CATALYST

AIR MANAGEMENT, INC.

UGI DEVELOPMENT COMPANY
HUNLOCK STATION
UNIT 6

RELATIVE ACCURACY TEST AUDIT REPORT

CATALYST AIR MANAGEMENT, INC.
REPORT NUMBER 124-024

May 24, 2004
Test Date: April 7, 2004

Prepared for
Mr. Jeff Steeber
UGI Development Company
Hunlock Station
Route 11, PO Box 224
Hunlock Creek, PA 18621

CATALYST

AIR MANAGEMENT, INC.

STATEMENT OF VALIDITY

UGI Development Company
Catalyst Report 124-024
May 24, 2004

To the extent practical, information and data provided in this test report has been verified as true and correct.

Michael J. Taylor
President - Catalyst Air Management

Jeff Steeber
UGI Development Company

TABLE OF CONTENTS

LETTER OF TRANSMITTAL		
TITLE PAGE		
STATEMENT OF VALIDITY		i
TABLE OF CONTENTS		ii
PROJECT FACT SHEET		iii
1.0	Introduction	1
2.0	Summary of Test Results	1
3.0	Results of Testing	2
4.0	Source Description	2
5.0	Description of CEMS	2
6.0	Sampling Program Procedures	2-4
7.0	Operating Conditions	4
8.0	Quality Assurance	5
APPENDICES		
1	CEMS Relative Accuracy	6-12
2	Reference Method Test Results	13
	High Load	13-32
	Mid Load	33-58
	Low Load	59-84
3	Plant Data	85
	High Load	85-94
	Mid Load	95-107
	Low Load	108-120
4	Reference Method Quality Assurance	121
	Calibration Gas Specification Sheets	121-126
	NOx Converter Test	127-128
	Flow and Moisture	129-141
5	Sample Calculations	142-150
6	Figures	151-154

PROJECT SUMMARY

NAME OF SOURCE OWNER:	UGI Development Company
SOURCE IDENTIFICATION:	Hunlock Station Unit 6
LOCATION OF SOURCE:	Route 11, PO Box 224 Hunlock Creek, PA 18621
TYPE OF OPERATION:	Coal Fired Utility Steam Generator
TYPES OF TESTS PERFORMED:	Volumetric Flow Rate-EPA Method 2F/2H Oxygen/Carbon Dioxide-EPA Method 3A Moisture Content-EPA Method 4 Sulfur Dioxide-EPA Method 6C Nitrogen Oxide-EPA Method 7E
SOURCE ANALYZERS:	Air Monitor Mastron Electronic Flow - B26354 Thermo Environmental SO_2 - 43C-69110-362 Thermo Environmental NOx - 42C-69062-362 Thermo Environmental CO_2 - CHL-68209-359 VIM Technologies DAHS - 14787WIN
TEST COMPANY:	Catalyst Air Management, Inc. 10 Mill Road Morgantown, PA 19543
SITE SUPERVISOR:	Jeff Ferguson - Principal
TEST PERSONNEL:	Rick Derrera - Lead Technician Ed Benedick - Technician Brian Williams - Technician
TEST DATE:	April 7, 2004
OWNERS REPRESENTATIVE:	Jim Dunbar Jeff Steeber
TEST OBSERVER:	

1.0 Introduction

Catalyst Air Management, Inc. (Catalyst) was contracted by UGI Development Company (UGI) to determine the relative accuracy of the Continuous Emissions Monitoring Systems (CEMS) at Hunlock Station Unit 6.

The sampling program was conducted April 7, 2004. The RATA was performed by Messers. Jeff Ferguson, Rick Derrera, Ed Benedick and Brian Williams of Catalyst, with the assistance of personnel assigned by UGI. Messrs. Jim Dunbar and Jeff Steeber of UGI coordinated plant operation during the testing.

2.0 Summary of Test Results

A summary of test results developed by this source sampling program are presented in Tables 1 through 7. The summary tables are presented as follows:

Table	Description	Page
1	Relative Accuracy Summary	1
2	SO_2 (ppm) Relative Accuracy	7
3	NOx (lb/mmBtu) Relative Accuarcy	8
4	CO_2 (%) Relative Accuracy	9
5	High Flow (WSCFH) Relative Accuracy	10
6	Mid Flow (WSCFH) Relative Accuracy	11
7	Low Flow (WSCFH) Relative Accuracy	12

TABLE 1
Relative Accuracy Summary
Hunlock Station Unit 6

MONITOR: EPA performance Specification - < 10% semi-annual; < 7.5% annual

LOAD	RELATIVE ACCURACY	BIAS
HIGH	2.52 %	1.000
MID	2.12 %	1.000
LOW	2.17 %	1.016

PARAMETERS	RELATIVE ACCURACY	BIAS
SO_2 ppm	2.26 %	1.000
NOx lb/mmBtu	2.99 %	1.000
CO_2 %	0.81 %	NA

3.0 Results of Testing

The results from the RATA are tabulated in Appendices 1 through 3. They indicate that the CEMS meet the criteria for annual testing. The flow monitor failed the bias test at low load and a bias adjustment factor of 1.016 was assigned.

4.0 Source Description

Hunlock Station Unit 6 is a pulverized coal fired boiler. No.2 fuel oil is used for ignition and flame stabilization. The boiler is rated at 400,000 lbs/hr of steam at 1350 psig and 955 °F. It is a Foster Wheeler drum type, arch fired, balanced draft unit with a nominal heat input of 562 mmBtu/hr. The steam is supplied to a turbine/generator rated at approximately 50 MW. The flue gas is passed through a primary and secondary precipitator for particulate control.

The Unit 6 stack is 40.5 feet high, with an inside diameter of 9.5 feet. The sampling location is approximately 14.5 feet upstream from the stack exit and 27 feet downstream of the inlet duct. A schematic of the sampling location is included.

5.0 Description of CEMS

The Unit 6 CEMS is a dilution extraction system that measures SO_2, NOx and CO_2 concentrations at the sampling location. The CEMS analyzers includes a Thermo Environmental Model 43H SO_2 analyzer, Thermo Environmental Model 42D NOx analyzer, Thermo Environmental Model 41CHL CO_2 analyzer and a Air Monitor Mastron Electron Flow monitor. The recording and reporting requirements are performed by a computerized data acquisition and handing system.

Unit 6 CEMS

(1) Thermo Environmental SO_2 - 43C - Serial No. - 43C-69110-362
(1) Thermo Environmental NOx - 42D - Serial No. - 42D-69062-362
(1) Thermo Environmental CO_2 - 41CHL - Serial No. - 41CHL-68209-359
(1) Air Monitor Mastron Electronic Flow- Serial No. B26354
VIM Technologies Data Acquisition and Handling System – Serial No.14787WIN

The data acquisition and handling system utilizes a Fc factor (scf/mmBtu) of 1867 to calculate NOx emissions in lbs/mmBtu. The analyzers measure on a wet basis. The data acquisition and handling system reports the volumetric flow data in standard cubic feet per hour (SCFH).

6.0 Sampling Program Procedures

The following test methods were utilized during the test program:

EPA Method 1 Sample and Velocity Traverse for Stationary Sources

EPA Method 2F	Determination of Stack Gas Velocity and Volumetric Flow Rate with Three-dimensional Probes
EPA Method 2H	Determination of Stack Gas Velocity and Volumetric Flow Rate Taking into Account Velocity Decay Near the Stack Wall
EPA Method 3A	Gas Analysis for CO_2, O_2, Excess Air and Dry Molecular Weight (Instrumental Analyzer Method)
EPA Method 4	Determination of Moisture Content in Stack Gas
EPA Method 6C	Determination of SO_2 Emissions from Stationary Sources (Instrumental Analyzer Method)
EPA Method 7E	Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Method)

6.1 CO_2, SO_2 and NOx - EPA Methods 3A, 6C and 7E

Catalyst conducted nine (9) SO_2, NOx and CO_2 relative accuracy runs using EPA Methods 3A, 6C and 7E. These runs were twenty-one (21) minutes in duration. During each run a moisture determination was made so the reference method dry values could be compared to the CEMS wet values.

A sample was continuously extracted and introduced into a Thermo Environmental Model 10, Chemiluminescent NOx analyzer, Western Research 721 ATM SO_2 analyzer and Servomex 1400 O_2/CO_2 analyzer for determination of gas concentrations. The sample was extracted through a heated stainless steel probe, heated sample line and sample conditioner to dry the sample before it enters the analyzers. A sample flow control system was used to control the flow into the analyzers. The analyzers were calibrated prior to starting the testing with EPA Protocol 1, calibration gases. A system bias check was performed before each run by introducing the zero and upscale gas at the back end of the sample probe. The system bias check was repeated at the end of each test run to determine the analyzer zero and calibration drift.

The NOx analyzer span was 0-500 ppm. The calibration gases that were utilized were zero, 40-60% (224.6 ppm) and 80-100% (446.3 ppm) of span. The SO_2 analyzer span was 0-2000 ppm. The calibration gases that were utilized were zero, 40-60% (888.0 ppm) and 80-100% (1785.0 ppm) of span. The O_2/CO_2 analyzer spans were 0-25% and 0-20%, respectively. The O_2 calibration gases utilized were 12.44% and 22.40%. The CO_2 calibration gases were 10.05% and 17.90%.

Reference Method Analyzers:

Manufacturer	Model	Pollutant	Span
TECO	10A	NOx	0-500 ppm
Servomex	1400B	CO_2/O_2	0-20%/0-25%
Western Research	721 ATM	SO_2	0-2000 ppm

6.2 Volumetric Flow Rate - EPA Method 2F/H

The velocity and volumetric flow rate was determined in accordance with procedures outlined in EPA Method 2F. The wall effect default value of 0.995 was utilized according to EPA Method 2H. A DAT Prism 3-D probe was connected to a series of calibrated magnehelics and manometers to determine the yaw and pitch angles, static pressure and pitch coefficient of the flue gas at each traverse point. The temperature of the flue gas was also determined at each traverse point.

Nine (9) test runs were performed at the high load condition. Twelve (12) runs were performed at the low and mid load conditions.

6.3 Moisture - EPA Method 4

The moisture content was determined in accordance with procedures outlined in EPA Method 4. The flue gas sample is extracted from the gas stream and the moisture content is determined by measuring the increase in volume of the impingers. The sampling train consists of the following equipment connected in series:

Stainless steel heated sample probe
A modified Greenburg-Smith impinger containing 100 ml of H_2O
A Greenburg-Smith impinger containing 100 ml of H_2O
A modified Greenburg-Smith impinger, empty
A modified Greenburg-Smith impinger containing approximately 250g of silica gel

The sample volume is measured by passing it through a calibrated dry gas meter. After the run, the impinger contents are measured for increase in volume. The silica gel is returned to the original tared container and weighed to determine moisture gain.

All the procedures used for the RATA program were performed in accordance with the Code of Federal Regulations, Title 40, Part 60, Appendix A, and Appendix B, Performance Specifications 2, 3 and 6, and Part 75.

7.0 Operating Conditions

Operating conditions were monitored throughout the duration of the sampling program by UGI personnel. The testing was performed August 17 and 18, 2003 as follows:

UNIT	LOAD	MW	DATE	# of RUNS
6	High	46	4/7/04	9
6	Mid	36	4/7/04	12
6	Low	26	4/7/04	12

8.0 Quality Assurance Procedures

The quality assurance procedures followed during the testing activities followed guidelines set forth by the previously mentioned methods and the EPA Quality Assurance Handbook for Source Sampling. The specific procedures for this test program are listed below.

8.1 Velocity/Volumetric Flow Rate

The DAT Prism 3-D probe was visually inspected and calibrated to meet the design specifications of EPA Method 2F.

All legs of the probe were leaked checked before and after each sample run.

The stack thermocouples were calibrated prior to the testing and a post test check was performed after the testing project.

The magnehelics were leveled and zeroed before each sample run.

8.2 Moisture

The dry gas meter is fully calibrated annually using an EPA intermediate standard.

Post -test dry gas meter checks were completed to verify the accuracy of the meter Yi.

Pre-test and post-test leak checks were completed and were less than 0.02 cfm at the highest sampling vacuum.

8.3 Instrumental Methods

Analyzer calibrations, system bias check and drift checks were completed before and after each sample run utilizing EPA Protocol 1 calibration gases.

The NOx analyzer NO_2 to NO converter efficiency is determined in accordance with Section 5.6 of Method 20.

The analyzer interference responses were determined in accordance with Section 5.4 of Method 20 and Section 7.2 through 7.6 of Method 6C.

APPENDIX 1
CEMS RELATIVE ACCURACY

TABLE 2

SO_2 (ppm) Relative Accuracy

CATALYST AIR MANAGEMENT Inc.
RELATIVE ACCURACY OF SO2 MONITOR
SUMMARY OF DATA

Monitor: SO_2

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 6C
Monitor Serial # : 43C-40611-362

DATE: 4/7/04
OPERATING LEVEL: High
GROSS UNIT LOAD: 46 MW
START: 7:28
END: 12:38

RUN	RUN USED Y/N	DATE START	DATE END	TIME START	TIME END	REFERENCE METHOD	UGI CEM	DIFFERENCE (REF-CEM)	DIFFERENCE SQUARED	% DIFF	DURATION OF RUN (Min)
1	1	4/7/04	4/7/04	7:28	7:49	1,073.6	1,090.0	-16.400	268.960	-1.53	21
2	1	4/7/04	4/7/04	8:05	8:26	1,064.5	1,095.0	-30.500	930.250	-2.87	21
3	1	4/7/04	4/7/04	8:41	9:02	1,073.4	1,107.0	-33.600	1,128.960	-3.13	21
4	1	4/7/04	4/7/04	9:17	9:38	1,080.2	1,110.0	-29.800	888.040	-2.76	21
5	1	4/7/04	4/7/04	9:52	10:13	1,091.5	1,106.0	-14.500	210.250	-1.33	21
6	1	4/7/04	4/7/04	10:28	10:49	1,110.4	1,085.0	25.400	645.160	2.29	21
7	1	4/7/04	4/7/04	11:05	11:26	1,115.3	1,105.0	10.300	106.090	0.92	21
8	1	4/7/04	4/7/04	11:43	12:04	1,144.4	1,134.0	10.400	108.160	0.91	21
9	1	4/7/04	4/7/04	12:17	12:38	1,153.8	1,152.0	1.800	3.240	0.16	21
10	0										
11	0										
12	0										

SUMMARY STATISTICS

Runs Used	9	T-Value	2.306
Mean RM	1,100.789	CC	16.378
Mean CEM	1,109.333	BAF	1.000
Mean Diff.	-8.544	SDEV	21.307

RELATIVE ACCURACY = 2.26%

TABLE 3

NOx (lb/mmBtu) Relative Accuracy

CATALYST AIR MANAGEMENT Inc.
RELATIVE ACCURACY OF NOx MONITOR
SUMMARY OF DATA

Monitor: NOx

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 7E
Monitor Serial # : 42C-69062-362

DATE: 4/7/04
OPERATING LEVEL: High
GROSS UNIT LOAD: 46 MW
START: 7:28
END: 12:38

RUN	RUN USED Y/N	DATE START	DATE END	TIME START	TIME END	REFERENCE METHOD	UGI CEM	DIFFERENCE (REF-CEM)	DIFFERENCE SQUARED	% DIFF	DURATION OF RUN (Min)
1	1	4/7/04	4/7/04	7:28	7:49	0.333	0.340	-0.007	0.000	-2.10	21
2	1	4/7/04	4/7/04	8:05	8:26	0.333	0.340	-0.007	0.000	-2.10	21
3	1	4/7/04	4/7/04	8:41	9:02	0.320	0.330	-0.010	0.000	-3.13	21
4	1	4/7/04	4/7/04	9:17	9:38	0.321	0.330	-0.009	0.000	-2.80	21
5	1	4/7/04	4/7/04	9:52	10:13	0.319	0.330	-0.011	0.000	-3.45	21
6	1	4/7/04	4/7/04	10:28	10:49	0.316	0.320	-0.004	0.000	-1.27	21
7	1	4/7/04	4/7/04	11:05	11:26	0.318	0.320	-0.002	0.000	-0.63	21
8	1	4/7/04	4/7/04	11:43	12:04	0.300	0.300	0.000	0.000	0.00	21
9	1	4/7/04	4/7/04	12:17	12:38	0.301	0.310	-0.009	0.000	-2.99	21
10	0										
11	0										
12	0										

SUMMARY STATISTICS

Runs Used	9	T-Value	2.306
Mean RM	0.318	CC	0.003
Mean CEM	0.324	BAF	1.000
Mean Diff.	-0.007	SDEV	0.004

RELATIVE ACCURACY = 2.99%

TABLE 4

CO_2 (%) Relative Accuracy

CATALYST AIR MANAGEMENT Inc.
RELATIVE ACCURACY OF CO_2 MONITOR
SUMMARY OF DATA

Monitor: CO_2

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A
Monitor Serial # : 41CHL-68209-359

DATE: 4/7/04
OPERATING LEVEL: High
GROSS UNIT LOAD: 46 MW
START: 7:28
END: 12:38

RUN	RUN USED Y/N	DATE START	DATE END	TIME START	TIME END	REFERENCE METHOD	UGI CEM	DIFFERENCE (REF-CEM)	DIFFERENCE SQUARED	% DIFF	DURATION OF RUN (Min)
1	1	4/7/04	4/7/04	7:28	7:49	12.2	12.09	0.110	0.012	0.90	21
2	1	4/7/04	4/7/04	8:05	8:26	12.2	12.16	0.040	0.002	0.33	21
3	1	4/7/04	4/7/04	8:41	9:02	12.2	12.25	-0.050	0.003	-0.41	21
4	1	4/7/04	4/7/04	9:17	9:38	12.2	12.27	-0.070	0.005	-0.57	21
5	1	4/7/04	4/7/04	9:52	10:13	12.2	12.20	0.000	0.000	0.00	21
6	1	4/7/04	4/7/04	10:28	10:49	12.2	12.19	0.010	0.000	0.08	21
7	1	4/7/04	4/7/04	11:05	11:26	12.2	12.22	-0.020	0.000	-0.16	21
8	1	4/7/04	4/7/04	11:43	12:04	12.3	12.16	0.140	0.020	1.14	21
9	1	4/7/04	4/7/04	12:17	12:38	12.3	12.14	0.160	0.026	1.30	21
10	0										
11	0										
12	0										

SUMMARY STATISTICS

Runs Used	9	T-Value	2.306		
Mean RM	12.222	CC	0.064		
Mean CEM	12.187	BAF	NA		
Mean Diff.	0.036	SDEV	0.083	RELATIVE ACCURACY =	0.81%

TABLE 5

High Flow (WSCFH) Relative Accuracy

CATALYST AIR MANAGEMENT Inc.
RELATIVE ACCURACY OF FLOW MONITOR
SUMMARY OF DATA

Monitor: FLOW

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 2,3,4
Monitor Serial # : B26354

