pitot Tube Coefficient	0.84	0.84	0.84
Y Dry Gas Meter Calibration Factor	1.0707	1.0707	1.0707
Pbar Barometric Pressure, Inches Hg	29.9	29.9	29.9
Delta H Avg. Pressure Differential of Orifice Meter, Inches H2O	0.443	0.418	0.418
Vm Volume of Metered Gas Sample, Dry ACF	40.058	38.195	37.683
tm Dry Gas Meter Temperature, Degrees F	108.8	98	102.3
Vmstd Volume of Metered Gas Sample, Dry SCF*	39.814	38.695	37.884
Vlc Total Volume of Liquid Collected in Impingers & Silica Gel, mL	225.9	241.0	254.0
Vwstd Volume of Water Vapor, SCF*	10.633	11.344	11.956
%H2O Moisture Content, Percent by Volume	21.10	22.7	24.0
Mfd Dry Mole Fraction	0.789	0.773	0.760

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PM10 FIELD DATA AND RESULTS TABULATION

%CO2	Carbon Dioxide, Percent by Volume, Dry	9.2	9.6	9.5
%O2	Oxygen, Percent by Volume, Dry	10.2	10.1	10.3
%CO+N2	CO + N2, Percent by Volume, Dry	80.6	80.3	80.2
Fo	Fuel Factor	1.16	1.13	1.12
Md	Gas Molecular Weight, Lb/Lb-Mole, Dry	29.88	29.94	29.93
Ms	Gas Molecular Weight, Lb/Lb-Mole, Wet	27.37	27.23	27.07
Pg	Flue Gas Static Pressure, Inches H2O	-1.15	-1.15	-1.10
Ps	Absolute Flue Gas Pressure, Inches Hg	29.82	29.82	29.82
ts	Flue Gas Temperature, Degrees F	289.8	290.3	290.6
Delta-p	Average Velocity Head, Inches H2O	1.385	1.297	1.277
vs	Flue Gas Velocity, Feet per Second	81	78.61	78.25
A	Stack/Duct Area, Square Inches	4778	4778	4778
Qsd	Volumetric Air Flow Rate, Dry SCFM*	89,296	84,847	83,005
Qmsd	Volumetric Air Flow Rate, Dry SCMM*	2,529	2,403	2,351
Qaw	Volumetric Air Flow Rate, Wet ACFM	161,258	156,499	155,783
%I	Isokinetic Sampling Rate, Percent	107.8	93.4	110.4
Fd	F-Factor, DSCF/Million Btu	9,570	9,570	9,570

* 68 Degrees F -- 29.92 Inches of Mercury (Hg). (Continued Next Page)

PM10 FIELD DATA AND RESULTS TABULATION

D10 Results Calculations

ucyc	Stack Gas Viscosity	214.3	213.1	212.4
Qs	PM10 Flow, at Cyclone Conditions, ACFM	0.609	0.600	0.603
D10	Dia. of Particles in Cyclone, Microns	9.81	9.89	9.84
	Particulate Catch,			
mg	Total, Milligrams	4.2	2.6	2.8
mg<D10	Less Than 10 Microns, Milligrams	2.8	0.9	1.4
mg>D10	Greater Than 10 Microns, Milligrams	1.4	1.7	1.4
	Percent of Total Particulate,			
%<D10	Less Than 10 Microns	66.7	34.6	50.0
%>D10	Greater Than 10 Microns	33.3	65.4	50.0
	Particulate Emissions for < 10 microns			
gr/DSCF	Concentration, grains/DSCF*	0.00109	0.000359	0.000570
gr/DSCF@7%O2	Concentration, gr/DSCF @ 7% O2	0.00141	0.000462	0.00075
gr/DSCF@12%CO2	Concentration, gr/DSCF @ 12% CO2	0.00142	0.000449	0.00072
lb/hr	Emission Rate, lb/hr	0.831	0.261	0.406
lb/MMBtu	Emission Rate, lb/MMBtu	0.00290	0.00095	0.00154

* 68 Degrees F -- 29.92 Inches of Mercury (Hg).

APPENDIX A
RESULTS TABULATION

1.0 UNIT NO. 1

c. SOOT BLOW - PARTICULATE

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: EPA 5

Client Name	Ogden Energy Group	Operator		AG
Plant Name	OMS of Lee, Inc.	Project #		10558
Sampling Location	UNIT 1	Standard Temperature, °F		68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		1-S-M5-1SB	1-S-M5-2SB	1-S-M5-3SB	
Run Date		06/22/99	06/23/99	06/24/99	
Run Start Time	hh:mm	1528	1452	1535	
Run Stop Time	hh:mm	1733	1702	1748	
Meter Calibration Factor	Y	0.9982	0.9982	0.9982	
Pitot Tube Coefficient	C _p	0.84	0.84	0.84	
Actual Nozzle Diameter	in	0.217	0.217	0.219	
Sample Volume	ft ³	91.064	90.883	93.950	91.966
Total Sampling Time	min	120	120	120	120
Average Meter Temperature	°F	106.7	105.7	109.3	107.2
Average Stack Temperature	°F	291.7	291.1	290.1	291.0
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	-1.10	-1.10	-1.10	-1.10
Absolute Stack/Duct Pressure	in Hg	29.8	29.8	29.8	29.8
Average Delta H	in H ₂ O	1.77	1.78	1.90	1.82
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Avg Differential Pressure (Delta P)	in H ₂ O	1.313	1.321	1.352	1.329
Total Water Volume Collected	mL	469.7	460.3	505.6	478.5
Volume of Water vapor @ STP	SCF	22.109	21.666	23.799	22.525
Volume Metered @ STP	DSCF	84.973	84.953	87.285	85.737
Calculated Stack Moisture	% H ₂ O	20.6	20.3	21.4	20.8
Saturated Stack Moisture	% H ₂ O	100.0	100.0	100.0	100.0
Reported Stack Moisture Content	% H ₂ O	20.6	20.3	21.4	20.8
Carbon Dioxide Percentage	% CO ₂	8.5	9.3	8.3	8.7
Oxygen Percentage	% O ₂	11.0	10.2	11.3	10.8
Carbon Monoxide Percentage	% CO	1.0	0.0	0.0	0.3
Nitrogen Percentage	% N ₂	79.5	80.5	80.4	80.1
Dry Mole Fraction	decimal	0.794	0.797	0.786	0.792
Dry Gas Molecular Weight	lb/lb-mole	29.80	29.90	29.78	29.83
Wet Stack Gas Molecular Weight	lb/lb-mole	27.36	27.48	27.26	27.37
Flue Gas Density	lb/ft ³	0.0710	0.0713	0.0707	0.0710
Calculated Fuel Factor	F _o	0.99	1.15	1.16	1.10
F-Factor	DSCF/MM	9570	9570	9570	9570
Heat Input Rate	MMBtu/hr	259	282	254	265
Percent Excess Air	% EA	100.1	92.3	113.8	102.1
Stack Cross-Sectional Area	in ²	4778	4778	4778	4778
Stack Cross-Sectional Area	ft ²	33.18	33.18	33.18	33.18
Percent of Isokinetic Rate	% ISO	104.8	104.2	104.8	104.6

Air Flow Rate Results

Average Stack Gas Velocity	ft/sec	78.99	79.02	80.22	79.41
Actual Stack Flow/Minute	ACFM	157,249	157,310	159,711	158,090
Dry Standard Stack Flow/Minute	DSCFM	87,351	87,812	88,040	87,735

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 5**

Concentration and Emission Rate Data Summary					
Run Number		1-S-M5-1SB	1-S-M5-2SB	1-S-M5-3SB	AVERAGE
Filterable Particulate	mg	5.3	15.9	10.7	10.6
Concentration, grams/DSCF	gms/DSCF	6.24E-05	1.87E-04	1.23E-04	1.24E-04
Concentration, Gr/DSCF	gr/DSCF	9.63E-04	2.89E-03	1.89E-03	1.91E-03
Concentration @ 12% CO2	Gr@12%	1.36E-03	3.73E-03	2.74E-03	2.61E-03
Concentration @ 7% O2	Gr@7%	1.35E-03	3.75E-03	2.74E-03	2.61E-03
Emission Rate, lb/hr	lb/hr	7.21E-01	2.17E+00	1.43E+00	1.44E+00
Emission Rate, gms/sec	gms/sec	9.08E-02	2.74E-01	1.80E-01	1.82E-01
Emission Rate, lb/MMBtu	lb/MMBtu	2.78E-03	7.71E-03	5.63E-03	5.37E-03

APPENDIX A
RESULTS TABULATION

2.0 UNIT NO. 2

a. INLET

1.0 OXYGEN, CARBON DIOXIDE, SULFUR DIOXIDE AND CARBON MONOXIDE

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
 SOURCE: UNIT2
 LOCATION: INLET

RUN NO.: RATA-1
 TEST DATE: 6/23/99
 RUN TIME: 0853-0952

(2-I-Comp-1)

STEP	DESCRIPTION	VAR	Standard Temperature °F, Tstd: 68.0				FORMULA
			SO2	CO	O2	CO2	
1	RANGE (ppm or %)	A	500	100	22	20	
2	CAL. GAS USED						
	ZERO	B	0.0	0.0	0.00	0.00	
	LOW	B'		30.0			
	MID	C	300.0	60.0	8.99	8.82	
	HIGH	D	450.0	91.5	19.94	17.64	
3	INITIAL CAL. ERROR CHECK						
	ZERO (ppm or %)	E	0.5	0.6	0.25	0.05	
	LOW (ppm or %)	E'		30.6			
	MID (ppm or %)	F	299.9	60.7	9.15	8.93	
	HIGH (ppm or %)	G	449.8	91.7	19.98	17.64	
	ZERO, % ERROR	H	0.10	0.60	1.14	0.25	(E-B)/A*100
	LOW, % ERROR	H'		0.60			(E-B')/A*100
	MID, % ERROR	I	-0.02	0.70	0.73	0.55	(G-C)/A*100
	HIGH, % ERROR	J	-0.04	0.20	0.18	0.00	(I-D)/A*100
4	INITIAL LINEARITY (%)	K	-0.03	0.36	0.02	0.42	((G-E)-((I-E)*C)/D)100/A
5	INITIAL SYS. CAL.. RESP.						
	ZERO (ppm or %)	L	0.5	-0.1	0.28	0.07	
	UPSCALE (ppm or %)	M	285.6	91.0	9.01	8.70	
	ZERO, % CAL. BIAS	N	0.00	-0.70	0.14	0.10	(L-E)/A*100
	UPSCALE, % CAL. BIAS	O	-2.86	-0.70	-0.64	-1.15	(N-G(or I))/A*100
6	FINAL SYS. CAL.. RESP.						
	ZERO (ppm or %)	P	1.0	-0.1	0.24	0.10	
	UPSCALE (ppm or %)	Q	288.1	91.9	8.97	8.85	
	ZERO, % CAL. BIAS	R	0.10	-0.70	-0.05	0.25	(P-U)/A*100
	UPSCALE, % CAL. BIAS	S	-2.36	0.20	-0.82	-0.40	(R-W)/A*100
9	ZERO % DRIFT	AA	0.10	0.00	-0.18	0.15	(P-L)/A*100
	UPSCALE % DRIFT	BB	0.50	0.90	-0.18	0.75	(R-N)/A*100
10	AVE. SYS. BIAS RESP.						
	ZERO (ppm or %)	CC	0.75	-0.10	0.26	0.09	(L+P)/2
	UPSCALE (ppm or %)	DD	286.85	91.45	8.99	8.78	(N+R)/2
			1.0	0.0	1.0	1.0	
11	SAMPLE VALUE (ave)	EE	78.1	22.0	10.14	9.64	
12	CORRECTED CONC.	FF	81.1	22.1	10.17	9.70	C*(FF-DD)/(EE-DD)
13	DATA REDUCTION:						
	% O2 Correction	GG					
	ppm @ 7 % O2	HH	105.1	28.6			GG*(20.9-HH)/(20.9-% O2)
	Flow Rate, Qsd (dscfm)	II					
	lb/hr	JJ	0.00	0.00			GG*JJ*LL*60
	lb/MMBtu	JJ'	0.251	0.030			
	Conversion Factor, lb/dscf-ppm	KK	1.661E-07	7.267E-08			(fwt/385.3)*0.000001*528/(460+Tstd)
	Fd Factor,dscf/MMBtu	LL	9570				

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
 SOURCE: UNIT2
 LOCATION: INLET

RUN NO.: RATA3
 TEST DATE: 6/23/99
 RUN TIME: 1121-1220

(2-I-Comp-2)

STEP	DESCRIPTION	VAR	Standard Temperature °F, Tstd: 68.0				FORMULA
			SO2	CO	O2	CO2	
1	RANGE (ppm or %)	A	500	100	22	20	
2	CAL. GAS USED						
	ZERO	B	0.0	0.0	0.00	0.00	
	LOW	B'		30.0			
	MID	C	300.0	60.0	8.99	8.82	
	HIGH	D	450.0	91.5	19.94	17.64	
3	INITIAL CAL. ERROR CHECK						
	ZERO (ppm or %)	E	0.5	0.6	0.25	0.05	
	LOW (ppm or %)	E'		30.6			
	MID (ppm or %)	F	299.9	60.7	9.15	8.93	
	HIGH (ppm or %)	G	449.8	91.7	19.98	17.64	
	ZERO, % ERROR	H	0.10	0.60	1.14	0.25	(E-B)/A*100
	LOW, % ERROR	H'		0.60			(E-B')/A*100
	MID, % ERROR	I	-0.02	0.70	0.73	0.55	(G-C)/A*100
	HIGH, % ERROR	J	-0.04	0.20	0.18	0.00	(I-D)/A*100
4	INITIAL LINEARITY (%)	K	-0.03	0.36	0.02	0.42	((G-E)-((I-E)*C)/D)100/A
5	INITIAL SYS. CAL.. RESP.						
	ZERO (ppm or %)	L	1.7	0.0	0.26	0.10	
	UPSCALE (ppm or %)	M	290.9	90.9	8.98	8.57	
	ZERO, % CAL. BIAS	N	0.24	-0.60	0.05	0.25	(L-E)/A*100
	UPSCALE, % CAL. BIAS	O	-1.80	-0.80	-0.77	-1.80	(N-G(or I))/A*100
6	FINAL SYS. CAL.. RESP.						
	ZERO (ppm or %)	P	0.6	0.0	0.23	0.12	
	UPSCALE (ppm or %)	Q	284.2	91.0	8.81	8.71	
	ZERO, % CAL. BIAS	R	0.02	-0.60	-0.09	0.35	(P-U)/A*100
	UPSCALE, % CAL. BIAS	S	-3.14	-0.70	-1.55	-1.10	(R-W)/A*100
9	ZERO % DRIFT	AA	-0.22	0.00	-0.14	0.10	(P-L)/A*100
	UPSCALE % DRIFT	BB	-1.34	0.10	-0.77	0.70	(R-N)/A*100
10	AVE. SYS. BIAS RESP.						
	ZERO (ppm or %)	CC	1.15	0.00	0.25	0.11	(L+P)/2
	UPSCALE (ppm or %)	DD	287.55	90.95	8.90	8.64	(N+R)/2
11	SAMPLE VALUE (ave)	EE	74.8	20.9	9.96	9.61	
12	CORRECTED CONC.	FF	77.1	21.0	10.10	9.82	C*(FF-DD)/(EE-DD)
13	DATA REDUCTION:						
	% O2 Correction	GG	7.0	7.0			
	ppm @ 7 % O2	HH	99.3	27.1			GG*(20.9-HH)/(20.9-% O2)
	Flow Rate, Qsd (dscfm)	II					
	lb/hr	JJ	0.00	0.00			GG*JJ*LL*60
	lb/MMBtu	JJ'	0.237	0.028			
	Conversion Factor, lb/dscf-ppm	KK	1.661E-07	7.267E-08			(fw*385.3)*0.000001*528/(460+Tstd)
	Fd Factor,dscf/MMBtu	LL	9570				

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
SOURCE: UNIT 2
LOCATION: INLET

RUN NO.: RATA 4
TEST DATE: 6/23/99
RUN TIME: 1239-1338

(2-I-Comp-3)

Standard Temperature °F, Tstd: 68.0

STEP	DESCRIPTION	VAR	SO2	CO	O2	CO2
1	RANGE (ppm or %)	A	500	100	22	20
2	CAL. GAS USED					
	ZERO	B	0.0	0.0	0.00	0.00
	LOW	B'		30.0		
	MID	C	300.0	60.0	8.99	8.82
	HIGH	D	450.0	91.5	19.94	17.64
3	INITIAL CAL. ERROR CHECK					
	ZERO (ppm or %)	E	0.5	0.6	0.25	0.05
	LOW (ppm or %)	E'		30.6		
	MID (ppm or %)	F	299.9	60.7	9.15	8.93
	HIGH (ppm or %)	G	449.8	91.7	19.98	17.64
	ZERO, % ERROR	H	0.10	0.60	1.14	0.25
	LOW, % ERROR	H'		0.60		
	MID, % ERROR	I	-0.02	0.70	0.73	0.55
	HIGH, % ERROR	J	-0.04	0.20	0.18	0.00
4	INITIAL LINEARITY (%)	K	-0.03	0.36	0.02	0.42
5	INITIAL SYS. CAL.. RESP.					
	ZERO (ppm or %)	L	0.6	0.0	0.23	0.12
	UPSCALE (ppm or %)	M	284.2	91.0	8.81	8.71
	ZERO, % CAL. BIAS	N	0.02	-0.60	-0.09	0.35
			1.0	0.0	1.0	1.0
	UPSCALE, % CAL. BIAS	O	-3.14	-0.70	-1.55	-1.10
6	FINAL SYS. CAL.. RESP.					
	ZERO (ppm or %)	P	1.0	0.1	0.22	0.15
	UPSCALE (ppm or %)	Q	286.5	90.3	8.82	8.70
	ZERO, % CAL. BIAS	R	0.10	-0.50	-0.14	0.50
	UPSCALE, % CAL. BIAS	S	-2.68	-1.40	-1.50	-1.15
9	ZERO % DRIFT	AA	0.08	0.10	-0.05	0.15
	UPSCALE % DRIFT	BB	0.46	-0.70	0.05	-0.05
10	AVE. SYS. BIAS RESP.					
	ZERO (ppm or %)	CC	0.80	0.05	0.23	0.14
	UPSCALE (ppm or %)	DD	285.35	90.65	8.82	8.71
11	SAMPLE VALUE (ave)	EE	81.3	20.5	10.13	9.41
12	CORRECTED CONC.	FF	84.9	20.7	10.37	9.55
13	DATA REDUCTION:					
	% O2 Correction	GG	7.0	7.0		
	ppm @ 7 % O2	HH	112.0	27.3		
	Flow Rate, Qsd (dscfm)	II	#N/A			
	lb/hr	JJ	#N/A	#N/A		
	lb/MMBtu	JJ'	0.268	0.028		
	Conversion Factor, lb/dscf-ppm	KK	1.661E-07	7.267E-08		
	Fd Factor,dscf/MMBtu	LL	9570			

APPENDIX A
RESULTS TABULATION

2.0 UNIT NO. 2

a. INLET

2.0 HYDROGEN CHLORIDE

SINGLE POINT SAMPLING RESULTS - METHOD:

M26

Client Name	Ogden Energy Group	Operator		NP
Plant Name	OMS of Lee, Inc.	Project #		10558
Sampling Location	UNIT 2 INLET	Standard Temperature, °F		68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		2-I-M26-1	2-I-M26-2	2-I-M26-3	
Run Date		06/22/99	06/23/99	06/23/99	
Run Start Time	hh:mm	1327	848	1157	
Run Stop Time	hh:mm	1447	948	1257	
Meter Calibration Factor	Y	1.0056	1.0056	1.0056	
Sample Volume	ft ³	33.896	33.420	33.538	33.618
Total Sampling Time	min	60	60	60	60
Average Meter Temperature	°F	108.1	101.8	105.3	105.1
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	NA	NA	NA	#DIV/0!
Absolute Stack/Duct Pressure	in Hg	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Average Delta H	in H ₂ O	1.00	1.00	1.00	1.00
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Total Water Volume Collected	mL	132.3	130.7	129.5	130.8
Volume of Water vapor @ STP	SCF	6.227	6.152	6.096	6.158
Volume Metered @ STP	DSCF	31.725	31.627	31.542	31.631
Calculated Stack Moisture	% H ₂ O	16.4	16.3	16.2	16.3
Carbon Dioxide Percentage	% CO ₂	8.8	9.2	9.7	9.2
Oxygen Percentage	% O ₂	10.5	10.5	10.1	10.4
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.7	80.3	80.2	80.4
Dry Mole Fraction	decimal	0.836	0.837	0.838	0.837
Dry Gas Molecular Weight	lb/lb-mole	29.83	29.89	29.96	29.89
Wet Stack Gas Molecular Weight	lb/lb-mole	27.89	27.96	28.02	27.95
Flue Gas Density	lb/ft ³	0.0724	0.0726	0.0727	0.0726
Calculated Fuel Factor	F _o	1.18	1.13	1.11	1.14
Percent Excess Air	% EA	97.2	98.1	91.2	95.5

Air Flow Rate Results

Concurrent Stack Flow	Run #	2-I-M29-1	2-I-M29-2	2-I-M29-3	NA
Heat Input Rate	MMBtu/hr	268	280	281	276
Dry Standard Stack Flow/Minute	DSCFM	85,776	89,619	86,828	87,408

Concentration and Emission Rate Data Summary

Hydrogen Chloride					
Molecular Weight	gm/g-mole	36.50	36.50	36.50	NA
Catch Weight	mg	786.00	973.00	966.00	9.08E+02
Concentration, ppm	ppm	5.77E+02	7.16E+02	7.13E+02	6.68E+02
Concentration, ppm @ 7% O ₂	ppm @ 7% O ₂	7.71E+02	9.57E+02	9.17E+02	8.82E+02
Concentration, ppm @ 12% CO ₂	ppm @ 12% CO ₂	7.86E+02	9.34E+02	8.82E+02	8.67E+02
Emission Rate, lbs/hr	lbs/hr	2.81E+02	3.65E+02	3.52E+02	3.33E+02
Emission Rate, gms/sec	gms/sec	3.54E+01	4.60E+01	4.43E+01	4.19E+01
Emission Rate, lbs/MMBtu	lbs/MMBtu	1.05E+00	1.30E+00	1.25E+00	1.20E+00

A

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APPENDIX A
RESULTS TABULATION

2.0 UNIT NO. 2

a. INLET

3.0 MERCURY

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: EPA 29

Client Name	Ogden Energy Group	Operator		CMW,NP
Plant Name	OMS of Lee, Inc.	Project #		10558
Sampling Location	UNIT 2 INLET	Standard Temperature, °F		68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		2-I-M29-1	2-I-M29-2	2-I-M29-3	
Run Date		06/22/99	06/23/99	06/23/99	
Run Start Time	hh:mm	1327	752	1128	
Run Stop Time	hh:mm	1543	1036	1348	
Meter Calibration Factor	Y	1.0090	1.0090	1.0090	
Pitot Tube Coefficient	C _p	0.84	0.84	0.84	
Actual Nozzle Diameter	in	0.225	0.222	0.222	
Sample Volume	ft ³	62.997	63.148	62.265	62.803
Total Sampling Time	min	125	125	125	125
Average Meter Temperature	°F	106.4	95.1	102.1	101.2
Average Stack Temperature	°F	437.2	436.6	435.0	436.3
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	-2.70	-2.80	-3.00	-2.83
Absolute Stack/Duct Pressure	in Hg	29.7	29.7	29.7	29.7
Average Delta H	in H ₂ O	0.86	0.87	0.83	0.85
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Avg Differential Pressure (Delta P)	in H ₂ O	0.585	0.636	0.591	0.604
Total Water Volume Collected	mL	264.0	263.9	246.9	258.3
Volume of Water vapor @ STP	SCF	12.426	12.422	11.622	12.157
Volume Metered @ STP	DSCF	59.314	60.672	59.067	59.684
Calculated Stack Moisture	% H ₂ O	17.3	17.0	16.4	16.9
Saturated Stack Moisture	% H ₂ O	100.0	100.0	100.0	100.0
Reported Stack Moisture Content	% H ₂ O	17.3	17.0	16.4	16.9
Carbon Dioxide Percentage	% CO ₂	8.8	9.2	9.7	9.2
Oxygen Percentage	% O ₂	10.5	10.5	10.1	10.4
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.7	80.3	80.2	80.4
Dry Mole Fraction	decimal	0.827	0.830	0.836	0.831
Dry Gas Molecular Weight	lb/lb-mole	29.83	29.89	29.96	29.89
Wet Stack Gas Molecular Weight	lb/lb-mole	27.78	27.87	27.99	27.88
Flue Gas Density	lb/ft ³	0.0721	0.0723	0.0726	0.0724
Calculated Fuel Factor	F _o	1.18	1.13	1.11	1.14
F-Factor	DSCF/MM	9570	9570	9570	9570
Heat Input Rate	MMBtu/hr	268	280	281	276
Percent Excess Air	% EA	97.2	98.1	91.2	95.5
Stack Cross-Sectional Area	in ²	7440.0	7440.0	7440.0	7440.0
Stack Cross-Sectional Area	ft ²	51.67	51.67	51.67	51.67
Percent of Isokinetic Rate	% ISO	103.6	104.1	104.7	104.1

Air Flow Rate Results

Average Stack Gas Velocity	ft/sec	57.29	59.59	57.28	58.05
Actual Stack Flow/Minute	ACFM	177,595	184,743	177,566	179,968
Dry Standard Stack Flow/Minute	DSCFM	85,776	89,619	86,828	87,408

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD:

EPA 29

REAGENT BLANK CORRECTED DATA*			2-I-M29-1		2-I-M29-2		2-I-M29-3	
	Compound	Unit	Pre	Amt	Pre	Amt	Pre	Amt
14	Mercury	ug		47.070	<	59.200	<	74.670

ANALYTICAL DATA			2-I-M29-1		2-I-M29-2		2-I-M29-3	
	Compound	Unit	Pre	Amt	Pre	Amt	Pre	Amt
14	Mercury	ug		47.070	<	59.200	<	74.670
15	KMNO4	ug		0.180	<	0.100	<	0.100
16	Empty	ug		0.490		0.700		0.890
17	HNO3	ug		28.500		39.100		53.100
18	Front Half	ug		16.800		18.700		20.400
19	HCl	ug		1.100		0.600		0.180

REAGENT BLANK			2-I-M29-1		2-I-M29-2		2-I-M29-3	
14	Mercury	ug		0.000		0.000		0.000
15	KMNO4	ug		0.000		0.000		0.000
16	Empty	ug		0.000		0.000		0.000
17	HNO3	ug		0.000		0.000		0.000
18	Front Half	ug		0.000		0.000		0.000
19	HCl	ug		0.000		0.000		0.000

* The lessor of the reagent blank result or 5% of the catch weight is used to correct all catch weights. Non-detected values are not blank corrected.

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 29**

Concentration and Emission Rate Data Summary					
Run Number		2-I-M29-1	2-I-M29-2	2-I-M29-3	AVERAGE
Mercury	ug	47.070	< 59.200	< 74.670	< 60.313
Concentration ug/DSCM	ug/DSCM	2.80E+01	< 3.45E+01	< 4.46E+01	< 3.57E+01
Concentration ug/dscm @ 12% CO ₂	ug@12%	3.82E+01	< 4.49E+01	< 5.52E+01	< 4.61E+01
Concentration ug/dscm @ 7% O ₂	ug@7%	3.75E+01	< 4.60E+01	< 5.75E+01	< 4.70E+01
Emission Rate, lb/hr	lb/hr	9.00E-03	< 1.16E-02	< 1.45E-02	< 1.17E-02
Emission Rate, gms/sec	gms/sec	1.13E-03	< 1.46E-03	< 1.83E-03	< 1.47E-03
Emission Rate, lb/MMBtu	lb/MMBtu	3.36E-05	< 4.14E-05	< 5.16E-05	< 4.22E-05

APPENDIX A
RESULTS TABULATION

2.0 UNIT NO. 2

b. STACK

1.0 PARTICULATE

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 5**

Client Name	Ogden Energy Group	Operator		AG	
Plant Name	OMS of Lee, Inc.	Project #		10558	
Sampling Location	UNIT 2	Standard Temperature, °F		68	
USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		2-S-M5-1	2-S-M5-2	2-S-M5-3	
Run Date		06/21/99	06/21/99	06/25/99	
Run Start Time	hh:mm	921	1307	1313	
Run Stop Time	hh:mm	1145	1520	1525	
Meter Calibration Factor	Y	1.0038	1.0038	1.0038	
Pitot Tube Coefficient	C _p	0.84	0.84	0.84	
Actual Nozzle Diameter	in	0.216	0.224	0.216	
Sample Volume	ft ³	86.548	89.932	86.260	87.580
Total Sampling Time	min	120	120	120	120
Average Meter Temperature	°F	92.0	96.5	99.0	95.8
Average Stack Temperature	°F	288.6	289.8	290.5	289.6
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	-1.15	-1.15	-1.10	-1.13
Absolute Stack/Duct Pressure	in Hg	29.8	29.8	29.8	29.8
Average Delta H	in H ₂ O	1.56	1.66	1.55	1.59
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Avg Differential Pressure (Delta P)	in H ₂ O	1.271	1.195	1.261	1.242
Total Water Volume Collected	mL	417.3	402.3	411.3	410.3
Volume of Water vapor @ STP	SCF	19.642	18.936	19.360	19.313
Volume Metered @ STP	DSCF	83.333	85.909	82.016	83.753
Calculated Stack Moisture	% H ₂ O	19.1	18.1	19.1	18.7
Saturated Stack Moisture	% H ₂ O	100.0	100.0	100.0	100.0
Reported Stack Moisture Content	% H ₂ O	19.1	18.1	19.1	18.7
Carbon Dioxide Percentage	% CO ₂	8.4	8.5	8.5	8.5
Oxygen Percentage	% O ₂	11.5	11.3	11.3	11.4
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.1	80.2	80.2	80.2
Dry Mole Fraction	decimal	0.809	0.819	0.809	0.813
Dry Gas Molecular Weight	lb/lb-mole	29.80	29.81	29.81	29.81
Wet Stack Gas Molecular Weight	lb/lb-mole	27.55	27.68	27.56	27.60
Flue Gas Density	lb/ft ³	0.0715	0.0718	0.0715	0.0716
Calculated Fuel Factor	F _o	1.12	1.13	1.13	1.13
F-Factor	DSCF/MM	9570	9570	9570	9570
Heat Input Rate	MMBtu/hr	247	247	251	248
Percent Excess Air	% EA	119.2	114.5	114.5	116.0
Stack Cross-Sectional Area	in ²	4778	4778	4778	4778
Stack Cross-Sectional Area	ft ²	33.18	33.18	33.18	33.18
Percent of Isokinetic Rate	% ISO	103.5	101.4	102.4	102.4
Air Flow Rate Results					
Average Stack Gas Velocity	ft/sec	77.27	74.82	77.07	76.39
Actual Stack Flow/Minute	ACFM	153,837	148,951	153,435	152,075
Dry Standard Stack Flow/Minute	DSCFM	87,502	85,651	87,042	86,732

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 5**

Concentration and Emission Rate Data Summary					
Run Number		2-S-M5-1	2-S-M5-2	2-S-M5-3	AVERAGE
Filterable Particulate	mg	5.9	4.6	9.3	6.6
Concentration, grams/DSCF	gms/DSCF	7.08E-05	5.35E-05	1.13E-04	7.92E-05
Concentration, Gr/DSCF	gr/DSCF	1.09E-03	8.26E-04	1.75E-03	1.22E-03
Concentration @ 12% CO2	Gr@12%	1.56E-03	1.17E-03	2.47E-03	1.73E-03
Concentration @ 7% O2	Gr@7%	1.62E-03	1.20E-03	2.53E-03	1.78E-03
Emission Rate, lb/hr	lb/hr	8.19E-01	6.07E-01	1.31E+00	9.11E-01
Emission Rate, gms/sec	gms/sec	1.03E-01	7.64E-02	1.64E-01	1.15E-01
Emission Rate, lb/MMBtu	lb/MMBtu	3.32E-03	2.46E-03	5.21E-03	3.66E-03

APPENDIX A
RESULTS TABULATION

2.0 UNIT NO. 2

b. STACK

2.0 SULFURIC ACID MIST

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 8**

Client Name	Ogden Energy Group	Operator		MIKE C
Plant Name	OMS of Lee, Inc.	Project #		10558
Sampling Location	UNIT 2	Standard Temperature, °F		68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
		2-S-M8-1	2-S-M8-2	2-S-M8-3	
Run Number					
Run Date		06/24/99	06/24/99	06/26/99	
Run Start Time	hh:mm	1325	1605	1030	
Run Stop Time	hh:mm	1430	1717	1200	
Meter Calibration Factor	Y	1.0038	1.0038	0.9982	
Pitot Tube Coefficient	C _p	0.84	0.84	0.84	
Actual Nozzle Diameter	in	0.217	0.216	0.217	
Sample Volume	ft ³	43.990	43.806	45.318	44.371
Total Sampling Time	min	60	60	60	60
Average Meter Temperature	°F	96.6	97.8	99.3	97.9
Average Stack Temperature	°F	288.9	290.6	290.7	290.1
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	1.15	1.15	-1.10	0.40
Absolute Stack/Duct Pressure	in Hg	30.0	30.0	29.8	29.9
Average Delta H	in H ₂ O	1.62	1.59	1.81	1.67
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Avg Differential Pressure (Delta P)	in H ₂ O	1.282	1.289	1.340	1.304
Total Water Volume Collected	mL	153.3	202.5	229.0	194.9
Volume of Water vapor @ STP	SCF	7.216	9.532	10.779	9.176
Volume Metered @ STP	DSCF	42.008	41.739	42.850	42.199
Calculated Stack Moisture	% H ₂ O	14.7	18.6	20.1	17.8
Saturated Stack Moisture	% H ₂ O	100.0	100.0	100.0	100.0
Reported Stack Moisture Content	% H ₂ O	14.7	18.6	20.1	17.8
Carbon Dioxide Percentage	% CO ₂	8.5	9.0	9.4	9.0
Oxygen Percentage	% O ₂	11.1	10.7	10.4	10.7
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.4	80.3	80.2	80.3
Dry Mole Fraction	decimal	0.853	0.814	0.799	0.822
Dry Gas Molecular Weight	lb/lb-mole	29.80	29.87	29.92	29.86
Wet Stack Gas Molecular Weight	lb/lb-mole	28.07	27.66	27.52	27.75
Flue Gas Density	lb/ft ³	0.0729	0.0718	0.0714	0.0720
Calculated Fuel Factor	F _o	1.15	1.13	1.12	1.13
F-Factor	DSCF/MM	9570	9570	9570	9570
Heat Input Rate	MMBtu/hr	271	271	279	274
Percent Excess Air	% EA	109.6	101.9	96.5	102.7
Stack Cross-Sectional Area	in ²	4778	4778	4778	4778
Stack Cross-Sectional Area	ft ²	33.18	33.18	33.18	33.18
Percent of Isokinetic Rate	% ISO	98.3	102.4	104.1	101.6

Air Flow Rate Results

Average Stack Gas Velocity	ft/sec	76.68	77.57	79.51	77.92
Actual Stack Flow/Minute	ACFM	152,658	154,435	158,286	155,126
Dry Standard Stack Flow/Minute	DSCFM	92,048	88,632	88,657	89,779

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 8**

Concentration and Emission Rate Data Summary					
Run Number		2-S-M8-1	2-S-M8-2	2-S-M8-3	AVERAGE
Sulfuric Acid Mist	mg	8.173	12.957	15.224	12.118
Concentration, grams/DSCF	gms/DSCF	1.95E-04	3.10E-04	3.55E-04	2.87E-04
Concentration, Gr/DSCF	gr/DSCF	3.00E-03	4.79E-03	5.48E-03	4.43E-03
Concentration @ 12% CO2	Gr@12%	4.24E-03	6.39E-03	7.00E-03	5.88E-03
Concentration @ 7% O2	Gr@7%	4.26E-03	6.53E-03	7.26E-03	6.02E-03
Emission Rate, lb/hr	lb/hr	2.37E+00	3.64E+00	4.17E+00	3.39E+00
Emission Rate, gms/sec	gms/sec	2.98E-01	4.59E-01	5.25E-01	4.27E-01
Emission Rate, lb/MMBtu	lb/MMBtu	8.75E-03	1.34E-02	1.49E-02	1.24E-02

APPENDIX A
RESULTS TABULATION

2.0 UNIT NO. 2

b. STACK

**3.0 OXYGEN, CARBON DIOXIDE, SULFUR DIOXIDE, NITROGEN OXIDES,
CARBON MONOXIDE, AND TOTAL HYDROCARBONS**

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
 SOURCE: UNIT 2
 LOCATION: STACK

(2-5-Comp-1)
 RUN NO.: RATA-1
 TEST DATE: 6/23/99
 RUN TIME: 0853-0952

		Standard Temperature °F, Tstd: 68.0					
STEP	DESCRIPTION	VAR	NOx	SO2	CO	O2	CO2
1	RANGE (ppm or %)	A	500	100	100	22	20
2	CAL. GAS USED						
	ZERO	B	0.0	0.0	0.0	0.00	0.00
	LOW	B'			30.0		
	MID	C	228.0	45.1	60.0	8.99	9.08
	HIGH	D	456.0	91.1	91.5	19.94	17.64
3	INITIAL CAL. ERROR CHECK						
	ZERO (ppm or %)	E	0.3	0.0	0.2	0.12	0.00
	LOW (ppm or %)	E'			30.5		
	MID (ppm or %)	F	229.5	44.7	59.8	9.03	9.10
	HIGH (ppm or %)	G	456.1	90.9	91.5	19.97	17.60
	ZERO, % ERROR	H	0.06	0.00	0.20	0.55	0.00
	LOW, % ERROR	H'			0.50		
	MID, % ERROR	I	0.30	-0.40	-0.20	0.18	0.10
	HIGH, % ERROR	J	0.02	-0.20	0.00	0.14	-0.20
4	INITIAL LINEARITY (%)	K	0.26	-0.30	-0.27	-0.18	0.20
5	INITIAL SYS. CAL.. RESP.						
	ZERO (ppm or %)	L	0.3	0.3	0.1	0.18	0.00
	UPSCALE (ppm or %)	M	222.8	44.0	90.5	8.96	9.00
	ZERO, % CAL. BIAS	N	0.00	0.30	-0.10	0.27	0.00
	UPSCALE, % CAL. BIAS	O	-1.34	-0.70	-1.00	-0.32	-0.50
6	FINAL SYS. CAL.. RESP.						
	ZERO (ppm or %)	P	0.5	-0.5	0.0	0.12	0.10
	UPSCALE (ppm or %)	Q	219.6	44.9	90.3	9.02	9.00
	ZERO, % CAL. BIAS	R	0.04	-0.50	-0.20	0.00	0.50
	UPSCALE, % CAL. BIAS	S	-1.98	0.20	-1.20	-0.05	-0.50
9	ZERO % DRIFT	AA	0.04	-0.80	-0.10	-0.27	0.50
	UPSCALE % DRIFT	BB	-0.64	0.90	-0.20	0.27	0.00
10	AVE. SYS. BIAS RESP.						
	ZERO (ppm or %)	CC	0.40	-0.10	0.05	0.15	0.05
	UPSCALE (ppm or %)	DD	221.20	44.45	90.40	8.99	9.00
11	SAMPLE VALUE (ave)	EE	118.4	19.9	20.4	10.57	9.10
12	CORRECTED CONC.	FF	121.8	20.2	20.6	10.60	9.18
13	DATA REDUCTION:						
	% O2 Correction	GG	7	7.0	7.0		
	ppm @ 7 % O2	HH	164.4	27.3	27.8		
	Flow Rate, Qsd (dscfm)	II	86176	(2-S-M29-2)			
	lb/hr	JJ	75.22	17.39	7.74		
	lb/MMBtu	JJ'	0.282	0.065	0.029		
	Conversion Factor, lb/dscf-ppm	KK	1.194E-07	1.661E-07	7.267E-08		
	Fd Factor,dscf/MMBtu	LL	9570				

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
SOURCE: UNIT 2
LOCATION: STACK

(2-M25A-1)

(2-S-COMP-2)

RUN NO.: RATA3
TEST DATE: 6/23/99
RUN TIME: 1121-1220

		Standard Temperature °F, Tstd: 68.0						
STEP	DESCRIPTION	VAR	NOx	SO2	CO	THC	O2	CO2
1	RANGE (ppm or %)	A	500	100	100	50	22	20
2	CAL. GAS USED							
	ZERO	B	0.0	0.0	0.0	0.0	0.00	0.00
	LOW	B'			30.0	15.0		
	MID	C	228.0	45.1	60.0	25.0	8.99	9.08
	HIGH	D	456.0	91.1	91.5	45.3	19.94	17.64
3	INITIAL CAL. ERROR CHECK							
	ZERO (ppm or %)	E	0.3	0.0	0.2	0.3	0.12	0.00
	LOW (ppm or %)	E'			30.5	14.5		
	MID (ppm or %)	F	229.5	44.7	59.8	23.9	9.03	9.10
	HIGH (ppm or %)	G	456.1	90.9	91.5	45.5	19.97	17.60
	ZERO, % ERROR	H	0.06	0.00	0.20	0.60	0.55	0.00
	LOW, % ERROR	H'			0.50	-1.00		
	MID, % ERROR	I	0.30	-0.40	-0.20	-2.20	0.18	0.10
	HIGH, % ERROR	J	0.02	-0.20	0.00	0.40	0.14	-0.20
4	INITIAL LINEARITY (%)	K	0.26	-0.30	-0.27	-2.69	-0.18	0.20
5	INITIAL SYS. CAL.. RESP.							
	ZERO (ppm or %)	L	0.6	-0.1	0.1	0.3	0.10	0.10
	UPSCALE (ppm or %)	M	220.3	44.6	90.0	23.9	8.99	9.10
	ZERO, % CAL. BIAS	N	0.06	-0.10	-0.10	0.00	-0.09	0.50
	UPSCALE, % CAL. BIAS	O	-1.84	-0.10	-1.50	0.00	-0.18	0.00
6	FINAL SYS. CAL.. RESP.							
	ZERO (ppm or %)	P	0.6	-0.2	-0.4	0.8	0.10	0.10
	UPSCALE (ppm or %)	Q	220.2	44.2	89.3	25.7	8.93	9.10
	ZERO, % CAL. BIAS	R	0.06	-0.20	-0.60	1.00	-0.09	0.50
	UPSCALE, % CAL. BIAS	S	-1.86	-0.50	-2.20	3.60	-0.45	0.00
9	ZERO % DRIFT	AA	0.00	-0.10	-0.50	1.00	0.00	0.00
	UPSCALE % DRIFT	BB	-0.02	-0.40	-0.70	3.60	-0.27	0.00
10	AVE. SYS. BIAS RESP.							
	ZERO (ppm or %)	CC	0.60	-0.15	-0.15	0.55	0.10	0.10
	UPSCALE (ppm or %)	DD	220.25	44.40	89.65	24.80	8.96	9.10
11	SAMPLE VALUE (ave)	EE	119.9	9.7	19.2	4.5	10.45	9.20
12	CORRECTED CONC.	FF	123.8	10.0	19.7	(wet basis) 5.1 (dry basis)	10.50	9.18
13	DATA REDUCTION:							
	% O2 Correction	GG	7	7.0	7.0	7.0		
	ppm @ 7 % O2	HH	165.5	13.3	26.4	6.8		
	Flow Rate, Qsd (dscfm)	II	86846	(2-S-M29-3)				
	lb/hr	JJ	77.04	8.63	7.47	0.83		
	lb/MMBtu	JJ'	0.284	0.032	0.028	0.0031		
	Conversion Factor, lb/dscf-ppm	KK	1.194E-07	1.661E-07	7.267E-08	3.114E-08		
	Fd Factor,dscf/MMBtu	LL	9570					
	Moisture Content, %					20.3		

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
SOURCE: UNIT 2
LOCATION: STACK

(2-M2SA-2)
(2-S-comp-3)

RUN NO.: RATA 4
TEST DATE: 6/23/99
RUN TIME: 1239-1338

		Standard Temperature °F, Tstd: 68.0						
STEP	DESCRIPTION	VAR	NOx	SO2	CO	THC	O2	CO2
1	RANGE (ppm or %)	A	500	100	100	50	22	20
2	CAL. GAS USED							
	ZERO	B	0.0	0.0	0.0	0.0	0.00	0.00
	LOW	B'			30.0	15.0		
	MID	C	228.0	45.1	60.0	25.0	8.99	9.08
	HIGH	D	456.0	91.1	91.5	45.3	19.94	17.64
3	INITIAL CAL. ERROR CHECK							
	ZERO (ppm or %)	E	0.3	0.0	0.2	0.3	0.12	0.00
	LOW (ppm or %)	E'			30.5	14.5		
	MID (ppm or %)	F	229.5	44.7	59.8	23.9	9.03	9.10
	HIGH (ppm or %)	G	456.1	90.9	91.5	45.5	19.97	17.60
	ZERO, % ERROR	H	0.06	0.00	0.20	0.60	0.55	0.00
	LOW, % ERROR	H'			0.50	-1.00		
	MID, % ERROR	I	0.30	-0.40	-0.20	-2.20	0.18	0.10
	HIGH, % ERROR	J	0.02	-0.20	0.00	0.40	0.14	-0.20
4	INITIAL LINEARITY (%)	K	0.26	-0.30	-0.27	-2.69	-0.18	0.20
5	INITIAL SYS. CAL.. RESP.							
	ZERO (ppm or %)	L	0.6	-0.2	-0.4	0.8	0.10	0.10
	UPSCALE (ppm or %)	M	220.2	44.2	89.3	25.7	8.93	9.10
	ZERO, % CAL. BIAS	N	0.06	-0.20	-0.60	1.00	-0.09	0.50
	UPSCALE, % CAL. BIAS	O	-1.86	-0.50	-2.20	3.60	-0.45	0.00
6	FINAL SYS. CAL.. RESP.							
	ZERO (ppm or %)	P	0.7	-0.2	-0.1	0.1	0.12	0.10
	UPSCALE (ppm or %)	Q	218.3	44.4	89.5	24.5	8.90	9.10
	ZERO, % CAL. BIAS	R	0.08	-0.20	-0.30	-0.40	0.00	0.50
	UPSCALE, % CAL. BIAS	S	-2.24	-0.30	-2.00	1.20	-0.59	0.00
9	ZERO % DRIFT	AA	0.02	0.00	0.30	-1.40	0.09	0.00
	UPSCALE % DRIFT	BB	-0.38	0.20	0.20	-2.40	-0.14	0.00
10	AVE. SYS. BIAS RESP.							
	ZERO (ppm or %)	CC	0.65	-0.20	-0.25	0.45	0.11	0.10
	UPSCALE (ppm or %)	DD	219.25	44.30	89.40	25.10	8.92	9.10
11	SAMPLE VALUE (ave)	EE	123.4	9.7	17.8	2.3	10.38	9.20
12	CORRECTED CONC.	FF	128.0	10.0	18.4	2.4	10.49	9.18
						(dry basis)		
13	DATA REDUCTION:							
	% O2 Correction	GG	7	7.0	7.0	7.0		
	ppm @ 7 % O2	HH	170.9	13.4	24.6	3.1		
	Flow Rate, Qsd (dscfm)	II	86846	(2-S-M29-3)				
	lb/hr	JJ	79.65	8.68	6.98	0.38		
	lb/MMBtu	JJ'	0.294	0.032	0.026	0.0014		
	Conversion Factor, lb/dscf-ppm	KK	1.194E-07	1.661E-07	7.267E-08	3.114E-08		
	Fd Factor,dscf/MMBtu	LL	9570					
	Moisture Content, %					20.3		

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
SOURCE: UNIT 2
LOCATION: STACK

(2-M25A-3)

RUN NO.: RATA 6
TEST DATE: 6/23/99
RUN TIME: 1444-1543

		Standard Temperature °F, Tstd: 68.0						
STEP	DESCRIPTION	VAR	NOx	SO2	CO	THC	O2	CO2
1	RANGE (ppm or %)	A	500	100	100	50	22	20
2	CAL. GAS USED							
	ZERO	B	0.0	0.0	0.0	0.0	0.00	0.00
	LOW	B'			30.0	15.0		
	MID	C	228.0	45.1	60.0	25.0	8.99	9.08
	HIGH	D	456.0	91.1	91.5	45.3	19.94	17.64
3	INITIAL CAL. ERROR CHECK							
	ZERO (ppm or %)	E	0.3	0.0	0.2	0.3	0.12	0.00
	LOW (ppm or %)	E'			30.5	14.5		
	MID (ppm or %)	F	229.5	44.7	59.8	23.9	9.03	9.10
	HIGH (ppm or %)	G	456.1	90.9	91.5	45.5	19.97	17.60
	ZERO, % ERROR	H	0.06	0.00	0.20	0.60	0.55	0.00
	LOW, % ERROR	H'			0.50	-1.00		
	MID, % ERROR	I	0.30	-0.40	-0.20	-2.20	0.18	0.10
	HIGH, % ERROR	J	0.02	-0.20	0.00	0.40	0.14	-0.20
4	INITIAL LINEARITY (%)	K	0.26	-0.30	-0.27	-2.69	-0.18	0.20
5	INITIAL SYS. CAL.. RESP.							
	ZERO (ppm or %)	L	0.7	-0.1	-0.2	0.1	0.06	0.10
	UPSCALE (ppm or %)	M	218.0	44.3	89.5	24.5	8.86	9.10
	ZERO, % CAL. BIAS	N	0.08	-0.10	-0.40	-0.40	-0.27	0.50
	UPSCALE, % CAL. BIAS	O	-2.30	-0.40	-2.00	1.20	-0.77	0.00
6	FINAL SYS. CAL.. RESP.							
	ZERO (ppm or %)	P	0.6	-1.0	-0.5	-0.3	0.07	0.10
	UPSCALE (ppm or %)	Q	217.7	42.8	90.0	24.4	8.84	9.10
	ZERO, % CAL. BIAS	R	0.06	-1.00	-0.70	-1.20	-0.23	0.50
	UPSCALE, % CAL. BIAS	S	-2.36	-1.90	-1.50	1.00	-0.86	0.00
9	ZERO % DRIFT	AA	-0.02	-0.90	-0.30	-0.80	0.05	0.00
	UPSCALE % DRIFT	BB	-0.06	-1.50	0.50	-0.20	-0.09	0.00
10	AVE. SYS. BIAS RESP.							
	ZERO (ppm or %)	CC	0.65	-0.55	-0.35	-0.10	0.07	0.10
	UPSCALE (ppm or %)	DD	217.85	43.55	89.75	24.45	8.85	9.10
11	SAMPLE VALUE (ave)	EE	121.2	7.1	14.0	1.1	10.51	9.00
12	CORRECTED CONC.	FF	126.5	7.8	14.6	(wet basis) 1.5 (dry basis)	10.69	8.98
13	DATA REDUCTION:							
	% O2 Correction	GG	7			7.0		
	ppm @ 7 % O2	HH	172.3	10.6	19.8	2.1		
	Flow Rate, Qsd (dscfm)	II	86763	(2-SB-M5-2)				
	lb/hr	JJ	78.65	6.76	5.51	0.25		
	lb/MMBtu	JJ'	0.296	0.025	0.021	0.0009		
	Conversion Factor, lb/dscf-ppm	KK	1.194E-07	1.661E-07	7.267E-08	3.114E-08		
	Fd Factor, dscf/MMBtu	LL	9570					
	Moisture Content, %					20.1		

APPENDIX A
RESULTS TABULATION

2.0 UNIT NO. 2

b. STACK

4.0 FLUORIDES

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: EPA 13B

Client Name	Ogden Energy Group	Operator	AG
Plant Name	OMS of Lee, Inc.	Project #	10558
Sampling Location	UNIT 2	Standard Temperature,	68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET
Run Number		2-S-M13B-1	-S-M13B-2	-S-M13B-3	AVERAGE
Run Date		6/22/99	6/23/99	6/26/99	NA
Run Start Time	hh:mm	1625	1645	1030	NA
Run Stop Time	hh:mm	1732	1755	1200	NA
Meter Calibration Factor	Y	1.0038	1.0038	1.0038	NA
Pitot Tube Coefficient	C _p	0.84	0.84	0.84	NA
Actual Nozzle Diameter	in	0.216	0.216	0.225	NA
Sample Volume	ft ³	43.405	43.187	47.366	44.653
Total Sampling Time	min	60	60	60	60
Average Meter Temperature	°F	97.5	95.3	94.4	95.7
Average Stack Temperature	°F	290	292	291	291
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	-1.20	-1.20	-1.10	-1.17
Absolute Stack/Duct Pressure	in Hg	29.8	29.8	29.8	29.8
Average Delta H	in H ₂ O	1.57	1.57	1.90	1.68
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Avg Differential Pressure (Delta P)	in H ₂ O	1.282	1.282	1.311	1.292
Total Water Volume Collected	mL	209.3	208.4	224.5	214.1
Standard Water Vapor Volume	SCF	9.852	9.809	10.567	10.076
Standard Meter Volume	DSCF	41.383	41.336	45.443	42.721
Calculated Stack Moisture	% H ₂ O	19.2	19.2	18.9	19.1
Saturated Stack Moisture	% H ₂ O	100.0	100.0	100.0	100.0
Reported Stack Moisture Content	% H ₂ O	19.2	19.2	18.9	19.1
Carbon Dioxide Percentage	% CO ₂	8.4	9.0	9.4	8.9
Oxygen Percentage	% O ₂	11.0	10.9	10.4	10.8
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.6	80.1	80.2	80.3
Dry Mole Fraction	decimal	0.808	0.808	0.811	0.809
Dry Gas Molecular Weight	lb/lb-mole	29.78	29.88	29.92	29.86
Wet Stack Gas Molecular Weight	lb/lb-mole	27.52	27.60	27.67	27.60
Flue Gas Density	lb/ft ³	0.071	0.072	0.072	0.072
Calculated Fuel Factor	F _o	1.18	1.11	1.12	1.14
F-Factor	DSCF/MM	9570	9570	9570	9570
Heat Input Rate	MMBtu/hr	260	263	280	268
Percent Excess Air	% EA	107.0	106.4	96.5	103.3
Stack Cross-Sectional Area	in ²	4778.0	4778.0	4778.0	4778.0
Stack Cross-Sectional Area	ft ²	33.18	33.18	33.18	33.18
Percent of Isokinetic Rate	% ISO	102.6	102.7	102.6	102.6

Volumetric Flow Rate Data					
Average Stack Gas Velocity	ft/sec	77.73	77.71	78.44	77.96
Actual Stack Flow/Minute	ACFM	154,749	154,713	156,162	155,208
Standard Stack Flow/Minute	DSCFM	87,706	87,525	88,768	87,999

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: EPA 13B

Concentration and Emission Rate Data Summary					
Run Number		2-S-M13B-1	2-S-M13B-2	2-S-M13B-3	AVERAGE
Fluorides	mg	< 0.059	< 0.069	< 0.069	< 0.1
Molecular Weight	MW	19.00	19.00	19.00	
Concentration, ppm	ppm	< 6.32E-02	< 7.46E-02	< 6.79E-02	< 6.86E-02
Concentration, ppm @ 12% CO ₂	ppm@12%	< 9.03E-02	< 9.95E-02	< 8.67E-02	< 9.21E-02
Concentration, ppm @ 7% O ₂	ppm@7%	< 8.87E-02	< 1.04E-01	< 8.99E-02	< 9.41E-02
Emission Rate, lb/hr	lb/hr	< 1.64E-02	< 1.93E-02	< 1.78E-02	< 1.79E-02
Emission Rate, gms/sec	gms/sec	< 2.07E-03	< 2.44E-03	< 2.25E-03	< 2.25E-03
Emission Rate, lb/MMBtu	lb/MMBtu	< 6.30E-05	< 7.36E-05	< 6.38E-05	< 6.68E-05

APPENDIX A
RESULTS TABULATION

2.0 UNIT NO. 2

b. STACK

5.0 DIOXIN/FURANS

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: EPA 23

Client Name	Ogden Energy Group	Operator	AG
Plant Name	OMS of Lee, Inc.	Project #	10558
Sampling Location	UNIT 2	Standard Temperature,	68

USE IN AVERAGE OF RUN SET? 1 or 0 =		1	1	1	SET
Run Number		2-S-M23-1	2-S-M23-2	2-S-M23-3	AVERAGE
Run Date		6/22/99	6/24/99	6/25/99	NA
Run Start Time	hh:mm	810	801	801	NA
Run Stop Time	hh:mm	1225	1220	1216	NA
Meter Calibration Factor	Y	1.0038	1.0038	1.0038	NA
Pitot Tube Coefficient	C _p	0.84	0.84	0.84	NA
Actual Nozzle Diameter	in	0.216	0.217	0.217	NA
Sample Volume	ft ³	174.835	175.421	174.704	174.987
Total Sampling Time	min	240	240	240	240
Average Meter Temperature	°F	93.2	100.1	95.1	96.1
Average Stack Temperature	°F	290	289	290	290
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	-1.15	-1.15	-1.15	-1.15
Absolute Stack/Duct Pressure	in Hg	29.8	29.8	29.8	29.8
Average Delta H	in H ₂ O	1.61	1.60	1.61	1.60
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Avg Differential Pressure (Delta P)	in H ₂ O	1.311	1.276	1.284	1.291
Total Water Volume Collected	mL	915.0	886.2	909.7	903.6
Standard Water Vapor Volume	SCF	43.069	41.713	42.820	42.534
Standard Meter Volume	DSCF	167.986	166.480	167.273	167.246
Calculated Stack Moisture	% H ₂ O	20.4	20.0	20.4	20.3
Saturated Stack Moisture	% H ₂ O	100.0	100.0	100.0	100.0
Reported Stack Moisture Content	% H ₂ O	20.4	20.0	20.4	20.3
Carbon Dioxide Percentage	% CO ₂	8.8	8.8	9.4	9.0
Oxygen Percentage	% O ₂	10.8	10.7	10.2	10.6
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.4	80.5	80.4	80.4
Dry Mole Fraction	decimal	0.796	0.800	0.796	0.797
Dry Gas Molecular Weight	lb/lb-mole	29.84	29.84	29.91	29.86
Wet Stack Gas Molecular Weight	lb/lb-mole	27.42	27.46	27.48	27.46
Flue Gas Density	lb/ft ³	0.071	0.071	0.071	0.071
Calculated Fuel Factor	F _o	1.15	1.16	1.14	1.15
F-Factor	DSCF/MM	9570	9570	9570	9570
Heat Input Rate	MMBtu/hr	265	265	278	270
Percent Excess Air	% EA	103.6	101.4	92.5	99.2
Stack Cross-Sectional Area	in ²	4778	4778	4778	4778
Stack Cross-Sectional Area	ft ²	33.2	33.2	33.2	33.2
Percent of Isokinetic Rate	% ISO	104.3	103.3	104.1	103.9

Volumetric Flow Rate Data					
Average Stack Gas Velocity	ft/sec	78.73	77.60	77.88	78.07
Actual Stack Flow/Minute	ACFM	156,748	154,493	155,043	155,428
Dry Standard Stack Flow/Minute	DSCFM	87,544	86,752	86,564	86,953

Plant Name: OMS of Lee, Inc.
 Sampling Location: UNIT 2
 Run Number: 2-S-M23-1
 Run Date: 6/22/99

Totals

Parameter	Catch Weight	Concentrations			Emission Rate		
	(pg)	ng/DSCM (12% CO ₂ (@ 7% O ₂			(gms/sec)	(lbs/hr)	(lbs/MMBtu)
PCDDs							
Total TCDD	2000	4.20E-01	5.73E-01	5.79E-01	1.74E-08	1.38E-07	5.20E-10
Total PeCDD	3500	7.36E-01	1.00E+00	1.01E+00	3.04E-08	2.41E-07	9.10E-10
Total HxCDD	6500	1.37E+00	1.86E+00	1.88E+00	5.65E-08	4.48E-07	1.69E-09
Total-HpCDD	3900	8.20E-01	1.12E+00	1.13E+00	3.39E-08	2.69E-07	1.01E-09
OCDD	5200	1.09E+00	1.49E+00	1.50E+00	4.52E-08	3.58E-07	1.35E-09
PCDFs							
Total TCDF	16000	3.36E+00	4.59E+00	4.63E+00	1.39E-07	1.10E-06	4.16E-09
Total PeCDF	12000	2.52E+00	3.44E+00	3.47E+00	1.04E-07	8.27E-07	3.12E-09
Total HxCDF	7100	1.49E+00	2.04E+00	2.05E+00	6.17E-08	4.89E-07	1.85E-09
Total HpCDF	3800	7.99E-01	1.09E+00	1.10E+00	3.30E-08	2.62E-07	9.88E-10
OCDF	530	1.11E-01	1.52E-01	1.53E-01	4.60E-09	3.65E-08	1.38E-10
Total PCDDs and PCDFs	60530	1.27E+01	1.74E+01	1.75E+01	5.26E-07	4.17E-06	1.57E-08

Plant Name: OMS of Lee, Inc.

Sampling Location: UNIT 2

Run Number: 2-S-M23-2

Run Date: 6/24/99

Run Date:	6/24/99	Totals					
Parameter	Catch Weight	Concentrations			Emission Rate		
	(pg)	ng/DSCM	(12% CO ₂	(@ 7% O ₂	(gms/sec)	(lbs/hr)	(lbs/MMBtu)
PCDDs							
Total TCDD	2500	5.30E-01	7.23E-01	7.23E-01	2.17E-08	1.72E-07	6.49E-10
Total PeCDD	3400	7.21E-01	9.83E-01	9.83E-01	2.95E-08	2.34E-07	8.83E-10
Total HxCDD	4900	1.04E+00	1.42E+00	1.42E+00	4.26E-08	3.38E-07	1.27E-09
Total-HpCDD	3700	7.85E-01	1.07E+00	1.07E+00	3.21E-08	2.55E-07	9.61E-10
OCDD	4700	9.97E-01	1.36E+00	1.36E+00	4.08E-08	3.24E-07	1.22E-09
PCDFs							
Total TCDF	20000	4.24E+00	5.78E+00	5.78E+00	1.74E-07	1.38E-06	5.19E-09
Total PeCDF	14000	2.97E+00	4.05E+00	4.05E+00	1.22E-07	9.65E-07	3.64E-09
Total HxCDF	7900	1.68E+00	2.28E+00	2.28E+00	6.86E-08	5.45E-07	2.05E-09
Total HpCDF	3800	8.06E-01	1.10E+00	1.10E+00	3.30E-08	2.62E-07	9.87E-10
OCDF	580	1.23E-01	1.68E-01	1.68E-01	5.04E-09	4.00E-08	1.51E-10
Total PCDDs and PCDFs	65480	1.39E+01	1.89E+01	1.89E+01	5.69E-07	4.51E-06	1.70E-08

Plant Name: OMS of Lee, Inc.

Sampling Location: UNIT 2

Run Number: 2-S-M23-3

Run Date: 6/25/99

Totals

Parameter	Catch Weight (pg)	Concentrations			Emission Rate		
		ng/DSCM (12% CO ₂ (@ 7% O ₂			(gms/sec)	(lbs/hr)	(lbs/MMBtu)
PCDDs							
Total TCDD	2600	5.49E-01	7.01E-01	7.13E-01	2.24E-08	1.78E-07	6.41E-10
Total PeCDD	3600	7.60E-01	9.70E-01	9.87E-01	3.11E-08	2.46E-07	8.87E-10
Total HxCDD	4500	9.50E-01	1.21E+00	1.23E+00	3.88E-08	3.08E-07	1.11E-09
Total-HpCDD	3900	8.23E-01	1.05E+00	1.07E+00	3.36E-08	2.67E-07	9.61E-10
OCDD	4800	1.01E+00	1.29E+00	1.32E+00	4.14E-08	3.29E-07	1.18E-09
PCDFs							
Total TCDF	20000	4.22E+00	5.39E+00	5.48E+00	1.73E-07	1.37E-06	4.93E-09
Total PeCDF	14000	2.96E+00	3.77E+00	3.84E+00	1.21E-07	9.58E-07	3.45E-09
Total HxCDF	7800	1.65E+00	2.10E+00	2.14E+00	6.73E-08	5.34E-07	1.92E-09
Total HpCDF	3700	7.81E-01	9.97E-01	1.01E+00	3.19E-08	2.53E-07	9.12E-10
OCDF	590	1.25E-01	1.59E-01	1.62E-01	5.09E-09	4.04E-08	1.45E-10
Total PCDDs and PCDFs	65490	1.38E+01	1.76E+01	1.80E+01	5.65E-07	4.48E-06	1.61E-08

APPENDIX A

RESULTS TABULATION

2.0 UNIT NO. 2

b. STACK

6.0 HYDROGEN CHLORIDE

SINGLE POINT SAMPLING RESULTS - METHOD:

EPA 26

Client Name	Ogden Energy Group	Operator		AG
Plant Name	OMS of Lee, Inc.	Project #		10558
Sampling Location	UNIT 2	Standard Temperature, °F		68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		2-S-M26-1	2-S-M26-2	2-S-M26-3	
Run Date		06/22/99	06/23/99	06/23/99	
Run Start Time	hh:mm	1327	848	1157	
Run Stop Time	hh:mm	1427	948	1257	
Meter Calibration Factor	Y	1.0707	1.0707	1.0707	
Sample Volume	ft ³	42.046	42.270	42.467	42.261
Total Sampling Time	min	60	60	60	60
Average Meter Temperature	°F	102.6	97.3	103.8	101.2
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	NA	NA	NA	#DIV/0!
Absolute Stack/Duct Pressure	in Hg	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Average Delta H	in H ₂ O	1.80	1.80	1.80	1.80
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Total Water Volume Collected	mL	229.6	211.0	230.3	223.6
Volume of Water vapor @ STP	SCF	10.807	9.932	10.840	10.526
Volume Metered @ STP	DSCF	42.393	43.027	42.722	42.714
Calculated Stack Moisture	% H ₂ O	20.3	18.8	20.2	19.8
Carbon Dioxide Percentage	% CO ₂	8.5	8.8	9.1	8.8
Oxygen Percentage	% O ₂	10.9	10.7	10.6	10.7
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.6	80.5	80.3	80.5
Dry Mole Fraction	decimal	0.797	0.812	0.798	0.802
Dry Gas Molecular Weight	lb/lb-mole	29.80	29.84	29.88	29.84
Wet Stack Gas Molecular Weight	lb/lb-mole	27.40	27.62	27.48	27.50
Flue Gas Density	lb/ft ³	0.0711	0.0717	0.0713	0.0714
Calculated Fuel Factor	F _o	1.18	1.16	1.13	1.16
Percent Excess Air	% EA	105.0	101.4	100.0	102.1

Air Flow Rate Results

Concurrent Stack Flow	Run #	2-S-M29-1	2-S-M29-2	2-S-M29-3	NA
Heat Input Rate	MMBtu/hr	264	264	268	265
Dry Standard Stack Flow/Minute	DSCFM	87,994	86,176	86,846	87,005

Concentration and Emission Rate Data Summary

Hydrogen Chloride					
Molecular Weight	gm/g-mole	36.50	36.50	36.50	NA
Catch Weight	mg	37.40	42.40	39.20	3.97E+01
Concentration, ppm	ppm	2.05E+01	2.29E+01	2.14E+01	2.16E+01
Concentration, ppm @ 7% O ₂	ppm @ 7% O ₂	2.85E+01	3.13E+01	2.88E+01	2.95E+01
Concentration, ppm @ 12% CO ₂	ppm @ 12% CO ₂	2.90E+01	3.13E+01	2.82E+01	2.95E+01
Emission Rate, lbs/hr	lbs/hr	1.03E+01	1.12E+01	1.05E+01	1.07E+01
Emission Rate, gms/sec	gms/sec	1.29E+00	1.42E+00	1.33E+00	1.35E+00
Emission Rate, lbs/MMBtu	lbs/MMBtu	3.89E-02	4.25E-02	3.93E-02	4.03E-02

APPENDIX A
RESULTS TABULATION

2.0 UNIT NO. 2

b. STACK

7.0 AMMONIA

SINGLE POINT SAMPLING RESULTS - METHOD:

NH3

Client Name	Ogden Energy Group	Operator		AG
Plant Name	OMS of Lee, Inc.	Project #		10558
Sampling Location	UNIT 2	Standard Temperature, °F		68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		2-S-NH3-1	2-S-NH3-2	2-S-NH3-3	
Run Date		06/22/99	06/22/99	06/23/99	
Run Start Time	hh:mm	842	1005	1415	
Run Stop Time	hh:mm	942	1105	1515	
Meter Calibration Factor	Y	1.0707	1.0707	1.0707	
Sample Volume	ft³	42.338	42.236	42.198	42.257
Total Sampling Time	min	60	60	60	60
Average Meter Temperature	°F	106.3	101.3	99.3	102.3
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H₂O	NA	NA	NA	#DIV/0!
Absolute Stack/Duct Pressure	in Hg	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Average Delta H	in H₂O	1.80	1.80	1.80	1.80
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Total Water Volume Collected	mL	230.0	239.5	231.8	233.8
Volume of Water vapor @ STP	SCF	10.826	11.273	10.911	11.003
Volume Metered @ STP	DSCF	42.405	42.679	42.793	42.626
Calculated Stack Moisture	% H₂O	20.3	20.9	20.3	20.5
Carbon Dioxide Percentage	% CO₂	8.8	8.8	9.0	8.9
Oxygen Percentage	% O₂	10.8	10.8	10.8	10.8
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N₂	80.4	80.4	80.2	80.3
Dry Mole Fraction	decimal	0.797	0.791	0.797	0.795
Dry Gas Molecular Weight	lb/lb-mole	29.84	29.84	29.87	29.85
Wet Stack Gas Molecular Weight	lb/lb-mole	27.43	27.37	27.46	27.42
Wet Gas Density	lb/ft³	0.0712	0.0710	0.0713	0.0712
Calculated Fuel Factor	F _o	1.15	1.15	1.12	1.14
Percent Excess Air	% EA	103.6	103.6	104.1	103.8

Air Flow Rate Results

Concurrent Stack Flow	Run #	2-S-M23-1	2-S-M23-1	2-S-M5-2SB	NA
Heat Input Rate	MMBtu/hr	265	265	263	264
Dry Standard Stack Flow/Minute	DSCFM	87,544	87,544	86,763	87,284

Concentration and Emission Rate Data Summary

Ammonia					
Molecular Weight	gm/g-mole	17.04	17.04	17.04	NA
Catch Weight	ug	994.10	644.40	378.60	6.72E+02
Concentration, ppm	ppm	1.17E+00	7.53E-01	4.41E-01	7.87E-01
Concentration, ppm @ 7% O₂	ppm @ 7% O₂	1.61E+00	1.04E+00	6.07E-01	1.08E+00
Concentration, ppm @ 12% CO₂	ppm @ 12% CO₂	1.59E+00	1.03E+00	5.88E-01	1.07E+00
Emission Rate, lbs/hr	lbs/hr	2.71E-01	1.75E-01	1.02E-01	1.83E-01
Emission Rate, gms/sec	gms/sec	3.42E-02	2.20E-02	1.28E-02	2.30E-02
Emission Rate, lbs/MMBtu	lbs/MMBtu	1.02E-03	6.60E-04	3.86E-04	6.90E-04

APPENDIX A
RESULTS TABULATION

2.0 UNIT NO. 2

b. STACK

8.0 ARSENIC, BERYLLIUM, CADMIUM, LEAD, AND MERCURY

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 29**

Client Name	Ogden Energy Group	Operator		AG
Plant Name	OMS of Lee, Inc.	Project #		10558
Sampling Location	UNIT 2	Standard Temperature, °F		68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		2-S-M29-1	2-S-M29-2	2-S-M29-3	
Run Date		06/22/99	06/23/99	06/23/99	
Run Start Time	hh:mm	1327	752	1128	
Run Stop Time	hh:mm	1552	1031	1339	
Meter Calibration Factor	Y	1.0038	1.0038	1.0038	
Pitot Tube Coefficient	C _p	0.84	0.84	0.84	
Actual Nozzle Diameter	in	0.218	0.217	0.218	
Sample Volume	ft ³	90.347	86.957	88.876	88.727
Total Sampling Time	min	120	120	120	120
Average Meter Temperature	°F	97.1	93.0	96.6	95.5
Average Stack Temperature	°F	289.8	290.5	291.4	290.6
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	-1.15	-1.05	-1.05	-1.08
Absolute Stack/Duct Pressure	in Hg	29.8	29.8	29.8	29.8
Average Delta H	in H ₂ O	1.70	1.61	1.64	1.65
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Avg Differential Pressure (Delta P)	in H ₂ O	1.332	1.288	1.290	1.303
Total Water Volume Collected	mL	479.3	466.0	458.4	467.9
Volume of Water vapor @ STP	SCF	22.561	21.935	21.577	22.024
Volume Metered @ STP	DSCF	86.226	83.579	84.887	84.897
Calculated Stack Moisture	% H ₂ O	20.7	20.8	20.3	20.6
Saturated Stack Moisture	% H ₂ O	100.0	100.0	100.0	100.0
Reported Stack Moisture Content	% H ₂ O	20.7	20.8	20.3	20.6
Carbon Dioxide Percentage	% CO ₂	8.5	8.8	9.1	8.8
Oxygen Percentage	% O ₂	10.9	10.7	10.6	10.7
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.6	80.5	80.3	80.5
Dry Mole Fraction	decimal	0.793	0.792	0.797	0.794
Dry Gas Molecular Weight	lb/lb-mole	29.80	29.84	29.88	29.84
Wet Stack Gas Molecular Weight	lb/lb-mole	27.35	27.38	27.47	27.40
Flue Gas Density	lb/ft ³	0.0710	0.0710	0.0713	0.0711
Calculated Fuel Factor	F _o	1.18	1.16	1.13	1.16
F-Factor	DSCF/MM	9570	9570	9570	9570
Heat Input Rate	MMBtu/hr	264	264	268	266
Percent Excess Air	% EA	105.0	101.4	100.0	102.1
Stack Cross-Sectional Area	in ²	4778.0	4778.0	4778.0	4778.0
Stack Cross-Sectional Area	ft ²	33.18	33.18	33.18	33.18
Percent of Isokinetic Rate	% ISO	104.6	104.2	104.3	104.4

Air Flow Rate Results

Average Stack Gas Velocity	ft/sec	79.47	78.14	78.12	78.57
Actual Stack Flow/Minute	ACFM	158,205	155,563	155,514	156,427
Dry Standard Stack Flow/Minute	DSCFM	87,994	86,415	86,846	87,085

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD:

EPA 29

REAGENT BLANK CORRECTED DATA*			2-S-M29-1		2-S-M29-2		2-S-M29-3	
	Compound	Unit	Pre	Amt	Pre	Amt	Pre	Amt
2	Arsenic	ug		0.790		0.750	<	0.620
3	Beryllium	ug	<	0.034	<	0.034	<	0.034
4	Cadmium	ug		2.200		1.100		0.690
7	Lead	ug		18.010		9.405		7.790
14	Mercury	ug	<	43.650	<	56.140		47.349

ANALYTICAL DATA			2-S-M29-1		2-S-M29-2		2-S-M29-3	
	Compound	Unit	Pre	Amt	Pre	Amt	Pre	Amt
2	Arsenic	ug		0.790		0.750	<	0.620
3	Beryllium	ug	<	0.034	<	0.034	<	0.034
4	Cadmium	ug		2.200		1.100		0.690
7	Lead	ug		18.800		9.900		8.200
14	Mercury	ug	<	43.650	<	56.140		47.349
15	KMNO4	ug		1.100		0.630		0.150
16	Empty	ug		0.650		1.200		0.530
17	HNO3	ug		40.300		53.600		45.700
18	Front Half	ug		1.500	<	0.030		0.069
19	HCl	ug	<	0.100		0.680		0.900

REAGENT BLANK			2-S-M29-1		2-S-M29-2		2-S-M29-3	
2	Arsenic	ug		0.000		0.000		0.000
3	Beryllium	ug		0.000		0.000		0.000
4	Cadmium	ug		0.000		0.000		0.000
7	Lead	ug		0.790		0.790		0.790
14	Mercury	ug		0.000		0.000		0.000
15	KMNO4	ug		0.000		0.000		0.000
16	Empty	ug		0.000		0.000		0.000
17	HNO3	ug		0.000		0.000		0.000
18	Front Half	ug		0.000		0.000		0.000
19	HCl	ug		0.000		0.000		0.000

* The lessor of the reagent blank result or 5% of the catch weight is used to correct all catch weights. Non-detected values are not blank corrected.

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 29**

Concentration and Emission Rate Data Summary					
Run Number		2-S-M29-1	2-S-M29-2	2-S-M29-3	AVERAGE
Arsenic	ug	0.790	0.750	< 0.620	< 0.720
Concentration ug/DSCM	ug/DSCM	3.24E-01	3.17E-01	< 2.58E-01	< 2.99E-01
Concentration ug/dscm @ 12% CO ₂	ug@12%	4.57E-01	4.32E-01	< 3.40E-01	< 4.10E-01
Concentration ug/dscm @ 7% O ₂	ug@7%	4.50E-01	4.32E-01	< 3.48E-01	< 4.10E-01
Emission Rate, lb/hr	lb/hr	1.07E-04	1.03E-04	< 8.39E-05	< 9.77E-05
Emission Rate, gms/sec	gms/sec	1.34E-05	1.29E-05	< 1.06E-05	< 1.23E-05
Emission Rate, lb/MMBtu	lb/MMBtu	4.04E-07	3.88E-07	< 3.13E-07	< 3.68E-07

Beryllium	ug	< 0.034	< 0.034	< 0.034	< 0.034
Concentration ug/DSCM	ug/DSCM	< 1.39E-02	< 1.44E-02	< 1.41E-02	< 1.41E-02
Concentration ug/dscm @ 12% CO ₂	ug@12%	< 1.97E-02	< 1.96E-02	< 1.87E-02	< 1.93E-02
Concentration ug/dscm @ 7% O ₂	ug@7%	< 1.94E-02	< 1.96E-02	< 1.91E-02	< 1.93E-02
Emission Rate, lb/hr	lb/hr	< 4.59E-06	< 4.65E-06	< 4.60E-06	< 4.61E-06
Emission Rate, gms/sec	gms/sec	< 5.78E-07	< 5.86E-07	< 5.80E-07	< 5.81E-07
Emission Rate, lb/MMBtu	lb/MMBtu	< 1.74E-08	< 1.76E-08	< 1.71E-08	< 1.74E-08

Cadmium	ug	2.200	1.100	0.690	1.330
Concentration ug/DSCM	ug/DSCM	9.01E-01	4.65E-01	2.87E-01	5.51E-01
Concentration ug/dscm @ 12% CO ₂	ug@12%	1.27E+00	6.34E-01	3.78E-01	7.61E-01
Concentration ug/dscm @ 7% O ₂	ug@7%	1.25E+00	6.33E-01	3.87E-01	7.58E-01
Emission Rate, lb/hr	lb/hr	2.97E-04	1.50E-04	9.34E-05	1.80E-04
Emission Rate, gms/sec	gms/sec	3.74E-05	1.90E-05	1.18E-05	2.27E-05
Emission Rate, lb/MMBtu	lb/MMBtu	1.13E-06	5.69E-07	3.48E-07	6.81E-07

Lead	ug	18.010	9.405	7.790	11.735
Concentration ug/DSCM	ug/DSCM	7.38E+00	3.97E+00	3.24E+00	4.86E+00
Concentration ug/dscm @ 12% CO ₂	ug@12%	1.04E+01	5.42E+00	4.27E+00	6.70E+00
Concentration ug/dscm @ 7% O ₂	ug@7%	1.03E+01	5.41E+00	4.37E+00	6.68E+00
Emission Rate, lb/hr	lb/hr	2.43E-03	1.29E-03	1.05E-03	1.59E-03
Emission Rate, gms/sec	gms/sec	3.06E-04	1.62E-04	1.33E-04	2.00E-04
Emission Rate, lb/MMBtu	lb/MMBtu	9.21E-06	4.86E-06	3.93E-06	6.00E-06

Mercury	ug	< 43.650	< 56.140	47.349	< 49.046
Concentration ug/DSCM	ug/DSCM	< 1.79E+01	< 2.37E+01	1.97E+01	< 2.04E+01
Concentration ug/dscm @ 12% CO ₂	ug@12%	< 2.52E+01	< 3.23E+01	2.60E+01	< 2.79E+01
Concentration ug/dscm @ 7% O ₂	ug@7%	< 2.48E+01	< 3.23E+01	2.66E+01	< 2.79E+01
Emission Rate, lb/hr	lb/hr	< 5.89E-03	< 7.68E-03	6.41E-03	< 6.66E-03
Emission Rate, gms/sec	gms/sec	< 7.42E-04	< 9.67E-04	8.07E-04	< 8.39E-04
Emission Rate, lb/MMBtu	lb/MMBtu	< 2.23E-05	< 2.90E-05	2.39E-05	< 2.51E-05

APPENDIX A
RESULTS TABULATION

2.0 UNIT NO. 2

b. STACK

9.0 PARTICULATE LESS THAN 10 MICRONS

PM10 FIELD DATA AND RESULTS TABULATION

PLANT: OGDEN MARTIN SYSTEMS OF LEE, INC. FORT MYERS, FL

SAMPLING LOCATION: UNIT 2 STACK

	2-S-M201A-1	2-S-M201A-2	2-S-M201A-3
Test Date	6/24/99	6/24/99	6/26/99
Run Start Time	1326	1535	800
Run Finish Time	1451	1750	1010
Net Traversing Points	12	12	12
Theta Net Run Time, Minutes	117	118	118
Dia Nozzle Diameter, Inches	0.1580	0.1460	0.1580
Cp Pitot Tube Coefficient	0.84	0.84	0.84
Y Dry Gas Meter Calibration Factor	1.0707	1.0707	1.0707
Pbar Barometric Pressure, Inches Hg	29.9	29.9	29.9
Delta H Avg. Pressure Differential of Orifice Meter, Inches H2O	0.443	0.418	0.418
Vm Volume of Metered Gas Sample, Dry ACF	40.131	39.715	44.985
tm Dry Gas Meter Temperature, Degrees F	108.9	104.8	105.1
Vmstd Volume of Metered Gas Sample, Dry SCF*	39.880	39.751	45.001
Vlc Total Volume of Liquid Collected in Impingers & Silica Gel, mL	222.5	264.5	237.1
Vwstd Volume of Water Vapor, SCF*	10.473	12.450	11.160
%H2O Moisture Content, Percent by Volume	20.80	23.9	19.9
Mfd Dry Mole Fraction	0.792	0.761	0.801
%CO2 Carbon Dioxide, Percent by Volume, Dry	8.5	9.0	9.3
%O2 Oxygen, Percent by Volume, Dry	11.1	10.7	10.4

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PM10 FIELD DATA AI RESULTS TABULATION

%CO+N2	CO + N2, Percent by Volume, Dry	80.4	80.3,	80.3
Fo	Fuel Factor	1.15	1.13	1.13
Md	Gas Molecular Weight, Lb/Lb-Mole, Dry	29.80	29.87	29.90
Ms	Gas Molecular Weight, Lb/Lb-Mole, Wet	27.35	27.03	27.53
Pg	Flue Gas Static Pressure, Inches H2O	-1.15	-1.15	-1.10
Ps	Absolute Flue Gas Pressure, Inches Hg	29.82	29.82	29.82
ts	Flue Gas Temperature, Degrees F	288.9	289.3	290.3
Delta-p	Average Velocity Head, Inches H2O	1.256	1.287	1.291
vs	Flue Gas Velocity, Feet per Second	77.12	78.55	78
A	Stack/Duct Area, Square Inches	4778	4778	4778
Qsd	Volumetric Air Flow Rate, Dry SCFM*	85,444	83,578	87,238
Qmsd	Volumetric Air Flow Rate, Dry SCMM*	2,420	2,367	2,471
Qaw	Volumetric Air Flow Rate, Wet ACFM	153,533	156,380	155,285
%I	Isokinetic Sampling Rate, Percent	97.2	115.0	106.5
Fd	F-Factor, DSCF/Million Btu	9,570	9,570	9,570

* 68 Degrees F -- 29.92 Inches of Mercury (Hg). (Continued Next Page)

PM10 FIELD DATA AND RESULTS TABULATION

PM10 Results Calculations

ucyc	Stack Gas Viscosity	214.7	212.3	215.4
Qs	PM10 Flow, at Cyclone Conditions, ACFM	0.613	0.630	0.679
D10	Dia. of Particles in Cyclone, Microns	9.78	9.54	9.11
Particulate Catch,				
mg	Total, Milligrams	5.9	3.9	4.5
mg<D10	Less Than 10 Microns, Milligrams	1.5	2.7	2.8
mg>D10	Greater Than 10 Microns, Milligrams	4.4	1.2	1.7
Percent of Total Particulate,				
%<D10	Less Than 10 Microns	25.4	69.2	62.2
%>D10	Greater Than 10 Microns	74.6	30.8	37.8
Particulate Emissions for < 10 microns				
gr/DSCF	Concentration, grains/DSCF*	0.00058	0.001048	0.00096
gr/DSCF@7%O2	Concentration, gr/DSCF @ 7% O2	0.000823	0.001428	0.001271
gr/DSCF@12%CO2	Concentration, gr/DSCF @ 12% CO2	0.00082	0.001398	0.00124
lb/hr	Emission Rate, lb/hr	0.425	0.751	0.718
lb/MMBtu	Emission Rate, lb/MMBtu	0.00169	0.00294	0.00261

* 68 Degrees F -- 29.92 Inches of Mercury (Hg).

APPENDIX A
RESULTS TABULATION

2.0 UNIT NO. 2

c. SOOT BLOW - PARTICULATE

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 5**

Client Name	Ogden Energy Group	Operator		AG	
Plant Name	OMS of Lee, Inc.	Project #		10558	
Sampling Location	UNIT 2	Standard Temperature, °F		68	
USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		2-S-M5-1SB	2-S-M5-2SB	2-S-M5-3SB	
Run Date		06/21/99	06/23/99	06/25/99	
Run Start Time	hh:mm	1604	1404	1638	
Run Stop Time	hh:mm	1818	1616	1907	
Meter Calibration Factor	Y	1.0038	1.0038	1.0038	
Pitot Tube Coefficient	C _p	0.84	0.84	0.84	
Actual Nozzle Diameter	in	0.216	0.216	0.217	
Sample Volume	ft ³	86.609	85.651	87.413	86.558
Total Sampling Time	min	120	120	120	120
Average Meter Temperature	°F	94.1	98.2	96.1	96.1
Average Stack Temperature	°F	289.0	290.3	290.5	289.9
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	-1.15	-1.05	-1.10	-1.10
Absolute Stack/Duct Pressure	in Hg	29.8	29.8	29.8	29.8
Average Delta H	in H ₂ O	1.59	1.52	1.58	1.56
Absolute Meter Pressure	in Hg	30.0	30.0	30.0	30.0
Avg Differential Pressure (Delta P)	in H ₂ O	1.293	1.281	1.261	1.279
Total Water Volume Collected	mL	424.8	436.2	485.8	448.9
Volume of Water vapor @ STP	SCF	19.995	20.532	22.867	21.131
Volume Metered @ STP	DSCF	83.071	81.543	83.545	82.720
Calculated Stack Moisture	% H ₂ O	19.4	20.1	21.5	20.3
Saturated Stack Moisture	% H ₂ O	100.0	100.0	100.0	100.0
Reported Stack Moisture Content	% H ₂ O	19.4	20.1	21.5	20.3
Carbon Dioxide Percentage	% CO ₂	8.7	9.0	9.2	9.0
Oxygen Percentage	% O ₂	11.1	10.8	10.3	10.7
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	80.2	80.2	80.5	80.3
Dry Mole Fraction	decimal	0.806	0.799	0.785	0.797
Dry Gas Molecular Weight	lb/lb-mole	29.84	29.87	29.88	29.86
Wet Stack Gas Molecular Weight	lb/lb-mole	27.54	27.48	27.33	27.45
Flue Gas Density	lb/ft ³	0.0715	0.0713	0.0709	0.0712
Calculated Fuel Factor	F _o	1.13	1.12	1.15	1.13
F-Factor	DSCF/MM	9570	9570	9570	9570
Heat Input Rate	MMBtu/hr	258	263	270	264
Percent Excess Air	% EA	110.2	104.1	94.0	102.8
Stack Cross-Sectional Area	in ²	4778	4778	4778	4778
Stack Cross-Sectional Area	ft ²	33.18	33.18	33.18	33.18
Percent of Isokinetic Rate	% ISO	102.7	102.2	106.1	103.7
Air Flow Rate Results					
Average Stack Gas Velocity	ft/sec	78.00	77.78	77.39	77.72
Actual Stack Flow/Minute	ACFM	155,279	154,843	154,068	154,730
Dry Standard Stack Flow/Minute	DSCFM	87,918	86,762	84,817	86,499

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 5**

Concentration and Emission Rate Data Summary					
Run Number		2-S-M5-1SB	2-S-M5-2SB	2-S-M5-3SB	AVERAGE
Filterable Particulate	mg	8.4	11.3	8.9	9.5
Concentration, grams/DSCF	gms/DSCF	1.01E-04	1.39E-04	1.07E-04	1.15E-04
Concentration, Gr/DSCF	gr/DSCF	1.56E-03	2.14E-03	1.64E-03	1.78E-03
Concentration @ 12% CO2	Gr@12%	2.15E-03	2.85E-03	2.14E-03	2.38E-03
Concentration @ 7% O2	Gr@7%	2.21E-03	2.94E-03	2.16E-03	2.44E-03
Emission Rate, lb/hr	lb/hr	1.18E+00	1.59E+00	1.20E+00	1.32E+00
Emission Rate, gms/sec	gms/sec	1.48E-01	2.00E-01	1.51E-01	1.66E-01
Emission Rate, lb/MMBtu	lb/MMBtu	4.55E-03	6.05E-03	4.43E-03	5.01E-03

APPENDIX A

RESULTS TABULATION

3.0 ASH BUILDING - PARTICULATE

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: **EPA 5**

Client Name	Ogden Energy Group	Operator		SCG
Plant Name	OMS of Lee, Inc.	Project #		10558
Sampling Location	Ash Building	Standard Temperature, °F		68

USE IN AVERAGE OF RUN SET? 1 or 0 =>		1	1	1	SET AVERAGE
Run Number		Ash-M5-1	Ash-M5-2	Ash-M5-3	
Run Date		06/21/99	06/21/99	06/21/99	
Run Start Time	hh:mm	1035	1218	1440	
Run Stop Time	hh:mm	1143	1323	1548	
Meter Calibration Factor	Y	0.9718	0.9718	0.9718	
Pitot Tube Coefficient	C _p	0.84	0.84	0.84	
Actual Nozzle Diameter	in	0.256	0.222	0.225	
Sample Volume	ft ³	55.396	42.779	42.270	46.815
Total Sampling Time	min	60	60	60	60
Average Meter Temperature	°F	92.5	96.3	97.3	95.4
Average Stack Temperature	°F	86.0	89.2	90.3	88.5
Barometric Pressure	in Hg	29.9	29.9	29.9	29.9
Stack/Duct Static Pressure	in H ₂ O	-0.35	-0.35	-0.35	-0.35
Absolute Stack/Duct Pressure	in Hg	29.9	29.9	29.9	29.9
Average Delta H	in H ₂ O	2.11	1.15	1.08	1.44
Absolute Meter Pressure	in Hg	30.1	30.0	30.0	30.0
Avg Differential Pressure (Delta P)	in H ₂ O	0.600	0.575	0.515	0.563
Total Water Volume Collected	mL	29.7	25.8	23.4	26.3
Volume of Water vapor @ STP	SCF	1.398	1.214	1.101	1.238
Volume Metered @ STP	DSCF	51.654	39.530	38.977	43.387
Calculated Stack Moisture	% H ₂ O	2.6	3.0	2.7	2.8
Saturated Stack Moisture	% H ₂ O	4.2	4.6	4.8	4.5
Reported Stack Moisture Content	% H ₂ O	2.6	3.0	2.7	2.8
Carbon Dioxide Percentage	% CO ₂	0.5	0.5	0.5	0.5
Oxygen Percentage	% O ₂	20.9	20.9	20.9	20.9
Carbon Monoxide Percentage	% CO	0.0	0.0	0.0	0.0
Nitrogen Percentage	% N ₂	78.6	78.6	78.6	78.6
Dry Mole Fraction	decimal	0.974	0.970	0.973	0.972
Dry Gas Molecular Weight	lb/lb-mole	28.92	28.92	28.92	28.92
Wet Stack Gas Molecular Weight	lb/lb-mole	28.63	28.59	28.62	28.61
Flue Gas Density	lb/ft ³	0.0743	0.0742	0.0743	0.0743
Stack Cross-Sectional Area	in ²	1018	1018	1018	1018
Stack Cross-Sectional Area	ft ²	7.07	7.07	7.07	7.07
Percent of Isokinetic Rate	% ISO	96.1	100.5	101.8	99.5

Air Flow Rate Results

Average Stack Gas Velocity	ft/sec	44.46	43.67	41.34	43.16
Actual Stack Flow/Minute	ACFM	18,858	18,524	17,536	18,306
Dry Standard Stack Flow/Minute	DSCFM	17,727	17,251	16,338	17,105

ISOKINETIC SAMPLING TRAIN RESULTS - METHOD: EPA 5

Concentration and Emission Rate Data Summary					
Run Number		Ash-M5-1	Ash-M5-2	Ash-M5-3	AVERAGE
Filterable Particulate	mg	2.5	8.0	0.7	3.7
Concentration, grams/DSCF	gms/DSCF	4.84E-05	2.02E-04	1.80E-05	8.96E-05
Concentration, Gr/DSCF	gr/DSCF	7.47E-04	3.12E-03	2.77E-04	1.38E-03
Emission Rate, lb/hr	lb/hr	1.13E-01	4.62E-01	3.88E-02	2.05E-01
Emission Rate, gms/sec	gms/sec	1.43E-02	5.82E-02	4.89E-03	2.58E-02

APPENDIX B
EXAMPLE CALCULATIONS
1.0 PARTICULATE

EXAMPLE CALCULATIONS, RUN 1-S-M5-1

ABSOLUTE PRESSURE, INCHES OF MERCURY

$$\begin{aligned} P_s &= P_{bar} + P_g/13.6 \\ &= 29.90 + -1.10/13.6 \\ &= 29.82 \end{aligned}$$

VOLUME OF WATER VAPOR, STANDARD CUBIC FEET

$$\begin{aligned} V_{wstd} &= 0.002667 * [(T_{std} + 460) / P_{std}] * V_{lc} \\ &= 0.002667 * [(68 + 460) / 29.92] * 466.3 \\ &= 21.949 \end{aligned}$$

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC FEET

$$\begin{aligned} V_{mstd} &= [(T_{std} + 460)/P_{std}] * Y * V_m * (P_{bar} + \Delta H/13.6) / (460 + t_m) \\ &= [(68 + 460)/29.92] * 0.9982 * 89.724 * (29.90 + 1.761/13.6) / (460 + 105) \\ &= 83.989 \end{aligned}$$

MOISTURE CONTENT, PERCENT BY VOLUME

$$\begin{aligned} \%H_2O &= V_{wstd} / (V_{wstd} + V_{mstd}) \\ &= 21.949 / (21.949 + 83.989) \\ &= 20.72 \end{aligned}$$

DRY MOLE FRACTION, LB-MOLE/LB-MOLE

$$\begin{aligned} M_{fd} &= 1 - \%H_2O/100 \\ &= 1 - 20.72/100 \\ &= 0.793 \end{aligned}$$

DRY MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_d &= 44 * (\%CO_2/100) + 32 * (\%O_2/100) + 28 * \{[100 - (\%CO_2 + \%O_2)]/100\} \\ &= 44 * (8.7/100) + 32 * (10.7/100) + 28 * \{[100 - (8.7 + 10.7)]/100\} \\ &= 29.82 \end{aligned}$$

WET MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_s &= M_d * M_{fd} + 18.0 * \%H_2O/100 \\ &= 29.82 * 0.793 + 18.0 * 20.72/100 \\ &= 27.37 \end{aligned}$$

FUEL FACTOR

$$\begin{aligned} F_o &= (20.9 - \%O_2) / \%CO_2 \\ &= (20.9 - 10.7) / 8.7 \\ &= 1.172 \end{aligned}$$

ISOKINETIC SAMPLING RATE, PERCENT

$$\begin{aligned} \%I &= P_{std}/(T_{std} + 460) * (100/60) * V_{mstd} * (t_s + 460) / [P_s * v_s * M_{fd} * \Theta * (\pi * Dia * Dia / 576)] \\ &= 29.92 / (68 + 460) * (100/60) * 83.989 * (291 + 460) / [29.82 * 79.36 * 0.793 * 120.00 * (\pi * 0.216 * 0.216 / 576)] \\ &= 104.0 \end{aligned}$$

VELOCITY, FEET PER SECOND

$$\begin{aligned} v_s &= 85.49 * C_p * \text{SQRT}[\Delta p * (460 + t_s) / P_s / M_s] \\ &= 85.49 * 0.84 * \text{SQRT}[1.3280 * (460 + 291) / 29.82 / 27.37] \\ &= 79.36 \end{aligned}$$

VOLUMETRIC FLOW RATE, ACTUAL CUBIC FEET PER MINUTE

$$\begin{aligned} Q_{aw} &= (60/144) * v_s * A \\ &= (60/144) * 79.36 * 4778 \\ &= 157985 \end{aligned}$$

VOLUMETRIC FLOW RATE, DRY STANDARD CUBIC FEET PER MINUTE

$$\begin{aligned} Q_{sd} &= (60/144) * M_{fd} * v_s * A * (T_{std} + 460) / (t_s + 460) * (P_s / P_{std}) \\ &= (60/144) * 0.793 * 79.36 * 4778 * (68 + 460) / (291 + 460) * (29.82 / 29.92) \\ &= 87817 \end{aligned}$$

EXAMPLE CALCULATIONS, RUN 1-S-M5-1

FILTERABLE PARTICULATE CONCENTRATION, GRAINS PER DRY STANDARD CUBIC FOOT

$$\begin{aligned}\text{gr/DSCF} &= (\text{Catch/Conversion}) * 7,000 / 453.592 / \text{Vmstd} \\ &= (11.20/1000) * 7,000 / 453.592 / 83.989 \\ &= 0.002058\end{aligned}$$

FILTERABLE PARTICULATE CONCENTRATION, GRAINS PER DRY STANDARD CUBIC FOOT @ 12% CO2

$$\begin{aligned}\text{Gr@12\%CO2} &= \text{gr/DSCF} * 12 / \%\text{CO2} \\ &= 0.002058 * 12 / 8.7 \\ &= 0.002839\end{aligned}$$

FILTERABLE PARTICULATE CONCENTRATION, GRAINS PER DRY STANDARD CUBIC FOOT @ 7% O2

$$\begin{aligned}\text{Gr@7\%O2} &= \text{gr/DSCF} * (20.9-7) / (20.9-\%\text{O2}) \\ &= 0.002058 * (20.9-7) / (20.9-10.70) \\ &= 0.002804\end{aligned}$$

FILTERABLE PARTICULATE EMISSION RATE, POUNDS PER HOUR

$$\begin{aligned}\text{lb/hr} &= 60 * (\text{Catch/Conversion}) * \text{Qsd} / 453.592 / \text{Vmstd} \\ &= 60 * (11.20/1000) * 87817 / 453.592 / 83.989 \\ &= 1.549\end{aligned}$$

FILTERABLE PARTICULATE EMISSION RATE, GRAMS PER SECOND

$$\begin{aligned}\text{gms/sec} &= (\text{Catch/Conversion}) * \text{Qsd} / 60 / \text{Vmstd} \\ &= (11.20/1000) * 87817 / 60 / 83.989 \\ &= 0.195\end{aligned}$$

FILTERABLE PARTICULATE EMISSION RATE, MILLION BTU PER HOUR

$$\begin{aligned}\text{lb/MMBtu} &= (\text{Catch/Conversion}) / 453.592 / \text{Vmstd} * \text{Fd} * 20.9 / (20.9-\%\text{O2}) \\ &= (11.20/1000) * / 453.592 / 83.989 * 9570 * 20.9 / (20.9-10.7) \\ &= 0.005765\end{aligned}$$

APPENDIX B

EXAMPLE CALCULATIONS

2.0 SULFURIC ACID MIST

EXAMPLE CALCULATIONS, RUN 1-S-M8-1

ABSOLUTE PRESSURE, INCHES OF MERCURY

$$\begin{aligned} P_s &= P_{bar} + P_g/13.6 \\ &= 29.90 + -1.10/13.6 \\ &= 29.82 \end{aligned}$$

VOLUME OF WATER VAPOR, STANDARD CUBIC FEET

$$\begin{aligned} V_{wstd} &= 0.002667 * [(T_{std} + 460) / P_{std}] * V_{lc} \\ &= 0.002667 * [(68 + 460) / 29.92 * 191.1] \\ &= 8.995 \end{aligned}$$

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC FEET

$$\begin{aligned} V_{mstd} &= [(T_{std} + 460)/P_{std}] * Y * V_m * (P_{bar} + \Delta H/13.6) / (460 + t_m) \\ &= [(68 + 460)/29.92] * 0.9982 * 45.245 * (29.90 + 1.724/13.6) / (460 + 111) \\ &= 41.882 \end{aligned}$$

MOISTURE CONTENT, PERCENT BY VOLUME

$$\begin{aligned} \%H_2O &= V_{wstd} / (V_{wstd} + V_{mstd}) \\ &= 8.995 / (8.995 + 41.882) \\ &= 17.68 \end{aligned}$$

DRY MOLE FRACTION, LB-MOLE/LB-MOLE

$$\begin{aligned} M_{fd} &= 1 - \%H_2O/100 \\ &= 1 - 17.68/100 \\ &= 0.823 \end{aligned}$$

DRY MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_d &= 44 * (\%CO_2/100) + 32 * (\%O_2/100) + 28 * \{[100 - (\%CO_2 + \%O_2)]/100\} \\ &= 44 * (9.0/100) + 32 * (10.8/100) + 28 * \{[100 - (9.0 + 10.8)]/100\} \\ &= 29.87 \end{aligned}$$

WET MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_s &= M_d * M_{fd} + 18.0 * \%H_2O/100 \\ &= 29.87 * 0.823 + 18.0 * 17.68/100 \\ &= 27.77 \end{aligned}$$

FUEL FACTOR

$$\begin{aligned} F_o &= (20.9 - \%O_2) / \%CO_2 \\ &= (20.9 - 10.8) / 9.0 \\ &= 1.122 \end{aligned}$$

ISOKINETIC SAMPLING RATE, PERCENT

$$\begin{aligned} \%I &= P_{std}/(T_{std} + 460) * (100/60) * V_{mstd} * (t_s + 460) / [P_s * v_s * M_{fd} * \Theta * (\pi * Dia * Dia/576)] \\ &= 29.92/(68 + 460) * (100/60) * 41.882 * (291 + 460) / [29.82 * 77.26 * 0.823 * 60.00 * (\pi * 0.217 * 0.217/576)] \\ &= 101.7 \end{aligned}$$

VELOCITY, FEET PER SECOND

$$\begin{aligned} v_s &= 85.49 * C_p * \text{SQRT}[\Delta p * (460 + t_s) / P_s / M_s] \\ &= 85.49 * 0.84 * \text{SQRT}[1.2767 * (460 + 291) / 29.82 / 27.77] \\ &= 77.26 \end{aligned}$$

VOLUMETRIC FLOW RATE, ACTUAL CUBIC FEET PER MINUTE

$$\begin{aligned} Q_{aw} &= (60/144) * v_s * A \\ &= (60/144) * 77.26 * 4778 \\ &= 153813 \end{aligned}$$

VOLUMETRIC FLOW RATE, DRY STANDARD CUBIC FEET PER MINUTE

$$\begin{aligned} Q_{sd} &= (60/144) * M_{fd} * v_s * A * (T_{std} + 460) / (t_s + 460) * (P_s / P_{std}) \\ &= (60/144) * 0.823 * 77.26 * 4778 * (68 + 460) / (291 + 460) * (29.82/29.92) \\ &= 88741 \end{aligned}$$

EXAMPLE CALCULATIONS, RUN 1-S-M8-1

SULFURIC ACID MIST CONCENTRATION, GRAINS PER DRY STANDARD CUBIC FOOT

$$\begin{aligned}\text{gr/DSCF} &= (\text{Catch/Conversion}) * 7,000 / 453.592 / \text{Vmstd} \\ &= (16.29/1000) * 7,000 / 453.592 / 41.882 \\ &= 0.006001\end{aligned}$$

SULFURIC ACID MIST CONCENTRATION, GRAINS PER DRY STANDARD CUBIC FOOT @ 12% CO2

$$\begin{aligned}\text{Gr@12\%CO2} &= \text{gr/DSCF} * 12 / \% \text{CO2} \\ &= 0.006001 * 12 / 9.0 \\ &= 0.008001\end{aligned}$$

SULFURIC ACID MIST CONCENTRATION, GRAINS PER DRY STANDARD CUBIC FOOT @ 7% O2

$$\begin{aligned}\text{Gr@7\%O2} &= \text{gr/DSCF} * (20.9-7) / (20.9-\% \text{O2}) \\ &= 0.006001 * (20.9-7) / (20.9-10.80) \\ &= 0.008259\end{aligned}$$

SULFURIC ACID MIST EMISSION RATE, POUNDS PER HOUR

$$\begin{aligned}\text{lb/hr} &= 60 * (\text{Catch/Conversion}) * \text{Qsd} / 453.592 / \text{Vmstd} \\ &= 60 * (16.29/1000) * 88741 / 453.592 / 41.882 \\ &= 4.564\end{aligned}$$

SULFURIC ACID MIST EMISSION RATE, GRAMS PER SECOND

$$\begin{aligned}\text{gms/sec} &= (\text{Catch/Conversion}) * \text{Qsd} / 60 / \text{Vmstd} \\ &= (16.29/1000) * 88741 / 60 / 41.882 \\ &= 0.575\end{aligned}$$

SULFURIC ACID MIST EMISSION RATE, MILLION BTU PER HOUR

$$\begin{aligned}\text{lb/MMBtu} &= (\text{Catch/Conversion}) / 453.592 / \text{Vmstd} * \text{Fd} * 20.9 / (20.9-\% \text{O2}) \\ &= (16.29/1000) * / 453.592 / 41.882 * 9570 * 20.9 / (20.9-10.8) \\ &= 0.016977\end{aligned}$$

APPENDIX B
EXAMPLE CALCULATIONS
3.0 FLUORIDES

EXAMPLE CALCULATIONS, RUN 1-S-M13B-1

ABSOLUTE PRESSURE, INCHES OF MERCURY

$$\begin{aligned} P_s &= P_{bar} + P_g/13.6 \\ &= 29.90 + -1.10/13.6 \\ &= 29.82 \end{aligned}$$

VOLUME OF WATER VAPOR, STANDARD CUBIC FEET

$$\begin{aligned} V_{wstd} &= 0.002667 * [(T_{std} + 460) / P_{std}] * V_{lc} \\ &= 0.002667 * [(68 + 460) / 29.92 * 214.9] \\ &= 10.115 \end{aligned}$$

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC FEET

$$\begin{aligned} V_{mstd} &= [(T_{std} + 460)/P_{std}] * Y * V_m * (P_{bar} + \Delta H/13.6) / (460 + t_m) \\ &= [(68 + 460)/29.92] * 0.9982 * 44.392 * (29.90 + 1.711/13.6) / (460 + 110) \\ &= 41.158 \end{aligned}$$

MOISTURE CONTENT, PERCENT BY VOLUME

$$\begin{aligned} \%H_2O &= V_{wstd} / (V_{wstd} + V_{mstd}) \\ &= 10.115 / (10.115 + 41.158) \\ &= 19.73 \end{aligned}$$

DRY MOLE FRACTION, LB-MOLE/LB-MOLE

$$\begin{aligned} M_{fd} &= 1 - \%H_2O/100 \\ &= 1 - 19.73/100 \\ &= 0.803 \end{aligned}$$

DRY MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_d &= 44 * (\%CO_2/100) + 32 * (\%O_2/100) + 28 * \{[100 - (\%CO_2 + \%O_2)]/100\} \\ &= 44 * (8.4/100) + 32 * (11.3/100) + 28 * \{[100 - (8.4 + 11.3)]/100\} \\ &= 29.80 \end{aligned}$$

WET MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_s &= M_d * M_{fd} + 18.0 * \%H_2O/100 \\ &= 29.80 * 0.803 + 18.0 * 19.73/100 \\ &= 27.47 \end{aligned}$$

FUEL FACTOR

$$\begin{aligned} F_o &= (20.9 - \%O_2) / \%CO_2 \\ &= (20.9 - 11.3) / 8.4 \\ &= 1.143 \end{aligned}$$

VELOCITY, FEET PER SECOND

$$\begin{aligned} v_s &= 85.49 * C_p * \text{SQRT}[\Delta p * (460 + t_s) / P_s / M_s] \\ &= 85.49 * 0.84 * \text{SQRT}[1.2890 * (460 + 291) / 29.82 / 27.47] \\ &= 78.09 \end{aligned}$$

VOLUMETRIC FLOW RATE, ACTUAL CUBIC FEET PER MINUTE

$$\begin{aligned} Q_{aw} &= (60/144) * v_s * A \\ &= (60/144) * 78.09 * 4778 \\ &= 155462 \end{aligned}$$

VOLUMETRIC FLOW RATE, DRY STANDARD CUBIC FEET PER MINUTE

$$\begin{aligned} Q_{sd} &= (60/144) * M_{fd} * v_s * A * (T_{std} + 460) / (t_s + 460) * (P_s / P_{std}) \\ &= (60/144) * 0.803 * 78.09 * 4778 * (68 + 460) / (291 + 460) * (29.82/29.92) \\ &= 87392 \end{aligned}$$

EXAMPLE CALCULATIONS, RUN 1-S-M13B-1

FLUORIDES CONCENTRATION, PARTS PER MILLION BY VOLUME DRY

$$\begin{aligned}\text{ppmvd} &= (385.3 * (\text{Catch/Conversion}) * 1,000,000 / 453.392 / \text{Fwt} / \text{Vmstd}) \\ &= (385.3 * (0.0700/1000) * 1,000,000,000 / 453.592 / 19.00 * 41.16) \\ &= 0.07604\end{aligned}$$

FLUORIDES CONCENTRATION, PPMVD @ 12% CO2

$$\begin{aligned}\text{ppmvd @12\%CO2} &= \text{ppmvd} * 12 / \% \text{CO2} \\ &= 0.07604 * 12 / 8.4 \\ &= 0.10862\end{aligned}$$

FLUORIDES CONCENTRATION, PPMVD @ 7% O2

$$\begin{aligned}\text{ppmvd @7\%O2} &= \text{ppmvd} * (20.9-7) / (20.9-\% \text{O2}) \\ &= 0.07604 * (20.9-7) / (20.9-11.3) \\ &= 0.11010\end{aligned}$$

FLUORIDES EMISSION RATE, POUNDS PER HOUR

$$\begin{aligned}\text{lb/hr} &= 60 * \text{ppmvd} * \text{Fwt} * \text{Qsd} / 385.3 / 1,000,000 \\ &= 60 * 0.0760 * 19.0000 * 87392 / 453.592 / 1,000,000 \\ &= 0.0197\end{aligned}$$

FLUORIDES EMISSION RATE, GRAMS PER SECOND

$$\begin{aligned}\text{gms/sec} &= (\text{Catch/Conversion}) * \text{Qsd} / 60 / \text{Vmstd} \\ &= (0.07/1,000,000) * 87392 / 60 / 41.158 \\ &= 0.00248\end{aligned}$$

FLUORIDES EMISSION RATE, POUNDS PER MILLION BTU

$$\begin{aligned}\text{lb/MMBtu} &= (\text{Catch/Conversion}) / 453.592 / \text{Vmstd} * \text{Fd} * 20.9 / (20.9-\% \text{O2}) \\ &= (0.07/1,000,000) * / 453.592 / 41.158 * 9570 * 20.9 / (20.9-11.3) \\ &= 0.00007812\end{aligned}$$

APPENDIX B
EXAMPLE CALCULATIONS
4.0 DIOXIN/FURANS

EXAMPLE CALCULATIONS RUN 1-S-M23-1

ABSOLUTE PRESSURE, INCHES OF MERCURY

$$\begin{aligned} P_s &= P_{bar} + P_g/13.6 \\ &= 29.90 + -1.15/13.6 \\ &= 29.82 \end{aligned}$$

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC FEET

$$\begin{aligned} V_{mstd} &= [(T_{std} + 460)/P_{std}] * Y * V_m * (P_{bar} + \Delta H/13.6) / (460 + t_m) \\ &= [(68 + 460)/29.92] * 0.9982 * 182.575 * (29.90 + 1.708/13.6) / (460 + 104) \\ &= 171.090 \end{aligned}$$

VOLUME OF WATER VAPOR, STANDARD CUBIC FEET

$$\begin{aligned} V_{wstd} &= 0.002667 * [(T_{std} + 460) / P_{std}] * V_{lc} \\ &= 0.002667 * [(68 + 460) / 29.92] * 997.3 \\ &= 46.943 \end{aligned}$$

MOISTURE CONTENT, PERCENT BY VOLUME

$$\begin{aligned} \%H_2O &= V_{wstd} / (V_{wstd} + V_{mstd}) \\ &= 46.943 / (171.090 + 46.943) \\ &= 21.53 \end{aligned}$$

DRY MOLE FRACTION, LB-MOLE/LB-MOLE

$$\begin{aligned} M_{fd} &= 1 - \%H_2O/100 \\ &= 1 - 21.53/100 \\ &= 0.785 \end{aligned}$$

DRY MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_d &= 44 * (\%CO_2/100) + 32 * (\%O_2/100) + 28 * \{[100 - (\%CO_2 + \%O_2)]/100\} \\ &= 44 * (9.4/100) + 32 * (10.1/100) + 28 * \{[100 - (9.4 + 10.1)]/100\} \\ &= 29.91 \end{aligned}$$

WET MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_s &= M_d * M_{fd} + 18.0 * \%H_2O/100 \\ &= 29.91 * 0.785 + 18.0 * 21.53/100 \\ &= 27.34 \end{aligned}$$

FUEL FACTOR

$$\begin{aligned} F_o &= (20.9 - \%O_2) / \%CO_2 \\ &= (20.9 - 10.1) / 9.4 \\ &= 1.149 \end{aligned}$$

ISOKINETIC SAMPLING RATE, PERCENT

$$\begin{aligned} \%I &= P_{std}/(T_{std} + 460) * (100/60) * V_{mstd} * (t_s + 460) / [P_s * v_s * M_{fd} * \Theta * (\pi * Dia^2 * Dia/576)] \\ &= 29.92/(68 + 460) * (100/60) * 171.090 * (291 + 460) / [29.82 * 78.24 * 0.785 * 240.00 * (\pi * 0.216^2 * 0.216/576)] \\ &= 108.7 \end{aligned}$$

VELOCITY, FEET PER SECOND

$$\begin{aligned} v_s &= 85.49 * C_p * \text{SQRT}[\Delta p * (460 + t_s) / P_s / M_s] \\ &= 85.49 * 0.82 * \text{SQRT}[1.3582 * (460 + 291) / -1.15 / 27.34] \\ &= 78.24 \end{aligned}$$

VOLUMETRIC FLOW RATE, ACTUAL CUBIC FEET PER MINUTE

$$\begin{aligned} Q_{aw} &= (60/144) * v_s * A \\ &= (60/144) * 78.24 * 4778 \\ &= 155757 \end{aligned}$$

VOLUMETRIC FLOW RATE, DRY STANDARD CUBIC FEET PER MINUTE

$$\begin{aligned} Q_{sd} &= (60/144) * M_{fd} * v_s * A * (T_{std} + 460) / (t_s + 460) * (P_s / P_{std}) \\ &= (60/144) * 0.785 * 78.24 * 4778 * (68 + 460) / (291 + 460) * (29.82/29.92) \\ &= 85589 \end{aligned}$$

TOTAL PCDD AND PCDFS, CONCENTRATION, NANOGRAMS PER DRY STANDARD CUBIC METER"

$$\begin{aligned}\text{ng/DSCM} &= (\text{Catch/Conversion}) * 1,000,000,000 / (\text{Vmstd} * 0.02832) \\ &= (111330/1000000000000) * 1,000,000,000 / (171.090 * 0.02832) \\ &= 23.0\end{aligned}$$

TOTAL PCDD AND PCDFS, CONCENTRATION, NG/DSCM @ 12% CO2

$$\begin{aligned}\text{ng@12\%CO2} &= \text{ng/DSCM} * 12 / \% \text{CO2} \\ &= 23.0 * 12 / 9.4 \\ &= 29.3\end{aligned}$$

TOTAL PCDD AND PCDFS, CONCENTRATION, NG/DSCM @ 7% O2

$$\begin{aligned}\text{ng@7\%O2} &= \text{ng/DSCM} * (20.9-7) / (20.9-\% \text{O2}) \\ &= 23.0 * (20.9-7) / (20.9- 10.1) \\ &= 29.6\end{aligned}$$

TOTAL PCDD AND PCDFS, EMISSION RATE, GRAMS PER SECOND

$$\begin{aligned}\text{gms/sec} &= (\text{Catch/Conversion}) * \text{Qsd} / 60 / \text{Vmstd} \\ &= (111330/1000000000000) * 85589 / 60 / 171.090 \\ &= 0.000000928\end{aligned}$$

#VALUE!

TOTAL PCDD AND PCDFS, EMISSION RATE, POUNDS PER HOUR

$$\begin{aligned}\text{lb/hr} &= 60 * (\text{Catch/Conversion}) * \text{Qsd} / 453.592 / \text{Vmstd} \\ &= 60 * (111330/1000000000000) * 85589 / 453.592 / 171.090 \\ &= 0.00000737\end{aligned}$$

APPENDIX B

EXAMPLE CALCULATIONS

5.0 HYDROGEN CHLORIDE

EXAMPLE CALCULATIONS, RUN 1-I-M26-1

ABSOLUTE PRESSURE, INCHES OF MERCURY

$$P_s = P_{bar} + P_g/13.6$$

#VALUE!

#VALUE!

VOLUME OF WATER VAPOR, STANDARD CUBIC FEET

$$V_{wstd} = 0.002667 * [(T_{std} + 460) / P_{std}] * V_{ic}$$

$$= 0.002667 * [(68 + 460) / 29.92] * 114.5$$

$$= 5.390$$

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC FEET

$$V_{mstd} = [(T_{std} + 460)/P_{std}] * Y * V_m * (P_{bar} + \Delta H/13.6) / (460 + t_m)$$

$$= [(68 + 460)/29.92] * 1.0056 * 33.706 * (29.90 + 1.000/13.6) / (460 + 110)$$

$$= 31.418$$

MOISTURE CONTENT, PERCENT BY VOLUME

$$\%H_2O = V_{wstd} / (V_{wstd} + V_{mstd})$$

$$= 5.390 / (5.390 + 31.418)$$

$$= 14.64$$

DRY MOLE FRACTION, LB-MOLE/LB-MOLE

$$M_{fd} = 1 - \%H_2O/100$$

$$= 1 - 14.64/100$$

$$= 0.854$$

DRY MOLECULAR WEIGHT, LB/LB-MOLE

$$M_d = 44 * (\%CO_2/100) + 32 * (\%O_2/100) + 28 * \{[100 - (\%CO_2 + \%O_2)]/100\}$$

$$= 44 * (9.0/100) + 32 * (10.3/100) + 28 * \{[100 - (9.0 + 10.3)]/100\}$$

$$= 29.85$$

WET MOLECULAR WEIGHT, LB/LB-MOLE

$$M_s = M_d * M_{fd} + 18.0 * \%H_2O/100$$

$$= 29.85 * 0.854 + 18.0 * 14.64/100$$

$$= 28.12$$

FUEL FACTOR

$$F_o = (20.9 - \%O_2) / \%CO_2$$

$$= (20.9 - 10.3) / 9.0$$

$$= 1.178$$

HYDROGEN CHLORIDE CONCENTRATION, PARTS PER MILLION BY VOLUME DRY

$$ppm = (Catch * 385.3 * 1E6) / (453592 * Molecular\ Weight * V_{mstd})$$

$$= (671.00 * 385.3 * 1E6) / (453592 * 36.50 * 31.418)$$

$$= 497.03$$

HYDROGEN CHLORIDE CONCENTRATION, PPMVD @ 12% CO2

$$ppm\ @12\%CO_2 = ppm * 12 / \%CO_2$$

$$= 497.03 * 12 / 9.0$$

$$= 662.71$$

HYDROGEN CHLORIDE CONCENTRATION, PPMVD @ 7% O2

$$ppm\ @7\%O_2 = ppm * 13.9 / (20.9 - \%O_2)$$

$$= 662.71 * 13.9 / (20.9 - 10.3)$$

$$= 651.77$$

HYDROGEN CHLORIDE EMISSION RATE, POUNDS PER HOUR

$$lb/hr = 60 * (Catch/Conversion) * Q_{sd} / 453.592 / V_{mstd}$$

$$= 60 * (671.00/1000) * 85663 / 453.592 / 31.418$$

$$= 242$$

HYDROGEN CHLORIDE EMISSION RATE, GRAMS PER SECOND

$$gms/sec = (Catch/Conversion) * Q_{sd} / 60 / V_{mstd}$$

$$= (671.00/1000) * 85663 / 60 / 31.418$$

$$= 30.5$$

HYDROGEN CHLORIDE EMISSION RATE, POUNDS PER MILLION BTU

$$lb/MMBtu = (lb/hr)/(lbs/MMBTU)$$

$$= (242/272)$$

$$= 0.890$$

APPENDIX B
EXAMPLE CALCULATIONS
6.0 AMMONIA

EXAMPLE CALCULATIONS, RUN 1-S-NH3-2

ABSOLUTE PRESSURE, INCHES OF MERCURY

$$P_s = P_{bar} + P_g/13.6$$

#VALUE!