DATE: 4/7/04
OPERATING LEVEL: High
GROSS UNIT LOAD: 46 MW
START: 7:28
END: 12:38

RUN	RUN USED Y/N	DATE START	DATE END	TIME START	TIME END	REFERENCE METHOD	UGI CEM	DIFFERENCE (REF-CEM)	DIFFERENCE SQUARED	% DIFF	DURATION OF RUN (Min)
1	1	4/7/04	4/7/04	7:28	7:49	8,155,000	8,404,000	-2.49E+05	6.20E+10	-3.05	21
2	1	4/7/04	4/7/04	8:05	8:26	8,185,000	8,387,000	-2.02E+05	4.08E+10	-2.47	21
3	1	4/7/04	4/7/04	8:41	9:02	8,159,000	8,335,000	-1.76E+05	3.10E+10	-2.16	21
4	1	4/7/04	4/7/04	9:17	9:38	8,199,000	8,356,000	-1.57E+05	2.46E+10	-1.91	21
5	1	4/7/04	4/7/04	9:52	10:13	8,132,000	8,344,000	-2.12E+05	4.49E+10	-2.61	21
6	1	4/7/04	4/7/04	10:28	10:49	8,201,000	8,371,000	-1.70E+05	2.89E+10	-2.07	21
7	1	4/7/04	4/7/04	11:05	11:26	8,185,000	8,341,000	-1.56E+05	2.43E+10	-1.91	21
8	1	4/7/04	4/7/04	11:43	12:04	8,230,000	8,357,000	-1.27E+05	1.61E+10	-1.54	21
9	1	4/7/04	4/7/04	12:17	12:38	8,199,000	8,339,000	-1.40E+05	1.96E+10	-1.71	21
10	0										
11	0										
12	0										

SUMMARY STATISTICS

Runs Used	9	T-Value	2.306		
Mean RM	8,182,778	CC	29.511		
Mean CEM	8,359,333	BAF	1.000		
Mean Diff.	-176,556	SDEV	38.393	RELATIVE ACCURACY =	2.52%

TABLE 6

Mid Flow (WSCFH) Relative Accuracy

CATALYST AIR MANAGEMENT Inc.
RELATIVE ACCURACY OF FLOW MONITOR
SUMMARY OF DATA

Monitor: FLOW

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 2,3,4
Monitor Serial # : B26354

DATE: 4/7/04
OPERATING LEVEL: Mid
GROSS UNIT LOAD: 36 MW
START: 13:25
END: 15:52

RUN	RUN USED Y/N	DATE START	DATE END	TIME START	TIME END	REFERENCE METHOD	UGI CEM	DIFFERENCE (REF-CEM)	DIFFERENCE SQUARED	% DIFF	DURATION OF RUN (Min)
1	1	4/7/04	4/7/04	13:25	13:35	7,177,000	7,056,000	1.21E+05	1.46E+10	1.69	10
2	1	4/7/04	4/7/04	13:36	13:46	7,096,000	7,057,000	3.90E+04	1.52E+09	0.55	10
3	1	4/7/04	4/7/04	13:47	13:57	7,102,000	7,049,000	5.30E+04	2.81E+09	0.75	10
4	0	4/7/04	4/7/04	14:04	14:14	7,222,000	6,590,000	6.32E+05	3.99E+11	8.75	10
5	1	4/7/04	4/7/04	14:15	14:25	7,078,000	7,001,000	7.70E+04	5.93E+09	1.09	10
6	1	4/7/04	4/7/04	14:26	14:36	6,987,000	7,024,000	-3.70E+04	1.37E+09	-0.53	10
7	1	4/7/04	4/7/04	14:42	14:52	6,955,000	7,185,000	-2.30E+05	5.29E+10	-3.31	10
8	0	4/7/04	4/7/04	14:53	15:03	6,923,000	7,292,000	-3.69E+05	1.36E+11	-5.33	10
9	0	4/7/04	4/7/04	15:04	15:14	6,890,000	7,237,000	-3.47E+05	1.20E+11	-5.04	10
10	1	4/7/04	4/7/04	15:20	15:30	7,113,000	7,295,000	-1.82E+05	3.31E+10	-2.56	10
11	1	4/7/04	4/7/04	15:31	15:41	7,143,000	7,310,000	-1.67E+05	2.79E+10	-2.34	10
12	1	4/7/04	4/7/04	15:42	15:52	7,107,000	7,238,000	-1.31E+05	1.72E+10	-1.84	10

SUMMARY STATISTICS

Runs Used	9	T-Value	2.306		
Mean RM	7,084,222	CC	99,533		
Mean CEM	7,135,000	BAF	1.000		
Mean Diff.	-50,778	SDEV	129,488	RELATIVE ACCURACY =	2.12%

TABLE 7

Low Flow (WSCFH) Relative Accuracy

CATALYST AIR MANAGEMENT Inc.
RELATIVE ACCURACY OF FLOW MONITOR
SUMMARY OF DATA

Monitor: FLOW

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 2,3,4
Monitor Serial # : B26354

DATE: 4/7/04
OPERATING LEVEL: Low
GROSS UNIT LOAD: 26 MW
START: 16:14
END: 18:40

RUN	RUN USED Y/N	DATE START	DATE END	TIME START	TIME END	REFERENCE METHOD	UGI CEM	DIFFERENCE (REF-CEM)	DIFFERENCE SQUARED	% DIFF	DURATION OF RUN (Min)
1	1	4/7/04	4/7/04	16:14	16:24	5,987,000	5,902,000	8.50E+04	7.23E+09	1.42	10
2	1	4/7/04	4/7/04	16:25	16:35	5,963,000	5,903,000	6.00E+04	3.60E+09	1.01	10
3	1	4/7/04	4/7/04	16:36	16:46	5,939,000	5,849,000	9.00E+04	8.10E+09	1.52	10
4	1	4/7/04	4/7/04	16:53	17:03	5,862,000	5,704,000	1.58E+05	2.50E+10	2.70	10
5	0	4/7/04	4/7/04	17:04	17:14	5,789,000	5,612,000	1.77E+05	3.13E+10	3.06	10
6	1	4/7/04	4/7/04	17:15	17:25	5,796,000	5,662,000	1.34E+05	1.80E+10	2.31	10
7	1	4/7/04	4/7/04	17:31	17:41	5,784,000	5,762,000	2.20E+04	4.84E+08	0.38	10
8	1	4/7/04	4/7/04	17:42	17:52	5,776,000	5,724,000	5.20E+04	2.70E+09	0.90	10
9	1	4/7/04	4/7/04	17:53	18:03	5,753,000	5,638,000	1.15E+05	1.32E+10	2.00	10
10	0	4/7/04	4/7/04	18:08	18:18	5,765,000	5,608,000	1.57E+05	2.46E+10	2.72	10
11	0	4/7/04	4/7/04	18:19	18:29	5,834,000	5,577,000	2.57E+05	6.60E+10	4.41	10
12	1	4/7/04	4/7/04	18:30	18:40	5,793,000	5,668,000	1.25E+05	1.56E+10	2.16	10

SUMMARY STATISTICS

Runs Used	9	T-Value	2.306
Mean RM	5,850,333	CC	33,611
Mean CEM	5,756,889	BAF	1.016
Mean Diff.	93,444	SDEV	43,727

RELATIVE ACCURACY = 2.17%

APPENDIX 2
REFERENCE METHOD TEST RESULTS

High Load

CATALYST AIR MANAGEMENT Inc.
CALIBRATION DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: RATA
LOCATION: Stack

RUN #: 1-9
LOAD LEVEL: High
DATE: 4/7/04

GAS UNITS	ANALYZER SCALE	CYLINDER VALUE	ANALYZER VALUE	DIFF PPM	% SPAN	Pass Yes\No
O2. %		0.00	0.04	0.04	0.16	**YES**
O2. %	**25**	12.44	12.46	0.02	0.08	**YES**
O2. %		22.40	22.44	0.04	0.16	**YES**
CO2. %		0.00	0.00	0.00	0.00	**YES**
CO2. %	**20**	10.05	10.03	0.02	0.10	**YES**
CO2. %		17.90	17.88	0.02	0.10	**YES**
NOx ppm:		0.00	0.38	0.38	0.08	**YES**
NOx ppm:	**500**	224.60	224.69	0.09	0.02	**YES**
NOx ppm:		446.30	446.50	0.20	0.04	**YES**
SO2 ppm:		0.00	0.94	0.94	0.05	**YES**
SO2 ppm:	**2000**	888.00	888.24	0.24	0.01	**YES**
SO2 ppm:		1785.00	1785.77	0.77	0.04	**YES**

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
LOAD: High

RUN: 1
DATE: 4 7 04
TIME START: 7:28
END: 7:49

STACK DIAMETER = 114 in
STACK AREA = 70.9 sq. ft.
Pb = 29.83 P_{bar}
Ps = -0.40 in. Hg
WAF = 0.995

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FT S	WAF VEL Vs FT S
A-1	4	0.36	-0.03	-0.08	-6	7.21	1.035	0.37	-0.77	309	48.33	48.1
A-2	4	0.36	-0.03	-0.08	-6	7.21	1.035	0.37	-0.77	310	48.36	48.1
A-3	-12	0.33	-0.02	-0.06	-4	12.64	1.029	0.34	-0.74	320	45.70	45.5
A-4	4	0.37	-0.02	-0.05	-3	5.00	1.028	0.38	-0.78	322	49.44	49.2
A-5	-2	0.36	-0.02	-0.06	-4	4.47	1.029	0.37	-0.77	321	48.80	48.6
A-6	1	0.32	-0.04	-0.13	-8	8.06	1.044	0.33	-0.73	323	46.08	45.9
A-7	3	0.30	-0.02	-0.07	-5	5.83	1.031	0.31	-0.71	324	44.58	44.4
A-8	2	0.21	-0.01	-0.05	-3	3.61	1.028	0.22	-0.62	320	37.27	37.1
B-1	9	0.40	-0.02	-0.05	-3	9.48	1.028	0.41	-0.81	323	50.93	50.7
B-2	8	0.40	-0.02	-0.05	-3	8.54	1.028	0.41	-0.81	324	51.10	50.8
B-3	6	0.45	-0.03	-0.07	-5	7.80	1.031	0.46	-0.86	326	54.44	54.2
B-4	-1	0.36	-0.05	-0.14	-9	9.05	1.048	0.38	-0.78	327	48.97	48.7
B-5	1	0.37	-0.01	-0.03	-2	2.24	1.026	0.38	-0.78	328	49.73	49.5
B-6	-2	0.38	-0.02	-0.05	-3	3.61	1.028	0.39	-0.79	330	50.45	50.2
B-7	-5	0.36	-0.02	-0.06	-4	6.40	1.029	0.37	-0.77	331	48.95	48.7
B-8	-4	0.27	-0.02	-0.07	-5	6.40	1.031	0.28	-0.68	329	42.38	42.2
						Ri			Ps	TEMP	Vs	Vs
						6.72			-0.76	322.9	47.84	47.60
						avg			avg	avg	avg	avg

MOISTURE = 5.47 %
MD = 0.95
MWD = 30.32
MW = 29.64
Psa = 29.77

02 % = 6.3
CO2 % = 12.9
N2 % = 80.8

VOLUMETRIC FLOW RATE
Qs = 7,708,501 DSCFH
Qs = 8,155,000 WSCFH
Qa = 12,151,242 ACFH

MOISTURE DATA

ACTUAL TIME	RUN TIME	GAS VOL FT^3	ORIFICE IN. H2O	METER TEMPERATURE INLET	OUTLET	METER Yi	BAR. PRESS. IN. Hg
7:28	0	712.025	1.63	63	63	0.98	29.83
	5	715.3		63	62		
	10	718.6		64	62		
	15	722.1		64	62		
	20	726.8		64	63		
	25	730.1		64	63		
7:58	30	733.426					
		21.401	1.63		63		

VOLUME OF MOISTURE (ml)

IMPINGERS	INITIAL	FINAL	
1	100	119	
2	100	102	
3	0	0	
Gel	250	255	Total
NET	450	476	26

TOTAL MOISTURE (ml) 26

VM(STD)= 21.183
VW(GAS)= 1.225

%MOISTURE = 5.47

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: Stack

RUN #: 1
OPERATING LEVEL: High
START DATE: 4/7/04
END DATE: 4/7/04
START: 7:28
END: 7:49

DATE	TIME	O2	CO2	NOx	SO2
4/7/04	7:28	6.31	12.43	168.2	1129.24
4/7/04	7:29	6.27	12.67	174.9	1120.23
4/7/04	7:30	6.7	12.36	198.57	1078.72
4/7/04	7:31	7.18	12.24	205.1	1049.32
4/7/04	7:32	6.76	12.63	199.93	1101.7
4/7/04	7:33	6.46	12.78	196.29	1135.58
4/7/04	7:34	6.42	12.78	191.9	1139.74
4/7/04	7:35	5.95	13.03	183.79	1171.69
4/7/04	7:36	6	12.94	186.71	1174.89
4/7/04	7:37	6.28	12.84	194.86	1140.72
4/7/04	7:38	6.22	12.87	194.47	1134.96
4/7/04	7:39	6.14	13.04	186.08	1148.06
4/7/04	7:40	6.23	12.95	198.3	1144.18
4/7/04	7:41	6.45	12.75	199.31	1127.3
4/7/04	7:42	6.37	12.86	196.68	1131.85
4/7/04	7:43	6.11	12.98	193.44	1155.59
4/7/04	7:44	6.32	12.85	199.61	1134.95
4/7/04	7:45	6.35	12.74	196.69	1122.76
4/7/04	7:46	6.32	12.77	198.65	1118.74
4/7/04	7:47	6.05	13.1	191.51	1144.47
4/7/04	7:48	6.16	12.98	196.71	1136.47
4/7/04	7:49	6.39	12.63	199.8	1123.96
		O2	CO2	NOx	SO2
		6.34	12.78	193.25	1130.23
		%	%	ppm	ppm

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.04	0.04	0.00	**YES**	0.10	0.24	0.24	**YES**
O2, %	12.46	12.41	0.20	**YES**	12.40	0.24	0.04	**YES**
CO2, %	0.00	0.01	0.05	**YES**	0.06	0.30	0.25	**YES**
CO2, %	10.03	9.98	0.25	**YES**	9.92	0.55	0.30	**YES**
NOx ppm:	0.38	0.19	0.04	**YES**	0.95	0.11	0.15	**YES**
NOx ppm:	446.50	446.16	0.07	**YES**	446.95	0.09	0.16	**YES**
SO2 ppm:	0.94	4.30	0.17	**YES**	7.31	0.32	0.15	**YES**
SO2 ppm:	888.24	886.68	0.08	**YES**	883.27	0.25	0.17	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	6.3
CO2, %	12.8
NOx ppm:	193.3
SO2 ppm:	1130.2

F- FACTOR (scf/mmBtu) = **1867**
FLOW (WSCFH) = **8,152,000**
% MOISTURE = **5.47**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	6.3	6.0
CO2, %	12.9	12.2
NOx ppm:	192.8	182.3
SO2 ppm:	1135.7	1073.6

EMISSION RATES

NOx, lbs/mmBtu =	**0.333**
SO2, lbs/mmBtu =	**2.730**

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
LOAD: High

RUN: 2
DATE: 4 7 04
TIME START: 8:05
END: 8:26

STACK DIAMETER = 114 in
STACK AREA = 70.9 sq. ft.
Pb = 29.83 P_{bar}
Ps = -0.40 in Hg
WAF = 0.995

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FT S	WAF VEL Vs FT S
B-1	10	0.37	-0.02	-0.05	-3	10.44	1.028	0.38	-0.78	310	48.57	48.3
B-2	8	0.37	-0.02	-0.05	-3	8.54	1.028	0.38	-0.78	317	49.06	48.8
B-3	4	0.35	-0.03	-0.09	-6	7.21	1.035	0.36	-0.76	320	48.13	47.9
B-4	-5	0.34	-0.04	-0.12	-8	9.43	1.044	0.35	-0.75	323	47.46	47.2
B-5	4	0.38	-0.02	-0.05	-3	5.00	1.028	0.39	-0.79	326	50.38	50.1
B-6	-1	0.36	-0.01	-0.03	-2	2.24	1.026	0.37	-0.77	325	49.10	48.9
B-7	-1	0.32	-0.01	-0.03	-2	2.24	1.026	0.33	-0.73	330	46.44	46.2
B-8	-4	0.28	-0.02	-0.07	-5	6.40	1.031	0.29	-0.69	330	43.31	43.1
A-1	1	0.41	-0.01	-0.02	-1	1.41	1.025	0.42	-0.82	330	52.57	52.3
A-2	2	0.42	-0.02	-0.05	-3	3.61	1.028	0.43	-0.83	331	53.23	53.0
A-3	-1	0.40	-0.02	-0.05	-3	3.16	1.028	0.41	-0.81	332	52.00	51.7
A-4	3	0.38	-0.01	-0.03	-2	3.61	1.026	0.39	-0.79	332	50.61	50.4
A-5	-1	0.37	-0.02	-0.05	-3	3.16	1.028	0.38	-0.78	331	49.98	49.7
A-6	-3	0.34	-0.03	-0.09	-6	6.71	1.035	0.35	-0.75	330	47.79	47.5
A-7	-1	0.30	-0.02	-0.07	-5	5.10	1.031	0.31	-0.71	329	44.90	44.7
A-8	5	0.22	-0.02	-0.09	-6	7.80	1.035	0.23	-0.63	327	38.27	38.1
						Ri			Ps	TEMP	Vs	Vs
						5.38			-0.76	326.4	48.24	48.00
						avg			avg	avg	avg	avg

MOISTURE = 7.05 %
MD = 0.93
MWD = 30.34
MW = 29.47
Psa = 29.77

02 % = 6.2
CO2 % = 13.1
N2 % = 80.7

VOLUMETRIC FLOW RATE
Qs = 7,607,840 DSCFH
Qs = 8,185,000 WSCFH
Qa = 12,251,284 ACFH

MOISTURE DATA

ACTUAL TIME	RUN TIME	GAS VOL FT^3	ORIFICE IN. H2O	METER TEMPERATURE INLET	OUTLET	METER Yi	BAR. PRESS. IN. Hg
8:05	0	733.590	1.63	62	62	0.98	29.83
	5	736.8		63	62		
	10	740.3		64	63		
	15	744.1		64	63		
	20	748.0		64	63		
	25	751.4		64	63		
8:35	30	754.928					
		21.338	1.63		63		

VOLUME OF MOISTURE (ml)