#VALUE!

VOLUME OF WATER VAPOR, STANDARD CUBIC FEET

$$\begin{aligned} V_{wstd} &= 0.002667 * [(T_{std} + 460) / P_{std}] * V_{lc} \\ &= 0.002667 * [(68 + 460) / 29.92 * 159.9] \\ &= 7.526 \end{aligned}$$

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC FEET

$$\begin{aligned} V_{mstd} &= [(T_{std} + 460)/P_{std}] * Y * V_m * (P_{bar} + \Delta H/13.6) / (460 + t_m) \\ &= [(68 + 460)/ 29.92] * 1.0707 * 38.018 * (29.90 + 1.800/13.6) / (460 + 102) \\ &= 38.354 \end{aligned}$$

MOISTURE CONTENT, PERCENT BY VOLUME

$$\begin{aligned} \%H_2O &= V_{wstd} / (V_{wstd} + V_{mstd}) \\ &= 7.526 / (7.526 + 38.354) \\ &= 16.40 \end{aligned}$$

DRY MOLE FRACTION, LB-MOLE/LB-MOLE

$$\begin{aligned} M_{fd} &= 1 - \%H_2O/100 \\ &= 1 - 16.40/100 \\ &= 0.836 \end{aligned}$$

DRY MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_d &= 44 * (\%CO_2/100) + 32 * (\%O_2/100) + 28 * \{[100 - (\%CO_2 + \%O_2)]/100\} \\ &= 44 * (9.0/100) + 32 * (10.9/100) + 28 * \{[100 - (9.0 + 10.9)]/100\} \\ &= 29.88 \end{aligned}$$

WET MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_s &= M_d * M_{fd} + 18.0 * \%H_2O/100 \\ &= 29.88 * 0.836 + 18.0 * 16.40/100 \\ &= 27.93 \end{aligned}$$

FUEL FACTOR

$$\begin{aligned} F_o &= (20.9 - \%O_2) / \%CO_2 \\ &= (20.9 - 10.9) / 9.0 \\ &= 1.111 \end{aligned}$$

AMMONIA CONCENTRATION, PARTS PER MILLION BY VOLUME DRY

$$\begin{aligned} \text{ppm} &= (\text{Catch} * 385.3 * 1E6) / (453592 * \text{Molecular Weight} * V_{mstd}) \\ &= (367.00 * 385.3 * 1E6) / (453592 * 17.04 * 38.354) \\ &= 0.477 \end{aligned}$$

AMMONIA CONCENTRATION, PPMVD @ 12% CO2

$$\begin{aligned} \text{ppm @ 12\%CO}_2 &= \text{ppm} * 12 / \%CO_2 \\ &= 0.48 * 12 / 9.0 \\ &= 0.636 \end{aligned}$$

AMMONIA CONCENTRATION, PPMVD @ 7% O2

$$\begin{aligned} \text{ppm @ 7\%O}_2 &= \text{ppm} * 13.9 / (20.9 - \%O_2) \\ &= 0.64 * 13.9 / (20.9 - 10.9) \\ &= 0.663 \end{aligned}$$

AMMONIA EMISSION RATE, POUNDS PER HOUR

$$\begin{aligned} \text{lb/hr} &= 60 * (\text{Catch/Conversion}) * Q_{sd} / 453.592 / V_{mstd} \\ &= 60 * (367.00/1000) * 88884 / 453.592 / 38.354 \\ &= 0.113 \end{aligned}$$

AMMONIA EMISSION RATE, GRAMS PER SECOND

$$\begin{aligned} \text{gms/sec} &= (\text{Catch/Conversion}) * Q_{sd} / 60 / V_{mstd} \\ &= (367.00/1000) * 88884 / 60 / 38.354 \\ &= 0.0142 \end{aligned}$$

AMMONIA EMISSION RATE, POUNDS PER MILLION BTU

$$\begin{aligned} \text{lb/MMBtu} &= (\text{lb/hr}) / (\text{lbs/MMBTU}) \\ &= (0.267) \\ &= 0.000421 \end{aligned}$$

APPENDIX B

EXAMPLE CALCULATIONS

7.0 ARSENIC, BERYLLIUM, CADMIUM, LEAD, AND MERCURY

EXAMPLE CALCULATIONS, RUN 1-S-M29-1

ABSOLUTE PRESSURE, INCHES OF MERCURY

$$\begin{aligned} P_s &= P_{bar} + P_g/13.6 \\ &= 29.90 + -1.05/13.6 \\ &= 29.82 \end{aligned}$$

VOLUME OF WATER VAPOR, STANDARD CUBIC FEET

$$\begin{aligned} V_{wstd} &= 0.002667 * [(T_{std} + 460) / P_{std}] * V_{lc} \\ &= 0.002667 * [(68 + 460) / 29.92] * 434.3 \\ &= 20.443 \end{aligned}$$

SAMPLED VOLUME OF SOURCE GAS, DRY STANDARD CUBIC FEET

$$\begin{aligned} V_{mstd} &= [(T_{std} + 460)/P_{std}] * Y * V_m * (P_{bar} + \Delta H/13.6) / (460 + t_m) \\ &= [(68 + 460)/29.92] * 0.9982 * 89.477 * (29.90 + 1.798/13.6) / (460 + 101) \\ &= 84.362 \end{aligned}$$

MOISTURE CONTENT, PERCENT BY VOLUME

$$\begin{aligned} \%H_2O &= V_{wstd} / (V_{wstd} + V_{mstd}) \\ &= 20.443 / (20.443 + 84.362) \\ &= 19.51 \end{aligned}$$

DRY MOLE FRACTION, LB-MOLE/LB-MOLE

$$\begin{aligned} M_{fd} &= 1 - \%H_2O/100 \\ &= 1 - 19.51/100 \\ &= 0.805 \end{aligned}$$

DRY MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_d &= 44 * (\%CO_2/100) + 32 * (\%O_2/100) + 28 * [(100 - (\%CO_2 + \%O_2))/100] \\ &= 44 * (9.0/100) + 32 * (10.9/100) + 28 * [(100 - (9.0 + 10.9))/100] \\ &= 29.88 \end{aligned}$$

WET MOLECULAR WEIGHT, LB/LB-MOLE

$$\begin{aligned} M_s &= M_d * M_{fd} + 18.0 * \%H_2O/100 \\ &= 29.88 * 0.805 + 18.0 * 19.51/100 \\ &= 27.56 \end{aligned}$$

FUEL FACTOR

$$\begin{aligned} F_o &= (20.9 - \%O_2) / \%CO_2 \\ &= (20.9 - 10.9) / 9.0 \\ &= 1.111 \end{aligned}$$

ISOKINETIC SAMPLING RATE, PERCENT

$$\begin{aligned} \%I &= P_{std}/(T_{std} + 460) * (100/60) * V_{mstd}/(t_s + 460) / [P_s * v_s * M_{fd} * \Theta * (PI * Dia * Dia/576)] \\ &= 29.92/(68 + 460) * (100/60) * 84.362/(292 + 460) / [29.82 * 157762.48 * 0.805 * 120.00 * (PI * 0.217 * 0.217/576)] \\ &= 102.2 \end{aligned}$$

VELOCITY, FEET PER SECOND

$$\begin{aligned} v_s &= 85.49 * C_p * \text{SQRT}[\Delta p * (460 + t_s)/P_s/M_s] \\ &= 85.49 * 0.84 * \text{SQRT}[1.3311 * (460 + 292)/29.82/27.56] \\ &= 79.24 \end{aligned}$$

VOLUMETRIC FLOW RATE, ACTUAL CUBIC FEET PER MINUTE

$$\begin{aligned} Q_{aw} &= (60/144) * v_s * A \\ &= (60/144) * 157762.48 * 4778 \\ &= 157762 \end{aligned}$$

VOLUMETRIC FLOW RATE, DRY STANDARD CUBIC FEET PER MINUTE

$$\begin{aligned} Q_{sd} &= (60/144) * M_{fd} * v_s * A * (T_{std} + 460)/(t_s + 460) * (P_s/P_{std}) \\ &= (60/144) * 0.805 * 157762 * 4778 * (68 + 460)/(292 + 460) * (29.82/29.92) \\ &= 88884 \end{aligned}$$

EXAMPLE CALCULATIONS, RUN 1-S-M29-1

CADMIUM CONCENTRATION, MICROGRAMS PER DRY STANDARD CUBIC METER

$$\begin{aligned}\text{ug/DSCM} &= (\text{Catch/Conversion}) * 1,000,000 / (\text{Vmstd} * 0.02832) \\ &= (1.10/1,000,000) * 1,000,000 / (84.362 * 0.02832) \\ &= 0.460\end{aligned}$$

CADMIUM CONCENTRATION, MICROGRAMS PER DRY STANDARD CUBIC METER @ 12% CO2

$$\begin{aligned}\text{ug@12\%CO2} &= \text{ug/DSCM} * 12 / \text{CO2} \\ &= 0.460 * 12 / 9.00 \\ &= 0.614\end{aligned}$$

CADMIUM CONCENTRATION, NANOGRAMS PER DRY STANDARD CUBIC METER @ 7% O2

$$\begin{aligned}\text{ug@7\%O2} &= \text{ug/DSCM} * (20.9-7) / (20.9-\text{O2}) \\ &= 0.460 (20.9-7) / (20.9-10.90) \\ &= 0.640\end{aligned}$$

CADMIUM EMISSION RATE, POUNDS PER HOUR

$$\begin{aligned}\text{lb/hr} &= 60 * (\text{Catch/Conversion}) * \text{Qsd} / 453.592 / \text{Vmstd} \\ &= 60 * (1.10/1,000,000) * 88884 / 453.592 / 84.362 \\ &= 0.000153\end{aligned}$$

CADMIUM EMISSION RATE, GRAMS PER SECOND

$$\begin{aligned}\text{gms/sec} &= (\text{Catch/Conversion}) * \text{Qsd} / 60 / \text{Vmstd} \\ &= (1.10/1,000,000) * 88884 / 60 / 84.362 \\ &= 0.0000193\end{aligned}$$

CADMIUM EMISSION RATE, MILLION BTU PER HOUR

$$\begin{aligned}\text{lb/MMBtu} &= (\text{Catch/Conversion}) / 453.592 / \text{Vmstd} * \text{Fd} * 20.9 / (20.9-\text{\%O2}) \\ &= (1.10/1,000,000) * / 453.592 / 84.362 * 9570 * 20.9 / (20.9-10.9) \\ &= 0.000000575\end{aligned}$$

APPENDIX B

EXAMPLE CALCULATIONS

8.0 PARTICULATE LESS THAN 10 MICRONS

PM10 FIELD DATA AND RESULTS TABULATION

EXAMPLE TEST CALCULATIONS

PLANT: OGDEN MARTIN SYSTEMS OF LEE, INC. FORT MYERS, FL

SAMPLING LOCATION: UNIT 1 STACK

RUN NUMBER: 1-S-M201A-1

VOLUME OF DRY GAS SAMPLED AT STANDARD CONDITIONS

$$Vmstd = 17.647 * Y * Vm * \frac{(Pbar + \Delta H / 13.6)}{(460 + tm)}$$

$$Vmstd = 17.647 * 1.0707 * 40.058 * \frac{(29.9 + 0.4 / 13.6)}{(460 + 225.9)} = 39.813 \text{ DSCF}$$

VOLUME OF WATER VAPOR AT STANDARD CONDITIONS

$$Vwstd = 0.04707 * Vlc$$

$$Vwstd = 0.04707 * 225.9 = 10.633 \text{ SCF}$$

PERCENT MOISTURE, BY VOLUME, AS MEASURED IN FLUE GAS

$$\%H_2O = 100 * Vwstd / (Vwstd + Vmstd)$$

$$\%H_2O = 100 * 10.633 / (10.633 + 39.813) = 21.1 \%$$

DRY MOLE FRACTION OF FLUE GAS

$$Mfd = 1 - (\%H_2O / 100)$$

$$Mfd = 1 - (21.1 / 100) = 0.789$$

DRY MOLECULAR WEIGHT OF FLUE GAS

$$Md = (\%CO_2 * 0.44) + (\%O_2 * 0.32) + (\%CO + \%N_2 * 0.28)$$

$$Md = (0.0 * 0.44) + (0.0 * 0.32) + (0.0 * 0.28) = 0.00 \text{ lb/lb-mole}$$

WET MOLECULAR WEIGHT OF FLUE GAS

$$Ms = (Md * Mfd) + (0.18 * \%H_2O)$$

$$Ms = (0.00 * 0.789) + (0.18 * 21.1) = 0.00 \text{ lb/lb-mole}$$

ABSOLUTE FLUE GAS PRESSURE

$$P_s = P_{bar} + (P_g / 13.6)$$

$$P_s = 29.9 + (-1.15 / 13.6) = 29.82 \text{ inches Hg}$$

AVERAGE FLUE GAS VELOCITY - Note: (Delta-p)avg is square of avg. sq root

$$v_s = 85.49 * C_p * \text{SQRT} \left[\frac{(\Delta p)_{avg} * (460 + t_s)}{P_s * M_s} \right]$$

$$v_s = 85.49 * 0.84 * \text{SQRT} \left[\frac{(1.385 * (460 + 289.8))}{29.82 * 27.33} \right] = 81.06 \text{ ft/sec}$$

DRY VOLUMETRIC FLUE GAS FLOW RATE AT STANDARD CONDITIONS

$$Q_{sd} = \frac{60}{144} * M_{fd} * v_s * A * \frac{T_{std}}{t_s + 460} * \frac{P_s}{P_{std}}$$

$$Q_{sd} = \frac{60}{144} * 0.789 * 81.06 * 4778 * \frac{68}{289.8 + 460} * \frac{29.82}{29.92} = 89362 \text{ DSCFM}$$

WET VOLUMETRIC FLUE GAS FLOW RATE AT STACK CONDITIONS

$$Q_{aw} = 60 / 144 * v_s * A$$

$$Q_{aw} = 60 / 144 * 81.06 * 4778 = 161377 \text{ ACFM}$$

PERCENT ISOKINETIC OF SAMPLING RATE

$$\%I = \frac{100}{60} * \frac{P_{std}}{(460 + T_{std})} * \frac{(t_s + 460)}{P_s} * \frac{V_{mstd}}{(v_s * M_{fd} * \text{Theta} * [\text{Pi}(\text{Dia}/2)^2 / 144])}$$

$$\%I = \frac{100}{60} * \frac{29.92}{(460 + 68)} * \frac{(289.8 + 460)}{29.82} * \frac{39.813}{(81.06 * 0.789 * 118 * [3.14(0.146/2)^2 / 144])} = 107.76$$

PM10 FIELD DATA AND TEST RESULTS TABULATION

STACK VELOCITY

$$ucyc = 51.05 + 0.207 * (460 + ts) + 3.24E-05 * ((460 + ts)^2) + 53.147 * (\%O_2/100) - 74.143 * (\%H_2O/100)$$

$$ucyc = 51.05 + 0.207 * (460 + 289.8) + 3.24E-05 * ((460 + 289.8)^2) + 53.147 * (11.0/100) - 74.143 * (21.1/100)$$

$$ucyc = 214.7$$

PM10 FLOW OF CYCLONE CONDITIONS

$$Q_s = (ts + 460) / (17.64 * P_s) * (V_{wstd} + V_{mstd}) / \Theta$$

$$Q_s = (289.8 + 460) / (17.64 * 29.82) * (10.633 + 39.813) / 118 = 0.000$$

DIAMETER OF PARTICLES IN CYCLONE

$$D_{10} = 0.15625 * [ts + 460] * (M_s * P_s)^{0.2091} * (ucyc / Q_s)^{0.7091}$$

$$D_{10} = 0.15625 * [289.8 + 460] * (27.33 * 29.82)^{0.2091} * (214.7 / 0.000)^{0.7091} = 9.83$$

LESS THAN 10 MICRONS

$$\%<D_{10} = \text{Particulate Less Than 10 Microns} / \text{Total Particulate} * 100\%$$

$$\%<D_{10} = 2.80 / 1.40 * 100\% = 66.7$$

PARTICULATE < 10 MICRONS CONCENTRATION, GRAINS PER DRY STANDARD CUBIC FOOT

$$gr/DSCF = (7000/453592) * (mg<D_{10}/V_{mstd})$$

$$gr/DSCF = (7000/453592) * (2.8/39.813) = 0.001085$$

PARTICULATE < 10 MICRONS EMISSION RATE, POUNDS PER HOUR

$$lb/hr = 60 * (mg<D_{10}/453592) * (Q_{sd}/V_{mstd})$$

$$lb/hr = 60 * (2.8/453592) * (89362/39.813) = 0.83133$$

APPENDIX C

FIELD DATA

1.0 UNIT NO. 1

a. PARTICULATE

NO. OF PORTS AVAILABLE 6
NO. OF PORTS USED 5
PORT INSIDE DIAMETER 4"

DISTANCE FROM FAR WALL TO OUTSIDE OF PORT 138"
NIPPLE LENGTH AND/OR WALL THICKNESS 18"
- DEPTH OF STACK OR DUCT 120"
STACK OR DUCT WIDTH (IF RECTANGULAR) 62"

$$D_E = \frac{2 \times \text{DEPTH} \times \text{WIDTH}}{\text{DEPTH} + \text{WIDTH}} = \frac{2(120)(62)}{(120) + (62)} = 81.76$$

DISTANCE FROM PORTS TO FLOW DISTURBANCES	UPSTREAM	DOWNSTREAM
	120"	12"
DIAMETERS	1.47	0.15

$$\text{STACK/DUCT AREA} = \frac{120 \times 62}{144} = 7.440 \text{ IN}^2$$
[illegible][illegible]

If more than 8 and 2 diameters and if duct dia. is less than 24", use 8 or 9 points.

PARTICULATE

DIAMETERS
UP DOWN

Figure 1 shows two diagrams of a stepped shaft. The left diagram shows a shaft with a diameter of 12 at the top and 16 at the bottom. The right diagram shows a shaft with a diameter of 12 at the top, a diameter of 16 for a section of length 1, a diameter of 20 for a section of length 1.25, and a diameter of 24 or 25 at the bottom. A central dimension line indicates lengths of 2.0, 1.75, 1.5, 1.25, and 0.5 for the respective sections.

PITOT USED (✓) TYPE 'S' _____ STANDARD _____

POINT	% OF DUCT DEPTH	DISTANCE FROM INSIDE WALL	DISTANCE FROM OUTSIDE OF PORT
1	10	12"	30"
2	30	36"	54"
3	50	60"	78"
4	70	84"	102"
5	90	108"	126"
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 1 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>1-S-M5-1</u>		Date <u>6/22/99</u>		Operator <u>DL</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1214-1445	1600	8.8	19.4	10.6	NA
	1604	8.8	19.4	10.6	
	1609	8.6	19.4	10.8	
Average		8.7	Average	10.7	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.172</u>	

Run/Sample No. <u>1-S-M5-2</u>		Date <u>6/24/99</u>		Operator <u>DL</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1238-1450	1534	8.5	19.5	11.0	NA
	1546	8.5	19.6	11.1	
	1602	8.5	19.6	11.1	
Average		8.5	Average	11.1	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.157</u>	

Run/Sample No. <u>1-S-M5-3</u>		Date <u>6/25/99</u>		Operator <u>TW</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1313-1525 <i>W</i>	1725	9.0	19.8	10.8	1-S-M8-1
1526	1740	9.0	19.7	10.7	
	1749	9.0	19.8	10.8	
Average		9.0	Average	10.8	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.126</u>	

Reviewer *JW*
 AirKinetics, Inc.

EPA 5

Client Name	Ogden Energy Group	Run #	1-S-M5-1		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1227
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1445
Test Location	UNIT 1	Tester Signature			
Date of Test	06/22/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.85	Pbar	29.9	Meter Console #		MB8	NA	NA	CO ₂
Meter Calibration Factor	0.9982	Pstatic	-1.10	Ideal Nozzle Diameter		0.219	A961	0.4853	8.7
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		D019			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter (in)		0.216	0.217		10.7
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-2			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.6
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.32	N ₂	82.0	TC ID #s		8-2			466.3

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	101	101	PRE	POST	DGM initial		94.675					94.675
Thermocouples			Y	Y	Vacuum	15	10	7				15
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		B3	Y	Y	DGM final		95.547					95.547

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
A 6	1227	0.0	49.914	1.25	1.66	1.66	3	100	100	289	242	66	NA
A 6		5.0	53.412	1.25	1.66	1.66	3	102	100	290	246	65	
A 5		10.0	56.941	1.30	1.72	1.72	3	103	100	290	250	63	
A 5		15.0	60.634	1.30	1.72	1.72	3	104	101	290	251	65	
A 4		20.0	64.49	1.45	1.92	1.92	3	106	102	292	250	66	
A 4		25.0	68.381	1.40	1.85	1.85	3	107	102	292	250	66	
A 3		30.0	72.227	1.40	1.85	1.85	3	107	102	291	250	64	
A 3		35.0	76.076	1.40	1.85	1.85	3	107	103	291	251	62	
A 2		40.0	79.889	1.35	1.79	1.79	3	108	103	291	251	61	
A 2		45.0	83.618	1.35	1.79	1.79	3	108	103	289	250	60	
A 1		50.0	87.434	1.25	1.66	1.66	3	108	103	289	248	60	
A 1		55.0	91.113	1.20	1.59	1.59	3	109	103	290	246	63	
B 6		60.0	94.675	1.25	1.66	1.66	3	102	103	292	254	64	
B 6		65.0	99.023	1.25	1.66	1.66	3	107	103	292	252	64	
B 5		70.0	102.771	1.35	1.79	1.79	3	107	103	292	252	64	
B 5		75.0	106.551	1.35	1.79	1.79	3	107	103	291	252	66	
B 4		80.0	110.380	1.40	1.85	1.85	3	108	103	291	252	65	
B 4		85.0	114.187	1.45	1.92	1.92	3	108	104	292	250	58	
B 3		90.0	118.133	1.45	1.92	1.92	3	109	104	290	250	57	
B 3		95.0	122.076	1.45	1.92	1.92	3	109	104	290	249	55	
B 2		100.0	125.977	1.30	1.72	1.72	3	110	104	290	251	52	
B 2		105.0	129.603	1.30	1.72	1.72	3	110	104	290	251	52	
B 1		110.0	133.331	1.25	1.66	1.66	3	110	105	290	250	52	
B 1		115.0	136.978	1.20	1.59	1.59	3	111	105	289	250	53	
	1445	120.0	140.510										
						MAX =>	3						
Average Values		120.0	89.724	1.328	1.760	1.761		104.9	290.5	C 5			

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD

EPA 5

Client Name	Ogden Energy Group	Run #	1-S-M5-2
Plant Name	OMS of Lee, Inc.	Project #	10558
Plant City, State	Fort Meyers, FL	Personnel	AG
Test Location	UNIT 1	Tester Signature	<i>[Signature]</i>
Date of Test	06/24/99	Checked By	<i>[Signature]</i>

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.85	Pbar	29.9	Meter Console #	MB8	NA	NA	CO ₂
Meter Calibration Factor	0.9982	Pstatic	-1.10	Ideal Nozzle Diameter	0.219	B010	0.4792	8.5
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #	GN298			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter	0.217	0.218		11.1
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-2		CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material	G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #	NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #	NA			80.4
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #	NA			H ₂ O
K Factor (delta H/delta P)	1.35	N ₂	82.0	TC ID #s	8-2			496.0

Equipment & Leak Check Data, OK? Y or N				Leak Checks		1	2	3	4	5	6	Status
Tambient	101	101	PRE	POST	DGM initial		777.000					777.000
Thermocouples		Y	Y		Vacuum	15	10	9				15
Pitots		Y	Y		Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag	B3	Y	Y		DGM final		779.080					779.080

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
A 6	1238	0.0	730.442	1.30	1.75	1.75	2	105	105	293	260	63	NA
6		5.0	734.120	1.30	1.75	1.75	2	107	106	292	261	58	
5		10.0	737.800	1.50	2.02	2.02	3	112	107	295	263	59	
A 5		15.0	741.850	1.50	2.02	2.02	3	114	106	294	263	58	
A 4		20.0	745.90	1.45	1.96	1.96	3	116	107	294	261	65	
A 4		25.0	749.950	1.45	1.96	1.96	3	117	108	293	261	60	
A 3		30.0	753.920	1.50	2.02	2.02	3	118	108	293	262	58	
A 3		35.0	758.003	1.50	2.02	2.02	3	117	108	293	261	58	
A 2		40.0	762.107	1.30	1.75	1.75	3	117	109	293	261	58	
A 2		45.0	765.881	1.30	1.75	1.75	3	117	109	293	260	58	
A 1		50.0	769.734	1.20	1.62	1.62	3	117	109	291	260	58	
A 1		55.0	773.367	1.20	1.62	1.62	3	117	109	291	260	58	
B 6		60.0	777.000	1.20	1.62	1.62	3	112	106	290	261	60	
B 6		65.0	780.754	1.25	1.69	1.69	3	112	106	290	261	60	
B 5		70.0	784.551	1.45	1.96	1.96	3	112	106	292	260	61	
B 5		75.0	788.311	1.45	1.96	1.96	3	114	107	292	260	61	
B 4		80.0	792.176	1.40	1.89	1.89	3	114	108	293	261	61	
B 4		85.0	796.400	1.40	1.89	1.89	3	115	108	293	261	63	
B 3		90.0	800.388	1.50	2.02	2.02	3	116	110	293	259	64	
B 3		95.0	804.413	1.50	2.02	2.02	3	116	110	293	259	64	
B 2		100.0	808.476	1.30	1.75	1.75	3	116	110	293	259	66	
B 2		105.0	812.232	1.30	1.75	1.75	3	117	110	290	260	58	
B 1		110.0	816.033	1.15	1.55	1.55	3	117	112	290	260	58	
B 1		115.0	819.723	1.15	1.55	1.55	3	119	113	289	259	59	
-	1450	120.0	823.300										

				MAX =>		3			111.5	292.2
Average Values		120.0	90.778	1.354	1.829	1.829				

EPA 5

Client Name	Ogden Energy Group	Run #	1-S-M5-3		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1313
Plant City, State	Fort Myers, FL	Personnel	MIKE C	Run End	1526
Test Location	UNIT 1	Tester Signature			
Date of Test	06/25/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.85	Pbar	29.9	Meter Console #		MB8	NA	NA	CO ₂
Meter Calibration Factor	0.9982	Pstatic	-1.10	Ideal Nozzle Diameter		0.219	A961	0.4853	9.0
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		GN296			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.219			10.8
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-2			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.2
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.40	N ₂	82.0	TC ID #s		8-2			479.2

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	101	101	PRE	POST	DGM initial		141.680					141.680
Thermocouples			Y	Y	Vacuum	15	10	9				15
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		B3	Y	Y	DGM final		142.200					142.200

[illegible]

					MAX => 2			
Average Values	120.0	93.740	1.354	1.898	1.898		109.1	290.7

APPENDIX C

FIELD DATA

1.0 UNIT NO. 1

b. SULFURIC ACID MIST

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 1 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>1-S-M5-1</u>		Date <u>6/22/99</u>		Operator <u>DL</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1214-1445	1600	8.8	19.4	10.6	NA
	1604	8.8	19.4	10.6	
	1609	8.6	19.4	10.8	
Average		8.7	Average	10.7	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.172</u>	

Run/Sample No. <u>1-S-M5-2</u>		Date <u>6/24/99</u>		Operator <u>DL</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1238-1450	1534	8.5	19.5	11.0	NA
	1546	8.5	19.6	11.1	
	1602	8.5	19.6	11.1	
Average		8.5	Average	11.1	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.157</u>	

Run/Sample No. <u>1-S-M5-3</u>		Date <u>6/25/99</u>		Operator <u>TW</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1313-1525 (TW)	1725	9.0	19.8	10.8	1-S-M8-1
1526	1740	9.0	19.7	10.7	
	1749	9.0	19.8	10.8	
Average		9.0	Average	10.8	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.126</u>	

Reviewer JW
 AirKinetics, Inc.

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 1 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>1-S-M13B-1</u>		Date <u>6/23/99</u>		Operator <u>TW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1253-1408	1545	8.4	19.8	11.4	
	1557	8.5	19.7	11.2	
	1612	8.4	19.7	11.3	
Average		8.4	Average	11.3	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B120</u>		F _o <u>1.138</u>	

Run/Sample No. <u>1-S-M13B-2</u>		Date <u>6/26/99</u>		Operator <u>TW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0800-0912	1105	9.0	19.6	10.6	1-S-M8-2
	1113	9.0	19.6	10.6	
	1123	9.0	19.6	10.6	
Average		9.0	Average	10.6	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B6</u>		F _o <u>1.144</u>	

Run/Sample No. <u>1-S-M13B-3</u>		Date <u>6/26/99</u>		Operator <u>TW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1320-1430	1455	9.3	19.6	10.3	1-S-M8-3
	1305	9.3	19.5	10.2	
	1321	9.3	19.6	10.3	
Average		9.3	Average	10.3	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B120</u>		F _o <u>1.143</u>	

Reviewer JW
 AirKinetics, Inc.

EPA 8

Client Name	Ogden Energy Group	Run #	1-S-M8-1		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1345
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1515
Test Location	UNIT 1	Tester Signature			
Date of Test	06/25/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.85	Pbar	29.9	Meter Console #		MB8	NA	NA	CO ₂
Meter Calibration Factor	0.9982	Pstatic	-1.10	Ideal Nozzle Diameter		0.219			9.0
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		gn2045			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.217			10.8
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-4			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.2
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.35	N ₂	82.0	TC ID #s		8-4			191.1

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	101	101	PRE	POST	DGM initial		849.507					849.507
Thermocouples			Y	Y	Vacuum	15	10	11				15
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		NA	NA	NA	DGM final		849.618					849.618

[illegible]

EPA 8

Average Values	60.0	46.620	1.306	1.968	1.968		96.0	292.8	c	12

APPENDIX C

FIELD DATA

1.0 UNIT NO. 1

c. OPACITY

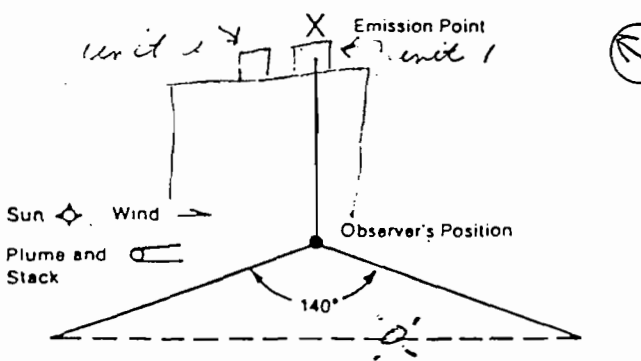
SOURCE NAME <i>Ogden Martin Systems of Lee, Inc.</i>	
ADDRESS <i>10500 Buckingham Road</i>	
Consent to use with run (2) one	
Port myers	STATE <i>FL</i> ZIP <i>33905</i>
PHONE <i>(941) 337-2200</i>	SOURCE ID NUMBER <i>PSD-FL-151</i>

PROCESS EQUIPMENT <i>Unit # 1 Stack</i>	OPERATING MODE <i>See Prod data</i>
CONTROL EQUIPMENT <i>Baghouse</i>	OPERATING MODE <i>Continuous</i>

DESCRIBE EMISSION POINT START <i>78" Circular Stack STOP Same</i>	
HEIGHT ABOVE GROUND LEVEL START <i>200'</i> STOP <i>Same</i>	HEIGHT RELATIVE TO OBSERVER START <i>200'</i> STOP <i>Same</i>
DISTANCE FROM OBSERVER START <i>500'</i> STOP <i>Same</i>	DIRECTION FROM OBSERVER START <i>NE 30'</i> STOP <i>Same</i>

DESCRIBE EMISSIONS START <i>Clear</i> STOP <i>Same</i>	
EMISSION COLOR START <i>Clear</i> STOP <i>Same</i>	PLUME TYPE CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT NO ☒ YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START <i>1 foot above outlet</i> STOP <i>Same</i>	

BACKGROUND START <i>Clear</i> STOP <i>Same</i>	
BACKGROUND COLOR START <i>White</i> STOP <i>Same</i>	SKY CONDITIONS START <i>Broken</i> STOP <i>Same</i>
WIND SPEED START <i>Calm</i> STOP <i>Same</i>	WIND DIRECTION START <i>Calm</i> STOP <i>Same</i>
AMBIENT TEMP START <i> </i> STOP <i> </i>	WET BULB TEMP START <i> </i> STOP <i> </i>
RH, percent START <i> </i> STOP <i> </i>	

SOURCE LAYOUT SKETCH 	Draw North Arrow 

COMMENTS <i>1-S-m9-1</i>
I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS
SIGNATURE <i> </i>
TITLE <i> </i>
DATE <i> </i>

OBSERVATION DATE <i>6-22-99</i>					START TIME <i>1320</i>		STOP TIME <i>1420</i>			
SEC MIN	0	15	30	45	SEC MIN	0	15	30	45	
1	0	0	0	0	31	0	0	0	0	
2	0	0	0	0	32	0	0	0	0	
3	0	0	0	0	33	0	0	0	0	
4	0	0	0	0	34	0	0	0	0	
5	0	0	0	0	35	0	0	0	0	
6	0	0	0	0	36	0	0	0	0	
7	0	0	0	0	37	0	0	0	0	
8	0	0	0	0	38	0	0	0	0	
9	0	0	0	0	39	0	0	0	0	
10	0	0	0	0	40	0	0	0	0	
11	0	0	0	0	41	0	0	0	0	
12	0	0	0	0	42	0	0	0	0	
13	0	0	0	0	43	0	0	0	0	
14	0	0	0	0	44	0	0	0	0	
15	0	0	0	0	45	0	0	0	0	
16	0	0	0	0	46	0	0	0	0	
17	0	0	0	0	47	0	0	0	0	
18	0	0	0	0	48	0	0	0	0	
19	0	0	0	0	49	0	0	0	0	
20	0	0	0	0	50	0	0	0	0	
21	0	0	0	0	51	0	0	0	0	
22	0	0	0	0	52	0	0	0	0	
23	0	0	0	0	53	0	0	0	0	
24	0	0	0	0	54	0	0	0	0	
25	0	0	0	0	55	0	0	0	0	
26	0	0	0	0	56	0	0	0	0	
27	0	0	0	0	57	0	0	0	0	
28	0	0	0	0	58	0	0	0	0	
29	0	0	0	0	59	0	0	0	0	
30	0	0	0	0	60	0	0	0	0	

AVERAGE OPACITY FOR HIGHEST PERIOD <i>0%</i>	NUMBER OF READINGS ABOVE <i>10</i> % WERE <i>0</i>
RANGE OF OPACITY READINGS MINIMUM <i>0</i> MAXIMUM <i>0</i>	

OBSERVER'S NAME (PRINT) <i>Donnie Leeper</i>	
OBSERVER'S SIGNATURE <i>Donnie Leeper</i>	DATE <i>6-22-99</i>
ORGANIZATION <i>Airkinetics Inc.</i>	
CERTIFIED BY <i>EASTERN TECHNICAL ASSOC</i>	DATE <i>6-9-99</i>
VERIFIED BY <i> </i>	DATE <i>6 15</i>

SOURCE NAME
Ogden Martin Systems of Lee, Inc.

ADDRESS
10500 Buckingham Road

Fort Myers STATE *FL* ZIP *33905*

PHONE *(941) 337-2200* SOURCE ID NUMBER *PDD-151-FL*

PROCESS EQUIPMENT *Unit #1 STAKE* OPERATING MODE *See field data*

CONTROL EQUIPMENT *Baghouse / Scrubber* OPERATING MODE *Continuous*

DESCRIBE EMISSION POINT *STAKE*

START *78" Circular* STOP *Same*

HEIGHT ABOVE GROUND LEVEL *200'* STOP *Same* HEIGHT RELATIVE TO OBSERVER *200'* STOP *Same*

DISTANCE FROM OBSERVER *560'* STOP *Same* DIRECTION FROM OBSERVER *EAST 75°* STOP *Same*

DESCRIBE EMISSIONS

START *None* STOP *Same*

EMISSION COLOR *Clear* STOP *Same* PLUME TYPE ☒ CONTINUOUS ☐ FUGITIVE ☐ INTERMITTENT ☐

WATER DROPLETS PRESENT ☒ NO ☐ YES ☐ IS WATER DROPLET PLUME ☐ ATTACHED ☐ DETACHED ☐

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED *1 foot above outlet* STOP *Same*

RIBE BACKGROUND

AT *SKY* STOP *Same*

BACKGROUND COLOR *White* STOP *Same* SKY CONDITIONS *broken* STOP *Same*

WIND SPEED *3-5 mph* STOP *Same* WIND DIRECTION *SE* STOP *Same*

AMBIENT TEMP *STOP* WET BULB TEMP *STOP* RH, percent *STOP*

SOURCE LAYOUT SKETCH

Draw North Arrow

Sun Wind Plume and Stack

Emission Point

Observer's Position

Sun Location Line

COMMENTS
1-5-MG-2

I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS

SIGNATURE

TITLE

DATE

OBSERVATION DATE 6-24-99					START TIME 1336		STOP TIME 1436			
SEC MIN	0	15	30	45	SEC MIN	0	15	30	45	
1	○	○	○	○	31	○	○	○	○	
2	○	○	○	○	32	○	○	○	○	
3	○	○	○	○	33	○	○	○	○	
4	○	○	○	○	34	○	○	○	○	
5	○	○	○	○	35	○	○	○	○	
6	○	○	○	○	36	○	○	○	○	
7	○	○	○	○	37	○	○	○	○	
8	○	○	○	○	38	○	○	○	○	
9	○	○	○	○	39	○	○	○	○	
10	○	○	○	○	40	○	○	○	○	
11	○	○	○	○	41	○	○	○	○	
12	○	○	○	○	42	○	○	○	○	
13	○	○	○	○	43	○	○	○	○	
14	○	○	○	○	44	○	○	○	○	
15	○	○	○	○	45	○	○	○	○	
16	○	○	○	○	46	○	○	○	○	
17	○	○	○	○	47	○	○	○	○	
18	○	○	○	○	48	○	○	○	○	
19	○	○	○	○	49	○	○	○	○	
20	○	○	○	○	50	○	○	○	○	
21	○	○	○	○	51	○	○	○	○	
22	○	○	○	○	52	○	○	○	○	
23	○	○	○	○	53	○	○	○	○	
24	○	○	○	○	54	○	○	○	○	
25	○	○	○	○	55	○	○	○	○	
26	○	○	○	○	56	○	○	○	○	
27	○	○	○	○	57	○	○	○	○	
28	○	○	○	○	58	○	○	○	○	
29	○	○	○	○	59	○	○	○	○	
30	○	○	○	○	60	○	○	○	○	

AVERAGE OPACITY FOR HIGHEST PERIOD *0%* NUMBER OF READINGS ABOVE *10%* WERE *0*

RANGE OF OPACITY READINGS

MINIMUM *0* MAXIMUM *0*

OBSERVER'S NAME (PRINT)
Donnie Leeper

OBSERVER'S SIGNATURE *Donnie Leeper* DATE *6-24-99*

ORGANIZATION
Air-Kinetics Inc.

CERTIFIED BY *Eastern Technical Associates* DATE *6-9-99*

VERIFIED BY *DATE 16*

SOURCE NAME <i>Opden Martin Systems of Lee, Inc.</i>		
ADDRESS <i>10500 Buckingham Road</i>		
PORT MYE-S	STATE <i>FL</i>	ZIP <i>33405</i>
PHONE <i>(941) 337-2200</i>	SOURCE ID NUMBER <i>PSD-151-FL</i>	

PROCESS EQUIPMENT <i>#1 Unit STACK</i>	OPERATING MODE <i>See Prod. data</i>
CONTROL EQUIPMENT <i>Baghouse Scrubber</i>	OPERATING MODE <i>Continuous</i>

DESCRIBE EMISSION POINT START <i>78" Circular STACK</i> STOP <i>Same</i>	
HEIGHT ABOVE GROUND LEVEL START <i>200'</i> STOP <i>Same</i>	HEIGHT RELATIVE TO OBSERVER START <i>200'</i> STOP <i>Same</i>
DISTANCE FROM OBSERVER START <i>500'</i> STOP <i>Same</i>	DIRECTION FROM OBSERVER START <i>EAST</i> STOP <i>Same</i>

DESCRIBE EMISSIONS START <i>None</i> STOP <i>Same</i>	
EMISSION COLOR START <i>Clear</i> STOP <i>Same</i>	PLUME TYPE CONTINUOUS ☒ FUGITIVE ☐
WATER DROPLETS PRESENT NO ☒ YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START <i>1 Foot Above outlet</i> STOP <i>Same</i>	

BACKGROUND <i>Sky</i> STOP <i>Same</i>	
BACKGROUND COLOR START <i>White</i> STOP <i>Same</i>	SKY CONDITIONS START <i>Overcast</i> STOP <i>Same</i>
WIND SPEED START <i>Calm</i> STOP <i>Same</i>	WIND DIRECTION START <i>Calm</i> STOP <i>Same</i>
AMBIENT TEMP START STOP	WET BULB TEMP RH, percent

SOURCE LAYOUT SKETCH Unit 2 <i>78"</i> Unit 1 <i>78"</i> Emission Point	
Draw North Arrow	

COMMENTS <i>Method 5 - Run 3 1-5-M9-3</i>

HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS	
SIGNATURE	DATE
TITLE	DATE

OBSERVATION DATE <i>6-25-99</i>					START TIME <i>1415</i>					STOP TIME <i>1515</i>				
SEC MIN	0	15	30	45	SEC MIN	0	15	30	45					
1	0	0	0	0	31	0	0	0	0					
2	0	0	0	0	32	0	0	0	0					
3	0	0	0	0	33	0	0	0	0					
4	0	0	0	0	34	0	0	0	0					
5	0	0	0	0	35	0	0	0	0					
6	0	0	0	0	36	0	0	0	0					
7	0	0	0	0	37	0	0	0	0					
8	0	0	0	0	38	0	0	0	0					
9	0	0	0	0	39	0	0	0	0					
10	0	0	0	0	40	0	0	0	0					
11	0	0	0	0	41	0	0	0	0					
12	0	0	0	0	42	0	0	0	0					
13	0	0	0	0	43	0	0	0	0					
14	0	0	0	0	44	0	0	0	0					
15	0	0	0	0	45	0	0	0	0					
16	0	0	0	0	46	0	0	0	0					
17	0	0	0	0	47	0	0	0	0					
18	0	0	0	0	48	0	0	0	0					
19	0	0	0	0	49	0	0	0	0					
20	0	0	0	0	50	0	0	0	0					
21	0	0	0	0	51	0	0	0	0					
22	0	0	0	0	52	0	0	0	0					
23	0	0	0	0	53	0	0	0	0					
24	0	0	0	0	54	0	0	0	0					
25	0	0	0	0	55	0	0	0	0					
26	0	0	0	0	56	0	0	0	0					
27	0	0	0	0	57	0	0	0	0					
28	0	0	0	0	58	0	0	0	0					
29	0	0	0	0	59	0	0	0	0					
30	0	0	0	0	60	0	0	0	0					

AVERAGE OPACITY FOR HIGHEST PERIOD <i>0%</i>	NUMBER OF READINGS ABOVE <i>10</i> % WERE <i>0</i>
RANGE OF OPACITY READINGS MINIMUM <i>0</i> MAXIMUM <i>0</i>	

OBSERVER'S NAME (PRINT) <i>Donnie Leeper</i>	
OBSERVER'S SIGNATURE <i>Donnie Leeper</i>	DATE <i>6-26-99</i>
ORGANIZATION <i>Air Kinetics Inc.</i>	
CERTIFIED BY <i>Eastern Technical Assoc.</i>	DATE <i>6-9-99</i>
VERIFIED BY	DATE <i>6 17</i>

APPENDIX C

FIELD DATA

1.0 UNIT NO. 1

- d. **OXYGEN, CARBON DIOXIDE, SULFUR DIOXIDE, NITROGEN OXIDES,
CARBON MONOXIDE, AND TOTAL HYDROCARBONS**

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 1

REASON: INITIAL DIRECT CALIBRATION ERROR

DATE : 06-21-1999 TIME: 07:05 - 07:51

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
4	STACK	ppmNOx	0.0	0.2
4	STACK	ppmNOx	228.0	229.3
4	STACK	ppmNOx	456.0	456.3
5	STACK	ppmSO2	0.0	-0.0
5	STACK	ppmSO2	45.1	44.7
5	STACK	ppmSO2	91.5	91.1
6	STACK	ppmCO	0.0	0.3
6	STACK	ppmCO	30.0	29.9
6	STACK	ppmCO	60.0	60.0
6	STACK	ppmCO	91.5	91.2
1	STACK	% O2	0.00	0.05
1	STACK	% O2	8.99	9.19
1	STACK	% O2	19.94	19.98
2	STACK	% CO2	0.0	0.0
2	STACK	% CO2	9.1	9.1
2	STACK	% CO2	17.6	17.6
9	INLET	ppmSO2	0.0	0.5
9	INLET	ppmSO2	450.0	450.3
9	INLET	ppmSO2	~~3090.0~~ 300.0	303.8
11	INLET	ppmCO	0.0	0.5
11	INLET	ppmCO	30.0	30.5
11	INLET	ppmCO	60.0	59.9
11	INLET	ppmCO	91.5	91.0
7	INLET	% O2	0.00	0.16
7	INLET	% O2	8.99	9.27
7	INLET	% O2	19.94	20.03
10	INLET	% CO2	0.00	0.01
10	INLET	% CO2	8.82	8.89
10	INLET	% CO2	17.64	17.65

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 1

REASON: SYSTEM BIAS CHECK AFTER RUN 7 AT STACK

DATE : 06-21-1999 TIME: 14:41 - 14:55

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
4	STACK	ppmNOx	0.0	0.6
4	STACK	ppmNOx	228.0	225.3
5	STACK	ppmSO2	0.0	-1.0
5	STACK	ppmSO2	45.1	43.4
6	STACK	ppmCO	0.0	0.3
6	STACK	ppmCO	91.5	91.3
1	STACK	% O2	0.00	0.09
1	STACK	% O2	8.99	8.92
2	STACK	% CO2	0.0	0.1
2	STACK	% CO2	9.1	9.1
9	INLET	ppmSO2	0.0	1.5
9	INLET	ppmSO2	300.0	292.8
11	INLET	ppmCO	0.0	-0.1
11	INLET	ppmCO	91.5	90.5
7	INLET	% O2	0.00	0.26
7	INLET	% O2	8.99	9.11
10	INLET	% CO2	0.00	0.10
10	INLET	% CO2	8.82	8.67

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 1

REASON: DIRECT CALIBRATION ERROR FOR SO2

DATE : 06-21-1999 TIME: 14:55 - 15:01

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
5	STACK	ppmSO2	0.0	-0.1
5	STACK	ppmSO2	45.1	45.0
5	STACK	ppmSO2	91.1	91.1

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 1

REASON: SYSTEM BIAS CHECK FOR STACK SO2

DATE : 06-21-1999 TIME: 15:02 - 15:04

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
5	STACK	ppmSO2	0.0	0.4
5	STACK	ppmSO2	45.1	45.0

OMS LEE - FT. MYERS - UNIT 1 06-21-1999

TIME	CHAN 4 STACK ppmNOx	CHAN 5 STACK ppmSO2	CHAN 6 STACK ppmCO	CHAN 1 STACK % O2	CHAN 2 STACK % CO2	CHAN 9 INLET ppmSO2	CHAN11 INLET ppmCO	CHAN 7 INLET % O2	CHAN10 INLET % CO2
15:08	138.4	3.4	11.4	9.43	10.1	36.0	12.3	9.51	10.20
15:09	130.3	3.1	10.0	10.04	9.5	32.6	11.1	10.04	9.67
15:10	92.4	2.9	9.9	10.95	8.6	31.2	10.8	10.95	8.96
15:11	88.0	2.8	14.0	10.84	8.8	34.5	15.7	10.58	9.25
15:12	100.9	2.8	16.5	10.63	9.0	33.5	17.7	10.48	9.49
15:13	124.3	2.8	16.3	9.92	9.7	36.1	16.7	9.65	10.11
15:14	146.8	2.9	13.1	9.51	10.0	40.8	12.9	9.12	10.48
15:15	157.0	2.8	10.8	9.60	9.9	43.2	11.4	9.36	10.23
15:16	143.1	2.9	9.9	9.95	9.6	43.0	10.6	9.65	9.99
15:17	122.2	2.9	8.9	10.44	9.0	43.9	9.6	10.16	9.56
15:18	80.9	2.9	10.6	11.27	8.3	41.1	11.8	11.05	8.74
15:19	92.3	2.9	17.1	11.07	8.6	42.8	18.0	10.74	9.19
15:20	132.7	2.8	19.4	10.03	9.6	46.3	19.7	9.75	10.03
15:21	135.2	3.0	14.8	9.95	9.6	47.8	15.3	9.86	9.95
15:22	142.8	2.8	11.1	9.93	9.6	47.2	11.5	9.67	9.99
15:23	109.9	2.9	9.7	10.65	8.8	43.6	10.6	10.53	9.22
15:24	103.6	2.9	13.8	10.72	8.9	45.7	15.5	10.57	9.35
15:25	115.9	2.8	15.4	10.28	9.3	47.3	16.8	10.17	9.55
15:26	119.1	2.8	12.9	10.56	8.9	48.2	13.8	10.51	9.24
15:27	100.9	2.8	13.7	10.90	8.7	47.4	14.6	10.84	9.10
15:28	118.5	2.7	16.7	10.27	9.3	51.6	18.2	10.13	9.70
15:29	144.3	2.7	12.8	9.74	9.8	55.4	13.7	9.73	10.09
15:30	165.2	2.8	10.8	9.48	10.0	58.3	12.1	9.37	10.26
15:31	149.7	2.8	8.9	9.90	9.6	58.8	10.1	9.87	9.82
15:32	111.8	2.8	9.6	10.72	8.8	56.2	11.0	10.69	9.04
15:33	67.7	2.7	11.0	11.46	8.1	54.8	13.0	11.49	8.41
15:34	73.2	2.5	15.9	11.32	8.3	60.4	18.7	11.23	8.83
15:35	128.2	2.5	18.2	10.20	9.4	67.1	20.3	9.93	9.82
15:36	132.1	2.6	11.8	10.41	9.1	59.1	12.2	10.63	9.27
15:37	93.6	2.7	9.6	11.07	8.5	53.1	11.3	11.33	8.62

AVERAGE VALUES FOR THE LAST 30 MINUTES

15:37	118.7	2.8	12.8	10.38	9.2	46.9	13.9	10.25	9.54
15:38	100.0	2.7	13.2	10.96	8.7	56.2	16.2	11.05	9.09
15:39	138.6	2.7	17.7	9.93	9.7	62.2	19.7	9.89	9.96
15:40	129.8	3.0	12.6	10.06	9.5	58.4	12.0	10.15	9.64
15:41	107.5	3.0	11.9	10.57	8.9	57.2	12.6	10.90	8.96
15:42	85.3	3.0	11.9	11.27	8.3	52.4	13.4	11.70	8.26
15:43	102.6	3.0	16.4	10.99	8.6	58.8	18.8	11.09	8.93
15:44	117.3	3.0	15.3	10.63	8.9	59.5	16.5	10.58	9.26
15:45	119.8	3.1	13.3	10.60	8.9	60.3	13.8	10.56	9.33
15:46	119.3	3.2	16.2	10.66	8.8	62.5	17.2	10.68	9.12
15:47	111.8	3.4	15.2	10.90	8.7	62.4	15.0	11.04	8.89
15:48	161.7	3.7	20.4	9.40	10.1	82.7	21.6	9.13	10.48
15:49	153.0	4.0	11.7	9.78	9.6	77.3	10.3	9.81	9.74
15:50	106.3	4.0	12.3	10.93	8.4	69.0	12.8	11.15	8.57
15:51	66.1	3.8	15.8	11.80	7.7	61.4	17.1	11.97	7.86
15:52	68.5	3.5	20.5	11.89	7.7	62.0	21.9	11.99	7.99
15:53	111.3	3.1	25.3	11.03	8.5	70.5	25.7	10.95	8.98
15:54	138.5	3.1	22.8	10.63	8.8	75.7	22.0	10.40	9.28
15:55	134.7	2.9	18.3	10.81	8.7	68.9	17.4	10.83	9.02
15:56	123.2	2.8	17.9	10.87	8.6	70.7	17.8	10.93	8.81
15:57	95.0	2.7	17.5	11.60	7.9	64.7	18.2	11.85	8.00
15:58	135.3	2.5	25.1	10.53	9.0	76.8	27.2	10.48	9.37

OMS LEE - FT. MYERS - UNIT 1 06-21-1999

	CHAN 4	CHAN 5	CHAN 6	CHAN 1	CHAN 2	CHAN 9	CHAN11	CHAN 7	CHAN10
	STACK	STACK	STACK	STACK	STACK	INLET	INLET	INLET	INLET
TIME	ppmNOx	ppmSO2	ppmCO	% O2	% CO2	ppmSO2	ppmCO	% O2	% CO2
15:59	129.9	2.6	18.6	10.62	8.8	69.3	17.8	10.92	8.85
16:00	106.5	2.6	15.3	11.27	8.2	62.7	16.3	11.51	8.31
16:01	104.6	2.3	19.3	11.28	8.2	65.2	21.2	11.45	8.40
16:02	134.3	2.3	25.7	10.41	9.1	76.9	28.0	10.42	9.41
16:03	103.5	2.4	16.3	11.09	8.3	74.0	15.8	11.23	8.41
16:04	90.6	2.4	19.9	11.30	8.2	82.8	22.4	11.39	8.50
16:05	115.1	2.6	23.7	10.85	8.5	93.8	24.6	10.75	8.89
16:06	99.5	2.6	17.8	11.26	8.1	96.6	17.5	11.12	8.58
16:07	104.2	2.7	20.0	11.27	8.2	92.4	20.2	11.08	8.71

AVERAGE VALUES FOR THE LAST 30 MINUTES

16:07	113.8	2.9	17.6	10.84	8.7	69.4	18.4	10.90	8.92

AVERAGE VALUES FOR THE LAST HOUR: 60 MINUTES OF VALID DATA

16:07	116.2	2.9	15.2	10.61	8.9	58.2	16.1	10.58	9.23

COMMENTS: END RATA RUN 8 AT STACK
 END RATA RUN 1 AT INLET
 END COMPLIANCE TEST RUN 1

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 1

REASON: SYSTEM BIAS CHECK

DATE : 06-21-1999 TIME: 16:08 - 16:20

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
4	STACK	ppmNOx	0.0	0.5
4	STACK	ppmNOx	228.0	222.1
5	STACK	ppmSO2	0.0	1.6
5	STACK	ppmSO2	45.1	44.7
6	STACK	ppmCO	0.0	0.4
6	STACK	ppmCO	91.5	91.3
1	STACK	% O2	0.00	0.07
1	STACK	% O2	8.99	8.92
2	STACK	% CO2	0.0	0.1
2	STACK	% CO2	9.1	9.1
9	INLET	ppmSO2	0.0	0.6
9	INLET	ppmSO2	300.0	300.4
11	INLET	ppmCO	0.0	0.3
11	INLET	ppmCO	91.5	91.3
7	INLET	% O2	0.00	0.24
7	INLET	% O2	8.99	9.07
10	INLET	% CO2	0.00	0.17
10	INLET	% CO2	8.82	8.72

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 1

REASON: INITIAL DIRECT CALIBRATION ERROR

DATE : 06-22-1999 TIME: 07:11 - 07:38

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
4	STACK	ppmNOx	0.0	0.2
4	STACK	ppmNOx	228.0	230.8
4	STACK	ppmNOx	456.0	455.5
5	STACK	ppmSO2	0.0	-0.1
5	STACK	ppmSO2	45.1	44.9
5	STACK	ppmSO2	91.1	90.9
6	STACK	ppmCO	0.0	0.2
6	STACK	ppmCO	30.0	30.6
6	STACK	ppmCO	60.0	60.0
6	STACK	ppmCO	91.5	91.4
1	STACK	% O2	0.00	0.07
1	STACK	% O2	8.99	9.08
1	STACK	% O2	19.94	19.96
2	STACK	% CO2	0.0	0.0
2	STACK	% CO2	9.1	9.1
2	STACK	% CO2	17.6	17.6
9	INLET	ppmSO2	0.0	0.4
9	INLET	ppmSO2	300.0	300.4
9	INLET	ppmSO2	450.0	449.8
11	INLET	ppmCO	0.0	0.6
11	INLET	ppmCO	30.0	30.0
11	INLET	ppmCO	60.0	59.8
11	INLET	ppmCO	91.5	91.7
7	INLET	% O2	0.00	0.16
7	INLET	% O2	8.99	9.19
7	INLET	% O2	19.94	19.89
10	INLET	% CO2	0.00	0.04
10	INLET	% CO2	8.82	8.93
10	INLET	% CO2	17.64	17.66

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 1

REASON: INITIAL SYSTEM BIAS

DATE : 06-22-1999 TIME: 07:38 - 07:54

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
4	STACK	ppmNOx	0.0	0.4
4	STACK	ppmNOx	228.0	225.5
5	STACK	ppmSO2	0.0	2.1
5	STACK	ppmSO2	45.1	44.5
6	STACK	ppmCO	0.0	0.0
6	STACK	ppmCO	91.5	91.6
1	STACK	% O2	0.00	0.04
1	STACK	% O2	8.99	9.02
2	STACK	% CO2	0.0	0.0
2	STACK	% CO2	9.1	9.1
9	INLET	ppmSO2	0.0	0.5
9	INLET	ppmSO2	300.0	293.5
11	INLET	ppmCO	0.0	0.1
11	INLET	ppmCO	91.5	89.8
7	INLET	% O2	0.00	0.21
7	INLET	% O2	8.99	8.80
10	INLET	% CO2	0.00	0.08
10	INLET	% CO2	8.82	8.73

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 1

REASON: SYSTEM BIAS CHECK AFTER RUN 4 AT INLET

DATE : 06-22-1999 TIME: 08:29 - 08:38

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
9	INLET	ppmSO2	0.0	1.5
9	INLET	ppmSO2	300.0	294.4
11	INLET	ppmCO	0.0	-0.1
11	INLET	ppmCO	91.5	89.8
7	INLET	% O2	0.00	0.23
7	INLET	% O2	8.99	8.97
10	INLET	% CO2	0.00	0.17
10	INLET	% CO2	8.82	8.87

OMS LEE - FT. MYERS - UNIT 1

06-22-1999

	CHAN 4	CHAN 5	CHAN 6	CHAN 1	CHAN 2	CHAN 9	CHAN11	CHAN 7	CHAN10
	STACK	STACK	STACK	STACK	STACK	INLET	INLET	INLET	INLET
TIME	ppmNOx	ppmSO2	ppmCO	% O2	% CO2	ppmSO2	ppmCO	% O2	% CO2
08:45	106.2	0.2	12.6	10.60	8.9	57.0	13.6	10.73	9.38
08:46	125.6	0.1	15.8	10.05	9.5	64.0	18.6	9.46	10.13
08:47	113.8	0.1	15.7	10.22	9.3	62.5	16.7	10.06	9.75
08:48	112.8	0.0	14.1	10.36	9.2	62.0	16.4	10.40	9.31
08:49	106.7	-0.0	15.0	10.57	9.0	64.2	19.4	10.35	9.50
08:50	85.8	-0.2	15.9	11.00	8.6	61.8	20.3	10.98	8.94
08:51	91.1	-0.3	21.9	10.79	8.9	68.6	29.9	10.32	9.60
08:52	111.6	-0.4	23.0	10.39	9.3	70.0	26.7	10.06	9.84
08:53	134.5	-0.3	20.2	9.94	9.7	71.1	22.4	9.76	10.05
08:54	131.4	-0.4	16.6	9.97	9.6	72.0	17.8	9.71	10.06
08:55	108.1	-0.4	14.0	10.71	8.9	68.6	15.1	10.55	9.34
08:56	113.7	-0.5	17.9	10.45	9.2	75.1	22.3	10.06	9.84
08:57	104.7	-0.5	20.0	10.52	9.1	69.5	22.4	10.36	9.58
08:58	111.1	-0.5	25.1	10.05	9.6	75.0	30.2	9.40	10.42
08:59	148.5	-0.6	20.7	9.34	10.3	78.4	19.2	8.70	11.02
09:00	165.3	-0.6	13.5	9.20	10.3	77.8	12.1	8.93	10.71
09:01	145.0	-0.6	10.6	9.66	9.8	79.9	11.3	9.73	10.02
09:02	92.3	-0.8	12.6	10.75	8.8	77.5	15.8	10.99	8.94
09:03	64.3	-0.9	18.6	11.42	8.3	82.0	25.3	11.22	8.96
09:04	121.6	-0.8	24.6	10.08	9.6	89.6	26.1	9.72	10.14
09:05	124.1	-0.8	14.3	10.16	9.4	80.4	13.2	10.20	9.63
09:06	97.8	-0.8	11.1	10.95	8.6	76.6	13.5	10.95	9.07
09:07	105.1	-0.9	15.5	10.68	9.0	86.7	18.8	10.53	9.49
09:08	130.7	-0.9	17.3	9.99	9.6	93.1	19.4	9.57	10.30
09:09	133.7	-0.9	12.5	10.07	9.4	86.2	12.2	10.05	9.76
09:10	103.4	-0.9	11.6	10.79	8.7	83.3	14.3	11.08	8.75
09:11	87.3	-0.9	16.2	11.18	8.4	90.9	23.0	11.15	8.92
09:12	100.3	-1.0	20.5	10.95	8.7	94.1	26.5	10.80	9.29
09:13	131.8	-0.9	21.4	10.27	9.3	95.1	23.8	10.14	9.65
09:14	114.7	-1.0	15.0	10.76	8.8	89.1	18.1	10.88	8.98

AVERAGE VALUES FOR THE LAST 30 MINUTES

09:14	114.1	-0.5	16.8	10.40	9.2	76.7	19.5	10.23	9.65
09:15	106.4	-1.1	18.4	11.00	8.6	94.1	27.2	10.81	9.23
09:16	156.2	-1.0	24.6	9.87	9.7	92.2	28.2	9.83	9.93
09:17	146.2	-1.1	16.9	10.16	9.3	79.3	17.5	10.48	9.38
09:18	112.9	-1.0	14.8	10.81	8.7	74.9	17.5	11.08	8.89
09:19	73.1	-1.1	16.4	11.57	8.0	73.0	22.3	11.79	8.30
09:20	90.8	-1.2	27.8	11.06	8.6	85.7	37.8	10.81	9.22
09:21	81.0	-1.3	26.0	11.17	8.4	73.2	29.8	11.28	8.78
09:22	103.3	-1.2	28.3	10.67	9.0	81.8	35.5	10.63	9.47
09:23	109.4	-1.2	25.7	10.45	9.2	71.7	30.2	10.93	9.08
09:24	112.5	-1.3	25.2	10.29	9.3	74.5	33.1	10.57	9.39
09:25	112.7	-1.4	22.8	10.51	9.1	66.0	26.0	10.57	9.44
09:26	97.4	-1.4	23.3	10.54	9.1	64.4	30.8	10.43	9.58
09:27	112.4	-1.4	24.9	10.00	9.7	67.2	28.0	9.66	10.25
09:28	150.2	-1.3	20.4	9.08	10.5	71.3	21.3	8.95	10.72
09:29	134.5	-1.4	16.3	9.48	10.1	65.9	17.6	9.39	10.43
09:30	128.7	-1.3	17.7	9.41	10.2	70.3	19.0	8.88	10.84
09:31	128.3	-1.3	16.0	9.56	10.0	66.4	15.0	9.12	10.61
09:32	120.4	-1.4	15.6	9.77	9.8	63.5	16.6	9.26	10.47
09:33	85.6	-1.5	21.2	9.95	9.7	65.1	25.1	9.31	10.49
09:34	88.7	-1.4	22.4	9.46	10.1	69.9	21.5	8.80	10.86
09:35	124.6	-1.4	17.0	9.01	10.5	71.1	16.5	8.54	11.06

OMS LEE - FT. MYERS - UNIT 1 06-22-1999

	CHAN 4	CHAN 5	CHAN 6	CHAN 1	CHAN 2	CHAN 9	CHAN11	CHAN 7	CHAN10
	STACK	STACK	STACK	STACK	STACK	INLET	INLET	INLET	INLET
TIME	ppmNOx	ppmSO2	ppmCO	% O2	% CO2	ppmSO2	ppmCO	% O2	% CO2
09:36	155.2	-1.4	13.3	8.96	10.5	64.7	13.5	8.73	10.84
09:37	162.5	-1.3	11.5	9.27	10.2	58.3	12.8	9.29	10.33
09:38	127.7	-1.5	12.3	10.10	9.4	52.8	14.8	10.32	9.52
09:39	94.6	-1.4	13.3	10.72	8.9	52.0	18.4	10.85	9.20
09:40	108.6	-1.4	21.9	10.15	9.5	61.1	29.8	9.80	10.15
09:41	128.5	-1.4	21.4	9.75	9.8	59.7	22.8	9.62	10.16
09:42	124.7	-1.4	15.9	10.17	9.4	56.7	17.3	10.01	9.91
09:43	128.3	-1.5	17.6	10.08	9.6	62.6	22.4	9.67	10.24
09:44	130.9	-1.4	18.4	9.83	9.8	59.4	17.6	9.58	10.25

AVERAGE VALUES FOR THE LAST 30 MINUTES

09:44	118.0	-1.3	19.6	10.09	9.5	69.0	22.9	9.97	9.90

AVERAGE VALUES FOR THE LAST HOUR: 60 MINUTES OF VALID DATA

09:44	116.0	-0.9	18.2	10.25	9.3	72.8	21.2	10.10	9.77

COMMENTS: END STACK RATA RUN 11

END INLET RATA RUN 5

END COMPLIANCE RUN 2

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 1

REASON: SYSTEM BIAS CHECK

DATE : 06-22-1999 TIME: 09:45 - 10:01

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
4	STACK	ppmNOx	0.0	0.5
4	STACK	ppmNOx	228.0	221.4
5	STACK	ppmSO2	0.0	-0.1
5	STACK	ppmSO2	45.1	43.3
6	STACK	ppmCO	0.0	0.0
6	STACK	ppmCO	91.5	91.5
1	STACK	% O2	0.00	0.10
1	STACK	% O2	8.99	8.94
2	STACK	% CO2	0.0	0.1
2	STACK	% CO2	9.1	9.1
9	INLET	ppmSO2	0.0	2.0
9	INLET	ppmSO2	300.0	288.1
11	INLET	ppmCO	0.0	0.1
11	INLET	ppmCO	91.5	90.4
7	INLET	% O2	0.00	0.27
7	INLET	% O2	8.99	9.04
10	INLET	% CO2	0.00	0.17
10	INLET	% CO2	8.82	8.86

OMS LEE - FT. MYERS - UNIT 1

06-22-1999

	CHAN 4	CHAN 5	CHAN 6	CHAN 1	CHAN 2	CHAN 9	CHAN11	CHAN 7	CHAN10
	STACK	STACK	STACK	STACK	STACK	INLET	INLET	INLET	INLET
TIME	ppmNOx	ppmSO2	ppmCO	% O2	% CO2	ppmSO2	ppmCO	% O2	% CO2
10:05	126.5	1.5	38.8	9.94	9.4	133.2	43.9	10.20	9.53
10:06	118.6	1.6	23.8	10.32	9.0	113.2	22.8	10.90	8.83
10:07	89.5	1.4	23.8	11.20	8.1	104.1	29.8	11.91	7.86
10:08	83.0	1.4	37.3	11.46	8.0	105.7	51.5	11.96	8.05
10:09	115.1	1.4	44.2	10.48	8.9	119.8	51.0	11.03	8.79
10:10	99.8	1.4	33.5	11.15	8.2	99.8	39.8	11.88	8.04
10:11	105.4	1.2	43.7	11.02	8.5	101.8	54.0	11.56	8.46
10:12	106.9	1.2	47.3	10.97	8.5	89.4	58.4	11.68	8.35
10:13	116.1	1.1	47.7	10.67	8.8	85.6	58.4	11.41	8.57
10:14	107.4	1.1	40.4	10.91	8.6	76.6	48.2	11.66	8.38
10:15	110.2	0.9	43.5	10.81	8.7	70.5	56.6	11.47	8.62
10:16	126.8	0.9	45.0	10.27	9.2	71.0	54.3	10.77	9.14
10:17	127.7	0.8	40.5	10.21	9.2	68.9	47.7	10.83	9.03
10:18	123.1	0.9	37.0	10.09	9.4	69.8	43.0	10.48	9.43
10:19	117.4	0.8	31.2	9.69	9.7	75.1	35.1	9.90	9.93
10:20	154.6	0.8	24.0	8.80	10.5	85.7	23.0	8.63	10.85
10:21	180.7	0.9	18.6	8.42	10.8	88.6	17.9	8.38	10.94
10:22	193.9	0.9	14.1	8.39	10.7	83.0	13.0	8.45	10.79
10:23	179.5	0.9	12.9	8.87	10.3	73.5	12.0	9.08	10.25
10:24	153.1	0.9	12.3	9.41	9.7	65.4	11.5	9.63	9.76
10:25	106.1	0.9	13.2	10.39	8.8	58.1	13.6	10.73	8.91
10:26	67.8	0.8	16.8	11.17	8.1	53.4	20.4	11.67	8.10
10:27	51.6	0.7	21.9	11.82	7.7	51.4	28.6	12.24	7.66
10:28	70.9	0.6	30.0	11.45	8.0	60.3	37.0	11.60	8.29
10:29	99.7	0.6	29.5	10.88	8.6	58.9	31.2	11.06	8.80
10:30	110.1	0.6	27.2	10.47	9.0	55.0	28.0	10.62	9.19
10:31	119.2	0.6	21.4	10.19	9.3	53.8	22.6	10.21	9.59
10:32	151.7	0.7	18.1	9.51	9.9	56.9	18.1	9.56	10.11
10:33	161.1	0.9	15.0	9.31	10.1	59.0	15.8	9.52	10.13
10:34	164.1	1.1	15.3	9.31	10.1	58.8	17.8	9.65	10.09

AVERAGE VALUES FOR THE LAST 30 MINUTES

10:34	121.3	1.0	28.9	10.25	9.1	78.2	33.5	10.62	9.15
10:35	179.6	1.1	13.0	9.05	10.3	55.8	13.2	9.43	10.21
10:36	159.5	1.2	10.8	9.52	9.9	50.6	12.1	10.15	9.61
10:37	101.8	1.2	11.2	10.60	8.8	45.3	14.2	11.25	8.64
10:38	60.7	1.1	15.1	11.44	8.1	45.4	21.4	11.83	8.22
10:39	65.8	0.9	26.3	11.11	8.5	49.4	36.3	11.26	8.80
10:40	68.0	0.9	32.1	10.56	9.0	47.2	39.2	10.68	9.27
10:41	84.6	0.8	26.3	10.32	9.2	47.3	31.1	10.38	9.51
10:42	128.9	0.7	21.5	9.74	9.8	48.7	23.5	10.03	9.82
10:43	137.6	0.7	19.6	9.67	9.8	50.8	22.3	9.95	9.89
10:44	142.7	0.6	19.7	9.48	10.0	52.3	22.2	9.33	10.33
10:45	145.1	0.7	19.6	9.25	10.2	53.6	21.9	8.92	10.77
10:46	165.5	0.5	15.4	8.48	10.9	55.6	15.1	8.10	11.39
10:47	176.4	0.5	12.0	8.27	11.0	54.3	11.9	8.29	11.17
10:48	152.6	0.5	10.9	9.06	10.2	51.5	11.1	8.75	10.33
10:49	110.2	0.4	12.0	10.03	9.3	46.0	13.7	9.94	9.69
10:50	70.6	0.3	12.1	10.79	8.6	43.1	14.2	10.75	9.03
10:51	55.9	0.3	14.2	11.24	8.2	42.8	17.6	11.24	8.64
10:52	57.9	0.3	17.1	11.45	8.1	45.1	20.3	11.20	8.77
10:53	111.6	0.2	18.8	10.34	9.2	50.5	19.5	9.95	9.86
10:54	124.7	0.3	14.3	10.18	9.3	45.3	13.7	10.01	9.68
10:55	85.5	0.3	11.1	11.29	8.2	37.1	11.4	11.34	8.59

OMS LEE - FT. MYERS - UNIT 1 06-22-1999

	CHAN 4 STACK	CHAN 5 STACK	CHAN 6 STACK	CHAN 1 STACK	CHAN 2 STACK	CHAN 9 INLET	CHAN11 INLET	CHAN 7 INLET	CHAN10 INLET
TIME	ppmNOx	ppmSO2	ppmCO	% O2	% CO2	ppmSO2	ppmCO	% O2	% CO2
10:56	102.5	0.2	16.7	10.82	8.8	46.1	19.3	9.91	10.04
10:57	170.9	0.3	20.4	9.12	10.4	55.9	18.7	8.27	11.20
10:58	170.6	0.3	12.4	9.46	9.9	46.3	11.8	9.26	10.29
10:59	116.7	0.3	9.4	10.83	8.6	37.6	10.5	10.92	8.95
11:00	67.3	0.2	10.3	11.69	7.9	33.2	12.2	11.71	8.33
11:01	63.9	0.2	15.5	11.63	8.0	36.6	19.1	11.29	8.78
11:02	81.5	0.1	18.1	11.35	8.2	35.7	19.8	10.97	9.04
11:03	89.4	0.2	17.4	11.36	8.2	36.3	17.1	10.91	9.12
11:04	107.9	0.1	17.7	10.85	8.8	37.9	18.2	10.21	9.68

AVERAGE VALUES FOR THE LAST 30 MINUTES

11:04	111.9	0.5	16.4	10.30	9.2	46.1	18.4	10.21	9.59

AVERAGE VALUES FOR THE LAST HOUR: 60 MINUTES OF VALID DATA

11:04	116.6	0.8	22.6	10.28	9.2	62.2	26.0	10.41	9.37

COMMENTS: END STACK RATA RUN 12

END INLET RATA RUN 6

END COMPLIANCE RUN 3

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 1

REASON: SYSTEM BIAS CHECK

DATE : 06-22-1999 TIME: 11:05 - 11:18

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
4	STACK	ppmNOx	0.0	0.5
4	STACK	ppmNOx	228.0	219.7
5	STACK	ppmSO2	0.0	-0.4
5	STACK	ppmSO2	45.1	43.8
6	STACK	ppmCO	0.0	0.0
6	STACK	ppmCO	91.5	91.1
1	STACK	% O2	0.00	0.07
1	STACK	% O2	8.99	8.92
2	STACK	% CO2	0.0	0.1
2	STACK	% CO2	9.1	9.1
9	INLET	ppmSO2	0.0	1.5
9	INLET	ppmSO2	300.0	292.0
11	INLET	ppmCO	0.0	0.6
11	INLET	ppmCO	91.5	90.3
7	INLET	% O2	0.00	0.21
7	INLET	% O2	8.99	8.98
10	INLET	% CO2	0.00	0.22
10	INLET	% CO2	8.82	8.87

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
 SOURCE: UNIT 1
 LOCATION: STACK

RUN NO.: 1-M25A-1
 TEST DATE: 6/24/99
 RUN TIME: 0806-0918

		Standard Temperature °F, Tstd: 68.0			
STEP	DESCRIPTION	VAR	THC	O2	CO2
1	RANGE (ppm or %)	A	50	22	20
2	CAL. GAS USED				
	ZERO	B	0.0	0.00	0.00
	LOW	B'	15.0		
	MID	C	25.0	8.99	9.08
	HIGH	D	45.3	19.94	17.64
3	INITIAL CAL. ERROR CHECK				
	ZERO (ppm or %)	E	0.1	0.06	0.00
	LOW (ppm or %)	E'	14.3		
	MID (ppm or %)	F	24.2	9.28	8.80
	HIGH (ppm or %)	G	45.3	20.01	17.60
	ZERO, % ERROR	H	0.20	0.27	0.00
	LOW, % ERROR	H'	-1.40		
	MID, % ERROR	I	-1.60	1.32	-1.40
	HIGH, % ERROR	J	0.00	0.32	-0.20
4	INITIAL LINEARITY (%)	K	-1.69	1.02	-1.30
5	INITIAL SYS. CAL.. RESP.				
	ZERO (ppm or %)	L	0.1	0.10	0.10
	UPSCALE (ppm or %)	M	24.2	9.13	8.90
	ZERO, % CAL. BIAS	N	#N/A	0.18	0.50
	UPSCALE, % CAL. BIAS	O	#N/A	-0.68	0.50
6	FINAL SYS. CAL.. RESP.				
	ZERO (ppm or %)	P	0.0	0.11	0.10
	UPSCALE (ppm or %)	Q	24.5	9.10	8.90
	ZERO, % CAL. BIAS	R	#N/A	0.23	0.50
	UPSCALE, % CAL. BIAS	S	#N/A	-0.82	0.50
9	ZERO % DRIFT	AA	-0.20	0.05	0.00
	UPSCALE % DRIFT	BB	0.60	-0.14	0.00
10	AVE. SYS. BIAS RESP.				
	ZERO (ppm or %)	CC	0.05	0.11	0.10
	UPSCALE (ppm or %)	DD	24.35	9.12	8.90
11	SAMPLE VALUE (ave)	EE	1.1	10.67	9.09
			(wet basis)		
12	CORRECTED CONC.	FF	1.3	10.54	9.28
			(dry basis)		
13	DATA REDUCTION:				
	% O2 Correction	GG	7.0		
	ppm @ 7 % O2	HH	1.7		
	Flow Rate, Qsd (dscfm)	II	87025.0	(1-S-M23-2)	
	lb/hr	JJ	0.21		
	lb/MMBtu	JJ'	0.001		
	Conversion Factor, lb/dscf-ppm	KK	3.114E-08		
	Fd Factor,dscf/MMBtu	LL	9570		

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
 SOURCE: UNIT 1
 LOCATION: STACK

RUN NO.: 1-M25A-2
 TEST DATE: 6/24/99
 RUN TIME: 0930-1029

		Standard Temperature °F, Tstd: 68.0			
STEP	DESCRIPTION	VAR	THC	O2	CO2
1	RANGE (ppm or %)	A	50	22	20
2	CAL. GAS USED				
	ZERO	B	0.0	0.00	0.00
	LOW	B'	15.0		
	MID	C	25.0	8.99	9.08
	HIGH	D	45.3	19.94	17.64
3	INITIAL CAL. ERROR CHECK				
	ZERO (ppm or %)	E	0.1	0.06	0.00
	LOW (ppm or %)	E'	14.3		
	MID (ppm or %)	F	24.2	9.28	8.80
	HIGH (ppm or %)	G	45.3	20.01	17.60
	ZERO, % ERROR	H	0.20	0.27	0.00
	LOW, % ERROR	H'	-1.40		
	MID, % ERROR	I	-1.60	1.32	-1.40
	HIGH, % ERROR	J	0.00	0.32	-0.20
4	INITIAL LINEARITY (%)	K	-1.69	1.02	-1.30
5	INITIAL SYS. CAL.. RESP.				
	ZERO (ppm or %)	L	0.0	0.11	0.10
	UPSCALE (ppm or %)	M	24.5	9.10	8.90
	ZERO, % CAL. BIAS	N	#N/A	0.23	0.50
	UPSCALE, % CAL. BIAS	O	#N/A	-0.82	0.50
6	FINAL SYS. CAL.. RESP.				
	ZERO (ppm or %)	P	0.0	0.11	0.10
	UPSCALE (ppm or %)	Q	24.2	9.12	8.90
	ZERO, % CAL. BIAS	R	#N/A	0.23	0.50
	UPSCALE, % CAL. BIAS	S	#N/A	-0.73	0.50
9	ZERO % DRIFT	AA	0.00	0.00	0.00
	UPSCALE % DRIFT	BB	-0.60	0.09	0.00
10	AVE. SYS. BIAS RESP.				
	ZERO (ppm or %)	CC	0.00	0.11	0.10
	UPSCALE (ppm or %)	DD	24.35	9.11	8.90
11	SAMPLE VALUE (ave)	EE	0.6	10.49	9.20
			(wet basis)		
12	CORRECTED CONC.	FF	0.8	10.37	9.39
			(dry basis)		
13	DATA REDUCTION:				
	% O2 Correction	GG	7.0		
	ppm @ 7 % O2	HH	1.0		
	Flow Rate, Qsd (dscfm)	II	87025.0	(1-S-M23-2)	
	lb/hr	JJ	0.13		
	lb/MMBtu	JJ'	0.000		
	Conversion Factor, lb/dscf-ppm	KK	3.114E-08		
	Fd Factor,dscf/MMBtu	LL	9570		

COMPANY: OMS LEE - FT. MYERS, FT. MYERS, FL
 SOURCE: UNIT 1
 LOCATION: STACK

RUN NO.: 1-M25A-3
 TEST DATE: 6/24/99
 RUN TIME: 1050-1149

		Standard Temperature °F, Tstd: 68.0			
STEP	DESCRIPTION	VAR	THC	O2	CO2
1	RANGE (ppm or %)	A	50	22	20
2	CAL. GAS USED				
	ZERO	B	0.0	0.00	0.00
	LOW	B'	15.0		
	MID	C	25.0	8.99	9.08
	HIGH	D	45.3	19.94	17.64
3	INITIAL CAL. ERROR CHECK				
	ZERO (ppm or %)	E	0.1	0.06	0.00
	LOW (ppm or %)	E'	14.3		
	MID (ppm or %)	F	24.2	9.28	8.80
	HIGH (ppm or %)	G	45.3	20.01	17.60
	ZERO, % ERROR	H	0.20	0.27	0.00
	LOW, % ERROR	H'	-1.40		
	MID, % ERROR	I	-1.60	1.32	-1.40
	HIGH, % ERROR	J	0.00	0.32	-0.20
4	INITIAL LINEARITY (%)	K	-1.69	1.02	-1.30
5	INITIAL SYS. CAL.. RESP.				
	ZERO (ppm or %)	L	0.0	0.11	0.10
	UPSCALE (ppm or %)	M	24.2	9.12	8.90
	ZERO, % CAL. BIAS	N	#N/A	0.23	0.50
	UPSCALE, % CAL. BIAS	O	#N/A	-0.73	0.50
6	FINAL SYS. CAL.. RESP.				
	ZERO (ppm or %)	P	-0.2	0.06	0.10
	UPSCALE (ppm or %)	Q	24.3	9.09	8.90
	ZERO, % CAL. BIAS	R	#N/A	0.00	0.50
	UPSCALE, % CAL. BIAS	S	#N/A	-0.86	0.50
9	ZERO % DRIFT	AA	-0.40	-0.23	0.00
	UPSCALE % DRIFT	BB	0.20	-0.14	0.00
10	AVE. SYS. BIAS RESP.				
	ZERO (ppm or %)	CC	-0.10	0.09	0.10
	UPSCALE (ppm or %)	DD	24.25	9.11	8.90
11	SAMPLE VALUE (ave)	EE	0.3	10.50	9.20
			(wet basis)		
12	CORRECTED CONC.	FF	0.5	10.38	9.39
			(dry basis)		
13	DATA REDUCTION:				
	% O2 Correction	GG	7.0		
	ppm @ 7 % O2	HH	0.7		
	Flow Rate, Qsd (dscfm)	II	87025.0	(1-S-M23-2)	
	lb/hr	JJ	0.08		
	lb/MMBtu	JJ'	0.000		
	Conversion Factor, lb/dscf-ppm	KK	3.114E-08		
	Fd Factor,dscf/MMBtu	LL	9570		

CALIBRATION SUMMARY

SOURCE: QMS LEE - FT. MYERS - UNIT 1

REASON: ^{System} DIRECT CALIBRATION ERROR FOR THC

DATE : 06-24-1999 TIME: 07:28 - 07:36

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
3	STACK	ppmC1	0.0	0.1
3	STACK	ppmC1	15.0	14.3
3	STACK	ppmC1	25.0	24.2
3	STACK	ppmC1	45.3	45.3

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 1

REASON: INITIAL DIRECT CALIBRATION ERROR

DATE : 06-24-1999 TIME: 07:36 - 07:45

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
1	STACK	% O2	0.00	0.06
- 1	STACK	% O2	8.99	9.28
1	STACK	% O2	19.94	20.01
2	STACK	% CO2	0.0	0.0
2	STACK	% CO2	8.8	8.8
2	STACK	% CO2	17.6	17.6

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 1

REASON: INITIAL SYSTEM BIAS

DATE : 06-24-1999 TIME: 07:47 - 07:51

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
1	STACK	% O2	0.00	0.10
1	STACK	% O2	8.99	9.13
2	STACK	% CO2	0.0	0.1
2	STACK	% CO2	9.1	8.9

OMS LEE - FT. MYERS - UNIT 1 06-24-1999

	CHAN 1 STACK	CHAN 2 STACK	CHAN 3 STACK
TIME	% O2	% CO2	ppmC1
08:06	10.41	9.4	1.5
08:07	10.00	9.8	1.6
08:08	10.16	9.6	1.5
08:09	11.11	8.6	1.5
08:10	11.15	8.7	1.5
08:11	10.20	9.6	1.6
08:12	10.67	9.1	1.6
08:13	10.84	9.0	1.9
08:14	10.40	9.4	1.7
08:15	10.66	9.2	1.6
08:16	10.03	9.8	1.7
08:17	10.30	9.5	1.9
08:18	10.77	9.1	1.7
08:19	10.32	9.5	1.6
08:20	10.52	9.3	1.5
08:21	10.58	9.3	1.5
08:22	10.39	9.4	1.5
08:23	10.88	8.9	1.6
08:24	11.16	8.7	1.3
08:25	10.28	9.5	1.3
08:26	11.13	8.6	1.6
08:27	10.42	9.4	1.3
08:28	10.25	9.5	1.4
08:29	11.00	8.7	1.3
08:30	11.35	8.4	1.5
08:31	10.53	9.2	1.3
08:32	10.69	9.0	1.2
08:33	11.14	8.6	1.3
08:34	10.76	9.1	1.2
08:35	10.49	9.3	1.2

AVERAGE VALUES FOR THE LAST 30 MINUTES

08:35	10.62	9.2	1.5
08:36	10.90	8.9	1.2
08:37	10.92	8.9	1.1
08:38	10.63	9.2	1.1
08:39	11.13	8.6	1.1
08:40	11.15	8.7	1.1
08:41	10.44	9.4	1.1
08:42	10.37	9.4	1.0
08:43	10.83	9.0	1.1
08:44	11.02	8.8	1.1
08:45	10.72	9.0	1.0
08:46	11.78	8.0	1.2

— lost power to computer

Restart after power back on

08:49	10.00	9.7	0.9
08:50	10.46	9.2	1.0
08:51	11.18	8.6	0.8
08:52	11.41	8.4	0.7
08:53	10.80	9.0	0.7
08:54	10.83	9.0	0.8
08:55	10.69	9.1	0.8
08:56	10.36	9.4	0.8
08:57	10.97	8.7	0.8
08:58	11.03	8.8	0.7
08:59	10.64	9.1	0.8
09:00	10.66	9.1	0.8
09:01	11.20	8.6	1.0
09:02	10.26	9.6	0.7
09:03	10.59	9.1	0.7
09:04	11.27	8.6	0.8
09:05	10.08	9.7	0.8
09:06	10.42	9.2	0.7
09:07	11.60	8.2	0.8
09:08	11.12	8.7	0.7
09:09	10.81	9.0	0.7
09:10	10.73	9.1	0.7
09:11	10.35	9.5	0.7
09:12	10.07	9.7	0.7
09:13	10.00	9.8	0.7
09:14	9.95	9.8	0.8
09:15	10.34	9.4	0.7
09:16	10.76	9.0	0.7
09:17	10.70	9.1	0.8
09:18	11.01	8.8	0.7

AVERAGE VALUES FOR THE LAST 30 MINUTES

09:18	10.68	9.1	0.8

Run Ave: 10.67 9.09 1.05

COMMENTS: END THC COMPLIANCE RUN 1

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 1

REASON: SYSTEM BIAS CHECK AFTER RUN 1

DATE : 06-24-1999 TIME: 09:18 - 09:26

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
1	STACK	% O2	0.00	0.11
1	STACK	% O2	8.99	9.10
2	STACK	% CO2	0.0	0.1
2	STACK	% CO2	9.1	8.9
3	STACK	ppmC1	0.0	0.0
3	STACK	ppmC1	25.0	24.5

OMS LEE - FT. MYERS - UNIT 1 06-24-1999

	CHAN 1	CHAN 2	CHAN 3
	STACK	STACK	STACK
TIME	% O2	% CO2	ppmC1
09:30	10.48	9.2	1.1
09:31	10.71	9.0	1.0
09:32	10.42	9.3	0.9
09:33	10.20	9.5	0.9
09:34	10.99	8.7	0.8
09:35	11.14	8.6	0.8
09:36	10.48	9.3	0.7
09:37	10.49	9.2	0.7
09:38	11.24	8.5	0.7
09:39	11.12	8.6	0.7
09:40	10.63	9.1	0.7
09:41	9.50	10.2	0.6
09:42	8.97	10.5	0.7
09:43	10.03	9.5	0.7
09:44	11.38	8.2	0.7
09:45	11.95	7.8	0.7
09:46	11.51	8.3	0.7
09:47	10.01	9.7	0.6
09:48	9.62	10.0	0.7
09:49	10.53	9.1	0.7
09:50	11.64	8.1	0.7
09:51	11.25	8.5	0.7
09:52	10.78	9.0	0.6
09:53	10.02	9.8	0.5
09:54	9.26	10.4	0.5
09:55	9.28	10.3	0.6
09:56	9.91	9.7	0.6
09:57	10.72	8.9	0.6
09:58	11.35	8.4	0.6
09:59	11.10	8.6	0.6

AVERAGE VALUES FOR THE LAST 30 MINUTES

09:59	10.56	9.1	0.7
10:00	10.47	9.3	0.5
10:01	10.32	9.5	0.5
10:02	10.03	9.7	0.5
10:03	10.45	9.3	0.5
10:04	10.93	8.9	0.5
10:05	10.77	9.0	0.4
10:06	10.71	9.2	0.5
10:07	9.87	9.9	0.5
10:08	10.60	9.1	0.5
10:09	11.32	8.5	0.6
10:10	10.93	8.9	0.5
10:11	10.53	9.2	0.5
10:12	10.55	9.2	0.5
10:13	10.21	9.6	0.5
10:14	9.93	9.8	0.5
10:15	10.03	9.6	0.5
10:16	10.46	9.3	0.6
10:17	10.22	9.5	0.5
10:18	10.18	9.5	0.5
10:19	10.57	9.1	0.6
10:20	10.45	9.2	0.6

OMS LEE - FT. MYERS - UNIT 1 06-24-1999

	CHAN 1	CHAN 2	CHAN 3
	STACK	STACK	STACK
TIME	% O2	% CO2	ppmC1
10:21	10.54	9.1	0.5
10:22	10.45	9.3	0.6
10:23	10.43	9.2	0.5
10:24	10.43	9.3	0.5
10:25	10.02	9.6	0.5
10:26	10.35	9.3	1.0
10:27	10.16	9.5	0.8
10:28	10.67	9.0	0.5
10:29	10.33	9.4	0.5

AVERAGE VALUES FOR THE LAST 30 MINUTES

10:29	10.43	9.3	0.5

AVERAGE VALUES FOR THE LAST HOUR: 60 MINUTES OF VALID DATA

10:29	10.49	9.2	0.6

10:30 10.44 9.3 0.5

COMMENTS: END THC COMPLIANCE RUN 2

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 1

REASON: SYSTEM BIAS CHECK

DATE : 06-24-1999 TIME: 10:30 - 10:36

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
1	STACK	% O2	0.00	0.11
1	STACK	% O2	8.99	9.12
2	STACK	% CO2	0.0	0.1
2	STACK	% CO2	9.1	8.9
3	STACK	ppmC1	0.0	-0.0
3	STACK	ppmC1	25.0	24.2

OMS LEE - FT. MYERS - UNIT 1 06-24-1999

TIME	CHAN 1 STACK % O2	CHAN 2 STACK % CO2	CHAN 3 STACK ppmC1
10:50	11.87	7.9	0.5
10:51	10.83	8.9	0.4
10:52	10.10	9.6	0.3
10:53	9.82	9.8	0.3
10:54	10.37	9.2	0.4
10:55	11.20	8.4	0.3
10:56	11.22	8.5	0.3
10:57	10.93	8.7	0.3
10:58	10.56	9.1	0.3
10:59	9.82	9.8	0.2
11:00	9.96	9.6	0.4
11:01	10.85	8.7	0.3
11:02	10.63	9.0	0.3
11:03	10.90	8.7	0.4
11:04	11.06	8.6	0.3
11:05	10.25	9.4	0.2
11:06	10.44	9.1	0.3
11:07	11.36	8.2	0.3
11:08	11.47	8.3	0.3
11:09	10.38	9.3	0.3
11:10	10.82	8.8	0.3
11:11	10.89	8.7	0.2
11:12	10.37	9.3	0.2
11:13	10.12	9.5	0.2
11:14	11.17	8.4	0.3
11:15	11.54	8.2	0.2
11:16	10.43	9.3	0.2
11:17	10.03	9.6	0.2
11:18	10.81	8.8	0.3
11:19	10.92	8.8	0.3

AVERAGE VALUES FOR THE LAST 30 MINUTES

11:19	10.70	8.9	0.3
11:20	10.57	9.2	0.2
11:21	10.27	9.5	0.3
11:22	9.81	9.9	0.4
11:23	9.58	10.1	0.3
11:24	10.27	9.4	0.3
11:25	11.28	8.5	0.4
11:26	10.97	8.8	0.3
11:27	10.45	9.3	0.4
11:28	10.43	9.4	0.4
11:29	10.12	9.6	0.3
11:30	9.87	9.9	0.6
11:31	9.44	10.2	0.4
11:32	9.20	10.4	0.4
11:33	9.29	10.2	0.5
11:34	10.02	9.5	0.3
11:35	11.14	8.5	0.6
11:36	11.47	8.3	0.4
11:37	10.66	9.1	0.2
11:38	10.73	8.9	0.3
11:39	10.39	9.4	0.2
11:40	10.23	9.5	0.3

OMS LEE - FT. MYERS - UNIT 1 06-24-1999

	CHAN 1	CHAN 2	CHAN 3
	STACK	STACK	STACK
TIME	% O2	% CO2	ppmC1
11:41	10.01	9.6	0.2
11:42	10.23	9.4	0.5
11:43	10.73	8.9	0.6
11:44	10.83	8.9	0.6
11:45	10.71	9.0	0.2
11:46	10.39	9.3	0.5
11:47	9.83	9.8	0.2
11:48	9.72	9.9	0.4
11:49	10.04	9.5	0.3

AVERAGE VALUES FOR THE LAST 30 MINUTES

11:49	10.29	9.4	0.4

AVERAGE VALUES FOR THE LAST HOUR: 60 MINUTES OF VALID DATA

11:49	10.50	9.2	0.3

COMMENTS: END THC COMPLIANCE RUN 3 AT UNIT 1

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 1

REASON: SYSTEM BIAS CHECK AFTER RUN 3

DATE : 06-24-1999 TIME: 11:49 - 11:56

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
1	STACK	% O2	0.00	0.06
1	STACK	% O2	8.99	9.09
2	STACK	% CO2	0.0	0.1
2	STACK	% CO2	9.1	8.9
3	STACK	ppmC1	0.0	-0.2
3	STACK	ppmC1	25.0	24.3

APPENDIX C

FIELD DATA

1.0 UNIT NO. 1

e. FLUORIDES

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 1 Stack

Job No. 10558
 Fuel Type Municipal Waste

Operator TW
 Run/Sample No. 1-S-M13B-1 Date 6/23/99 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1253-1408	1545	8.4	19.8	11.4	
	1557	8.5	19.7	11.2	
	1612	8.4	19.7	11.3	
Average		8.4	Average	11.3	

Orsat I.D. 4 Tedlar Bag I.D. B120 F_o 1.138

Operator TW
 Run/Sample No. 1-S-M13B-2 Date 6/26/99 Leak Check OK? YES

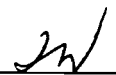
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0800-0912	1105	9.0	19.6	10.6	1-S-M8-2
	1113	9.0	19.6	10.6	
	1123	9.0	19.6	10.6	
Average		9.0	Average	10.6	

Orsat I.D. 4 Tedlar Bag I.D. B6 F_o 1.144

Operator TW
 Run/Sample No. 1-S-M13B-3 Date 6/26/99 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1320-1430	1455	9.3	19.6	10.3	1-S-M8-3
	1305	9.3	19.5	10.2	
	1321	9.3	19.6	10.3	
Average		9.3	Average	10.3	

Orsat I.D. 4 Tedlar Bag I.D. B120 F_o 1.143

Reviewer 
 AirKinetics, Inc.

EPA 13B

Client Name	Ogden Energy Group	Run #	1-S-M13B-1		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1253
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1408
Test Location	UNIT 1	Tester Signature			
Date of Test	06/23/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.85	Pbar	29.9	Meter Console #		MB8	NA	NA	CO ₂
Meter Calibration Factor	0.9982	Pstatic	-1.10	Ideal Nozzle Diameter		0.219			8.4
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		D018			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.216			11.3
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-4			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.3
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.32	N ₂	82.0	TC ID #s		8-4			214.9

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	106	106	PRE	POST	DGM initial		438.903					438.903
Thermocouples			Y	Y	Vacuum	15	10	11				15
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		B120	Y	Y	DGM final		439.034					439.034

[illegible]

					MAX =>	3		
Average Values	60.0	44.392	1.289	1.710	1.711		110.3	291.4

EPA 13B

Client Name	Ogden Energy Group	Run #	1-S-M13B-2		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	800
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	912
Test Location	UNIT 1	Tester Signature			
Date of Test	06/26/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.72	Pbar	29.9	Meter Console #		MB9	NA	NA	CO ₂
Meter Calibration Factor	1.0038	Pstatic	-1.10	Ideal Nozzle Diameter		0.219			9.0
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		D009			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.222			10.6
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-4			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.4
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.37	N ₂	82.0	TC ID #s		8-4			240.7

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	97	97	PRE	POST	DGM initial		528.288					528.288
Thermocouples			Y	Y	Vacuum	15	10	11				15
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		B6	Y	Y	DGM final		528.409					528.409

[illegible]

					MAX =>	3			
Average Values	60.0	45.379	1.281	1.757	1.753			90.0	289.8

APPENDIX C

FIELD DATA

1.0 UNIT NO. 1

f. DIOXIN/FURANS

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 1 Stack

Job No. 10558
 Fuel Type Municipal Waste

Operator DL
 Run/Sample No. 1-S-M23-1 Date 6/23/99 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0753-1216	1215	9.4	19.5	10.1	1-S-NH3-3
	1223	9.4	19.5	10.1	
	1231	9.4	19.5	10.1	
Average		9.4	Average	10.1	

Orsat I.D. 4 Tedlar Bag I.D. B120 F_o 1.149

Operator CMW
 Run/Sample No. 1-S-M23-2 Date 6/24/99 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0802-1214	1400	9.2	19.4	10.2	1-S-M201A-1
	1412	9.2	19.4	10.2	
	1425	9.2	19.4	10.2	
Average		9.2	Average	10.2	

Orsat I.D. 4 Tedlar Bag I.D. B120 F_o 1.163

Operator CMW
 Run/Sample No. 1-S-M23-3 Date 6/25/99 Leak Check OK? YES

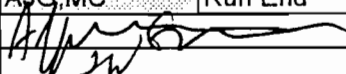
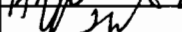
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0802-1215	1315	9.5	19.7	10.2	1-S-M201A-2
	1327	9.6	19.7	10.1	
	1338	9.6	19.7	10.1	
Average		9.6	Average	10.1	

Orsat I.D. 4 Tedlar Bag I.D. B3 F_o 1.125

Reviewer JW
 AirKinetics, Inc.

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD

EPA 23

Client Name	Ogden Energy Group	Run #	1-S-M23-1
Plant Name	OMS of Lee, Inc.	Project #	10558
Plant City, State	Fort Myers, FL	Personnel	AJG, MC
Test Location	UNIT 1	Tester Signature	
Date of Test	06/23/99	Checked By	

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
AH @ 0.75 SCFM	1.85	Pbar	29.9	Meter Console #	MB8	NA	NA	CO ₂
Meter Calibration Factor	0.9982	Pstatic	-1.15	Ideal Nozzle Diameter	0.219		9.4	8.4
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #	D024			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter	0.216		10.1	11.3
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-7		CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material	G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #	NA		335	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #	NAA			80.3
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #	NA			H ₂ O
K Factor (delta H/delta P)	1.32	N ₂	82.0	TC ID #s	8-7			997.3

Equipment & Leak Check Data, OK? Y or N				Leak Checks		1	2	3	4	5	6	Status
Tambient	99	99	PRE	POST	DGM initial		323.611					323.611
Thermocouples		Y	Y		Vacuum	15	10	14				15
Pitots		Y	Y		Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag	B120	Y	Y		DGM final		323.800					323.800

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
A 1	753	0.0	232.236	1.15	1.52	1.52	5	95	95	293	253	54	56
A 1		5.0	235.688	1.15	1.52	1.52	5	97	95	293	253	50	57
A 1		10.0	239.211	1.20	1.59	1.59	5	100	95	293	254	58	60
A 1		15.0	242.708	1.20	1.59	1.59	5	103	95	293	251	60	63
A 2		20.0	246.19	1.35	1.79	1.79	6	105	97	292	255	61	64
A 2		25.0	249.922	1.35	1.79	1.79	6	105	97	292	256	58	57
A 2		30.0	253.667	1.30	1.72	1.72	6	105	97	292	255	58	57
A 2		35.0	257.358	1.35	1.79	1.79	6	106	97	292	256	57	59
A 3		40.0	261.133	1.45	1.92	1.92	6	106	97	293	256	57	59
A 3		45.0	265.003	1.45	1.92	1.92	6	107	99	293	256	55	56
A 3		50.0	268.989	1.45	1.92	1.92	7	107	99	293	257	55	56
A 3		55.0	272.875	1.45	1.92	1.92	7	108	99	293	255	57	60
A 4		60.0	276.908	1.50	1.99	1.99	7	108	99	291	255	59	60
A 4		65.0	280.865	1.40	1.85	1.85	7	108	100	291	255	59	60
A 4		70.0	284.668	1.40	1.85	1.85	7	109	103	291	256	59	61
A 4		75.0	288.576	1.40	1.85	1.85	7	109	103	291	256	60	62
A 5		80.0	292.432	1.40	1.85	1.85	7	109	103	290	254	60	64
A 5		85.0	296.333	1.50	1.99	1.99	7	109	103	290	254	64	63
A 5		90.0	300.355	1.50	1.99	1.99	7	110	103	290	254	64	64
A 5		95.0	304.471	1.50	1.99	1.99	7	110	103	290	254	63	65
A 6		100.0	308.447	1.50	1.99	1.99	7	110	104	290	253	63	65
A 6		105.0	312.430	1.30	1.72	1.72	7	110	104	290	253	63	65
A 6		110.0	316.187	1.30	1.72	1.72	7	110	104	290	253	60	65
A 6		115.0	319.886	1.30	1.72	1.72	7	111	104	290	253	58	62
B 6		120.0	323.611	1.25	1.66	1.66	7	103	101	290	258	57	59
B 6		125.0	327.419	1.20	1.59	1.59	7	105	101	290	258	57	59
B 6		130.0	331.006	1.20	1.59	1.59	7	105	100	290	258	57	59
B 6		135.0	334.578	1.20	1.59	1.59	7	105	100	290	258	56	59
B 5		140.0	338.207	1.30	1.72	1.72	7	105	101	291	259	56	57
B 5		145.0	341.867	1.35	1.79	1.79	7	106	101	291	257	56	57

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD EPA 23

Client Name	Ogden Energy Group	Run #	1-S-M23-2		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	802
Plant City, State	Fort Myers, FL	Personnel	DL	Run End	1214
Test Location	UNIT 1	Tester Signature	<i>[Signature]</i>		
Date of Test	06/24/99	Checked By	<i>[Signature]</i>		

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.85	Pbar	29.9	Meter Console #	MB8	NA	NA	CO ₂
Meter Calibration Factor	0.9982	Pstatic	-1.15	Ideal Nozzle Diameter	0.219		<i>0.219</i>	<i>8.7</i>
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #	D024			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter	<i>0.217</i>	<i>0.216</i>	<i>0.210</i>	<i>11.0</i>
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8-1			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material	G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #	NA		286	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #	NA			80.3
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #	NA			H ₂ O
K Factor (delta H/delta P)	1.35	N ₂	82.0	TC ID #s	8-7			898.8

Equipment & Leak Check Data, OK? Y or N				Leak Checks		1	2	3	4	5	6	Status
Tambient	97	97	PRE	POST	DGM initial		639.670					639.670
Thermocouples				Y	Vacuum	15	6		10			15
Pitots				Y	Leak Rate	0.000	0.000		0.000			OK
Tedlar Bag				Y	DGM final		639.684					639.684

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
A 6	802	0.0	553.550	1.10	1.48	1.48	5	97	97	290	240	67	57
A 6		5.0	556.800	1.10	1.48	1.48	5	102	98	293	256	62	57
A 6		10.0	560.100	1.10	1.48	1.48	5	106	99	293	257	61	58
A 6		15.0	563.400	1.10	1.48	1.48	5	110	100	293	259	59	59
A 5		20.0	566.81	1.50	2.02	2.02	6	112	101	294	259	64	61
A 5		25.0	570.700	1.50	2.02	2.02	6	112	102	292	257	66	62
A 5		30.0	574.800	1.50	2.02	2.02	6	112	102	292	250	64	62
A 5		35.0	578.530	1.50	2.02	2.02	6	113	103	292	259	64	62
A 4		40.0	582.400	1.20	1.62	1.62	5	113	104	293	260	66	67
A 4		45.0	585.960	1.20	1.62	1.62	5	115	106	293	257	66	60
A 4		50.0	589.500	1.20	1.62	1.62	5	114	106	293	258	67	60
A 4		55.0	593.000	1.20	1.62	1.62	5	114	106	292	258	67	60
A 3		60.0	596.500	1.40	1.89	1.89	6	114	106	292	259	66	59
A 3		65.0	600.400	1.40	1.89	1.89	6	116	107	292	259	66	59
A 3		70.0	604.000	1.40	1.89	1.89	6	114	106	293	261	67	59
A 3		75.0	607.800	1.40	1.89	1.89	6	116	108	294	257	67	59
A 2		80.0	611.400	1.20	1.62	1.62	6	116	108	293	258	61	58
A 2		85.0	615.000	1.20	1.62	1.62	6	117	109	292	258	66	55
A 2		90.0	618.600	1.20	1.62	1.62	6	117	110	292	260	66	54
A 2		95.0	622.030	1.20	1.62	1.62	6	118	110	292	259	66	54
A 1		100.0	625.610	1.20	1.62	1.62	6	118	110	292	260	59	54
A 1		105.0	629.190	1.20	1.62	1.62	6	119	111	293	261	59	55
A 1		110.0	632.620	1.20	1.62	1.62	6	118	111	293	260	60	58
A 1		115.0	636.180	1.20	1.62	1.62	6	119	112	292	262	62	56
B 6		120.0	639.670	1.05	1.42	1.42	5	115	113	290	262	68	53
B 6		125.0	642.900	0.87	1.17	1.17	5	116	112	293	262	64	53
B 6		130.0	646.090	1.30	1.75	1.75	6	117	111	293	261	62	57
B 6		135.0	649.680	1.10	1.48	1.48	6	118	111	291	260	65	57
B 5		140.0	653.060	1.10	1.48	1.48	6	117	111	292	260	61	58
B 5		145.0	656.530	1.10	1.48	1.48	6	117	111	295	262	61	57

C 60

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD EPA 23

Client Name	Ogden Energy Group	Run #	1-S-M23-3		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	802
Plant City, State	Fort Myers, FL	Personnel	MIKE C	Run End	1215
Test Location	UNIT 1	Tester Signature			
Date of Test	06/25/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
$\Delta H @ 0.75 \text{ SCFM}$	1.85	Pbar	29.9	Meter Console #	MB8	NA	NA	CO ₂
Meter Calibration Factor	0.9982	Pstatic	-1.15	Ideal Nozzle Diameter	0.219			9.6
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #	D024			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter	0.216			10.1
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-1		CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material	G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #	NA		335	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #	NA			80.3
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #	NA			H ₂ O
K Factor (delta H/delta P)	1.32	N ₂	82.0	TC ID #s	8-1			988.5

Equipment & Leak Check Data, OK? Y or N				Leak Checks		1	2	3	4	5	6	Status
Tambient	99	99	PRE	POST	DGM initial		1,007.410					1007.410
Thermocouples		Y	Y		Vacuum	15	10	12				15
Pitots		Y	Y		Leak Rate	0.002	0.002	0.002				OK
Tedlar Bag		B3	Y	Y	DGM final		1007.440					1007.440

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
A 1	802	0.0	918.830	1.15	1.52	1.52	5	95	95	290	237	50	46
A 1		5.0	922.270	1.15	1.52	1.52	5	96	95	289	244	50	46
A 1		10.0	925.630	1.10	1.46	1.46	5	98	95	289	247	50	46
A 1		15.0	929.040	1.10	1.46	1.46	5	99	95	289	248	52	47
A 2		20.0	932.44	1.25	1.66	1.66	5	99	96	289	249	52	47
A 2		25.0	936.090	1.25	1.66	1.66	5	99	96	290	251	51	48
A 2		30.0	939.680	1.25	1.66	1.66	5	99	96	290	250	51	48
A 2		35.0	943.280	1.30	1.72	1.72	5	100	96	290	252	52	48
A 3		40.0	947.000	1.40	1.85	1.85	5	102	97	291	249	52	48
A 3		45.0	950.750	1.40	1.85	1.85	5	102	97	291	248	53	48
A 3		50.0	954.500	1.40	1.85	1.85	5	104	97	291	249	53	48
A 3		55.0	958.380	1.40	1.85	1.85	5	104	97	291	248	53	49
A 4		60.0	962.260	1.50	1.99	1.99	5	104	99	293	249	54	49
A 4		65.0	966.270	1.50	1.99	1.99	5	106	99	293	249	54	50
A 4		70.0	970.300	1.45	1.92	1.92	5	106	99	293	250	54	50
A 4		75.0	974.290	1.45	1.92	1.92	5	107	99	293	251	55	50
A 5		80.0	978.260	1.30	1.72	1.72	5	107	99	293	251	55	50
A 5		85.0	981.980	1.30	1.72	1.72	5	10	100	293	251	55	50
A 5		90.0	985.370	1.35	1.79	1.79	5	110	100	291	252	55	50
A 5		95.0	989.130	1.30	1.72	1.72	5	111	101	291	252	55	50
A 6		100.0	992.900	1.25	1.66	1.66	6	111	101	291	253	56	51
A 6		105.0	996.520	1.25	1.66	1.66	6	111	101	291	255	56	51
A 6		110.0	1000.200	1.25	1.66	1.66	6	113	101	291	256	55	52
A 6		115.0	1003.840	1.20	1.59	1.59	6	113	102	291	256	55	52
B 6		120.0	1007.410	1.20	1.59	1.59	6	103	99	290	255	55	52
B 6		125.0	1011.000	1.20	1.59	1.59	6	103	99	290	256	54	51
3 6		130.0	1014.520	1.20	1.59	1.59	6	104	99	291	256	54	51
B 6		135.0	1018.060	1.20	1.59	1.59	6	107	100	291	255	54	51
B 5		140.0	1021.640	1.30	1.72	1.72	6	107	100	291	255	55	51
B 5		145.0	1025.390	1.30	1.72	1.72	6	107	101	291	255	55	50

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
B 5		150.0	1029.090	1.35	1.79	1.79	6	108	101	291	255	56	50
B 5		155.0	1032.850	1.30	1.72	1.72	6	108	101	292	256	56	50
B 4		160.0	1036.550	1.45	1.92	1.92	6	108	103	292	255	57	50
B 4		165.0	1040.400	1.45	1.92	1.92	6	110	103	292	254	57	52
B 4		170.0	1044.360	1.40	1.85	1.85	6	110	103	291	254	57	52
B 4		175.0	1048.170	1.40	1.85	1.85	7	111	104	291	254	55	52
B 3		180.0	1052.070	1.50	1.99	1.99	7	111	104	291	254	55	53
B 3		185.0	1056.100	1.50	1.99	1.99	7	111	104	291	254	54	53
B 3		190.0	1060.150	1.40	1.85	1.85	7	112	105	291	252	53	54
B 3		195.0	1064.060	1.45	1.92	1.92	7	112	105	291	252	53	54
B 2		200.0	1067.990	1.40	1.85	1.85	7	113	105	291	253	53	55
B 2		205.0	1071.820	1.40	1.85	1.85	7	113	105	293	250	55	52
B 2		210.0	1075.680	1.30	1.72	1.72	7	114	105	293	250	55	52
B 2		215.0	1079.380	1.40	1.85	1.85	7	116	106	293	250	55	53
B 1		220.0	1083.220	1.20	1.59	1.59	7	116	106	293	250	55	54
B 1		225.0	1086.800	1.20	1.59	1.59	7	116	106	293	250	55	52
B 1		230.0	1090.360	1.20	1.59	1.59	7	117	106	293	249	54	50
B 1		235.0	1093.930	1.15	1.52	1.52	7	117	108	293	249	54	50
	1215	240.0	1097.500										
						MAX =>	7						
Average Values		240.0	178.640	1.312	1.741	1.741		103.0	291.3				

APPENDIX C

FIELD DATA

1.0 UNIT NO. 1

g. HYDROGEN CHLORIDE

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 1 Inlet

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>1-I-M29-1</u>		Date <u>6/21/99</u>		Operator <u>TW</u>	Leak Check OK? <u>Yes</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0910-1158	1312	9.1	19.2	10.1	
	1326	9.1	19.3	10.2	
	1350	9.2	19.3	10.1	
Average		9.1	Average	10.1	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B7</u>		F _o <u>1.179</u>	

Run/Sample No. <u>1-I-M29-2</u>		Date <u>6/21/99</u>		Operator <u>TW</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1400-1648 (1658)	1722	9.0	19.3	10.3	1-I-M26-1
	1730	8.9	19.2	10.3	1-I-M26-2
	1750	9.0	19.3	10.3	
Average		9.0	Average	10.3	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B4</u>		F _o <u>1.182</u>	

Run/Sample No. <u>1-I-M29-3</u>		Date <u>6/22/99</u>		Operator <u>TW</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0855-1137	1315	9.3	19.3	10.0	1-I-M26-3
	1327	9.4	19.3	9.9	
	1345	9.3	19.4	10.1	
Average		9.3	Average	10.0	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B120</u>		F _o <u>1.168</u>	

Reviewer *du*
 AirKinetics, Inc. C

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD M26

Client Name	Ogden Energy Group	Run #	1-I-M26-1		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1408
Plant City, State	Fort Myers, FL	Personnel	NP	Run End	1520
Test Location	UNIT 1 INLET	Tester Signature			
Date of Test	06/21/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
$\Delta H @ 0.75 \text{ SCFM}$	1.78	Pbar	29.9	Meter Console #		MB2	NA	NA	CO ₂
Meter Calibration Factor	1.0056	Pstatic	NA	Ideal Nozzle Diameter		#####			9.0
Pitot Tube Coefficient	NA	Abs P	#####	Nozzle #		NA			O ₂
Estimated Dry Gas Meter Temp	NA	Tstd, °F	68	Actual Nozzle Diameter		NA			10.3
Estimated Stack Temp or M2 Avg.	NA	Pstd	29.92	Probe Lgth/ID #	NA	NA			CO
Estimated Delta P or M2 Avg.	NA	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	NA	CO ₂	NA	Filter Box #		1	NA	NA	N ₂
Estimated Dry Molecular Weight	#####	O ₂	NA	Cold Box ID #		C20			80.7
Estimated Velocity, ft/sec	#####	CO	NA	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)		N ₂	#####	TC ID #s		NA			114.5

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	NA	NA	PRE	POST	DGM initial	0.000	857.810	0.000				857.810
Thermocouples			NA	NA	Vacuum	15	15	5				15
Pitots			NA	NA	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		NA	NA	NA	DGM final	0.000	858.005	0.000				858.005

[illegible]

M26

Client Name	Ogden Energy Group	Run #	1-I-M26-2		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1617
Plant City, State	Fort Myers, FL	Personnel	NP	Run End	1717
Test Location	UNIT 1 INLET	Tester Signature			
Date of Test	06/21/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
$\Delta H @ 0.75 \text{ SCFM}$	1.78	Pbar	29.9	Meter Console #		MB2	NA	NA	CO ₂
Meter Calibration Factor	1.0056	Pstatic	NA	Ideal Nozzle Diameter		#####			9.0
Pitot Tube Coefficient	NA	Abs P	#####	Nozzle #		NA			O ₂
Estimated Dry Gas Meter Temp	NA	Tstd, °F	68	Actual Nozzle Diameter		NA			10.3
Estimated Stack Temp or M2 Avg.	NA	Pstd	29.92	Probe Lgth/ID #	NA	NA			CO
Estimated Delta P or M2 Avg.	NA	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	NA	CO ₂	NA	Filter Box #		1	NA	NA	N ₂
Estimated Dry Molecular Weight	#####	O ₂	NA	Cold Box ID #		C20			80.7
Estimated Velocity, ft/sec	#####	CO	NA	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)		N ₂	#####	TC ID #s		NA			115.1

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	NA	NA	PRE	POST	DGM initial	0.000	0.000					0.000
Thermocouples			NA	NA	Vacuum	15	10					15
Pitots			NA	NA	Leak Rate	0.000	0.000					OK
Tedlar Bag		NA	NA	NA	DGM final	0.000	0.000					0.000

[illegible]

					MAX =>	10		
Average Values	60.0	33.730			1.00		110	

M26

Client Name	Ogden Energy Group	Run #	1-I-M26-3		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1005
Plant City, State	Fort Meyers, FL	Personnel	NP	Run End	1105
Test Location	UNIT 1 INLET	Tester Signature			
Date of Test	06/22/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
$\Delta H @ 0.75 \text{ SCFM}$	1.78	Pbar	29.9	Meter Console #		MB2	NA	NA	CO ₂
Meter Calibration Factor	1.0056	Pstatic	NA	Ideal Nozzle Diameter		#####			9.3
Pitot Tube Coefficient	NA	Abs P	#####	Nozzle #		NA			O ₂
Estimated Dry Gas Meter Temp	NA	Tstd, °F	68	Actual Nozzle Diameter		NA			10.0
Estimated Stack Temp or M2 Avg.	NA	Pstd	29.92	Probe Lgth/ID #	NA	NA			CO
Estimated Delta P or M2 Avg.	NA	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	NA	CO ₂	NA	Filter Box #		1	NA	NA	N ₂
Estimated Dry Molecular Weight	#####	O ₂	NA	Cold Box ID #		C20			80.7
Estimated Velocity, ft/sec	#####	CO	NA	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)		N ₂	#####	TC ID #s		NA			133.3

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	NA	NA	PRE	POST	DGM initial	0.000	0.000					0.000
Thermocouples			NA	NA	Vacuum	15	10					15
Pitots			NA	NA	Leak Rate	0.000	0.000					OK
Tedlar Bag		NA	NA	NA	DGM final	0.000	0.000					0.000

[illegible][illegible]

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 1 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>1-S-M29-1</u>		Date <u>6/21/99</u>		Operator <u>TW</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0910-1151	1418	9.0	19.9	10.9	1-S-NH3-2
	1427	8.9	19.9	11.0	
	1445	9.0	19.9	10.9	
Average		9.0	Average	10.9	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B120</u>		F _o <u>1.112</u>	

Run/Sample No. <u>1-S-M29-2</u>		Date <u>6/21/99</u>		Operator <u>CMW</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
~~1407~~ 1407-1716	1710	8.7	19.8	11.1	1-S-M26-1
1421	1718	8.8	19.8	11.0	1-S-M26-2
	1729	8.7	19.8	11.1	
Average		8.7	Average	11.1	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.126</u>	

Run/Sample No. <u>1-S-M29-3</u>		Date <u>6/22/99</u>		Operator <u>DL</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0855-1113	1220	8.5	19.5	11.0	1-S-M26-3
	1236	8.6	19.5	10.9	
	1252	8.5	19.6	11.1	
Average		8.5	Average	11.0	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.160</u>	

Reviewer *DL*
 AirKinetics, Inc.