IMPINGERS	INITIAL	FINAL	
1	100	128	
2	100	102	
3	0	0	
Gel	251	255	Total
NET	451	485	34

TOTAL MOISTURE (ml) 34

VM(STD)= 21.120
VW(GAS)= 1.601

%MOISTURE = 7.05

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: Stack

RUN #: 2
OPERATING LEVEL: High
START DATE: 4/7/04
END DATE: 4/7/04
START: 8:05
END: 8:26

DATE	TIME	O2	CO2	NOx	SO2
4/7/04	8:05	6.16	12.9	190.69	1149.29
4/7/04	8:06	6.26	12.9	195.24	1134.82
4/7/04	8:07	5.69	13.27	185.08	1177.4
4/7/04	8:08	6.11	13	192.69	1150.74
4/7/04	8:09	6.36	12.84	197.04	1131.49
4/7/04	8:10	6.47	12.78	197.94	1117.62
4/7/04	8:11	6.42	12.78	198.33	1122.94
4/7/04	8:12	6.13	13	195.88	1149.77
4/7/04	8:13	6.34	12.83	198.24	1138.59
4/7/04	8:14	6.27	12.92	198.07	1140.7
4/7/04	8:15	6.36	12.88	196.8	1126.59
4/7/04	8:16	6.31	12.95	195.97	1125.82
4/7/04	8:17	5.9	13.2	192.43	1163.32
4/7/04	8:18	6.23	12.9	198.54	1140.81
4/7/04	8:19	6.28	12.88	201.05	1144.04
4/7/04	8:20	6.46	12.75	202.92	1124.41
4/7/04	8:21	6.5	12.75	196.54	1115.45
4/7/04	8:22	5.99	13.16	191.21	1151.2
4/7/04	8:23	6.07	13.19	195.44	1123.31
4/7/04	8:24	6.32	13.06	197.65	1126.48
4/7/04	8:25	6.41	13.07	198.04	1115.94
4/7/04	8:26	6.27	13.1	194.82	1129
		O2	CO2	NOx	SO2
		6.24	12.96	195.94	1136.35
		%	%	ppm	ppm

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.04	0.10	0.24	**YES**	0.11	0.28	0.04	**YES**
O2, %	12.46	12.40	0.24	**YES**	12.41	0.20	0.04	**YES**
CO2, %	0.00	0.06	0.30	**YES**	0.00	0.00	0.30	**YES**
CO2, %	10.03	9.92	0.55	**YES**	9.96	0.35	0.20	**YES**
NOx ppm:	0.38	0.95	0.11	**YES**	0.54	0.03	0.08	**YES**
NOx ppm:	446.50	446.95	0.09	**YES**	445.54	0.19	0.28	**YES**
SO2 ppm:	0.94	7.31	0.32	**YES**	6.49	0.28	0.04	**YES**
SO2 ppm:	888.24	883.27	0.25	**YES**	882.14	0.31	0.06	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	6.2
CO2, %	13.0
NOx ppm:	195.9
SO2 ppm:	1136.4

F- FACTOR (scf/mmBtu) = **1867**
FLOW (WSCFH) = **8,183,000**
% MOISTURE = **7.05**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	6.2	5.8
CO2, %	13.1	12.2
NOx ppm:	195.5	181.7
SO2 ppm:	1145.2	1064.5

EMISSION RATES

NOx, lbs/mmBtu = **0.333**
SO2, lbs/mmBtu = **2.710**

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
LOAD: High

RUN: 3
DATE: 4 7 04
TIME START: 8:41
END: 9:02

STACK DIAMETER = 114 in
STACK AREA = 70.9 sq. ft.
Pb = 29.83 P_{bar}
Ps = -0.40 in Hg
WAF = 0.995

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FT S	WAF VEL Vs FT S
A-1	2	0.40	-0.02	-0.05	-3	3.61	1.028	0.41	-0.81	330	51.88	51.6
A-2	3	0.39	-0.02	-0.05	-3	4.24	1.028	0.40	-0.80	331	51.22	51.0
A-3	-2	0.38	-0.03	-0.08	-6	6.32	1.035	0.39	-0.79	332	50.59	50.3
A-4	4	0.38	-0.01	-0.03	-2	4.47	1.026	0.39	-0.79	332	50.53	50.3
A-5	-1	0.36	-0.02	-0.06	-4	4.12	1.029	0.37	-0.77	330	49.21	49.0
A-6	-2	0.33	-0.03	-0.09	-6	6.32	1.035	0.34	-0.74	330	47.09	46.9
A-7	4	0.30	-0.03	-0.10	-7	8.06	1.039	0.31	-0.71	329	44.78	44.6
A-8	4	0.22	-0.02	-0.09	-6	7.21	1.035	0.23	-0.63	326	38.28	38.1
B-1	12	0.38	-0.01	-0.03	-2	12.16	1.026	0.39	-0.79	331	49.51	49.3
B-2	10	0.38	-0.02	-0.05	-3	10.44	1.028	0.39	-0.79	330	49.83	49.6
B-3	9	0.37	-0.03	-0.08	-6	10.80	1.035	0.38	-0.78	332	49.34	49.1
B-4	-4	0.37	-0.05	-0.14	-9	9.84	1.048	0.39	-0.79	333	49.83	49.6
B-5	1	0.39	-0.03	-0.08	-6	6.08	1.035	0.40	-0.80	332	51.28	51.0
B-6	4	0.38	-0.02	-0.05	-3	5.00	1.028	0.39	-0.79	334	50.60	50.3
B-7	-2	0.32	-0.02	-0.06	-4	4.47	1.029	0.33	-0.73	334	46.49	46.3
B-8	2	0.28	-0.03	-0.11	-7	7.28	1.039	0.29	-0.69	330	43.37	43.2
						Ri			Ps	TEMP	Vs	Vs
						6.90			-0.76	331.0	48.36	48.12
						avg			avg	avg	avg	avg

MOISTURE = 6.75 %
MD = 0.93
MWD = 30.34
MW = 29.51
Psa = 29.77

02 % = 6.2
CO2 % = 13.1
N2 % = 80.7

VOLUMETRIC FLOW RATE
Qs = 7,607,701 DSCFH
Qs = 8,159,000 WSCFH
Qa = 12,283,389 ACFH

MOISTURE DATA

ACTUAL TIME	RUN TIME	GAS VOL FT^3	ORIFICE IN. H2O	METER TEMPERATURE INLET	OUTLET	METER Yi	BAR. PRESS. IN. Hg
8:41	0	755.101	1.63	57	56	0.98	29.83
	5	758.6		57	56		
	10	761.4		57	55		
	15	764.9		57	55		
	20	769.5		57	56		
	25	772.7		58	56		
9:11	30	776.504					
		21.403	1.63		56		

VOLUME OF MOISTURE (ml)

IMPINGERS	INITIAL	FINAL	
1	100	124	
2	100	104	
3	0	0	
Gel	256	261	Total
NET	456	489	33

TOTAL MOISTURE (ml) 33

VM(STD)= 21.458
VW(GAS)= 1.554

%MOISTURE = 6.75

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: Stack

RUN #: 3
OPERATING LEVEL: High
START DATE: 4/7/04
END DATE: 4/7/04
START: 8:41
END: 9:02

DATE	TIME	O2	CO2	NOx	SO2
4/7/04	8:41	6.13	13	181.67	1139.91
4/7/04	8:42	6.05	12.95	184.94	1150.49
4/7/04	8:43	6.25	12.93	191.72	1145.95
4/7/04	8:44	6.24	12.94	190.75	1137.05
4/7/04	8:45	6.38	12.97	189.98	1129.66
4/7/04	8:46	6.2	13.14	183.62	1138.77
4/7/04	8:47	6.01	13.14	187.47	1153.01
4/7/04	8:48	6.1	13.06	191.12	1149.11
4/7/04	8:49	6.26	12.8	190.79	1136.45
4/7/04	8:50	6.19	12.89	189.24	1139.6
4/7/04	8:51	6.17	12.93	192.8	1134.6
4/7/04	8:52	5.87	13.05	184.41	1163.3
4/7/04	8:53	6.34	12.92	191.36	1130.43
4/7/04	8:54	6.44	12.86	193.88	1121.63
4/7/04	8:55	6.36	12.95	190.84	1128.38
4/7/04	8:56	6.22	13.05	190.5	1132.25
4/7/04	8:57	6.14	13.05	184.72	1145.98
4/7/04	8:58	6.01	13.08	185.36	1167.41
4/7/04	8:59	6.22	12.98	189.87	1155.93
4/7/04	9:00	6.26	12.95	186.81	1145.83
4/7/04	9:01	6.25	12.89	190.49	1124.42
4/7/04	9:02	6.02	13.09	185.99	1142.07
		O2	CO2	NOx	SO2
		6.19	12.98	188.56	1141.47
		%	%	ppm	ppm

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.04	0.11	0.28	**YES**	0.10	0.24	0.04	**YES**
O2, %	12.46	12.41	0.20	**YES**	12.29	0.68	0.48	**YES**
CO2, %	0.00	0.00	0.00	**YES**	0.03	0.15	0.15	**YES**
CO2, %	10.03	9.96	0.35	**YES**	9.98	0.25	0.10	**YES**
NOx ppm:	0.38	0.54	0.03	**YES**	2.61	0.45	0.41	**YES**
NOx ppm:	446.50	445.54	0.19	**YES**	445.26	0.25	0.06	**YES**
SO2 ppm:	0.94	6.49	0.28	**YES**	6.87	0.30	0.02	**YES**
SO2 ppm:	888.24	882.14	0.31	**YES**	881.94	0.31	0.01	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	6.2
CO2, %	13.0
NOx ppm:	188.6
SO2 ppm:	1141.5

F- FACTOR (scf/mmBtu) = **1867**
FLOW (WSCFH) = **8,157,000**
% MOISTURE = **6.75**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	6.2	5.8
CO2, %	13.1	12.2
NOx ppm:	188.0	175.3
SO2 ppm:	1151.2	1073.4

EMISSION RATES

NOx, lbs/mmBtu = **0.320**
SO2, lbs/mmBtu = **2.720**

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
LOAD: High

RUN: 4
DATE: 4 7 04
TIME START: 9:17
END: 9:38

STACK DIAMETER = 114 in
STACK AREA = 70.9 sq. ft.
Pb = 29.83 P_{bar}
Ps = -0.40 in Hg
WAF = 0.995

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP T	ACTUAL VEL Vs FT/S	WAF VEL Vs FT/S
B-1	9	0.35	-0.02	-0.06	-4	9.84	1.029	0.36	-0.76	312	47.42	47.2
B-2	8	0.36	-0.02	-0.06	-4	8.94	1.029	0.37	-0.77	314	48.28	48.0
B-3	4	0.35	-0.04	-0.11	-7	8.06	1.039	0.36	-0.76	318	48.07	47.8
B-4	-3	0.34	-0.04	-0.12	-8	8.54	1.044	0.35	-0.75	320	47.49	47.3
B-5	-1	0.38	-0.02	-0.05	-3	3.16	1.028	0.39	-0.79	323	50.40	50.2
B-6	-2	0.37	-0.01	-0.03	-2	2.83	1.026	0.38	-0.78	327	49.83	49.6
B-7	-3	0.35	-0.02	-0.06	-4	5.00	1.029	0.36	-0.76	328	48.44	48.2
B-8	-6	0.28	-0.02	-0.07	-5	7.80	1.031	0.29	-0.69	318	42.86	42.6
A-1	1	0.40	-0.02	-0.05	-3	3.16	1.028	0.41	-0.81	324	51.75	51.5
A-2	3	0.40	-0.02	-0.05	-3	4.24	1.028	0.41	-0.81	325	51.72	51.5
A-3	1	0.40	-0.03	-0.08	-6	6.08	1.035	0.41	-0.81	327	51.81	51.5
A-4	3	0.38	-0.02	-0.05	-3	4.24	1.028	0.39	-0.79	328	50.50	50.2
A-5	-2	0.35	-0.04	-0.11	-7	7.28	1.039	0.36	-0.76	326	48.41	48.2
A-6	-1	0.34	-0.03	-0.09	-6	6.08	1.035	0.35	-0.75	327	47.76	47.5
A-7	2	0.30	-0.02	-0.07	-5	5.38	1.031	0.31	-0.71	326	44.81	44.6
A-8	2	0.24	-0.03	-0.13	-8	8.24	1.044	0.25	-0.65	322	39.99	39.8
						Ri			Ps	TEMP	Vs	Vs
						6.18			-0.76	322.8	48.10	47.85
						avg			avg	avg	avg	avg

MOISTURE	7.10	%
MD	0.93	
MWD	30.34	
MW	29.46	
Psa	29.77	

O2 %	6.1	
CO2 %	13.1	
N2 %	80.8	

VOLUMETRIC FLOW RATE

Qs	7,616,268	DSCFH
Qs	8,199,000	WSCFH
Qa	12,215,125	ACFH

MOISTURE DATA

ACTUAL TIME	RUN TIME	GAS VOL FT^3	ORIFICE IN. H2O	METER TEMPERATURE INLET	OUTLET	METER Yi	BAR. PRESS. IN. Hg
9:17	0	776.719	1.63	52	52	0.98	29.83
	5	780.1		51	51		
	10	783.4		51	50		
	15	787.2		52	50		
	20	791.1		53	50		
	25	794.3		53	50		
9:47	30	798.019					
		21.3	1.63		51		

VOLUME OF MOISTURE (ml)

IMPINGERS	INITIAL	FINAL	
1	100	126	
2	100	102	
3	0	2	
Gel	255	260	Total
NET	455	490	35

TOTAL MOISTURE (ml) 35

VM(STD)= 21.571
VW(GAS)= 1.649

%MOISTURE = 7.10

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: Stack

RUN #: 4
OPERATING LEVEL: High
START DATE: 4/7/04
END DATE: 4/7/04
START: 9:17
END: 9:38

DATE	TIME	O2	CO2	NOx	SO2
4/7/04	9:17	5.98	13.12	188.47	1156.01
4/7/04	9:18	6.08	12.98	188.56	1154.78
4/7/04	9:19	6.26	12.9	190.84	1139.78
4/7/04	9:20	6.26	12.87	191.66	1137.88
4/7/04	9:21	5.96	13.18	183.64	1169.62
4/7/04	9:22	6.19	12.95	190.08	1152.92
4/7/04	9:23	6.3	12.81	190.95	1137.61
4/7/04	9:24	6.23	12.95	188.21	1138.53
4/7/04	9:25	6.14	13.03	187.49	1143.03
4/7/04	9:26	5.64	13.31	179.84	1189.44
4/7/04	9:27	5.88	13.11	188.49	1168.82
4/7/04	9:28	6.27	12.83	192.28	1144.65
4/7/04	9:29	6.33	12.8	191.03	1135.51
4/7/04	9:30	6.18	12.96	188.15	1146.44
4/7/04	9:31	5.91	13.11	186.72	1172.64
4/7/04	9:32	5.97	13.12	189.94	1162.19
4/7/04	9:33	6.2	12.92	190.74	1144.8
4/7/04	9:34	6.14	13.02	194.61	1143.21
4/7/04	9:35	5.95	13.09	187.89	1156.53
4/7/04	9:36	5.89	13.07	188.14	1176.85
4/7/04	9:37	6.09	13	191.14	1160.27
4/7/04	9:38	6.27	12.83	193.87	1148.92
		O2	CO2	NOx	SO2
		6.10	13.00	189.22	1153.66
		%	%	ppm	ppm

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.04	0.10	0.24	**YES**	0.11	0.28	0.04	**YES**
O2, %	12.46	12.29	0.68	**YES**	12.28	0.72	0.04	**YES**
CO2, %	0.00	0.03	0.15	**YES**	0.05	0.25	0.10	**YES**
CO2, %	10.03	9.98	0.25	**YES**	9.99	0.20	0.05	**YES**
NOx ppm:	0.38	2.61	0.45	**YES**	2.05	0.33	0.11	**YES**
NOx ppm:	446.50	445.26	0.25	**YES**	444.41	0.42	0.17	**YES**
SO2 ppm:	0.94	6.87	0.30	**YES**	6.56	0.28	0.02	**YES**
SO2 ppm:	888.24	881.94	0.31	**YES**	883.44	0.24	0.08	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	6.1
CO2, %	13.0
NOx ppm:	189.2
SO2 ppm:	1153.7

F- FACTOR (scf/mmBtu) = **1867**
FLOW (WSCFH) = **8,197,000**
% MOISTURE = **7.10**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	6.1	5.7
CO2, %	13.1	12.2
NOx ppm:	188.5	175.1
SO2 ppm:	1162.7	1080.2

EMISSION RATES

NOx, lbs/mmBtu =	**0.321**
SO2, lbs/mmBtu =	**2.750**

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT:	UGI	RUN:	5	STACK DIAMETER	114	in
PLANT:	Hunlock	DATE:	4 7 04	STACK AREA	70.9	sq. ft.
UNIT:	6	TIME START:	9:52	Pb	29.83	P_{bar}
LOAD:	High	END:	10:13	Ps =	-0.40	in Hg
				WAF =	0.995	

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	ANEM VEL Vs FT/S	WAF VEL Vs FT/S
A-1	-1	0.39	-0.03	-0.08	-6	6.08	1.035	0.40	-0.80	318	50.83	50.6
A-2	1	0.40	-0.03	-0.08	-6	6.08	1.035	0.41	-0.81	320	51.55	51.3
A-3	5	0.38	-0.01	-0.03	-2	5.38	1.026	0.39	-0.79	322	50.15	49.9
A-4	6	0.36	-0.02	-0.06	-4	7.21	1.029	0.37	-0.77	322	48.71	48.5
A-5	-4	0.38	-0.02	-0.05	-3	5.00	1.028	0.39	-0.79	323	50.26	50.0
A-6	-3	0.33	-0.03	-0.09	-6	6.71	1.035	0.34	-0.74	322	46.82	46.6
A-7	2	0.31	-0.02	-0.06	-4	4.47	1.029	0.32	-0.72	321	45.39	45.2
A-8	3	0.22	-0.03	-0.14	-9	9.48	1.048	0.23	-0.63	319	38.13	37.9
B-1	10	0.36	-0.02	-0.06	-4	10.76	1.029	0.37	-0.77	326	48.36	48.1
B-2	8	0.36	-0.03	-0.08	-6	9.99	1.035	0.37	-0.77	328	48.68	48.4
B-3	7	0.35	-0.03	-0.09	-6	9.21	1.035	0.36	-0.76	330	48.17	47.9
B-4	-3	0.35	-0.04	-0.11	-7	7.61	1.039	0.36	-0.76	331	48.49	48.3
B-5	2	0.36	-0.01	-0.03	-2	2.83	1.026	0.37	-0.77	332	49.28	49.0
B-6	1	0.38	-0.01	-0.03	-2	2.24	1.026	0.39	-0.79	333	50.68	50.4
B-7	1	0.34	-0.03	-0.09	-6	6.08	1.035	0.35	-0.75	334	47.95	47.7
B-8	3	0.27	-0.03	-0.11	-7	7.61	1.039	0.28	-0.68	330	42.57	42.4
						Ri			Ps	TEMP	Vs	Vs
	MOISTURE =	6.83	%			6.67			-0.76	325.7	47.88	47.64
	MD	0.93		02 %	6.1	avg			avg	avg	avg	avg
	MWD	30.34		CO2 %	13.1							
	MW	29.50		N2 %	80.8							
	Psa	29.77										

VOLUMETRIC FLOW RATE

Qs =	7,576,203	DSCFH
Qs =	8,132,000	WSCFH
Qa	12,159,519	ACFH

MOISTURE DATA

ACTUAL TIME	RUN TIME	GAS VOL FT^3	ORIFICE IN. H2O	METER TEMPERATURE INLET	OUTLET	METER Yi	BAR. PRESS. IN. Hg
9:52	0	798.163	1.63	52	50	0.98	29.83
	5	801..4		51	50		
	10	805.0		52	51		
	15	808.7		53	51		
	20	812.5		53	51		
	25	816.3		54	51		
10:22	30	819.763					
		21.6	1.63		52		

VOLUME OF MOISTURE (ml)

IMPINGERS	INITIAL	FINAL	
1	100	122	
2	100	106	
3	0	0	
Gel	250	256	Total
NET	450	484	34

TOTAL MOISTURE (ml) 34

VM(STD)= 21.860
VW(GAS)= 1.601

%MOISTURE = 6.83

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: Stack

RUN #: 5
OPERATING LEVEL: High
START DATE: 4/7/04
END DATE: 4/7/04
START: 9:52
END: 10:13

DATE	TIME	O2	CO2	NOx	SO2
4/7/04	9:52	6.19	12.84	192.41	1155.61
4/7/04	9:53	6.14	12.94	186.09	1160.23
4/7/04	9:54	5.99	13.03	187.32	1175.05
4/7/04	9:55	6.06	12.96	190.82	1160.47
4/7/04	9:56	6.16	12.92	190.57	1150.07
4/7/04	9:57	6.14	13	187.4	1151.66
4/7/04	9:58	5.86	13.1	185.89	1179.06
4/7/04	9:59	6.05	12.99	189.57	1176.78
4/7/04	10:00	6.07	12.97	190.81	1164.2
4/7/04	10:01	6.28	12.8	194.19	1144.94
4/7/04	10:02	6.09	12.99	186.4	1161.7
4/7/04	10:03	6.2	13.05	187.84	1156.66
4/7/04	10:04	6.14	13.07	189.58	1164.73
4/7/04	10:05	6.09	13	187.34	1163.05
4/7/04	10:06	6.15	12.95	184.95	1158.07
4/7/04	10:07	5.85	13.18	180.22	1199.79
4/7/04	10:08	5.62	13.34	176.48	1212.98
4/7/04	10:09	6.02	12.87	188.26	1160.4
4/7/04	10:10	6.43	12.73	188.33	1126.26
4/7/04	10:11	6.05	13.2	185.8	1166.47
4/7/04	10:12	6.09	13.1	190.24	1164.46
4/7/04	10:13	6.09	13.12	188.13	1168.17
		O2	CO2	NOx	SO2
		6.08	13.00	187.64	1164.41
		%	%	ppm	ppm

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.04	0.11	0.28	**YES**	0.04	0.00	0.28	**YES**
O2, %	12.46	12.28	0.72	**YES**	12.28	0.72	0.00	**YES**
CO2, %	0.00	0.05	0.25	**YES**	0.10	0.50	0.25	**YES**
CO2, %	10.03	9.99	0.20	**YES**	10.01	0.10	0.10	**YES**
NOx ppm:	0.38	2.05	0.33	**YES**	1.32	0.19	0.15	**YES**
NOx ppm:	446.50	444.41	0.42	**YES**	444.12	0.48	0.06	**YES**
SO2 ppm:	0.94	6.56	0.28	**YES**	7.04	0.31	0.02	**YES**
SO2 ppm:	888.24	883.44	0.24	**YES**	885.14	0.16	0.08	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	6.1
CO2, %	13.0
NOx ppm:	187.6
SO2 ppm:	1164.4

F- FACTOR (scf/mmBtu) = **1867**
FLOW (WSCFH) = **8,130,000**
% MOISTURE = **6.83**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	6.1	5.7
CO2, %	13.1	12.2
NOx ppm:	187.5	174.7
SO2 ppm:	1171.5	1091.5

EMISSION RATES

NOx, lbs/mmBtu = **0.319**
SO2, lbs/mmBtu = **2.770**

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
LOAD: High

RUN: 6
DATE: 4 7 04
TIME START: 10:28
END: 10:49

STACK DIAMETER = 114 in
STACK AREA = 70.9 sq. ft.
Pb = 29.83 P_{bar}
Ps = -0.40 in Hg
WAF = 0.995

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FTS	WAF VEL Vs FTS
B-1	6	0.35	-0.02	-0.06	-4	7.21	1.029	0.36	-0.76	314	47.77	47.5
B-2	4	0.36	-0.02	-0.06	-4	5.65	1.029	0.37	-0.77	316	48.66	48.4
B-3	3	0.36	-0.03	-0.08	-6	6.71	1.035	0.37	-0.77	318	48.76	48.5
B-4	-6	0.34	-0.01	-0.03	-2	6.32	1.026	0.35	-0.75	321	47.31	47.1
B-5	3	0.38	-0.02	-0.05	-3	4.24	1.028	0.39	-0.79	322	50.26	50.0
B-6	1	0.37	-0.01	-0.03	-2	2.24	1.026	0.38	-0.78	326	49.78	49.5
B-7	-2	0.34	-0.02	-0.06	-4	4.47	1.029	0.35	-0.75	327	47.71	47.5
B-8	2	0.28	-0.03	-0.11	-7	7.28	1.039	0.29	-0.69	324	43.20	43.0
A-1	-1	0.40	-0.02	-0.05	-3	3.16	1.028	0.41	-0.81	330	51.90	51.6
A-2	0	0.41	-0.03	-0.07	-5	5.00	1.031	0.42	-0.82	330	52.50	52.2
A-3	-2	0.42	-0.04	-0.10	-7	7.28	1.039	0.44	-0.84	331	53.15	52.9
A-4	5	0.39	-0.02	-0.05	-3	5.83	1.028	0.40	-0.80	332	51.12	50.9
A-5	-1	0.36	-0.03	-0.08	-6	6.08	1.035	0.37	-0.77	330	49.20	49.0
A-6	-2	0.34	-0.02	-0.06	-4	4.47	1.029	0.35	-0.75	329	47.77	47.5
A-7	2	0.30	-0.03	-0.10	-7	7.28	1.039	0.31	-0.71	331	44.92	44.7
A-8	1	0.22	-0.02	-0.09	-6	6.08	1.035	0.23	-0.63	327	38.39	38.2
						Ri			Ps	TEMP	Vs	Vs
						5.58			-0.76	325.5	48.27	48.03
						avg			avg	avg	avg	avg

MOISTURE 6.63 %
MD 0.93
MWD 30.34
MW 29.52
Psa 29.77

02 % 6.0
CO2 % 13.1
N2 % 80.9

VOLUMETRIC FLOW RATE
Qs = 7,656,335 DSCFH
Qs = 8,201,000 WSCFH
Qa = 12,260,196 ACFH

MOISTURE DATA

ACTUAL TIME	RUN TIME	GAS VOL FT^3	ORIFICE IN. H2O	METER TEMPERATURE INLET	OUTLET	METER Yi	BAR. PRESS. IN. Hg
10:28	0	819.917	1.63	52	52	0.98	29.83
	5	823.5		52	52		
	10	827.2		53	52		
	15	830.6		53	52		
	20	833.9		53	53		
	25	838.1		54	53		
10:58	30	841.572					
		21.655	1.63		53		

VOLUME OF MOISTURE (ml)

IMPINGERS	INITIAL	FINAL	
1	100	126	
2	100	102	
3	0	0	
Gel	254	259	Total
NET	454	487	33

TOTAL MOISTURE (ml) 33

VM(STD)= 21.873
VW(GAS)= 1.554

%MOISTURE = 6.63

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: Stack

RUN #: 6
OPERATING LEVEL: High
START DATE: 4/7/04
END DATE: 4/7/04
START: 10:28
END: 10:49

DATE	TIME	O2	CO2	NOx	SO2
4/7/04	10:28	6.08	12.97	185.99	1164.48
4/7/04	10:29	6.18	13	183.18	1160.58
4/7/04	10:30	5.84	13.2	178.17	1202.94
4/7/04	10:31	5.84	13.17	182.96	1200.11
4/7/04	10:32	6	13.03	188.52	1181.92
4/7/04	10:33	6.35	12.87	190.99	1147.57
4/7/04	10:34	6.11	13.12	181.38	1169.46
4/7/04	10:35	5.9	13.09	185.05	1183
4/7/04	10:36	5.97	13.09	187.12	1180.35
4/7/04	10:37	6.01	12.94	187.46	1177.65
4/7/04	10:38	5.93	13.02	182.91	1195.82
4/7/04	10:39	5.97	13	186.67	1194.62
4/7/04	10:40	5.86	13.14	185.91	1200.45
4/7/04	10:41	5.98	13.03	188.11	1172.38
4/7/04	10:42	5.91	13.07	184.44	1178.16
4/7/04	10:43	6.03	13	186.46	1172.09
4/7/04	10:44	6.1	12.97	188.86	1167.86
4/7/04	10:45	6.12	13.04	185.72	1179.48
4/7/04	10:46	6.01	13.04	188.01	1193.62
4/7/04	10:47	6.1	12.88	191.11	1178.88
4/7/04	10:48	6.12	12.94	187.17	1176.19
4/7/04	10:49	5.8	13.1	182.87	1202.72
		O2	CO2	NOx	SO2
		6.01	13.03	185.87	1180.92
		%	%	ppm	ppm

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.04	0.04	0.00	**YES**	0.12	0.32	0.32	**YES**
O2, %	12.46	12.28	0.72	**YES**	12.29	0.68	0.04	**YES**
CO2, %	0.00	0.10	0.50	**YES**	0.00	0.00	0.50	**YES**
CO2, %	10.03	10.01	0.10	**YES**	9.97	0.30	0.20	**YES**
NOx ppm:	0.38	1.32	0.19	**YES**	1.51	0.23	0.04	**YES**
NOx ppm:	446.50	444.12	0.48	**YES**	444.99	0.30	0.17	**YES**
SO2 ppm:	0.94	7.04	0.31	**YES**	7.91	0.35	0.04	**YES**
SO2 ppm:	888.24	885.14	0.16	**YES**	882.16	0.30	0.15	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	6.0
CO2, %	13.0
NOx ppm:	185.9
SO2 ppm:	1180.9

F- FACTOR (scf/mmBtu) = **1867**
FLOW (WSCFH) = **8,199,000**
% MOISTURE = **6.63**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	6.0	5.6
CO2, %	13.1	12.2
NOx ppm:	185.8	173.5
SO2 ppm:	1189.3	1110.4

EMISSION RATES

NOx, lbs/mmBtu =	**0.316**
SO2, lbs/mmBtu =	**2.810**

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT:	UGI	RUN:	7	STACK DIAMETER =	114	in
PLANT:	Hunlock	DATE:	4 7 04	STACK AREA =	70.9	sq. ft.
UNIT:	6	TIME START:	11:05	Pb =	29.83	P_{bar}
LOAD:	High	END:	11:26	Ps =	-0.40	in Hg
				WAF =	0.995	

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF 2.8 (P4-P5) (P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps) (P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FT S	WAF VEL Vs FT S
A-1	-2	0.40	-0.02	-0.05	-3	3.61	1.028	0.41	-0.81	316	51.46	51.2
A-2	1	0.42	-0.02	-0.05	-3	3.16	1.028	0.43	-0.83	318	52.82	52.6
A-3	1	0.40	-0.04	-0.10	-7	7.07	1.039	0.42	-0.82	319	51.54	51.3
A-4	5	0.38	-0.02	-0.05	-3	5.83	1.028	0.39	-0.79	320	50.12	49.9
A-5	-4	0.36	-0.03	-0.08	-6	7.21	1.035	0.37	-0.77	320	48.82	48.6
A-6	2	0.34	-0.01	-0.03	-2	2.83	1.026	0.35	-0.75	321	47.59	47.3
A-7	2	0.31	-0.02	-0.06	-4	4.47	1.029	0.32	-0.72	320	45.39	45.2
A-8	2	0.22	-0.02	-0.09	-6	6.32	1.035	0.23	-0.63	318	38.18	38.0
B-1	10	0.37	-0.01	-0.03	-2	10.20	1.026	0.38	-0.78	322	48.95	48.7
B-2	9	0.36	-0.03	-0.08	-6	10.80	1.035	0.37	-0.77	324	48.46	48.2
B-3	3	0.36	-0.02	-0.06	-4	5.00	1.029	0.37	-0.77	327	49.10	48.9
B-4	-3	0.34	-0.04	-0.12	-8	8.54	1.044	0.35	-0.75	329	47.77	47.5
B-5	5	0.35	-0.02	-0.06	-4	6.40	1.029	0.36	-0.76	331	48.41	48.2
B-6	-2	0.38	-0.01	-0.03	-2	2.83	1.026	0.39	-0.79	333	50.69	50.4
B-7	-3	0.33	-0.04	-0.12	-8	8.54	1.044	0.34	-0.74	334	47.21	47.0
B-8	3	0.27	-0.03	-0.11	-7	7.61	1.039	0.28	-0.68	326	42.48	42.3
						Ri			Ps	TEMP	Vs	Vs
	MOISTURE	7.20	%			6.28			-0.76	323.6	48.06	47.82
	MD	0.93		02 %	6.0	avg			avg	avg	avg	avg
	MWD	30.35		CO2 %	13.2							
	MW	29.46		N2 %	80.8							
	Psa	29.77										

VOLUMETRIC FLOW RATE

Qs	7,594,850	DSCFH
Qs	8,185,000	WSCFH
Qa	12,206,754	ACFH

MOISTURE DATA

ACTUAL TIME	RUN TIME	GAS VOL FT^3	ORIFICE IN. H2O	METER TEMPERATURE INLET	OUTLET	METER Yi	BAR. PRESS. IN. Hg
11:05	0	841.724	1.63	53	53	0.98	29.83
	5	844.9		53	53		
	10	848.1		53	52		
	15	851.4		54	52		
	20	856.2		54	52		
	25	859.4		55	52		
11:35	30	863.374					
		21.65	1.63		53		

VOLUME OF MOISTURE (ml)

IMPINGERS	INITIAL	FINAL	
1	100	124	
2	100	102	
3	0	6	
Gel	256	260	Total
NET	456	492	36

TOTAL MOISTURE (ml) 36

VM(STD)= 21.850
VW(GAS)= 1.696

%MOISTURE = 7.20

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: Stack

RUN #: 7
OPERATING LEVEL: High
START DATE: 4/7/04
END DATE: 4/7/04
START: 11:05
END: 11:26

DATE	TIME	O2	CO2	NOx	SO2
4/7/04	11:05	5.98	13.09	189.23	1199.37
4/7/04	11:06	5.94	13.18	188.32	1189.97
4/7/04	11:07	5.75	13.14	187.39	1184.98
4/7/04	11:08	5.97	13.03	187.3	1173.48
4/7/04	11:09	6.13	13	192.05	1175.29
4/7/04	11:10	6.15	13.01	191.97	1182.05
4/7/04	11:11	6.1	13.05	190.82	1183.45
4/7/04	11:12	5.79	13.23	186.51	1210.75
4/7/04	11:13	6.25	12.88	194.28	1163.58
4/7/04	11:14	6.25	12.96	191.51	1167.72
4/7/04	11:15	6.16	13.04	189.22	1177.95
4/7/04	11:16	6.01	13.13	187.82	1190.82
4/7/04	11:17	5.68	13.18	182.3	1221.34
4/7/04	11:18	5.83	13.05	188.3	1215.64
4/7/04	11:19	5.89	13.01	193.51	1209.14
4/7/04	11:20	6.06	12.93	194.44	1192.12
4/7/04	11:21	6.01	13.05	189.66	1187.22
4/7/04	11:22	5.66	13.26	180.44	1222.55
4/7/04	11:23	5.63	13.32	179.5	1233.07
4/7/04	11:24	5.91	13.22	188.35	1204.49
4/7/04	11:25	6.01	12.98	189.14	1191.2
4/7/04	11:26	6.1	12.94	189.13	1194.76
		O2	CO2	NOx	SO2
		5.97	13.08	188.69	1194.13
		%	%	ppm	ppm

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.04	0.12	0.32	**YES**	0.04	0.00	0.32	**YES**
O2, %	12.46	12.29	0.68	**YES**	12.26	0.80	0.12	**YES**
CO2, %	0.00	0.00	0.00	**YES**	0.00	0.00	0.00	**YES**
CO2, %	10.03	9.97	0.30	**YES**	10.00	0.15	0.15	**YES**
NOx ppm:	0.38	1.51	0.23	**YES**	1.77	0.28	0.05	**YES**
NOx ppm:	446.50	444.99	0.30	**YES**	444.55	0.39	0.09	**YES**
SO2 ppm:	0.94	7.91	0.35	**YES**	8.46	0.38	0.03	**YES**
SO2 ppm:	888.24	882.16	0.30	**YES**	886.78	0.07	0.23	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	6.0
CO2, %	13.1
NOx ppm:	188.7
SO2 ppm:	1194.1

F- FACTOR (scf/mmBtu) = **1867**
FLOW (WSCFH) = **8,183,000.0**
% MOISTURE = **7.20**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	6.0	5.6
CO2, %	13.2	12.2
NOx ppm:	188.4	174.8
SO2 ppm:	1201.8	1115.3

EMISSION RATES

NOx, lbs/mmBtu =	**0.318**
SO2, lbs/mmBtu =	**2.820**

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT:	UGI	RUN:	8	STACK DIAMETER =	114	in
PLANT:	Hunlock	DATE:	4 7 04	STACK AREA =	70.9	sq. ft.
UNIT:	6	TIME START:	11:43	Pb =	29.83	P_{bar}
LOAD:	High	END:	12:04	Ps =	-0.40	in Hg
				WAF =	0.995	