26

Client Name	Ogden Energy Group	Run #	1-S-M26-1		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1408
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1512
Test Location	UNIT 1	Tester Signature			
Date of Test	06/21/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.82	Pbar	29.9	Meter Console #		MB3	NA	NA	CO ₂
Meter Calibration Factor	1.0707	Pstatic	NA	Ideal Nozzle Diameter		#####			8.7
Pitot Tube Coefficient	NA	Abs P	#####	Nozzle #		NA			O ₂
Estimated Dry Gas Meter Temp	NA	Tstd, °F	68	Actual Nozzle Diameter		NA			11.1
Estimated Stack Temp or M2 Avg.	NA	Pstd	29.92	Probe Lgth/ID #	NA	NA			CO
Estimated Delta P or M2 Avg.	NA	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	NA	CO ₂	NA	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	#####	O ₂	NA	Cold Box ID #		NA			80.2
Estimated Velocity, ft/sec	#####	CO	NA	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)		N ₂	#####	TC ID #s		NA			211.1

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	NA	NA	PRE	POST	DGM initial							0.000
Thermocouples			NA	NA	Vacuum	15	4					15
Pitots			NA	NA	Leak Rate	0.000	0.018					OK
Tedlar Bag		NA	NA	NA	DGM final							0.000

[illegible]

					MAX =>	3		
Average Values	60.0	42.028			1.80		110	

26

				MAX =>	3				C	70
Average Values	60.0	40.998			1.80		108			

26

Client Name	Ogden Energy Group	Run #	1-S-M26-3		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1005
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1105
Test Location	UNIT 1	Tester Signature			
Date of Test	06/22/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.82	Pbar	29.9	Meter Console #		MB3	NA	NA	CO ₂
Meter Calibration Factor	1.0707	Pstatic	NA	Ideal Nozzle Diameter		#####			8.5
Pitot Tube Coefficient	NA	Abs P	#####	Nozzle #		NA			O ₂
Estimated Dry Gas Meter Temp	NA	Tstd, °F	68	Actual Nozzle Diameter		NA			11.0
Estimated Stack Temp or M2 Avg.	NA	Pstd	29.92	Probe Lgth/ID #	NA	NA			CO
Estimated Delta P or M2 Avg.	NA	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	NA	CO ₂	NA	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	#####	O ₂	NA	Cold Box ID #		NA			80.5
Estimated Velocity, ft/sec	#####	CO	NA	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)		N ₂	#####	TC ID #s		NA			239.8

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	NA	NA	PRE	POST	DGM initial							0.000
Thermocouples			NA	NA	Vacuum	15	6					15
Pitots			NA	NA	Leak Rate	0.000	0.000					OK
Tedlar Bag		NA	NA	NA	DGM final							0.000

[illegible]

					MAX => 4			C	71
Average Values	60.0	42.248			1.80		101		

APPENDIX C

FIELD DATA

1.0 UNIT NO. 1

h. AMMONIA

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 1 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No.	<u>1-S-M29-1</u>	Date	<u>6/21/99</u>	Operator	<u>TW</u>
				Leak Check OK?	<u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0910-1151	1418	9.0	19.9	10.9	1-S-NH3-2
	1427	8.9	19.9	11.0	
	1445	9.0	19.9	10.9	
Average		9.0	Average	10.9	
Orsat I.D.	<u>4</u>	Tedlar Bag I.D.	<u>B120</u>	F _o	<u>1.112</u>

Run/Sample No.	<u>1-S-M29-2</u>	Date	<u>6/21/99</u>	Operator	<u>CMW</u>
				Leak Check OK?	<u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1407-1716	1710	8.7	19.8	11.1	1-S-M26-1
	1718	8.8	19.8	11.0	1-S-M26-2
	1729	8.7	19.8	11.1	
Average		8.7	Average	11.1	
Orsat I.D.	<u>4</u>	Tedlar Bag I.D.	<u>B3</u>	F _o	<u>1.126</u>

Run/Sample No.	<u>1-S-M29-3</u>	Date	<u>6/22/99</u>	Operator	<u>DL</u>
				Leak Check OK?	<u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0855-1113	1220	8.5	19.5	11.0	1-S-M26-3
	1236	8.6	19.5	10.9	
	1252	8.5	19.6	11.1	
Average		8.5	Average	11.0	
Orsat I.D.	<u>4</u>	Tedlar Bag I.D.	<u>B3</u>	F _o	<u>1.160</u>

Reviewer *SW*
 AirKinetics, Inc.

C

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METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 1 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>1-S-M23-1</u>		Date <u>6/23/99</u>		Operator <u>DL</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0753-1216	1215	9.4	19.5	10.1	1-S-NH3-3
	1223	9.4	19.5	10.1	
	1231	9.4	19.5	10.1	
Average		9.4	Average	10.1	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B120</u>		F _o <u>1.149</u>	

Run/Sample No. <u>1-S-M23-2</u>		Date <u>6/24/99</u>		Operator <u>CMW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0802-1214	1400	9.2	19.4	10.2	1-S-M201A-1
	1412	9.2	19.4	10.2	
	1425	9.2	19.4	10.2	
Average		9.2	Average	10.2	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B120</u>		F _o <u>1.163</u>	

Run/Sample No. <u>1-S-M23-3</u>		Date <u>6/25/99</u>		Operator <u>CMW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0802-1215	1315	9.5	19.7	10.2	1-S-M201A-2
	1327	9.6	19.7	10.1	
	1338	9.6	19.7	10.1	
Average		9.6	Average	10.1	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.125</u>	

Reviewer JW
 AirKinetics, Inc.

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 1 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>1-S-M5-1SB</u>		Date <u>6/22/99</u>		Operator <u>DL</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1528-1733	1940	8.5	19.5	11.0	
	1948	8.6	19.5	10.9	
	1954	8.5	19.5	11.0	
Average		8.5	Average	11.0	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B120</u>		F _o <u>1.164</u>	

Run/Sample No. <u>1-S-M5-2SB</u>		Date <u>6/23/99</u>		Operator <u>DL</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1452-1702	1829	9.3	19.5	10.2	1-S-NH3-4
	1839	9.3	19.5	10.2	
	1851	9.3	19.5	10.2	
Average		9.3	Average	10.2	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B2</u>		F _o <u>1.151</u>	

Run/Sample No. <u>1-S-M5-3SB</u>		Date <u>6/25/99</u>		Operator <u>DL</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1535-1740	1759	8.3	19.5	11.2	NA
	1808	8.3	19.6	11.3	
	1820	8.3	19.6	11.3	
Average		8.3	Average	11.3	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B120</u>		F _o <u>1.161</u>	

Reviewer *2w*
 AirKinetics, Inc.

NH3

Client Name	Ogden Energy Group	Run #	1-S-NH3-2		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1052
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1152
Test Location	UNIT 1	Tester Signature	Tony Wong for AG		
Date of Test	06/21/99	Checked By	Tony Wong		

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.82	Pbar	29.9	Meter Console #		MB3	NA	NA	CO ₂
Meter Calibration Factor	1.0707	Pstatic	NA	Ideal Nozzle Diameter		#####			9.0
Pitot Tube Coefficient	NA	Abs P	#####	Nozzle #		NA			O ₂
Estimated Dry Gas Meter Temp	NA	Tstd, °F	68	Actual Nozzle Diameter		NA			10.9
Estimated Stack Temp or M2 Avg.	NA	Pstd	29.92	Probe Lgth/ID #	NA	NA			CO
Estimated Delta P or M2 Avg.	NA	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	NA	CO ₂	NA	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	#####	O ₂	NA	Cold Box ID #		NA			80.1
Estimated Velocity, ft/sec	#####	CO	NA	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)		N ₂	#####	TC ID #s		NA			159.9

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	NA	NA	PRE	POST	DGM initial							0.000
Thermocouples			NA	NA	Vacuum	15	10					15
Pitots			NA	NA	Leak Rate	0.000	0.000					OK
Tedlar Bag		NA	NA	NA	DGM final							0.000

[illegible]

Average Values	60.0	38.018			MAX => 2	1.800	102.3		76

NH3

Client Name	Ogden Energy Group	Run #	1-S-NH3-3		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1035
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1135
Test Location	UNIT 1	Tester Signature	Tony Wong for AG		
Date of Test	06/23/99	Checked By	Tony Wong		

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.82	Pbar	29.9	Meter Console #		MB3	NA	NA	CO ₂
Meter Calibration Factor	1.0707	Pstatic	NA	Ideal Nozzle Diameter		#####			9.4
Pitot Tube Coefficient	NA	Abs P	#####	Nozzle #		NA			O ₂
Estimated Dry Gas Meter Temp	NA	Tstd, °F	68	Actual Nozzle Diameter		NA			10.1
Estimated Stack Temp or M2 Avg.	NA	Pstd	29.92	Probe Lgth/ID #	NA	NA			CO
Estimated Delta P or M2 Avg.	NA	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	NA	CO ₂	NA	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	#####	O ₂	NA	Cold Box ID #		NA			80.5
Estimated Velocity, ft/sec	#####	CO	NA	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)		N ₂	#####	TC ID #s		NA			231.7

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	NA	NA	PRE	POST	DGM initial							0.000
Thermocouples			NA	NA	Vacuum	15	6					15
Pitots			NA	NA	Leak Rate	0.000	0.000					OK
Tedlar Bag		NA	NA	NA	DGM final							0.000

[illegible][illegible]

NH₃

Isokinetic Factor Setup	Pressures	Sampling Equipment	Filter ID & Tares	Actuals

ΔH @ 0.75 SCFM	1.82	Pbar	29.9	Meter Console #		MB3	NA	NA	CO ₂
Meter Calibration Factor	1.0707	Pstatic	NA	Ideal Nozzle Diameter		#####			9.3
Pitot Tube Coefficient	NA	Abs P	#####	Nozzle #		NA			O ₂
Estimated Dry Gas Meter Temp	NA	Tstd, °F	68	Actual Nozzle Diameter		NA			10.2
Estimated Stack Temp or M2 Avg.	NA	Pstd	29.92	Probe Lgth/ID #	NA	NA			CO
Estimated Delta P or M2 Avg.	NA	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	NA	CO ₂	NA	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	#####	O ₂	NA	Cold Box ID #		NA			80.5
Estimated Velocity, ft/sec	#####	CO	NA	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)		N ₂	#####	TC ID #s		NA			229.3

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	NA	NA	PRE	POST	DGM initial							0.000
Thermocouples			NA	NA	Vacuum	15	7					15
Pitots			NA	NA	Leak Rate	0.000	0.000					OK
Tedlar Bag		NA	NA	NA	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
-	1532	0.0	619.925	NA		1.80	2	106	NA	NA	233	46	NA
-		5.0	623.485			1.80	2	106			235	47	
-		10.0	627.044			1.80	2	108			235	48	
-		15.0	630.604			1.80	2	108			237	48	
-		20.0	634.16			1.80	2	108			239	49	
-		25.0	637.720			1.80	2	109			236	49	
-		30.0	641.283			1.80	2	109			236	50	
-		35.0	644.646			1.80	2	109			238	50	
-		40.0	648.010			1.80	2	110			238	50	
-		45.0	651.373			1.80	2	110			238	50	
-		50.0	654.736			1.80	2	110			233	51	
-		55.0	658.100			1.80	2	110			231	51	
-	1632	60.0	661.694										
Average Values		60.0	41.769			1.80		109					

APPENDIX C

FIELD DATA

1.0 UNIT NO. 1

- i. ARSENIC, BERYLLIUM, CADMIUM, LEAD, AND MERCURY**

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 1 Inlet

Job No. 10558
 Fuel Type Municipal Waste

Operator TW
 Run/Sample No. 1-I-M29-1 Date 6/21/99 Leak Check OK? Yes

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0910-1158	1312	9.1	19.2	10.1	
	1326	9.1	19.3	10.2	
	1350	9.2	19.3	10.1	
Average		9.1	Average	10.1	

Orsat I.D. 4 Tedlar Bag I.D. B7 F_o 1.179

Operator TW
 Run/Sample No. 1-I-M29-2 Date 6/21/99 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1400-1648 (y)	1722	9.0	19.3	10.3	1-I-M26-1
1058	1730	8.9	19.2	10.3	1-I-M26-2
	1750	9.0	19.3	10.3	
Average		9.0	Average	10.3	

Orsat I.D. 4 Tedlar Bag I.D. B4 F_o 1.182

Operator TW
 Run/Sample No. 1-I-M29-3 Date 6/22/99 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0855-1137	1315	9.3	19.3	10.0	1-I-M26-3
	1327	9.4	19.3	9.9	
	1345	9.3	19.4	10.1	
Average		9.3	Average	10.0	

Orsat I.D. 4 Tedlar Bag I.D. B120 F_o 1.168

Reviewer JW
 AirKinetics, Inc.

METHOD 3 (ORSAT) FIELD DATA

Client	Ogden Energy Group	Job No.	10558
Plant Name	OMS of Lee, Inc.	Fuel Type	Municipal Waste
City/State	Fort Myers, FL		
Sampling Location	Unit 1 Inlet		

Operator		TW			
Run/Sample No.	1-I-M29-4	Date	6/25/99	Leak Check OK?	YES
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1654-1916	1920	9.0	19.8	10.8	NA
	1928	9.1	19.8	10.7	
	1937	9.1	19.8	10.7	
Average		9.1	Average	10.7	
Orsat I.D.		4	Tedlar Bag I.D.	B120	F _o
					1.121

Operator					
Run/Sample No.		Date		Leak Check OK?	
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
Average			Average		
Orsat I.D.			Tedlar Bag I.D.		F _o

Operator					
Run/Sample No.		Date		Leak Check OK?	
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
Average			Average		
Orsat I.D.			Tedlar Bag I.D.		F _o

Reviewer 
AirKinetics, Inc.

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD EPA 29

Client Name	Ogden Energy Group	Run #	1-I-M29-1
Plant Name	OMS of Lee, Inc.	Project #	10558
Plant City, State	Fort Myers, FL	Personnel	CMV/NP
Test Location	UNIT 1 INLET	Tester Signature	<i>Christopher M. Chen</i>
Date of Test	06/21/99	Checked By	<i>CM</i>

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.93	Pbar	29.9	Meter Console #	MB10	NA	NA	CO ₂
Meter Calibration Factor	1.0090	Pstatic	-1.90	Ideal Nozzle Diameter	0.271			9.1
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #	E2			O ₂
Estimated Dry Gas Meter Temp	110	Tstd, °F	68	Actual Nozzle Diameter	0.254			10.1
Estimated Stack Temp or M2 Avg.	440	Pstd	29.92	Probe Lgth/ID #	10	10-1		CO
Estimated Delta P or M2 Avg.	0.700	Estimates		Liner Material	G	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO ₂	8.0	Filter Box #	NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #	NA			80.8
Estimated Velocity, ft/sec	62.4	CO	0.0	Umbilical ID #	NA			H ₂ O
K Factor (delta H/delta P)	2.36	N ₂	82.0	TC ID #s	10-1			292.8

Equipment & Leak Check Data, OK? Y or N				Leak Checks		1	2	3	4	5	6	Status
Tambient	94	98	PRE	POST	DGM initial	0.000	312.282	322.365	342.369	0.000		977.016
Thermocouples	Y	Y			Vacuum	15	19	15	15	15		19
Pitots	Y	Y			Leak Rate	0.000	0.000	0.000	0.000	0.000		OK
Tedlar Bag	B-7	Y	Y		DGM final	0.000	312.538	322.654	342.565	0.000		977.757

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
B 5	910	0.0	279.825	0.67	1.58	1.59	1	95	96	454	249	68	N/A
B 4		5.0	283.150	0.72	1.70	1.70	2	96	96	455	248	61	
B 3		10.0	286.490	0.72	1.70	1.70	5	98	96	461	251	66	
B 2		15.0	289.900	0.65	1.54	1.54	7	99	96	459	250	65	
B 1		20.0	293.17	0.52	1.23	1.23	7	100	96	459	250	62	
C 5		25.0	296.177	0.68	1.61	1.61	8	100	98	459	249	65	
C 4		30.0	299.410	0.67	1.58	1.58	11	101	98	458	249	62	
C 3		35.0	302.610	0.69	1.63	1.63	15	102	98	458	251	65	
C 2		40.0	305.890	0.72	1.70	1.70	17	102	99	459	250	66	
C 1		45.0	309.240	0.47	1.11	1.11	19	103	99	456	250	66	
D 5	1002	50.0	312.282	0.71	1.68	1.68	1	101	100	456	252	68	
D 4	1013	55.0	315.950	0.74	1.75	1.75	2	104	101	458	251	64	
D 3		60.0	319.380	0.63	1.49	1.49	3	107	101	460	250	66	
D 2	1029	65.0	321.840	0.64	1.51	1.51	15	106	101	458	249	66	
D 1	1047	70.0	325.360	0.50	1.18	1.18	1	104	102	453	249	54	
Z 5		75.0	328.360	0.50	1.18	1.18	1	105	103	452	251	65	
Z 4		80.0	331.230	0.60	1.42	1.42	1	108	103	455	250	61	
Z 3		85.0	334.430	0.45	1.06	1.06	1	109	104	453	250	63	
Z 2		90.0	337.270	0.48	1.13	1.13	1	109	104	451	249	65	
Z 1	1124	95.0	340.030	0.45	1.06	1.06	3	108	104	450	250	64	
A 5	1133	100.0	342.369	0.66	1.56	1.56	1	106	104	455	250	68	
A 4		105.0	346.130	0.68	1.61	1.61	1	108	104	456	248	65	
A 3		110.0	349.390	0.71	1.68	1.68	1	109	105	453	249	69	
A 2		115.0	352.780	0.68	1.61	1.61	1	110	105	457	251	66	
A 1		120.0	356.140	0.63	1.49	1.49	1	110	105	456	250	66	
	1158	125.0	359.317										

				MAX => 19									
Average Values		125.0	78.751	0.619	1.473	1.472		102.4	456.0				

EPA 29

Client Name	Ogden Energy Group	Run #	1-I-M29-2		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1400
Plant City, State	Fort Myers, FL	Personnel	CMW NP	Run End	1658
Test Location	UNIT 1 INLET	Tester Signature			
Date of Test	06/21/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.93	Pbar	29.9	Meter Console #		MB10	NA	CO ₂
Meter Calibration Factor	1.0090	Pstatic	2.80	Ideal Nozzle Diameter		0.280		9.0
Pitot Tube Coefficient	0.840	Abs P	29.7	Nozzle #		D010		O ₂
Estimated Dry Gas Meter Temp	110	Tstd, °F	68	Actual Nozzle Diameter		0.225		10.3
Estimated Stack Temp or M2 Avg.	450	Pstd	29.92	Probe Lgth/ID #	10	10-4		CO
Estimated Delta P or M2 Avg.	0.620	Estimates		Liner Material		G	XAD ID & Tares	0.0
Estimated Moisture Content	14.0	CO ₂	8.0	Filter Box #		NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA		80.7
Estimated Velocity, ft/sec	59.1	CO	0.0	Umbilical ID #		NA		H ₂ O
K Factor (delta H/delta P)	1.44	N ₂	82.0	TC ID #s		10-4		242.6

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	98	105	PRE	POST	DGM initial	0.000	392.001	410.048	0.000			802.049
Thermocouples			Y	Y	Vacuum	15	15	16	5			16
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000	0.000			16
Tedlar Bag		B-4	Y	Y	DGM final	0.000	392.268	410.273	0.000			802.541

[illegible][illegible]

EPA 29

Client Name	Ogden Energy Group	Run #	1-I-M29-4		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1654
Plant City, State	Fort Myers, FL	Personnel	CMW	Run End	1916
Test Location	UNIT 1 INLET	Tester Signature	<i>Christopher M. Wilson</i>		
Date of Test	06/25/99	Checked By	<i>CMW</i>		

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
$\Delta H @ 0.75 \text{ SCFM}$	1.93	Pbar	29.9	Meter Console #		MB10	NA	NA	CO ₂
Meter Calibration Factor	1.0090	Pstatic	-2.70	Ideal Nozzle Diameter		0.280			9.1
Pitot Tube Coefficient	0.840	Abs P	29.7	Nozzle #		D014			O ₂
Estimated Dry Gas Meter Temp	110	Tstd, °F	68	Actual Nozzle Diameter		0.222			10.7
Estimated Stack Temp or M2 Avg.	450	Pstd	29.92	Probe Lgth/ID #	10	10-1			CO
Estimated Delta P or M2 Avg.	0.620	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.2
Estimated Velocity, ft/sec	59.1	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.36	N ₂	82.0	TC ID #s		10-1			253.0

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	95	95	PRE	POST	DGM initial	0.000	0.000					0.000
Thermocouples			Y	Y	Vacuum	15	15					15
Pitots			Y	Y	Leak Rate	0.000	0.000					OK
Tedlar Bag		B120	Y	Y	DGM final	0.000	0.000					0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
A 5	1654	0.0	677.362	0.70	0.95	0.95	1	95	94	462	260	66	N/A
A 4		5.0	680.090	0.72	0.98	0.98	1	95	94	462	248	59	
A 3		10.0	682.760	0.73	0.99	0.99	1	97	94	455	244	55	
A 2		15.0	685.440	0.63	0.86	0.86	1	98	95	458	252	51	
A 1		20.0	687.88	0.43	0.59	0.59	1	98	95	451	249	54	
B 5		25.0	690.023	0.71	0.97	0.97	2	97	95	459	252	65	
B 4		30.0	692.620	0.64	0.87	0.87	2	98	95	457	246	60	
B 3		35.0	695.020	0.65	0.89	0.89	4	98	95	459	254	64	
B 2		40.0	697.800	0.63	0.86	0.86	4	99	96	459	251	64	
B 1		45.0	700.020	0.59	0.80	0.80	5	99	96	454	253	64	
C 5		50.0	702.364	0.63	0.86	0.86	8	98	96	462	257	67	
C 4		55.0	704.760	0.64	0.87	0.87	11	98	96	461	254	63	
C 3		60.0	707.270	0.65	0.89	0.89	11	98	96	461	251	65	
C 2		65.0	709.760	0.67	0.91	0.91	12	98	96	464	248	66	
C 1		70.0	712.360	0.49	0.67	0.67	13	98	96	458	250	66	
D 5		75.0	714.568	0.67	0.91	0.91	14	97	96	464	255	67	
D 4		80.0	716.950	0.66	0.90	0.90	14	98	96	466	249	66	
D 3		85.0	719.630	0.60	0.82	0.82	14	98	96	461	248	64	
D 2		90.0	722.110	0.57	0.78	0.78	15	97	96	461	246	63	
D 1		95.0	724.560	0.45	0.61	0.61	15	97	96	459	251	63	
Z 5		100.0	726.737	0.35	0.48	0.48	10	96	95	456	251	65	
Z 4		105.0	728.680	0.37	0.50	0.50	12	96	95	455	249	60	
Z 3		110.0	730.750	0.39	0.53	0.53	12	96	95	457	251	61	
Z 2		115.0	732.640	0.46	0.63	0.63	14	96	95	456	248	62	
Z 1		120.0	734.820	0.48	0.65	0.65	15	97	95	455	254	62	
	1916	125.0	736.988										
						MAX =>	15						
Average Values		125.0	59.626	0.574	0.790	0.791		96.3		458.9			

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 1 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>1-S-M29-1</u>		Date <u>6/21/99</u>		Operator <u>TW</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0910-1151	1418	9.0	19.9	10.9	1-S-NH3-2
	1427	8.9	19.9	11.0	
	1445	9.0	19.9	10.9	
Average		9.0	Average	10.9	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B120</u>		F _o <u>1.112</u>	

Run/Sample No. <u>1-S-M29-2</u>		Date <u>6/21/99</u>		Operator <u>CMW</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
~~1407~~ 1407-1716	1710	8.7	19.8	11.1	1-S-M26-1
1421	1718	8.8	19.8	11.0	1-S-M26-2
	1729	8.7	19.8	11.1	
Average		8.7	Average	11.1	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.126</u>	

Run/Sample No. <u>1-S-M29-3</u>		Date <u>6/22/99</u>		Operator <u>DL</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0855-1113	1220	8.5	19.5	11.0	1-S-M26-3
	1236	8.6	19.5	10.9	
	1252	8.5	19.6	11.1	
Average		8.5	Average	11.0	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.160</u>	

Reviewer 
 AirKinetics, Inc.

METHOD 3 (ORSAT) FIELD DATA

Client	Ogden Energy Group	Job No.	10558
Plant Name	OMS of Lee, Inc.	Fuel Type	Municipal Waste
City/State	Fort Myers, FL		
Sampling Location	Unit 1 Stack		

Operator		TW			
Run/Sample No.	1-S-M29-4	Date	6/25/99	Leak Check OK?	YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1654-1907	1947	8.7	19.8	11.1	NA
	1954	8.7	19.8	11.1	
	1802	8.7	19.8	11.1	
Average		8.7	Average	11.1	

Orsat I.D. 4 Tedlar Bag I.D. B120 F_o 1.126

Operator					
Run/Sample No.		Date		Leak Check OK?	

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
Average			Average		

Orsat I.D. Tedlar Bag I.D. F_o

Operator					
Run/Sample No.		Date		Leak Check OK?	

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
Average			Average		

Orsat I.D. Tedlar Bag I.D. F_o

Reviewer
AirKinetics, Inc.

29

Client Name	Ogden Energy Group	Run #	1-S-M29-1		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	910
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1151
Test Location	UNIT 1	Tester Signature			
Date of Test	06/21/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.85	Pbar	29.9	Meter Console #		MB8	NA	NA	CO ₂
Meter Calibration Factor	0.9982	Pstatic	1.05	Ideal Nozzle Diameter		0.219			9.0
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		GN2048			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.217			10.9
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-1			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.1
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.35	N ₂	82.0	TC ID #s		8-1			434.3

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	95	95	PRE	POST	DGM initial		819.578					819.578
Thermocouples			Y	Y	Vacuum	14	11	10				14
Pitots			Y	Y	Leak Rate	0.004	0.002	0.002				OK
Tedlar Bag		B120	Y	Y	DGM final		819.638					819.638

[illegible]

					MAX =>	4				
Average Values	120.0	89.477	1.331	1.799	1.798		100.9	291.9	C	87

29

					MAX => 3				
Average Values	120.0	91.394	1.347	1.852	1.853		108.0	292.8	88

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD EPA 29

Client Name	Ogden Energy Group	Run #	1-S-M29-4		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1654
Plant City, State	Fort Meyers, FL	Personnel	MIKE C	Run End	1907
Test Location	UNIT 1	Tester Signature			
Date of Test	06/25/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.85	Pbar	29.9	Meter Console #		MB8	NA	NA	CO ₂
Meter Calibration Factor	0.9982	Pstatic	-1.05	Ideal Nozzle Diameter		0.219			8.7
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		GN254			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.216			11.1
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-7			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.2
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.32	N ₂	82.0	TC ID #s		8-7			497.8

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	101	101	PRE	POST	DGM initial	193.300	237.450	281.840				712.590
Thermocouples			Y	Y	Vacuum	15	10	10				15
Pitots			Y	Y	Leak Rate	0.004	0.002	0.002				OK
Tedlar Bag		B120	Y	Y	DGM final	193.370	237.475	281.865				712.710

[illegible]

APPENDIX C

FIELD DATA

1.0 UNIT NO. 1

j. PARTICULATE LESS THAN 10 MICRONS

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 1 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>1-S-M23-1</u>		Date <u>6/23/99</u>		Operator <u>DL</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0753-1216	1215	9.4	19.5	10.1	1-S-NH3-3
	1223	9.4	19.5	10.1	
	1231	9.4	19.5	10.1	
Average		9.4	Average	10.1	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B120</u>		F _o <u>1.149</u>	

Run/Sample No. <u>1-S-M23-2</u>		Date <u>6/24/99</u>		Operator <u>CMW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0802-1214	1400	9.2	19.4	10.2	1-S-M201A-1
	1412	9.2	19.4	10.2	
	1425	9.2	19.4	10.2	
Average		9.2	Average	10.2	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B120</u>		F _o <u>1.163</u>	

Run/Sample No. <u>1-S-M23-3</u>		Date <u>6/25/99</u>		Operator <u>CMW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0802-1215	1315	9.5	19.7	10.2	1-S-M201A-2
	1327	9.6	19.7	10.1	
	1338	9.6	19.7	10.1	
Average		9.6	Average	10.1	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.125</u>	

Reviewer JW
 AirKinetics, Inc.

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 1 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>1-S-201A-3</u>		Date <u>6/26/99</u>		Operator <u>TW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1030-1306	1325	9.5	19.8	10.3	NA
	1335	9.4	19.8	10.4	
	1347	9.5	19.8	10.3	
Average		9.5	Average	10.3	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B120</u>		F. <u>1.116</u>	

Run/Sample No. _____		Date _____		Operator _____	
		Leak Check OK? _____			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
Average			Average		
Orsat I.D. _____		Tedlar Bag I.D. _____		F. _____	

Run/Sample No. _____		Date _____		Operator _____	
		Leak Check OK? _____			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
Average			Average		
Orsat I.D. _____		Tedlar Bag I.D. _____		F. _____	

Reviewer *JW*
 AirKinetics, Inc.

METHOD 201A (PM-10) FIELD DATA

Client <u>Ogden Energy Group</u>	Run Number <u>1-S-M201A-1</u>
Plant Name <u>OMS of Lee, Inc.</u>	Time Start <u>0906</u>
City/State <u>Fort Myers, FL</u>	Time Stop <u>1130</u>
Sampling Location <u>Unit 1 Stack</u>	Job Number <u>10558</u>
Date <u>6/24/99</u>	Team Leader <u>MC</u> Techs <u></u>
*Train Leak Check Vacuum, In. Hg <u>15</u>	Barometric Pressure, In. Hg <u>29.9</u>
Train Leak Rate, Cubic Ft./Min. <u>0.000</u> <u>0.000</u>	Static Pressure, In. H ₂ O <u>-6.5</u>

EQUIPMENT CHECKS		IDENTIFICATION NUMBERS	
☒ Pitot, Pretest	Meterbox <u>MB3</u>	Meterbox Gamma <u>1.0707</u>	Reagent Box <u>N/A</u>
☒ Pitot, Posttest	T/C Readout <u></u>	T/C Probe <u></u>	Umbilical <u>N/A</u>
☐ M3 Sampling Sys/Ted Bag	Sampling Box <u>N/A</u>	Orsat Pump <u>N/A</u>	Tedlar Bag <u>N/A</u>
☐ Thermocouple @ <u>Pre</u>	Nozzle(s) Actually Used:		Pitot <u></u>
☐ Thermocouple @ <u>Post</u>	No. <u></u> Diameter <u></u>	No. <u>2</u> Diameter <u>0.146</u>	

FILTER NO. <u>P126</u>	TARE <u>0.1394</u>	Delta H _g <u>1.816</u>	NOZZLE SELECTION CRITERIA	FYRITE
		Delta H _t <u>0.443</u>	Desired Dia. <u>0.152</u>	
		Delta H _{t+50} <u>0.589</u>	Nozzle 1	
		Delta H _{t-50} <u>0.508</u>	Diameter <u>2</u>	Nozzle 2
		Delta P _{avg} <u>1.40</u>	Nozzle Number <u>0.146</u>	
		Meter Temp. <u>100</u>	Delta P _{min} <u>0.9160</u>	
		Stack Temp. <u>290</u>	Delta P _{max} <u>2.4971</u>	
Est % H ₂ O <u>17.0</u>				c _p <u>0.84</u>

	Sample Point	Dwell Time, Minutes	Elapsed Time, Minutes	Dry Gas Meter Readings Cubic Feet	Pitot Reading, In. H ₂ O (ΔP)	Gas Meter Temp, °F	Stack Temp, °F	Orifice Setting, In. H ₂ O (ΔH)	Vacuum Gauge, In. Hg	Gas Temps Filter Box, °F	Imping Exit, °F	Cyclone Temp, °F
1	1	9:30	0	661.967	1.10	99	290	0.443	2	241	52	290
2	2	10:40	9:48:30	665.33	1.5	98	290	0.443	2	234	56	290
3	3	10:48	20:10:45	669.81	1.45	102	291	0.443	2	228	57	291
4	4	10:50	30:13:0	672.47	1.4	106	290	0.443	2	245	57	290
5	5	9:52	40:35	674.14	1.3	110	290	0.443	2	240	57	290
6	6	9:53	50:30	679.593	1.3	110	290	0.443	2	247	57	290
7	6	9:53	60:00	683.08	1.45	110	290	0.443	2	250	57	296
8	5	9:13	69:15	685.89	1.55	115	290	0.443	2	254	57	290
9	4	10:66	79:30	688.98	1.45	115	288	0.443	2	259	53	288
10	3	9:43	89:05	692.59	1.40	115	288	0.443	2	259	53	288
11	2	10:3	99:40	695.65	1.40	115	290	0.443	2	260	54	290
12	1	9:33	109:55	699.00	1.35	115	290	0.443	2	259	54	290

* REMOVE HEAD BEFORE POSTTEST LEAK CHECK
F-1109 rev. 5-93

118 minutes
40.058 Vm
1.385
1.631 (ΔP)²
108.8
109 (tm)
289.8
290 (ts)
0.443
ΔH

METHOD 201A (PM-10) FIELD DATA

Client <u>Ogden Energy Dev</u>	Run Number <u>1-S-M201A-2</u>
Plant Name <u>OMG of L.L. Inc.</u>	Time Start <u>900</u>
City/State <u>Fort Myers, FL</u>	Time Stop <u>1111</u>
Sampling Location <u>Unit 1 Stack</u>	Job Number <u>10558</u>
Date <u>6/25/99</u> Team Leader _____	Techs _____
*Train Leak Check Vacuum, In. Hg <u>VS</u>	Barometric Pressure, In. Hg <u>29.9</u>
Train Leak Rate, Cubic Ft./Min. <u>0.00</u> <u>0.000</u>	Static Pressure, In. H ₂ O <u>-1.15</u>

EQUIPMENT CHECKS		IDENTIFICATION NUMBERS			
☒ Pitot, Pretest		Meterbox <u>MB3</u>	Meterbox Gamma <u>1.0707</u>	Reagent Box	<u>NA</u>
☒ Pitot, Posttest		T/C Readout <u>MB3</u>	T/C Probe	Umbilical	<u>NA</u>
☐ M3 Sampling Sys/Ted Bag		Sampling Box <u>NA</u>	Orsat Pump <u>NA</u>	Tedlar Bag	<u>NA</u>
☐ Thermocouple @ <u>Pre</u>		Nozzle(s) Actually Used:		Pitot	
☐ Thermocouple @ <u>Post</u>		No. <u>Graseby 3</u>	Diameter <u>0.158</u>	No. _____	Diameter _____

FILTER NO.	TARE	Delta H_g	NOZZLE SELECTION CRITERIA	FYRITE
<u>P146</u>	<u>0.2022</u>	<u>1.816</u>	Desired Dia. <u>0.154</u>	
		<u>0.418</u>	Nozzle 1	
		<u>0.367</u>	Diameter <u>0.158</u> <u>Graseby 3</u>	Nozzle 2
		<u>0.480</u>	Nozzle Number <u>Graseby 3</u>	
		<u>1.33</u>	Delta P _{min} <u>0.9011</u>	
		<u>100</u>	Delta P _{max} <u>2.4550</u>	
Est % H ₂ O <u>18.19</u>		<u>290</u>		C _p <u>0.84</u>

	Sample Point	Dwell Time, Minutes	Elapsed Time, Minutes	Dry Gas Meter Readings Cubic Feet	Pitot Reading, In. H ₂ O (ΔP)	Gas Meter Temp, °F	Stack Temp, °F	Orifice Setting, In. H ₂ O (ΔH)	Vacuum Gauge, In. Hg	Gas Temps Filter Box, °F	Imping Exit, °F	Cyclone Temp, °F
1	A 6	9:53		785.855	1.2	90	290	0.418	1	248	50	290
2	5	9:42	9:30	788.37	1.3	92	290	0.418	1	248	50	290
3	4	10:48	19:30	791.92	1.45	92	290	0.418	1	250	50	290
4	3	10:30	30:00	795.47	1.40	94	290	0.418	1	250	52	290
5	2	9:33	40:15	798.73	1.25	95	290	0.418	1	251	55	290
6	1	9:13	50:0	801.72	1.10	96	290	0.418	1	251	57	290
7	B 1	9:33	59:00	805.32	1.15	98	290	0.418	1	252	57	290
8	2	9:35	64:30	808.02	1.25	98	290	0.418	1	253	58	290
9	3	10:30	74:10	810.95	1.40	100	291	0.418	1	251	59	290
10	4	10:30	84:30	813.62	1.40	105	291	0.418	1	250	57	291
11	5	9:33	94:45	817.56	1.25	105	291	0.418	1	250	57	291
12	6	10:48	108:30	820.73	1.45	110	291	0.418	1	249	55	291
			119:00	824.05								

* REMOVE HEAD BEFORE POSTTEST LEAK CHECK

F-9 rev. 5-93

119 minutes 38.195 Vm 1.297 98.0 290.3 0.418
()² tm ts ΔH

432.2

C

94

METHOD 201A (PM-10) FIELD DATA

Client <u>Ogden Energy Group</u>	Run Number <u>1-S-M201A-3</u>
Plant Name <u>OMSD, Inc.</u>	Time Start <u>10:30</u>
City/State <u>Fort Myers, FL</u>	Time Stop <u>13:06</u>
Sampling Location <u>Unit 1 Stack</u>	Job Number <u>10558</u>
Date <u>6/26/99</u> Team Leader _____ Techs _____	Barometric Pressure, In. Hg <u>29.9</u>
*Train Leak Check Vacuum, In. Hg <u>15</u> <u>10</u>	Static Pressure, In. H ₂ O <u>21.0</u> <u>1.1</u>
Train Leak Rate, Cubic Ft./Min. <u>0000</u> <u>0.90</u>	

EQUIPMENT CHECKS	IDENTIFICATION NUMBERS	
☒ Pitot, Pretest	Meterbox <u>MB3</u> Meterbox Gamma <u>1.0707</u>	Reagent Box <u>NA</u>
☒ Pitot, Posttest	T/C Readout <u>MB3</u> T/C Probe _____	Umbilical <u>NA</u>
M3 Sampling Sys/Ted Bag	Sampling Box <u>NA</u> Orsat Pump _____	Tedlar Bag _____
Thermocouple @ _____ Pre	Nozzle(s) Actually Used:	Pitot _____
Thermocouple @ _____ Post	No. <u>Apex 2</u> Diameter <u>0.146</u> No. _____ Diameter _____	

FILTER NO. <u>P124</u>	TARE <u>0.1387</u>	Delta H _g <u>1.816</u>	NOZZLE SELECTION CRITERIA	FYRITE
		Delta H _t <u>0.418</u>	Desired Dia. <u>0.154</u>	
		Delta H _{t+50} <u>0.367</u>	Nozzle 1 <u>0.146</u>	
		Delta H _{t-50} <u>0.480</u>	Nozzle 2 _____	
		Delta P _{avg} <u>1.33</u>	Diameter <u>0.146</u>	
		Meter Temp. <u>100</u>	Nozzle Number <u>Apex 2</u>	
Est % H ₂ O <u>19</u>		Stack Temp. <u>290</u>	Delta P _{min} _____	
			Delta P _{max} _____	C _p <u>0.84</u>

	Sample Point	Dwell Time, Minutes	Elapsed Time, Minutes	Dry Gas Meter Readings Cubic Feet	Pitot Reading, In. H ₂ O (ΔP)	Gas Meter Temp, °F	Stack Temp, °F	Orifice Setting, In. H ₂ O (ΔH)	Vacuum Gauge, In. Hg	Gas Temps Filter Box, °F	Imping Exit, °F	Cyclone Temp, °F
1	46	9:33	0	912.525	1.15	102	290	0.418	2	228	58	290
2	6	9:33	9:20	915.78	1.25	102	290	0.418	2	246	56	290
3	4	10:48	19:00	918.67	1.45	102	291	0.418	2	247	59	291
4	3	10:3	29:30	921.95	1.4	102	291	0.418	2	246	60	291
5	2	9:42	39:50	925.21	1.3	100	290	0.418	2	246	64	290
6	1	9:53	49:45	928.28	1.2	100	291	0.418	2	246	69	291
7	1	9:33	59:20	931.001	1.15	106	299	0.418	2	246	56	289
8	2	9:33	69:40	934.2	1.25	106	290	0.418	2	247	53	290
9	3	10:11	79:20	937.916	1.25	101	291	0.418	2	244	56	291
10	4	10:3	89:30	941.228	1.4	106	293	0.418	2	244	56	293
11	5	9:33	99:45	944.046	1.25	107	291	0.418	2	244	69	291
12	6	9:53	109:30	947.166	1.2	108	290	0.418	2	244	60	290
			119:00	950.204	1.277							

* REMOVE HEAD BEFORE POSTTEST LEAK CHECK
F-1109 rev. 5-93

minutes 119 Vm 37.683 (ΔP)² 1.269 (3) tm 102.3 ts 290.6 ΔH 0.418

APPENDIX C

FIELD DATA

1.0 UNIT NO. 1

k. SOOT BLOW

1.0 PARTICULATE

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 1 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>1-S-M5-1SB</u>		Date <u>6/22/99</u>		Operator <u>DL</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1528-1733	1940	8.5	19.5	11.0	
	1948	8.6	19.5	10.9	
	1954	8.5	19.5	11.0	
Average		8.5	Average	11.0	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B120</u>		F _o <u>1.164</u>	

Run/Sample No. <u>1-S-M5-2SB</u>		Date <u>6/23/99</u>		Operator <u>DL</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1452-1702	1829	9.3	19.5	10.2	1-S-NH3-4
	1839	9.3	19.5	10.2	
	1851	9.3	19.5	10.2	
Average		9.3	Average	10.2	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B2</u>		F _o <u>1.151</u>	

Run/Sample No. <u>1-S-M5-3SB</u>		Date <u>6/24/99</u>		Operator <u>DL</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
~~1535-1740~~ <u>1748</u>	1759	8.3	19.5	11.2	NA
	1808	8.3	19.6	11.3	
	1820	8.3	19.6	11.3	
Average		8.3	Average	11.3	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B120</u>		F _o <u>1.161</u>	

Reviewer *DL*
 AirKinetics, Inc.

EPA 5

					MAX => 3				c	98
Average Values	120.0	91.064	1.313	1.773	1.773		106.7	291.7		

EPA 5

Client Name	Ogden Energy Group	Run #	1-S-M5-2SB		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1452
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1702
Test Location	UNIT 1	Tester Signature			
Date of Test	06/23/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.85	Pbar	29.9	Meter Console #		MB8	NA	NA	CO ₂
Meter Calibration Factor	0.9982	Pstatic	-1.10	Ideal Nozzle Diameter		0.219	A958	0.4862	9.3
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		GN2048			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.217			10.2
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-6			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.5
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.35	N ₂	82.0	TC ID #s		8-6			460.3

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	101	101	PRE	POST	DGM initial		507.900					507.900
Thermocouples			Y	Y	Vacuum	15	10	11				15
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		B2	Y	Y	DGM final		508.020					508.020

[illegible]

					MAX => 3				
Average Values	120.0	90.883	1.321	1.784	1.784		105.7	291.1	c 99

EPA 5

Client Name	Ogden Energy Group	Run #	1-S-M5-3SB		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1535
Plant City, State	Fort Myers, FL	Personnel	MIKE C	Run End	1748
Test Location	UNIT 1	Tester Signature			
Date of Test	06/24/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.85	Pbar	29.9	Meter Console #		MB8	NA	NA	CO ₂
Meter Calibration Factor	0.9982	Pstatic	-1.10	Ideal Nozzle Diameter		0.219	B011	0.4826	8.3
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		GN296			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.219			11.3
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-6			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		na	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.4
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.40	N ₂	82.0	TC ID #s		8-6			505.6

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	101	101	PRE	POST	DGM initial	824.575	871.830	918.650				2615.055
Thermocouples			Y	Y	Vacuum	15	10	10				15
Pitots			Y	Y	Leak Rate	0.002	0.002	0.002				OK
Tedlar Bag		B120	Y	Y	DGM final	824.600	871.870	918.685				2615.155

[illegible][illegible]

APPENDIX C

FIELD DATA

1.0 UNIT NO. 1

k. SOOT BLOW

2.0 OPACITY

SOURCE NAME <i>Ogden Martin Systems of Lee, Inc.</i>		
ADDRESS <i>10500 Buckingham Road</i>		
<i>1-SB-M9-1</i>		
STATE <i>FL</i>	ZIP <i>33905</i>	
PHONE <i>(941) 337-2200</i>	SOURCE ID NUMBER <i>PSD-FL-151</i>	

PROCESS EQUIPMENT <i>Unit #1 stack</i>	OPERATING MODE <i>See Prod. data</i>
CONTROL EQUIPMENT <i>Barhuser / scrubber</i>	OPERATING MODE <i>Continuous</i>

DESCRIBE EMISSION POINT START <i>78' Circular</i> STOP <i>Same</i>	
HEIGHT ABOVE GROUND LEVEL START <i>200'</i> STOP <i>Same</i>	HEIGHT RELATIVE TO OBSERVER START <i>200'</i> STOP <i>Same</i>
DISTANCE FROM OBSERVER START <i>500'</i> STOP <i>Same</i>	DIRECTION FROM OBSERVER START <i>East 90'</i> STOP <i>Same</i>

DESCRIBE EMISSIONS START <i>None</i> STOP <i>Same</i>	
EMISSION COLOR START <i>Clear</i> STOP <i>Same</i>	PLUME TYPE CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT NO ☒ YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START <i>1 foot above outlet</i> STOP <i>Same</i>	

E BACKGROUND START <i>sky</i> STOP <i>Same</i>	
BACKGROUND COLOR START <i>blue</i> STOP	SKY CONDITIONS START <i>scattered</i> STOP <i>Same</i>
WIND SPEED START <i>Calm</i> STOP <i>Same</i>	WIND DIRECTION START <i>Calm</i> STOP <i>Same</i>
AMBIENT TEMP START	WET BULB TEMP RH, percent

SOURCE LAYOUT SKETCH Draw North Arrow

The sketch shows a top-down view of the source layout. Unit 2 is at the top, with an 'X' marking the Emission Point. Unit 1 is to the right. The Observer's Position is at the bottom. A dashed line represents the Sun Location Line, and a 140-degree angle is indicated between the line to the emission point and the sun location line. A north arrow points to the left. Symbols for Sun, Wind, and Plume and Stack are also shown.

COMMENTS <i>1-SB-M9-1</i>

I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS	
SIGNATURE	DATE
TITLE	

OBSERVATION DATE <i>6-22-99</i>					START TIME <i>1635</i>					STOP TIME <i>1735</i>				
SEC MIN	0	15	30	45	SEC MIN	0	15	30	45					
1	0	0	0	0	31	0	0	0	0					
2	0	0	0	0	32	0	0	0	0					
3	0	0	0	0	33	0	0	0	0					
4	0	0	0	0	34	0	0	0	0					
5	0	0	0	0	35	0	0	0	0					
6	0	0	0	0	36	0	0	0	0					
7	0	0	0	0	37	0	0	0	0					
8	0	0	0	0	38	0	0	0	0					
9	0	0	0	0	39	0	0	0	0					
10	0	0	0	0	40	0	0	0	0					
11	0	0	0	0	41	0	0	0	0					
12	0	0	0	0	42	0	0	0	0					
13	0	0	0	0	43	0	0	0	0					
14	0	0	0	0	44	0	0	0	0					
15	0	0	0	0	45	0	0	0	0					
16	0	0	0	0	46	0	0	0	0					
17	0	0	0	0	47	0	0	0	0					
18	0	0	0	0	48	0	0	0	0					
19	0	0	0	0	49	0	0	0	0					
20	0	0	0	0	50	0	0	0	0					
21	0	0	0	0	51	0	0	0	0					
22	0	0	0	0	52	0	0	0	0					
23	0	0	0	0	53	0	0	0	0					
24	0	0	0	0	54	0	0	0	0					
25	0	0	0	0	55	0	0	0	0					
26	0	0	0	0	56	0	0	0	0					
27	0	0	0	0	57	0	0	0	0					
28	0	0	0	0	58	0	0	0	0					
29	0	0	0	0	59	0	0	0	0					
30	0	0	0	0	60	0	0	0	0					

AVERAGE OPACITY FOR HIGHEST PERIOD <i>0%</i>	NUMBER OF READINGS ABOVE <i>10 % WERE 0</i>
RANGE OF OPACITY READINGS MINIMUM <i>0</i> MAXIMUM <i>0</i>	

OBSERVER'S NAME (PRINT) <i>Donnie Leeper</i>	
OBSERVER'S SIGNATURE <i>Donnie Leeper</i>	DATE <i>6-22-99</i>
ORGANIZATION <i>Air Kinetics Inc.</i>	
CERTIFIED BY <i>EASTERN Technical Associates</i>	DATE <i>6-9-99</i>
VERIFIED BY	DATE <i>6 102</i>

SOURCE NAME <i>Order Martin Systems of Secaucus</i>		
ADDRESS <i>18500 Buckingham Road</i>		

Fort Myers	STATE <i>FL</i>	ZIP <i>33905</i>
PHONE <i>(741) 337-2200</i>	SOURCE ID NUMBER <i>POD-151-FL</i>	

PROCESS EQUIPMENT <i>#1 unit stack</i>	OPERATING MODE <i>see Prod. data</i>
CONTROL EQUIPMENT <i>Baghouse / scrubbers</i>	OPERATING MODE <i>Continuous</i>

DESCRIBE EMISSION POINT	
START <i>73" Circular stack</i>	STOP <i>Same</i>
HEIGHT ABOVE GROUND LEVEL START <i>200'</i> STOP <i>Same</i>	HEIGHT RELATIVE TO OBSERVER START <i>200'</i> STOP <i>Same</i>
DISTANCE FROM OBSERVER START <i>500'</i> STOP <i>Same</i>	DIRECTION FROM OBSERVER START <i>NE 65°</i> STOP <i>Same</i>

DESCRIBE EMISSIONS	
START <i>None</i>	STOP <i>Same</i>
EMISSION COLOR START <i>Clear</i> STOP <i>Same</i>	PLUME TYPE CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT NO ☒ YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED	
START <i>1 foot above outlet</i>	STOP <i>Same</i>

RIBE BACKGROUND	
START <i>Skay</i>	STOP <i>Same</i>
BACKGROUND COLOR START <i>White</i> STOP <i>Same</i>	SKY CONDITIONS START <i>broken</i> STOP <i>Same</i>
WIND SPEED START <i>3.5 mph</i> STOP <i>Same</i>	WIND DIRECTION START <i>SE</i> STOP <i>Same</i>
AMBIENT TEMP START STOP	WET BULB TEMP RH, percent

SOURCE LAYOUT SKETCH	Draw North Arrow

COMMENTS <i>1-SB-M9-2</i>

I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS	
SIGNATURE	DATE
TITLE	DATE

OBSERVATION DATE <i>6-23-99</i>					START TIME <i>1452</i>		STOP TIME <i>1552</i>			
SEC MIN	0	15	30	45	SEC MIN	0	15	30	45	
1	0	0	0	0	31	0	0	0	0	
2	0	0	0	0	32	0	0	0	0	
3	0	0	0	0	33	0	0	0	0	
4	0	0	0	0	34	0	0	0	0	
5	0	0	0	0	35	0	0	0	0	
6	0	0	0	0	36	0	0	0	0	
7	0	0	0	0	37	0	0	0	0	
8	0	0	0	0	38	0	0	0	0	
9	0	0	0	0	39	0	0	0	0	
10	0	0	0	0	40	0	0	0	0	
11	0	0	0	0	41	0	0	0	0	
12	0	0	0	0	42	0	0	0	0	
13	0	0	0	0	43	0	0	0	0	
14	0	0	0	0	44	0	0	0	0	
15	0	0	0	0	45	0	0	0	0	
16	0	0	0	0	46	0	0	0	0	
17	0	0	0	0	47	0	0	0	0	
18	0	0	0	0	48	0	0	0	0	
19	0	0	0	0	49	0	0	0	0	
20	0	0	0	0	50	0	0	0	0	
21	0	0	0	0	51	0	0	0	0	
22	0	0	0	0	52	0	0	0	0	
23	0	0	0	0	53	0	0	0	0	
24	0	0	0	0	54	0	0	0	0	
25	0	0	0	0	55	0	0	0	0	
26	0	0	0	0	56	0	0	0	0	
27	0	0	0	0	57	0	0	0	0	
28	0	0	0	0	58	0	0	0	0	
29	0	0	0	0	59	0	0	0	0	
30	0	0	0	0	60	0	0	0	0	

AVERAGE OPACITY FOR HIGHEST PERIOD <i>0%</i>	NUMBER OF READINGS ABOVE <i>10</i> % WERE <i>0</i>
RANGE OF OPACITY READINGS MINIMUM <i>0</i> MAXIMUM <i>0</i>	

OBSERVER'S NAME (PRINT) <i>Dorrie Leeper</i>	
OBSERVER'S SIGNATURE <i>Dorrie Leeper</i>	DATE <i>6-23-99</i>
ORGANIZATION <i>Air Kinetics INC.</i>	
CERTIFIED BY <i>Eastern Technical Associates</i>	DATE <i>6-9-99</i>
VERIFIED BY	DATE <i>C 103</i>

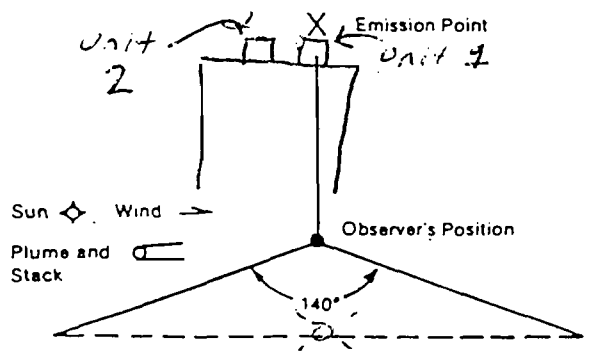
SOURCE NAME <i>Ogden Martin Systems of Inc., Inc.</i>		
ADDRESS <i>10500 Buckingham Road</i>		
STATE <i>FL</i>	ZIP <i>33905</i>	
PHONE <i>(941) 337-2200</i>	SOURCE ID NUMBER <i>PSD-FL-151</i>	

PROCESS EQUIPMENT <i>#1 Stack</i>	OPERATING MODE <i>See Prod. data</i>
CONTROL EQUIPMENT <i>Baghouse Scrubber</i>	OPERATING MODE <i>Continuous</i>

DESCRIBE EMISSION POINT START <i>78" circular stack stop Same</i>	
HEIGHT ABOVE GROUND LEVEL START <i>200' stop Same</i>	HEIGHT RELATIVE TO OBSERVER START <i>200' stop Same</i>
DISTANCE FROM OBSERVER START <i>500' stop Same</i>	DIRECTION FROM OBSERVER START <i>EAST 10° stop Same</i>

DESCRIBE EMISSIONS START <i>None</i> STOP <i>Same</i>	
EMISSION COLOR START <i>Clear</i> STOP <i>Same</i>	PLUME TYPE CONTINUOUS ☒ FUGITIVE ☐
WATER DROPLETS PRESENT NO ☒ YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START <i>1 foot above outlet</i> STOP <i>Same</i>	

DESCRIBE BACKGROUND START <i>sky</i> STOP <i>Same</i>	
BACKGROUND COLOR START <i>white</i> STOP <i>Same</i>	SKY CONDITIONS START <i>broken</i> STOP <i>Same</i>
WIND SPEED START <i>Calm</i> STOP <i>Same</i>	WIND DIRECTION START <i>Calm</i> STOP <i>Same</i>
AMBIENT TEMP START <i>STOP</i>	WET BULB TEMP RH, percent

SOURCE LAYOUT SKETCH 	Draw North Arrow 

COMMENTS <i>1-SB-M9-3</i>	
I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS SIGNATURE TITLE DATE	

OBSERVATION DATE <i>6-24-99</i>					START TIME <i>1630</i>		STOP TIME <i>1730</i>			
SEC MIN	0	15	30	45	SEC MIN	0	15	30	45	
1	0	0	0	0	31	0	0	0	0	
2	0	0	0	0	32	0	0	0	0	
3	0	0	0	0	33	0	0	0	0	
4	0	0	0	0	34	0	0	0	0	
5	0	0	0	0	35	0	0	0	0	
6	0	0	0	0	36	0	0	0	0	
7	0	0	0	0	37	0	0	0	0	
8	0	0	0	0	38	0	0	0	0	
9	0	0	0	0	39	0	0	0	0	
10	0	0	0	0	40	0	0	0	0	
11	0	0	0	0	41	0	0	0	0	
12	0	0	0	0	42	0	0	0	0	
13	0	0	0	0	43	0	0	0	0	
14	0	0	0	0	44	0	0	0	0	
15	0	0	0	0	45	0	0	0	0	
16	0	0	0	0	46	0	0	0	0	
17	0	0	0	0	47	0	0	0	0	
18	0	0	0	0	48	0	0	0	0	
19	0	0	0	0	49	0	0	0	0	
20	0	0	0	0	50	0	0	0	0	
21	0	0	0	0	51	0	0	0	0	
22	0	0	0	0	52	0	0	0	0	
23	0	0	0	0	53	0	0	0	0	
24	0	0	0	0	54	0	0	0	0	
25	0	0	0	0	55	0	0	0	0	
26	0	0	0	0	56	0	0	0	0	
27	0	0	0	0	57	0	0	0	0	
28	0	0	0	0	58	0	0	0	0	
29	0	0	0	0	59	0	0	0	0	
30	0	0	0	0	60	0	0	0	0	

AVERAGE OPACITY FOR HIGHEST PERIOD <i>0.20</i>	NUMBER OF READINGS ABOVE <i>10</i> % WERE <i>0</i>
RANGE OF OPACITY READINGS MINIMUM <i>0</i> MAXIMUM <i>0</i>	

OBSERVER'S NAME (PRINT) <i>Donnie Leeper</i>	
OBSERVER'S SIGNATURE <i>Donnie Leeper</i>	DATE <i>6-24-99</i>
ORGANIZATION <i>Air Kinetics Inc.</i>	
CERTIFIED BY <i>Eastern Technical Associates</i>	DATE <i>6-9-99</i>
VERIFIED BY <i>C</i>	DATE <i>104</i>

APPENDIX C

FIELD DATA

2.0 UNIT NO. 2

a. PARTICULATE

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 2 Stack

Job No. 10558
 Fuel Type Municipal Waste

Operator TW
 Run/Sample No. 2-S-M5-1 Date 6/21/99 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0921-1145	1545	8.4	19.8	11.4	NA
	1602	8.3	19.8	11.5	
	1614	8.4	19.9	11.5	
Average		8.4	Average	11.5	

Orsat I.D. 4 Tedlar Bag I.D. B142 F. 1.127

Operator TW
 Run/Sample No. 2-S-M5-2 Date 6/21/99 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1307-1520	1745	8.5	19.8	11.3	NA
	1755	8.6	19.8	11.2	
	1803	8.5	19.9	11.4	
Average		8.5	Average	11.3	

Orsat I.D. 4 Tedlar Bag I.D. B5 B2 F. 1.125

Operator TW
 Run/Sample No. 2-S-M5-3 Date 6/25/99 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1313-1525	1830	8.4	19.8	11.4	NA
	1839	8.5	19.8	11.3	
	1850	8.5	19.7	11.2	
Average		8.5	Average	11.3	

Orsat I.D. 4 Tedlar Bag I.D. B6 F. 1.134

Reviewer TW
 AirKinetics, Inc.

EPA 5

Client Name	Ogden Energy Group	Run #	2-S-M5-1		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	921
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1145
Test Location	UNIT 2	Tester Signature			
Date of Test	06/21/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.72	Pbar	29.9	Meter Console #		MB9	A954	0.4777	CO ₂
Meter Calibration Factor	1.0038	Pstatic	-1.15	Ideal Nozzle Diameter		0.219			8.4
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		D024			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.216			11.5
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-6			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.1
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.23	N ₂	82.0	TC ID #s		8-6			417.3

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	93	93	PRE	POST	DGM initial		44.082					44.082
Thermocouples			Y	Y	Vacuum	15	10	11				15
Pitots			Y	Y	Leak Rate	0.002	0.000	0.000				OK
Tedlar Bag		B142	Y	Y	DGM final		44.173					44.173

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft³	in H₂O	in H₂O	in H₂O	in Hg	°F	°F	°F	°F	°F	°F
A 6	921	0.0	1.061	1.10	1.35	1.35	4	89	89	289	229	50	NA
A 6		5.0	4.500	1.10	1.35	1.35	4	90	89	287	263	46	
A 5		10.0	7.931	1.05	1.29	1.29	4	90	89	285	266	54	
A 5		15.0	11.400	1.10	1.35	1.35	4	91	90	284	266	59	
A 4		20.0	14.67	1.15	1.41	1.41	4	91	91	287	263	52	
A 4		25.0	18.167	1.20	1.47	1.47	4	92	90	289	249	48	
A 3		30.0	21.700	1.30	1.59	1.59	4	92	90	288	266	48	
A 3		35.0	25.218	1.35	1.66	1.66	4	92	91	289	264	50	
A 2		40.0	28.891	1.40	1.72	1.72	4	92	91	290	264	52	
A 2		45.0	32.683	1.45	1.78	1.78	4	92	91	292	263	54	
A 1		50.0	36.502	1.40	1.72	1.72	4	93	92	290	264	55	
A 1		55.0	40.292	1.40	1.72	1.72	4	94	92	291	259	55	
B 6	1045	60.0	44.082	1.25	1.53	1.53	4	92	92	288	264	59	
B 6		65.0	47.847	1.25	1.53	1.53	4	92	92	287	266	46	
B 5		70.0	51.392	1.25	1.53	1.53	4	93	92	287	264	48	
B 5		75.0	55.072	1.25	1.53	1.53	4	93	92	287	264	49	
B 4		80.0	58.688	1.30	1.59	1.59	4	94	92	288	262	52	
B 4		85.0	62.237	1.35	1.66	1.66	4	94	93	289	266	55	
B 3		90.0	65.871	1.30	1.59	1.59	4	94	93	290	261	56	
B 3		95.0	69.688	1.30	1.59	1.59	4	94	93	288	266	57	
B 2		100.0	73.133	1.35	1.66	1.66	4	95	93	289	259	58	
B 2		105.0	76.753	1.30	1.59	1.59	4	95	93	290	253	58	
B 1		110.0	80.513	1.35	1.66	1.66	4	96	94	291	254	59	
B 1		115.0	84.200	1.30	1.59	1.59	4	97	84	291	255	60	
	1145	120.0	87.700										
						MAX =>	4						
Average Values		120.0	86.548	1.271	1.562	1.561		92.0	288.6				

EPA 5

Client Name	Ogden Energy Group	Run #	2-S-M5-2		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1307
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1520
Test Location	UNIT 2	Tester Signature			
Date of Test	06/21/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.72	Pbar	29.9	Meter Console #		MB9	A654 0.5118	CO ₂
Meter Calibration Factor	1.0038	Pstatic	-1.15	Ideal Nozzle Diameter		0.219		8.5
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		D026	0.224	O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.223	(ju)	11.3
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-2		CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares	0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA		80.2
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA		H ₂ O
K Factor (delta H/delta P)	1.39	N ₂	82.0	TC ID #s		8-2		402.3

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	99	99	PRE	POST	DGM initial		136.148					136.148
Thermocouples			Y	Y	Vacuum	15	10	8				15
Pitots			Y	Y	Leak Rate	0.002	0.002	0.000				OK
Tedlar Bag		B2	Y	Y	DGM final		136.300					136.300

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft³	in H₂O	in H₂O	in H₂O	in Hg	°F	°F	°F	°F	°F	°F
A 6	1307	0.0	87.828	1.20	1.67	1.67	4	95	95	290	260	58	NA
6		5.0	91.750	1.00	1.39	1.39	4	96	95	288	252	58	
5		10.0	95.230	1.20	1.67	1.67	4	96	95	289	251	58	
A 5		15.0	99.030	1.10	1.53	1.53	4	97	95	290	254	58	
A 4		20.0	102.90	1.10	1.53	1.53	4	97	95	290	255	58	
A 4		25.0	106.500	1.20	1.67	1.67	4	97	95	290	254	58	
A 3		30.0	110.100	1.20	1.67	1.67	4	97	95	290	254	56	
A 3		35.0	113.750	1.20	1.67	1.67	4	97	95	290	254	56	
A 2		40.0	117.480	1.25	1.74	1.74	4	97	95	291	253	56	
A 2		45.0	121.300	1.25	1.74	1.74	4	98	95	291	255	57	
A 1		50.0	125.160	1.20	1.67	1.67	4	97	95	289	253	57	
A 1		55.0	128.880	1.10	1.53	1.53	4	96	95	288	252	57	
B 6		60.0	132.450	1.20	1.67	1.67	4	94	91	288	251	58	
B 6		65.0	136.148	1.20	1.67	1.67	4	96	96	290	254	59	
B 5		70.0	140.075	1.30	1.81	1.81	4	96	95	290	252	50	
B 5		75.0	144.082	1.20	1.67	1.67	4	96	95	290	254	53	
B 4		80.0	148.048	1.35	1.88	1.88	4	96	95	290	254	56	
B 4		85.0	151.921	1.20	1.67	1.67	4	97	95	290	253	57	
B 3		90.0	155.591	1.25	1.74	1.74	4	99	96	290	252	58	
B 3		95.0	159.265	1.25	1.74	1.74	4	100	96	289	254	60	
B 2		100.0	162.974	1.20	1.67	1.67	4	101	97	290	255	62	
B 2		105.0	166.694	1.20	1.67	1.67	4	101	98	290	254	62	
B 1		110.0	170.377	1.20	1.67	1.67	4	102	99	290	255	63	
B 1		115.0	174.211	1.15	1.60	1.60	4	102	99	291	255	62	
-	1520	120.0	177.912										
				MAX =>		4							
Average Values		120.0	89.932	1.195	1.667	1.664		96.5	289.8	C 108			

EPA 5

Client Name	Ogden Energy Group	Run #	2-S-M5-3		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1313
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1525
Test Location	UNIT 2	Tester Signature			
Date of Test	06/25/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.72	Pbar	29.9	Meter Console #		MB9	B010	0.4792	CO ₂
Meter Calibration Factor	1.0038	Pstatic	-1.10	Ideal Nozzle Diameter		0.219			8.5
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		D025			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.216			11.3
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-2			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.2
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.23	N ₂	82.0	TC ID #s		8-2			411.3

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	99	99	PRE	POST	DGM initial		373.956					373.956
Thermocouples			Y	Y	Vacuum	15	10	8				15
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		B6	Y	Y	DGM final		374.066					374.066

[illegible]

					MAX =>	4			
Average Values	120.0	86.260	1.261	1.549	1.549		99.0	290.5	109

APPENDIX C

FIELD DATA

2.0 UNIT NO. 2

b. SULFURIC ACID MIST

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 2 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>2-S-M8-1</u>		Date <u>6/24/99</u>		Operator <u>DL</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1325-1430	1524	8.5	19.5	11.0	2-S-M201A-1
	1533	8.5	19.6	11.1	
	1546	8.5	19.6	11.1	
Average		8.5	Average	11.1	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B142</u>		F _o <u>1.157</u>	

Run/Sample No. <u>2-S-M8-2</u>		Date <u>6/24/99</u>		Operator <u>DL</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1605-1717	1726	9.0	19.6	10.6	2-S-M201A-2
	1735	9.0	19.7	10.7	
	1745	9.0	19.7	10.7	
Average		9.0	Average	10.7	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B2</u>		F _o <u>1.137</u>	

Run/Sample No. _____		Date _____		Operator _____	
		Leak Check OK? _____			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
Average			Average		
Orsat I.D. _____		Tedlar Bag I.D. _____		F _o _____	

Reviewer JW
 AirKinetics, Inc.

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 2 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>2-S-M13B-1</u>		Date <u>6/22/99</u>		Operator <u>TW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1625-1732	1907	8.4	19.4	11.0	NA
	1918	8.5	19.4	10.9	
	1926	8.4	19.4	11.0	
Average		8.4	Average	11.0	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.178</u>	

Run/Sample No. <u>2-S-M13B-2</u>		Date <u>6/23/99</u>		Operator <u>DL</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1645-1755	1758	9.0	19.8	10.8	NA
	1805	9.0	19.9	10.9	
	1818	9.0	19.9	10.9	
Average		9.0	Average	10.9	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B142</u>		F _o <u>1.115</u>	

Run/Sample No. <u>2-S-M13B-3</u>		Date <u>6/26/99</u>		Operator <u>TW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1030-1200	1228	9.5	19.8	10.3	2-S-M8-3
	1238	9.4	19.8	10.4	
	1249	9.4	19.8	10.4	
Average		9.4	Average	10.4	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B2</u>		F _o <u>1.117</u>	

Reviewer *JW*
 AirKinetics, Inc.

EPA 8

Client Name	Ogden Energy Group	Run #	2-S-M8-1		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1325
Plant City, State	Fort Myers, FL	Personnel	MIKE C	Run End	1430
Test Location	UNIT 2	Tester Signature			
Date of Test	06/24/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.72	Pbar	29.9	Meter Console #		MB9	NA	NA	CO ₂
Meter Calibration Factor	1.0038	Pstatic	1.15	Ideal Nozzle Diameter		0.218			8.5
Pitot Tube Coefficient	0.840	Abs P	30.0	Nozzle #		GN2045			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.217			11.1
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-4			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.4
Estimated Velocity, ft/sec	82.2	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.26	N ₂	82.0	TC ID #s		8-4			153.3

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	102	102	PRE	POST	DGM initial	66.450	88.260	110.570				265.280
Thermocouples			Y	Y	Vacuum	15	10	10				15
Pitots			Y	Y	Leak Rate	0.000	0.002	0.002				OK
Tedlar Bag		B-142	Y	Y	DGM final	66.500	88.275	110.585				265.360

[illegible]

EPA 8

Client Name	Ogden Energy Group	Run #	2-S-M8-2		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1605
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1717
Test Location	UNIT 2	Tester Signature			
Date of Test	06/24/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.72	Pbar	29.9	Meter Console #		MB9	NA	NA	CO ₂
Meter Calibration Factor	1.0038	Pstatic	1.15	Ideal Nozzle Diameter		0.218			9.0
Pitot Tube Coefficient	0.840	Abs P	30.0	Nozzle #		DO18			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.216			10.7
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-7			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.3
Estimated Velocity, ft/sec	82.2	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.23	N ₂	82.0	TC ID #s		8-7			202.5

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	103	103	PRE	POST	DGM initial		132.500					132.500
Thermocouples			Y	Y	Vacuum	15	10	10				15
Pitots			Y	Y	Leak Rate	0.000	0.002	0.002				OK
Tedlar Bag		B2	Y	Y	DGM final		132.613					132.613

[illegible]

					MAX => 4			
Average Values	60.0	43.806	1.289	1.593	1.593		97.8	290.6

EPA 8

Client Name	Ogden Energy Group	Run #	2-S-M8 3		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1030
Plant City, State	Fort Myers, FL	Personnel	MIKE C	Run End	1200
Test Location	UNIT 2	Tester Signature	<i>Mike C</i>		
Date of Test	06/26/99	Checked By	<i>M</i>		

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.85	Pbar	29.9	Meter Console #		MB8	NA	CO ₂
Meter Calibration Factor	0.9982	Pstatic	-1.10	Ideal Nozzle Diameter		0.219		9.4
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		GN2045		O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.217		10.4
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-4		CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares	0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA		80.2
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA		H ₂ O
K Factor (delta H/delta P)	1.35	N ₂	82.0	TC ID #s		8-4		229.0

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	101	101	PRE	POST	DGM initial		352.900					352.900
Thermocouples			Y	Y	Vacuum	15	10	9				15
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		NA	NA	NA	DGM final		353.052					353.052

[illegible]

APPENDIX C

FIELD DATA

2.0 UNIT NO. 2

c. OPACITY

SOURCE NAME <i>Daden Martin Systems of Lee, Inc.</i>		
ADDRESS <i>10500 Buckingham Road</i>		
Port Myers	STATE <i>CA FL</i>	ZIP <i>33905</i>
PHONE <i>941/337-2200</i>	SOURCE ID NUMBER <i>PSD-FL-151</i>	

PROCESS EQUIPMENT <i>Unit 2 Stack</i>	OPERATING MODE <i>See Prod. data</i>
CONTROL EQUIPMENT <i>Fabric Filter Baghouse</i>	OPERATING MODE <i>continuous</i>

DESCRIBE EMISSION POINT <i>Stack</i>	
START <i>78" Circular</i>	STOP <i>Same</i>
HEIGHT ABOVE GROUND LEVEL START <i>~200'</i> STOP <i>SAME</i>	HEIGHT RELATIVE TO OBSERVER START <i>~200'</i> STOP <i>SAME</i>
DISTANCE FROM OBSERVER START <i>~600'</i> STOP <i>SAME</i>	DIRECTION FROM OBSERVER START <i>NW 280°</i> STOP <i>SAME</i>

DESCRIBE EMISSIONS START <i>None</i> STOP <i>SAME</i>	
EMISSION COLOR START <i>Clear</i> STOP <i>SAME</i>	PLUME TYPE CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT NO ☒ YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START <i>1 foot Above outlet</i> STOP <i>SAME</i>	

BACKGROUND <i>sky</i> STOP <i>SAME</i>	
BACKGROUND COLOR START <i>white</i> STOP	SKY CONDITIONS START <i>broken</i> STOP <i>SAME</i>
WIND SPEED START <i>calm</i> STOP <i>SAME</i>	WIND DIRECTION START <i>calm</i> STOP <i>SAME</i>
AMBIENT TEMP START	WET BULB TEMP RH. percent

SOURCE LAYOUT SKETCH	Draw North Arrow

COMMENTS <i>2-S-M9-1</i>
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SIGNATURE
TITLE
DATE

OBSERVATION DATE <i>6-21-99</i>					START TIME <i>0931</i>					STOP TIME <i>1031</i>				
SEC	0	15	30	45	SEC	0	15	30	45					
MIN					MIN									
1	0	0	0	0	31	0	0	0	0					
2	0	0	0	0	32	0	0	0	0					
3	0	0	0	0	33	0	0	0	0					
4	0	0	0	0	34	0	0	0	0					
5	0	0	0	0	35	0	0	0	0					
6	0	0	0	0	36	0	0	0	0					
7	0	0	0	0	37	0	0	0	0					
8	0	0	0	0	38	0	0	0	0					
9	0	0	0	0	39	0	0	0	0					
10	0	0	0	0	40	0	0	0	0					
11	0	0	0	0	41	0	0	0	0					
12	0	0	0	0	42	0	0	0	0					
13	0	0	0	0	43	0	0	0	0					
14	0	0	0	0	44	0	0	0	0					
15	0	0	0	0	45	0	0	0	0					
16	0	0	0	0	46	0	0	0	0					
17	0	0	0	0	47	0	0	0	0					
18	0	0	0	0	48	0	0	0	0					
19	0	0	0	0	49	0	0	0	0					
20	0	0	0	0	50	0	0	0	0					
21	0	0	0	0	51	0	0	0	0					
22	0	0	0	0	52	0	0	0	0					
23	0	0	0	0	53	0	0	0	0					
24	0	0	0	0	54	0	0	0	0					
25	0	0	0	0	55	0	0	0	0					
26	0	0	0	0	56	0	0	0	0					
27	0	0	0	0	57	0	0	0	0					
28	0	0	0	0	58	0	0	0	0					
29	0	0	0	0	59	0	0	0	0					
30	0	0	0	0	60	0	0	0	0					

AVERAGE OPACITY FOR HIGHEST PERIOD <i>0%</i>	NUMBER OF READINGS ABOVE <i>10</i> % WERE <i>0</i>
RANGE OF OPACITY READINGS MINIMUM <i>0</i>	MAXIMUM <i>0</i>

OBSERVER'S NAME (PRINT) <i>Donnie Leeper</i>	
OBSERVER'S SIGNATURE <i>Donnie Leeper</i>	DATE <i>6-21-99</i>
ORGANIZATION <i>AIRKINETICS INC.</i>	
CERTIFIED BY <i>EASTERN TECHNICAL ASSOCIATES</i>	DATE <i>6-9-99</i>
STATE OF FLORIDA CERTIFIED	
VERIFIED BY	DATE

SOURCE NAME <i>OGDEN MARTIN SYSTEMS of LEE, INC.</i>		
ADDRESS <i>10500 Buckingham Road</i>		

Fort Myers	STATE <i>FL</i>	ZIP <i>33905</i>
PHONE <i>(941) 337-2200</i>	SOURCE ID NUMBER <i>PSD-FL 151</i>	

PROCESS EQUIPMENT <i>Unit 2 STACK</i>	OPERATING MODE <i>Sec. Prod. DATA</i>
CONTROL EQUIPMENT <i>Baghouse</i>	OPERATING MODE <i>Continuous</i>

DESCRIBE EMISSION POINT START <i>78" Circular Stack</i> STOP <i>Same</i>	
HEIGHT ABOVE GROUND LEVEL START <i>200'</i> STOP <i>Same</i>	HEIGHT RELATIVE TO OBSERVER START <i>200'</i> STOP <i>Same</i>
DISTANCE FROM OBSERVER START <i>500'</i> STOP <i>Same</i>	DIRECTION FROM OBSERVER START <i>800' E</i> STOP <i>Same</i>

DESCRIBE EMISSIONS START <i>NONE</i> STOP <i>Same</i>	
EMISSION COLOR START <i>Clear</i> STOP <i>Same</i>	PLUME TYPE CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT NO ☒ YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START <i>1 foot Above outlet</i> STOP <i>Same</i>	

RIBE BACKGROUND START <i>SKY</i> STOP <i>Same</i>	
BACKGROUND COLOR START <i>White</i> STOP <i>Same</i>	SKY CONDITIONS START <i>broken</i> STOP <i>Same</i>
WIND SPEED START <i>3-5 MPH</i> STOP <i>Same</i>	WIND DIRECTION START <i>SE</i> STOP <i>Same</i>
AMBIENT TEMP START STOP	WET BULB TEMP RH, percent

SOURCE LAYOUT SKETCH Draw North Arrow

COMMENTS <i>2-5-mg-2</i>

I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS	
SIGNATURE	DATE
TITLE	DATE

OBSERVATION DATE <i>6-21-99</i>					START TIME <i>1404</i>					STOP TIME <i>1504</i>				
SEC MIN	0	15	30	45	SEC MIN	0	15	30	45					
1	0	0	0	0	31	0	0	0	0					
2	0	0	0	0	32	0	0	0	0					
3	0	0	0	0	33	0	0	0	0					
4	0	0	0	0	34	0	0	0	0					
5	0	0	0	0	35	0	0	0	0					
6	0	0	0	0	36	0	0	0	0					
7	0	0	0	0	37	0	0	0	0					
8	0	0	0	0	38	0	0	0	0					
9	0	0	0	0	39	0	0	0	0					
10	0	0	0	0	40	0	0	0	0					
11	0	0	0	0	41	0	0	0	0					
12	0	0	0	0	42	0	0	0	0					
13	0	0	0	0	43	0	0	0	0					
14	0	0	0	0	44	0	0	0	0					
15	0	0	0	0	45	0	0	0	0					
16	0	0	0	0	46	0	0	0	0					
17	0	0	0	0	47	0	0	0	0					
18	0	0	0	0	48	0	0	0	0					
19	0	0	0	0	49	0	0	0	0					
20	0	0	0	0	50	0	0	0	0					
21	0	0	0	0	51	0	0	0	0					
22	0	0	0	0	52	0	0	0	0					
23	0	0	0	0	53	0	0	0	0					
24	0	0	0	0	54	0	0	0	0					
25	0	0	0	0	55	0	0	0	0					
26	0	0	0	0	56	0	0	0	0					
27	0	0	0	0	57	0	0	0	0					
28	0	0	0	0	58	0	0	0	0					
29	0	0	0	0	59	0	0	0	0					
30	0	0	0	0	60	0	0	0	0					

AVERAGE OPACITY FOR HIGHEST PERIOD %	NUMBER OF READINGS ABOVE 10 % WERE 0
RANGE OF OPACITY READINGS MINIMUM 0	MAXIMUM 0

OBSERVER'S NAME (PRINT) <i>Bonnie Leeper</i>	
OBSERVER'S SIGNATURE <i>Bonnie Leeper</i>	DATE <i>6-21-99</i>
ORGANIZATION <i>AirKinetics Inc.</i>	
CERTIFIED BY <i>EASTERN TECHNICAL ASSOC.</i>	DATE <i>6-9-99</i>
VERIFIED BY	DATE <i>118</i>

SOURCE NAME
Order Martin Systems of Leach

ADDRESS
10500 Buckingham Road

Fort Myers
STATE *FL* ZIP *33905*

PHONE *(941) 337-2200* SOURCE ID NUMBER
PSD-151-FL

PROCESS EQUIPMENT
#2 Unit STARK OPERATING MODE
See frad data

CONTROL EQUIPMENT
Biphase/scrubber OPERATING MODE
Continuous

DESCRIBE EMISSION POINT
START *78" Circular STARK* STOP *Same*

HEIGHT ABOVE GROUND LEVEL
START *200'* STOP *Same* HEIGHT RELATIVE TO OBSERVER
START *200'* STOP *Same*

DISTANCE FROM OBSERVER
START *500'* STOP *Same* DIRECTION FROM OBSERVER
START *EAST* STOP *Same*

DESCRIBE EMISSIONS
START *None* STOP *Same*

EMISSION COLOR
START *Clear* STOP *Same* PLUME TYPE CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐

WATER DROPLETS PRESENT
NO YES ☐ IS WATER DROPLET PLUME
ATTACHED ☐ DETACHED ☐

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED
Stack outlet STOP *Same*

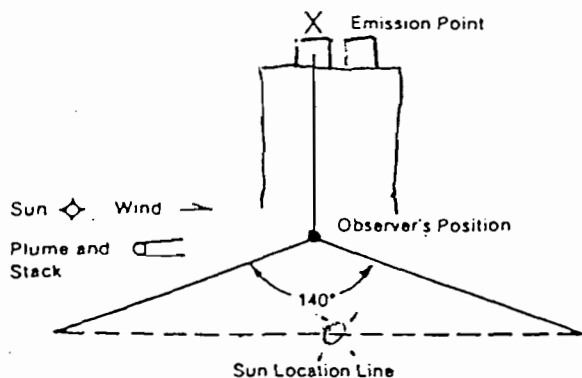
BACKGROUND
START *Sky* STOP *Same*

BACKGROUND COLOR
START *White* STOP *Same* SKY CONDITIONS
START *Overcast* STOP *Same*

WIND SPEED
START *CalM* STOP *Same* WIND DIRECTION
START *CalM* STOP *Same*

AMBIENT TEMP
START *Same* STOP *Same* WET BULB TEMP
RH, percent

SOURCE LAYOUT SKETCH Draw North Arrow



REMARKS
method 5-run 3

DO YOU HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS
NATURE
DATE

OBSERVATION DATE 6-25-99					START TIME 1415		STOP TIME 1515			
SEC MIN	0	15	30	45	SEC MIN	0	15	30	45	
1	0	0	0	0	31	0	0	0	0	
2	0	0	0	0	32	0	0	0	0	
3	0	0	0	0	33	0	0	0	0	
4	0	0	0	0	34	0	0	0	0	
5	0	0	0	0	35	0	0	0	0	
6	0	0	0	0	36	0	0	0	0	
7	0	0	0	0	37	0	0	0	0	
8	0	0	0	0	38	0	0	0	0	
9	0	0	0	0	39	0	0	0	0	
10	0	0	0	0	40	0	0	0	0	
11	0	0	0	0	41	0	0	0	0	
12	0	0	0	0	42	0	0	0	0	
13	0	0	0	0	43	0	0	0	0	
14	0	0	0	0	44	0	0	0	0	
15	0	0	0	0	45	0	0	0	0	
16	0	0	0	0	46	0	0	0	0	
17	0	0	0	0	47	0	0	0	0	
18	0	0	0	0	48	0	0	0	0	
19	0	0	0	0	49	0	0	0	0	
20	0	0	0	0	50	0	0	0	0	
21	0	0	0	0	51	0	0	0	0	
22	0	0	0	0	52	0	0	0	0	
23	0	0	0	0	53	0	0	0	0	
24	0	0	0	0	54	0	0	0	0	
25	0	0	0	0	55	0	0	0	0	
26	0	0	0	0	56	0	0	0	0	
27	0	0	0	0	57	0	0	0	0	
28	0	0	0	0	58	0	0	0	0	
29	0	0	0	0	59	0	0	0	0	
30	0	0	0	0	60	0	0	0	0	

AVERAGE OPACITY FOR HIGHEST PERIOD *0.70* NUMBER OF READINGS ABOVE 10% WERE *0*

RANGE OF OPACITY READINGS
MINIMUM *0* MAXIMUM *0*

OBSERVER'S NAME (PRINT)
Donnie Leeper

OBSERVER'S SIGNATURE
Donnie Leeper DATE
6-25-99

ORGANIZATION
Airkinetics Inc.

CERTIFIED BY
EASTERN TECHNICAL ASSOC. DATE
6-9-99

VERIFIED BY
119

APPENDIX C

FIELD DATA

2.0 UNIT NO. 2

- d. **OXYGEN, CARBON DIOXIDE, SULFUR DIOXIDE, NITROGEN OXIDES,
CARBON MONOXIDE, AND TOTAL HYDROCARBONS**

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 2

REASON: INITIAL DIRECT CALIBRATION ERROR

DATE : 06-23-1999 TIME: 07:04 - 07:37

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
4	STACK	ppmNOx	0.0	0.3
4	STACK	ppmNOx	228.0	229.5
4	STACK	ppmNOx	456.0	456.1
5	STACK	ppmSO2	0.0	-0.0
5	STACK	ppmSO2	45.1	44.7
5	STACK	ppmSO2	91.1	90.9
6	STACK	ppmCO	0.0	0.2
6	STACK	ppmCO	30.0	30.5
6	STACK	ppmCO	60.0	59.8
6	STACK	ppmCO	91.5	91.5
1	STACK	% O2	0.00	0.12
1	STACK	% O2	8.99	9.03
1	STACK	% O2	19.94	19.97
2	STACK	% CO2	0.0	0.0
2	STACK	% CO2	9.1	9.1
2	STACK	% CO2	17.6	17.6
9	INLET	ppmSO2	0.0	0.5
9	INLET	ppmSO2	300.0	299.9
9	INLET	ppmSO2	450.0	449.8
11	INLET	ppmCO	0.0	0.6
11	INLET	ppmCO	30.0	30.6
11	INLET	ppmCO	60.0	60.7
11	INLET	ppmCO	91.5	91.7
7	INLET	% O2	0.00	0.25
7	INLET	% O2	8.99	9.15
7	INLET	% O2	19.94	19.98
10	INLET	% CO2	0.00	0.05
10	INLET	% CO2	8.82	8.93
10	INLET	% CO2	17.64	17.64

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 2

REASON: INITIAL SYSTEM BIAS

DATE : 06-23-1999 TIME: 08:31 - 08:46

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
4	STACK	ppmNOx	0.0	0.3
4	STACK	ppmNOx	228.0	222.8
5	STACK	ppmSO2	0.0	0.3
5	STACK	ppmSO2	45.1	44.0
6	STACK	ppmCO	0.0	0.1
6	STACK	ppmCO	91.5	90.5
1	STACK	% O2	0.00	0.18
1	STACK	% O2	8.99	8.96
2	STACK	% CO2	0.0	0.0
2	STACK	% CO2	9.1	9.0
9	INLET	ppmSO2	0.0	0.5
9	INLET	ppmSO2	300.0	285.6
11	INLET	ppmCO	0.0	-0.1
11	INLET	ppmCO	91.5	91.0
7	INLET	% O2	0.00	0.28
7	INLET	% O2	8.99	9.01
10	INLET	% CO2	0.00	0.07
10	INLET	% CO2	8.82	8.70

OMS LEE - FT. MYERS - UNIT 2 06-23-1999

	CHAN 4	CHAN 5	CHAN 6	CHAN 1	CHAN 2	CHAN 9	CHAN11	CHAN 7	CHAN10
	STACK	STACK	STACK	STACK	STACK	INLET	INLET	INLET	INLET
TIME	ppmHox	ppmSO2	ppmCO	% O2	% CO2	ppmSO2	ppmCO	% O2	% CO2
08:53	195.0	12.3	17.6	9.14	10.4	78.7	17.4	8.77	10.72
08:54	199.2	13.1	13.5	9.17	10.4	78.6	13.5	8.81	10.60
08:55	182.5	13.7	12.4	9.49	10.1	82.2	13.1	9.15	10.36
08:56	160.4	14.4	12.3	9.81	9.8	81.2	12.5	9.42	10.11
08:57	110.0	13.5	12.2	10.65	9.0	73.7	12.9	10.33	9.37
08:58	71.1	11.2	14.4	11.37	8.3	69.9	14.7	10.92	8.87
08:59	66.5	9.1	17.3	11.59	8.2	71.6	19.4	10.88	9.03
09:00	104.4	9.0	20.9	10.90	8.9	83.2	20.7	10.20	9.61
09:01	137.5	9.9	18.1	10.47	9.3	85.1	18.2	9.74	9.98
09:02	141.2	8.7	15.8	10.49	9.2	76.6	15.2	10.06	9.68
09:03	131.1	9.3	16.9	10.50	9.2	73.9	18.3	10.24	9.56
09:04	128.1	9.0	15.3	10.49	9.3	77.0	16.5	10.03	9.74
09:05	137.5	10.3	16.1	10.45	9.3	76.1	16.2	10.18	9.57
09:06	111.9	11.0	13.6	10.94	8.8	73.3	15.1	10.64	9.31
09:07	124.4	13.5	19.4	10.28	9.5	76.3	23.1	9.81	10.02
09:08	105.5	16.2	25.2	10.01	9.7	73.9	27.3	9.84	9.89
09:09	116.2	17.2	19.7	9.99	9.8	74.3	22.9	9.66	10.02
09:10	145.3	18.4	20.6	9.85	9.9	75.2	25.1	9.41	10.25
09:11	132.2	17.9	16.7	10.27	9.5	67.2	17.7	10.08	9.72
09:12	120.7	15.6	14.3	10.60	9.1	64.2	17.2	10.31	9.53
09:13	113.0	12.6	14.6	10.85	9.0	65.2	17.5	10.46	9.48
09:14	100.8	11.3	15.3	10.88	8.9	64.2	16.7	10.70	9.20
09:15	89.5	10.1	17.5	11.01	8.8	66.6	22.8	10.39	9.45
09:16	110.3	10.2	23.0	10.69	9.2	68.3	25.8	10.15	9.75
09:17	117.1	11.2	22.7	10.38	9.4	64.7	25.4	9.92	9.94
09:18	122.0	11.8	22.0	10.00	9.8	65.9	24.8	9.58	10.24
09:19	129.8	12.6	22.4	9.46	10.3	67.8	24.1	9.17	9.89
09:20	146.3	13.5	17.3	9.20	10.5	73.2	16.6	9.62	10.64
09:21	134.4	13.7	14.7	9.66	10.0	72.8	15.3	9.25	10.42
09:22	111.0	13.5	14.3	10.21	9.5	67.1	15.4	9.90	9.87

AVERAGE VALUES FOR THE LAST 30 MINUTES

09:22	126.5	12.4	17.2	10.29	9.4	72.9	18.7	9.92	9.83
09:23	72.2	12.2	14.7	11.10	8.6	59.3	15.4	10.88	8.99
09:24	47.7	10.3	16.9	11.92	7.9	52.6	18.4	11.73	8.25
09:25	61.2	8.6	20.6	11.70	8.2	56.9	23.2	11.11	8.95
09:26	96.4	8.6	22.1	11.16	8.7	61.5	23.5	10.72	9.29
09:27	106.6	10.0	23.5	10.72	9.1	59.0	26.7	10.40	9.61
09:28	109.4	10.6	23.4	10.62	9.2	57.7	23.8	10.32	9.69
09:29	130.2	11.6	19.9	10.34	9.5	63.1	22.2	9.81	10.04
09:30	143.3	12.5	21.7	10.08	9.7	66.6	23.6	9.71	10.11
09:31	142.0	14.5	21.7	9.97	9.8	69.1	23.5	9.65	10.18
09:32	159.8	17.2	21.9	9.63	10.1	75.4	24.4	9.14	10.56
09:33	177.8	20.3	18.0	9.41	10.3	79.9	18.0	9.07	10.57
09:34	174.8	25.3	13.3	9.65	10.0	81.3	13.9	9.31	10.29
09:35	148.1	28.5	14.4	10.17	9.5	79.9	16.5	9.99	9.75
09:36	124.6	27.6	14.7	10.61	9.0	84.4	16.5	10.07	9.67
09:37	101.0	27.4	17.1	11.07	8.6	85.3	13.5	10.42	9.35
09:38	72.1	30.9	19.5	11.60	8.1	83.5	20.3	11.01	8.81
09:39	55.7	31.4	23.6	11.88	7.9	86.4	25.6	10.98	8.98
09:40	100.4	34.3	30.9	10.92	8.8	106.3	30.4	10.15	9.55
09:41	91.8	37.4	22.6	11.26	8.4	95.2	22.1	10.62	9.26
09:42	104.0	39.7	24.3	10.87	8.8	100.9	26.8	10.10	9.73
09:43	111.3	41.3	27.4	10.68	9.0	104.1	27.4	9.98	9.70

OMS LEE - FT. MYERS - UNIT 2 06-23-1999

	CHAN 4	CHAN 5	CHAN 6	CHAN 1	CHAN 2	CHAN 9	CHAN11	CHAN 7	CHAN10
	STACK	STACK	STACK	STACK	STACK	INLET	INLET	INLET	INLET
TIME	ppmNOx	ppmSO2	ppmCO	% O2	% CO2	ppmSO2	ppmCO	% O2	% CO2
09:44	91.1	36.7	24.2	11.31	8.4	94.1	24.7	10.65	9.22
09:45	100.6	34.1	29.8	11.16	8.5	93.6	30.5	10.61	9.17
09:46	124.1	35.2	33.8	10.56	9.1	118.5	38.5	9.65	10.06
09:47	117.5	38.0	30.1	10.89	8.7	106.2	28.7	10.48	9.21
09:48	100.1	37.7	26.9	11.38	8.3	100.7	29.3	10.85	9.01
09:49	107.1	43.6	32.7	11.25	8.3	98.3	35.6	10.97	8.82
09:50	130.0	44.8	34.1	10.72	9.0	103.7	39.2	9.97	9.83
09:51	119.9	47.4	29.5	11.04	8.5	87.4	29.9	11.09	8.68
09:52	91.2	46.2	32.7	11.81	7.9	85.2	40.9	11.53	8.46

AVERAGE VALUES FOR THE LAST 30 MINUTES

09:52	110.4	37.5	23.5	10.85	8.9	83.2	25.3	10.37	9.46

AVERAGE VALUES FOR THE LAST HOUR: 60 MINUTES OF VALID DATA

09:52	118.4	39.9	20.4	10.57	9.1	78.1	22.0	10.14	9.64

COMMENTS: END STACK DATA RUN 1
 END INLET DATA RUN 1
 END COMPLIANCE RUN 1

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 2

REASON: SYSTEM BIAS CHECK

DATE : 06-23-1999 TIME: 09:54 - 10:15

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
4	STACK	ppmNOx	0.0	0.5
4	STACK	ppmNOx	228.0	219.6
5	STACK	ppmSO2	0.0	-0.5
5	STACK	ppmSO2	45.1	44.9
6	STACK	ppmCO	0.0	0.0
6	STACK	ppmCO	91.5	90.3
1	STACK	% O2	0.00	0.12
1	STACK	% O2	8.99	9.02
2	STACK	% CO2	0.0	0.1
2	STACK	% CO2	9.1	9.0
9	INLET	ppmSO2	0.0	1.0
9	INLET	ppmSO2	300.0	288.1
11	INLET	ppmCO	0.0	-0.1
11	INLET	ppmCO	91.5	91.9
7	INLET	% O2	0.00	0.24
7	INLET	% O2	8.99	8.97
10	INLET	% CO2	0.00	0.10
10	INLET	% CO2	8.82	8.85

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 2

REASON: CALIBRATION ERROR FOR THC ANALYZER

DATE : 06-23-1999 TIME: 10:19 - 10:33

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
3	STACK	ppmC1	0.0	0.3
3	STACK	ppmC1	15.0	14.5
3	STACK	ppmC1	25.0	23.9
3	STACK	ppmC1	45.3	45.5

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 2

REASON: SYSTEM BIAS CHECK AFTER RUN 2

DATE : 06-23-1999 TIME: 11:05 - 11:18

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
4	STACK	ppmNOx	0.0	0.6
4	STACK	ppmNOx	228.0	220.3
5	STACK	ppmSO2	0.0	-0.1
5	STACK	ppmSO2	45.1	44.6
6	STACK	ppmCO	0.0	0.1
6	STACK	ppmCO	91.5	90.0
1	STACK	% O2	0.00	0.10
1	STACK	% O2	8.99	8.99
2	STACK	% CO2	0.0	0.1
2	STACK	% CO2	9.1	9.1
9	INLET	ppmSO2	0.0	1.7
9	INLET	ppmSO2	300.0	290.9
11	INLET	ppmCO	0.0	0.0
11	INLET	ppmCO	91.5	90.9
7	INLET	% O2	0.00	0.26
7	INLET	% O2	8.99	8.98
10	INLET	% CO2	0.00	0.10
10	INLET	% CO2	8.82	8.57

BEST AVAILABLE COPY

OMS LEE - FT. MYERS - UNIT 2 06-23-1999

	CHAN 4	CHAN 5	CHAN 6	CHAN 1	CHAN 2	CHAN 9	CHAN11	CHAN 7	CHAN10	CHAN 3
	STACK	STACK	STACK	STACK	STACK	INLET	INLET	INLET	INLET	STACK
TIME	ppmHOx	ppmSO2	ppmCO	% O2	% CO2	ppmSO2	ppmCO	% O2	% CO2	ppmCl
11:21	109.2	4.6	22.9	10.57	9.0	68.1	24.8	9.81	9.65	5.6
11:22	114.2	4.9	26.9	10.25	9.4	67.8	29.4	9.53	10.02	5.2
11:23	135.7	5.2	21.5	9.78	9.9	65.5	22.1	9.34	10.15	5.1
11:24	138.8	5.1	17.5	9.81	9.7	61.1	19.1	9.40	9.96	5.0
11:25	96.9	4.7	13.2	10.82	8.7	53.4	13.5	10.55	9.04	4.9
11:26	90.2	4.4	18.0	10.92	8.7	56.4	19.9	10.36	9.21	5.1
11:27	102.2	4.6	20.2	10.91	8.7	53.8	21.2	10.37	9.26	4.4
11:28	129.7	4.9	21.6	10.21	9.4	52.3	23.2	9.56	9.90	4.4
11:29	131.8	4.6	17.2	10.25	9.3	49.2	17.8	9.73	9.75	4.6
11:30	123.8	4.4	20.4	10.39	9.2	47.9	22.3	9.95	9.57	4.5
11:31	129.1	4.2	21.3	10.17	9.5	51.7	23.0	9.65	9.90	4.3
11:32	152.5	4.2	19.5	9.75	9.8	60.8	20.4	9.10	10.29	4.5
11:33	143.6	4.2	15.4	10.23	9.4	65.0	16.5	9.57	9.86	4.7
11:34	111.6	4.1	15.8	10.84	8.7	66.8	18.2	10.25	9.25	4.4
11:35	101.3	4.0	20.1	10.92	8.7	73.5	22.9	10.19	9.35	4.3
11:36	117.2	4.3	24.6	10.63	9.0	80.9	27.5	9.93	9.70	4.2
11:37	95.9	4.3	21.6	11.16	8.5	72.3	21.2	10.56	9.13	4.0
11:38	102.3	4.2	29.6	11.06	8.6	76.1	31.3	10.33	9.35	4.0
11:39	144.0	5.0	30.1	10.05	9.7	90.2	30.9	9.34	10.14	4.0
11:40	157.9	6.0	20.0	9.91	9.7	89.8	21.2	9.33	9.99	4.2
11:41	118.4	6.3	17.0	10.64	8.9	82.7	19.7	10.14	9.34	4.1
11:42	91.9	5.8	21.8	11.06	8.6	82.8	25.1	10.48	9.19	4.0
11:43	100.4	6.5	26.1	10.90	8.8	85.1	28.4	10.29	9.31	4.0
11:44	94.0	6.9	25.2	10.96	8.8	82.7	26.6	10.50	9.26	3.9
11:45	100.8	7.7	29.1	10.53	9.2	83.5	31.2	9.93	9.72	3.7
11:46	108.7	8.4	28.1	10.29	9.4	86.0	29.6	9.64	9.86	4.0
11:47	112.0	8.1	24.8	10.32	9.4	78.8	26.0	9.89	9.69	4.0
11:48	123.9	8.2	22.3	9.98	9.7	81.9	23.8	9.52	9.95	3.9
11:49	141.9	8.6	18.7	9.75	9.9	82.3	20.2	9.35	10.11	4.0
11:50	150.4	9.6	17.8	9.72	9.9	78.2	20.2	9.46	10.01	4.0

AVERAGE VALUES FOR THE LAST 30 MINUTES

11:50	119.0	5.6	21.6	10.43	9.2	70.9	23.2	9.87	9.66	4.4
11:51	154.4	9.2	15.1	9.84	9.8	78.8	17.0	9.58	9.88	5.0
11:52	135.1	10.4	13.7	10.20	9.4	75.5	15.6	9.95	9.54	5.1
11:53	91.5	10.5	14.4	11.12	8.5	70.2	16.5	10.83	8.77	4.8
11:54	84.0	9.7	19.8	11.32	8.3	72.7	22.0	10.89	8.81	4.8
11:55	101.0	10.4	20.9	10.99	8.7	73.6	22.1	10.49	9.22	4.6
11:56	129.3	12.4	23.2	10.13	9.6	73.9	25.2	9.75	9.84	4.6
11:57	148.0	15.2	18.5	9.68	9.9	83.0	19.9	9.31	10.10	4.6
11:58	133.0	18.0	14.0	10.06	9.5	79.4	16.1	9.92	9.60	4.9
11:59	113.6	18.7	13.6	10.64	9.0	74.2	16.3	10.41	9.13	4.8
12:00	90.7	17.7	16.6	11.15	8.5	73.8	19.8	10.76	8.94	5.0
12:01	104.5	16.4	21.1	10.84	8.9	77.4	24.1	10.42	9.27	4.9
12:02	112.6	17.2	22.3	10.50	9.2	79.6	23.9	10.15	9.49	4.6
12:03	130.1	18.0	19.3	10.12	9.6	78.0	21.3	9.75	9.78	4.5
12:04	132.1	18.0	19.6	9.77	9.9	80.2	22.3	9.36	10.13	4.6
12:05	146.3	18.3	16.6	9.75	9.9	77.9	18.7	9.25	10.24	4.5
12:06	145.9	17.1	13.0	10.09	9.6	79.1	14.3	9.54	9.95	4.7
12:07	111.1	15.6	13.2	10.83	8.9	73.7	14.5	10.41	9.24	4.6
12:08	118.7	14.4	18.6	10.71	9.1	79.6	20.1	10.18	9.55	4.5
12:09	113.8	13.8	17.8	10.80	9.0	75.7	18.0	10.48	9.27	4.4
12:10	126.8	14.4	18.7	10.42	9.4	83.0	20.4	10.05	9.66	4.4
12:11	146.6	16.1	18.1	9.95	9.8	85.5	20.0	9.55	10.02	4.4

OMS LEE - FT. MYERS - UNIT 2 06-23-1999

	CHAN 4	CHAN 5	CHAN 6	CHAN 1	CHAN 2	CHAN 9	CHAN11	CHAN 7	CHAN10	CHAN 3
	STACK	STACK	STACK	STACK	STACK	INLET	INLET	INLET	INLET	STACK
TIME	ppmNOx	ppmSO2	ppmCO	% O2	% CO2	ppmSO2	ppmCO	% O2	% CO2	ppmCl
12:12	139.7	17.2	14.4	10.17	9.5	82.6	15.7	9.89	9.73	4.3
12:13	102.5	14.8	13.2	10.92	8.8	70.2	14.4	10.61	9.09	4.4
12:14	96.5	11.6	15.0	11.08	8.7	68.8	16.3	10.70	9.12	4.6
12:15	133.7	9.0	16.9	10.37	9.5	83.6	18.5	9.87	9.87	4.4
12:16	129.7	9.0	15.5	10.34	9.4	82.2	17.8	9.85	9.79	4.3
12:17	104.9	9.5	12.1	10.64	9.1	83.8	12.4	9.93	9.71	4.2
12:18	82.8	9.6	13.9	11.04	8.7	85.1	15.3	10.51	9.16	4.2
12:19	117.8	10.1	17.9	10.49	9.4	90.2	19.6	9.79	9.94	4.0
12:20	145.7	12.3	16.9	9.98	9.8	88.6	17.2	9.66	9.85	4.1

AVERAGE VALUES FOR THE LAST 30 MINUTES

12:20	120.7	13.8	16.8	10.46	9.2	78.7	18.5	10.06	9.56	4.6

AVERAGE VALUES FOR THE LAST HOUR: 60 MINUTES OF VALID DATA

12:20	119.9	9.7	19.2	10.45	9.2	74.8	20.9	9.96	9.61	4.5

COMMENTS: END STACK RATA RUN 3
 END INLET RATA RUN 3
 END COMPLIANCE TEST RUN 2
 END THC RUN 1

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 2

REASON: SYSTEM BIAS CHECK

DATE : 06-23-1999 TIME: 12:21 - 12:36

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
4	STACK	ppmNOx	0.0	0.6
4	STACK	ppmNOx	228.0	220.2
5	STACK	ppmSO2	0.0	-0.2
5	STACK	ppmSO2	45.1	44.2
6	STACK	ppmCO	0.0	-0.4
6	STACK	ppmCO	91.5	89.3
1	STACK	% O2	0.00	0.10
1	STACK	% O2	8.99	8.93
2	STACK	% CO2	0.0	0.1
2	STACK	% CO2	9.1	9.1
9	INLET	ppmSO2	0.0	0.6
9	INLET	ppmSO2	300.0	284.2
11	INLET	ppmCO	0.0	-0.0
11	INLET	ppmCO	91.5	91.0
7	INLET	% O2	0.00	0.23
7	INLET	% O2	8.99	8.81
10	INLET	% CO2	0.00	0.12
10	INLET	% CO2	8.82	8.71
3	STACK	ppmC1	0.0	0.8
3	STACK	ppmC1	25.0	25.7

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OMS LEE - FT. MYERS - UNIT 2 06-23-1999

TIME	CHAN 4 STACK ppmNOx	CHAN 5 STACK ppmSO2	CHAN 6 STACK ppmCO	CHAN 1 STACK % O2	CHAN 2 STACK % CO2	CHAN 9 INLET ppmSO2	CHAN11 INLET ppmCO	CHAN 7 INLET % O2	CHAN10 INLET % CO2	CHAN 3 STACK ppmCl
12:39	96.5	7.5	23.8	10.93	8.6	45.3	26.5	10.56	9.07	3.9
12:40	118.1	7.5	23.0	10.52	9.0	41.9	25.2	10.13	9.41	3.9
12:41	142.3	7.3	21.2	9.87	9.7	43.5	23.0	9.29	10.09	3.8
12:42	144.6	6.6	18.0	9.94	9.5	41.9	19.3	9.52	9.83	4.0
12:43	121.4	5.9	17.8	10.31	9.2	36.8	20.1	10.01	9.47	3.8
12:44	121.5	5.4	19.6	10.33	9.2	36.3	22.3	9.97	9.54	3.5
12:45	142.1	5.4	17.3	9.97	9.5	39.7	18.5	9.50	9.93	3.5
12:46	151.4	5.3	15.6	9.96	9.5	39.0	16.5	9.64	9.73	3.4
12:47	139.6	5.4	14.3	10.23	9.2	37.6	15.5	9.86	9.51	3.2
12:48	116.5	5.1	14.6	10.64	8.8	36.6	15.8	10.28	9.14	3.1
12:49	98.4	5.1	13.8	10.94	8.5	36.3	14.9	10.76	8.73	3.1
12:50	108.8	5.3	18.6	10.38	9.2	38.8	20.9	10.16	9.38	2.9
12:51	106.8	6.1	20.0	10.06	9.5	39.2	21.7	9.97	9.49	2.9
12:52	118.5	6.3	14.6	10.08	9.4	41.4	15.6	10.00	9.44	2.9
12:53	122.3	6.1	12.9	10.18	9.3	42.6	14.1	10.16	9.35	2.9
12:54	115.9	6.1	12.6	10.59	8.9	42.7	14.1	10.54	8.94	3.0
12:55	122.5	6.2	14.1	10.57	9.0	42.2	16.0	10.47	9.15	2.8
12:56	145.3	6.7	17.9	9.90	9.6	44.7	21.0	9.61	9.85	2.7
12:57	157.0	7.2	13.1	9.88	9.6	51.8	13.4	9.65	9.79	2.6
12:58	145.2	7.7	10.5	10.23	9.2	56.0	11.8	9.92	9.45	2.7
12:59	109.7	7.3	11.1	10.92	8.6	54.1	12.5	10.57	8.98	2.7
13:00	111.0	7.2	15.3	10.66	8.9	59.4	18.0	10.07	9.42	2.5
13:01	127.9	8.0	17.9	10.28	9.3	61.3	20.3	9.90	9.63	2.4
13:02	134.2	9.2	19.0	9.98	9.6	63.3	21.6	9.80	9.69	2.3
13:03	151.0	10.9	15.7	9.71	9.8	65.7	17.8	9.68	9.75	2.3
13:04	149.5	12.3	11.8	9.91	9.5	66.1	13.2	9.91	9.54	2.2
13:05	116.0	13.4	11.0	10.66	8.8	67.0	13.1	10.57	8.91	2.2
13:06	113.2	13.3	15.6	10.75	8.8	77.9	19.7	10.42	9.18	2.1
13:07	98.0	14.7	19.2	11.03	8.4	77.6	22.6	10.79	8.66	2.1
13:08	99.5	13.7	20.7	11.00	8.5	83.4	24.7	10.74	8.90	2.1

AVERAGE VALUES FOR THE LAST 30 MINUTES

13:08	124.7	7.8	16.3	10.35	9.1	50.3	18.3	10.08	9.40	2.9
13:09	126.4	14.1	22.8	10.51	9.0	92.0	27.2	10.13	9.39	2.1
13:10	161.9	14.4	24.9	9.71	9.8	94.5	29.3	9.36	10.09	2.0
13:11	156.3	15.7	18.0	9.65	9.8	86.9	19.9	9.41	9.92	2.0
13:12	126.0	15.6	15.0	10.37	9.1	88.1	17.5	10.17	9.26	2.0
13:13	94.6	13.5	20.2	11.15	8.4	86.7	25.1	11.08	8.61	2.0
13:14	131.9	14.0	26.8	10.51	9.0	95.9	32.8	10.20	9.37	2.0
13:15	119.2	13.6	22.5	10.61	9.0	99.5	26.9	10.29	9.36	1.8
13:16	126.2	13.4	23.7	10.16	9.5	107.0	28.7	9.86	9.74	1.8
13:17	147.2	15.8	23.5	9.59	9.9	107.5	28.6	9.29	10.16	1.8
13:18	124.4	15.0	15.0	10.30	9.2	97.5	16.4	10.15	9.35	1.8
13:19	110.5	12.4	15.9	10.67	9.0	98.6	19.0	10.49	9.23	1.9
13:20	158.0	12.2	21.6	9.65	9.9	112.6	26.8	9.32	10.16	1.8
13:21	145.3	11.8	14.5	10.04	9.5	104.8	16.2	9.91	9.60	1.7
13:22	107.4	10.2	14.2	10.77	8.8	102.8	16.9	10.73	8.94	1.8
13:23	122.0	9.6	19.4	10.52	9.0	116.6	24.4	10.13	9.40	1.8
13:24	103.2	9.5	16.5	10.82	8.7	113.6	18.2	10.59	9.06	1.7
13:25	111.4	9.4	18.1	10.64	9.0	120.1	20.4	10.28	9.35	1.6
13:26	121.0	9.6	16.9	10.47	9.1	116.3	18.9	10.32	9.27	1.6
13:27	134.2	9.1	15.6	10.38	9.2	126.3	16.2	10.04	9.51	1.6
13:28	107.0	8.7	15.4	10.89	8.7	125.3	17.3	10.68	9.02	1.6
13:29	115.4	8.9	20.9	10.58	9.1	132.9	24.4	10.17	9.53	1.6

OHS LEE - FT. MYERS - UNIT 2 06-23-1999

	CHAN 4	CHAN 5	CHAN 6	CHAN 1	CHAN 2	CHAN 9	CHAN11	CHAN 7	CHAN10	CHAN 3
	STACK	STACK	STACK	STACK	STACK	INLET	INLET	INLET	INLET	STACK
TIME	ppmNOx	ppmSO2	ppmCO	% O2	% CO2	ppmSO2	ppmCO	% O2	% CO2	ppmCl
13:30	126.9	9.6	22.0	10.29	9.3	131.6	24.9	9.90	9.66	1.7
13:31	112.0	9.7	17.5	10.56	9.0	130.3	18.8	10.24	9.36	1.6
13:32	74.0	9.2	18.2	11.06	8.6	131.6	19.5	10.86	8.87	1.4
13:33	106.6	9.9	24.3	10.55	9.1	144.1	27.5	10.18	9.49	1.4
13:34	135.7	12.3	20.6	10.21	9.4	136.8	22.4	10.05	9.57	1.4
13:35	113.7	11.8	18.0	10.61	9.0	122.9	21.3	10.65	9.06	1.5
13:36	108.5	10.5	19.0	10.65	9.0	117.0	23.5	10.52	9.14	1.4
13:37	113.5	9.0	19.8	10.24	9.4	113.3	24.4	10.26	9.41	1.4
13:38	118.9	8.1	19.4	10.19	9.4	112.3	24.0	10.13	9.56	1.4

AVERAGE VALUES FOR THE LAST 30 MINUTES

13:38	122.0	11.6	19.3	10.41	9.2	112.2	22.6	10.18	9.41	1.7

AVERAGE VALUES FOR THE LAST HOUR: 60 MINUTES OF VALID DATA

13:38	123.4	9.7	17.8	10.38	9.2	81.3	20.5	10.13	9.41	2.3

COMMENTS: END STACK RATA RUN 4
 END INLET RATA RUN 4
 END COMPLIANCE RUN 3
 END THC RUN 2

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 2

REASON: SYSTEM BIAS CHECK

DATE : 06-23-1999 TIME: 13:40 - 13:56

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
4	STACK	ppmNOx	0.0	0.7
4	STACK	ppmNOx	228.0	218.3
5	STACK	ppmSO2	0.0	-0.2
5	STACK	ppmSO2	45.1	44.4
6	STACK	ppmCO	0.0	-0.1
6	STACK	ppmCO	91.5	89.5
1	STACK	% O2	0.00	0.12
1	STACK	% O2	8.99	8.90
2	STACK	% CO2	0.0	0.1
2	STACK	% CO2	9.1	9.1
9	INLET	ppmSO2	0.0	1.0
9	INLET	ppmSO2	300.0	286.5
11	INLET	ppmCO	0.0	0.1
11	INLET	ppmCO	91.5	90.3
7	INLET	% O2	0.00	0.22
7	INLET	% O2	8.99	8.82
10	INLET	% CO2	0.00	0.15
10	INLET	% CO2	8.82	8.70
3	STACK	ppmC1	0.0	0.1
3	STACK	ppmC1	25.0	24.5

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 2

REASON: SYSTEM BIAS CHECK AFTER RUN 5

DATE : 06-23-1999 TIME: 14:28 - 14:42

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
4	STACK	ppmNOx	0.0	0.7
4	STACK	ppmNOx	228.0	218.0
5	STACK	ppmSO2	0.0	-0.1
5	STACK	ppmSO2	45.1	44.3
6	STACK	ppmCO	0.0	-0.2
6	STACK	ppmCO	91.5	89.5
1	STACK	% O2	0.00	0.06
1	STACK	% O2	8.99	8.86
2	STACK	% CO2	0.0	0.1
2	STACK	% CO2	9.1	9.1
9	INLET	ppmSO2	0.0	-1.0
9	INLET	ppmSO2	300.0	282.4
11	INLET	ppmCO	0.0	0.1
11	INLET	ppmCO	91.5	91.0
7	INLET	% O2	0.00	0.24
7	INLET	% O2	8.99	8.90
10	INLET	% CO2	0.00	0.09
10	INLET	% CO2	8.82	8.70

BEST AVAILABLE COPY

OMS LEE - FT. MYERS - UNIT 2 06-23-1999

	CHAN 4	CHAN 5	CHAN 6	CHAN 1	CHAN 2	CHAN 9	CHAN11	CHAN 7	CHAN10	CHAN 3
	STACK	STACK	STACK	STACK	STACK	INLET	INLET	INLET	INLET	STACK
TIME	ppmNOx	ppmSO2	ppmCO	% O2	% CO2	ppmSO2	ppmCO	% O2	% CO2	ppmC1
14:44	223.6	5.4	17.4	8.13	11.1	81.1	16.5	7.60	11.42	2.2
14:45	213.1	5.0	12.8	8.65	10.6	73.0	13.1	7.93	11.04	2.0
14:46	190.7	4.8	11.1	9.33	10.0	63.5	11.4	8.96	10.22	1.8
14:47	145.6	4.4	10.3	10.22	9.2	54.7	11.1	10.02	9.36	1.8
14:48	106.8	3.9	12.5	10.89	8.6	48.1	14.4	10.70	8.78	1.7
14:49	67.2	3.2	13.2	11.62	7.9	41.9	15.3	11.48	8.05	1.7
14:50	47.3	2.4	14.1	12.13	7.6	39.0	15.7	11.85	7.81	1.9
14:51	103.2	2.2	19.6	11.04	8.6	47.2	22.9	10.40	9.28	1.6
14:52	157.8	2.6	20.1	10.11	9.4	52.4	22.0	9.71	9.70	1.5
14:53	136.5	3.2	14.0	10.54	9.0	48.8	14.4	10.45	9.10	1.5
14:54	111.5	3.4	12.8	10.83	8.7	46.8	15.6	10.64	9.01	1.5
14:55	133.5	4.4	15.1	10.12	9.4	57.2	17.6	9.67	9.81	1.4
14:56	131.7	6.5	12.7	9.96	9.5	63.7	13.2	10.00	9.38	1.3
14:57	87.2	8.0	10.3	10.88	8.6	54.1	12.4	11.07	8.42	1.2
14:58	68.3	7.8	13.5	11.30	8.3	51.1	17.6	11.26	8.48	1.2
14:59	121.7	7.8	18.6	10.21	9.4	60.8	22.5	9.72	9.77	1.2
15:00	104.2	8.1	13.2	10.55	8.9	52.6	12.8	10.39	9.10	1.2
15:01	80.5	7.5	13.0	11.03	8.5	49.9	14.7	10.73	8.94	1.3
15:02	99.6	7.5	16.6	10.82	8.7	51.1	17.9	10.63	8.93	1.3
15:03	128.9	7.4	18.9	10.33	9.3	52.0	21.4	9.84	9.70	1.2
15:04	113.6	7.9	17.2	10.58	8.9	47.8	16.7	10.43	9.09	1.3
15:05	104.4	7.5	15.5	10.61	8.9	52.8	15.9	10.16	9.38	1.2
15:06	99.2	7.8	14.0	10.82	8.7	51.0	14.3	10.52	8.93	1.1
15:07	77.7	7.9	16.2	11.27	8.3	48.3	17.6	10.93	8.75	1.0
15:08	130.9	7.6	21.9	10.33	9.2	56.5	21.6	9.90	9.56	1.0
15:09	106.1	7.8	16.8	10.96	8.5	50.1	16.2	10.80	8.68	1.1
15:10	104.9	6.6	18.8	10.96	8.7	49.4	21.7	10.44	9.26	1.1
15:11	158.4	7.4	22.1	9.44	10.1	58.1	22.7	9.10	10.27	1.0
15:12	155.5	8.7	14.2	9.52	9.9	55.5	14.2	9.47	9.82	1.1
15:13	102.7	8.0	12.4	10.82	8.6	45.8	14.4	11.01	8.46	1.2

AVERAGE VALUES FOR THE LAST 30 MINUTES

15:13	120.4	6.1	15.3	10.47	9.0	53.5	16.6	10.19	9.28	1.4
15:14	59.3	7.3	15.3	11.57	8.0	43.1	18.9	11.43	8.22	1.1
15:15	104.4	7.1	20.7	10.71	8.9	45.6	24.2	10.35	9.23	1.0
15:16	116.9	7.7	16.8	10.74	8.8	42.0	17.3	10.63	8.95	0.9
15:17	151.8	8.9	18.7	9.88	9.7	52.3	21.6	9.32	10.19	0.9
15:18	190.1	12.4	17.0	9.12	10.3	62.2	16.6	8.83	10.37	0.9
15:19	142.4	13.7	10.4	10.14	9.3	51.4	10.4	10.02	9.36	0.9
15:20	74.6	11.7	11.2	11.39	8.1	41.4	12.6	11.22	8.27	0.9
15:21	60.5	9.8	16.7	11.64	8.0	40.6	19.2	11.11	8.60	0.9
15:22	118.6	9.7	20.9	10.62	9.0	44.0	22.1	9.78	9.74	0.9
15:23	167.8	10.1	15.4	9.82	9.7	47.5	14.0	9.24	10.06	1.0
15:24	150.3	10.0	9.8	10.39	9.0	45.6	10.0	10.22	9.17	1.1
15:25	109.1	8.9	10.7	11.03	8.5	43.5	12.2	10.64	8.96	0.9
15:26	107.3	8.0	13.3	10.81	8.7	47.7	14.5	10.23	9.27	0.9
15:27	147.7	7.9	15.8	9.88	9.7	76.9	16.9	9.24	10.23	0.9
15:28	189.3	11.2	14.4	9.12	10.3	64.0	13.0	8.81	10.42	0.8
15:29	130.2	11.3	7.1	10.44	9.0	55.6	6.5	10.37	8.96	0.9
15:30	55.9	8.9	7.1	11.90	7.6	56.9	8.6	12.00	7.44	1.0
15:31	33.1	6.6	10.5	12.41	7.3	57.0	13.5	12.15	7.47	1.1
15:32	62.9	5.5	10.7	11.76	7.9	59.1	15.5	11.26	8.48	0.9
15:33	12.1	5.1	14.2	10.30	9.3	62.6	14.7	9.58	9.37	0.8
15:34	102.1	4.5	11.5	9.91	9.7	60.5	12.1	9.46	10.01	0.7

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OMS LEE - FT. MYERS - UNIT 2 06-23-1999

	CHAN 4	CHAN 5	CHAN 6	CHAN 1	CHAN 2	CHAN 9	CHAN11	CHAN 7	CHAN10	CHAN 3
	STACK	STACK	STACK	STACK	STACK	INLET	INLET	INLET	INLET	STACK
TIME	ppmNOx	ppmSO2	ppmCO	% O2	% CO2	ppmSO2	ppmCO	% O2	% CO2	ppmC1
15:35	188.3	8.3	8.7	9.30	10.2	63.5	8.6	8.86	10.42	0.8
15:36	181.6	8.3	7.7	9.46	10.0	64.5	8.1	8.86	10.42	0.8
15:37	142.2	7.6	6.9	10.19	9.2	61.2	6.9	9.69	9.58	0.8
15:38	82.3	6.3	8.2	11.17	8.3	54.4	9.0	10.82	8.65	0.8
15:39	62.5	4.7	10.7	11.53	8.0	51.1	11.6	11.20	8.35	1.0
15:40	85.9	3.9	12.3	11.28	8.3	57.3	13.3	10.88	8.76	0.9
15:41	126.3	4.0	13.2	10.35	9.2	61.3	13.8	10.02	9.52	0.9
15:42	161.2	4.3	11.7	9.74	9.8	64.9	13.7	9.55	9.94	0.8
15:43	154.3	4.5	9.6	10.11	9.4	58.2	9.4	10.17	9.21	0.9

AVERAGE VALUES FOR THE LAST 30 MINUTES

15:43	121.9	8.1	12.7	10.56	9.0	54.5	13.6	10.20	9.27	0.9

AVERAGE VALUES FOR THE LAST HOUR: 60 MINUTES OF VALID DATA

15:43	121.2	7.1	14.0	10.51	9.0	54.0	15.1	10.20	9.28	1.1

COMMENTS: END STACK RATA RUN 6
 END INLET RATA RUN 6
 END THC RUN 3

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 2

REASON: SYSTEM BIAS CHECK

DATE : 06-23-1999

TIME: 15:44 - 15:57

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
4	STACK	ppmNOx	0.0	0.6
4	STACK	ppmNOx	228.0	217.7
5	STACK	ppmSO2	0.0	-1.0
5	STACK	ppmSO2	45.1	42.8
6	STACK	ppmCO	0.0	-0.5
6	STACK	ppmCO	91.5	90.0
1	STACK	% O2	0.00	0.07
1	STACK	% O2	8.99	8.84
2	STACK	% CO2	0.0	0.1
2	STACK	% CO2	9.1	9.1
9	INLET	ppmSO2	0.0	0.0
9	INLET	ppmSO2	300.0	288.9
11	INLET	ppmCO	0.0	-0.1
11	INLET	ppmCO	91.5	91.0
7	INLET	% O2	0.00	0.23
7	INLET	% O2	8.99	8.88
10	INLET	% CO2	0.00	0.10
10	INLET	% CO2	8.82	8.72
3	STACK	ppmC1	0.0	-0.3
3	STACK	ppmC1	25.0	24.4

APPENDIX C

FIELD DATA

2.0 UNIT NO. 2

e. FLUORIDES

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 2 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>2-S-M13B-1</u>		Date <u>6/22/99</u>		Operator <u>TW</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1625-1732	1907	8.4	19.4	11.0	NA
	1918	8.5	19.4	10.9	
	1926	8.4	19.4	11.0	
Average		8.4	Average	11.0	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.178</u>	

Run/Sample No. <u>2-S-M13B-2</u>		Date <u>6/23/99</u>		Operator <u>DL</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1645-1755	1758	9.0	19.8	10.8	NA
	1805	9.0	19.9	10.9	
	1818	9.0	19.9	10.9	
Average		9.0	Average	10.9	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B142</u>		F _o <u>1.115</u>	

Run/Sample No. <u>2-S-M13B-3</u>		Date <u>6/26/99</u>		Operator <u>TW</u>	Leak Check OK? <u>YES</u>
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1030-1200	1228	9.5	19.8	10.3	2-S-M8-3
	1238	9.4	19.8	10.4	
	1249	9.4	19.8	10.4	
Average		9.4	Average	10.4	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B2</u>		F _o <u>1.117</u>	

Reviewer JW
 AirKinetics, Inc.