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FT/S	WAF VEL Vs FT/S
B-1	11	0.36	-0.02	-0.06	-4	11.70	1.029	0.37	-0.77	310	47.73	47.5
B-2	9	0.35	-0.02	-0.06	-4	9.84	1.029	0.36	-0.76	314	47.47	47.2
B-3	3	0.35	-0.03	-0.09	-6	6.71	1.035	0.36	-0.76	315	48.02	47.8
B-4	-1	0.34	-0.04	-0.12	-8	8.06	1.044	0.35	-0.75	316	47.42	47.2
B-5	3	0.37	-0.01	-0.03	-2	3.61	1.026	0.38	-0.78	321	49.59	49.3
B-6	6	0.38	-0.01	-0.03	-2	6.32	1.026	0.39	-0.79	322	50.08	49.8
B-7	-2	0.34	-0.02	-0.06	-4	4.47	1.029	0.35	-0.75	324	47.65	47.4
B-8	4	0.28	-0.02	-0.07	-5	6.40	1.031	0.29	-0.69	320	43.04	42.8
A-1	0	0.41	-0.03	-0.07	-5	5.00	1.031	0.42	-0.82	327	52.44	52.2
A-2	1	0.42	-0.02	-0.05	-3	3.16	1.028	0.43	-0.83	328	53.15	52.9
A-3	2	0.40	-0.01	-0.03	-2	2.83	1.026	0.41	-0.81	329	51.87	51.6
A-4	4	0.38	-0.02	-0.05	-3	5.00	1.028	0.39	-0.79	331	50.54	50.3
A-5	-2	0.37	-0.01	-0.03	-2	2.83	1.026	0.38	-0.78	330	49.92	49.7
A-6	-1	0.36	-0.02	-0.06	-4	4.12	1.029	0.37	-0.77	330	49.24	49.0
A-7	4	0.31	-0.04	-0.13	-8	8.94	1.044	0.32	-0.72	329	45.56	45.3
A-8	1	0.23	-0.02	-0.09	-6	6.08	1.035	0.24	-0.64	327	39.28	39.1
						Ri			Ps	TEMP	Vs	Vs
	MOISTURE	7.11	%			5.94			-0.76	323.3	48.31	48.07
	MD =	0.93		02 % =	6.0	avg		VOLUMETRIC FLOW RATE	avg	avg	avg	avg
	MWD =	30.35		CO2 % =	13.2			Qs = 7,644,672 DSCFH				
	MW =	29.47		N2 %	80.8			Qs = 8,230,000 WSCFH				
	Psa =	29.77						Qa = 12,270,204 ACFH				

MOISTURE DATA

ACTUAL TIME	RUN TIME	GAS VOL FT^3	ORIFICE IN. H2O	METER TEMPERATURE INLET	OUTLET	METER Yi	BAR. PRESS. IN. Hg
11:43	0	863.482	1.63	56	56	0.98	29.83
	5	866.9		57	56		
	10	870.6		58	57		
	15	874.2		58	57		
	20	878.1		59	58		
	25	881.5		60	58		
12:13	30	885.003					
		21.521	1.63		58		

VOLUME OF MOISTURE (ml)

IMPINGERS	INITIAL	FINAL	
1	100	126	
2	100	102	
3	0	2	
Gel	260	265	Total
NET	460	495	35

TOTAL MOISTURE (ml) 35

VM(STD)= 21.531
VW(GAS)= 1.649

%MOISTURE = 7.11

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: Stack

RUN #: 8
OPERATING LEVEL: High
START DATE: 4/7/04
END DATE: 4/7/04
START: 11:43
END: 12:04

DATE	TIME	O2	CO2	NOx	SO2
4/7/04	11:43	5.63	13.18	183.19	1245.68
4/7/04	11:44	6.35	12.71	187.66	1180.22
4/7/04	11:45	6.13	13.1	178.99	1210.33
4/7/04	11:46	6.01	13.11	176.18	1225.75
4/7/04	11:47	5.91	13.12	178.34	1233.45
4/7/04	11:48	5.86	13.07	178.73	1238.89
4/7/04	11:49	5.94	13.13	177.31	1239.05
4/7/04	11:50	5.94	13.08	180.16	1238.64
4/7/04	11:51	5.86	13.07	180.23	1238.58
4/7/04	11:52	5.96	13.02	177.01	1219.82
4/7/04	11:53	6.17	13	181.77	1203.62
4/7/04	11:54	5.9	13.18	176.14	1230.62
4/7/04	11:55	6	13.09	177.66	1229.94
4/7/04	11:56	6.06	13	180.08	1230.7
4/7/04	11:57	6.18	12.94	180.05	1221.62
4/7/04	11:58	6.17	12.93	178.73	1221.21
4/7/04	11:59	5.88	13.13	172.58	1257.32
4/7/04	12:00	5.91	13.09	177.99	1260.02
4/7/04	12:01	6.04	12.95	178.72	1241.87
4/7/04	12:02	5.94	13.08	181.33	1238.12
4/7/04	12:03	5.98	13.15	181.8	1235.33
4/7/04	12:04	5.75	13.25	174.08	1259.88
		O2	CO2	NOx	SO2
		5.98	13.06	179.03	1231.85
		%	%	ppm	ppm

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.04	0.04	0.00	**YES**	0.00	0.16	0.16	**YES**
O2, %	12.46	12.26	0.80	**YES**	12.32	0.56	0.24	**YES**
CO2, %	0.00	0.00	0.00	**YES**	0.03	0.15	0.15	**YES**
CO2, %	10.03	10.00	0.15	**YES**	9.96	0.35	0.20	**YES**
NOx ppm:	0.38	1.77	0.28	**YES**	2.24	0.37	0.09	**YES**
NOx ppm:	446.50	444.55	0.39	**YES**	447.51	0.20	0.59	**YES**
SO2 ppm:	0.94	8.46	0.38	**YES**	9.31	0.42	0.04	**YES**
SO2 ppm:	888.24	886.78	0.07	**YES**	893.92	0.28	0.36	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	6.0
CO2, %	13.1
NOx ppm:	179.0
SO2 ppm:	1231.8

F- FACTOR (scf/mmBtu) = **1867**
FLOW (WSCFH) = **8,228,000**
% MOISTURE = **7.11**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	6.0	5.6
CO2, %	13.2	12.3
NOx ppm:	177.9	165.2
SO2 ppm:	1232.0	1144.4

EMISSION RATES

NOx, lbs/mmBtu = **0.300**
SO2, lbs/mmBtu = **2.890**

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT:	UGI	RUN:	9	STACK DIAMETER =	114	in
PLANT:	Hunlock	DATE:	4 7 04	STACK AREA =	70.9	sq. ft.
UNIT:	6	TIME START:	12:17	Pb =	29.83	P_{bar}
LOAD:	High	END:	12:38	Ps =	-0.40	in Hg
				WAF =	0.995	

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FT S	WAF VEL Vs FT S
A-1	2	0.42	-0.01	-0.02	-1	2.24	1.025	0.43	-0.83	326	53.00	52.7
A-2	4	0.42	-0.04	-0.10	-7	8.06	1.039	0.44	-0.84	328	52.95	52.7
A-3	-1	0.40	-0.03	-0.08	-6	6.08	1.035	0.41	-0.81	330	51.86	51.6
A-4	0	0.38	-0.02	-0.05	-3	3.00	1.028	0.39	-0.79	331	50.62	50.4
A-5	-3	0.38	-0.02	-0.05	-3	4.24	1.028	0.39	-0.79	334	50.65	50.4
A-6	4	0.35	-0.01	-0.03	-2	4.47	1.026	0.36	-0.76	331	48.45	48.2
A-7	2	0.30	-0.02	-0.07	-5	5.38	1.031	0.31	-0.71	329	44.85	44.6
A-8	1	0.22	-0.01	-0.05	-3	3.16	1.028	0.23	-0.63	326	38.39	38.2
B-1	10	0.36	-0.04	-0.11	-7	12.19	1.039	0.37	-0.77	309	47.80	47.6
B-2	9	0.35	-0.03	-0.09	-6	10.80	1.035	0.36	-0.76	312	47.37	47.1
B-3	8	0.34	-0.01	-0.03	-2	8.24	1.026	0.35	-0.75	314	46.89	46.7
B-4	-3	0.34	-0.02	-0.06	-4	5.00	1.029	0.35	-0.75	320	47.46	47.2
B-5	0	0.38	-0.02	-0.05	-3	3.00	1.028	0.39	-0.79	322	50.33	50.1
B-6	1	0.35	-0.03	-0.09	-6	6.08	1.035	0.36	-0.76	323	48.29	48.1
B-7	-2	0.35	-0.01	-0.03	-2	2.83	1.026	0.36	-0.76	322	48.26	48.0
B-8	-1	0.28	-0.02	-0.07	-5	5.10	1.031	0.29	-0.69	321	43.13	42.9
						Ri			Ps	TEMP	Vs	Vs
	MOISTURE =	6.74	%			5.62			-0.76	323.6	48.14	47.90
	MD =	0.93		02 % =	6.0	avg			avg	avg	avg	avg
	MWD =	30.35		CO2 % =	13.2							
	MW =	29.52		N2 % =	80.8							
	Psa =	29.77										

VOLUMETRIC FLOW RATE

Qs	7,645,360	DSCFH
Qs =	8,199,000	WSCFH
Qa =	12,227,506	ACFH

MOISTURE DATA

ACTUAL TIME	RUN TIME	GAS VOL FT^3	ORIFICE IN. H2O	METER TEMPERATURE INLET	OUTLET	METER Yi	BAR. PRESS. IN. Hg
12:17	0	885.210	1.63	58	57	0.98	29.83
	5	888.9		59	57		
	10	892.3		59	57		
	15	895.7		60	57		
	20	899.4		60	57		
	25	903.2		61	58		
12:47	30	906.733					
		21.523	1.63		58		

VOLUME OF MOISTURE (ml)

IMPINGERS	INITIAL	FINAL	
1	100	126	
2	100	100	
3	0	4	
Gel	256	259	Total
NET	456	489	33

TOTAL MOISTURE (ml) 33

VM(STD)= 21.499
VW(GAS)= 1.554

%MOISTURE = 6.74

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: Stack

RUN #: 9
OPERATING LEVEL: High
START DATE: 4/7/04
END DATE: 4/7/04
START: 12:17
END: 12:38

DATE	TIME	O2	CO2	NOx	SO2
4/7/04	12:17	6	13.08	182.5	1222.46
4/7/04	12:18	5.93	13.11	179.16	1222.69
4/7/04	12:19	5.52	13.33	174.22	1262.17
4/7/04	12:20	5.72	13.15	179.07	1244.72
4/7/04	12:21	6.21	12.88	185.04	1215.95
4/7/04	12:22	6.27	12.91	184.23	1208.34
4/7/04	12:23	6.1	12.95	183.9	1214.43
4/7/04	12:24	5.78	13.1	173.97	1251.19
4/7/04	12:25	5.94	13.15	177.53	1243.64
4/7/04	12:26	5.94	13.19	176.2	1239.18
4/7/04	12:27	5.91	13.17	181.04	1238.98
4/7/04	12:28	5.81	13.26	178.11	1252.74
4/7/04	12:29	5.89	13.01	180.29	1251.62
4/7/04	12:30	6.06	12.94	177.68	1236.83
4/7/04	12:31	5.95	13.01	179.91	1238.61
4/7/04	12:32	6	13.02	179.94	1233.03
4/7/04	12:33	5.67	13.31	172.24	1266.43
4/7/04	12:34	5.94	13.08	178.13	1247.98
4/7/04	12:35	6.11	13.06	179.48	1227.69
4/7/04	12:36	5.92	13.16	183.63	1240.2
4/7/04	12:37	5.96	12.99	181.46	1234.59
4/7/04	12:38	5.77	13.08	179.48	1256.6
		O2	CO2	NOx	SO2
		5.93	13.09	179.42	1238.64
		%	%	ppm	ppm

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.04	0.00	0.16	**YES**	0.04	0.00	0.16	**YES**
O2, %	12.46	12.32	0.56	**YES**	12.30	0.64	0.08	**YES**
CO2, %	0.00	0.03	0.15	**YES**	0.08	0.40	0.25	**YES**
CO2, %	10.03	9.96	0.35	**YES**	9.93	0.50	0.15	**YES**
NOx ppm:	0.38	2.24	0.37	**YES**	2.37	0.40	0.03	**YES**
NOx ppm:	446.50	447.51	0.20	**YES**	444.40	0.42	0.62	**YES**
SO2 ppm:	0.94	9.31	0.42	**YES**	9.78	0.44	0.02	**YES**
SO2 ppm:	888.24	893.92	0.28	**YES**	889.50	0.06	0.22	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	5.9
CO2, %	13.1
NOx ppm:	179.4
SO2 ppm:	1238.6

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	6.0	5.6
CO2, %	13.2	12.3
NOx ppm:	178.2	166.2
SO2 ppm:	1237.2	1153.8

F- FACTOR (scf/mmBtu) = **1867**
FLOW (WSCFH) = **8,196,000**
% MOISTURE = **6.74**

EMISSION RATES
NOx, lbs/mmBtu = **0.301**
SO2, lbs/mmBtu = **2.900**

Mid Load

CATALYST AIR MANAGEMENT Inc.
CALIBRATION DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: RATA
LOCATION: STACK

RUN #: 1-12
LOAD LEVEL: Mid
DATE: 4/7/04

GAS UNITS	ANALYZER SCALE	CYLINDER VALUE	ANALYZER VALUE	DIFF PPM	% SPAN	Pass Yes\No
O2. %		0.00	0.03	0.03	0.12	**YES**
O2. %	**25**	12.44	12.41	0.03	0.12	**YES**
O2. %		22.40	22.42	0.02	0.08	**YES**
CO2. %		0.00	0.00	0.00	0.00	**YES**
CO2. %	**20**	10.05	10.03	0.02	0.10	**YES**
CO2. %		17.90	17.92	0.02	0.10	**YES**

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT:	UGI	RUN:	1	STACK DIAMETER =	114	in
PLANT:	Hunlock	DATE:	4 7 04	STACK AREA =	70.9	sq. ft.
UNIT:	6	TIME START:	13:25	Pb =	29.53	P_{bar}
LOAD:	Mid	END:	13:35	Ps =	-0.36	in Hg
				WAF =	0.995	

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FT/S	WAF VEL Vs FT/S
A-1	2	0.30	-0.01	-0.03	-2	2.83	1.026	0.31	-0.67	320	45.42	45.2
A-2	1	0.30	-0.02	-0.07	-5	5.10	1.031	0.31	-0.67	321	45.55	45.3
A-3	3	0.30	-0.02	-0.07	-5	5.83	1.031	0.31	-0.67	322	45.52	45.3
A-4	2	0.28	-0.02	-0.07	-5	5.38	1.031	0.29	-0.65	323	44.04	43.8
A-5	1	0.28	-0.01	-0.04	-3	3.16	1.028	0.29	-0.65	323	44.04	43.8
A-6	0	0.25	-0.02	-0.08	-6	6.00	1.035	0.26	-0.62	320	41.65	41.4
A-7	-1	0.23	-0.01	-0.04	-3	3.16	1.028	0.24	-0.60	321	39.86	39.7
A-8	3	0.18	-0.02	-0.11	-7	7.61	1.039	0.19	-0.55	315	35.24	35.1
B-1	8	0.25	-0.03	-0.12	-8	11.30	1.044	0.26	-0.62	330	41.69	41.5
B-2	6	0.27	-0.03	-0.11	-7	9.21	1.039	0.28	-0.64	333	43.48	43.3
B-3	5	0.26	-0.02	-0.08	-6	7.80	1.035	0.27	-0.63	333	42.66	42.4
B-4	-3	0.26	-0.03	-0.12	-8	8.54	1.044	0.27	-0.63	334	42.98	42.8
B-5	2	0.27	-0.01	-0.04	-3	3.61	1.028	0.28	-0.64	336	43.58	43.4
B-6	0	0.28	-0.02	-0.07	-5	5.00	1.031	0.29	-0.65	336	44.43	44.2
B-7	-4	0.26	-0.03	-0.12	-8	8.94	1.044	0.27	-0.63	335	42.96	42.7
B-8	-2	0.20	-0.01	-0.05	-3	3.61	1.028	0.21	-0.57	330	37.37	37.2
						Ri			Ps		Vs	Vs
	MOISTURE =	6.27	%			6.07			-0.63	327.0	42.53	42.32
	MD =	0.94		02 % =	7.0	avg		VOLUMETRIC FLOW RATE	avg	avg	avg	avg
	MWD =	30.30		CO2 % =	12.6			Qs = 6,726,492 DSCFH				
	MW =	29.52		N2 % =	80.4			Qs = 7,177,000 WSCFH				
	Psa =	29.48						Qa = 10,855,921 ACFH				

MOISTURE DATA

ACTUAL TIME	RUN TIME	GAS VOL FT^3	ORIFICE IN. H2O	METER TEMPERATURE INLET	OUTLET	METER Yi	BAR. PRESS. IN. Hg
13:25	0	906.859	1.63	64	64	0.98	29.53
	5	910.1		65	64		
	10	913.6		66	64		
	15	917.1		67	65		
	20	921.5		67	65		
	25	925.0		67	65		
13:55	30	928.496					
		21.637	1.63		65		

VOLUME OF MOISTURE (ml)

IMPINGERS	INITIAL	FINAL	
1	100	124	
2	100	102	
3	0	0	
Gel	256	260	Total
NET	456	486	30

TOTAL MOISTURE (ml)	30
VM(STD)=	21.114
VW(GAS)=	1.413
%MOISTURE =	6.27

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: STACK

RUN #: 1
OPERATING LEVEL: Mid
START DATE: 4/7/04
END DATE: 4/7/04
START: 13:25
END: 13:35

DATE	TIME	O2	CO2
4/7/04	13:25	7.09	12.6
4/7/04	13:26	7.24	12.47
4/7/04	13:27	7.18	12.54
4/7/04	13:28	6.86	12.85
4/7/04	13:29	7.22	12.46
4/7/04	13:30	7.21	12.47
4/7/04	13:31	6.91	12.77
4/7/04	13:32	7.24	12.42
4/7/04	13:33	7.15	12.43
4/7/04	13:34	6.94	12.65
4/7/04	13:35	6.89	12.77
		O2	CO2
		7.08	12.58
		%	%

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.03	0.05	0.08	**YES**	0.09	0.24	0.16	**YES**
O2, %	12.41	12.49	0.32	**YES**	12.46	0.20	0.12	**YES**
CO2, %	0.00	0.10	0.50	**YES**	0.11	0.55	0.05	**YES**
CO2, %	10.03	10.07	0.20	**YES**	10.04	0.05	0.15	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	7.1
CO2, %	12.6

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	7.0	6.6
CO2, %	12.6	11.8

% MOISTURE = **6.27**

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT: **UGI**
PLANT: **Hunlock**
UNIT: **6**
LOAD: Mid

RUN: 2
DATE: 4 7 04
TIME START: 13:36
END: 13:46

STACK DIAMETER = 114 in
STACK AREA = 70.9 sq. ft.
Pb = 29.53 P_{bar}
Ps = -0.36 in Hg
WAF = 0.995

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	ANIM. VEL. Vs FT S	WAF VEL Vs FT S
B-1	**11**	**0.25**	**-0.02**	-0.08	**-6**	12.51	**1.035**	0.26	-0.62	**334**	41.25	41.0
B-2	**3**	**0.27**	**-0.01**	-0.04	**-3**	4.24	**1.028**	0.28	-0.64	**334**	43.49	43.3
B-3	**4**	**0.26**	**-0.03**	-0.12	**-8**	8.94	**1.044**	0.27	-0.63	**336**	42.99	42.8
B-4	**-2**	**0.26**	**-0.03**	-0.12	**-8**	8.24	**1.044**	0.27	-0.63	**336**	43.07	42.9
B-5	**1**	**0.28**	**-0.02**	-0.07	**-5**	5.10	**1.031**	0.29	-0.65	**337**	44.45	44.2
B-6	**-3**	**0.27**	**-0.03**	-0.11	-7	7.61	**1.039**	0.28	-0.64	**337**	43.77	43.6
B-7	**-5**	**0.25**	**-0.01**	-0.04	**-3**	5.83	**1.028**	0.26	-0.62	**336**	41.80	41.6
B-8	**3**	**0.20**	**-0.02**	-0.10	-7	7.61	**1.039**	0.21	-0.57	**331**	37.53	37.3
A-1	**2**	**0.29**	**-0.02**	-0.07	**-5**	5.38	**1.031**	0.30	-0.66	**328**	44.96	44.7
A-2	**2**	**0.30**	**-0.02**	-0.07	**-5**	5.38	**1.031**	0.31	-0.67	**330**	45.78	45.6
A-3	**2**	**0.31**	**-0.03**	-0.10	-7	7.28	**1.039**	0.32	-0.68	**333**	46.82	46.6
A-4	**10**	**0.28**	**-0.02**	-0.07	**-5**	11.17	**1.031**	0.29	-0.65	**332**	43.64	43.4
A-5	**-5**	**0.27**	**-0.03**	-0.11	-7	8.60	**1.039**	0.28	-0.64	**332**	43.53	43.3
A-6	**-2**	**0.25**	**-0.02**	-0.08	**-6**	6.32	**1.035**	0.26	-0.62	**331**	41.91	41.7
A-7	**1**	**0.23**	**-0.01**	-0.04	**-3**	3.16	**1.028**	0.24	-0.60	**327**	40.01	39.8
A-8	**1**	**0.18**	**-0.03**	-0.17	**-10**	10.05	**1.053**	0.19	-0.55	**320**	35.60	35.4
						Ri 7.34 avg			Ps -0.63 avg	TEMP 332.1 avg	Vs 42.54 avg	Vs 42.32 avg

MOISTURE = 6.27 %
MD = 0.94
MWD = 30.30
MW = 29.53
Psa = 29.48

O2 % = 7.1
CO2 % = 12.6
N2 % = 80.3

VOLUMETRIC FLOW RATE
Qs = 6,650,660 DSCFH
Qs = 7,096,000 WSCFH
Qa = 10,803,410 ACFH

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: STACK

RUN #: 2
OPERATING LEVEL: Mid
START DATE: 4/7/04
END DATE: 4/7/04
START: 13:36
END: 13:46

DATE	TIME	O2	CO2
4/7/04	13:36	7.05	12.44
4/7/04	13:37	6.97	12.71
4/7/04	13:38	7.45	12.27
4/7/04	13:39	6.95	12.71
4/7/04	13:40	7.07	12.61
4/7/04	13:41	7.16	12.38
4/7/04	13:42	7.09	12.54
4/7/04	13:43	7.02	12.81
4/7/04	13:44	6.92	12.91
4/7/04	13:45	7.23	12.46
4/7/04	13:46	7.2	12.47
		O2	CO2
		7.10	12.57
		%	%

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.03	0.05	0.08	**YES**	0.09	0.24	0.16	**YES**
O2, %	12.41	12.49	0.32	**YES**	12.46	0.20	0.12	**YES**
CO2, %	0.00	0.10	0.50	**YES**	0.11	0.55	0.05	**YES**
CO2, %	10.03	10.07	0.20	**YES**	10.04	0.05	0.15	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	7.1
CO2, %	12.6

% MOISTURE = **6.27**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	7.1	6.7
CO2, %	12.6	11.8

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT: **UGI**
PLANT: **Hunlock**
UNIT: **6**
LOAD: Mid

RUN: 3
DATE: 4 7 04
TIME START: 13:47
END: 13:57

STACK DIAMETER = 114 in
STACK AREA = 70.9 sq. ft.
Pb = 29.53 P_{bar}
Ps = -0.36 in Hg
WAF = 0.995

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FT S	WAF VEL Vs FT S
A-1	**10**	**0.25**	**-0.01**	-0.04	**-3**	10.44	**1.028**	0.26	-0.62	**331**	41.19	41.0
A-2	**2**	**0.27**	**-0.03**	-0.11	-7	7.28	**1.039**	0.28	-0.64	**334**	43.72	43.5
A-3	**5**	**0.26**	**-0.02**	-0.08	**-6**	7.80	**1.035**	0.27	-0.63	**336**	42.74	42.5
A-4	**-1**	**0.26**	**-0.03**	-0.12	**-8**	8.06	**1.044**	0.27	-0.63	**337**	43.12	42.9
A-5	**3**	**0.28**	**-0.02**	-0.07	**-5**	5.83	**1.031**	0.29	-0.65	**337**	44.40	44.2
A-6	**-1**	**0.27**	**-0.03**	-0.11	-7	7.07	**1.039**	0.28	-0.64	**338**	43.85	43.6
A-7	**-4**	**0.25**	**-0.02**	-0.08	**-6**	7.21	**1.035**	0.26	-0.62	**336**	41.97	41.8
A-8	**-1**	**0.20**	**-0.02**	-0.10	-7	7.07	**1.039**	0.21	-0.57	**332**	37.60	37.4
B-1	**1**	**0.30**	**-0.03**	-0.10	-7	7.07	**1.039**	0.31	-0.67	**326**	45.88	45.6
B-2	**2**	**0.30**	**-0.01**	-0.03	**-2**	2.83	**1.026**	0.31	-0.67	**327**	45.62	45.4
B-3	**0**	**0.30**	**-0.02**	-0.07	**-5**	5.00	**1.031**	0.31	-0.67	**326**	45.70	45.5
B-4	**8**	**0.28**	**-0.03**	-0.11	-7	10.62	**1.039**	0.29	-0.65	**328**	43.95	43.7
B-5	**-3**	**0.27**	**-0.02**	-0.07	**-5**	5.83	**1.031**	0.28	-0.64	**330**	43.40	43.2
B-6	**1**	**0.25**	**-0.01**	-0.04	**-3**	3.16	**1.028**	0.26	-0.62	**329**	41.77	41.6
B-7	**2**	**0.23**	**-0.02**	-0.09	**-6**	6.32	**1.035**	0.24	-0.60	**329**	40.15	40.0
B-8	**1**	**0.18**	**-0.01**	-0.06	**-4**	4.12	**1.029**	0.19	-0.55	**325**	35.35	35.2
						Ri 6.61 avg			Ps -0.63 avg	TEMP 331.3 avg	Vs 42.53 avg	Vs 42.31 avg

MOISTURE = 6.27 %
MD = 0.94
MWD = 30.30
MW = 29.52
Psa = 29.48

O2 % = 7.0
CO2 % = 12.6
N2 % = 80.4

VOLUMETRIC FLOW RATE
Qs = 6,655,991 DSCFH
Qs = 7,102,000 WSCFH
Qa = 10,800,971 ACFH

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: STACK

RUN #: 3
OPERATING LEVEL: Mid
START DATE: 4/7/04
END DATE: 4/7/04
START: 13:47
END: 13:57

DATE	TIME	O2	CO2
4/7/04	13:47	7.03	12.54
4/7/04	13:48	6.89	12.64
4/7/04	13:49	7.35	12.38
4/7/04	13:50	6.94	12.77
4/7/04	13:51	6.93	12.62
4/7/04	13:52	6.84	12.69
4/7/04	13:53	7.11	12.66
4/7/04	13:54	6.99	12.75
4/7/04	13:55	7.33	12.33
4/7/04	13:56	7.23	12.4
4/7/04	13:57	7.1	12.58
		O2	CO2
		7.07	12.58
		%	%

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.03	0.05	0.08	**YES**	0.09	0.24	0.16	**YES**
O2, %	12.41	12.49	0.32	**YES**	12.46	0.20	0.12	**YES**
CO2, %	0.00	0.10	0.50	**YES**	0.11	0.55	0.05	**YES**
CO2, %	10.03	10.07	0.20	**YES**	10.04	0.05	0.15	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	7.1
CO2, %	12.6

% MOISTURE = **6.27**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	7.0	6.6
CO2, %	12.6	11.8

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT:	UGI	RUN:	4	STACK DIAMETER =	114 in
PLANT:	Hunlock	DATE:	4 7 04	STACK AREA =	70.9 sq. ft.
UNIT:	6	TIME START:	14:04	Pb =	29.53 P_{bar}
LOAD:	Mid	END:	14:14	Ps =	-0.36 in Hg
				WAF =	0.995

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FT S	WAF VEL Vs FT S
B-1	4	0.30	-0.01	-0.03	-2	4.47	1.026	0.31	-0.67	326	45.56	45.3
B-2	3	0.31	-0.02	-0.06	-4	5.00	1.029	0.32	-0.68	326	46.42	46.2
B-3	-1	0.31	-0.01	-0.03	-2	2.24	1.026	0.32	-0.68	327	46.45	46.2
B-4	3	0.29	-0.03	-0.10	-7	7.61	1.039	0.30	-0.66	328	45.16	44.9
B-5	-2	0.28	-0.01	-0.04	-3	3.61	1.028	0.29	-0.65	327	44.18	44.0
B-6	1	0.26	-0.03	-0.12	-8	8.06	1.044	0.27	-0.63	326	42.87	42.7
B-7	-2	0.24	-0.04	-0.17	-10	10.20	1.053	0.25	-0.61	326	41.29	41.1
B-8	3	0.18	-0.02	-0.11	-7	7.61	1.039	0.19	-0.55	320	35.40	35.2
A-1	4	0.26	-0.02	-0.08	-6	7.21	1.035	0.27	-0.63	311	42.17	42.0
A-2	3	0.26	-0.02	-0.08	-6	6.71	1.035	0.27	-0.63	312	42.25	42.0
A-3	3	0.26	-0.03	-0.12	-8	8.54	1.044	0.27	-0.63	312	42.43	42.2
A-4	-1	0.27	-0.04	-0.15	-9	9.05	1.048	0.28	-0.64	314	43.40	43.2
A-5	2	0.27	-0.01	-0.04	-3	3.61	1.028	0.28	-0.64	319	43.16	42.9
A-6	1	0.27	-0.01	-0.04	-3	3.16	1.028	0.28	-0.64	322	43.27	43.0
A-7	-1	0.25	-0.02	-0.08	-6	6.08	1.035	0.26	-0.62	323	41.77	41.6
A-8	3	0.20	-0.02	-0.10	-7	7.61	1.039	0.21	-0.57	320	37.31	37.1
						Ri			Ps	TEMP	Vs	Vs
						6.30			-0.63	321.2	42.69	42.48
						avg			avg	avg	avg	avg

MOISTURE =	6.73	%
MD =	0.93	
MWD =	30.28	
MW =	29.46	
Psa =	29.48	

02 % =	7.1
CO2 % =	12.5
N2 % =	80.4

VOLUMETRIC FLOW RATE

Qs =	6,735,367	DSCFH
Qs =	7,222,000	WSCFH
Qa =	10,843,268	ACFH

MOISTURE DATA

ACTUAL TIME	RUN TIME	GAS VOL FT^3	ORIFICE IN. H2O	METER TEMPERATURE INLET	METER TEMPERATURE OUTLET	METER Yi	BAR. PRESS. IN. Hg
14:04	0	928.751	1.63	66	66	0.98	29.53
	5	932.0		67	66		
	10	935.4		68	66		
	15	938.6		69	67		
	20	943.2		69	67		
	25	946.8		70	68		
14:34	30	950.236					
		21.485	1.63		67		

VOLUME OF MOISTURE (ml)

IMPINGERS	INITIAL	FINAL	
1	100	122	
2	100	100	
3	0	6	
Gel	261	265	Total
NET	461	493	32

TOTAL MOISTURE (ml)	32
VM(STD)=	20.880
VW(GAS)=	1.507
%MOISTURE =	6.73

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: STACK

RUN #: 4
OPERATING LEVEL: Mid
START DATE: 4/7/04
END DATE: 4/7/04
START: 14:04
END: 14:14

DATE	TIME	O2	CO2
4/7/04	14:04	7.24	12.4
4/7/04	14:05	7.32	12.36
4/7/04	14:06	7.06	12.59
4/7/04	14:07	7.24	12.4
4/7/04	14:08	7.11	12.54
4/7/04	14:09	7.36	12.28
4/7/04	14:10	7.2	12.42
4/7/04	14:11	7.07	12.53
4/7/04	14:12	6.86	12.71
4/7/04	14:13	7.29	12.3
4/7/04	14:14	7.13	12.35
		O2	CO2
		7.17	12.44
		%	%

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.03	0.09	0.24	**YES**	0.10	0.28	0.04	**YES**
O2, %	12.41	12.46	0.20	**YES**	12.45	0.16	0.04	**YES**
CO2, %	0.00	0.11	0.55	**YES**	0.08	0.40	0.15	**YES**
CO2, %	10.03	10.04	0.05	**YES**	9.99	0.20	0.25	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	7.2
CO2, %	12.4

% MOISTURE = **6.73**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	7.1	6.6
CO2, %	12.5	11.7

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT:	**UGI**	RUN:	5	STACK DIAMETER =	114	in
PLANT:	**Hunlock**	DATE:	4 7 04	STACK AREA =	70.9	sq. ft.
UNIT:	**6**	TIME START:	14:15	Pb =	29.53	P_{bar}
LOAD:	Mid	END:	14:25	Ps =	-0.36	in Hg
				WAF =	0.995	

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FT S	WAF VEL Vs FT S
A-1	**5**	**0.26**	**-0.01**	-0.04	**-3**	5.83	**1.028**	0.27	-0.63	**312**	42.03	41.8
A-2	**3**	**0.26**	**-0.04**	-0.15	**-9**	9.48	**1.048**	0.27	-0.63	**314**	42.54	42.3
A-3	**2**	**0.27**	**-0.03**	-0.11	**-7**	7.28	**1.039**	0.28	-0.64	**318**	43.33	43.1
A-4	**-1**	**0.27**	**-0.02**	-0.07	**-5**	5.10	**1.031**	0.28	-0.64	**322**	43.29	43.1
A-5	**0**	**0.28**	**-0.02**	-0.07	**-5**	5.00	**1.031**	0.29	-0.65	**324**	44.14	43.9
A-6	**2**	**0.20**	**-0.01**	-0.05	**-3**	3.61	**1.028**	0.21	-0.57	**323**	37.24	37.1
A-7	**-2**	**0.25**	**-0.03**	-0.12	**-8**	8.24	**1.044**	0.26	-0.62	**322**	41.91	41.7
A-8	**-1**	**0.20**	**-0.02**	-0.10	**-7**	7.07	**1.039**	0.21	-0.57	**319**	37.33	37.1
B-1	**5**	**0.30**	**-0.02**	-0.07	**-5**	7.07	**1.031**	0.31	-0.67	**328**	45.64	45.4
B-2	**8**	**0.30**	**-0.01**	-0.03	**-2**	8.24	**1.026**	0.31	-0.67	**329**	45.32	45.1
B-3	**2**	**0.31**	**-0.01**	-0.03	**-2**	2.83	**1.026**	0.32	-0.68	**330**	46.52	46.3
B-4	**-1**	**0.29**	**-0.03**	-0.10	**-7**	7.07	**1.039**	0.30	-0.66	**332**	45.33	45.1
B-5	**-3**	**0.28**	**-0.02**	-0.07	**-5**	5.83	**1.031**	0.29	-0.65	**334**	44.36	44.1
B-6	**3**	**0.20**	**-0.02**	-0.10	**-7**	7.61	**1.039**	0.21	-0.57	**331**	37.58	37.4
B-7	**-2**	**0.24**	**-0.04**	-0.17	**-10**	10.20	**1.053**	0.25	-0.61	**330**	41.40	41.2
B-8	**1**	**0.17**	**-0.01**	-0.06	**-4**	4.12	**1.029**	0.17	-0.53	**326**	34.42	34.2
						Ri			Ps	TEMP	Vs	Vs
						6.54			-0.62	324.6	42.02	41.81
						avg			avg	avg	avg	avg

MOISTURE =	6.73	%
MD =	0.93	
MWD =	30.28	
MW =	29.46	
Psa =	29.48	

02 % =	7.1	
CO2 % =	12.5	
N2 % =	80.4	

VOLUMETRIC FLOW RATE

Qs =	6,600,641	DSCFH
Qs =	7,078,000	WSCFH
Qa =	10,672,905	ACFH

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: STACK

RUN #: 5
OPERATING LEVEL: Mid
START DATE: 4/7/04
END DATE: 4/7/04
START: 14:15
END: 14:25

DATE	TIME	O2	CO2
4/7/04	14:15	7.11	12.54
4/7/04	14:16	7.02	12.53
4/7/04	14:17	7.49	12
4/7/04	14:18	7.11	12.07
4/7/04	14:19	7.34	12.29
4/7/04	14:20	7.21	12.44
4/7/04	14:21	6.89	12.68
4/7/04	14:22	7.05	12.58
4/7/04	14:23	6.94	12.67
4/7/04	14:24	6.9	12.63
4/7/04	14:25	7.65	11.87
		O2	CO2
		7.16	12.39
		%	%

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.03	0.09	0.24	**YES**	0.10	0.28	0.04	**YES**
O2, %	12.41	12.46	0.20	**YES**	12.45	0.16	0.04	**YES**
CO2, %	0.00	0.11	0.55	**YES**	0.08	0.40	0.15	**YES**
CO2, %	10.03	10.04	0.05	**YES**	9.99	0.20	0.25	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	7.2
CO2, %	12.4

% MOISTURE = **6.73**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	7.1	6.6
CO2, %	12.5	11.7

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT:	**UGI**	RUN:	6	STACK DIAMETER =	114	in
PLANT:	**Hunlock**	DATE:	4 7 04	STACK AREA =	70.9	sq. ft.
UNIT:	**6**	TIME START:	14:26	Pb =	29.53	P_{bar}
LOAD:	Mid	END:	14:36	Ps =	-0.36	in Hg
				WAF =	0.995	