EPA 13B

Client Name	Ogden Energy Group	Run #	2-S-M13B-1		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1625
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1732
Test Location	UNIT 2	Tester Signature			
Date of Test	06/22/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.72	Pbar	29.9	Meter Console #		MB9	NA	NA	CO ₂
Meter Calibration Factor	1.0038	Pstatic	1.20	Ideal Nozzle Diameter		0.219			8.4
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		D018			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.216			11.0
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-4			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.6
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.23	N ₂	82.0	TC ID #s		8-4			209.3

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	102	102	PRE	POST	DGM initial		553.876					553.876
Thermocouples			Y	Y	Vacuum	15	10	11				15
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		B3	Y	Y	DGM final		554.086					554.086

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					MAX =>	3		
Average Values	60.0	43.405	1.282	1.574	1.574		97.5	289.8

EPA 13B

Client Name	Ogden Energy Group	Run #	2-S-M13B-3		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1030
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1200
Test Location	UNIT 2	Tester Signature			
Date of Test	06/26/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.72	Pbar	29.9	Meter Console #		MB9	NA	CO ₂
Meter Calibration Factor	1.0038	Pstatic	-1.10	Ideal Nozzle Diameter		0.219		9.4
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		D027		O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.225		10.4
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-2		CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares	0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA		80.2
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA		H ₂ O
K Factor (delta H/delta P)	1.44	N ₂	82.0	TC ID #s		8-2		224.5

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	99	99	PRE	POST	DGM initial		575.634					575.634
Thermocouples			Y	Y	Vacuum	15	8	11				15
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		B2	Y	Y	DGM final		575.766					575.766

[illegible]

APPENDIX C

FIELD DATA

2.0 UNIT NO. 2

f. DIOXIN/FURANS

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 2 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>2-S-M23-1</u>		Date <u>6/22/99</u>		Operator <u>TW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0810-1225	1300	8.9	19.6	10.7	2-S-NH3-1
	1312	8.8	19.7	10.9	2-S-NH3-2
	1319	8.8	19.7	10.9	
Average		8.8	Average	10.8	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B142</u>		F _o <u>1.140</u>	

Run/Sample No. <u>2-S-M23-2</u>		Date <u>6/24/99</u>		Operator <u>CMW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0801-1220	1225	8.8	19.5	10.7	NA
	1234	8.9	19.5	10.6	
	1246	8.8	19.5	10.7	
Average		8.8	Average	10.7	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.158</u>	

Run/Sample No. <u>2-S-M23-3</u>		Date <u>6/25/99</u>		Operator <u>TW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0802-1216	1535	9.5	19.7	10.2	NA
	1552	9.4	19.6	10.2	
	1600	9.4	19.6	10.2	
Average		9.4	Average	10.2	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B2</u>		F _o <u>1.134</u>	

Reviewer *W*
 AirKinetics, Inc.

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD EPA 23

Client Name	Ogden Energy Group	Run #	2-S-M23-1		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	810
Plant City, State	Fort Meyers, FL	Personnel	AG	Run End	1225
Test Location	UNIT 2	Tester Signature	<i>[Signature]</i>		
Date of Test	06/22/99	Checked By	<i>[Signature]</i>		

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.72	Pbar	29.9	Meter Console #	MB9	NA	NA	CO ₂
Meter Calibration Factor	1.0038	Pstatic	-1.15	Ideal Nozzle Diameter	0.219			8.8
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #	D024			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter	0.216			10.8
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-7		CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material	G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #	NA		335	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #	NA			80.4
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #	NA			H ₂ O
K Factor (delta H/delta P)	1.23	N ₂	82.0	TC ID #s	8-7			915.0

Equipment & Leak Check Data, OK? Y or N				Leak Checks		1	2	3	4	5	6	Status
Tambient	99	99	PRE	POST	DGM initial		353.200					353.200
Thermocouples			Y	Y	Vacuum	15	12	14				15
Pitots			Y	Y	Leak Rate	0.004	0.000	0.000				OK
Tedlar Bag	B142		Y	Y	DGM final		353.287					353.287

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
A 6	810	0.0	265.768	1.20	1.47	1.47	6	91	90	287	261	57	63
A 6		5.0	269.166	1.20	1.47	1.47	10	96	91	288	265	54	61
A 6		10.0	272.708	1.15	1.41	1.41	9	99	92	288	262	51	57
A 6		15.0	276.258	1.15	1.41	1.41	9	101	92	290	264	51	58
A 5		20.0	279.70	1.35	1.66	1.66	10	103	94	290	266	54	62
A 5		25.0	283.451	1.35	1.66	1.66	10	104	93	288	266	54	62
A 5		30.0	287.117	1.35	1.66	1.66	10	104	95	289	264	54	57
A 5		35.0	290.855	1.35	1.66	1.66	10	103	98	292	264	57	56
A 4		40.0	294.667	1.40	1.72	1.72	10	96	95	291	264	57	54
A 4		45.0	298.387	1.40	1.72	1.72	10	96	95	290	263	58	54
A 4		50.0	302.163	1.40	1.72	1.72	10	92	93	289	263	58	54
A 4		55.0	306.021	1.40	1.72	1.72	10	92	92	290	261	58	55
A 3		60.0	309.653	1.35	1.66	1.66	10	91	91	290	263	53	55
A 3		65.0	313.362	1.35	1.66	1.66	10	91	91	290	261	52	58
A 3		70.0	317.073	1.35	1.66	1.66	10	91	90	291	260	54	59
A 3		75.0	320.800	1.35	1.66	1.66	10	91	90	290	262	54	67
A 2		80.0	324.463	1.35	1.66	1.66	10	91	90	290	262	55	68
A 2		85.0	328.196	1.25	1.53	1.53	10	91	90	290	260	55	56
A 2		90.0	331.713	1.25	1.53	1.53	10	91	90	290	260	60	57
A 2		95.0	335.371	1.25	1.53	1.53	10	91	90	290	261	60	57
A 1		100.0	339.000	1.20	1.47	1.47	10	92	90	291	262	63	57
A 1		105.0	342.743	1.20	1.47	1.47	10	92	90	289	262	58	56
A 1		110.0	346.300	1.20	1.47	1.47	10	92	90	289	262	58	55
A 1		115.0	349.750	1.20	1.47	1.47	10	92	90	290	261	59	55
B 6		120.0	353.200	1.20	1.47	1.47	10	91	91	290	261	55	60
B 6		125.0	356.714	1.30	1.59	1.59	10	92	91	289	261	57	51
B 6		130.0	360.203	1.30	1.59	1.59	10	92	91	289	262	57	52
B 6		135.0	363.691	1.30	1.59	1.59	10	92	91	289	262	57	52
B 5		140.0	367.331	1.40	1.72	1.72	10	93	91	289	263	59	57
B 5		145.0	371.010	1.45	1.78	1.78	10	93	91	289	263	59	57

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ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD EPA 23

Client Name	Ogden Energy Group	Run #	2-S-M23-2		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	801
Plant City, State	Fort Myers, FL	Personnel	MC	Run End	1220
Test Location	UNIT 2	Tester Signature <i>Mike Chum</i>			
Date of Test	06/24/99	Checked By <i>JW</i>			

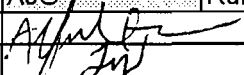
Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
AH @ 0.75 SCFM	1.72	Pbar	29.9	Meter Console #	MB9	NA	NA	CO ₂
Meter Calibration Factor	1.0038	Pstatic	-1.15	Ideal Nozzle Diameter	0.219			8.8
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #	GN2047			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter	0.217			10.7
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-1		CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material	G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #	NA		340	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #	NA			80.5
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #	NA			H ₂ O
K Factor (delta H/delta P)	1.25	N ₂	82.0	TC ID #s	8-1			886.2

Equipment & Leak Check Data, OK? Y or N				Leak Checks		1	2	3	4	5	6	Status
Tambient	97	97	PRE	POST	DGM initial		973.650					973.650
Thermocouples		Y	Y		Vacuum	15	10					15
Pitots		Y	Y		Leak Rate	0.000	0.002					OK
Tedlar Bag	B3	Y	Y		DGM final		973.950					973.950

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
A 1	801	0.0	885.719	1.20	1.50	1.50	7	89	88	289	253	68	54
A 1		5.0	889.289	1.20	1.50	1.50	7	89	88	290	253	58	49
A 1		10.0	892.568	1.10	1.37	1.37	7	90	89	288	254	57	50
A 1		15.0	895.943	1.15	1.44	1.44	7	92	89	289	252	58	50
A 2		20.0	899.32	1.25	1.56	1.56	7	93	89	288	252	59	51
A 2		25.0	902.702	1.25	1.56	1.56	7	97	90	289	252	61	52
A 2		30.0	906.318	1.25	1.56	1.56	7	99	91	289	252	61	52
A 2		35.0	909.913	1.30	1.62	1.62	7	100	92	289	253	63	54
A 3		40.0	913.476	1.30	1.62	1.62	7	101	92	288	251	64	55
A 3		45.0	917.073	1.30	1.62	1.62	7	101	93	289	251	65	54
A 3		50.0	920.810	1.30	1.62	1.62	7	103	94	289	250	65	52
A 3		55.0	924.451	1.30	1.62	1.62	7	104	94	290	248	60	52
A 4		60.0	928.237	1.40	1.75	1.75	7	105	95	290	250	58	51
A 4		65.0	931.975	1.40	1.75	1.75	7	105	96	291	250	59	52
A 4		70.0	935.889	1.40	1.75	1.75	7	105	97	291	250	60	54
A 4		75.0	939.677	1.40	1.75	1.75	7	106	97	291	251	60	54
A 5		80.0	943.328	1.35	1.69	1.69	7	106	97	290	254	61	56
A 5		85.0	947.113	1.35	1.69	1.69	7	106	98	290	254	61	56
A 5		90.0	950.933	1.35	1.69	1.69	7	107	98	291	254	62	56
A 5		95.0	954.720	1.30	1.62	1.62	7	107	98	291	254	62	56
A 6		100.0	958.430	1.25	1.56	1.56	7	107	99	290	255	60	56
A 6		105.0	962.080	1.25	1.56	1.56	7	107	99	289	252	60	56
A 6		110.0	965.770	1.30	1.62	1.62	7	107	98	289	252	60	57
A 6		115.0	969.450	1.25	1.56	1.56	7	106	99	289	252	60	57
B 6		120.0	973.065	1.25	1.56	1.56	7	106	99	289	252	60	57
B 6		125.0	976.730	1.20	1.50	1.50	7	104	99	287	255	52	48
B 6		130.0	980.330	1.30	1.62	1.62	7	105	98	287	255	52	47
B 6		135.0	984.000	1.25	1.56	1.56	7	107	99	288	255	54	49
B 5		140.0	987.640	1.25	1.56	1.56	7	107	99	287	255	54	49
B 5		145.0	991.350	1.20	1.50	1.50	7	108	99	288	256	55	50

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ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD EPA 23

Client Name	Ogden Energy Group	Run #	2-S-M23-3		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	801
Plant City, State	Fort Myers, FL	Personnel	AJG	Run End	1216
Test Location	UNIT 2	Tester Signature			
Date of Test	06/25/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.72	Pbar	29.9	Meter Console #	MB9	NA	NA	CO ₂
Meter Calibration Factor	1.0038	Pstatic	-1.15	Ideal Nozzle Diameter	0.219			9.4
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #	GN2047			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter	0.217			10.2
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-7		CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material	G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #	NA		286	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #	NA			80.4
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #	NA			H ₂ O
K Factor (delta H/delta P)	1.25	N ₂	82.0	TC ID #s	8-7			909.7

Equipment & Leak Check Data, OK? Y or N				Leak Checks		1	2	3	4	5	6	Status
Tambient	99	99	PRE POST	DGM initial			242.500					242.500
Thermocouples	Y	Y	Vacuum		15	10	10					15
Pitots	Y	Y	Leak Rate		0.000	0.002	0.002					OK
Tedlar Bag	B2	Y	Y	DGM final		242.620						242.620

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
A 6	801	0.0	154.846	1.20	1.50	1.50	8	90	90	288	263	54	61
A 6		5.0	158.501	1.20	1.50	1.50	8	91	90	289	263	57	54
A 6		10.0	162.006	1.20	1.50	1.50	8	91	90	290	263	57	54
A 6		15.0	165.488	1.15	1.44	1.44	8	92	90	290	263	57	54
A 5		20.0	168.90	1.25	1.56	1.56	8	92	90	290	263	57	54
A 5		25.0	172.531	1.30	1.62	1.62	8	93	90	290	264	56	54
A 5		30.0	176.141	1.30	1.62	1.62	8	93	91	291	264	56	54
A 5		35.0	179.814	1.30	1.62	1.62	8	94	91	291	264	56	55
A 4		40.0	183.411	1.35	1.69	1.69	8	95	91	291	264	56	55
A 4		45.0	187.132	1.35	1.69	1.69	8	95	91	291	264	58	55
A 4		50.0	190.889	1.35	1.69	1.69	8	95	91	291	266	58	56
A 4		55.0	194.760	1.35	1.69	1.69	8	97	92	291	266	58	56
A 3		60.0	198.432	1.40	1.75	1.75	8	97	92	291	262	58	56
A 3		65.0	202.176	1.40	1.75	1.75	8	97	92	291	262	59	57
A 3		70.0	205.870	1.40	1.75	1.75	8	97	93	290	263	59	57
A 3		75.0	209.677	1.40	1.75	1.75	8	97	93	290	261	59	57
A 2		80.0	213.451	1.35	1.69	1.69	8	98	94	290	261	59	57
A 2		85.0	217.228	1.35	1.69	1.69	8	98	94	290	262	60	57
A 2		90.0	220.897	1.35	1.69	1.69	8	98	95	290	262	60	58
A 2		95.0	224.567	1.30	1.62	1.62	8	98	95	290	263	60	58
A 1		100.0	228.332	1.20	1.50	1.50	8	99	95	291	261	61	58
A 1		105.0	231.858	1.20	1.50	1.50	8	99	95	290	261	61	58
A 1		110.0	235.400	1.20	1.50	1.50	8	99	95	290	261	61	58
A 1		115.0	238.879	1.25	1.56	1.56	8	99	95	290	260	61	58
B 6		120.0	242.500	1.25	1.56	1.56	8	94	94	288	267	55	57
B 6		125.0	246.190	1.25	1.56	1.56	8	94	93	288	266	55	57
B 6		130.0	249.800	1.30	1.62	1.62	8	94	93	288	267	55	57
B 6		135.0	253.431	1.25	1.56	1.56	8	94	93	288	266	56	58
B 5		140.0	257.005	1.30	1.62	1.62	8	94	94	288	266	56	58
B 5		145.0	260.708	1.25	1.56	1.56	8	96	94	289	265	56	58

APPENDIX C

FIELD DATA

2.0 UNIT NO. 2

g. HYDROGEN CHLORIDE

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 2 Inlet

Job No. 10558
 Fuel Type Municipal Waste

Operator TW
 Run/Sample No. 2-I-M29-1 Date 6/22/99 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1327-1543	1725	8.8	19.4	10.6	2-I-M26-1
	1735	8.9	19.4	10.5	
	1745	8.8	19.3	10.5	
Average		8.8	Average	10.5	

Orsat I.D. 4 Tedlar Bag I.D. B2 F_o 1.174

Operator DL
 Run/Sample No. 2-I-M29-2 Date 6/23/99 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0752-1036	1108	9.2	19.6	10.4	2-I-M26-2
	1121	9.2	19.8	10.6	
	1138	9.3	19.8	10.5	
Average		9.2	Average	10.5	

Orsat I.D. 4 Tedlar Bag I.D. B142 F_o 1.126

Operator CMW
 Run/Sample No. 2-I-M29-3 Date 6/23/99 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1128-1348	1445	9.7	19.8	10.1	2-I-M26-3
	1453	9.7	19.8	10.1	
	1502	9.6	19.8	10.2	
Average		9.7	Average	10.1	

Orsat I.D. 4 Tedlar Bag I.D. B2 F_o 1.114

Reviewer *JW*
 AirKinetics, Inc.

M26

Client Name	Ogden Energy Group	Run #	2-I-M26-1		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1327
Plant City, State	Fort Myers, FL	Personnel	NP	Run End	1447
Test Location	UNIT 2 INLET	Tester Signature			
Date of Test	06/22/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.78	Pbar	29.9	Meter Console #		MB2	NA	CO ₂
Meter Calibration Factor	1.0056	Pstatic	NA	Ideal Nozzle Diameter		#####		8.8
Pitot Tube Coefficient	NA	Abs P	#####	Nozzle #		NA		O ₂
Estimated Dry Gas Meter Temp	NA	Tstd, °F	68	Actual Nozzle Diameter		NA		10.5
Estimated Stack Temp or M2 Avg.	NA	Pstd	29.92	Probe Lgth/ID #	NA	NA		CO
Estimated Delta P or M2 Avg.	NA	Estimates		Liner Material		G	XAD ID & Tares	0.0
Estimated Moisture Content	NA	CO ₂	NA	Filter Box #		NA	NA	N ₂
Estimated Dry Molecular Weight	#####	O ₂	NA	Cold Box ID #		NA		80.7
Estimated Velocity, ft/sec	#####	CO	NA	Umbilical ID #		NA		H ₂ O
K Factor (delta H/delta P)		N ₂	#####	TC ID #s		NA		132.3

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	NA	NA	PRE	POST	DGM initial	957.772	0.000					957.772
Thermocouples			NA	NA	Vacuum	20	5					20
Pitots			NA	NA	Leak Rate	0.000	0.000					OK
Tedlar Bag		NA	NA	NA	DGM final	957.848	0.000					957.848

[illegible]

					MAX =>	4			
Average Values	60.0	33.896			1.00		108		

M26

					MAX =>	13			
Average Values	60.0	33.420			1.00		102		154

M26

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.78	Pbar	29.9	Meter Console #		MB2	NA	NA	CO ₂
Meter Calibration Factor	1.0056	Pstatic	NA	Ideal Nozzle Diameter		#####			9.7
Pitot Tube Coefficient	NA	Abs P	#####	Nozzle #		NA			O ₂
Estimated Dry Gas Meter Temp	NA	Tstd, °F	68	Actual Nozzle Diameter		NA			10.1
Estimated Stack Temp or M2 Avg.	NA	Pstd	29.92	Probe Lgth/ID #	NA	NA			CO
Estimated Delta P or M2 Avg.	NA	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	NA	CO ₂	NA	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	#####	O ₂	NA	Cold Box ID #		NA			80.2
Estimated Velocity, ft/sec	#####	CO	NA	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)		N ₂	#####	TC ID #s		NA			129.5

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 2 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>2-S-M29-1</u>		Date <u>6/22/99</u>		Operator <u>DL</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1327-1552	1615	8.5	19.3	10.8	2-S-M26-1
	1625	8.5	19.4	10.9	
	1636	8.4	19.4	11.0	
Average		8.5	Average	10.9	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B142</u>		F _o <u>1.181</u>	

Run/Sample No. <u>2-S-M29-2</u>		Date <u>6/23/99</u>		Operator <u>DL</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0752-1031	1145	8.7	19.3	10.6	2-S-M26-2
	1152	8.8	19.5	10.7	
	1205	8.8	19.5	10.7	
Average		8.8	Average	10.7	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.167</u>	

Run/Sample No. <u>2-S-M29-3</u>		Date <u>6/23/99</u>		Operator <u>TW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1128-1339	1518	9.1	19.7	10.6	2-S-M26-3
	1527	9.2	19.8	10.6	
	1539	9.1	19.8	10.7	
Average		9.1	Average	10.6	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B142</u>		F _o <u>1.124</u>	

Reviewer JW
 AirKinetics, Inc.

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD EPA 26

Client Name	Ogden Energy Group	Run #	2-S-M26-1		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1327
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1427
Test Location	UNIT 2	Tester Signature			
Date of Test	06/22/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.82	Pbar	29.9	Meter Console #		MB3	NA	NA	CO ₂
Meter Calibration Factor	1.0707	Pstatic	NA	Ideal Nozzle Diameter		#####			8.5
Pitot Tube Coefficient	NA	Abs P	#####	Nozzle #		NA			O ₂
Estimated Dry Gas Meter Temp	NA	Tstd, °F	68	Actual Nozzle Diameter		NA			10.9
Estimated Stack Temp or M2 Avg.	NA	Pstd	29.92	Probe Lgth/ID #	NA	NA			CO
Estimated Delta P or M2 Avg.	NA	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	NA	CO ₂	NA	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	#####	O ₂	NA	Cold Box ID #		NA			80.6
Estimated Velocity, ft/sec	#####	CO	NA	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)		N ₂	#####	TC ID #s		NA			229.6

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	NA	NA	PRE	POST	DGM initial							0.000
Thermocouples			NA	NA	Vacuum	15	6					15
Pitots			NA	NA	Leak Rate	0.000	0.000					OK
Tedlar Bag		NA	NA	NA	DGM final							0.000

[illegible]

EPA 26

Client Name	Ogden Energy Group	Run #	2-S-M26-2		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	848
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	948
Test Location	UNIT 2	Tester Signature			
Date of Test	06/23/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.82	Pbar	29.9	Meter Console #		MB3	NA	NA	CO ₂
Meter Calibration Factor	1.0707	Pstatic	NA	Ideal Nozzle Diameter		#####			8.8
Pitot Tube Coefficient	NA	Abs P	#####	Nozzle #		NA			O ₂
Estimated Dry Gas Meter Temp	NA	Tstd, °F	68	Actual Nozzle Diameter		NA			10.7
Estimated Stack Temp or M2 Avg.	NA	Pstd	29.92	Probe Lgth/ID #	NA	NA			CO
Estimated Delta P or M2 Avg.	NA	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	NA	CO ₂	NA	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	#####	O ₂	NA	Cold Box ID #		NA			80.5
Estimated Velocity, ft/sec	#####	CO	NA	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)		N ₂	#####	TC ID #s		NA			211.0

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	NA	NA	PRE	POST	DGM initial							0.000
Thermocouples			NA	NA	Vacuum	15	6					15
Pitots			NA	NA	Leak Rate	0.000	0.000					OK
Tedlar Bag		NA	NA	NA	DGM final							0.000

[illegible]

				MAX => 2				
Average Values	60.0	42.270		1.80		97		c 158

EPA 26

Client Name	Ogden Energy Group	Run #	2-S-M26-3		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1157
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1257
Test Location	UNIT 2	Tester Signature	<i>AG</i>		
Date of Test	06/23/99	Checked By	<i>AG</i>		

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
$\Delta H @ 0.75 \text{ SCFM}$	1.82	Pbar	29.9	Meter Console #		MB3	NA	NA	CO ₂
Meter Calibration Factor	1.0707	Pstatic	NA	Ideal Nozzle Diameter		#####			9.1
Pitot Tube Coefficient	NA	Abs P	#####	Nozzle #		NA			O ₂
Estimated Dry Gas Meter Temp	NA	Tstd, °F	68	Actual Nozzle Diameter		NA			10.6
Estimated Stack Temp or M2 Avg.	NA	Pstd	29.92	Probe Lgth/ID #	NA	NA			CO
Estimated Delta P or M2 Avg.	NA	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	NA	CO ₂	NA	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	#####	O ₂	NA	Cold Box ID #		NA			80.3
Estimated Velocity, ft/sec	#####	CO	NA	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)		N ₂	#####	TC ID #s		NA			230.3

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	NA	NA	PRE	POST	DGM initial							0.000
Thermocouples			NA	NA	Vacuum	15	7					15
Pitots			NA	NA	Leak Rate	0.000	0.000					OK
Tedlar Bag		NA	NA	NA	DGM final							0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading ft ³	Velocity Head in H ₂ O	Desired Orifice ΔH in H ₂ O	Actual Orifice ΔH in H ₂ O	Pump Vac. in Hg	DGM Inlet Temp °F	DGM Outlet Temp °F	Stack Temp °F	Filter Temp °F	Imp. Exit Temp °F	Cond. Exit Temp °F
B 4	1157	0.0	535.068	NA		1.80	2	100	NA	NA	253	59	NA
-		5.0	538.613			1.80	2	99			266	58	
-		10.0	542.271			1.80	2	99			267	50	
-		15.0	545.861			1.80	2	100			269	50	
-		20.0	549.46			1.80	2	104			273	50	
-		25.0	553.072			1.80	2	104			270	52	
-		30.0	556.618			1.80	2	105			258	52	
-		35.0	561.938			1.80	2	106			250	50	
-		40.0	563.711			1.80	2	106			249	50	
-		45.0	567.161			1.80	2	107			251	52	
-		50.0	570.761			1.80	2	108			250	55	
-		55.0	573.974			1.80	2	108			249	57	
-	1257	60.0	577.535										
Average Values		60.0	42.467			1.80	2	104				60	150

APPENDIX C

FIELD DATA

2.0 UNIT NO. 2

h. AMMONIA

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 2 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>2-S-M23-1</u>		Date <u>6/22/99</u>		Operator <u>TW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0810-1225	1300	8.9	19.6	10.7	2-S-NH3-1
	1312	8.8	19.7	10.9	2-S-NH3-2
	1319	8.8	19.7	10.9	
Average		8.8	Average	10.8	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B142</u>		F _o <u>1.140</u>	

Run/Sample No. <u>2-S-M23-2</u>		Date <u>6/24/99</u>		Operator <u>CMW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0801-1220	1225	8.8	19.5	10.7	NA
	1234	8.9	19.5	10.6	
	1246	8.8	19.5	10.7	
Average		8.8	Average	10.7	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.158</u>	

Run/Sample No. <u>2-S-M23-3</u>		Date <u>6/25/99</u>		Operator <u>TW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0802-1216	1535	9.5	19.7	10.2	NA
	1552	9.4	19.6	10.2	
	1600	9.4	19.6	10.2	
Average		9.4	Average	10.2	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B2</u>		F _o <u>1.134</u>	

Reviewer *W*
 AirKinetics, Inc.

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 2 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>2-S-M5-1SB</u>		Date <u>6/21/99</u>		Operator <u>CMW</u>	
		Leak Check OK?		<u>YES</u>	
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1604-1818	1845	8.7	19.8	11.1	NA
	1852	8.6	19.8	11.2	
	1859	8.7	19.8	11.1	
Average		8.7	Average		11.1
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B142</u>		F _o <u>1.127</u>	

Run/Sample No. <u>2-S-M5-2SB</u>		Date <u>6/23/99</u>		Operator <u>TW</u>	
		Leak Check OK?		<u>YES</u>	
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1404-1616	1635	9.0	19.8	10.8	2-S-NH3-3
	1646	9.0	19.8	10.8	
	1700	9.0	19.8	10.8	
Average		9.0	Average		10.8
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.122</u>	

Run/Sample No. <u>2-S-M5-3SB</u>		Date <u>6/25/99</u>		Operator <u>CMW</u>	
		Leak Check OK?		<u>YES</u>	
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1638-1907	2000	9.2	19.5	10.3	
	2010	9.2	19.5	10.3	
	2019	9.2	19.5	10.3	
Average		9.2	Average		10.3
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.152</u>	

Reviewer *JW*
 AirKinetics, Inc.

NH3

				MAX =>	3			
Average Values	60.0	42.338			1.80		106	163

NH3

6/24/99

APPENDIX C

FIELD DATA

2.0 UNIT NO. 2

- i. ARSENIC, BERYLLIUM, CADMIUM, LEAD, AND MERCURY**

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 2 Inlet

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. 2-I-M29-1 Date 6/22/99 Operator TW
 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1327-1543	1725	8.8	19.4	10.6	2-I-M26-1
	1735	8.9	19.4	10.5	
	1745	8.8	19.3	10.5	
Average		8.8	Average	10.5	

Orsat I.D. 4 Tedlar Bag I.D. B2 F_o 1.174

Run/Sample No. 2-I-M29-2 Date 6/23/99 Operator DL
 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0752-1036	1108	9.2	19.6	10.4	2-I-M26-2
	1121	9.2	19.8	10.6	
	1138	9.3	19.8	10.5	
Average		9.2	Average	10.5	

Orsat I.D. 4 Tedlar Bag I.D. B142 F_o 1.126

Run/Sample No. 2-I-M29-3 Date 6/23/99 Operator CMW
 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1128-1348	1445	9.7	19.8	10.1	2-I-M26-3
	1453	9.7	19.8	10.1	
	1502	9.6	19.8	10.2	
Average		9.7	Average	10.1	

Orsat I.D. 4 Tedlar Bag I.D. B2 F_o 1.114

Reviewer JW
 AirKinetics, Inc.

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD EPA 29

Client Name	Ogden Energy Group	Run #	2-I-M29-1		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1327
Plant City, State	Fort Myers, FL	Personnel	CMW, NP	Run End	1543
Test Location	UNIT 2 INLET	Tester Signature	<i>Christopher M. Williams</i>		
Date of Test	06/22/99	Checked By	<i>JP</i>		

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.93	Pbar	29.9	Meter Console #	MB10	NA	NA	CO ₂
Meter Calibration Factor	1.0090	Pstatic	-2.70	Ideal Nozzle Diameter	0.279			8.8
Pitot Tube Coefficient	0.840	Abs P	29.7	Nozzle #	D010			O ₂
Estimated Dry Gas Meter Temp	110	Tstd, °F	68	Actual Nozzle Diameter	0.225			10.5
Estimated Stack Temp or M2 Avg.	435	Pstd	29.92	Probe Lgth/ID #	10 10-4			CO
Estimated Delta P or M2 Avg.	0.620	Estimates		Liner Material	G	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO ₂	8.0	Filter Box #	NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #	NA			80.7
Estimated Velocity, ft/sec	58.6	CO	0.0	Umbilical ID #	NA			H ₂ O
K Factor (delta H/delta P)	1.46	N ₂	82.0	TC ID #s	10-4			264.0

Equipment & Leak Check Data, OK? Y or N				Leak Checks		1	2	3	4	5	6	Status
Tambient	102	102	PRE	POST	DGM initial	0.000	0.000					0.000
Thermocouples			Y	Y	Vacuum	15	15					15
Pitots			Y	Y	Leak Rate	0.000	0.000					OK
Tedlar Bag	B2		Y	Y	DGM final	0.000	0.000					0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
Z 5	1327	0.0	485.840	0.75	1.10	1.08	1	101	101	439	249	63	N/A
Z 4		5.0	488.720	0.77	1.13	1.11	1	101	101	441	250	58	
Z 3		10.0	491.500	0.55	0.80	0.79	1	104	101	435	250	61	
Z 2		15.0	493.920	0.54	0.79	0.79	1	104	102	435	248	63	
Z 1		20.0	496.36	0.50	0.73	0.73	1	105	102	434	251	65	
D 5		25.0	498.700	0.65	0.95	0.95	3	105	104	437	249	67	
D 4		30.0	501.340	0.65	0.95	0.95	5	107	104	438	249	65	
D 3		35.0	504.000	0.65	0.95	0.95	5	108	104	439	249	63	
D 2		40.0	506.550	0.58	0.85	0.85	7	109	104	436	251	64	
D 1		45.0	508.990	0.48	0.70	0.70	7	110	105	435	249	63	
C 5		50.0	511.400	0.58	0.85	0.85	7	108	105	435	249	63	
C 4		55.0	513.950	0.58	0.85	0.85	8	110	105	435	249	54	
C 3		60.0	516.460	0.67	0.98	0.98	10	110	105	436	250	54	
C 2		65.0	519.130	0.66	0.96	0.96	10	110	105	434	248	57	
C 1		70.0	521.800	0.48	0.70	0.70	10	110	106	434	251	59	
B 5		75.0	524.156	0.66	0.96	0.96	10	107	106	441	248	65	
B 4		80.0	526.750	0.66	0.96	0.96	11	110	106	444	249	61	
B 3		85.0	529.380	0.66	0.96	0.96	12	110	107	444	251	64	
B 2		90.0	532.030	0.65	0.95	0.95	12	111	107	439	249	65	
B 1		95.0	534.680	0.63	0.92	0.92	13	111	107	438	248	66	
A 5		100.0	537.311	0.35	0.51	0.51	8	108	107	436	251	68	
A 4		105.0	539.220	0.36	0.53	0.53	8	109	107	439	250	61	
A 3		110.0	541.190	0.62	0.91	0.91	14	109	107	439	248	61	
A 2		115.0	543.820	0.57	0.83	0.83	14	111	107	436	249	61	
A 1		120.0	546.390	0.50	0.73	0.73	14	111	107	432	247	63	
	1543	125.0	548.837										

					MAX =>	14							
Average Values	125.0	62.997	0.585	0.862	0.860			106.4	437.2				

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD EPA 29

Client Name	Ogden Energy Group	Run #	2-I-M29-2		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	752
Plant City, State	Fort Myers, FL	Personnel	CMW, NP	Run End	1036
Test Location	UNIT 2 INLET	Tester Signature			
Date of Test	06/23/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.93	Pbar	29.9	Meter Console #	MB10	NA	NA	CO ₂
Meter Calibration Factor	1.0090	Pstatic	-2.80	Ideal Nozzle Diameter	0.280			9.2
Pitot Tube Coefficient	0.840	Abs P	29.7	Nozzle #	D001			O ₂
Estimated Dry Gas Meter Temp	110	Tstd, °F	68	Actual Nozzle Diameter	0.222			10.5
Estimated Stack Temp or M2 Avg.	450	Pstd	29.92	Probe Lgth/ID #	10 10-1			CO
Estimated Delta P or M2 Avg.	0.620	Estimates		Liner Material	G	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO ₂	8.0	Filter Box #	NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #	NA			80.3
Estimated Velocity, ft/sec	59.1	CO	0.0	Umbilical ID #	NA			H ₂ O
K Factor (delta H/delta P)	1.36	N ₂	82.0	TC ID #s	10-1			263.9

Equipment & Leak Check Data, OK? Y or N				Leak Checks		1	2	3	4	5	6	Status
Tambient	85	96	PRE	POST	DGM initial	0.000	0.000					0.000
Thermocouples			Y	Y	Vacuum	15	16					16
Pitots			Y	Y	Leak Rate	0.000	0.000					OK
Tedlar Bag	B142		Y	Y	DGM final	0.000	0.000					0.000

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
Z 5	752	0.0	549.065	0.76	1.03	1.03	1	88	88	434	248	66	N/A
Z 4		5.0	551.820	0.72	0.98	0.98	1	89	90	435	249	54	
Z 3		10.0	554.370	0.75	1.02	1.02	1	89	89	435	251	56	
Z 2	806	15.0	556.990	0.55	0.75	0.75	1	91	91	439	249	61	
Z 1	832	20.0	559.32	0.52	0.71	0.71	1	93	91	440	249	55	
D 5		25.0	561.570	0.64	0.87	0.87	1	95	92	436	247	59	
D 4		30.0	564.000	0.66	0.90	0.90	3	96	92	438	251	58	
D 3		35.0	566.600	0.64	0.87	0.87	4	97	93	434	249	58	
D 2		40.0	569.190	0.60	0.82	0.82	4	98	93	433	248	59	
D 1		45.0	571.720	0.60	0.82	0.82	5	98	93	433	251	61	
C 5		50.0	574.270	0.64	0.87	0.87	5	96	94	439	246	65	
C 4		55.0	576.640	0.64	0.87	0.87	5	98	94	439	249	60	
C 3		60.0	579.200	0.70	0.95	0.95	6	98	94	437	247	61	
C 2		65.0	581.860	0.76	1.03	1.03	7	99	95	437	246	63	
C 1		70.0	584.600	0.51	0.69	0.69	5	100	95	436	251	66	
B 5		75.0	586.868	0.62	0.84	0.84	4	98	95	436	250	61	
B 4		80.0	589.300	0.62	0.84	0.84	6	99	95	437	252	57	
B 3		85.0	591.860	0.68	0.93	0.93	10	99	95	437	251	59	
B 2		90.0	594.450	0.68	0.93	0.93	12	99	95	437	249	61	
B 1		95.0	597.100	0.61	0.83	0.83	12	100	96	437	251	63	
A 5		100.0	599.620	0.50	0.68	0.68	10	98	96	438	249	65	
A 4		105.0	601.820	0.69	0.94	0.94	13	99	96	439	249	61	
A 3		110.0	604.500	0.71	0.97	0.97	15	99	96	439	250	63	
A 2		115.0	607.200	0.71	0.97	0.97	16	99	96	435	248	66	
A 1		120.0	609.900	0.45	0.61	0.61	15	99	96	436	248	67	
	1036	125.0	612.213										

					MAX =>	16							
Average Values	125.0	63.148	0.636	0.869	0.869			95.1	436.6				

C 169

EPA 29

Client Name	Ogden Energy Group	Run #	2-I-M29-3		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1128
Plant City, State	Fort Myers, FL	Personnel	CMW, NP	Run End	1348
Test Location	UNIT 2 INLET	Tester Signature	<i>Christopher M. L. [Signature]</i>		
Date of Test	06/23/99	Checked By	<i>[Signature]</i>		

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.93	Pbar	29.9	Meter Console #		MB10	NA	NA	CO ₂
Meter Calibration Factor	1.0090	Pstatic	-3.00	Ideal Nozzle Diameter		0.281			9.7
Pitot Tube Coefficient	0.840	Abs P	29.7	Nozzle #		D0014			O ₂
Estimated Dry Gas Meter Temp	110	Tstd, °F	68	Actual Nozzle Diameter		0.222			10.1
Estimated Stack Temp or M2 Avg.	430	Pstd	29.92	Probe Lgth/ID #	10	10-4			CO
Estimated Delta P or M2 Avg.	0.600	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.2
Estimated Velocity, ft/sec	57.5	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.39	N ₂	82.0	TC ID #s		10-4			246.9

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	100	103	PRE	POST	DGM initial	0.000	663.590	0.000				663.590
Thermocouples			Y	Y	Vacuum	15	21	5				21
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		B-2	Y	Y	DGM final	0.000	664.879	0.000				664.879

[illegible]

					MAX =>	21		
Average Values	125.0	62.265	0.591	0.825	0.826		102.1	435.0

C 170

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 2 Stack

Job No. 10558
 Fuel Type Municipal Waste

Operator DL
 Run/Sample No. 2-S-M29-1 Date 6/22/99 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1327-1552	1615	8.5	19.3	10.8	2-S-M26-1
	1625	8.5	19.4	10.9	
	1636	8.4	19.4	11.0	
Average		8.5	Average	10.9	

Orsat I.D. 4 Tedlar Bag I.D. B142 F_o 1.181

Operator DL
 Run/Sample No. 2-S-M29-2 Date 6/23/99 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0752-1031	1145	8.7	19.3	10.6	2-S-M26-2
	1152	8.8	19.5	10.7	
	1205	8.8	19.5	10.7	
Average		8.8	Average	10.7	

Orsat I.D. 4 Tedlar Bag I.D. B3 F_o 1.167

Operator TW
 Run/Sample No. 2-S-M29-3 Date 6/23/99 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1128-1339	1518	9.1	19.7	10.6	2-S-M26-3
	1527	9.2	19.8	10.6	
	1539	9.1	19.8	10.7	
Average		9.1	Average	10.6	

Orsat I.D. 4 Tedlar Bag I.D. B142 F_o 1.124

Reviewer 
 AirKinetics, Inc.

EPA 29

Client Name	Ogden Energy Group	Run #	2-S-M29-1		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1327
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1552
Test Location	UNIT 2	Tester Signature			
Date of Test	06/22/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.72	Pbar	29.9	Meter Console #		MB9	NA	NA	CO ₂
Meter Calibration Factor	1.0038	Pstatic	-1.15	Ideal Nozzle Diameter		0.219			8.5
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		GN2040			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.218			10.9
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-1			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.6
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.27	N ₂	82.0	TC ID #s		8-1			479.3

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	100	100	PRE	POST	DGM initial		485.866					485.866
Thermocouples			Y	Y	Vacuum	17	10	8				17
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		B142	Y	Y	DGM final		486.000					486.000

[illegible]

EPA 29

					MAX => 6			C 173
Average Values	120.0	86.957	1.288	1.612	1.612		93.0	294.6

EPA 29

Client Name	Ogden Energy Group	Run #	2-S-M29-3		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1128
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1339
Test Location	UNIT 2	Tester Signature	[Signature]		
Date of Test	06/23/99	Checked By	[Signature]		

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.72	Pbar	29.9	Meter Console #		MB9	NA	NA	CO ₂
Meter Calibration Factor	1.0038	Pstatic	-1.05	Ideal Nozzle Diameter		0.219			9.1
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		GN2040			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.218			10.6
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-1			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.3
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.27	N ₂	82.0	TC ID #s		8-1			458.4

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	100	100	PRE	POST	DGM initial		709.516					709.516
Thermocouples			Y	Y	Vacuum	15	10	11				15
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		B142	Y	Y	DGM final		709.716					709.716

[illegible]

APPENDIX C

FIELD DATA

2.0 UNIT NO. 2

j. PARTICULATE LESS THAN 10 MICRONS

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 2 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>2-S-M8-1</u>		Date <u>6/24/99</u>		Operator <u>DL</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1325-1430	1524	8.5	19.5	11.0	2-S-M201A-1
	1533	8.5	19.6	11.1	
	1546	8.5	19.6	11.1	
Average		8.5	Average	11.1	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B142</u>		F _o <u>1.157</u>	

Run/Sample No. <u>2-S-M8-2</u>		Date <u>6/24/99</u>		Operator <u>DL</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1605-1717	1726	9.0	19.6	10.6	2-S-M201A-2
	1735	9.0	19.7	10.7	
	1745	9.0	19.7	10.7	
Average		9.0	Average	10.7	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B2</u>		F _o <u>1.137</u>	

Run/Sample No. _____		Date _____		Operator _____	
		Leak Check OK? _____			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
Average			Average		
Orsat I.D. _____		Tedlar Bag I.D. _____		F _o _____	

Reviewer JW
 AirKinetics, Inc.

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 2 Stack

Job No. 10558
 Fuel Type Municipal Waste

Operator TW
 Run/Sample No. 2-S-201A-3 Date 6/26/99 Leak Check OK? YES

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
0800-1010	1150	9.3	19.8	10.5	NA
	1159	9.3	19.7	10.4	
	1210	9.3	19.7	10.4	
Average		9.3	Average	10.4	

Orsat I.D. 4 Tedlar Bag I.D. B142 F_o 1.125

Operator _____
 Run/Sample No. _____ Date _____ Leak Check OK? _____

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
Average			Average		

Orsat I.D. _____ Tedlar Bag I.D. _____ F_o _____

Operator _____
 Run/Sample No. _____ Date _____ Leak Check OK? _____

Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
Average			Average		

Orsat I.D. _____ Tedlar Bag I.D. _____ F_o _____

Reviewer *JM*
 AirKinetics, Inc.

METHOD 201A (PM-10) FIELD DATA

Client <u>Ogden Energy Group</u>	Run Number <u>2-S-M201A-1</u>
Plant Name <u>OM3 of L&L, Inc.</u>	Time Start <u>1326</u>
City/State <u>Fort Myers, FL</u>	Time Stop <u>1431</u>
Sampling Location <u>Unit 2 Stack</u>	Job Number <u>10558</u>
Date <u>6/24/99</u> Team Leader _____ Techs _____	
*Train Leak Check Vacuum, In. Hg <u>18</u> <u>10</u>	Barometric Pressure, In. Hg <u>29.9</u>
Train Leak Rate, Cubic Ft./Min. <u>0.02</u> <u>0.00</u>	Static Pressure, In. H ₂ O <u>-1.15</u>

EQUIPMENT CHECKS		IDENTIFICATION NUMBERS	
☒ Pitot, Pretest	Meterbox <u>MB3</u>	Meterbox Gamma <u>1.0707</u>	Reagent Box <u>NA</u>
☒ Pitot, Posttest	T/C Readout <u>MB3</u>	T/C Probe _____	Umbilical <u>NA</u>
☐ M3 Sampling Sys/Ted Bag	Sampling Box <u>NA</u>	Orsat Pump _____	Tedlar Bag <u>NA</u>
☐ Thermocouple @ _____ Pre	Nozzle(s) Actually Used:		Pitot _____
☐ Thermocouple @ _____ Post	No. _____ Diameter _____	No. <u>GRASEBY 3</u> Diameter <u>0.158</u>	

FILTER NO. <u>P146</u>	TARE <u>0.2065</u>	Delta H _g <u>1.816</u>	NOZZLE SELECTION CRITERIA		FYRITE
		Delta H _t <u>0.443</u>	Desired Dia. <u>0.154</u>		
		Delta H _{t+50} <u>0.389</u>	Nozzle 1	Nozzle 2	
		Delta H _{t-50} <u>0.508</u>	Diameter <u>Graseby 3</u>		
		Delta P _{avg} <u>1.33</u>	Nozzle Number <u>0.158</u>		
		Meter Temp. <u>100</u>	Delta P _{min} _____		
		Stack Temp. <u>290</u>	Delta P _{max} _____		
Est % H ₂ O _____					C _p <u>0.84</u>

	Sample Point	Dwell Time, Minutes	Elapsed Time, Minutes	Dry Gas Meter Readings Cubic Feet	Pitot Reading, In. H ₂ O (ΔP)	Gas Meter Temp, °F	Stack Temp, °F	Orifice Setting, In. H ₂ O (ΔH)	Vacuum Gauge, In. Hg	Gas Temps Filter Box, °F	Imping Exit, °F	Cyclone Temp, °F
1	B 16	0.33	0	202.33	1.15	48	244	0.443	2	221	57	288
2	25	9.13	9.20	705.654	1.25	100	248	0.443	2	224	57	288
3	34	10.48	19.00	704.991	1.45	104	249	0.443	2	224	56	289
4	43	10.30	29.30	712.399	1.4	106	249	0.443	2	230	57	289
5	52	9.02	39.50	716.064	1.3	40	240	0.443	2	223	57	290
6	61	9.53	49.45	719.502	1.2	112	248	0.443	2	234	57	290
7	A 66	9.33	59.30	722.870	1.15	115	249	0.443	2	242	57	288
8	5	9.53	64.40	725.580	1.2	115	249	0.443	2	240	59	289
9	4	10.3	79.00	728.210	1.4	116	249	0.443	2	242	60	288
10	3	9.92	64.30	732.92	1.3	110	258	0.443	2	242	60	280
11	2	9.53	98.20	736.32	1.2	112	289	0.443	2	242	60	289
12	1	9.13	108	739.62	1.1	115	290	0.443	2	242	57	290
			117	742.461								

414 AL * REMOVE HEAD BEFORE POSTTEST LEAK CHECK

minutes	Vm	$(\sqrt{\Delta P})^2$	tm	ts	ΔH
117	40.131	1.256	108.9	288.9	0.443

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METHOD 201A (PM-10) FIELD DATA

Client <u>Ogden Energy Group</u>	Run Number <u>2-S-M201A-2</u>
Plant Name <u>ONS of Lee, Inc</u>	Time Start <u>1535</u>
City/State <u>Fort Myers, FL</u>	Time Stop <u>1730</u>
Sampling Location <u>Unit 2 Stack</u>	Job Number <u>10558</u>
Date <u>6/24/99</u> Team Leader _____ Techs _____	
*Train Leak Check Vacuum, In. Hg <u>15</u>	Barometric Pressure, In. Hg <u>29.9</u>
Train Leak Rate, Cubic Ft./Min. <u>0.000</u> <u>0.000</u>	Static Pressure, In. H ₂ O <u>-1.15</u>

EQUIPMENT CHECKS ☒ Pitot, Pretest ☒ Pitot, Posttest ☐ M3 Sampling Sys/Ted Bag ☐ Thermocouple @ _____ Pre ☐ Thermocouple @ _____ Post		IDENTIFICATION NUMBERS Meterbox <u>MB 3</u> Meterbox Gamma <u>1.0707</u> T/C Readout _____ T/C Probe _____ Sampling Box _____ Orsat Pump _____ Nozzle(s) Actually Used: No. <u>Aper #2</u> Diameter <u>0.146</u> No. _____ Diameter _____		Reagent Box <u>NA</u> Umbilical <u>NA</u> Tedlar Bag <u>NA</u> Pitot _____ Diameter _____
FILTER NO. <u>P125</u> TARE <u>0.1411</u> Est % H₂O <u>18/19</u>	Delta H _g <u>1.816</u> Delta H _t <u>0.418</u> Delta H _t +50 <u>0.367</u> Delta H _t -50 <u>0.480</u> Delta P _{avg} <u>1.33</u> Meter Temp. <u>100</u> Stack Temp. <u>290</u>	NOZZLE SELECTION CRITERIA Desired Dia. <u>0.154</u> Diameter <u>0.146</u> Nozzle 1 <u>Aper #2</u> Nozzle Number <u>Aper 26</u> Nozzle 2 <u>Aper</u> Delta P _{min} <u>0.904</u> Delta P _{max} <u>2.4553</u>		FYRITE _____ _____ _____ _____ C _p <u>0.84</u>

	Sample Point	Dwell Time, Minutes	Elapsed Time, Minutes	Dry Gas Meter Readings Cubic Feet	Pitot Reading, In. H ₂ O (ΔP)	Gas Meter Temp, °F	Stack Temp, °F	Orifice Setting, In. H ₂ O (ΔH)	Vacuum Gauge, In. Hg	Gas Temps Filter Box, °F	Imping Exit, °F	Cyclone Temp, °F
1	~~AB-1~~ 6	8.76	0	743.23	1.0	104	290	0.418		237	67	290
2	5	9.73	8.90	746.221	1.25	106	290	0.418		239	65	290
3	4	9.92	18.30	749.684	1.3	102	290	0.418		245	55	290
4	3	9.92	24.20	752.821	1.3	102	289	0.418		247	54	288
5	2	10.11	38.20	756.521	1.35	103	289	0.418		243	54	287
6	1	10.48	44.30	759.82	1.45	104	290	0.418		240	58	290
7	B 1	8.7	58.50	762.16	1.0	105	287	0.418		245	57	289
8	2	9.42	67.30	765.88	1.3	107	289	0.418		249	57	289
9	3	10.11	77.30	769.65	1.35	108	289	0.418		250	57	289
10	4	10.11	87.45	772.73	1.35	106	290	0.418		250	57	290
11	5	10.3	97.05	775.64	1.4	106	290	0.418		250	57	290
12	6	10.48	104.00	778.55	1.45	105	290	0.418		250	56	290
			118.30	782.945								
			118	39.715	1.287	104.8	284.3	0.418				
			minutes	Vm	() ²	tm	ts	ΔH				

* REMOVE HEAD BEFORE POSTTEST LEAK CHECK

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456.0

METHOD 201A (PM-10) FIELD DATA

Client <u>Ogden Energy Group</u>	Run Number <u>2-S-M2014-3</u>
Plant Name <u>Oms of Lee, Inc.</u>	Time Start <u>900</u>
City/State <u>Fort Myers, FL</u>	Time Stop <u>1010</u>
Sampling Location <u>Unit 2 Stack</u>	Job Number <u>10558</u>
Date <u>6/26/99</u> Team Leader <u>AG</u> Techns <u> </u>	Barometric Pressure, In. Hg <u>29.9</u>
*Train Leak Check Vacuum, In. Hg <u>13</u>	Static Pressure, In. H ₂ O <u>-61</u>
Train Leak Rate, Cubic Ft./Min. <u>0.50</u> <u>0.000</u>	

EQUIPMENT CHECKS	IDENTIFICATION NUMBERS	
☒ Pitot, Pretest	Meterbox <u>MB3</u> Meterbox Gamma <u>10707</u>	Reagent Box <u>NA</u>
☒ Pitot, Posttest	T/C Readout <u> </u> T/C Probe <u> </u>	Umbilical <u>NA</u>
<u> </u> M3 Sampling Sys/Ted Bag	Sampling Box <u> </u> Orsat Pump <u> </u>	Tedlar Bag <u>NA</u>
<u> </u> Thermocouple @ <u>Pre</u>	Nozzle(s) Actually Used:	Pitot <u> </u>
<u> </u> Thermocouple @ <u>Post</u>	No. <u>Grady 3</u> Diameter <u>0.158</u> No. <u> </u> Diameter <u> </u>	

FILTER NO. <u>P144</u>	TARE <u>0.2100</u>	Delta H _g <u>1.816</u>	NOZZLE SELECTION CRITERIA	FYRITE
		Delta H _t <u>0.418</u>	Desired Dia. <u>0.154</u>	
		Delta H _{t+50} <u>0.367</u>	Nozzle 1 <u> </u>	
		Delta H _{t-50} <u>0.480</u>	Nozzle 2 <u> </u>	
		Delta P _{avg} <u>1.33</u>	Diameter <u>0.158</u>	
		Meter Temp. <u>100</u>	Nozzle Number <u>Grady 3</u>	
		Stack Temp. <u>290</u>	Delta P _{min} <u>0.901</u>	
Est % H ₂ O <u>19</u>			Delta P _{max} <u>2.4553</u>	C _p <u>0.84</u>

	Sample Point	Dwell Time, Minutes	Elapsed Time, Minutes	Dry Gas Meter Readings Cubic Feet	Pitot Reading, In. H ₂ O (ΔP)	Gas Meter Temp, °F	Stack Temp, °F	Orifice Setting, In. H ₂ O (ΔH)	Vacuum Gauge, In. Hg	Gas Temps Filter Box, °F	Imping Exit, °F	Cyclone Temp, °F
1	AG	9:33	0	672.5	1.15	99	290	0.418	284	231	62	290
2	5	9:43	9:20	675.911	1.25	97	290	0.418	282	247	46	290
3	4	9:42	19:00	679.4476	1.3	96	290	0.418	2	254	48	290
4	3	10:3	29:00	682.714	1.4	94	291	0.418	3	253	54	291
5	2	10:11	39:20	686.004	1.35	904	291	0.418	3	254	56	291
6	1	9:43	49:30	689.501	1.25	106	291	0.418	3	255	57	291
7	B1	9:53	59:10	692.567	2771.2	110	290	0.418	3	257	57	290
8	2	9:43	68:40	695.554	1.25	111	290	0.418	3	259	58	290
9	3	10:11	78:25	696.771	1.35	113	290	0.418	3	258	58	290
10	4	10:3	88:30	697.713	1.4	114	290	0.418	3	260	59	290
11	5	10:11	98:50	695.748	1.35	114	290	0.418	3	257	59	290
12	6	9:43	109:00	699.29	1.25	114	291	0.418	3	254	62	291
			118:40	692.465								

* REMOVE HEAD BEFORE POSTTEST LEAK CHECK
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minutes 118 Vm 44.985 $(\sqrt{\Delta P})^2$ 1.211 tm 105.1 ts 290.3 ΔH 0.418

APPENDIX C

FIELD DATA

2.0 UNIT NO. 2

k. SOOT BLOW

1.0 PARTICULATE

METHOD 3 (ORSAT) FIELD DATA

Client Ogden Energy Group
 Plant Name OMS of Lee, Inc.
 City/State Fort Myers, FL
 Sampling Location Unit 2 Stack

Job No. 10558
 Fuel Type Municipal Waste

Run/Sample No. <u>2-S-M5-1SB</u>		Date <u>6/21/99</u>		Operator <u>CMW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1604-1818	1845	8.7	19.8	11.1	NA
	1852	8.6	19.8	11.2	
	1859	8.7	19.8	11.1	
Average		8.7	Average	11.1	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B142</u>		F _o <u>1.127</u>	

Run/Sample No. <u>2-S-M5-2SB</u>		Date <u>6/23/99</u>		Operator <u>TW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1404-1616	1635	9.0	19.8	10.8	2-S-NH3-3
	1646	9.0	19.8	10.8	
	1700	9.0	19.8	10.8	
Average		9.0	Average	10.8	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.122</u>	

Run/Sample No. <u>2-S-M5-3SB</u>		Date <u>6/25/99</u>		Operator <u>CMW</u>	
		Leak Check OK? <u>YES</u>			
Time of Sample Collection	Time of Analysis	CO ₂ Reading (A)	O ₂ Reading (B)	% O ₂ (B-A)	Concurrent Runs to Share Orsat Data
1638-1907	2000	9.2	19.5	10.3	
	2010	9.2	19.5	10.3	
	2019	9.2	19.5	10.3	
Average		9.2	Average	10.3	
Orsat I.D. <u>4</u>		Tedlar Bag I.D. <u>B3</u>		F _o <u>1.152</u>	

Reviewer *W*
 AirKinetics, Inc.

5

Client Name	Ogden Energy Group	Run #	2-S-M5-1SB		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1604
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1818
Test Location	UNIT 2	Tester Signature			
Date of Test	06/21/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment			Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.72	Pbar	29.9	Meter Console #		MB9	A957	0.478	CO ₂
Meter Calibration Factor	1.0038	Pstatic	1.15	Ideal Nozzle Diameter		0.219			8.7
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		D024			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.216			11.1
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-6			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.2
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.23	N ₂	82.0	TC ID #s		8-6			424.8

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	99	99	PRE	POST	DGM initial		221.676					221.676
Thermocouples			Y	Y	Vacuum	15	10	8				15
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		B120	Y	Y	DGM final		221.730					221.730

[illegible]

					MAX =>	4		
Average Values	120.0	86.609	1.293	1.587	1.588		94.1	289.0

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ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD

EPA 5

Client Name	Ogden Energy Group	Run #	2-S-M5-2SB		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1404
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1616
Test Location	UNIT 2	Tester Signature	<i>[Signature]</i>		
Date of Test	06/23/99	Checked By	<i>[Signature]</i>		

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.72	Pbar	29.9	Meter Console #	MB9	NA	NA	CO ₂
Meter Calibration Factor	1.0038	Pstatic	-1.05	Ideal Nozzle Diameter	0.219			9.0
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #	D017			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter	0.214	0.216		10.8
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-1		CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material	G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #	NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #	NA			80.2
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #	NA			H ₂ O
K Factor (delta H/delta P)	1.18	N ₂	82.0	TC ID #s	8-1			436.2

Equipment & Leak Check Data, OK? Y or N				Leak Checks		1	2	3	4	5	6	Status
Tambient	100	100	PRE	POST	DGM initial		798.902					798.902
Thermocouples			Y	Y	Vacuum	15	10	11				15
Pitots			Y	Y	Leak Rate	0.006	0.000	0.000				OK
Tedlar Bag	B3		Y	Y	DGM final		799.110					799.110

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
A 6	1404	0.0	755.843	1.20	1.42	1.42	5	97	97	289	264	60	NA
A 6		5.0	759.497	1.20	1.42	1.42	5	98	96	289	262	66	
A 5		10.0	762.917	1.20	1.42	1.42	5	98	96	290	262	67	
A 5		15.0	766.330	1.25	1.48	1.48	5	99	96	290	262	65	
A 4		20.0	769.89	1.30	1.54	1.54	5	99	96	290	264	65	
A 4		25.0	773.519	1.35	1.60	1.60	5	100	97	291	264	62	
A 3		30.0	777.211	1.45	1.71	1.71	5	101	97	291	264	60	
A 3		35.0	781.002	1.40	1.66	1.66	5	101	97	291	262	58	
A 2		40.0	784.687	1.40	1.66	1.66	5	101	97	291	262	58	
A 2		45.0	788.400	1.40	1.66	1.66	5	101	97	289	265	58	
A 1		50.0	792.132	1.20	1.42	1.42	5	102	98	289	265	58	
A 1		55.0	795.484	1.20	1.42	1.42	5	102	98	289	265	59	
B 6		60.0	798.902	1.15	1.36	1.36	5	96	96	288	265	59	
B 6		65.0	802.360	1.15	1.36	1.36	5	96	96	289	262	59	
B 5		70.0	805.755	1.25	1.48	1.48	5	97	96	291	262	60	
B 5		75.0	809.247	1.25	1.48	1.48	5	99	96	291	262	60	
B 4		80.0	812.766	1.35	1.60	1.60	5	99	97	291	261	60	
B 4		85.0	816.379	1.35	1.60	1.60	5	99	97	291	259	62	
B 3		90.0	820.067	1.40	1.66	1.66	5	100	97	291	259	62	
B 3		95.0	823.798	1.45	1.71	1.71	5	100	97	292	259	62	
B 2		100.0	827.600	1.30	1.54	1.54	5	100	98	292	259	63	
B 2		105.0	831.249	1.30	1.54	1.54	5	100	98	292	259	64	
B 1		110.0	834.811	1.15	1.36	1.36	5	101	98	291	259	64	
B 1		115.0	838.313	1.15	1.36	1.36	5	101	98	290	257	65	
-	1616	120.0	841.702										

				MAX =>		5						
Average Values		120.0	85.651	1.281	1.517	1.517			98.2	290.3	C	184

EPA 5

Client Name	Ogden Energy Group	Run #	2-S-M5-3SB		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1638
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1907
Test Location	UNIT 2	Tester Signature			
Date of Test	06/25/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.72	Pbar	29.9	Meter Console #		MB9	B010	0.4792	CO ₂
Meter Calibration Factor	1.0038	Pstatic	-1.10	Ideal Nozzle Diameter		0.219			9.2
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		GN2047			O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.217			10.3
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-1			CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.5
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.25	N ₂	82.0	TC ID #s		8-1			485.8

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	101	101	PRE	POST	DGM initial		461.356					461.356
Thermocouples			Y	Y	Vacuum	15	10	8				15
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		B3	Y	Y	DGM final		461.487					461.487

[illegible]

					MAX =>	5				
Average Values	120.0	87.413	1.261	1.578	1.578		96.1	290.5	185	

APPENDIX C

FIELD DATA

2.0 UNIT NO. 2

k. SOOT BLOW

2.0 OPACITY

SOURCE NAME Ogden Martin Systems of Lee, Inc.		
ADDRESS 10500 Buckingham Road		
Fort Myers	STATE FL	ZIP 33905
PHONE (941) 337-2200	SOURCE ID NUMBER PSD-FL-151	

PROCESS EQUIPMENT Unit 2 STACK	OPERATING MODE See Prod. data
CONTROL EQUIPMENT Baghouse - Scrubber	OPERATING MODE Continuous

DESCRIBE EMISSION POINT START 78" circular stack STOP Same	
HEIGHT ABOVE GROUND LEVEL START 200' STOP Same	HEIGHT RELATIVE TO OBSERVER START 200' STOP Same
DISTANCE FROM OBSERVER START 500' STOP Same	DIRECTION FROM OBSERVER START 90° STOP

DESCRIBE EMISSIONS START None STOP Same	
EMISSION COLOR START Clear STOP Same	PLUME TYPE CONTINUOUS ☒ FUGITIVE ☐
WATER DROPLETS PRESENT NO ☒ YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START 1 foot Above outlet STOP Same	

BACKGROUND SKY STOP Same	
BACKGROUND COLOR START white STOP Same	SKY CONDITIONS START broken STOP Same
WIND SPEED START CALM STOP Same	WIND DIRECTION START CALM STOP Same
AMBIENT TEMP START STOP	WET BULB TEMP RH. percent

SOURCE LAYOUT SKETCH	Draw North Arrow

COMMENTS 2-SB-M9-1
I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS
SIGNATURE
TITLE
DATE

OBSERVATION DATE 6-21-99					START TIME 1720					STOP TIME 1820				
SEC MIN	0	15	30	45	SEC MIN	0	15	30	45					
1	0	0	0	0	31	0	0	0	0					
2	0	0	0	0	32	0	0	0	0					
3	0	0	0	0	33	0	0	0	0					
4	0	0	0	0	34	0	0	0	0					
5	0	0	0	0	35	0	0	0	0					
6	0	0	0	0	36	0	0	0	0					
7	0	0	0	0	37	0	0	0	0					
8	0	0	0	0	38	0	0	0	0					
9	0	0	0	0	39	0	0	0	0					
10	0	0	0	0	40	0	0	0	0					
11	0	0	0	0	41	0	0	0	0					
12	0	0	0	0	42	0	0	0	0					
13	0	0	0	0	43	0	0	0	0					
14	0	0	0	0	44	0	0	0	0					
15	0	0	0	0	45	0	0	0	0					
16	0	0	0	0	46	0	0	0	0					
17	0	0	0	0	47	0	0	0	0					
18	0	0	0	0	48	0	0	0	0					
19	0	0	0	0	49	0	0	0	0					
20	0	0	0	0	50	0	0	0	0					
21	0	0	0	0	51	0	0	0	0					
22	0	0	0	0	52	0	0	0	0					
23	0	0	0	0	53	0	0	0	0					
24	0	0	0	0	54	0	0	0	0					
25	0	0	0	0	55	0	0	0	0					
26	0	0	0	0	56	0	0	0	0					
27	0	0	0	0	57	0	0	0	0					
28	0	0	0	0	58	0	0	0	0					
29	0	0	0	0	59	0	0	0	0					
30	0	0	0	0	60	0	0	0	0					

AVERAGE OPACITY FOR HIGHEST PERIOD 70	NUMBER OF READINGS ABOVE 10 % WERE 0
RANGE OF OPACITY READINGS MINIMUM 0 MAXIMUM 0	

OBSERVER'S NAME (PRINT) Bonnie Leeper	
OBSERVER'S SIGNATURE Bonnie Leeper	DATE 6-21-99
ORGANIZATION AirKinetics Inc.	
CERTIFIED BY Eastern Technical Associates	DATE 6-2-99
VERIFIED BY	DATE C 187

SOURCE NAME <i>Ogden Martin Systems of Lee Inc</i>		
ADDRESS <i>10500 Buckingham Road</i>		
Fort Myers	STATE <i>Fl.</i>	ZIP <i>33905</i>
PHONE <i>(941) 337-2200</i>	SOURCE ID NUMBER <i>PSD-151-FL</i>	
PROCESS EQUIPMENT <i>#2 unit stack</i>		OPERATING MODE <i>see Prob. data</i>
CONTROL EQUIPMENT <i>Baghouse / cyclones</i>		OPERATING MODE <i>Continuous</i>
DESCRIBE EMISSION POINT START <i>78" Circular</i> STOP <i>Same</i>		
HEIGHT ABOVE GROUND LEVEL START <i>200'</i> STOP <i>Same</i>		HEIGHT RELATIVE TO OBSERVER START <i>200'</i> STOP <i>Same</i>
DISTANCE FROM OBSERVER START <i>500'</i> STOP <i>Same</i>		DIRECTION FROM OBSERVER START <i>NE 65°</i> STOP <i>Same</i>
DESCRIBE EMISSIONS START <i>None</i> STOP <i>Same</i>		
EMISSION COLOR START <i>Clear</i> STOP <i>Same</i>		PLUME TYPE CONTINUOUS ☒ FUGITIVE ☐
WATER DROPLETS PRESENT NO ☒ YES ☐		IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START <i>1 foot above outlet</i> STOP <i>Same</i>		
HBE BACKGROUND START <i>sky</i> STOP <i>Same</i>		
BACKGROUND COLOR START <i>white</i> STOP <i>Same</i>		SKY CONDITIONS START <i>broken</i> STOP <i>Same</i>
WIND SPEED START <i>3-5 mph</i> STOP <i>Same</i>		WIND DIRECTION START <i>SE</i> STOP <i>Same</i>
AMBIENT TEMP START STOP		WET BULB TEMP RH, percent
SOURCE LAYOUT SKETCH Draw North Arrow		
The sketch shows two rectangular units side-by-side. Above each unit is an 'X' labeled 'Emission Point'. An arrow points from the center between the units to a dot labeled 'Observer's Position'. A dashed line labeled 'Sun Location Line' extends from the observer's position towards the bottom left. A curved arrow indicates a 140° angle between the sun location line and the line to the observer. A legend shows 'Sun' with a diamond symbol and 'Wind' with an arrow symbol. A 'Plume and Stack' is indicated with a horizontal line.		
COMMENTS <i>2-SB-m9-2</i>		
I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS		
SIGNATURE		
TITLE		
DATE		

OBSERVATION DATE <i>6-23-99</i>					START TIME <i>1442</i>					STOP TIME <i>1542</i>				
SEC MIN	0	15	30	45	SEC MIN	0	15	30	45					
1	0	0	0	0	31	0	0	0	0					
2	0	0	0	0	32	0	0	0	0					
3	0	0	0	0	33	0	0	0	0					
4	0	0	0	0	34	0	0	0	0					
5	0	0	0	0	35	0	0	0	0					
6	0	0	0	0	36	0	0	0	0					
7	0	0	0	0	37	0	0	0	0					
8	0	0	0	0	38	0	0	0	0					
9	0	0	0	0	39	0	0	0	0					
10	0	0	0	0	40	0	0	0	0					
11	0	0	0	0	41	0	0	0	0					
12	0	0	0	0	42	0	0	0	0					
13	0	0	0	0	43	0	0	0	0					
14	0	0	0	0	44	0	0	0	0					
15	0	0	0	0	45	0	0	0	0					
16	0	0	0	0	46	0	0	0	0					
17	0	0	0	0	47	0	0	0	0					
18	0	0	0	0	48	0	0	0	0					
19	0	0	0	0	49	0	0	0	0					
20	0	0	0	0	50	0	0	0	0					
21	0	0	0	0	51	0	0	0	0					
22	0	0	0	0	52	0	0	0	0					
23	0	0	0	0	53	0	0	0	0					
24	0	0	0	0	54	0	0	0	0					
25	0	0	0	0	55	0	0	0	0					
26	0	0	0	0	56	0	0	0	0					
27	0	0	0	0	57	0	0	0	0					
28	0	0	0	0	58	0	0	0	0					
29	0	0	0	0	59	0	0	0	0					
30	0	0	0	0	60	0	0	0	0					
AVERAGE OPACITY FOR HIGHEST PERIOD <i>0%</i>					NUMBER OF READINGS ABOVE <i>10% WERE 0</i>									
RANGE OF OPACITY READINGS MINIMUM <i>0</i> MAXIMUM <i>0</i>														
OBSERVER'S NAME (PRINT) <i>Donnie Leeper</i>														
OBSERVER'S SIGNATURE <i>Donnie Leeper</i>							DATE <i>6-23-99</i>							
ORGANIZATION <i>AirKinetics Inc.</i>														
CERTIFIED BY <i>Eastern Technical Associates</i>							DATE <i>6-9-99</i>							
VERIFIED BY							DATE <i>6 188</i>							

SOURCE NAME
Carden Martin Systems of Rec, Inc

ADDRESS
10500 Buckingham Road

STATE *FL* ZIP *33905*

PHONE *901-337-1200* SOURCE ID NUMBER *PSD-151-FL*

PROCESS EQUIPMENT
#2 Unit Stack OPERATING MODE
See Prod. DATA

CONTROL EQUIPMENT
Baghouse/scrubber OPERATING MODE
Continuous

DESCRIBE EMISSION POINT
Stack

START *78" Circular* STOP *Same*

HEIGHT ABOVE GROUND LEVEL
START *200'* STOP *Same* HEIGHT RELATIVE TO OBSERVER
START *200'* STOP *Same*

DISTANCE FROM OBSERVER
START *500'* STOP *Same* DIRECTION FROM OBSERVER
START *EAST* STOP *Same*

DESCRIBE EMISSIONS
START *None* STOP *Same*

EMISSION COLOR
START *Clear* STOP *Same* PLUME TYPE CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐

WATER DROPLETS PRESENT
NO YES ☐ IS WATER DROPLET PLUME
ATTACHED ☐ DETACHED ☐

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED
Stack outlet STOP *Same*

BACKGROUND
START *Sky* STOP *Same*

BACKGROUND COLOR
START *grey* STOP *Same* SKY CONDITIONS
START *overcast* STOP *Same*

WIND SPEED
START *Calm* STOP *Same* WIND DIRECTION
START *Calm* STOP *Same*

AMBIENT TEMP
START STOP WET BULB TEMP RH, percent

SOURCE LAYOUT SKETCH
Draw North Arrow

COMMENTS
Soot blow run 3

Estimated by using compass

I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS
SIGNATURE DATE

OBSERVATION DATE <i>6-25-99</i>					START TIME <i>1652</i>					STOP TIME <i>1752</i>				
SEC	0	15	30	45	SEC	0	15	30	45	SEC	0	15	30	45
1	0	0	0	0	31	0	0	0	0					
2	0	0	0	0	32	0	0	0	0					
3	0	0	0	0	33	0	0	0	0					
4	0	0	0	0	34	0	0	0	0					
5	0	0	0	0	35	0	0	0	0					
6	0	0	0	0	36	0	0	0	0					
7	0	0	0	0	37	0	0	0	0					
8	0	0	0	0	38	0	0	0	0					
9	0	0	0	0	39	0	0	0	0					
10	0	0	0	0	40	0	0	0	0					
11	0	0	0	0	41	0	0	0	0					
12	0	0	0	0	42	0	0	0	0					
13	0	0	0	0	43	0	0	0	0					
14	0	0	0	0	44	0	0	0	0					
15	0	0	0	0	45	0	0	0	0					
16	0	0	0	0	46	0	0	0	0					
17	0	0	0	0	47	0	0	0	0					
18	0	0	0	0	48	0	0	0	0					
19	0	0	0	0	49	0	0	0	0					
20	0	0	0	0	50	0	0	0	0					
21	0	0	0	0	51	0	0	0	0					
22	0	0	0	0	52	0	0	0	0					
23	0	0	0	0	53	0	0	0	0					
24	0	0	0	0	54	0	0	0	0					
25	0	0	0	0	55	0	0	0	0					
26	0	0	0	0	56	0	0	0	0					
27	0	0	0	0	57	0	0	0	0					
28	0	0	0	0	58	0	0	0	0					
29	0	0	0	0	59	0	0	0	0					
30	0	0	0	0	60	0	0	0	0					

AVERAGE OPACITY FOR HIGHEST PERIOD *0%* NUMBER OF READINGS ABOVE *10* % WERE *0*

RANGE OF OPACITY READINGS
MINIMUM *0* MAXIMUM *0*

OBSERVER'S NAME (PRINT)
Donnie Keiper

OBSERVER'S SIGNATURE
Donnie Keiper DATE
6-25-99

ORGANIZATION
Airkinetics Inc.

CERTIFIED BY
EASTERN TECHNICAL ASSOC DATE
6-9-99

VERIFIED BY
 DATE
6 189

APPENDIX C

FIELD DATA

3.0 ASH BUILDING

a. PARTICULATE

CLIENT Ogden Projects, Inc
 PLANT NAME Ogden Martin Systems of Lee, Inc
 CITY, STATE Fort Myers, FL
 SAMPLING LOCATION Asph

NO. OF PORTS AVAILABLE 2
 NO. OF PORTS USED 2
 PORT INSIDE DIAMETER 4"

DISTANCE FROM FAR WALL TO OUTSIDE OF PORT 41"
 NIPPLE LENGTH AND/OR WALL THICKNESS 6"
 DEPTH OF STACK OR DUCT 435" 86"
 STACK OR DUCT WIDTH (IF RECTANGULAR) N/A

EQUIVALENT DIAMETER:

$$D_E = \frac{2 \times \text{DEPTH} \times \text{WIDTH}}{\text{DEPTH} + \text{WIDTH}} = \frac{2(435)(86)}{(435) + (86)} = \text{N/A}$$

DISTANCE FROM PORTS TO FLOW DISTURBANCES
 UPSTREAM 117" DOWNSTREAM 120"
 DIAMETERS 325329" 0 33343" 0

$$\text{STACK/DUCT AREA} = \left(\frac{36}{2}\right)^2 \times \pi = 1017.88 \text{ IN}^2$$

LOCATION OF POINTS IN CIRCULAR STACKS OR DUCTS

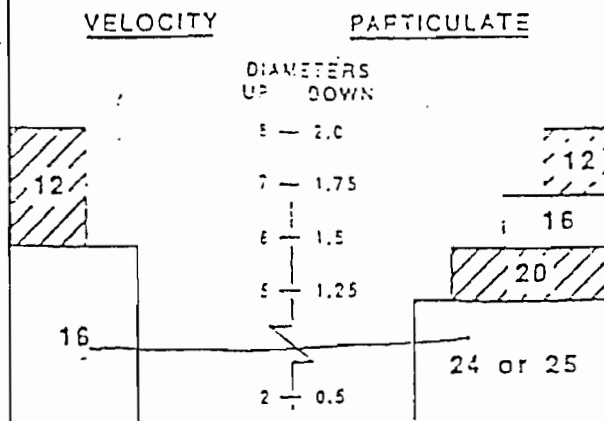
	4	6	8	10	12	14	16	18	20	22	24
1	6.7	4.4	3.2	2.6	2.1	1.8	1.6	1.4	1.3	1.1	1.1
2	25.0	14.6	10.5	8.2	6.7	5.7	4.9	4.4	3.9	3.5	3.2
3	75.0	29.6	19.4	14.6	11.8	9.9	8.5	7.5	6.7	6.0	5.5
4	70.4	32.3	22.6	17.7	14.6	12.5	10.9	9.7	8.7	7.9	7.2
5	85.4	67.7	34.2	25.0	20.1	16.9	14.6	12.9	11.6	10.5	9.5
6	95.6	80.8	65.8	35.8	28.9	22.0	18.8	16.5	14.6	13.2	12.0
7		89.5	77.4	64.4	36.6	28.3	23.6	20.4	18.0	16.1	14.4
8		98.8	85.4	75.0	63.4	37.5	29.6	25.0	21.8	19.4	17.4
9			91.8	82.3	70.1	62.5	38.2	30.6	26.2	23.0	20.6
10			97.4	88.2	79.9	71.7	61.8	35.8	31.5	27.2	24.2
11				93.3	85.4	78.0	70.4	61.2	39.5	32.3	28.6
12				97.9	90.1	83.1	76.4	69.4	60.7	39.8	33.0
13					94.3	87.5	81.2	75.0	68.5	60.2	52.0
14					98.2	91.5	85.4	79.6	73.8	67.7	60.0
15						95.1	89.1	83.5	78.2	72.8	66.0
16						98.4	92.5	87.1	82.0	77.0	71.0
17							95.8	90.3	85.4	80.6	75.0
18							98.6	93.3	88.4	83.9	79.0
19								98.1	91.3	86.8	82.0
20								98.7	94.0	89.5	85.0
21									98.5	92.1	87.0
22										98.9	94.5
23											96.8
24											98.9

LOCATION OF POINTS IN RECTANGULAR STACKS OR DUCTS

	2	3	4	5	6	7	8	9	10	11	12
1	25.0	16.7	12.5	10.0	8.3	7.1	6.3	5.6	5.0	4.5	4.2
2	75.0	50.0	37.5	30.0	25.0	21.4	18.8	16.7	15.0	13.6	12.5
3		83.3	62.5	50.0	41.7	35.7	31.3	27.8	25.0	22.7	20.6
4			87.5	70.0	58.3	50.0	43.8	38.9	35.0	31.8	29.2
5				90.0	75.0	64.3	56.3	50.0	45.0	40.9	37.5
6					91.7	78.8	68.8	61.1	55.0	50.0	45.8
7						92.9	81.3	72.2	65.0	59.1	54.2
8							93.8	83.3	75.0	68.2	62.5
9								94.4	85.0	77.3	70.8
10									95.0	86.4	79.2
11										95.5	87.5
12											95.8

DRAW HORIZONTAL LINE THROUGH DIAMETERS

If more than 8 and 2 diameters and if duct dia. is less than 24", use 8 or 9 points.



PITOT USED (✓) TYPE 'S' _____ STANDARD _____

POINT	% OF DUCT DEPTH	DISTANCE FROM INSIDE WALL	DISTANCE FROM OUTSIDE OF PORT
1	2.1	1.0	7"
2	6.7	2.41	8 3/8
3	11.8	4.25	10 1/4
4	17.7	6.37	12 3/8
5	25.0	9.00	15
6	35.8	12.89	18 7/8
7	64.4	23.184	29 1/8
8	75.0	27.00	33
9	82.3	29.628	35 5/8
10	88.2	31.752	37 3/4
11	93.3	33.59	39 5/8
12	97.9	35.338	41 1/4
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			

EPA 5

Client Name	Ogden Energy Group	Run #	Ash-M5-1		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1035
Plant City, State	Fort Myers, FL	Personnel	SCG	Run End	1143
Test Location	Ash Building	Tester Signature	<i>[Signature]</i>		
Date of Test	06/21/99	Checked By	<i>[Signature]</i>		

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.35	Pbar	29.9	Meter Console #		MB6	A697	0.517	CO ₂
Meter Calibration Factor	0.9718	Pstatic	-0.35	Ideal Nozzle Diameter		0.235			0.5
Pitot Tube Coefficient	0.840	Abs P	29.9	Nozzle #		GN282			O ₂
Estimated Dry Gas Meter Temp	105	Tstd, °F	68	Actual Nozzle Diameter		0.256			20.9
Estimated Stack Temp or M2 Avg.	90	Pstd	29.92	Probe Lgth/ID #	4	4-2			CO
Estimated Delta P or M2 Avg.	0.600	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	3.0	CO ₂	0.5	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	28.90	O ₂	20.4	Cold Box ID #		NA			78.6
Estimated Velocity, ft/sec	44.7	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	3.37	N ₂	79.1	TC ID #s		4-2			29.7

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	86	86	PRE	POST	DGM initial		220.432					220.432
Thermocouples			Y	Y	Vacuum	15	5	7				15
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		NA	NA	NA	DGM final		220.546					220.546

[illegible]

					MAX =>	3		
Average Values	60.0	55.396	0.600	2.106	2.105		92.5	86.0

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD

EPA 5

Client Name	Ogden Energy Group	Run #	Ash-M5-2
Plant Name	OMS of Lee, Inc.	Project #	10558
Plant City, State	Fort Myers, FL	Personnel	SCG
Test Location	Ash Building	Tester Signature	<i>Wayne W. Jones</i>
Date of Test	06/21/99	Checked By	<i>2N</i>

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.35	Pbar	29.9	Meter Console #	MB6	A955	0.4718	CO ₂
Meter Calibration Factor	0.9718	Pstatic	-0.35	Ideal Nozzle Diameter	0.235			0.5
Pitot Tube Coefficient	0.840	Abs P	29.9	Nozzle #	D009			O ₂
Estimated Dry Gas Meter Temp	105	Tstd, °F	68	Actual Nozzle Diameter	0.222			20.9
Estimated Stack Temp or M2 Avg.	90	Pstd	29.92	Probe Lgth/ID #	4	4-3		CO
Estimated Delta P or M2 Avg.	0.600	Estimates		Liner Material	G	XAD ID & Tares		0.0
Estimated Moisture Content	3.0	CO ₂	0.5	Filter Box #	NA	NA	NA	N ₂
Estimated Dry Molecular Weight	28.90	O ₂	20.4	Cold Box ID #	NA			78.6
Estimated Velocity, ft/sec	44.7	CO	0.0	Umbilical ID #	NA			H ₂ O
K Factor (delta H/delta P)	1.91	N ₂	79.1	TC ID #s	4-3			25.8

Equipment & Leak Check Data, OK? Y or N				Leak Checks		1	2	3	4	5	6	Status
Tambient	88	90	PRE	POST	DGM initial		269.263					269.263
Thermocouples		Y	Y		Vacuum	13	7	5				13
Pitots		Y	Y		Leak Rate	0.004	0.002	0.000				OK
Tedlar Bag		NA	NA	NA	DGM final		269.307					269.307

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
A 12	1218	0.0	247.637	0.33	0.63	0.63	2	91	NA	88	244	68	NA
A 11		2.5	248.980	0.33	0.63	0.63	2	92		88	243	68	
A 10		5.0	250.320	0.35	0.67	0.67	2	92		88	243	63	
A 9		7.5	251.670	0.35	0.67	0.67	2	92		88	243	61	
A 8		10.0	253.05	0.34	0.65	0.65	2	93		89	244	60	
A 7		12.5	254.450	0.35	0.67	0.67	2	93		89	245	61	
A 6		15.0	255.870	0.60	1.14	1.15	2	94		89	242	62	
A 5		17.5	257.720	0.91	1.73	1.74	2	95		89	243	60	
A 4		20.0	259.900	1.00	1.91	1.91	2	96		89	243	60	
A 3		22.5	262.250	1.05	2.00	2.00	2	97		88	421	61	
A 2		25.0	264.610	1.05	2.00	2.00	2	97		88	242	62	
A 1		27.5	266.960	1.02	1.94	1.95	2	98		88	242	62	
B 12		30.0	269.263	0.50	0.95	0.96	2	96		89	245	66	
B 11		32.5	271.000	0.48	0.92	0.92	2	97		90	243	63	
B 10		35.0	272.770	0.41	0.78	0.78	2	97		90	242	62	
B 9		37.5	274.280	0.39	0.74	0.74	2	97		90	242	62	
B 8		40.0	275.770	0.39	0.74	0.74	2	98		91	243	63	
B 7		42.5	277.250	0.39	0.74	0.74	2	98		91	241	64	
B 6		45.0	278.730	0.50	0.95	0.95	2	99		90	243	65	
B 5		47.5	280.420	0.56	1.07	1.07	2	99		90	242	64	
B 4		50.0	282.110	0.74	1.41	1.41	2	99		90	242	65	
B 3		52.5	284.110	0.80	1.53	1.53	2	100		90	240	63	
B 2		55.0	286.210	0.83	1.58	1.59	2	100		90	242	63	
B 1		57.5	288.340	0.76	1.45	1.45	2	100		89	242	64	
-	1323	60.0	290.460										

Average Values		60.0	42.779	0.575	1.146	1.148	2	96.3	89.2	193			

EPA 5

Client Name	Ogden Energy Group	Run #	Ash-M5-3		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	1440
Plant City, State	Fort Myers, FL	Personnel	SCG	Run End	1548
Test Location	Ash Building	Tester Signature	Jorey H. King for SCG		
Date of Test	06/21/99	Checked By	JH		

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.35	Pbar	29.9	Meter Console #		MB6	A956	0.4786	CO ₂
Meter Calibration Factor	0.9718	Pstatic	-0.35	Ideal Nozzle Diameter		0.235			0.5
Pitot Tube Coefficient	0.840	Abs P	29.9	Nozzle #		D027			O ₂
Estimated Dry Gas Meter Temp	105	Tstd, °F	68	Actual Nozzle Diameter		0.225			20.9
Estimated Stack Temp or M2 Avg.	90	Pstd	29.92	Probe Lgth/ID #	4	4-2			CO
Estimated Delta P or M2 Avg.	0.600	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	3.0	CO ₂	0.5	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	28.90	O ₂	20.4	Cold Box ID #		NA			78.6
Estimated Velocity, ft/sec	44.7	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	2.01	N ₂	79.1	TC ID #s		4-2			23.4

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	93	90	PRE	POST	DGM initial		312.365					312.365
Thermocouples			Y	Y	Vacuum	14	7	5				14
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000				OK
Tedlar Bag		NA	NA	NA	DGM final		312.422					312.422

[illegible]

APPENDIX C

FIELD DATA

3.0 ASH BUILDING

b. OPACITY

SOURCE NAME <i>Ogden Martin Systems of Lee, Inc.</i>		
ADDRESS <i>10500 Buckingham Road</i>		
City <i>Fort Myers</i>	STATE <i>FL</i>	ZIP <i>33905</i>
PHONE <i>(941) 337-2200</i>	SOURCE ID NUMBER <i>PSD - FL-151</i>	

PROCESS EQUIPMENT <i>Ash Building</i>	OPERATING MODE <i>See Prod. DATA.</i>
CONTROL EQUIPMENT <i>Barhouse</i>	OPERATING MODE <i>CONTINUOUS</i>

DESCRIBE EMISSION POINT START <i>~ 36" Circular</i> STOP <i>STACK SAME</i>	
HEIGHT ABOVE GROUND LEVEL START <i>275'</i> STOP	HEIGHT RELATIVE TO OBSERVER START <i>245'</i> STOP
DISTANCE FROM OBSERVER START <i>100'</i> STOP	
DIRECTION FROM OBSERVER <i>270°</i> START <i>West</i> STOP <i>SAME</i>	

DESCRIBE EMISSIONS START <i>NONE</i> STOP <i>SAME</i>	
EMISSION COLOR START <i>CLEAR</i> STOP <i>SAME</i>	PLUME TYPE CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT NO ☒ YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START <i>1 foot above outlet</i> STOP <i>Same</i>	

BACKGROUND START <i>SKY</i> STOP <i>SAME</i>	
BACKGROUND COLOR START <i>White</i> STOP <i>SAME</i>	SKY CONDITIONS START <i>broken</i> STOP <i>SAME</i>
WIND SPEED START <i>CALM</i> STOP <i>SAME</i>	WIND DIRECTION START <i>CALM</i> STOP <i>SAME</i>
AMBIENT TEMP START STOP	WET BULB TEMP RH, percent

SOURCE LAYOUT SKETCH	Draw North Arrow

COMMENTS <i>ASH - m9-1</i>

I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS	
SIGNATURE	DATE
TITLE	DATE

OBSERVATION DATE <i>6-21-99</i>					START TIME <i>1041</i>		STOP TIME <i>1141</i>			
SEC MIN	0	15	30	45	SEC MIN	0	15	30	45	
1	☐	☐	☐	☐	31	☐	☐	☐	☐	
2	☐	☐	☐	☐	32	☐	☐	☐	☐	
3	☐	☐	☐	☐	33	☐	☐	☐	☐	
4	☐	☐	☐	☐	34	☐	☐	☐	☐	
5	☐	☐	☐	☐	35	☐	☐	☐	☐	
6	☐	☐	☐	☐	36	☐	☐	☐	☐	
7	☐	☐	☐	☐	37	☐	☐	☐	☐	
8	☐	☐	☐	☐	38	☐	☐	☐	☐	
9	☐	☐	☐	☐	39	☐	☐	☐	☐	
10	☐	☐	☐	☐	40	☐	☐	☐	☐	
11	☐	☐	☐	☐	41	☐	☐	☐	☐	
12	☐	☐	☐	☐	42	☐	☐	☐	☐	
13	☐	☐	☐	☐	43	☐	☐	☐	☐	
14	☐	☐	☐	☐	44	☐	☐	☐	☐	
15	☐	☐	☐	☐	45	☐	☐	☐	☐	
16	☐	☐	☐	☐	46	☐	☐	☐	☐	
17	☐	☐	☐	☐	47	☐	☐	☐	☐	
18	☐	☐	☐	☐	48	☐	☐	☐	☐	
19	☐	☐	☐	☐	49	☐	☐	☐	☐	
20	☐	☐	☐	☐	50	☐	☐	☐	☐	
21	☐	☐	☐	☐	51	☐	☐	☐	☐	
22	☐	☐	☐	☐	52	☐	☐	☐	☐	
23	☐	☐	☐	☐	53	☐	☐	☐	☐	
24	☐	☐	☐	☐	54	☐	☐	☐	☐	
25	☐	☐	☐	☐	55	☐	☐	☐	☐	
26	☐	☐	☐	☐	56	☐	☐	☐	☐	
27	☐	☐	☐	☐	57	☐	☐	☐	☐	
28	☐	☐	☐	☐	58	☐	☐	☐	☐	
29	☐	☐	☐	☐	59	☐	☐	☐	☐	
30	☐	☐	☐	☐	60	☐	☐	☐	☐	

AVERAGE OPACITY FOR HIGHEST PERIOD <i>0.70</i>	NUMBER OF READINGS ABOVE <i>5</i> % WERE <i>0</i>
RANGE OF OPACITY READINGS MINIMUM <i>0</i> MAXIMUM <i>0</i>	

OBSERVER'S NAME (PRINT) <i>Donnie Leeper</i>	
OBSERVER'S SIGNATURE <i>Donnie Leeper</i>	DATE <i>6-21-99</i>
ORGANIZATION <i>Air Kinetics Inc.</i>	
CERTIFIED BY <i>FLORIDA STATE CERTIFIED</i> <i>Eastern Technical Associates</i>	DATE <i>6-9-99</i>
VERIFIED BY	DATE <i>196</i>

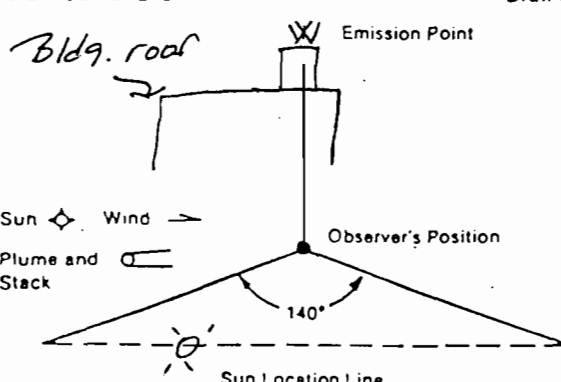
SOURCE NAME <i>Ogden Martin Systems of Lee Inc</i>		
ADDRESS <i>10500 Buckingham Road</i>		
PHONE <i>(941) 337-2200</i>	STATE <i>FL</i>	ZIP <i>33905</i>
SOURCE ID NUMBER <i>PSD - FL - 151</i>		

PROCESS EQUIPMENT <i>Fish Building</i>	OPERATING MODE <i>See Prod. data</i>
CONTROL EQUIPMENT <i>Baghouse</i>	OPERATING MODE <i>Continuous</i>

DESCRIBE EMISSION POINT START <i>~36" Circular</i> STOP <i>SAME</i>	
HEIGHT ABOVE GROUND LEVEL START <i>~75'</i> STOP <i>SAME</i>	HEIGHT RELATIVE TO OBSERVER START <i>45'</i> STOP <i>SAME</i>
DISTANCE FROM OBSERVER START <i>~100'</i> STOP <i>SAME</i>	DIRECTION FROM OBSERVER START <i>NW 225°</i> STOP <i>SAME</i>

DESCRIBE EMISSIONS START <i>None</i> STOP <i>SAME</i>	
EMISSION COLOR START <i>Clear</i> STOP <i>SAME</i>	PLUME TYPE CONTINUOUS ☒ FUGITIVE ☐
WATER DROPLETS PRESENT NO ☒ YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START <i>1 foot Above outlet</i> STOP <i>SAME</i>	

BE BACKGROUND START <i>SKY</i> STOP <i>SAME</i>	
BACKGROUND COLOR START <i>White</i> STOP <i>SAME</i>	SKY CONDITIONS START <i>broken</i> STOP <i>SAME</i>
WIND SPEED START <i>Calm</i> STOP <i>SAME</i>	WIND DIRECTION START <i>Calm</i> STOP <i>SAME</i>
AMBIENT TEMP START STOP	WET BULB TEMP RH, percent

SOURCE LAYOUT SKETCH 	Draw North Arrow 

COMMENTS <i>ASIT-m9-2</i>
I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS SIGNATURE TITLE DATE

OBSERVATION DATE <i>6-21-99</i>					START TIME <i>1222</i>					STOP TIME <i>1332</i>				
SEC	0	15	30	45	SEC	0	15	30	45					
MIN					MIN									
1	0	0	0	0	31	0	0	0	0					
2	0	0	0	0	32	0	0	0	0					
3	0	0	0	0	33	0	0	0	0					
4	0	0	0	0	34	0	0	0	0					
5	0	0	0	0	35	0	0	0	0					
6	0	0	0	0	36	0	0	0	0					
7	0	0	0	0	37	0	0	0	0					
8	0	0	0	0	38	0	0	0	0					
9	0	0	0	0	39	0	0	0	0					
10	0	0	0	0	40	0	0	0	0					
11	0	0	0	0	41	0	0	0	0					
12	0	0	0	0	42	0	0	0	0					
13	0	0	0	0	43	0	0	0	0					
14	0	0	0	0	44	0	0	0	0					
15	0	0	0	0	45	0	0	0	0					
16	0	0	0	0	46	0	0	0	0					
17	0	0	0	0	47	0	0	0	0					
18	0	0	0	0	48	0	0	0	0					
19	0	0	0	0	49	0	0	0	0					
20	0	0	0	0	50	0	0	0	0					
21	0	0	0	0	51	0	0	0	0					
22	0	0	0	0	52	0	0	0	0					
23	0	0	0	0	53	0	0	0	0					
24	0	0	0	0	54	0	0	0	0					
25	0	0	0	0	55	0	0	0	0					
26	0	0	0	0	56	0	0	0	0					
27	0	0	0	0	57	0	0	0	0					
28	0	0	0	0	58	0	0	0	0					
29	0	0	0	0	59	0	0	0	0					
30	0	0	0	0	60	0	0	0	0					

AVERAGE OPACITY FOR HIGHEST PERIOD <i>0%</i>	NUMBER OF READINGS ABOVE <i>5% WERE 0</i>
RANGE OF OPACITY READINGS MINIMUM <i>0</i> MAXIMUM <i>0</i>	

OBSERVER'S NAME (PRINT) <i>Donnie Leeper</i>	
OBSERVER'S SIGNATURE <i>Donnie Leeper</i>	DATE <i>6-21-99</i>
ORGANIZATION <i>Airkinetics Inc.</i>	
CERTIFIED BY <i>EASTERN TECHNICAL ASSOCIATES</i>	DATE <i>6-9-99</i>
VERIFIED BY	DATE <i>1997</i>

SOURCE NAME OGDEN MARTIN SYSTEMS Lee, INC		
ADDRESS 10500 BUCKINGHAM ROAD		
CITY FORT MYERS	STATE FL	ZIP 33905
PHONE (941) 337-2200	SOURCE ID NUMBER PSD-FL-151	

PROCESS EQUIPMENT ASH Building	OPERATING MODE See Prod. DATA
CONTROL EQUIPMENT Backhouse	OPERATING MODE Continuous

DESCRIBE EMISSION POINT START 236" Circular ^{STACK} STOP Same	
HEIGHT ABOVE GROUND LEVEL START 75' STOP Same	HEIGHT RELATIVE TO OBSERVER START 65' STOP Same
DISTANCE FROM OBSERVER START 300' STOP Same	DIRECTION FROM OBSERVER START NE 70° STOP Same

DESCRIBE EMISSIONS START NONE STOP Same	
EMISSION COLOR START Clear STOP Same	PLUME TYPE CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT NO ☒ YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START 1 foot Above outlet STOP Same	

BACKGROUND START SKY STOP Same	
BACKGROUND COLOR START White STOP Same	SKY CONDITIONS START broken STOP Same
WIND SPEED START 3-5 mph STOP Same	WIND DIRECTION START SE STOP Same
AMBIENT TEMP START STOP	WET BULB TEMP RH. percent

SOURCE LAYOUT SKETCH	Draw North Arrow
The sketch shows an emission point on a building roofline. An observer's position is marked below the roofline. A dashed line indicates the sun location line at a 140-degree angle from the observer's position. Wind direction is indicated by an arrow pointing right. A north arrow is drawn pointing left.	

COMMENTS ASH-mq.3

I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS	
SIGNATURE	DATE
TITLE	DATE

OBSERVATION DATE 6-21-99					START TIME 1440					STOP TIME 1540				
SEC MIN	0	15	30	45	SEC MIN	0	15	30	45					
1	0	0	0	0	31	0	0	0	0					
2	0	0	0	0	32	0	0	0	0					
3	0	0	0	0	33	0	0	0	0					
4	0	0	0	0	34	0	0	0	0					
5	0	0	0	0	35	0	0	0	0					
6	0	0	0	0	36	0	0	0	0					
7	0	0	0	0	37	0	0	0	0					
8	0	0	0	0	38	0	0	0	0					
9	0	0	0	0	39	0	0	0	0					
10	0	0	0	0	40	0	0	0	0					
11	0	0	0	0	41	0	0	0	0					
12	0	0	0	0	42	0	0	0	0					
13	0	0	0	0	43	0	0	0	0					
14	0	0	0	0	44	0	0	0	0					
15	0	0	0	0	45	0	0	0	0					
16	0	0	0	0	46	0	0	0	0					
17	0	0	0	0	47	0	0	0	0					
18	0	0	0	0	48	0	0	0	0					
19	0	0	0	0	49	0	0	0	0					
20	0	0	0	0	50	0	0	0	0					
21	0	0	0	0	51	0	0	0	0					
22	0	0	0	0	52	0	0	0	0					
23	0	0	0	0	53	0	0	0	0					
24	0	0	0	0	54	0	0	0	0					
25	0	0	0	0	55	0	0	0	0					
26	0	0	0	0	56	0	0	0	0					
27	0	0	0	0	57	0	0	0	0					
28	0	0	0	0	58	0	0	0	0					
29	0	0	0	0	59	0	0	0	0					
30	0	0	0	0	60	0	0	0	0					

AVERAGE OPACITY FOR HIGHEST PERIOD 0%	NUMBER OF READINGS ABOVE 5% WERE 0
RANGE OF OPACITY READINGS MINIMUM 0 MAXIMUM 0	

OBSERVER'S NAME (PRINT) Donnie Leeper	
OBSERVER'S SIGNATURE Donnie Leeper	DATE 6-21-99
ORGANIZATION Air Kinetics Inc	
CERTIFIED BY EASTERN TECHNICAL ASSOC.	DATE 6-9-99
VERIFIED BY C	DATE 1998

APPENDIX C

FIELD DATA

4.0 LIME SILO - OPACITY

SOURCE NAME <i>Orden Martin Systems of Lee, Inc.</i>		
ADDRESS <i>10500 Beckington Road</i>		
STATE <i>FL</i>	ZIP <i>33405</i>	
PHONE <i>(941) 337-2200</i>	SOURCE ID NUMBER <i>P5D-151-FL</i>	

PROCESS EQUIPMENT <i>Pebbleline loading silo</i>	OPERATING MODE <i>See Prod DATA</i>
CONTROL EQUIPMENT <i>Baghouse</i>	OPERATING MODE <i>Continuous</i>

DESCRIBE EMISSION POINT <i>Go down stack</i>	
START <i>12" Circular</i>	STOP <i>Same</i>
HEIGHT ABOVE GROUND LEVEL START <i>125'</i> STOP <i>Same</i>	HEIGHT RELATIVE TO OBSERVER START <i>2'</i> STOP <i>Same</i>
DISTANCE FROM OBSERVER START <i>10'</i> STOP <i>Same</i>	DIRECTION FROM OBSERVER START <i>NE 60°</i> STOP <i>Same</i>

DESCRIBE EMISSIONS START <i>Clear</i> STOP <i>Same</i>	
EMISSION COLOR START <i>Clear</i> STOP <i>Same</i>	PLUME TYPE CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT NO ☒ YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED AT <i>Stack outlet</i> STOP <i>Same</i>	

BACKGROUND <i>rooftop</i> STOP <i>Same</i>	
BACKGROUND COLOR START <i>black</i> STOP <i>Same</i>	SKY CONDITIONS START <i>broken</i> STOP <i>Same</i>
WIND SPEED START <i>Calm</i> STOP <i>Same</i>	WIND DIRECTION START <i>Calm</i> STOP <i>Same</i>
AMBIENT TEMP START STOP	WET BULB TEMP RH, percent

SOURCE LAYOUT SKETCH	Draw North Arrow
The sketch shows a central point labeled 'Observer's Position'. A vertical line goes up to an 'X' labeled 'Emission Point'. A horizontal line labeled 'Roofline' passes through the emission point. A dashed line labeled 'Sun Location Line' extends from the observer's position at a 140-degree angle from the roofline. A north arrow is drawn to the right. Wind direction is indicated by an arrow pointing right, labeled 'Wind'. The sun is indicated by a diamond symbol labeled 'Sun'. A plume and stack are indicated by a line labeled 'Plume and Stack'.	

COMMENTS	
I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS	
SIGNATURE	DATE
TITLE	DATE

OBSERVATION DATE <i>6-25-99</i>					START TIME <i>1206</i>					STOP TIME <i>1344</i>				
SEC MIN	0	15	30	45	SEC MIN	0	15	30	45	SEC MIN	0	15	30	45
1	0	0	0	0	31	0	0	0	0					
2	0	0	0	0	32	0	0	0	0					
3	0	0	0	0	33	0	0	0	0					
4	0	0	0	0	34	0	0	0	0					
5	0	0	0	0	35	0	0	0	0					
6	0	0	0	0	36	0	0	0	0					
7	0	0	0	0	37	0	0	0	0					
8	0	0	0	0	38	0	0	0	0					
9	0	0	0	0	39									
10	0	0	0	0	40									
11	0	0	0	0	41									
12	0	0	0	0	42									
13	0	0	0	0	43									
14	0	0	0	0	44									
15	0	0	0	0	45									
16	0	0	0	0	46									
17	0	0	0	0	47									
18	0	0	0	0	48									
19	0	0	0	0	49									
20	0	0	0	0	50									
21	0	0	0	0	51									
22	0	0	0	0	52									
23	0	0	0	0	53									
24	0	0	0	0	54									
25	0	0	0	0	55									
26	0	0	0	0	56									
27	0	0	0	0	57									
28	0	0	0	0	58									
29	0	0	0	0	59									
30	0	0	0	0	60									

AVERAGE OPACITY FOR HIGHEST PERIOD <i>02</i>	NUMBER OF READINGS ABOVE 5% WERE <i>0</i>
RANGE OF OPACITY READINGS MINIMUM <i>0</i> MAXIMUM <i>0</i>	

OBSERVER'S NAME (PRINT) <i>Donnie Leeper</i>	
OBSERVER'S SIGNATURE <i>Donnie Leeper</i>	DATE <i>6-25-99</i>
ORGANIZATION <i>Air Kinetics INC</i>	
CERTIFIED BY <i>EASTERN TECHNICAL ASSOC.</i>	DATE <i>6-9-99</i>
VERIFIED BY	DATE <i>200</i>

APPENDIX C

FIELD DATA

5.0 ASH HANDLING SYSTEM - FUGITIVES

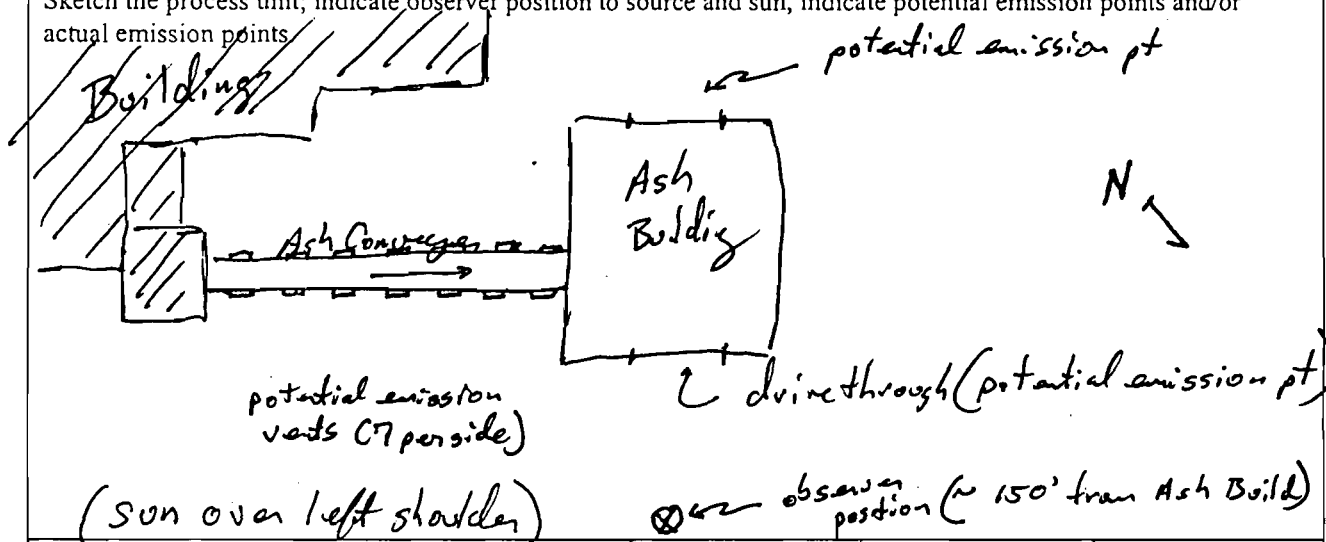
6/25/99

FUGITIVE EMISSION OR SMOKE EMISSION INSPECTION
OUTDOOR LOCATION

Client: Ogden Energy Group Plant: Lee County RRF
City/State: Ft Myers, FL Job No.: 10558
Sample Location: Ash Handling System Run No.: 1
Observer: OMW

Sky Conditions: Partly Cloudy / overcast Wind Direction: _____
Precipitation: none Wind Speed: 45 mph
Industry: Municipal Waste Process Unit: Ash Conveyor / Building

Sketch the process unit; indicate observer position to source and sun, indicate potential emission points and/or actual emission points



Observations:		Clock Time	Observation min:sec	Accumulated Time min:sec
2 Trucks filled in Ash Building				
Begin Observation	Start	11:30	20:00	0:00
11:30 am	Stop	11:50		
	Start	12:00	20:00	0:00
	Stop	12:20		
	Start	12:25	20:00	0:00
	Stop	12:45		
12:45	Start			
	Stop			

Reviewer: _____
AirKinetics, Inc.

6/25/99

FUGITIVE EMISSION OR SMOKE EMISSION INSPECTION
OUTDOOR LOCATION

Client: Ogden Energy Group Plant: Lee County RRF
 City/State: Fort Myers, FL Job No.: 10558
 Sample Location: Ash Handling system Run No.: 2
 Observer: CMW

Sky Conditions: Partly Cloudy / overcast Wind Direction: _____
 Precipitation: Slight drizzle Wind Speed: 0-5 mph
 Industry: Municipal Waste Process Unit: Ash Conveyor / Bldg

Sketch the process unit; indicate observer position to source and sun, indicate potential emission points and/or actual emission points.

Same as run 1

Observations:		Clock Time	Observation min:sec	Accumulated Time min:sec
<u>0 Trucks filled</u>				
Begin Observation	Start	<u>1350</u>	<u>20:00</u>	<u>0:00</u>
	Stop	<u>1410</u>		
	Start	<u>1415</u>	<u>20:00</u>	<u>0:00</u>
	Stop	<u>1435</u>		
	Start	<u>1440</u>	<u>20:00</u>	<u>0:00</u>
	Stop	<u>15:00</u>		
	Start			
	Stop			
	Start			
	Stop			
	Start			
	Stop			
	Start			
	Stop			

15:00

Reviewer: _____
 AirKinetics, Inc.

6/26/99

FUGITIVE EMISSION OR SMOKE EMISSION INSPECTION
OUTDOOR LOCATION

Client: Ogden Energy Group Plant: Lee County RRF
 City/State: Ft Myers, FL Job No.: 10558
 Sample Location: Ash Handling System Run No.: 3
 Observer: CMW

Sky Conditions: Partly Cloudy / ~~partly~~ Wind Direction: _____
 Precipitation: none Wind Speed: 0-5 mph
 Industry: Municipal Waste Process Unit: Ash Conveyor / Building

Sketch the process unit; indicate observer position to source and sun, indicate potential emission points and/or actual emission points.

Same as run 1

Observations:

2 Trucks f/bd

Begin Observation

8:10

↓
9:20

	Clock Time	Observation min:sec	Accumulated Time min:sec
Start	<u>8:10</u>	<u>20:00</u>	<u>0:00</u>
Stop	<u>8:30</u>		
Start	<u>8:35</u>	<u>20:00</u>	<u>0:00</u>
Stop	<u>8:55</u>		
Start	<u>9:00</u>	<u>20:00</u>	<u>0:00</u>
Stop	<u>9:20</u>		
Start			
Stop			

Reviewer: _____
 AirKinetics, Inc.

C 204

APPENDIX C

FIELD DATA

6.0 ABORTED TEST RUNS

NH3

Client Name	Ogden Energy Group	Run #	1-S-NH3-1		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	912
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1012
Test Location	UNIT 1	Tester Signature			
Date of Test	06/21/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.82	Pbar	29.9	Meter Console #		MB3	NA	NA	CO ₂
Meter Calibration Factor	1.0707	Pstatic	NA	Ideal Nozzle Diameter		#####			
Pitot Tube Coefficient	NA	Abs P	#####	Nozzle #		NA			O ₂
Estimated Dry Gas Meter Temp	NA	Tstd, °F	68	Actual Nozzle Diameter		NA			
Estimated Stack Temp or M2 Avg.	NA	Pstd	29.92	Probe Lgth/ID #	NA	NA			CO
Estimated Delta P or M2 Avg.	NA	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	NA	CO ₂	NA	Filter Box #			NA	NA	N ₂
Estimated Dry Molecular Weight	#####	O ₂	NA	Cold Box ID #					100.0
Estimated Velocity, ft/sec	#####	CO	NA	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)		N ₂	#####	TC ID #s		NA			

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	NA	NA	PRE	POST	DGM initial							0.000
Thermocouples			NA	NA	Vacuum	15						15
Pitots			NA	NA	Leak Rate	0.004	wide open					FAIL
Tedlar Bag		NA	NA	NA	DGM final		ABORT					0.000

[illegible]

				MAX =>	2			
Average Values	60.0	41.695			1.80		101	

C 206

ISOKINETIC SAMPLING TRAIN DATASHEET - METHOD EPA 29

Client Name	Ogden Energy Group	Run #	1-I-M29-3		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	855
Plant City, State	Fort Myers, FL	Personnel	CMW, NP	Run End	1137
Test Location	UNIT 1 INLET	Tester Signature			
Date of Test	06/22/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals	
ΔH @ 0.75 SCFM	1.93	Pbar	29.9	Meter Console #		MB10	NA	NA	CO ₂
Meter Calibration Factor	1.0090	Pstatic	-2.60	Ideal Nozzle Diameter		0.280			9.3
Pitot Tube Coefficient	0.840	Abs P	29.7	Nozzle #		D001			O ₂
Estimated Dry Gas Meter Temp	110	Tstd, °F	68	Actual Nozzle Diameter		0.222			10.0
Estimated Stack Temp or M2 Avg.	450	Pstd	29.92	Probe Lgth/ID #	10	10-1			CO
Estimated Delta P or M2 Avg.	0.620	Estimates		Liner Material		G	XAD ID & Tares		0.0
Estimated Moisture Content	14.0	CO ₂	8.0	Filter Box #		NA	NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA			80.7
Estimated Velocity, ft/sec	59.1	CO	0.0	Umbilical ID #		NA			H ₂ O
K Factor (delta H/delta P)	1.36	N ₂	82.0	TC ID #s		10-1			243.9

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	102	102	PRE	POST	DGM initial	0.000	436.145	448.868	473.870	0.000		1358.883
Thermocouples			Y	Y	Vacuum	15	18	15	15	5		18
Pitots			Y	Y	Leak Rate	0.000	0.000	0.000	0.000	0.000		OK
Tedlar Bag		B120	Y	Y	DGM final	0.000	436.366	449.122	474.532	0.000		1360.020

Point #	Clock Time	Test Time	Dry Gas Meter Reading	Velocity Head	Desired Orifice ΔH	Actual Orifice ΔH	Pump Vac.	DGM Inlet Temp	DGM Outlet Temp	Stack Temp	Filter Temp	Imp. Exit Temp	Cond. Exit Temp
	24 hr	min	ft ³	in H ₂ O	in H ₂ O	in H ₂ O	in Hg	°F	°F	°F	°F	°F	°F
Z 5	855	0.0	423.705	0.73	0.99	0.99	1	96	97	458	249	66	N/A
Z 4		5.0	426.440	0.69	0.94	0.94	1	96	96	455	250	58	
Z 3		10.0	429.110	0.70	0.95	0.95	1	97	96	452	248	60	
Z 2		15.0	431.710	0.65	0.89	0.89	10	98	96	450	249	61	
Z 1		20.0	434.21	0.64	0.87	0.87	18	99	97	456	252	60	
D 5	920	25.0	436.145	0.69	0.94	0.94	1	98	98	457	249	68	
D 4	931	30.0	438.940	0.63	0.86	0.86	1	99	98	458	250	63	
D 3		35.0	441.560	0.71	0.97	0.97	1	101	98	458	248	64	
D 2		40.0	444.210	0.68	0.93	0.93	1	103	98	462	249	64	
D 1		45.0	446.590	0.53	0.72	0.72	6	103	98	458	250	65	
C 5	957	50.0	448.868	0.63	0.86	0.86	1	98	99	458	249	68	
C 4	1006	55.0	451.670	0.62	0.84	0.84	1	101	99	459	247	61	
C 3		60.0	454.170	0.62	0.84	0.84	1	102	99	463	249	63	
C 2		65.0	456.680	0.64	0.87	0.87	1	104	99	462	248	65	
C 1		70.0	459.210	0.63	0.86	0.86	1	104	99	459	249	66	
B 5		75.0	461.737	0.71	0.97	0.97	1	103	100	463	251	68	
B 4		80.0	464.160	0.70	0.95	0.95	5	104	100	464	250	66	
B 3		85.0	466.780	0.57	0.78	0.78	6	105	101	463	249	63	
B 2		90.0	469.190	0.54	0.74	0.74	11	105	101	459	247	64	
B 1		95.0	471.760	0.48	0.65	0.65	12	105	101	460	249	65	
A 5	1102	100.0	473.870	0.43	0.59	0.59	1	100	101	459	250	68	
A 4	1112	105.0	476.770	0.48	0.65	0.65	1	102	101	459	251	63	
A 3		110.0	479.000	0.45	0.61	0.61	1	104	101	459	246	63	
A 2		115.0	481.180	0.49	0.67	0.67	1	104	101	460	251	65	
A 1		120.0	483.410	0.40	0.54	0.54	1	104	101	459	249	65	
	1137	125.0	485.408										
					MAX =>		18						
Average Values		125.0	60.566	0.597	0.820	0.819		100.2	458.8				

29

Client Name	Ogden Energy Group	Run #	1-S-M29-3		
Plant Name	OMS of Lee, Inc.	Project #	10558	Run Start	855
Plant City, State	Fort Myers, FL	Personnel	AG	Run End	1113
Test Location	UNIT 1	Tester Signature			
Date of Test	06/22/99	Checked By			

Isokinetic Factor Setup		Pressures		Sampling Equipment		Filter ID & Tares		Actuals
ΔH @ 0.75 SCFM	1.85	Pbar	29.9	Meter Console #		MB8	NA	CO ₂
Meter Calibration Factor	0.9982	Pstatic	-1.05	Ideal Nozzle Diameter		0.219		8.5
Pitot Tube Coefficient	0.840	Abs P	29.8	Nozzle #		GN2048		O ₂
Estimated Dry Gas Meter Temp	100	Tstd, °F	68	Actual Nozzle Diameter		0.217		11.0
Estimated Stack Temp or M2 Avg.	290	Pstd	29.92	Probe Lgth/ID #	8	8-1		CO
Estimated Delta P or M2 Avg.	1.450	Estimates		Liner Material		G	XAD ID & Tares	0.0
Estimated Moisture Content	17.0	CO ₂	8.0	Filter Box #		NA	NA	N ₂
Estimated Dry Molecular Weight	29.68	O ₂	10.0	Cold Box ID #		NA		80.5
Estimated Velocity, ft/sec	82.4	CO	0.0	Umbilical ID #		NA		H ₂ O
K Factor (delta H/delta P)	1.35	N ₂	82.0	TC ID #s		8-1		460.9

Equipment & Leak Check Data, OK? Y or N					Leak Checks	1	2	3	4	5	6	Status
Tambient	99	99	PRE	POST	DGM initial		1,002.430					1002.430
Thermocouples			Y	Y	Vacuum	15	10	7				15
Pitots			Y	Y	Leak Rate	0.004	0.000	0.000				OK
Tedlar Bag		B3	Y	Y	DGM final		1003.193					1003.193

[illegible]

					MAX =>	3			
Average Values	120.0	90.128	1.319	1.782	1.783		105.7	291.8	208

SOURCE NAME <i>Osborn Martin Systems of Lee, Inc.</i>	
ADDRESS <i>10500 Buckingham Road</i>	

PORT NAME <i>Fort Meyers</i>	STATE <i>FL</i>	ZIP <i>33905</i>
PHONE <i>(941) 337-2200</i>	SOURCE ID NUMBER	

PROCESS EQUIPMENT <i>Pebblelime Silo</i>	OPERATING MODE
CONTROL EQUIPMENT <i>Baghouse (Flex-Kleen)</i>	OPERATING MODE <i>Continuous</i>

DESCRIBE EMISSION POINT START <i>12" Circular Pipe</i> STOP	
HEIGHT ABOVE GROUND LEVEL START <i>125'</i> STOP	HEIGHT RELATIVE TO OBSERVER START <i>2'</i> STOP
DISTANCE FROM OBSERVER START <i>10'</i> STOP	DIRECTION FROM OBSERVER START <i>EAST</i> STOP

DESCRIBE EMISSIONS START <i>Clear</i> STOP	
EMISSION COLOR START <i>Clear</i> STOP	PLUME TYPE CONTINUOUS ☒ FUGITIVE ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT <i>NO</i> YES ☐	IS WATER DROPLET PLUME ATTACHED ☐ DETACHED ☐

POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START <i>Stack outlet</i> STOP	

SITE BACKGROUND AT <i>roof top of bldg.</i> STOP	
BACKGROUND COLOR START <i>black</i> STOP	SKY CONDITIONS START <i>overcast</i> STOP
WIND SPEED START <i>calm</i> STOP	WIND DIRECTION START <i>calm</i> STOP
AMBIENT TEMP START STOP	WET BULB TEMP RH, percent

SOURCE LAYOUT SKETCH	

COMMENTS <i>Stop @ 1013</i>	

HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS	
SIGNATURE	DATE
TITLE	DATE

= 1020

OBSERVATION DATE <i>6-25-99</i>					START TIME <i>0929</i>		STOP TIME <i>1012</i>			
SEC	0	15	30	45	SEC	0	15	30	45	
MIN					MIN					
1	0	0	0	0	31	5	5	5	0	
2	0	0	0	0	32	0	0	10	5	
3	0	0	0	0	33	15	5	0	5	
4	0	0	0	0	34	5	5	5	5	
5	0	0	0	0	35	5	5	5	10	
6	0	0	0	0	36	5	5	10	5	
7	0	0	0	0	37	5	5	5	5	
8	0	0	0	0	38	10	10	5	10	
9	0	0	0	0	39	10	15	10	10	
10	0	0	0	0	40	5	0	5	5	
11	0	0	0	0	41	5	0	5	5	
12	0	0	0	0	42	5	5	5	5	
13	0	0	0	0	43	0	5	5	5	
14	0	0	0	0	44					
15	0	0	0	0	45					
16	0	0	0	0	46					
17	0	0	0	0	47					
18	0	0	0	0	48					
19	0	0	0	0	49					
20	0	0	0	0	50					
21	0	0	0	0	51					
22	0	0	0	0	52					
23	0	0	0	0	53					
24	0	0	0	0	54					
25	0	0	0	0	55					
26	0	0	5	5	56					
27	5	10	5	5	57					
28	10	5	5	10	58					
29	5	0	0	5	59					
30	0	0	0	10	60					

AVERAGE OPACITY FOR HIGHEST PERIOD <i>90</i>	NUMBER OF READINGS ABOVE <i>5</i> % WERE
RANGE OF OPACITY READINGS MINIMUM <i>0</i> MAXIMUM	

OBSERVER'S NAME (PRINT) <i>Donnie Loeper</i>	
OBSERVER'S SIGNATURE <i>Donnie Loeper</i>	DATE <i>6-25-99</i>
ORGANIZATION	

CERTIFIED BY	DATE
VERIFIED BY	DATE <i>6 209</i>

APPENDIX D

ANALYTICAL DATA

1.0 QUALITY ASSURANCE

a. PARTICULATE

ANALYTICAL NARRATIVE

Plant Name: OMS-LEE (#10558)

Analyst: GARY MATA

Date Rec'd. in Lab: JUNE 28, 1999

Analysis Method & Analytes: EPA METHOD 5 - PARTICULATE MATTER

Sample Matrix & Components: FILTER AND FRONT HALF RINSE (ACETONE)

Summary of Sample Prep (added rinse in lab, final volume, pH adjusted, etc.): SAMPLES WERE VOLUMED AND EVAPORATED IN THE FIELD. SAMPLES WERE DESICCATED 24 HOURS PRIOR TO 1ST WEIGHING. A MINIMUM OF 6 HOURS WAS OBSERVED BETWEEN CONSECUTIVE WEIGHINGS.

Summary of Instrumentation: METTLER AT200 (#L98007)

Minimum Detectable Limit: 0.1 mg

Summary of QA/QC sample analysis: ACETONE BLANK < 1.0 mg

Spikes (describe spikes and % recovery): N/A

Specific Comments Regarding Sample Analysis (Note unusual catch weights, interference's, odd sample behavior, and steps taken to confirm unusual results. Also note any deviations from standard analytical procedures, together with justification and possible affect on results. Specify run number(s) when applicable)

ASH-S-M5-1 AND ASH-S-M5-3 FILTERS HAD NEGATIVE WEIGHTS. BAGGIE TARES AND FILTER TARE WEIGHTS WERE DOUBLED CHECK FOR CORRECTNESS. NUMBERS WERE CORRECT. FILTERS DID APPEAR SLIGHTLY TATTERED.

CONFIRMATION OF DATA REVIEW

Lab Manager Signature: [Signature]

Date: 7-15-99

REAGENT BLANK(S) LABORATORY RESULTS (Version 02.14.92)

Plant Name: Ogden Martins Systems - Lee

AKI Ref#

10558

Sampling Location: N/A

Date Received: June 28, 1999

Run Number

Acetone

Sample ID/Container #

init.

date

B / 1150

GM 07/14/99 @ 3.4767

GM 07/14/99 @ 3.4767

Tare Wt., g. (200 ml) 3.4765

SAMPLE WT., g. 0.0002

Notes and comments:

Predominate color of samples is: N/A

Date of full balance span July 14, 1999

Printing Date

15-Jul-99

Printing Time

08:22 AM

APPENDIX D

ANALYTICAL DATA

1.0 QUALITY ASSURANCE

b. SULFURIC ACID MIST

ANALYTICAL NARRATIVE

Plant Name: OMS-LEE (#10558)

Analyst: GARY MATA

Date Rec'd. in Lab: JUNE 27, 1999

Analysis Method & Analytes: EPA 8 - H₂SO₄ MIST

Sample Matrix & Components: 1st IMPINGER CONTENTS, RINSES & FILTER (80% IPA)

Summary of Sample Prep (added rinse in lab, final volume, pH adjusted, etc.): SAMPLES WERE VOLUMED IN LAB.

Summary of Instrumentation: 25 ml DIGITAL BURET

Minimum Detectable Limit: 0.5 mg

Summary of QA/QC sample analysis: USEPA AUDIT - Lot No. 0594-2594 WITH A VALUE OF 7.35 mg. TITRATED TO A VALUE OF 7.457 mg for a % DEVIATION OF 1.46.

Spikes (describe spikes and % recovery): N/A

Specific Comments Regarding Sample Analysis (Note unusual catch weights, interference's, odd sample behavior, and steps taken to confirm unusual results. Also note any deviations from standard analytical procedures, together with justification and possible affect on results. Specify run number(s) when applicable)

NONE

CONFIRMATION OF DATA REVIEW

Lab Manager Signature

Gary Mata

Date: 6-28-99

SULFURIC ACID (H2SO4) ANALYTICAL RESULTS

Version No. 1.0, 1/17/92
EPA REFERENCE METHOD: 8

Company Name: OMS - Lee

AKI Ref. #: 10558

Sampling Location: Unit No. 1 Stack

Date Analyzed: 06/28/99

Analyst: Gary Mata

Burette Size Used: 25ml Digital

Analytical Media: 0.1N H2SO4

Printing Date: 06/28

Printing time: 14:41

RUN NUMBER	SAMPLE VOLUME mls (V)	DIL. FACT. (D)	ALIQ. VOLUME mls (A)	ALIQ. FACTOR (F)	TITRANT VOLUME mls (T1)	TITRANT VOLUME mls (T2)	TITRANT VOLUME mls (Tavg)	MASS H2SO4 mg (MH2SO4)
Reagent Blank		1	25		0.00	0.00	0.000	Tbavg
1-S-M8-1	300	1	25	12.0	2.70	2.78	2.740	16.286
1-S-M8-2	330	1	25	13.2	2.22	2.23	2.225	14.547
1-S-M8-3	320	1	25	12.8	2.70	2.76	2.730	17.308
AUDIT*	100	1	20	5.0	4.62	4.60	4.610	7.457

*In-house audit Lot# 0594-2594 Actual value mg. 7.35 % Dev. 1.46%

Where:

Titration Standardization
against 0.02N H2SO4

$$T_{avg} = (T_1 + T_2) / 2$$

$$F = V / A$$

$$N = \text{Volume H2SO4} \times 0.02N / \text{Volume BaCl2}$$

$$MH2SO4 = 49.04 \times (T_{avg} - T_{bavg}) \times N \times F \times D$$

H2SO4 Volume	BaCl2 Volume	BaCl2 Normality
10	19.84	0.0101
10	19.75	0.0101
10	19.78	0.0101
Avg. N		0.0101

For Run: 1-S-M8-1

$$MH2SO4 = 49.04 \times 1 \times 2.740 \times 12 \times 1$$

$$MH2SO4 = 16.286 \text{ mg}$$

NOTE: Results reported to three significant digits

APPENDIX D
ANALYTICAL DATA

1.0 QUALITY ASSURANCE

c. FLUORIDES



WEST COAST
ANALYTICAL
SERVICE, INC.
Analytical Chemists

July 6, 1999

AIRKINETICS, INC.
5932 Bolsa Ave
Suite 105
Huntington Beach, CA 92649

Attn: Gary Mata

Job No: 42714

DL

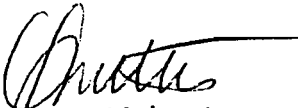
LABORATORY REPORT

Samples Received: Seven (7) Liquids
Date Received: 06/28/99
Purchase Order No: 1104-GM

The samples were analyzed as follows:

<u>Analysis</u>	<u>Page</u>
Total Fluoride by Ion Selective Electrode (EPA 13B)	2

Enclosures: Raw data package


D.J. Northington, Ph.D.
Quality Assurance Officer


Charles Jacks, Ph.D.
Senior Staff Chemist

This report is to be reproduced in its entirety.

WEST COAST ANALYTICAL SERVICE, INC.

AIRKINETICS, INC.
Attn: Gary Mata

Job No: 42714
July 6, 1999

LABORATORY REPORT

Total Fluoride by Ion Selective Electrode (EPA 13B)

Samples were collected by EPA 13B then analyzed by Ion Selective Electrode.

<u>Sample ID</u>	<u>Parts Per Million (mg/L)</u>	<u>Sample Volume (Liters)</u>	<u>Total Milligrams</u>
1-S-M13B-1	ND	0.700	ND
1-S-M13B-2	ND	0.740	ND
1-S-M13B-3	ND	0.610	ND
2-S-M13B-1	ND	0.585	ND
2-S-M13B-2	ND	0.690	ND
2-S-M13B-3	ND	0.690	ND
M13B-RB	ND	0.690	ND

Detection Limit: 0.1

Date Analyzed: 06-30-99

Matrix Spike/Matrix Spike Duplicate Quality Control Summary

Sample: 2-S-M13B-2
Units: ppm (mg/L)

<u>Analyte</u>	<u>Sample Result</u>	<u>Amount Spiked</u>	<u>MS Result</u>	<u>% Rec MS</u>	<u>MSD Result</u>	<u>% Rec MSD</u>	<u>RPD</u>
FLUORIDE	ND	1.00	1.05	105	1.08	108	3

QC Limits

<u>Analyte</u>	<u>RPD Control</u>	<u>% Recovery Control</u>
FLUORIDE	25	50 - 150

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No.: 1104 - GM

JOB NAME: OMS - Lee

LABORATORY: West Coast Analytical

JOB No.: 10558

DATE SAMPLES
WERE TRANSMITTED: 26-Jun-99

EXPECTED DATE
OF RESULTS: 13-Jul-99

SAMPLE MATRIX: DI H2O

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 13B for total fluorides.

A full raw data package will be required.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
1-S-M13B-1	06/23/99	Impinger Contents	DI H2O	
1-S-M13B-2	06/26/99	Impinger Contents	DI H2O	
1-S-M13B-3	06/26/99	Impinger Contents	DI H2O	
2-S-M13B-1	06/22/99	Impinger Contents	DI H2O	
2-S-M13B-2	06/23/99	Impinger Contents	DI H2O	
2-S-M13B-3	06/26/99	Impinger Contents	DI H2O	
M13B-RB	06/26/99	Impinger Contents	DI H2O	

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: *Harry M...*

Date/Time: 06/26/99

Transported by: FedEx

Date/Time: 06/26/99

Transported to: West Coast Analytical
9840 Alburto Ave.
Santa Fe Springs, CA 90670

Received by: *[Signature]*

No 42714

Date/Time: 06-29-99 19:53

5932 Bolsa Avenue, Suite 105 * Huntington Beach, CA 92649 * Phone (714) 373-0998 * Fax (714) 895-1915

APPENDIX D

ANALYTICAL DATA

1.0 QUALITY ASSURANCE

d. DIOXIN/FURANS



6/29/99

Mr. Gary Mata
AirKinetics, Inc.
5932 Bolsa Avenue,
suite 105
Huntington Beach, CA 92649
USA

Dear Mr. Mata,

The samples listed in the sample inventory were received by Alta Analytical Laboratory on 6/26/99.

Attached is a copy of the chain-of-custody (C-O-C) or other documentation for your records. Please refer to ALTA's terms and conditions on the reverse side of this document.

Analytical results are scheduled to be reported to you on or about 7/10/99. All sample container and their contents will be disposed of 90 days subsequent to issuance of a final written report.

Please contact me if you have any questions regarding the status of the work associated with these samples at (916) 933-1640.

For rapid telephone assistance, please refer to the laboratory identification number: 6954 when requesting information.

Sincerely,

Robert S. Mitzel
Alta Analytical Laboratory

acklet

Alta Analytical Laboratory Inc.

5070 Robert J. Mathews Parkway
El Dorado Hills, CA 95762

FAX (916) 933-0940
(916) 933-1640

D

11

Sample Inventory Report: MM5 Sampling Train

Project No.: 6954
Date Rec.: 6/26/99

Project Name: General Analytical AIR

Lab. Sample ID	Client Sample ID	Component ID
0001	1-S-M23-FB	ACE/MECL2
0001	1-S-M23-FB	FILTER
0001	1-S-M23-FB	TOLUENE
0001	1-S-M23-FB	XAD
0002	1-S-M23-1	ACE/MECL2
0002	1-S-M23-1	FILTER
0002	1-S-M23-1	TOLUENE
0002	1-S-M23-1	XAD
0003	1-S-M23-2	ACE/MECL2
0003	1-S-M23-2	FILTER
0003	1-S-M23-2	TOLUENE
0003	1-S-M23-2	XAD
0004	1-S-M23-3	ACE/MECL2
0004	1-S-M23-3	FILTER
0004	1-S-M23-3	TOLUENE
0004	1-S-M23-3	XAD
0005	2-S-M23-FB	ACE/MECL2
0005	2-S-M23-FB	FILTER
0005	2-S-M23-FB	TOLUENE
0005	2-S-M23-FB	XAD
0006	2-S-M23-1	ACE/MECL2
0006	2-S-M23-1	FILTER
0006	2-S-M23-1	TOLUENE
0006	2-S-M23-1	XAD
0007	2-S-M23-2	ACE/MECL2
0007	2-S-M23-2	FILTER
0007	2-S-M23-2	TOLUENE
0007	2-S-M23-2	XAD
0008	2-S-M23-3	ACE/MECL2
0008	2-S-M23-3	FILTER
0008	2-S-M23-3	TOLUENE
0008	2-S-M23-3	XAD

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No 1103 - GM

JOB NAME: OMS - Lee

LABORATORY: Alta Analytical

JOB No.: 10558

DATE SAMPLES
WERE TRANSMITTED 25-Jun-99

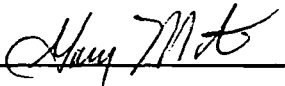
EXPECTED DATE
OF RESULTS: 12-Jul-99

SAMPLE MATRIX: Acetone, methylene chloride and toluene

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 23 for dioxin/furans. A
two (2) week turnaround is requested. A full raw data package will also be required. Please contact
Bob Mitzel for further details.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
1-S-M23-1	06/23/99	Ace./MeCl2 Rinse	Ace./MeCl2	
		Toluene Rinse	Toluene	
		Filter	Filter	
		XAD Trap	XAD resin	
1-S-M23-2	06/24/99	Ace./MeCl2 Rinse	Ace./MeCl2	
		Toluene Rinse	Toluene	
		Filter	Filter	
		XAD Trap	XAD resin	
1-S-M23-3	06/25/99	Ace./MeCl2 Rinse	Ace./MeCl2	
		Toluene Rinse	Toluene	
		Filter	Filter	
		XAD Trap	XAD resin	
1-S-M23-FB	06/24/99	Ace./MeCl2 Rinse	Ace./MeCl2	
		Toluene Rinse	Toluene	
		Filter	Filter	
		XAD Trap	XAD resin	

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: 

Date/Time: 06/25/99

Transported by: FedEx

Date/Time: 06/25/99

Transported to: Alta Analytical Laboratory
5070 Robert J. Mathews Parkway
El Dorado Hills, CA 95762

Received by: 

Date/Time: 6-26-99

5932 Bolsa Avenue, Suite 105 * Huntington Beach, CA 92649 * Phone (714) 373-0998 * Fax (714) 895-1915

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No 1103 - GM

JOB NAME: OMS - Lee

LABORATORY: Alta Analytical

JOB No.: 10558

DATE SAMPLES
WERE TRANSMITTED 25-Jun-99

EXPECTED DATE
OF RESULTS: 12-Jul-99

SAMPLE MATRIX: Acetone, methylene chloride and toluene

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 23 for dioxin/furans. A
two (2) week turnaround is requested. A full raw data package will also be required. Please contact
Bob Mitzel for further details.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
2-S-M23-1	06/23/99	Ace./MeCl2 Rinse	Ace./MeCl2	
		Toluene Rinse	Toluene	
		Filter	Filter	
		XAD Trap	XAD resin	
2-S-M23-2	06/24/99	Ace./MeCl2 Rinse	Ace./MeCl2	
		Toluene Rinse	Toluene	
		Filter	Filter	
		XAD Trap	XAD resin	
2-S-M23-3	06/25/99	Ace./MeCl2 Rinse	Ace./MeCl2	
		Toluene Rinse	Toluene	
		Filter	Filter	
		XAD Trap	XAD resin	
2-S-M23-FB	06/24/99	Ace./MeCl2 Rinse	Ace./MeCl2	
		Toluene Rinse	Toluene	
		Filter	Filter	
		XAD Trap	XAD resin	

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: *Ray Mitzel*

Date/Time: 06/25/99

Transported by: FedEx

Date/Time: 06/25/99

Transported to: Alta Analytical Laboratory
5070 Robert J. Mathews Parkway
El Dorado Hills, CA 95762

Received by: *[Signature]*

Date/Time: 6-26-99

5932 Bolsa Avenue, Suite 105 * Huntington Beach, CA 92649 * Phone (714) 373-0998 * Fax (714) 895-1915

STANDARD OPERATING PROCEDURE

Attachment 10.B.1

ALTA Analytical Laboratory Project No.: 6954

Sample Log-In Checklist		Yes	No
1. Date Samples Arrived: <u>6.26.99</u> Initials: <u>LM</u>			
2. Time / Date logged in: <u>6.29.99 1300</u> Location <u>LRL</u> Initials: _____			
3. Samples Arrived By: (circle one) Airborne Express <u>Federal Express</u> UPS Emery Freezer Truck Company Courier DHL Other _____			
4. Shipping Preservation: (circle one) Ice / <u>Blue Ice</u> / Dry Ice / None Temp °C <u>19°</u>			
5. Shipping Documentation Present? (circle one) Shipping Label <u>Airbill</u> Tracking Number <u>802129455368</u>		X	
6. Shipping Container(s) Intact? If no, describe condition below.		X	
7. Container Custody Seals Present and Intact? If not intact, describe condition below.		-	X
8. Sample Custody Seals Present and Intact? If not intact, describe condition below. No. of Seals _____ or Seal No. _____			X
9. Sample Container Intact? If no, indicate sample condition below.		X	
10. Chain of Custody (COC) or other Sample Documentation Present?		X	
11. COC/Documentation Acceptable? If no, complete COC Anomaly Form.		X	
12. Shipping Container: (circle one) ALTA Return or Retain or Dispose <u>Client</u> <u>Return</u> or Retain or Dispose			
13. Container and/or Bottles Requested?			X
14. *Sample Control Check In/Out Log Completed?		X	
15. *Drinking Water Sample? If yes, Acceptable Preservation? (circle one) Y or N			X

*Required for HRMS

Name: _____
(Signature Required for LCMS Only)

Date Samples Reconciled: _____

Comments:

STANDARD OPERATING PROCEDURE

Attachment 10.B.1

ALTA Analytical Laboratory Project No.: 6954

Sample Log-In Checklist		Yes	No
1. Date Samples Arrived: <u>6-26-99</u> Initials: <u>TR</u>			
2. Time / Date logged in: <u>6-29-99</u> Location <u>WR-1</u> Initials: <u>TR</u>			
3. Samples Arrived By: (circle one) Airborne Express <u>Federal Express</u> UPS Emery Freezer Truck Company Courier DHL Other			
4. Shipping Preservation: (circle) Ice / <u>Blue Ice</u> / Dry Ice / None Temp °C <u>14°</u>			
5. Shipping Documentation Present? (circle one) Shipping Label: <u>Airbill</u> Tracking Number <u>See Below</u>		X	
6. Shipping Container(s) Intact? If no, describe condition below.		X	
7. Container Custody Seals Present and Intact? If not intact, describe condition below.			X
8. Sample Custody Seals Present and Intact? If not intact, describe condition below. No. of Seals _____ or Seal No. _____			X
9. Sample Container Intact? If no, indicate sample condition below.		X	
10. Chain of Custody (COC) or other Sample Documentation Present?		X	
11. COC/Documentation Acceptable? If no, complete COC Anomaly Form.		X	
12. Shipping Container: (circle) <u>ALTA</u> Return or <u>Retain</u> or Dispose <u>Client</u> <u>Return</u> or Retain or Dispose			
13. Container and/or Bottles Requested?			X
14. *Sample Control Check In/Out Log Completed?		X	
15. *Drinking Water Sample? If yes, Acceptable Preservation? (circle) Y or N			X

*Required for HRMS

Name: _____
(Signature Required for LCMS Only)

Date Samples Reconciled: _____

Comments:

FedEx

8096 2662 2588

FedEx Tracking Number for Customer

809338551646



July 12, 1999

Alta Batch I.D.: 6954

Mr. Gary Mata
AirKinetics, Inc.
5932 Bolsa Avenue, Suite 105
Huntington Beach, CA 92649

Dear Mr. Mata,

Enclosed are the results for eight M23 trains received at Alta Analytical Laboratory on June 26, 1999. This work was authorized under your Purchase Order # 1103-GM. These trains were extracted and analyzed for using EPA Method 23 for tetra to octa chlorinated dioxins and dibenzofurans using High Resolution Mass Spectrometry (HRMS). A rush turnaround time was provided for these results.

For the dioxin/furan results, the 2,3,7,8-TCDF isomer was confirmed on the DB-225 column. Results designated with the "D" qualifier should be considered maximum possible concentrations due to chlorinated diphenyl ether interferences.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix. The Appendix contains a copy of the chain-of-custody, a list of data qualifiers and abbreviations, our current certifications, and copies of the raw data.

If you have any questions regarding this report please feel free to contact me.

Sincerely,

Robert S. Mitzel
Director of Air Toxics

Alta Analytical Laboratory Inc.

5070 Robert J. Mathews Parkway
El Dorado Hills, CA 95762

FAX (916) 933-0940
(916) 933-1640

D 17

Sample Inventory Report: MM5 Sampling Train

Project No.: 6954
Date Rec.: 6/26/99

Project Name: General Analytical AIR

Lab. Sample ID	Client Sample ID	Component ID
0001	1-S-M23-FB	ACE/MECL2
0001	1-S-M23-FB	FILTER
0001	1-S-M23-FB	TOLUENE
0001	1-S-M23-FB	XAD
0002	1-S-M23-1	ACE/MECL2
0002	1-S-M23-1	FILTER
0002	1-S-M23-1	TOLUENE
0002	1-S-M23-1	XAD
0003	1-S-M23-2	ACE/MECL2
0003	1-S-M23-2	FILTER
0003	1-S-M23-2	TOLUENE
0003	1-S-M23-2	XAD
0004	1-S-M23-3	ACE/MECL2
0004	1-S-M23-3	FILTER
0004	1-S-M23-3	TOLUENE
0004	1-S-M23-3	XAD
0005	2-S-M23-FB	ACE/MECL2
0005	2-S-M23-FB	FILTER
0005	2-S-M23-FB	TOLUENE
0005	2-S-M23-FB	XAD
0006	2-S-M23-1	ACE/MECL2
0006	2-S-M23-1	FILTER
0006	2-S-M23-1	TOLUENE
0006	2-S-M23-1	XAD
0007	2-S-M23-2	ACE/MECL2
0007	2-S-M23-2	FILTER
0007	2-S-M23-2	TOLUENE
0007	2-S-M23-2	XAD
0008	2-S-M23-3	ACE/MECL2
0008	2-S-M23-3	FILTER
0008	2-S-M23-3	TOLUENE
0008	2-S-M23-3	XAD

SECTION II.

**PCDD & PCDF
EPA METHOD 23**

Method Blank
Lab ID: 6954-MB
Matrix: M23

Date Received: NA
Date Extracted: 7/7/99
Sample Amount: Sample

ICAL ID: I428
QC Lot: LC0707M
Units: pg/sample

<u>Compound</u>	<u>Conc.</u>	<u>D.L.</u>	<u>Ratio</u>	<u>S/N Ratio</u>	<u>Qualifier</u>
2,3,7,8-TCDD	ND	1.4			
Total TCDD	ND	1.4			
1,2,3,7,8-PeCDD	ND	1.5			
Total PeCDD	ND	1.5			
1,2,3,4,7,8-HxCDD	ND	4.6			
1,2,3,6,7,8-HxCDD	ND	3.2			
1,2,3,7,8,9-HxCDD	ND	3.2			
Total HxCDD	ND	4.6			
1,2,3,4,6,7,8-HpCDD	ND	10			
Total HpCDD	ND	10			
OCDD	81		0.93	>10:1	A
2,3,7,8-TCDF	ND	1.1			
Total TCDF	ND	1.1			
1,2,3,7,8-PeCDF	ND	2.9			
2,3,4,7,8-PeCDF	ND	2.8			
Total PeCDF	ND	2.9			
1,2,3,4,7,8-HxCDF	ND	1.1			
1,2,3,6,7,8-HxCDF	ND	0.83			
2,3,4,6,7,8-HxCDF	ND	0.95			
1,2,3,7,8,9-HxCDF	ND	0.94			
Total HxCDF	ND	1.1			
1,2,3,4,6,7,8-HpCDF	ND	1.7			
1,2,3,4,7,8,9-HpCDF	ND	1.2			
Total HpCDF	ND	1.7			
OCDF	ND	7.5			

Analyst: MS

Page 1 of 2

Reviewer: Sgt

**PCDD & PCDF
EPA METHOD 23**

Method Blank
Lab ID: 6954-MB

Isotopic Recovery Results

<u>Internal Standard:</u>	<u>% R</u>	<u>Ratio</u>	<u>Qualifier</u>
¹³ C-2,3,7,8-TCDD	100	0.79	
¹³ C-1,2,3,7,8-PeCDD	114	1.58	
¹³ C-1,2,3,6,7,8-HxCDD	88	1.25	
¹³ C-1,2,3,4,6,7,8-HpCDD	105	1.07	
¹³ C-OCDD	101	0.91	
¹³ C-2,3,7,8-TCDF	90	0.78	
¹³ C-1,2,3,7,8-PeCDF	102	1.60	
¹³ C-1,2,3,6,7,8-HxCDF	75	0.51	
¹³ C-1,2,3,4,6,7,8-HpCDF	98	0.46	

Pre-spike Recovery Standard:

³⁷ Cl-2,3,7,8-TCDD	NA	NA
¹³ C-2,3,4,7,8-PeCDF	NA	NA
¹³ C-1,2,3,4,7,8-HxCDD	NA	NA
¹³ C-1,2,3,4,7,8-HxCDF	NA	NA
¹³ C-1,2,3,4,7,8,9-HpCDF	NA	NA

Alternate Recovery Standard:

¹³ C-1,2,3,7,8,9-HxCDF	102	0.52

Dates Analyzed:

DB-5: 7/9/99 DB-225: NA SP-2331: NA

Analyst: MS

Page 2 of 2

Reviewer: 

**PCDD & PCDF
EPA METHOD 23**

LCS1/LCS2 RESULTS
Lab ID: 6954-LCS1/LCS2
Matrix: M23

Date Received: NA
Date Extracted: 7/7/99
Sample Amount: Sample

ICAL ID: I428
QC Lot: LC0707M
Units: NA

<u>Compound</u>	<u>LCS1 %R</u>	<u>LCS2 %R</u>	<u>RPD %</u>
2,3,7,8-TCDD	96	98	2.1
1,2,3,7,8-PeCDD	98	102	4.0
1,2,3,4,7,8-HxCDD	105	117	11
1,2,3,6,7,8-HxCDD	120	113	6.0
1,2,3,7,8,9-HxCDD	113	112	0.89
1,2,3,4,6,7,8-HpCDD	106	108	1.9
OCDD	112	113	0.89
2,3,7,8-TCDF	97	96	1.0
1,2,3,7,8-PeCDF	101	101	0.0
2,3,4,7,8-PeCDF	104	106	1.9
1,2,3,4,7,8-HxCDF	108	113	4.5
1,2,3,6,7,8-HxCDF	112	119	6.1
2,3,4,6,7,8-HxCDF	110	108	1.8
1,2,3,7,8,9-HxCDF	135	137	1.5
1,2,3,4,6,7,8-HpCDF	103	104	0.97
1,2,3,4,7,8,9-HpCDF	112	114	1.8
OCDF	104	106	1.9

Analyst: MS

Page 1 of 2

Reviewer: SM

PCDD & PCDF
EPA METHOD 23

LCS1/LCS2 RESULTS
Lab ID: 6954-LCS1/LCS2

Isotopic Recovery Results

<u>Internal Standard:</u>	<u>LCS1</u> <u>%R</u>	<u>LCS2</u> <u>%R</u>
¹³ C-2,3,7,8-TCDD	91	95
¹³ C-1,2,3,7,8-PeCDD	105	108
¹³ C-1,2,3,6,7,8-HxCDD	84	84
¹³ C-1,2,3,4,6,7,8-HpCDD	99	97
¹³ C-OCDD	88	95
¹³ C-2,3,7,8-TCDF	86	90
¹³ C-1,2,3,7,8-PeCDF	95	98
¹³ C-1,2,3,6,7,8-HxCDF	76	75
¹³ C-1,2,3,4,6,7,8-HpCDF	94	90

Dates Analyzed:

DB-5: 7/9/99

DB-225: NA

SP-2331: NA

Analyst: MS

Page 2 of 2

Reviewer: 

**PCDD & PCDF
EPA METHOD 23**

Sample ID: 1-S-M23-FB
Lab ID: 6954-0001-SA
Matrix: M23

Date Received: 6/26/99
Date Extracted: 7/7/99
Sample Amount: Sample

ICAL ID: I428
QC Lot: LC0707M
Units: pg/sample

<u>Compound</u>	<u>Conc.</u>	<u>D.L.</u>	<u>Ratio</u>	<u>S/N Ratio</u>	<u>Qualifier</u>
2,3,7,8-TCDD	ND	3.6			
Total TCDD	ND	3.6			
1,2,3,7,8-PeCDD	ND	1.5			
Total PeCDD	ND	1.5			
1,2,3,4,7,8-HxCDD	ND	7.5			
1,2,3,6,7,8-HxCDD	ND	5.3			
1,2,3,7,8,9-HxCDD	ND	5.3			
Total HxCDD	ND	7.5			
1,2,3,4,6,7,8-HpCDD	15		1.01	3:1	A
Total HpCDD	28		0.95	4:1	A
OCDD	100		0.88	>10:1	B
2,3,7,8-TCDF	ND	1.6			
Total TCDF	ND	1.6			
1,2,3,7,8-PeCDF	ND	2.6			
2,3,4,7,8-PeCDF	ND	2.6			
Total PeCDF	ND	2.6			
1,2,3,4,7,8-HxCDF	ND	1.5			
1,2,3,6,7,8-HxCDF	ND	1.1			
2,3,4,6,7,8-HxCDF	ND	1.3			
1,2,3,7,8,9-HxCDF	ND	1.2			
Total HxCDF	ND	1.5			
1,2,3,4,6,7,8-HpCDF	ND	3.8			
1,2,3,4,7,8,9-HpCDF	ND	1.6			
Total HpCDF	ND	3.8			
OCDF	ND	9.6			

Analyst: MS

Page 1 of 2

Reviewer: SM

**PCDD & PCDF
EPA METHOD 23**

Sample ID: 1-S-M23-FB
Lab ID: 6954-0001-SA

Isotopic Recovery Results

<u>Internal Standard:</u>	<u>% R</u>	<u>Ratio</u>	<u>Qualifier</u>
¹³ C-2,3,7,8-TCDD	89	0.79	
¹³ C-1,2,3,7,8-PeCDD	98	1.60	
¹³ C-1,2,3,6,7,8-HxCDD	88	1.32	
¹³ C-1,2,3,4,6,7,8-HpCDD	90	1.08	
¹³ C-OCDD	86	0.92	
¹³ C-2,3,7,8-TCDF	81	0.79	
¹³ C-1,2,3,7,8-PeCDF	89	1.58	
¹³ C-1,2,3,6,7,8-HxCDF	76	0.54	
¹³ C-1,2,3,4,6,7,8-HpCDF	85	0.45	
 <u>Pre-spike Recovery Standard:</u>			
³⁷ Cl-2,3,7,8-TCDD	102	NA	
¹³ C-2,3,4,7,8-PeCDF	107	1.59	
¹³ C-1,2,3,4,7,8-HxCDD	108	1.19	
¹³ C-1,2,3,4,7,8-HxCDF	115	0.52	
¹³ C-1,2,3,4,7,8,9-HpCDF	113	0.46	
 <u>Alternate Recovery Standard:</u>			
¹³ C-1,2,3,7,8,9-HxCDF	94	0.52	

Dates Analyzed:

DB-5: 7/9/99 DB-225: NA SP-2331: NA

Analyst: MS

Page 2 of 2

Reviewer: 

**PCDD & PCDF
EPA METHOD 23**

Sample ID: 2-S-M23-FB
Lab ID: 6954-0005-SA
Matrix: M23

Date Received: 6/26/99
Date Extracted: 7/7/99
Sample Amount: Sample

ICAL ID: I428
QC Lot: LC0707M
Units: pg/sample

<u>Compound</u>	<u>Conc.</u>	<u>D.L.</u>	<u>Ratio</u>	<u>S/N Ratio</u>	<u>Qualifier</u>
2,3,7,8-TCDD	ND	3.4			
Total TCDD	ND	3.4			
1,2,3,7,8-PeCDD	ND	1.5			
Total PeCDD	ND	1.5			
1,2,3,4,7,8-HxCDD	ND	6.4			
1,2,3,6,7,8-HxCDD	ND	4.5			
1,2,3,7,8,9-HxCDD	ND	4.6			
Total HxCDD	ND	6.4			
1,2,3,4,6,7,8-HpCDD	19		1.06	5:1	A
Total HpCDD	36		1.02	5:1	A
OCDD	91		0.90	>10:1	A,B
2,3,7,8-TCDF	ND	2.4			
Total TCDF	6.3		0.81	3:1	A
1,2,3,7,8-PeCDF	ND	2.9			
2,3,4,7,8-PeCDF	ND	2.8			
Total PeCDF	ND	2.9			
1,2,3,4,7,8-HxCDF	ND	2.7			
1,2,3,6,7,8-HxCDF	ND	1.1			
2,3,4,6,7,8-HxCDF	ND	1.3			
1,2,3,7,8,9-HxCDF	ND	1.3			
Total HxCDF	ND	2.7			
1,2,3,4,6,7,8-HpCDF	5.9		1.07	5:1	A
1,2,3,4,7,8,9-HpCDF	ND	1.3			
Total HpCDF	5.9		1.07	5:1	A
OCDF	ND	7.1			

Analyst: MS

Page 1 of 2

Reviewer: SM

**PCDD & PCDF
EPA METHOD 23**

Sample ID: 2-S-M23-FB
Lab ID: 6954-0005-SA

Isotopic Recovery Results

<u>Internal Standard:</u>	<u>% R</u>	<u>Ratio</u>	<u>Qualifier</u>
¹³ C-2,3,7,8-TCDD	95	0.78	
¹³ C-1,2,3,7,8-PeCDD	112	1.55	
¹³ C-1,2,3,6,7,8-HxCDD	91	1.27	
¹³ C-1,2,3,4,6,7,8-HpCDD	97	1.08	
¹³ C-OCDD	93	0.91	
¹³ C-2,3,7,8-TCDF	89	0.79	
¹³ C-1,2,3,7,8-PeCDF	99	1.61	
¹³ C-1,2,3,6,7,8-HxCDF	77	0.54	
¹³ C-1,2,3,4,6,7,8-HpCDF	86	0.47	

Pre-spike Recovery Standard:

³⁷ Cl-2,3,7,8-TCDD	102	NA	
¹³ C-2,3,4,7,8-PeCDF	112	1.60	
¹³ C-1,2,3,4,7,8-HxCDD	111	1.26	
¹³ C-1,2,3,4,7,8-HxCDF	116	0.53	
¹³ C-1,2,3,4,7,8,9-HpCDF	119	0.46	

Alternate Recovery Standard:

¹³ C-1,2,3,7,8,9-HxCDF	101	0.52	

Dates Analyzed:

DB-5: 7/9/99 DB-225: NA SP-2331: NA

Analyst: MS

Page 2 of 2

Reviewer: SM

APPENDIX

DATA QUALIFIERS & ABBREVIATIONS

A	The amount detected is below the Method Calibration Limit.
B	This compound was also detected in the blank.
C	The amount detected is less than five times the Method Quantitation Limit.
D	The amount reported is the maximum possible concentration.
E	The detection limit was raised above the Method Quantitation Limit due to chemical interferences.
F	This result has been confirmed on a DB-225 column.
G	This result has been confirmed on a SP-2331 column.
H	The signal-to-noise ratio is greater than 10:1.
I	Chemical Interference

Conc.	Concentration
D.L.	Detection Limit
NA	Not applicable
S/N	Signal-to-noise
*	See Cover Letter
ND	Not Detected
MPC	Maximum Possible Concentration

Bureau of Reclamation - Mid-Pacific Region — (MP-470, Res-1.10)

Commonwealth of Kentucky — (Certificate No. 90063)

Commonwealth of Virginia — (Certificate No. 00013)

State of Alaska, Department of Environmental Conservation — (Certificate No. OS-00197)

State of Arkansas, Department of Health — (Approval granted through CA certification)

State of Arkansas, Department of Pollution Control

State of California — (Certificate No. 1640)

State of Connecticut — (Certificate No. PH-0182)

State of Florida — (Certificate No. 87456)

State of Louisiana — (Certificate No. 98-33)

State of Nevada — (Certificate No. CA413)

State of New York Department of Health — (Certificate No. 11411)

State of North Carolina — (Certification No. 06700)

State of North Dakota Department of Health — (Certificate No. R-078)

State of Oregon

State of Pennsylvania — (Certificate No. 68-490)

State of South Carolina — (Certificate No. 87002001)

State of Tennessee — (Certificate No. 02996)

State of Utah — (Certificate No. E-201)

State of Wisconsin — (Certificate No. 998036160)

State of Wyoming — (Ref: 8TMS-Q)

U.S. Army Corps of Engineers

U.S. EPA Region 5

Washington Department of Ecology — (Certification No. C091)

2/23/99

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No 1103 - GM

JOB NAME: OMS - Lee

LABORATORY: Alta Analytical

JOB No.: 10558

DATE SAMPLES
WERE TRANSMITTED 25-Jun-99

EXPECTED DATE
OF RESULTS: 12-Jul-99

SAMPLE MATRIX: Acetone, methylene chloride and toluene

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 23 for dioxin/furans. A
two (2) week turnaround is requested. A full raw data package will also be required. Please contact
Bob Mitzel for further details.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
1-S-M23-1	06/23/99	Acc./MeCl2 Rinse	Acc./MeCl2	
		Toluene Rinse	Toluene	
		Filter	Filter	
		XAD Trap	XAD resin	
1-S-M23-2	06/24/99	Acc./MeCl2 Rinse	Acc./MeCl2	
		Toluene Rinse	Toluene	
		Filter	Filter	
		XAD Trap	XAD resin	
1-S-M23-3	06/25/99	Acc./MeCl2 Rinse	Acc./MeCl2	
		Toluene Rinse	Toluene	
		Filter	Filter	
		XAD Trap	XAD resin	
1-S-M23-FB	06/24/99	Acc./MeCl2 Rinse	Acc./MeCl2	
		Toluene Rinse	Toluene	
		Filter	Filter	
		XAD Trap	XAD resin	

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: *Nancy M. G.*

Date/Time: 06/25/99

Transported by: FedEx

Date/Time: 06/25/99

Transported to: Alta Analytical Laboratory
5070 Robert J. Mathews Parkway
El Dorado Hills, CA 95762

Received by: *[Signature]*

Date/Time: 6-26-99

3932 Bolsa Avenue, Suite 105 * Huntington Beach, CA 92649 * Phone (714) 373-0998 * Fax (714) 895-1915

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

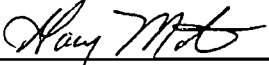
REQUEST FOR ANALYSIS

PURCHASE ORDER No 1103 - GMJOB NAME: OMS - LeeLABORATORY: Alta AnalyticalJOB No.: 10558DATE SAMPLES
WERE TRANSMITTED 25-Jun-99EXPECTED DATE
OF RESULTS: 12-Jul-99SAMPLE MATRIX: Acetone, methylene chloride and toluene

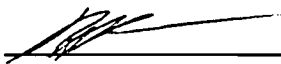
TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 23 for dioxin/furans. A
two (2) week turnaround is requested. A full raw data package will also be required. Please contact
Bob Mitzel for further details.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
2-S-M23-1	06/23/99	Acc./MeCl2 Rinse	Acc./MeCl2	
		Toluene Rinse	Toluene	
		Filter	Filter	
		XAD Trap	XAD resin	
2-S-M23-2	06/24/99	Acc./MeCl2 Rinse	Acc./MeCl2	
		Toluene Rinse	Toluene	
		Filter	Filter	
		XAD Trap	XAD resin	
2-S-M23-3	06/25/99	Acc./MeCl2 Rinse	Acc./MeCl2	
		Toluene Rinse	Toluene	
		Filter	Filter	
		XAD Trap	XAD resin	
2-S-M23-FB	06/24/99	Acc./MeCl2 Rinse	Acc./MeCl2	
		Toluene Rinse	Toluene	
		Filter	Filter	
		XAD Trap	XAD resin	

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: Date/Time: 06/25/99Transported by: FedExDate/Time: 06/25/99

Transported to: Alta Analytical Laboratory
5070 Robert J. Mathews Parkway
El Dorado Hills, CA 95762

Received by: Date/Time: 6-26-99

STANDARD OPERATING PROCEDURE

Attachment 10.B.1

ALTA Analytical Laboratory Project No.: 6954

Sample Log-In Checklist		Yes	No
1. Date Samples Arrived: <u>6.26.99</u> Initials: <u>[Signature]</u>			
2. Time / Date logged in: <u>6.29.99 1300</u> Location <u>LRI</u> Initials: _____			
3. - Samples Arrived By: (circle one) Airborne Express <u>Federal Express</u> UPS Emery Freezer Truck Company Courier DHL Other _____			
4. Shipping Preservation: (circle) Ice / <u>Blue Ice</u> / Dry Ice / None Temp °C <u>19°</u>			
5. Shipping Documentation Present? (circle one) Shipping Label <u>Airbill</u> Tracking Number <u>802129455368</u>		X	
6. Shipping Container(s) Intact? If no, describe condition below.		X	
7. Container Custody Seals Present and Intact? If not intact, describe condition below.		-	X
8. Sample Custody Seals Present and Intact? If not intact, describe condition below. No. of Seals _____ or Seal No. _____			X
9. Sample Container Intact? If no, indicate sample condition below.		X	
10. Chain of Custody (COC) or other Sample Documentation Present?		X	
11. COC/Documentation Acceptable? If no, complete COC Anomaly Form.		X	
12. Shipping Container: (circle) ALTA Return or Retain or Dispose <u>Client</u> <u>Return</u> or Retain or Dispose			
13. Container and/or Bottles Requested?			X
14. *Sample Control Check In/Out Log Completed?		X	
15. *Drinking Water Sample? If yes, Acceptable Preservation? (circle) Y or N			X

*Required for HRMS

Name: _____
(Signature Required for LCMS Only)

Date Samples Reconciled: _____

Comments:

STANDARD OPERATING PROCEDURE

Attachment 10.B.1

ALTA Analytical Laboratory Project No.: 6954

Sample Log-In Checklist		Yes	No
1. Date Samples Arrived: <u>6.26.99</u> Initials: <u>PA</u>			
2. Time / Date logged in: <u>62959</u> Location <u>WR-1</u> Initials: <u>PA</u>			
3. Samples Arrived By: (circle one) Airborne Express <u>Federal Express</u> UPS Emery Freezer Truck Company Courier DHL Other _____			
4. Shipping Preservation: (circle) Ice / <u>Blue Ice</u> / Dry Ice / None Temp °C <u>14°</u>			
5. Shipping Documentation Present? (circle one) Shipping Label: <u>Airbill</u> Tracking Number <u>See Below</u>	X		
6. Shipping Container(s) Intact? If no, describe condition below.	X		
7. Container Custody Seals Present and Intact? If not intact, describe condition below.		X	
8. Sample Custody Seals Present and Intact? If not intact, describe condition below. No. of Seals _____ or Seal No. _____		X	
9. Sample Container Intact? If no, indicate sample condition below.	X		
10. Chain of Custody (COC) or other Sample Documentation Present?	X		
11. COC/Documentation Acceptable? If no, complete COC Anomaly Form.	X		
12. Shipping Container: (circle) <u>ALTA</u> Return or <u>Retain</u> or Dispose <u>Client</u> <u>Return</u> or Retain or Dispose			
13. Container and/or Bottles Requested?		X	
14. *Sample Control Check In/Out Log Completed?	X		
15. *Drinking Water Sample? If yes, Acceptable Preservation? (circle) Y or N		X	

*Required for HRMS

Name: _____
(Signature Required for LCMS Only)

Date Samples Reconciled: _____

Comments:

FedEx

8096 2662 2588

FedEx Tracking Number for Customer

809338551646

APPENDIX D

ANALYTICAL DATA

1.0 QUALITY ASSURANCE

e. HYDROGEN CHLORIDE

Box No. C17Assembly Date 6-8-99Assembled By G. MATAClient OXDEN MARTIN SYSTEMSJob No. 10558Plant OMS - LEECity / State FORT MYERS, FLSampling Location UNIT No.Method EPA 24Individual Tare of Reagent 200 (ml) (gm) of 0.1N H₂SO₄Individual Tare of Reagent 100 (ml) (gm) of DI H₂O

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
M26-RB	6-21-99	N/A	N/A	✓	Ⓢ	6-21-99	N/A	✓	Ⓢ
				Filter Appearance*					
				N/A					
				Reagent Appearance*					
				N/A					
NH3-RB	6-23-99	N/A	N/A	✓	Ⓢ	6-23-99	N/A	✓	Ⓢ
				Filter Appearance*					
				N/A					
				Reagent Appearance*					
				N/A					
				✓	Ⓢ				
				Filter Appearance*					
				Reagent Appearance*					
				Filter Appearance*					
				Reagent Appearance*					

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

D 36

RECORD OF CUSTODY, CONTAINER No. C17

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 26 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) ☐

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003517	6-8-99	12:21	S	<i>[Signature]</i>	
	6-21-99	9:09	B	<i>[Signature]</i>	Label Tarn
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact?**
Signature	Date	Time	Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

Hydrochloric Acids – Method
CFR60A 26A



AIRKINETICS, INC.

Client Sample ID: M26-RB

General Chemistry

Lot-Sample #....: G9F250261-014
Date Sampled....: 06/21/99

Work Order #....: CXDH0
Date Received...: 06/25/99

Matrix.....: AIR

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hydrochloric acid	ND G	2.6	mg	CFR60A 26A	07/07-07/08/99	9193346
		Dilution Factor: 5				

NOTE(S) :

RL Reporting Limit

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

Volume of sample = 500 ml.

QC DATA ASSOCIATION SUMMARY

G9F250261

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
008	AIR	CFR60A 26A		9193346	9193145
009	AIR	CFR60A 26A		9193346	9193145
010	AIR	CFR60A 26A		9193346	9193145
011	AIR	CFR60A 26A		9193344	9193152
012	AIR	CFR60A 26A		9193344	9193152
013	AIR	CFR60A 26A		9193344	9193152
014	AIR	CFR60A 26A		9193346	9193145
015	AIR	CFR60A 26A		9193346	9193145
016	AIR	CFR60A 26A		9193346	9193145
017	AIR	CFR60A 26A		9193346	9193145
018	AIR	CFR60A 26A		9193344	9193152
019	AIR	CFR60A 26A		9193347	9193150
020	AIR	CFR60A 26A		9193344	9193152

METHOD BLANK REPORT**General Chemistry**

Client Lot #...: G9F250261

Matrix.....: AIR

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Hydrochloric acid	ND	Work Order #: D0018101 0.51 Dilution Factor: 1	mg	MB Lot-Sample #: G9G120000-344 CFR60A 26A	07/01/99	9193344
Hydrochloric acid	ND	Work Order #: D000T101 0.51 Dilution Factor: 1	mg	MB Lot-Sample #: G9G120000-346 CFR60A 26A	07/07/99	9193346
Hydrochloric acid	ND	Work Order #: D0016101 0.51 Dilution Factor: 1	mg	MB Lot-Sample #: G9G120000-347 CFR60A 26A	07/07-07/08/99	9193347

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #....: G9F250261

Matrix.....: AIR

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hydrochloric acid	10.0	10.1	mg	101	CFR60A 26A	07/01/99	9193344
Work Order #: D0018102 LCS Lot-Sample#: G9G120000-344							
Dilution Factor: 1							
Hydrochloric acid	5.00	4.86	mg	97	CFR60A 26A	07/07/99	9193346
Work Order #: D000T102 LCS Lot-Sample#: G9G120000-346							
Dilution Factor: 1							
Hydrochloric acid	10.0	10.1	mg	101	CFR60A 26A	07/07-07/08/99	9193347
Work Order #: D0016102 LCS Lot-Sample#: G9G120000-347							
Dilution Factor: 1							

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: G9F250261

Matrix.....: AIR

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hydrochloric acid	101	Work Order #: D0018102 (90 - 110)	LCS Lot-Sample#: G9G120000-344 CFR60A 26A	07/01/99	9193344
		Dilution Factor: 1			
Hydrochloric acid	97	Work Order #: D000T102 (90 - 110)	LCS Lot-Sample#: G9G120000-346 CFR60A 26A	07/07/99	9193346
		Dilution Factor: 1			
Hydrochloric acid	101	Work Order #: D0016102 (90 - 110)	LCS Lot-Sample#: G9G120000-347 CFR60A 26A	07/07-07/08/99	9193347
		Dilution Factor: 1			

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT
General Chemistry

Client Lot #...: G9F250261

Matrix.....: AIR

Date Sampled...: 06/13/99

Date Received...: 06/21/99

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hydrochloric acid									
					WO#: CXDHA102-MS/CXDHA103-MSD MS Lot-Sample #: G9F250261-019				
	973	432	1430	mg	106		CFR60A 26A	07/07-07/08/99	9193347
	973	432	1420	mg	104	0.70	CFR60A 26A	07/07-07/08/99	9193347
Dilution Factor: 1									
Hydrochloric acid									
					WO#: CX66G102-MS/CX66G103-MSD MS Lot-Sample #: G9F210166-014				
	180	113	297	mg	104		CFR60A 26A	07/01/99	9193344
	180	113	298	mg	105	0.40	CFR60A 26A	07/01/99	9193344
Dilution Factor: 1									
Hydrochloric acid									
					WO#: CX669102-MS/CX669103-MSD MS Lot-Sample #: G9F210166-011				
	10.1	24.7	33.8	mg	96		CFR60A 26A	07/07/99	9193346
	10.1	24.7	33.8	mg	96	0.16	CFR60A 26A	07/07/99	9193346
Dilution Factor: 1									

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT
General Chemistry
Client Lot #... G9F250261

Matrix.....: AIR

Date Sampled... 06/13/99

Date Received... 06/21/99

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hydrochloric acid			WO#:	CXDHA102-MS/CXDHA103-MSD	MS Lot-Sample #:	G9F250261-019	
106	(75 - 125)			CFR60A 26A		07/07-07/08/99	9193347
104	(75 - 125)	0.70 (0-20)		CFR60A 26A		07/07-07/08/99	9193347
			Dilution Factor: 1				
Hydrochloric acid			WO#:	CX66G102-MS/CX66G103-MSD	MS Lot-Sample #:	G9F210166-014	
104	(75 - 125)			CFR60A 26A		07/01/99	9193344
105	(75 - 125)	0.40 (0-20)		CFR60A 26A		07/01/99	9193344
			Dilution Factor: 1				
Hydrochloric acid			WO#:	CX669102-MS/CX669103-MSD	MS Lot-Sample #:	G9F210166-011	
96	(75 - 125)			CFR60A 26A		07/07/99	9193346
96	(75 - 125)	0.16 (0-20)		CFR60A 26A		07/07/99	9193346
			Dilution Factor: 1				

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

APPENDIX D
ANALYTICAL DATA

1.0 QUALITY ASSURANCE

f. AMMONIA

Box No. C17 Assembly Date 6-8-99 Assembled By G. MATAClient OGDEN MARTIN SYSTEMS Job No. 10558Plant OMS - LEE City / State FORT MYERS, FLSampling Location UNIT No. Method EPA 24Individual Tare of Reagent 200 (ml) (gm) of 0.1N H₂SO₄Individual Tare of Reagent 100 (ml) (gm) of DI H₂O

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD		Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
		Number	Tare, grams						
M26-RB	6-21-99	N/A	N/A	✓	Ⓢ	6-21-99	N/A	✓	Ⓢ

Filter Appearance*

N/A

Reagent Appearance*

N/A

NH3-RB	6-23-99	N/A	N/A	✓	Ⓢ	6-23-99	N/A	✓	Ⓢ

Filter Appearance*

N/A

Reagent Appearance*

N/A

				✓	Ⓢ				

Filter Appearance*

Reagent Appearance*

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

RECORD OF CUSTODY, CONTAINER No. C17

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 24 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) ☐

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003517	6-8-99	12:21	S	<i>[Signature]</i>	
	6-21-99	9:09	B	<i>[Signature]</i>	Label Tarn
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact?**
Signature	Date	Time	Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

Ammonia by Ion Specific Electrode Data Sheet

Job Name:	OMS-Lee	Job Num.:	10558
Analyst:	Gary Mata	Date:	06/28/99
Sampling Location:	Unit Nos. 1 & 2 Stack		

Ammonia Standard Calibration Curve by Linear Regression

<i>NH4 Conc. (ug/ml)</i>	<i>log Conc.</i>	<i>Standard mVolts mVs</i>	<i>Calculated Concentration (ug/ml)</i>	<i>Percent Deviation from Actual</i>	
0.85	-0.0706	-47.1	0.86	0.95%	
17.0	1.2304	-121.9	16.54	-2.70%	
85.0	1.9294	-163.8	86.77	2.08%	
170.0	2.2304	-180.7	169.32	-0.40%	
425.0	2.6284	-204	425.58	0.14%	
Standard Curve		Slope	-58.21	Intercept	-50.97

Field Samples In: 0.1N H2SO4

Sample ID	Sample mVolts as read from ISE Meter.		Average mV	Percent Diff.	Sample Dilution Factor	Sample Final Volume (mls)	Total Catch as NH3 (ug NH3)
	mV1	mVdup					
Blank	42.7	43.1	42.9	0.47%	1	100	2.3
1-S-NH3-2	-50.8	-49.7	-50.3	1.09%	1	400	367.0
1-S-NH3-3	-42.4	-42.3	-42.4	0.12%	1	500	335.6
1-S-NH3-4	-70.2	-71.0	-70.6	0.57%	1	540	1108.2
2-S-NH3-1	-70.2	-69.4	-69.8	0.57%	1	500	994.1
2-S-NH3-2	-58.1	-57.6	-57.9	0.43%	1	520	644.4
2-S-NH3-3	-43.9	-43.0	-43.5	1.04%	1	540	378.6

Spike	mV	Amt. Smpl. (mls)	Amt. Std. (mls)	Std. Conc. (ug/ml NH3)	Expected Recovery (ug/ml NH3)	Actual Recovery (ug/ml NH3)	Percent Recovery
1-S-NH3-3	-146.5	50.0	50.0	80.2	40.46	41.32	102.1%

APPENDIX D

ANALYTICAL DATA

1.0 QUALITY ASSURANCE

g. ARSENIC, BERYLLIUM, CADMIUM, LEAD, AND MERCURY

BEST AVAILABLE COPY

FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. M153Assembly Date 6-8-99Assembled By G. MATAClient OXDEN MARTIN SYSTEMSJob No. 10558Plant OMS - LEECity / State FORT MYERS, FLSampling Location UNIT NOS. 1 & 2 STACKSMethod EPA 29Individual Tare of Reagent 200 (ml) (gm) of 5% HNO₃ / 10% H₂O₂Individual Tare of Reagent 200 (ml) (gm) of 4% KMnO₄ / 10% H₂SO₄

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm

Other (specify) _____

Run Number	Run Date	Filter or XAD		Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
		Number	Tare, grams						
1-S-M29-FB	6-22-99	N/A	N/A	✓	(W)	6-22-99	N/A	✓	CW

Filter Appearance*

N/A

Reagent Appearance*

N/A

2-S-M29-FB	6-23-99	N/A	N/A	✓	(W)	6-23-99	N/A	✓	(W)

Filter Appearance*

N/A

Reagent Appearance*

N/A

M29-LB	6-21-99	N/A	N/A	✓	(W)	6-21-99	N/A	✓	e

Filter Appearance*

N/A

Reagent Appearance*

N/A

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed)

REMARKS _____

RECORD OF CUSTODY, CONTAINER No. M153

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 29 (KMnO₄ & EMPTY IMP JARS) (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) ☐

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003904	6-8-99	09:42	S	<i>[Signature]</i>	
	6-21-99	1125	B	<i>[Signature]</i>	Charge Trans
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact?**
Signature	Date	Time	Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

RECORD OF CUSTODY, CONTAINER No. C19

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 29

(EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒

Cooler ☐

Other (specify) GMND4 & EMPTY IMP. JARS FOR FB's & RB

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003653	6-8-99	0945	S	<i>[Signature]</i>	
	6-21-99	1127	B	<i>[Signature]</i>	Label Tars
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact?**
Signature	Date	Time	Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

①

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No 1102 - GM JOB NAME: OMS - Lee

LABORATORY: Quanterra Environmental JOB No.: 10558

DATE SAMPLES WERE TRANSMITTED 23-Jun-99 EXPECTED DATE OF RESULTS: 9-Jul-99

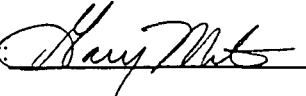
SAMPLE MATRIX: 0.1N HNO₃, 5% HNO₃/10% H₂O₂, 4% KMnO₄/10% H₂SO₄ and 8n HCl

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 29 for Hg only.

A two (2) week turnaround is requested. A full raw data package will be required. Please contact Robert Weidenfeld for further details.

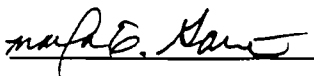
Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
1-I-M29-3		Front Half Rinse	0.1N HNO ₃	
		Filter	filter	
		Back Half	HNO ₃ /H ₂ O ₂	
		Empty Impinger	0.1N HNO ₃	
		KMnO ₄	KMnO ₄ /H ₂ SO ₄	
		8N HCl Rinse	8N HCl w/DI H ₂ O	

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by:  Date/Time: 06/23/99

Transported by: FedEx Date/Time: 06/23/99

Transported to: Quanterra Environmental Services
880 Riverside Parkway
West Sacramento, CA 95605-1501

Received by:  Date/Time: 062599 @ 1500

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No 1102 - GMJOB NAME: OMS - LeeLABORATORY: Quanterra EnvironmentalJOB No.: 10558DATE SAMPLES
WERE TRANSMITTED 23-Jun-99EXPECTED DATE
OF RESULTS: 9-Jul-99SAMPLE MATRIX: 0.1N HNO₃, 5% HNO₃/10% H₂O₂, 4% KMnO₄/10% H₂SO₄ and 8N HCl- TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 29 for Hg only.

A two (2) week turnaround is requested. A full raw data package will be required. Please contact Robert Weidenfeld for further details.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
2-I-M29-1	06/22/99	Front Half Rinse	0.1N HNO ₃	Dead
		Filter	filter	
		Back Half	HNO ₃ /H ₂ O ₂	
		Empty Impinger	0.1N HNO ₃	
		KMnO ₄	KMnO ₄ /H ₂ SO ₄	
		8N HCl Rinse	8N HCl w/DI H ₂ O	
2-I-M29-2	06/23/99	Front Half Rinse	0.1N HNO ₃	0625/99
		Filter	filter	
		Back Half	HNO ₃ /H ₂ O ₂	
		Empty Impinger	0.1N HNO ₃	
		KMnO ₄	KMnO ₄ /H ₂ SO ₄	
		8N HCl Rinse	8N HCl w/DI H ₂ O	

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: Harry M. Lee Date/Time: 06/23/99Transported by: FedEx Date/Time: 06/23/99Transported to: Quanterra Environmental Services
880 Riverside Parkway
West Sacramento, CA 95605-1501Received by: monica C. Lee Date/Time: 0625/99 @ 1500

5932 Bolsa Avenue, Suite 105 * Huntington Beach, CA 92649 * Phone (714) 373-0998 * Fax (714) 895-1915

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No 1102 - GMJOB NAME: OMS - LeeLABORATORY: Quanterra EnvironmentalJOB No.: 10558DATE SAMPLES
WERE TRANSMITTED 23-Jun-99EXPECTED DATE
OF RESULTS: 9-Jul-99SAMPLE MATRIX: 0.1N HNO₃, 5% HNO₃/10% H₂O₂, 4% KMnO₄/10% H₂SO₄ and 8n HCl- TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 29 for Hg only.A two (2) week turnaround is requested. A full raw data package will be required. Please contact Robert Weidenfeld for further details.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
2-I-M29-3	06/23/99	Front Half Rinse	0.1N HNO ₃	
		Filter	filter	
		Back Half	HNO ₃ /H ₂ O ₂	
		Empty Impinger	0.1N HNO ₃	
		KMnO ₄	KMnO ₄ /H ₂ SO ₄	
		8N HCl Rinse	8N HCl w/DI H ₂ O	

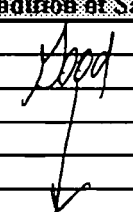
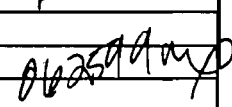
* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: Date/Time: 06/23/99Transported by: FedExDate/Time: 06/23/99
 Transported to: Quanterra Environmental Services
880 Riverside Parkway
West Sacramento, CA 95605-1501
Received by: Date/Time: 062599 @ 1500

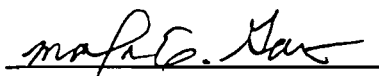
EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No 1102 - GMJOB NAME: OMS - LeeLABORATORY: Quanterra EnvironmentalJOB No.: 10558DATE SAMPLES
WERE TRANSMITTED 23-Jun-99EXPECTED DATE
OF RESULTS: 9-Jul-99SAMPLE MATRIX: 0.1N HNO₃, 5% HNO₃/10% H₂O₂, 4% KMnO₄/10% H₂SO₄ and 8n HClTYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 29 for As, Be, Cd, Pb and Hg.A two (2) week turnaround is requested. A full raw data package will be required. Please contact Robert Weidenfeld for further details.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
2-S-M29-FB		Front Half Rinse	0.1N HNO ₃	
		Filter	filter	
		Back Half	HNO ₃ /H ₂ O ₂	
		Empty Impinger	0.1N HNO ₃	
		KMnO ₄	KMnO ₄ /H ₂ SO ₄	
		8N HCl Rinse	8N HCl w/DI H ₂ O	

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by:  Date/Time: 06/23/99Transported by: FedEx Date/Time: 06/23/99Transported to: Quanterra Environmental Services
880 Riverside Parkway
West Sacramento, CA 95605-1501Received by:  Date/Time: 06/24/99 0150

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No 1102 - GM JOB NAME: OMS - Lee

LABORATORY: Quanterra Environmental JOB No.: 10558

DATE SAMPLES WERE TRANSMITTED 23-Jun-99 EXPECTED DATE OF RESULTS: 26-Jun-99

SAMPLE MATRIX: 0.1N HNO₃, 5% HNO₃/10% H₂O₂, 4% KMnO₄/10% H₂SO₄ and 8n HCl

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 29 for As, Be, Cd, Pb and Hg.
A 48 hour turnaround is requested for mercury only. A two (2) week turnaround is requested for the
remaining metals. A full raw data package is required. Please contact Robert Weidenfeld for further details.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
2-S-M29-2	06/23/99	Front Half Rinse	0.1N HNO ₃	✓ Good
		Filter	filter	
		Back Half	HNO ₃ /H ₂ O ₂	
		Empty Impinger	0.1N HNO ₃	
		KMnO ₄	KMnO ₄ /H ₂ SO ₄	
		8N HCl Rinse	8N HCl w/DI H ₂ O	
2-S-M29-3	06/23/99	Front Half Rinse	0.1N HNO ₃	↓ 8/25/99 ✓
		Filter	filter	
		Back Half	HNO ₃ /H ₂ O ₂	
		Empty Impinger	0.1N HNO ₃	
		KMnO ₄	KMnO ₄ /H ₂ SO ₄	
		8N HCl Rinse	8N HCl w/DI H ₂ O	

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: Kary White Date/Time: 06/23/99

Transported by: FedEx Date/Time: 06/23/99

Transported to: Quanterra Environmental Services
880 Riverside Parkway
West Sacramento, CA 95605-1501

Received by: mafe E. Garcia Date/Time: 06/25/99 @ 1500

Client Sample ID: 2-S-M29-FB

Metals

Sample #....: G9F250261- 004

Matrix.....: AIR

Date Sampled....: 6/23/99

Date Received...: 6/25/99

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	DIL.
Prep Batch #....:	9181309					6/26/99	
Arsenic	ND	0.66	0.13	ug	SW846 6020	7/2/99	0.32
Beryllium	ND	0.33	0.035	ug	SW846 6020	7/2/99	0.32
Cadmium	ND	0.33	0.032	ug	SW846 6020	7/2/99	0.32
Lead	2.5	0.33	0.048	ug	SW846 6020	7/2/99	0.32

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Prep Batch #....:	9182223					6/28/99	
Hg (FH)	ND	0.030	0.0011	ug	SW846 7470A	6/29/99	0.15
Hg (HNO3/H2O2)	ND	G 0.61	0.45	ug	SW846 7470A	6/29/99	3.04

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Prep Batch #....:	9182227					6/28/99	
MnO4)	ND	0.10	0.012	ug	SW846 7470A	6/29/99	0.5
Hg (Empty)	ND	G 0.19	0.046	ug	SW846 7470A	6/29/99	0.97

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Prep Batch #....:	9182232					6/28/99	
Hg (HCl)	ND	0.10	0.012	ug	SW846 7470A	6/29/99	0.5

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

LOT RECEIPT CHECKLIST

QES West Sacramento

CLIENT Alkermes PM RW

LOT# (QUANTIMS ID) 69F250221 QUOTE # 3031

DATE RECEIVED 062599 TIME RECEIVED 930
915

LOG # 69F24-17
69F25-08

LOCATION(S) WAA

Initials MO Date 062899
MO 062599

DELIVERED BY ☒ FEDEX ☐ CA OVERNIGHT ☐ CLIENT
☐ AIRBORNE ☐ GOLDENSTATE ☐ DHL
☐ UPS ☐ BAX GLOBAL ☐ GO-GETTERS
☐ QES COURIER ☐ OTHER _____

CUSTODY SEAL STATUS ☐ INTACT ☐ BROKEN ☒ N/A

CUSTODY SEAL #(S) _____

SHIPPING CONTAINER(S) ☐ QUANTERRA ☒ CLIENT ☐ N/A

TEMPERATURE RECORD (IN °C) IR 1 ☐ 2 ☒

COC #(S) NA

TEMPERATURE BLANK NA

AMBIENT TEMPERATURE _____

pH MEASURED ☐ YES ☐ ANOMALY ☒ N/A

LABELED BY _____

LABELS CHECKED BY _____

SHORT HOLD TEST NOTIFICATION

SAMPLE RECEIVING

WETCHEM ☒ N/A

☐ METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL

☒ N/A

☐ COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES

☒ N/A

☒ Clouseau

☐ TEMPERATURE EXCEEDED (2 °-6 °C)

☐ WET ICE

☐ BLUE ICE

☐ GEL PACK

☒ PM NOTIFIED

☐ NO COOLING AGENTS USED

Notes:

SP #9, 10, 11 and 20 were not received
on 062599
Rec'd these samples on 062899 Me.

Selected Metals – Various Methods

METHOD BLANK REPORT



Metals

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #....: G9F250261 Work Order #....: CXKA0102
MB Lot-Sample #: G9G010000223B
Prep Date.....: 6/28/99 Analysis Date...: 6/29/99
Prep Batch #....: 9182223 Instrument.....: H02
Dilution Factor: 1

Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
Hg (FH)	ND	0.20	0.049	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #....: G9F250261 Work Order #....: CXKA0101
MB Lot-Sample #: G9G010000223B
Prep Date.....: 6/28/99 Analysis Date...: 6/29/99
Prep Batch #....: 9182223 Instrument.....: H02
Dilution Factor: 1

Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
HNO3/H2O2	ND	0.20	0.049	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #....: G9F250261 Work Order #....: CXKAG102
MB Lot-Sample #: G9G010000227B
Prep Date.....: 6/28/99 Analysis Date...: 6/29/99
Prep Batch #....: 9182227 Instrument.....: H02
Dilution Factor: 1

Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
Hg (KMnO4)	ND	0.20	0.049	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT



Mercury (7470A, Cold Vapor) - Liquid

Client Lot #....: G9F250261 Work Order #....: CXKAG101 Matrix.....: AIR
 Lot-Sample #: G9G010000227B
 Prep Date.....: 6/28/99 Analysis Date...: 6/29/99
 Prep Batch #....: 9182227 Instrument.....: H02
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
Hg (Empty)	ND	0.20	0.049	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #....: G9F250261 Work Order #....: CXKD0101 Matrix.....: AIR
 MB Lot-Sample #: G9G010000232B
 Prep Date.....: 6/28/99 Analysis Date...: 6/29/99
 Prep Batch #....: 9182232 Instrument.....: H02
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
Hg (HCl)	ND	0.20	0.049	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

Inductively Coupled Plasma Mass Spectrometry(6020)

Client Lot #....: G9F250261 Work Order #....: CXJ74101 Matrix.....: AIR
 MB Lot-Sample #: G9F300000309B
 Prep Date.....: 6/26/99 Analysis Date...: 7/2/99
 Prep Batch #....: 9181309 Instrument.....: M02
 Dilution Factor: 0.31

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
Arsenic	ND	0.62	0.13	ug
Beryllium	ND	1.0	0.034	ug
Cadmium	ND	0.31	0.031	ug
Lead	ND	0.31	0.046	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results



Metals

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #.....: G9F250261 Work Order # -LCS.: CXKA0105 Matrix...: AIR
 Lot-Sample # -LCS: G9G010000223C -LCSD: CXKA0106
 -LCSD: G9G010000223L
 Prep Date.....: 6/28/99 Analysis Date.....: 6/29/99
 Prep Batch #.....: 9182223 Instrument.....: H02
 Dilution Factor...: 1

PARAMETER	RESULT	SPIKE AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMIT
Hg (FH)	1.05	1.00	ug	105	80 -120	6.1	20
	0.986	1.00		99			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #.....: G9F250261 Work Order # -LCS.: CXKA0103 Matrix...: AIR
 Lot-Sample # -LCS: G9G010000223C -LCSD: CXKA0104
 -LCSD: G9G010000223L
 Prep Date.....: 6/28/99 Analysis Date.....: 6/29/99
 Prep Batch #.....: 9182223 Instrument.....: H02
 Dilution Factor...: 1

PARAMETER	RESULT	SPIKE AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMIT
Hg (HNO3/H2O2)	1.05	1.00	ug	105	80 -120	6.1	20
	0.986	1.00		99			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #.....: G9F250261 Work Order # -LCS.: CXKAG105 Matrix...: AIR
 Lot-Sample # -LCS: G9G010000227C -LCSD: CXKAG106
 -LCSD: G9G010000227L
 Prep Date.....: 6/28/99 Analysis Date.....: 6/29/99
 Prep Batch #.....: 9182227 Instrument.....: H02
 Dilution Factor...: 1

PARAMETER	RESULT	SPIKE AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMIT
Hg (KMnO4)	1.06	1.00	ug	106	80 -120	1.4	20
	1.07	1.00		107			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters



Metals

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #.....: G9F250261 Work Order # -LCS.: CXXAG103 Matrix...: AIR
 Lot-Sample # -LCS: G9G010000227C -LCSD: CXXAG104
 -LCSD: G9G010000227L
 Prep Date.....: 6/28/99 Analysis Date.....: 6/29/99
 Prep Batch #.....: 9182227 Instrument.....: H02
 Dilution Factor...: 1

PARAMETER	RESULT	SPIKE AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMIT
Hg (Empty)	1.06	1.00	ug	106	80 -120	1.4	20
	1.07	1.00		107			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #.....: G9F250261 Work Order # -LCS.: CXKD0102 Matrix...: AIR
 Lot-Sample # -LCS: G9G010000232C -LCSD: CXKD0103
 -LCSD: G9G010000232L
 Prep Date.....: 6/28/99 Analysis Date.....: 6/29/99
 Prep Batch #.....: 9182232 Instrument.....: H02
 Dilution Factor...: 1

PARAMETER	RESULT	SPIKE AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMIT
Hg (HCl)	1.04	1.00	ug	104	80 -120	4.2	20
	1.08	1.00		108			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters



Metals

Inductively Coupled Plasma Mass Spectrometry(6020)

Client Lot #.....: G9F250261 Work Order # -LCS.: CXJ74105 Matrix...: AIR
 Lot-Sample # -LCS: G9F300000309C -LCSD: CXJ74106
 -LCSD: G9F300000309L
 Prep Date.....: 6/26/99 Analysis Date.....: 7/2/99
 Prep Batch #.....: 9181309 Instrument.....: M02
 Dilution Factor...: 1

PARAMETER	RESULT	SPIKE AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMIT
Arsenic	184	200	ug	92	80 -120	2.6	20
	179	200		90			
Beryllium	202	200	ug	101	80 -120	4.3	20
	193	200		96			
Cadmium	183	200	ug	91	80 -120	1.9	20
	180	200		90			
Lead	198	200	ug	99	80 -120	2.2	20
	194	200		97			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

SAMPLE DUPLICATE EVALUATION REPORT

Metals

Client Lot #....: G9F250261

Work Order #....: CXDGH-SMP
CXDGH-DUP

Matrix.....: AIR

Date Sampled....: 06/23/99

Date Received...: 06/25/99

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Arsenic	0.75	0.73	ug	3.5	(0-20)	SD Lot-Sample #: G9F250261-002 SW846 6020	06/26-07/02/99	9181309
Beryllium	ND	ND	ug	0	(0-20)	SD Lot-Sample #: G9F250261-002 SW846 6020	06/26-07/02/99	9181309
Cadmium	1.1	1.1	ug	0.91	(0-20)	SD Lot-Sample #: G9F250261-002 SW846 6020	06/26-07/02/99	9181309
Lead	9.9	9.9	ug	0.009	(0-20)	SD Lot-Sample #: G9F250261-002 SW846 6020	06/26-07/02/99	9181309

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No 1102 - GM

JOB NAME: OMS - Lee

LABORATORY: Quanterra Environmental

JOB No.: 10558

DATE SAMPLES
WERE TRANSMITTED 22-Jun-99

EXPECTED DATE
OF RESULTS: 24-Jun-99

SAMPLE MATRIX: 0.1N HNO₃, 5% HNO₃/10% H₂O₂, 4% KMnO₄/10% H₂SO₄ and 8n HCl

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 29 for As, Be, Cd, Pb and Hg.
A 48 hour turnaround is requested for the mercury only. A two (2) week turnaround is requested for the remaining metals. A full raw data package is required. Contact Robert Weidenfeld for further details.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
1-S-M29-1	06/21/99	Front Half Rinse	0.1N HNO ₃	
		Filter	filter	
		Back Half	HNO ₃ /H ₂ O ₂	
		Empty Impinger	0.1N HNO ₃	
		KMnO ₄	KMnO ₄ /H ₂ SO ₄	
		8N HCl Rinse	8N HCl w/DI H ₂ O	
1-S-M29-2	06/21/99	Front Half Rinse	0.1N HNO ₃	
		Filter	filter	
		Back Half	HNO ₃ /H ₂ O ₂	
		Empty Impinger	0.1N HNO ₃	
		KMnO ₄	KMnO ₄ /H ₂ SO ₄	
		8N HCl Rinse	8N HCl w/DI H ₂ O	
				RECEIVED IN GOOD CONDITION UNDER COG
				JUN 23 1999
				INI: <u>W</u>

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by Mary M. H.

Date/Time: 06/22/99

Transported by: FedEx

Date/Time: 06/22/99

Transported to: Quanterra Environmental Services
880 Riverside Parkway
West Sacramento, CA 95605-1501

Received by: [Signature]

Date/Time: 6/23/99/1020

5932 Bolsa Avenue, Suite 105 * Huntington Beach, CA 92649 * Phone (714) 373-0998 * Fax (714) 895-1915

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No 1102 - GM JOB NAME: OMS - Lee

LABORATORY: Quanterra Environmental JOB No.: 10558

DATE SAMPLES WERE TRANSMITTED 22-Jun-99 EXPECTED DATE OF RESULTS: 25-Jun-99

SAMPLE MATRIX: 0.1N HNO₃, 5% HNO₃/10% H₂O₂, 4% KMnO₄/10% H₂SO₄ and 8n HCl

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 29 for As, Be, Cd, Pb and Hg.
A 48 hour turnaround is requested for the mercury only. A two (2) week turnaround is requested for the
remaining metals. A full raw data package is required. Please contact Robert Weidenfeld for further details.

1-S-M29-FB sample will not require a 48 turnaround for mercury.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
1-S-M29-3	06/22/99	Front Half Rinse	0.1N HNO ₃	
		Filter	filter	
		Back Half	HNO ₃ /H ₂ O ₂	
		Empty Impinger	0.1N HNO ₃	
		KMnO ₄	KMnO ₄ /H ₂ SO ₄	
		8N HCl Rinse	8N HCl w/DI H ₂ O	
1-S-M29-FB	06/22/99	Front Half Rinse	0.1N HNO ₃	
		Filter	filter	
		Back Half	HNO ₃ /H ₂ O ₂	
		Empty Impinger	0.1N HNO ₃	
		KMnO ₄	KMnO ₄ /H ₂ SO ₄	
		8N HCl Rinse	8N HCl w/DI H ₂ O	

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: [Signature] Date/Time: 06/22/99

Transported by: FedEx Date/Time: 06/22/99

Transported to: Quanterra Environmental Services
880 Riverside Parkway
West Sacramento, CA 95605-1501

Received by: [Signature] Date/Time: 6/23/99 1020

5932 Bolsa Avenue, Suite 105 * Huntington Beach, CA 92649 * Phone (714) 373-0998 * Fax (714) 895-1915

JOB NAME: OMS - Lee

JOB No.: 10558

EXPECTED DATE
OF RESULTS: 25-Jun-99

SAMPLE MATRIX: 0.1N HNO₃, 5% HNO₃/10% H₂O₂, 4% KMnO₄/10% H₂SO₄ and 8n HCl

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 29 for As, Be, Cd, Pb and Hg.
A 48 hour turnaround is requested for the mercury only. A two (2) week turnaround is requested for the
remaining metals. A full raw data package is required. Contact Robert Weidenfeld for further details.

[illegible]

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: Mary McE

Date/Time: 06/22/99

Transported by: FedEx

Date/Time: 06/22/99

Transported to: Quanterra Environmental Services
880 Riverside Parkway
West Sacramento, CA 95605-1501

Received by: *[Signature]*

Date/Time: 6/23/99 1020

5932 Bolsa Avenue, Suite 105 * Huntington Beach, CA 92649 * Phone (714) 373-0998 * Fax (714) 895-1915

AirKinetics, Inc.

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No 1102 - GM

JOB NAME: OMS - Lee

LABORATORY: Quanterra Environmental

JOB No.: 10558

DATE SAMPLES
WERE TRANSMITTED 22-Jun-99

EXPECTED DATE
OF RESULTS: 8-Jul-99

SAMPLE MATRIX: 0.1N HNO₃, 5% HNO₃/10% H₂O₂, 4% KMnO₄/10% H₂SO₄ and 8n HCl

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 29 for Hg only.

A two (2) week turnaround is requested. A full raw data package will be required. Please contact Robert Weidenfeld for further details.

Sample / Run ID #	Sample Collection Date	Sample Components	Sample Matrix	Condition of Samples *
1-I-M29-1	06/21/99	Front Half Rinse	0.1N HNO ₃	
		Filter	filter	
		Back Half	HNO ₃ /H ₂ O ₂	
		Empty Impinger	0.1N HNO ₃	
		KMnO ₄	KMnO ₄ /H ₂ SO ₄	
		8N HCl Rinse	8N HCl w/DI H ₂ O	
1-I-M29-2	06/21/99	Front Half Rinse	0.1N HNO ₃	
		Filter	filter	
		Back Half	HNO ₃ /H ₂ O ₂	
		Empty Impinger	0.1N HNO ₃	
		KMnO ₄	KMnO ₄ /H ₂ SO ₄	
		8N HCl Rinse	8N HCl w/DI H ₂ O	
				RECEIVED IN GOOD CONDITION UNDER COC
				JUN 23 1999
				INI: <u>BT</u>

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: [Signature]

Date/Time: 06/22/99

Transported by: FedEx

Date/Time: 06/22/99

Transported to: Quanterra Environmental Services
880 Riverside Parkway
West Sacramento, CA 95605-1501

Received by: [Signature]

Date/Time: 6/23/99 1020

5932 Bolsa Avenue, Suite 105 * Huntington Beach, CA 92649 * Phone (714) 373-0998 * Fax (714) 895-1915



LOT RECEIPT CHECKLIST

QES West Sacramento

CLIENT Airkinetics PM RW

LOG # 69F23-12

LOT# (QUANTIMS ID) 69F230153 QUOTE # 30831

LOCATION(S) _____

DATE RECEIVED 6/23/99 TIME RECEIVED 845

Initials KOF Date 6/23/99

DELIVERED BY ☒ FEDEX ☐ CA OVERNIGHT ☐ CLIENT
☐ AIRBORNE ☐ GOLDENSTATE ☐ DHL
☐ UPS ☐ BAX GLOBAL ☐ GO-GETTERS
☐ QES COURIER ☐ OTHER _____

CUSTODY SEAL STATUS ☐ INTACT ☐ BROKEN ☒ N/A

CUSTODY SEAL #(S) _____

SHIPPING CONTAINER(S) ☐ QUANTERRA ☐ CLIENT ☒ N/A

TEMPERATURE RECORD (IN °C) IR 1 ☐ 2 ☐

COC #(S) N/A

TEMPERATURE BLANK N/A

AMBIENT TEMPERATURE ambient

pH MEASURED ☐ YES ☐ ANOMALY ☒ N/A

LABELED BY _____

LABELS CHECKED BY _____

SHORT HOLD TEST NOTIFICATION

SAMPLE RECEIVING

WETCHEM ☒ N/A

☐ METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL

☐ N/A

☐ COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES

☐ N/A

☐ Clouseau ☐ TEMPERATURE EXCEEDED (2 °-6 °C)

☒ N/A

☐ WET ICE ☐ BLUE ICE ☐ GEL PACK

☐ PM NOTIFIED ☐ NO COOLING AGENTS USED

Notes: _____

Selected Metals – Various Methods

AIRKINETICS, INC.

Client Sample ID: 1-S-M29-FB

TOTAL Metals

Lot-Sample #....: G9F230153-004

Matrix.....: AIR

Date Sampled....: 06/22/99

Date Received...: 06/23/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 9175270						
Hg (HNO3/H2O2)	ND G	0.60	ug	SW846 7470A	06/23/99	CX875106
		Dilution Factor: 3		MDL.....: 0.15		
Hg (KMnO4)	ND	0.10	ug	SW846 7470A	06/23/99	CX875107
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #....: 9175282						
Hg (Empty)	ND G	0.20	ug	SW846 7470A	06/23/99	CX875108
		Dilution Factor: 0.98		MDL.....: 0.048		
Prep Batch #....: 9175286						
Hg (HCl)	ND	0.10	ug	SW846 7470A	06/24/99	CX875109
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #....: 9176215						
Hg (FH)	ND	0.030	ug	SW846 7470A	06/24-06/25/99	CX875105
		Dilution Factor: 0.15		MDL.....: 0.0074		
Prep Batch #....: 9176237						
Arsenic	ND	0.66	ug	SW846 6020	06/24-06/26/99	CX875101
		Dilution Factor: 0.33		MDL.....: 0.14		
Beryllium	ND	0.33	ug	SW846 6020	06/24-06/26/99	CX875102
		Dilution Factor: 0.33		MDL.....: 0.036		
Cadmium	0.53	0.33	ug	SW846 6020	06/24-06/26/99	CX875103
		Dilution Factor: 0.33		MDL.....: 0.033		
Lead	1.2	0.33	ug	SW846 6020	06/24-06/26/99	CX875104
		Dilution Factor: 0.33		MDL.....: 0.050		

NOTE(S) :

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

AIRKINETICS, INC.

Client Sample ID: 1-I-M29-RB

TOTAL Metals

Lot-Sample #....: G9F230153-008

Date Sampled....: 06/21/99

Date Received...: 06/23/99

Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 9175270						
Hg (HNO3/H2O2)	ND G	0.60	ug	SW846 7470A	06/23/99	CX87D10C
		Dilution Factor: 3		MDL.....: 0.15		
Prep Batch #....: 9175282						
Hg (Empty)	ND G	0.20	ug	SW846 7470A	06/23/99	CX87D10D
		Dilution Factor: 1		MDL.....: 0.049		
Prep Batch #....: 9175286						
Hg (HCl)	ND	0.10	ug	SW846 7470A	06/24/99	CX87D10F
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #....: 9176215						
Hg (FH)	ND	0.030	ug	SW846 7470A	06/24-06/25/99	CX87D10A
		Dilution Factor: 0.15		MDL.....: 0.0074		
Prep Batch #....: 9176237						
Arsenic	ND	0.66	ug	SW846 6020	06/24-06/28/99	CX87D106
		Dilution Factor: 0.33		MDL.....: 0.14		
Beryllium	ND	0.33	ug	SW846 6020	06/24-06/28/99	CX87D107
		Dilution Factor: 0.33		MDL.....: 0.036		
Cadmium	ND	0.33	ug	SW846 6020	06/24-06/28/99	CX87D108
		Dilution Factor: 0.33		MDL.....: 0.033		
Lead	0.79	0.33	ug	SW846 6020	06/24-06/28/99	CX87D109
		Dilution Factor: 0.33		MDL.....: 0.050		

NOTE(S) :

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

QC DATA ASSOCIATION SUMMARY

G9F230153

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	AIR	SW846 6020		9176237	9180049
	AIR	SW846 7470A		9175270	9180047
	AIR	SW846 7470A		9175282	
	AIR	SW846 7470A		9175286	
	AIR	SW846 7470A		9176215	
002	AIR	SW846 6020		9176237	
	AIR	SW846 7470A		9175270	
	AIR	SW846 7470A		9175282	
	AIR	SW846 7470A		9175286	
	AIR	SW846 7470A		9176215	
003	AIR	SW846 6020		9176237	
	AIR	SW846 7470A		9175270	
	AIR	SW846 7470A		9175282	
	AIR	SW846 7470A		9175286	
	AIR	SW846 7470A		9176215	
004	AIR	SW846 6020		9176237	
	AIR	SW846 7470A		9175270	
	AIR	SW846 7470A		9175282	
	AIR	SW846 7470A		9175286	
	AIR	SW846 7470A		9176215	
005	AIR	SW846 6020		9176237	
	AIR	SW846 7470A		9175270	
	AIR	SW846 7470A		9175282	
	AIR	SW846 7470A		9175286	
	AIR	SW846 7470A		9176215	
006	AIR	SW846 7470A		9175270	
	AIR	SW846 7470A		9175282	
	AIR	SW846 7470A		9175286	
	AIR	SW846 7470A		9176215	
007	AIR	SW846 7470A		9175270	
	AIR	SW846 7470A		9175282	
	AIR	SW846 7470A		9175286	
	AIR	SW846 7470A		9176215	
008	AIR	SW846 6020		9176237	
	AIR	SW846 7470A		9175270	
	AIR	SW846 7470A		9175282	
	AIR	SW846 7470A		9175286	

(Continued on next page)

QC DATA ASSOCIATION SUMMARY

G9F230153

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
008	AIR	SW846 7470A		9176215	

METHOD BLANK REPORT



Metals

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #....: G9F230153 Work Order #....: CXC6R101 Matrix.....: AIR
MB Lot-Sample #: G9F250000215B
Prep Date.....: 6/24/99 Analysis Date...: 6/25/99
Prep Batch #....: 9176215 Instrument.....: H02
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
Hg (FH)	ND	0.20	0.049	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #....: G9F230153 Work Order #....: CXA0F101 Matrix.....: AIR
MB Lot-Sample #: G9F240000270B
Prep Date.....: 6/23/99 Analysis Date...: 6/23/99
Prep Batch #....: 9175270 Instrument.....: H02
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
(HNO3/H2O2)	ND	0.20	0.049	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #....: G9F230153 Work Order #....: CXA0F104 Matrix.....: AIR
MB Lot-Sample #: G9F240000270B
Prep Date.....: 6/23/99 Analysis Date...: 6/23/99
Prep Batch #....: 9175270 Instrument.....: H02
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
Hg (KMnO4)	ND	0.20	0.049	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT



Mercury (7470A, Cold Vapor) - Liquid

Client Lot #....: G9F230153 Work Order #....: CXA22101 Matrix.....: AIR
 Lot-Sample #: G9F240000282B
 Prep Date.....: 6/23/99 Analysis Date...: 6/23/99
 Prep Batch #....: 9175282 Instrument.....: H02
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
Hg (Empty)	ND	0.20	0.049	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #....: G9F230153 Work Order #....: CXA29101 Matrix.....: AIR
 MB Lot-Sample #: G9F240000286B
 Prep Date.....: 6/24/99 Analysis Date...: 6/24/99
 Prep Batch #....: 9175286 Instrument.....: H02
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
Hg (HCl)	ND	0.20	0.049	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

Inductively Coupled Plasma Mass Spectrometry(6020)

Client Lot #....: G9F230153 Work Order #....: CXCAJ101 Matrix.....: AIR
 MB Lot-Sample #: G9F250000237B
 Prep Date.....: 6/24/99 Analysis Date...: 6/26/99
 Prep Batch #....: 9176237 Instrument.....: M02
 Dilution Factor: 0.31

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
Arsenic	ND	0.62	0.13	ug
Beryllium	ND	0.31	0.034	ug
Cadmium	ND	0.31	0.031	ug
Lead	ND	0.31	0.046	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

Metals

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #.....: G9F230153 Work Order # -LCS.: CXC6R102 Matrix...: AIR
 Lot-Sample # -LCS: G9F250000215C -LCSD: CXC6R103
 -LCSD: G9F250000215L
 Prep Date.....: 6/24/99 Analysis Date.....: 6/25/99
 Prep Batch #.....: 9176215 Instrument.....: H02
 Dilution Factor...: 1

PARAMETER	RESULT	SPIKE AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMIT
Hg (FH)	1.03	1.00	ug	103	80 -120	4.6	20
	1.07	1.00		107			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #.....: G9F230153 Work Order # -LCS.: CXA0F102 Matrix...: AIR
 Lot-Sample # -LCS: G9F240000270C -LCSD: CXA0F103
 -LCSD: G9F240000270L
 Prep Date.....: 6/23/99 Analysis Date.....: 6/23/99
 Prep Batch #.....: 9175270 Instrument.....: H02
 Dilution Factor...: 1

PARAMETER	RESULT	SPIKE AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMIT
Hg (HNO3/H2O2)	1.02	1.00	ug	102	80 -120	4.0	20
	0.979	1.00		98			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #.....: G9F230153 Work Order # -LCS.: CXA0F105 Matrix...: AIR
 Lot-Sample # -LCS: G9F240000270C -LCSD: CXA0F106
 -LCSD: G9F240000270L
 Prep Date.....: 6/23/99 Analysis Date.....: 6/23/99
 Prep Batch #.....: 9175270 Instrument.....: H02
 Dilution Factor...: 1

PARAMETER	RESULT	SPIKE AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMIT
Hg (KMnO4)	1.02	1.00	ug	102	80 -120	4.0	20
	0.979	1.00		98			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters



Metals

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #.....: G9F230153 Work Order # -LCS.: CXA22102 Matrix...: AIR
 Lot-Sample # -LCS: G9F240000282C -LCSD: CXA22103
 -LCSD: G9F240000282L
 Prep Date.....: 6/23/99 Analysis Date.....: 6/23/99
 Prep Batch #.....: 9175282 Instrument.....: H02
 Dilution Factor...: 1

PARAMETER	RESULT	SPIKE AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMIT
Hg (Empty)	0.973	1.00	ug	97	80 -120	3.3	20
	0.942	1.00		94			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #.....: G9F230153 Work Order # -LCS.: CXA29102 Matrix...: AIR
 Lot-Sample # -LCS: G9F240000286C -LCSD: CXA29103
 -LCSD: G9F240000286L
 Prep Date.....: 6/24/99 Analysis Date.....: 6/24/99
 Prep Batch #.....: 9175286 Instrument.....: H02
 Dilution Factor...: 1

PARAMETER	RESULT	SPIKE AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMIT
Hg (HCl)	1.03	1.00	ug	103	80 -120	0.77	20
	1.02	1.00		102			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

Metals

Inductively Coupled Plasma Mass Spectrometry(6020)

Client Lot #.....: G9F230153 Work Order # -LCS.: CXCAJ105 Matrix...: AIR
 Lot-Sample # -LCS: G9F250000237C -LCSD: CXCAJ106
 -LCSD: G9F250000237L
 Prep Date.....: 6/24/99 Analysis Date.....: 6/26/99
 Prep Batch #.....: 9176237 Instrument.....: M02
 Dilution Factor...: 0.31

PARAMETER	RESULT	SPIKE AMOUNT	UNITS	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMIT
Arsenic	58.3	62.3	ug	94	80 -120	4.7	20
	55.6	62.3		89			
Beryllium	52.3	62.3	ug	84	80 -120	2.6	20
	53.7	62.3		86			
Cadmium	57.6	62.3	ug	92	80 -120	3.9	20
	55.5	62.3		89			
Lead	61.0	62.3	ug	98	80 -120	4.3	20
	58.5	62.3		94			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #....: G9F230153

Matrix.....: AIR

Date Sampled....: 06/21/99

Date Received...: 06/23/99

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #

MS Lot-Sample #: G9F230153-001 Prep Batch #....: 9175270

Hg (HNO3/H2O	47.0	7.13	53.1	ug	86	SW846 7470A	06/23/99	CX86K10A

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT**TOTAL Metals**

Client Lot #....: G9F230153

Matrix.....: AIR

Date Sampled....: 06/21/99

Date Received...: 06/23/99

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>

MS Lot-Sample #: G9F230153-001 Prep Batch #....: 9175270

Hg (HNO ₃ /H ₂ O	86	(75 - 125)	SW846 7470A	06/23/99	CX86K10A

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

Metals

Client Lot #....: G9F230153

Work Order #....: CX86K-SMP
CX86K-DUP

Matrix.....: AIR

Date Sampled....: 06/21/99

Date Received...: 06/23/99

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Arsenic	ND	ND	ug	8.7	(0-20)	SD Lot-Sample #: G9F230153-001 SW846 6020	06/24-06/26/99	9176237
Beryllium	ND	ND	ug	0	(0-20)	SD Lot-Sample #: G9F230153-001 SW846 6020	06/24-06/26/99	9176237
Cadmium	1.1	1.1	ug	1.1	(0-20)	SD Lot-Sample #: G9F230153-001 SW846 6020	06/24-06/26/99	9176237
Lead	12.7	13.3	ug	4.0	(0-20)	SD Lot-Sample #: G9F230153-001 SW846 6020	06/24-06/26/99	9176237

EMISSIONS CHARACTERIZATION AND TESTING SERVICES

REQUEST FOR ANALYSIS

PURCHASE ORDER No 1102 - GM

JOB NAME: OMS - Lee

LABORATORY: Quanterra Environmental

JOB No.: 10558

DATE SAMPLES
WERE TRANSMITTED 26-Jun-99

EXPECTED DATE
OF RESULTS: 29-Jun-99

SAMPLE MATRIX: 0.1N HNO₃, 5% HNO₃/10% H₂O₂, 4% KMnO₄/10% H₂SO₄ and 8n HCl

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 29 for Hg only.

A 48 hour turnaround is requested. A full raw data package will be required. Please contact Robert Weidenfeld for further details.

[illegible]

* For Laboratory Comments (temp., labels, etc.)

Samples Relinquished by: Larry M. H.

Date/Time: 06/26/99

Transported by: FedEx

Date/Time: 06/26/99

Transported to: **Quanterra Environmental Services**

880 Riverside Parkway

West Sacramento, CA 95605-1501

Received by: mafa/c-Nan

Date/Time: 062849 (102)



REQUEST FOR ANALYSIS

JOB NAME: OMS - Lee

JOB No.: 10558

EXPECTED DATE
OF RESULTS: 29-Jun-99

SAMPLE MATRIX: 0.1N HNO₃, 5% HNO₃/10% H₂O₂, 4% KMnO₄/10% H₂SO₄ and 8n HCl

TYPE OF ANALYSIS REQUIRED: Please analyze according to EPA Method 29 for As, Be, Cd, Pb and Hg.
A 48 hour turnaround is requested for the mercury only. A two (2) week turnaround is requested for the
remaining metals. A full raw data package is required. Please contact Robert Weidenfeld for further details.

RECEIVED IN GOOD CONDITION
UNDER COC

JUN 28 1999

INI: *MP*

* For Laboratory Comments (temp., labels, etc.)

Date/Time: 06/25/99

Date/Time: 06/25/99

Transported to: Quanterra Environmental Services
880 Riverside Parkway
West Sacramento, CA 95605-1501

Date/Time: 06 28 99 1025

5932 Bolsa Avenue, Suite 105 * Huntington Beach, CA 92649 * Phone (714) 373-0998 * Fax (714) 895-1915

LOT RECEIPT CHECKLIST

QES West Sacramento

CLIENT Air Kinetics PM RV LOG # Q9E28-15

LOT# (QUANTIMS IO) Q9E280123 QUOTE # 20282 LOCATION(S) W11C-E
20831

DATE RECEIVED 6/28/99 TIME RECEIVED 9:30 Initials RV Date 6/28/99

DELIVERED BY ☒ FEDEX ☐ CA OVERNIGHT ☐ CLIENT
☐ AIRBORNE ☐ GOLDENSTATE ☐ DHL
☐ UPS ☐ BAX GLOBAL ☐ GO-GETTERS
☐ QES COURIER ☐ OTHER _____

CUSTODY SEAL STATUS ☐ INTACT ☐ BROKEN ☒ N/A

CUSTODY SEAL #(S) _____

SHIPPING CONTAINER(S) ☐ QUANTERRA ☐ CLIENT ☒ N/A

TEMPERATURE RECORD (IN °C) IR 1 ☐ 2 ☒

COC #(S) _____

TEMPERATURE BLANK _____

AMBIENT TEMPERATURE 23.0

pH MEASURED ☐ YES ☐ ANOMALY ☒ N/A

LABELED BY _____

LABELS CHECKED BY _____

SHORT HOLD TEST NOTIFICATION

SAMPLE RECEIVING

☐ METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL

WETCHEM ☒ N/A

☒ COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES

☒ N/A

☐ N/A

☐ Clouseau ☐ TEMPERATURE EXCEEDED (2 °-6 °C)
☐ WET ICE ☐ BLUE ICE ☐ GEL PACK
☐ PM NOTIFIED ☐ NO COOLING AGENTS USED

☒ N/A

Notes: _____

Vertical lines with arrows pointing down, indicating a sequence or flow.

09E280123

Selected Metals – Various Methods

QC DATA ASSOCIATION SUMMARY

G9F280123

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	AIR	SW846 7470A		9182267	9182106
002	AIR	SW846 6020		9182215	9188094
	AIR	SW846 7470A		9182267	

METHOD BLANK REPORT



Metals

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #....: G9F280123 Work Order #....: CXKHR105 Matrix.....: AIR
MB Lot-Sample #: G9G010000267B
Prep Date.....: 6/30/99 Analysis Date...: 6/30/99
Prep Batch #....: 9182267 Instrument.....: H02
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
Hg (FH)	ND	0.20	0.049	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #....: G9F280123 Work Order #....: CXKHR101 Matrix.....: AIR
MB Lot-Sample #: G9G010000267B
Prep Date.....: 6/30/99 Analysis Date...: 6/30/99
Prep Batch #....: 9182267 Instrument.....: H02
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
Hg (HNO3/H2O2)	ND	0.20	0.049	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #....: G9F280123 Work Order #....: CXKHR103 Matrix.....: AIR
MB Lot-Sample #: G9G010000267B
Prep Date.....: 6/30/99 Analysis Date...: 6/30/99
Prep Batch #....: 9182267 Instrument.....: H02
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
Hg (KMnO4)	ND	0.20	0.049	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT



Mercury (7470A, Cold Vapor) - Liquid

Client Lot #....: G9F280123 Work Order #....: CXKHR102 Matrix.....: AIR
 Lot-Sample #: G9G010000267B
 Prep Date.....: 6/30/99 Analysis Date...: 6/30/99
 Prep Batch #....: 9182267 Instrument.....: H02
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
Hg (Empty)	ND	0.20	0.049	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury (7470A, Cold Vapor) - Liquid

Client Lot #....: G9F280123 Work Order #....: CXKHR104 Matrix.....: AIR
 MB Lot-Sample #: G9G010000267B
 Prep Date.....: 6/30/99 Analysis Date...: 6/30/99
 Prep Batch #....: 9182267 Instrument.....: H02
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
Hg (HCl)	ND	0.20	0.049	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

Inductively Coupled Plasma Mass Spectrometry (6020)

Client Lot #....: G9F280123 Work Order #....: CXK6V101 Matrix.....: AIR
 MB Lot-Sample #: G9G010000215B
 Prep Date.....: 6/29/99 Analysis Date...: 7/2/99
 Prep Batch #....: 9182215 Instrument.....: M02
 Dilution Factor: 0.31

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS
Arsenic	ND	0.62	0.13	ug
Beryllium	ND	0.31	0.034	ug
Cadmium	ND	0.31	0.031	ug
Lead	ND	0.31	0.046	ug

NOTES:

Calculations are performed before rounding to avoid round-off errors in calculated results

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Lot-Sample #...: G9F280123

Matrix.....: AIR

PARAMETER	SPIKE	MEASURED	UNITS	PERCNT		METHOD	PREPARATION-	PREP
	AMOUNT	AMOUNT		RECVRY	RPD		ANALYSIS DATE	BATCH #
Arsenic	200	184	ug	92		SW846 6020	06/29-07/02/99	9182215
	200	179	ug	90	2.4	SW846 6020	06/29-07/02/99	9182215
Beryllium	200	195	ug	98		SW846 6020	06/29-07/02/99	9182215
	200	186	ug	93	4.8	SW846 6020	06/29-07/02/99	9182215
Cadmium	200	185	ug	92		SW846 6020	06/29-07/02/99	9182215
	200	179	ug	90	3.0	SW846 6020	06/29-07/02/99	9182215
Lead	200	183	ug	92		SW846 6020	06/29-07/02/99	9182215
	200	192	ug	96	4.4	SW846 6020	06/29-07/02/99	9182215
Hg (Empty)	1.00	0.837	ug	84		SW846 7470A	06/30/99	9182267
	1.00	0.948	ug	95	12	SW846 7470A	06/30/99	9182267
Hg (FH)	1.00	0.837	ug	84		SW846 7470A	06/30/99	9182267
	1.00	0.948	ug	95	12	SW846 7470A	06/30/99	9182267
Hg (HCl)	1.00	0.837	ug	84		SW846 7470A	06/30/99	9182267
	1.00	0.948	ug	95	12	SW846 7470A	06/30/99	9182267
Hg (HNO3/H2O)	1.00	0.837	ug	84		SW846 7470A	06/30/99	9182267
	1.00	0.948	ug	95	12	SW846 7470A	06/30/99	9182267
Hg (KMnO4)	1.00	0.837	ug	84		SW846 7470A	06/30/99	9182267
	1.00	0.948	ug	95	12	SW846 7470A	06/30/99	9182267

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Lot-Sample #....: G9F280123

Matrix.....: AIR

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP- BATCH #
Arsenic	92	(80 - 120)			SW846 6020	06/29-07/02/99	9182215
	90	(80 - 120)	2.4	(0-20)	SW846 6020	06/29-07/02/99	9182215
Beryllium	98	(80 - 120)			SW846 6020	06/29-07/02/99	9182215
	93	(80 - 120)	4.8	(0-20)	SW846 6020	06/29-07/02/99	9182215
Cadmium	92	(80 - 120)			SW846 6020	06/29-07/02/99	9182215
	90	(80 - 120)	3.0	(0-20)	SW846 6020	06/29-07/02/99	9182215
Lead	92	(80 - 120)			SW846 6020	06/29-07/02/99	9182215
	96	(80 - 120)	4.4	(0-20)	SW846 6020	06/29-07/02/99	9182215
Hg (Empty)	84	(80 - 120)			SW846 7470A	06/30/99	9182267
	95	(80 - 120)	12	(0-20)	SW846 7470A	06/30/99	9182267
Hg (FH)	84	(80 - 120)			SW846 7470A	06/30/99	9182267
	95	(80 - 120)	12	(0-20)	SW846 7470A	06/30/99	9182267
Hg (HCl)	84	(80 - 120)			SW846 7470A	06/30/99	9182267
	95	(80 - 120)	12	(0-20)	SW846 7470A	06/30/99	9182267
Hg (HNO3/H2O)	84	(80 - 120)			SW846 7470A	06/30/99	9182267
	95	(80 - 120)	12	(0-20)	SW846 7470A	06/30/99	9182267
Hg (KMnO4)	84	(80 - 120)			SW846 7470A	06/30/99	9182267
	95	(80 - 120)	12	(0-20)	SW846 7470A	06/30/99	9182267

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #....: G9F280123

Matrix.....: AIR

Date Sampled....: 06/25/99

Date Received...: 06/28/99

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #

MS Lot-Sample #: G9F280123-002 Prep Batch #....: 9182267

Hg (HNO3/H2O	53.8	15.6	57.8	N	ug	26	SW846 7470A	06/30/99	CXF9M10C

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT**TOTAL Metals**

Client Lot #...: G9F280123

Matrix.....: AIR

Date Sampled...: 06/25/99

Date Received...: 06/28/99

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>

MS Lot-Sample #: G9F280123-002 Prep Batch #...: 9182267

Hg (HNO3/H2O	26 N	(75 - 125)	SW846 7470A	06/30/99	CXF9M10C

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

SAMPLE DUPLICATE EVALUATION REPORT

Metals

Client Lot #....: G9F280123

Work Order #....: CXF9M-SMP
CXF9M-DUP

Matrix.....: AIR

Date Sampled....: 06/25/99

Date Received...: 06/28/99

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Arsenic	0.81	0.69	ug	15	(0-20)	SD Lot-Sample #: G9F280123-002 SW846 6020	06/29-07/02/99	9182215
Beryllium	ND	ND	ug	0	(0-20)	SD Lot-Sample #: G9F280123-002 SW846 6020	06/29-07/02/99	9182215
Cadmium	1.5	1.5	ug	1.3	(0-20)	SD Lot-Sample #: G9F280123-002 SW846 6020	06/29-07/02/99	9182215
Lead	20.5	20.4	ug	0.49	(0-20)	SD Lot-Sample #: G9F280123-002 SW846 6020	06/29-07/02/99	9182215

APPENDIX D

ANALYTICAL DATA

1.0 QUALITY ASSURANCE

h. PARTICULATE LESS THAN 10 MICRONS

ANALYTICAL NARRATIVE

Plant Name: OMS-LEE (#10558)

Analyst: GARY MATA

Date Rec'd. in Lab: JUNE 28, 1999

Analysis Method & Analytes: EPA METHOD 201A - PM10

Sample Matrix & Components: FILTER, IN-STACK FILTER RINSE (<10-um) - ACETONE, AND NOZZLE
& CYCLONE RINSE (>10um) - ACETONE.

Summary of Sample Prep (added rinse in lab, final volume, pH adjusted, etc.): SAMPLES WERE VOLUMED
AND EVAPORATED IN THE FIELD. SAMPLES WERE DESICCATED 24 HOURS
PRIOR TO 1ST WEIGHING. A MINIMUM OF 6 HOURS WAS OBSERVED BETWEEN
CONSECUTIVE WEIGHINGS.

Summary of Instrumentation: METTLER AT200 (#L98007)

Minimum Detectable Limit: 0.1 mg

Summary of QA/QC sample analysis: ACETONE BLANK < 1.0 mg

Spikes (describe spikes and % recovery): N/A

Specific Comments Regarding Sample Analysis (Note unusual catch weights, interference's, odd sample behavior, and steps taken to confirm unusual results. Also note any deviations from standard analytical procedures, together with justification and possible affect on results. Specify run number(s) when applicable)

NONE

CONFIRMATION OF DATA REVIEW

Lab Manager Signature: 

Date: 7-15-99

REAGENT BLANK(S) LABORATORY RESULTS

Plant Name: OMS - Lee

AKI Ref#

10558

Sampling Location: NA

Date Received: June 28, 1999

Run Number

Acetone

Sample ID/Container #

B / 1150

init.

date

GM 07/14/99 @ 3.4767

GM 07/14/99 @ 3.4767

Tare Wt., g. (200 ml) 3.4765

SAMPLE WT., g. 0.0002

Notes and comments:

Predominate color of samples is: N/A

Date of full balance span July 14, 1999

Printing Date

15-Jul-99

Printing Time

01:58 PM

APPENDIX D

ANALYTICAL DATA

2.0 UNIT NO. 1

a. PARTICULATE

MOISTURE ANALYTICAL RESULTS - METHOD

M5

Plant Name OMS of Lee, Inc.Job No. 10558City/State Fort Myers, FLSampling Location Unit 1 Stack

Run Number

1-S-M5-1

1-S-M5-2

1-S-M5-3

Sampling Date

6/22/99

6/24/99

6/25/99

Analysis Date

6/22/99

6/24/99

6/25/99

Analyst

AJG

AJG

AJG

Reagent 200 ml of DI Water

Final Weight, g

660.0

678.0

660.0

Tared Weight, g

200.0

200.0

200.0

Water Catch, g

460.0

478.0

460.0

Reagent _____

Final Weight, g

Tared Weight, g

Water Catch, g

Reagent _____

Final Weight, g

_____ ml used, g*

Empty Tared Weight, g

Water Catch, g

*Weight of Reagent calculated by multiplying ml of KMnO_4 by density of 1.1 g/ml

CONDENSED WATER, g

460.0

478.0

460.0

Silica Gel

Final Weight, g

206.3

218.0

219.2

Tared Weight, g

200.0

200.0

200.0

ADSORBED WATER, g

6.3

18.0

19.2

TOTAL WATER COLLECTED, g

466.3

496.0

479.2

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam☒ Electronic☒ Yes☐ No

Comments _____

Reviewer _____

AirKinetics, Inc.