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL. PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FT/S	WAF VEL Vs FT/S
B-1	**3**	**0.30**	**-0.02**	-0.07	**-5**	5.83	**1.031**	0.31	-0.67	**325**	45.64	45.4
B-2	**3**	**0.30**	**-0.01**	-0.03	**-2**	3.61	**1.026**	0.31	-0.67	**326**	45.59	45.4
B-3	**0**	**0.30**	**-0.04**	-0.13	**-8**	8.00	**1.044**	0.31	-0.67	**328**	46.09	45.9
B-4	**2**	**0.28**	**-0.03**	-0.11	**-7**	7.28	**1.039**	0.29	-0.65	**330**	44.44	44.2
B-5	**-1**	**0.27**	**-0.01**	-0.04	**-3**	3.16	**1.028**	0.28	-0.64	**327**	43.38	43.2
B-6	**-2**	**0.25**	**-0.02**	-0.08	**-6**	6.32	**1.035**	0.26	-0.62	**326**	41.81	41.6
B-7	**1**	**0.20**	**-0.01**	-0.05	**-3**	3.16	**1.028**	0.21	-0.57	**326**	37.31	37.1
B-8	**2**	**0.18**	**-0.01**	-0.06	**-4**	4.47	**1.029**	0.19	-0.55	**322**	35.29	35.1
A-1	**0**	**0.20**	**-0.02**	-0.10	**-7**	7.00	**1.039**	0.21	-0.57	**319**	37.32	37.1
A-2	**5**	**0.20**	**-0.02**	-0.10	**-7**	8.60	**1.039**	0.21	-0.57	**324**	37.30	37.1
A-3	**3**	**0.25**	**-0.02**	-0.08	**-6**	6.71	**1.035**	0.26	-0.62	**326**	41.78	41.6
A-4	**2**	**0.27**	**-0.03**	-0.11	**-7**	7.28	**1.039**	0.28	-0.64	**330**	43.64	43.4
A-5	**-1**	**0.28**	**-0.02**	-0.07	**-5**	5.10	**1.031**	0.29	-0.65	**331**	44.31	44.1
A-6	**-2**	**0.26**	**-0.04**	-0.15	**-9**	9.22	**1.048**	0.27	-0.63	**330**	42.99	42.8
A-7	**0**	**0.24**	**-0.01**	-0.04	**-3**	3.00	**1.028**	0.25	-0.61	**328**	40.93	40.7
A-8	**1**	**0.20**	**-0.02**	-0.10	**-7**	7.07	**1.039**	0.21	-0.57	**324**	37.43	37.2
						Ri			Ps	TEMP	Vs	Vs
						5.99			-0.62	326.4	41.58	41.37
						avg			avg	avg	avg	avg

MOISTURE =	6.73	%
MD =	0.93	
MWD =	30.32	
MW =	29.49	
Psa =	29.48	

02 % =	6.7
CO2 % =	12.8
N2 % =	80.5

VOLUMETRIC FLOW RATE

Qs =	6,516,340	DSCFH
Qs =	6,987,000	WSCFH
Qa =	10,559,925	ACFH

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: STACK

RUN #: 6
OPERATING LEVEL: Mid
START DATE: 4/7/04
END DATE: 4/7/04
START: 14:26
END: 14:36

DATE	TIME	O2	CO2
4/7/04	14:26	6.45	12.88
4/7/04	14:27	6.98	12.61
4/7/04	14:28	6.69	12.9
4/7/04	14:29	6.59	12.84
4/7/04	14:30	6.81	12.64
4/7/04	14:31	6.68	12.86
4/7/04	14:32	6.8	12.7
4/7/04	14:33	6.84	12.71
4/7/04	14:34	7.32	12.28
4/7/04	14:35	6.74	12.68
4/7/04	14:36	6.38	13.01
		O2	CO2
		6.75	12.74
		%	%

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.03	0.09	0.24	**YES**	0.10	0.28	0.04	**YES**
O2, %	12.41	12.46	0.20	**YES**	12.45	0.16	0.04	**YES**
CO2, %	0.00	0.11	0.55	**YES**	0.08	0.40	0.15	**YES**
CO2, %	10.03	10.04	0.05	**YES**	9.99	0.20	0.25	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	6.8
CO2, %	12.7

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	6.7	6.2
CO2, %	12.8	11.9

% MOISTURE = **6.73**

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT:	UGI	RUN:	7	STACK DIAMETER =	114	in
PLANT:	Hunlock	DATE:	4 7 04	STACK AREA =	70.9	sq. ft.
UNIT:	6	TIME START:	14:42	Pb =	29.53	P_{bar}
LOAD:	Mid	END:	14:52	Ps =	-0.36	in Hg
				WAF =	0.995	

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF 2.8 (P4-P5) (P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps) (P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FT S	WAF VEL Vs FT S
A-1	2	0.26	-0.04	-0.15	-9	9.22	1.048	0.27	-0.63	312	42.52	42.3
A-2	4	0.24	-0.01	-0.04	-3	5.00	1.028	0.25	-0.61	316	40.55	40.3
A-3	-1	0.24	-0.01	-0.04	-3	3.16	1.028	0.25	-0.61	318	40.69	40.5
A-4	0	0.20	-0.02	-0.10	-7	7.00	1.039	0.21	-0.57	320	37.37	37.2
A-5	3	0.27	-0.02	-0.07	-5	5.83	1.031	0.28	-0.64	321	43.21	43.0
A-6	2	0.26	-0.03	-0.12	-8	8.24	1.044	0.27	-0.63	323	42.77	42.6
A-7	-2	0.24	-0.02	-0.08	-6	6.32	1.035	0.25	-0.61	323	40.92	40.7
A-8	-1	0.20	-0.04	-0.20	-12	12.04	1.066	0.21	-0.57	319	37.76	37.6
B-1	5	0.29	-0.02	-0.07	-5	7.07	1.031	0.30	-0.66	324	44.76	44.5
B-2	-2	0.30	-0.02	-0.07	-5	5.38	1.031	0.31	-0.67	326	45.73	45.5
B-3	0	0.30	-0.03	-0.10	-7	7.00	1.039	0.31	-0.67	327	45.97	45.7
B-4	3	0.26	-0.01	-0.04	-3	4.24	1.028	0.27	-0.63	330	42.63	42.4
B-5	1	0.26	-0.01	-0.04	-3	3.16	1.028	0.27	-0.63	328	42.63	42.4
B-6	5	0.24	-0.01	-0.04	-3	5.83	1.028	0.25	-0.61	327	40.78	40.6
B-7	6	0.20	-0.02	-0.10	-7	9.21	1.039	0.21	-0.57	326	37.31	37.1
B-8	-2	0.16	-0.02	-0.13	-8	8.24	1.044	0.17	-0.53	326	33.62	33.4
						Ri			Ps	TEMP	Vs	Vs
	MOISTURE =	6.52	%			6.68			-0.61	322.9	41.20	41.00
	MD =	0.93		02 % =	7.3	avg			avg	avg	avg	avg
	MWD =	30.24		CO2 % =	12.2							
	MW =	29.45		N2 % =	80.5							
	Psa =	29.48										

VOLUMETRIC FLOW RATE

Qs =	6,500,959	DSCFH
Qs =	6,955,000	WSCFH
Qa =	10,464,280	ACFH

MOISTURE DATA

ACTUAL TIME	RUN TIME	GAS VOL FT^3	ORIFICE IN. H2O	METER TEMPERATURE INLET	OUTLET	METER Yi	BAR. PRESS. IN. Hg
14:42	0	950.462	1.63	67	67	0.98	29.53
	5	954.2		68	67		
	10	957.8		69	68		
	15	961.6		70	68		
	20	965.0		70	68		
	25	968.6		70	68		
15:12	30	972.037					
		21.575	1.63		68		

VOLUME OF MOISTURE (ml)

IMPINGERS	INITIAL	FINAL	
1	100	124	
2	100	102	
3	0	0	
Gel	256	261	Total
NET	456	487	31

TOTAL MOISTURE (ml) 31

VM(STD)= 20.931
VW(GAS)= 1.460

%MOISTURE = 6.52

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: STACK

RUN #: 7
OPERATING LEVEL: Mid
START DATE: 4/7/04
END DATE: 4/7/04
START: 14:42
END: 14:52

DATE	TIME	O2	CO2
4/7/04	14:42	7.23	12.33
4/7/04	14:43	7.19	12.41
4/7/04	14:44	6.98	12.59
4/7/04	14:45	7.44	12.16
4/7/04	14:46	7.58	12.04
4/7/04	14:47	7.2	12.22
4/7/04	14:48	7.51	11.93
4/7/04	14:49	7.37	12.09
4/7/04	14:50	7.5	11.94
4/7/04	14:51	7.41	12.2
4/7/04	14:52	7.59	12.02
		O2	CO2
		7.36	12.18
		%	%

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.03	0.10	0.28	**YES**	0.11	0.32	0.04	**YES**
O2, %	12.41	12.45	0.16	**YES**	12.48	0.28	0.12	**YES**
CO2, %	0.00	0.08	0.40	**YES**	0.14	0.70	0.30	**YES**
CO2, %	10.03	9.99	0.20	**YES**	10.03	0.00	0.20	**YES**

UNCORRECTED ANALYZER VALUES

O2, %	7.4
CO2, %	12.2

% MOISTURE = **6.52**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	7.3	6.8
CO2, %	12.2	11.4

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT:	**UGI**	RUN:	8	STACK DIAMETER =	114	in
PLANT:	**Hunlock**	DATE:	4 7 04	STACK AREA =	70.9	sq. ft.
UNIT:	**6**	TIME START:	14:53	Pb =	29.53	P_{bar}
LOAD:	Mid	END:	15:03	Ps =	-0.36	in Hg
				WAF =	0.995	

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FT S	WAF VEL Vs FT S
B-1	**4**	**0.28**	**-0.01**	-0.04	**-3**	5.00	**1.028**	0.29	-0.65	**322**	43.97	43.7
B-2	**2**	**0.30**	**-0.02**	-0.07	**-5**	5.38	**1.031**	0.31	-0.67	**326**	45.73	45.5
B-3	**-1**	**0.29**	**-0.02**	-0.07	**-5**	5.10	**1.031**	0.30	-0.66	**328**	45.04	44.8
B-4	**2**	**0.26**	**-0.01**	-0.04	**-3**	3.61	**1.028**	0.27	-0.63	**330**	42.66	42.4
B-5	**3**	**0.26**	**-0.04**	-0.15	**-9**	9.48	**1.048**	0.27	-0.63	**331**	43.01	42.8
B-6	**-2**	**0.24**	**-0.03**	-0.13	**-8**	8.24	**1.044**	0.25	-0.61	**326**	41.17	41.0
B-7	**-3**	**0.20**	**-0.02**	-0.10	-7	7.61	**1.039**	0.21	-0.57	**326**	37.46	37.3
B-8	**5**	**0.16**	**-0.01**	-0.06	**-4**	6.40	**1.029**	0.16	-0.52	**325**	33.25	33.1
A-1	**2**	**0.26**	**-0.03**	-0.12	**-8**	8.24	**1.044**	0.27	-0.63	**322**	42.74	42.5
A-2	**1**	**0.24**	**-0.02**	-0.08	**-6**	6.08	**1.035**	0.25	-0.61	**323**	40.93	40.7
A-3	**-1**	**0.25**	**-0.02**	-0.08	**-6**	6.08	**1.035**	0.26	-0.62	**322**	41.75	41.5
A-4	**3**	**0.20**	**-0.01**	-0.05	**-3**	4.24	**1.028**	0.21	-0.57	**324**	37.25	37.1
A-5	**2**	**0.26**	**-0.02**	-0.08	**-6**	6.32	**1.035**	0.27	-0.63	**326**	42.67	42.5
A-6	**-2**	**0.25**	**-0.01**	-0.04	**-3**	3.61	**1.028**	0.26	-0.62	**324**	41.67	41.5
A-7	**0**	**0.24**	**-0.04**	-0.17	**-10**	10.00	**1.053**	0.25	-0.61	**322**	41.22	41.0
A-8	**4**	**0.20**	**-0.02**	-0.10	-7	8.06	**1.039**	0.21	-0.57	**321**	37.30	37.1
						Ri			Ps	TEMP	Vs	Vs
						6.47			-0.61	324.9	41.11	40.91
						avg			avg	avg	avg	avg

MOISTURE =	6.52	%
MD =	0.93	
MWD =	30.24	
MW =	29.45	
Psa =	29.49	

02 % =	7.3	
CO2 % =	12.2	
N2 % =	80.5	

VOLUMETRIC FLOW RATE

Qs =	6,470,764	DSCFH
Qs =	6,923,000	WSCFH
Qa =	10,442,234	ACFH

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: STACK

RUN #: 8
OPERATING LEVEL: Mid
START DATE: 4/7/04
END DATE: 4/7/04
START: 14:53
END: 15:03

DATE	TIME	O2	CO2
4/7/04	14:53	7.42	12.19
4/7/04	14:54	7.46	12.14
4/7/04	14:55	7.21	12.21
4/7/04	14:56	7.25	12.15
4/7/04	14:57	7.71	11.87
4/7/04	14:58	7.39	12.15
4/7/04	14:59	7.37	12.24
4/7/04	15:00	7.29	12.26
4/7/04	15:01	7.66	11.93
4/7/04	15:02	7.34	12.22
4/7/04	15:03	7.36	12.17
		O2	CO2
		7.41	12.14
		%	%

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.03	0.10	0.28	**YES**	0.11	0.32	0.04	**YES**
O2, %	12.41	12.45	0.16	**YES**	12.48	0.28	0.12	**YES**
CO2, %	0.00	0.08	0.40	**YES**	0.14	0.70	0.30	**YES**
CO2, %	10.03	9.99	0.20	**YES**	10.03	0.00	0.20	**YES**

UNCORRECTED ANALYZER VALUES

O2, %	7.4
CO2, %	12.1

% MOISTURE = **6.52**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	7.3	6.8
CO2, %	12.2	11.4

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT:	**UGI**	RUN:	9	STACK DIAMETER =	114	in
PLANT:	**Hunlock**	DATE:	4 7 04	STACK AREA	70.9	sq. ft.
UNIT:	**6**	TIME START:	15:04	Pb =	29.53	P_{bar}
LOAD:	Mid	END:	15:14	Ps =	-0.36	in Hg
				WAF =	0.995	

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5) / (P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps) / (P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FT S	WAF VEL Vs FT S
A-1	**2**	**0.26**	**-0.02**	-0.08	**-6**	6.32	**1.035**	0.27	-0.63	**320**	42.50	42.3
A-2	**-1**	**0.24**	**-0.02**	-0.08	**-6**	6.08	**1.035**	0.25	-0.61	**322**	40.90	40.7
A-3	**0**	**0.24**	**-0.04**	-0.17	**-10**	10.00	**1.053**	0.25	-0.61	**323**	41.24	41.0
A-4	**1**	**0.20**	**-0.01**	-0.05	**-3**	3.16	**1.028**	0.21	-0.57	**323**	37.27	37.1
A-5	**4**	**0.25**	**-0.01**	-0.04	**-3**	5.00	**1.028**	0.26	-0.62	**324**	41.60	41.4
A-6	**2**	**0.25**	**-0.02**	-0.08	**-6**	6.32	**1.035**	0.26	-0.62	**324**	41.78	41.6
A-7	**5**	**0.24**	**-0.03**	-0.13	**-8**	9.43	**1.044**	0.25	-0.61	**325**	41.01	40.8
A-8	**-3**	**0.20**	**-0.02**	-0.10	**-7**	7.61	**1.039**	0.21	-0.57	**320**	37.32	37.1
B-1	**2**	**0.28**	**-0.03**	-0.11	**-7**	7.28	**1.039**	0.29	-0.65	**326**	44.36	44.1
B-2	**-1**	**0.30**	**-0.04**	-0.13	**-8**	8.06	**1.044**	0.31	-0.67	**328**	46.11	45.9
B-3	**-4**	**0.30**	**-0.01**	-0.03	**-2**	4.47	**1.026**	0.31	-0.67	**330**	45.69	45.5
B-4	**0**	**0.26**	**-0.01**	-0.04	**-3**	3.00	**1.028**	0.27	-0.63	**331**	42.71	42.5
B-5	**3**	**0.25**	**-0.02**	-0.08	**-6**	6.71	**1.035**	0.26	-0.62	**330**	41.91	41.7
B-6	**-2**	**0.24**	**-0.02**	-0.08	**-6**	6.32	**1.035**	0.25	-0.61	**330**	41.09	40.9
B-7	**4**	**0.20**	**-0.03**	-0.15	**-9**	9.84	**1.048**	0.21	-0.57	**329**	37.63	37.4
B-8	**2**	**0.15**	**-0.01**	-0.07	**-5**	5.38	**1.031**	0.15	-0.51	**328**	32.38	32.2
						Ri			Ps	TEMP	Vs	Vs
						6.56			-0.61	325.8	40.97	40.76
						avg			avg	avg	avg	avg

MOISTURE =	6.52 %				
MD =	0.93	02 % =	7.4	VOLUMETRIC FLOW RATE	
MWD =	30.25	CO2 % =	12.2	Qs =	6,440,094 DSCFH
MW =	29.45	N2 % =	80.4	Qs =	6,890,000 WSCFH
Psa =	29.49			Qa =	10,405,107 ACFH

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: STACK

RUN #: 9
OPERATING LEVEL: Mid
START DATE: 4/7/04
END DATE: 4/7/04
START: 15:04
END: 15:14

DATE	TIME	O2	CO2
4/7/04	15:04	7.17	12.3
4/7/04	15:05	7.68	11.92
4/7/04	15:06	7.23	12.29
4/7/04	15:07	7.25	12.29
4/7/04	15:08	7.57	12.02
4/7/04	15:09	7.43	12.13
4/7/04	15:10	7.28	12.21
4/7/04	15:11	7.61	12.07
4/7/04	15:12	7.4	12.28
4/7/04	15:13	7.56	11.97
4/7/04	15:14	7.64	11.96
		O2	CO2
		7.44	12.13
		%	%

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.03	0.10	0.28	**YES**	0.11	0.32	0.04	**YES**
O2, %	12.41	12.45	0.16	**YES**	12.48	0.28	0.12	**YES**
CO2, %	0.00	0.08	0.40	**YES**	0.14	0.70	0.30	**YES**
CO2, %	10.03	9.99	0.20	**YES**	10.03	0.00	0.20	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	7.4
CO2, %	12.1

% MOISTURE = **6.52**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	7.4	6.9
CO2, %	12.2	11.4

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT:	UGI	RUN:	10	STACK DIAMETER =	114	in
PLANT:	Hunlock	DATE:	4 7 04	STACK AREA =	70.9	sq. ft.
UNIT:	6	TIME START:	15:20	Pb =	29.53	P_{bar}
LOAD:	Mid	END:	15:30	Ps =	-0.36	in Hg
				WAF =	0.995	

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF 2.8 (P4-P5) (P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps) (P1-P2)	TRUE VEL. PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL. Vs FT/S	WAF VEL Vs FT/S
B-1	3	0.29	-0.04	-0.14	-9	9.48	1.048	0.30	-0.66	316	44.99	44.8
B-2	-1	0.30	-0.02	-0.07	-5	5.10	1.031	0.31	-0.67	318	45.52	45.3
B-3	0	0.30	-0.01	-0.03	-2	2.00	1.026	0.31	-0.67	320	45.51	45.3
B-4	2	0.28	-0.01	-0.04	-3	3.61	1.028	0.29	-0.65	323	44.08	43.9
B-5	-2	0.27	-0.01	-0.04	-3	3.61	1.028	0.28	-0.64	324	43.31	43.1
B-6	5	0.26	-0.03	-0.12	-8	9.43	1.044	0.27	-0.63	324	42.67	42.5
B-7	-1	0.26	-0.03	-0.12	-8	8.06	1.044	0.27	-0.63	326	42.88	42.7
B-8	1	0.20	-0.02	-0.10	-7	7.07	1.039	0.21	-0.57	325	37.49	37.3
A-1	3	0.26	-0.01	-0.04	-3	4.24	1.028	0.27	-0.63	326	42.53	42.3
A-2	2	0.26	-0.03	-0.12	-8	8.24	1.044	0.27	-0.63	328	42.91	42.7
A-3	6	0.24	-0.02	-0.08	-6	8.48	1.035	0.25	-0.61	330	40.90	40.7
A-4	-4	0.21	-0.04	-0.19	-11	11.70	1.059	0.22	-0.58	333	38.83	38.6
A-5	-3	0.26	-0.04	-0.15	-9	9.48	1.048	0.27	-0.63	334	43.10	42.9
A-6	-1	0.26	-0.02	-0.08	-6	6.08	1.035	0.27	-0.63	332	42.85	42.6
A-7	0	0.24	-0.01	-0.04	-3	3.00	1.028	0.25	-0.61	331	41.04	40.8
A-8	3	0.21	-0.02	-0.10	-7	7.61	1.039	0.22	-0.58	329	38.46	38.3
						Ri			Ps	TEMP	Vs	Vs
						6.70			-0.63	326.2	42.32	42.11
						avg			avg	avg	avg	avg