BEST AVAILABLE COPY

FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. 204Assembly Date 6-8-99Assembled By G. MATAClient OXDEN MARTIN SYSTEMSJob No. 10558Plant OMS - LEECity / State FORT MYERS, FLSampling Location UNIT No. 1 STACKMethod EPA 5Individual Tare of Reagent 200 (ml) (gm) of DI H₂O

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm

Other (specify) _____

Run Number	Run Date	Filter or XAD		Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
		Number	Tare, grams						
1-S-MS-1	6-22-99	A961	0.4853	✓	Ⓢ	6-22-99	75	✓	e

Filter Appearance*

clean

Reagent Appearance*

clean

1-S-MS-2	6/24/99	B010	0.4792	✓	Ⓢ	6/24/99	60	✓	lw

Filter Appearance*

clean

Reagent Appearance*

clean

1-S-MS-3	6-25-99	A800	0.5112	✓	Ⓢ	6-25-99	80	✓	e

Filter Appearance*

clean

Reagent Appearance*

clean

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

D 102

RECORD OF CUSTODY, CONTAINER No. 204

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 5 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) ☐

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003660	6-8-99	12:40	S	<i>[Signature]</i>	
	6-22-99	1051	B	<i>[Signature]</i>	
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian

Seal Intact?**

Signature _____ Date _____ Time _____ Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: Ogden Martins Systems - Lee

AKI Ref# 10558

Sampling Location: Unit No. 1 Stack

Date Received: June 28, 1999

Run Number	1-S-M5-1		1-S-M5-2		1-S-M5-3	
Sample ID/Container #	<u>F / 1149</u>		<u>F / 1152</u>		<u>F / 1083</u>	
init.	date	date	date	date	date	date
GM	07/14/99	@ 4.1353	07/14/99	@ 3.9630	07/14/99	@ 4.1784
GM	07/14/99	4.1357	07/14/99	3.9632	07/14/99	4.1789
Baggie Tare Wt., g.		<u>3.6452</u>		<u>3.4775</u>		<u>3.6621</u>
Filter Tare Wt., g.	<u>A961</u>	<u>0.4853</u>	<u>B010</u>	<u>0.4792</u>	<u>A800</u>	<u>0.5112</u>
FILTER SAMPLE WT., g.		0.0048		0.0063		0.0051

Sample ID/Container #	<u>R / 1158</u>		<u>R / 1156</u>		<u>R / 1087</u>	
init.	date	date	date	date	date	date
GM	07/14/99	@ 3.6259	07/14/99	3.6388	07/14/99	3.9583
GM	07/14/99	3.6262	07/14/99	@ 3.6386	07/14/99	@ 3.9580
Tare Wt., g.	(75 ml)	<u>3.6194</u>	(100 ml)	<u>3.6358</u>	(50 ml)	<u>3.9563</u>
RINSE SAMPLE WT., g.		0.0065		0.0028		0.0017

Filter Catch, mg.	4.8	6.3	5.1
Rinse Catch, mg.	6.5	2.8	1.7
Rinse Blank Residue, mg.	0.1	0.1	0.0
Net Rinse Catch, mg.	6.4	2.7	1.7
FILTERABLE PARTICULATE, mg.	11.2	9.0	6.7

Blank Beaker #	B / 1150	---Legend---		Sample Description		
Final wt., g.	3.4767	@ = Final Weight		Run #	Color	Loading
Tare wt., g.	3.4765	<u>F = Filter</u> <u>R = Rinse</u>				
Residue, mg.	0.2	1 = Light		1-S-M5-1	1	1
Volume, ml.	200	2 = Medium		1-S-M5-2	1	1
Density, mg/ml	785.0	3 = Heavy or Dark		1-S-M5-3	1	1
Conc., mg/mg	1.27E-06 <--					
Upper Limit, mg/mg	1.00E-05					

Notes and comments:

Predominate color of samples is: Clean

Date of full balance span July 14, 1999

Printing Date

15-Jul-99

Printing Time

08:22 AM

APPENDIX D
ANALYTICAL DATA

2.0 UNIT NO. 1

b. SULFURIC ACID MIST

MOISTURE ANALYTICAL RESULTS - METHOD

M8

Plant Name OMS of Lee, Inc.Job No. 10558City/State Fort Myers, FLSampling Location Unit 1 Stack

Run Number

1-S-M8-1

1-S-M8-2

1-S-M8-3

Sampling Date

6/25/99

6/26/99

6/26/99

Analysis Date

6/25/99

6/26/99

6/26/99

Analyst

CMW

CMW

GM

Reagent 100 ml of 80% IPA

Final Weight, g

436.8

464.3

481.9

Tared Weight, g

327.0

325.4

323.3

Water Catch, g

109.8

138.9

158.6

Reagent 200 ml of 3% H2O2

Final Weight, g

633.5

666.4

665.7

Tared Weight, g

585.8

584.4

586.0

Water Catch, g

47.7

82.0

79.7

Reagent _____

Final Weight, g

_____ ml used, g*

Empty Tared Weight, g

Water Catch, g

*Weight of Reagent calculated by multiplying ml of KMnO_4 by density of 1.1 g/ml

CONDENSED WATER, g

157.5

220.9

238.3

Silica Gel

Final Weight, g

233.6

224.5

220.6

Tared Weight, g

200.0

200.0

200.0

ADSORBED WATER, g

33.6

24.5

20.6

TOTAL WATER COLLECTED, g

191.1

245.4

258.9

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam☒ Electronic☒ Yes☐ No

Comments _____

Reviewer _____

AirKinetics, Inc.

Box No. 618 Assembly Date 6-8-99 Assembled By G. MATAClient OGDEN MARTIN SYSTEMS Job No. 10558Plant OMS-LEE City / State FOOT MYERS, FLSampling Location UNIT No. 1 STACK Method EPA 8Individual Tare of Reagent 100 (ml) (gm) of 80% IPAIndividual Tare of Reagent 200 (ml) (gm) of 3% H₂O₂

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD		Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
		Number	Tare, grams						
1-S-M8-1	6-25-99	N/A	-	✓	(C)	6-25-99	85	✓	e

Filter Appearance*

N/A

Reagent Appearance*

Clear

1-S-M8-2	6-26-99	N/A	-	✓	(C)	6-26-99	85	✓	cm

Filter Appearance*

N/A

Reagent Appearance*

Clear

1-S-M8-3	6-26-99	N/A	N/A	✓	(C)	6-26-99	85	✓	e

Filter Appearance*

Clear

Reagent Appearance*

Clear

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed)

REMARKS _____

B 107

RECORD OF CUSTODY, CONTAINER No. 618

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 8 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) ☐

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003087	6-8-99	14:09	S	<i>[Signature]</i>	
	6/24/99	0841	B	<i>Christy M. Linn</i>	Change Trains
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian

Seal Intact?**

Signature

Date

Time

Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

SULFURIC ACID (H2SO4) ANALYTICAL RESULTS

Version No. 1.0, 1/17/92

EPA REFERENCE METHOD: 8

Company Name: OMS - Lee

AKI Ref. #:

10558

Sampling Location: Unit No. 1 Stack

Date Analyzed:

06/28/99

Analyst: Gary Mata

Burette Size Used: 25ml Digital

Analytical Media:

0.1N H2SO4

Printing Date:

06/28

Printing time:

14:41

RUN NUMBER	SAMPLE VOLUME mls (V)	DIL. FACT. (D)	ALIQOT VOLUME mls (A)	ALIQ. FACTOR (F)	TITRANT VOLUME mls (T1)	TITRANT VOLUME mls (T2)	TITRANT VOLUME mls (Tavg)	MASS H2SO4 mg (MH2SO4)
Reagent Blank		1	25		0.00	0.00	0.000	Tbavg
1-S-M8-1	300	1	25	12.0	2.70	2.78	2.740	16.286
1-S-M8-2	330	1	25	13.2	2.22	2.23	2.225	14.547
1-S-M8-3	320	1	25	12.8	2.70	2.76	2.730	17.308
AUDIT*	100	1	20	5.0	4.62	4.60	4.610	7.457

*In-house audit

Lot# 0594-2594

Actual value mg.

7.35

% Dev.

1.46%

Where:

Titration Standardization
against 0.02N H2SO4

$$T_{avg} = (T + T) / 2$$

$$F = V / A$$

$$N = \text{Volume H2SO4} \times 0.02N / \text{Volume BaCl2}$$

$$MH2SO4 = 49.04 \times (T_{avg} - T_{bavg}) \times N \times F \times D$$

H2SO4 Volume	BaCl2 Volume	BaCl2 Normality
10	19.84	0.0101
10	19.75	0.0101
10	19.78	0.0101
Avg. N		0.0101

For Run: 1-S-M8-1

$$MH2SO4 = 49.04 \times 2.740 \times 1 \times 12 \times 1$$

$$MH2SO4 = 16.286 \text{ mg}$$

NOTE: Results reported to three significant digits

APPENDIX D
ANALYTICAL DATA

2.0 UNIT NO. 1

c. FLUORIDES

MOISTURE ANALYTICAL RESULTS - METHOD M13B

Plant Name	<u>OMS of Lee, Inc.</u>	Job No.	<u>10558</u>
City/State	<u>Fort Myers, FL</u>	Sampling Location	<u>Unit 1 Stack</u>

Run Number	1-S-M13B-1	1-S-M13B-2	1-S-M13B-3
Sampling Date	6/23/99	6/26/99	6/26/99
Analysis Date	6/23/99	6/26/99	6/26/99
Analyst	CMW	CMW	GM

Reagent	<u>200 ml of DI Water</u>		
Final Weight, g	461.3	490.6	501.9
Tared Weight, g	256.3	261.0	258.6
Water Catch, g	205.0	229.6	243.3

Reagent			
Final Weight, g			
Tared Weight, g			
Water Catch, g			

Reagent			
Final Weight, g			
_____ ml used, g*			
Empty Tared Weight, g			
Water Catch, g			

*Weight of Reagent calculated by multiplying ml of KMnO_4 by density of 1.1 g/ml

CONDENSED WATER, g	205.0	229.6	243.3

Silica Gel			
Final Weight, g	209.9	211.1	210.0
Tared Weight, g	200.0	200.0	200.0
ADSORBED WATER, g	9.9	11.1	10.0

TOTAL WATER COLLECTED, g	214.9	240.7	253.3

Balance No.	<u>V1200</u>	☐ Triple Beam	☒ Electronic
Balance located in stable, draft-free area?		☒ Yes	☐ No

Comments _____

Reviewer _____
AirKinetics, Inc.

Box No. C12

Assembly Date

6-8-99

Assembled By

G. MATAClient OXDEN MARTIN SYSTEMSJob No. 10558Plant OMS-LEECity / State FORT MYERS, FLSampling Location UNIT No. 1 STACKMethod EPA 13BIndividual Tare of Reagent 200 (ml) (gm) of DI H₂O

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
1-S-M15B-1	6/23/99	N/A	-	✓	Ⓢ	6/23/99	20	✓	Cmw

Filter Appearance*

Clean

Reagent Appearance*

Clean

1-S-M15B-2	6/26/99	N/A	-	✓	Ⓢ	6/26/99	25	✓	Cmw

Filter Appearance*

Clean

Reagent Appearance*

Clean

1-S-M15B-3	6/26/99	N/A	-	✓	Ⓢ	6/26/99	25	✓	Cmw

Filter Appearance*

Clean

Reagent Appearance*

Clean

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed)

REMARKS _____

WEST COAST ANALYTICAL SERVICE, INC.

AIRKINETICS, INC.
Attn: Gary Mata

Job No: 42714
July 6, 1999

LABORATORY REPORT

Total Fluoride by Ion Selective Electrode (EPA 13B)

Samples were collected by EPA 13B then analyzed by Ion Selective Electrode.

<u>Sample ID</u>	<u>Parts Per Million (mg/L)</u>	<u>Sample Volume (Liters)</u>	<u>Total Milligrams</u>
1-S-M13B-1	ND	0.700	ND
1-S-M13B-2	ND	0.740	ND
1-S-M13B-3	ND	0.610	ND
2-S-M13B-1	ND	0.585	ND
2-S-M13B-2	ND	0.690	ND
2-S-M13B-3	ND	0.690	ND
M13B-RB	ND	0.690	ND

Detection Limit: 0.1

Date Analyzed: 06-30-99

Matrix Spike/Matrix Spike Duplicate Quality Control Summary

Sample: 2-S-M13B-2
Units: ppm (mg/L)

<u>Analyte</u>	<u>Sample Result</u>	<u>Amount Spiked</u>	<u>MS Result</u>	<u>% Rec MS</u>	<u>MSD Result</u>	<u>% Rec MSD</u>	<u>RPD</u>
FLUORIDE	ND	1.00	1.05	105	1.08	108	3

QC Limits

<u>Analyte</u>	<u>RPD Control</u>	<u>% Recovery Control</u>
FLUORIDE	25	50 - 150

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Page 2 of 2

WCAS

APPENDIX D
ANALYTICAL DATA

2.0 UNIT NO. 1

d. DIOXIN/FURANS

MOISTURE ANALYTICAL RESULTS - METHOD

M23

Plant Name OMS of Lee, Inc.

Job No. 10558

City/State Fort Myers, FL

Sampling Location Unit 1 Stack

Run Number

1-S-M23-1

1-S-M23-2

1-S-M23-3

Sampling Date

6/23/99

6/24/99

6/25/99

Analysis Date

6/23/99

6/24/99

6/25/99

Analyst

GM

GM

GM

Reagent 200 ml of DI Water

Final Weight, g

1154.0

1050.0

1143.0

Tared Weight, g

200.0

200.0

200.0

Water Catch, g

954.0

850.0

943.0

Reagent XAD

Final Weight, g

339.6

298.4

362.9

Tared Weight, g

332.2

286.2

352.5

Water Catch, g

7.4

12.2

10.4

Reagent

Final Weight, g

ml used, g*

Empty Tared Weight, g

Water Catch, g

*Weight of Reagent calculated by multiplying ml of KMnO_4 by density of 1.1 g/ml

CONDENSED WATER, g

961.4

862.2

953.4

Silica Gel

Final Weight, g

435.9

436.6

435.1

Tared Weight, g

400.0

400.0

400.0

ADSORBED WATER, g

35.9

36.6

35.1

TOTAL WATER COLLECTED, g

997.3

898.8

988.5

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam☒ Electronic☒ Yes☐ No

Comments

Reviewer

AirKinetics, Inc.

Box No. DF08CAssembly Date 6-8-99Assembled By G. MATAClient OXDEN MARTIN SYSTEMSJob No. 10558Plant OMS-LEECity / State FORT MYERS, FLSampling Location UNIT No. 1 STACKMethod EPA 23Individual Tare of Reagent 200 (ml) (gm) of HPLC GRADE WATER

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 400 gm

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
1-S-M23-1	6-23-99	1-S-M23-1	332.2	✓	Ⓢ	6-23-99	90	✓	Ⓢ

Filter Appearance*

clean

Reagent Appearance*

clean

1-S-M23-2	6-24-99	A019	286.2	✓	Ⓢ	6-24-99	75	✓	Ⓢ

Filter Appearance*

clean

Reagent Appearance*

clean

1-S-M23-3	6-25-99	1-S-M23-3	352.5	✓	Ⓢ	6-25-99	60	✓	Ⓢ

Filter Appearance*

clean

Reagent Appearance*

clean

1-S-M23-FB	6-24-99	N/A	N/A	✓	Ⓢ	6-24-99	N/A	✓	Ⓢ

Filter Appearance*

N/A

Reagent Appearance*

N/A

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed)

REMARKS _____

RECORD OF CUSTODY, CONTAINER No. DF08C

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 23

(EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒

Cooler ☐

Other (specify) _____

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
232678	6-8-99	10:40	8	<i>[Signature]</i>	
			B		
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian

Seal Intact? **

Signature _____

Date _____

Time _____

Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☒ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

**PCDD & PCDF
EPA METHOD 23**

Sample ID: 1-S-M23-1
Lab ID: 6954-0002-SA
Matrix: M23

Date Received: 6/26/99
Date Extracted: 7/7/99
Sample Amount: Sample

ICAL ID: I428
QC Lot: LC0707M
Units: pg/sample

<u>Compound</u>	<u>Conc.</u>	<u>D.L.</u>	<u>Ratio</u>	<u>S/N</u> <u>Ratio</u>	<u>Qualifier</u>
2,3,7,8-TCDD	180		0.74	>10:1	
Total TCDD	4500		0.78	>10:1	
1,2,3,7,8-PeCDD	400		1.37	>10:1	
Total PeCDD	6200		1.58	>10:1	
1,2,3,4,7,8-HxCDD	260		1.22	>10:1	
1,2,3,6,7,8-HxCDD	680		1.26	>10:1	
1,2,3,7,8,9-HxCDD	430		1.20	>10:1	
Total HxCDD	8700		1.26	>10:1	
1,2,3,4,6,7,8-HpCDD	3400		1.05	>10:1	
Total HpCDD	6500		1.06	>10:1	
OCDD	8300		0.86	>10:1	B
2,3,7,8-TCDF	1000		0.75	>10:1	
Total TCDF	34000		0.78	>10:1	
1,2,3,7,8-PeCDF	1600		1.55	>10:1	
2,3,4,7,8-PeCDF	1600		1.55	>10:1	
Total PeCDF	25000		1.54	>10:1	D
1,2,3,4,7,8-HxCDF	1500		1.25	>10:1	
1,2,3,6,7,8-HxCDF	1400		1.24	>10:1	
2,3,4,6,7,8-HxCDF	1100		1.24	>10:1	
1,2,3,7,8,9-HxCDF	290		1.19	>10:1	
Total HxCDF	12000		1.21	>10:1	
1,2,3,4,6,7,8-HpCDF	3800		1.07	>10:1	
1,2,3,4,7,8,9-HpCDF	330		1.09	>10:1	
Total HpCDF	5500		1.07	>10:1	
OCDF	630		0.85	>10:1	

Analyst: MS

Page 1 of 2

Reviewer: SM

**PCDD & PCDF
EPA METHOD 23**

Sample ID: 1-S-M23-1
Lab ID: 6954-0002-SA

Isotopic Recovery Results

<u>Internal Standard:</u>	<u>% R</u>	<u>Ratio</u>	<u>Qualifier</u>
¹³ C-2,3,7,8-TCDD	100	0.77	
¹³ C-1,2,3,7,8-PeCDD	114	1.58	
¹³ C-1,2,3,6,7,8-HxCDD	102	1.27	
¹³ C-1,2,3,4,6,7,8-HpCDD	111	1.07	
¹³ C-OCDD	110	0.91	
¹³ C-2,3,7,8-TCDF	94	0.79	
¹³ C-1,2,3,7,8-PeCDF	106	1.59	
¹³ C-1,2,3,6,7,8-HxCDF	82	0.52	
¹³ C-1,2,3,4,6,7,8-HpCDF	101	0.46	

Pre-spike Recovery Standard:

³⁷ Cl-2,3,7,8-TCDD	92	NA	
¹³ C-2,3,4,7,8-PeCDF	86	1.59	
¹³ C-1,2,3,4,7,8-HxCDD	77	1.26	
¹³ C-1,2,3,4,7,8-HxCDF	91	0.52	
¹³ C-1,2,3,4,7,8,9-HpCDF	86	0.47	

Alternate Recovery Standard:

¹³ C-1,2,3,7,8,9-HxCDF	108	0.52	

Dates Analyzed:

DB-5: 7/9/99 DB-225: 7/12/99 SP-2331: NA

Analyst: MS

Page 2 of 2

Reviewer: SM

**PCDD & PCDF
EPA METHOD 23**

Sample ID: 1-S-M23-2
Lab ID: 6954-0003-SA
Matrix: M23

Date Received: 6/26/99
Date Extracted: 7/7/99
Sample Amount: Sample

ICAL ID: I428
QC Lot: LC0707M
Units: pg/sample

<u>Compound</u>	<u>Conc.</u>	<u>D.L.</u>	<u>Ratio</u>	<u>S/N</u> <u>Ratio</u>	<u>Qualifier</u>
2,3,7,8-TCDD	180		0.77	>10:1	
Total TCDD	4200		0.77	>10:1	
1,2,3,7,8-PeCDD	380		1.33	>10:1	
Total PeCDD	5700		1.62	>10:1	
1,2,3,4,7,8-HxCDD	220		1.23	>10:1	
1,2,3,6,7,8-HxCDD	630		1.27	>10:1	
1,2,3,7,8,9-HxCDD	360		1.23	>10:1	
Total HxCDD	7800		1.23	>10:1	
1,2,3,4,6,7,8-HpCDD	3100		1.03	>10:1	
Total HpCDD	6000		1.03	>10:1	
OCDD	7700		0.88	>10:1	B
2,3,7,8-TCDF	910		0.80	>10:1	
Total TCDF	35000		0.77	>10:1	
1,2,3,7,8-PeCDF	1600		1.60	>10:1	
2,3,4,7,8-PeCDF	1500		1.55	>10:1	
Total PeCDF	25000		1.55	>10:1	D
1,2,3,4,7,8-HxCDF	1400		1.26	>10:1	
1,2,3,6,7,8-HxCDF	1300		1.25	>10:1	
2,3,4,6,7,8-HxCDF	980		1.30	>10:1	
1,2,3,7,8,9-HxCDF	280		1.27	>10:1	
Total HxCDF	12000		1.22	>10:1	
1,2,3,4,6,7,8-HpCDF	3600		1.09	>10:1	
1,2,3,4,7,8,9-HpCDF	290		1.14	>10:1	
Total HpCDF	5100		1.09	>10:1	
OCDF	580		0.87	>10:1	

Analyst: MS

Page 1 of 2

Reviewer: SM

**PCDD & PCDF
EPA METHOD 23**

Sample ID: 1-S-M23-2
Lab ID: 6954-0003-SA

Isotopic Recovery Results

<u>Internal Standard:</u>	<u>% R</u>	<u>Ratio</u>	<u>Qualifier</u>
¹³ C-2,3,7,8-TCDD	100	0.79	
¹³ C-1,2,3,7,8-PeCDD	105	1.56	
¹³ C-1,2,3,6,7,8-HxCDD	99	1.27	
¹³ C-1,2,3,4,6,7,8-HpCDD	107	1.07	
¹³ C-OCDD	106	0.92	
¹³ C-2,3,7,8-TCDF	89	0.79	
¹³ C-1,2,3,7,8-PeCDF	95	1.60	
¹³ C-1,2,3,6,7,8-HxCDF	80	0.51	
¹³ C-1,2,3,4,6,7,8-HpCDF	95	0.46	

Pre-spike Recovery Standard:

³⁷ Cl-2,3,7,8-TCDD	95	NA	
¹³ C-2,3,4,7,8-PeCDF	99	1.60	
¹³ C-1,2,3,4,7,8-HxCDD	94	1.27	
¹³ C-1,2,3,4,7,8-HxCDF	109	0.52	
¹³ C-1,2,3,4,7,8,9-HpCDF	104	0.47	

Alternate Recovery Standard:

¹³ C-1,2,3,7,8,9-HxCDF	106	0.52	

Dates Analyzed:

DB-5: 7/10/99 DB-225: 7/12/99 SP-2331: NA

Analyst: MS

Page 2 of 2

Reviewer: 

**PCDD & PCDF
EPA METHOD 23**

Sample ID: 1-S-M23-3
Lab ID: 6954-0004-SA
Matrix: M23

Date Received: 6/26/99
Date Extracted: 7/7/99
Sample Amount: Sample

ICAL ID: I428
QC Lot: LC0707M
Units: pg/sample

<u>Compound</u>	<u>Conc.</u>	<u>D.L.</u>	<u>Ratio</u>	<u>S/N</u> <u>Ratio</u>	<u>Qualifier</u>
2,3,7,8-TCDD	160		0.75	>10:1	
Total TCDD	4200		0.77	>10:1	
1,2,3,7,8-PeCDD	370		1.33	>10:1	
Total PeCDD	5900		1.58	>10:1	
1,2,3,4,7,8-HxCDD	230		1.27	>10:1	
1,2,3,6,7,8-HxCDD	670		1.28	>10:1	
1,2,3,7,8,9-HxCDD	380		1.30	>10:1	
Total HxCDD	8400		1.27	>10:1	
1,2,3,4,6,7,8-HpCDD	3400		1.05	>10:1	
Total HpCDD	6500		1.05	>10:1	
OCDD	8400		0.87	>10:1	B
2,3,7,8-TCDF	860		0.78	>10:1	
Total TCDF	30000		0.75	>10:1	
1,2,3,7,8-PeCDF	1500		1.54	>10:1	
2,3,4,7,8-PeCDF	1400		1.56	>10:1	
Total PeCDF	23000		1.55	>10:1	D
1,2,3,4,7,8-HxCDF	1400		1.24	>10:1	
1,2,3,6,7,8-HxCDF	1200		1.24	>10:1	
2,3,4,6,7,8-HxCDF	970		1.24	>10:1	
1,2,3,7,8,9-HxCDF	300		1.23	>10:1	
Total HxCDF	11000		1.26	>10:1	
1,2,3,4,6,7,8-HpCDF	3500		1.08	>10:1	
1,2,3,4,7,8,9-HpCDF	310		1.08	>10:1	
Total HpCDF	5100		1.08	>10:1	
OCDF	600		0.87	>10:1	

Analyst: MS

Page 1 of 2

Reviewer: My

**PCDD & PCDF
EPA METHOD 23**

Sample ID: 1-S-M23-3
Lab ID: 6954-0004-SA

Isotopic Recovery Results

<u>Internal Standard:</u>	<u>% R</u>	<u>Ratio</u>	<u>Qualifier</u>
¹³ C-2,3,7,8-TCDD	97	0.78	
¹³ C-1,2,3,7,8-PeCDD	103	1.58	
¹³ C-1,2,3,6,7,8-HxCDD	95	1.26	
¹³ C-1,2,3,4,6,7,8-HpCDD	100	1.10	
¹³ C-OCDD	101	0.90	
¹³ C-2,3,7,8-TCDF	88	0.79	
¹³ C-1,2,3,7,8-PeCDF	92	1.59	
¹³ C-1,2,3,6,7,8-HxCDF	74	0.52	
¹³ C-1,2,3,4,6,7,8-HpCDF	91	0.47	

Pre-spike Recovery Standard:

³⁷ Cl-2,3,7,8-TCDD	73	NA	
¹³ C-2,3,4,7,8-PeCDF	76	1.61	
¹³ C-1,2,3,4,7,8-HxCDD	89	1.27	
¹³ C-1,2,3,4,7,8-HxCDF	75	0.53	
¹³ C-1,2,3,4,7,8,9-HpCDF	72	0.47	

Alternate Recovery Standard:

¹³ C-1,2,3,7,8,9-HxCDF	104	0.53	

Dates Analyzed:

DB-5: 7/10/99 DB-225: 7/12/99 SP-2331: NA

Analyst: MS

Page 2 of 2

Reviewer: 

APPENDIX D
ANALYTICAL DATA

2.0 UNIT NO. 1

e. HYDROGEN CHLORIDE

MOISTURE ANALYTICAL RESULTS - METHOD

M26

Plant Name OMS of Lee, Inc.Job No. 10558City/State Fort Myers, FLSampling Location Unit 1 Inlet

Run Number

1-I-M26-1

1-I-M26-2

1-I-M26-3

Sampling Date

6/21/99

6/21/99

6/22/99

Analysis Date

6/21/99

6/21/99

6/22/99

Analyst

GM

GM

GM

Reagent 200 ml of 0.1N H2SO4

Final Weight, g

689.6

688.2

709.1

Tared Weight, g

584.8

581.2

586.6

Water Catch, g

104.8

107.0

122.5

Reagent 100 ml of DI Water

Final Weight, g

103.0

101.0

102.0

Tared Weight, g

100.0

100.0

100.0

Water Catch, g

3.0

1.0

2.0

Reagent

Final Weight, g

_____ ml used, g*

Empty Tared Weight, g

Water Catch, g

*Weight of Reagent calculated by multiplying ml of KMnO_4 by density of 1.1 g/ml

CONDENSED WATER, g

107.8

108.0

124.5

Silica Gel

Final Weight, g

206.7

207.1

208.8

Tared Weight, g

200.0

200.0

200.0

ADSORBED WATER, g

6.7

7.1

8.8

TOTAL WATER COLLECTED, g

114.5

115.1

133.3

Balance No. V1200☐ Triple Beam☒ Electronic

Balance located in stable, draft-free area?

☒ Yes☐ No

Comments

Reviewer

AirKinetics, Inc.

BEST AVAILABLE COPY

FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. C20Assembly Date 6-8-99Assembled By G. MATAClient OGDEN MARTIN SYSTEMSJob No. 10558Plant OMS-LEECity / State FOOT MYERS, FLSampling Location UNIT No. 1 INLETMethod EPA 26Individual Tare of Reagent 200 (ml) (gm) of 0.1N H₂SO₄Individual Tare of Reagent 100 (ml) (gm) of DI H₂O

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
1-I-M26-1	6-21-99	N/A	N/A	✓	(C)	6/21/99	30	✓	e

Filter Appearance*

Heavy Particulate

Reagent Appearance*

clear

1-I-M26-2	6-21-99	N/A	N/A	✓	(C)	6-21-99	30	✓	e

Filter Appearance*

Heavy Particulate

Reagent Appearance*

clear

1-I-M26-3	6-22-99	N/A	N/A	✓	(C)		40	✓	e

Filter Appearance*

Heavy Particulate

Reagent Appearance*

clear

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed)

REMARKS

D 126

RECORD OF CUSTODY, CONTAINER No. C20

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 26 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) ☐

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003426	6-8-99	13:49	S	<i>[Signature]</i>	
	6/20/99	1553	B	<i>[Signature]</i>	Change Incons
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian

Seal Intact?**

Signature _____ Date _____ Time _____ Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

MOISTURE ANALYTICAL RESULTS - METHOD M26

Plant Name OMS of Lee, Inc. Job No. 10558
 City/State Fort Myers, FL Sampling Location Unit 1 Stack

Run Number	1-S-M26-1	1-S-M26-2	1-S-M26-3
Sampling Date	6/21/99	6/21/99	6/22/99
Analysis Date	6/21/99	6/21/99	6/22/99
Analyst	TW	GM	GM

Reagent 200 ml of 0.1N H2SO4

Final Weight, g	793.4	804.7	817.3
Tared Weight, g	589.5	584.8	587.7
Water Catch, g	203.9	219.9	229.6

Reagent 100 ml of DI Water

Final Weight, g	100.0	104.0	101.0
Tared Weight, g	100.0	100.0	100.0
Water Catch, g		4.0	1.0

Reagent _____

Final Weight, g			
_____ ml used, g*			
Empty Tared Weight, g			
Water Catch, g			

*Weight of Reagent calculated by multiplying ml of KMnO₄ by density of 1.1 g/ml

CONDENSED WATER, g	203.9	223.9	230.6

Silica Gel

Final Weight, g	207.2	208.3	209.2
Tared Weight, g	200.0	200.0	200.0
ADSORBED WATER, g	7.2	8.3	9.2

TOTAL WATER COLLECTED, g	211.1	232.2	239.8

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam

☒ Electronic

☒ Yes

☐ No

Comments _____

Reviewer _____

AirKinetics, Inc.

BEST AVAILABLE COPY

FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. C20Assembly Date 6-8-99 Assembled By G. MATAClient OXDEN MARTIN SYSTEMSJob No. 10558Plant OMS-LEECity / State FORT MYERS, FLSampling Location UNIT No. 1 STACKMethod EPA 26Individual Tare of Reagent 200 (ml) (gm) of 0.1N H₂SO₄Individual Tare of Reagent 100 (ml) (gm) of DI H₂O

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
<u>1-S-m26-1</u>	<u>6-21-99</u>	<u>NA</u>	<u>NA</u>	<u>✓</u>	<u>(C)</u>	<u>6-21-99</u>	<u>25</u>	<u>✓</u>	<u>e</u>

Filter Appearance*

N/A

Reagent Appearance*

clear

<u>1-S-m26-2</u>	<u>6-21-99</u>	<u>N/A</u>	<u>N/A</u>	<u>✓</u>	<u>(C)</u>	<u>6-21-99</u>	<u>25</u>	<u>✓</u>	<u>e</u>

Filter Appearance*

N/A

Reagent Appearance*

clear

<u>1-S-m26-3</u>	<u>6-22-99</u>	<u>N/A</u>	<u>N/A</u>	<u>✓</u>	<u>(C)</u>	<u>6-22-99</u>	<u>25</u>	<u>✓</u>	<u>e</u>

Filter Appearance*

N/A

Reagent Appearance*

clear

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed)

REMARKS

D 129

AIRKINETICS, INC.

Client Sample ID: 1-I-M26-1

General Chemistry

Lot-Sample #....: G9F250261-011
Date Sampled....: 06/21/99Work Order #....: CXDGV
Date Received...: 06/25/99

Matrix.....: AIR

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hydrochloric acid	671 Q	41.1	mg	CFR60A 26A	07/01/99	9193344
Dilution Factor: 80						

NOTE(S) :

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

Volume of sample = 400 ml.

AIRKINETICS, INC.

Client Sample ID: 1-I-M26-2

General Chemistry

Lot-Sample #....: G9F250261-012

Work Order #....: CXDGW

Matrix.....: AIR

Date Sampled....: 06/21/99

Date Received...: 06/25/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hydrochloric acid	718 Q	41.1	mg	CFR60A 26A	07/01/99	9193344

Dilution Factor: 80

NOTE(S) :

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

Volume of sample = 400 ml.

AIRKINETICS, INC.

Client Sample ID: 1-I-M26-3

General Chemistry

Lot-Sample #....: G9F250261-013

Work Order #....: CXDGX

Matrix.....: AIR

Date Sampled....: 06/22/99

Date Received...: 06/25/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hydrochloric acid	686 Q	43.2	mg	CFR60A 26A	07/01-07/02/99	9193344

Dilution Factor: 84

NOTE(S) :

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

Volume of sample = 420 ml.

AIRKINETICS, INC.

Client Sample ID: 1-S-M26-1

General ChemistryLot-Sample #....: G9F250261-008
Date Sampled....: 06/21/99Work Order #....: CXDGQ
Date Received...: 06/25/99

Matrix.....: AIR

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hydrochloric acid	21.0 Q	2.9	mg	CFR60A 26A	07/07-07/08/99	9193346

Dilution Factor: 5.6

NOTE(S):

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

Volume of sample = 560 ml.

AIRKINETICS, INC.

Client Sample ID: 1-S-M26-2

General Chemistry

Lot-Sample #....: G9F250261-009

Work Order #....: CXDGR

Matrix.....: AIR

Date Sampled....: 06/21/99

Date Received...: 06/25/99

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hydrochloric acid	24.8 Q	2.6	mg	CFR60A 26A	07/07-07/08/99	9193346

Dilution Factor: 5

NOTE(S) :

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

Volume of sample = 500 ml.

AIRKINETICS, INC.

Client Sample ID: 1-S-M26-3

General ChemistryLot-Sample #....: G9F250261-010
Date Sampled....: 06/22/99Work Order #....: CXDGT
Date Received...: 06/25/99

Matrix.....: AIR

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hydrochloric acid	19.7 Q	2.7	mg	CFR60A 26A	07/07-07/08/99	9193346

Dilution Factor: 5.2

NOTE(S) :

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

Volume of sample = 520 ml.

APPENDIX D

ANALYTICAL DATA

2.0 UNIT NO. 1

f. AMMONIA

MOISTURE ANALYTICAL RESULTS - METHOD

NH3

Plant Name	OMS of Lee, Inc.	Job No.	10558
City/State	Fort Myers, FL	Sampling Location	Unit 1 Stack

Run Number	1-S-NH3-2	1-S-NH3-3	1-S-NH3-4
Sampling Date	6/21/99	6/23/99	6/23/99
Analysis Date	6/21/99	6/23/99	6/23/99
Analyst	TW	TW	CMW

Reagent	200 ml of 0.1 N H2SO4		
Final Weight, g	729.7	806.1	809.7
Tared Weight, g	586.2	586.6	589.2
Water Catch, g	143.5	219.5	220.5

Reagent	100 ml of DI Water		
Final Weight, g	108.0	104.0	101.5
Tared Weight, g	100.0	100.0	100.0
Water Catch, g	8.0	4.0	1.5

Reagent			
Final Weight, g			
ml used, g*			
Empty Tared Weight, g			
Water Catch, g			

*Weight of Reagent calculated by multiplying ml of KMnO₄ by density of 1.1 g/ml

CONDENSED WATER, g	151.5	223.5	222.0

Silica Gel			
Final Weight, g	208.4	208.2	207.3
Tared Weight, g	200.0	200.0	200.0
ADSORBED WATER, g	8.4	8.2	7.3

TOTAL WATER COLLECTED, g	159.9	231.7	229.3

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam

☒ Electronic

☒ Yes

☐ No

Comments

Reviewer

AirKinetics, Inc.

RECORD OF CUSTODY, CONTAINER No. 632

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 20 TYPE (NH₃) (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) ☐

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003593	6-8-99	13:39	S	<i>[Signature]</i>	
	6/20/99	1440	B	<i>Long Wong</i>	Change Drains
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact?**
Signature	Date	Time	Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

Box No. 632 Assembly Date 6-8-99 Assembled By G. MATAClient OGDEN MARTIN SYSTEMS Job No. 10558Plant OMS-LEE City / State FORT MYERS, FLSampling Location UNIT No. 1 STACK Method EPA 26 TYPE (NH3)Individual Tare of Reagent 200 (ml) (gm) of 0.1N H₂SO₄

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD		Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
		Number	Tare, grams						
1-S-NH3-1	6-21-99	NA	NA	✓	(C)	6-21-99	N/A	✓	(C)

Filter Appearance*

ABORTED

Reagent Appearance*

1-S-NH3-2	6-21-99	N/A	N/A	✓	(C)	6-21-99	25	✓	TW

Filter Appearance*

N/A

Reagent Appearance*

clean

1-S-NH3-3	6/23/99	N/A	N/A	✓	(C)	6/23/99	10	✓	LV

Filter Appearance*

N/A

Reagent Appearance*

clean

1-S-NH3-4	6/23/99	N/A	N/A	✓	(C)	6/23/99	10	✓	CM

Filter Appearance*

N/A

Reagent Appearance*

clean

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

Ammonia by Ion Specific Electrode Data Sheet

Job Name:	OMS-Lee	Job Num.:	10558
Analyst:	Gary Mata	Date:	06/28/99
Sampling Location:	Unit Nos. 1 & 2 Stack		

Ammonia Standard Calibration Curve by Linear Regression

<i>NH4 Conc. (ug/ml)</i>	<i>log Conc.</i>	<i>Standard mVolts mVs</i>	<i>Calculated Concentration (ug/ml)</i>	<i>Percent Deviation from Actual</i>	
0.85	-0.0706	-47.1	0.86	0.95%	
17.0	1.2304	-121.9	16.54	-2.70%	
85.0	1.9294	-163.8	86.77	2.08%	
170.0	2.2304	-180.7	169.32	-0.40%	
425.0	2.6284	-204	425.58	0.14%	
<i>Standard Curve</i>		<i>Slope</i>	-58.21	<i>Intercept</i>	-50.97

Field Samples in: 0.1N H2SO4

Sample ID	Sample mVolts as read from ISE Meter.		Average mV	Percent Diff.	Sample Dilution Factor	Sample Final Volume (mls)	Total Catch as NH3 (ug NH3)
	mV1	mVdup					
Blank	42.7	43.1	42.9	0.47%	1	100	2.3
1-S-NH3-2	-50.8	-49.7	-50.3	1.09%	1	400	367.0
1-S-NH3-3	-42.4	-42.3	-42.4	0.12%	1	500	335.6
1-S-NH3-4	-70.2	-71.0	-70.6	0.57%	1	540	1108.2
2-S-NH3-1	-70.2	-69.4	-69.8	0.57%	1	500	994.1
2-S-NH3-2	-58.1	-57.6	-57.9	0.43%	1	520	644.4
2-S-NH3-3	-43.9	-43.0	-43.5	1.04%	1	540	378.6

Spike	mV	Amt. Smpl. (mls)	Amt. Std. (mls)	Std. Conc. (ug/ml NH3)	Expected Recovery (ug/ml NH3)	Actual Recovery (ug/ml NH3)	Percent Recovery
1-S-NH3-3	-146.5	50.0	50.0	80.2	40.46	41.32	102.1%

APPENDIX D

ANALYTICAL DATA

2.0 UNIT NO. 1

g. ARSENIC, BERYLLIUM, CADMIUM, LEAD, AND MERCURY

MOISTURE ANALYTICAL RESULTS - METHOD

M29

Plant Name OMS of Lee, Inc.Job No. 10558City/State Fort Myers, FLSampling Location Unit 1 Inlet

Run Number	1-I-M29-1	1-I-M29-2	1-I-M29-3
Sampling Date	6/21/99	6/21/99	6/22/99
Analysis Date	6/21/99	6/21/99	6/22/99
Analyst	GM	SCG	GM

Reagent 200 ml of 5% HNO_3 /10% H_2O_2

Final Weight, g	534.3	490.7	497.1
Tared Weight, g	269.8	270.0	270.0
Water Catch, g	264.5	220.7	227.1

Reagent Empty 3rd Impinger

Final Weight, g	32.6	30.7	29.1
Tared Weight, g	28.3	28.1	28.3
Water Catch, g	4.3	2.6	0.8

Reagent 4% KMnO_4 /10% H_2SO_4

Final Weight, g	614.0	614.5	611.3
200 ml used, g*	220.0	220.0	220.0
Empty Tared Weight, g	385.5	386.5	388.5
Water Catch, g	8.5	8.0	2.8

*Weight of Reagent calculated by multiplying ml of KMnO_4 by density of 1.1 g/ml

CONDENSED WATER, g	277.3	231.3	230.7

Silica Gel

Final Weight, g	215.5	211.3	213.2
Tared Weight, g	200.0	200.0	200.0
ADSORBED WATER, g	15.5	11.3	13.2

TOTAL WATER COLLECTED, g	292.8	242.6	243.9

Balance No. V1200☐ Triple Beam☒ Electronic

Balance located in stable, draft-free area?

☒ Yes☐ No

Comments

Reviewer

AirKinetics, Inc.

MOISTURE ANALYTICAL RESULTS - METHOD

M29

Plant Name OMS of Lee, Inc.

Job No. 10558

City/State Fort Myers, FL

Sampling Location Unit 1 Inlet

Run Number

1-I-M29-4

Sampling Date

6/25/99

Analysis Date

6/25/99

Analyst

TW

Reagent 200 ml of 5% HNO_3 /10% H_2O_2

Final Weight, g

502.3

Tared Weight, g

271.0

Water Catch, g

231.3

Reagent Empty 3rd Impinger

Final Weight, g

31.6

Tared Weight, g

28.8

Water Catch, g

2.8

Reagent 4% KMnO_4 /10% H_2SO_4

Final Weight, g

611.4

NA

NA

200 ml used, g*

220.0

220.0

220.0

Empty Tared Weight, g

385.1

Water Catch, g

6.3

#VALUE!

#VALUE!

*Weight of Reagent calculated by multiplying ml of KMnO_4 by density of 1.1 g/ml

CONDENSED WATER, g

240.4

#VALUE!

#VALUE!

Silica Gel

Final Weight, g

212.6

Tared Weight, g

200.0

ADSORBED WATER, g

12.6

TOTAL WATER COLLECTED, g

253.0

#VALUE!

#VALUE!

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam☒ Electronic☒ Yes☐ No

Comments

Reviewer

AirKinetics, Inc.

RECORD OF CUSTODY, CONTAINER No. C18

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 29

(EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒

Cooler ☐

Other (specify) UNIT NO. 1 KMNO₄ EMPTY IMP. JARS

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003769	6-8-99	09:44	S	<i>[Signature]</i>	
	6-21-99	1104	B	<i>[Signature]</i>	Label Tars
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian

Seal Intact?**

Signature

Date

Time

Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

RECORD OF CUSTODY, CONTAINER No. M118

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 29 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) ☐

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003820	6-8-99	09:25	S	<i>[Signature]</i>	
	6/20/99	1420	B	<i>Sony Wong</i>	<i>Change Chains</i>
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian

Seal Intact? **

Signature

Date

Time

Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

Box No. M118 Assembly Date 6-8-99 Assembled By G. MATAClient OGDEN MARTIN SYSTEMS Job No. 10558Plant OMS - LEE City / State FORT MYERS, FLSampling Location UNIT No. 1 INLET Method EPA 29Individual Tare of Reagent 200 (ml) (gm) of 5% HNO₃ / 10% H₂O₂Individual Tare of Reagent 200 (ml) (gm) of 4% KMnO₄ / 10% H₂SO₄

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
1-I-M29-1	6-21-99	N/A	N/A	✓	Ⓢ	6-21-99	75	✓	e

Filter Appearance*

Heavy Particulate

Reagent Appearance*

Clear & Purple

1-I-M29-2	6-21-99	N/A	N/A	✓	Ⓢ	6-21-99	65	✓	SCG

Filter Appearance*

Heavy Particulate

Reagent Appearance*

Clear & Purple

1-I-M29-3	6-22-99	N/A	N/A	✓	Ⓢ	6-22-99	75	—	Ⓢ

Filter Appearance*

Heavy Particulate

Reagent Appearance*

Clear & Purple

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

D 146

Box No. M/50 Assembly Date 6-25-99 Assembled By G. MATAClient OGDEN MARTIN SYSTEMS Job No. 10558Plant OMS-LBE City / State FORT MYERS, FLSampling Location UNIT NO. 1 INLET & STACK Method EPA 29Individual Tare of Reagent 200 (ml) (gm) of 5% HNO₃ / 10% H₂O₂Individual Tare of Reagent 200 (ml) (gm) of 4% KMnO₄ / 10% H₂SO₄

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
1-S-M29-4	6-25-99	N/A	N/A	✓	Ⓢ	6-25-99	75	✓	Ⓢ

Filter Appearance*

clean

Reagent Appearance*

clear & Purple

1-I-M29-4	6-25-99	N/A	N/A	✓	Ⓢ			✓	

Filter Appearance*

Reagent Appearance*

Filter Appearance*

Reagent Appearance*

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

MOISTURE ANALYTICAL RESULTS - METHOD

M29

Plant Name OMS of Lee, Inc.

Job No. 10558

City/State Fort Myers, FL

Sampling Location Unit 1 Stack

Run Number

1-S-M29-1

1-S-M29-2

1-S-M29-3

Sampling Date

6/21/99

6/21/99

6/22/99

Analysis Date

6/21/99

6/21/99

6/22/99

Analyst

GM

GM

TW

Reagent 200 ml of 5% HNO₃/10% H₂O₂

Final Weight, g

681.5

668.7

645.2

Tared Weight, g

271.0

267.3

269.3

Water Catch, g

410.5

401.4

375.9

Reagent Empty 3rd Impinger

Final Weight, g

35.3

86.3

92.7

Tared Weight, g

28.9

30.5

29.9

Water Catch, g

6.4

55.8

62.8

Reagent 4% KMnO₄/10% H₂SO₄

Final Weight, g

609.9

602.6

614.9

200 ml used, g*

220.0

220.0

220.0

Empty Tared Weight, g

385.2

385.6

385.0

Water Catch, g

4.7

-3.0

9.9

*Weight of Reagent calculated by multiplying ml of KMnO₄ by density of 1.1 g/ml

CONDENSED WATER, g

421.6

454.2

448.6

Silica Gel

Final Weight, g

212.7

213.3

212.3

Tared Weight, g

200.0

200.0

200.0

ADSORBED WATER, g

12.7

13.3

12.3

TOTAL WATER COLLECTED, g

434.3

467.5

460.9

Balance No. V1200

☐ Triple Beam

☒ Electronic

Balance located in stable, draft-free area?

☒ Yes

☐ No

Comments

Reviewer

AirKinetics, Inc.

MOISTURE ANALYTICAL RESULTS - METHOD

M29

Plant Name OMS of Lee, Inc. Job No. 10558
 City/State Fort Myers, FL Sampling Location Unit 1 Stack

Run Number	1-S-M29-4		
Sampling Date	6/25/99		
Analysis Date	6/25/99		
Analyst	GM		

Reagent	<u>200 ml of 5%HNO3/10%H2O2</u>		
Final Weight, g	747.2		
Tared Weight, g	273.2		
Water Catch, g	474.0		

Reagent	<u>Empty 3rd Impinger</u>		
Final Weight, g	33.1		
Tared Weight, g	28.8		
Water Catch, g	4.3		

Reagent	<u>4% KMnO₄/10% H₂SO₄</u>		
Final Weight, g	612.6	NA	NA
<u>200</u> ml used, g*	220.0	220.0	220.0
Empty Tared Weight, g	385.8		
Water Catch, g	6.8	#VALUE!	#VALUE!

*Weight of Reagent calculated by multiplying ml of KMnO₄ by density of 1.1 g/ml

CONDENSED WATER, g	485.1	#VALUE!	#VALUE!

Silica Gel			
Final Weight, g	212.7		
Tared Weight, g	200.0		
ADSORBED WATER, g	12.7		

TOTAL WATER COLLECTED, g	497.8	#VALUE!	#VALUE!

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam

☒ Electronic

☒ Yes

☐ No

Comments

Reviewer

AirKinetics, Inc.

BEST AVAILABLE COPY

FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. M150 Assembly Date 6-8-99 Assembled By G. MATA

Client OGDEN MARTIN SYSTEMS Job No. 10558

Plant OMS - LEE City / State FORT MYERS, FL

Sampling Location UNIT No. 1 STACK Method EPA 29

Individual Tare of Reagent 200 (ml) (gm) of 5% HNO₃ / 100% H₂O₂

Individual Tare of Reagent 200 (ml) (gm) of 4% KMnO₄ / 10% H₂SO₄

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
1-S-M29-1	6-21-99	N/A	N/A	✓	(u)	6-21-99	75	(u)	✓

Filter Appearance*

clean

Reagent Appearance*

clear - Purple

1-S-M29-2	6-21-99	N/A	N/A	✓	(u)	6-22-99	75	(u)	✓

Filter Appearance*

clean

Reagent Appearance*

clear - Purple

1-S-M29-3	6/22/99	N/A	N/A	✓	(u)	6/22/99	70	Jw	✓

Filter Appearance*

clean

Reagent Appearance*

clear + purple

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed)

REMARKS _____

D 150

RECORD OF CUSTODY, CONTAINER No. M150

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 29 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) _____

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003634	6-8-99	09:30	S	<i>[Signature]</i>	
	6/20/99	1400	B	<i>Johnny Wong</i>	<i>Change Inlets</i>
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact?**
Signature _____	Date _____	Time _____	Yes ____ No ____ N/A ____

As Applicable:

All liquid levels at mark (✓) Yes ____ No ____ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

AIRKINETICS, INC.

Client Sample ID: 1-I-M29-1

TOTAL Metals

Lot-Sample #....: G9F230153-006

Date Sampled....: 06/21/99

Date Received...: 06/23/99

Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 9175270						
Hg (HNO3/H2O2)	58.8 RLA	5.7	ug	SW846 7470A	06/23/99	CX87A102
		Dilution Factor: 28.45		MDL.....: 1.4		
Hg (KMnO4)	0.59	0.10	ug	SW846 7470A	06/23/99	CX87A104
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #....: 9175282						
Hg (Empty)	2.3 G	0.21	ug	SW846 7470A	06/23/99	CX87A103
		Dilution Factor: 1.03		MDL.....: 0.050		
Prep Batch #....: 9175286						
Hg (HCl)	0.80	0.10	ug	SW846 7470A	06/24/99	CX87A105
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #....: 9176215						
Hg (FH)	29.9 RLA	3.0	ug	SW846 7470A	06/24-06/25/99	CX87A101
		Dilution Factor: 15		MDL.....: 0.74		

NOTE(S) :

RLA The reporting limit for this analyte is elevated due to sample dilution.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

AIRKINETICS, INC.

Client Sample ID: 1-I-M29-2

TOTAL Metals

Lot-Sample #....: G9F230153-007

Matrix.....: AIR

Date Sampled....: 06/21/99

Date Received...: 06/23/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 9175270						
Hg (HNO3/H2O2)	92.1 RLA	5.2	ug	SW846 7470A	06/23/99	CX87C106
		Dilution Factor: 26.05		MDL.....: 1.3		
Hg (KMnO4)	2.3	0.10	ug	SW846 7470A	06/23/99	CX87C108
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #....: 9175282						
Hg (Empty)	3.9 G	0.20	ug	SW846 7470A	06/23/99	CX87C107
		Dilution Factor: 0.99		MDL.....: 0.049		
Prep Batch #....: 9175286						
Hg (HCl)	2.1	0.10	ug	SW846 7470A	06/24/99	CX87C109
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #....: 9176215						
Hg (FH)	29.3 RLA	3.0	ug	SW846 7470A	06/24-06/25/99	CX87C105
		Dilution Factor: 15		MDL.....: 0.74		

NOTE(S) :

RLA The reporting limit for this analyte is elevated due to sample dilution.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

Client Sample ID: 1-I-M29-4

Metals

Lot-Sample #...: G9F280123- 001

Matrix.....: AIR

Date Sampled...: 6/25/99

Date Received...: 6/28/99

PARAMETER	RESULT		REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	DIL.
Prep Batch #...:	9182267						6/30/99	
Hg (FH)	23.1	RLA	1.5	2.8	ug	SW846 7470A	6/30/99	7.5
Hg (HNO3/H2O2)	64.0	RLA	5.3	34.7	ug	SW846 7470A	6/30/99	26.6
Hg (KMnO4)	0.20		0.10	0.012	ug	SW846 7470A	6/30/99	0.5
Hg (Empty)	1.1	RLA	0.20	0.049	ug	SW846 7470A	6/30/99	1
Hg (HCl)	0.35		0.10	0.012	ug	SW846 7470A	6/30/99	0.5

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

AIRKINETICS, INC.

Client Sample ID: 1-S-M29-1

TOTAL Metals

Lot-Sample #....: G9F230153-001

Date Sampled....: 06/21/99

Date Received...: 06/23/99

Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9175270						
Hg (HNO3/H2O2)	47.0 RLA	1.4	ug	SW846 7470A	06/23/99	CX86K106
		Dilution Factor: 7.13		MDL.....: 0.35		
Prep Batch #...: 9175282						
Hg (KMnO4)	1.7	0.10	ug	SW846 7470A	06/23/99	CX86K107
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #...: 9175286						
Hg (Empty)	0.57 G	0.21	ug	SW846 7470A	06/23/99	CX86K108
		Dilution Factor: 1.06		MDL.....: 0.052		
Prep Batch #...: 9175286						
Hg (HCl)	0.44	0.10	ug	SW846 7470A	06/24/99	CX86K109
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #...: 9176215						
Hg (FH)	3.3 RLA	0.15	ug	SW846 7470A	06/24-06/25/99	CX86K105
		Dilution Factor: 0.75		MDL.....: 0.037		
Prep Batch #...: 9176237						
Arsenic	ND	0.62	ug	SW846 6020	06/24-06/26/99	CX86K101
		Dilution Factor: 0.31		MDL.....: 0.13		
Beryllium	ND	0.31	ug	SW846 6020	06/24-06/26/99	CX86K102
		Dilution Factor: 0.31		MDL.....: 0.034		
Cadmium	1.1	0.31	ug	SW846 6020	06/24-06/26/99	CX86K103
		Dilution Factor: 0.31		MDL.....: 0.031		
Lead	12.7	0.31	ug	SW846 6020	06/24-06/26/99	CX86K104
		Dilution Factor: 0.31		MDL.....: 0.046		

NOTE(S) :

RLA The reporting limit for this analyte is elevated due to sample dilution.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

AIRKINETICS, INC.

Client Sample ID: 1-S-M29-2

TOTAL Metals

Lot-Sample #....: G9F230153-002

Matrix.....: AIR

Date Sampled....: 06/21/99

Date Received...: 06/23/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 9175270						
Hg (HNO3/H2O2)	61.8 RLA	1.4	ug	SW846 7470A	06/23/99	CX872106
		Dilution Factor: 7.03		MDL.....: 0.34		
Hg (KMnO4)	0.95	0.10	ug	SW846 7470A	06/23/99	CX872107
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #....: 9175282						
Hg (Empty)	4.0 G	0.30	ug	SW846 7470A	06/23/99	CX872108
		Dilution Factor: 1.51		MDL.....: 0.074		
Prep Batch #....: 9175286						
Hg (HCl)	1.7	0.10	ug	SW846 7470A	06/24/99	CX872109
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #....: 9176215						
Hg (FH)	4.1 RLA	0.15	ug	SW846 7470A	06/24-06/25/99	CX872105
		Dilution Factor: 0.75		MDL.....: 0.037		
Prep Batch #....: 9176237						
Arsenic	1.3	0.62	ug	SW846 6020	06/24-06/26/99	CX872101
		Dilution Factor: 0.31		MDL.....: 0.13		
Beryllium	ND	0.31	ug	SW846 6020	06/24-06/26/99	CX872102
		Dilution Factor: 0.31		MDL.....: 0.034		
Cadmium	1.6	0.31	ug	SW846 6020	06/24-06/26/99	CX872103
		Dilution Factor: 0.31		MDL.....: 0.031		
Lead	65.2	0.31	ug	SW846 6020	06/24-06/26/99	CX872104
		Dilution Factor: 0.31		MDL.....: 0.046		

NOTE (S) :

RLA The reporting limit for this analyte is elevated due to sample dilution.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

Client Sample ID: 1-S-M29-4

Metals

Lot-Sample #....: G9F280123- 002
 Date Sampled....: 6/25/99

Date Received...: 6/28/99

Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	DIL.
Prep Batch #....:	9182215					6/29/99	
Arsenic	0.81	0.62	0.13	ug	SW846 6020	7/2/99	0.31
Beryllium	ND	0.31	0.034	ug	SW846 6020	7/2/99	0.31
Cadmium	1.5	0.31	0.031	ug	SW846 6020	7/2/99	0.31
Lead	20.5	0.31	0.046	ug	SW846 6020	7/2/99	0.31

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Prep Batch #....:	9182267					6/30/99	
Hg (FH)	0.11	0.030	0.0011	ug	SW846 7470A	6/30/99	0.15
Hg (HNO3/H2O2)	53.8	RLA 3.1	12.0	ug	SW846 7470A	6/30/99	15.66
Hg (KMnO4)	ND	0.10	0.012	ug	SW846 7470A	6/30/99	0.5
Hg (Empty)	0.44	G 0.20	0.049	ug	SW846 7470A	6/30/99	1
Hg (HCl)	0.57	0.10	0.012	ug	SW846 7470A	6/30/99	0.5

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

APPENDIX D
ANALYTICAL DATA

2.0 UNIT NO. 1

h. PARTICULATE LESS THAN 10 MICRONS

MOISTURE ANALYTICAL RESULTS - METHOD

M201A

Plant Name OMS of Lee, Inc.

Job No. 10558

City/State Fort Myers, FL

Sampling Location Unit 1 Stack

Run Number

1-S-M201A-1

1-S-M201A-2

1-S-M201A-3

Sampling Date

6/24/99

6/25/99

6/26/99

Analysis Date

6/24/99

6/25/99

6/26/99

Analyst

CMW

AJG

GM

Reagent 200 ml of DI Water

Final Weight, g

413.0

432.2

444.0

Tared Weight, g

200.0

200.0

200.0

Water Catch, g

213.0

232.2

244.0

Reagent

Final Weight, g

Tared Weight, g

Water Catch, g

Reagent

Final Weight, g

ml used, g*

Empty Tared Weight, g

Water Catch, g

*Weight of Reagent calculated by multiplying ml of KMnO_4 by density of 1.1 g/ml

CONDENSED WATER, g

213.0

232.2

244.0

Silica Gel

Final Weight, g

212.9

208.8

210.0

Tared Weight, g

200.0

200.0

200.0

ADSORBED WATER, g

12.9

8.8

10.0

TOTAL WATER COLLECTED, g

225.9

241.0

254.0

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam☒ Electronic☒ Yes☐ No

Comments

Reviewer

AirKinetics, Inc.

D 159

Box No. 206 Assembly Date 6-8-99 Assembled By G. MATAClient OGDEN MARTIN SYSTEMS Job No. 10558Plant OMS-LEE City / State Fort Myers, FLSampling Location UNIT No. 1 STACK Method EPA 201AIndividual Tare of Reagent 200 (ml) (gm) of DI H₂O

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
1-S-M201A-1	6-24-99	P126	0.1394	✓	(u)	6-24-99	75	✓	CW

Filter Appearance*

clean

Reagent Appearance*

clean

1-S-M201A-2	6-25-99	P125	0.1411	✓	(u)	6-25-99	25	✓	e

Filter Appearance*

clean

Reagent Appearance*

clean

1-S-M201A-3	6-26-99	P124	0.1387	✓	(u)	6-26-99	40	✓	e

Filter Appearance*

Reagent Appearance*

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

D 160

RECORD OF CUSTODY, CONTAINER No. 206

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 201A (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) ☐

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003616	6-8-99	13:55	S	<i>[Signature]</i>	
	6-24-99	0739	B	<i>[Signature]</i>	Change train
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian

Seal Intact?**

Signature _____ Date _____ Time _____ Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: OMS - Lee

AKI Ref# 10558

Sampling Location: Unit No. 1 Stack

Date Received: June 28, 1999

Run Number 1-S-M201A-1

Sample I.D. in stack filter / 1134

Container # < = 10 um

init. date

GM 07/15/99 3.7771

GM 07/15/99 @ 3.7770

Baggie Tare Wt., g. 3.6358

Filter Tare Wt., g. P126 0.1394

FILTER SAMPLE WT., g. 0.0018

Sample I.D. in stack filter

Container # rinse / 1133

< = 10 um

init. date

date

GM 07/15/99 3.7020 07/15/99 3.6950

GM 07/15/99 @ 3.7018 07/15/99 @ 3.6948

Tare Wt., g. (50 ml) 3.7008 (50 ml) 3.6934

RINSE SAMPLE WT., g. 0.0010 0.0014

Filter Catch, mg. 1.8 NA

Rinse Catch, mg. 1.0 1.4

Blank Residue, mg. 0.0 0.0

Net Rinse Catch, mg. 1.0 1.4

SUBTOTAL CATCH, mg. 2.8 1.4

Blank Beaker # B / 1150

Final wt., g. 3.4767

Tare wt., g. 3.4765

Residue, mg. 0.2

Volume, ml. 200

Density, mg/ml 785.0

Conc., mg/mg 1.27E-06 <--

Upper Limit, mg/mg 1.00E-05

---Legend---

@ = Final Weight

F = Filter R = Rinse

1 = Light

2 = Medium

3 = Heavy or Dark

FILTERABLE PARTICULATE, mg. 4.2

Sample Description

Run # Color Loading

1-S-M201A-1 1 1

Notes and comments:

Predominate color of samples is: Clean

Date of full balance span July 14, 1999

Printing Date 15-Jul-99

Printing Time

02:09 PM

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: OMS - Lee AKI Ref# 10558

Sampling Location: Unit No. 1 Stack

Date Received: June 28, 1999

Run Number 1-S-M201A-2

Sample I.D. in stack filter / 1088

Container # < = 10 um

	init.	date	
GM		07/15/99	3.9099
GM		07/15/99 @	3.9096
Baggie Tare Wt., g.			3.7070
Filter Tare Wt., g.		P146	0.2022
FILTER SAMPLE WT., g.			0.0004

Sample I.D.	in stack filter		nozzle & cyclone	
Container #	rinse / 1085		rinse / 1084	
	< = 10 um		> 10 um	
	init.	date	date	

GM	07/15/99	3.7316	07/15/99	3.6800
GM	07/15/99 @	3.7313	07/15/99 @	3.6797
Tare Wt., g.	(25 ml)	3.7308	(25 ml)	3.6780
RINSE SAMPLE WT., g.		0.0005		0.0017

Filter Catch, mg.	0.4	NA
Rinse Catch, mg.	0.5	1.7
Blank Residue, mg.	0.0	0.0
Net Rinse Catch, mg.	0.5	1.7
SUBTOTAL CATCH, mg.	0.9	1.7

Blank Beaker #	B / 1150	---Legend---	FILTERABLE PARTICULATE, mg.	2.6
Final wt., g.	3.4767	@ = Final Weight		
Tare wt., g.	3.4765	F = Filter R = Rinse		
Residue, mg.	0.2		Sample Description	
Volume, ml.	200	1 = Light	Run #	Color
Density, mg/ml	785.0	2 = Medium		
Conc., mg/mg	1.27E-06 <--	3 = Heavy or Dark	1-S-M201A-2	1
Upper Limit, mg/mg	1.00E-05			1

Notes and comments:

Predominate color of samples is: Clean

Date of full balance span July 14, 1999

Printing Date

15-Jul-99

Printing Time

01:58 PM

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: OMS - Lee

AKI Ref# 10558

Sampling Location: Unit No. 1 Stack

Date Received: June 28, 1999

Run Number 1-S-M201A-3

Sample I.D. in stack filter / 1207
Container # < = 10 um

	init.	date	
GM		07/15/99	3.7674
GM		07/15/99 @	3.7671
Baggie Tare Wt., g.			3.6272
Filter Tare Wt., g.		P124	0.1387
FILTER SAMPLE WT., g.			0.0012

Sample I.D.	in stack filter	nozzle & cyclone
Container #	rinse / 1171	rinse / 1167
	< = 10 um	> 10 um
	init.	date

GM	07/15/99	3.7164	07/15/99	3.5199
GM	07/15/99 @	3.7160	07/15/99 @	3.5196
Tare Wt., g.	(25 ml)	3.7158	(25 ml)	3.5182
RINSE SAMPLE WT., g.		0.0002		0.0014

Filter Catch, mg.	1.2	NA
Rinse Catch, mg.	0.2	1.4
Blank Residue, mg.	0.0	0.0
Net Rinse Catch, mg.	0.2	1.4
SUBTOTAL CATCH, mg.	1.4	1.4

Blank Beaker #	B / 1150	---Legend---	FILTERABLE PARTICULATE, mg.	2.8
Final wt., g.	3.4767	@ = Final Weight		
Tare wt., g.	3.4765	F = Filter R = Rinse		
Residue, mg.	0.2			
Volume, ml.	200			
Density, mg/ml	785.0	1 = Light	Run #	Color
Conc., mg/mg	1.27E-06 <--	2 = Medium		
Upper Limit, mg/mg	1.00E-05	3 = Heavy or Dark	1-S-M201A-3	1
				Loading
				1

Notes and comments:

Predominate color of samples is: Clean

Date of full balance span July 14, 1999

Printing Date 15-Jul-99

Printing Time

02:08 PM

D 163A

APPENDIX D

ANALYTICAL DATA

2.0 UNIT NO. 1

i. SOOT BLOW - PARTICULATE

MOISTURE ANALYTICAL RESULTS - METHOD M5

Plant Name OMS of Lee, Inc. Job No. 10558
 City/State Fort Myers, FL Sampling Location Unit 1 Stack

Run Number	1-S-M5-1SB	1-S-M5-2SB	1-S-M5-3SB
Sampling Date	6/22/99	6/23/99	6/24/99
Analysis Date	6/22/99	6/23/99	6/24/99
Analyst	CMW	CMW	CMW

Reagent	<u>200 ml of DI Water</u>		
Final Weight, g	652.0	642.0	688.0
Tared Weight, g	200.0	200.0	200.0
Water Catch, g	452.0	442.0	488.0

Reagent			
Final Weight, g			
Tared Weight, g			
Water Catch, g			

Reagent			
Final Weight, g			
<u> </u> ml used, g*			
Empty Tared Weight, g			
Water Catch, g			

*Weight of Reagent calculated by multiplying ml of KMnO₄ by density of 1.1 g/ml

CONDENSED WATER, g	452.0	442.0	488.0

Silica Gel			
Final Weight, g	217.7	218.3	217.6
Tared Weight, g	200.0	200.0	200.0
ADSORBED WATER, g	17.7	18.3	17.6

TOTAL WATER COLLECTED, g	469.7	460.3	505.6

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam

☒ Yes

☒ Electronic

☐ No

Comments

Reviewer

AirKinetics, Inc.

BEST AVAILABLE COPY

FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. 204Assembly Date 6-8-99Assembled By G. MATAClient OXDEN MARTIN SYSTEMSJob No. 10558Plant OMS-LEECity / State FOOT MYERS, FLSampling Location UNIT No. 1 STACKMethod EPA 5Individual Tare of Reagent 200 (ml) (gm) of DI H₂O

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm

Other (specify) _____

Run Number	Run Date	Filter or XAD		Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
		Number	Tare, grams						
1-S-M5-1SB	6/22/99	4958	0.4862	✓	Ⓢ	6/22/99	25	✓	Amw
				Filter Appearance*					
				<u>clean</u>					
				Reagent Appearance*					
				<u>clean</u>					
1-S-M5-2SB	6/22/99	4960	0.4767	✓	Ⓢ	6/22/99	25	✓	cmw
				Filter Appearance*					
				<u>clean</u>					
				Reagent Appearance*					
				<u>clean</u>					
1-S-M5-3SB	6-24-99	B011	0.4826	✓	Ⓢ	6-24-99	35	✓	CW
				Filter Appearance*					
				<u>clean</u>					
				Reagent Appearance*					
				<u>clean</u>					
				Filter Appearance*					
				Reagent Appearance*					

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

D 166

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: Ogden Martins Systems - Lee

AKI Ref#

10558

Sampling Location: Unit No. 1 Stack (Soot Blow)

Date Received: June 28, 1999

Run Number	1-S-M5-1SB	1-S-M5-2SB	1-S-M5-3SB

Sample ID/Container #	<u>F / 1159</u>	<u>F / 1151</u>	<u>F / 1126</u>
init. date	date	date	date
GM	07/14/99	07/14/99	07/14/99
GM	07/14/99 @	07/14/99 @	07/14/99 @
Baggie Tare Wt., g.	3.7228	3.6692	3.6230
Filter Tare Wt., g.	A958	A960	B011
FILTER SAMPLE WT., g.	0.0036	0.0060	0.0068

Sample ID/Container #	<u>R / 1160</u>	<u>R / 1154</u>	<u>R / 1086</u>
init. date	date	date	date
GM	07/14/99	07/14/99	07/14/99
GM	07/14/99 @	07/14/99 @	07/14/99 @
Tare Wt., g.	(100 ml) 3.5759	(180 ml) 3.5619	(100 ml) 3.5556
RINSE SAMPLE WT., g.	0.0018	0.0101	0.0040

Filter Catch, mg.	3.6	6.0	6.8
Rinse Catch, mg.	1.8	10.1	4.0
Rinse Blank Residue, mg.	0.1	0.2	0.1
Net Rinse Catch, mg.	1.7	9.9	3.9
FILTERABLE PARTICULATE, mg.	5.3	15.9	10.7

Blank Beaker #	B / 1150	---Legend---	Sample Description
Final wt., g.	3.4767	@ = Final Weight	
Tare wt., g.	3.4765	F = Filter R = Rinse	
Residue, mg.	0.2		
Volume, ml.	200		
Density, mg/ml	785.0		
Conc., mg/mg	1.27E-06 <--		
Upper Limit, mg/mg	1.00E-05		
		1 = Light	1-S-M5-1SB 1 1
		2 = Medium	1-S-M5-2SB 1 1
		3 = Heavy or Dark	1-S-M5-3SB 1 1

Notes and comments:

Predominate color of samples is: Clean

Date of full balance span July 14, 1999

Printing Date

15-Jul-99

Printing Time

08:22 AM

APPENDIX D
ANALYTICAL DATA

3.0 UNIT NO. 2

a. PARTICULATE

MOISTURE ANALYTICAL RESULTS - METHOD

M5

Plant Name OMS of Lee, Inc.Job No. 10558City/State Fort Myers, FLSampling Location Unit 2 Stack

Run Number

2-S-M5-1

2-S-M5-2

2-S-M5-3

Sampling Date

6/21/99

6/21/99

6/25/99

Analysis Date

6/21/99

6/21/99

6/25/99

Analyst

AJG

AJG

AJG

Reagent 200 ml of DI Water

Final Weight, g

596.0

584.0

596.0

Tared Weight, g

200.0

200.0

200.0

Water Catch, g

396.0

384.0

396.0

Reagent _____

Final Weight, g

Tared Weight, g

Water Catch, g

Reagent _____

Final Weight, g

_____ ml used, g*

Empty Tared Weight, g

Water Catch, g

*Weight of Reagent calculated by multiplying ml of KMnO_4 by density of 1.1 g/ml

CONDENSED WATER, g

396.0

384.0

396.0

Silica Gel

Final Weight, g

221.3

218.3

215.3

Tared Weight, g

200.0

200.0

200.0

ADSORBED WATER, g

21.3

18.3

15.3

TOTAL WATER COLLECTED, g

417.3

402.3

411.3

Balance No. V1200☐ Triple Beam☒ Electronic

Balance located in stable, draft-free area?

☒ Yes☐ No

Comments _____

Reviewer _____

AirKinetics, Inc.

D 169

BEST AVAILABLE COPY FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. 219 Assembly Date 6-8-99 Assembled By G. MATA
 Client OGDEN MARTIN SYSTEMS Job No. 10558
 Plant OMS-LEE City/State Font MYERS, FL
 Sampling Location UNIT No. 2 STACK Method EPA 5

Individual Tare of Reagent 200 (ml) (gm) of DI H₂O
 Individual Tare of Reagent _____ (ml) (gm) of _____
 Individual Tare of Reagent _____ (ml) (gm) of _____
 Individual Tare of Silca Gel 200 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
2-S-MS-1	6-21-99	A954	0.4727	✓	(M)	6-21-99	25	✓	(M)

Filter Appearance*

clear

Reagent Appearance*

clear

2-S-MS-2	6-21-99	A654	0.5118	✓	(M)	6-21-99	85	✓	(M)

Filter Appearance*

clear

Reagent Appearance*

clear

2-S-MS-3	6-25-99	B012	0.4755	✓	(M)	6-25-99	85	✓	(M)

Filter Appearance*

Reagent Appearance*

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

D 170

RECORD OF CUSTODY, CONTAINER No. 219

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 5 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) ☐

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003617	6-8-99	12:27	S	<i>[Signature]</i>	
	6/20/99	1507	B	<i>[Signature]</i>	Change Icons
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact? **
Signature	Date	Time	Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in re fridge. by _____ Date _____ Time _____

REMARKS _____

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: Ogden Martins Systems - Lee

AKI Ref# 10558

Sampling Location: Unit No. 2 Stack

Date Received: June 28, 1999

Run Number	2-S-M5-1	2-S-M5-2	2-S-M5-3

Sample ID/Container #	<u>F / 1145</u>	<u>F / 1141</u>	<u>F / 1080</u>
init. date	date	date	date
GM 07/14/99	4.1093	07/14/99 4.2445	07/14/99 @ 4.0891
GM 07/14/99 @	4.1088	07/14/99 @ 4.2442	07/14/99 @ 4.0891
Baggie Tare Wt., g.	3.6270	3.7292	3.6061
Filter Tare Wt., g. A954	0.4777	A654 0.5118	B012 0.4755
FILTER SAMPLE WT., g.	0.0041	0.0032	0.0075

Sample ID/Container #	<u>R / 1138</u>	<u>R / 1137</u>	<u>R / 1082</u>
init. date	date	date	date
GM 07/14/99	3.5865	07/14/99 @ 3.8999	07/14/99 @ 3.8020
GM 07/14/99 @	3.5862	07/14/99 @ 3.8999	07/14/99 3.8023
Tare Wt., g. (100 ml)	3.5843	(110 ml) 3.8984	(50 ml) 3.8002
RINSE SAMPLE WT., g.	0.0019	0.0015	0.0018

Filter Catch, mg.	4.1	3.2	7.5
Rinse Catch, mg.	1.9	1.5	1.8
Rinse Blank Residue, mg.	0.1	0.1	0.0
Net Rinse Catch, mg.	1.8	1.4	1.8
FILTERABLE PARTICULATE, mg.	5.9	4.6	9.3

Blank Beaker #	B / 1150	---Legend---	Sample Description
Final wt., g.	3.4767	@ = Final Weight	
Tare wt., g.	3.4765	<u>F = Filter</u> <u>R = Rinse</u>	
Residue, mg.	0.2		
Volume, ml.	200		
Density, mg/ml	785.0	1 = Light	2-S-M5-1 1 1
Conc., mg/mg	1.27E-06 <--	2 = Medium	2-S-M5-2 1 1
Upper Limit, mg/mg	1.00E-05	3 = Heavy or Dark	2-S-M5-3 1 1

Notes and comments:

Predominate color of samples is: Clean

Date of full balance span July 14, 1999

Printing Date 15-Jul-99

Printing Time

08:22 AM

APPENDIX D
ANALYTICAL DATA

3.0 UNIT NO. 2

b. SULFURIC ACID MIST

MOISTURE ANALYTICAL RESULTS - METHOD

M8

Plant Name OMS of Lee, Inc.Job No. 10558City/State Fort Meyers, FLSampling Location Unit 2 Stack

Run Number

2-S-M8-1

2-S-M8-2

2-S-M8-3

Sampling Date

6/24/99

6/24/99

6/26/99

Analysis Date

6/24/99

6/24/99

6/26/99

Analyst

CMW

CMW

CMW

Reagent 100 ml of 80% IPA

Final Weight, g

347.1

438.9

456.6

Tared Weight, g

327.0

327.1

326.3

Water Catch, g

20.1

111.8

130.3

Reagent 200 ml of 3% H2O2

Final Weight, g

689.2

658.7

662.4

Tared Weight, g

591.4

583.6

583.2

Water Catch, g

97.8

75.1

79.2

Reagent _____

Final Weight, g

_____ ml used, g*

Empty Tared Weight, g

Water Catch, g

*Weight of Reagent calculated by multiplying ml of KMnO_4 by density of 1.1 g/ml

CONDENSED WATER, g

117.9

186.9

209.5

Silica Gel

Final Weight, g

235.4

215.6

219.5

Tared Weight, g

200.0

200.0

200.0

ADSORBED WATER, g

35.4

15.6

19.5

TOTAL WATER COLLECTED, g

153.3

202.5

229.0

Balance No. V1200☐ Triple Beam☒ Electronic

Balance located in stable, draft-free area?

☒ Yes☐ No

Comments _____

Reviewer _____

AirKinetics, Inc.

Box No. C16 Assembly Date 6-8-99 Assembled By G. MATA
 Client OGDEN MARTIN SYSTEMS Job No. 10558
 Plant OMS-LEE City / State FORT MYERS, FL
 Sampling Location UNIT No. 2 STACK Method EPA 8

Individual Tare of Reagent 100 (ml) (~~gm~~) of 80% IPA
 Individual Tare of Reagent 200 (ml) (~~gm~~) of 3% H₂O₂
 Individual Tare of Reagent _____ (ml) (gm) of _____
 Individual Tare of Silca Gel _____ gm _____

Other (specify)

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
2-S-M8-1	6/24/99	N/A	-	✓	(C)	6/24/99	80	✓	Cmw

Filter Appearance*

clean/white

Reagent Appearance*

clear

2-S-M8-2	6/24/99	N/A	-	✓	(C)	6/24/99	80	✓	Cmw

Filter Appearance*

clean/white

Reagent Appearance*

clear

2-S-M8-3	6/26/99	N/A	-	✓	(C)	6/26/99	75	✓	Cmw

Filter Appearance*

Reagent Appearance*

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed)

REMARKS

D 175

RECORD OF CUSTODY, CONTAINER No. C16

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 8 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) ☐

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003182	6-8-99	14:07	S	<i>[Signature]</i>	
	6/24/99	08 42	B	<i>Christopher M. White</i>	Change Tires
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact?**
Signature	Date	Time	Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

SULFURIC ACID (H2SO4) ANALYTICAL RESULTS

Version No. 1.0, 1/17/92
EPA REFERENCE METHOD: 8

Company Name: OMS - Lee

AKI Ref. #:

10558

Sampling Location: Unit No. 2 Stack

Date Analyzed: 06/28/99

Analyst: Gary Mata

Burette Size Used: 25ml Digital

Analytical Media: 0.1N H2SO4

Printing Date: 06/28

Printing time: 14:41

RUN NUMBER	SAMPLE VOLUME mls (V)	DIL. FACT. (D)	ALIQ. QUOT VOLUME mls (A)	ALIQ. FACTOR (F)	TITRANT VOLUME mls (T1)	TITRANT VOLUME mls (T2)	TITRANT VOLUME mls (Tavg)	MASS H2SO4 mg (MH2SO4)
Reagent Blank		1	25		0.00	0.00	0.000	Tbavg
2-S-M8-1	300	1	25	12.0	1.42	1.33	1.375	8.173
2-S-M8-2	300	1	25	12.0	2.19	2.17	2.180	12.957
2-S-M8-3	340	1	25	13.6	2.24	2.28	2.260	15.224
AUDIT*	100	1	20	5.0	4.60	4.62	4.610	7.457

*In-house audit

Lot# 0594-2594

Actual value mg.

7.35

% Dev.

1.46%

Where:

Titration Standardization
against 0.02N H2SO4

$$T_{avg} = (T + T) / 2$$

$$F = V / A$$

$$N = \text{Volume H2SO4} \times 0.02N / \text{Volume BaCl2}$$

$$MH2SO4 = 49.04 \times (T_{avg} - T_{bavg}) \times N \times F \times D$$

H2SO4 Volume	BaCl2 Volume	BaCl2 Normality
10	19.84	0.0101
10	19.75	0.0101
10	19.78	0.0101
Avg. N		0.0101

For Run: 2-S-M8-1

$$MH2SO4 = 49.04 \times (1.375 - 0) \times 12 \times 1$$

$$MH2SO4 = 8.173 \text{ mg}$$

NOTE: Results reported to three significant digits

APPENDIX D
ANALYTICAL DATA

3.0 UNIT NO. 2

c. FLUORIDES

MOISTURE ANALYTICAL RESULTS - METHOD

M13B

Plant Name	OMS of Lee, Inc.		Job No.	10558
City/State	Fort Myers, FL		Sampling Location	Unit 2 Stack
Run Number	2-S-M13B-1	2-S-M13B-2	2-S-M13B-3	
Sampling Date	6/22/99	6/23/99	6/26/99	
Analysis Date	6/22/99	6/24/99	6/26/99	
Analyst	CMW	CMW	CMW	

Reagent	200 ml of DI Water		
Final Weight, g	449.6	459.1	475.1
Tared Weight, g	258.8	259.4	259.8
Water Catch, g	190.8	199.7	215.3

Reagent			
Final Weight, g			
Tared Weight, g			
Water Catch, g			

Reagent			
Final Weight, g			
ml used, g*			
Empty Tared Weight, g			
Water Catch, g			

*Weight of Reagent calculated by multiplying ml of KMnO₄ by density of 1.1 g/ml

CONDENSED WATER, g	190.8	199.7	215.3

Silica Gel			
Final Weight, g	218.5	208.7	209.2
Tared Weight, g	200.0	200.0	200.0
ADSORBED WATER, g	18.5	8.7	9.2

TOTAL WATER COLLECTED, g	209.3	208.4	224.5

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam

☒ Electronic

☒ Yes

☐ No

Comments

Reviewer

AirKinetics, Inc.

BEST AVAILABLE COPY FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. C12 Assembly Date 6-8-99 Assembled By G. MATA

Client OGDEN MARTIN SYSTEMS Job No. 10558

Plant OMS-LEE City / State FORT MYERS, FL

Sampling Location UNIT No. 2 STACK Method EPA 13B

Individual Tare of Reagent 200 (ml) (gm) of DI H₂O

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm

Other (specify) _____

Run Number	Run Date	Filter or XAD		Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
		Number	Tare, grams						
2-S-M13B-1	6/22/99	N/A	-	✓	Ⓢ	6/22/99	25	✓	Cmw

Filter Appearance*

Clean / Clean

Reagent Appearance*

Clean

2-S-M13B-2	6/23/99	N/A	-	✓	Ⓢ	6/23/99	25	✓	Cmw

Filter Appearance*

Clean

Reagent Appearance*

Clean

2-S-M13B-3	6/24/99	N/A	-	✓	Ⓢ	6/24/99	25	✓	Cmw

Filter Appearance*

Clean

Reagent Appearance*

Clean

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed)

REMARKS

D 180

RECORD OF CUSTODY, CONTAINER No. C12

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 13 B

(EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒

Cooler ☐

Other (specify) _____

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003422	6-8-99	14:12	S	<i>[Signature]</i>	
			B		
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact? **
Signature _____	Date _____	Time _____	Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

WEST COAST ANALYTICAL SERVICE, INC.

AIRKINETICS, INC.
Attn: Gary MataJob No: 42714
July 6, 1999

LABORATORY REPORT

Total Fluoride by Ion Selective Electrode (EPA 13B)

Samples were collected by EPA 13B then analyzed by Ion Selective Electrode.

<u>Sample ID</u>	<u>Parts Per Million (mg/L)</u>	<u>Sample Volume (Liters)</u>	<u>Total Milligrams</u>
1-S-M13B-1	ND	0.700	ND
1-S-M13B-2	ND	0.740	ND
1-S-M13B-3	ND	0.610	ND
2-S-M13B-1	ND	0.585	ND
2-S-M13B-2	ND	0.690	ND
2-S-M13B-3	ND	0.690	ND
M13B-RB	ND	0.690	ND

Detection Limit: 0.1

Date Analyzed: 06-30-99

Matrix Spike/Matrix Spike Duplicate Quality Control Summary

Sample: 2-S-M13B-2
Units: ppm (mg/L)

Analyte	Sample Result	Amount Spiked	MS Result	% Rec MS	MSD Result	% Rec MSD	RPD
FLUORIDE	ND	1.00	1.05	105	1.08	108	3

QC Limits

Analyte	RPD Control	% Recovery Control
FLUORIDE	25	50 - 150

This report is to be reproduced in its entirety.

WCAS

APPENDIX D
ANALYTICAL DATA

3.0 UNIT NO. 2

d. DIOXIN/FURANS

MOISTURE ANALYTICAL RESULTS - METHOD

M23

Plant Name	OMS of Lee, Inc.	Job No.	10558
City/State	Fort Myers, FL	Sampling Location	Unit 2 Stack

Run Number	2-S-M23-1	2-S-M23-2	2-S-M23-3
Sampling Date	6/22/99	6/24/99	6/25/99
Analysis Date	6/22/99	6/24/99	6/25/99
Analyst	GM	GM	GM

Reagent	200 ml of DI Water		
Final Weight, g	1067.0	1040.0	1055.0
Tared Weight, g	200.0	200.0	200.0
Water Catch, g	867.0	840.0	855.0

Reagent	XAD		
Final Weight, g	343.2	348.4	296.8
Tared Weight, g	335.2	340.0	285.9
Water Catch, g	8.0	8.4	10.9

Reagent			
Final Weight, g			
_____ ml used, g*			
Empty Tared Weight, g			
Water Catch, g			

*Weight of Reagent calculated by multiplying ml of KMnO₄ by density of 1.1 g/ml

CONDENSED WATER, g	875.0	848.4	865.9

Silica Gel			
Final Weight, g	440.0	437.8	443.8
Tared Weight, g	400.0	400.0	400.0
ADSORBED WATER, g	40.0	37.8	43.8

TOTAL WATER COLLECTED, g	915.0	886.2	909.7

Balance No.	V1200	☐ Triple Beam	☒ Electronic
Balance located in stable, draft-free area?		☒ Yes	☐ No

Comments _____

Reviewer _____
AirKinetics, Inc.

BEST AVAILABLE COPY

FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. C005 Assembly Date 6-8-99 Assembled By G. MATA

Client OXDEN MARTIN SYSTEMS Job No. 10558

Plant OMS - LEE City / State FORT MYERS, FL

Sampling Location UNIT No. 2 STACK Method EPA 23

Individual Tare of Reagent 200 (ml) (gm) of HPLC GRADE WATER

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 400 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
2-S-M23-1	6/22/99	2-S-M231	335.2	✓	(M)	6/22/99	75	✓	(M)

Filter Appearance*

Clear

Reagent Appearance*

Clear

2-S-M23-2	6-24-99	2-S-M232	340.0	✓	(M)	6-24-99	50	✓	(M)

Filter Appearance*

Clear

Reagent Appearance*

Clear

2-S-M23-3	6-25-99	AK1020	285.9	✓	(M)	6-25-99	75	✓	(M)

Filter Appearance*

Clear

Reagent Appearance*

Clear

2-S-M23-FB	6-24-99	N/A	N/A	✓	(M)	6-24-99	N/A	✓	(M)

Filter Appearance*

N/A

Reagent Appearance*

N/A

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed)

REMARKS

D 185

RECORD OF CUSTODY, CONTAINER No. C005

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 23

(EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒

Cooler ☐

Other (specify) _____

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003972	6-8-99	10:50	S	<i>[Signature]</i>	To change trains
	6/21/99	1810	B	<i>[Signature]</i>	
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian

Seal Intact?**

Signature _____

Date _____

Time _____

Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

**PCDD & PCDF
EPA METHOD 23**

Sample ID: 2-S-M23-1
Lab ID: 6954-0006-SA
Matrix: M23

Date Received: 6/26/99
Date Extracted: 7/7/99
Sample Amount: Sample

ICAL ID: I428
QC Lot: LC0707M
Units: pg/sample

<u>Compound</u>	<u>Conc.</u>	<u>D.L.</u>	<u>Ratio</u>	<u>S/N</u> <u>Ratio</u>	<u>Qualifier</u>
2,3,7,8-TCDD	80		0.75	>10:1	
Total TCDD	2000		0.76	>10:1	
1,2,3,7,8-PeCDD	190		1.33	>10:1	
Total PeCDD	3500		1.60	>10:1	
1,2,3,4,7,8-HxCDD	180		1.19	>10:1	
1,2,3,6,7,8-HxCDD	380		1.21	>10:1	
1,2,3,7,8,9-HxCDD	200		1.16	>10:1	
Total HxCDD	6500		1.24	>10:1	
1,2,3,4,6,7,8-HpCDD	2000		1.04	>10:1	
Total HpCDD	3900		1.03	>10:1	
OCDD	5200		0.86	>10:1	B
2,3,7,8-TCDF	380		0.78	>10:1	
Total TCDF	16000		0.77	>10:1	
1,2,3,7,8-PeCDF	680		1.55	>10:1	
2,3,4,7,8-PeCDF	750		1.55	>10:1	
Total PeCDF	12000		1.53	>10:1	D
1,2,3,4,7,8-HxCDF	860		1.25	>10:1	
1,2,3,6,7,8-HxCDF	700		1.24	>10:1	
2,3,4,6,7,8-HxCDF	600		1.29	>10:1	
1,2,3,7,8,9-HxCDF	120		1.32	>10:1	
Total HxCDF	7100		1.21	>10:1	
1,2,3,4,6,7,8-HpCDF	2900		1.09	>10:1	
1,2,3,4,7,8,9-HpCDF	130		1.16	>10:1	
Total HpCDF	3800		1.09	>10:1	
OCDF	530		0.87	>10:1	

Analyst: MS

Page 1 of 2

Reviewer: SN

**PCDD & PCDF
EPA METHOD 23**

Sample ID: 2-S-M23-1
Lab ID: 6954-0006-SA

Isotopic Recovery Results

<u>Internal Standard:</u>	<u>% R</u>	<u>Ratio</u>	<u>Qualifier</u>
¹³ C-2,3,7,8-TCDD	107	0.79	
¹³ C-1,2,3,7,8-PeCDD	90	1.57	
¹³ C-1,2,3,6,7,8-HxCDD	91	1.27	
¹³ C-1,2,3,4,6,7,8-HpCDD	103	1.08	
¹³ C-OCDD	95	0.90	
¹³ C-2,3,7,8-TCDF	82	0.79	
¹³ C-1,2,3,7,8-PeCDF	86	1.59	
¹³ C-1,2,3,6,7,8-HxCDF	94	0.52	
¹³ C-1,2,3,4,6,7,8-HpCDF	79	0.45	

Pre-spike Recovery Standard:

³⁷ Cl-2,3,7,8-TCDD	77	NA	
¹³ C-2,3,4,7,8-PeCDF	77	1.59	
¹³ C-1,2,3,4,7,8-HxCDD	80	1.26	
¹³ C-1,2,3,4,7,8-HxCDF	89	0.52	
¹³ C-1,2,3,4,7,8,9-HpCDF	66	0.46	

Alternate Recovery Standard:

¹³ C-1,2,3,7,8,9-HxCDF	82	0.51	

Dates Analyzed:

DB-5: 7/10/99 DB-225: 7/12/99 SP-2331: NA

Analyst: MS

Page 2 of 2

Reviewer: SW

**PCDD & PCDF
EPA METHOD 23**

Sample ID: 2-S-M23-2
Lab ID: 6954-0007-SA
Matrix: M23

Date Received: 6/26/99
Date Extracted: 7/7/99
Sample Amount: Sample

ICAL ID: 1428
QC Lot: LC0707M
Units: pg/sample

<u>Compound</u>	<u>Conc.</u>	<u>D.L.</u>	<u>Ratio</u>	<u>S/N</u> <u>Ratio</u>	<u>Qualifier</u>
2,3,7,8-TCDD	89		0.77	>10:1	
Total TCDD	2500		0.76	>10:1	
1,2,3,7,8-PeCDD	210		1.34	>10:1	
Total PeCDD	3400		1.62	>10:1	
1,2,3,4,7,8-HxCDD	170		1.25	>10:1	
1,2,3,6,7,8-HxCDD	380		1.27	>10:1	
1,2,3,7,8,9-HxCDD	210		1.36	>10:1	
Total HxCDD	4900		1.19	>10:1	
1,2,3,4,6,7,8-HpCDD	1900		1.04	>10:1	
Total HpCDD	3700		1.03	>10:1	
OCDD	4700		0.88	>10:1	B
2,3,7,8-TCDF	500		0.78	>10:1	
Total TCDF	20000		0.76	>10:1	
1,2,3,7,8-PeCDF	810		1.55	>10:1	
2,3,4,7,8-PeCDF	940		1.54	>10:1	
Total PeCDF	14000		1.55	>10:1	D
1,2,3,4,7,8-HxCDF	900		1.21	>10:1	
1,2,3,6,7,8-HxCDF	770		1.24	>10:1	
2,3,4,6,7,8-HxCDF	730		1.30	>10:1	
1,2,3,7,8,9-HxCDF	200		1.28	>10:1	
Total HxCDF	7900		1.22	>10:1	
1,2,3,4,6,7,8-HpCDF	2700		1.09	>10:1	
1,2,3,4,7,8,9-HpCDF	210		1.12	>10:1	
Total HpCDF	3800		1.09	>10:1	
OCDF	580		0.89	>10:1	

Analyst: MS

Page 1 of 2

Reviewer: SM

**PCDD & PCDF
EPA METHOD 23**

Sample ID: 2-S-M23-2
Lab ID: 6954-0007-SA

Isotopic Recovery Results

<u>Internal Standard:</u>	<u>% R</u>	<u>Ratio</u>	<u>Qualifier</u>
¹³ C-2,3,7,8-TCDD	97	0.77	
¹³ C-1,2,3,7,8-PeCDD	103	1.56	
¹³ C-1,2,3,6,7,8-HxCDD	95	1.27	
¹³ C-1,2,3,4,6,7,8-HpCDD	109	1.08	
¹³ C-OCDD	116	0.90	
¹³ C-2,3,7,8-TCDF	83	0.80	
¹³ C-1,2,3,7,8-PeCDF	90	1.58	
¹³ C-1,2,3,6,7,8-HxCDF	76	0.53	
¹³ C-1,2,3,4,6,7,8-HpCDF	95	0.47	

Pre-spike Recovery Standard:

³⁷ Cl-2,3,7,8-TCDD	85	NA	
¹³ C-2,3,4,7,8-PeCDF	81	1.60	
¹³ C-1,2,3,4,7,8-HxCDD	77	1.25	
¹³ C-1,2,3,4,7,8-HxCDF	90	0.51	
¹³ C-1,2,3,4,7,8,9-HpCDF	82	0.45	

Alternate Recovery Standard:

¹³ C-1,2,3,7,8,9-HxCDF	105	0.52	

Dates Analyzed:

DB-5: 7/10/99 DB-225: 7/12/99 SP-2331: NA

Analyst: MS

Page 2 of 2

Reviewer: 

**PCDD & PCDF
EPA METHOD 23**

Sample ID: 2-S-M23-3
Lab ID: 6954-0008-SA
Matrix: M23

Date Received: 6/26/99
Date Extracted: 7/7/99
Sample Amount: Sample

ICAL ID: I428
QC Lot: LC0707M
Units: pg/sample

<u>Compound</u>	<u>Conc.</u>	<u>D.L.</u>	<u>Ratio</u>	<u>S/N</u> <u>Ratio</u>	<u>Qualifier</u>
2,3,7,8-TCDD	90		0.74	>10:1	
Total TCDD	2600		0.77	>10:1	
1,2,3,7,8-PeCDD	210		1.34	>10:1	
Total PeCDD	3600		1.61	>10:1	
1,2,3,4,7,8-HxCDD	140		1.10	>10:1	
1,2,3,6,7,8-HxCDD	380		1.25	>10:1	
1,2,3,7,8,9-HxCDD	190		1.27	>10:1	
Total HxCDD	4500		1.27	>10:1	
1,2,3,4,6,7,8-HpCDD	2000		1.04	>10:1	
Total HpCDD	3900		1.04	>10:1	
OCDD	4800		0.90	>10:1	B
2,3,7,8-TCDF	470		0.78	>10:1	
Total TCDF	20000		0.75	>10:1	
1,2,3,7,8-PeCDF	790		1.58	>10:1	
2,3,4,7,8-PeCDF	850		1.53	>10:1	
Total PeCDF	14000		1.54	>10:1	D
1,2,3,4,7,8-HxCDF	820		1.28	>10:1	
1,2,3,6,7,8-HxCDF	730		1.21	>10:1	
2,3,4,6,7,8-HxCDF	710		1.25	>10:1	
1,2,3,7,8,9-HxCDF	230		1.29	>10:1	
Total HxCDF	7800		1.21	>10:1	
1,2,3,4,6,7,8-HpCDF	2700		1.08	>10:1	
1,2,3,4,7,8,9-HpCDF	200		1.03	>10:1	
Total HpCDF	3700		1.08	>10:1	
OCDF	590		0.87	>10:1	

Analyst: MS

Page 1 of 2

Reviewer: SM

**PCDD & PCDF
EPA METHOD 23**

Sample ID: 2-S-M23-3
Lab ID: 6954-0008-SA

Isotopic Recovery Results

<u>Internal Standard:</u>	<u>% R</u>	<u>Ratio</u>	<u>Qualifier</u>
¹³ C-2,3,7,8-TCDD	94	0.78	
¹³ C-1,2,3,7,8-PeCDD	88	1.56	
¹³ C-1,2,3,6,7,8-HxCDD	98	1.26	
¹³ C-1,2,3,4,6,7,8-HpCDD	107	1.07	
¹³ C-OCDD	103	0.90	
¹³ C-2,3,7,8-TCDF	84	0.79	
¹³ C-1,2,3,7,8-PeCDF	82	1.59	
¹³ C-1,2,3,6,7,8-HxCDF	68	0.53	
¹³ C-1,2,3,4,6,7,8-HpCDF	98	0.47	
 <u>Pre-spike Recovery Standard:</u>			
³⁷ Cl-2,3,7,8-TCDD	92	NA	
¹³ C-2,3,4,7,8-PeCDF	91	1.58	
¹³ C-1,2,3,4,7,8-HxCDD	78	1.27	
¹³ C-1,2,3,4,7,8-HxCDF	108	0.53	
¹³ C-1,2,3,4,7,8,9-HpCDF	96	0.46	
 <u>Alternate Recovery Standard:</u>			
¹³ C-1,2,3,7,8,9-HxCDF	108	0.52	

Dates Analyzed:

DB-5: 7/10/99 DB-225: 7/12/99 SP-2331: NA

Analyst: MS

Page 2 of 2

Reviewer: SM

APPENDIX D

ANALYTICAL DATA

3.0 UNIT NO. 2

e. HYDROGEN CHLORIDE

MOISTURE ANALYTICAL RESULTS - METHOD

M26

Plant Name	OMS of Lee, Inc.		Job No.	10558
City/State	Fort Myers, FL		Sampling Location	Unit 2 Inlet
Run Number	2-I-M26-1	2-I-M26-2	2-I-M26-3	
Sampling Date	6/22/99	6/23/99	6/23/99	
Analysis Date	6/22/99	6/23/99	6/23/99	
Analyst	GM	TW	GM	

Reagent	200 ml of 0.1N H2SO4		
Final Weight, g	712.1	703.8	705.0
Tared Weight, g	588.4	585.4	585.5
Water Catch, g	123.7	118.4	119.5

Reagent	100 ml of DI Water		
Final Weight, g	101.0	102.0	101.0
Tared Weight, g	100.0	100.0	100.0
Water Catch, g	1.0	2.0	1.0

Reagent			
Final Weight, g			
_____ ml used, g*			
Empty Tared Weight, g			
Water Catch, g			

*Weight of Reagent calculated by multiplying ml of KMnO₄ by density of 1.1 g/ml

CONDENSED WATER, g	124.7	120.4	120.5

Silica Gel			
Final Weight, g	207.6	210.3	209.0
Tared Weight, g	200.0	200.0	200.0
ADSORBED WATER, g	7.6	10.3	9.0

TOTAL WATER COLLECTED, g	132.3	130.7	129.5

Balance No.	V1200	☐ Triple Beam	☒ Electronic
Balance located in stable, draft-free area?	☒ Yes	☐ No	

Comments _____

Reviewer _____
AirKinetics, Inc.

Box No. C10 Assembly Date 6-8-99 Assembled By G. MATAClient OXDEN MARTIN SYSTEMS Job No. 10558Plant OMS - LEE City / State FORT MYERS, FLSampling Location UNIT No. 2 INLET Method EPA 26Individual Tare of Reagent 200 (ml) (~~gm~~) of 0.1N H₂SO₄Individual Tare of Reagent 100 (ml) (~~gm~~) of DI H₂O

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
2-I-M26-1	6-22-99	N/A	N/A	✓	(C)	6-22-99	30	✓	(C)

Filter Appearance*

N/A

Reagent Appearance*

Clear

2-I-M26-2	6-23-99	N/A	N/A	✓	(C)	6-23-99	30	✓	Tw

Filter Appearance*

N/A

Reagent Appearance*

Clear

2-I-M26-3	6-23-99	N/A	N/A	✓	(C)	6-23-99	35	✓	(C)

Filter Appearance*

clear (C) N/A

Reagent Appearance*

Clear

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

D 195

MOISTURE ANALYTICAL RESULTS - METHOD

M26

Plant Name OMS of Lee, Inc.Job No. 10558City/State Fort Myers, FLSampling Location Unit 2 Stack

Run Number

2-S-M26-1

2-S-M26-2

2-S-M26-3

Sampling Date

6/22/99

6/23/99

6/23/99

Analysis Date

6/22/99

6/23/99

6/23/99

Analyst

GM

TW

GM

Reagent 200 ml of 0.1N H2SO4

Final Weight, g

806.4

778.0

811.9

Tared Weight, g

586.5

590.1

591.2

Water Catch, g

219.9

187.9

220.7

Reagent 100 ml of DI Water

Final Weight, g

100.0

102.0

101.5

Tared Weight, g

100.0

100.0

100.0

Water Catch, g

2.0

1.5

Reagent _____

Final Weight, g

_____ ml used, g*

Empty Tared Weight, g

Water Catch, g

*Weight of Reagent calculated by multiplying ml of KMnO₄ by density of 1.1 g/ml

CONDENSED WATER, g

219.9

189.9

222.2

Silica Gel

Final Weight, g

209.7

221.1

208.1

Tared Weight, g

200.0

200.0

200.0

ADSORBED WATER, g

9.7

21.1

8.1

TOTAL WATER COLLECTED, g

229.6

211.0

230.3

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam☒ Electronic☒ Yes☐ No

Comments _____

Reviewer _____

AirKinetics, Inc.

Box No. C10Assembly Date 6-8-99 Assembled By G. MATAClient OGDEN MARTIN SYSTEMSJob No. 10558Plant OMS-LEECity / State FORT MYERS, FLSampling Location UNIT No. 2 STACKMethod EPA 26Individual Tare of Reagent 200 (ml) (~~gm~~) of 0.1N H₂SO₄Individual Tare of Reagent 100 (ml) (~~gm~~) of DI H₂O

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
2-S-m26-1	6-22-99	N/A	N/A	✓	Ⓢ	6-22-99	40	✓	Ⓢ

Filter Appearance*

N/A

Reagent Appearance*

clear

2-S-m26-2	6/23/99	NA	NA	✓	Ⓢ	6/23/99	60	✓	2u

Filter Appearance*

N/A

Reagent Appearance*

clear

2-S-m26-3	6-23-99	N/A	N/A	✓	Ⓢ	6-23-99	30	✓	Ⓢ

Filter Appearance*

N/A

Reagent Appearance*

clear

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

D 199

RECORD OF CUSTODY, CONTAINER No. C10

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 24 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) ☐

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003709	6-8-99	13:45	S	<i>[Signature]</i>	
	6-21-99	1800	B	<i>[Signature]</i>	Change Trains
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian

Seal Intact?**

Signature _____ Date _____ Time _____ Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

AIRKINETICS, INC.

Client Sample ID: 2-I-M26-1

General Chemistry

Lot-Sample #....: G9F250261-018

Work Order #....: CXDH8

Matrix.....: AIR

Date Sampled....: 06/22/99

Date Received...: 06/25/99

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hydrochloric acid	786 Q	43.2	mg	CFR60A 26A	07/01-07/02/99	9193344
		Dilution Factor: 84				

NOTE(S) :

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

Volume of sample = 420 ml.

AIRKINETICS, INC.

Client Sample ID: 2-I-M26-2

General Chemistry

Lot-Sample #....: G9F250261-019

Work Order #....: CXDHA

Matrix.....: AIR

Date Sampled....: 06/23/99

Date Received...: 06/25/99

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hydrochloric acid	973 Q	43.2	mg	CFR60A 26A	07/07-07/08/99	9193347
		Dilution Factor: 84				

NOTE(S) :

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

Volume of sample = 420 ml.



AIRKINETICS, INC.

Client Sample ID: 2-I-M26-3

General Chemistry

Lot-Sample #....: G9F250261-020

Work Order #....: CXDHC

Matrix.....: AIR

Date Sampled....: 06/23/99

Date Received...: 06/25/99

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hydrochloric acid	966 Q	43.2	mg	CFR60A 26A	07/01-07/02/99	9193344
Dilution Factor: 84						

NOTE(S) :

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

Volume of sample = 420 ml.



AIRKINETICS, INC.

Client Sample ID: 2-S-M26-1

General Chemistry

Lot-Sample #....: G9F250261-015
Date Sampled...: 06/22/99

Work Order #....: CXDH1
Date Received...: 06/25/99

Matrix.....: AIR

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hydrochloric acid	37.4 Q	2.7	mg	CFR60A 26A	07/07-07/08/99	9193346

Dilution Factor: 5.2

NOTE(S):

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

Volume of sample = 520 ml.

AIRKINETICS, INC.

Client Sample ID: 2-S-M26-2

General Chemistry

Lot-Sample #....: G9F250261-016

Work Order #....: CXDH2

Matrix.....: AIR

Date Sampled....: 06/23/99

Date Received...: 06/25/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hydrochloric acid	42.4 Q	5.1	mg	CFR60A 26A	07/07-07/08/99	9193346

Dilution Factor: 10

NOTE(S):

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

Volume of sample = 500 ml.

AIRKINETICS, INC.

Client Sample ID: 2-S-M26-3

General Chemistry

Lot-Sample #...: G9F250261-017

Work Order #...: CXDH3

Matrix.....: AIR

Date Sampled...: 06/23/99

Date Received...: 06/25/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hydrochloric acid	39.2 Q	5.1	mg	CFR60A 26A	07/07-07/08/99	9193346

Dilution Factor: 10

NOTE(S):

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

Volume of sample = 500 ml

APPENDIX D
ANALYTICAL DATA
3.0 UNIT NO. 2
f. AMMONIA

MOISTURE ANALYTICAL RESULTS - METHOD

NH3

Plant Name OMS of Lee, Inc.

Job No. 10558

City/State Fort Myers, FL

Sampling Location Unit 2 Stack

Run Number

2-S-NH3-1

2-S-NH3-2

2-S-NH3-3

Sampling Date

6/22/99

6/22/99

6/23/99

Analysis Date

6/22/99

6/22/99

6/23/99

Analyst

TW

TW

CMW

Reagent 200 ml of 0.1 N H2SO4

Final Weight, g

804.5

819.1

812.5

Tared Weight, g

585.1

590.0

590.4

Water Catch, g

219.4

229.1

222.1

Reagent 100 ml of DI Water

Final Weight, g

101.0

101.5

101.0

Tared Weight, g

100.0

100.0

100.0

Water Catch, g

1.0

1.5

1.0

Reagent

Final Weight, g

ml used, g*

Empty Tared Weight, g

Water Catch, g

*Weight of Reagent calculated by multiplying ml of KMnO₄ by density of 1.1 g/ml

CONDENSED WATER, g

220.4

230.6

223.1

Silica Gel

Final Weight, g

209.6

208.9

208.7

Tared Weight, g

200.0

200.0

200.0

ADSORBED WATER, g

9.6

8.9

8.7

TOTAL WATER COLLECTED, g

230.0

239.5

231.8

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam☒ Electronic☒ Yes☐ No

Comments

Reviewer

AirKinetics, Inc.

D 206

BEST AVAILABLE COPY FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. 632 Assembly Date 6-8-99 Assembled By G. MATA

Client OGDEN MARTIN SYSTEMS Job No. 10558

Plant OMS - LEE City / State Font MYERS, FL

Sampling Location UNIT NO. 2 STACK Method EPA 26 TYPE

Individual Tare of Reagent 200 (ml) (gm) of 0.1N H₂SO₄

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD		Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
		Number	Tare, grams						
2-S-NH3-1	6/22/99	N/A	N/A	✓	(C)	6/22/99	20	✓	e

Filter Appearance*

N/A

Reagent Appearance*

clear

2-S-NH3-2	6-22-99	N/A	N/A	✓	(C)	6-22-99	20	✓	(C)

Filter Appearance*

N/A

Reagent Appearance*

clear

2-S-NH3-3	6/23/99	N/A	N/A	✓	(C)	6/23/99	20	✓	Cm

Filter Appearance*

N/A

Reagent Appearance*

clear

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

D 207

Ammonia by Ion Specific Electrode Data Sheet

Job Name:	OMS-Lee	Job Num.:	10558
Analyst:	Gary Mata	Date:	06/28/99
Sampling Location:	Unit Nos. 1 & 2 Stack		

Ammonia Standard Calibration Curve by Linear Regression

<i>NH4 Conc. (ug/ml)</i>	<i>log Conc.</i>	<i>Standard mVolts mVs</i>	<i>Calculated Concentration (ug/ml)</i>	<i>Percent Deviation from Actual</i>	
0.85	-0.0706	-47.1	0.86	0.95%	
17.0	1.2304	-121.9	16.54	-2.70%	
85.0	1.9294	-163.8	86.77	2.08%	
170.0	2.2304	-180.7	169.32	-0.40%	
425.0	2.6284	-204	425.58	0.14%	
<i>Standard Curve</i>		<i>Slope</i>	<i>-58.21</i>	<i>Intercept</i>	<i>-50.97</i>

Field Samples In: 0.1N H2SO4

Sample ID	Sample mVolts as read from ISE Meter.		Average mV	Percent Diff.	Sample Dilution Factor	Sample Final Volume (mls)	Total Catch as NH3 (ug NH3)
	mV1	mVdup					
Blank	42.7	43.1	42.9	0.47%	1	100	2.3
1-S-NH3-2	-50.8	-49.7	-50.3	1.09%	1	400	367.0
1-S-NH3-3	-42.4	-42.3	-42.4	0.12%	1	500	335.6
1-S-NH3-4	-70.2	-71.0	-70.6	0.57%	1	540	1108.2
2-S-NH3-1	-70.2	-69.4	-69.8	0.57%	1	500	994.1
2-S-NH3-2	-58.1	-57.6	-57.9	0.43%	1	520	644.4
2-S-NH3-3	-43.9	-43.0	-43.5	1.04%	1	540	378.6

Spike	mV	Amt. Smpl. (mls)	Amt. Std. (mls)	Std. Conc. (ug/ml NH3)	Expected Recovery (ug/ml NH3)	Actual Recovery (ug/ml NH3)	Percent Recovery
1-S-NH3-3	-146.5	50.0	50.0	80.2	40.46	41.32	102.1%

APPENDIX D
ANALYTICAL DATA

3.0 UNIT NO. 2

g. ARSENIC, BERYLLIUM, CADMIUM, LEAD, AND MERCURY

MOISTURE ANALYTICAL RESULTS - METHOD

M29

Plant Name OMS of Lee, Inc.Job No. 10558City/State Fort Myers, FLSampling Location Unit 2 Inlet

Run Number	2-I-M29-1	2-I-M29-2	2-I-M29-3
Sampling Date	6/22/99	6/23/99	6/23/99
Analysis Date	6/23/99	6/23/99	6/23/99
Analyst	GM	GM	CMW

Reagent 200 ml of 5%HNO₃/10%H₂O₂

Final Weight, g	509.3	512.0	496.7
Tared Weight, g	267.4	267.0	269.5
Water Catch, g	241.9	245.0	227.2

Reagent Empty 3rd Impinger

Final Weight, g	30.2	30.7	31.1
Tared Weight, g	28.3	29.0	28.9
Water Catch, g	1.9	1.7	2.2

Reagent 4% KMnO₄/10% H₂SO₄

Final Weight, g	613.9	611.4	608.2
<u>200</u> ml used, g*	220.0	220.0	220.0
Empty Tared Weight, g	386.4	387.7	385.7
Water Catch, g	7.5	3.7	2.5

*Weight of Reagent calculated by multiplying ml of KMnO₄ by density of 1.1 g/ml

CONDENSED WATER, g	251.3	250.4	231.9

Silica Gel

Final Weight, g	212.7	213.5	215.0
Tared Weight, g	200.0	200.0	200.0
ADSORBED WATER, g	12.7	13.5	15.0

TOTAL WATER COLLECTED, g	264.0	263.9	246.9

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam☒ Electronic☒ Yes☐ No

Comments

Reviewer

AirKinetics, Inc.

BEST AVAILABLE COPY FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. C50 Assembly Date 6-8-99 Assembled By G. MATA

Client OXDEN MARTIN SYSTEMS Job No. 10558

Plant OMS - LEE City / State FORT MYERS, FL

Sampling Location UNIT No. 2 INLET Method EPA 29

Individual Tare of Reagent 200 (ml) (gm) of 5% HNO₃ / 10% H₂O₂

Individual Tare of Reagent 200 (ml) (gm) of 4% KMnO₄ / 10% H₂SO₄

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
2-I-M29-1	6-22-99	N/A	N/A	✓	Ⓢ	6-23-99	75	✓	e

Filter Appearance*

Heavy Particulate

Reagent Appearance*

Clear + Purple

2-I-M29-2	6-23-99	N/A	N/A	✓	Ⓢ	6-23-99	80	✓	e

Filter Appearance*

Heavy Particulate

Reagent Appearance*

Clear + Purple

2-I-M29-3	6-23-99	N/A	N/A	✓	Ⓢ	6-23-99	80	✓	cm

Filter Appearance*

Heavy Particulate - Grey

Reagent Appearance*

Clear + Purple

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed)

REMARKS _____

D 211

RECORD OF CUSTODY, CONTAINER No. C50

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 29 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) ☐

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003762	6-8-99	09:34	S	<i>[Signature]</i>	
	6/21/99	1847	B	<i>[Signature]</i>	To change trainings
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian				Seal Intact?**	
Signature _____ Date _____ Time _____				Yes ☐ No ☐ N/A ☐	

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

MOISTURE ANALYTICAL RESULTS - METHOD

M29

Plant Name	OMS of Lee, Inc.		Job No.	10558
City/State	Fort Myers, FL		Sampling Location	Unit 2 Stack
Run Number	2-S-M29-1	2-S-M29-2	2-S-M29-3	
Sampling Date	6/22/99	6/23/99	6/23/99	
Analysis Date	6/22/99	6/23/99	6/23/99	
Analyst	TW	GM	TW	

Reagent	200 ml of 5% HNO_3 /10% H_2O_2		
Final Weight, g	712.6	691.5	694.4
Tared Weight, g	270.4	270.5	269.5
Water Catch, g	442.2	421.0	424.9

Reagent	Empty 3rd Impinger		
Final Weight, g	43.8	52.0	39.8
Tared Weight, g	29.1	28.8	28.8
Water Catch, g	14.7	23.2	11.0

Reagent	4% KMnO_4 /10% H_2SO_4		
Final Weight, g	614.9	614.8	616.4
200 ml used, g*	220.0	220.0	220.0
Empty Tared Weight, g	388.0	385.7	386.7
Water Catch, g	6.9	9.1	9.7

*Weight of Reagent calculated by multiplying ml of KMnO_4 by density of 1.1 g/ml

CONDENSED WATER, g	463.8	453.3	445.6

Silica Gel			
Final Weight, g	215.5	212.7	212.8
Tared Weight, g	200.0	200.0	200.0
ADSORBED WATER, g	15.5	12.7	12.8

TOTAL WATER COLLECTED, g	479.3	466.0	458.4

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam

☒ Yes

☒ Electronic

☐ No

Comments

Reviewer

AirKinetics, Inc.

BEST AVAILABLE COPY FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. C100 Assembly Date 6-8-99 Assembled By G. MATA

Client OGDEN MARTIN SYSTEMS Job No. 10558

Plant OMS - LEE City / State FORT MYERS, FL

Sampling Location UNIT No. 2 STACK Method EPA 29

Individual Tare of Reagent 200 (ml) (gm) of 5% HNO₃ / 10% H₂O₂

Individual Tare of Reagent 200 (ml) (gm) of 4% KMnO₄ / 10% H₂SO₄

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
2-S-M29-1	6/22/99	N/A	N/A	✓	Ⓢ	6/22/99	60	✓	JW

Filter Appearance*

Clean

Reagent Appearance*

clean & Purple

2-S-M29-2	6-23-99	N/A	N/A	✓	Ⓢ	6-23-99	60	✓	Ⓢ

Filter Appearance*

Clean

Reagent Appearance*

clean & purple

2-S-M29-3		N/A	N/A	✓	Ⓢ	6/23/99	60	✓	JW

Filter Appearance*

Clean

Reagent Appearance*

clean & purple

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed)

REMARKS

D 214

RECORD OF CUSTODY, CONTAINER No. C100

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 89 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) ☐

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003801	6-8-99	09:37	S	<i>[Signature]</i>	To change trains
	6/21/99	1045	B	<i>[Signature]</i>	
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian

Seal Intact? **

Yes ☐ No ☐ N/A ☐

Signature

Date

Time

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS

Client Sample ID: 2-I-M29-1

Metals

Sample #....: G9F250261- 005

Matrix.....: AIR

Date Sampled....: 6/22/99

Date Received...: 6/25/99

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	DIL.	
Prep Batch #....:	9182223					6/28/99		
Hg (FH)	16.8	RLA	3.0	11.0	ug	SW846 7470A	6/29/99	15
Hg (HNO3/H2O2)	ND	RLA	5.4	36.1	ug	SW846 7470A	6/29/99	27.15

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Prep Batch #....:	9182227					6/28/99		
Hg (KMnO4)	0.18		0.10	0.012	ug	SW846 7470A	6/29/99	0.5
Hg (Empty)	0.49	G	0.19	0.046	ug	SW846 7470A	6/29/99	0.97

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Prep Batch #....:	9182232					6/28/99		
Hg (HCl)	1.1		0.10	0.012	ug	SW846 7470A	6/29/99	0.5

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Client Sample ID: 2-I-M29-2

Metals

Sample #....: G9F250261- 006

Matrix.....: AIR

Date Sampled....: 6/23/99

Date Received...: 6/25/99

PARAMETER	RESULT		REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	DIL.
Prep Batch #....:	9182223						6/28/99	
Hg (FH)	18.7	RLA	3.0	11.0	ug	SW846 7470A	6/29/99	15
Hg (HNO3/H2O2)	39.1	RLA	5.5	36.5	ug	SW846 7470A	6/29/99	27.3

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Prep Batch #....:	9182227						6/28/99	
Hg (KMnO4)	ND		0.10	0.012	ug	SW846 7470A	6/29/99	0.5
Hg (Empty)	0.70	G	0.20	0.047	ug	SW846 7470A	6/29/99	0.98

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Prep Batch #....:	9182232						6/28/99	
Hg (HCl)	0.60		0.10	0.012	ug	SW846 7470A	6/29/99	0.5

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Client Sample ID: 2-I-M29-3

Metals

Sample #...: G9F250261- 007

Matrix.....: AIR

Date Sampled...: 6/23/99

Date Received...: 6/25/99

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	DIL.
Prep Batch #...:	9182223					6/28/99	
Hg (FH)	20.4	RLA 3.0	11.0	ug	SW846 7470A	6/29/99	15
Hg (HNO3/H2O2)	53.1	RLA 5.3	34.4	ug	SW846 7470A	6/29/99	26.5

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Prep Batch #...:	9182227					6/28/99	
Hg (KMnO4)	ND	0.10	0.012	ug	SW846 7470A	6/29/99	0.5
Hg (Empty)	0.89	G 0.19	0.043	ug	SW846 7470A	6/29/99	0.94

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Prep Batch #...:	9182232					6/28/99	
Hg (HCl)	0.18	0.10	0.012	ug	SW846 7470A	6/29/99	0.5

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

AIRKINETICS, INC.

Client Sample ID: 2-S-M29-1

TOTAL Metals

Lot-Sample #...: G9F230153-005

Matrix.....: AIR

Date Sampled...: 06/22/99

Date Received...: 06/23/99

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9175270						
Hg (HNO3/H2O2)	40.3 RLA	1.5	ug	SW846 7470A	06/23/99	CX879106
		Dilution Factor: 7.33		MDL.....: 0.36		
Hg (KMnO4)	1.1	0.10	ug	SW846 7470A	06/23/99	CX879107
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #...: 9175282						
Hg (Empty)	0.65 G	0.23	ug	SW846 7470A	06/23/99	CX879108
		Dilution Factor: 1.14		MDL.....: 0.056		
Prep Batch #...: 9175286						
Hg (HCl)	ND	0.10	ug	SW846 7470A	06/24/99	CX879109
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #...: 9176215						
Hg (FH)	1.5 RLA	0.060	ug	SW846 7470A	06/24-06/25/99	CX879105
		Dilution Factor: 0.3		MDL.....: 0.015		
Prep Batch #...: 9176237						
Arsenic	0.79	0.62	ug	SW846 6020	06/24-06/26/99	CX879101
		Dilution Factor: 0.31		MDL.....: 0.13		
Beryllium	ND	0.31	ug	SW846 6020	06/24-06/26/99	CX879102
		Dilution Factor: 0.31		MDL.....: 0.034		
Cadmium	2.2	0.31	ug	SW846 6020	06/24-06/26/99	CX879103
		Dilution Factor: 0.31		MDL.....: 0.031		
Lead	18.8	0.31	ug	SW846 6020	06/24-06/26/99	CX879104
		Dilution Factor: 0.31		MDL.....: 0.046		

NOTE(S) :

RLA The reporting limit for this analyte is elevated due to sample dilution.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

Client Sample ID: 2-S-M29-2

Metals

Lab Sample #...: G9F250261- 002
 Date Sampled...: 6/23/99

Date Received...: 6/25/99

Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	DIL.
Prep Batch #...:	9181309					6/26/99	
Arsenic	0.75	0.62	0.13	ug	SW846 6020	7/2/99	0.31
Beryllium	ND	0.31	0.034	ug	SW846 6020	7/2/99	0.31
Cadmium	1.1	0.31	0.031	ug	SW846 6020	7/2/99	0.31
Lead	9.9	0.31	0.046	ug	SW846 6020	7/2/99	0.31

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Prep Batch #...:	9182223					6/28/99	
Hg (FH)	ND	0.030	0.0011	ug	SW846 7470A	6/29/99	0.15
Hg (HNO3/H2O2)	53.6 G	1.4	2.6	ug	SW846 7470A	6/29/99	7.25

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Prep Batch #...:	9182227					6/28/99	
Pb (MnO4)	0.63	0.10	0.012	ug	SW846 7470A	6/29/99	0.5
Hg (Empty)	1.2 G	0.24	0.071	ug	SW846 7470A	6/29/99	1.2

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Prep Batch #...:	9182232					6/28/99	
Hg (HCl)	0.68	0.10	0.012	ug	SW846 7470A	6/29/99	0.5

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Client Sample ID: 2-S-M29-3

Metals

Lab-Sample #....: G9F250261- 003

Matrix.....: AIR

Date Sampled....: 6/23/99

Date Received...: 6/25/99

PARAMETER	RESULT	REPORTING LIMIT	METHOD DETECTION LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	DIL.
Prep Batch #....:	9181309					6/26/99	
Arsenic	ND	0.62	0.13	ug	SW846 6020	7/2/99	0.31
Beryllium	ND	0.31	0.034	ug	SW846 6020	7/2/99	0.31
Cadmium	0.69	0.31	0.031	ug	SW846 6020	7/2/99	0.31
Lead	8.2	0.31	0.046	ug	SW846 6020	7/2/99	0.31

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Prep Batch #....:	9182223					6/28/99	
Hg (FH)	0.069	0.030	0.0011	ug	SW846 7470A	6/29/99	0.15
Hg (HNO3/H2O2)	45.7	G 1.5	2.6	ug	SW846 7470A	6/29/99	7.29

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Prep Batch #....:	9182227					6/28/99	
Hg (MnO4)	0.15	0.10	0.012	ug	SW846 7470A	6/29/99	0.5
Hg (Empty)	0.53	G 0.21	0.055	ug	SW846 7470A	6/29/99	1.06

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

Prep Batch #....:	9182232					6/28/99	
Hg (HCl)	0.90	0.10	0.012	ug	SW846 7470A	6/29/99	0.5

NOTE(S):

Calculations are performed before rounding to avoid roundoff errors in calculated results

APPENDIX D

ANALYTICAL DATA

3.0 UNIT NO. 2

h. PARTICULATE LESS THAN 10 MICRONS

MOISTURE ANALYTICAL RESULTS - METHOD

M201A

Plant Name OMS of Lee, Inc.

Job No. 10558

City/State Fort Myers, FL

Sampling Location Unit 2 Stack

Run Number

2-S-M201A-1

2-S-M201A-2

2-S-M201A-3

Sampling Date

6/24/99

6/24/99

6/26/99

Analysis Date

6/24/99

6/24/99

6/26/99

Analyst

AJG

AJG

GM

Reagent 200 ml of DI Water

Final Weight, g

414.0

456.0

430.0

Tared Weight, g

200.0

200.0

200.0

Water Catch, g

214.0

256.0

230.0

Reagent

Final Weight, g

Tared Weight, g

Water Catch, g

Reagent

Final Weight, g

ml used, g*

Empty Tared Weight, g

Water Catch, g

*Weight of Reagent calculated by multiplying ml of KMnO_4 by density of 1.1 g/ml

CONDENSED WATER, g

214.0

256.0

230.0

Silica Gel

Final Weight, g

208.5

208.5

207.1

Tared Weight, g

200.0

200.0

200.0

ADSORBED WATER, g

8.5

8.5

7.1

TOTAL WATER COLLECTED, g

222.5

264.5

237.1

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam

☒ Electronic

☒ Yes

☐ No

Comments

Reviewer

AirKinetics, Inc.

BEST AVAILABLE COPY FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. 208 Assembly Date 6-8-99 Assembled By G. MATA

Client OXDEN MARTIN SYSTEMS Job No. 10558

Plant OMS - LEE City / State FORT MYERS, FL

Sampling Location UNIT No. 2 STACK Method EPA 201A

Individual Tare of Reagent 200 (ml) (gm) of DI H₂O

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD		Liquid Tare at Mark?	Inits.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
		Number	Tare, grams						
Z-S-M201A-1	6-24-99	P145	0.2065	✓	(W)	6-24-99	25	✓	e

Filter Appearance*

Clean

Reagent Appearance*

Clean

Z-S-M201A-2	6-24-99	P125	0.1411	✓	(W)	6-25-99	25	✓	e

Filter Appearance*

Clean

Reagent Appearance*

Clean

Z-S-M201A-3	6-26-99	P144	0.2107	✓	(W)	6-26-99	20	✓	e

Filter Appearance*

Clean

Reagent Appearance*

Clean

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed)

REMARKS _____

D 224

RECORD OF CUSTODY, CONTAINER No. 208

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 201A (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) ☐

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003438	6-8-99	13:53	S	<i>[Signature]</i>	
	6-24-99	740	B	<i>[Signature]</i>	Change trains
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact?**
Signature	Date	Time	Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: OMS - Lee

AKI Ref# 10558

Sampling Location: Unit No. 2 Stack

Date Received: June 28, 1999

Run Number 2-S-M201A-1

Sample I.D. in stack filter / 1130

Container # < = 10 um

init. date

GM 07/15/99 3.7930

GM 07/15/99 @ 3.7927

Baggie Tare Wt., g. 3.5855

Filter Tare Wt., g. P145 0.2065

FILTER SAMPLE WT., g. 0.0007

Sample I.D. in stack filter

Container # rinse / 1127

init. date < = 10 um

date

nozzle & cyclone

rinse / 1129

> 10 um

GM 07/15/99 3.5089 07/15/99 @ 3.8728

GM 07/15/99 @ 3.5086 07/15/99 3.8730

Tare Wt., g. (50 ml) 3.5078 (50 ml) 3.8684

RINSE SAMPLE WT., g. 0.0008 0.0044

Filter Catch, mg. 0.7 NA

Rinse Catch, mg. 0.8 4.4

Blank Residue, mg. 0.0 0.0

Net Rinse Catch, mg. 0.8 4.4

SUBTOTAL CATCH, mg. 1.5 4.4

Blank Beaker # B / 1150

Final wt., g. 3.4767

Tare wt., g. 3.4765

Residue, mg. 0.2

Volume, ml. 200

Density, mg/ml 785.0

Conc., mg/mg 1.27E-06 <--

Upper Limit, mg/mg 1.00E-05

---Legend---

@ = Final Weight

F = Filter R = Rinse

1 = Light

2 = Medium

3 = Heavy or Dark

FILTERABLE PARTICULATE, mg. 5.9

Sample Description

Run # Color Loading

2-S-M201A-1 1 1

Notes and comments:

Predominate color of samples is: Clean

Date of full balance span July 14, 1999

Printing Date 15-Jul-99

Printing Time

02:10 PM

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: OMS - Lee

AKI Ref# 10558

Sampling Location:

Date Received: June 28, 1999

Run Number 2-S-M201A-2

Sample I.D. in stack filter / 1125

Container # < = 10 um

init. date

GM 07/15/99 3.7770

GM 07/15/99 @ 3.7767

Baggie Tare Wt., g. 3.6335

Filter Tare Wt., g. P125 0.1411

FILTER SAMPLE WT., g. 0.0021

Sample I.D. in stack filter nozzle & cyclone

Container # rinse / 1128 rinse / 1131

init. date < = 10 um date > 10 um

GM 07/15/99 3.5968 07/15/99 3.9837

GM 07/15/99 @ 3.5965 07/15/99 @ 3.9834

Tare Wt., g. (25 ml) 3.5959 (50 ml) 3.9822

RINSE SAMPLE WT., g. 0.0006 0.0012

Filter Catch, mg. 2.1 NA

Rinse Catch, mg. 0.6 1.2

Blank Residue, mg. 0.0 0.0

Net Rinse Catch, mg. 0.6 1.2

SUBTOTAL CATCH, mg. 2.7 1.2

Blank Beaker # B / 1150

Final wt., g. 3.4767

Tare wt., g. 3.4765

Residue, mg. 0.2

Volume, ml. 200

Density, mg/ml 785.0

Conc., mg/mg 1.27E-06 <--

Upper Limit, mg/mg 1.00E-05

---Legend---

@ = Final Weight

F = Filter R = Rinse

1 = Light

2 = Medium

3 = Heavy or Dark

FILTERABLE PARTICULATE, mg. 3.9

Sample Description

Run # Color Loading

2-S-M201A-2 1 1

Notes and comments:

Predominate color of samples is: Clean

Date of full balance span July 14, 1999

Printing Date 15-Jul-99

Printing Time

02:11 PM

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: OMS - Lee

AKI Ref# 10558

Sampling Location: Unit No. 2 Stack

Date Received: June 28, 1999

Run Number 2-S-M201A-3

Sample I.D. in stack filter / 1209

Container # < = 10 um

init. date

GM 07/15/99 3.5319

GM 07/15/99 @ 3.5318

Baggie Tare Wt., g. 3.3194

Filter Tare Wt., g. P144 0.2107

FILTER SAMPLE WT., g. 0.0017

Sample I.D. in stack filter

Container # rinse / 1172

< = 10 um

init. date

nozzle & cyclone

rinse / 1170

> 10 um

date

GM 07/15/99 3.6165 07/15/99 3.7756

GM 07/15/99 @ 3.6162 07/15/99 @ 3.7754

Tare Wt., g. (25 ml) 3.6151 (25 ml) 3.7737

RINSE SAMPLE WT., g. 0.0011 0.0017

Filter Catch, mg. 1.7 NA

Rinse Catch, mg. 1.1 1.7

Blank Residue, mg. 0.0 0.0

Net Rinse Catch, mg. 1.1 1.7

SUBTOTAL CATCH, mg. 2.8 1.7

Blank Beaker # B / 1150

Final wt., g. 3.4767

Tare wt., g. 3.4765

Residue, mg. 0.2

Volume, ml. 200

Density, mg/ml 785.0

Conc., mg/mg 1.27E-06 <--

Upper Limit, mg/mg 1.00E-05

---Legend---

@ = Final Weight

F = Filter R = Rinse

1 = Light

2 = Medium

3 = Heavy or Dark

FILTERABLE PARTICULATE, mg. 4.5

Sample Description

Run # Color Loading

2-S-M201A-3 1 1

Notes and comments:

Predominate color of samples is: Clean

Date of full balance span July 14, 1999

Printing Date 15-Jul-99

Printing Time

01:56 PM

APPENDIX D

ANALYTICAL DATA

3.0 UNIT NO. 2

i. SOOT BLOW - PARTICULATE

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: Ogden Martins Systems - Lee

AKI Ref# 10558

Sampling Location: Unit No. 2 Stack (Soot Blow)

Date Received: June 28, 1999

Run Number	2-S-M5-1SB	2-S-M5-2SB	2-S-M5-3SB

Sample ID/Container #	init.	date	F / 1139	date	F / 1157	date	F / 1081
GM		07/14/99	@ 4.2553	07/14/99	4.0078	07/14/99	@ 4.0730
GM		07/14/99	4.2554	07/14/99	@ 4.0077	07/14/99	@ 4.0730
Baggie Tare Wt., g.			3.7705		3.5150		3.5572
Filter Tare Wt., g.		A957	0.4780	A962	0.4853	A802	0.5100
FILTER SAMPLE WT., g.			0.0068		0.0074		0.0058

Sample ID/Container #	init.	date	R / 1140	date	R / 1153	date	R / 1079
GM		07/14/99	3.4665	07/14/99	3.7127	07/14/99	3.6459
GM		07/14/99	@ 3.4663	07/14/99	@ 3.7124	07/14/99	@ 3.6457
Tare Wt., g.		(135 ml)	3.4646	(100 ml)	3.7084	(100 ml)	3.6425
RINSE SAMPLE WT., g.			0.0017		0.0040		0.0032

Filter Catch, mg.	6.8	7.4	5.8
Rinse Catch, mg.	1.7	4.0	3.2
Rinse Blank Residue, mg.	0.1	0.1	0.1
Net Rinse Catch, mg.	1.6	3.9	3.1
FILTERABLE PARTICULATE, mg.	8.4	11.3	8.9

Blank Beaker #	B / 1150	---Legend---	Sample Description
Final wt., g.	3.4767	@ = Final Weight	
Tare wt., g.	3.4765	F = Filter R = Rinse	
Residue, mg.	0.2		
Volume, ml.	200	1 = Light	2-S-M5-1SB 1 1
Density, mg/ml	785.0	2 = Medium	2-S-M5-2SB 1 1
Conc., mg/mg	1.27E-06 <--	3 = Heavy or Dark	2-S-M5-3SB 1 1
Upper Limit, mg/mg	1.00E-05		

Notes and comments:

Predominate color of samples is:

Date of full balance span July 14, 1999

Printing Date 15-Jul-99

Printing Time

08:22 AM

BEST AVAILABLE COPY FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. 219 Assembly Date 6-8-99 Assembled By G. MATA

Client OGDEN MARTIN SYSTEMS Job No. 10558

Plant OMS-LEE City / State FORT MYERS, FL

Sampling Location UNIT No. 2 STACK Method EPA 5

Individual Tare of Reagent 200 (ml) (gm) of DI H₂O

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
2-S-M5-15B	6-21-99	A957	0.4777	✓	(C)	6-21-99	50	✓	(C)

Filter Appearance*

clean

Reagent Appearance*

clean

2-S-M5-25B	6-23-99	A962	0.4853	✓	(C)	6-23-99	80	✓	TW

Filter Appearance*

clean

Reagent Appearance*

clean

2-S-M5-30B	6-25-99	A801	0.5119	✓	(C)	6-25-99	30	✓	JW

Filter Appearance*

clean

Reagent Appearance*

clean

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

D 231

MOISTURE ANALYTICAL RESULTS - METHOD

M5

Plant Name OMS of Lee, Inc.

Job No. 10558

City/State Fort Myers, FL

Sampling Location Unit 2 Stack

Run Number

2-SB-M5-1

2-SB-M5-2

2-SB-M5-3

Sampling Date

6/21/99

6/23/99

6/25/99

Analysis Date

6/21/99

6/23/99

6/25/99

Analyst

AJG

TW

TW

Reagent 200 ml of DI Water

Final Weight, g

606.6

622.0

670.0

Tared Weight, g

200.0

200.0

200.0

Water Catch, g

406.6

422.0

470.0

Reagent

Final Weight, g

Tared Weight, g

Water Catch, g

Reagent

Final Weight, g

ml used, g*

Empty Tared Weight, g

Water Catch, g

*Weight of Reagent calculated by multiplying ml of KMnO_4 by density of 1.1 g/ml

CONDENSED WATER, g

406.6

422.0

470.0

Silica Gel

Final Weight, g

218.2

214.2

215.8

Tared Weight, g

200.0

200.0

200.0

ADSORBED WATER, g

18.2

14.2

15.8

TOTAL WATER COLLECTED, g

424.8

436.2

485.8

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam

☒ Electronic

☒ Yes

☐ No

Comments

Reviewer

AirKinetics, Inc.

APPENDIX D

ANALYTICAL DATA

4.0 ASH BUILDING - PARTICULATE

MOISTURE ANALYTICAL RESULTS - METHOD

M5

Plant Name OMS of Lee, Inc.Job No. 10558City/State Fort Myers, FLSampling Location Ash Building

Run Number

Ash-M5-1

Ash-M5-2

Ash-M5-3

Sampling Date

6/21/99

6/21/99

6/21/99

Analysis Date

6/21/99

6/21/99

6/12/99

Analyst

SCG

SCG

SCG

Reagent 200 ml of DI Water

Final Weight, g

216.0

218.0

215.0

Tared Weight, g

200.0

200.0

200.0

Water Catch, g

16.0

18.0

15.0

Reagent _____

Final Weight, g

Tared Weight, g

Water Catch, g

Reagent _____

Final Weight, g

_____ ml used, g*

Empty Tared Weight, g

Water Catch, g

*Weight of Reagent calculated by multiplying ml of KMnO_4 by density of 1.1 g/ml

CONDENSED WATER, g

16.0

18.0

15.0

Silica Gel

Final Weight, g

213.7

207.8

208.4

Tared Weight, g

200.0

200.0

200.0

ADSORBED WATER, g

13.7

7.8

8.4

TOTAL WATER COLLECTED, g

29.7

25.8

23.4

Balance No. V1200

Balance located in stable, draft-free area?

☐ Triple Beam☒ Electronic☒ Yes☐ No

Comments _____

Reviewer _____

AirKinetics, Inc.

BEST AVAILABLE COPY

FIELD SAMPLE RECOVERY QUALITY CONTROL

Box No. 211 Assembly Date 6-8-99 Assembled By G. MATAClient OGDEN MARTIN SYSTEMS Job No. 10558Plant OMS-LEE City / State FORT MYERS, FLSampling Location ASH BUILDING Method EPA 5Individual Tare of Reagent 200 (ml) (gm) of DI H₂O

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Reagent _____ (ml) (gm) of _____

Individual Tare of Silca Gel 200 gm _____

Other (specify) _____

Run Number	Run Date	Filter or XAD Number	Tare, grams	Liquid Tare at Mark?	Init.	Sample Recovery Date	% Sil. Gel Spent	Liquid Level Marked	Initials
ASH-S-M5-1	6-21-99	A697	0.5770	✓	Ⓢ	6-21-99	10	✓	Ⓢ

Filter Appearance*

clean

Reagent Appearance*

clean

ASH-S-M5-2	6-21-99	A956	0.4786	✓	Ⓢ	6-21-99	10	✓	

Filter Appearance*

light gray

Reagent Appearance*

clean

ASH-S-M5-3	6-21-99	A956	0.4786	✓	Ⓢ	6-21-99	10	✓	

Filter Appearance*

very light gray

Reagent Appearance*

clean

Filter Appearance*

Reagent Appearance*

* Use "REMARKS" section if needed.

All liquid levels at mark? (circle) YES NO (estimate loss if not at mark; use "REMARKS" section if needed.)

REMARKS _____

RECORD OF CUSTODY, CONTAINER No. 211

Client OGDEN MARTIN SYSTEMS

Job No. 10558

Plant Name OMS - LEE

City/State FORT MYERS, FL

Sampling Method (s) EPA 5 (EPA, NIOSH, etc.)

Container Type (✓) Reagent Box ☒ Cooler ☐ Other (specify) _____

Seal No. or "PC"	Date	Time	*	Full Signature	Reason for Breaking Seal**
0003443	6-8-99	12:31	S	<i>[Signature]</i>	<i>Change the train</i>
	6-21-99	8:15	B	<i>[Signature]</i>	
			S		
			B		
			S		
			B		
			S		
			B		
			S		
			B		

PC = Personal Custody

* S = Sealed By; B = Broken

** Use "REMARKS" Section if more space needed

Container Received by AirKinetics Sample Custodian			Seal Intact?**
Signature _____	Date _____	Time _____	Yes ☐ No ☐ N/A ☐

As Applicable:

All liquid levels at mark (✓) Yes ☐ No ☐ (Estimate loss if not at mark; describe in "REMARKS")

As Applicable:

TUBE SAMPLES put in freezer by _____ Date _____ Time _____

CONDENSATE SAMPLES put in refridge. by _____ Date _____ Time _____

REMARKS _____

D 236

AirKinetics, Inc.

APPENDIX E

EQUIPMENT CALIBRATION RECORDS AND CALIBRATION GAS CERTIFICATES

Isokinetic Meterbox Full-Test Calibration

Meterbox ID:
Calibrated by:
Date:

MB2
AG
2/22/99

Range Run No.	Low			Low Medium			Medium			High		
	1A	1B		1A	1B		2A	2B		3A	3B	
<u>Stand. Crit. Orifice (SCRIT)</u>												
SCRIT ID#	48	48	48	55	55	55	63	63	63	73	73	73
SCRIT K' Factor	0.3522	0.3522	0.3522	0.4657	0.4657	0.4657	0.5962	0.5962	0.5962	0.8213	0.8213	0.8213
Min. SCRIT Vac., V_{cr} in. Hg	14	14	14	15	15	15	15	15	15	13	13	13
Amb Temp, t_{amb} °F	74	74	74	74	74	74	74	74	74	74	74	74
Bar. Pressure, Pb in. Hg	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2
<u>Meterbox (MB)</u>												
Leak-check OK? (Y or N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MB Orifice Delta H in. H ₂ O	0.65	0.65	0.65	1.23	1.23	1.23	2.10	2.10	2.10	3.90	3.90	3.90
Initial MB Vol. Reading, V_{di} acf	654.100	660.878	666.064	616.082	621.455	626.518	592.226	599.230	606.848	675.134	680.768	686.424
Final MB Vol. Reading, V_{df} acf	660.878	666.064	671.276	621.455	626.518	632.112	599.523	606.848	613.186	680.768	686.424	692.093
Difference ≥ 5.0 cft?	6.778	5.186	5.212	5.373	5.063	5.594	7.297	7.618	6.338	5.634	5.656	5.669
Initial MB Temp, t_{di} °F	84	91	94	101	102	104	100	100	102	96	99	101
Final MB Temp, t_{df} °F	91	94	97	102	104	104	100	102	104	99	101	103
Pump Vac ($> V_{cr}$ in. HG?)	18	18	18	18	18	18	18	18	18	17	17	17
Time, Minutes (M)	14	11	11	8	8	8	9	9	7	5	5	5
Time, Seconds (S)	30	0	16	30	0	48	0	25	45	0	0	0
<u>Calculations</u>												
M5 DGM Factor, Y_i	1.00990	1.01046	1.03538	1.01123	1.01271	1.01003	1.00454	1.00855	1.00124	0.98690	0.98747	0.98872
Average, $Y_{ab(avg)}$		1.0186			1.0113			1.0048			0.9877	
Diff = $Y_{i(avg)} - Y_{ab(avg)}$ ($\leq \pm 0.02$)?	-0.013		ok	-0.006		ok	0.001		ok	0.018		ok
Delta H_{ei}	1.682	1.667	1.658	1.778	1.773	1.770	1.861	1.858	1.851	1.838	1.829	1.823
Average, Delta $H_{@ab(avg)}$		1.669			1.774			1.857			1.830	
Diff=Delta $H_{@i(avg)} - \Delta H_{@ab(avg)}$ ($\leq \pm 0.20$)?	0.113		ok	0.008		ok	-0.074		ok	-0.048		ok

$Y_{i(avg)}$	1.0056
SCAQMD Delta $H_{@i(avg)}$	1.810
EPA Delta $H_{@i(avg)}$	1.782

$$Y_i = \frac{K'P_b \left(\frac{t_{di} + t_{df}}{2} + 460 \right) \left(M + \frac{S}{60} \right)}{17.65(V_{df} - V_{di}) \left(P_b + \frac{\Delta H}{13.6} \right) \sqrt{t_{amb} + 460}}$$

$$\Delta H_{ei} = \frac{9.926 \Delta H \left(P_b + \frac{\Delta H}{13.6} \right) (t_{amb} + 460)}{(K'P_b)^2 \left(\frac{t_{di} + t_{df}}{2} + 460 \right)}$$

QA/QC Check

Completeness ☒ Legibility ☒ Accuracy ☒ Specifications ☒ Reasonableness ☒

Checked By:

Sakhalin Finnie

QA Administrator (Signature/Date)

E 2

Isokinetic Meterbox Full-Test Calibration

Meterbox ID:
Calibrated by:
Date:

MB3
MIKE C
4/23/99

Range	Low			Low Medium			Medium			High		
Run No.	1A	1B	1C	1A	1B	1C	2A	2B	2C	3A	3B	3C
Stand. Crit. Orifice (SCRIT)												
SCRIT ID#	48	48	48	55	55	55	63	63	63	73	73	73
SCRIT K' Factor	0.3522	0.3522	0.3522	0.4657	0.4657	0.4657	0.5962	0.5962	0.5962	0.8213	0.8213	0.8213
Min. SCRIT Vac., V_{cr} in. Hg	15	15	15	15	15	15	15	15	15	13	13	13
Amb Temp, t_{amb} °F	67	67	67	67	67	67	68	68	68	67	67	67
Bar. Pressure, P_b in. Hg	29.8	29.8	29.8	29.83	29.83	29.83	29.83	29.83	29.83	29.8	29.8	29.8
Meterbox (MB)												
Leak-check OK? (Y or N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MB Orifice Delta H in. H ₂ O	0.70	0.70	0.70	1.20	1.20	1.20	2.05	2.05	2.05	3.80	3.80	3.80
Initial MB Vol. Reading, V_{di} acf	184.800	169.000	190.000	115.390	121.320	127.050	133.500	139.570	145.650	153.000	158.280	163.550
Final MB Vol. Reading, V_{df} acf	190.000	174.230	195.050	121.320	127.050	132.830	139.570	145.650	151.750	158.280	163.550	168.850
Difference ≥ 5.0 cft?	5.200	5.230	5.050	5.930	5.730	5.780	6.070	6.080	6.100	5.280	5.270	5.300
Initial MB Temp, t_{di} °F	86	78	74	76	82	85	88	92	94	95	98	100
Final MB Temp, t_{df} °F	83	82	75	80	85	88	92	94	95	98	100	100
Pump Vac ($> V_{cr}$ in. HG?)	18	18	18	19	19	19	19	19	19	15	15	15
Time, Minutes (M)	12	12	12	10	10	10	8	8	8	5	5	5
Time, Seconds (S)	0	0	0	0	0	0	0	0	0	0	0	0
Calculations												
M5 DGM Factor, Y_i	1.09045	1.07523	1.10222	1.03865	1.08589	1.08353	1.06029	1.06432	1.06370	1.05826	1.06503	1.06090
Average, $Y_{ab(avg)}$		1.0893			1.0694			1.0628			1.0614	
Diff = $Y_{i(avg)} - Y_{ab(avg)}$ ($\leq \pm 0.02$)?	-0.019		ok	0.001		ok	0.008		ok	0.009		ok
Delta H _{ei}	1.822	1.837	1.856	1.809	1.791	1.781	1.851	1.841	1.836	1.794	1.786	1.782
Average, Delta H _{ei@ab(avg)}		1.838			1.793			1.843			1.787	
Diff=Delta H _{ei@i(avg)} - Delta H _{ei@ab(avg)} ($\leq \pm 0.20$)?	-0.023		ok	0.022		ok	-0.028		ok	0.028		ok

$Y_{i(avg)}$	1.0707
SCAQMD Delta H _{ei@i(avg)}	1.843
EPA Delta H _{ei@i(avg)}	1.816

$$Y_i = \frac{K'P_b \left(\frac{t_{di} + t_{df}}{2} + 460 \right) \left(M + \frac{S}{60} \right)}{17.65(V_{df} - V_{di}) \left(P_b + \frac{\Delta H}{13.6} \right) \sqrt{t_{amb} + 460}}$$

$$\Delta H_{ei} = \frac{9.926 \Delta H \left(P_b + \frac{\Delta H}{13.6} \right) (t_{amb} + 460)}{(K'P_b)^2 \left(\frac{t_{di} + t_{df}}{2} + 460 \right)}$$

QA/QC Check

Completeness ☒ Legibility ☒ Accuracy ☒ Specifications ☒ Reasonableness ☒

Checked By: _____

Lory Wong

4/26/99

QA Administrator (Signature/Date)

Isokinetic Meterbox Full-Test Calibration

Meterbox ID:
Calibrated by:
Date:

MB6
AG
2/26/99

Range	Low			Low Medium			Medium			High		
Run No.	1A		1B	1A		1B	2A		2B	3A		3B
<u>Stand. Crit. Orifice (SCRIT)</u>												
SCRIT ID#	48	48	48	55	55	55	63	63	63	73	73	73
SCRIT K' Factor	0.3522	0.3522	0.3522	0.4657	0.4657	0.4657	0.5962	0.5962	0.5962	0.8213	0.8213	0.8213
Min. SCRIT Vac., V_{cr} in. Hg	14	14	14	13	13	13	12	12	12	11	11	11
Amb Temp, t_{amb} °F	67	67	67	67	67	67	67	67	67	67	67	67
Bar. Pressure, P_b in. Hg	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2	30.2
<u>Meterbox (MB)</u>												
Leak-check OK? (Y or N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MB Orifice Delta H in. H ₂ O	0.49	0.49	0.49	0.88	0.88	0.88	1.45	1.45	1.45	2.90	2.90	2.90
Initial MB Vol. Reading, V_{di} acf	907.500	914.151	919.365	942.000	947.320	953.560	880.584	887.886	895.872	5.000	10.514	16.083
Final MB Vol. Reading, V_{df} acf	914.151	919.365	925.484	947.320	953.560	958.665	887.886	895.872	904.918	10.514	16.083	22.524
Difference ≥ 5.0 ccf?	6.651	5.214	6.119	5.320	6.240	5.105	7.302	7.986	9.046	5.514	5.569	6.441
Initial MB Temp, t_{di} °F	69	69	69	68	69	69	68	69	70	68	69	71
Final MB Temp, t_{df} °F	69	69	70	69	69	70	69	70	71	69	71	72
Pump Vac ($> V_{cr}$ in. HG?)	18	18	18	15	15	15	13	13	13	11	11	11
Time, Minutes (M)	14	11	12	8	10	8	9	10	11	5	5	5
Time, Seconds (S)	0	0	54	30	0	10	10	10	25	0	3	50
<u>Calculations</u>												
M5 DGM Factor, Y_i	0.96685	0.96903	0.96925	0.96846	0.97230	0.97151	0.97284	0.98843	0.98174	0.96458	0.96734	0.96885
Average, $Y_{ab(avg)}$		0.9684			0.9708			0.9810			0.9669	
Diff = $Y_{i(avg)} - Y_{ab(avg)}$ ($\leq \pm 0.02$)?	0.003		ok	0.001		ok	-0.009		ok	0.005		ok
Delta H _{di}	1.295	1.295	1.294	1.333	1.331	1.330	1.342	1.339	1.337	1.419	1.415	1.411
Average, Delta H _{di(ab)(avg)}		1.294			1.331			1.339			1.415	
Diff=Delta H _{di(ab)(avg)} - Delta H _{di(a)(avg)} ($\leq \pm 0.20$)?	0.051		ok	0.014		ok	0.006		ok	-0.070		ok

$Y_{i(avg)}$	0.9718
SCAQMD Delta H _{di(ab)(avg)}	1.366
EPA Delta H _{di(ab)(avg)}	1.345

$$Y_i = \frac{K'P_b \left(\frac{t_{di} + t_{df}}{2} + 460 \right) \left(M + \frac{S}{60} \right)}{17.65(V_{df} - V_{di}) \left(P_b + \frac{\Delta H}{13.6} \right) \sqrt{t_{amb} + 460}}$$

$$\Delta H_{di} = \frac{9.926 \Delta H \left(P_b + \frac{\Delta H}{13.6} \right) (t_{amb} + 460)}{(K'P_b)^2 \left(\frac{t_{di} + t_{df}}{2} + 460 \right)}$$

QA/QC Check

Completeness ☒ Legibility ☒ Accuracy ☒ Specifications ☒ Reasonableness ☒

Checked By:

Sakhalin Finnie

QA Administrator (Signature/Date)

E 4

Isokinetic Meterbox Full-Test Calibration

Meterbox ID: MB8
Calibrated by: MIKE C
Date: 4/23/99

Range	Low			Low Medium			Medium			High		
Run No.	1A	1B	1C	1A	1B	1C	2A	2B	2C	3A	3B	3C
Stand. Crit. Orifice (SCRIT)												
SCRIT ID#	48	48	48	55	55	55	63	63	63	73	73	73
SCRIT K' Factor	0.3522	0.3522	0.3522	0.4657	0.4657	0.4657	0.5962	0.5962	0.5962	0.8213	0.8213	0.8213
Min. SCRIT Vac., V_{cr} in. Hg	15	15	15	15	15	15	15	15	15	15	15	15
Amb Temp, t_{amb} °F	68	68	68	68	68	68	68	68	68	69	69	69
Bar. Pressure, P_b in. Hg	29.77	29.77	29.77	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8
Meterbox (MB)												
Leak-check OK? (Y or N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MB Orifice Delta H in. H ₂ O	0.65	0.65	0.65	1.10	1.10	1.10	2.10	2.10	2.10	4.00	4.00	4.00
Initial MB Vol. Reading, V_{di} acf	7.000	12.450	17.900	25.000	31.000	37.000	45.000	51.500	57.450	65.000	70.400	75.750
Final MB Vol. Reading, V_{df} acf	12.450	17.900	23.340	31.000	37.000	43.000	51.500	57.450	63.700	70.400	75.750	81.200
Difference ≥ 5.0 cft?	5.450	5.450	5.440	6.000	6.000	6.000	6.500	5.950	6.250	5.400	5.350	5.450
Initial MB Temp, t_{di} °F	68	68	68	68	68	68	69	69	69	69	70	70
Final MB Temp, t_{df} °F	68	68	68	68	68	68	69	69	69	70	70	70
Pump Vac ($> V_{cr}$ in. HG?)	19	19	19	19	19	19	19	19	19	19	19	19
Time, Minutes (M)	12	12	12	10	10	10	8	8	8	5	5	5
Time, Seconds (S)	0	0	0	0	0	0	0	0	0	0	0	0
Calculations												
M5 DGM Factor, Y_i	1.00807	1.00807	1.00992	1.00674	1.00674	1.00775	0.95222	1.04024	0.99031	0.98220	0.99231	0.97410
Average, $Y_{i@i(avg)}$		1.0087			1.0071			0.9943			0.9829	
Diff = $Y_{i@i(avg)} - Y_{i@ab(avg)}$ ($\leq \pm 0.02$)?	-0.010		ok	-0.009		ok	0.004		ok	0.015		ok
Delta $H_{@i}$	1.750	1.750	1.750	1.694	1.694	1.694	1.974	1.974	1.974	1.993	1.991	1.991
Average, Delta $H_{@i@i(avg)}$		1.750			1.694			1.974			1.992	
Diff = Delta $H_{@i@i(avg)} - Delta H_{@ab(avg)}$ ($\leq \pm 0.20$)?	0.103		ok	0.158		ok	-0.122		ok	-0.139		ok

$Y_{i@i(avg)}$	0.9982
SCAQMD Delta $H_{@i@i(avg)}$	1.881
EPA Delta $H_{@i@i(avg)}$	1.852

$$Y_i = \frac{K'P_b \left(\frac{t_{di} + t_{df}}{2} + 460 \right) \left(M + \frac{S}{60} \right)}{17.65(V_{df} - V_{di}) \left(P_b + \frac{\Delta H}{13.6} \right) \sqrt{t_{amb} + 460}}$$

$$\Delta H_{@i} = \frac{9.926 \Delta H \left(P_b + \frac{\Delta H}{13.6} \right) (t_{amb} + 460)}{(K'P_b)^2 \left(\frac{t_{di} + t_{df}}{2} + 460 \right)}$$

QA/QC Check

Completeness ☒ Legibility ☒ Accuracy ☒ Specifications ☒ Reasonableness ☒

Checked By: Jimmy Wong 4/26/99
 QA Administrator (Signature/Date)

Isokinetic Meterbox Full-Test Calibration

Meterbox ID: MB9
Calibrated by: AG
Date: 4/14/99

Range	Low			Low Medium			Medium			High		
Run No.	1A	1B		1A	1B		2A	2B		3A	3B	
Stand. Crit. Orifice (SCRIT)												
SCRIT ID#	48	48	48	55	55	55	63	63	63	73	73	73
SCRIT K' Factor	0.3522	0.3522	0.3522	0.4657	0.4657	0.4657	0.5962	0.5962	0.5962	0.8213	0.8213	0.8213
Min. SCRIT Vac., V _{cr} in. Hg	15	15	15	15	15	15	14	14	14	14	14	14
Amb Temp, t _{amb} °F	64	64	64	64	64	64	64	64	64	64	64	64
Bar. Pressure, P _b in. Hg	30.25	30.25	30.25	30.25	30.25	30.25	30.25	30.25	30.25	30.25	30.25	30.25
Meterbox (MB)												
Leak-check OK? (Y or N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MB Orifice Delta H in. H ₂ O	0.63	0.63	0.63	1.15	1.15	1.15	1.92	1.92	1.92	3.65	3.65	3.65
Initial MB Vol. Reading, V _{di} acf	320.268	325.310	330.333	337.031	344.324	351.038	369.530	376.701	386.117	407.827	417.804	426.660
Final MB Vol. Reading, V _{df} acf	325.310	330.333	335.396	344.324	351.038	357.740	376.701	386.117	393.591	417.804	426.660	437.108
Difference ≥ 5.0 ccf?	5.042	5.023	5.063	7.293	6.714	6.702	7.171	9.416	7.474	9.977	8.856	10.448
Initial MB Temp, t _{di} °F	66	67	69	72	73	74	71	73	74	77	78	78
Final MB Temp, t _{df} °F	67	69	71	73	74	75	73	74	75	78	78	78
Pump Vac (> V _{cr} in. HG?)	18	18	18	18	18	18	18	18	18	18	18	18
Time, Minutes (M)	11	11	11	12	11	11	9	12	9	8	8	9
Time, Seconds (S)	0	0	0	0	0	0	30	0	30	29	45	34
Calculations												
M5 DGM Factor, Y _i	0.99987	1.00651	1.00234	1.00712	1.00469	1.00838	1.03522	0.99868	0.99792	0.92086	1.07103	0.99256
Average, Y _{ab(avg)}		1.0029			1.0067			1.0106			0.9948	
Diff = Y _{i(avg)} - Y _{ab(avg)} (≤ ± 0.02)?	0.001		ok	-0.003		ok	-0.007		ok	0.009		ok
Delta H _{di}	1.661	1.656	1.650	1.717	1.714	1.710	1.754	1.749	1.746	1.746	1.745	1.745
Average, Delta H _{di@ab(avg)}		1.656			1.714			1.749			1.745	
Diff = Delta H _{di@ab(avg)} - Delta H _{ab@ab(avg)} (≤ ± 0.20)?	0.060		ok	0.002		ok	-0.033		ok	-0.029		ok

Y _{i(avg)}	1.0038
SCAQMD Delta H _{di@ab(avg)}	1.742
EPA Delta H _{di@ab(avg)}	1.716

$$Y_i = \frac{K'P_b \left(\frac{t_{di} + t_{df}}{2} + 460 \right) \left(M + \frac{S}{60} \right)}{17.65(V_{df} - V_{di}) \left(P_b + \frac{\Delta H}{13.6} \right) \sqrt{t_{amb} + 460}}$$

$$\Delta H_{di} = \frac{9.926 \Delta H \left(P_b + \frac{\Delta H}{13.6} \right) (t_{amb} + 460)}{(K'P_b)^2 \left(\frac{t_{di} + t_{df}}{2} + 460 \right)}$$

QA/QC Check

Completeness ☒ Legibility ☒ Accuracy ☒ Specifications ☒ Reasonableness ☒

Checked By: Long Wong 4/15/99
 QA Administrator (Signature/Date)

E 6

Isokinetic Meterbox Full-Test Calibration

Meterbox ID:
Calibrated by:
Date:

MB10
AG
2/20/99

Range	Low			Low Medium			Medium			High		
Run No.	1A	1B		1A	1B		2A	2B		3A	3B	
Stand. Crit. Orifice (SCRIT)												
SCRIT ID#	48	48	48	55	55	55	63	63	63	73	73	73
SCRIT K' Factor	0.3522	0.3522	0.3522	0.4657	0.4657	0.4657	0.5962	0.5962	0.5962	0.8213	0.8213	0.8213
Min. SCRIT Vac., V_{cr} in. Hg	15	15	15	15	15	15	15	15	15	14	14	14
Amb Temp, t_{amb} °F	70	70	70	70	70	70	67	67	67	70	70	70
Bar. Pressure, P_b in. Hg	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1	30.1
Meterbox (MB)												
Leak-check OK? (Y or N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MB Orifice Delta H in. H ₂ O	0.70	0.70	0.70	1.25	1.25	1.25	2.10	2.10	2.10	4.10	4.10	4.10
Initial MB Vol. Reading, V_{di} acf	483.000	488.872	494.154	505.000	511.870	517.293	541.300	548.887	554.140	577.500	586.012	592.645
Final MB Vol. Reading, V_{df} acf	488.873	494.154	500.152	511.838	517.293	523.020	548.887	554.140	559.150	586.012	592.645	603.662
Difference ≥ 5.0 ccf?	5.873	5.282	5.998	6.838	5.423	5.727	7.587	5.253	5.010	8.512	6.633	11.017
Initial MB Temp, t_{di} °F	67	70	71	74	75	75	68	70	71	73	74	74
Final MB Temp, t_{df} °F	70	71	73	75	75	76	70	71	72	74	74	75
Pump Vac $> V_{cr}$ in. HG?	18	18	18	18	18	18	18	18	18	17	17	17
Time, Minutes (M)	13	11	13	11	9	9	9	6	6	8	6	10
Time, Seconds (S)	0	40	10	20	0	29	52	49	30	0	13	19
Calculations												
M5 DGM Factor, Y_i	1.01235	1.01400	1.01061	1.01223	1.01452	1.01320	1.00715	1.00783	1.00952	1.00340	1.00155	1.00163
Average, $Y_{i(avg)}$		1.0123			1.0133			1.0082			1.0022	
Diff = $Y_{i(avg)} - Y_{ab(avg)}$ ($\leq \pm 0.02$)?	-0.003		ok	-0.004		ok	0.001		ok	0.007		ok
Delta $H_{@t}$	1.869	1.862	1.857	1.890	1.889	1.887	1.951	1.945	1.942	2.011	2.009	2.008
Average, Delta $H_{@t(avg)}$		1.863			1.889			1.946			2.009	
Diff=Delta $H_{@t(avg)} - \Delta H_{@ab(avg)}$ ($\leq \pm 0.20$)?	0.064		ok	0.038		ok	-0.019		ok	-0.083		ok

$Y_{i(avg)}$	1.0090
SCAQMD Delta $H_{@t(avg)}$	1.956
EPA Delta $H_{@t(avg)}$	1.927

$$Y_i = \frac{K'P_b \left(\frac{t_{di} + t_{df}}{2} + 460 \right) \left(M + \frac{S}{60} \right)}{17.65(V_{df} - V_{di}) \left(P_b + \frac{\Delta H}{13.6} \right) \sqrt{t_{amb} + 460}}$$

$$\Delta H_{@t} = \frac{9.926 \Delta H \left(P_b + \frac{\Delta H}{13.6} \right) (t_{amb} + 460)}{(K'P_b)^2 \left(\frac{t_{di} + t_{df}}{2} + 460 \right)}$$

QA/QC Check

Completeness ☒ Legibility ☒ Accuracy ☒ Specifications ☒ Reasonableness ☒

Checked By: Sakhalin Finnie
QA Administrator (Signature/Date)

E 7

Isokinetic Meterbox Post-Test Calibration

Job Name: OGDEN
 Calibrated by: NP
 Date: 6/28/99
 Full-Test Date: 2/22/99

Job Number: 10558
 Meterbox: MB2
 Delta H_{@init}: 1.782
 Gamma Y_{init}: 1.0056

Run No.	1	2	3
Stand. Crit. Orifice (SCRIT)			
SCRIT ID#	73	73	73
SCRIT K' Factor	0.8213	0.8213	0.8213
Min. SCRIT Vac., V _{cr} in. Hg	13	13	13
Amb Temp, t _{amb} °F	75	75	75
Bar. Pressure, P _b in. Hg	30	30	30
Meterbox (MB)			
Leak-check OK? (Y or N)	Y	Y	Y
Post-test Orifice Delta H in. H ₂ O	3.7	3.7	3.7
Initial MB Vol. Reading, V _{di} acf	49.553	57.292	65.050
Final MB Vol. Reading, V _{df} acf	57.292	65.050	72.908
Difference ≥ 5.0 cf?	7.739	7.758	7.858
Initial MB Temp, t _{di} °F	87	89	94
Final MB Temp, t _{df} °F	89	94	96
Pump Vac (> V _{cr} in. HG?)	18	18	18
Time, Minutes (M)	7	7	7
Time, Seconds (S)	5	5	8
DGM Factor, Y _i	1.0000	1.0039	1.0044
Post-Test Average Y _{i(avg)}			1.0028
Deviation From Full-Test: < ± 5.0%?			-0.3%

For Y_i and Delta H_@ equations, see accompanying Full-Test Calibration.

Note: M5 does not require a post-test calibration check on Delta H_@.			
Delta H _{@i}	1.788	1.777	1.765
Post-Test Average Delta H _{@i(avg)}			1.777
Deviation From Full-Test: < ± 10%?			-0.3%

Pressure Gauge Post-Test Calibrations

	Pressure Gauge Used	Readings, In. H ₂ O		Deviation, %* (< ± 5.0%?)
		Press. Gauge	Inclined Manometer	
<u>Delta p</u>	0 - 0.5"	NA	NA	#VALUE!
	0 - 2"	NA	NA	#VALUE!
	0 - 2"	NA	NA	#VALUE!

* Dev.% = ((Press. Gauge - Inclined Manometer) / Inclined Manometer) * 100

QC Check

Completeness ☒ Legibility ☒ Accuracy ☒ Specifications ☒ Reasonableness ☒

Checked By: _____

QA Administrator (Signature/Date)

E

8

Isokinetic Meterbox Post-Test Calibration

Job Name: OGDEN
 Calibrated by: NP
 Date: 6/28/99
 Full-Test Date: 4/23/99

Job Number: 10558
 Meterbox: MB3
 Delta H_{@init}: 1.816
 Gamma Y_{init}: 1.0707

Run No.	1	2	3
Stand. Crit. Orifice (SCRIT)			
SCRIT ID#	63	63	63
SCRIT K' Factor	0.5962	0.5962	0.5962
Min. SCRIT Vac., V _{cr} in. Hg	15	15	15
Amb Temp, t _{amb} °F	75	75	75
Bar. Pressure, Pb in. Hg	30	30	30
Meterbox (MB)			
Leak-check OK? (Y or N)	Y	Y	Y
Post-test Orifice Delta H in. H ₂ O	2	2	2
Initial MB Vol. Reading, V _{di} acf	962.200	967.545	972.998
Final MB Vol. Reading, V _{df} acf	967.545	972.998	978.278
Difference ≥ 5.0 cf?	5.345	5.453	5.280
Initial MB Temp, t _{di} °F	85	87	90
Final MB Temp, t _{df} °F	87	90	92
Pump Vac (> V _{cr} in. HG?)	18	18	18
Time, Minutes (M)	7	7	7
Time, Seconds (S)	5	5	5
DGM Factor, Y _i	1.0516	1.0355	1.0743
Post-Test Average Y _{i(avg)}			1.0538
Deviation From Full-Test: < ± 5.0%?			-1.6%

For Y_i and Delta H_@ equations, see accompanying Full-Test Calibration.

Note: M5 does not require a post-test calibration check on Delta H_@.			
Delta H _{@i}	1.833	1.825	1.816
Post-Test Average Delta H _{@i(avg)}			1.825
Deviation From Full-Test: < ± 10%?			0.5%

Pressure Gauge Post-Test Calibrations

	Pressure Gauge Used	Readings, In. H ₂ O		Deviation, %* (< ± 5.0%?)
		Press. Gauge	Inclined Manometer	
<u>Delta p</u>	0 - 0.5"	NA	NA	#VALUE!
	0 - 2"	NA	NA	#VALUE!
	0 - 2"	NA	NA	#VALUE!

* Dev.% = ((Press. Gauge - Inclined Manometer) / Inclined Manometer) * 100

QC Check

Completeness ☒ Legibility ☒ Accuracy ☒ Specifications ☒ Reasonableness ☒

Checked By: _____

Jonny Wong 7/1/99
 QA Administrator (Signature/Date)

Isokinetic Meterbox Post-Test Calibration

Job Name: OGDEN
 Calibrated by: NP
 Date: 6/28/99
 Full-Test Date: 2/22/99

Job Number: 10558
 Meterbox: MB6
 Delta H_{@init}: 1.345
 Gamma Y_{init}: 0.9718

Run No.	1	2	3
Stand. Crit. Orifice (SCRIT)			
SCRIT ID#	63	63	63
SCRIT K' Factor	0.5962	0.5962	0.5962
Min. SCRIT Vac., V _{cr} in. Hg	14	14	14
Amb Temp, t _{amb} °F	76	76	76
Bar. Pressure, Pb in. Hg	30	30	30
Meterbox (MB)			
Leak-check OK? (Y or N)	Y	Y	Y
Post-test Orifice Delta H in. H ₂ O	1.5	1.5	1.5
Initial MB Vol. Reading, V _{di} acf	346.003	352.023	358.040
Final MB Vol. Reading, V _{df} acf	352.023	358.040	364.035
Difference ≥ 5.0 cf?	6.020	6.017	5.995
Initial MB Temp, t _{di} °F	75	74	73
Final MB Temp, t _{df} °F	74	73	72
Pump Vac (> V _{cr} in. HG?)	20	20	20
Time, Minutes (M)	7	7	7
Time, Seconds (S)	25	25	8
DGM Factor, Y _i	0.9573	0.9560	0.9211
Post-Test Average Y _{i(avg)}			0.9448
Deviation From Full-Test: < ± 5.0%?			-2.8%

For Y_i and Delta H_@ equations, see accompanying Full-Test Calibration.

Note: M5 does not require a post-test calibration check on Delta H_@.			
Delta H _{@i}	1.405	1.408	1.410
Post-Test Average Delta H _{@(avg)}			1.408
Deviation From Full-Test: < ± 10%?			4.7%

Pressure Gauge Post-Test Calibrations

	Pressure Gauge Used	Readings, In. H ₂ O		Deviation, %* (< ± 5.0%?)
		Press. Gauge	Inclined Manometer	
Delta p	0 - 0.5"	NA	NA	#VALUE!
	0 - 2"	NA	NA	#VALUE!
	0 - 2"	NA	NA	#VALUE!

* Dev.% = ((Press. Gauge - Inclined Manometer) / Inclined Manometer) * 100

QC Check

Completeness ☒ Legibility ☒ Accuracy ☒ Specifications ☒ Reasonableness ☒

Checked By: Joey Wong 7/1/99
 QA Administrator (Signature/Date)

Isokinetic Meterbox Post-Test Calibration

Job Name: OGDEN
 Calibrated by: AG
 Date: 6/28/99
 Full-Test Date: 4/23/99

Job Number: 10558
 Meterbox: MB8
 Delta $H_{@init}$: 1.852
 Gamma Y_{init} : 0.9982

Run No.	1	2	3
Stand. Crit. Orifice (SCRIT)			
SCRIT ID#	63	63	63
SCRIT K' Factor	0.5962	0.5962	0.5962
Min. SCRIT Vac., V_{cr} in. Hg	15	15	15
Amb Temp, t_{amb} °F	70	70	70
Bar. Pressure, P_b in. Hg	30	30	30
Meterbox (MB)			
Leak-check OK? (Y or N)	Y	Y	Y
Post-test Orifice Delta H in. H_2O	2.05	2.05	2.05
Initial MB Vol. Reading, V_{di} acf	426.000	431.188	436.574
Final MB Vol. Reading, V_{df} acf	431.188	436.574	442.421
Difference ≥ 5.0 cf?	5.188	5.386	5.847
Initial MB Temp, t_{di} °F	83	86	87
Final MB Temp, t_{df} °F	86	87	88
Pump Vac ($> V_{cr}$ in. HG?)	18	18	18
Time, Minutes (M)	6	7	7
Time, Seconds (S)	30	0	30
DGM Factor, Y_i	0.9960	1.0370	1.0253
Post-Test Average $Y_{i(avg)}$			1.0194
Deviation From Full-Test: $< \pm 5.0\%$?			2.1%

For Y_i and Delta $H_{@}$ equations, see accompanying Full-Test Calibration.

Note: M5 does not require a post-test calibration check on Delta $H_{@}$.			
Delta $H_{@i}$	1.867	1.860	1.856
Post-Test Average Delta $H_{@i(avg)}$			1.861
Deviation From Full-Test: $< \pm 10\%$?			0.5%

Pressure Gauge Post-Test Calibrations

	Pressure Gauge Used	Readings, In. H_2O		Deviation, %* ($< \pm 5.0\%$)
		Press. Gauge	Inclined Manometer	
Delta p	0 - 0.5"	NA	NA	#VALUE!
	0 - 2"	NA	NA	#VALUE!
	0 - 2"	NA	NA	#VALUE!

* Dev. % = ((Press. Gauge - Inclined Manometer) / Inclined Manometer) * 100

QC Check

Completeness ☒ Legibility ☒ Accuracy ☒ Specifications ☒ Reasonableness ☒

Checked By:

Joy Wong 7/1/99
 QA Administrator (Signature/Date)

E 11

Isokinetic Meterbox Post-Test Calibration

Job Name: OMS
 Calibrated by: MC
 Date: 6/30/99
 Full-Test Date: 4/14/99

Job Number: 10558
 Meterbox: MB9
 Delta H_{@init}: 1.716
 Gamma Y_{init}: 1.0038

Run No.	1	2	3
Stand. Crit. Orifice (SCRIT)			
SCRIT ID#	63	63	63
SCRIT K' Factor	0.5962	0.5962	0.5962
Min. SCRIT Vac., V _{cr} in. Hg	15	15	15
Amb Temp, t _{amb} °F	80	80	80
Bar. Pressure, Pb in. Hg	30	30	30
Meterbox (MB)			
Leak-check OK? (Y or N)	Y	Y	Y
Post-test Orifice Delta H in. H ₂ O	2	2	2
Initial MB Vol. Reading, V _{di} acf	469.100	474.800	480.450
Final MB Vol. Reading, V _{df} acf	474.800	480.450	486.130
Difference ≥ 5.0 cf?	5.700	5.650	5.680
Initial MB Temp, t _{di} °F	92	92	90
Final MB Temp, t _{df} °F	92	90	89
Pump Vac (> V _{cr} in. HG?)	18	18	18
Time, Minutes (M)	7	7	7
Time, Seconds (S)	0	0	0
DGM Factor, Y _i	0.9806	0.9875	0.9796
Post-Test Average Y _{i(avg)}			0.9826
Deviation From Full-Test: < $\pm 5.0\%$?			-2.1%

For Y_i and Delta H_@ equations, see accompanying Full-Test Calibration.

Note: M5 does not require a post-test calibration check on Delta H_@.			
Delta H _{@i}	1.830	1.833	1.838
Post-Test Average Delta H _{@i(avg)}			1.834
Deviation From Full-Test: < $\pm 10\%$?			6.9%

Pressure Gauge Post-Test Calibrations

	Pressure Gauge Used	Readings, In. H ₂ O		Deviation, %* ($\leq \pm 5.0\%$)
		Press. Gauge	Inclined Manometer	
Delta p	0 - 0.5"	NA	NA	#VALUE!
	0 - 2"	NA	NA	#VALUE!
	0 - 2"	NA	NA	#VALUE!

* Dev.% = ((Press. Gauge - Inclined Manometer) / Inclined Manometer) * 100

QC Check

Completeness ☒ Legibility ☒ Accuracy ☒ Specifications ☒ Reasonableness ☒

Checked By: Long Wong 7/1/99
 QA Administrator (Signature/Date)

E 12

Isokinetic Meterbox Post-Test Calibration

Job Name: OGDEN
 Calibrated by: AG
 Date: 6/27/99
 Full-Test Date: 3/3/99

Job Number: 10558
 Meterbox: MB10
 Delta H_{@init}: 1.927
 Gamma Y_{init}: 1.0090

Run No.	1	2	3
Stand. Crit. Orifice (SCRIT)			
SCRIT ID#	63	63	63
SCRIT K' Factor	0.5962	0.5962	0.5962
Min. SCRIT Vac., V _{cr} in. Hg	15	15	15
Amb Temp, t _{amb} °F	89	89	89
Bar. Pressure, P _b in. Hg	29.9	29.9	29.9
Meterbox (MB)			
Leak-check OK? (Y or N)	Y	Y	Y
Post-test Orifice Delta H in. H ₂ O	2.05	2.05	2.05
Initial MB Vol. Reading, V _{di} acf	742.800	748.333	753.865
Final MB Vol. Reading, V _{df} acf	748.333	753.865	759.389
Difference ≥ 5.0 cf?	5.533	5.532	5.524
Initial MB Temp, t _{di} °F	92	93	94
Final MB Temp, t _{df} °F	93	94	95
Pump Vac (> V _{cr} in. HG?)	18	18	18
Time, Minutes (M)	7	7	7
Time, Seconds (S)	0	0	0
DGM Factor, Y _i	1.0027	1.0047	1.0080
Post-Test Average Y _{i(avg)}			1.0051
Deviation From Full-Test: < ± 5.0%?			-0.4%

For Y_i and Delta H_@ equations, see accompanying Full-Test Calibration.

Note: M5 does not require a post-test calibration check on Delta H_@.			
Delta H _{@i}	1.912	1.908	1.905
Post-Test Average Delta H _{@(avg)}			1.908
Deviation From Full-Test: < ± 10%?			-1.0%

Pressure Gauge Post-Test Calibrations

	Pressure Gauge Used	Readings, In. H ₂ O		Deviation, %* (< ± 5.0%?)
		Press. Gauge	Inclined Manometer	
Delta p	0 - 0.5"	NA	NA	#VALUE!
	0 - 2"	NA	NA	#VALUE!
	0 - 2"	NA	NA	#VALUE!

* Dev.% = ((Press. Gauge - Inclined Manometer) / Inclined Manometer) * 100

QC Check

Completeness ☒ Legibility ☒ Accuracy ☒ Specifications ☒ Reasonableness ☒

Checked By: _____

Jonny Wong 7/1/99
 QA Administrator (Signature/Date)

NOZZLE NUMBER GN254

NOZZLE NUMBER GN 254

Notes: 1. All diameters measured in inches.
2. Maximum 0.004 inches from lowest to highest diameter.

R-0011 rev. 1-90

FIGURE 2 NOZZLE CALIBRATION FORM R-0033

NOZZLE NUMBER GN282

Note: 1. All diameters measured in inches.
2. Maximum 0.004 inches from lowest to highest diameter.

FIGURE 2 NOZZLE CALIBRATION FORM R-0033

NOZZLE NUMBER 6N294

[illegible]

Note: 1. All diameters measured in inches.
2. Maximum 0.004 inches from lowest to highest diameter.

Reviewer: AirKinetics, Inc.

NOZZLE CALIBRATION
NOZZLE NUMBER GN 296

[illegible]

Note: 1. All diameters measured in inches.
2. Maximum 0.004 inches from lowest to highest diameter.

Reviewer: _____
AirKinetics, Inc.

NOZZLE NUMBER GN 298

[illegible]

Note: 1. All diameters measured in inches.
2. Maximum 0.004 inches from lowest to highest diameter.

Reviewer: AirKinetics, Inc.

NOZZLE NUMBER GN 2040

[illegible]

Note: 1. All diameters measured in inches.
2. Maximum 0.004 inches from lowest to highest diameter.

Reviewer: _____
AirKinetics, Inc.

NOZZLE NUMBER 6N2045

[illegible]

Note: 1. All diameters measured in inches.
2. Maximum 0.004 inches from lowest to highest diameter.

Reviewer: _____
AirKinetics, Inc.

NOZZLE CALIBRATION

NOZZLE NUMBER GW ~~1047~~ 2047

[illegible]

Note: 1. All diameters measured in inches.
2. Maximum 0.004 inches from lowest to highest diameter.

Reviewer: _____
AirKinetics, Inc.

NOZZLE NUMBER 6N4048 6N2048

Note: 1. All diameters measured in inches.
2. Maximum 0.004 inches from lowest to highest diameter.

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REV.11/26

GLASS NOZZLE CALIBRATION
D (7/32 inch = 0.220 inches diameter)

Nozzle ID	Date	Calib. By	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Average	Inactive
D001	2/4/99	NP	0.220	0.221	0.223	0.222	0.222	0.222	
D002	2/4/99	NP	0.222	0.222	0.222	0.221	0.221	0.222	
D003	2/4/99	NP	0.221	0.222	0.222	0.222	0.222	0.222	
D004	2/4/99	NP	0.222	0.223	0.223	0.223	0.223	0.223	
D005	2/4/99	NP	0.222	0.223	0.223	0.222	0.223	0.223	
D006	2/4/99	NP	0.222	0.222	0.224	0.224	0.222	0.223	
D007	2/4/99	NP	0.224	0.223	0.223	0.222	0.224	0.223	
D008	2/4/99	NP	0.224	0.224	0.225	0.225	0.224	0.224	
D009	2/4/99	NP	0.221	0.223	0.223	0.223	0.222	0.222	
D010	2/4/99	NP	0.224	0.226	0.225	0.226	0.225	0.225	
D011	2/4/99	NP	0.222	0.222	0.224	0.221	0.222	0.222	
D012	4/27/99	AG	0.225	0.225	0.224	0.226	0.225	0.225	
D013	4/27/99	AG	0.222	0.223	0.223	0.223	0.224	0.223	
D014	4/27/99	AG	0.223	0.223	0.223	0.221	0.222	0.222	
D015	4/27/99	AG	0.216	0.216	0.216	0.215	0.218	0.216	
D016	4/27/99	AG	0.209	0.209	0.209	0.208	0.207	0.208	
D017	4/27/99	AG	0.216	0.216	0.216	0.216	0.214	0.216	
D018	4/27/99	AG	0.215	0.215	0.217	0.217	0.217	0.216	
D019	4/27/99	AG	0.216	0.217	0.218	0.218	0.218	0.217	
D020	4/27/99	AG	0.215	0.216	0.216	0.216	0.216	0.216	
D021	4/27/99	AG	0.213	0.214	0.216	0.215	0.216	0.215	
D022	6/14/99	NP	0.225	0.225	0.223	0.225	0.223	0.224	
D023	6/14/99	NP	0.216	0.216	0.216	0.216	0.216	0.216	
D024	6/14/99	NP	0.217	0.216	0.217	0.216	0.216	0.216	
D025	6/14/99	NP	0.216	0.217	0.216	0.216	0.216	0.216	
D026	6/14/99	NP	0.225	0.225	0.224	0.224	0.224	0.224	
D027	6/14/99	NP	0.224	0.226	0.225	0.226	0.225	0.225	
D028	6/14/99	NP	0.225	0.225	0.223	0.224	0.225	0.224	
D029	6/14/99	NP	0.224	0.225	0.225	0.225	0.225	0.225	
D030	6/14/99	NP	0.225	0.226	0.225	0.225	0.226	0.225	
D031								#DIV/0!	
D032								#DIV/0!	
D033								#DIV/0!	
D034								#DIV/0!	
D035								#DIV/0!	

Note: 1. All diameters measured in inches.
2. Maximum 0.004 from lowest to highest diameter.

GLASS NOZZLE CALIBRATION
E (1/4 inch = 0.260 inches diameter)

Nozzle ID	Date	Calib. By	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Average	Inactive
E001	1/28/99	NP	0.255	0.254	0.254	0.253	0.254	0.254	
E002	1/28/99	NP	0.254	0.255	0.255	0.254	0.253	0.254	
E003	1/28/99	NP	0.254	0.253	0.253	0.253	0.254	0.253	
E004	1/28/99	NP	0.253	0.253	0.254	0.253	0.253	0.253	
E005	1/28/99	NP	0.255	0.255	0.255	0.254	0.255	0.255	
E006	1/28/99	NP	0.254	0.254	0.255	0.254	0.254	0.254	
E007	1/28/99	NP	0.253	0.253	0.254	0.253	0.253	0.253	
E008	1/28/99	NP	0.253	0.252	0.253	0.254	0.253	0.253	3/25/99
E009	1/28/99	NP	0.255	0.254	0.256	0.255	0.254	0.255	
E010								#DIV/0!	
E011								#DIV/0!	
E012								#DIV/0!	
E013								#DIV/0!	
E014								#DIV/0!	
E015								#DIV/0!	
E016								#DIV/0!	
E017								#DIV/0!	
E018								#DIV/0!	
E019								#DIV/0!	
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E027								#DIV/0!	
E028								#DIV/0!	
E029								#DIV/0!	
E030								#DIV/0!	
E031								#DIV/0!	
E032								#DIV/0!	
E033								#DIV/0!	
E034								#DIV/0!	
E035								#DIV/0!	

Note: 1. All diameters measured in inches.
2. Maximum 0.004 from lowest to highest diameter.

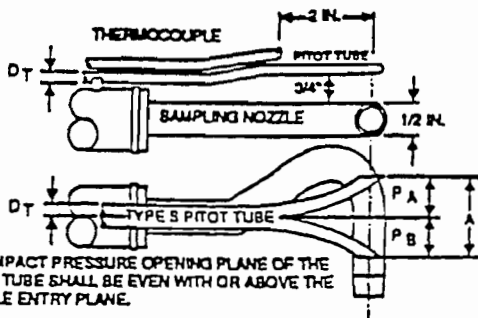
E 24

GRASBY/PM-10 NOZZLE CALIBRATION

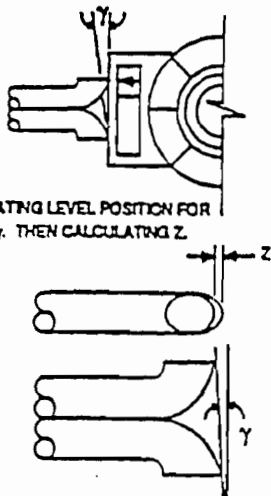
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Note: 1. All diameters measured in inches.
2. Maximum 0.004 from lowest to highest diameter.

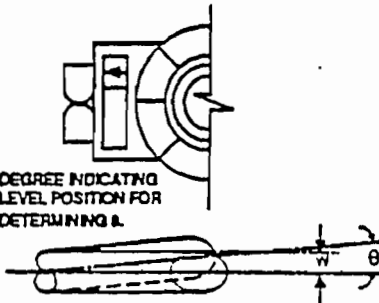
PITOT TUBE INSPECTION



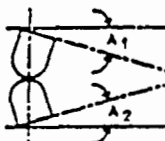
DEGREE INDICATING LEVEL POSITION FOR DETERMINING γ . THEN CALCULATING Z.



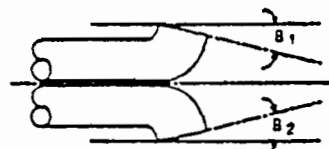
DEGREE INDICATING LEVEL POSITION FOR DETERMINING θ .



DEGREE INDICATING LEVEL POSITION FOR DETERMINING A_1 AND A_2 .



DEGREE INDICATING LEVEL POSITION FOR DETERMINING B_1 AND B_2 .



level?	P
obstructions?	N
damaged?	N
$-10^\circ < \alpha_1 < +10^\circ$	1°
$-10^\circ < \alpha_2 < +10^\circ$	4°
$-5^\circ < B_1 < +5^\circ$	2°
$-5^\circ < B_2 < +5^\circ$	3°
γ	2°
θ	1°
A	1.00
$1.05 D_1 < P_s < 1.5 D_1$	0.502
$1.05 D_1 < P_s < 1.5 D_1$	0.498
$3/16^\circ < D_1 < 3/8^\circ$	3/8
$A \tan \gamma < 0.125^\circ$	0.03492076
$A \tan \theta < 0.03125^\circ$	0.0174550
$P_s = P_s \pm 0.063^\circ$	0.004

See 40 CFR 60, Vol. 42 No. 160 EPA Method 2. Verify the minimum 2-inch setback of the thermocouple and the minimum 3/4-inch separation between the pitot tube and the nozzle as shown at the top of this page.

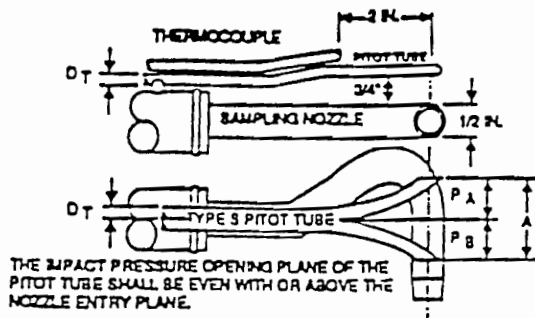
Comments:

I certify that pitot tube/probe number 4-2 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

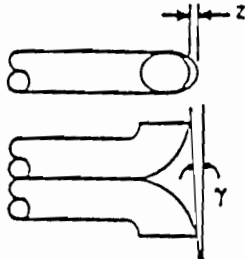
Signature

Date

PITOT TUBE INSPECTION



DEGREE INDICATING LEVEL POSITION FOR DETERMINING γ , THEN CALCULATING Z



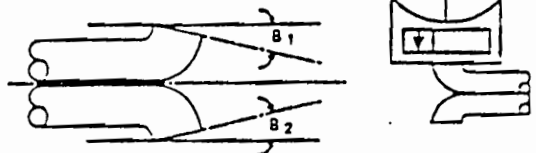
DEGREE INDICATING LEVEL POSITION FOR DETERMINING θ



DEGREE INDICATING LEVEL POSITION FOR DETERMINING α_1 AND α_2



DEGREE INDICATING LEVEL POSITION FOR DETERMINING β_1 AND β_2



level?	1
obstructions?	N
damaged?	N
$-10^\circ < \alpha_1 < +10^\circ$	3°
$-10^\circ < \alpha_2 < +10^\circ$	3°
$-5^\circ < \beta_1 < +5^\circ$	1°
$-5^\circ < \beta_2 < +5^\circ$	1°
γ	3
θ	1
A	0.953
$1.05 D_1 < P_1 < 1.5 D_1$	0.476
$1.05 D_1 < P_2 < 1.5 D_1$	0.476
$3/16^\circ < D_1 < 3/8^\circ$	3/4
$A \tan \gamma < 0.125^\circ$	0.04990356
$A \tan \theta < 0.03125^\circ$	0.01663452
$P_1 = P_2 \pm 0.063^\circ$	0

See 40 CFR 60, Vol. 42 No. 160 EPA Method 2. Verify the minimum 2-inch setback of the thermocouple and the minimum 3/4-inch separation between the pitot tube and the nozzle as shown at the top of this page.

Comments:

I certify that pitot tube/probe number 4-3 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

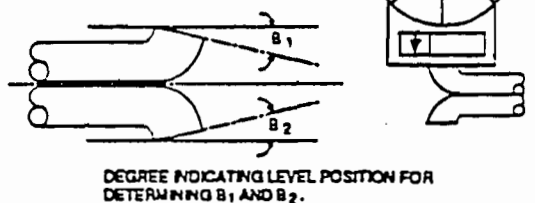
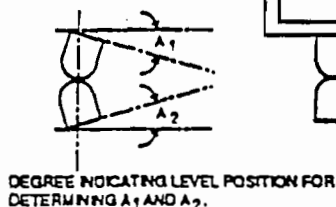
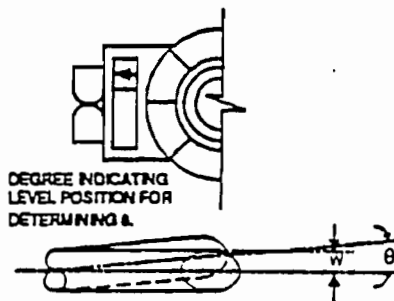
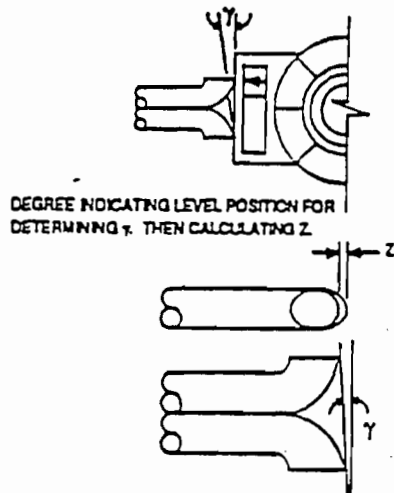
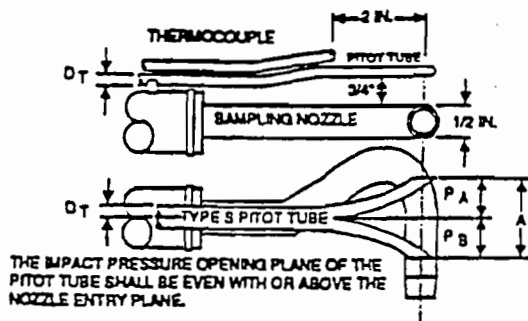
Signature

Date

[Signature]

1-8-99

PITOT TUBE INSPECTION



level?	Y
obstructions?	N
damaged?	N
$-10^\circ < \alpha_1 < +10^\circ$	2°
$-10^\circ < \alpha_2 < +10^\circ$	4°
$-5^\circ < B_1 < +5^\circ$	2°
$-5^\circ < B_2 < +5^\circ$	2°
γ	1°
θ	1°
A	0.845
$1.05 D_1 < P_0 < 1.5 D_1$	0.439
$1.05 D_1 < P_0 < 1.5 D_1$	0.445
$3/16^\circ < D_1 < 3/8^\circ$	3/8
$A \tan \gamma < 0.125^\circ$	0.015447392
$A \tan \theta < 0.03125^\circ$	0.015447392
$P_0 = P_s \pm 0.063^\circ$	0.006

See 40 CFR 60, Vol. 42 No. 160 EPA Method 2. Verify the minimum 2-Inch setback of the thermocouple and the minimum 3/4-inch separation between the pitot tube and the nozzle as shown at the top of this page.

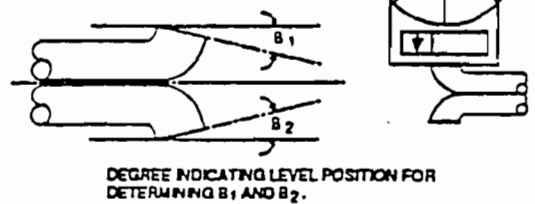
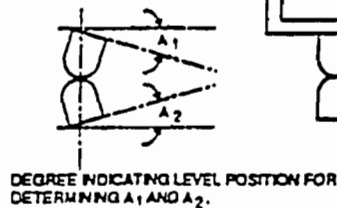
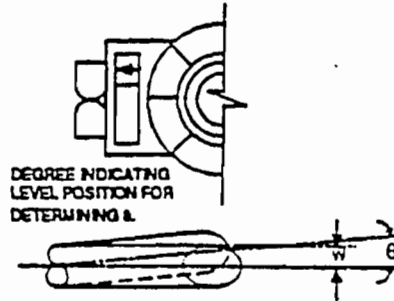
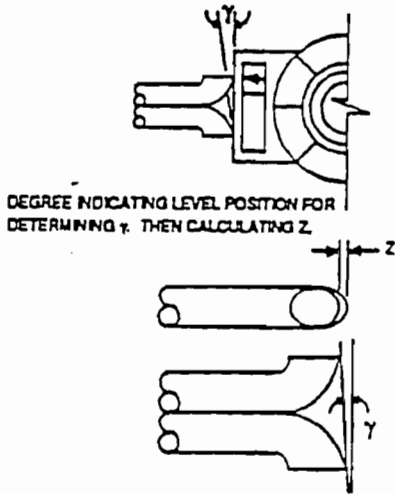
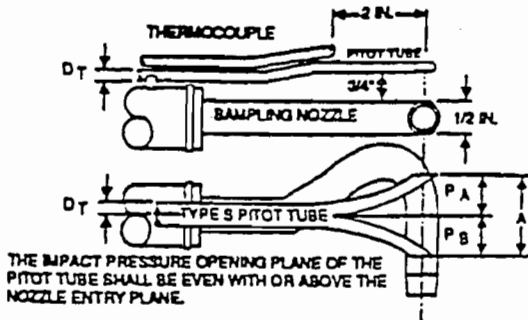
Comments: _____

I certify that pitot tube/probe number 6-1 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

Signature Alfred E.

Date 1-8-99

PITOT TUBE INSPECTION



level?	Y
obstructions?	N
damaged?	N
$-10^\circ < \alpha_1 < +10^\circ$	01
$-10^\circ < \alpha_2 < +10^\circ$	10
$-5^\circ < B_1 < +5^\circ$	00
$-5^\circ < B_2 < +5^\circ$	00
γ	0
θ	0
A	0.834
$1.05 D_i < P_s < 1.5 D_i$	0.409
$1.05 D_i < P_s < 1.5 D_i$	0.425
$3/16^\circ < D_i < 3/8^\circ$	3/4
$A \tan \gamma < 0.125^\circ$	0
$A \tan \theta < 0.03125^\circ$	0
$P_s = P_b \pm 0.063^\circ$	0.016

See 40 CFR 60, Vol. 42 No. 160 EPA Method 2. Verify the minimum 2-Inch setback of the thermocouple and the minimum 3/4-inch separation between the pitot tube and the nozzle as shown at the top of this page.

Comments: _____

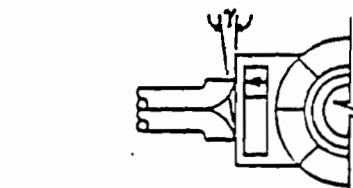
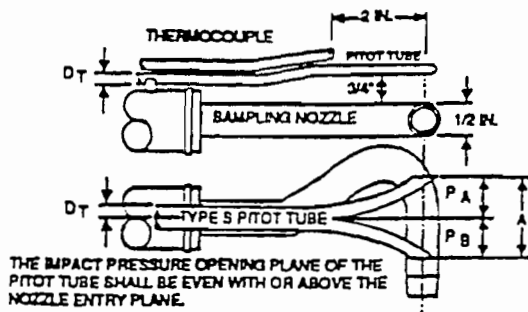
I certify that pitot tube/probe number 9482 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

Signature _____

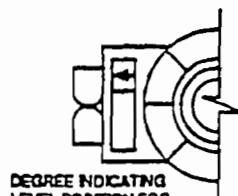
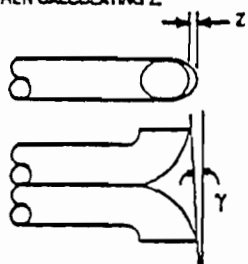
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1-9-99

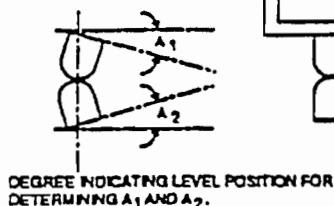
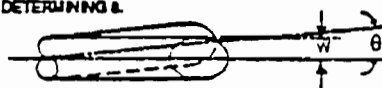
PITOT TUBE INSPECTION



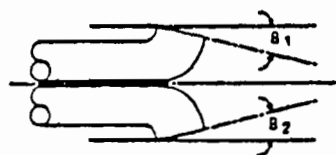
DEGREE INDICATING LEVEL POSITION FOR DETERMINING γ , THEN CALCULATING Z.



DEGREE INDICATING LEVEL POSITION FOR DETERMINING θ .



DEGREE INDICATING LEVEL POSITION FOR DETERMINING A_1 AND A_2 .



DEGREE INDICATING LEVEL POSITION FOR DETERMINING B_1 AND B_2 .

level?	Y
obstructions?	N
damaged?	N
$-10^\circ < \alpha_1 < +10^\circ$	2°
$-10^\circ < \alpha_2 < +10^\circ$	2°
$-5^\circ < B_1 < +5^\circ$	1°
$-5^\circ < B_2 < +5^\circ$	0°
γ	0°
θ	0°
A	0.974
$1.05 D_1 < P_s < 1.5 D_1$	0.482
$1.05 D_2 < P_s < 1.5 D_2$	0.492
$3/16^\circ < D_1 < 3/8^\circ$	318
$A \tan \gamma < 0.125^\circ$	0
$A \tan \theta < 0.03125^\circ$	0
$P_s = P_t \pm 0.053^\circ$	0.010

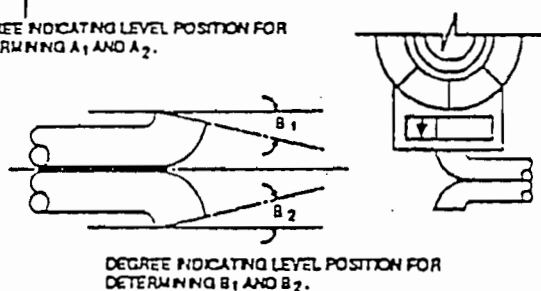
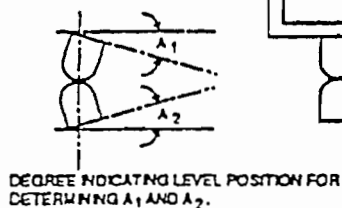
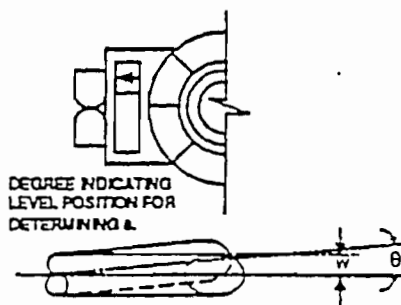
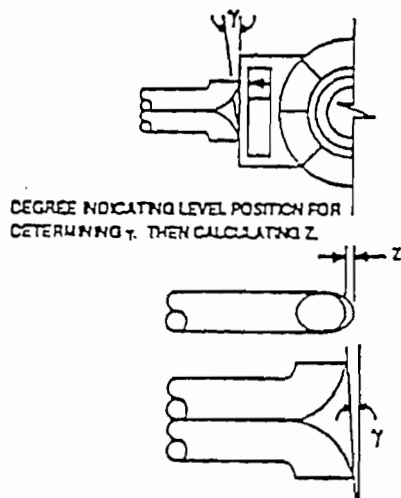
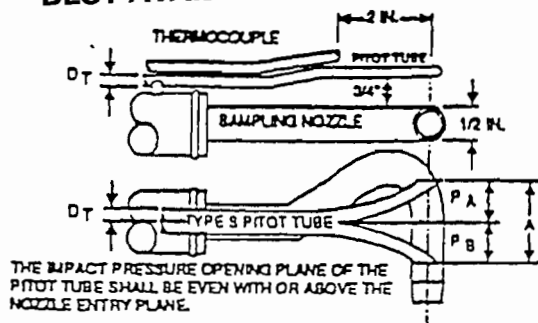
See 40 CFR 60, Vol. 42 No. 160 EPA Method 2. Verify the minimum 2-inch setback of the thermocouple and the minimum 3/4-inch separation between the pitot tube and the nozzle as shown at the top of this page.

Comments: _____

I certify that pitot tube/probe number 8-4 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

Signature 1-8-99

Date 1-8-99



level?	Y
obstructions?	N
damaged?	N
$-10^\circ < \alpha_1 < +10^\circ$	40
$-10^\circ < \alpha_2 < +10^\circ$	60
$-5^\circ < B_1 < +5^\circ$	30
$-5^\circ < B_2 < +5^\circ$	10
γ	4
θ	0
A	1.006
$1.05 D_1 < P_s < 1.5 D_1$	0.5
$1.05 D_1 < P_s < 1.5 D_1$	0.506
$3/16^\circ < D_1 < 3/8^\circ$	3/8
$A \tan \gamma < 0.125^\circ$	0.0702392
$A \tan \theta < 0.03125^\circ$	0
$P_s = P_s \pm 0.063^\circ$	0.006

See 40 CFR 60, Vol. 42 No. 160 EPA Method 2. Verify the minimum 2-Inch setback of the thermocouple and the minimum 3/4-inch separation between the pitot tube and the nozzle as shown at the top of this page.

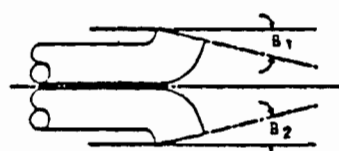
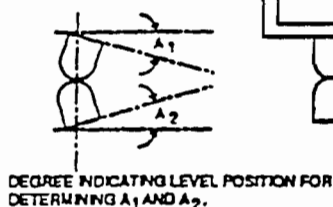
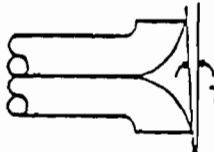
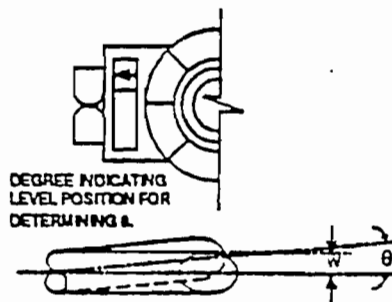
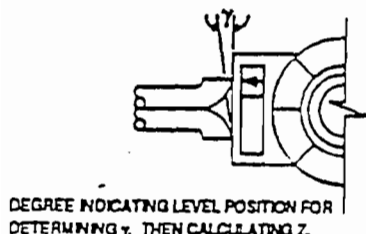
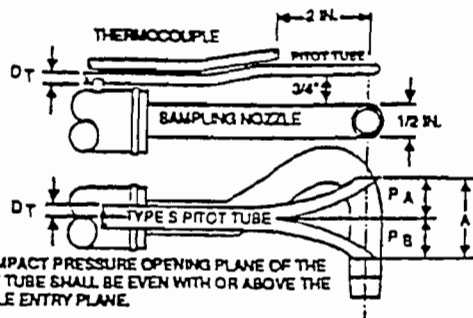
Comments: _____

I certify that pitot tube/probe number 46-6 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

Signature [Signature]

Date 1-8-99

PITOT TUBE INSPECTION



DEGREE INDICATING LEVEL POSITION FOR DETERMINING B₁ AND B₂.

level?	Y
obstructions?	N
damaged?	N
$-10^\circ < \alpha_1 < +10^\circ$	2°
$-10^\circ < \alpha_2 < +10^\circ$	-2°
$-5^\circ < B_1 < +5^\circ$	0°
$-5^\circ < B_2 < +5^\circ$	1°
γ	1
θ	1
A	0.450
$1.05 D_1 < P_s < 1.5 D_1$	0.921
$1.05 D_1 < P_s < 1.5 D_1$	0.929
$3/16^\circ < D_1 < 3/8^\circ$	3/4
$A \tan \gamma < 0.125^\circ$	0.0148
$A \tan \theta < 0.03125^\circ$	0.0148
$P_s = P_s \pm 0.063^\circ$	0.008

See 40 CFR 60, Vol. 42 No. 160 EPA Method 2. Verify the minimum 2-inch setback of the thermocouple and the minimum 3/4-inch separation between the pitot tube and the nozzle as shown at the top of this page.

Comments:

I certify that pitot tube/probe number 4-7 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

Signature

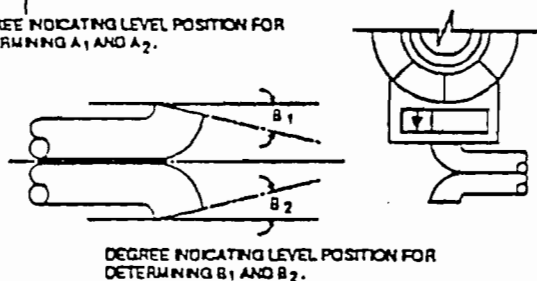
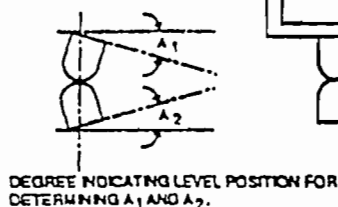
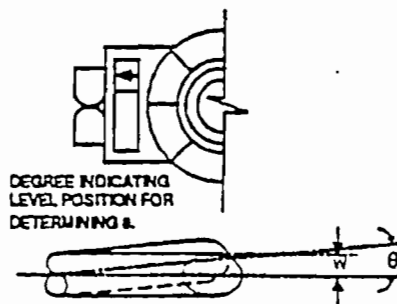
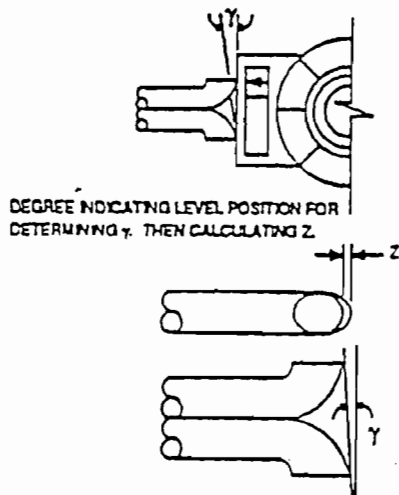
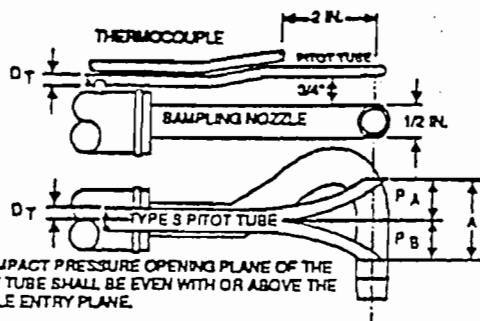
Date

1-8-99

PITOT CALIBRATION BY WIND TUNNEL				
DATE	8/5/99			
PITOT ID	8-7			
CALIBRATED BY	TONY WONG			
A SIDE CALIBRATION				
	STANDARD	TYPE S		
	PITOT READING	PITOT READING	TYPE S	DEVIATION
RUN NO.	(in H ₂ O)	(in H ₂ O)	Cp(s)	Cp(s) - Cp(SIDE A)
1	0.5	0.735	0.817	0.002
2	0.495	0.73	0.815	0.001
3	0.49	0.73	0.811	-0.003
		Cp (SIDE A)	0.814	
B SIDE CALIBRATION				
	STANDARD	TYPE S		
	PITOT READING	PITOT READING	TYPE S	DEVIATION
RUN NO.	(in H ₂ O)	(in H ₂ O)	Cp(s)	Cp(s) - Cp(SIDE B)
1	0.5	0.72	0.825	0.004
2	0.5	0.72	0.825	0.004
3	0.49	0.725	0.814	-0.007
		Cp (SIDE B)	0.821	
Cp (SIDE A) - Cp (SIDE B) =		-0.007		
AVERAGE Cp	0.818			

PITOT CALIBRATION BY WIND TUNNEL				
DATE	8/5/99			
PITOT ID	8-1			
CALIBRATED BY	TONY WONG			
A SIDE CALIBRATION				
	STANDARD	TYPE S		
	PITOT READING	PITOT READING	TYPE S	DEVIATION
RUN NO.	(in H ₂ O)	(in H ₂ O)	Cp(s)	Cp(s) - Cp(SIDE A)
1	0.51	0.73	0.827	0.005
2	0.51	0.735	0.825	0.002
3	0.49	0.72	0.817	-0.006
		Cp (SIDE A)	0.823	
B SIDE CALIBRATION				
	STANDARD	TYPE S		
	PITOT READING	PITOT READING	TYPE S	DEVIATION
RUN NO.	(in H ₂ O)	(in H ₂ O)	Cp(s)	Cp(s) - Cp(SIDE B)
1	0.5	0.72	0.825	0.001
2	0.5	0.72	0.825	0.001
3	0.49	0.71	0.822	-0.002
		Cp (SIDE B)	0.824	
Cp (SIDE A) - Cp (SIDE B) =				
		-0.001		
AVERAGE Cp	0.824			

PITOT TUBE INSPECTION



level?	Y
obstructions?	N
damaged?	N
$-10^\circ < \alpha_1 < +10^\circ$	20
$-10^\circ < \alpha_2 < +10^\circ$	20
$-5^\circ < B_1 < +5^\circ$	40
$-5^\circ < B_2 < +5^\circ$	40
γ	10
θ	10
A	0.916
$1.05 D_1 < P_s < 1.5 D_1$	0.458
$1.05 D_1 < P_s < 1.5 D_1$	0.458
$3/16^\circ < D_1 < 3/8^\circ$	3/4
$A \tan \gamma < 0.125^\circ$	0.015988578
$A \tan \theta < 0.03125^\circ$	0.015988578
$P_s = P_t \pm 0.063^\circ$	0

See 40 CFR 60, Vol. 42 No. 160 EPA Method 2. Verify the minimum 2-inch setback of the thermocouple and the minimum 3/4-inch separation between the pitot tube and the nozzle as shown at the top of this page.

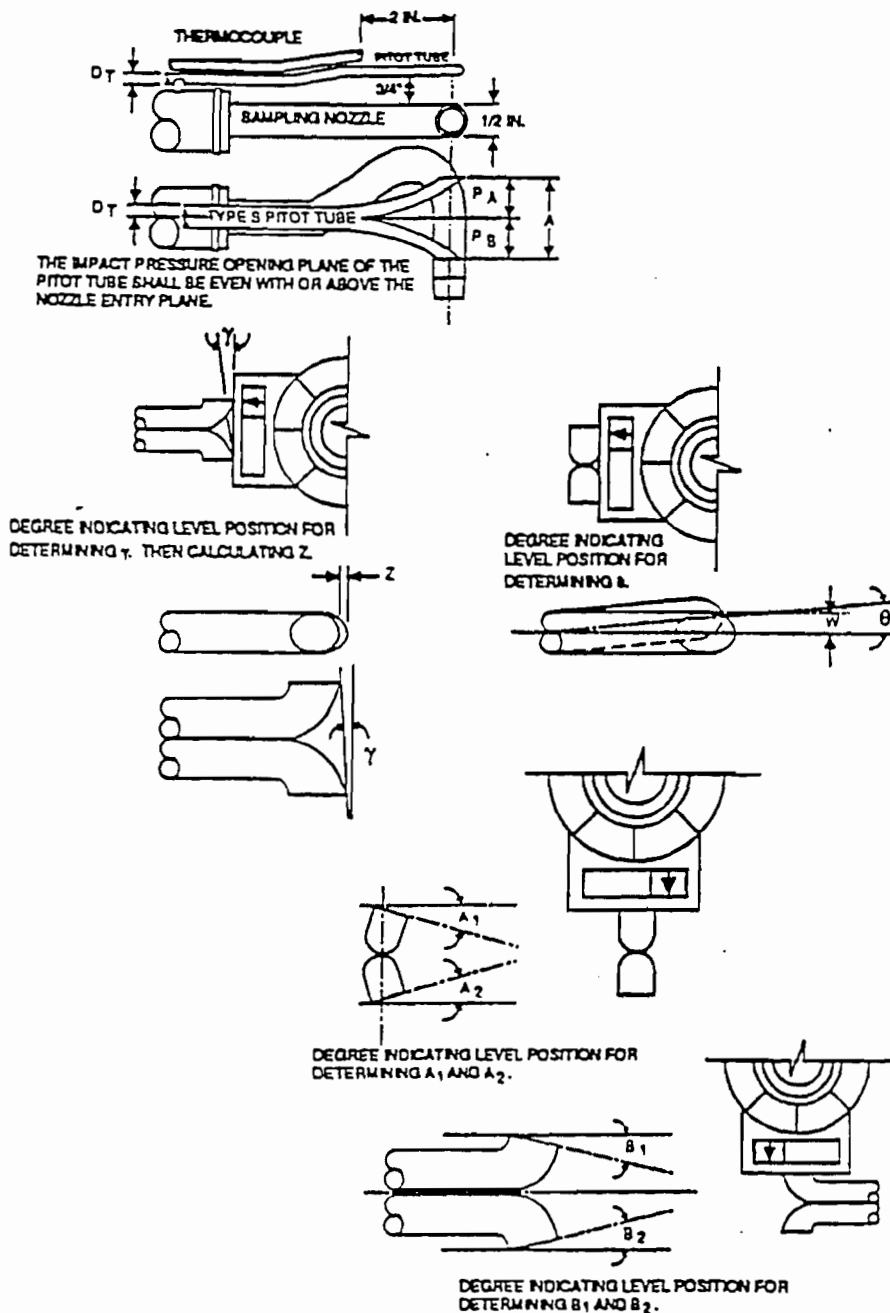
Comments: _____

I certify that pitot tube/probe number 10-1 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

Signature Adrian

Date 1-8-99

PITOT TUBE INSPECTION



level?	γ
obstructions?	N
damaged?	N
$-10^\circ < \alpha_1 < +10^\circ$	2°
$-10^\circ < \alpha_2 < +10^\circ$	1°
$-5^\circ < B_1 < +5^\circ$	1°
$-5^\circ < B_2 < +5^\circ$	0°
γ	2°
θ	0
A	0.975
$1.05 D_i < P_s < 1.5 D_i$	0.481
$1.05 D_i < P_s < 1.5 D_i$	0.494
$3/16^\circ < D_i < 3/8^\circ$	$3/4$
$A \tan \gamma < 0.125^\circ$	0.034037206
$A \tan \theta < 0.03125^\circ$	0
$P_s = P_b \pm 0.063^\circ$	0.013

See 40 CFR 60, Vol. 42 No. 160 EPA Method 2. Verify the minimum 2-inch setback of the thermocouple and the minimum 3/4-inch separation between the pitot tube and the nozzle as shown at the top of this page.

Comments:

I certify that pitot tube/probe number 10-4 meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor of 0.84.

Signature

Date

1-8-99

THERMOCOUPLE CALIBRATION

Thermocouple No.: 4-2

Date: 1/6/99

Calibrated By: NP

Barometric Pressure, in. Hg: # 30.16

Ambient Temperature, °F: 72

Calibration System Used	Reference Thermometer	Reference Thermometer Temperature (T _r , °F)	Test Digital Thermometer I.D. No.	Test Thermocouple Temperature (T _t , °F)	Temperature Difference, % (Allowable: ≤ 1.5%)
ICE BATH	5002	32	F74	34	-0.41
		32		32.6	-0.12
		32		32.6	-0.12
BOILING WATER	5002	212	F74	212	0.00
		212		212	0.00
		212		212.4	-0.06
BOILING OIL	1008	400	F74	402.6	-0.30
		400		406.2	-0.72
		400		407.4	-0.86

$$\text{Temperature Difference} = \frac{T_r - T_t}{T_r + 460} \times 100$$

QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Reasonableness: ✓

Checked By: Sakmalin Finnie
QC Administrator (Signature / Date)

THERMOCOUPLE CALIBRATION

Thermocouple No.: 4-3

Date: 1/6/99

Calibrated By: NP

Barometric Pressure, in. Hg: 30.16

Ambient Temperature, °F: 72

Calibration System Used	Reference Thermometer	Reference Thermometer Temperature (T _r , °F)	Test Digital Thermometer I.D. No.	Test Thermocouple Temperature (T _t , °F)	Temperature Difference, % (Allowable: ≤ 1.5%)
ICE BATH	5002	32	F74	33.4	-0.28
		32		33.6	-0.33
		32		33.6	-0.33
BOILING WATER	5002	212	F74	212	0.00
		212		212	0.00
		212		212.2	-0.03
BOILING OIL	1008	404	F74	409	-0.58
		404		407.4	-0.39
		404		406.6	-0.30

$$\text{Temperature Difference} = \frac{T_r - T_t}{T_r + 460} \times 100$$

QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Reasonableness: ✓

Checked By: Sakhalin Fennice
QC Administrator (Signature / Date)

THERMOCOUPLE CALIBRATION

Thermocouple No.: 8-1

Date: 1/6/99

Calibrated By: NP

Barometric Pressure, in. Hg: 30.16

Ambient Temperature, °F: 72

Calibration System Used	Reference Thermometer	Reference Thermometer Temperature (T _r , °F)	Test Digital Thermometer I.D. No.	Test Thermocouple Temperature (T _t , °F)	Temperature Difference, % (Allowable: ≤ 1.5%)
ICE BATH	5002	33	F74	34.2	-0.24
		33		33.4	-0.08
		33		32.8	0.04
BOILING WATER	5002	212	F74	211.4	0.09
		212		211.2	0.12
		212		211.4	0.09
BOILING OIL	1008	423	F74	423.8	-0.09
		423		428.6	-0.63
		423		424.8	-0.20

$$\text{Temperature Difference} = \frac{T_r - T_t}{T_r + 460} \times 100$$

QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Reasonableness: ✓

Checked By: *Sakhalin Finnie*
QC Administrator (Signature / Date)

THERMOCOUPLE CALIBRATION

Thermocouple No.: 8-2

Date: 1/6/99

Calibrated By: NP

Barometric Pressure, in. Hg: 30.16

Ambient Temperature, °F: 72

Calibration System Used	Reference Thermometer	Reference Thermometer Temperature (T _r , °F)	Test Digital Thermometer I.D. No.	Test Thermocouple Temperature (T _t , °F)	Temperature Difference, % (Allowable: ≤ 1.5%)
ICE BATH	5002	33	F74	33.6	-0.12
		33		34	-0.20
		33		33.2	-0.04
BOILING WATER	5002	212	F74	211.4	0.09
		212		211.2	0.12
		212		211	0.15
BOILING OIL	1008	424	F74	424.8	-0.09
		424		425	-0.11
		424		424.2	-0.02

$$\text{Temperature Difference} = \frac{T_r - T_t}{T_r + 460} * 100$$

QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Reasonableness: ✓

Checked By: Sakhalin Finnie

QC Administrator (Signature / Date)

THERMOCOUPLE CALIBRATION

Thermocouple No.: 8-4

Date: 1/6/99

Calibrated By: NP

Barometric Pressure, in. Hg: 30.16

Ambient Temperature, °F: 72

Calibration System Used	Reference Thermometer	Reference Thermometer Temperature (T _r , °F)	Test Digital Thermometer I.D. No.	Test Thermocouple Temperature (T _t , °F)	Temperature Difference, % (Allowable: ≤ 1.5%)
ICE BATH	5002	34	F74	34	0.00
		34		34.8	-0.16
		34		35.2	-0.24
BOILING WATER	5002	212	F74	212.2	-0.03
		212		211	0.15
		212		211.2	0.12
BOILING OIL	1008	424	F74	427.8	-0.43
		424		428	-0.45
		424		426.8	-0.32

$$\text{Temperature Difference} = \frac{T_r - T_t}{T_r + 460} * 100$$

QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Reasonableness: ✓

Checked By: Sakhalin Finnie
QC Administrator (Signature / Date)

THERMOCOUPLE CALIBRATION

Thermocouple No.: 8-6

Date: 1/6/99

Calibrated By: NP

Barometric Pressure, in. Hg: 30.16

Ambient Temperature, °F: 72

Calibration System Used	Reference Thermometer	Reference Thermometer Temperature (T _r , °F)	Test Digital Thermometer I.D. No.	Test Thermocouple Temperature (T _t , °F)	Temperature Difference, % (Allowable: ≤ 1.5%)
ICE BATH	5002	36	F66	36.8	-0.16
		36		36	0.00
		36		36.2	-0.04
BOILING WATER	5002	212	F66	210.6	0.21
		212		210.8	0.18
		212		210.6	0.21
BOILING OIL	1008	378	F66	379.2	-0.14
		378		378.6	-0.07
		378		378.8	-0.10

$$\text{Temperature Difference} = \frac{T_r - T_t}{T_r + 460} \times 100$$

QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Reasonableness: ✓

Checked By: Sakhalin Finnie
QC Administrator (Signature / Date)

THERMOCOUPLE CALIBRATION

Thermocouple No.: 8-7

Date: 1/6/99

Calibrated By: NP

Barometric Pressure, in. Hg: 30.16

Ambient Temperature, °F: 72

Calibration System Used	Reference Thermometer	Reference Thermometer Temperature (T _r , °F)	Test Digital Thermometer I.D. No.	Test Thermocouple Temperature (T _t , °F)	Temperature Difference, % (Allowable: ≤ 1.5%)
ICE BATH	5002	34	F74	35	-0.20
		34		34.8	-0.16
		34		34.2	-0.04
BOILING WATER	5002	212	F74	211.4	0.09
		212		212.4	-0.06
		212		211.8	0.03
BOILING OIL	1008	424	F74	426.8	-0.32
		424		427.6	-0.41
		424		427.4	-0.38

$$\text{Temperature Difference} = \frac{T_r - T_t}{T_r + 460} \times 100$$

QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Reasonableness: ✓

Checked By: Sakhalin Finnie
QC Administrator (Signature / Date)

THERMOCOUPLE CALIBRATION

Thermocouple No.: 10-1

Date: 1/6/99

Calibrated By: NP

Barometric Pressure, in. Hg: 30.16

Ambient Temperature, °F: 72

Calibration System Used	Reference Thermometer	Reference Thermometer Temperature (T _r , °F)	Test Digital Thermometer I.D. No.	Test Thermocouple Temperature (T _t , °F)	Temperature Difference, % (Allowable: ≤ 1.5%)
ICE BATH	5002	35	F74	36.4	-0.28
		35		35.8	-0.16
		35		36	-0.20
BOILING WATER	5002	212	F74	212.4	-0.06
		212		212.2	-0.03
		212		211.8	0.03
BOILING OIL	1008	425	F74	428	-0.34
		425		427.4	-0.27
		425		427.7	-0.31

$$\text{Temperature Difference} = \frac{T_r - T_t}{T_r + 460} \cdot 100$$

QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Reasonableness: ✓

Checked By: Jerry Wing 1/11/99
QC Administrator (Signature / Date)

THERMOCOUPLE CALIBRATION

Thermocouple No.: 10-4

Date: 1/6/99

Calibrated By: NP

Barometric Pressure, in. Hg: 30.16

Ambient Temperature, °F: 72

Calibration System Used	Reference Thermometer	Reference Thermometer Temperature (T _r , °F)	Test Digital Thermometer I.D. No.	Test Thermocouple Temperature (T _t , °F)	Temperature Difference, % (Allowable ≤ 1.5%)
ICE BATH	5002	34	74	36.8	-0.57
		34		36	-0.40
		34		36.2	-0.45
BOILING WATER	5002	212	74	211.6	0.06
		212		211	0.15
		212		210	0.30
BOILING OIL	1008	424	74	426.2	-0.25
		424		426.8	-0.32
		424		425.6	-0.18

$$\text{Temperature Difference} = \frac{T_r - T_t}{T_r + 460} * 100$$

QA/QC Check

Completeness: ✓ Legibility: ✓ Accuracy: ✓

Specifications: ✓ Reasonableness: ✓

Checked By: Long Wong 1/11/99
QC Administrator (Signature / Date)

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER AIRKINETICS PO#418-HDD

P.O NUMBER 418-HDD

REFERENCE STANDARD

COMPONENT		NIST SRM NO.	CYLINDER NO.	CONCENTRATION
OXYGEN	GMIS	vs 2658a	SA 19970	10.04%

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

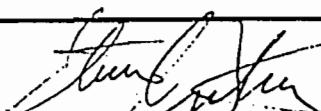
C=GAS CANDIDATE

1. COMPONENT	OXYGEN	GMIS	ANALYZER MAKE-MODEL-S/N	Siemens Oxymat 5E S/N A12-839
ANALYTICAL PRINCIPLE		Paramagnetic		LAST CALIBRATION DATE 04/10/97
FIRST ANALYSIS DATE		04/30/97		SECOND ANALYSIS DATE
Z 0	R 10.04	C 8.99	CONC. 8.99 %	Z R C CONC.
R 10.04	Z 0	C 8.99	CONC. 8.99 %	R Z C CONC.
Z 0	C 8.99	R 10.04	CONC. 8.99 %	Z C R CONC.
U/M %		MEAN TEST ASSAY	8.99 %	U/M % MEAN TEST ASSAY

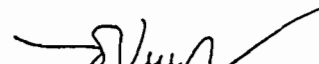
Values not valid below 150 psig

THIS CYLINDER NO.	CC 72707	CERTIFIED CONCENTRATION
HAS BEEN CERTIFIED ACCORDING TO SECTION	EPA-600/R93/224	OXYGEN 8.99 %
OF TRACEABILITY PROTOCOL NO.	REV. 9/93	NITROGEN BALANCE
PROCEDURE	G1	
CERTIFIED ACCURACY	± 1 % NIST TRACEABLE	
CYLINDER PRESSURE	2000 PSIG	
CERTIFICATION DATE	04/30/97	
EXPIRATION DATE	04/30/00 TERM 36 MONTHS	

ANALYZED BY


STEVE GUTIERREZ

CERTIFIED BY


VINCENT TO

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER AIR KINETICS

P.O NUMBER 822

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
OXYGEN GMIS	vs. 2659a	SA 10628	21.04 %

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

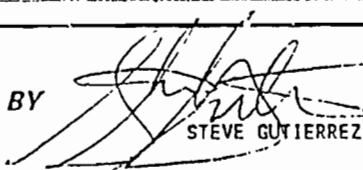
C=GAS CANDIDATE

1. COMPONENT OXYGEN GMIS		ANALYZER MAKE-MODEL-S/N		Siemens Oxymat 5E S/N A12-839	
ANALYTICAL PRINCIPLE		Paramagnetic		LAST CALIBRATION DATE 08/18/98	
FIRST ANALYSIS DATE		08/24/98		SECOND ANALYSIS DATE	
Z 0.00	R 21.04	C 19.94	CONC. 19.94 %	Z	R C CONC.
R 21.04	Z 0.00	C 19.94	CONC. 19.94 %	R	Z C CONC.
Z 0.00	C 19.94	R 21.04	CONC. 19.94 %	Z	C R CONC.
U/M %		MEAN TEST ASSAY	19.94 %	U/M %	MEAN TEST ASSAY

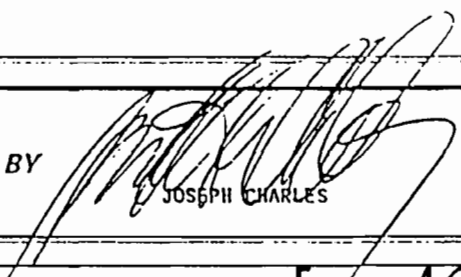
Values not valid below 150 psig

THIS CYLINDER NO. CC 89976	CERTIFIED CONCENTRATION
HAS BEEN CERTIFIED ACCORDING TO SECTION EPA-600/R97/121	OXYGEN 19.94 %
OF TRACEABILITY PROTOCOL NO. Rev. 9/97	NITROGEN BALANCE
PROCEDURE g1	
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE	
CYLINDER PRESSURE 2000 PSIG	
CERTIFICATION DATE 08/24/98	
EXPIRATION DATE 08/24/01 TERM 36 MONTHS	

ANALYZED BY


 STEVE GUTIERREZ

CERTIFIED BY


 JOSEPH CHARLES

E 46

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Los Angeles, CA 90058
Telephone: (323) 585-2154
Facsimile: (714) 542-6689

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER AIRKINETICS

P.O NUMBER

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
CARBON DIOXIDE GMIS	vs 1674b	52693	10.02 %

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

COMPONENT	CARBON DIOXIDE	GMIS	ANALYZER MAKE-MODEL-S/N	Siemens Ultramat 5E	S/N A12-730		
ANALYTICAL PRINCIPLE	NDIR			LAST CALIBRATION DATE	12/28/98		
FIRST ANALYSIS DATE	01/19/99			SECOND ANALYSIS DATE			
Z 0.00	R 10.09	C 9.10	CONC. 9.10	Z	R	C	CONC.
R 10.11	Z 0.00	C 9.11	CONC. 9.09	R	Z	C	CONC.
Z 0.00	C 9.10	R 10.14	CONC. 9.06	Z	C	R	CONC.
U/M %		MEAN TEST ASSAY	9.08 %	U/M %		MEAN TEST ASSAY	

Values not valid below 150 psig

THIS CYLINDER NO.	SA 20496	CERTIFIED CONCENTRATION	
HAS BEEN CERTIFIED ACCORDING TO SECTION	EPA-600/R97/121	CARBON DIOXIDE	9.08 %
OF TRACEABILITY PROTOCOL NO.	Rev. 9/97	NITROGEN	BALANCE
PROCEDURE	G1		
CERTIFIED ACCURACY	± 1 % NIST TRACEABLE		
CYLINDER PRESSURE	2000 PSIG		
CERTIFICATION DATE	01/19/99		
EXPIRATION DATE	01/19/02	TERM	36 MONTHS

ANALYZED BY

JOSEPH CHARLES

CERTIFIED BY

MICHAEL PHILIPS

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CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER AIR KINETICS

P.O NUMBER

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
CARBON DIOXIDE NTRM	82745x	SA 18781	17.89%

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

COMPONENT	CARBON DIOXIDE	NTRM	ANALYZER MAKE-MODEL-S/N	Siemens Ultramat 5E	S/N A12-730
ANALYTICAL PRINCIPLE	NDIR			LAST CALIBRATION DATE	01/29/99
FIRST ANALYSIS DATE	01/29/99			SECOND ANALYSIS DATE	
Z 0.00	R 17.90	C 17.64	CONC. 17.63 %	Z	R C CONC.
R 17.90	Z 0.00	C 17.64	CONC. 17.63 %	R	Z C CONC.
Z 0.00	C 17.64	R 17.88	CONC. 17.65 %	Z	C R CONC.
U/M %		MEAN TEST ASSAY	17.64 %	U/M %	MEAN TEST ASSAY

Values not valid below 150 psig

THIS CYLINDER NO.	CC 102165	CERTIFIED CONCENTRATION
IT HAS BEEN CERTIFIED ACCORDING TO SECTION	EPA-600/R97/121	CARBON DIOXIDE 17.64 %
OF TRACEABILITY PROTOCOL NO.	Rev. 9/97	NITROGEN BALANCE
PROCEDURE	G1	
CERTIFIED ACCURACY	± 1 % NIST TRACEABLE	
CYLINDER PRESSURE	2000 PSIG	
CERTIFICATION DATE	01/29/99	
EXPIRATION DATE	01/29/02	TERM 36 MONTHS

ANALYZED BY

JOSEPH CHARLES

CERTIFIED BY

DAVID COX

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CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER AIR KINETICS

P.O NUMBER

REFERENCE STANDARD

COMPONENT

NIST SRM NO.

CYLINDER NO.

CONCENTRATION

CARBON MONOXIDE GMIS

vs. 1678c

SA 13644

50.0 ppm

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

1. COMPONENT	CARBON MONOXIDE	GMIS	ANALYZER MAKE-MODEL-S/N	Siemens Ultramat 5E	S/N A12-729		
ANALYTICAL PRINCIPLE	NDIR			LAST CALIBRATION DATE	01/22/99		
FIRST ANALYSIS DATE	01/29/99			SECOND ANALYSIS DATE	02/05/99		
Z 0.0	R 50.0	C 30.0	CONC. 30.0	Z 0.0	R 50.0	C 30.2	CONC. 30.2
R 50.0	Z 0.0	C 29.8	CONC. 29.8	R 50.0	Z 0.0	C 30.0	CONC. 30.0
Z 0.0	C 29.8	R 50.0	CONC. 29.8	Z 0.0	C 30.2	R 50.0	CONC. 30.2
U/M ppm		MEAN TEST ASSAY	29.9 ppm	U/M ppm		MEAN TEST ASSAY	30.1 ppm

Values not valid below 150 psig

THIS CYLINDER NO. SGAL 816

CERTIFIED CONCENTRATION

HAS BEEN CERTIFIED ACCORDING TO SECTION

EPA-600/R97/121

CARBON MONOXIDE

30.0 ppm

OF TRACEABILITY PROTOCOL NO.

Rev. 9/97

NITROGEN

BALANCE

PROCEDURE G1

CERTIFIED ACCURACY ± 1 % NIST TRACEABLE

CYLINDER PRESSURE 2000 PSIG

CERTIFICATION DATE 02/05/99

EXPIRATION DATE 02/05/02 TERM 36 MONTHS

ANALYZED BY

JOSEPH CHARLES

CERTIFIED BY

MICHAEL PHILIPS

E 49

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SCOTT-MARRIN, INC.

6531 BOX SPRINGS BLVD. • RIVERSIDE, CA 92507
TELEPHONE (909) 653-6780 • FAX (909) 653-2430

REPORT OF ANALYSIS
EPA PROTOCOL GAS MIXTURES

AIRK01

TO: HUNG DUONG

AIRKINETICS INC

5932 BOLSA AVE

STE 105

HUNTINGTON BCH, CA 92649-

DATE : 02/17/99

CUSTOMER ORDER NUMBER: 919-HDD

PAGE 1

[illegible]

COMPONENT	CONCENTRATION (v/v) +/-EPA UNCERTAINTY	REFERENCE STANDARD	ANALYZER MAKE, MODEL, S/N, DETECTION	EXPIRATION DATE	REPLICATE ANALYSIS DATA	
CYLINDER NO.:	CC542					
Carbon monoxide	91.5 $\pm$.1 ppm	GMIS	Carle Insta Model 8000 S/N 8249	02/10/02	02/03/99 91.5 ppm	02/10/99 91.2 ppm
Nitrogen	Balance	Cylinder # CC40051	Methanation/FID Gas Chromatography		91.6 ppm	91.4 ppm
Cylinder Pressure:	2000 psig	@ 116.8 ppm	Last Cal Date: 02/03/99	Mean:	91.6 ppm	91.3 ppm

$$\text{ppm} = \mu\text{mole/mole} \quad \% = \text{mole-\%}$$

The above analyses were performed in accordance with Procedure G1 of the EPA Traceability Protocol, Report Number EPA-600/R93/224, dated September 1993.