MOISTURE =	6.50	%
MD =	0.94	
MWD =	30.24	
MW =	29.44	
Psa =	29.48	

02 % =	7.5
CO2 % =	12.1
N2 % =	80.4

VOLUMETRIC FLOW RATE

Qs =	6,650,523	DSCFH
Qs =	7,113,000	WSCFH
Qa =	10,747,714	ACFH

MOISTURE DATA

ACTUAL TIME	RUN TIME	GAS VOL FT^3	ORIFICE IN. H2O	METER TEMPERATURE INLET	OUTLET	METER Yi	BAR. PRESS. IN. Hg
15:20	0	972.324	1.63	67	67	0.98	29.53
	5	976.0		68	67		
	10	979.6		68	66		
	15	982.4		68	66		
	20	986.1		67	66		
	25	990.4		67	65		
15:50	30	993.928					
		21.604	1.63		67		

VOLUME OF MOISTURE (ml)

IMPINGERS	INITIAL	FINAL	
1	100	122	
2	100	104	
3	0	0	
Gel	258	263	Total
NET	458	489	31

TOTAL MOISTURE (ml) 31

VM(STD)= 21.019
VW(GAS)= 1.460

%MOISTURE = 6.50

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: STACK

RUN #: 10
OPERATING LEVEL: Mid
START DATE: 4/7/04
END DATE: 4/7/04
START: 15:20
END: 15:30

DATE	TIME	O2	CO2
4/7/04	15:20	7.48	12.17
4/7/04	15:21	7.37	12.16
4/7/04	15:22	7.51	12.06
4/7/04	15:23	7.46	12.06
4/7/04	15:24	7.64	11.92
4/7/04	15:25	7.27	12.14
4/7/04	15:26	7.21	12.12
4/7/04	15:27	7.61	11.93
4/7/04	15:28	8.05	11.52
4/7/04	15:29	7.88	11.7
4/7/04	15:30	7.53	12.06
		O2	CO2
		7.55	11.99
		%	%

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.03	0.11	0.32	**YES**	0.04	0.04	0.28	**YES**
O2, %	12.41	12.48	0.28	**YES**	12.45	0.16	0.12	**YES**
CO2, %	0.00	0.14	0.70	**YES**	0.11	0.55	0.15	**YES**
CO2, %	10.03	10.03	0.00	**YES**	10.00	0.15	0.15	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	7.5
CO2, %	12.0

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	7.5	7.0
CO2, %	12.1	11.3

% MOISTURE = **6.50**

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT:	**UGI**	RUN:	11	STACK DIAMETER =	114	in
PLANT:	**Hunlock**	DATE:	4 7 04	STACK AREA =	70.9	sq. ft.
UNIT:	**6**	TIME START:	15:31	Pb =	29.53	P_{bar}
LOAD:	Mid	END:	15:41	Ps =	-0.36	in Hg
				WAF =	0.995	

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FT S	WAF VEL Vs FT S
A-1	**2**	**0.26**	**-0.02**	-0.08	**-6**	6.32	**1.035**	0.27	-0.63	**314**	42.33	42.1
A-2	**5**	**0.26**	**-0.02**	-0.08	**-6**	7.80	**1.035**	0.27	-0.63	**315**	42.23	42.0
A-3	**-1**	**0.25**	**-0.01**	-0.04	**-3**	3.16	**1.028**	0.26	-0.62	**319**	41.55	41.3
A-4	**3**	**0.23**	**-0.01**	-0.04	**-3**	4.24	**1.028**	0.24	-0.60	**323**	39.91	39.7
A-5	**-2**	**0.28**	**-0.03**	-0.11	**-7**	7.28	**1.039**	0.29	-0.65	**322**	44.24	44.0
A-6	**2**	**0.26**	**-0.04**	-0.15	**-9**	9.22	**1.048**	0.27	-0.63	**324**	42.84	42.6
A-7	**0**	**0.24**	**-0.04**	-0.17	**-10**	10.00	**1.053**	0.25	-0.61	**322**	41.21	41.0
A-8	**-2**	**0.21**	**-0.01**	-0.05	**-3**	3.61	**1.028**	0.22	-0.58	**320**	38.09	37.9
B-1	**-5**	**0.30**	**-0.02**	-0.07	**-5**	7.07	**1.031**	0.31	-0.67	**326**	45.58	45.4
B-2	**4**	**0.29**	**-0.03**	-0.10	**-7**	8.06	**1.039**	0.30	-0.66	**327**	45.08	44.9
B-3	**8**	**0.31**	**-0.02**	-0.06	**-4**	8.94	**1.029**	0.32	-0.68	**327**	46.06	45.8
B-4	**2**	**0.28**	**-0.01**	-0.04	**-3**	3.61	**1.028**	0.29	-0.65	**328**	44.21	44.0
B-5	**3**	**0.26**	**-0.01**	-0.04	**-3**	4.24	**1.028**	0.27	-0.63	**329**	42.60	42.4
B-6	**1**	**0.26**	**-0.02**	-0.08	**-6**	6.08	**1.035**	0.27	-0.63	**332**	42.84	42.6
B-7	**2**	**0.25**	**-0.02**	-0.08	**-6**	6.32	**1.035**	0.26	-0.62	**330**	41.94	41.7
B-8	**-5**	**0.20**	**-0.02**	-0.10	**-7**	8.60	**1.039**	0.21	-0.57	**328**	37.41	37.2
						Ri			Ps	TEMP	Vs	Vs
	MOISTURE =	6.50	%			6.53			-0.63	324.1	42.38	42.17
	MD =	0.94		02 % =	7.5	avg			avg	avg	avg	avg
	MWD =	30.25		CO2 % =	12.2							
	MW =	29.46		N2 % =	80.3							
	Psa =	29.48										

VOLUMETRIC FLOW RATE

Qs =	6,678,320	DSCFH
Qs =	7,143,000	WSCFH
Qa =	10,764,374	ACFH

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: STACK

RUN #: 11
OPERATING LEVEL: Mid
START DATE: 4/7/04
END DATE: 4/7/04
START: 15:31
END: 15:41

DATE	TIME	O2	CO2
4/7/04	15:31	7.4	12.12
4/7/04	15:32	7.49	12.06
4/7/04	15:33	7.54	11.97
4/7/04	15:34	7.68	11.84
4/7/04	15:35	7.52	12.11
4/7/04	15:36	7.62	12.08
4/7/04	15:37	7.53	12.04
4/7/04	15:38	7.12	12.41
4/7/04	15:39	7.6	12.09
4/7/04	15:40	7.66	12.05
4/7/04	15:41	7.3	12.19
		O2	CO2
		7.50	12.09
		%	%

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.03	0.11	0.32	**YES**	0.04	0.04	0.28	**YES**
O2, %	12.41	12.48	0.28	**YES**	12.45	0.16	0.12	**YES**
CO2, %	0.00	0.14	0.70	**YES**	0.11	0.55	0.15	**YES**
CO2, %	10.03	10.03	0.00	**YES**	10.00	0.15	0.15	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	7.5
CO2, %	12.1

% MOISTURE = **6.50**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	7.5	7.0
CO2, %	12.2	11.4

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT: **UGI**
PLANT: **Hunlock**
UNIT: **6**
LOAD: Mid

RUN: 12
DATE: 4 7 04
TIME START: 15:42
END: 15:52

STACK DIAMETER = 114 in
STACK AREA = 70.9 sq. ft.
Pb = 29.53 P_{bar}
Ps = -0.36 in Hg
WAF = 0.995

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	AXIAL VEL Vs FT/S	WAF VEL Vs FT/S
B-1	2	0.30	-0.01	-0.03	-2	2.83	1.026	0.31	-0.67	322	45.56	45.3
B-2	4	0.30	-0.02	-0.07	-5	6.40	1.031	0.31	-0.67	325	45.63	45.4
B-3	-1	0.30	-0.02	-0.07	-5	5.10	1.031	0.31	-0.67	328	45.83	45.6
B-4	0	0.28	-0.03	-0.11	-7	7.00	1.039	0.29	-0.65	327	44.43	44.2
B-5	-2	0.26	-0.01	-0.04	-3	3.61	1.028	0.27	-0.63	330	42.68	42.5
B-6	-3	0.26	-0.02	-0.08	-6	6.71	1.035	0.27	-0.63	330	42.76	42.5
B-7	4	0.25	-0.04	-0.16	-10	10.76	1.053	0.26	-0.62	331	42.22	42.0
B-8	8	0.20	-0.04	-0.20	-12	14.39	1.066	0.21	-0.57	330	37.67	37.5
A-1	6	0.26	-0.02	-0.08	-6	8.48	1.035	0.27	-0.63	319	42.28	42.1
A-2	-4	0.25	-0.01	-0.04	-3	5.00	1.028	0.26	-0.62	322	41.56	41.4
A-3	-2	0.24	-0.01	-0.04	-3	3.61	1.028	0.25	-0.61	323	40.82	40.6
A-4	0	0.23	-0.02	-0.09	-6	6.00	1.035	0.24	-0.60	324	40.12	39.9
A-5	1	0.27	-0.02	-0.07	-5	5.10	1.031	0.28	-0.64	326	43.42	43.2
A-6	3	0.26	-0.03	-0.12	-8	8.54	1.044	0.27	-0.63	325	42.81	42.6
A-7	2	0.24	-0.02	-0.08	-6	6.32	1.035	0.25	-0.61	325	40.98	40.8
A-8	2	0.20	-0.01	-0.05	-3	3.61	1.028	0.21	-0.57	322	37.24	37.1
						Ri			Ps	TEMP	Vs	Vs
						6.46 avg			-0.63 avg	325.6 avg	42.25 avg	42.04 avg

MOISTURE = 6.50 %
MD = 0.94
MWD = 30.22
MW = 29.43
Psa = 29.48

O2 % = 7.5
CO2 % = 12.0
N2 % = 80.5

VOLUMETRIC FLOW RATE
Qs = 6,645,235 DSCFH
Qs = 7,107,000 WSCFH
Qa = 10,730,617 ACFH

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: STACK

RUN #: 12
OPERATING LEVEL: Mid
START DATE: 4/7/04
END DATE: 4/7/04
START: 15:42
END: 15:52

DATE	TIME	O2	CO2
4/7/04	15:42	7.49	12.05
4/7/04	15:43	7.62	11.88
4/7/04	15:44	7.66	11.86
4/7/04	15:45	7.78	11.83
4/7/04	15:46	7.4	12.15
4/7/04	15:47	7.36	12.19
4/7/04	15:48	7.56	12.01
4/7/04	15:49	7.54	11.92
4/7/04	15:50	7.82	11.75
4/7/04	15:51	7.63	11.94
4/7/04	15:52	7.59	11.98
		O2	CO2
		7.59	11.96
		%	%

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.03	0.11	0.32	**YES**	0.04	0.04	0.28	**YES**
O2, %	12.41	12.48	0.28	**YES**	12.45	0.16	0.12	**YES**
CO2, %	0.00	0.14	0.70	**YES**	0.11	0.55	0.15	**YES**
CO2, %	10.03	10.03	0.00	**YES**	10.00	0.15	0.15	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	7.6
CO2, %	12.0

% MOISTURE = **6.50**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	7.5	7.0
CO2, %	12.0	11.2

Low Load

CATALYST AIR MANAGEMENT Inc.
CALIBRATION DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: RATA
LOCATION: STACK

RUN #: 1-12
LOAD LEVEL: Low
DATE: 4/7/04

GAS UNITS	ANALYZER SCALE	CYLINDER VALUE	ANALYZER VALUE	DIFF PPM	% SPAN	Pass Yes\No
O2, %		0.00	0.02	0.02	0.08	**YES**
O2, %	**25**	12.44	12.42	0.02	0.08	**YES**
O2, %		22.40	22.40	0.00	0.00	**YES**
CO2, %		0.00	0.03	0.03	0.15	**YES**
CO2, %	**20**	10.05	10.04	0.01	0.05	**YES**
CO2, %		17.90	17.88	0.02	0.10	**YES**

CATALYST AIR MANAGEMENT, Inc.
3-D Flow Profile

CLIENT:	UGI	RUN:	1	STACK DIAMETER =	114	in
PLANT:	Hunlock	DATE:	4 7 04	STACK AREA =	70.9	sq. ft.
UNIT:	6	TIME START:	16:14	Pb =	29.22	P_{bar}
LOAD:	Low	END:	16:24	Ps =	-0.30	in Hg
				WAF =	0.995	

TRAVERSE POINT	YAW ANGLE Yi	PRESSURE (in. of H2O) (P1-P2)	(P4-P5)	PITCH ANGLE COEF (P4-P5)/(P1-P2)	PITCH ANGLE Pi	RESULT ANGLE Ri	VEL PRESS COEF (Pt-Ps)/(P1-P2)	TRUE VEL PRESS (Pt-Ps)	STATIC PRESS Ps	STACK TEMP F	ANIAL VEL Vs FLS	WAF VEL Vs FLS
B-1	3	0.20	-0.02	-0.10	-7	7.61	1.039	0.21	-0.51	295	37.01	36.8
B-2	2	0.21	-0.01	-0.05	-3	3.61	1.028	0.22	-0.52	297	37.84	37.6
B-3	6	0.20	-0.02	-0.10	-7	9.21	1.039	0.21	-0.51	305	37.11	36.9
B-4	9	0.19	-0.01	-0.05	-3	9.48	1.028	0.20	-0.50	307	35.80	35.6
B-5	-3	0.19	-0.01	-0.05	-3	4.24	1.028	0.20	-0.50	308	36.22	36.0
B-6	-2	0.16	-0.02	-0.13	-8	8.24	1.044	0.17	-0.47	312	33.59	33.4
B-7	-3	0.16	-0.01	-0.06	-4	5.00	1.029	0.16	-0.46	305	33.17	33.0
B-8	-4	0.12	-0.01	-0.08	-6	7.21	1.035	0.12	-0.42	309	28.85	28.7
A-1	8	0.21	-0.03	-0.14	-9	12.02	1.048	0.22	-0.52	320	38.37	38.2
A-2	6	0.21	-0.02	-0.10	-7	9.21	1.039	0.22	-0.52	328	38.59	38.4
A-3	6	0.19	-0.03	-0.16	-10	11.65	1.053	0.20	-0.50	330	36.96	36.8
A-4	-5	0.19	-0.03	-0.16	-10	11.17	1.053	0.20	-0.50	335	37.14	37.0
A-5	3	0.20	-0.01	-0.05	-3	4.24	1.028	0.21	-0.51	337	37.86	37.7
A-6	-1	0.20	-0.01	-0.05	-3	3.16	1.028	0.21	-0.51	338	37.93	37.7
A-7	-2	0.19	-0.02	-0.11	-7	7.28	1.039	0.20	-0.50	337	37.10	36.9
A-8	-8	0.10	-0.01	-0.10	-7	10.62	1.039	0.10	-0.40	333	26.60	26.5
						Ri			Ps		Vs	Vs
	MOISTURE =	6.96	%			7.75			-0.49	318.5	35.63	35.45
	MD	0.93		O2 % =	8.5	avg			avg	avg	avg	avg
	MWD =	30.12		CO2 % =	11.1							
	MW =	29.27		N2 % =	80.4							
	Psa =	29.18										

VOLUMETRIC FLOW RATE

Qs =	5,570,026	DSCFH
Qs	5,987,000	WSCFH
Qa =	9,049,849	ACFH

MOISTURE DATA

ACTUAL TIME	RUN TIME	GAS VOL FT^3	ORIFICE IN. H2O	METER TEMPERATURE INLET	OUTLET	METER Yi	BAR. PRESS. IN. Hg
16:15	0	994.169	1.63	67	67	0.98	29.22
	5	997.6		67	66		
	10	1001.2		67	66		
	15	1004.5		66	65		
	20	1008.7		67	65		
	25	1012.2		67	65		
16:45	30	1015.736					
		21.567	1.63		66		

VOLUME OF MOISTURE (ml)

IMPINGERS	INITIAL	FINAL	
1	100	125	
2	100	102	
3	0	2	
Gel	259	263	Total
NET	459	492	33

TOTAL MOISTURE (ml) 33

VM(STD)= 20.786
VW(GAS)= 1.554

%MOISTURE = 6.96

CATALYST AIR MANAGEMENT Inc.
REFERENCE DATA

CLIENT: UGI
PLANT: Hunlock
UNIT: 6
TEST: 3A,6C,7E
LOCATION: STACK

RUN #: 1
OPERATING LEVEL: Low
START DATE: 4/7/04
END DATE: 4/7/04
START: 16:14
END: 16:24

DATE	TIME	O2	CO2
4/7/04	16:14	8.32	11.19
4/7/04	16:15	8.8	10.77
4/7/04	16:16	8.83	10.85
4/7/04	16:17	8.86	10.78
4/7/04	16:18	8.9	10.7
4/7/04	16:19	8.83	10.87
4/7/04	16:20	8.73	10.93
4/7/04	16:21	8.56	11.06
4/7/04	16:22	8.38	11.2
4/7/04	16:23	8.09	11.54
4/7/04	16:24	7.89	11.74
		O2	CO2
		8.56	11.06
		%	%

Analyzer Readings not corrected for Post-Test Calibrations.

SYSTEM CALIBRATION BIAS AND DRIFT DATA

GAS UNITS	ANALYZER VALUE	PRE-TEST CHECK	% SPAN	Pass YES\NO	POST-TEST CHECK	% SPAN	% DRIFT	Pass YES\NO
O2, %	0.02	0.04	0.08	**YES**	0.05	0.12	0.04	**YES**
O2, %	12.42	12.45	0.12	**YES**	12.46	0.16	0.04	**YES**
CO2, %	0.03	0.05	0.10	**YES**	0.07	0.20	0.10	**YES**
CO2, %	10.04	9.99	0.25	**YES**	10.03	0.05	0.20	**YES**

UNCORRECTED ANALYZER VALUES

	DRY
O2, %	8.6
CO2, %	11.1

% MOISTURE = **6.96**

ANALYZER VALUES CORRECTED FOR DRIFT

	DRY	WET
O2, %	8.5	7.9
CO2, %	11.1	10.3