This cylinder should not be used if the pressure is less than 150 psig.

lyst:

M.J. Monson

Approved:

for J.T. Marrin

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CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER AIRKINETICS

P.O NUMBER

REFERENCE STANDARD

COMPONENT
SULFUR DIOXIDE GMIS

NIST SRM NO.
vs. SRM#1693

CYLINDER NO.
SA 10638

CONCENTRATION
47.7 ppm

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

1. COMPONENT	SULFUR DIOXIDE	GMIS	ANALYZER MAKE-MODEL-S/N	Thermo Env. 43C	S/N 43C/F-55848-305		
ANALYTICAL PRINCIPLE	Pulsed Fluorescence			LAST CALIBRATION DATE	01/11/99		
FIRST ANALYSIS DATE	01/22/99			SECOND ANALYSIS DATE	02/04/99		
Z 0	R 47.7	C 45.1	CONC. 45.1	Z 0	R 47.7	C 45.1	CONC. 45.1
R 47.8	Z 0	C 45.2	CONC. 45.1	R 47.9	Z 0	C 45.2	CONC. 45.0
Z 0	C 45.1	R 47.7	CONC. 45.1	Z 0	C 45.4	R 47.9	CONC. 45.2
U/M ppm		MEAN TEST ASSAY	45.1	U/M ppm		MEAN TEST ASSAY	45.1

Values not valid below 150 psig.

THIS CYLINDER NO. SGAL 2513

HAS BEEN CERTIFIED ACCORDING TO SECTION
OF TRACEABILITY PROTOCOL NO. Rev. 9/97

EPA-600/R97/121

CERTIFIED CONCENTRATION

SULFUR DIOXIDE

45.1 ppm

NITROGEN

BALANCE

PROCEDURE G1

CERTIFIED ACCURACY ± 2 % NIST TRACEABLE

CYLINDER PRESSURE 2000 PSIG

CERTIFICATION DATE 02/04/99

EXPIRATION DATE 02/04/01 TERM 24 MONTHS

ANALYZED BY

DAVID COX

CERTIFIED BY

PHU TIEN NGUYEN

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER AIRKINETICS

P.O NUMBER

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
SULFUR DIOXIDE GMIS	vs. SRM#1694	SA 7614	95.0 ppm

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

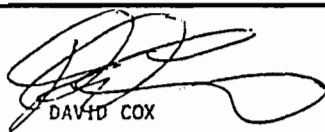
C=GAS CANDIDATE

1. COMPONENT		SULFUR DIOXIDE	GMIS	ANALYZER MAKE-MODEL-S/N		Thermo Env. 43C S/N 43C/F-55848-305	
ANALYTICAL PRINCIPLE		Pulsed Fluorescence		LAST CALIBRATION DATE		01/11/99	
FIRST ANALYSIS DATE		02/01/99		SECOND ANALYSIS DATE		02/08/99	
Z 0	R 95.1	C 91.1	CONC. 91.0	Z 0	R 95.0	C 91.0	CONC. 91.0
R 95.0	Z 0	C 91.4	CONC. 91.4	R 95.0	Z 0	C 91.1	CONC. 91.1
Z 0	C 91.4	R 95.1	CONC. 91.3	Z 0	C 91.1	R 95.0	CONC. 91.1
U/M	ppm	MEAN TEST ASSAY 91.2		U/M	ppm	MEAN TEST ASSAY 91.1	

Values not valid below 150 psig.

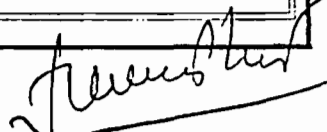
THIS CYLINDER NO. SA 3578		CERTIFIED CONCENTRATION	
HAS BEEN CERTIFIED ACCORDING TO SECTION		EPA-600/R97/121	SULFUR DIOXIDE 91.1 ppm
OF TRACEABILITY PROTOCOL NO. Rev. 9/97		NITROGEN	BALANCE
PROCEDURE G1			
CERTIFIED ACCURACY ± 2 % NIST TRACEABLE			
CYLINDER PRESSURE 2000 PSIG			
CERTIFICATION DATE 02/08/99			
EXPIRATION DATE 02/08/01 TERM 24 MONTHS			

ANALYZED BY



DAVID COX

CERTIFIED BY



PHU TIEN NGUYEN



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CELTIC / EPA PROTOCOL GAS

CISIORER DELTA R

P.O NUMBER

REFERENCE STANDARD

COMPONENT

NIST SP-1100

CYLINDER NO.

CONCENTRATION

NITRIC OXIDE NTRM

NIST SP-1100

SA 19475

496 ppm

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

1. COMPONENT		NITRIC OXIDE	NTRM	ANALYZER MAKE-MODEL-S/N		Beckman 951A	S/N 0101354	
ANALYTICAL PRINCIPLE			Chemiluminescence			LAST CALIBRATION DATE		01/08/99
FIRST ANALYSIS DATE			01/26/99			SECOND ANALYSIS DATE		02/03/99
Z 0	R 424.0	C 384.2	CONC.	449	Z 0	R 422.8	C 383.6	CONC. 450
R 424.3	Z 0	C 386.4	CONC.	452	R 423.3	Z 0	C 385.8	CONC. 452
Z 0	C 387.1	R 424.0	CONC.	453	Z 0	C 385.9	R 423.2	CONC. 452
U/M ppm		MEAN TEST ASSAY 451			U/M ppm		MEAN TEST ASSAY 451	

NOx values for reference only.

All values not valid below 150 psig.

THIS CYLINDER NO. CC 104639

HAS BEEN CERTIFIED ACCORDING TO SECTION

EPA-600/R97/121

OF TRACEABILITY PROTOCOL NO.

Rev. 9/97

PROCEDURE G1

CERTIFIED ACCURACY ± 1 % NIST-TRACEABLE

CYLINDER PRESSURE 2000 PSIG

CERTIFICATION DATE 02/03/99

EXPIRATION DATE 02/03/01

CERTIFIED CONCENTRATION

NITRIC OXIDE 451 ppm

NITROGEN BALANCE

NOx 456 ppm

ANALYST B

CERTIFIED BY

DAVID SAMSON



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Los Angeles, CA 90058
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Facsimile: (714) 542-6689

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER AIRKINETICS

P.O NUMBER PT#638937

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
NITRIC OXIDE GMIS	vs. SRM#1687	SA 13908	978.7 ppm

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

1. COMPONENT	NITRIC OXIDE	GMIS	ANALYZER MAKE-MODEL-S/N	Beckman 951A	S/N 0101354
ANALYTICAL PRINCIPLE		Chemiluminescence		LAST CALIBRATION DATE	03/11/99
FIRST ANALYSIS DATE		03/26/99		SECOND ANALYSIS DATE	04/02/99
Z 0	R 805.7	C 680.1	CONC. 826	Z 0	R 787.5
R 805.4	Z 0	C 680.2	CONC. 826	R 788.6	Z 0
Z 0	C 680.5	R 806.3	CONC. 826	Z 0	C 667.0
U/M ppm		MEAN TEST ASSAY	826	U/M ppm	
					MEAN TEST ASSAY 828

NOx values for reference only.

All values not valid below 150 psig.

THIS CYLINDER NO. SA 15301
HAS BEEN CERTIFIED ACCORDING TO SECTION EPA-600/R97/121
OF TRACEABILITY PROTOCOL NO. Rev. 9/97
PROCEDURE G1
CERTIFIED ACCURACY ± 1 % NIST TRACEABLE
CYLINDER PRESSURE 1800 PSIG
CERTIFICATION DATE 04/02/99
EXPIRATION DATE 04/02/01 TERM 24 MONTHS

CERTIFIED CONCENTRATION

NITRIC OXIDE	827 ppm
NITROGEN	BALANCE
NOx	836 ppm

SA 15301
Exp: 4/2/01

ANALYZED BY

MICHAEL PEREZ

CERTIFIED BY

PHU TIEN NGUYEN

E

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CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER AIRKINETICS

P.O NUMBER

REFERENCE STANDARD

COMPONENT
PROPANE GMIS

NIST SRM NO.
vs. 1666b

CYLINDER NO.
SA 5175

CONCENTRATION
29.93 ppm

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

1. COMPONENT	PROPANE	GMIS	ANALYZER MAKE-MODEL-S/N		HORIBA, FIA-510, 851135122			
ANALYTICAL PRINCIPLE			Flame Ionization Detector		LAST CALIBRATION DATE 01/08/99			
FIRST ANALYSIS DATE			01/20/99		SECOND ANALYSIS DATE			
Z 0	R 77.3	C 39.0	CONC.	15.1	Z	R	C	CONC.
R 77.1	Z 0	C 39.0	CONC.	15.1	R	Z	C	CONC.
Z 0	C 38.9	R 76.9	CONC.	15.1	Z	C	R	CONC.
U/M ppm		MEAN TEST ASSAY		15.1 ppm	U/M ppm		MEAN TEST ASSAY	

Values not valid below 150 psig

THIS CYLINDER NO. CC 74763

HAS BEEN CERTIFIED ACCORDING TO SECTION
OF TRACEABILITY PROTOCOL NO. Rev. 9/97

EPA-600/R97/121

CERTIFIED CONCENTRATION

PROPANE	15.1 ppm
ULTRA ZERO AIR	BALANCE

PROCEDURE G1

CERTIFIED ACCURACY ± 1 % NIST TRACEABLE

CYLINDER PRESSURE 2000 PSIG

CERTIFICATION DATE 01/20/99

EXPIRATION DATE 01/20/02 TERM 36 MONTHS

ANALYZED BY

JOSEPH CHARLES

CERTIFIED BY

PHU TIEN NGUYEN

DRTANT

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**EASTERN
TECHNICAL
ASSOCIATES**

919-878-3188

DATE: DECEMBER 17, 1998
TO: FIELD CERTIFIERS
FROM: EASTERN TECHNICAL ASSOCIATES
REGARDING: JACKSONVILLE, FLORIDA
VISIBLE EMISSIONS TRAINING PROGRAM

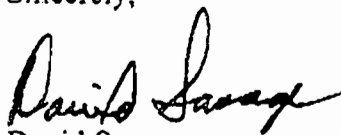
ETA is enclosing your certificates for Field Certification (Visible Emissions Evaluator) and/or Classroom Lecture attendance (Visible Emissions Evaluation). For your convenience, we have also enclosed a wallet card to indicate certification in the Field.

The following person(s) achieved a written test grade of 88% or more and therefore, if they maintain continuous field certification, are not required to attend the lecture again until thirty-six (36) months from this school. If an individual fails to recertify on any six (6) months anniversary, they would need to take the lecture at the next smoke school.

ASTECH ENVIRONMENTAL SERVICES- DONNIE LEEPER

We wish to congratulate you and invite you to recertify with us again. If we can be of further assistance, please do not hesitate to call.

Sincerely,



David Savage

Manager
Visible Emissions Program

Enclosure

E 56

P.O. BOX 58495
RALEIGH, NC 27658

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VISIBLE EMISSIONS EVALUATOR

This is to certify that

Donnie Leeper

met the specifications of Federal Reference Method 9 and qualified as a visible emissions evaluator. Maximum deviation on white and black smoke did not exceed 7.5% opacity and no single error exceeding 15% opacity was incurred during the certification test conducted by Eastern Technical Associates of Raleigh, North Carolina. This certificate is valid for six months from date of issue.

271563

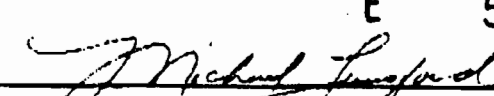
Certificate Number

Jacksonville, Florida

Location

June 09, 1999

Date of Issue


President
Director of Training

E 57

VISIBLE EMISSIONS EVALUATION

that
D. J. Charles

*did complete a course in the methods of visible emissions from sources
as specified by Federal Register Method 22, Eastern Technical Associates of
Raleigh, North Carolina.*

William J. Charles *Orlando, Florida*

Company

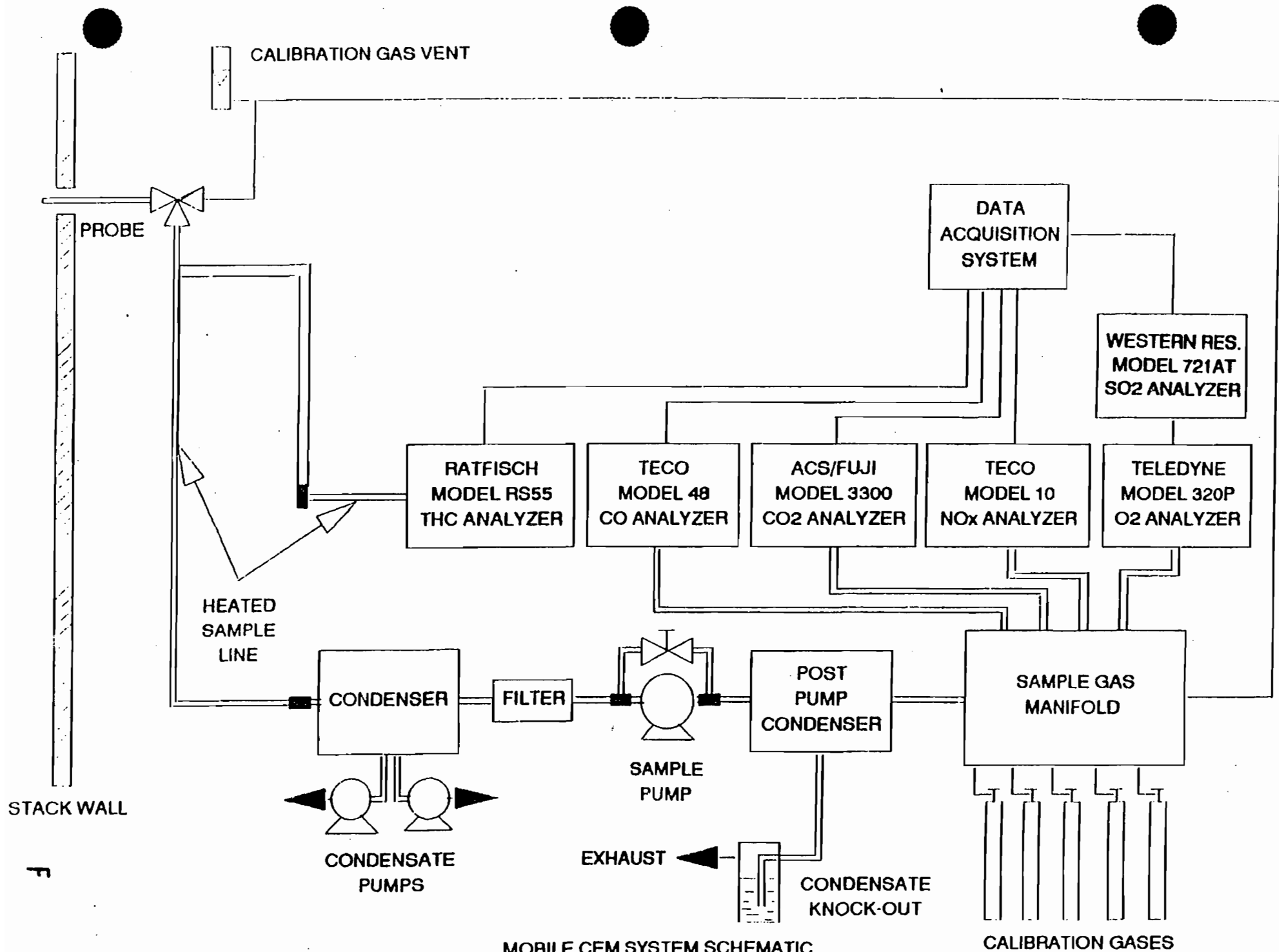
Location

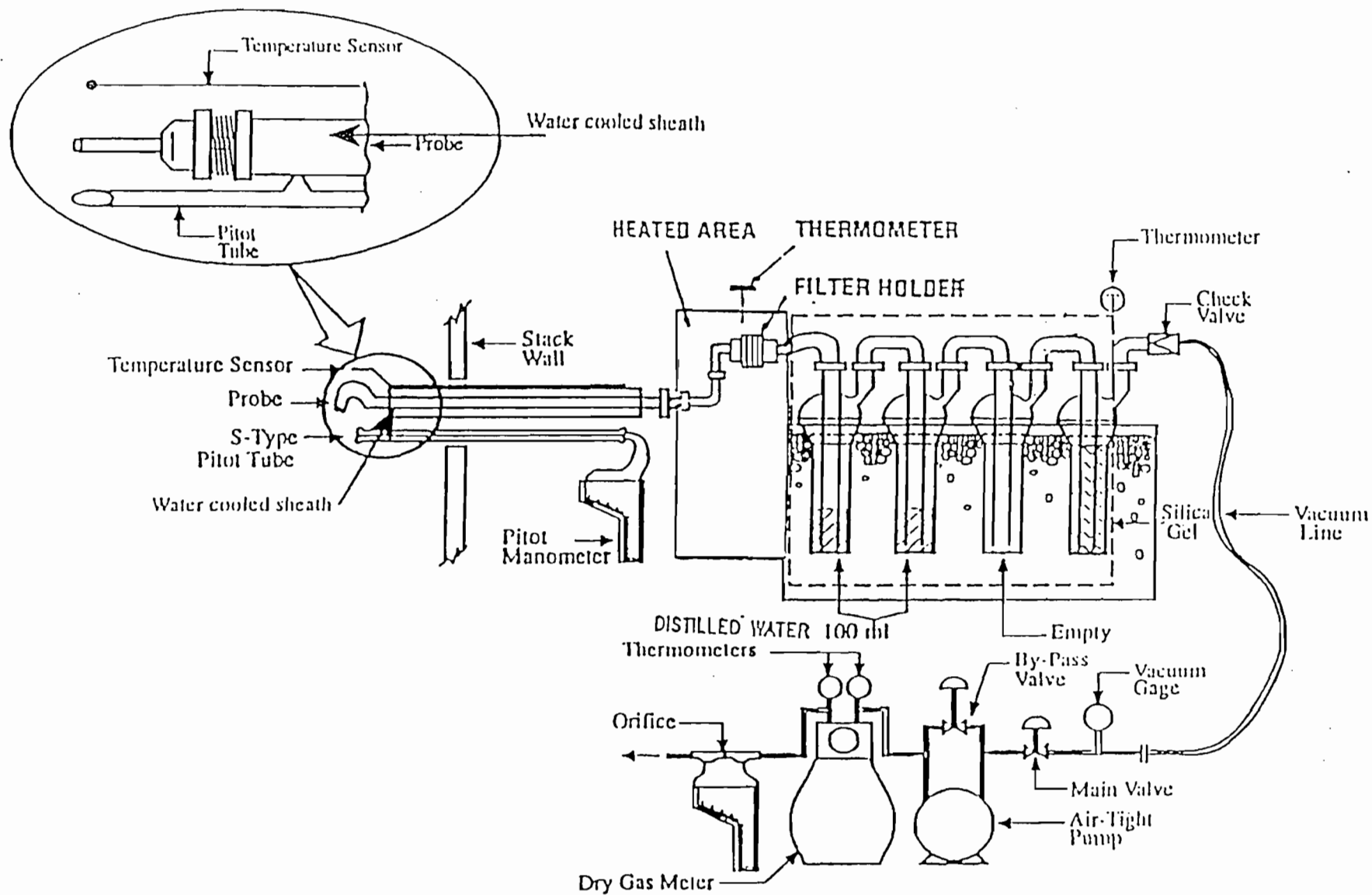
December 1, 1998

Date

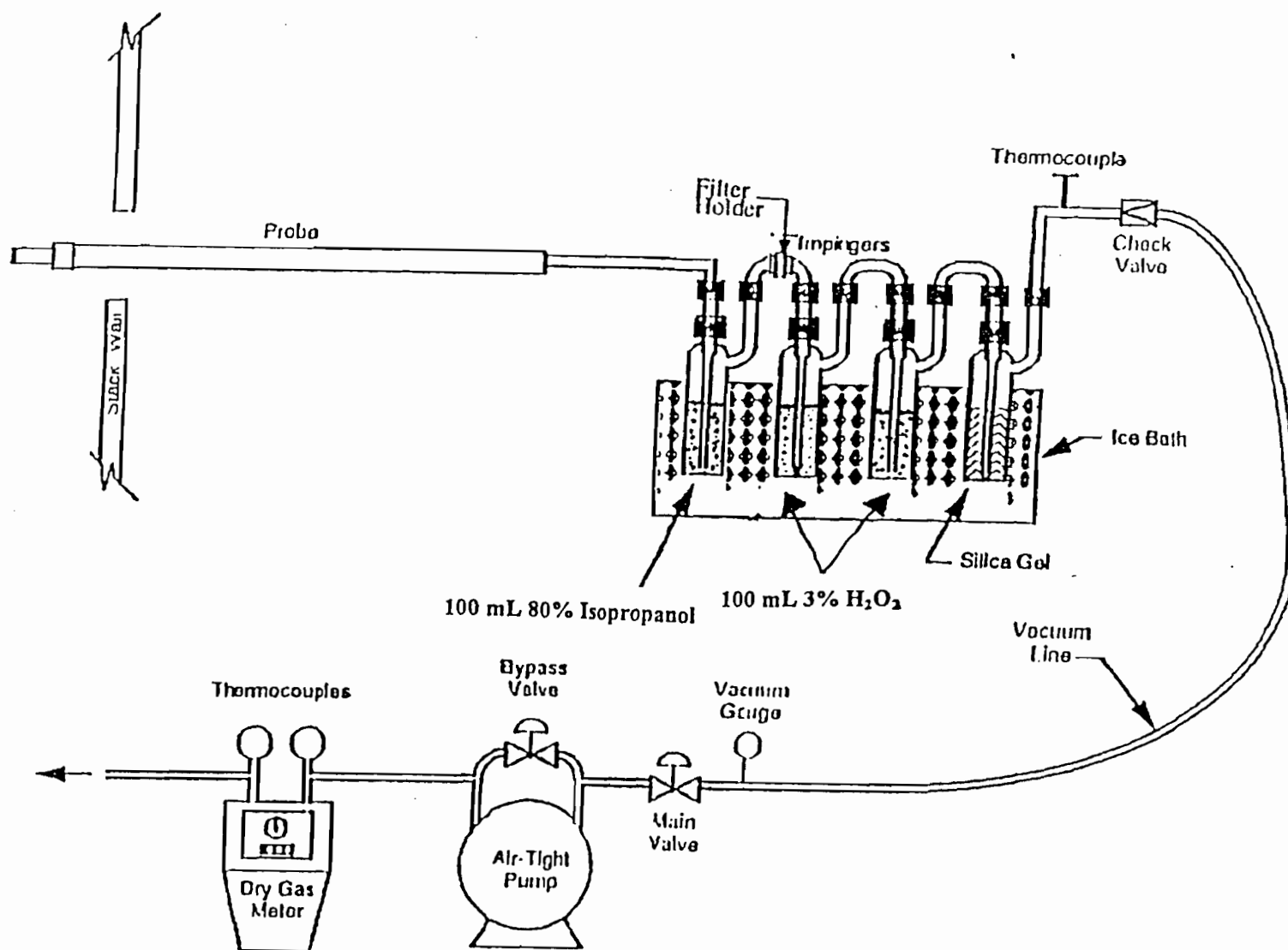
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APPENDIX F
SAMPLING TRAIN SCHEMATICS

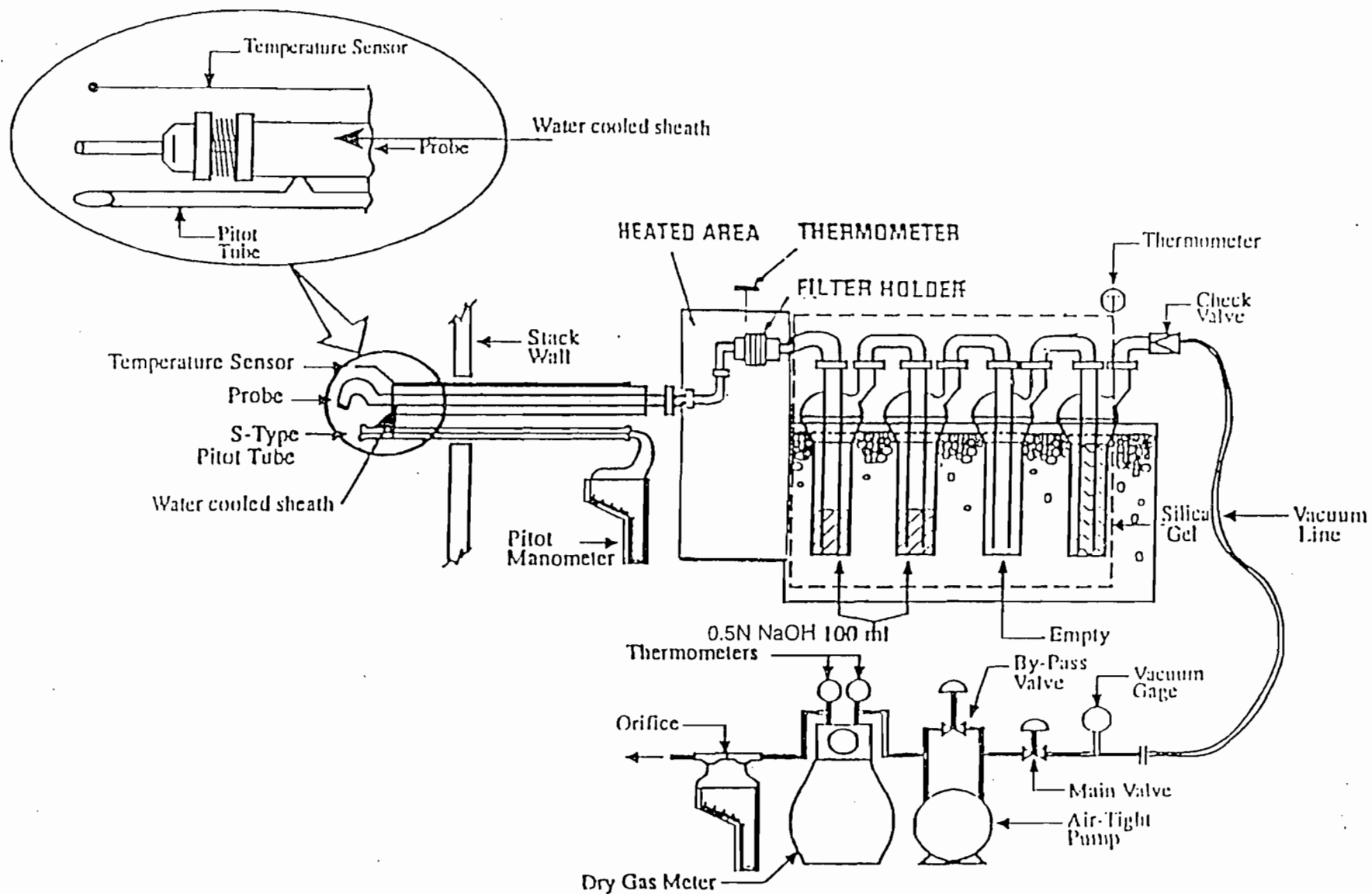




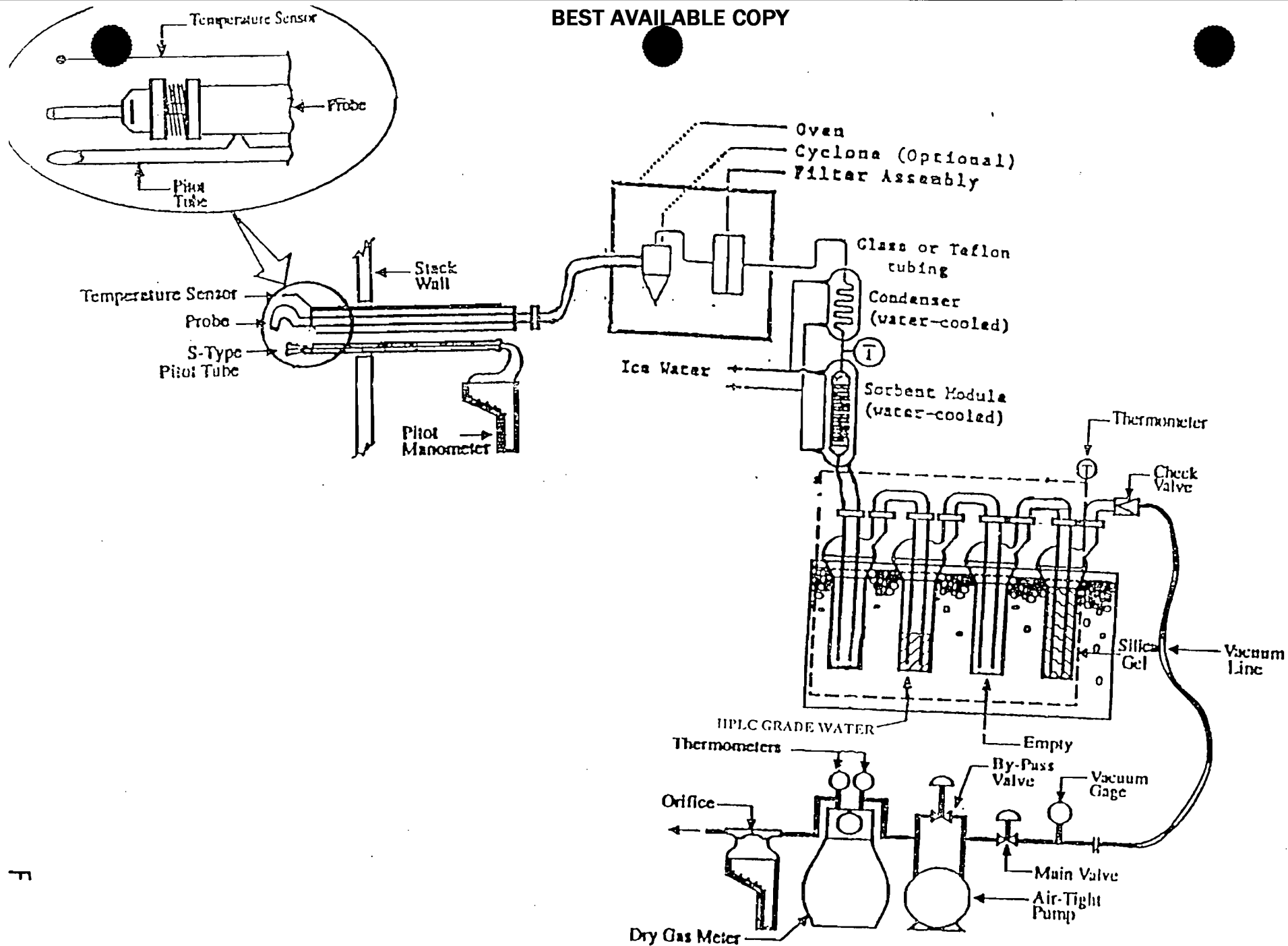
EPA Method 5 Sampling Train



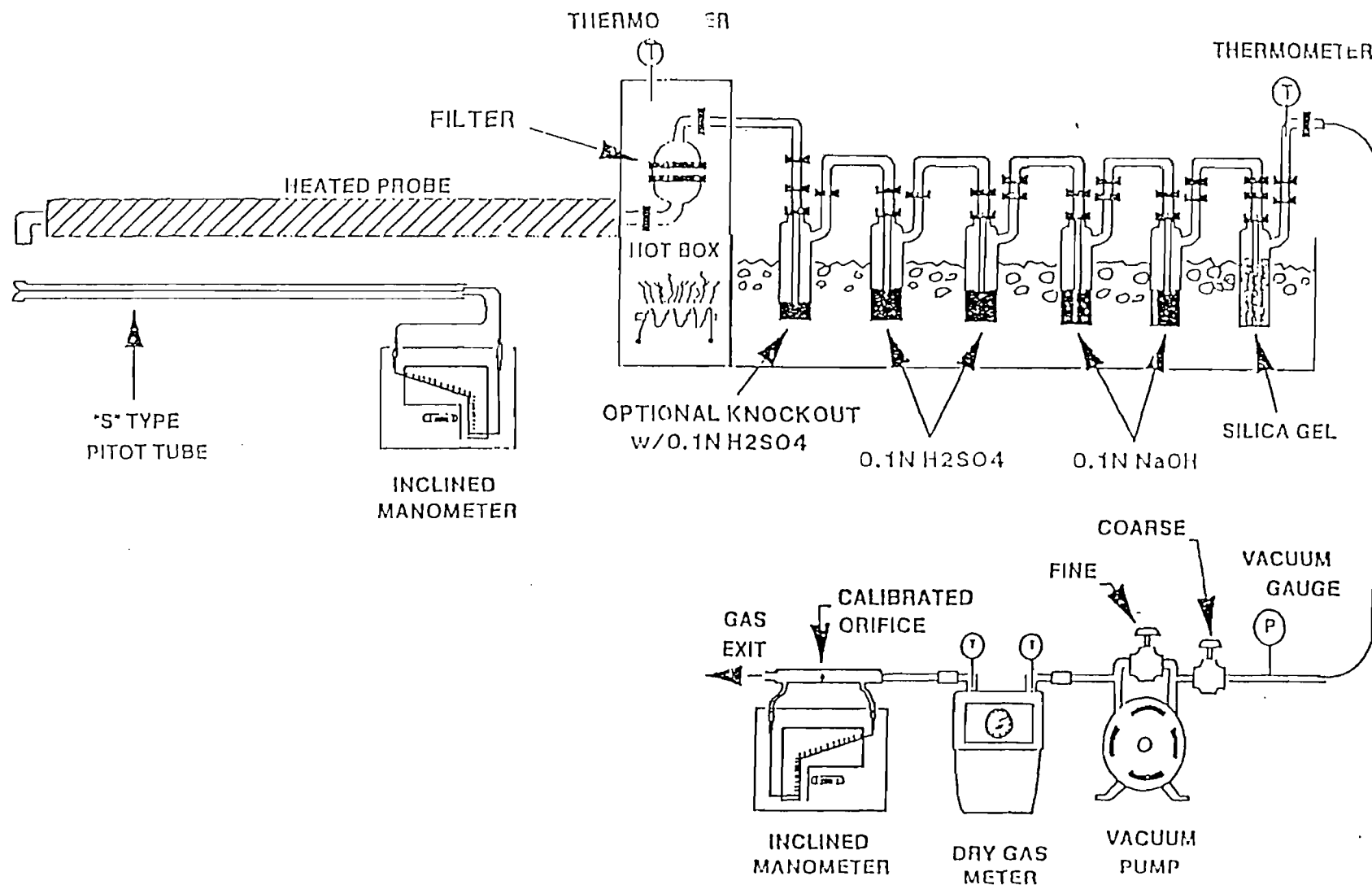
EPA Method 8 Sampling Train



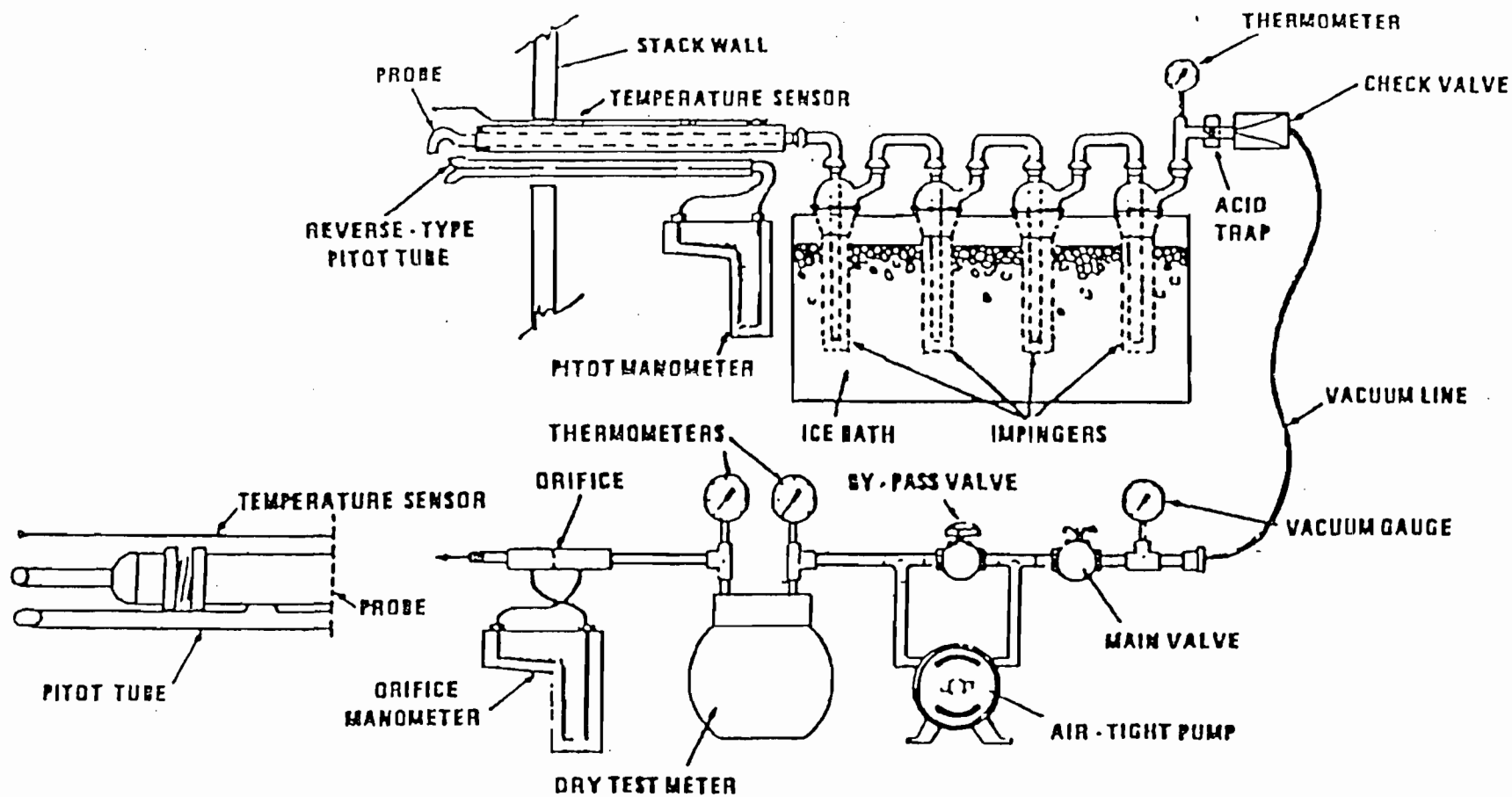
EPA METHOD 13B SAMPLING TRAIN



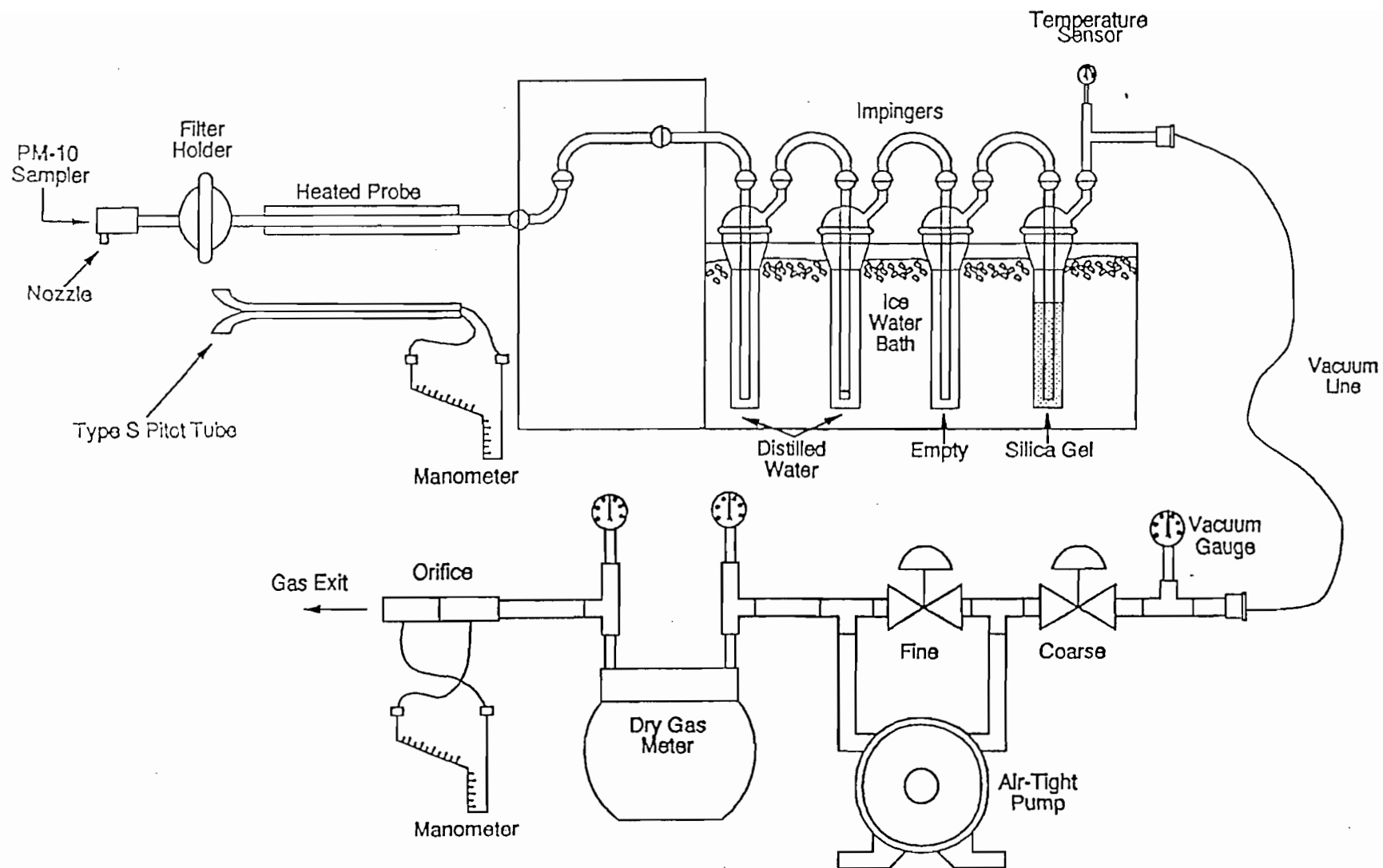
EPA METHOD 23 SAMPLING TRAIN



EPA METHOD 26 SAMPLING TRAIN



EPA METHOD 29 SAMPLING TRAIN



EPA Method 201A Sampling Train

APPENDIX G

AIRKINETICS SYSTEM PERFORMANCE TEST RESULTS

1.0 NO₂-to-NO CONVERTER EFFICIENCY TEST

CALIBRATION SUMMARY

SOURCE: NOX CONVERTER EFFICIENCY TEST ON MODEL 10S

REASON: DIRECT CALIBRATION ERROR

DATE : 06-28-1999 TIME: 14:35 - 14:40

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE
4	TECO09	ppmNOX	0.0	0.2
4	TECO09	ppmNOX	456.0	460.7
4	TECO09	ppmNOX	836.0	837.0

NOX CONVERTER EFFICIENCY TEST ON MODEL 10S

06-28-1999

	CHAN 1	CHAN 2	CHAN 5	CHAN 6	CHAN 4
	STACK	STACK	STACK	STACK	TECO09
TIME	% O2	% CO2	ppmSO2	ppmCO	ppmNOX
15:33	0.00	-0.0	0.0	0.1	376.4
15:34	0.00	-0.0	0.0	0.1	376.7
15:35	0.00	0.0	0.0	0.1	376.7
15:36	0.00	-0.1	0.0	0.1	377.0
15:37	0.00	0.1	0.0	0.1	376.9
15:38	0.00	0.1	0.0	0.1	377.0
15:39	0.00	-0.1	0.0	0.1	377.3
15:40	0.00	-0.1	0.0	0.1	377.0
15:41	0.00	0.0	0.0	0.1	377.1
15:42	0.00	0.0	0.0	0.1	377.3
15:43	0.00	-0.0	0.0	0.1	376.8
15:44	0.00	0.1	0.0	0.1	376.8
15:45	0.00	0.1	0.0	0.1	376.9
15:46	0.00	0.0	0.0	0.1	376.6
15:47	0.00	-0.0	0.0	0.1	376.7
15:48	0.00	-0.1	0.0	0.1	376.6
15:49	0.00	-0.1	0.0	0.1	376.3
15:50	0.00	0.0	0.0	0.1	376.5
15:51	0.00	0.0	0.0	0.1	376.3
15:52	0.00	-0.0	0.0	0.1	376.5
15:53	0.00	-0.1	0.0	0.1	376.3
15:54	0.00	0.1	0.0	0.1	376.0
15:55	0.00	-0.0	0.0	0.1	376.2
15:56	0.00	0.1	0.0	0.1	376.1
15:57	0.00	-0.1	0.0	0.1	375.9
15:58	0.00	-0.0	0.0	0.1	375.7
15:59	0.00	0.0	0.0	0.1	375.6
16:00	0.00	-0.0	0.0	0.1	375.5
16:01	0.00	-0.0	0.0	0.1	375.6
16:02	0.00	-0.0	0.0	0.1	375.3

AVERAGE VALUES FOR THE LAST 30 MINUTES

16:02	0.00	-0.0	0.0	0.1	376.5

COMMENTS: END NOX CONVERTER TEST

$$\begin{aligned} \% \text{ Eff.} &= 1 - \left[\frac{377.3 - 375.3}{377.3} \right] \times 100\% \\ &= 99.46\% \end{aligned}$$

APPENDIX G

AIRKINETICS SYSTEM PERFORMANCE TEST RESULTS

2.0 NO_x AND SO₂ ANALYZER INTERFERENCE TESTS

INTERFERENCE RESPONSE

Analyzer Type Western Research #5 SO₂ Span 0-100 ppm

Serial Number 90-721AT2-7726-2 Date of Test 7/11/95

GAS TYPE	CONCENTRATION	ANALYZER RESPONSE PPM SO ₂	% OF SPAN ¹
CO/N ₂	498 ppm	-0.3	0.3
NO/N ₂	448.2 ppm	-0.1	0.1
CO ₂ /N ₂	17.54 %	-0.2	0.2
O ₂ /N ₂	18.1 %	-0.4	0.4
Totals			1.0 ²

¹ % SPAN = $\frac{\text{ANALYZER RESPONSE}}{\text{INSTRUMENT SPAN}} \times 100$

² SPECIFICATION (EPA METHOD 20): SUM OF INTERFERENCE RESPONSES MUST NOT EXCEED 2% OF SPAN

INTERFERENCE TEST PROCEDURES

ENTROPY followed the manufacturer's recommended set-up procedures contained in the analyzer manual. After the initial set-up procedures were completed the electronics of the monitor were adjusted according to the manufacturer's guidelines. The monitor was calibrated by flowing SO₂ calibration gases into the instrument. The NO, CO, CO₂, and O₂ calibration gases listed above were injected into the monitor and the responses were recorded on a strip chart, which was analyzed to determine if the gases caused interference (i.e., deviations from a zero reading) in the SO₂ monitor.

CONTINUOUS EMISSIONS MONITORING SET-UP

IRCE: INTERFERENCE RESPONSE FOR EI WESR5 ON 100 PPM

DATE: 07-11-1995 TIME: 18:42

A/D CHAN	DESCRIP	UNITS	SPAN	INPUT VOLTAGE	ZERO OFFSET
7	WESR5	ppmSO2	100	10.00 V	0%

AVERAGING PERIODS: 3 MINUTES, ONE HOUR,
NO EMISSION RATE CALCULATIONS

Serial # 90-721AT2-7726-2

INTERFERENCE RESPONSE FOR EI WESR5 ON 100 PPM

07-11-1995

CHAN 7
WESR5
TIME ppmSO2
18:44 0.1
18:45 0.1
18:46 0.0

N₂

AVERAGE VALUES FOR THE LAST 3 MINUTES

18:46 0.1

18:47 -0.2

17.54% CO₂

18:48 -0.2

18:49 -0.2

AVERAGE VALUES FOR THE LAST 3 MINUTES

18:49 -0.2

18:50 -0.2

448.2 ppm NO_x

18:51 0.3

18:52 -0.1

AVERAGE VALUES FOR THE LAST 3 MINUTES

18:52 0.0

18:53 -0.2

498 ppm CO

18:54 -0.3

18:55 -0.3

AVERAGE VALUES FOR THE LAST 3 MINUTES

18:55 -0.3

18:56 -0.4

18.1% O₂

18:57 -0.4

18:58 -0.4

AVERAGE VALUES FOR THE LAST 3 MINUTES

18:58 -0.4

18:59 -0.7

N₂

19:00 -0.8

19:01 -0.9

AVERAGE VALUES FOR THE LAST 3 MINUTES

19:01 -0.8

COMMENTS: END INTERFERENCE TEST FOR EI
WESR5

INTERFERENCE RESPONSE

Analyzer Type TECLD 1DS EEI #9 Span 1000

Serial Number 105 35-94-353 Date of Test 2-3-92

GAS TYPE	CONCENTRATION	ANALYZER RESPONSE	% OF SPAN ¹
		PPM NO	
CO/N ₂	404 ppm	0.0 ppm	0%
SO ₂ /N ₂	240 ppm	0.0 ppm	0%
CO ₂ /N ₂	11.06 %	0.0 ppm	0%
O ₂ /N ₂	23.7 %	0.0 ppm	0%
Totals			0 ²

$$^1 \% \text{ SPAN} = \frac{\text{ANALYZER RESPONSE}}{\text{INSTRUMENT SPAN}} \times 100$$

² SPECIFICATION (EPA METHOD 20): SUM OF INTERFERENCE RESPONSES MUST NOT EXCEED 2% OF SPAN

INTERFERENCE TEST PROCEDURES

ENTROPY followed the manufacturer's recommended set-up procedures contained in the analyzer manual. After the initial set-up procedures were completed the electronics of the analyzer were adjusted according to the manufacturer's guidelines. The analyzer was calibrated by flowing NO calibration gases into the instrument. The SO₂, CO, CO₂, and O₂ calibration gases listed above were injected into the analyzer and the responses were recorded on a strip chart, which was analyzed to determine if the gases caused interference (i.e., deviations from a zero reading) in the NO analyzer.

APPENDIX G

AIRKINETICS SYSTEM PERFORMANCE TEST RESULTS

3.0 DILUTION SYSTEM VERIFICATION TEST

CALIBRATION SUMMARY

SOURCE: OMS LEE - FT. MYERS - UNIT 1

REASON: GAS DIVIDER VERIFICATION TEST

DATE : 06-20-1999 TIME: 17:20 - 17:35

A/D CHAN	MONITOR DESCRIPTION	UNITS	GAS VALUE	MONITOR RESPONSE	% Error
5	STACK	ppmSO2	0.0	0.1	
5	STACK	ppmSO2	30.0	30.3	1.00
5	STACK	ppmSO2	30.0	30.3	1.00
5	STACK	ppmSO2	30.0	30.3	1.00
5	STACK	ppmSO2	40.0	40.3	0.75
5	STACK	ppmSO2	40.0	40.3	0.75
5	STACK	ppmSO2	40.0	40.1	0.25
5	STACK	ppmSO2	45.1	44.8	0.67
5	STACK	ppmSO2	45.1	44.7	0.89
5	STACK	ppmSO2	45.1	44.7	0.89
5	STACK	ppmSO2	75.0	76.0	1.33
5	STACK	ppmSO2	75.0	76.0	1.33
5	STACK	ppmSO2	75.0	75.9	1.20
5	STACK	ppmSO2	91.1	91.0	

challenge

APPENDIX H

PARTICULATE RAW ANALYTICAL DATA

PRELIMINARY PARTICULATE RESULTS

Plant Name: OMS-LEE AKI Ref.# 10558

Sampling Location: UNIT No. 1 STACK

Date Received: JUNE 28, 1999 Processed By: G. MATA

Run Number	<u>1-S-M5-1</u>				<u>1-S-M5-2</u>				<u>1-S-M5-3</u>			
Sample ID/Container #	<u>F1 1149</u>				<u>1152</u> <u>F1 1157</u>				<u>F1 1083</u>			
	initials	date		date		date		date		date		
	GM	7/14	4.1353 ✓	7/14	3.9630 ✓	7/14	4.1784 ✓					
	GM	7/14	4.1357	7/14	3.9632	7/14	4.1789					
	GM	6/23	4.1353	6/25	3.9627	6/26	4.1783					
Baggie Tare, g.			3.6452		3.4068		3.6621					
Filter No. & Tare, g.	#	A961	0.4853	#	3010 A762	0.4853	#	A800	0.5112			
SAMPLE WT., g.			4.8 mg		0.4792	4.0			5.0			

Sample ID/Container #	<u>R1 1158</u>				<u>R1 1156</u>				<u>R1 1087</u>			
	initials	date		date		date		date		date		
	GM	7/14	3.6259 ✓	7/14	3.6388	7/14	3.9583					
	GM	7/14	3.6262	7/14	3.6386 ✓	7/14	3.9580 ✓					
	GM	6/23	3.6265	6/25	3.6389	6/26	3.9580					
Baggie Tare, g.	(	75 ml)	3.6194	(	100 ml)	3.7084	(	50 ml)	3.9523			
SAMPLE Wt., g.			7.1 mg			3.6358			1.7			
			11.9 mg			9.1			6.7			
Reagent Blank			B1 1150			--Legend--						

initials	date	Color	Loading
GM	7/14	3.4767	
GM	7/14	3.4767	
GM	6/25	3.4765	
Baggie Tare, g.	(	200ml)	3.4765
SAMPLE Wt., g.			

Sample Description

Run #	Color	Loading
1-S-M5-1	(1) 2 3	(1) 2 3
1-S-M5-2	(1) 2 3	(1) 2 3
1-S-M5-3	(1) 2 3	(1) 2 3

Notes and Comments:

Predominant Color of samples is:

CLEAN

Date of Full Balance Span:

JULY 14, 1999

PRELIMINARY PARTICULATE RESULTS

Plant Name: OMS-LEE AKI Ref.# 10558

Sampling Location: UNIT No. 1 STACK (SOOT BLOW)

Date Received: JUNE 28, 1999 Processed By: G. MATA

Run Number 1-S-M5-1SB 1-S-M5-2SB 1-S-M5-3SB

Sample ID/Container #	initials	date	<u>F1 1159</u>	date	<u>F1 1151</u>	date	<u>F1 1126</u>
	GM	7/14	4.2130	7/14	4.1522	7/14	4.1124
	GM	7/14	4.2126 ✓	7/14	4.1519 ✓	7/14	4.1124 ✓
	GM	6/23	4.2119	6/25	4.1512	6/26	4.1118
Baggie Tare, g.			3.7228		3.6692		3.6230
Filter No. & Tare, g.	#	<u>A958</u>	<u>0.4862</u>	#	<u>A960</u>	#	<u>B011</u>
SAMPLE WT., g.			2.9 mg		5.3		6.2

Sample ID/Container #	initials	date	<u>R1 1160</u>	date	<u>R1 1154</u>	date	<u>R1 1086</u>		
	GM	7/14	3.5779	7/14	3.5724	7/14	3.5599		
	GM	7/14	3.5777 ✓	7/14	3.5720 ✓	7/14	3.5596 ✓		
	GM	6/23	3.5773	6/24	3.5717	6/26	3.5594		
Baggie Tare, g.	(	100 ml)	3.5759	(	180 ml)	3.5619	(	100 ml)	3.5556
SAMPLE Wt., g.			1.4 mg		9.8		3.8		
Reagent Blank			4.3 mg		15.1		10.0		
			<u>B1 1150</u>		--Legend--				

	initials	date			
	GM	7/14	3.4767	F = Filter	R = Rinse
	GM	7/14	3.4767	1 = Light	
	GM	6/25	3.4765	2 = Medium	
Baggie Tare, g.	(	200 ml)	3.4765	3 = Heavy or Dark	
SAMPLE Wt., g.					

Sample Description

Run #	Color	Loading
1-S-M5-1SB	① 2 3	① 2 3
1-S-M5-2SB	① 2 3	① 2 3
1-S-M5-3SB	① 2 3	① 2 3

Notes and Comments:

Predominant Color of samples is:

CLEAN

Date of Full Balance Span:

JULY 14, 1999

PRELIMINARY PARTICULATE RESULTS

Plant Name: OMS-LEE AKI Ref.# 10558

Sampling Location: UNIT No. 2 STACK

Date Received: JUNE 28, 1999 Processed By: G. MATA

Run Number 2-S-M5-1 2-S-M5-2 2-S-M5-3

Sample ID/Container #	<u>F11145</u>	<u>F11141</u>	<u>F11080</u>
initials date	date	date	date
GM 7/14 4.1093	7/14 4.2445	7/14 4.0891✓	
GM 7/14 4.1088✓	7/14 4.2442✓	7/14 4.0891✓	
GM 6/22 4.1087	6/22 4.2443	6/26 4.0888	
Baggie Tare, g. 3.6270	3.7292	3.6061	
Filter No. & Tare, g. # A954 0.4777	# A654 0.5118	# B012 0.4755	
SAMPLE WT., g. 4.0	3.3	7.2	

Sample ID/Container #	<u>R11138</u>	<u>R11137</u>	<u>R11082</u>
initials date	date	date	date
GM 7/14 3.5865	7/14 3.8999✓	7/14 3.8020✓	
GM 7/14 3.5862✓	7/14 3.8999✓	7/14 3.8023	
GM 6/22 3.5856	6/22 3.8995	6/26 3.8019	
Baggie Tare, g. (100 ml) 3.5843	(110 ml) 3.8984	(50 ml) 3.8002	
SAMPLE Wt., g. 1.3	1.1	1.7	

Reagent Blank	<u>B11150</u>	<u>--Legend--</u>	<u>8.9</u>
initials date			
GM 7/14 3.4767		F = Filter R = Rinse	
GM 7/14 3.4767		1 = Light	
GM 6/25 3.4765		2 = Medium	
Baggie Tare, g. (200 ml) 3.4765		3 = Heavy or Dark	
SAMPLE Wt., g.			

Sample Description

Run #	Color	Loading
2-S-M5-1	(1) 2 3	(1) 2 3
2-S-M5-2	(1) 2 3	(1) 2 3
2-S-M5-3	(1) 2 3	(1) 2 3

Notes and Comments:

Predominant Color of samples is:

CLEAN

Date of Full Balance Span:

JULY 14, 1999

PRELIMINARY PARTICULATE RESULTS

Plant Name: OMS - LEE AKI Ref.# 10558
 Sampling Location: UNIT NO. 2 STACK (SOOT BLOW)
 Date Received: JUNE 28, 1999 Processed By: G. MATA

Run Number 2-S-M5-15B 2-S-M5-25B 2-S-M5-35B

Sample ID/Container #	initials	date	<u>F11139</u>	date	<u>F11157</u>	date	<u>F11081</u>
	GM	7/14	4.2553 ✓	7/14	4.0078	7/14	4.0730 ✓
	GM	7/14	4.2554	7/14	4.0077 ✓	7/14	4.0730 ✓
	GM	6/22	4.2548	6/25	4.0068	6/26	4.0732
Baggie Tare, g.			3.7705		3.5150		3.5572
Filter No. & Tare, g.	#	<u>A957</u>	<u>0.4780</u>	#	<u>A962</u>	<u>0.4853</u>	# <u>A802</u> <u>0.5100</u>
SAMPLE WT., g.			<u>6.3</u>		<u>6.5</u>		<u>6.0</u>

Sample ID/Container #	initials	date	<u>R11140</u>	date	<u>R11153</u>	date	<u>R11079</u>
	GM	7/14	3.4665	7/14	3.7127	7/14	3.6459
	GM	7/14	3.4663 ✓	7/14	3.7124 ✓	7/14	3.6457 ✓
	GM	6/22	3.4659	6/25	3.7121	6/26	3.6451
Baggie Tare, g.	(135 ml)		<u>3.4646</u>	(100 ml)	<u>3.7084</u>	(100 ml)	<u>3.6425</u>
SAMPLE Wt., g.			<u>1.3</u>		<u>3.7</u>		<u>2.6</u>
Reagent Blank			<u>7.6</u>		<u>10.2</u>		<u>8.6</u>

initials	date	<u>B11150</u>	--Legend--
GM	7/14	3.4767 ✓	F = Filter R = Rinse
GM	7/14	3.4767 ✓	1 = Light
GM	6/25	3.4765	2 = Medium
Baggie Tare, g.	(200 ml)	<u>3.4765</u>	3 = Heavy or Dark
SAMPLE Wt., g.			

Sample Description

Run #	Color	Loading
2-S-M5 - 15B	① 2 3	① 2 3
2-S-M5 - 25B	① 2 3	① 2 3
2-S-M5 - 35B	① 2 3	① 2 3

Notes and Comments:

Predominant Color of samples is:

CLEAN

Date of Full Balance Span:

JULY 14, 1999

PRELIMINARY PARTICULATE RESULTS

Plant Name: OMS-LEE AKI Ref.# 10558

Sampling Location: ASH BUILDING STACK

Date Received: JUNE 28, 1999

Processed By: G. MATA

Run Number ASH-S-M5-1 @ ASH-S-M5-2 ASH-S-M5-3

Sample ID/Container #	<u>F11148</u>	<u>F11147</u>	<u>F11146</u>
initials date	date	date	date
GM 7/14	3.9363	7/14 4.0006	7/14 3.9913
GM 7/14	3.9361 ✓	7/14 4.0004 ✓	7/14 3.9912 ✓
GM 6/22	3.9356	6/22 4.0001	6/22 3.9907
Baggie Tare, g.	3.4207	3.5213	3.5214
Filter No. & Tare, g. # <u>A697</u>	<u>0.5170</u>	# <u>A955</u> <u>0.4718</u>	# <u>A956</u> <u>0.4786</u>
SAMPLE WT., g.	-2.1	7.9	-9.3

Sample ID/Container #	<u>R11143</u>	<u>R11144</u>	<u>R11142</u>
initials date	date	date	date
GM 7/14	3.8013	7/14 3.4992	7/14 3.7597
GM 7/14	3.8009 ✓	7/14 3.4988 ✓	7/14 3.7594 ✓
GM 6/22	3.8003	6/22 3.4988	6/22 3.7591
Baggie Tare, g. (75 ml)	3.7983	(50 ml) 3.4981	(50 ml) 3.7586
SAMPLE Wt., g.	2.0	0.7	0.5
Reagent Blank	B1 1150	8.6	0.5

initials date	<u>B1 1150</u>	--Legend--
GM 7/14	3.4767	F = Filter R = Rinse
GM 7/14	3.4767	1 = Light
GM 6/25	3.4765	2 = Medium
Baggie Tare, g. (200 ml)	3.4765	3 = Heavy or Dark
SAMPLE Wt., g.		

Sample Description

Run #	Color	Loading
ASH-S-M5-1	① 2 3	① 2 3
ASH-S-M5-2	① 2 3	① 2 3
ASH-S-M5-3	① 2 3	① 2 3

Notes and Comments:

Predominant Color of samples is: Very light gray

Date of Full Balance Span: JULY 14, 1999

PROJECT METTLE AT 200 (±198667)

Continued From Page _____

DATE: JULY 14, 1999

LAB. TEMP.: 72.1°F

BAR. PRESS.: @ 29.85" Hg

REL. HUM.: 50%

INITIALS: GM

TIME: 07:28

<u>ACTUAL</u>	<u>BALANCE (g)</u>	<u>% DEV.</u>
2 mg	0.0020	—
10 mg	0.0100	—
50 mg	0.0500	—
100 mg	0.1000	—
500 mg	0.5000	—
1 g	1.0000	—
5 g	5.0000	—
10 g	10.0001	0.0010
50 g	50.0001	0.0002
100 g	100.0002	0.0002

Continued on Page _____

Read and Understood By


Signed7-14-99
Date

Signed

Date

July 1999						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

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ATA-GLANCE®

LAB. TEMP.: 72.3°F / 71.3°F
 BAR. PRESS.: 29.92" Hg / 29.95" Hg
 REL. HUM.: 50% / 50%
 GM / CM
 07:30 / 13:30
 5g = 5.0000g / 5.0000g

July 1999						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

14

ATA-GLANCE®

LAB. TEMP.: 72.1°F / 70.5°F
 BAR. PRESS.: 29.85" Hg / 29.91" Hg
 REL. HUM.: 50% / 50%
 GM / CM
 07:28 / 13:28
 5g = 5.0000g / 5.0000g

June 1999						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

August 1999						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

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Thursday, July 15

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June 1999						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

August 1999						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

195

Wednesday, July 14

170

Certificate OF WEIGHT TRACEABILITY

Company: AIR KINETICS INC.
 Room: MAIN Department: LAB
 Address: 5932 BOLSA AVE
 City: HUNTINGTON BEACH State: CA Zip: 92649

This is to certify that the weights used are traceable to the National Institute of Standards and Technology and are in compliance with MIL-STD-45662 and Z-540-1.

	Analytical	Precision
METTLER TOLEDO Identification Number of Test Weights	<u>424</u>	
METTLER TOLEDO Calibration Date of Test Weights	<u>2-3-98</u>	<u>N/A</u>
National Institute of Standards and Technology Test Number	<u>822/258703-97</u>	
Test Weight Calibration Due	1 year from date	2 years from date

Model	Serial Number	Serv.	Cal.
<u>AT200</u>	<u>698007</u>	☒	☒
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Model	Serial Number	Serv.	Cal.
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

ANDY CARRIZALES
 Mettler Toledo Service Technician

7-27-98
 Date of Issue

METTLER TOLEDO



NC DEPARTMENT OF AGRICULTURE STANDARDS LABORATORY REPORT OF CALIBRATION

SUBMITTED BY:

Entropy Environmental, Incorporated
9001 Glenwood Avenue
Raleigh, NC 27612

DATE: February 16, 1995
PO NUMBER: 4856MAXWELL

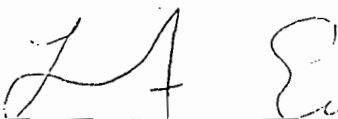
TEST NO: NC0295C016

WEIGHT DESCRIPTION: One (1) Set of Fisher (brand) Weights
Serial Number 3622

ASSUMED WEIGHT DENSITY: 100 g - 1 g = 7.84 g/cc (stainless steel)
500 mg - 50 mg = 8.0 g/cc (stainless steel)
20 mg - 1 mg = 2.7 g/cc (aluminum)

DESCRIPTION	TRUE MASS	APP MASS CORRECTIONS		UNCERTAINTY
	CORRECTION	VS 8.0 g/cc	VS BRASS	
100 g	0.57 mg	0.27 mg	-0.43 mg	0.16 mg
50 g	0.319 mg	0.166 mg	-0.183 mg	0.081 mg
20 g	0.156 mg	0.095 mg	-0.045 mg	0.062 mg
20 g	0.143 mg	0.082 mg	-0.058 mg	0.062 mg
10 g	0.060 mg	0.029 mg	-0.041 mg	0.031 mg
5 g	0.028 mg	0.013 mg	-0.022 mg	0.023 mg
2 g	0.063 mg	0.057 mg	0.043 mg	0.016 mg
2 g	0.045 mg	0.039 mg	0.025 mg	0.016 mg
1 g	0.038 mg	0.035 mg	0.028 mg	0.013 mg
500 mg	-0.017 mg	-0.017 mg	-0.021 mg	0.011 mg
200 mg	-0.0013 mg	-0.0013 mg	-0.0027 mg	0.0062 mg
200 mg	0.0271 mg	0.0271 mg	0.0257 mg	0.0062 mg
100 mg	0.0084 mg	0.0084 mg	0.0077 mg	0.0051 mg
50 mg	0.0155 mg	0.0155 mg	0.0151 mg	0.0090 mg
20 mg	0.0029 mg	-0.0030 mg	-0.0031 mg	0.0043 mg
20 mg	0.0160 mg	0.0101 mg	0.0100 mg	0.0043 mg
10 mg	-0.0122 mg	-0.0152 mg	-0.0152 mg	0.0086 mg
2 mg	0.0082 mg	0.0076 mg	0.0076 mg	0.0021 mg
2 mg	0.0127 mg	0.0121 mg	0.0121 mg	0.0021 mg
1 mg	0.0084 mg	0.0081 mg	0.0081 mg	0.0014 mg

The items described above have been compared with the standards of the State of North Carolina, and are traceable to the National Institute of Standards and Technology, NIST, via the test number shown above. All tests were performed in the North Carolina Standards Laboratory. Environmental conditions are maintained at a temperature of $22^{\circ}\text{C} \pm 2^{\circ}\text{C}$ and a relative humidity of $50\% \pm 10\%$.



METROLOGIST

L.F. Eason Sherry Teachey Sharon Denning Van Hyder Karen Bryan

United States Department of Commerce National Institute of Standards and Technology

Certificate of Accreditation

North Carolina

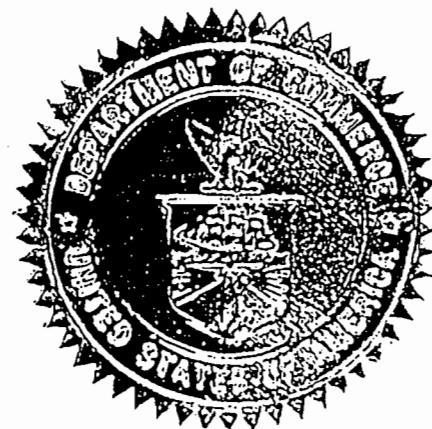
is accredited* under the
State Laboratory Metrology Program
for satisfactory compliance with
documented criteria for the period:

1995 - 1996

The State Standards are traceable
to the National Institute of
Standards and Technology

Carroll S. Brickenkamp
For the National Institute of Standards and Technology

January 1, 1995
Effective Date



***Scope of Accreditation**

Tolerance Testing

Mass

Weights ≤ 1000 lb

Weights > 1000 lb

Volume

Small, intermediate and
large standards

Calibration

Mass

Weights ≤ 3 kg

Weights > 3 kg

Length

Steel tapes, rigid rules

Volume

Small glassware

Metal standards

Temperature

Liquid in glass
thermometers

PROJECT _____

Continued From Page _____

	<u>1ST WEIGHING</u>	<u>2ND WEIGHING</u>
DATE:	APRIL 21, 1999	APRIL 22, 1999
LAB. TEMP.:	73.4°F	72.3°F
BAR. PRESS.:	29.88" Hg	29.76" Hg
REL. HUM.:	49%	49%
INITIALS:	GM	GM
TIME:	07:40	07:20

<u>BAGGIE #</u>	<u>1ST WEIGHING (g)</u>	<u>2ND WEIGHING (g)</u>	<u>JOB #</u>
1077	3.7638 ✓	3.7638 ✓	
1078	3.8119 ✓	3.8119 ✓	
1079	3.6427	3.6425 ✓	10558
1080	3.6064	3.6061 ✓	10558
1081	3.5573	3.5572 ✓	10558
1082	3.8003	3.8002 ✓	10558
1083	3.6623	3.6621 ✓	10558
1084	3.6783	3.6780 ✓	10558
1085	3.7309	3.7308 ✓	10558
1086	3.5559	3.5556 ✓	10558
1087	3.9564	3.9563 ✓	10558
1088	3.7071	3.7070 ✓	10558
1089	3.7287	3.7286 ✓	
1090	3.6422 ✓	3.6423	
1091	3.5723	3.5721 ✓	
1092	3.7229 ✓	3.7229 ✓	
1093	3.6968	3.6966 ✓	
1094	3.7337	3.7335 ✓	
1095	3.6445 ✓	3.6445 ✓	
1096	3.5773 ✓	3.5773 ✓	
1097	3.8085 ✓	3.8085 ✓	
1098	3.8317 ✓	3.8318	
1099	3.8191	3.8190 ✓	
1100	3.9345	3.9344 ✓	

Continued on Page _____

Read and Understood By _____

Signed _____

Date _____

Signed _____

Date _____

	<u>1ST WEIGHING</u>	<u>2ND WEIGHING</u>
DATE:	JUNE 4, 1999	JUNE 4, 1999
LAB. TEMP.:	71.8°F	72.4°F
BAR. PRESS.:	29.98" Hg	29.99" Hg
REL. HUM.:	44%	46%
INITIALS:	GM	GM
TIME:	08:30	14:36

BAGGIE #	<u>1ST WEIGHING (g)</u>	<u>2ND WEIGHING (g)</u>	<u>JOB #</u>
1125	3.6335 ✓	3.6335 ✓	10558
1126	3.6230 ✓	3.6230 ✓	10558
1127	3.5078 ✓	3.5080	10558
1128	3.5959 ✓	3.5960	10558
1129	3.8684 ✓	3.8684 ✓	10558
1130	3.5855 ✓	3.5855 ✓	10558
1131	3.9825	3.9822 ✓	10558
1132	3.5445 ✓	3.5445 ✓	10574
1133	3.7010	3.7008 ✓	10558
1134	3.6358 ✓	3.6358 ✓	10558
1135	3.8649 ✓	3.8649 ✓	10574
1136	3.6934 ✓	3.6934 ✓	10558
1137	3.8984 ✓	3.8986	10558
1138	3.5844	3.5843 ✓	10558
1139	3.7706	3.7705 ✓	10558
1140	3.4646 ✓	3.4646 ✓	10558
1141	3.7292 ✓	3.7294	10558
1142	3.7586 ✓	3.7586 ✓	10558
1143	3.7983 ✓	3.7983 ✓	10558
1144	3.4981 ✓	3.4981 ✓	10558
1145	3.6270 ✓	3.6271	10558
1146	3.5124 ✓	3.5124 ✓	10558
1147	3.5215	3.5213 ✓	10558
1148	3.4207 ✓	3.4207 ✓	10558

(W) ~~1149~~

Continued on Page _____

Read and Understood By _____

Signed _____

Date _____

Signed _____

Date _____

DATE: JUNE 4, 1999
 LAB. TEMP.: 72.1°F
 BAR. PRESS.: 29.98" Hg
 REL. HUM.: 44%
 INITIALS: GM
 TIME: 08:00

2ND WEIGHING
 JUNE 4, 1999
 71.9°F
 29.99" Hg
 45%
 GM
 14:15

BAGGIE #	1 ST WEIGHING (g)	2 ND WEIGHING (g)	JOB #
1149	3.6452 ✓	3.6455	10558
1150	3.4765 ✓	3.4765 ✓	10558
1151	3.6692 ✓	3.6696	10558
1152	3.4775 ✓	3.4777	10558
1153	3.7084 ✓	3.7087	10558
1154	3.5619 ✓	3.5622	10558
1155	3.4216 ✓	3.4218	
1156	3.6358 ✓	3.6361	10558
1157	3.5150 ✓	3.5152	10558
1158	3.6194 ✓	3.6196	10558
1159	3.7228 ✓	3.7229	10558
1160	3.5759 ✓	3.5761	10558
1161	3.5306 ✓	3.5308	
1162	3.7339 ✓	3.7342	
1163	3.4887 ✓	3.4888	
1164	3.6673 ✓	3.6675	
1165	3.5832 ✓	3.5833	
1166	3.6448 ✓	3.6448 ✓	
1167	3.5182 ✓	3.5182 ✓	10558
1168	3.6671 ✓	3.6673	
1169	3.7009 ✓	3.7011	
1170	3.7738	3.7737 ✓	10558
1171	3.7158 ✓	3.7158 ✓	10558
1172	3.6151 ✓	3.6153	10558

Continued on Page _____

Read and Understood By _____

Signed _____

Date _____

Signed _____

Date _____

	<u>1ST WEIGHING</u>	<u>2ND WEIGHING</u>
DATE:	JULY 14, 1999	JULY 14, 1999
LAB. TEMP.:	71.6°F	70.2°F
BAR. PRESS.	29.90" Hg	29.92" Hg
REL. HUM.:	50%	50%
INITIALS:	GM	GM
TIME:	08:05	14:05

<u>BAGGIE #</u>	<u>1ST WEIGHING (g)</u>	<u>2ND WEIGHING (g)</u>	<u>Job #</u>
1189	3.3304 ✓	3.3307	
1190	3.2593 ✓	3.2594	
1191	3.2381 ✓	3.2382	
1192	3.4191 ✓	3.4194	
1193	3.3019 ✓	3.3021	
1194	3.3864 ✓	3.3867	
1195	3.4314 ✓	3.4316	
1196	3.5666 ✓	3.5669	
1197	3.3667 ✓	3.3669	
1198	3.3430 ✓	3.3433	
1199	Ⓢ 3.4412 ✓	3.4446	
1200	3.4787 ✓	3.4790	
1201	3.4233 ✓	3.4235 ^e	
1202	3.5061 ✓	3.5062	
1203	3.3766 ✓	3.3768	
1204	3.2720 ✓	3.2721	
1205	3.2544 ✓	3.2546	
1206	3.3215 ✓	3.3217	
1207	3.6272 ✓	3.6274	10558
1208	3.1820 ✓	3.1822	
1209	3.3194 ✓	3.3194 ✓	10558
1210	3.3349 ✓	3.3331	
1211	3.3813 ✓	3.3814	
1212	3.2828 ✓	3.2830	

Continued on Page _____

Read and Understood By _____

Signed _____

Date _____

Signed _____

Date _____

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: OMS-LEE

Ref# 10558

Sampling Location: UNIT No. 1 STACK

Date Received: JUNE 28, 1999

Run Number

1-S-m201A-1

Sample I.D.

in stack filter / 1134

Container #

< = 10 ug

init.

date

GM	7/15	3.7771
GM	7/15	3.7770 ✓
GM	6/25	3.7764

Baggie Tare Wt., g.

3.6358

Filter Tare Wt., g.

0.126

0.1394

FILTER SAMPLE WT., g.

ERR ***

ERR

1.2

Sample I.D.

in stack filter

nozzle & cyclone

Container #

rinse / 1133

rinse / 1136

< = 10 ug

> 10ug

init.

date

date

GM	7/15	3.7020	7/15	3.6950
GM	7/15	3.7018 ✓	7/15	3.6948 ✓
GM	6/25	3.7016	6/25	3.6945

Tare Wt., g.

(50 ml)

3.7008

(50 ml)

3.6934

RINSE SAMPLE WT., g.

ERR

ERR

0.8

1.1

Filter Catch, mg.

2.0

1.1

Rinse Catch, mg.

ERR ***

0.0

Blank Residue, mg.

ERR

ERR

Net Rinse Catch, mg.

0.0

0.0

ERR ***

ERR ***

SUBTOTAL CATCH, mg.

ERR

ERR

Blank Beaker #

B /

—Legend—

FILTERABLE PARTICULATE, m

ERR

Final wt., mg.

0.0000

@ = Final Weight

3.1

Tare wt., mg.

0.0000

F = Filter

R = Rinse

Sample Description

Residue, mg.

0.0

Volume, ml.

0

1 = Light

Run #

Color

Loading

Density, mg/ml

785.0

2 = Medium

1-S-m201A-1

123

023

Conc., mg/mg

0.000E+00

<—

3 = Heavy or Dark

Upper Limit, mg/mg

1.000E-05

ERR

Notes and comments:

Predominate color of samples is: CLEAN

Date of full balance span

JULY 14, 1999

Printing Date

07-Jun-93

Printing Time

11:52 AM

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: OMS-LEE

ARI Ref# 10558

Sampling Location: UNIT No.1 STACK

Date Received:

Run Number

1-S-M2014-2

Sample I.D.

in stack filter / 1088

Container #

< = 10 ug

init.

date

GM
GM
GM

7/15
7/15
6/24

3.9099
3.9096
3.9096

Baggie Tare Wt., g.

Filter Tare Wt., g.

P146

3.7070
0.2022

FILTER SAMPLE WT., g.

ERR

ERR ***

0.4

Sample I.D.

in stack filter

nozzle & cyclone

Container #

rinse / 1085

rinse / 1084

< = 10 ug

> 10ug

init.

date

date

GM
GM
GM

7/15
7/15
6/24

3.7316
3.7313
3.7309

7/15
7/15
6/24

3.6800
3.6797
3.6791

Tare Wt., g.

(25 ml)

3.7308

(25 ml)

3.6780

RINSE SAMPLE WT., g.

ERR

ERR

0.1

1.1

0.5

1.1

Filter Catch, mg.

ERR ***

0.0

Rinse Catch, mg.

ERR

ERR

Blank Residue, mg.

0.0

0.0

Net Rinse Catch, mg.

ERR ***

ERR ***

SUBTOTAL CATCH, mg.

ERR

ERR

Blank Beaker #

B /

—Legend—

FILTERABLE PARTICULATE, m

1.6

ERR

Final wt., mg.

0.0000

@ = Final Weight

Tare wt., mg.

0.0000

F = Filter

R = Rinse

Sample Description

Residue, mg.

0.0

Volume, ml.

0

1 = Light

Run #

Color

Loading

Density, mg/ml

785.0

2 = Medium

1-S-M2014-2

123

123

Conc., mg/mg

0.000E+00 <=

3 = Heavy or Dark

Upper Limit, mg/mg

1.000E-05

ERR

Notes and comments:

Predominate color of samples is:

clean

Date of full balance span

JUL 14, 1999

Printing Date

07-Jun-93

Printing Time

11:52 AM

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: OMS-LEE

AKI Ref# 10558

Sampling Location: UNIT No. 1 STACK

Date Received: JUNE 28, 1999

Run Number 1-S-M201A-3

Sample I.D. in stack filter / 1207
Container # < = 10 ug

init. date

GM	7/15	3.7674
GM	7/15	3.7671✓
Baggie Tare Wt., g.		3.6272
Filter Tare Wt., g.	P124	0.1387
FILTER SAMPLE WT., g.		ERR ***
ERR		

Sample I.D.	in stack filter	nozzle & cyclone
Container #	rinse / 1171	rinse / 1167
	< = 10 ug	> 10ug

init. date date

GM	7/15	3.7164	7/15	3.5199
GM	7/15	3.7160✓	7/15	3.5196✓
Tare Wt., g.	(25 ml)	3.7158	(25 ml)	3.5182
RINSE SAMPLE WT., g.		ERR		ERR

Filter Catch, mg.	ERR ***	0.0
Rinse Catch, mg.	ERR	ERR
Blank Residue, mg.	0.0	0.0
Net Rinse Catch, mg.	ERR ***	ERR ***
SUBTOTAL CATCH, mg.	ERR	ERR

Blank Beaker #	B /	--Legend--	FILTERABLE PARTICULATE, m	ERR
Final wt., mg.	0.0000	@ = Final Weight		
Tare wt., mg.	0.0000	F = Filter R = Rinse	Sample Description	
Residue, mg.	0.0			
Volume, ml.	0	1 = Light	Run #	Color
Density, mg/ml	785.0	2 = Medium		
Conc., mg/mg	0.000E+00 <--	3 = Heavy or Dark	1-S-M201A-3	①23
Upper Limit, mg/mg	1.000E-05			①23

ERR

Notes and comments:

Predominate color of samples is: CLEAN

Date of full balance span JULY 14, 1999

Printing Date

07-Jun-93

Printing Time

11:52 AM

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: **OMS-LET**

ART Ref# **10558**

Sampling Location: **UNIT No. 2 STACK**

Date Received: **JUNE 28, 1999**

Run Number

2-S-M201A-1

Sample I.D. **in stack filter / 1130**
Container # **< = 10 ug**

	init.	date	
GM	7/15		3.7930
GM	7/15		3.7927 ✓
GM	6/25		3.7924
Baggie Tare Wt., g.			3.5855
Filter Tare Wt., g.			<u>0.2065</u>
FILTER SAMPLE WT., g.		P045	<u>ERR</u> ***
ERR			0.4

Sample I.D.	in stack filter	nozzle & cyclone
Container #	rinse / 1127	rinse / 1129
	< = 10 ug	> 10ug
	init.	date

GM	7/15	3.5089	7/15	3.8728 ✓
GM	7/15	3.5086 ✓	7/15	3.8730
GM	6/25	3.5085	6/25	3.8737
Tare Wt., g.	(50 ml)	<u>3.5078</u>	(50 ml)	<u>3.8684</u>
RINSE SAMPLE WT., g.		<u>ERR</u>		<u>ERR</u>
		0.7		5.3

Filter Catch, mg.	<u>1.1</u>	<u>5.3</u>
Rinse Catch, mg.	<u>ERR</u> ***	<u>0.0</u>
Blank Residue, mg.	<u>ERR</u>	<u>ERR</u>
Net Rinse Catch, mg.	<u>0.0</u>	<u>0.0</u>
	<u>ERR</u> ***	<u>ERR</u> ***
SUBTOTAL CATCH, mg.	<u>ERR</u>	<u>ERR</u>

Blank Beaker #	B /	—Legend—	FILTERABLE PARTICULATE, m	ERR
Final wt., mg.	0.0000	@ = Final Weight		6.4
Tare wt., mg.	0.0000	F = Filter R = Rinse		
Residue, mg.	0.0		Sample Description	
Volume, ml.	0		Run #	Color
Density, mg/ml	785.0	1 = Light		Loading
Conc., mg/mg	0.000E+00 <—	2 = Medium		
Upper Limit, mg/mg	1.000E-05	3 = Heavy or Dark	2-S-M201A-1	023
	<u>ERR</u>			023

Notes and comments:

Predominate color of samples is:

Date of full balance span

Printing Date

07-Jun-93

CLEAN

JULY 14, 1999

Printing Time

11:52 AM

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: OMS-LEE

ARI Ref # 10558

Sampling Location: UNIT No 2 STACK

Date Received: JUNE 28, 1999

Run Number

2-S-M201A-2

Sample I.D.

in stack filter / 1125

Container #

< = 10 ug

init.

date

GM	7/15	3.7770
GM	7/15	3.7767✓
GM	6/26	3.7765
		3.6335

Baggie Tare Wt., g.

Filter Tare Wt., g.

FILTER SAMPLE WT., g.

ERR

P125

0.1411

ERR ***

1.9

Sample I.D.

in stack filter
rinse / 1128

nozzle & cyclone

rinse / 1131

Container #

< = 10 ug

> 10ug

init.

date

date

GM	7/15	3.5968	7/15	3.9837
GM	7/15	3.5965✓	7/15	3.9834✓
GM	6/26	3.5962	6/26	3.9835
		3.5959		3.9822

Tare Wt., g.

RINSE SAMPLE WT., g.

(25 ml)

(50 ml)

ERR

ERR

0.3

1.3

Filter Catch, mg.

2.2

1.3

Rinse Catch, mg.

ERR ***

0.0

Blank Residue, mg.

ERR

ERR

Net Rinse Catch, mg.

0.0

0.0

ERR ***

ERR ***

SUBTOTAL CATCH, mg.

ERR

ERR

Blank Beaker #

B /

—Legend—

FILTERABLE PARTICULATE, m

3.5
ERR

Final wt., mg.

0.0000

@ = Final Weight

Tare wt., mg.

0.0000

F = Filter

R = Rinse

Sample Description

Residue, mg.

0.0

Volume, ml.

0

1 = Light

Run #

Color

Loading

Density, mg/ml

785.0

2 = Medium

Conc., mg/mg

0.000E+00 <—

3 = Heavy or Dark

2-S-M201A-2

123

123

Upper Limit, mg/mg

1.000E-05

ERR

Notes and comments:

Predominate color of samples is:

Date of full balance span

Printing Date

07-Jun-93

Printing Time

11:52 AM

Clear
JULY 14, 1999

PARTICULATE SAMPLING LABORATORY RESULTS (Version 02.14.92)

Plant Name: OMS-LEE

Ref # 10558

AKI

Sampling Location: UNIT No. 2 STACK

Date Received: JUNE 28, 1999

Run Number 2-S-M201A-3

Sample I.D. in stack filter / 1209
Container # < = 10 ug

init. date

GM 7/15 3.5319
GM 7/15 3.5318 ✓
~~3.5318~~

Baggie Tare Wt., g. 3.3194
Filter Tare Wt., g. P144 0.2107
FILTER SAMPLE WT., g. ERR ***

Sample I.D. in stack filter nozzle & cyclone
Container # rinse / 1172 rinse / 1170
< = 10 ug > 10ug

init. date date

GM 7/15 3.6165 7/15 3.7756
GM 7/15 3.6162 ✓ 7/15 3.7754 ✓
(25 ml) 3.6151 (25 ml) 3.7737
ERR ERR

Tare Wt., g.
RINSE SAMPLE WT., g.

Filter Catch, mg.	ERR ***	0.0
Rinse Catch, mg.	ERR	ERR
Blank Residue, mg.	0.0	0.0
Net Rinse Catch, mg.	ERR ***	ERR ***
SUBTOTAL CATCH, mg.	ERR	ERR

Blank Beaker #	B /	--Legend--	FILTERABLE PARTICULATE, m	ERR
Final wt., mg.	0.0000	@ = Final Weight		
Tare wt., mg.	0.0000	F = Filter R = Rinse	Sample Description	
Residue, mg.	0.0			
Volume, ml.	0	1 = Light	Run #	Color
Density, mg/ml	785.0	2 = Medium		
Conc., mg/mg	0.000E+00 <--	3 = Heavy or Dark		
Upper Limit, mg/mg	1.000E-05			
	ERR			

Notes and comments:

Predominate color of samples is: CLEAN

Date of full balance span JULY 14, 1999

Printing Date

07-Jun-93

Printing Time

11:52 AM

DATE: JULY 14, 1999

LAB. TEMP.: 72.1°F

BAR. PRESS.: @ 29.85"Hg

REL. HUM.: 50%

INITIALS: GM

TIME: 07:28

<u>ACTUAL</u>	<u>BALANCE (g)</u>	<u>% DEV.</u>
2 mg	0.0020	—
10 mg	0.0100	—
50 mg	0.0500	—
100 mg	0.1000	—
500 mg	0.5000	—
1 g	1.0000	—
5 g	5.0000	—
10 g	10.0001	0.0010
50 g	50.0001	0.0002
100 g	100.0002	0.0002

Continued on Page _____

Read and Understood By


Signed7-14-99
Date

Signed

Date

July 1999						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

15

AT-A-GLANCE®

LAB. TEMP.: 72.3°F / 71.3°F
 BAR. PRESS.: 29.92" Hg / 29.95" Hg
 REL. HUM.: 50% / 50%
 GM / GM
 07:30 / 13:30
 Sg = 5.0000g / 5.0000g

June 1999						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

196

Thursday, July 15

169

July 1999						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

14

AT-A-GLANCE®

LAB. TEMP.: 72.1°F / 70.5°F
 BAR. PRESS.: 29.85" Hg / 29.91" Hg
 REL. HUM.: 50% / 50%
 GM / GM
 07:28 / 13:28
 Sg = 5.0000g / 5.0000g

June 1999						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

195

Wednesday, July 14

170

August 1999						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Certificate OF WEIGHT TRACEABILITY

Company: AIR KINETICS INC.
 Room: MAIN Department: LAB
 Address: 5932 BOLSA AVE
 City: HUNTINGTON BEACH State: CA Zip: 92649

This is to certify that the weights used are traceable to the National Institute of Standards and Technology and are in compliance with MIL-STD-45662 and Z-540-1.

	Analytical	Precision
METTLER TOLEDO Identification Number of Test Weights	<u>424</u>	
METTLER TOLEDO Calibration Date of Test Weights	<u>2-3-95</u>	<u>N/A</u>
National Institute of Standards and Technology Test Number	<u>822/258703-97</u>	
Test Weight Calibration Due	1 year from date	2 years from date

Model	Serial Number	Serv.	Cal.
<u>AT200</u>	<u>L95007</u>	☒	☒
_____	_____	☐	☐
_____	_____	☐	☐
_____	_____	☐	☐
_____	_____	☐	☐
_____	_____	☐	☐

Model	Serial Number	Serv.	Cal.
_____	_____	☐	☐
_____	_____	☐	☐
_____	_____	☐	☐
_____	_____	☐	☐
_____	_____	☐	☐
_____	_____	☐	☐

ANDY CARRIZALES
 Mettler Toledo Service Technician

7-27-98
 Date of Issue

METTLER TOLEDO



NC DEPARTMENT OF AGRICULTURE STANDARDS LABORATORY REPORT OF CALIBRATION

SUBMITTED BY:

Entropy Environmental, Incorporated
9001 Glenwood Avenue
Raleigh, NC 27612

DATE: February 16, 1995
PO NUMBER: 4856MAXWELL

TEST NO: NC0295C016

WEIGHT DESCRIPTION: One (1) Set of Fisher (brand) Weights
Serial Number 3622

ASSUMED WEIGHT DENSITY: 100 g - 1 g = 7.84 g/cc (stainless steel)
500 mg - 50 mg = 8.0 g/cc (stainless steel)
20 mg - 1 mg = 2.7 g/cc (aluminum)

DESCRIPTION	TRUE MASS	APP MASS CORRECTIONS		UNCERTAINTY
	CORRECTION	VS 8.0 g/cc	VS BRASS	
100 g	0.57 mg	0.27 mg	-0.43 mg	0.16 mg
50 g	0.319 mg	0.166 mg	-0.183 mg	0.081 mg
20 g	0.156 mg	0.095 mg	-0.045 mg	0.062 mg
20 g	0.143 mg	0.082 mg	-0.058 mg	0.062 mg
10 g	0.060 mg	0.029 mg	-0.041 mg	0.031 mg
5 g	0.028 mg	0.013 mg	-0.022 mg	0.023 mg
2 g	0.063 mg	0.057 mg	0.043 mg	0.016 mg
2 g	0.045 mg	0.039 mg	0.025 mg	0.016 mg
1 g	0.038 mg	0.035 mg	0.028 mg	0.013 mg
500 mg	-0.017 mg	-0.017 mg	-0.021 mg	0.011 mg
200 mg	-0.0013 mg	-0.0013 mg	-0.0027 mg	0.0062 mg
200 mg	0.0271 mg	0.0271 mg	0.0257 mg	0.0062 mg
100 mg	0.0084 mg	0.0084 mg	0.0077 mg	0.0051 mg
50 mg	0.0155 mg	0.0155 mg	0.0151 mg	0.0090 mg
20 mg	0.0029 mg	-0.0030 mg	-0.0031 mg	0.0043 mg
20 mg	0.0160 mg	0.0101 mg	0.0100 mg	0.0043 mg
10 mg	-0.0122 mg	-0.0152 mg	-0.0152 mg	0.0086 mg
2 mg	0.0082 mg	0.0076 mg	0.0076 mg	0.0021 mg
2 mg	0.0127 mg	0.0121 mg	0.0121 mg	0.0021 mg
1 mg	0.0084 mg	0.0081 mg	0.0081 mg	0.0014 mg

The items described above have been compared with the standards of the State of North Carolina, and are traceable to the National Institute of Standards and Technology, NIST, via the test number shown above. All tests were performed in the North Carolina Standards Laboratory. Environmental conditions are maintained at a temperature of 22°C ± 2°C and a relative humidity of 50% ± 10%.



METROLOGIST

L.F. Eason Sherry Teachey Sharon Denning Van Hyder Karen Bryan

United States Department of Commerce National Institute of Standards and Technology

Certificate of Accreditation

***Scope of Accreditation**

Tolerance Testing

Mass

Weights $\leq$ 1000 lb

Weights $>$ 1000 lb

Volume

Small, intermediate and
large standards

Calibration

Mass

Weights $\leq$ 3 kg

Weights $>$ 3 kg

Length

Steel tapes, rigid rules

Volume

Small glassware

Metal standards

Temperature

Liquid in glass
thermometers

North Carolina

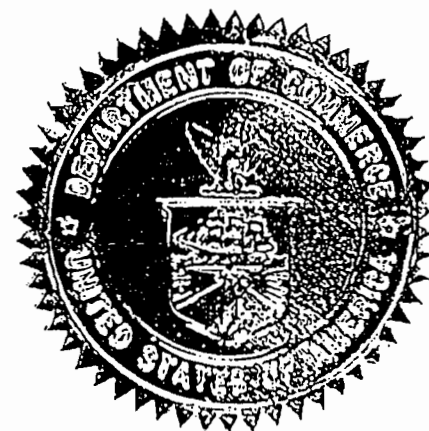
is accredited* under the
State Laboratory Metrology Program
for satisfactory compliance with
documented criteria for the period:

1995 - 1996

The State Standards are traceable
to the National Institute of
Standards and Technology

Carroll S. Brickenkamp
For the National Institute of Standards and Technology

January 1, 1995
Effective Date



PROJECT _____

Continued From Page _____

	<u>1ST WEIGHING</u>	<u>2ND WEIGHING</u>
DATE:	APRIL 21, 1999	APRIL 22, 1999
LAB. TEMP.:	73.4°F	72.3°F
BAR. PRESS.:	29.88" Hg	29.76" Hg
REL. HUM.:	49%	49%
INITIALS:	GM	GM
TIME:	07:40	07:20

<u>BAGGIE #</u>	<u>1ST WEIGHING (g)</u>	<u>2ND WEIGHING (g)</u>	<u>Job #</u>
1077	3.7638 ✓	3.7638 ✓	
1078	3.8119 ✓	3.8119 ✓	
1079	3.6427	3.6425 ✓	10558
1080	3.6064	3.6061 ✓	10558
1081	3.5573	3.5572 ✓	10558
1082	3.8003	3.8002 ✓	10558
1083	3.6623	3.6621 ✓	10558
1084	3.6783	3.6780 ✓	10558
1085	3.7309	3.7308 ✓	10558
1086	3.5559	3.5556 ✓	10558
1087	3.9564	3.9563 ✓	10558
1088	3.7071	3.7070 ✓	10558
1089	3.7287	3.7286 ✓	
1090	3.6422 ✓	3.6423	
1091	3.5723	3.5721 ✓	
1092	3.7229 ✓	3.7229 ✓	
1093	3.6968	3.6966 ✓	
1094	3.7337	3.7335 ✓	
1095	3.6445 ✓	3.6445 ✓	
1096	3.5773 ✓	3.5773 ✓	
1097	3.8085 ✓	3.8085 ✓	
1098	3.8317 ✓	3.8318	
1099	3.8191	3.8190 ✓	
1100	3.9345	3.9344 ✓	

Continued on Page _____

Read and Understood By _____

Signed _____

Date _____

Signed _____

Date _____

	<u>1ST WEIGHING</u>	<u>2ND WEIGHING</u>
DATE:	JUNE 4, 1999	JUNE 4, 1999
LAB. TEMP.:	71.8°F	72.4°F
BAR. PRESS.:	29.98" Hg	29.99" Hg
REL. HUM.:	44%	46%
INITIALS:	GM	GM
TIME:	08:30	14:36

<u>BAGGIE #</u>	<u>1ST WEIGHING (g)</u>	<u>2ND WEIGHING (g)</u>	<u>JOB #</u>
1125	3.6335 ✓	3.6335 ✓	10558
1126	3.6230 ✓	3.6230 ✓	10558
1127	3.5078 ✓	3.5080	10558
1128	3.5959 ✓	3.5960	10558
1129	3.8684 ✓	3.8684 ✓	10558
1130	3.5855 ✓	3.5855 ✓	10558
1131	3.9825	3.9822 ✓	10558
1132	3.5445 ✓	3.5445 ✓	10574
1133	3.7010	3.7008 ✓	10558
1134	3.6358 ✓	3.6358 ✓	10558
1135	3.8649 ✓	3.8649 ✓	10574
1136	3.6934 ✓	3.6934 ✓	10558
1137	3.8984 ✓	3.8986	10558
1138	3.5844	3.5843 ✓	10558
1139	3.7706	3.7705 ✓	10558
1140	3.4646 ✓	3.4646 ✓	10558
1141	3.7292 ✓	3.7294	10558
1142	3.7586 ✓	3.7586 ✓	10558
1143	3.7983 ✓	3.7983 ✓	10558
1144	3.4981 ✓	3.4981 ✓	10558
1145	3.6270 ✓	3.6271	10558
1146	3.5124 ✓	3.5124 ✓	10558
1147	3.5215	3.5213 ✓	10558
1148	3.4207 ✓	3.4207 ✓	10558

(W) ~~1149~~

Continued on Page _____

Read and Understood By _____

Signed _____

Date _____

Signed _____

Date _____

	<u>1ST WEIGHING</u>	<u>2ND WEIGHING</u>
DATE:	JUNE 4, 1999	JUNE 4, 1999
LAB. TEMP.:	72.1°F	71.9°F
BAR. PRESS.:	29.98" Hg	29.99" Hg
REL. HUM.:	44%	45%
INITIALS:	GM	GM
TIME:	08:00	14:15

<u>BAGGIE #</u>	<u>1ST WEIGHING (g)</u>	<u>2ND WEIGHING (g)</u>	<u>JOB #</u>
1149	3.6452 ✓	3.6455	10558
1150	3.4765 ✓	3.4765 ✓	10558
1151	3.6692 ✓	3.6696	10558
1152	3.4775 ✓	3.4777	10558
1153	3.7084 ✓	3.7087	10558
1154	3.5619 ✓	3.5622	10558
1155	3.4216 ✓	3.4218	
1156	3.6358 ✓	3.6361	10558
1157	3.5150 ✓	3.5152	10558
1158	3.6194 ✓	3.6196	10558
1159	3.7228 ✓	3.7229	10558
1160	3.5759 ✓	3.5761	10558
1161	3.5306 ✓	3.5308	
1162	3.7339 ✓	3.7342	
1163	3.4887 ✓	3.4888	
1164	3.6673 ✓	3.6675	
1165	3.5832 ✓	3.5833	
1166	3.6448 ✓	3.6448 ✓	
1167	3.5182 ✓	3.5182 ✓	10558
1168	3.6671 ✓	3.6673	
1169	3.7009 ✓	3.7011	
1170	3.7738	3.7737 ✓	10558
1171	3.7158 ✓	3.7158 ✓	10558
1172	3.6151 ✓	3.6153	10558

Continued on Page _____

Read and Understood By _____

Signed _____

Date _____

Signed _____

Date _____

	<u>1ST WEIGHING</u>	<u>2ND WEIGHING</u>
DATE:	JULY 14, 1999	JULY 14, 1999
LAB. TEMP.:	71.6°F	70.2°F
BAR. PRESS.	29.90" Hg	29.92" Hg
REL. HUM.:	50%	50%
INITIALS:	GM	GM
TIME:	08:05	14:05

<u>BAGGIE #</u>	<u>1ST WEIGHING (g)</u>	<u>2ND WEIGHING (g)</u>	<u>JOB #</u>
1189	3.3304 ✓	3.3307	
1190	3.2593 ✓	3.2594	
1191	3.2381 ✓	3.2382	
1192	3.4191 ✓	3.4194	
1193	3.3019 ✓	3.3021	
1194	3.3864 ✓	3.3867	
1195	3.4314 ✓	3.4316	
1196	3.5666 ✓	3.5669	
1197	3.3667 ✓	3.3669	
1198	3.3430 ✓	3.3433	
1199	Ⓢ 3.4412 ✓	3.4446	
1200	3.4787 ✓	3.4790	
1201	3.4233 ✓	3.4235 ^e	
1202	3.5061 ✓	3.5062	
1203	3.3766 ✓	3.3768	
1204	3.2720 ✓	3.2721	
1205	3.2544 ✓	3.2546	
1206	3.3215 ✓	3.3217	
1207	3.6272 ✓	3.6274	10558
1208	3.1820 ✓	3.1822	
1209	3.3194 ✓	3.3194 ✓	10558
1210	3.3349 ✓	3.3351	
1211	3.3813 ✓	3.3814	
1212	3.2828 ✓	3.2830	

Continued on Page _____

Read and Understood By _____

Signed _____

Date _____

Signed _____

Date _____

APPENDIX I

SULFURIC ACID RAW ANALYTICAL DATA

SULFURIC ACID (H₂SO₄) ANALYSIS

EPA REFERENCE METHOD 8

Plant Name OMS-LEE

Job No. 10558
10560 ©

City/State FORT MYERS, FL

Sampling Loc. UNIT No. 1 STACK

Analyst GARY MATA

Date Analyzed JUNE 28, 1999

Burette Size 25ml DIGITAL

Analytical Media 80% IPA

Run Number	Sample Vol., mL (V)	Aliquot Vol., mL (A)	Aliquot Factor (F)	Titrant Vol., mL (T ₁)	Titrant Vol., mL (T ₂)	Titrant Vol., mL (T _{avg})	Mass H ₂ SO ₄ , mg (MH ₂ SO ₄)
Reagent Blank		²⁵ <u>20</u> ©		0.00	0.00	0.00	T _{bavg}
1-S-M8-1	300	²⁵ <u>20</u> ©	12.0	2.70	2.78	2.74	16.286
1-S-M8-2	330	²⁵ <u>20</u> ©	13.2	2.22	2.23	2.225	14.547
1-S-M8-3	320	²⁵ <u>20</u> ©	12.8	2.70	2.76	2.73	17.308
AUDIT	100	20	5	4.60	4.62	4.61	7.457

USEPA AUDIT LGT No. 0594-2594

ACTUAL VALUE mg. = 7.35

% DEV. 1.46

Titrant Standardization
Against 0.02 N H₂SO₄:

H ₂ SO ₄ Volume	BaCl ₂ Volume	BaCl ₂ Normality
<u>10</u>	<u>19.84</u>	<u>0.0101</u>
<u>10</u>	<u>19.75</u>	<u>0.0101</u>
<u>10</u>	<u>19.78</u>	<u>0.0101</u>
Average		<u>0.0101</u>

$$T_{avg} = (T_1 + T_2) / 2$$

$$F = V / A$$

$$N = \text{Vol. H}_2\text{SO}_4 * \underline{0.0101} \text{ N} / \text{Vol. BaCl}_2$$

$$\text{MH}_2\text{SO}_4 = 49.04 * (T_{avg} - T_{bavg}) * N * F$$

For run No. _____:

$$\text{MH}_2\text{SO}_4 = 49.04 * (\quad - \quad) * \quad * \quad$$

$$\text{MH}_2\text{SO}_4 = \quad \text{mg}$$

Note: Report results to three (3) significant digits.

SULFURIC ACID (H₂SO₄) ANALYSIS

EPA REFERENCE METHOD 8

Plant Name OMS-LEE Job No. 10558
 City/State FORT MYERS, FL Sampling Loc. UNIT NO. 2 STACK
 Analyst GARY MATA Date Analyzed JUNE 28, 1999
 Burette Size 25ml DIGITAL Analytical Media 80% IPA

Run Number	Sample Vol., mL (V)	Aliquot Vol., mL (A)	Aliquot Factor (F)	Titrant Vol., mL (T ₁)	Titrant Vol., mL (T ₂)	Titrant Vol., mL (T _{avg})	Mass H ₂ SO ₄ , mg (MH ₂ SO ₄)
Reagent Blank		<u>25</u> <u>20</u>		0.00	0.00	0.00	T _{bavg}
2-S-M8-1	300	<u>25</u> <u>20</u>	12.0	1.42	1.33	1.375	8.173
2-S-M8-2	300	<u>25</u> <u>20</u>	12.0	2.19	2.17	2.18	12.957
2-S-M8-3	340	<u>25</u> <u>20</u>	13.6	2.24	2.28	2.26	15.224

Titrant Standardization
 Against 0.02 N H₂SO₄:

H ₂ SO ₄ Volume	BaCl ₂ Volume	BaCl ₂ Normality
<u>10</u>	<u>19.84</u>	<u>0.0101</u>
<u>10</u>	<u>19.75</u>	<u>0.0101</u>
<u>10</u>	<u>19.78</u>	<u>0.0101</u>
Average		<u>0.0101</u>

$$T_{avg} = (T_1 + T_2) / 2$$

$$F = V / A$$

$$N = \text{Vol. H}_2\text{SO}_4 * \frac{0.0101}{\text{Vol. BaCl}_2} N$$

$$MH_2SO_4 = 49.04 * (T_{avg} - T_{bavg}) * N * F$$

For run No. _____:

$$MH_2SO_4 = 49.04 * (\quad - \quad) * \quad * \quad$$

$$MH_2SO_4 = \quad \text{mg}$$

Note: Report results to three (3) significant digits.

APPENDIX J
FLUORIDES RAW ANALYTICAL DATA



WEST COAST
ANALYTICAL
SERVICE, INC.
Analytical Chemist

July 6, 1999

AIRKINETICS, INC.
5932 Bolsa Ave
Suite 105
Huntington Beach, CA 92649

Attn: Gary Mata

Job No: 42714

DL

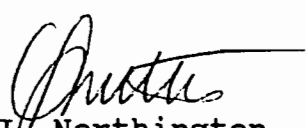
LABORATORY REPORT

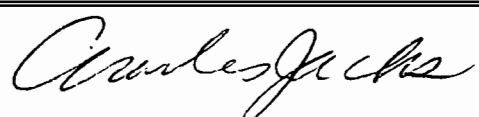
Samples Received: Seven (7) Liquids
Date Received: 06/28/99
Purchase Order No: 1104-GM

The samples were analyzed as follows:

<u>Analysis</u>	<u>Page</u>
Total Fluoride by Ion Selective Electrode (EPA 13B)	2

Enclosures: Raw data package


D.J. Northington, Ph.D.
Quality Assurance Officer


Charles Jacks, Ph.D.
Senior Staff Chemist

This report is to be reproduced in its entirety.

WEST COAST ANALYTICAL SERVICE, INC.

AIRKINETICS, INC.
Attn: Gary MataJob No: 42714
July 6, 1999

LABORATORY REPORT

Total Fluoride by Ion Selective Electrode (EPA 13B)

Samples were collected by EPA 13B then analyzed by Ion Selective Electrode.

<u>Sample ID</u>	<u>Parts Per Million (mg/L)</u>	<u>Sample Volume (Liters)</u>	<u>Total Milligrams</u>
1-S-M13B-1	ND	0.700	ND
1-S-M13B-2	ND	0.740	ND
1-S-M13B-3	ND	0.610	ND
2-S-M13B-1	ND	0.585	ND
2-S-M13B-2	ND	0.690	ND
2-S-M13B-3	ND	0.690	ND
M13B-RB	ND	0.690	ND

Detection Limit: 0.1

Date Analyzed: 06-30-99

Matrix Spike/Matrix Spike Duplicate Quality Control Summary

Sample: 2-S-M13B-2

Units: ppm (mg/L)

<u>Analyte</u>	<u>Sample Result</u>	<u>Amount Spiked</u>	<u>MS Result</u>	<u>% Rec MS</u>	<u>MSD Result</u>	<u>% Rec MSD</u>	<u>RPD</u>
FLUORIDE	ND	1.00	1.05	105	1.08	108	3

QC Limits

<u>Analyte</u>	<u>RPD Control</u>	<u>% Recovery Control</u>
FLUORIDE	25	50 - 150

Fluoride by ISE

mV	ppm	log	ERR
266.5	0		
187.9	0.1	-1	
169.7	0.2	-0.69897	
141.5	0.6	-0.22184	
134.1	0.8	-0.09691	
128	1	0	
110.6	2	0.301029	

Regression Output:

Constant	2.157626
Std Err of Y Est	0.003524
R Squared	0.999956 ✓
No. of Observations	6
Degrees of Freedom	4

X Coefficient(s) -0.01681
Std Err of Coef. 0.000055

Sample ID	mV	DF	log	ppm
NIST 03-0402-73-1	110.2	1	0.304216	2.015 = 101 %
M13B-RB	248.6	1	-2.02347	0.009
M13B-RB/MS	125.4	1	0.048573	1.118
2-5-M13B-1	211.2	1	-1.39446	0.040
2-5-M13B-1/MS	126	1	0.038482	1.093
2-5-M13B-1 (dup)	211.3	1	-1.39614	0.040
2-5-M13B-1/MSD	125.4	1	0.048573	1.118
1-5-M13B-3	204.6	1	-1.28345	0.052
1-5-M13B-3/MS	124.6	1	0.062028	1.154
2-5-M13B-3	203.8	1	-1.27000	0.054
2-5-M13B-3/MS	124.1	1	0.070437	1.176
1-5-M13B-2	210.7	1	-1.38605	0.041
1-5-M13B-2/MS	124.1	1	0.070437	1.176
1-5-M13B-1	205.9	1	-1.30532	0.050
1-5-M13B-1/MS	123.6	1	0.078847	1.199
2-5-M13B-2	202.7	1	-1.25150	0.056
2-5-M13B-2/MS	123.9	1	0.073801	1.185

WET CHEMISTRY
RECORD OF SAMPLE PREPARATION AND ANALYSIS

ANALYSIS

DATE : 30-Jun-99

JOB # : 42714

CLIENT : ~~Air kinetics~~ ^{Air kinetics} ^{KRH} 6/21/99

ANALYSIS : FLUORIDE

PREP BY KRH

SAMPLE MATRIX : WATER

EPA 340.2
METER

SAMPLE ID	Sample Mass	Sample ① Titrant Volume	Reading
Blank - 18 mega-ohm water			266.5
0.1 ppm standard ID#:			187.9
0.2 ppm standard ID#:			169.7
0.6 ppm standard ID#:			141.5
0.8 ppm standard ID#:			134.1
1.0 ppm standard ID#:			128.0
2.0 ppm Standard			110.6
10 ppm NIST Std			110.2
M13B-RB		690 mL	248.6
2-5-M13B-1	50 mL	585 mL	211.2
2-5-M13B-1 MS	50 mL		126.0
2-5-M13B-1 (Dup)			211.3
" " MS			125.4

$$MS = \frac{0.5 \text{ mL } 100 \text{ ppm } (03-0419-49-7)}{50.0 \text{ mL}} = 1.0 \text{ ppm}$$

SAMPLE PREP PROCEDURE :

SAMPLE QUANTITY : 50 ml

Each sample fortified w/ F⁻
to support absence of suppression
effects
S.S
7/2/99

The sample is placed in a 100 ml nalgene beaker with stirring bar.
Add 5 mls of TISAB III (Orion) buffer solution with stirring.
The reference electrode is inserted and the reading is recorded.
If the sample reading exceeds the highest standard dilute accordingly.
Spike sample with 2mls of the 10ppm fluoride standard.
Reminder: perform a slope check on electrode.
Slope value:

ID of TISAB III solution: ORION Lot C61

10 ppm Fluoride Std: 03-0630-73-1

10 ppm NIST Fluoride Std: 03-0402-46-2

Fluoride electrode: ORION Lot XP1

1.2

WET CHEMISTRY
RECORD OF SAMPLE PREPARATION AND ANALYSIS

ANALYSIS

DATE : 30-Jun-99

JOB # : 42714

CLIENT : Airkinetics

ANALYSIS : FLUORIDE

PREP BY KRA

SAMPLE MATRIX : WATER

EPA 340.2
METER

SAMPLE ID	Sample Mass	① Sample Titrant Volume 8.72191	Reading
Blank - 18 mega-ohm water			
0.1 ppm standard ID#:			
0.2 ppm standard ID#:			
0.6 ppm standard ID#:			
0.8 ppm standard ID#:			
1.0 ppm standard ID#:			
M13B-AB/M5	50ml		125.4
1-5-M13B-3	50ml	610 ml	204.6
" " M5			124.6
2-5-M13B-3		690 ml	203.8
" " M5			124.1
1-5-M13B-2		740 ml	210.7
" " M5	✓		124.1

SAMPLE PREP PROCEDURE :

SAMPLE QUANTITY : 50 ml

The sample is placed in a 100 ml nalgene beaker with stirring bar.
Add 5 mls of TISAB III (Orion) buffer solution with stirring.
The reference electrode is inserted and the reading is recorded.
If the sample reading exceeds the highest standard dilute accordingly.
Spike sample with 2mls of the 10ppm fluoride standard.
Reminder: perform a slope check on electrode.
Slope value:

ID of TISAB III solution: see p. 1

R3

WET CHEMISTRY

RECORD OF SAMPLE PREPARATION AND ANALYSIS

ANALYSIS

DATE : 30-Jun-99

JOB # : 42714

CLIENT : Airkinetics

ANALYSIS : FLUORIDE

PREP BY KRA

SAMPLE MATRIX : WATER

EPA 340.2
METER

SAMPLE ID	Sample Mass	Sample Titrant Volume	Reading

Blank - 18 mega-ohm water

0.1 ppm standard ID#:

0.2 ppm standard ID#:

0.6 ppm standard ID#:

0.8 ppm standard ID#:

1.0 ppm standard ID#:

1-5-M13A-1	50ml	700ml	205.9
2-5-M13A-2	MS	690ml	123.6
"	MS	↓	202.7
"	MS	↓	123.9

SAMPLE PREP PROCEDURE :

SAMPLE QUANTITY : 50 ml

The sample is placed in a 100 ml nalgene beaker with stirring bar.

Add 5 mls of TISAB III (Orion) buffer solution with stirring.

The reference electrode is inserted and the reading is recorded.

If the sample reading exceeds the highest standard dilute accordingly.

Spike sample with 2mls of the 10ppm fluoride standard.

Reminder: perform a slope check on electrode.

Slope value:

ID of TISAB III solution: sect 1

Report Abbreviations and Definitions Summary

B: Blank - Indicates that the compound was found in both the sample and the blank. The sample value is reported without blank subtraction. If the sample value is less than 10 times the blank value times the sample dilution factor, the compound may be present as a laboratory contaminant.

D: Diluted - Indicates that the sample was diluted and consequently the surrogates were too dilute to accurately measure.

DL: Detection Limit - Is the minimum value which we believe can be detected in the sample with a high degree of confidence, taking into account dilution factors and interferences. The reported detection limits are equal to or greater than Method Detection Limits (MDL) to allow for day to day and instrument to instrument variations in sensitivity.

J: Estimate - Indicates that the value is an estimate.

ND: Not Detected - Indicates that the compound was not found in the sample at or above the detection limit.

ppm: Parts per Million - In liquids is usually equivalent to mg/L or in solids to mg/kg. In the gas phase it is equivalent to $\mu\text{L/L}$.

ppb: Parts per Billion - In liquids is usually equivalent to $\mu\text{g/L}$ or in solids to $\mu\text{g/kg}$. In the gas phase it is equivalent to $\mu\text{L/m}^3$.

TR: Trace - Indicates that the compound was observed at a value less than our normal reported detection limit but we feel its presence may be important to you. These values are subject to large errors and low degrees of confidence.

NA: Not Applicable

NR: Not Reported

SOP: Standard Operating Procedure (Rev.: Revision)

USP: United States Pharmacopeia

NF: National Formulary

EP: European Pharmacopoeia

FCC: Food Chemicals Codex

SM: Standard Methods for the Examination of Water and Wastewater

ACS: American Chemical Society

EPA: Environmental Protection Agency

FDA: Food and Drug Administration

kg: kilogram

g: gram

mg: milligram

μg : microgram (μg)

L: liter

mL: milliliter

μL : microliter (μL)

m: meter

m^3 : Cubic Meter

Control Limits: QC limits are determined from historical data. The test value must be within the control limits for the test to be considered valid. Based on historical data, the confidence intervals are 95% for control limits.

% Error: The percent error is a measure of accuracy based on the analysis of a Laboratory Control Standard (LCS). An LCS is a reference sample of known value such as an NIST Standard Reference Material (SRM). The % Error is expressed in percent as the difference between the known value and the experimental value, divided by the known value. The LCS may simply be a solution based standard which confirms calibration (ICV or CCV - initial or continuing calibration verification), or it may be a reference sample taken through preparation and analysis.

MS(D): The Matrix Spike (Duplicate) is a quality control sample. It may be a real sample or blank sample spiked with representative target analytes.

LFB: The Laboratory Fortified Blank is a blank sample spiked with compounds of interest and used as a check of the methodology without any potential interference from the sample matrix.

Surrogate: A compound that responds similarly to compounds of interest. This compound is spiked into a sample to determine the probable recovery of the compounds of interest within the sample matrix.

% Rec: The Percent Recovery is a measure of the accuracy of the analysis. It is expressed in percent as the spiked result minus the unspiked result divided by the amount spiked.

RPD: The Relative Percent Difference is a measure of the precision of an analysis. It is the difference between duplicate results divided by the mean of the duplicates.

Note: QC limits for % recovery only apply when the spiked amount is greater than the original concentration. QC limits for RPD only apply when the concentration is greater than 20 times the detection limit.

Environmental Abbreviations

BNA: Base-Neutral/Acid Fraction - Also called the extractable or semivolatile fraction. Represents the pollutants which can be extracted from a sample, but which boil higher than 120°C and still pass through a gas chromatography column.

VOA: Volatile Organics Analysis - Represents a group of volatile organic compounds with a boiling range from below room temperature to approximately 150°C .

CCR: California Code of Regulations.

TTLC: Total Threshold Limit Concentration

STLC: Soluble Threshold Limit Concentration

TCLP: Toxicity Characteristic Leaching Procedure

LUFT: Leaking Underground Fuel Tank